DataGeneral

Installation and Packaging for Earlier Model Data General Corporation Processors and Packaged Systems

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PREFACE

THIS MANUAL REPRESENTS A COMPILATION OF INSTALLATION DATA SHEETS FOR EARLIER MODEL DATA GENERAL CORPORATION PROCESSORS AND PACKAGED SYSTEMS. THE DATA SHEETS APPLICABLE TO YOUR EQUIPMENT WERE ALSO SUPPLIED TO YOU IN THE DOCUMENTATION PACKAGE ACCOMPANYING YOUR SHIPMENT. WE RECOMMEND THAT YOU REFER TO THE SHEETS SUPPLIED WITH YOUR EQUIPMENT IF POSSIBLE, AS THE INFORMATION THEY CONTAIN MAY BE MORE CURRENT THAN THE INFORMATION INCLUDED IN THIS MANUAL.

FOR INFORMATION ON EARLIER MODEL PERIPHERALS, SEE "INSTALLATION AND PACKAGING FOR EARLIER MODEL DATA GENERAL CORPORATION PERIPHERALS" (014-000968).

FOR INFORMATION ON FCC-COMPLIANT DATA GENERAL PRODUCTS, SEE "INSTALLATION AND PACKAGING FOR DATA GENERAL CORPORATION PROCESSORS AND PACKAGED SYSTEMS" (014-000729), ALSO "INSTALLATION AND PACKAGING FOR DATA GENERAL CORPORATION PERIPHERALS" (014-000730).

FOR INFORMATION ON EXTERNAL CABLING, SEE "EXTERNAL CABLING FOR DATA GENERAL CORPORATION PRODUCTS" (014-000784).

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CHAPTER I

DCH CONFIGURATION RULES

1.0 SCOPE

THE PURPOSE OF THIS INSTALLATION DATA SHEET IS TO ESTABLISH A UNIFORM STANDARD FOR ASSIGNING PERIPHERAL CONTROLLER BOARDS TO POSITIONS IN A CPU CHASSIS, WITH REGARD TO DATA CHANNEL LATENCY, I/O BUS LOADING.

2.0 PROCEDURE

BEFORE ASSIGNING A PERIPHERAL CONTROLLER TO A SPECIFIC SLOT IN A CPU CHASSIS, YOU MUST CONSIDER SEVERAL FACTORS, SUCH AS DATA CHANNEL LATENCY, I/O BUS LOADING, D.C. POWER REQUIREMENTS, AND CABINET POWER REQUIREMENTS. THESE CONSIDERATIONS ARE COMMON TO ALL FAMILIES OF CPU'S AND THE MOST IMPORTANT OF THEM ARE DISCUSSED IN THIS PROCEDURE.

THERE ARE OTHER FACTORS WHICH MUST ALSO BE CONSIDERED IN CONFIGURING A COMPLETE SYSTEM. THESE INCLUDE PRIORITY WIRING, FUSE RATINGS, ALLOWABLE I/O CABLE LENGTHS, MECHANICAL RESTRICTIONS, CABINET POWER DISSIPATION, ETC. THIS PROCEDURE DOES NOT COVER ALL OF THE VARIABLES WHICH DETERMINE SYSTEMS CONFIGURATION; REFER TO THE APPROPRIATE CONFIGURATION GUIDE FOR EACH PROCESSOR FAMILY FOR THESE OTHER CONSIDERATIONS.

THE TABLES WHICH FOLLOW PRESENT INFORMATION NECESSARY FOR ASSIGNING A SLOT IN THE CPU. BOARDS WHICH HAVE THE HIGHEST DEGREE OF PRIORITY SHOULD BE ASSIGNED SLOTS CLOSEST TO THE CPU BOARDS (010, 020, 030, ETC.). IN PREPARING THESE TABLES, THE FACTORS WHICH WERE CONSIDERED WERE:

1. DATA CHANNEL LATENCY
2. BUS LOADING

THESE FACTORS ARE DEFINED BELOW:

1. DATA CHANNEL LATENCY - DEFINED AS THE TIME WHEN A PERIPHERAL DEVICE REQUESTS ACCESS TO MEMORY AND THE WORST CASE TIME THAT THE TRANSFER MUST BE ANSWERED.
   IN OTHER WORDS, THE TIME CONSISTS OF TWO ITEMS.
   1) THE TIME THE PERIPHERAL REQUESTS MEMORY ACCESS VS. THE NEXT DATA CHANNEL BREAK;
   AND,
   2) THE TIME REQUIRED TO COMPLETE DATA CHANNEL TRANSFER TO/FROM ANY HIGHER PRIORITY PERIPHERALS THAT ARE ALSO REQUESTING MEMORY ACCESS.
2. BUS LOADING - THE TOTAL NUMBER OF THE LOADS ON THE I/O BUS WHICH THE CPU MUST DRIVE.
   THIS CAN BE DETERMINED BY ADDING UP THE INDIVIDUAL BUS LOADS OF THE PERIPHERAL CONTROLLERS USED IN THE SYSTEM. THE MAXIMUM NUMBER OF LOADS WHICH A PROCESSOR CAN DRIVE, WITHOUT USING AN I/O BUS REPEATER, IS TEN (10) LOADS, NOT INCLUDING THE MAP BOARD. NOTE THAT MEMORY BOARDS, WHICH DO NOT SHARE THE I/O BUS, DO NOT NEED TO BE CONSIDERED IN BUS LOADING.
3. CPU'S WITH BMC CAPABILITY HAVE MANDATORY BMC PRIORITY IF DEVICE IS CONFIGURED FOR BMC OPERATION. DISREGARD DCH CONFIGURATION AND SEE PAGE 3 OF THIS DOCUMENT FOR BMC CONFIGURATION.

PRIORITY	MODEL NO.	DESCRIPTION	DATA CHANNEL CONTROLLER	PROG I/O	WORST CASE DATA CHANNEL LATENCY	BUS LOADING	EXPANSION CHASSIS
005	4330-33	A/D, D/A CONVERTER	X		10 µs	1	Y
010	4196	P.E. TAPE DRIVE (45 IPS)	X		10 µs	1	Y
020	4030 6020,6021	MAG TAPE DRIVE (75 IPS)	X		12.5µs	1	Y
030	4046	MOVING HEAD DISK (2.5 MBYTES)	X		12.8µs	1	Y
040	6045/6051 6046 6047 6048	DIABLO 44 OR 10MB DISC 20MB 30MB 40MB	X		12.8µs	1	Y
050	4055	ANALOG/DIGITAL (ANALOG CO)	X		13.3 µs	1	Y
060	6063,-64,-65,-66 *** 6063H,-64H,-65H,-66H	FIXED HEAD DISK	X, BMC SEE NOTE 4		18 µs	2	Y
070	4231 6060,-61/6067 *** 6060H,-61H	50, 100, 200 MB MHD CONTROLLER	X, BMC SEE NOTE 4		19.8µs	2	Y
080	6098 6100	12.5MB CONTROLLER (WITH QUAD DISKETTE) 25MB CONTROLLER WITH QUAD	X		50µs	1	Y
087	6231, 6225C, 6227C	1/4- INCH CARTRIDGE DRIVE	X		57µs	1	N
090	6026 6027	MAG TAPE 800/1600 BPI DMT 9 TRK NRZI DRIVE	X X		60 PE 250 NRZI	1	Y
095	***4307	GCR TAPE	X, BMC SEE NOTE 4		96µs	1	Y
100	6030,6031	FLOPPY DISK	X		128µs	1	Y
102	6125	MAG TAPE	X		160µs	1	Y
108	4250 4254	DCU 50 DCU 200	X		DEPENDS ON SPECIFIC DEVICE	1	Y
112	*** 6160,6161	SMD DISC CONTROLLER SEE NOTE 6	X, BMC SEE NOTE 4		949.2 µs	1	N

*** RUNS WITH BMC (also)

PRIORITY	MODEL NO.	DESCRIPTION	DATA CHANNEL CONTROLLER	PROG I/O	WORST CASE DATA CHANNEL LATENCY	BUS LOADING	EXPANSION CHASSIS
116	6070 (B, C, D, E)	20 MBYTE DISC	X		1.08ms	1	Y
120	6099/6103	DISK CONTROLLER (W/O DISKETTE)			1.2ms	1	Y
124	4380	ISC	X		125µs	1	Y
128	4357, 4358	IAC/8, IAC/16	X		10/R (R=HIGHEST) BAUD RATE (5) NOTE 6. 200µs	1	Y
132	4460	NBS	X		(7)	1	N
140	4038/4206	MCA	X		(7)	1	Y
145	8020/8539	DATA CHANNEL FPU - NOVA	X			1	Y
150	4100/4112	1000 LINE MUX CONTROLLER	X		n/a	1	Y
160	4015	HI-SPEED COMM CONTROLLER-SYNC	X		——	1	Y
180	4240	IPB		X	n/a	1	Y
190	4025	IBM INTERFACE	X		——	2	N
191	4349	BSI-4		X	n/a	1	Y
192	4348	BSI-1		X	n/a	1	Y
193	4345	CSI-2		X	n/a	1	Y
194	4346	CSI-1		X	n/a	1	Y
195	4342	ATI-16		X	n/a	1	Y
196	4340	AMI-8		X	n/a	1	Y
200	4242	1-LINE MUX (SYNC)		X	n/a	1	Y
210	4215/4216,4218,4219, 4244,4245,6088,6089	DATA CHANNEL LINE PRINTER	X		n/a	1	Y

NOTES:

1. 8315 - I/O BUS REPEATER
   a.) USED TO DRIVE COMM CHASSIS OR DG/DAC: GETS DCU PRIORITY (110).
   b.) USED TO BOOST I/O LOADS:
   8315-M - SLOT 28 OF M600
   HIGHEST I/O SLOT OF C150/S130
   SLOT 12 OF N3/12
   SLOT 17 OF N800/N1200
2. WHEN 4079 OR 4008 IS ORDERED IT SHOULD BE INSTALLED IN PRIMARY I/O SLOT.
3. BMCI JUMPERS FOR 8 WORDS/ 16 WORDS.
4. FOR BMC CONFIGURATION, SEE PAGE 3 OF THIS DOCUMENT.
5. FOR LINES CONNECTED TO "PACING" DEVICES (SUCH AS STANDARD DG TERMINALS), USE R + c)), REGARDLESS OF ACTUAL BAUD RATE.
6. MUST BE PLACED IN I/O ONLY SLOT, OTHERWISE DAMAGE TO OTHER BOARDS WILL RESULT.
7. FLOW CONTROLLED DEVICE.

CONTROLLER SLOT ASSIGNMENT PRIORITY CONFIGURATION RULES

DCH CONFIGURATION RULES (CONT)

PRIORITY	MODEL NO.	DESCRIPTION	DATA CHANNEL CONTROLLER	PROG I/O	WORST CASE DATA CHANNEL LATENCY	BUS LOADING	EXPANSION CHASSIS
215	4241/4241A 4243	4-LINE EIA/20MA MUX (ASYNC) 4-LINE ASYNC, 1-LINE SYNC MUX EIA & 20 MA		X		1	Y
220	4073	4-LINE MUX (SYNC)		X		1	Y
230	4074	1-LINE MUX (SYNC)		X		1	Y
240	4063	4-LINE EIA MUX		X		4	Y
250	4062	4-LINE EIA MUX (ASYNC)		X		4	Y
260	4060	4-LINE 20MA MUX (ASYNC)		X		4	Y
270	4061	4-LINE 20MA (ASYNC)		X		4	Y
280	4065,-66,-67,-68 4191	DIGITAL I/O		X		1	Y
290	4036 4016	CARD READER CONTROLLER		X		1	Y
300	4306	BUFFERED CARD READER CONTROLLER		X		1	Y
310	4014,4017,4034 4193 6086,-87	LINE PRINTER CONTROLLER		X		1	Y
320	4075,-77,-78,-79 6080,-81,-82,-84,-85	CASETTE I/O SEE NOTE 2		X		1	Y
330	4007,-08 4010,-11,-12 4023,-29	BASIC I/O SEE NOTE 2		X		1	Y
340	4040 4190	G.P. BOARDS		X		1	Y
350	4181	D/A DIGITAL TP ANALOG CONVERTER		X		1	Y
360	4120-4180	A/D ANALOG DATA SUBSYSTEM		X		1	Y

NOTES:

1. 8315 - I/O BUS REPEATER
   a.) USED TO DRIVE COMM CHASSIS OR DG/DAC: GETS DCU PRIORITY (110).
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   8315-M - SLOT 28 OF M600
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6. MUST BE PLACED IN I/O ONLY SLOT, OTHERWISE DAMAGE TO OTHER BOARDS WILL RESULT.

BMC CONFIGURATION RULES

1.0 SCOPE

THE PURPOSE OF THIS INSTALLATION DATA SHEET IS TO ESTABLISH A UNIFORM STANDARD FOR ASSIGNING PERIPHERAL CONTROLLER BOARDS USING BMC A PRIORITY BETWEEN BMCI DEVICES WITHIN A SYSTEM, WITH REGARD TO CHARACTERISTIC DIFFERENCES BETWEEN DEVICES.

2.0 PROCEDURE

BEFORE ASSIGNING A BMCI PERIPHERAL CONTROLLER A PRIORITY ON THE BMC BUS, AS WELL AS A SPECIFIC SLOT IN THE CPU CHASSIS, YOU MUST CONSIDER SEVERAL FACTORS. THESE CONSIDERATIONS, SUCH AS MAXIMUM ALLOWABLE LATENCY OF THE DEVICE, I/O BUS LOADING, D.C. POWER REQUIREMENTS, CABINET POWER REQUIREMENTS, AND INTERNAL AND EXTERNAL CABLE REQUIREMENTS, ARE COMMON TO ALL FAMILIES OF CPU'S. THE MOST IMPORTANT OF THESE ARE DISCUSSED IN THIS PROCEDURE.

THERE ARE OTHER FACTORS WHICH MUST ALSO BE CONSIDERED IN CONFIGURING A COMPLETE SYSTEM. THESE INCLUDE: PRIORITY JUMERING OF THE BMCI DEVICE, FUSE RATINGS, BMC CABLE TYPES AND LENGTHS, MECHANICAL AND ELECTRICAL RESTRICTIONS, CABINET POWER DISSIPATION, ETC. THIS PROCEDURE DOES NOT COVER ALL OF THESE VARIABLES WHICH DETERMINE SYSTEM CONFIGURATIONS; REFER TO THE APPROPRIATE CONFIGURATION GUIDE FOR EACH PROCESSOR FAMILY FOR THESE OTHER CONSIDERATIONS.

2.1 ASSIGNING PRIORITIES

EACH INDIVIDUAL BMCI DEVICE IS RESPONSIBLE FOR CONFIGURATION OF ITS PRIORITY ON THE BMC BUS, AS WELL RECOGNITION OF ITS PRIORITY ON THE BMC BUS. EACH DEVICE ON THE BMC BUS HAS THE CAPABILITY OF REQUESTING SERVICE FROM THE BMC CHANNEL THROUGH ONE OF EIGHT REQUEST LINES HSCR 0 - HSCR 7. EACH DEVICE ON THE BMC BUS WILL HAVE AN ASSIGNED REQUEST NUMBER, EACH NUMBER HAVING DIFFERENT PRIORITY, (HSCR 7 HAVING THE HIGHEST PRIORITY AND HSCR 0 HAVING THE LOWEST PRIORITY), AS WELL AS A REQUEST FOR BMC SERVICE. THE EIGHT REQUEST LINES RUN PARALLEL TO ALL CONTROLLERS SO THAT EACH CONTROLLER CAN SEE WHICH OTHER DEVICES ON THE BMC BUS ARE REQUESTING SERVICE DURING ANY BMC CYCLE. THE CONTROLLERS WILL THEN ARBITRATE WHICH DEVICE HAS PRIORITY BY LOOKING AT THESE REQUEST LINES.

FOR THE CONFIGURATION OF REQUEST NUMBERS ON EACH CONTROLLER THAT IS CONNECTED TO THE BMC BUS, REFER TO THE INDIVIDUAL CONTROLLERS INSTALLATION DATA SHEET, FOR JUMPER CONFIGURATIONS AND INDIVIDUAL REQUIREMENTS.

2.2 PRIORITY FACTOR

BECAUSE OF THE MANY TYPES AND CONFIGURATIONS OF BUFFERS AND FIFO'S IN THE CONTROLLERS ON THE BMC BUS, AS WELL AS THE DIFFERENT SPEEDS AT WHICH THE CONTROLLERS REQUIRE SERVICE FROM THE BMC, EACH CONTROLLER WILL BE ASSIGNED A PRIORITY FACTOR NUMBER FOR USE IN DETERMINING ITS PRIORITY ON THE BMC BUS. THE LOWER THE PRIORITY FACTOR NUMBER, THE HIGHER THE PRIORITY THE CONTROLLER REQUIRES. HSCR 7 HAS THE HIGHEST PRIORITY OF THE DEVICES ON THE BMC BUS.

TO DETERMINE THE PRIORITY FACTOR NUMBER A NUMBER OF FACTORS HAVE TO BE CONSIDERED. THERE ARE:

1. THE SIZE AND TYPE OF BUFFERS IN THE CONTROLLER, AND HOW THEY ARE USED.
2. THE MAXIMUM LENGTH OF TIME THE CONTROLLER CAN OPERATE WITHOUT SERVICE FROM THE BMC WITHOUT ENCOUNTERING A DATA LATE CONDITION.
3. THE AVERAGE SIZE OF A BURST THAT THE CONTROLLER REQUESTS FROM THE BMC, IN A BURST CYCLE.

TO FIND THE PRIORITY FACTOR OF A CONTROLLER MULTIPLY THE WORD RATE IN MICRO SECONDS, TIMES THE STANDBY BUFFER SIZE. (THE STANDBY BUFFER SIZE IN THE CASE OF A TWO RAM BUFFER CONTROLLER, WOULD BE ONE HALF OF THE TOTAL BUFFER. IN A FIFO BUFFER IT WOULD BE THE FULL SIZE OF THE FIFO.) TAKE THAT PRODUCT AND ADD TO THE TOTAL MAXIMUM ALLOWABLE LATENCY IN MICRO SECONDS AND DIVIDE BY TWO. THIS IS THE PRIORITY FACTOR.

THE PRIORITY FACTOR DOES NOT TAKE IN ALL POSSIBLE CONDITIONS, BUT IS A BASIC WAY TO DETERMINE THE PRIORITY OF A CONTROLLER BY A SIMPLE MEANS.

3.0 BUS LOADING

BUS LOADING IS THE TOTAL NUMBER OF THE LOADS ON THE BUS WHICH THE CPU MSUT DRIVE AND IS DETERMINED BY ADDING UP THE INDIVIDUAL BUS LOADS OF THE PERIPHERAL CONTROLLERS USED IN THE SYSTEM. THE MAXIMUM NUMBER OF LOADS WHICH A PROCESSOR CAN DRIVE, WITHOUT USING A BUS REPEATER, IS TEN (10) LOADS, NOT INCLUDING THE MAP BOARD. NOTE THAT MEMORY BOARDS, WHICH DO NOT SHARE THE I/O BUS, DO NOT NEED TO BE CONSIDERED IN BUS LOADING.

THE BMC IS CAPABLE OF RUNNING EIGHT (8) CONTROLLERS, BUT SOME CPU AND SOFTWARE CONSTRAINTS MAY APPLY. REFER TO INDIVIDUAL CPU CONFIGURATION SHEETS FOR THESE RESTRICTIONS.

4.0 CABLING & TERMINATING

THE BMC BUS CABLES ARE RIBBON TYPE WITH 40 PIN CONNECTORS. THEY ARE DAISY-CHAINED FROM P1 AND P4 OF THE BMC TO P1 AND P4 OF EACH BMC DEVICE ON THE BUS. A TERMINATOR SHORTING STRIP (DGC NO. 005-013419) ON P2 OF THE LAST DEVICE ON THE BUS. FOR MORE DETAILED INFORMATION REFER TO INDIVIDUAL INSTALLATION DATA SHEETS FOR THE PARTICULAR CPU AND DEVICE TO BE INSTALLED.

ORDER OF PRIORITY	PRIORITY FACTOR	MODEL NO.	DESCRIPTION	MAX ALLOWABLE LATENCY	WORD RATE / BUFFER SIZE	MEM I/O SLOT	I/O ONLY SLOT	BUS LOADING	NOTES
100	13.2	6122	MHD 277 MB	13.2 us	1.6us/ 16	YES	YES	2	1, 3, 5
200	18	6063H-64H	FHD 1, 2 MB	18 us	2.3us/ 16	YES	YES	2	2, 3
300	19.8	6060H-61H 67H	MHD 50, 96, 190 MB	19.8 us	2.48us/ 16	YES	YES	2	3
350	96	4307	GCR TAPE	96us	2us/48	YES	YES	1	3, 6
400	442.1	6160-61	MHD 73, 147MB	474.6 us	1.6us/512	NO	YES	1	3, 4
		6214 (NOTE 1)	MHD 602MB						
1200	1208.32	B6236 E6236	MHD 360 MB	1.2MS	1.18us/2K	YES	YES	1	1,7

NOTES:

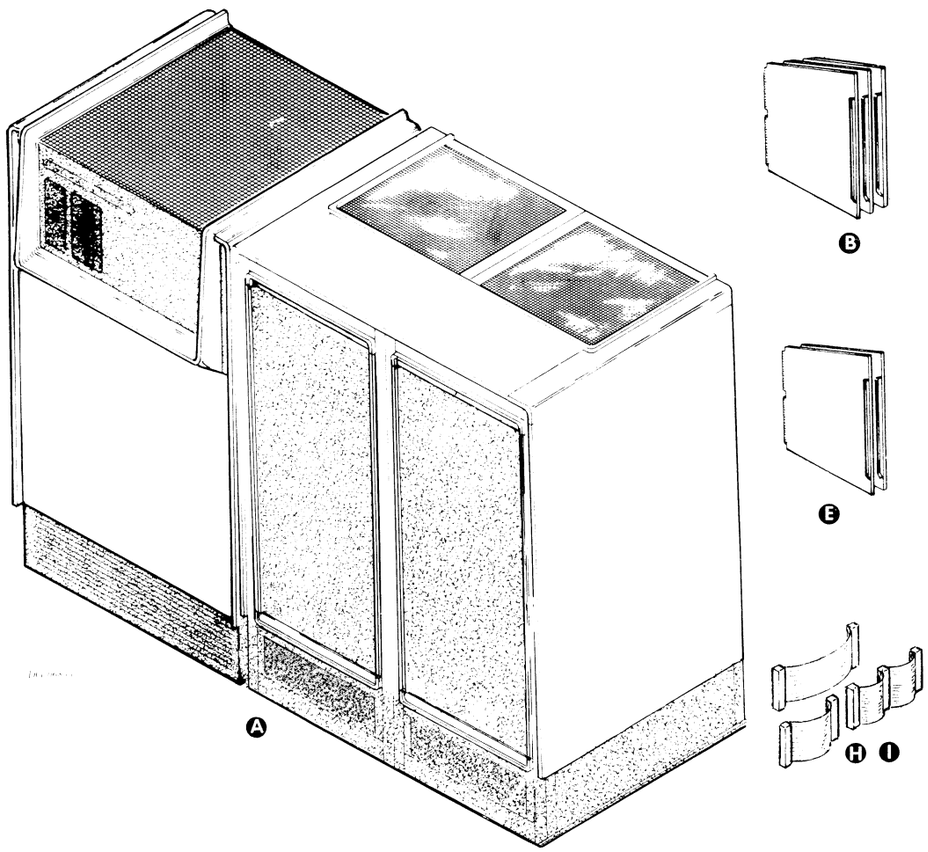
1. RUNS ONLY WITH BMC
2. REQUIRES DCH PRIORITY
3. JUMPER SELECTABLE WORD BURSTS ON BMC - SEE INSTALLATION DATA SHEETS THIS PRODUCT.
4. WILL RUN ONLY IN I/O ONLY SLOT. SEE INSTALLATION DATA SHEETS THIS PRODUCT.
5. TWO RAM BUFFER
6. FIFO BUFFER
7. RAM/FIFO COMBINATION

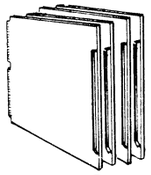
CONTROLLER SLOT ASSIGNMENT PRIORITY CONFIGURATION RULES

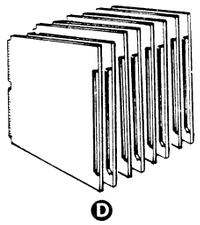
ECLIPSE LINE

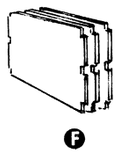
CHAPTER II

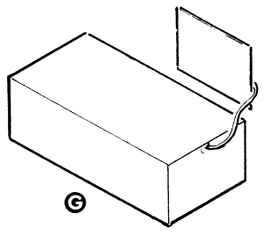
SUBSYSTEM COMPONENTS BREAKDOWN

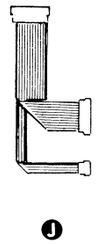


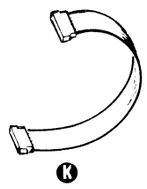


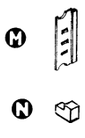












MAJOR COMPONENT

ITEM	COMPONENT	MOUNTING LOCATION	NOTES
A	3 BAY CABINET	FREE-STANDING	30" BAY PLUS 1244 -E
B	POWER SUPPLY BOARDS	CABINET	3 BOARDS
C	MEMORY BOARDS	CABINET	512Kb MIN; 8 BOARDS MAX
D	PROCESSOR BOARDS	CABINET	BC; MICRO; ALU1; FPU (OPTIONAL); IP; ATU; CACHE; CC; IOC
E	IOP BOARDS	CABINET	IOP2; CPU1
F	MICRONOVA BOARDS	CABINET	MBC/1; 16KW MEM; FLOPPY CONTROL
G	BATTERY BACKUP	CABINET	OPTIONAL

CABLES

ITEM	CABLE	CONNECTING	MAX LG FT / M	NOTES
H	INTERBD			10 FOR BETWEEN PROCESSOR BOARDS
I	BMC	BMC AND CONTROLLERS		2 REQUIRED - SIZE DEPENDS ON # OF CONTROLLERS
J	MBC CC	MBC AND CC		
K	FLOPPY MBC	FLOPPY AND MBC		
L	BBU VNR	BATTERY BACKUP AND VNR BOARDS		

TERMINATOR

ITEM	TERMINATOR	LOCATION	NOTES
M	BUS TERMINATORS	CABINET	11 REQUIRED
N	SYS CLK TERMINATORS	CABINET	4 REQUIRED

CPU DESIGNATOR:

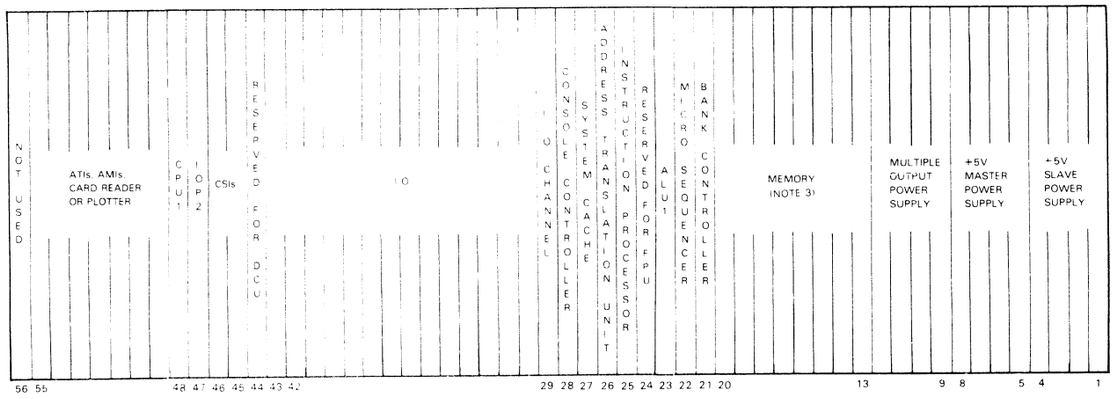
Designator Number: 135
Designator Range: 13-14

WARNING

THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY ENERGY AND IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTION MANUAL, MAY CAUSE INTERFERENCE TO RADIO COMMUNICATIONS. AS TEMPORARILY PERMITTED BY REGULATION IT HAS NOT BEEN TESTED FOR COMPLIANCE WITH THE LIMITS FOR CLASS A COMPUTING DEVICES PURSUANT TO SUBPART J OF PART 15 OF FCC RULES, WHICH ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST SUCH INTERFERENCE. OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA IS LIKELY TO CAUSE INTERFERENCE IN WHICH CASE THE USER AT HIS OWN EXPENSE WILL BE REQUIRED TO TAKE WHATEVER MEASURES MAY BE REQUIRED TO CORRECT THE INTERFERENCE.

SLOT ASSIGNMENTS

FRONT VIEW



SLOT #	ALLOWED	ASSIGNED	+5V CURRENT DRAW	MAX +5V CURRENT DRAW PER SLOT GROUP (NOTE 1)
1-4	+5V SLAVE POWER SUPPLY	1-4	N/A	N/A
5-8	+5V MASTER POWER SUPPLY	5-8	N/A	N/A
9-12	MULTIPLE OUTPUT POWER SUPPLY	9-12	N/A	N/A
13-20	MEMORY (NOTE 3)		(2.8 ea)	60A (NOTE2)
21	BANK CONTROLLER	21	7	
22	MICRO SEQUENCER	22	16	44A
23	ALU1	23	17	
24	RESERVED FOR FPU	24	17	44A
25	INSTRUCTION PROCESSOR	25	14	
26	ATU	26	10	44A
27	SYSTEM CACHE	27	15	
28	CONSOLE CONTROLLER	28	7	44A
29	I/O CHANNEL	29	13	
30-33	I/O			44A
34-37	I/O			44A
38-41	I/O			44A
42,43	I/O			44A
44	RESERVED FOR DCU/200 (NOTE 4)			
45	RESERVED FOR CSI (NOTE 4)			
46	RESERVED FOR CSI			44A
47	IOP2	47	12	
48	CPU1	48	9.9	
49	RESERVED FOR ATIs, AMIs			44A
50-53	CARD READER OR INCREMENTAL PLOTTER			
54-55				44A
56	NOT USED DUE TO TERMINATOR (NOTE 5)	56		

AVAILABLE 300

NOTE 1: REED SWITCHES PROVIDE OVERLOAD PROTECTION FOR BACKPANEL SLOT GROUPS. EACH REED SWITCH TRIPS AT 44A.

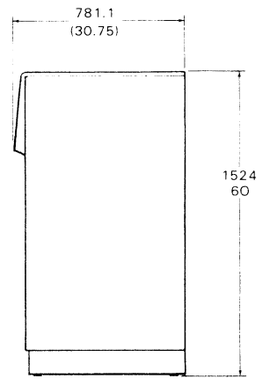
NOTE 2: MEMORY AND BANK CONTROLLER BOARDS USE A SEPARATE +5V POWER SUPPLY (PART OF THE MULTIPLE OUTPUT SUPPLY) WHICH IS LIMITED TO 60A. CURRENT DRAW FROM SLOTS 13-21 SHOULD NOT BE INCLUDED IN THE TOTAL FOR THE REMAINING SLOTS.

NOTE 3: INSERT MEMORY BOARDS IN CONSECUTIVE ORDER BEGINNING WITH SLOT 20.

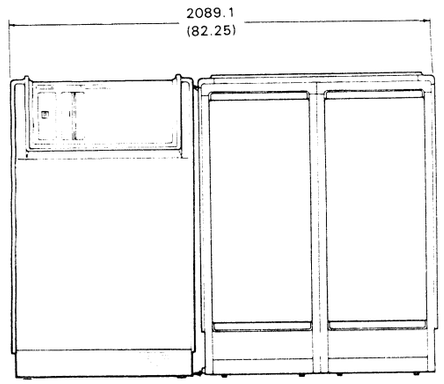
NOTE 4: CSI IN SLOT 45 OR 46 REQUIRES DCU IN SLOT 44

NOTE 5: IF 8 SLOTS ARE REQUIRED FOR IOP I/O BUS, PLACE TERMINATORS ON SLOT 48. SEE PAGE 6.

INSTALLATION SPECIFICATIONS



SIDE VIEW



FRONT VIEW

DIMENSIONS IN MILLIMETERS
INCHES IN PARENTHESES FOR REFERENCE

DIMENSIONS:	Width	Depth	Height
Millimeters	2089.1	781.1	1524
Inches	82.25	30.75	60

SERVICE CLEARANCES:	Front	Rear	Right	Left
Millimeters	1219.2	1219.2	787	787
Inches	48	48	31	31

WEIGHT:	Empty	Fully Loaded
Kilograms	359	585
Pounds	791	1289

HEAT OUTPUT:	Watts	BTU/hr
Main Bay	3,000	10,230

Total System Heat Output can be obtained by adding the Heat Output for any additional equipment to the Heat Output of the Main Bay.

OPERATING ENVIRONMENT:

Temperature (max)	32.2°C	90°F	
Relative Humidity (max)	90%		
Altitude	2438 m (8,000')		
Usable Vertical	AREA	INCHES	MM
Rack Space Per Expansion Bay	25	43.75	1110

STORAGE ENVIRONMENT:

Temperature	-40 to 65°C (-40 to 149°F)
Relative Humidity	10-90% non-condensing
Altitude (max)	15,240 m (50,000 ft)

MAIN BAY POWER REQUIREMENTS:

(Domestic)			
Voltage	$120/208^{+10}_{-15}$		
Hz	60 ± 3		
Amp per Phase	15		
Phase	3		
Startup Surge per Phase	60 Amps for 50 milliseconds		
(Export)			
Voltage	$220^{+10\%}_{-15\%}$	$220/380^{+10\%}_{-15\%}$	$240/415^{+10\%}_{-15\%}$
Hz	50 ± 3	50 ± 3	50 ± 3
Amp per Phase	15	13	12
Phase	3	3	3
Startup Surge per Phase	60 Amps for 50 milliseconds.		

EXPANSION BAY POWER REQUIREMENTS:

(Domestic)			
Voltage	$120/208^{+10\%}_{-15\%}$		
Hz	60 ± 3		
Amps per Phase (max)	20		
Phase	3		
Startup Surge per Phase	Depends upon equipment in Bays A and B		
(Export)			
Voltage	$220^{+10\%}_{-15\%}$	$220/380^{+10\%}_{-15\%}$	$240/415^{+10\%}_{-15\%}$
Hz	50 ± 3	50 ± 3	50 ± 3
Amps per Phase (max)	30	30	30
Phase	3	3	3
Startup Surge per Phase	Depends upon equipment in Bays A and B.		

CABLES:(USER SUPPLIES EXPORT ONLY)

Primary Power Connectors (Supplied)

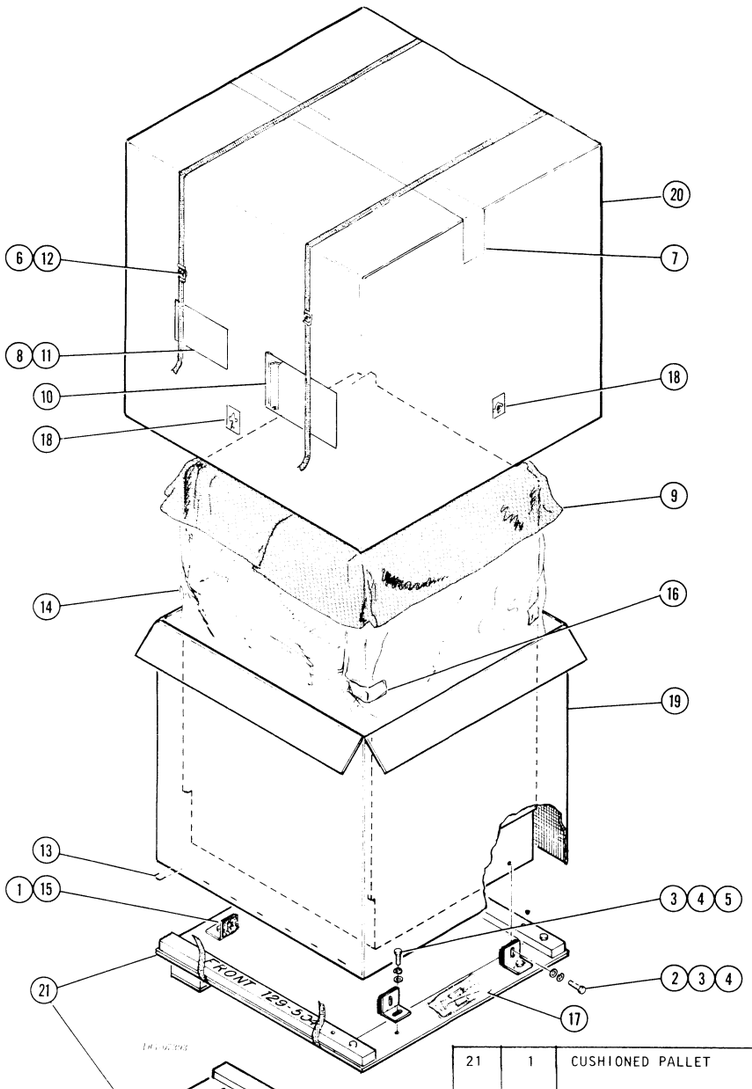
	Main Bay	Expansion Bay
Domestic 60Hz	L21-30R	L21-30R
Export 50Hz	L22-30R	L6-30R

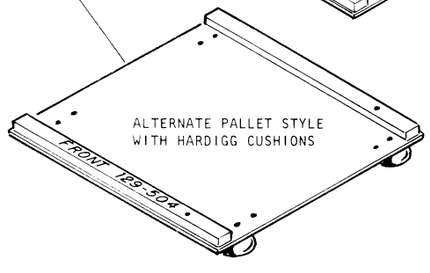
POWER AVAILABLE

Internal Receptacles in Expansion Bays	Each	Total (All Bays, all recpt)
Domestic 60Hz	15A	35A
Export 50Hz	15A	27.5A

SHIPPING

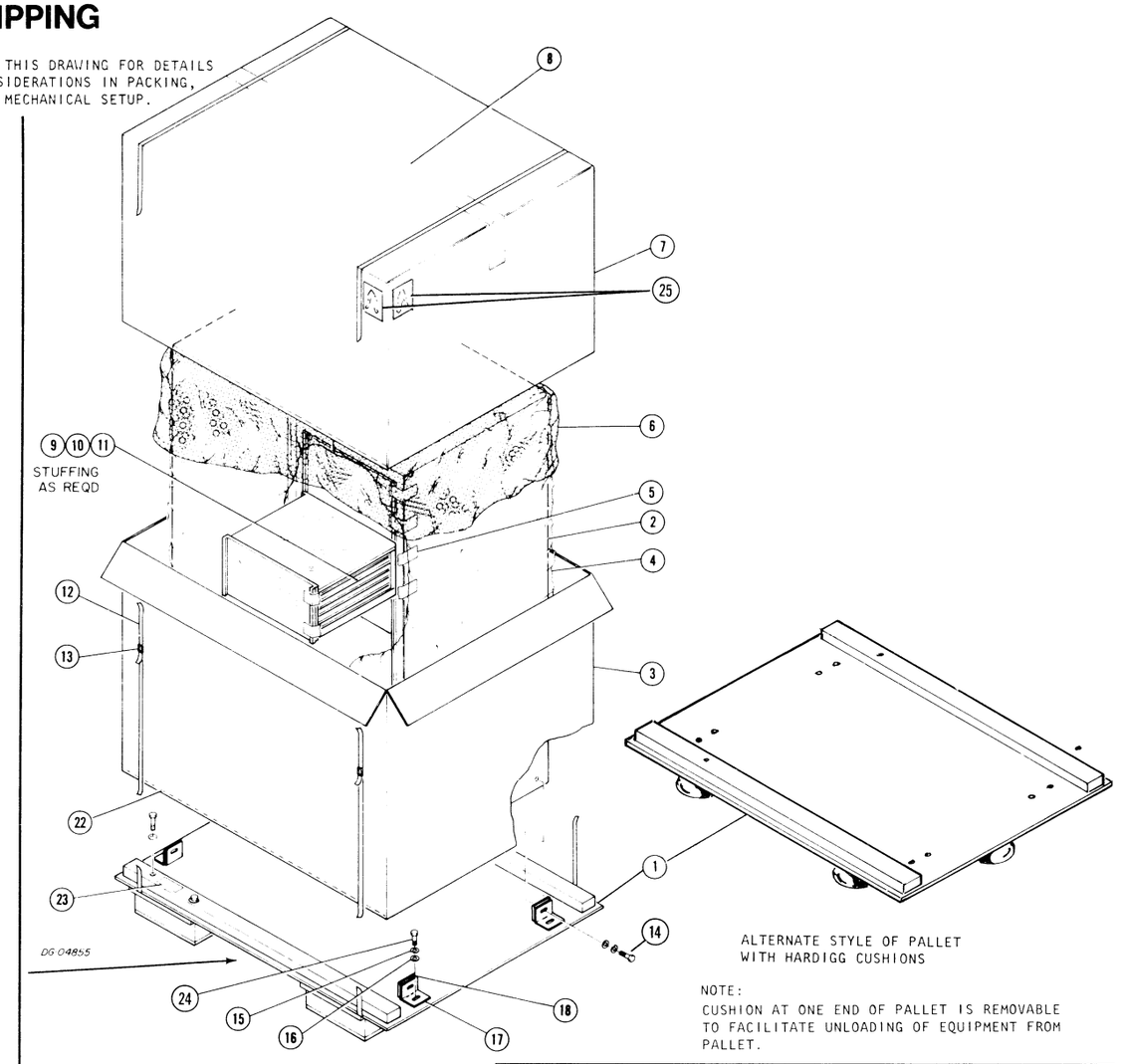
NOTE:
SEE SHEET 4 OF THIS DRAWING FOR DETAILS OF FURTHER CONSIDERATIONS IN PACKING, UNLOADING, AND MECHANICAL SETUP.



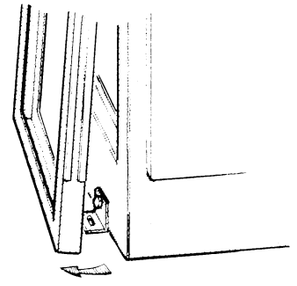


ALTERNATE PALLET STYLE
WITH HARDIGG CUSHIONS

ITEM	QTY	DESCRIPTION	PART NUMBER
21	1	CUSHIONED PALLET	129-000644 or 129-000504
20	1	HSC, 43.5 x 43.5 x 44"	129-000503
19	1	CORRUGATED TUBE, 40.9 x 40.9 x 39"	129-000502
18	2	TIP-N-TELL INDICATOR	129-000469
17	1	PALLET UNLOADING KIT	129-000435
16	40ft	2" FILAMENT TAPE	129-000370
15	4	D/C SEPARATOR	129-000206
14	1	POLYBAG	129-000170
13	14	STAPLES	129-000165
12	40ft	POLYPROPYLENE STRAPPING	129-000123
11	2ft	2" CLEAR SCOTCH TAPE	129-000051
10	1	PACKING LIST ENVELOPE, 6 3/4 x 5	129-000042
9	8ft	2' WIDE AIR CAP	129-000035
8	1	DGC SHIPPING LABEL	129-000030
7	11ft	3" REINFORCED SEALING TAPE	129-000027
6	2	BUCKLES, AVB-4	129-000025
5	4	SCREW, HEX HEAD, SCDP, 3/8-16 x 1 1/4	106-000680
4	8	WASHER, LOCK, SPLIT, 3/8	106-000622
3	8	WASHER, FLAT, SCDP, 3/8	106-000621
2	4	SCREW, HEX HEAD, SCDP, 3/8-16 X 1	106-000618
1	4	CABINET SHIPPING BRACKET	002-005294



NOTE: ATTACH SHIPPING BRACKETS TO CABINET BEFORE ATTACHING TO PALLET.



LOOSEN ATTACHING SCREWS ON COLLAR ENOUGH TO ALLOW IT TO BE PULLED AWAY FROM THE CABINET (SEE SKETCH). THIS WILL PERMIT MOUNTING BRACKETS TO CABINET.

ALTERNATE STYLE OF PALLET
WITH HARDIGG CUSHIONS

NOTE:
CUSHION AT ONE END OF PALLET IS REMOVABLE TO FACILITATE UNLOADING OF EQUIPMENT FROM PALLET.

ITEM	QTY	DESCRIPTION	PART NUMBER
25	2	TIP-N-TELL	129-000469
24	4	SCREW, HEX HD, 3/8-16 x 1 1/4"	106-000680
23	1	PALLET UNLOADING KIT	129-000435
22	A/R	1" CROWN, 1" LEG STAPLE	129-000165
21	2FT	2" CLEAR SCOTCH TAPE	129-000051
20	1	PACKING LIST ENVELOPE, 6 3/4 x 5	129-000042
19	1	DGC SHIPPING LABEL	129-000030
18	4	D/C SEPARATOR	129-000206
17	4	BRACKET, SHIPPING	002-005294
16	8	WASHER, FLAT, 3/8	106-000621
15	8	WASHER, LOCK, SPLIT, 3/8	106-000622
14	4	SCREW, HEX HD, 3/8-16 x 1"	106-000618
13	2	BUCKLE, AVB-4	129-000025
12	50FT	POLYPROPOLENE STRAPPING	129-000123
11	A/R	14 1/2 x 14 1/2 x 1" PAD	129-000053 OR 129-000574
10	A/R	14 1/2 x 14 1/2 x 1/2" PAD	129-000052 OR 129-000573
9	A/R	14 1/2 x 14 1/2" "C" FLUTE CORE	129-000044
8	12FT	3" REINFORCED SEALING TAPE	129-000027
7	1	HALF SLOTTED CONTAINER	129-000632
6	8FT	2' WIDE AIR CAP	129-000035
5	40 FT	2" FILAMENT TAPE	129-000370
4	1	POLYBAG, 48 x 34 x 71 x 0.003	129-000170
3	1	TUBE	129-000630
2	1	CABINET, DOUBLE BAY	—
1	1	PALLET	129-000531 OR 129-000631

MV/8000, 9300 MODELS

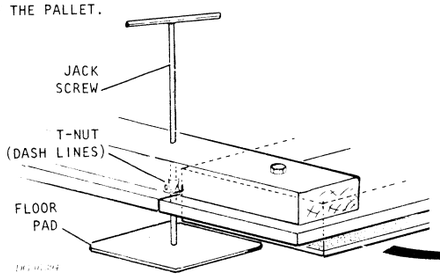
UNLOADING AND SETUP

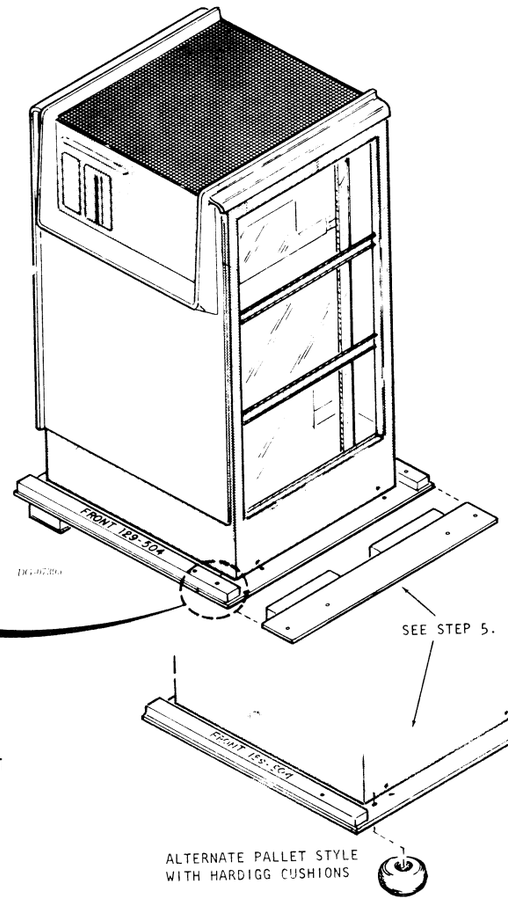
CAUTION

UNLOADING CABINETS IS A TWO MAN OPERATION

UNLOADING '/8000 CABINET

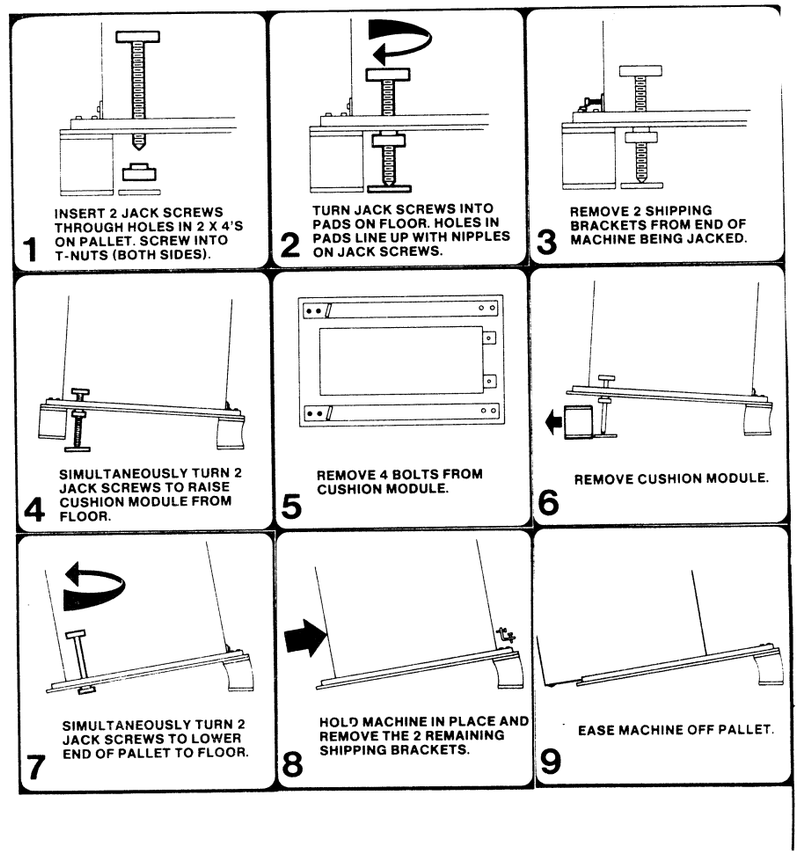
1. INSERT TWO JACK SCREWS THROUGH HOLES IN 2x3'S ON RIGHT END OF PALLET AND SCREW INTO T-NUTS.
2. SET ENDS OF JACK SCREWS INTO HOLES IN THE PADS ON THE FLOOR AND TURN T-NUTS UP UNTIL THE POINTS ENGAGE THE BOTTOM SURFACE OF THE PALLET.
3. REMOVE THE TWO SHIPPING BRACKETS FROM THE RIGHT SIDE OF THE CABINET AND PALLET.
4. SIMULTANEOUSLY TURN BOTH JACK SCREWS TO RAISE THE CUSHION MODULE FROM THE FLOOR.
5. REMOVE BOLTS AND SLIDE REMOVABLE SECTION FROM PALLET. IF HARDIGG STYLE PALLET IS USED, REMOVE SKID-MATES FROM END OF PALLET BEING JACKED.
6. SIMULTANEOUSLY TURN BOTH JACK SCREWS TO LOWER END OF PALLET TO THE FLOOR.
7. HOLD MACHINE IN PLACE AND REMOVE THE TWO REMAINING SHIPPING BRACKETS.
8. EASE THE CABINET OFF THE PALLET.





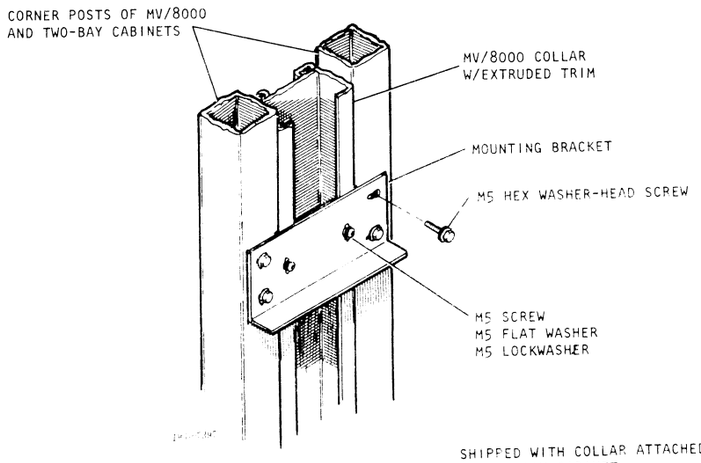
ALTERNATE PALLET STYLE WITH HARDIGG CUSHIONS

UNLOADING 2-BAY CABINET



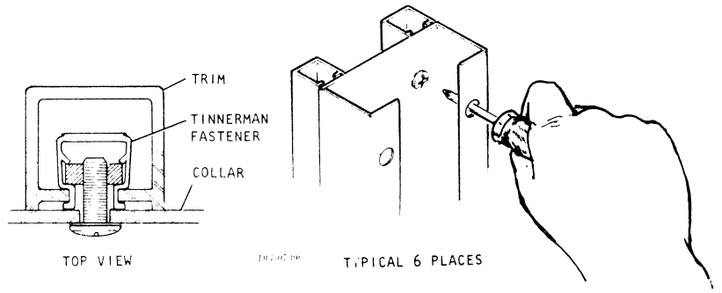
JOINING MV/8000 CABINET AND TWO-BAY CABINET

TYPICAL 4 PLACES



SHIPPED WITH COLLAR ATTACHED TO TWO-BAY CABINET

VERTICAL ADJUSTMENT OF EXTRUDED TRIM

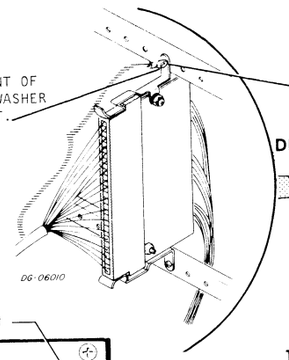


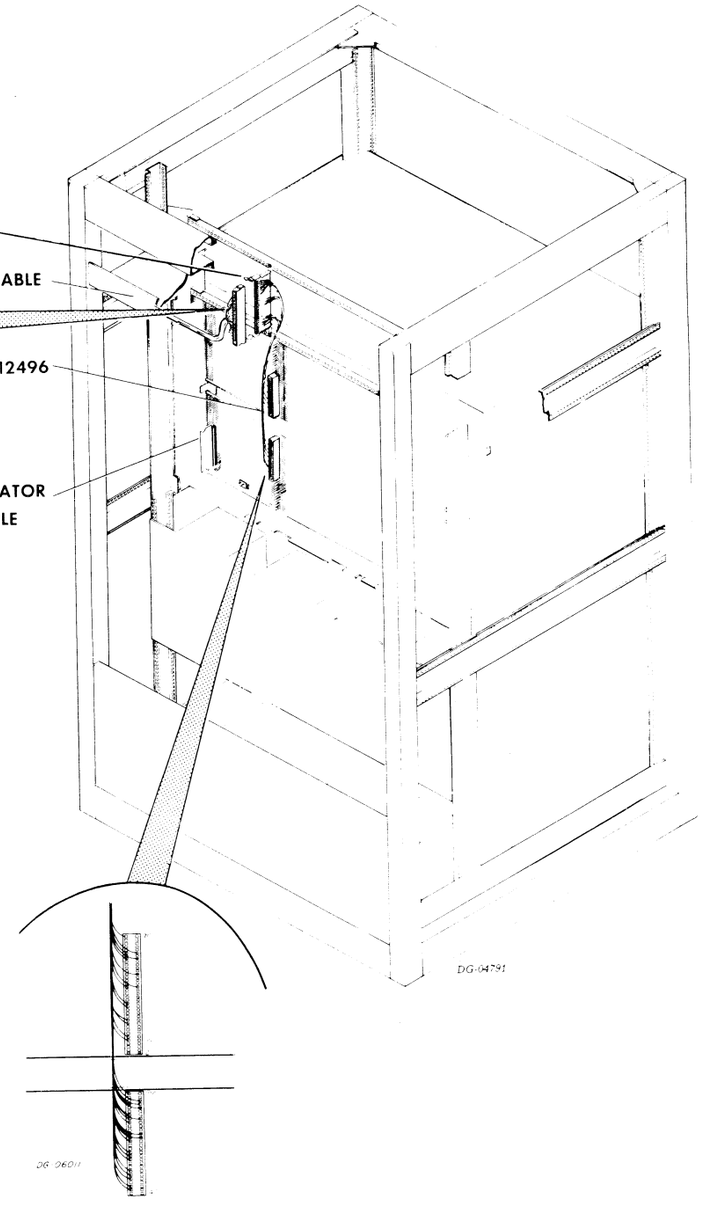
FOR VERTICAL ADJUSTMENT OF EXTRUDED TRIM ON COLLAR TO MATE WITH TRIM ON CABINETS, INSERT SCREWDRIVER THROUGH HOLES IN REAR OF COLLAR. BACK OFF SCREWS JUST ENOUGH TO EASE TENSION ON TINNERMAN FASTENERS TO ALLOW VERTICAL MOVEMENT OF TRIM. SLIDE TRIM TO DESIRED HEIGHT AND RETIGHTEN SCREWS.

INTERNAL CABLING

TERMINATOR PLACEMENTS

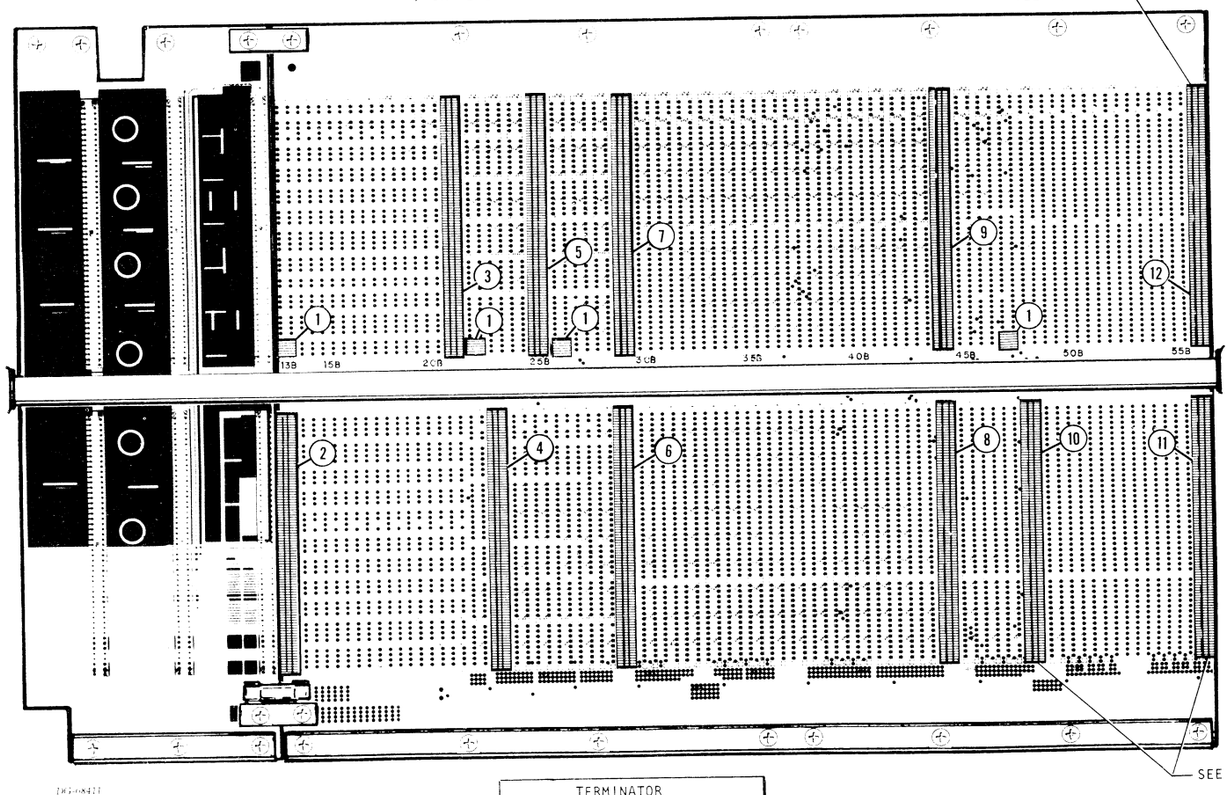
NOTE: INSTALL PIGTAIL IN FRONT OF MOUNTING BRACKET WITH A FLAT WASHER OR BEHIND THE MOUNTING BRACKET.





BACKPANEL - REAR VIEW

7 OR FEWER IOP I/O SLOTS USED - SLOTS 49 TO 55



TERMINATOR		
1	SYS CLK	005-014291
2	MEM A	005-014301
3	MEM B	005-014289
4	CPORT A	005-014293
5	CPORT B	005-014295
6	IPORT A	005-014297
7	IPORT B	005-014299
8	MEM I/O	005-008086
9	I/O ONLY	005-015695
10	MEM ONLY	005-008034
11	MEM I/O	005-008086
12	I/O ONLY	005-015695

NOTE 1: TERMINATORS 10, 11 AND 12 ARE SHOWN HERE CONFIGURED FOR 7 OR FEWER SLOTS USED ON IOP I/O BUS. SEE PAGE 6 FOR CONFIGURATION FOR 8 SLOTS USED ON IOP I/O BUS.

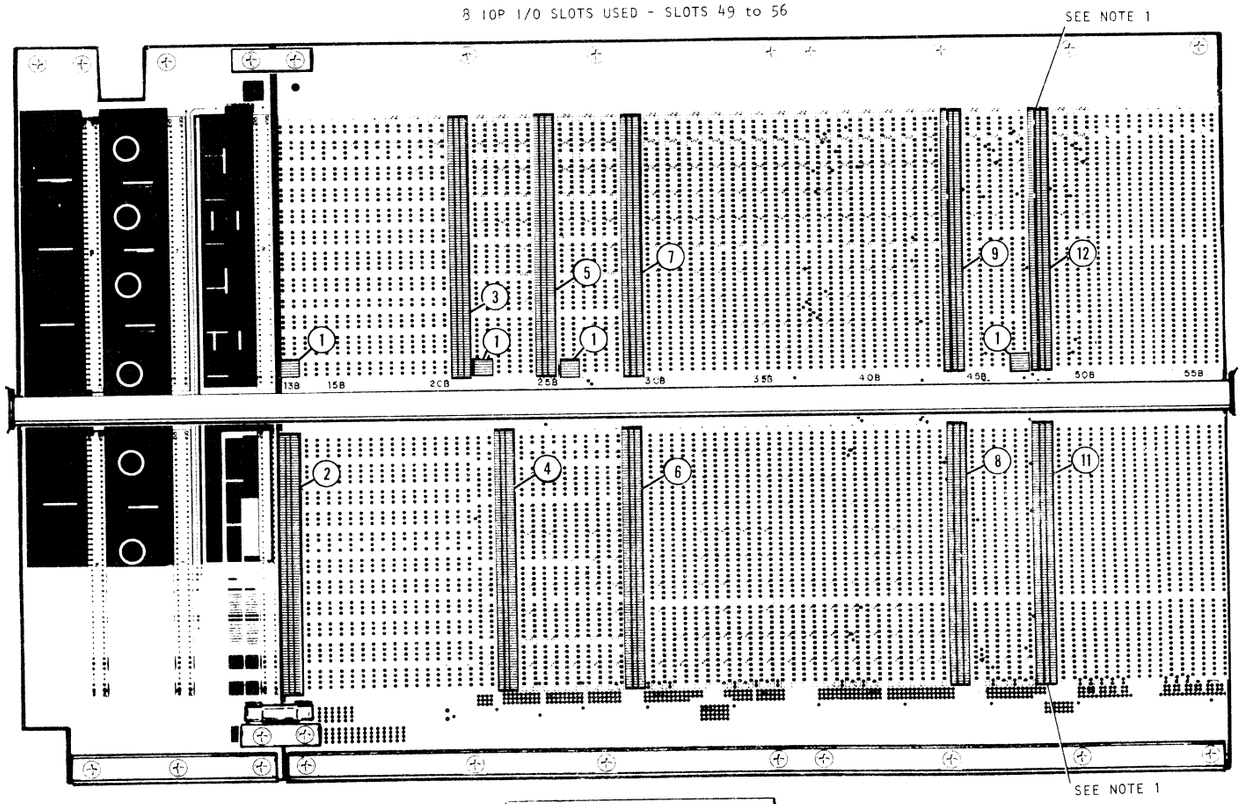
MV/8000, 9300 MODELS

INTERNAL CABLING (CONT)

TERMINATOR PLACEMENTS

BACKPANEL - REAR VIEW

8 IOP I/O SLOTS USED - SLOTS 49 to 56



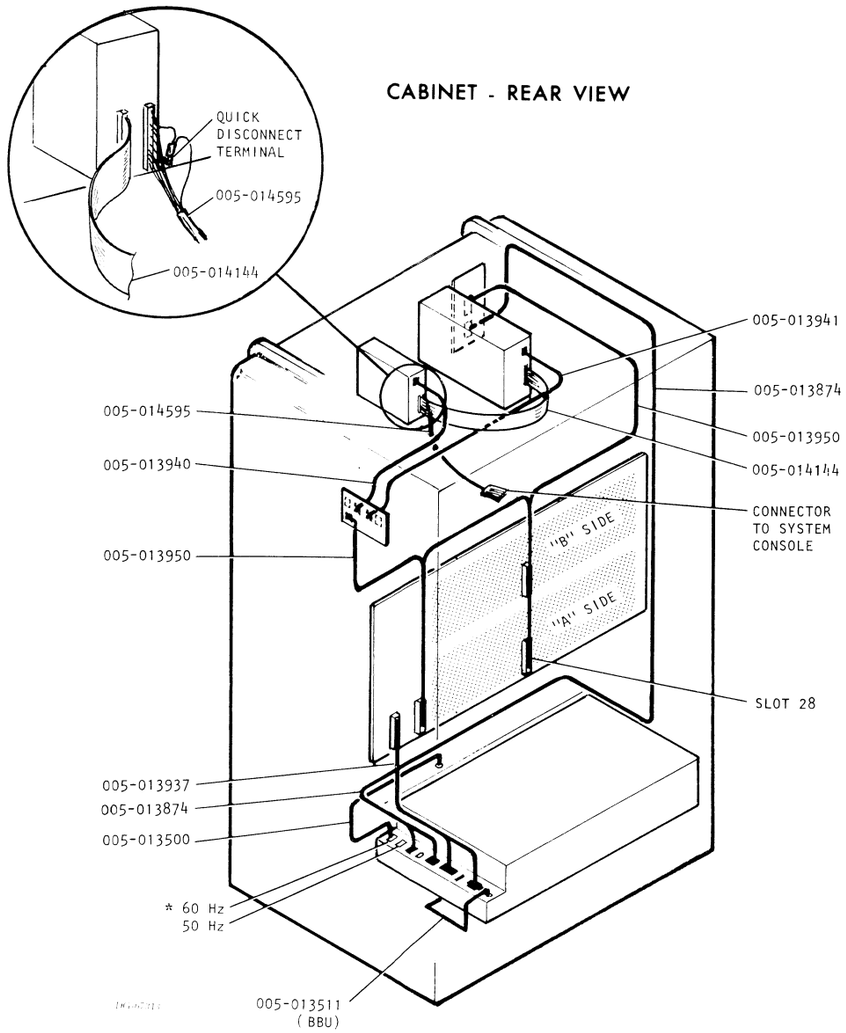
DG-08412

TERMINATOR		
1	SYS CLK	005-014291
2	MEM A	005-014301
3	MEM B	005-014289
4	CPORT A	005-014293
5	CPORT B	005-014295
6	IPORT A	005-014297
7	IPORT B	005-014299
8	MEM I/O	005-008086
9	I/O ONLY	005-015695
10	MEM ONLY	005-008034
11	MEM I/O	005-008086
12	I/O ONLY	005-015695

NOTE 1: TERMINATORS 11 AND 12 ARE SHOWN HERE CONFIGURED FOR 8 SLOTS USED ON IOP I/O BUS – SLOTS 49 TO 56. TERMINATOR 10 IS NOT USED.

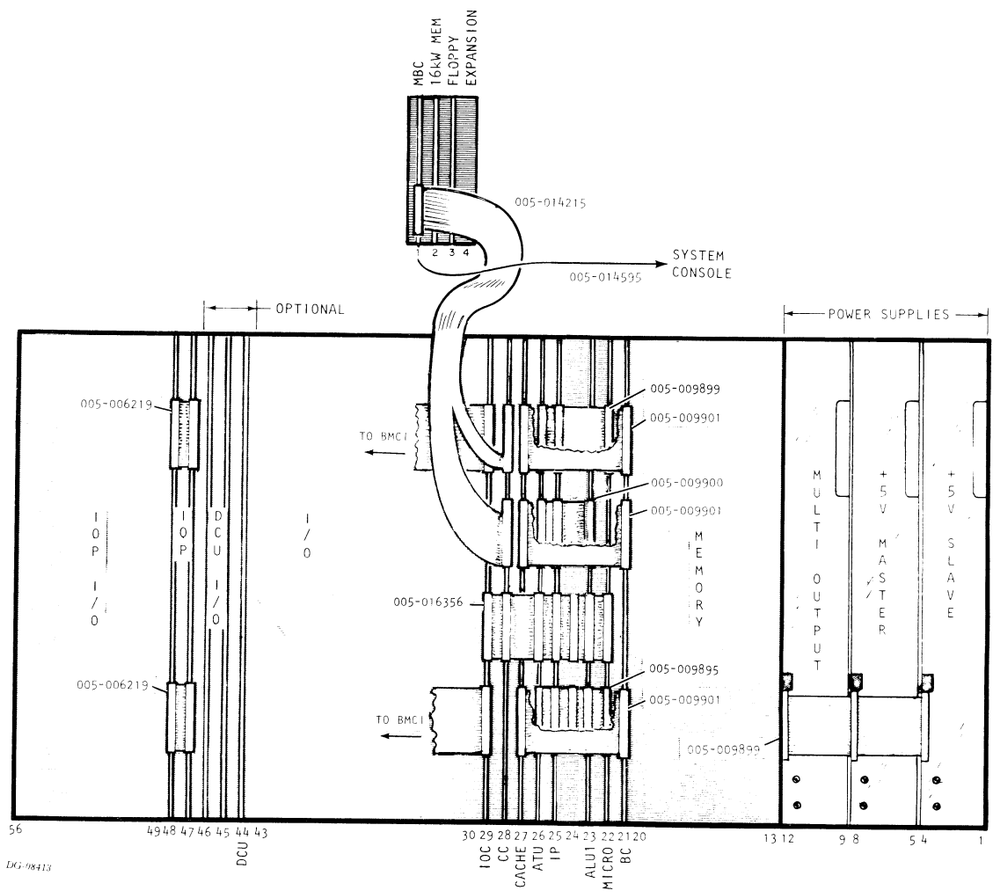
INTERNAL CABLING (CONT)

CABINET - REAR VIEW



* POSITION BLOWER CONNECTOR APPROPRIATELY FOR 50 OR 60 Hz.

CARD CAGE - FRONT VIEW



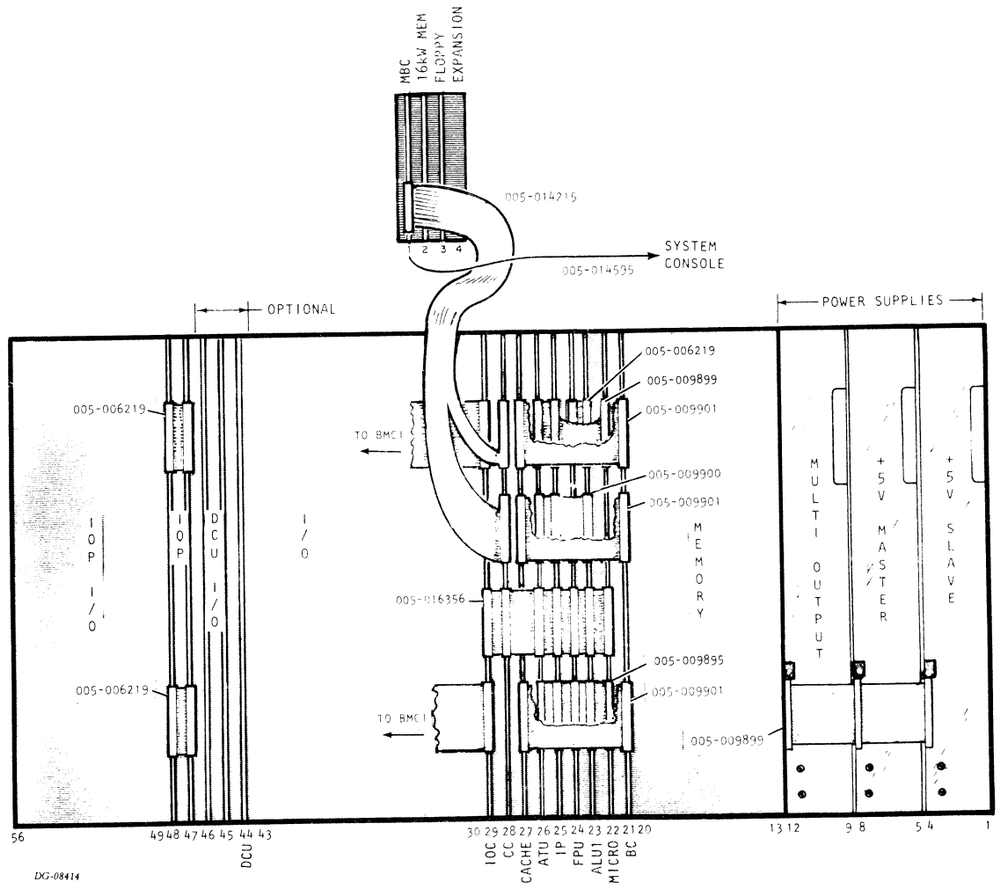
NOTES: SEE NEXT PAGE DWG FOR CABLING WHEN FPU IS INSTALLED (FFP OPTION)

MINIMUM LOAD OF 10A AT +5V REQUIRED ON MULTIPLE OUTPUT POWER SUPPLY (MOC). TYPICALLY MEMORY BOARD ON BANK CONTROLLER.

INTERNAL CABLING (CONT)

FLOATING POINT PROCESSOR (FPP) OPTION

CARD CAGE - FRONT VIEW



NOTE: MINIMUM LOAD OF 10A AT +5V REQUIRED ON MULTIPLE OUTPUT POWER SUPPLY (MOC), TYPICALLY MEMORY BOARD ON BANK CONTROLLER.

TO INSTALL FLOATING POINT PROCESSOR (FPP) OPTION

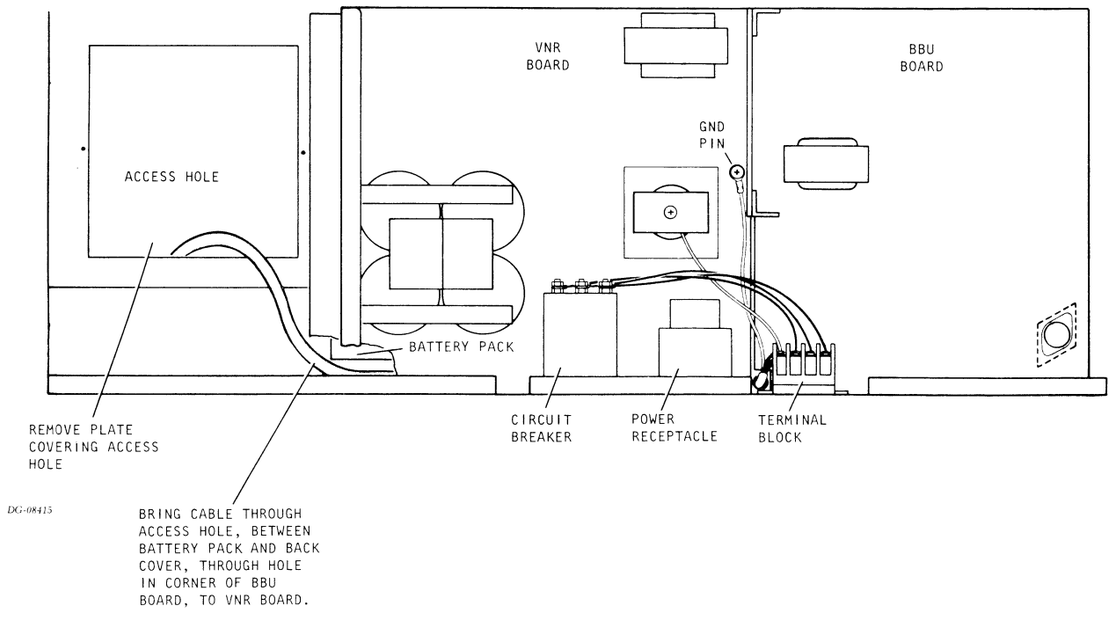
1. REMOVE CPU RIBBON CABLES.
2. INSERT FPU (005-16601) INTO SLOT 24.
3. CABLE CPU AS SHOWN. NOTICE THAT THERE IS ONE NEW CABLE, 005-006219.

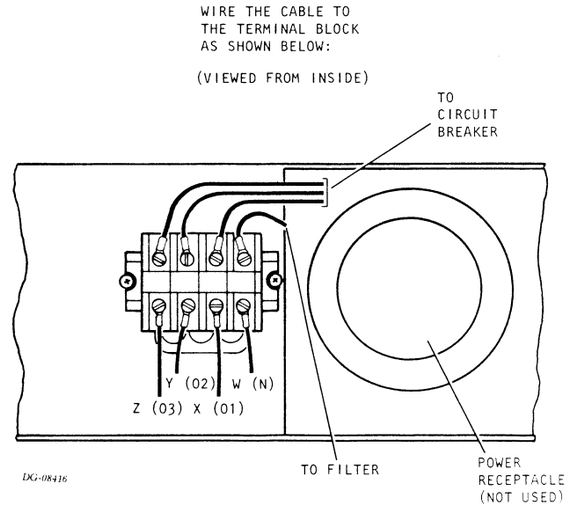
TO RUN SYSTEM WITH FPP, DISKETTE 065-000019 MUST BE INSTALLED. HOWEVER, THE SYSTEM MAY BE RUN WITH DISKETTE 065-000014 IN DEGRADED MODE; NO ACCELERATION OF FLOATING POINT INSTRUCTIONS WILL BE ACHIEVED.

INTERNAL CABLING (CONT)

POWER CABLE
FLOOR ACCESS

TOP VIEW



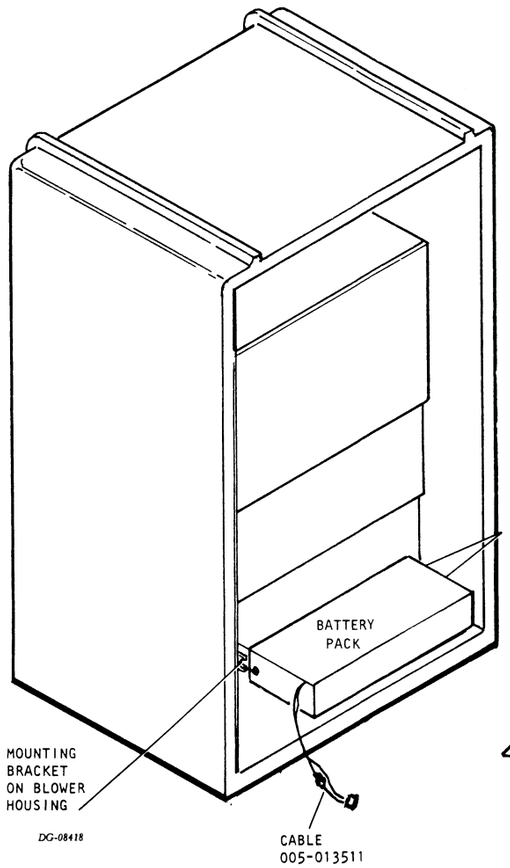


BBU OPTION INSTALLATION AND TAILORING

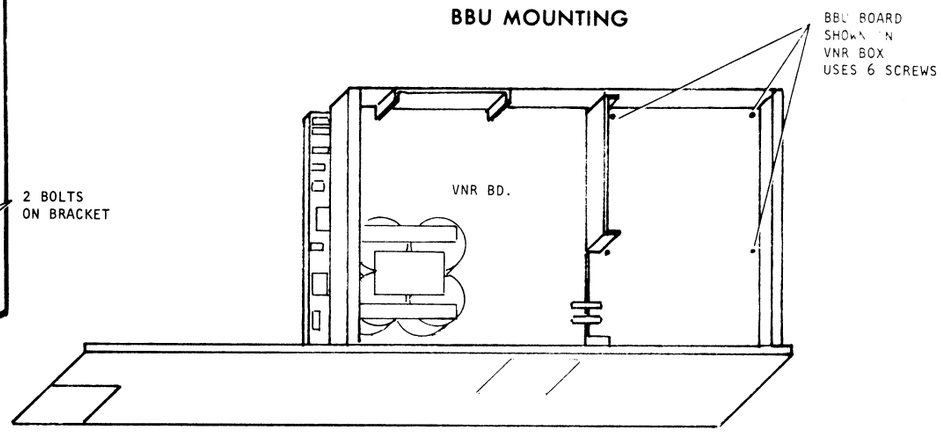
WARNING — FOR CONTINUED PROTECTION AND PERFORMANCE, REPLACE BATTERY WITH SAME TYPE INDICATED IN SERVICE MANUAL

AVERTISSEMENT — POUR ASSURER UNE PROTECTION CONTINUE ET UNE BONNE PERFORMANCE, LA BATTERIE DE RECHANGE DOIT ETRE DU TYPE INDIQUE DANS LA NOTICE TECHNIQUE.

BATTERY PACK MOUNTING

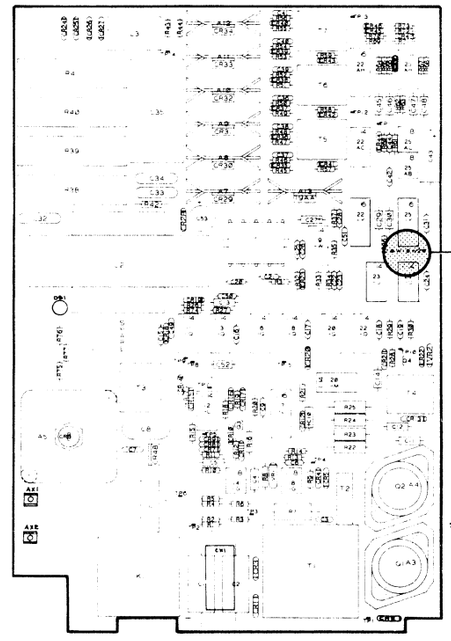


BBU MOUNTING



BATTERY BACKUP PCB

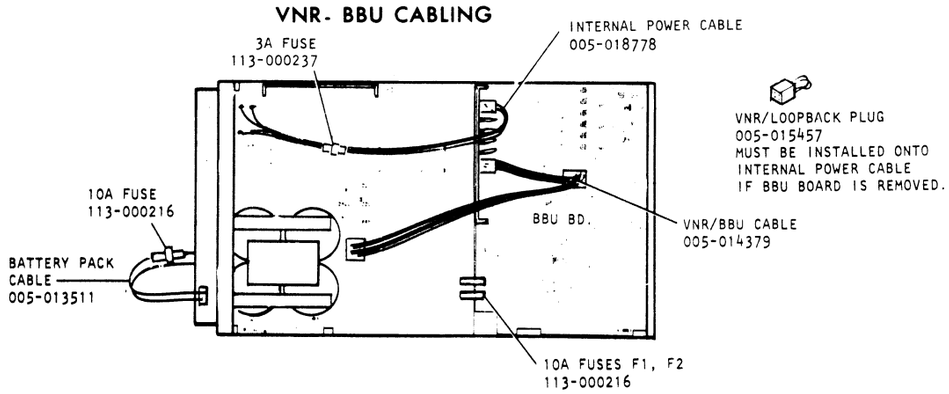
Ref DGC Dwg No 107-001388 Rev 02



LINE FREQ	JUMPER
60Hz	W1 IN W2 OUT
50Hz	W1 OUT W2 IN

* NOTE:
JUMPER MUST BE INSTALLED CORRECTLY TO PREVENT DAMAGE TO BATTERY BACKUP BOARD (BBU).

VNR- BBU CABLING



TAILORING

JUMPERING

PRIORITY CHAIN MAINTENANCE

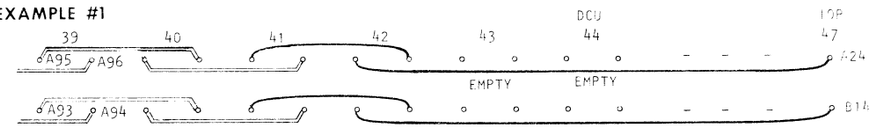
THE BACKPANEL SUPPLIES THE PRIORITY CHAIN FOR BOTH THE INTERRUPT AND DATA CHANNEL REQUESTS. THE BACKPANEL HAS TWO SIGNALS, DCHP AND INTP, WHICH GO FROM ONE I/O CONTROLLER SLOT TO THE NEXT, ENTERING THE CONTROLLER ON ONE PIN OF THE SLOT AND LEAVING THE CONTROLLER ON ANOTHER PIN. IF A SLOT ON THE I/O SYSTEM IS EMPTY, AND THE CHAIN HAS BEEN BROKEN; ALL CONTROLLERS FARTHER DOWN THE CHAIN FROM THE EMPTY SLOT WILL NEVER BE ABLE TO ACKNOWLEDGE AN INTERRUPT. JUMPERS MUST BE USED TO KEEP THE CHAIN INTACT.

THE CENTRAL PROCESSOR'S I/O SLOTS IN THE ECLIPSE MV/8000 COMPUTER ARE NOT CONTIGUOUS. THE MAIN GROUP OF I/O SLOTS START WITH SLOT 30 (HIGHEST PRIORITY) AND GO THROUGH SLOT 41. THE IOP IS IN SLOT 47; IT HAS THE LOWEST PRIORITY AND MUST BE JUMPERED AS SUCH. THE OPTIONAL DCU IS IN SLOT 44; IT HAS A PRIORITY BETWEEN SEVERAL OTHER DEVICES AND MUST BE JUMPERED INTO THE APPROPRIATE PLACE IN THE CHAIN. TWO SLOTS (42 AND 43) HAVE NO DEFINED PRIORITY AND CAN BE JUMPERED AT HIGHER OR LOWER PRIORITY THAN THE DCU. THE DRAWING BELOW SHOWS THESE SLOTS AND THE PRIORITY JUMPERS ALREADY ETCHED INTO THE BACKPANEL. JUMPERS OR WIREWRAP MUST BE USED TO INCLUDE THE DCU AND IOP IN THE PRIORITY CHAIN AND TO INCLUDE THE TWO UNCOMMITTED SLOTS IF NECESSARY. SEE DGC 010-000256 FOR A DESCRIPTION OF THE PRIORITIES OF ALL STANDARD DGC PERIPHERALS.

FOUR EXAMPLES OF JUMPERING THESE I/O SLOTS ARE SHOWN.

PRIORITY CHAIN

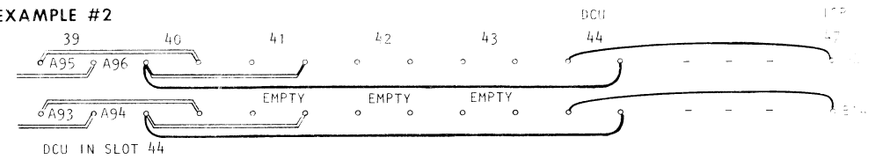
EXAMPLE #1



NO DCU IN SLOT 44

ONE EMPTY I/O SLOT.

EXAMPLE #2

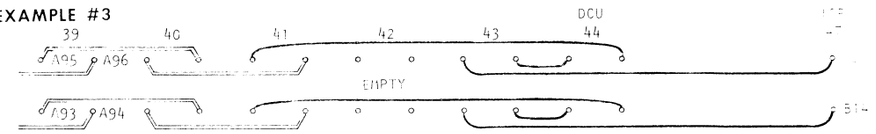


DCU IN SLOT 44

3 EMPTY SLOTS

ALL I/O HAS HIGHER PRIORITY THAN DCU

EXAMPLE #3

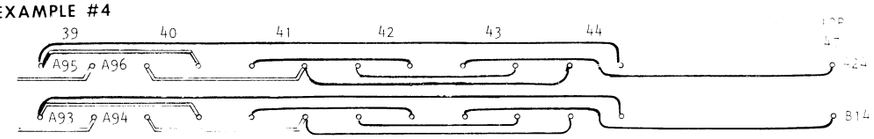


DCU IN SLOT 44

1 EMPTY SLOT

1 CONTROLLER (IN SLOT 43) HAS LOWER PRIORITY THAN DCU.

EXAMPLE #4



DCU IN SLOT 44

3 CONTROLLERS (SLOTS 41 - 43)
3 CONTROLLERS (SLOTS 41 - 43) HAVE LOWER PRIORITY THAN DCU.

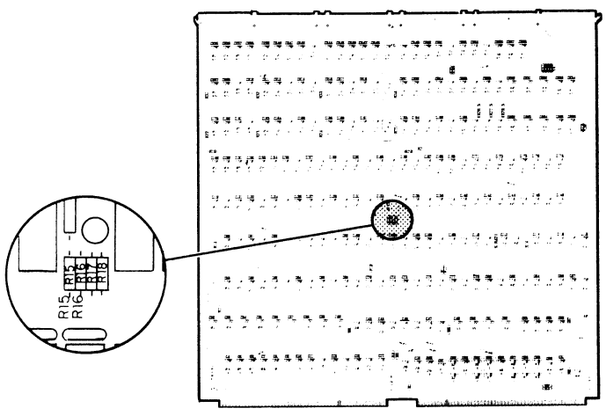
REQUIRES SLOT 40 TO BE EMPTY.

TAILORING (CONT)

JUMPERING

INSTRUCTION PROCESSOR

Ref DGC Dwg No 107-001385 Rev 00

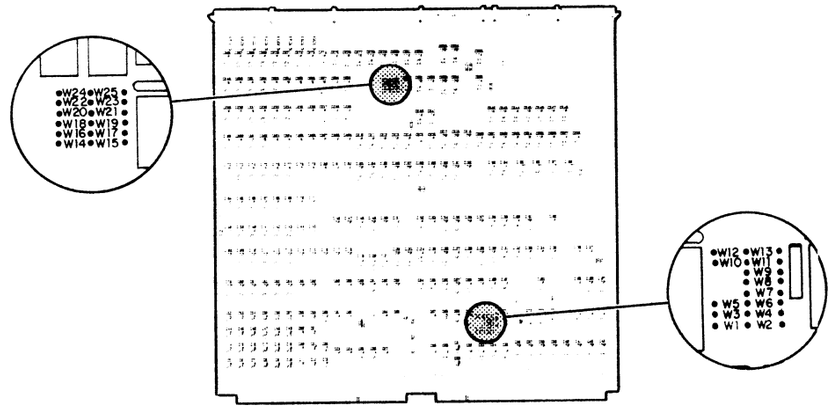


JUMPERS

R15 R16	IN OUT

SYSTEM CACHE

Ref DGC Dwg No 107-001304 Rev 09



JUMPERS

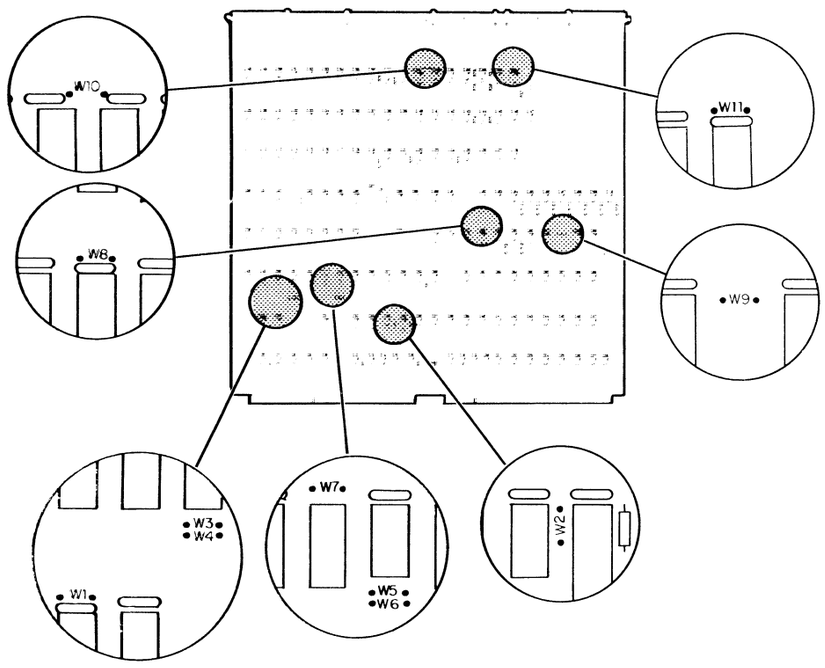
W1, W3, W5, W7, W11, W13, W14, W16, W18, W20, W22, W24	OUT
W2, W4, W6, W8, W10, W12, W15, W17, W19, W21, W23, W25	IN

TAILORING (CONT)

JUMPERING

BANK CONTROLLER

Ref DGC Dwg No 107-000982 Rev 01

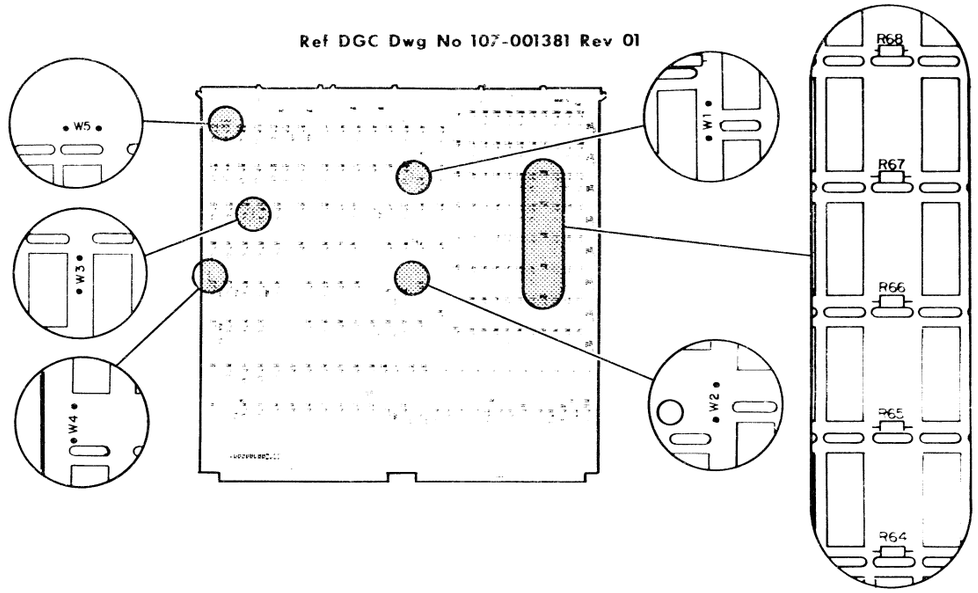


JUMPERS

W1, W2	IN
W3	OUT
W4	IN
W5	OUT
W6	IN
W7 - W11	IN

MICROSEQUENCER

Ref DGC Dwg No 107-001381 Rev 01



JUMPERS

W1-W5 R64-R86	IN OUT	IF RAMS ABOVE R64-R68 ARE INSERTED.
W1-W5 R64-R68	IN IN	IF RAMS ABOVE R64-R68 ARE NOT INSERTED.

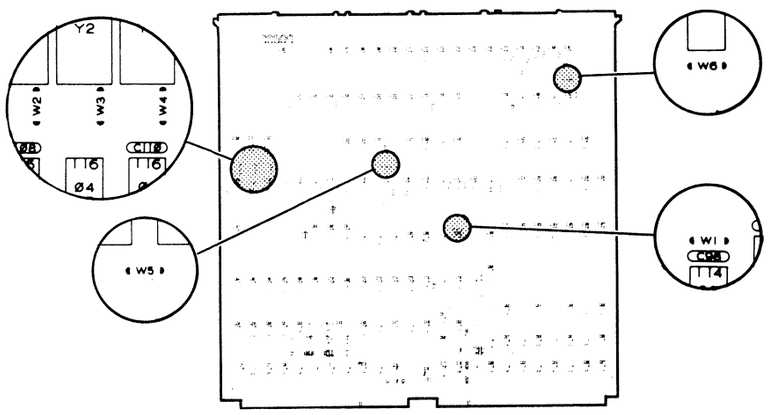
NOTE: R64-R68 MUST BE OUT, AND THE RAMS ABOVE R64-R68 MUST BE INSERTED IF THE FLOATING POINT PROCESSOR OPTION IS INSTALLED

TAILORING (CONT)

JUMPERING

CONSOLE CONTROLLER

Ref DGC Dwg No 107-001379 Rev 01

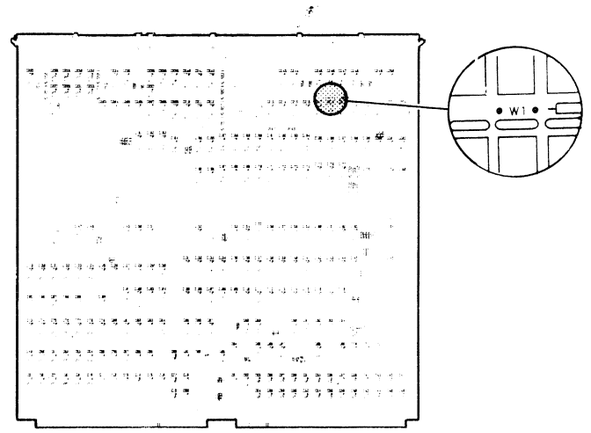


JUMPERS

W1-W6	IN

I/O CHANNEL

Ref DGC Dwg No 107-001330 Rev 01



JUMPER

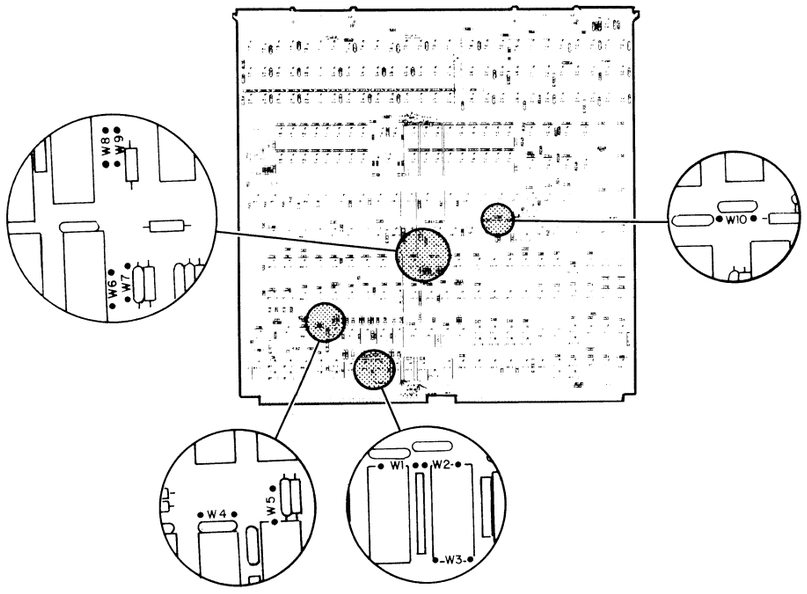
W1	OUT

TAILORING (CONT)

JUMPERING

IOP2

Ref DGC Dwg No 107-000632 Rev 03

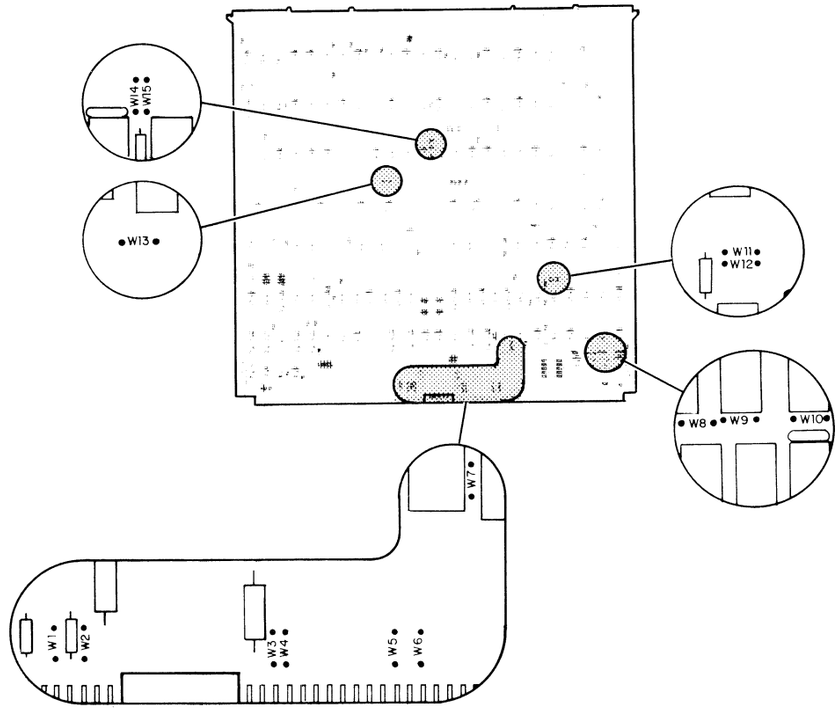


JUMPERS

W1	IN
W2	OUT
W3, W4	IN
W5, W6	OUT
W7	IN
W8	OUT
W9	IN
W10	OUT

CPU1

Ref DGC Dwg No 107-000261 Rev 10



JUMPERS

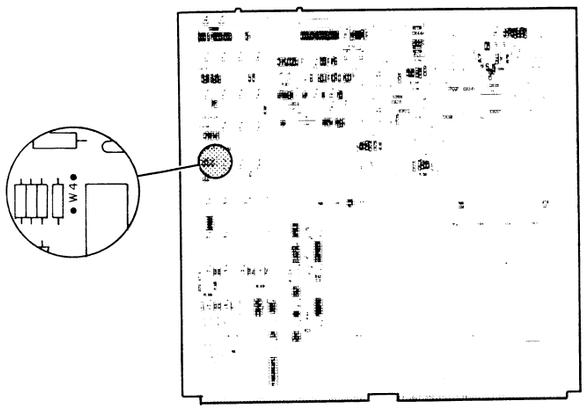
W1-W7	OUT
W8-W12	IN
W13, W14	OUT
W15	IN

TAILORING (CONT)

JUMPERING

SINGLE OUTPUT

Ref DGC Dwg No 107-001337 Rev 01

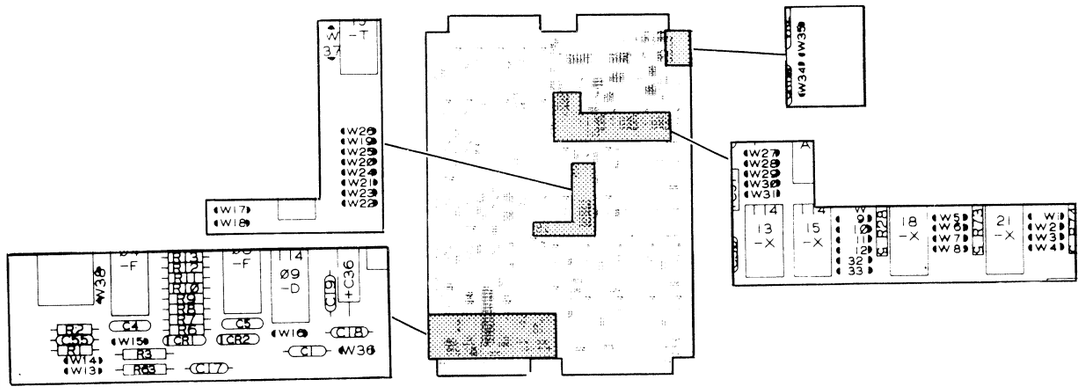


JUMPER

W4	OUT

MBC/1

Ref DGC Dwg No 107-000957 Rev 02



BAUD RATE JUMPERS

BAUD RATE	JUMPERS											
	W1	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12
75	IN	IN	IN	OUT	OUT	OUT	OUT	IN	IN	OUT	IN	IN
110	OUT	IN	IN	IN	IN	IN	OUT	OUT	IN	OUT	OUT	IN
134.5	IN	IN	IN	OUT	OUT	OUT	OUT	IN	IN	IN	IN	OUT
150	IN	IN	IN	OUT	OUT	OUT	IN	IN	OUT	IN	IN	OUT
300	IN	IN	OUT	OUT	OUT	IN	IN	OUT	IN	IN	OUT	OUT
600	IN	OUT	OUT	OUT	IN	IN	OUT	IN	IN	OUT	OUT	OUT
1200	OUT	OUT	OUT	IN	IN	OUT	IN	IN	OUT	OUT	OUT	OUT
1800	OUT	OUT	OUT	OUT	IN	OUT	OUT	IN	OUT	OUT	OUT	OUT
2400	OUT	OUT	IN	IN	OUT	IN	IN	OUT	OUT	OUT	OUT	OUT
4800	IN	OUT	IN	OUT	IN	IN	OUT	OUT	OUT	OUT	OUT	OUT
9600	OUT	IN	OUT	IN	IN	OUT	OUT	OUT	OUT	OUT	OUT	OUT

20mA CURRENT LOOP/EIA LINE SELECT JUMPERS

TYPE OF LINE	JUMPERS			
	W13	W14	W16	W36
EIA	OUT	IN	OUT	-
CURRENT LOOP (600 baud or below)	IN	OUT	IN	IN
CURRENT LOOP (above 600 baud)	IN	OUT	IN	OUT

JUMPERS

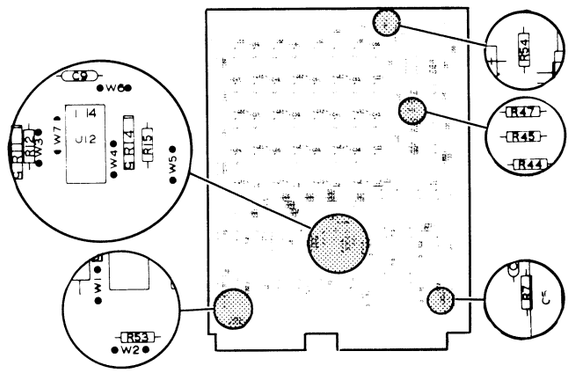
W15	OUT
W17	IN
W18, W19	OUT
W20-W23	IN
W24-W31	OUT
W32-W34	IN
W35, W37	OUT
W38	IN

TAILORING (CONT)

JUMPERING

32K MICRONOVA MEMORY

Ref DGC Dwg No 107-000799 Rev 02

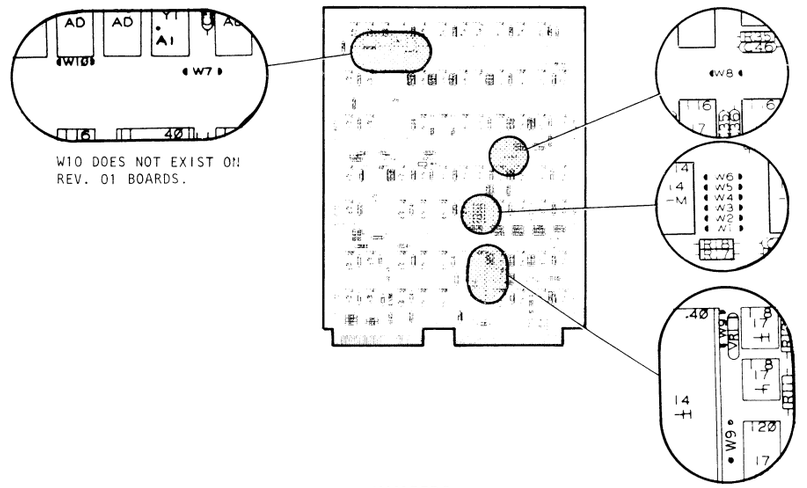


JUMPERS

W1	OUT
W2	IN
W3-W7	OUT
R15	IN
R53	OUT
R7	OUT
R45	IN
R54	OUT

FLOPPY CONTROLLER

Ref DGC Dwg No 107-001324 Rev 02



W10 DOES NOT EXIST ON REV. 01 BOARDS.

JUMPERS

W1	OUT
W2, W3	IN
W4	OUT
W5	IN
W6	OUT
W7, W8	IN
W9	IN
W10	OUT

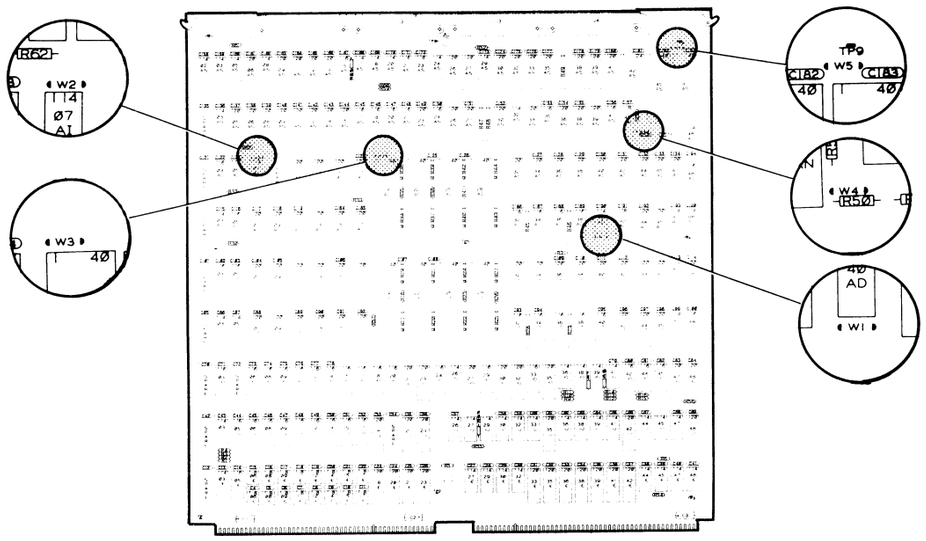
W9 ON REV. 01 BOARDS IS APPROX. ONE INCH BELOW THE LOCATION OF W9 ON REV. 02 BOARDS.

TAILORING (CONT)

JUMPERING

ARITHMETIC AND LOGIC UNIT (ALU1)

Ref DGC Dwg No 107-001627 Rev 00

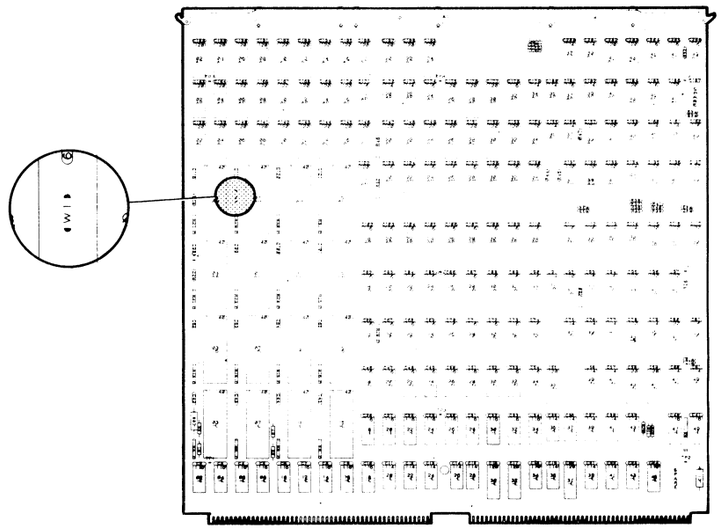


JUMPERS

W1-W5	IN

FLOATING POINT UNIT

Ref DGC Dwg No 107-001649 Rev 01



JUMPER

W1	IN

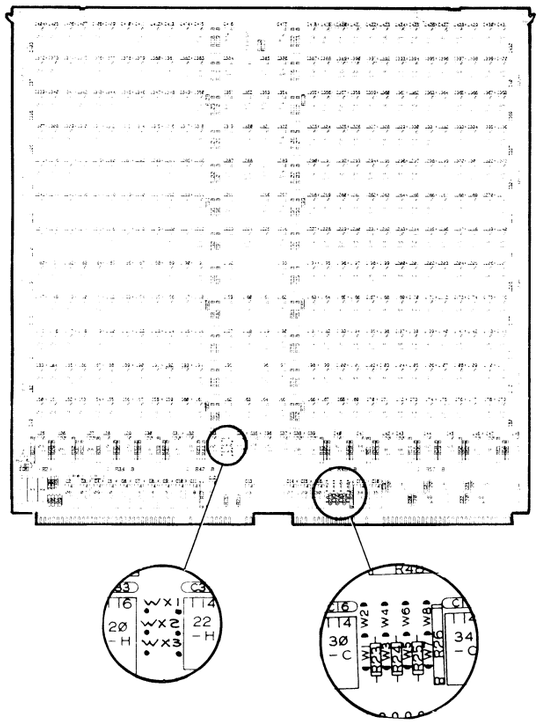
NOTE: 107-001649 REV. 02 HAS NO JUMPERS

TAILORING (CONT)

JUMPERING

DOUBLE DENSITY MEMORY ARRAY

Ref DGC Dwg No 107-001603 Rev 00



MEMORY BOARDS ARE INSERTED CONSECUTIVELY FROM SLOT 20 TO SLOT 13 IN THE BACKPANEL. THE FOLLOWING CONFIGURATIONS OF MEMORY ARE ALLOWED:

THE FOLLOWING ABBREVIATIONS ARE USED BELOW
- DOUBLE DENSITY MEMORY (512 KB) 005-016552 = DDMA
- SINGLE DENSITY MEMORY (256 KB) 005-012839 = SDMM

TYPE	CONFIGURATION	SLOT INSERTION RULES
A	2-8 SDMM (NOTE 1)	INSERT SDMMS FROM SLOTS 20 TO 13
B	2 SDMM, 1-6 DDMA (NOTE 2)	INSERT SDMMS FROM SLOTS 20 TO 19 INSERT DDMAS FROM SLOTS 18 TO 13
C	4 SDMM, 1-4 DDMA (NOTE 2)	INSERT SDMMS FROM SLOTS 20 TO 17 INSERT DDMAS FROM SLOTS 16 TO 13
D	6 SDMM, 1-2 DDMA (NOTE 2)	INSERT SDMMS FROM SLOTS 20 TO 15 INSERT DDMAS FROM SLOTS 14 TO 13
E	1-8 DDMA (NOTE 3)	INSERT DDMAS FROM SLOTS 20 TO 13
F	1-8 DDMA MODIFIED (NOTE 3)	INSERT DDMAS FROM SLOTS 20 TO 13

TO JUMPER A DDMA BOARD, DETERMINE THE CONFIGURATION TYPE AND THE BOARD'S SLOT NUMBER IN THE BACKPANEL, AND FIND THE APPROPRIATE LINE OF THE CHART BELOW. FOR EXAMPLE, A DDMA BOARD IN SLOT 15 OF CONFIGURATION C IS LABELLED "C 15"; USE THE FOURTH LINE OF THE CHART BELOW. NO JUMPERS ARE REQUIRED FOR A SDMM BOARD.

TYPE AND SLOT NUMBER	JUMPERS										
	W1	W2	W3	W4	W5	W6	W7	W8	WX1	WX2	WX3
F 20	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	IN	OUT
F 19, B 18	IN	OUT	IN	OUT	OUT	IN	IN	OUT	IN	IN	OUT
F 18, B 17, C 16	IN	OUT	OUT	IN	IN	OUT	IN	OUT	IN	IN	OUT
F 17, B 16, C 15, D 14	IN	OUT	OUT	IN	OUT	IN	IN	OUT	IN	IN	OUT
F 16, B 15, C 14, D 13	OUT	IN	IN	OUT	IN	OUT	IN	OUT	IN	IN	OUT
F 15, B 14, C 13	OUT	IN	IN	OUT	OUT	IN	IN	OUT	IN	IN	OUT
F 14, B 13	OUT	IN	OUT	IN	IN	OUT	IN	OUT	IN	IN	OUT
F 13	OUT	IN	OUT	IN	OUT	IN	IN	OUT	IN	IN	OUT
E ALL SLOTS	OUT	OUT	OUT	OUT	OUT	OUT	OUT	OUT	IN	IN	OUT

NOTE 1: AN EVEN NUMBER OF SDMM BOARDS MUST ALWAYS BE USED.

NOTE 2: DDMA BOARDS IN CONFIGURATIONS B, C, AND D REQUIRE THE REMOVAL OF DUMMY RESISTORS R23, R24, AND R25. REMOVE THESE RESISTORS BY CUTTING THEIR LEADS.

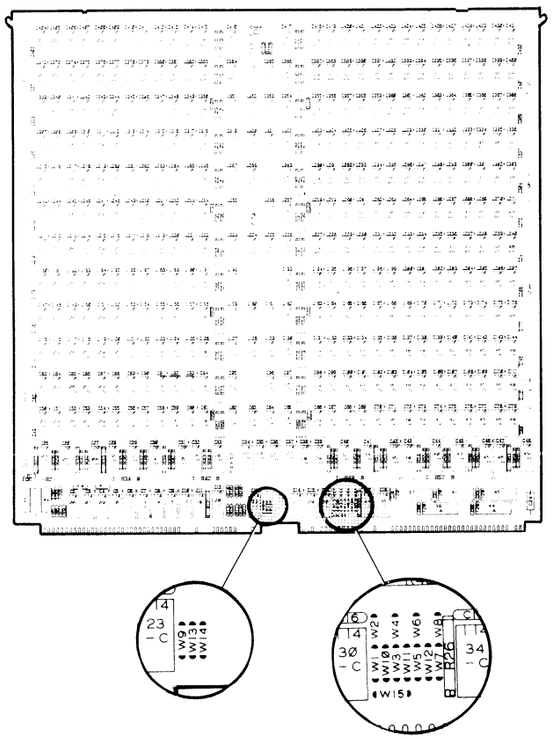
NOTE 3: CONFIGURATION F BOARDS HAVE BEEN MODIFIED BY THE REMOVAL OF DUMMY RESISTORS R23, R24, AND R25. JUMPER AS SHOWN. CONFIGURATION E AND F BOARDS MAY BE MIXED IN ANY ORDER IN THE SAME CONFIGURATION AS LONG AS THE CONFIGURATION F BOARDS ARE JUMPERED CORRECTLY FOR THE SLOTS THEY OCCUPY.

TAILORING (CONT)

JUMPERING

DOUBLE DENSITY MEMORY ARRAY

Ref DGC Dwg No 107-001603 Rev 01



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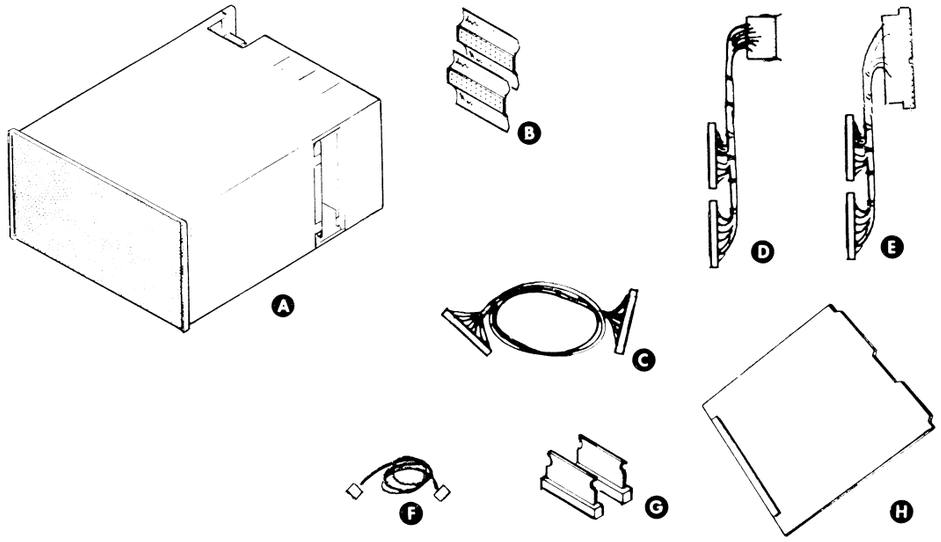
B	2 SDMM, 1-6 DDMA	INSERT SDMMS FROM SLOTS 20 TO 19 INSERT DDMAS FROM SLOTS 18 TO 13
C	4 SDMM, 1-4 DDMA	INSERT SDMMS FROM SLOTS 20 TO 17 INSERT DDMAS FROM SLOTS 16 TO 13
D	6 SDMM, 1-2 DDMA	INSERT SDMMS FROM SLOTS 20 TO 15 INSERT DDMAS FROM SLOTS 14 TO 13
E	1-8 DDMA	INSERT DDMAS FROM SLOTS 20 TO 13
F	1-8 DDMA MODIFIED	INSERT DDMAS FROM SLOTS 20 TO 13

TO JUMPER A DDMA BOARD, DETERMINE THE CONFIGURATION TYPE AND THE BOARD'S SLOT NUMBER IN THE BACKPANEL, AND FIND THE APPROPRIATE LINE OF THE CHART BELOW. FOR EXAMPLE, A DDMA BOARD IN SLOT 15 OF CONFIGURATION C IS LABELLED "C 15"; USE THE FOURTH LINE OF THE CHART BELOW. NO JUMPERS ARE REQUIRED FOR A SDMM BOARD.

TYPE AND SLOT NUMBER	JUMPERS														
	W1	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	W14	W15
F 20	IN	OUT	IN	OUT	IN	OUT	IN	OUT	OUT	OUT	OUT	OUT	IN	IN	OUT
F 19, B 18	IN	OUT	IN	OUT	OUT	IN	IN	OUT	OUT	OUT	OUT	OUT	IN	IN	OUT
F 18, B 17, C 16	IN	OUT	OUT	IN	IN	OUT	IN	OUT	OUT	OUT	OUT	OUT	IN	IN	OUT
F 17, B 16, C 15, D 14	IN	OUT	OUT	IN	OUT	IN	IN	OUT	OUT	OUT	OUT	OUT	IN	IN	OUT
F 16, B 15, C 14, D 13	OUT	IN	IN	OUT	IN	OUT	IN	OUT	OUT	OUT	OUT	OUT	IN	IN	OUT
F 15, B 14, C 13	OUT	IN	IN	OUT	OUT	IN	IN	OUT	OUT	OUT	OUT	OUT	IN	IN	OUT
F 14, B 13	OUT	IN	OUT	IN	IN	OUT	IN	OUT	OUT	OUT	OUT	OUT	IN	IN	OUT
F 13	OUT	IN	OUT	IN	OUT	IN	IN	OUT	OUT	OUT	OUT	OUT	IN	IN	OUT
E ALL SLOTS	OUT	OUT	OUT	OUT	OUT	OUT	OUT	OUT	OUT	IN	IN	IN	IN	IN	OUT

NOTE 1: AN EVEN NUMBER OF SDMM BOARDS MUST ALWAYS BE USED.

INSTALLATION SPECIFICATIONS



MAJOR COMPONENT

ITEM	COMPONENT	MOUNTING LOCATION	NOTES
A	EXPANSION CHASSIS	CABINET	MOUNT IN ADJACENT CABINET IF POSSIBLE

CABLES

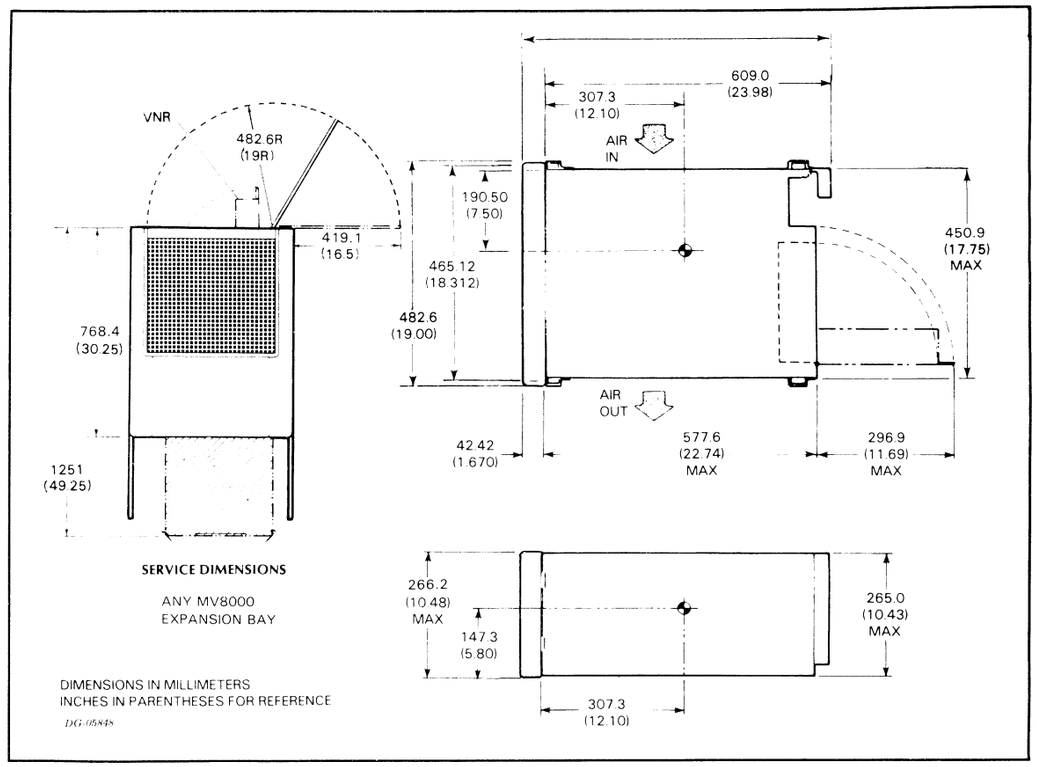
ITEM	CABLE	CONNECTING			NOTES
B	B P INTERCONNECT ASSY A SIDE (005-014955) B SIDE (005-014829)	EXP CHASSIS SLOT 8	&	EXP CHASSIS SLOT 9	SINGLE BUS CONFIGS
C	DAISY CHAIN CABLE (005-006291)	INT CABLE ON MAIN CHASSIS	&	INT CABLE ON EXP CHASSIS	ALL CONFIGS
D	DCU PADDLEBOARD (005-012590)	MAIN CHASSIS	&	DAISY CHAIN CABLE	CONFIGS USING DCU
	BUS REPEATER PADDLEBOARD (005-013522)	MAIN CHASSIS	&	DAISY CHAIN CABLE	CONFIGS USING BUS REPEATER
	DCU & SBUS (005-014978)	MAIN CHASSIS	&	DAISY CHAIN CABLE	CONFIGS USING ADDITIONAL DCU W/SBUS
	BUS REPEATER W/ SBUS (005-014609)	MAIN CHASSIS	&	DAISY CHAIN CABLE	CONFIGS USING BUS REPEATER W/SBUS
	O BUS W SBUS (005-014977)	MAIN CHASSIS	&	DAISY CHAIN CABLE	CONFIGS USING DEDICATED DCU W/SBUS
E	DUAL I O & SBUS (005-015843)	DAISY CHAIN CABLE	&	EXP CHASSIS	DUAL BUS CONFIGS
F	COMM PRIORITY CABLE (005-014950)	MAIN CHASSIS	&	EXP CHASSIS	SPLIT COMM CONFIGS

TERMINATOR

ITEM	TERMINATOR	LOCATION	NOTES
G	2 B I O TERMINATORS A SIDE (005-013406) B SIDE (005-013407)	B P EXP CHASSIS	DUAL CONFIGS. TWO TERMINATORS FOR A-SIDE TWO TERMINATORS FOR B-SIDE
H	SBUS BOARD (005-014955)	EXP CHASSIS SLOT 1	REQUIRED FOR ALL CONFIGS.

WARNING

THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY ENERGY AND IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTION MANUAL, MAY CAUSE INTERFERENCE TO RADIO COMMUNICATIONS. AS TEMPORARILY PERMITTED BY REGULATION, IT HAS NOT BEEN TESTED FOR COMPLIANCE WITH THE LIMITS FOR CLASS A COMPUTING DEVICES PURSUANT TO SUBPART J OF PART 15 OF FCC RULES, WHICH ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST SUCH INTERFERENCE. OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA IS LIKELY TO CAUSE INTERFERENCE IN WHICH CASE THE USER AT HIS OWN EXPENSE WILL BE REQUIRED TO TAKE WHATEVER MEASURES MAY BE REQUIRED TO CORRECT THE INTERFERENCE.



SERVICE DIMENSIONS

ANY MV8000
EXPANSION BAY

DIMENSIONS IN MILLIMETERS
INCHES IN PARENTHESES FOR REFERENCE

DG-05848

DIMENSIONS:	Width	Depth	Height
Millimeters	482.6	651.5	266.2
Inches	19.0	25.65	10.48

SERVICE CLEARANCES:	Front	Rear
Millimeters	482.6	296.9
Inches	19.0	11.69

WEIGHT:	Empty	Fully Loaded
Kilograms	35.38	49.9
Pounds	78.0	110.0

OPERATING ENVIRONMENT:	
Temperature (max)	55°C(131°F) 60Hz, 45°C(113°F) 50Hz
Relative Humidity (max)	90
Altitude (max)	3084m(10,000')

CABLES:

Primary Power	Length	Conn	Mating Conn
Domestic	1.8m(6')	5-15P	5-15R
Export	1.8m(6')	6-15P	6-15R

SEE TABLES TO THE LEFT FOR ADDITIONAL CABLE INFORMATION

CPU DESIGNATOR

Designator Range: 12-14

HEAT OUTPUT:	1100 watt (3750 BTU/hr) max (SEE CHART ON PAGE 11)
POWER REQUIREMENTS:	
(Domestic)	
Voltage	102-132
Hz	47-63
Max Amp per Phase	12.0
Phase	1
Startup Surge per Phase	20A (max) for 0.25 seconds
(Export)	
Voltage	187-264
Hz	47-63
Max Amp per Phase	7.0
Phase	1
Startup Surge per Phase	40A (max) for 0.12 seconds

LINE CORDS:

Supply	Part No.
120V	109.000455
220-240	109.000456

SLOT ASSIGNMENTS

SINGLE BUS CONFIGURATIONS

DATA CHANNEL SPEEDS AVAILABLE STANDARD [X]
HIGH SPEED [ ]

SLOT	ALLOWED (SLOT CHART)	ASSIGNED	+5 CURRENT DRAW
16	I/O		
15	TERMINATORS		
14	I/O		
13			
12			
11			
10			
9			
8			
7			
6			
5			
4			
3			
2	I/O		
1	LOAD BOARD		6 A
0	POWER SUPPLY		

TOTAL +5 CURRENT DRAW _____ A
MAX +5 CURRENT AVAILABLE 100 A
+5 CURRENT SURPLUS _____ A
MINIMUM +5 CURRENT 8 A

DUAL BUS CONFIGURATIONS

DATA CHANNEL SPEEDS AVAILABLE: STANDARD [X]
HIGH SPEED [ ]

SLOT	ALLOWED (SLOT CHART)	ASSIGNED	+5 CURRENT DRAW
16	I/O (E2 BUS-NOTE 1)		
15	TERMINATORS		
14	I/O (E2 BUS-NOTE 1)		
13			
12			
11			
10			
9	I/O (E2 BUS-NOTE 1)		
8	TERMINATORS		
7	I/O (E1 BUS-NOTE 2)		
6			
5			
4			
3			
2	I/O (E1 BUS-NOTE 2)		
1	LOAD BOARD		6 A
0	POWER SUPPLY		

TOTAL +5 CURRENT DRAW _____ A
MAX +5 CURRENT AVAILABLE 100 A
+5 CURRENT SURPLUS _____ A
MINIMUM +5 CURRENT 8 A

1. THE E2 BUS IS THE 7-SLOT PORTION AND IS CONNECTED TO J2 OF THE DUAL I/O AND SBUS CABLE (SEE DWG OF PADDLEBOARD, PAGE 7).

2. THE E1 BUS IS THE 6-SLOT PORTION AND IS CONNECTED TO J1 OF THE DUAL I/O AND SBUS CABLE.

SHIPPING

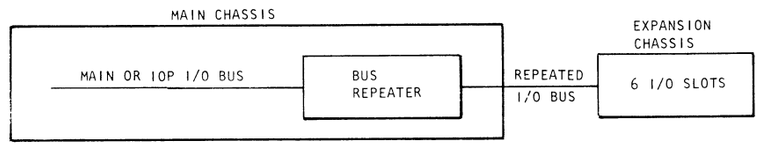
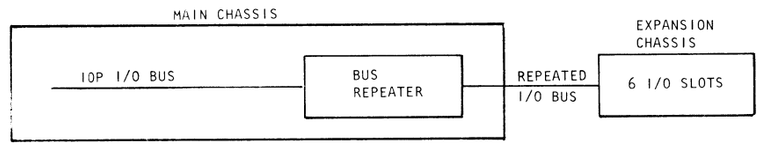
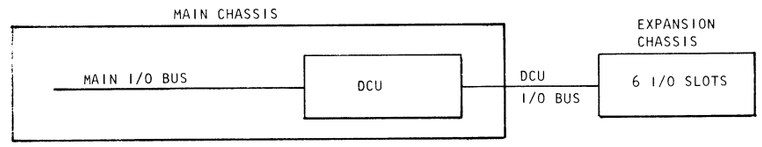
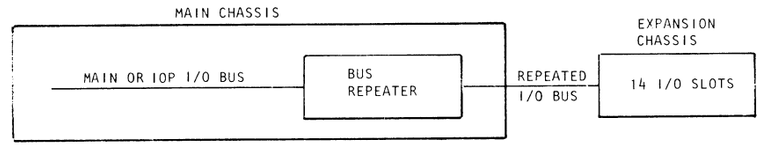
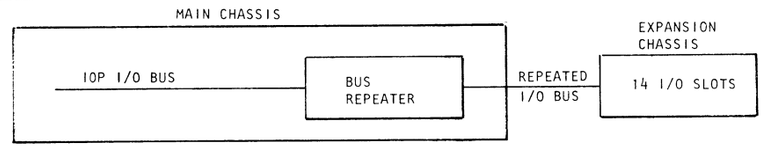
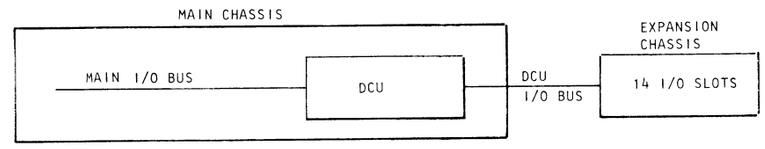
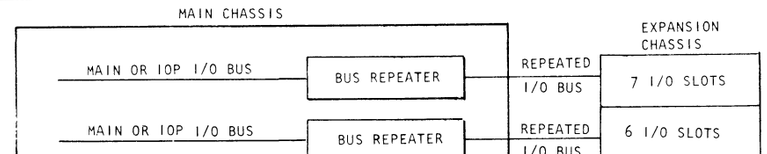
FOR PACKING PROCEDURE, SEE 010-000263

CONFIGURATION

THE CONFIGURATION OF A MODEL 8702-XX EXPANSION CHASSIS IS DEFINED BY THE XX SPECIFIER IN THE MODEL NUMBER. XX SPECIFIES THE FUNCTION OF THE SLOTS WITHIN THE EXPANSION CHASSIS. SEE THE FOLLOWING TABLE TO DETERMINE YOUR MODEL TYPE.

MAIN CHASSIS BOARD LOCATIONS

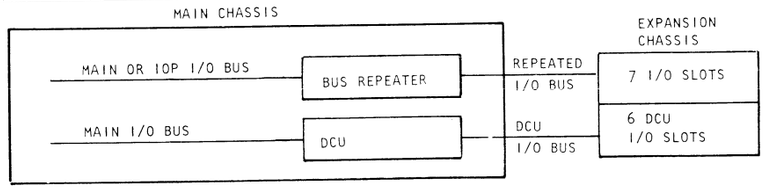
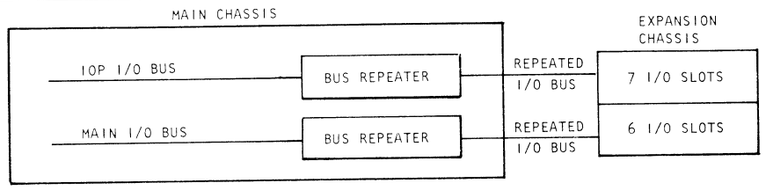
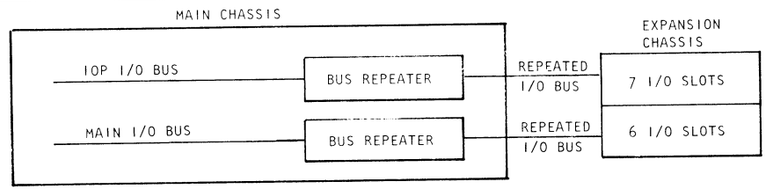
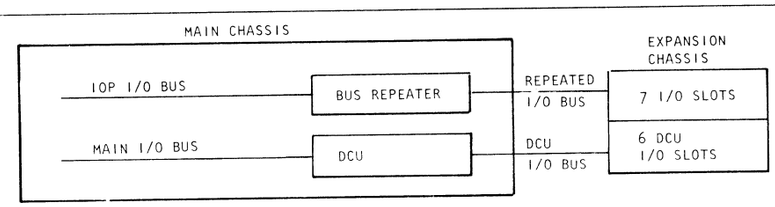
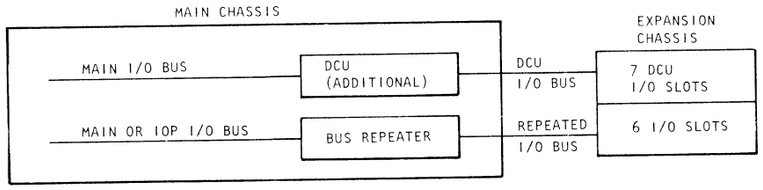
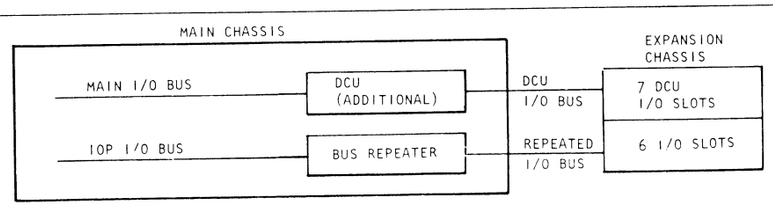
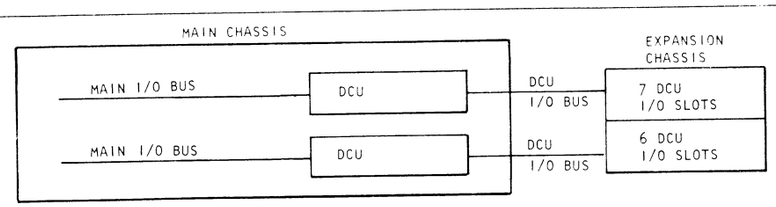
1. THE BUS REPEATER ON THE MAIN I/O BUS IS IN AN I/O SLOT (30-43).
2. THE BUS REPEATER ON THE IOP I/O BUS IS IN AN IOP SLOT (49-55). (THE BUS REPEATER HAS TO GO AFTER THE LAST COMM BOARD ON THE IOP I/O BUS.)
3. THE DEDICATED DCU IS IN SLOT 44. (PIN A 84 OF THE DEDICATED DCU HAS TO BE WIREWRAPPED TO PIN A84 OF EACH ADDITIONAL DCU IN THE MAIN CHASSIS. WHEN EXPANDING OFF OF A DEDICATED DCU, NO COMM BOARDS CAN BE IN SLOTS 45 & 46. CONNECT THE I/O BUS & SBUS CABLE TO SLOT 45 IN THE MAIN CHASSIS.)
4. ANY ADDITIONAL DCU IS IN AN I/O SLOT (30-43).

MODEL/ CONFIGURATION	CONFIGURATION	NOTES	PARTS REQUIRED IN ADDITION TO EXPANSION CHASSIS*		
			ASSEMBLY NO.	QTY	DESCRIPTION
8702-AA, AB		SINGLE REPEATER I/O BUS. THE 6 I/O SLOTS ARE DRIVEN BY A BUS REPEATER; ON THE MAIN I/O BUS FOR THE AA MODEL, AND ON THE IOP I/O BUS FOR THE AB MODEL.	005-014609 005-015843 005-006291	1 1 1	BUS REPEATER & SBUS CABLE DUAL I/O & SBUS CABLE DAISY CHAIN CABLE
8702-B		SINGLE REPEATER IOP I/O BUS. THE 6 I/O SLOTS IN THE EXPANSION ARE DRIVEN BY A BUS REPEATER. THE COMM BOARDS ARE DIVIDED BETWEEN THE TWO CHASSIS.	005-014609 005-015843 005-006291 005-014950	1 1 1 1	BUS REPEATER & SBUS CABLE DUAL I/O & SBUS CABLE DAISY CHAIN CABLE COMM PRIORITY CABLE
8702-C D		SINGLE DCU I/O BUS. THE 6 DCU I/O SLOTS IN THE C AND D MODELS ARE DRIVEN BY A DEDICATED DCU AND AN ADDITIONAL DCU RESPECTIVELY.	005-015843 005-006291 005-014977 005-014978	1 1 1 1	DUAL I/O & SBUS CABLE DAISY CHAIN CABLE I/O & SBUS CABLE (C-TYPE) DCU & SBUS CABLE (D-TYPE)
8702-EA, EB		SINGLE REPEATER I/O BUS. THE 14 I/O SLOTS ARE DRIVEN BY A BUS REPEATER; ON THE MAIN I/O BUS FOR THE EA MODEL, AND ON THE IOP I/O BUS FOR THE EB MODEL.	005-014609 005-015843 005-006291 005-014955 005-014829	1 1 1 1 1	BUS REPEATER & SBUS CABLE DUAL I/O & SBUS CABLE DAISY CHAIN CABLE EXP B/P INTERCONNECT (A SIDE) EXP B/P INTERCONNECT (B SIDE)
8702-F		SINGLE REPEATER IOP I/O BUS. THE 14 I/O SLOTS ARE DRIVEN BY A BUS REPEATER ON THE IOP I/O BUS. THE COMM BOARDS ARE DIVIDED BETWEEN THE TWO CHASSIS.	005-014609 005-015843 005-006291 005-014950 005-014955 005-014829	1 1 1 1 1 1	BUS REPEATER & SBUS CABLE DUAL I/O SBUS CABLE DAISY CHAIN CABLE COMM PRIORITY CABLE EXP B/P INTERCONNECT (A SIDE) EXP B/P INTERCONNECT (B SIDE)
8702-G, H		SINGLE DCU I/O BUS. THE 14 DCU I/O SLOTS OF THE G AND H MODELS ARE DRIVEN BY A DEDICATED DCU AND AN ADDITIONAL DCU RESPECTIVELY.	005-014977 005-014978 005-015843 005-006291 005-014955 005-014829	1 1 1 1 1 1	I/O & SBUS CABLE (G TYPE) DCU & SBUS CABLE (H TYPE) DUAL I/O & SBUS CABLE DAISY CHAIN CABLE EXP B/P INTERCONNECT (A SIDE) EXP B/P INTERCONNECT (B SIDE)
8702-JA, JB, K		DUAL REPEATER I/O BUS. THE 7 I/O SLOTS AND 6 I/O SLOTS ARE DRIVEN BY INDIVIDUAL BUS REPEATERS. THE JA MODEL HAS THE IOP I/O BUS DRIVING THE 7 I/O SLOTS AND THE MAIN I/O BUS DRIVING THE 6 I/O SLOTS. THE JB MODEL HAS THE BUSSES REVERSED. THE K MODEL IS THE SAME AS THE JB MODEL, BUT THE COMM BOARDS ARE DIVIDED BETWEEN THE MAIN CHASSIS AND THE 6 I/O SLOTS.	005-014609 005-015843 005-006291 005-013522 005-019992 005-019993 005-014950	1 1 2 1 1 1 1	BUS REPEATER & SBUS CABLE DUAL I/O & SBUS CABLE DAISY CHAIN CABLE BUS REPEATER CABLE TERMINATOR (A SIDE) TERMINATOR (B SIDE) COMM PRIORITY CABLE (K-TYPE ONLY)

(TABLE CONTINUED ON NEXT PAGE)

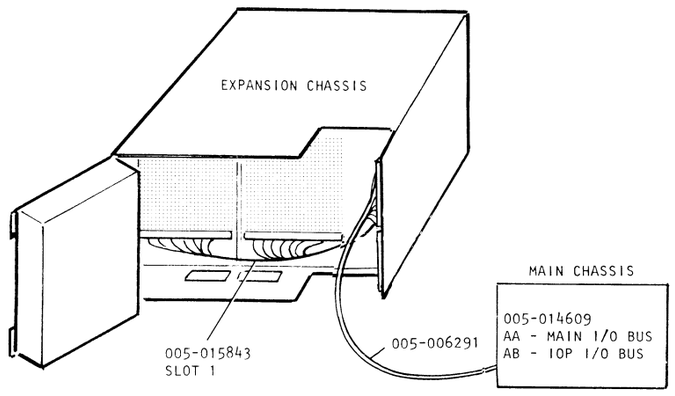
CONFIGURATION (CONT)

(TABLE CONTINUED)

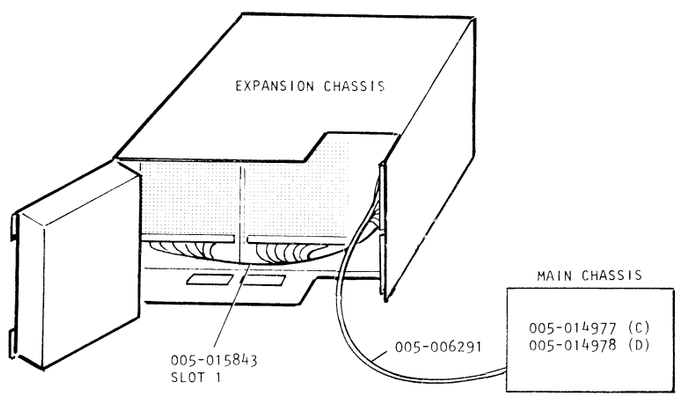
8702-LA, LB, MA, MB		DUAL BUS (REPEATER I/O & DCU I/O). ALL MODELS HAVE THE 7 I/O SLOTS DRIVEN BY A BUS REPEATER; ON THE MAIN I/O BUS FOR THE LA & MA MODELS, ON THE IOP I/O BUS FOR THE LB & MB MODELS. ALL MODELS HAVE THE 6 DCU I/O SLOTS DRIVEN BY A DCU; THE LA & LB MODELS USE A DEDICATED DCU, THE MA & MB MODELS USE AN ADDITIONAL DCU.	005-014977 005-014978 005-015843 005-006291 005-013522 005-019992 005-019993	1 1 1 2 1 1 1	I/O & SBUS CABLE (L-TYPES) DCU & SBUS CABLE (M-TYPES) DUAL I/O & SBUS CABLE DAISY CHAIN CABLE BUS REPEATER CABLE TERMINATOR (A SIDE) TERMINATOR (B SIDE)
8702-N		DUAL REPEATER I/O BUS. THE 7 I/O SLOTS AND 6 I/O SLOTS ARE DRIVEN BY INDIVIDUAL BUS REPEATERS; THE 7 I/O SLOTS ON THE IOP I/O BUS WITH THE COMM BOARDS DIVIDED BETWEEN CHASSIS, AND THE 6 I/O SLOTS ON THE MAIN I/O BUS.	005-014609 005-015843 005-006291 005-013522 005-019992 005-019993 005-014950	1 1 2 1 1 1 1	BUS REPEATER & SBUS CABLE DUAL I/O & SBUS CABLE DAISY CHAIN CABLE BUS REPEATER CABLE TERMINATOR (A SIDE) TERMINATOR (B SIDE) COMM PRIORITY CABLE
8702-PA, PB		DUAL REPEATER I/O BUS. THE 7 I/O SLOTS AND 6 I/O SLOTS ARE DRIVEN BY INDIVIDUAL BUS REPEATERS; THE 7 I/O SLOTS ARE ON THE IOP I/O BUS AND THE 6 I/O SLOTS ARE ON THE MAIN I/O BUS FOR THE PA MODEL. THE BUSSES ARE REVERSED FOR THE PB MODEL. THE COMM BOARDS ARE DIVIDED AMONG THE 7 I/O SLOTS, 6 I/O SLOTS AND THE MAIN CHASSIS.	005-014609 005-015843 005-006291 005-013522 005-014950 005-019992 005-019993	1 1 2 1 2 1 1	BUS REPEATER & SBUS CABLE DUAL I/O & SBUS CABLE DAISY CHAIN CABLE BUS REPEATER CABLE COMM PRIORITY CABLE TERMINATOR (A SIDE) TERMINATOR (B SIDE)
8702-Q, R		DUAL BUS (REPEATER I/O & DCU I/O). THE 7 I/O SLOTS ARE DRIVEN BY A BUS REPEATER ON THE IOP I/O BUS WITH THE COMM BOARDS DIVIDED BETWEEN THE 7 I/O SLOTS AND THE MAIN CHASSIS. THE 6 DCU I/O SLOTS ARE DRIVEN BY A DEDICATED DCU FOR THE Q MODEL, AND AN ADDITIONAL DCU FOR THE R MODEL.	005-014977 005-014978 005-015843 005-006291 005-013522 005-019992 005-019993 005-014950	1 1 1 2 1 1 1 1	I/O & SBUS CABLE (Q-TYPE) DCU & SBUS CABLE (R-TYPE) DUAL I/O & SBUS CABLE DAISY CHAIN CABLE BUS REPEATER CABLE TERMINATOR (A SIDE) TERMINATOR (B SIDE) COMM PRIORITY CABLE
8702-SA, SB		DUAL BUS (DCU I/O & REPEATER I/O). THE 7 DCU I/O SLOTS ARE DRIVEN BY AN ADDITIONAL DCU. THE 6 I/O SLOTS ARE DRIVEN BY A BUS REPEATER; ON THE MAIN I/O BUS FOR THE SA MODEL, AND THE IOP I/O BUS FOR THE SB MODEL.	005-014609 005-015843 005-006291 005-012590 005-019992 005-019993	1 1 2 1 1 1	BUS REPEATER & SBUS CABLE DUAL I/O & SBUS CABLE DAISY CHAIN CABLE DCU CABLE TERMINATOR (A SIDE) TERMINATOR (B SIDE)
8702-T		DUAL BUS (DCU I/O & REPEATER I/O). THE 7 DCU I/O SLOTS ARE DRIVEN BY AN ADDITIONAL DCU. THE 6 I/O SLOTS ARE DRIVEN BY A BUS REPEATER ON THE IOP I/O BUS WITH THE COMM BOARDS DIVIDED BETWEEN THE 6 I/O SLOTS AND THE MAIN CHASSIS.	005-014609 005-015843 005-006291 005-012590 055-019992 055-019993 005-014950	1 1 2 1 1 1 1	BUS REPEATER & BBUS CABLE DUAL I/O & SBUS CABLE DAISY CHAIN CABLE DCU CABLE TERMINATOR (A SIDE) TERMINATOR (B SIDE) COMM PRIORITY CABLE
8702-U, V		DUAL DCU I/O BUS. THE 7 DCU I/O SLOTS AND THE 6 DCU I/O SLOTS ARE DRIVEN BY AN ADDITIONAL DCU AND A DEDICATED DCU RESPECTIVELY FOR THE U MODEL. THE V MODEL HAS TWO ADDITIONAL DCU'S DRIVING THE 7 DCU I/O SLOTS AND THE 6 DCU I/O SLOTS.	005-014977 005-014978 005-015843 005-006291 005-012590 005-019992 005-019993	1 1 1 2 1 1 1	I/O & SBUS CABLE (U-TYPE) DCU & SBUS CABLE (V-TYPE) DUAL I/O & SBUS CABLE DAISY CHAIN CABLE DCU CABLE TERMINATOR (A SIDE) TERMINATOR (B SIDE)

CONFIGURATION (CONT)

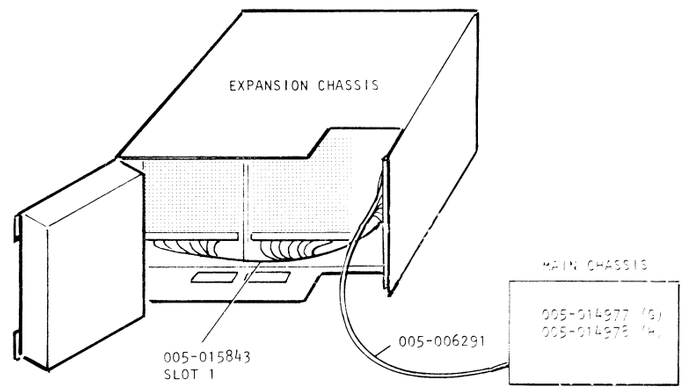
8702-AA, AB
REPEATER *I/O BUS (SINGLE BUS)



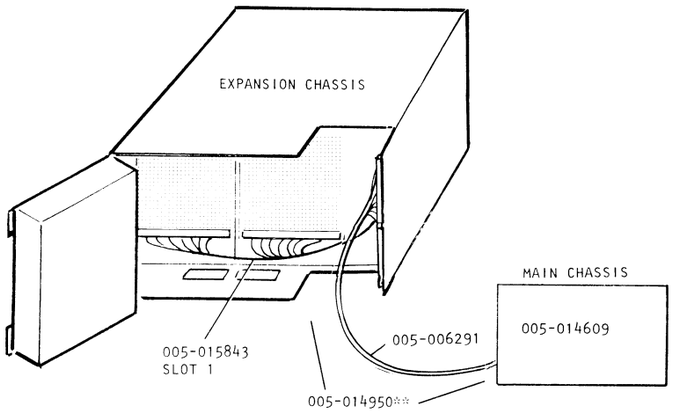
8702-C, D
DCU I/O BUS (SINGLE BUS)



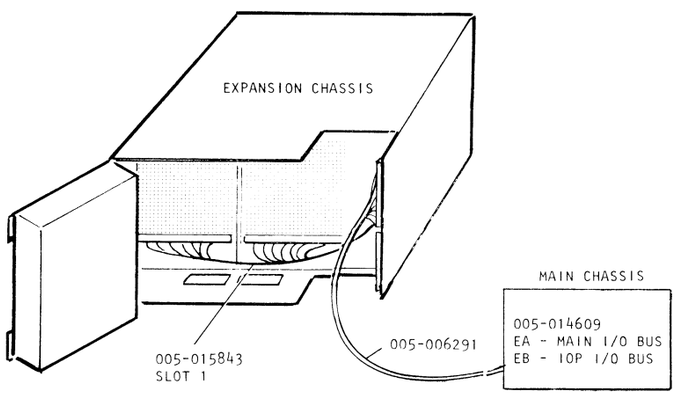
8702-G, H
DCU I/O BUS (SINGLE BUS)



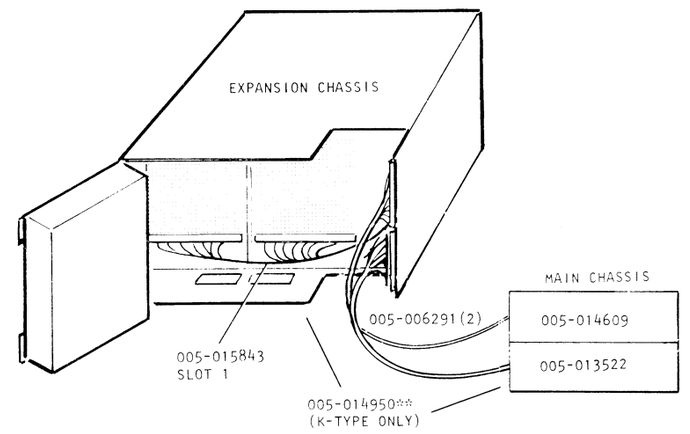
8702-B
REPEATER IOP I/O BUS (SINGLE BUS)



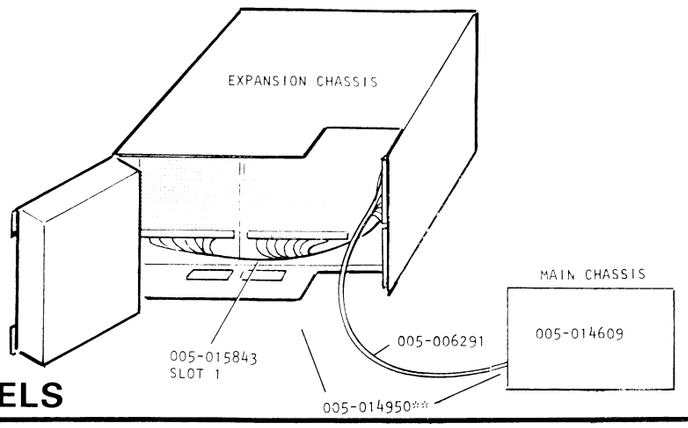
8702-EA, EB
REPEATER *I/O BUS (SINGLE BUS)



8702-JA, JB, K
REPEATER-REPEATER *I/O BUS (DUAL BUS)



8702-F
REPEATER IOP I/O BUS (SINGLE BUS)



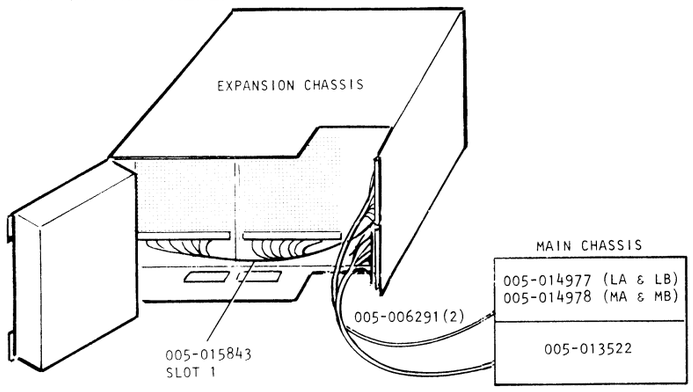
NOTES:

* MAIN AND/OR IOP

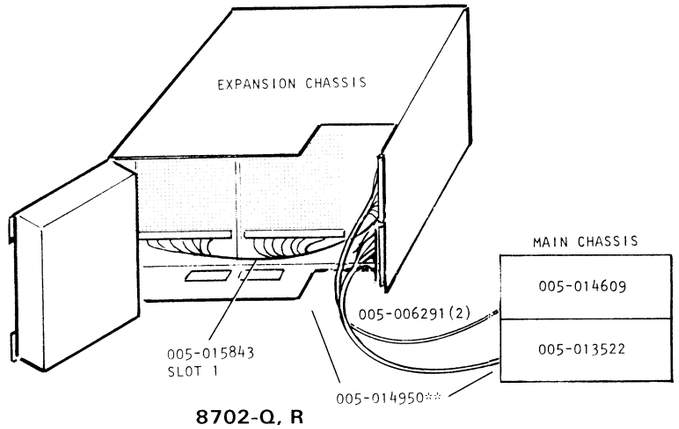
** THE COMM PRIORITY CABLE IS A CONNECTION BETWEEN THE LAST COMM BOARD IN THE MAIN CHASSIS AND THE FIRST COMM BOARD IN THE EXPANSION CHASSIS. IT MOUNTS ON THE HIGH SIDE OF THE B-CONNECTOR IN EACH CHASSIS. (SEE SHEET 7 FOR CABLE MOUNTING)

CONFIGURATION (CONT)

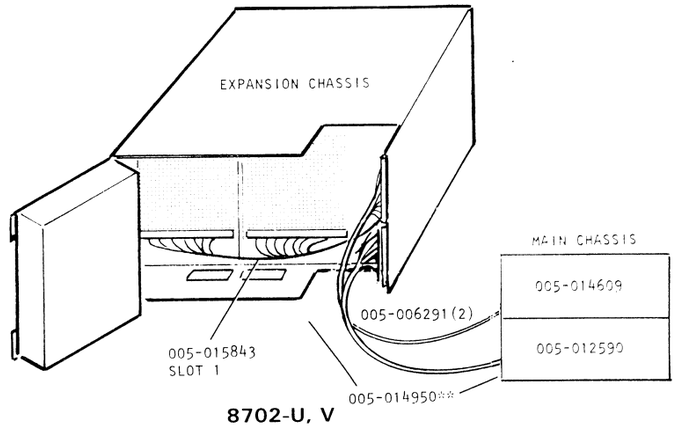
8702-LA, LB, MA, MB
DCU I/O BUS - REPEATER *I/O BUS (DUAL BUS)



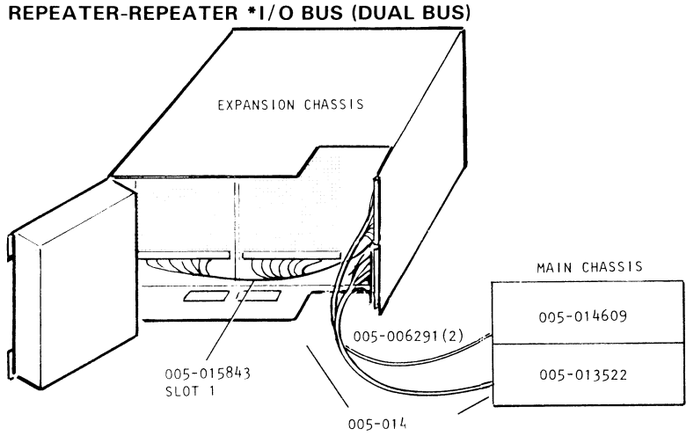
8702-PA, PB
REPEATER-REPEATER *I/O BUS (DUAL BUS)



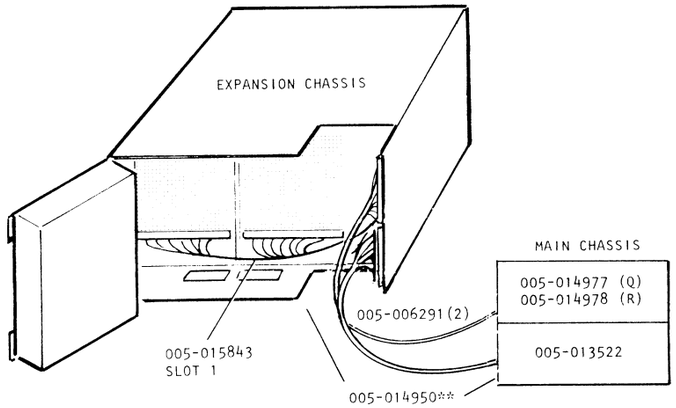
8702-T
REPEATER IOP I/O BUS - DCU I/O BUS (DUAL BUS)



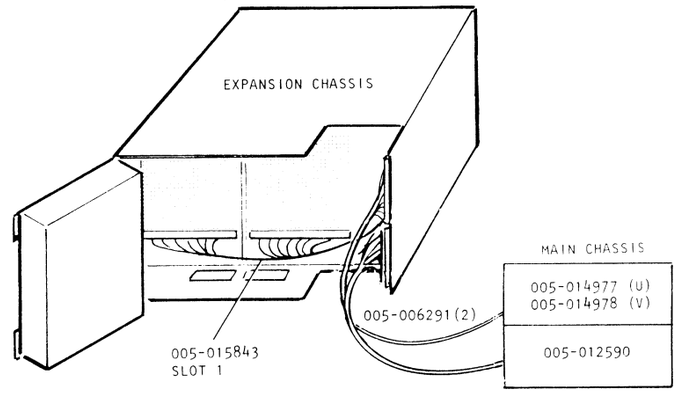
8702-N
REPEATER-REPEATER *I/O BUS (DUAL BUS)



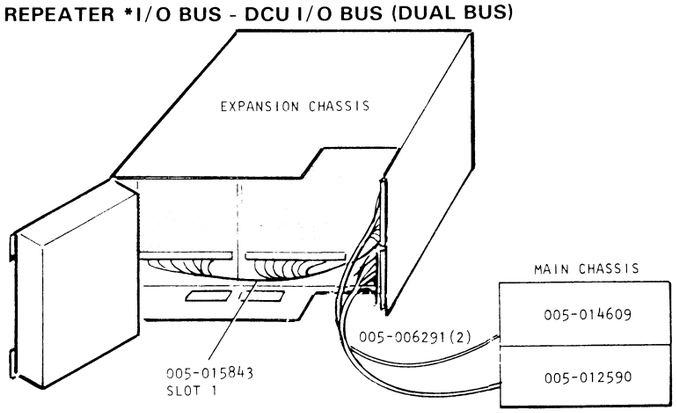
8702-Q, R
DCU I/O BUS - REPEATER IOP I/O BUS (DUAL BUS)



8702-U, V
DCU-DCU I/O BUS (DUAL BUS)



8702-SA, SB
REPEATER *I/O BUS - DCU I/O BUS (DUAL BUS)



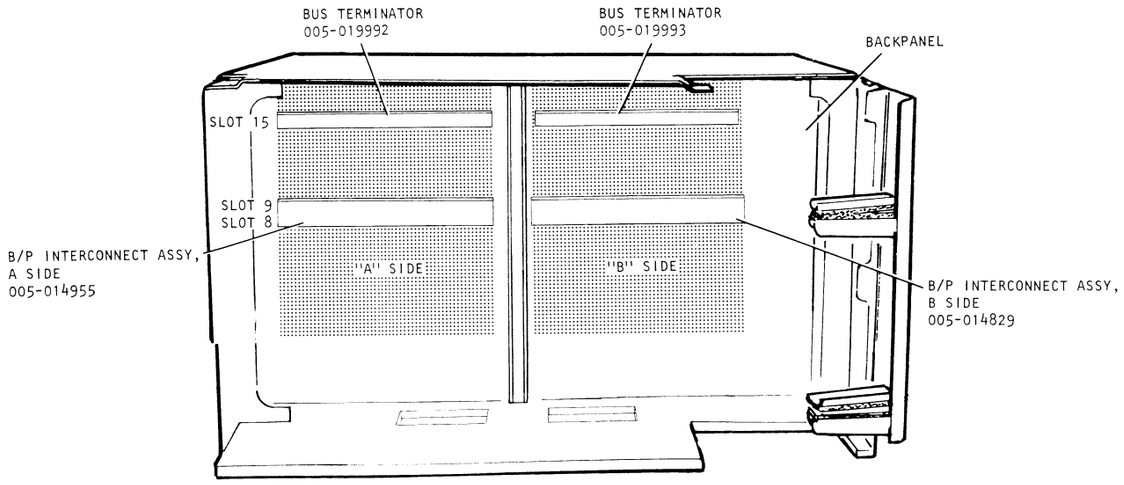
NOTES:

* MAIN AND/OR IOP

** THE COMM PRIORITY CABLE IS A CONNECTION BETWEEN THE LAST COMM BOARD IN THE MAIN CHASSIS AND THE FIRST COMM BOARD IN THE EXPANSION CHASSIS. IT MOUNTS ON THE HIGH SIDE OF THE B-CONNECTOR IN EACH CHASSIS. (SEE SHEET 7 FOR CABLE MOUNTING.)

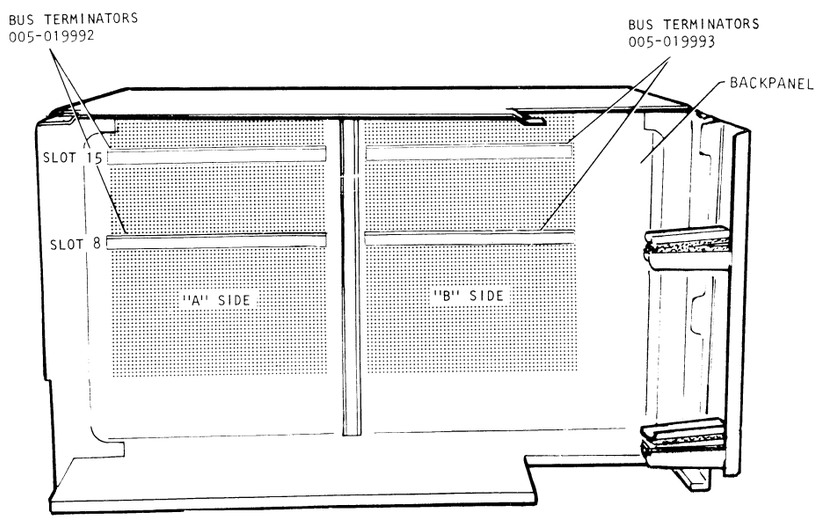
INTERNAL CABLING

14-SLOT SINGLE BUS CONFIGURATION EXPANSION CHASSIS



THE B/P INTERCONNECT ASSEMBLIES MOUNT OVER THE BACKPANEL PINS OF SLOTS 8 AND 9. THE A SIDE ASSEMBLY (NO. 005-14955) MOUNTS SO THAT PINS A1 AND A99 OF SLOT 9 ARE IN THE HOLES NUMBERED 1 AND 99, RESPECTIVELY; THE B SIDE ASSEMBLY (NO. 005-14829) MOUNTS SO THAT PINS B1 AND B99 OF SLOT 9 ARE IN HOLES NUMBERED 1 AND 99, RESPECTIVELY.

6-SLOT SINGLE, BUS AND DUAL BUS CONFIGURATIONS EXPANSION CHASSIS



NOTE:
6-SLOT SINGLE BUS CONFIGURATIONS
DO NOT INCLUDE UPPER TERMINATORS.

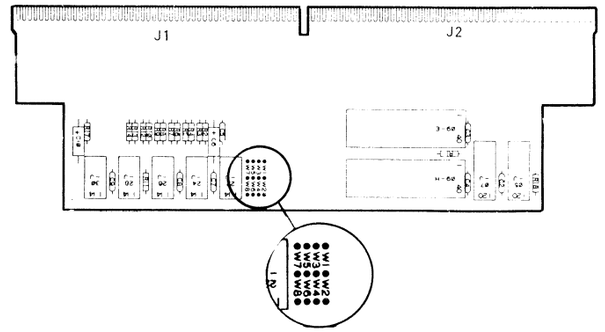
JUMPERING

THE DUAL I/O & SBUS CABLE HAS ADDRESS JUMPERS LOCATED ON THE PADDLEBOARD. THE ALLOWABLE ADDRESSES FOR THE CABLE ARE ONLY 1 - 14 (1 - 16 OCTAL). IF YOU HAVE MORE THAN ONE EXPANSION CHASSIS IN USE, EACH CABLE MUST HAVE A DIFFERENT ADDRESS. CABLE ADDRESSES DO NOT HAVE TO GO IN ORDER, THEY JUST HAVE TO BE DIFFERENT. (I.E., CHASSIS #1 ADDRESS 13, CHASSIS #2 ADDRESS 4, CHASSIS #3 ADDRESS 6, ETC.)

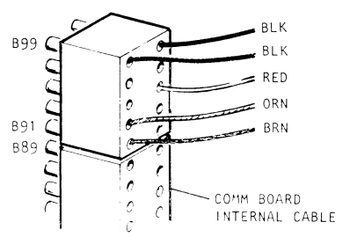
A JUMPER IN AN EVEN NUMBER IS A ONE, AND IN AN ODD NUMBER IS A ZERO. 7,8 IS MSB, 1,2 IS LSB. (I.E., CABLE ADDRESS 7 WOULD BE; 7, 6, 4, & 2.)

o	o	o	o		o	o	o	o	
7	5	3	1	EX.)	1	5	3	1	
o	o	o	o		o	o	o	o	CABLE 7
8	6	4	2		8	1	1	1	ADDRESS
o	o	o	o		o	o	o	o	

Ref DGC Dwg No 003-001641 Rev 02



MAIN CHASSIS VIEW OF COMM PRIORITY CABLE

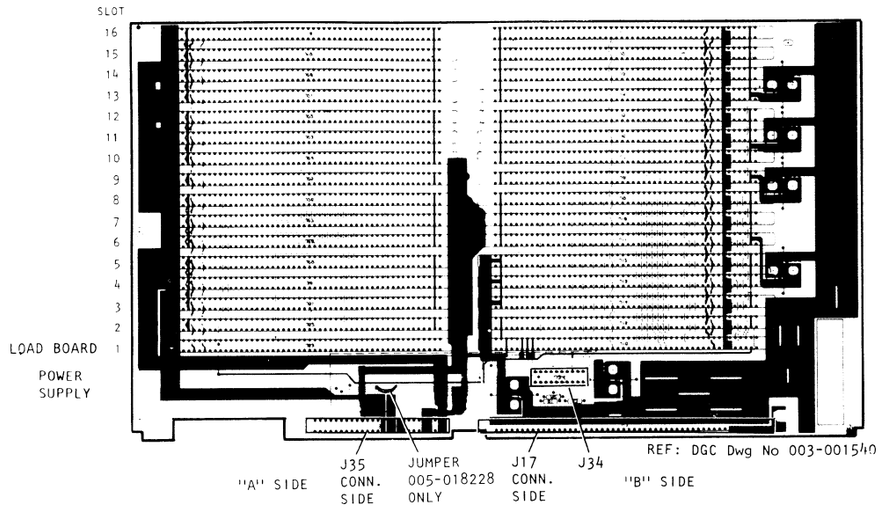


WHEN MOUNTING THE COMM PRIORITY CABLE THE ORN WIRE OF THE CABLE SHOULD BE ON PIN B93 OF THE LAST COMM BOARD IN THE MAIN CHASSIS, AND ON PIN B94 OF THE FIRST COMM BOARD IN THE EXPANSION CHASSIS.

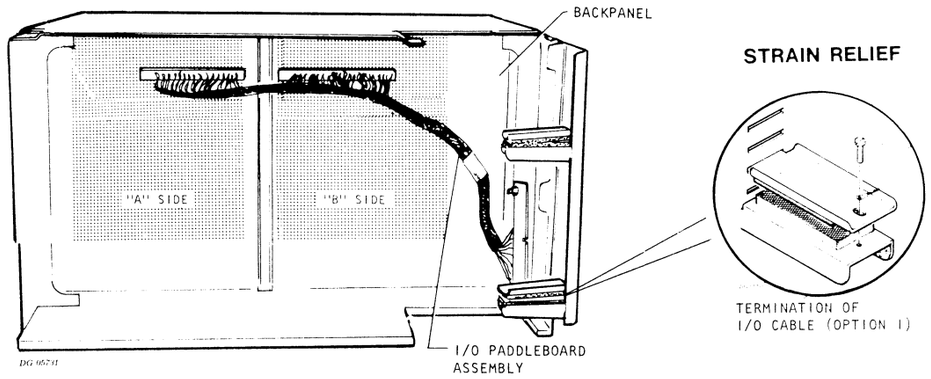
DG-00237

INTERNAL CABLING (CONT)

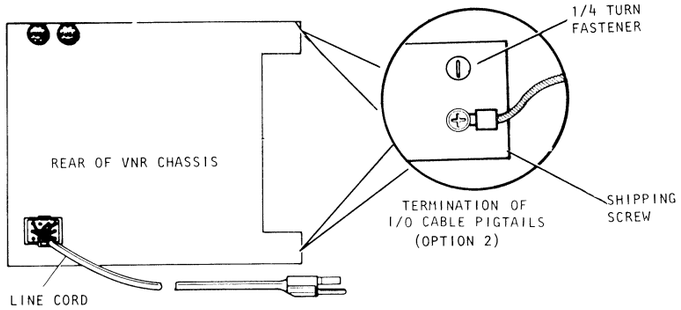
BACKPANEL CONNECTORS

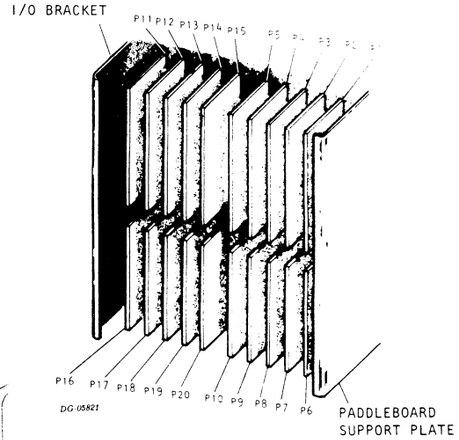


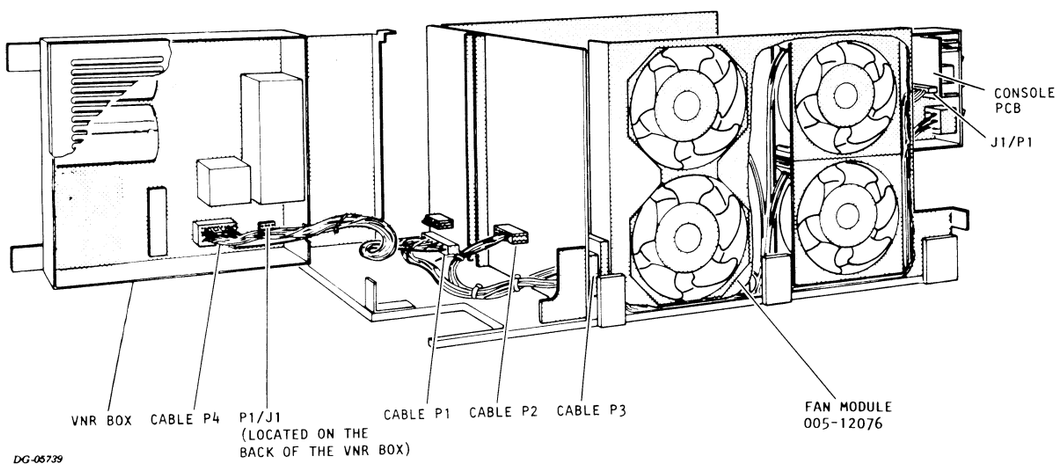
PADDLEBOARD MOUNTING

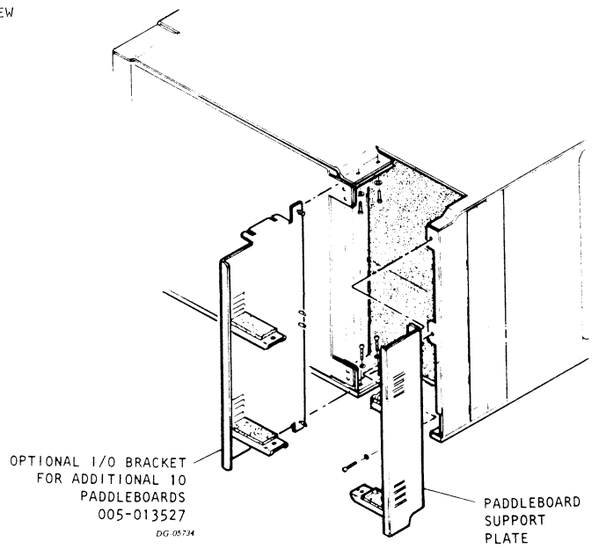


WARNING
FOR SERVICING DISCONNECT POWER, WAIT 5 MINUTES REASSEMBLE UNIT BEFORE APPLYING POWER









INTERNAL CABLING (CONT)

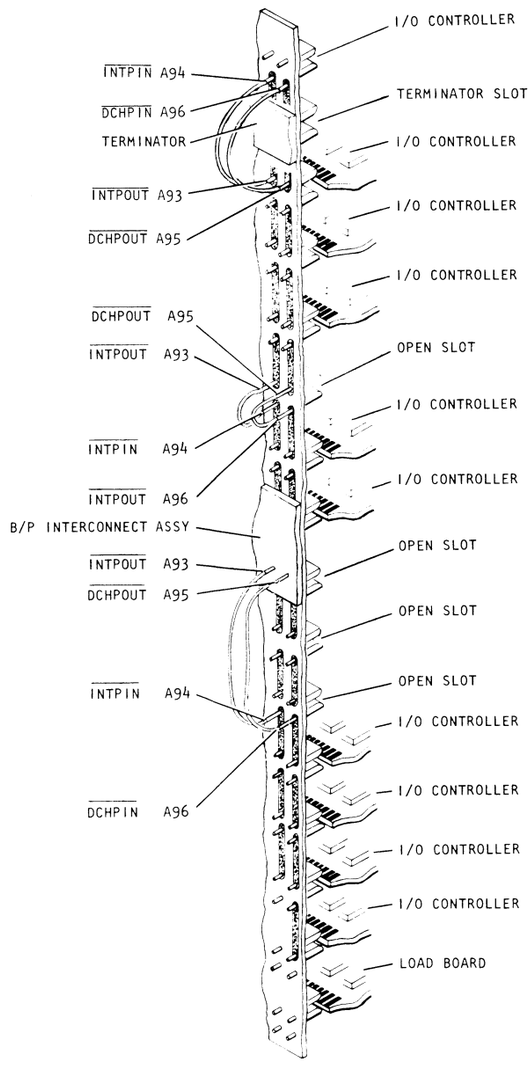
BACKPANEL JUMPERING

EACH GROUP OF OPEN (EMPTY, NON-TERMINATOR) SLOTS IN BETWEEN SLOTS CONTAINING BOARDS, MUST HAVE INTERRUPT AND DATA CHANNEL PRIORITY JUMPERS INSTALLED ACROSS THEM. IN ADDITION, IF A COMMUNICATIONS BOARD RESIDES IN A SLOT ABOVE A GROUP OF OPEN SLOTS, COMMUNICATIONS INTERRUPT PRIORITY JUMPERS MUST ALSO BE INSTALLED. IN DUAL BUS CONFIGURATIONS, ONLY GROUPS OF OPEN SLOTS BETWEEN FULL SLOTS ON THE SAME BUS MUST BE JUMPERED.

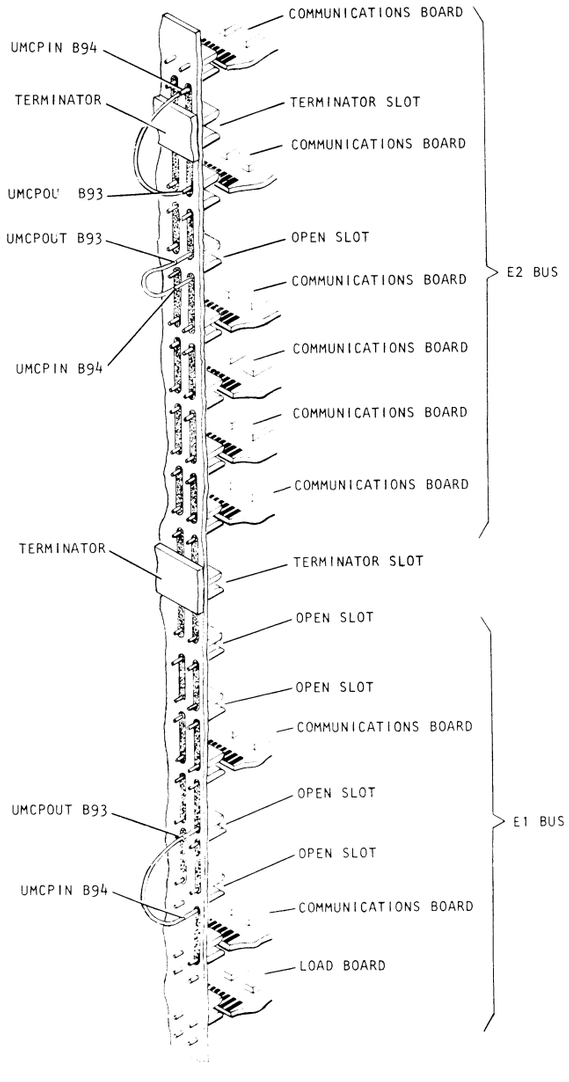
INTERRUPT AND DATA CHANNEL INTERRUPT PRIORITY JUMPERS: JUMPER PINS A96 AND A94 OF THE LOWEST OPEN SLOT IN THE GROUP TO PINS A95 AND A93, RESPECTIVELY, OF THE HIGHEST OPEN SLOT IN THE GROUP. IF SLOT 16 IS USED, ENSURE DATA CHANNEL PRIORITY AND INTERRUPT PRIORITY AND PASSED AROUND THE TERMINATOR IN SLOT 15.

COMMUNICATIONS PRIORITY JUMPERS: JUMPER PIN B94 OF THE LOWEST OPEN SLOT IN THE GROUP TO PIN B93 OF THE HIGHEST OPEN SLOT IN THE GROUP. IF SLOT 16 IS USED, ENSURE COMMUNICATIONS PRIORITY IS PASSED AROUND THE TERMINATOR IN SLOT 15.

INTERRUPT AND DATA CHANNEL PRIORITY JUMPERING
(SINGLE REPEATED I/O BUS SHOWN)

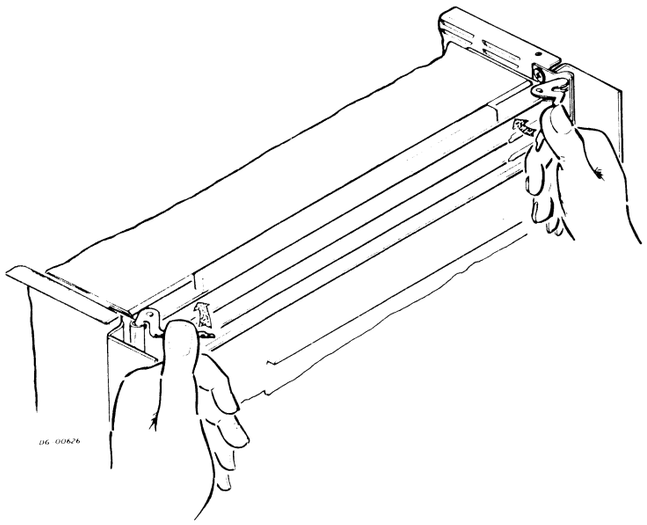


COMMUNICATIONS PRIORITY JUMPERING
(DUAL DCU-DCU I/O BUS SHOWN)

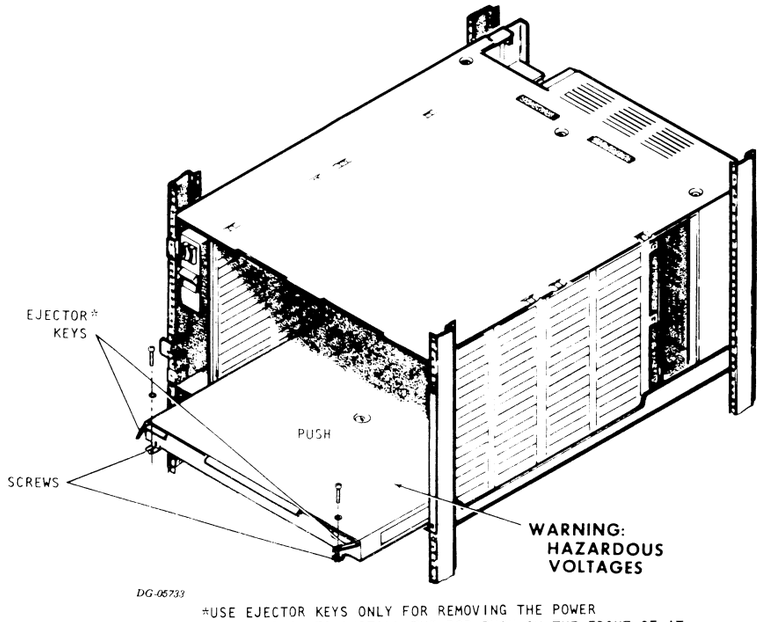


CABINET MOUNTING

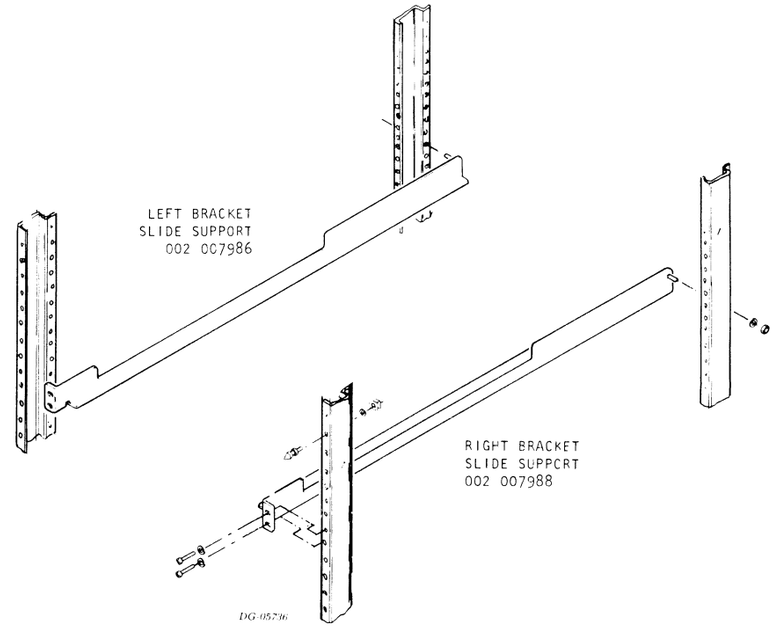
INSERTING PC BOARD



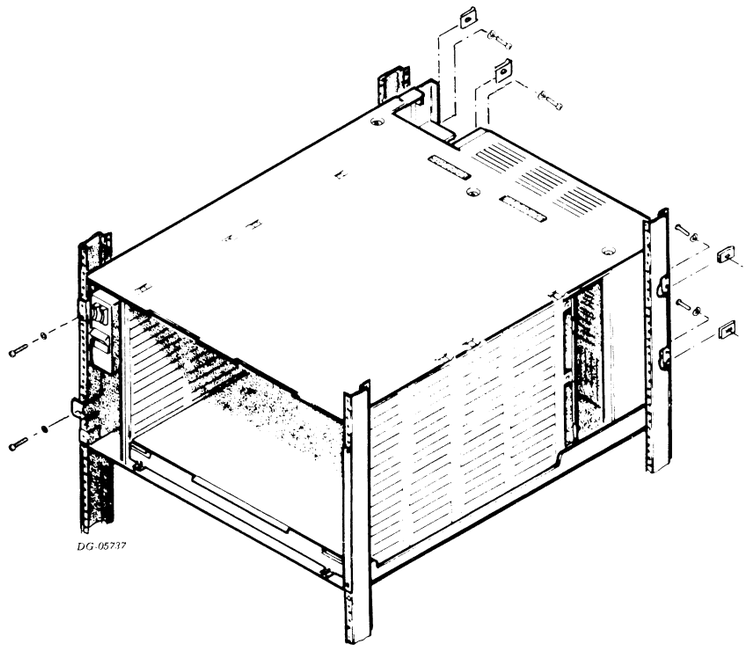
INSERTING POWER SUPPLY PCB



*USE EJECTOR KEYS ONLY FOR REMOVING THE POWER SUPPLY PCB. TO INSTALL THE PCB PUSH ON THE FRONT OF IT.



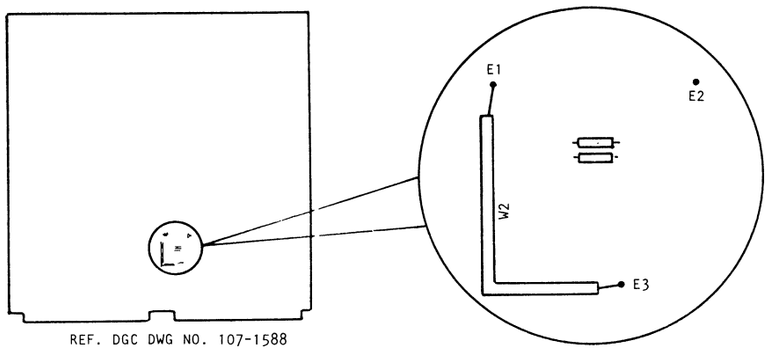
HARDWARE MOUNTING KIT
005 C12068



DC LOADING RULES

LOAD BOARD JUMPERING

W2 MUST CONNECT E2 TO E3 UNLESS THE EXPANSION CHASSIS CONTAINS MORE THAN SEVEN 16-LINE COMMUNICATIONS BOARDS; IN THIS CASE, W2 MUST CONNECT E1 TO E3.



REF. DGC DWG NO. 107-1588

CAUTION:

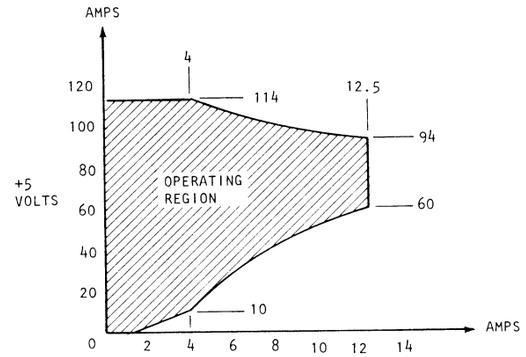
DO NOT POWER UP THE SYSTEM WITHOUT A LOAD BOARD IN THE EXPANSION CHASSIS, SINCE POWERING UP THE EXPANSION CHASSIS WITHOUT A LOAD ON THE POWER SUPPLY WILL BLOW PICO FUSE F5 IN THE VNR UNIT.

+5V LOAD DISTRIBUTION WITH LOAD BOARD IN SLOT 1

GROUP OF SLOTS	MAXIMUM CURRENT (AMPS) FOR GROUP
1, 2	44
3, 4	44
5, 6, 7	44
8, 9, 10	44
11, 12, 13	44
14, 15, 16	44

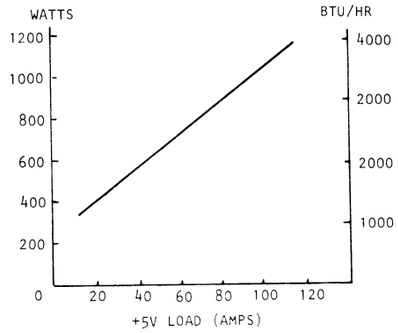
DC LOADING RULES FOR THE EXPANSION CHASSIS WITH THE LOAD BOARD

1. THE LOAD ON +15V MUST NOT EXCEED 1.5 AMPS.
2. THE SUM OF THE LOADS ON +12V AND +15V MUST NOT EXCEED 12.5 AMPS.
3. THE LOAD ON -5V MUST NOT EXCEED 3 AMPS WHEN THE LOAD BOARD JUMPER (W2) CONNECTS E2 TO E3 OR 6 AMPS WHEN W2 CONNECTS E1 TO E3.
4. THE LOADS MUST BE WITHIN THE OPERATING REGION SHOWN BELOW:



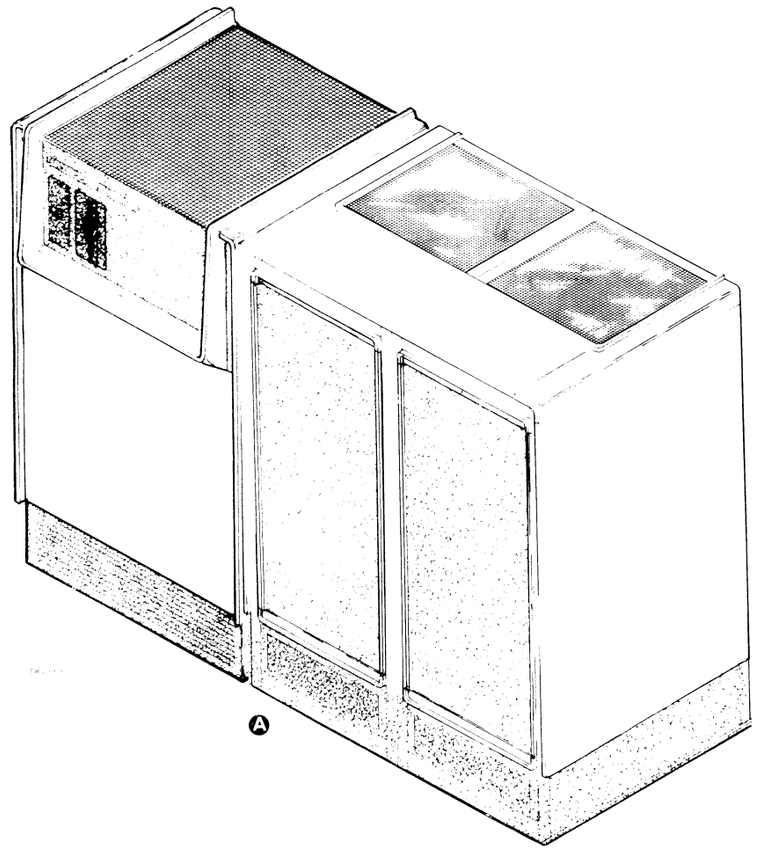
SUM OF +12V AND +15V

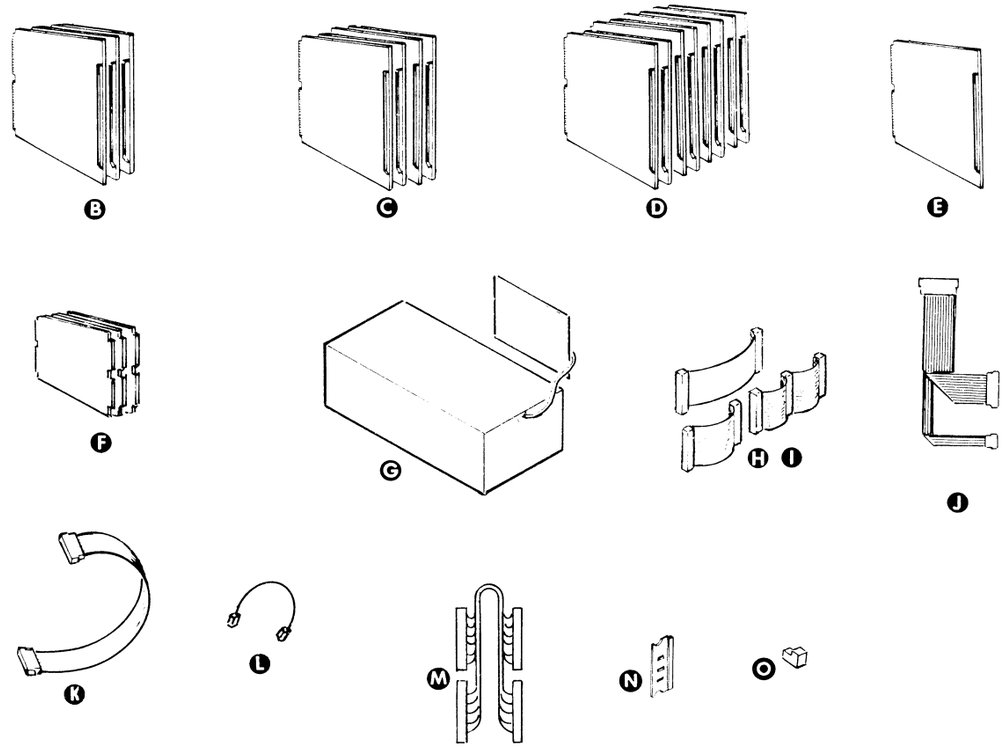
POWER CONSUMPTION VS LOADING*



*THIS CHART IS A GUIDELINE TO THE ACTUAL HEAT OUTPUT OF A SPECIFIC SYSTEM.

SUBSYSTEM COMPONENTS BREAKDOWN





MAJOR COMPONENT

ITEM	COMPONENT	MOUNTING LOCATION	NOTES
A	3 BAY CABINET	FREE-STANDING	30" BAY PLUS 1244 -E
B	POWER SUPPLY BOARDS	CABINET	3 BOARDS
C	MEMORY BOARDS	CABINET	1 Mb MIN; 6 BOARDS MAX
D	PROCESSOR BOARDS	CABINET	BC; MICRO; ALU1; FPU (OPTIONAL); IP; ATU; CACHE; CC; IOC
E	BUS REPEATER BOARD (OPTIONAL)	CABINET	1 BOARD MV BUS REPEATER (OPTIONAL)
F	MICRONOVA BOARDS	CABINET	MBC/1; 16KW MEM; FLOPPY CONTROL
G	BATTERY BACKUP	CABINET	OPTION TO DELETE

CABLES

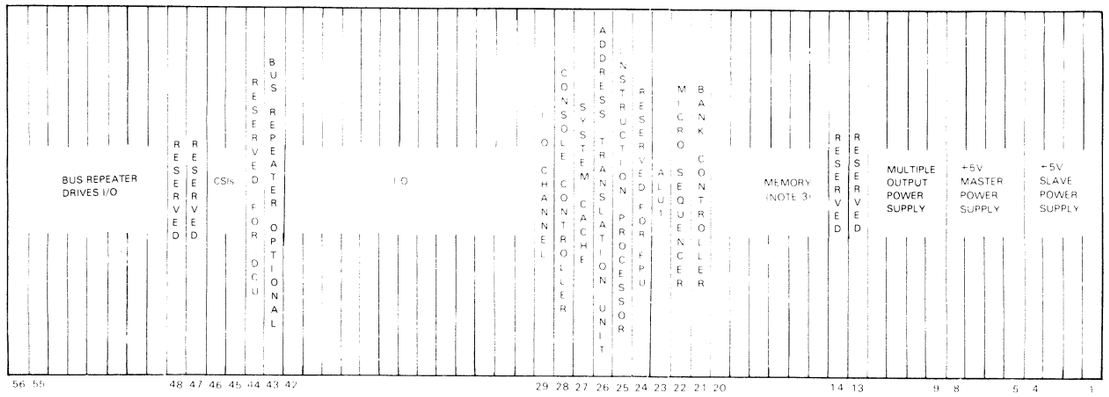
ITEM	CABLE	CONNECTING	MAX LG FT	MAX LG M	NOTES
H	INTERBD				10 FOR BETWEEN PROCESSOR BOARDS
I	BMC	BMC AND CONTROLLERS			2 REQUIRED - SIZE DEPENDS ON # OF CONTROLLERS
J	MBC CC	MBC AND CC			
K	FLOPPY MBC	FLOPPY AND MBC			
L	BBU VNR	BATTERY BACKUP AND VNR BOARDS			
M	BUS REPEATER	BUS REPEATER TO I/O			1 REQUIRED IF BUS REPEATER BOARD IS USED

TERMINATOR

ITEM	TERMINATOR	LOCATION	NOTES
N	BUS TERMINATORS	CABINET	10 REQUIRED
O	SYS CLK TERMINATORS	CABINET	3 REQUIRED

SLOT ASSIGNMENTS

FRONT VIEW



SLOT #	ALLOWED	ASSIGNED	+5V CURRENT DRAW	MAX +5V CURRENT DRAW PER SLOT GROUP (NOTE 1)
1-4	+5V SLAVE POWER SUPPLY	1-4	N/A	N/A
5-8	+5V MASTER POWER SUPPLY	5-8	N/A	N/A
9-12	MULTIPLE OUTPUT POWER SUPPLY	9-12	N/A	N/A
13-14	RESERVED	13,14		60A (NOTE 2)
15-20	MEMORY			
21	BANK CONTROLLER	21	7	
22	MICRO SEQUENCER	22	16	44A
23	ALU1	23	17	
24	RESERVED FOR FPU	24	17	44A
25	INSTRUCTION PROCESSOR	25	14	
26	ATU	26	10	44A
27	SYSTEM CACHE	27	15	
28	CONSOLE CONTROLLER	28	7	44A
29	I/O CHANNEL	29	13	
30-33	I/O			44A
34-37	I/O			44A
38-41	I/O			44A
42	I/O			
43	BUS REPEATER (OPTIONAL)	43	2	44A
44	RESERVED FOR DCU			
45	RESERVED FOR CSI OR BSI			
46	RESERVED FOR CSI OR BSI			44A
47	RESERVED FOR CABLE			
48	RESERVED FOR TERMINATORS (OPTIONAL)			
49	NON BMC CONTROLLER			
50-53				44A
54,55				
56				44A

AVAILABLE 300

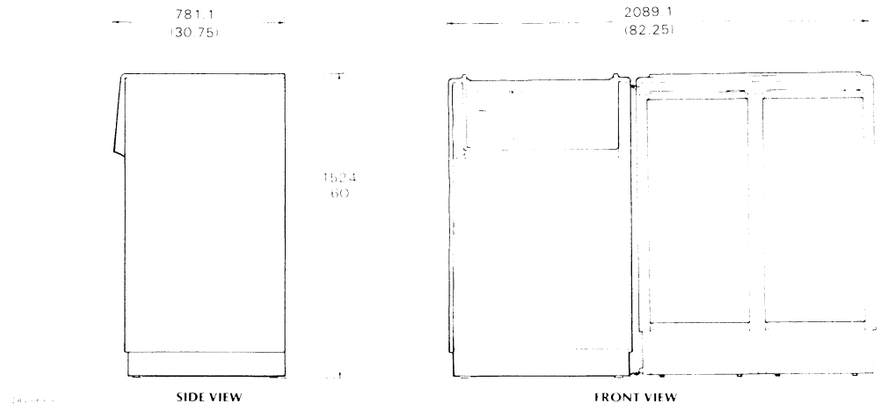
NOTE 1: REED SWITCHES PROVIDE OVERLOAD PROTECTION FOR BACKPANEL SLOT GROUPS. EACH REED SWITCH TRIPS AT 44A.

NOTE 2: MEMORY AND BANK CONTROLLER BOARDS USE A SEPARATE +5V POWER SUPPLY (PART OF THE MULTIPLE OUTPUT SUPPLY) WHICH IS LIMITED TO 60A. CURRENT DRAW FROM SLOTS 13-21 SHOULD NOT BE INCLUDED IN THE TOTAL FOR THE REMAINING SLOTS.

NOTE 3: INSERT MEMORY BOARDS IN CONSECUTIVE ORDER BEGINNING WITH SLOT 20.

NOTE 4: CSI IN SLOT 45 OR 46 REQUIRES DCU IN SLOT 44

INSTALLATION SPECIFICATIONS



SIDE VIEW FRONT VIEW

DIMENSIONS IN MILLIMETERS
INCHES IN PARENTHESES FOR REFERENCE

DIMENSIONS:	Width	Depth	Height
Millimeters	2089.1	781.1	1524
Inches	82.25	30.75	60

SERVICE CLEARANCES:	Front	Rear	Right	Left
Millimeters	1219.2	1219.2	787	787
Inches	48	48	31	31

WEIGHT:	Empty	Fully Loaded
Kilograms	359	585
Pounds	791	1289

HEAT OUTPUT:	Watts	BTU/hr
Main Bay	3,000	10,230

Total System Heat Output can be obtained by adding the Heat Output for any additional equipment to the Heat Output of the Main Bay

OPERATING ENVIRONMENT:

Temperature (max)	32.2° C	90° F	
Relative Humidity (max)	70%		
Altitude	2438 m	8,000 ft	
Usable Vertical Rack Space Per Expansion Bay	AREA	INCHES	MM
	25	43.75	1110

NON-OPERATION ENVIRONMENT

Temperature (max)	-40 - +65° C -40 - +149° F
Relative Humidity (max)	10 - 90%
Altitude	-1000ft - +25,000 ft. -304.8m - +7620 m

MAIN BAY POWER REQUIREMENTS:

(Domestic)

Voltage	120/208 +10%, -15%		
Hz	60 ± 1%		
Amp per Phase	15		
Phase	3		
Startup Surge per Phase	60 Amps for 50 milliseconds		

(Export)

Voltage	220 +10%	220/380 +10% -15%	240/415 +10% -15%
Hz	50 ± 1%	50 ± 1%	50 ± 1%
Amp per Phase	15	13	12
Phase	3	3	3
Startup Surge per Phase	60 Amps for 50 milliseconds		

EXPANSION BAY POWER REQUIREMENTS:

(Domestic)

Voltage	120/208 +10%, -15%
Hz	60 ± 1%
Amps per Phase (max)	20
Phase	3
Startup Surge per Phase	Depends upon equipment in Bays A and B

(Export)

Voltage	220 +10% -15%	220/380 +10% -15%	240/415 +10% -15%
Hz	50 ± 1%	50 ± 1%	50 ± 1%
Amps per Phase (max)	30	30	30
Phase	3	3	3
Startup Surge per Phase	Depends upon equipment in Bays A and B		

CABLES:(USER SUPPLIES EXPORT ONLY)

Primary Power Connectors (Supplied)

	Main Bay	Expansion Bay
Domestic 60Hz	L21-30R	L21-30R
Export 50Hz	L21-30R	L6-30R

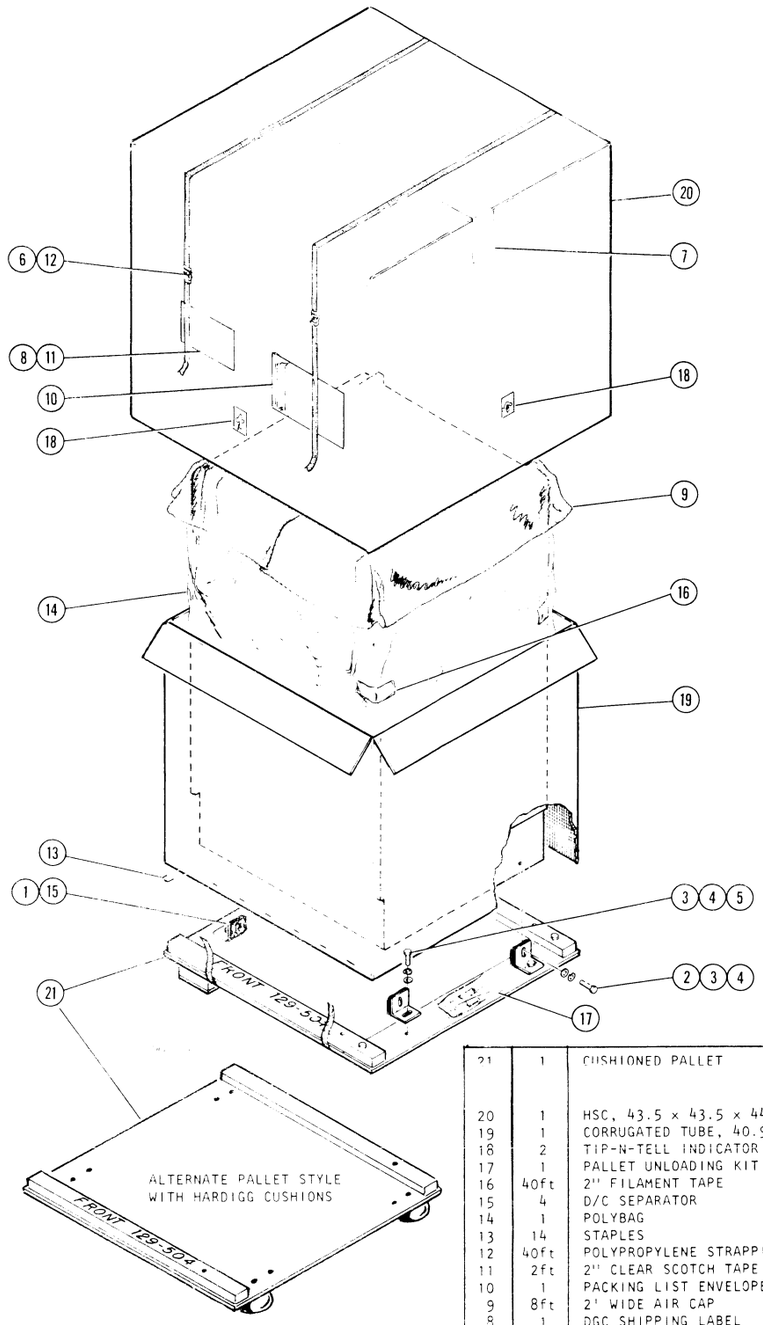
POWER AVAILABLE

Internal Receptacles

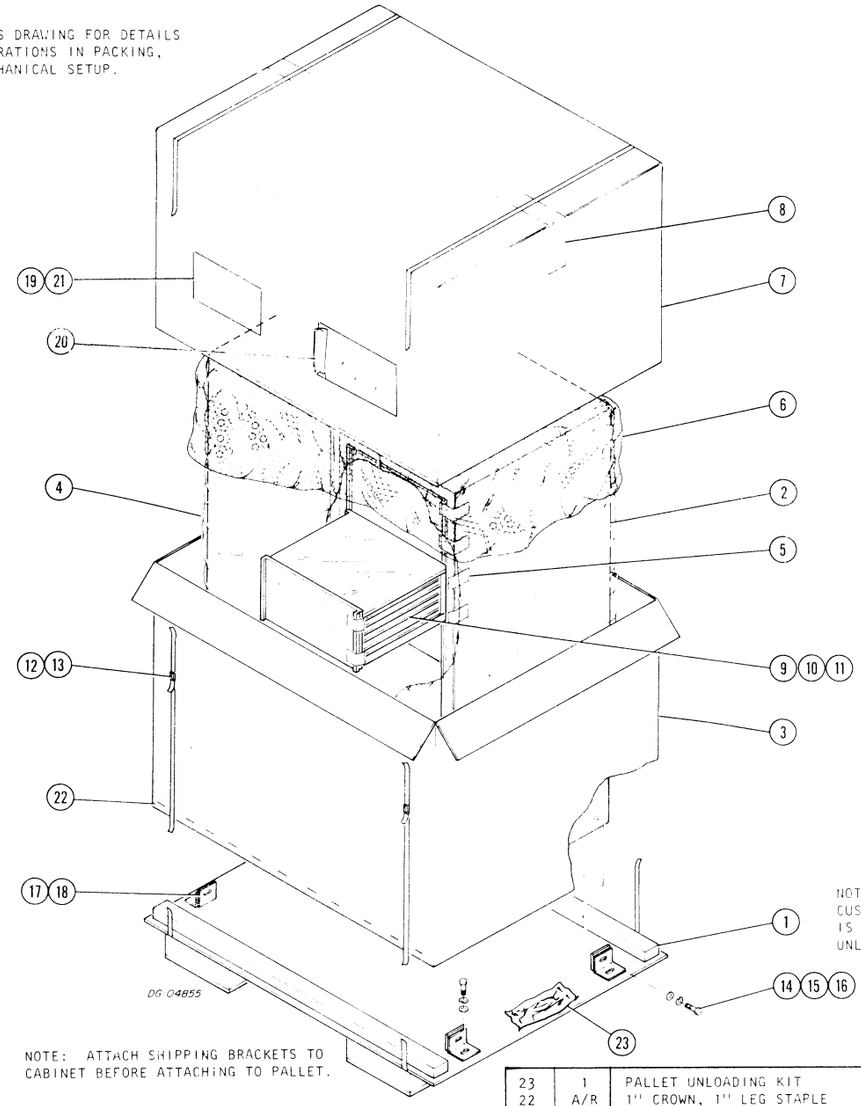
in Expansion Bays	Each	Total (All Bays except)
Domestic 60Hz	15A	35A
Export 50Hz	15A	27.5A

SHIPPING

NOTE:
SEE SHEET 4 OF THIS DRAWING FOR DETAILS OF FURTHER CONSIDERATIONS IN PACKING, UNLOADING, AND MECHANICAL SETUP.

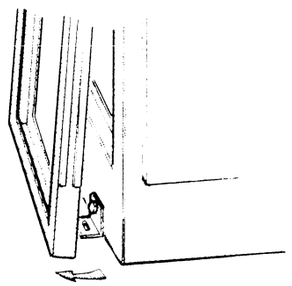


ITEM	QTY	DESCRIPTION	PART NUMBER
21	1	CUSHIONED PALLET	129-000644 or 129-000504
20	1	HSC, 43.5 x 43.5 x 44"	129-000503
19	1	CORRUGATED TUBE, 40.9 x 40.9 x 39"	129-000502
18	2	TIP-N-TELL INDICATOR	129-000469
17	1	PALLET UNLOADING KIT	129-000435
16	40ft	2" FILAMENT TAPE	129-000370
15	4	D/C SEPARATOR	129-000206
14	1	POLYBAG	129-000170
13	14	STAPLES	129-000165
12	40ft	POLYPROPYLENE STRAPPING	129-000123
11	2ft	2" CLEAR SCOTCH TAPE	129-000051
10	1	PACKING LIST ENVELOPE, 6 3/4 x 5	129-000042
9	8ft	2' WIDE AIR CAP	129-000035
8	1	DGC SHIPPING LABEL	129-000030
7	11ft	3" REINFORCED SEALING TAPE	129-000027
6	2	BUCKLES, AVB-4	129-000025
5	4	SCREW, HEX HEAD, SCDP, 3/8-16 x 1 1/4	106-000680
4	8	WASHER, LOCK, SPLIT, 3/8	106-000622
3	8	WASHER, FLAT, SCDP, 3/8	106-000621
2	4	SCREW, HEX HEAD, SCDP, 3/8-16 X 1	106-000618
1	4	CABINET SHIPPING BRACKET	002-005294



NOTE:
CUSHION AT ONE END OF PALLET IS REMOVABLE TO FACILITATE UNLOADING OF EQUIPMENT.

NOTE: ATTACH SHIPPING BRACKETS TO CABINET BEFORE ATTACHING TO PALLET.



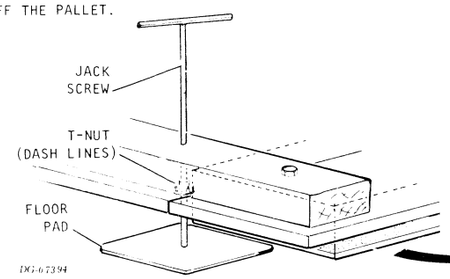
LOOSEN ATTACHING SCREWS ON COLLAR ENOUGH TO ALLOW IT TO BE PULLED AWAY FROM THE CABINET (SEE SKETCH). THIS WILL PERMIT MOUNTING BRACKETS TO CABINET.

ITEM	QTY	DESCRIPTION	PART NUMBER
23	1	PALLET UNLOADING KIT	129-000435
22	A/R	1" CROWN, 1" LEG STAPLE	129-000165
21	2ft	2" CLEAR SCOTCH TAPE	129-000051
20	1	PACKING LIST ENVELOPE, 6 3/4 x 5	129-000042
19	1	DGC SHIPPING LABEL	129-000030
18	4	D/C SEPARATOR	129-000206
17	4	BRACKET, SHIPPING	002-005294
16	8	WASHER, FLAT, 3/8	106-000621
15	8	WASHER, LOCK, SPLIT, 3/8	106-000622
14	8	SCREW, HEX HEAD, SCDP, 3/8-16 x 1"	106-000618
13	2	BUCKLE, AVB-4	129-000025
12	50ft	POLYPROPYLENE STRAPPING	129-000123
11	A/R	14 1/2 x 14 1/2 x 1" EPS PAD	129-000053
10	A/R	14 1/2 x 14 1/2 x 1/2" EPS PAD	129-000052
9	A/R	14 1/2 x 14 1/2" "C" FLUTE CORE	129-000-44
8	12ft	3" REINFORCED SEALING TAPE	129-000027
7	1	HALF SLOTTED CONTAINER	129-000390
6	8ft	2' WIDE AIR CAP	129-000035
5	40ft	2" FILAMENT TAPE	129-000370
4	1	POLYBAG, 48 x 34 x 71 x 0.003	129-000170
3	1	TUBE	129-000388
2	1	CABINET, DOUBLE BAY	
1	1	PALLET	129-000389

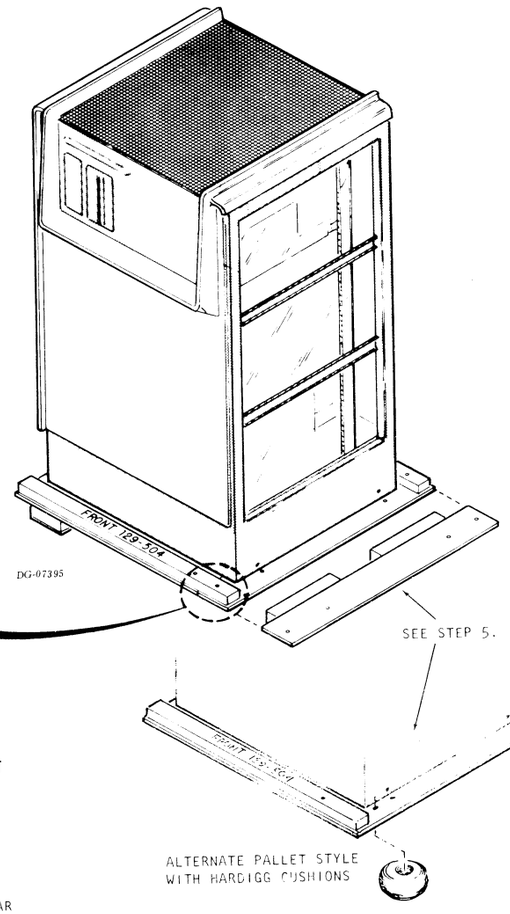
UNLOADING AND SETUP

UNLOADING MV/8000 CABINET

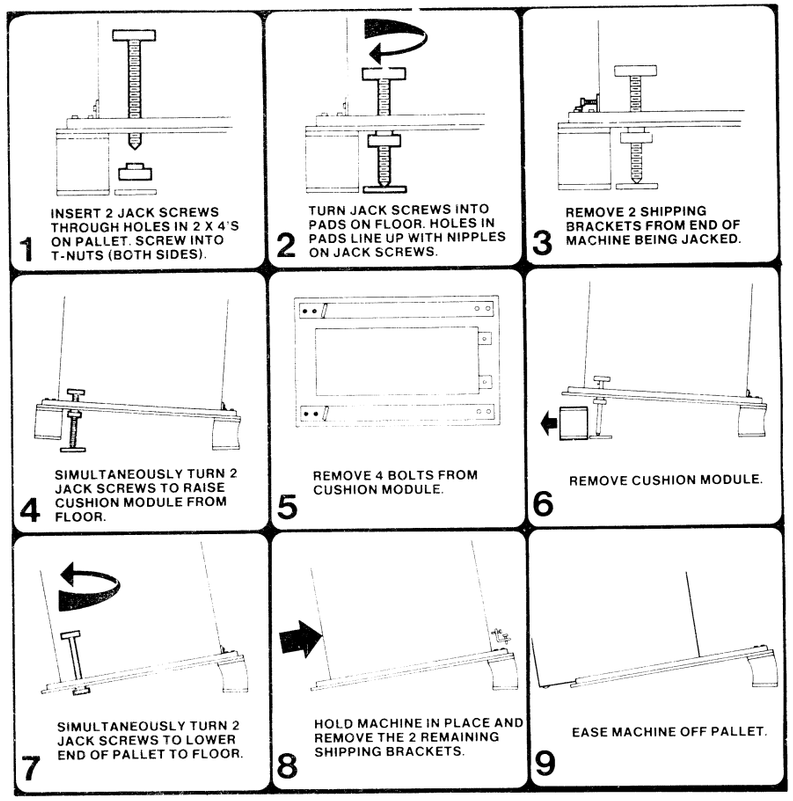
1. INSERT TWO JACK SCREWS THROUGH HOLES IN 2x3'S ON RIGHT END OF PALLET AND SCREW INTO T-NUTS.
2. SET ENDS OF JACK SCREWS INTO HOLES IN THE PADS ON THE FLOOR AND TURN T-NUTS UP UNTIL THE POINTS ENGAGE THE BOTTOM SURFACE OF THE PALLET.
3. REMOVE THE TWO SHIPPING BRACKETS FROM THE RIGHT SIDE OF THE CABINET AND PALLET.
4. SIMULTANEOUSLY TURN BOTH JACK SCREWS TO RAISE THE CUSHION MODULE FROM THE FLOOR.
5. REMOVE BOLTS AND SLIDE REMOVABLE SECTION FROM PALLET. IF HARDIGG STYLE PALLET IS USED, REMOVE SKID-MATES FROM END OF PALLET BEING JACKED.
6. SIMULTANEOUSLY TURN BOTH JACK SCREWS TO LOWER END OF PALLET TO THE FLOOR.
7. HOLD MACHINE IN PLACE AND REMOVE THE TWO REMAINING SHIPPING BRACKETS.
8. EASE THE CABINET OFF THE PALLET.



CAUTION
UNLOADING CABINETS IS
A TWO MAN OPERATION

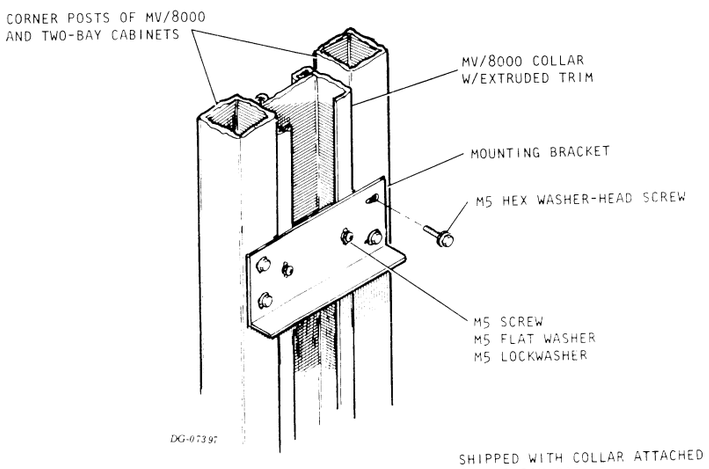


UNLOADING 2-BAY CABINET



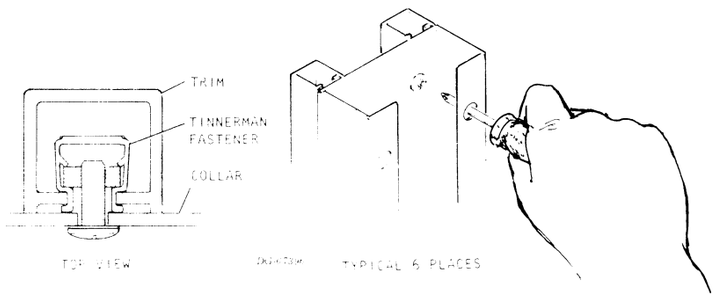
JOINING MV/8000 CABINET AND TWO-BAY CABINET

TYPICAL 4 PLACES



SHIPPED WITH COLLAR ATTACHED TO TWO-BAY CABINET

VERTICAL ADJUSTMENT OF EXTRUDED TRIM

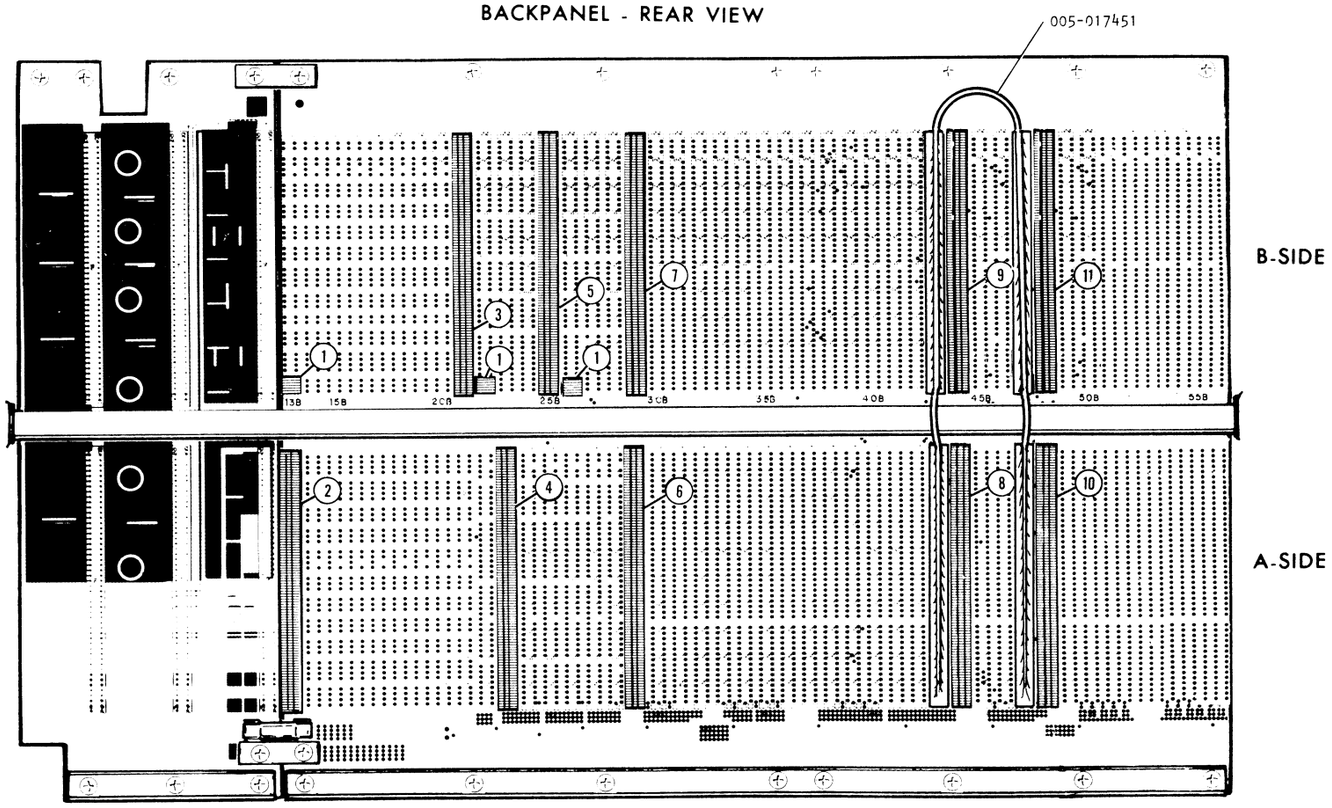


FOR VERTICAL ADJUSTMENT OF EXTRUDED TRIM ON COLLAR TO MATE WITH TRIM ON CABINETS, INSERT SCREWDRIVER THROUGH HOLES IN REAR OF COLLAR. BACK OFF SCREWS JUST ENOUGH TO EASE TENSION ON TINNERMAN FASTENERS TO ALLOW VERTICAL MOVEMENT OF TRIM. SLIDE TRIM TO DESIRED HEIGHT AND RETIGHTEN SCREWS.

INTERNAL CABLING

TERMINATOR PLACEMENTS

BACKPANEL - REAR VIEW

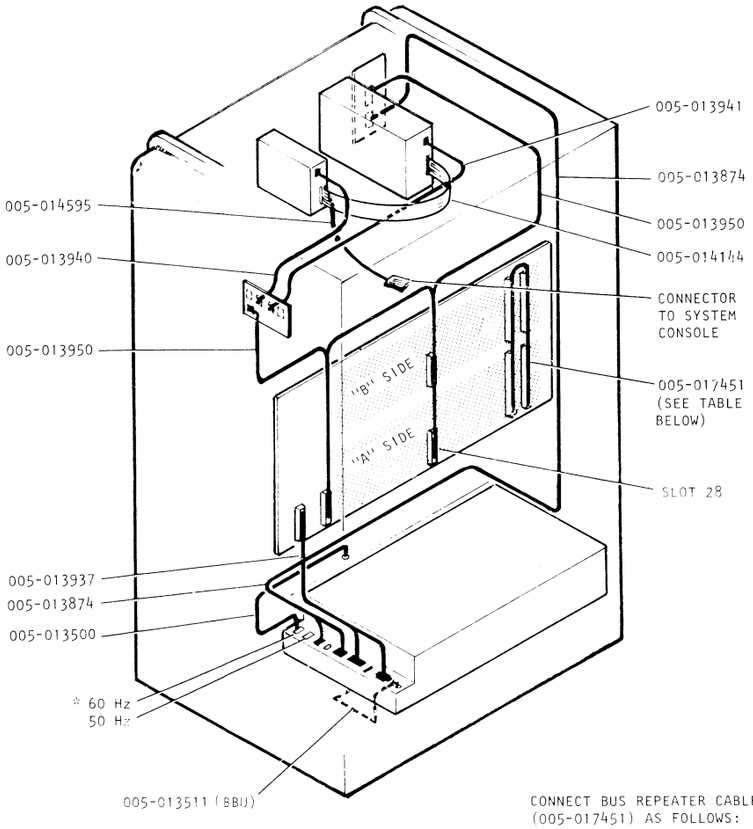


DG-08412

TERMINATOR		
1	SYS CLK	005-014291
2	MEM A	005-014301
3	MEM B	005-014289
4	CPORT A	005-014293
5	CPORT B	005-014295
6	IPORT A	005-014297
7	IPORT B	005-014299
8	MEM I/O	005-008086
9	I/O ONLY	005-015695
10	MEM I/O	005-008086
11	I/O ONLY	005-015695

INTERNAL CABLING (CONT)

CABINET - REAR VIEW

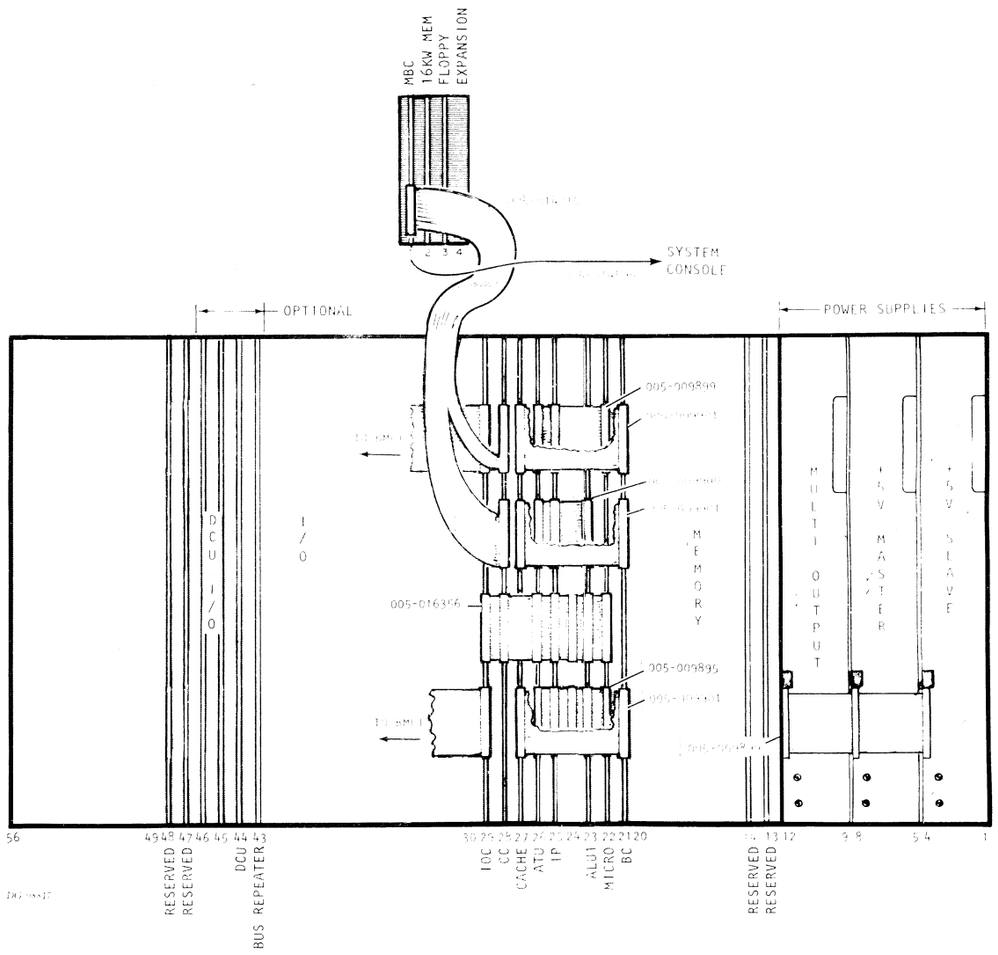


*POSITION BLOWER CONNECTOR APPROPRIATELY FOR 50 OR 60 Hz

CONNECT BUS REPEATER CABLE (005-017451) AS FOLLOWS:

CABLE	BACKPANEL
P1, P2	43A, 43B
P3, P4	47A, 47B

CARD CAGE - FRONT VIEW



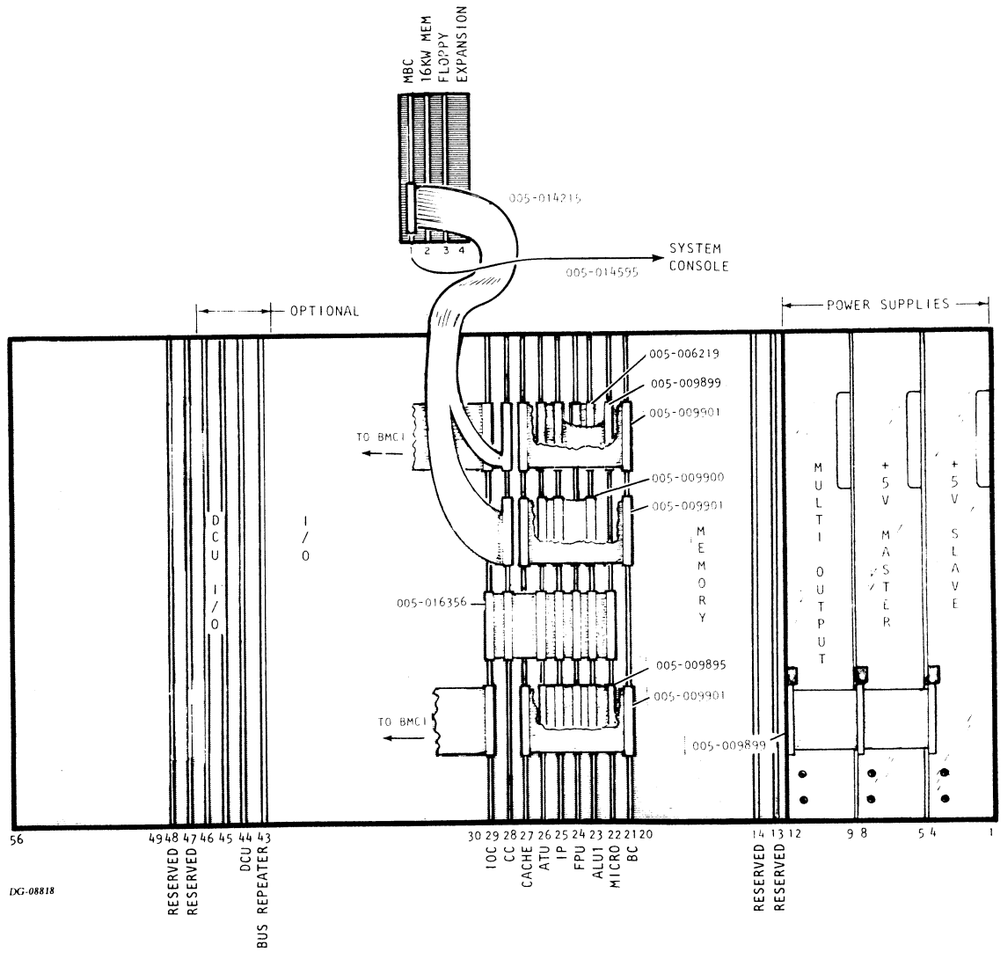
NOTE: MINIMUM LOAD OF 10A +5V REQUIRED ON MULTIPLE OUTPUT POWER SUPPLY (MOC) TYPICALLY MEMORY BOARD AND BANK CONTROLLER.

SEE NEXT PAGE FOR CABLING WHEN FPU IS INSTALLED (FPP OPTION).

INTERNAL CABLING (CONT)

FLOATING POINT PROCESSOR (FPP) OPTION

CARD CAGE - FRONT VIEW



TO INSTALL FLOATING POINT PROCESSOR (FPP) OPTION

1. REMOVE CPU RIBBON CABLES.
2. INSERT FPU (005-16601) INTO SLOT 24.
3. CABLE CPU AS SHOWN. NOTICE THAT THERE IS ONE NEW CABLE, 005-006219.

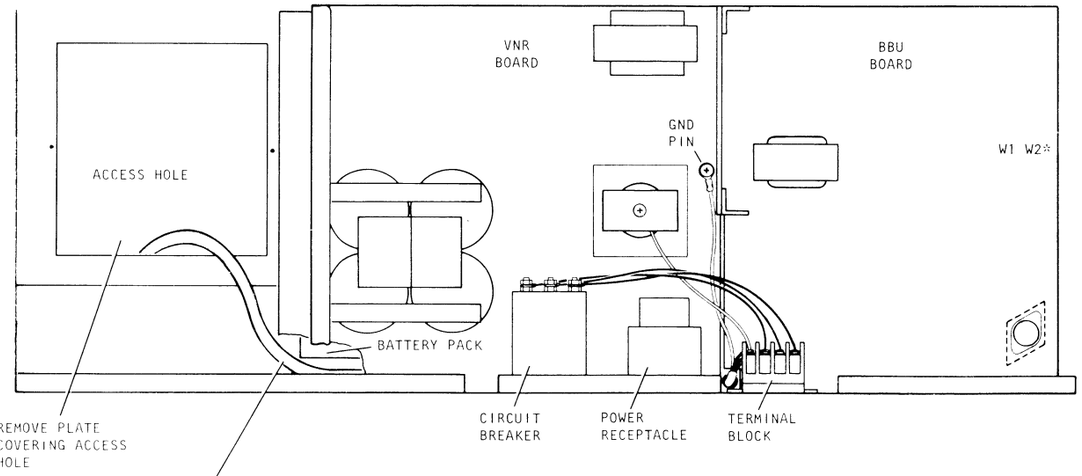
TO RUN SYSTEM WITH FPP, DISKETTE 065-000019 MUST BE INSTALLED. HOWEVER, THE SYSTEM MAY BE RUN WITH DISKETTE 065-000014 IN DEGRADED MODE; NO ACCELERATION OF FLOATING POINT INSTRUCTIONS WILL BE ACHIEVED.

NOTE: MINIMUM LOAD OF 10A +5V REQUIRED ON MULTIPLE OUTPUT POWER SUPPLY (MOC) TYPICALLY MEMORY BOARD AND BANK CONTROLLER

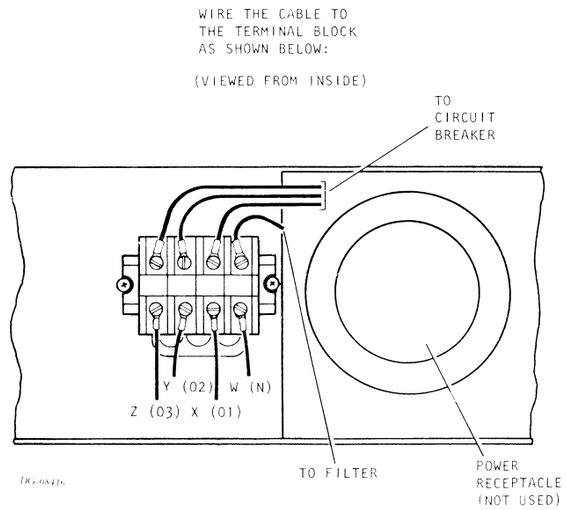
INTERNAL CABLING (CONT)

POWER CABLE
FLOOR ACCESS

TOP VIEW



*NOTE: FOR CORRECT JUMPERING, SEE NEXT PAGE.

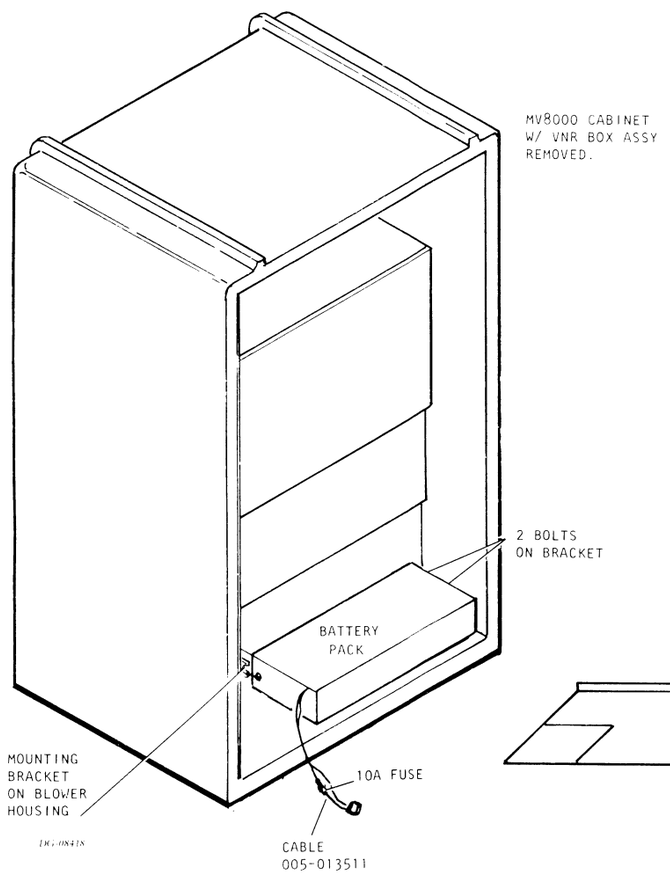


BBU OPTION INSTALLATION AND TAILORING

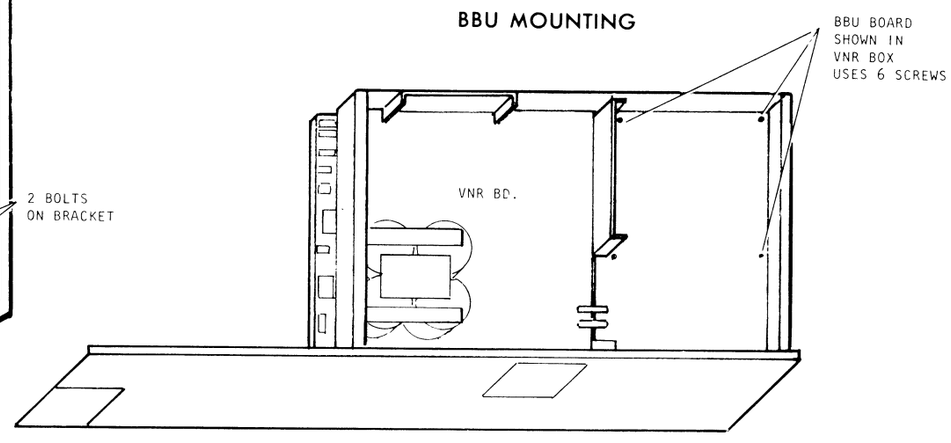
WARNING — FOR CONTINUED PROTECTION AND PERFORMANCE, REPLACE BATTERY WITH SAME TYPE INDICATED IN SERVICE MANUAL

AVERTISSEMENT — POUR ASSURER UNE PROTECTION CONTINUE ET UNE BONNE PERFORMANCE, LA BATTERIE DE RECHANGE DOIT ETRE DU TYPE INDIQUE DANS LA NOTICE TECHNIQUE.

BATTERY PACK MOUNTING

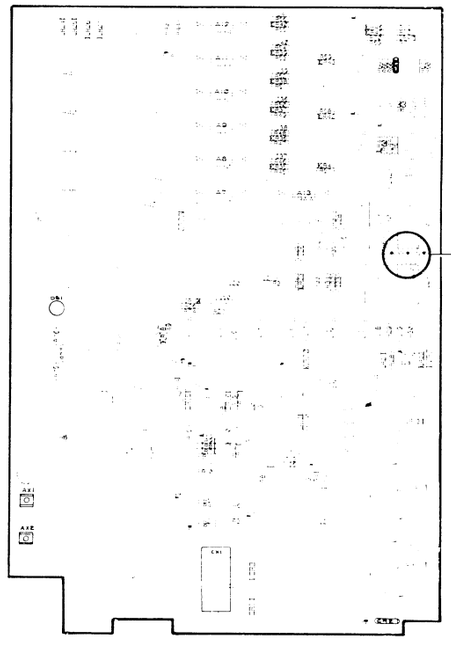


BBU MOUNTING



BATTERY BACKUP PCB

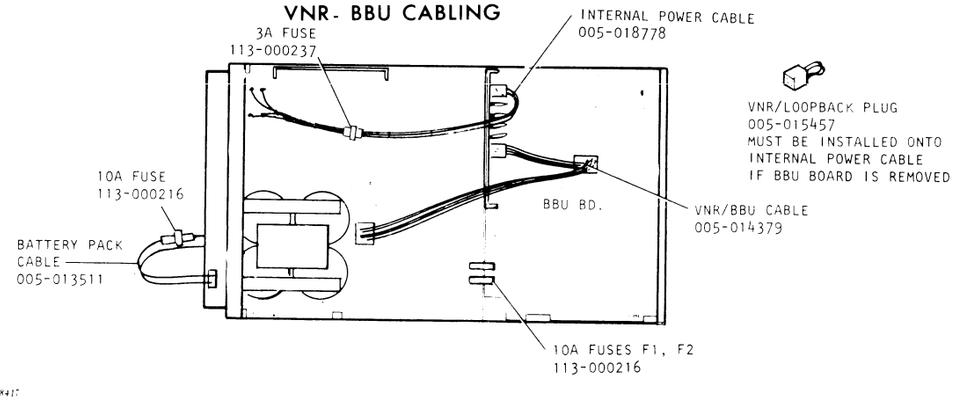
Ref DGC Dwg No 107-001388 Rev 02



LINE FREQ	JUMPER
60Hz	W1 IN W2 OUT
50Hz	W1 OUT W2 IN

NOTE: JUMPER MUST BE INSTALLED PROPERLY TO PREVENT DAMAGE TO BATTERY BACKUP BOARD (BBU).

VNR- BBU CABLING



TAILORING
JUMPERING

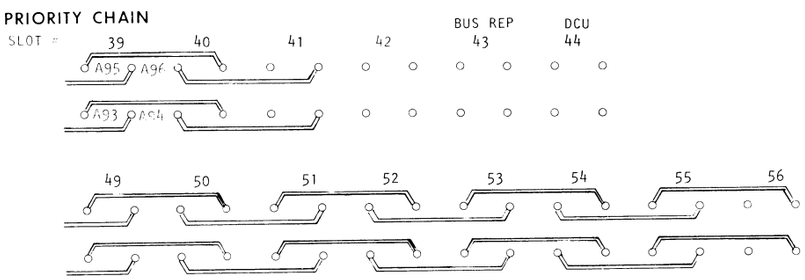
PRIORITY CHAIN MAINTENANCE

THE BACKPANEL SUPPLIES THE PRIORITY CHAIN FOR BOTH THE INTERRUPT AND DATA CHANNEL REQUESTS. THE BACKPANEL HAS TWO SIGNALS, DCHP AND INTP, WHICH GO FROM ONE I/O CONTROLLER SLOT TO THE NEXT, ENTERING THE CONTROLLER ON ONE PIN OF THE SLOT AND LEAVING THE CONTROLLER ON ANOTHER PIN. IF A SLOT ON THE I/O SYSTEM IS EMPTY, AND THE CHAIN HAS BEEN BROKEN; ALL CONTROLLERS FARTHER DOWN THE CHAIN FROM THE EMPRY SLOT WILL NEVER BE ABLE TO ACKNOWLEDGE AN INTERRUPT. JUMPERS MUST BE USED TO KEEP THE CHAIN INTACT.

THE CENTRAL PROCESSOR'S I/O SLOTS IN THE ECLIPSE MV/8000 COMPUTER ARE NOT CONTIGUOUS. THE MAIN GROUP OF I/O SLOTS START WITH SLOT 30 (HIGHEST PRIORITY) AND GO THROUGH SLOT 41. THE BR IS IN SLOT 43; THE OPTIONAL DCU IS IN SLOT 44; IT HAS A PRIORITY BETWEEN SEVERAL OTHER DEVICES AND MUST BE JUMPERED INTO THE APPROPRIATE PLACE IN THE CHAIN. TWO SLOTS (42 AND 43) HAVE NO DEFINED PRIORITY AND CAN BE JUMPERED AT HIGHER OR LOWER PRIORITY THAN THE DCU. THE DRAWING BELOW SHOWS THESE SLOTS AND THE PRIORITY JUMPERS ALREADY ETCHED INTO THE BACKPANEL. JUMPERS OR WIREWRAP MUST BE USED TO INCLUDE THE DCU AND BR IN THE PRIORITY CHAIN AND TO INCLUDE THE SLOTS H2 IF NECESSARY. SEE DGC 010-000256 FOR A DESCRIPTION OF THE PRIORITIES OF ALL STANDARD DGC PERIPHERALS.

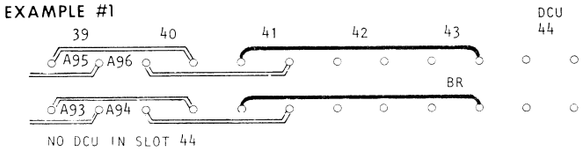
FOUR EXAMPLES OF JUMPERING THESE I/O SLOTS ARE SHOWN.

PRIORITY CHAIN



NOTE: SLOTS 49-56 HAVE PRIORITY ETCHED INTO BACKPANEL. ANY EMPTY SLOTS MUST HAVE JUMPERS OR WIREWRAP ADDED AS PER 010-000256

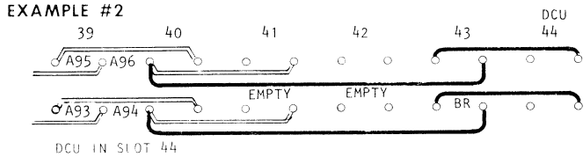
EXAMPLE #1



NO DCU IN SLOT 44

1 EMPTY I/O SLOT.

EXAMPLE #2

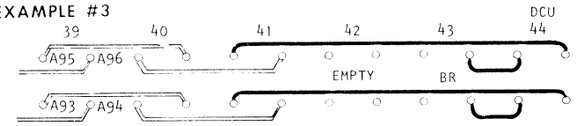


DCU IN SLOT 44

2 EMPTY SLOTS

ALL I/O HAS HIGHER PRIORITY THAN DCU.

EXAMPLE #3

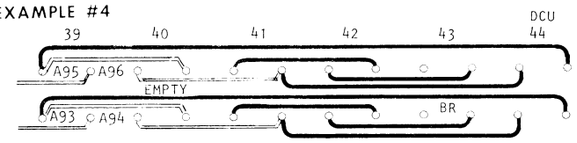


DCU IN SLOT 44

1 EMPTY SLOT

ALL BUS REPEATED I/O HAS LOWER PRIORITY THAN DCU IN ABOVE EXAMPLE.

EXAMPLE #4



DCU IN SLOT 44

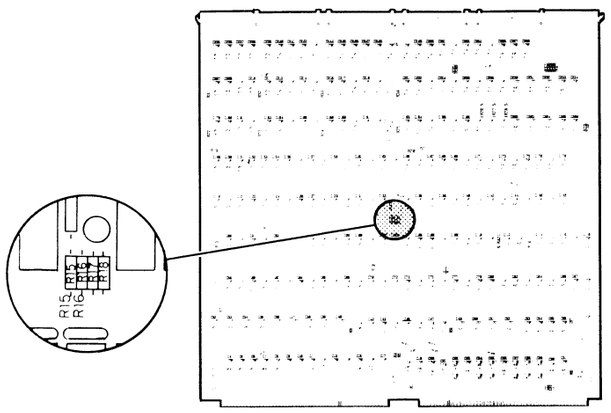
2 CONTROLLERS (SLOTS 41-42) HAVE LOWER PRIORITY THAN DCU AND HIGHER PRIORITY THAN REPEATED I/O REQUIRES SLOT 40 TO BE EMPTY.

TAILORING (CONT)

JUMPERING

INSTRUCTION PROCESSOR

Ref DGC Dwg No 107-001385 Rev 00

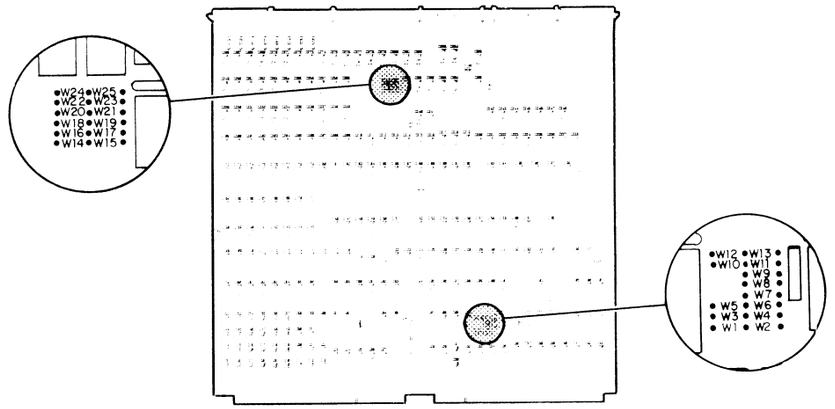


JUMPERS

R15 R16	IN OUT

SYSTEM CACHE

Ref DGC Dwg No 107-001304 Rev 01



JUMPERS

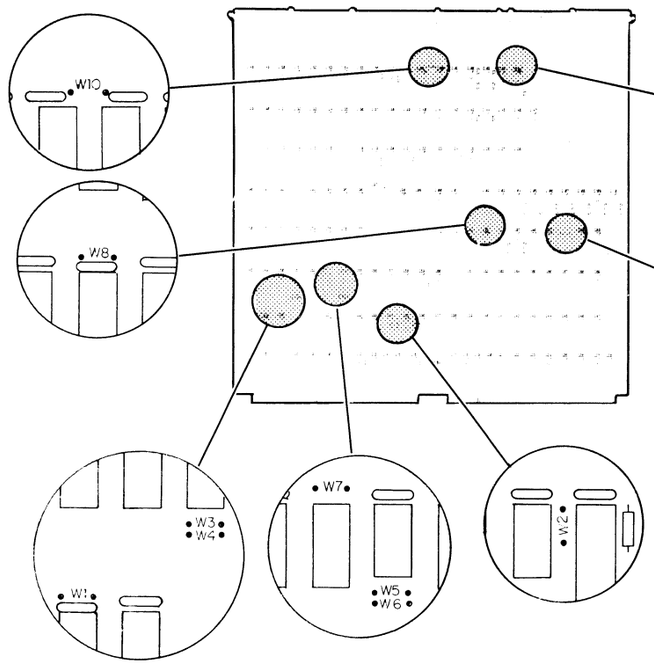
W1, W3, W5, W7, W11, W13	OUT
W14, W16, W18, W20, W22, W24	IN
W2, W4, W6, W8, W9, W10, W12	IN
W15, W17, W19, W21, W23, W25	OUT

TAILORING (CONT)

JUMPERING

BANK CONTROLLER

Ref DGC Dwg No 107-000982 Rev 01

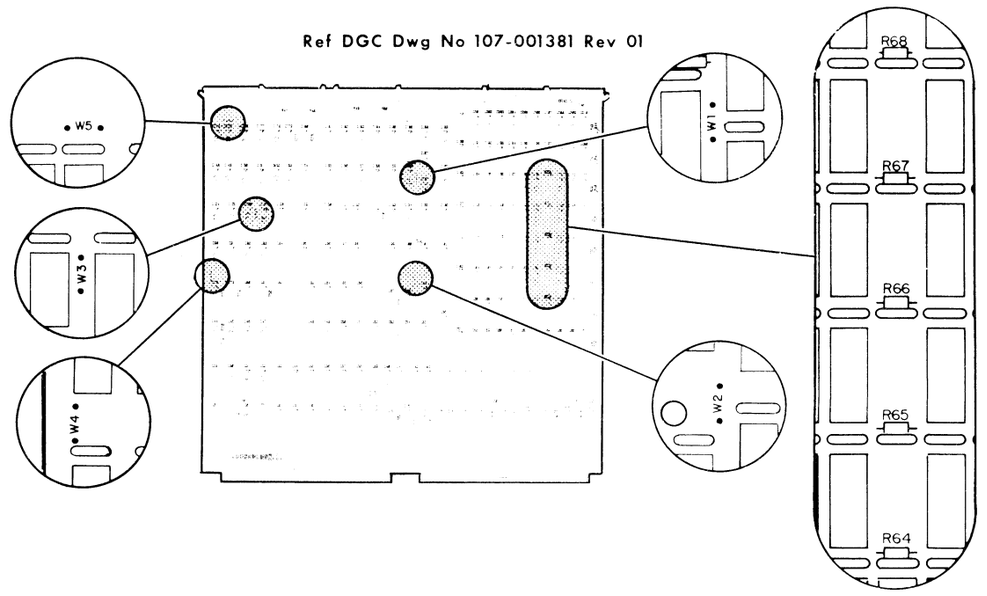


JUMPERS

W1 - W3	IN
W4	OUT
W5	IN
W6	OUT
W7 - W11	IN

MICROSEQUENCER

Ref DGC Dwg No 107-001381 Rev 01



JUMPERS

W1-W5 R64-R86	IN OUT	IF RAMS ABOVE R64-R68 ARE INSERTED.
W1-W5 R64-R68	IN IN	IF RAMS ABOVE R64-R68 ARE NOT INSERTED.

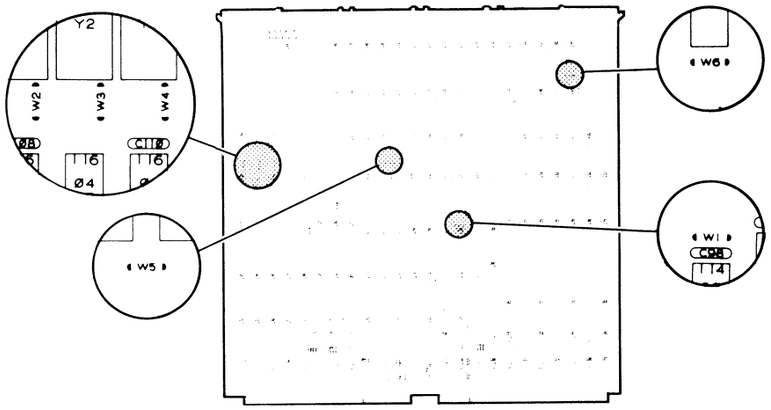
NOTE: R64-R68 MUST BE OUT, AND THE RAMS ABOVE R64-R68 MUST BE INSERTED IF THE FLOATING POINT PROCESSOR OPTION IS INSTALLED

TAILORING (CONT)

JUMPERING

CONSOLE CONTROLLER

Ref DGC Dwg No 107-001379 Rev 01

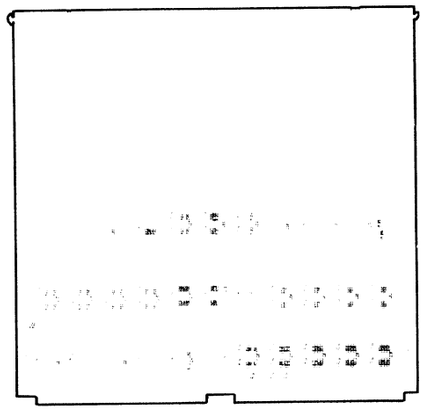


JUMPERS

W1-W6	IN

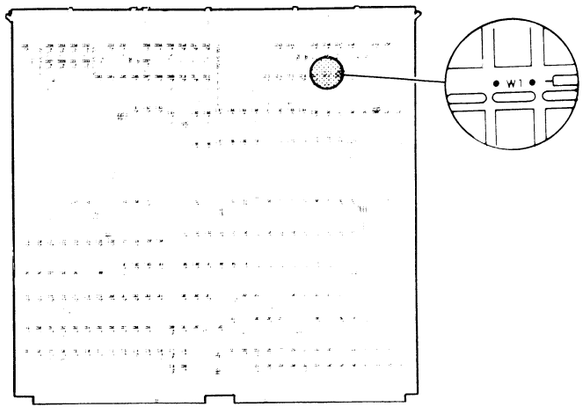
BUS REPEATER

Ref DGC Dwg No 107-001749 Rev 00



I/O CHANNEL

Ref DGC Dwg No 107-001330 Rev 01



JUMPER

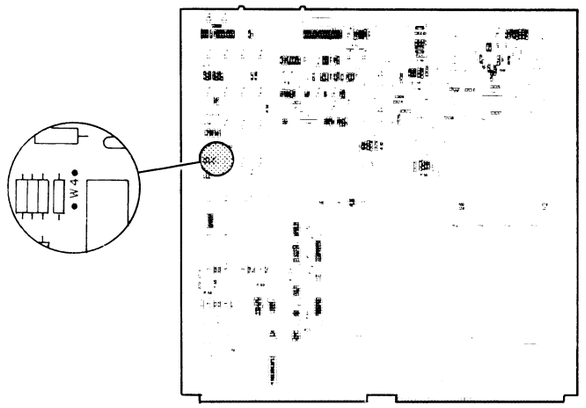
W1	OUT

TAILORING (CONT)

JUMPERING

SINGLE OUTPUT

Ref DGC Dwg No 107-001337 Rev 01

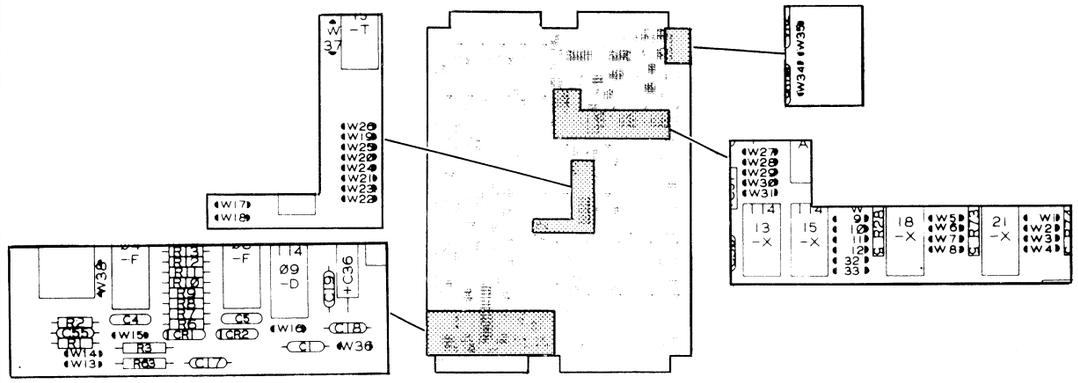


JUMPER

W4	OUT

MBC/1

Ref DGC Dwg No 107-000957 Rev 02



BAUD RATE JUMPERS

BAUD RATE	JUMPERS											
	W1	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12
75	IN	IN	IN	OUT	OUT	OUT	OUT	IN	IN	OUT	IN	IN
110	OUT	IN	IN	IN	IN	IN	OUT	OUT	IN	OUT	OUT	IN
134.5	IN	IN	IN	OUT	OUT	OUT	OUT	IN	IN	IN	IN	OUT
150	IN	IN	IN	OUT	OUT	OUT	IN	IN	OUT	IN	IN	OUT
300	IN	IN	OUT	OUT	OUT	IN	IN	OUT	IN	IN	OUT	OUT
600	IN	OUT	OUT	OUT	IN	IN	OUT	IN	IN	OUT	OUT	OUT
1200	OUT	OUT	OUT	IN	IN	OUT	IN	IN	OUT	OUT	OUT	OUT
1800	OUT	OUT	OUT	OUT	IN	OUT	OUT	IN	OUT	OUT	OUT	OUT
2400	OUT	OUT	IN	IN	OUT	IN	IN	OUT	OUT	OUT	OUT	OUT
4800	IN	OUT	IN	OUT	IN	IN	OUT	OUT	OUT	OUT	OUT	OUT
9600	OUT	IN	OUT	IN	IN	OUT	OUT	OUT	OUT	OUT	OUT	OUT

20mA CURRENT LOOP/EIA LINE SELECT JUMPERS

TYPE OF LINE	JUMPERS			
	W13	W14	W16	W36
EIA	OUT	IN	OUT	-
CURRENT LOOP (600 baud or below)	IN	OUT	IN	IN
CURRENT LOOP (above 600 baud)	IN	OUT	IN	OUT

JUMPERS

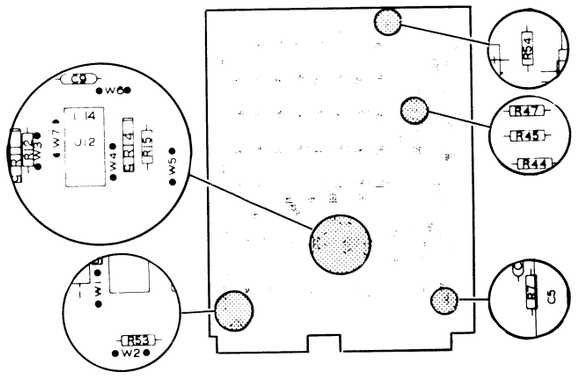
W15	OUT
W17	IN
W18, W19	OUT
W20-W23	IN
W24-W31	OUT
W32-W34	IN
W35, W37	OUT
W38	IN

TAILORING (CONT)

JUMPERING

16kW MICRONOVA MEMORY

Ref DGC Dwg No 107-000799 Rev 02

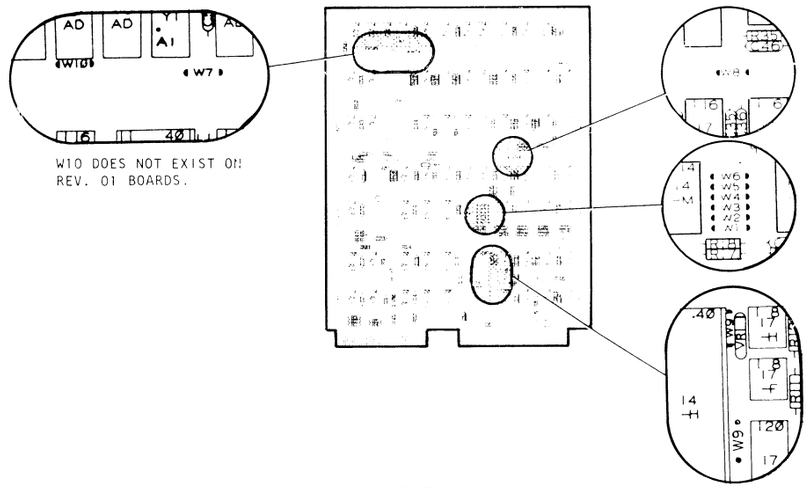


JUMPERS

W1	OUT
W2	IN
W3-W7	OUT
R15	IN
R53	OUT
R7	OUT
R45	IN
R54	OUT

FLOPPY CONTROLLER

Ref DGC Dwg No 107-001324 Rev 02



W10 DOES NOT EXIST ON REV. 01 BOARDS.

JUMPERS

W1	OUT
W2, W3	IN
W4	OUT
W5	IN
W6	OUT
W7, W8	IN
W9	IN
W10	OUT

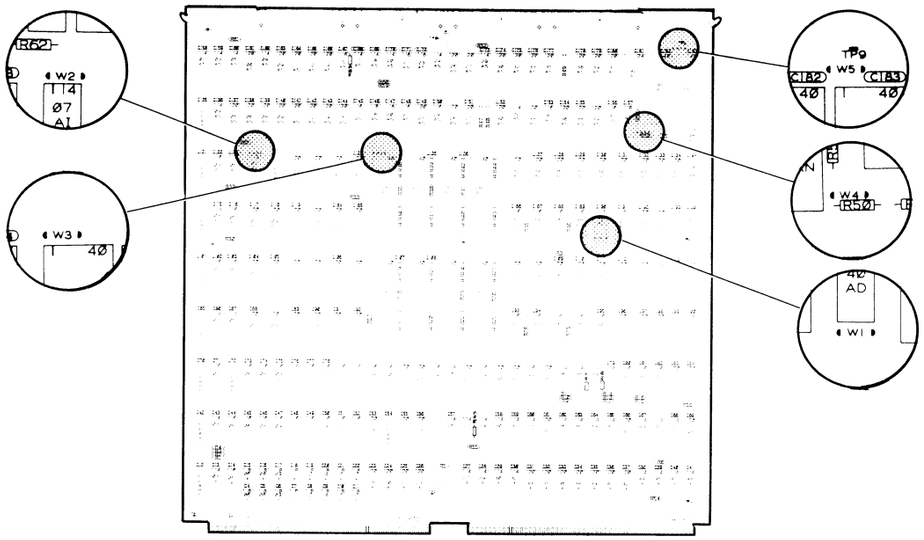
W9 ON REV. 01 BOARDS IS APPROX. ONE INCH BELOW THE LOCATION OF W9 ON REV. 02 BOARDS.

TAILORING (CONT)

JUMPERING

ARITHMETIC AND LOGIC UNIT (ALU1)

Ref DGC Dwg No 107-001627 Rev 00

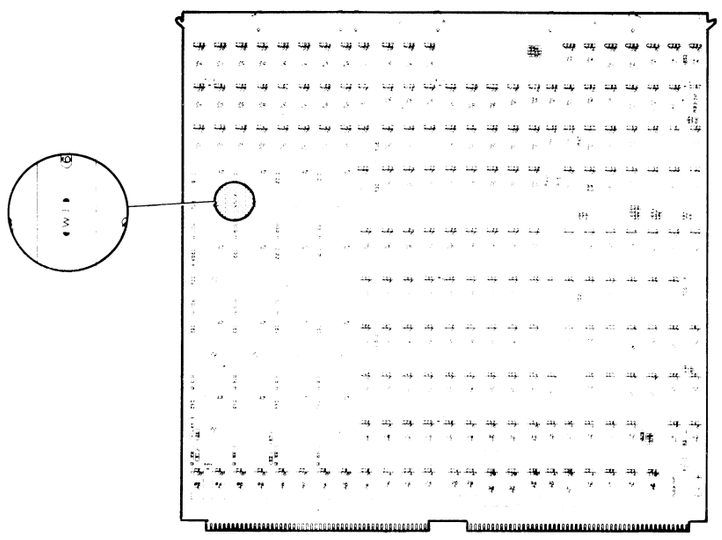


JUMPERS

W1-W5	IN

FLOATING POINT UNIT

Ref DGC Dwg No 107-001649 Rev 01



JUMPER

W1	IN

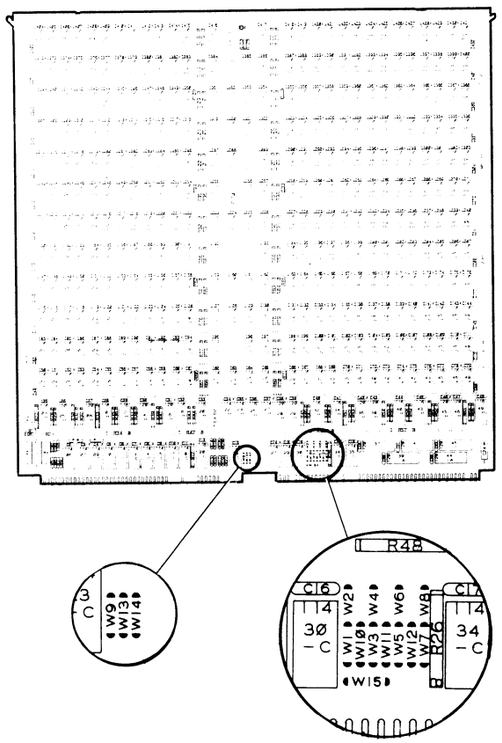
NOTE: 107-001649 REV. 04 HAS NO JUMPERS

TAILORING (CONT)

JUMPERING

DOUBLE DENSITY MEMORY ARRAY

Ref DGC Dwg No 107-001603 Rev 01



MEMORY BOARDS ARE INSERTED CONSECUTIVELY FROM SLOT 20 TO SLOT 15 IN THE BACKPANEL. THE FOLLOWING CONFIGURATIONS OF MEMORY ARE ALLOWED:

	1MB MEMORY BOARD		2MB MEMORY BOARD	
MODULE	IN	OUT	IN	OUT
0	W1, W3, W5, W7, W9, W15	W2, W4, W6, W8, W10, W11, W12, W13, W14	W10 - W14	W1 - W9, W15
1	W1, W3, W5, W8, W9, W15	W2, W4, W6, W7, W10, W11, W12, W13, W14		
2	W1, W3, W6, W7, W9, W15	W2, W4, W5, W8, W10, W11, W12, W13, W14	W10 - W14	W1 - W9, W15
3	W1, W3, W6, W8, W9, W15	W2, W4, W5, W7, W10, W11, W12, W13, W14		
4	W1, W4, W5, W7, W9, W15	W2, W3, W6, W8, W10, W11, W12, W13, W14	W10 - W14	W1 - W9, W15
5	W1, W4, W5, W8, W9, W15	W2, W3, W6, W7, W10, W11, W12, W13, W14		
6	W1, W4, W6, W7, W9, W15	W2, W3, W5, W8, W10, W11, W12, W13, W14	W10 - W14	W1 - W9 , W15
7	W1, W4, W6, W8, W9, W15	W2, W3, W5, W7, W10, W11, W12, W13, W14		
8	W2, W3, W5, W7, W9, W15	W1, W4, W6, W8, W10, W11, W12, W13, W14	W10 - W14	W1 - W9, W15
9	W2, W3, W5, W8, W9, W15	W1, W4, W6, W7, W10, W11, W12, W13, W14		
10	W2, W3, W6, W7, W9, W15	W1, W4, W5, W8, W10, W11, W12, W13, W14	W10 - W14	W1 - W9, W15
11	W2, W3, W6, W8, W9, W15	W1, W4, W5, W7, W10, W11, W12, W13, W14		

1 MEGB & 2 MEGB
MEMORY BOARDS

1. 1 MB/ 2 MB ARE INSTALLED CONSECUTIVELY FROM SLOT 20 THRU SLOT 15. (MAX OF 6 MEMORY BOARDS)

2. 2MB MEMORY ARE FIRST INSTALLED CONSECUTIVELY FROM SLOT 20 THRU SLOT 15.

3. IF ANY 1MB MEMORY BOARDS ARE IN THE SYSTEM THEY ARE CONSECUTIVELY INSTALLED AFTER THE LAST 2MB MEMORY BOARD.

4. THE 2MB MEMORY BOARD IS ALWAY JUMPERED THE SAME

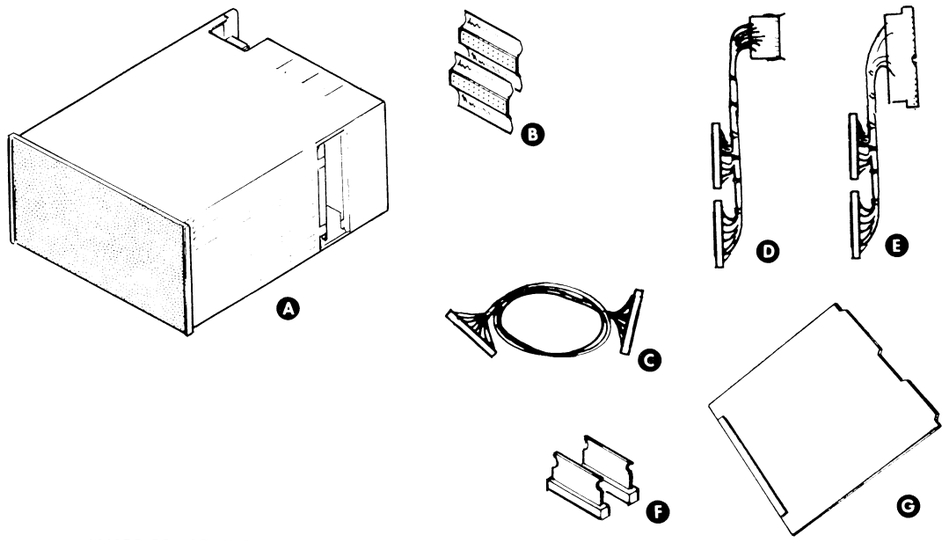
5. THE 1MB MEMORY BOARD IS JUMPERED ACCORDING TO THE MEMORY MODULE ASSIGNED TO IT.

   2 MB MEMORY BOARD HAS 2 MODULES
   1 MB MEMORY BOARD HAS 1 MODULE

6. THE MODULE ADDRESS OF THE FIRST CONSECUTIVE 1 MB MEMORY WILL BE EVEN, THE NEXT ODD AND SO FORTH.

   FOR EXAMPLE, IN A SYSTEM OF (2) 2MB MEMORY BOARDS AND 3 1MB MEMORY BOARDS, THE 2MB MEMORY BOARDS WILL BE MODULE 0-3. THE FIRST 1MB MEMORY BOARD WILL BE MODULE 4, THE NEXT MODULE 5, AND THE LAST MODULE 6.

INSTALLATION SPECIFICATIONS



MAJOR COMPONENT

ITEM	COMPONENT	MOUNTING LOCATION	NOTES
A	EXPANSION CHASSIS	CABINET	MOUNT IN ADJACENT CABINET IF POSSIBLE

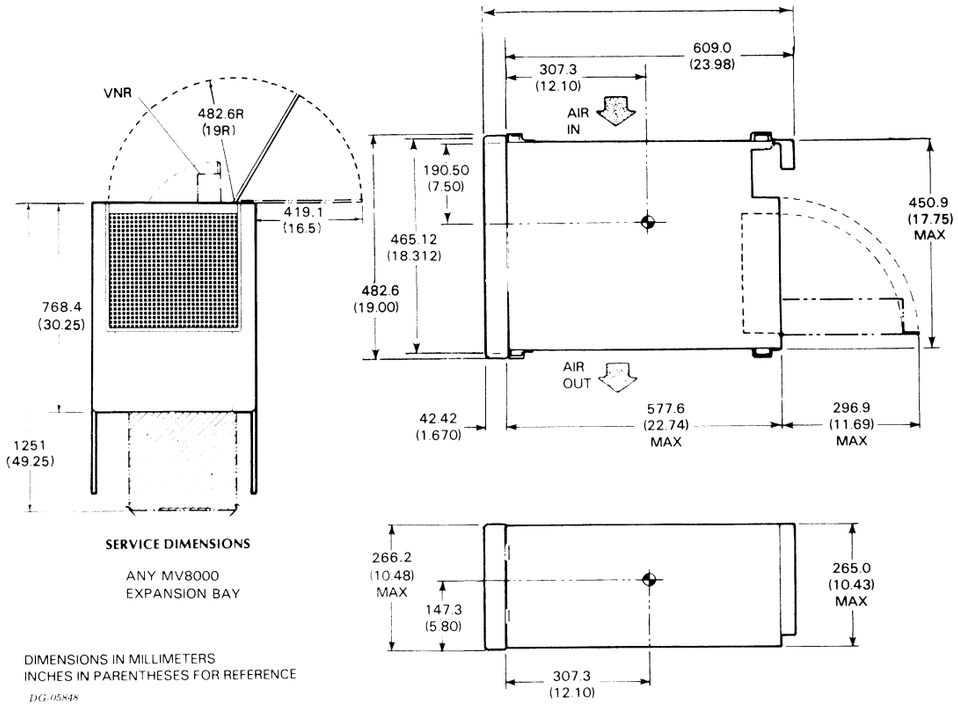
CABLES

ITEM	CABLE	CONNECTING			NOTES
B	B/P INTERCONNECT ASSY A SIDE (005-014955) B SIDE (005-014829)	EXP CHASSIS SLOT 8	&	EXP CHASSIS SLOT 9	SINGLE BUS CONFIGS
C	DAISY CHAIN CABLE (005-006291)	INT CABLE ON MAIN CHASSIS	&	INT CABLE ON EXP CHASSIS	ALL CONFIGS MAX LENGTH 4.6 m (15')
D	DCU PADDLEBOARD (005-012590)	MAIN CHASSIS	&	DAISY CHAIN CABLE	CONFIGS USING DCU
	BUS REPEATER PADDLEBOARD (005-013522)	MAIN CHASSIS	&	DAISY CHAIN CABLE	CONFIGS USING BUS REPEATER
	DCU & SBUS (005-014978)	MAIN CHASSIS	&	DAISY CHAIN CABLE	CONFIGS USING ADDITIONAL DCU W/SBUS
	BUS REPEATER W/ SBUS (005-014609)	MAIN CHASSIS	&	DAISY CHAIN CABLE	CONFIGS USING BUS REPEATER W/SBUS
	I/O BUS W/SBUS (005-014977)	MAIN CHASSIS	&	DAISY CHAIN CABLE	CONFIGS USING DEDICATED DCU W/SBUS
E	DUAL I/O & SBUS (005-015843)	DAISY CHAIN CABLE	&	EXP CHASSIS	ALL CONFIGS

TERMINATOR

ITEM	TERMINATOR	LOCATION	NOTES
F	I/O BUS TERMINATORS A SIDE (005-013406) B SIDE (005-013407)	B/P EXP CHASSIS	DUAL CONFIGS. TWO TERMINATORS FOR A-SIDE TWO TERMINATORS FOR B-SIDE
G	LOAD BOARD (005-015455)	EXP CHASSIS SLOT 1	REQUIRED FOR ALL CONFIGS.

Warning: This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instruction manual, may cause interference to radio communications. As temporarily permitted by regulation it has not been tested for compliance with the limits for Class A computing devices pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference. Operation of this equipment in a residential area is likely to cause interference, in which case the user, at his own expense, will be required to take whatever measures may be required to correct the interference.



SERVICE DIMENSIONS

ANY MV8000
EXPANSION BAY

DIMENSIONS IN MILLIMETERS
INCHES IN PARENTHESES FOR REFERENCE

DG-05848

DIMENSIONS:	Width	Depth	Height
Millimeters	482.6	651.5	266.2
Inches	19.0	25.65	10.48

SERVICE CLEARANCES:	Front	Rear
Millimeters	482.6	296.9
Inches	19.0	11.69

WEIGHT:	Empty	Fully Loaded
Kilograms	35.38	49.9
Pounds	78.0	110.0

OPERATING ENVIRONMENT:	
Temperature (max)	55°C(131°F) 60Hz, 45°C(113°F) 50Hz
Relative Humidity (max)	90
Altitude (max)	2438m (8000 ft)

CABLES:

Primary Power	Length	Conn	Mating Conn
Domestic	1.8m(6')	5-15P	5-15R
Export	1.8m(6')	6-15P	6-15R

SEE TABLES TO THE LEFT FOR
ADDITIONAL CABLE INFORMATION

CPU DESIGNATOR:
Designator Range: 13-14

HEAT OUTPUT: 1100 watt (3750 BTU/hr) max
(SEE CHART ON PAGE 11)

POWER REQUIREMENTS:

(Domestic)	
Voltage	120 +10% -15%
Hz	50±1% 60±1%
Max Amp per Phase	12.0
Phase	1
Startup Surge per Phase	20A (max) for 0.25 seconds

(Export)	
Voltage	220/240 +10% -15%
Hz	50 ±1% 60±1%
Max Amp per Phase	7.0
Phase	1
Startup Surge per Phase	40A (max) for 0.12 seconds

LINE CORDS:

Supply	Part No.
120V	109 000455
220/240	109 000456

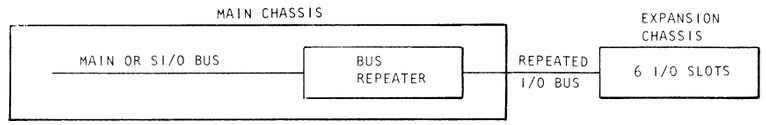
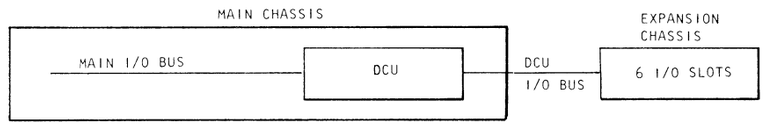
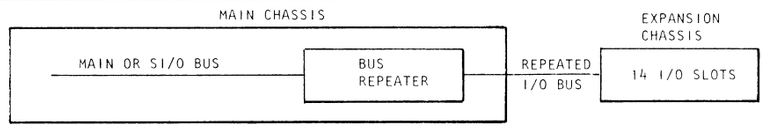
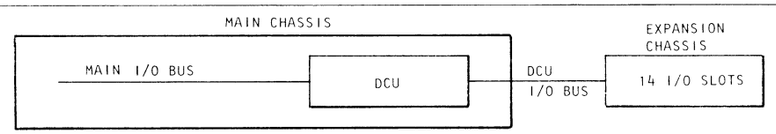
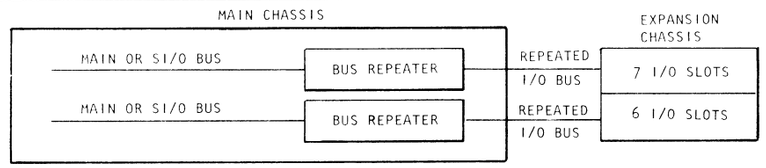
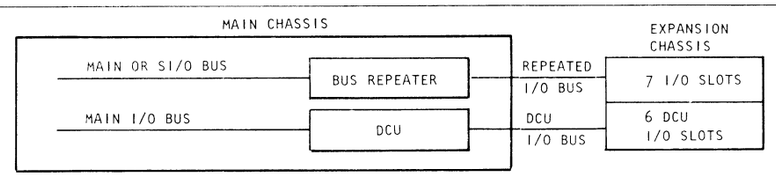
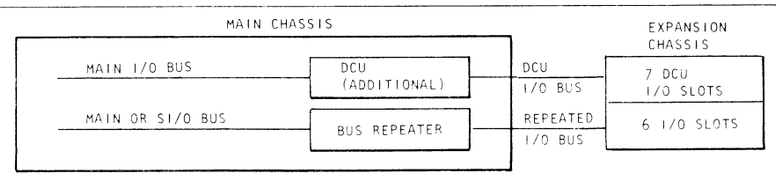
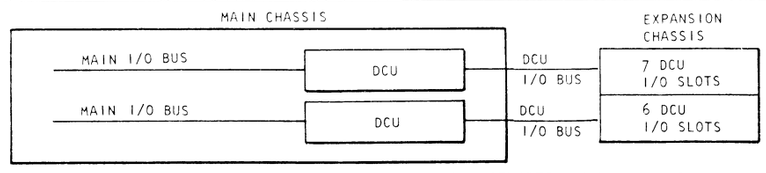
MV/8000 EXPANSION CHASSIS, 9600 MODELS

CONFIGURATION

THE CONFIGURATION OF A MODEL 8702-XX EXPANSION CHASSIS IS DEFINED BY THE XX SPECIFIER IN THE MODEL NUMBER. XX SPECIFIES THE FUNCTION OF THE SLOTS WITHIN THE EXPANSION CHASSIS. SEE THE FOLLOWING TABLE TO DETERMINE YOUR MODEL TYPE.

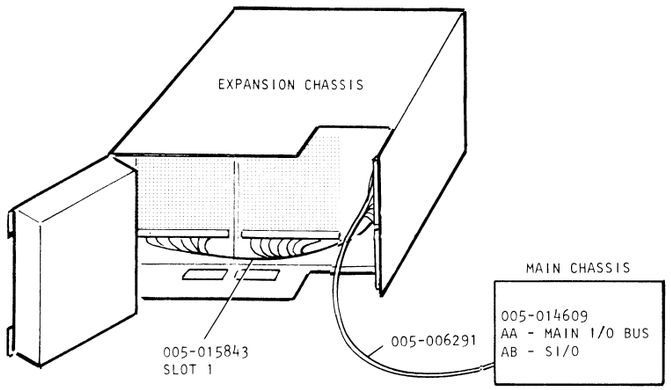
MAIN CHASSIS BOARD LOCATIONS

1. THE BUS REPEATER ON THE MAIN I/O BUS IS IN AN I/O SLOT (30-43).
2. THE BUS REPEATER ON THE SI/O BUS IS IN AN SI/O SLOT (49-56).
3. THE DEDICATED DCU IS IN SLOT 44. (PIN A 84 OF THE DEDICATED DCU HAS TO BE WIREWRAPPED TO PIN A84 OF EACH ADDITIONAL DCU IN THE MAIN CHASSIS. WHEN EXPANDING OFF OF A DEDICATED DCU, NO COMM BOARDS CAN BE IN SLOTS 45 & 46. CONNECT THE I/O BUS & SBUS CABLE TO SLOT 45 IN THE MAIN CHASSIS.)

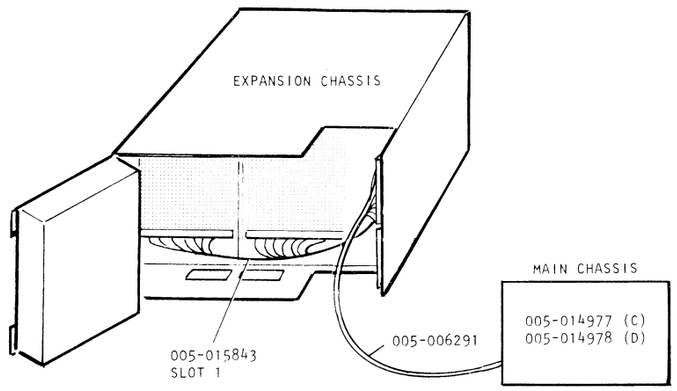
MODEL/ CONFIGURATION	CONFIGURATION	NOTES	PARTS REQUIRED IN ADDITION TO EXPANSION CHASSIS*		
			ASSEMBLY NO.	QTY	DESCRIPTION
8702-AA, AB		SINGLE REPEATER I/O BUS. THE 6 I/O SLOTS ARE DRIVEN BY A BUS REPEATER; ON THE MAIN I/O BUS FOR THE AA MODEL, AND ON THE SI/O BUS FOR THE AB MODEL.	005-014609 005-015843 005-006291	1 1 1	BUS REPEATER & SBUS CABLE DUAL I/O & SBUS CABLE DAISY CHAIN CABLE
8702-C D		SINGLE DCU I/O BUS. THE 6 DCU I/O SLOTS IN THE C AND D MODELS ARE DRIVEN BY A DEDICATED DCU AND AN ADDITIONAL DCU RESPECTIVELY.	005-015843 005-006291 005-014977 005-014978	1 1 1 1	DUAL I/O & SBUS CABLE DAISY CHAIN CABLE I/O & SBUS CABLE (C-TYPE) DCU & SBUS CABLE (D-TYPE)
8702-EA, EB		SINGLE REPEATER I/O BUS. THE 14 I/O SLOTS ARE DRIVEN BY A BUS REPEATER; ON THE MAIN I/O BUS FOR THE EA MODEL, AND ON THE SI/O BUS FOR THE EB MODEL.	005-014609 005-015843 005-006291 005-014955 005-014829	1 1 1 1 1	BUS REPEATER & SBUS CABLE DUAL I/O & SBUS CABLE DAISY CHAIN CABLE EXP B/P INTERCONNECT (A SIDE) EXP B/P INTERCONNECT (B SIDE)
8702-G, H		SINGLE DCU I/O BUS. THE 14 DCU I/O SLOTS OF THE G AND H MODELS ARE DRIVEN BY A DEDICATED DCU AND AN ADDITIONAL DCU RESPECTIVELY.	005-014977 005-014978 005-015843 005-006291 005-014955 005-014829	1 1 1 1 1 1	I/O & SBUS CABLE (G TYPE) DCU & SBUS CABLE (H TYPE) DUAL I/O & SBUS CABLE DAISY CHAIN CABLE EXP B/P INTERCONNECT (A SIDE) EXP B/P INTERCONNECT (B SIDE)
8702-JA, JB,		DUAL REPEATER I/O BUS. THE 7 I/O SLOTS AND 6 I/O SLOTS ARE DRIVEN BY INDIVIDUAL BUS REPEATERS. THE JA MODEL HAS THE SI/O BUS DRIVING THE 7 I/O SLOTS AND THE MAIN I/O BUS DRIVING THE 6 I/O SLOTS. THE JB MODEL HAS THE BUSSES REVERSED.	005-014609 005-015843 005-006291 005-013522 005-013406 005-013407	2 1 2 1 1 1	BUS REPEATER & SBUS CABLE DUAL I/O & SBUS CABLE DAISY CHAIN CABLE BUS REPEATER CABLE TERMINATOR (A SIDE) TERMINATOR (B SIDE)
8702-LA, LB, MA, MB		DUAL BUS (REPEATER I/O & DCU I/O). ALL MODELS HAVE THE 7 I/O SLOTS DRIVEN BY A BUS REPEATER; ON THE MAIN I/O BUS FOR THE LA & MA MODELS, ON THE SI/O BUS FOR THE LB & MB MODELS. ALL MODELS HAVE THE 6 DCU I/O SLOTS DRIVEN BY A DCU; THE LA & LB MODELS USE A DEDICATED DCU, THE MA & MB MODELS USE AN ADDITIONAL DCU.	005-014977 005-014978 005-015843 005-006291 005-013522 005-013406 005-013407	1 1 1 2 1 1 1	I/O & SBUS CABLE (L-TYPES) DCU & SBUS CABLE (M-TYPES) DUAL I/O & SBUS CABLE DAISY CHAIN CABLE BUS REPEATER CABLE TERMINATOR (A SIDE) TERMINATOR (B SIDE)
8702-SA, SB		DUAL BUS (DCU I/O & REPEATER I/O). THE 7 DCU I/O SLOTS ARE DRIVEN BY AN ADDITIONAL DCU. THE 6 I/O SLOTS ARE DRIVEN BY A BUS REPEATER; ON THE MAIN I/O BUS FOR THE SA MODEL, AND THE SI/O BUS FOR THE SB MODEL.	005-014609 005-015843 005-006291 005-012590 005-013406 005-013407	1 1 2 1 1 1	BUS REPEATER & SBUS CABLE DUAL I/O & SBUS CABLE DAISY CHAIN CABLE DCU CABLE TERMINATOR (A SIDE) TERMINATOR (B SIDE)
8702-U, V		DUAL DCU I/O BUS. THE 7 DCU I/O SLOTS AND THE 6 DCU I/O SLOTS ARE DRIVEN BY AN ADDITIONAL DCU AND A DEDICATED DCU RESPECTIVELY FOR THE U MODEL. THE V MODEL HAS TWO ADDITIONAL DCU'S DRIVING THE 7 DCU I/O SLOTS AND THE 6 DCU I/O SLOTS.	005-014977 005-014978 005-015843 005-006291 005-012590 005-013406 005-013407	1 1 1 2 1 1 1	I/O & SBUS CABLE (U-TYPE) DCU & SBUS CABLE (V-TYPE) DUAL I/O & SBUS CABLE DAISY CHAIN CABLE DCU CABLE TERMINATOR (A SIDE) TERMINATOR (B SIDE)

CONFIGURATION (CONT)

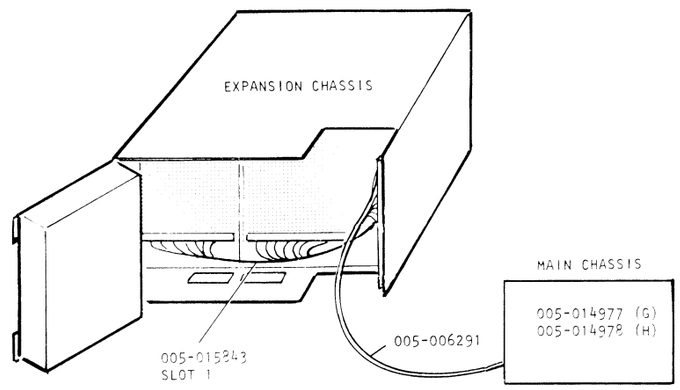
8702-AA, AB
REPEATER *I/O BUS (SINGLE BUS)



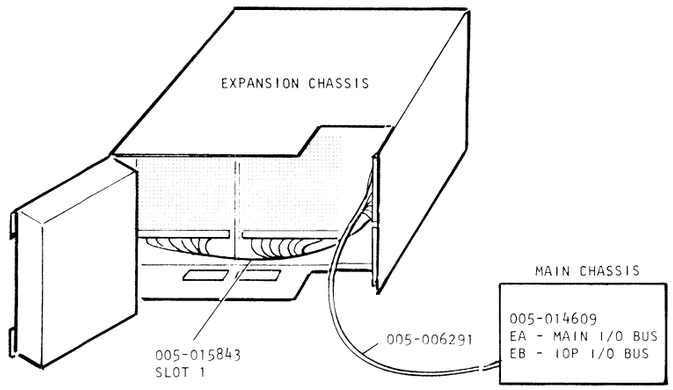
8702-C, D
DCU I/O BUS (SINGLE BUS)



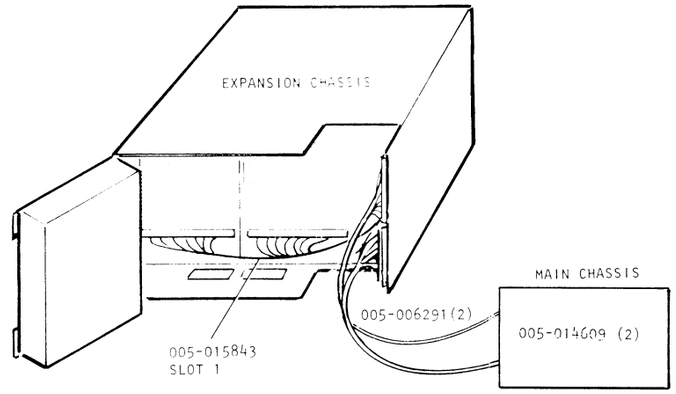
8702-G, H
DCU I/O BUS (SINGLE BUS)



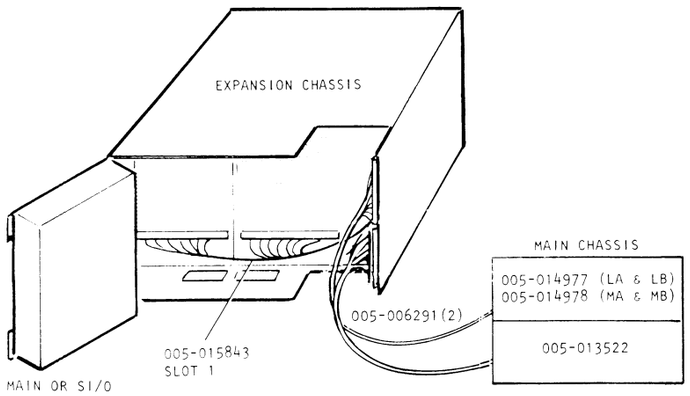
8702-EA, EB
REPEATER *I/O BUS (SINGLE BUS)



8702-JA, JB
REPEATER-REPEATER *I/O BUS (DUAL BUS)

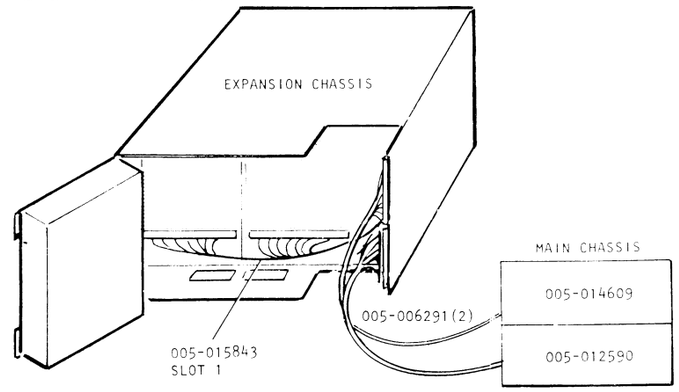


8702-LA, LB, MA, MB
DCU I/O BUS - REPEATER *I/O BUS (DUAL BUS)

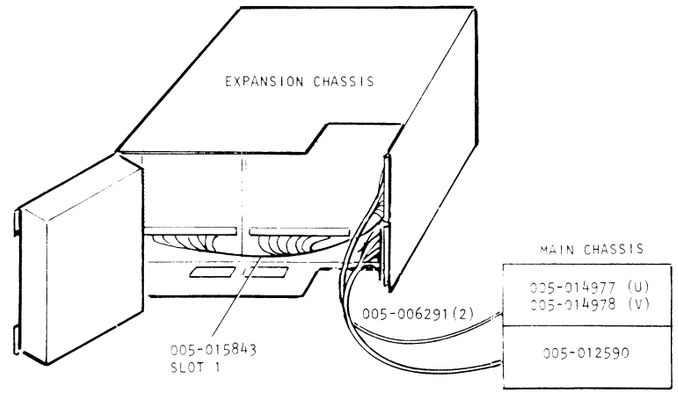


NOTE:
* MAIN OR SI/O

8702-SA, SB
REPEATER *I/O BUS - DCU I/O BUS (DUAL BUS)

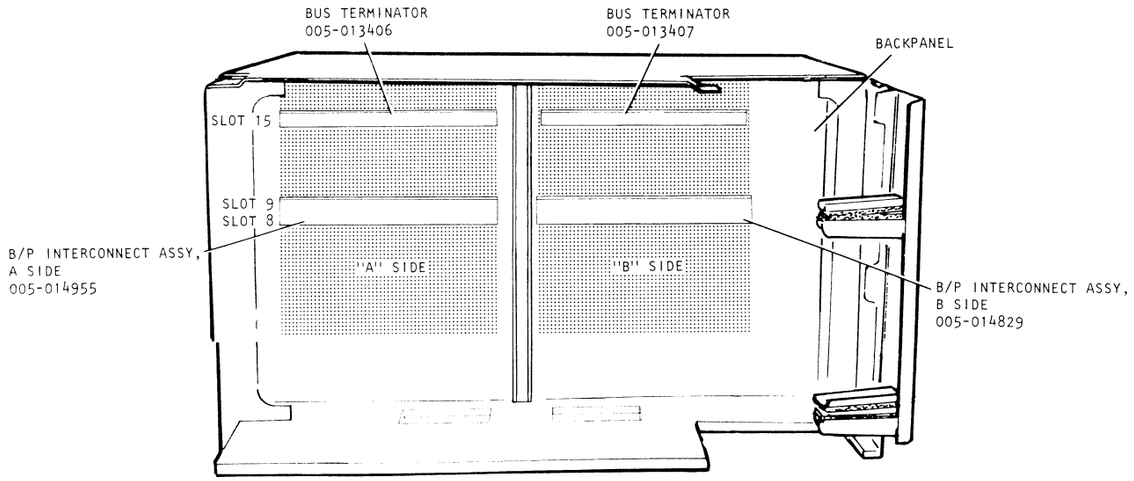


8702-U, V
DCU-DCU I/O BUS (DUAL BUS)



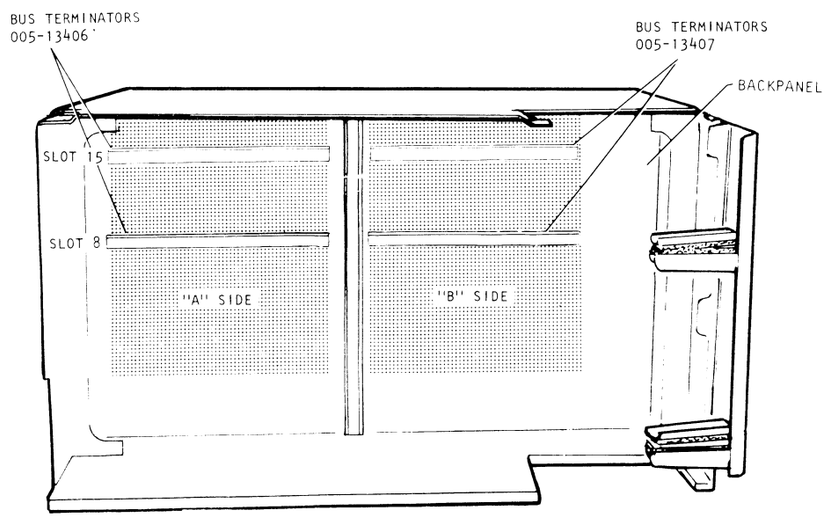
INTERNAL CABLING

14-SLOT SINGLE BUS CONFIGURATION EXPANSION CHASSIS



THE B/P INTERCONNECT ASSEMBLIES MOUNT OVER THE BACKPANEL PINS OF SLOTS 8 AND 9. THE A SIDE ASSEMBLY (NO. 005-14955) MOUNTS SO THAT PINS A1 AND A99 OF SLOT 9 ARE IN THE HOLES NUMBERED 1 AND 99, RESPECTIVELY; THE B SIDE ASSEMBLY (NO. 005-14829) MOUNTS SO THAT PINS B1 AND B99 OF SLOT 9 ARE IN HOLES NUMBERED 1 AND 99, RESPECTIVELY.

6-SLOT SINGLE BUS AND DUAL BUS CONFIGURATIONS EXPANSION CHASSIS



NOTE:
6-SLOT SINGLE BUS CONFIGURATIONS
DO NOT INCLUDE UPPER TERMINATORS.

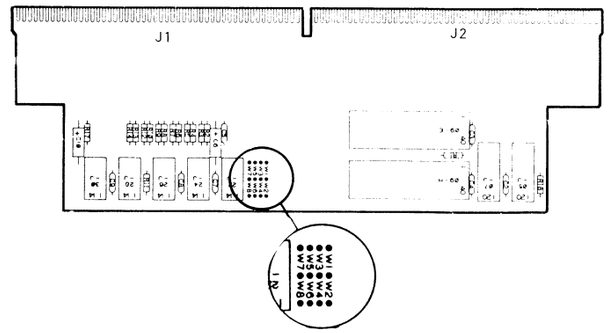
JUMPERING

THE DUAL I/O & SBUS CABLE HAS ADDRESS JUMPERS LOCATED ON THE PADDLEBOARD. THE ALLOWABLE ADDRESSES FOR THE CABLE ARE ONLY 1 - 14 (1 - 16 OCTAL). IF YOU HAVE MORE THAN ONE EXPANSION CHASSIS IN USE, EACH CABLE MUST HAVE A DIFFERENT ADDRESS. CABLE ADDRESSES DO NOT HAVE TO GO IN ORDER, THEY JUST HAVE TO BE DIFFERENT. (I.E., CHASSIS #1 ADDRESS 13, CHASSIS #2 ADDRESS 4, CHASSIS #3 ADDRESS 6, ETC.)

A JUMPER IN AN EVEN NUMBER IS A ONE, AND IN AN ODD NUMBER IS A ZERO. 7,8 IS MSB, 1,2 IS LSB. (I.E., CABLE ADDRESS 7 WOULD BE; 7, 6, 4, & 2.)

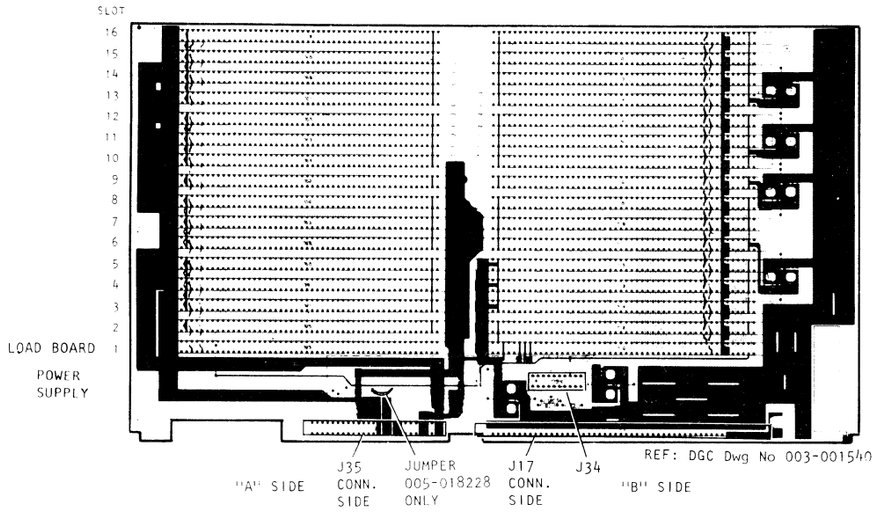
```
o o o o          EX.)  o o o o
7 5 3 1                1 5 3 1
o o o o                o o o o   CABLE   7
8 6 4 2                8 1 1 1   ADDRESS
o o o o                o o o o
```

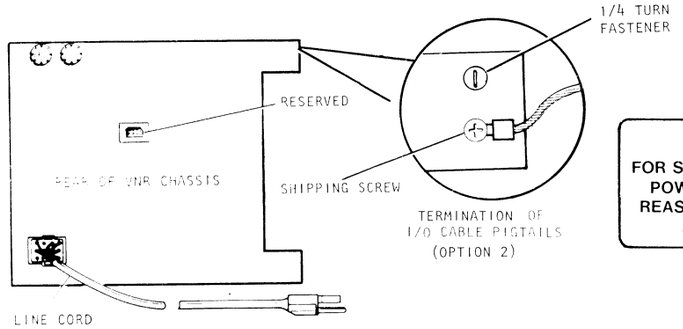
Ref DGC Dwg No 003-001641 Rev 02



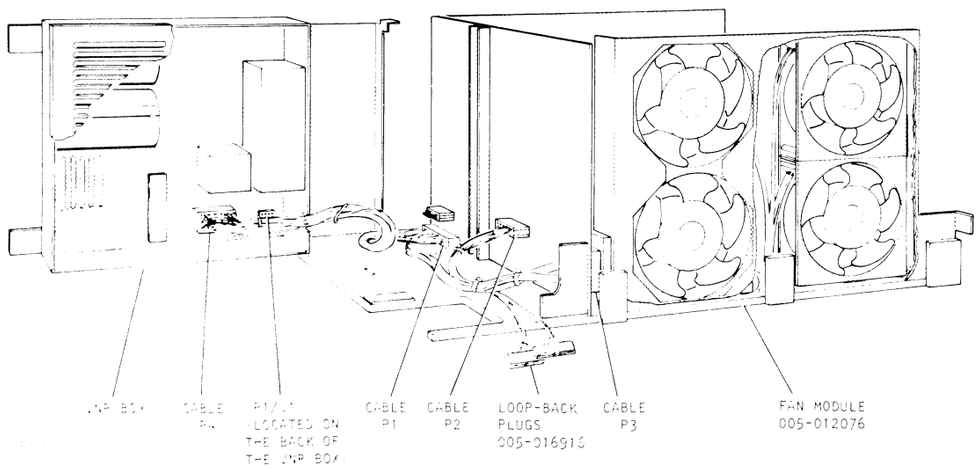
INTERNAL CABLING (CONT)

BACKPANEL CONNECTORS

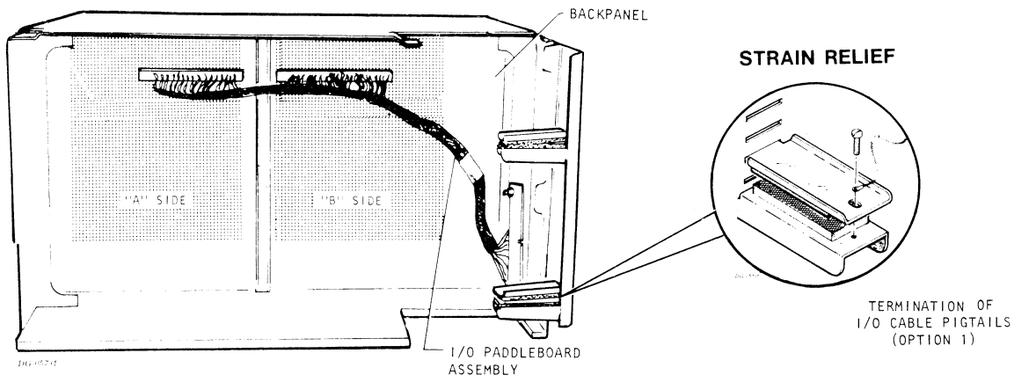


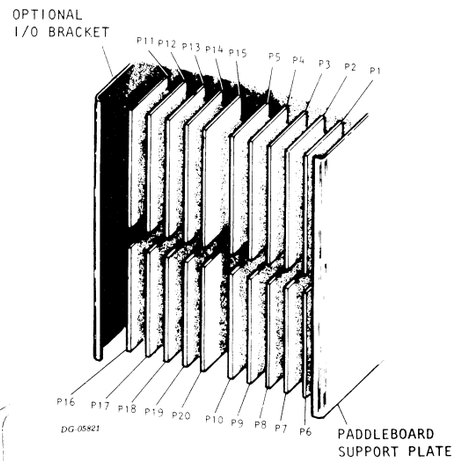


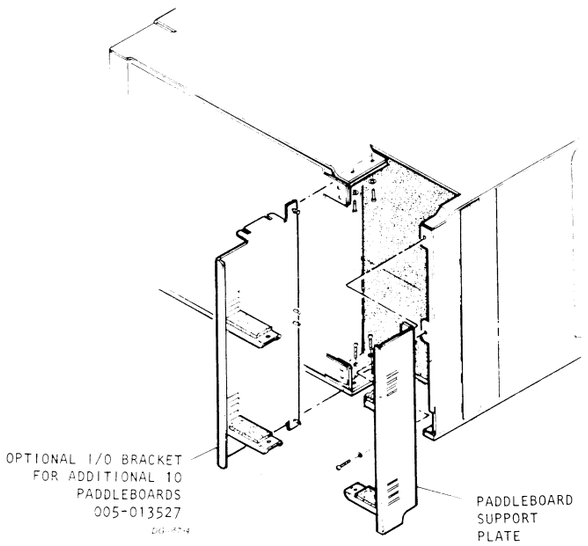
WARNING
FOR SERVICING DISCONNECT POWER, WAIT 5 MINUTES. REASSEMBLE UNIT BEFORE APPLYING POWER



PADDLEBOARD MOUNTING







MV/8000 EXPANSION CHASSIS, 9600 MODELS

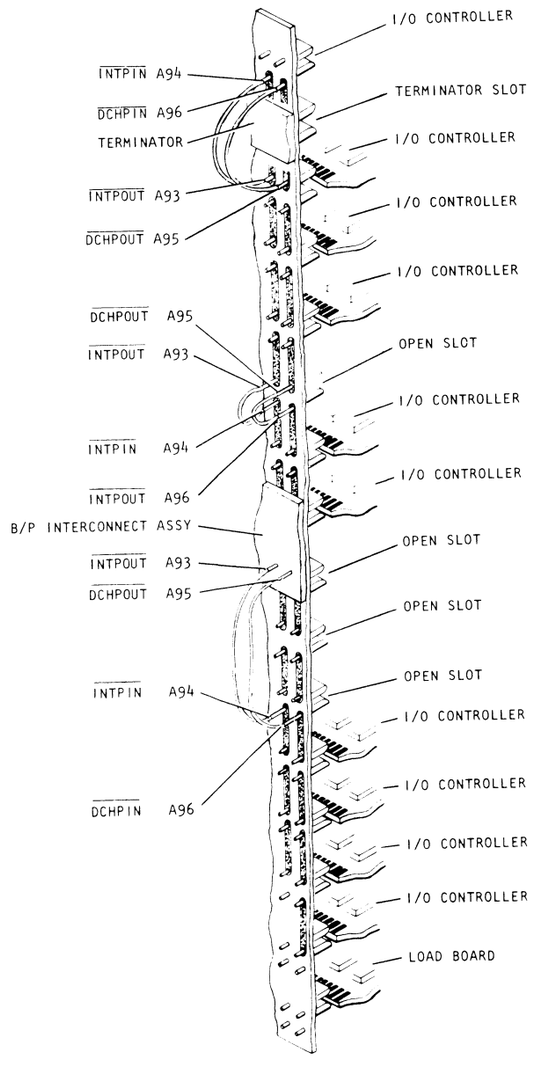
INTERNAL CABLING (CONT)

BACKPANEL JUMPERING

EACH GROUP OF OPEN (EMPTY, NON-TERMINATOR) SLOTS IN BETWEEN SLOTS CONTAINING BOARDS, MUST HAVE INTERRUPT AND DATA CHANNEL PRIORITY JUMPERS INSTALLED ACROSS THEM. IN ADDITION, IF A COMMUNICATIONS BOARD RESIDES IN A SLOT ABOVE A GROUP OF OPEN SLOTS, COMMUNICATIONS INTERRUPT PRIORITY JUMPERS MUST ALSO BE INSTALLED. IN DUAL BUS CONFIGURATIONS, ONLY GROUPS OF OPEN SLOTS BETWEEN FULL SLOTS ON THE SAME BUS MUST BE JUMPERED.

NOTE: WHEN USING SLOT 16 OF THE EXPANSION CHASSIS, THE FOLLOWING WIRE-WRAPS MUST BE ADDED: SLOT 15 A93 - 15 A94, 15 A95 - 15 A96.

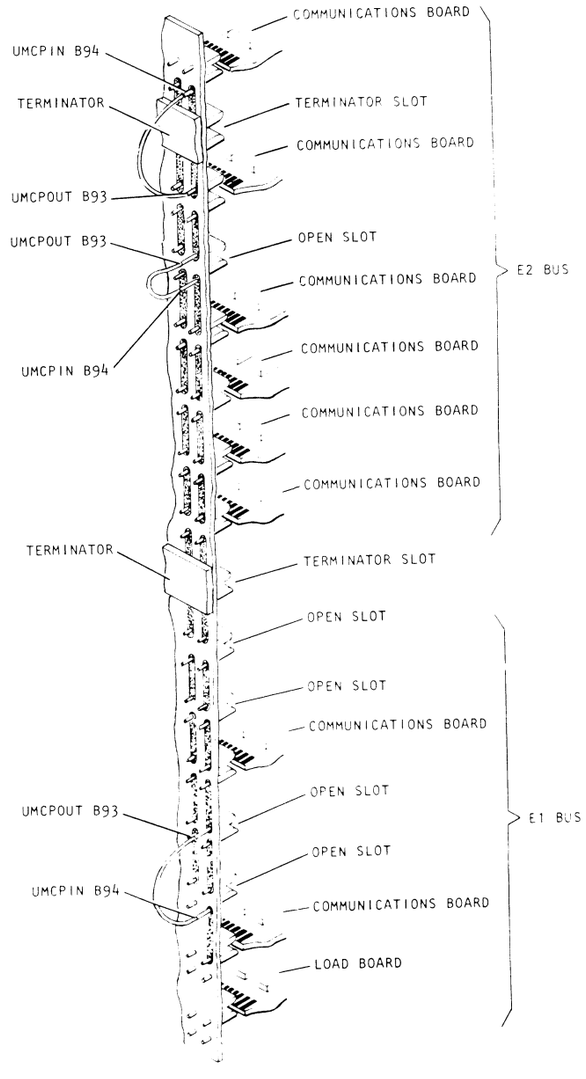
INTERRUPT AND DATA CHANNEL PRIORITY JUMPERING
(SINGLE REPEATED I/O BUS SHOWN)



INTERRUPT AND DATA CHANNEL INTERRUPT PRIORITY JUMPERS: JUMPER PINS A96 AND A94 OF THE LOWEST OPEN SLOT IN THE GROUP TO PINS A95 AND A93, RESPECTIVELY, OF THE HIGHEST OPEN SLOT IN THE GROUP. IF SLOT 16 IS USED, ENSURE DATA CHANNEL PRIORITY AND INTERRUPT PRIORITY AND PASSED AROUND THE TERMINATOR IN SLOT 15.

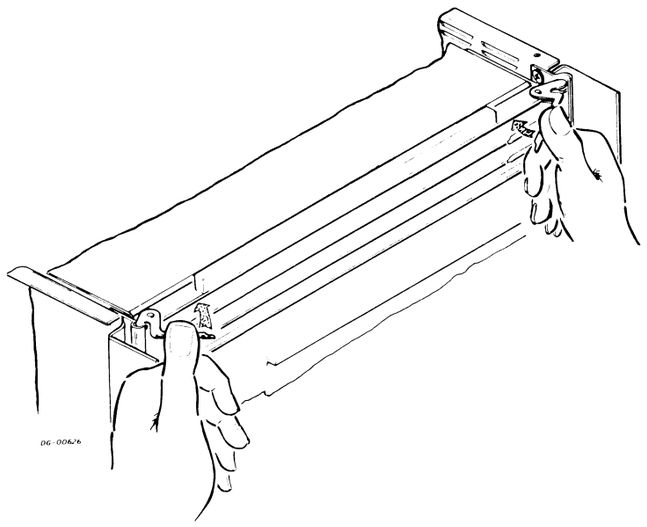
COMMUNICATIONS PRIORITY JUMPERS: JUMPER PIN B94 OF THE LOWEST OPEN SLOT IN THE GROUP TO PIN B93 OF THE HIGHEST OPEN SLOT IN THE GROUP. IF SLOT 16 IS USED, ENSURE COMMUNICATIONS PRIORITY IS PASSED AROUND THE TERMINATOR IN SLOT 15.

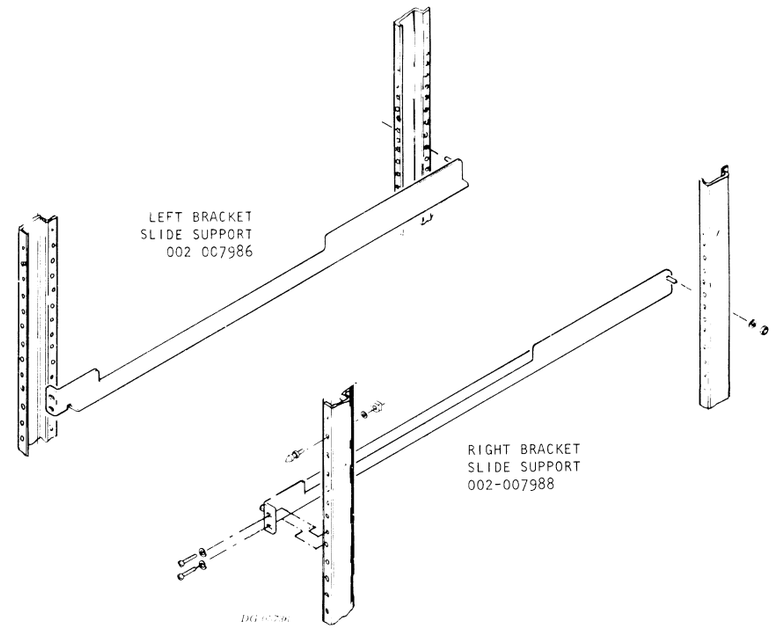
COMMUNICATIONS PRIORITY JUMPERING
(DUAL DCU-DCU I/O BUS SHOWN)



CABINET MOUNTING

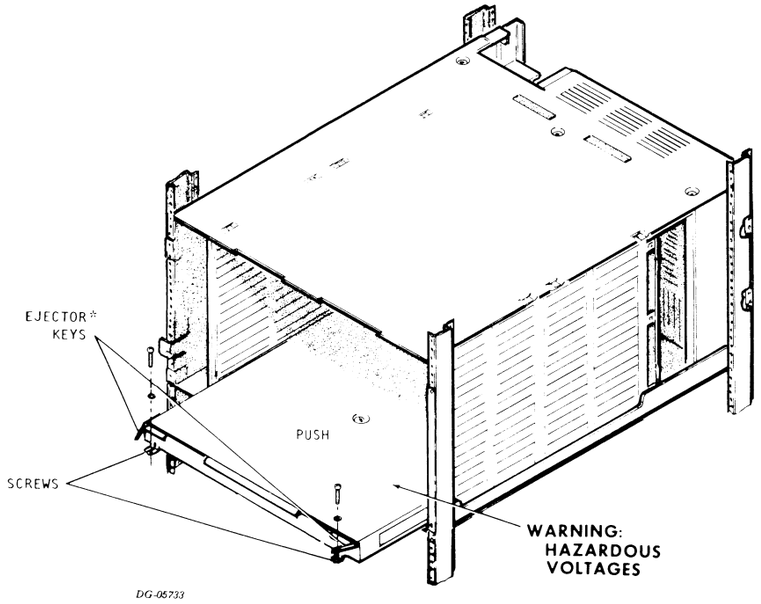
INSERTING PC BOARD



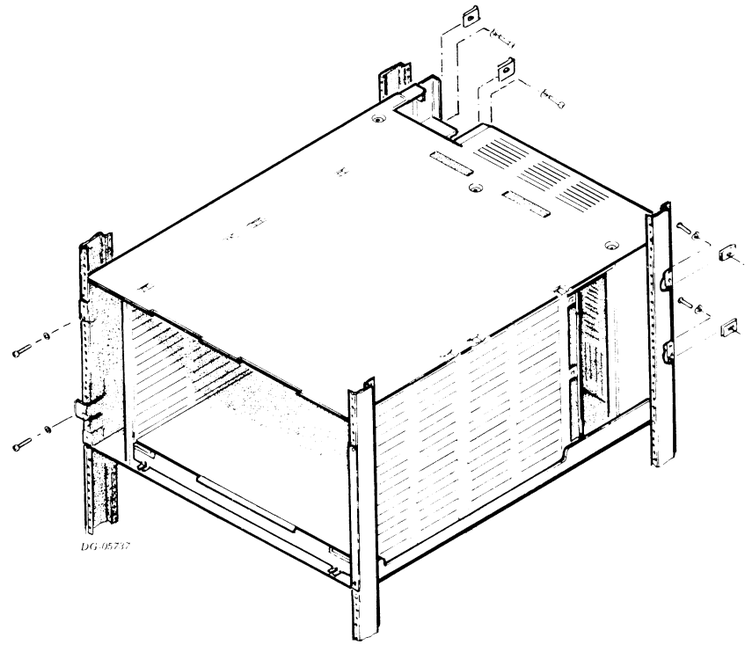


HARDWARE MOUNTING KIT
005-012068

INSERTING POWER SUPPLY PCB



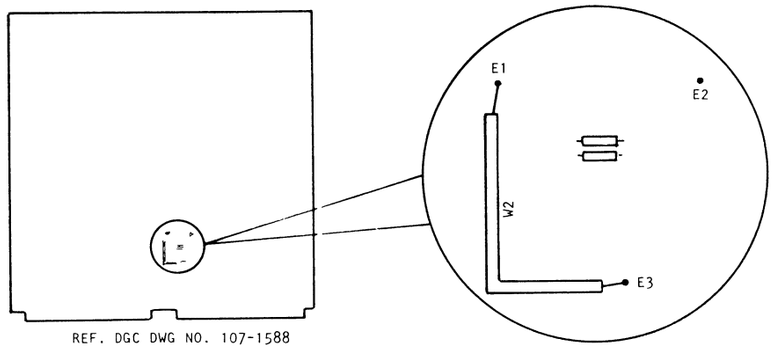
*USE EJECTOR KEYS ONLY FOR REMOVING THE POWER SUPPLY PCB. TO INSTALL THE PCB PUSH ON THE FRONT OF IT.



DC LOADING RULES

LOAD BOARD JUMPERING

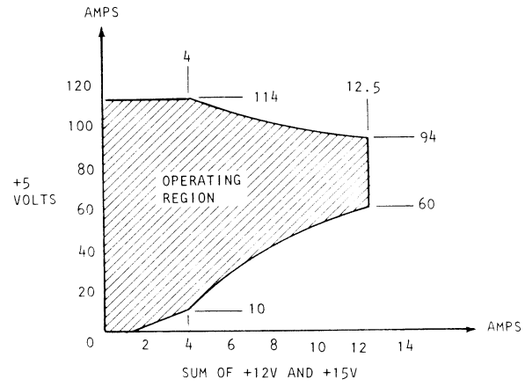
W2 MUST CONNECT E2 TO E3 UNLESS THE EXPANSION CHASSIS CONTAINS MORE THAN SEVEN 16-LINE COMMUNICATIONS BOARDS; IN THIS CASE, W2 MUST CONNECT E1 TO E3.



REF. DGC DWG NO. 107-1588

DC LOADING RULES FOR THE EXPANSION CHASSIS WITH THE LOAD BOARD

1. THE LOAD ON +15V MUST NOT EXCEED 1.5 AMPS.
2. THE SUM OF THE LOADS ON +12V AND +15V MUST NOT EXCEED 12.5 AMPS.
3. THE LOAD ON -5V MUST NOT EXCEED 3 AMPS WHEN THE LOAD BOARD JUMPER (W2) CONNECTS E2 TO E3 OR 6 AMPS WHEN W2 CONNECTS E1 TO E3.
4. THE LOADS MUST BE WITHIN THE OPERATING REGION SHOWN BELOW:



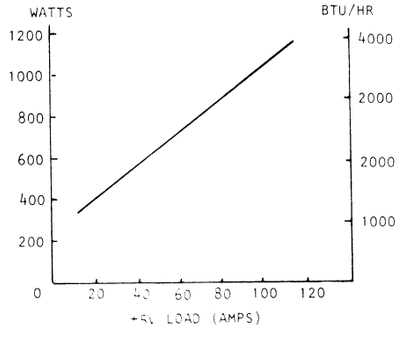
CAUTION:

DO NOT POWER UP THE SYSTEM WITHOUT A LOAD BOARD IN THE EXPANSION CHASSIS, SINCE POWERING UP THE EXPANSION CHASSIS WITHOUT A LOAD ON THE POWER SUPPLY WILL BLOW PICO FUSE F5 IN THE VNR UNIT.

+5V LOAD DISTRIBUTION WITH LOAD BOARD IN SLOT 1

GROUP OF SLOTS	MAXIMUM CURRENT (AMPS) FOR GROUP
1, 2	44
3, 4	44
5, 6, 7	44
8, 9, 10	44
11, 12, 13	44
14, 15, 16	44

POWER CONSUMPTION VS LOADING*

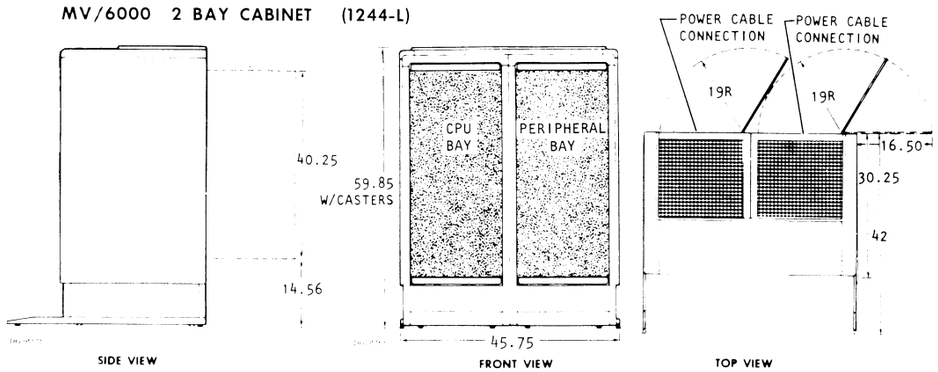


*THIS CHART IS A GUIDELINE TO THE ACTUAL HEAT OUTPUT OF A SPECIFIC SYSTEM.

INSTALLATION SPECIFICATIONS
MV/6000 SYSTEM

MV/6000 2-BAY CABINET (1244-L)
MV/6000 EXPANSION BAY (1244-LX)
MV/6000 3-BAY CABINET (1244-L AND -LX)

MV/6000 2 BAY CABINET (1244-L)



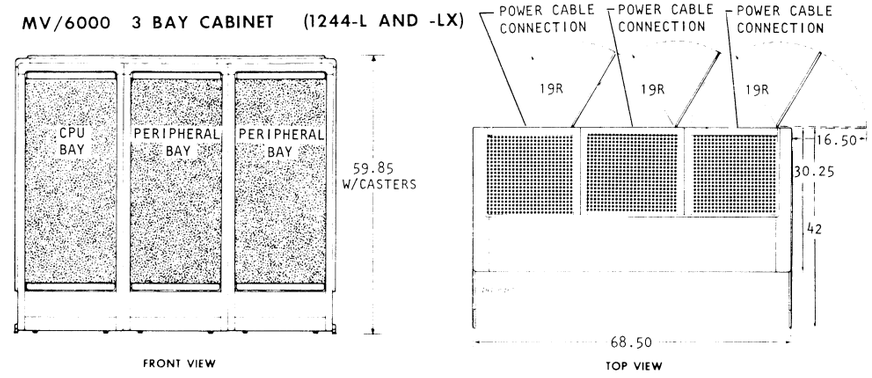
SIDE VIEW — FRONT VIEW — TOP VIEW

DIMENSIONS:	Width	Depth	Height
Millimeters	1162	1067	1520
Inches	45.75	42	59.85

WEIGHT:	Empty	Fully Loaded
Kilograms	168	728
Pounds	370	1600

SERVICE CLEARANCES:	Front	Rear	Right
Millimeters	762	762	762
Inches	30	30	30

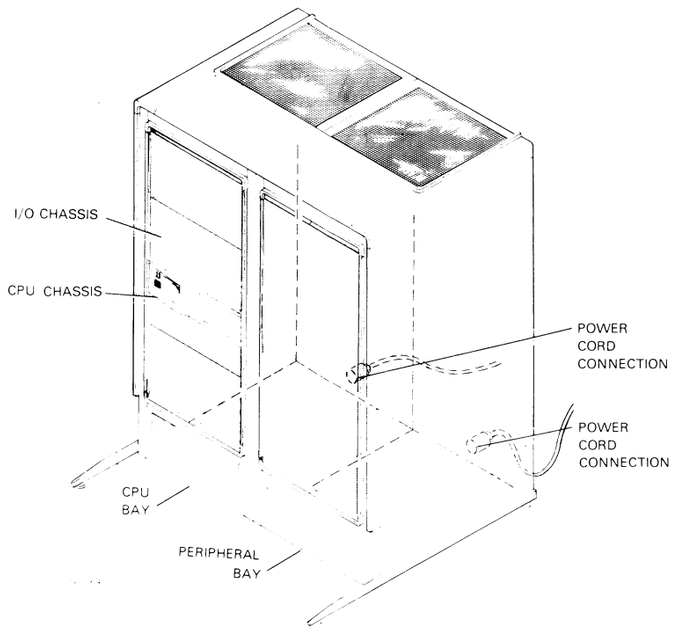
MV/6000 3 BAY CABINET (1244-L AND -LX)



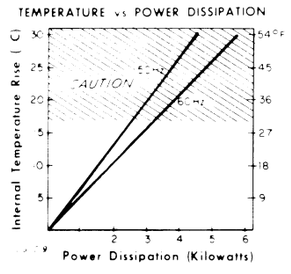
FRONT VIEW — TOP VIEW

DIMENSIONS:	Width	Depth	Height
Millimeters	1740	1067	1520
Inches	68.50	42	59.85

WEIGHT:	Empty	Fully Loaded
Kilograms	236	1092
Pounds	518	2400



0142/3 HIGH CAPACITY BLOWER



MV/6000 System Specifications

USABLE VERTICAL BACK SPACE PER BAY	Areas	Inches	cm
	25	43.75	111

OPERATING ENVIRONMENT: HEAT OUTPUT:	Watts	BTU/hr
CPU bay:	2420	8252
Temperature (max)		
Inlet Air to each Bay:	32.2°C	(90°F
Relative Humidity	30% to 70%	
Altitude	2438 m	8000 ft

COOLING UNIT (Per Bay):	HIGH CAPACITY 0143
(Domestic)	
Volts	115
Hz	50/60
Watts	220
Amp	2.5
(Export)	
Volts	220/240
Hz	50/60
Watts	220
Amp	1.2

CPU DESIGNATOR:
Designator Number: 225
Designator Range: 22-22

POWER REQUIREMENTS:
1 power line for each bay. Each line is as follows:

(Domestic)	
Voltage	2 CKT 120V
Hz	60 ± 1%
Amp per Phase	20/CKT
Phase	2
(Export)	
Voltage	220/240
Hz	50 ± 1%
Amp per Phase	15
Phase	1

CABLES:	Domestic (supplied)	Export (not supplied)
Primary Power		
Connector	L14-30R	L6-15R

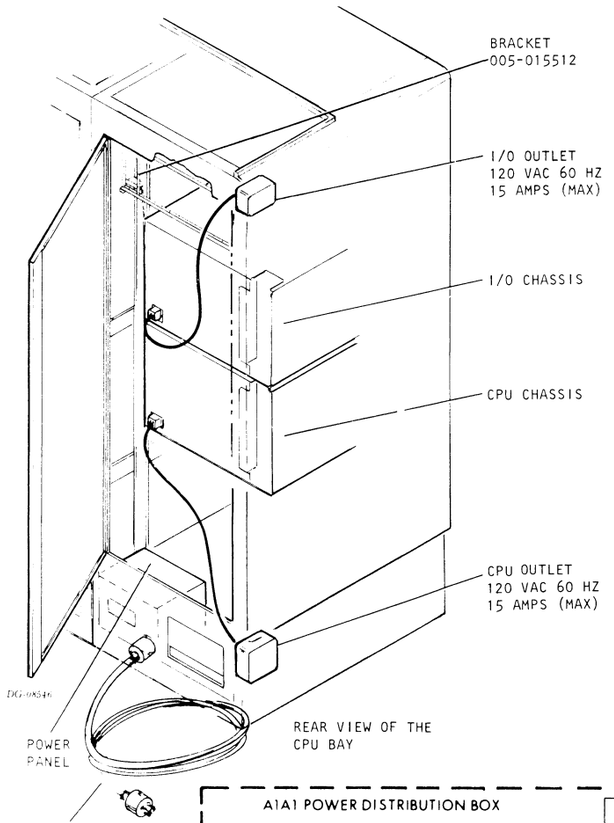
POWER AVAILABLE:

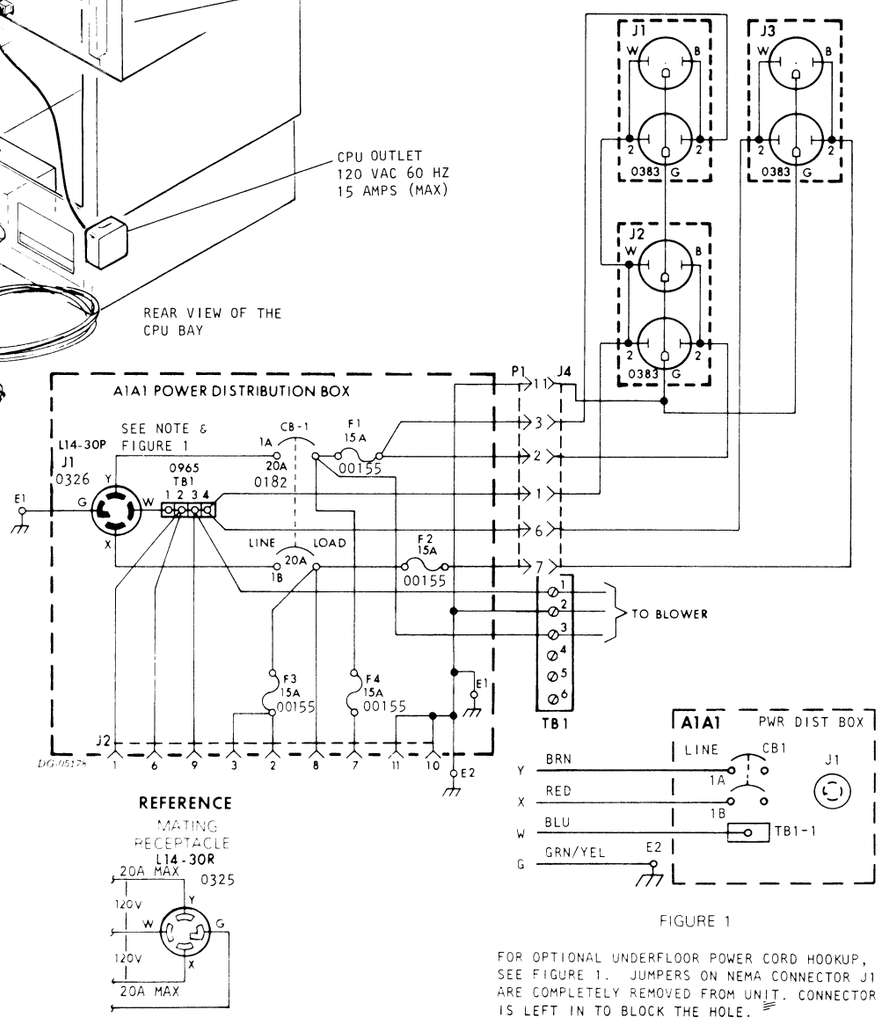
CPU Bay:	None	
Each Peripheral Bay:		
Internal Receptacles	Each	Total (All bays, All recpt)
Domestic 120V	15	30
Export 220/240	15	13.8

NOTES:
1. FOR FURTHER INFORMATION ABOUT CABINETS, SEE 010-204.
2. THE 1244 CABINETS ARE IDENTICAL, EXCEPT IN COLOR, TO THE 1144 CABINETS DESCRIBED IN 010-204.
3. EACH BAY HAS ITS OWN POWER LINE.
4. EACH BAY IS EQUIPPED WITH A HIGH CAPACITY BLOWER.

INTERNAL CABLING

DOMESTIC





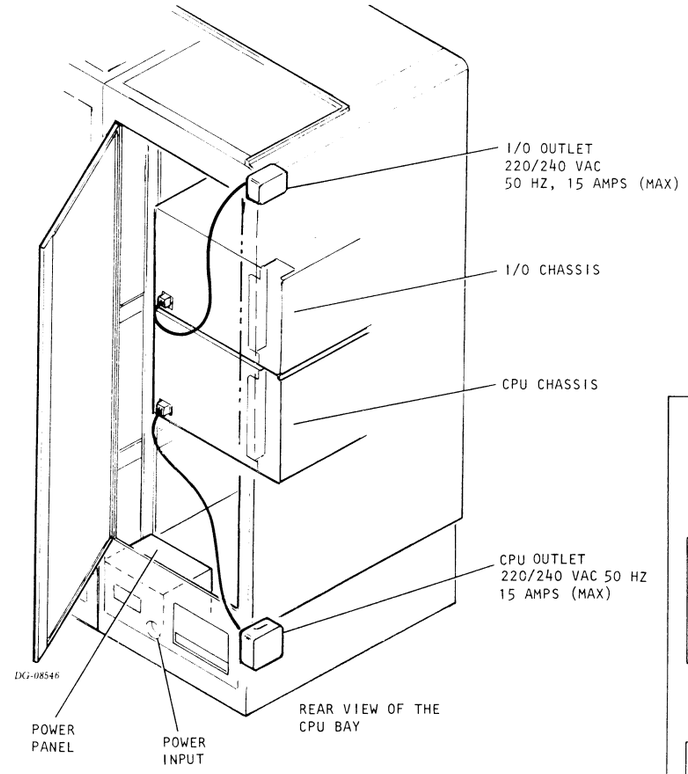
REFERENCE

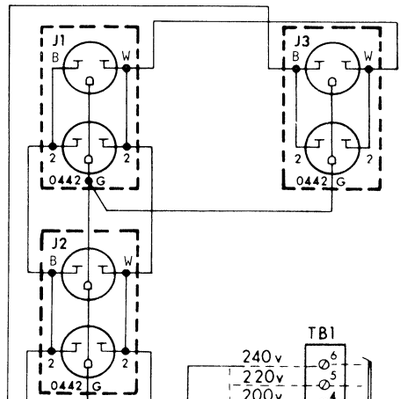
MATING
RECEPTACLE
L14-30R

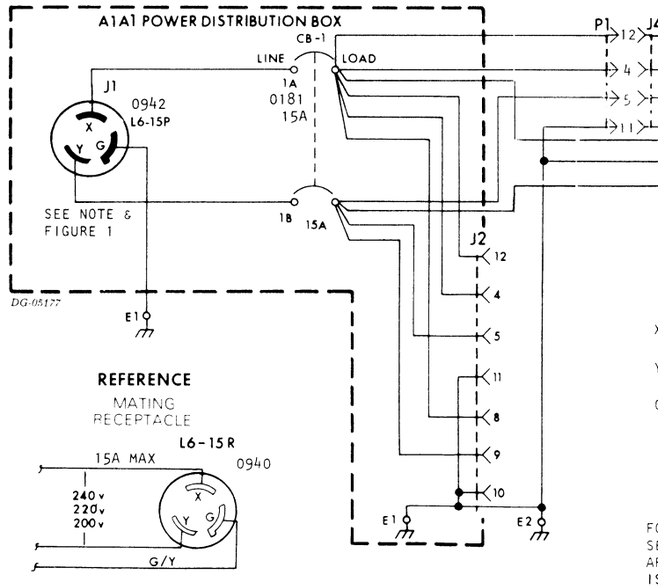
FIGURE 1

FOR OPTIONAL UNDERFLOOR POWER CORD HOOKUP, SEE FIGURE 1. JUMPERS ON NEMA CONNECTOR J1 ARE COMPLETELY REMOVED FROM UNIT. CONNECTOR IS LEFT IN TO BLOCK THE HOLE.

EXPORT







REFERENCE

MATING
RECEPTACLE
L6-15R

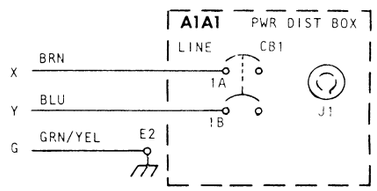
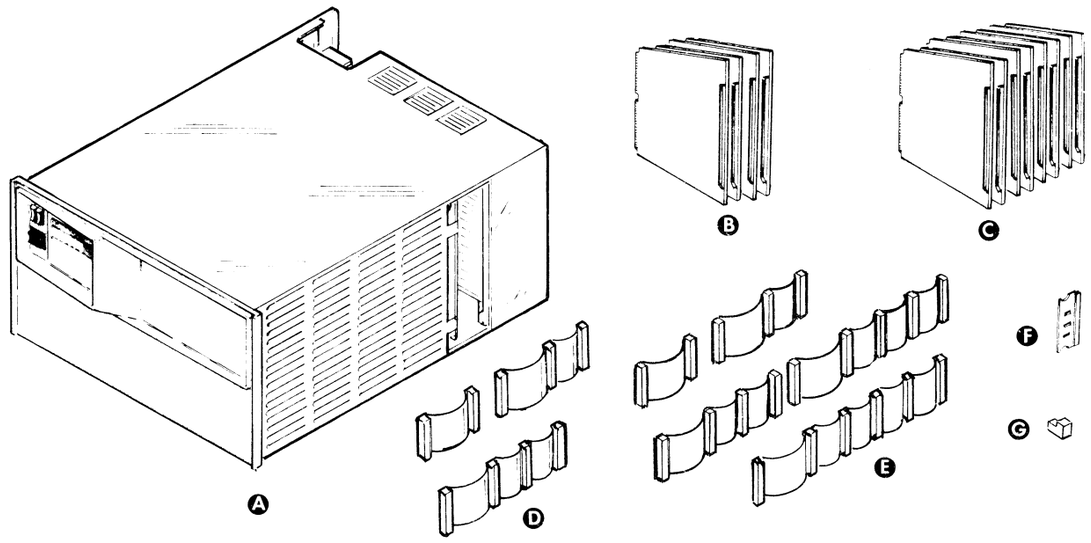


FIGURE 1

FOR OPTIONAL UNDERFLOOR POWER CORD HOOKUP, SEE FIGURE 1. JUMPERS ON NEMA CONNECTOR J1 ARE COMPLETELY REMOVED FROM UNIT. CONNECTOR IS LEFT IN TO BLOCK THE HOLE.

SUBSYSTEM COMPONENT BREAKDOWN

MV/6000 CPU CHASSIS



MAJOR COMPONENT

Item	Component	Mounting Location	Notes
A	CPU CHASSIS	CABINET	
B	MEMORY BOARDS	CPU CHASSIS	4 BOARDS MAX; 256K OR 512K PER BOARD
C	PROCESSOR BOARDS	CPU CHASSIS	8 BOARDS = BC, MICRO, ALU, IP, ATU, CACHE, SCP, IOC

CABLE

Item	Cable	Connecting	Max Lgth ft / m	Notes
D	INTERBOARD	CPU CHASSIS		7 FOR BETWEEN PROCESSOR BOARDS
E	BMC	BMC AND CONTROLLERS		2 REQUIRED; SIZE DEPENDS ON # OF CONTROLLERS

TERMINATOR

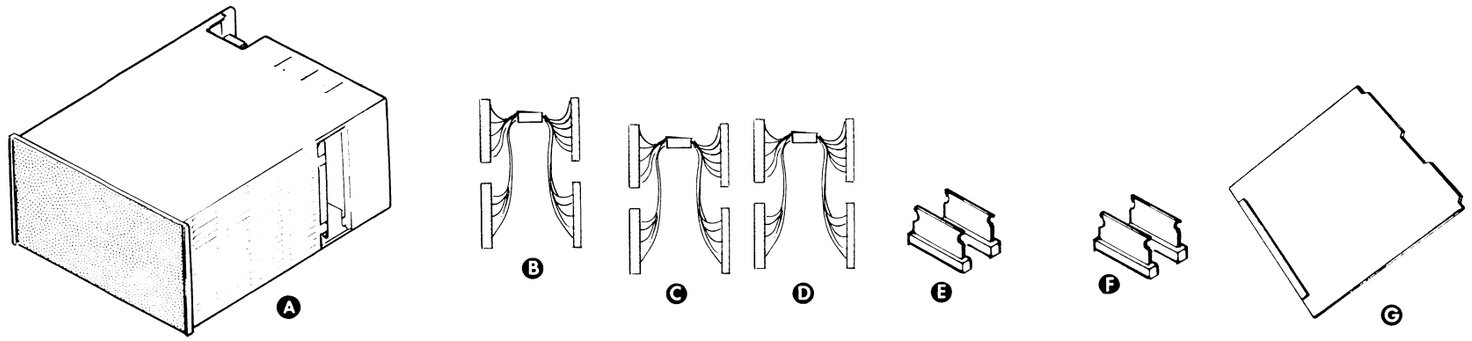
Item	Terminator	Location	Notes
F	BUS TERMINATORS	CPU CHASSIS	6 REQUIRED
G	SYS CLK TERMINATOR	CPU CHASSIS	3 REQUIRED

WARNING

THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY ENERGY AND IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTION MANUAL, MAY CAUSE INTERFERENCE TO RADIO COMMUNICATIONS. AS TEMPORARILY PERMITTED BY REGULATION IT HAS NOT BEEN TESTED FOR COMPLIANCE WITH THE LIMITS FOR CLASS A COMPUTING DEVICES PURSUANT TO SUBPART J OF PART 15 OF FCC RULES, WHICH ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST SUCH INTERFERENCE. OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA IS LIKELY TO CAUSE INTERFERENCE IN WHICH CASE THE USER AT HIS OWN EXPENSE WILL BE REQUIRED TO TAKE WHATEVER MEASURES MAY BE REQUIRED TO CORRECT THE INTERFERENCE.

SUBSYSTEM COMPONENTS BREAKDOWN

MV/6000 I/O CHASSIS



MAJOR COMPONENT

Item	Component	Mounting Location	Notes
A	MV/6000 I/O CHASSIS	CABINET	MOUNT DIRECTLY ABOVE MV/6000 CPU CHASSIS

CABLE

Item	Cable	Connecting	Notes
B	I/O CABLE	CPU CHASSIS AND I/O CHASSIS	
C	DCU CABLE	DCU TO E2 I/O BUS	
D	BUS REPEATER CABLE	BUS REPEATER TO E2 I/O BUS	

TERMINATOR

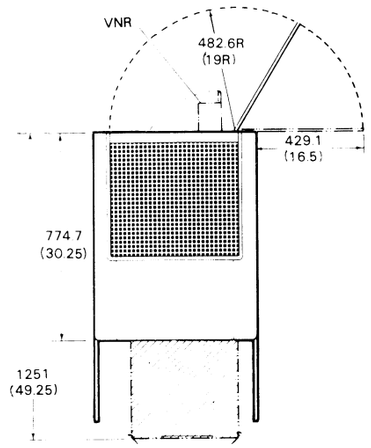
Item	Terminator	Location	Notes
E, F	I/O BUS TERMINATORS	I/O CHASSIS	(2 REQUIRED) 4 USED WHEN THE E2 I/O BUS IS CONFIGURED F IS OPTIONAL
G	LOAD BOARD	I/O CHASSIS SLOT 1	REQUIRED.

WARNING

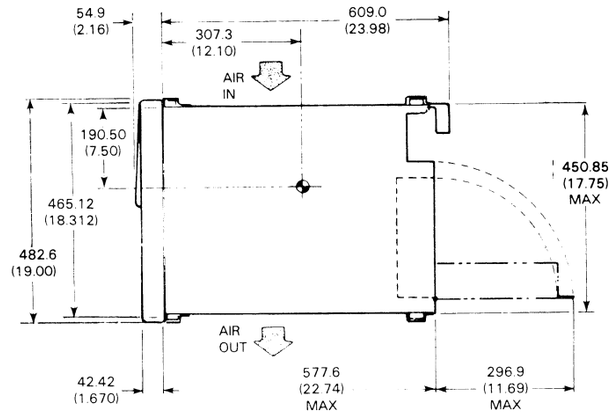
THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY ENERGY AND IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTION MANUAL, MAY CAUSE INTERFERENCE TO RADIO COMMUNICATIONS. AS TEMPORARILY PERMITTED BY REGULATION, IT HAS NOT BEEN TESTED FOR COMPLIANCE WITH THE LIMITS FOR CLASS A COMPUTING DEVICES PURSUANT TO SUBPART J OF PART 15 OF FCC RULES, WHICH ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST SUCH INTERFERENCE. OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA IS LIKELY TO CAUSE INTERFERENCE IN WHICH CASE THE USER AT HIS OWN EXPENSE WILL BE REQUIRED TO TAKE WHATEVER MEASURES MAY BE REQUIRED TO CORRECT THE INTERFERENCE.

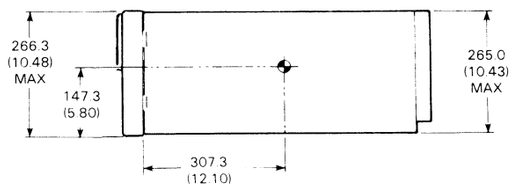
INSTALLATION SPECIFICATIONS

MV/6000 CPU CHASSIS



SERVICE DIMENSIONS





DIMENSIONS IN MILLIMETERS
INCHES IN PARENTHESES FOR REFERENCE

DG 05818

	DATA CHANNEL SPEEDS AVAILABLE:	STANDARD ☐ HIGH SPEED ☑	
SLOT	ALLOWED (SLOT CHART)	ASSIGNED	+5V CURRENT DRAW
16	RESERVED		
15	RESERVED		
14	RESERVED		
13	CABLE TO I/O CHASSIS		
12	I/O CHANNEL		
11	SYSTEM CONTROL PROCESSOR		
10	SYSTEM CACHE		
9	ADDRESS TRANSLATION UNIT		
8	INSTRUCTION PROCESSOR		
7	ARITHMETIC LOGIC UNIT		
6	MICROSEQUENCER		
5	BANK CONTROLLER		
4	MEMORY		
3	MEMORY		
2	MEMORY (NOTE 1)		
1	MEMORY (NOTE 1)		
0	POWER SUPPLY		
	TOTAL +5V CURRENT DRAW	118 A	
	MAX +5V CURRENT AVAILABLE	118 A	
	+5V CURRENT SURPLUS	0	

NOTE 1: SLOTS 1 AND 2 ARE RESERVED WHEN USING 1 AND 2 MB MODULES.

SPECIFICATIONS MV/6000 CPU CHASSIS

DIMENSIONS:	Width	Depth	Height
Millimeters	482.6	663.9	266.3
Inches	19.00	26.14	10.48

SERVICE CLEARANCES:	Front	Rear
Millimeters	508.0	269.9
Inches	20.0	11.69

WEIGHT:	Empty	Fully Loaded
Kilograms	35.38	49.9
Pounds	78.0	110.0

HEAT OUTPUT:	Watts	BTU/hr
	1100	3750

STORAGE SPECIFICATIONS

Temperature	-40 - +65°C	-40 - 149°F
Relative Humidity	10 - 90	

POWER REQUIREMENTS:

(Domestic)	
Voltage	120 + 10 -15%
Hz	60±1%
Amp per Phase	12.0
Phase	1
Startup Surge per Phase	20 A (max) for 0.25 seconds
(Export)	
Voltage	220/240 + 10 - 15%
Hz	50/60±1%
Amp per Phase	7.0
Phase	1
Startup Surge per Phase	40 A (max) for 0.12 seconds

CABLES: Primary Power	Length	Conn	Mating Conn
Domestic 60Hz	1.8 m (6 ft)	5-15P	5-15R
Export 50Hz	1.8 m (6 ft)	6-15P	6-15R

LINE CORDS	Supply	Part No.
	120V	109-455
	220/240V	109-456

FOR PACKING PROCEDURE, SEE 010-000262/263

INSTALLATION SPECIFICATIONS

MV/6000 I/O CHASSIS

DATA CHANNEL SPEEDS AVAILABLE: STANDARD ☐ HIGH SPEED ☒

SLOT	ALLOWED (SLOT CHART)	ASSIGNED	CURRENT DRAW * +5V	+12V	-5V
16	I/O (E2 BUS-NOTE 1)				
15	TERMINATORS (NOTE 3)				
14	I/O (E2 BUS-NOTE 1)				
13	↕				
12					
11					
10	I/O (E2 BUS - NOTE 1)				
9	CABLE FOR E2 BUS				
8	TERMINATORS				
7	I/O (E1 BUS-NOTE 2)				
6	↕				
5					
4					
3					
2	I/O (E1 BUS-NOTE 2)				
1	LOAD BOARD		6 A		
0	POWER SUPPLY				

TOTAL - 5 CURRENT DRAW ____ A — TOTAL +12 CURRENT DRAW ____ A — TOTAL -5 CURRENT DRAW ____ A

MAX - 5 CURRENT AVAILABLE 100 A — MAX +12 CURRENT AVAILABLE 8 A — MAX -5 CURRENT AVAILABLE 6 A

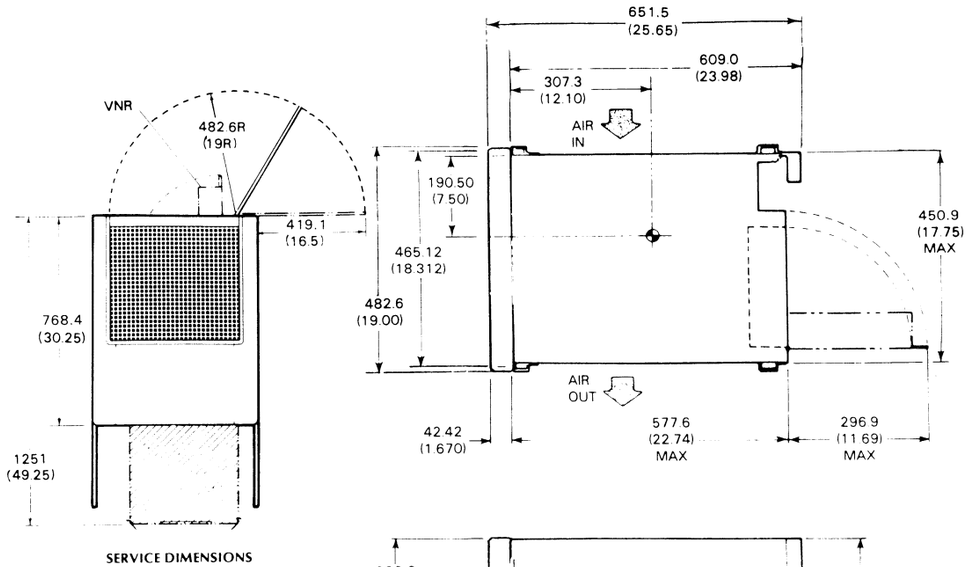
- 5 CURRENT SURPLUS ____ A — +12 CURRENT SURPLUS ____ A — -5 CURRENT SURPLUS ____ A

MINIMUM - 5 CURRENT 8 A — MINIMUM +12 CURRENT ____ A — MINIMUM -5 CURRENT ____ A

* REFER TO LOAD BALANCING, (PG 17, THIS IDS) FOR DETAILED LOAD BALANCING RULES.

NOTES

1. THE E2 BUS IS OPTIONALLY DRIVEN WITH EITHER A BUS REPEATER OR A DCU PLUGGED INTO AN E1 SLOT
2. THE E1 BUS IS THE CPU I/O BUS
3. THE TERMINATORS IN SLOT 15 ARE ONLY NECESSARY WHEN THE E2 BUS IS CONFIGURED.



SERVICE DIMENSIONS

DIMENSIONS IN MILLIMETERS
INCHES IN PARENTHESES FOR REFERENCE

DG-05848

SPECIFICATIONS: MV/6000 I/O CHASSIS

DIMENSIONS:	Width	Depth	Height
Millimeters	482.6	651.5	266.2
Inches	19.0	25.65	10.48

SERVICE CLEARANCES:	Front	Rear
Millimeters	482.6	296.9
Inches	19.0	11.69

WEIGHT:	Empty	Fully Loaded
Kilograms	35.38	49.9
Pounds	78.0	110.0

CABLES: Primary Power	Length	Conn	Mating Conn
Domestic	1.8m(6')	5-15P	5-15R
Export	1.8m(6')	6-15P	6-15R

POWER REQUIREMENTS:

(Domestic)	
Voltage	120 + 10 -15%
Hz	60 ± 1%
Amp per Phase	12.0
Phase	1
Startup Surge per Phase	20 A (max) for 0.25 seconds

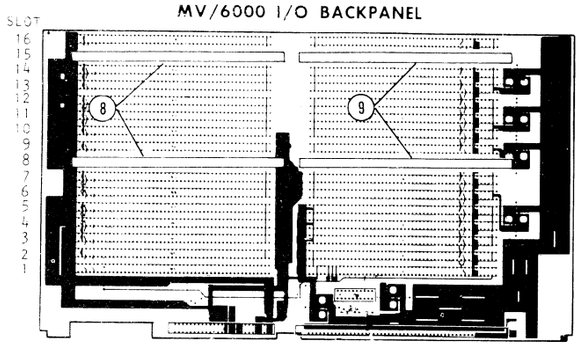
(Export)	
Voltage	220/240 + 10 - 15%
Hz	50/60 ± 1%
Amp per Phase	7.0
Phase	1
Startup Surge per Phase	40 A (max) for 0.12 seconds

LINE CORDS	Supply	Part No.
	120V	109-455
	220/240V	109-456

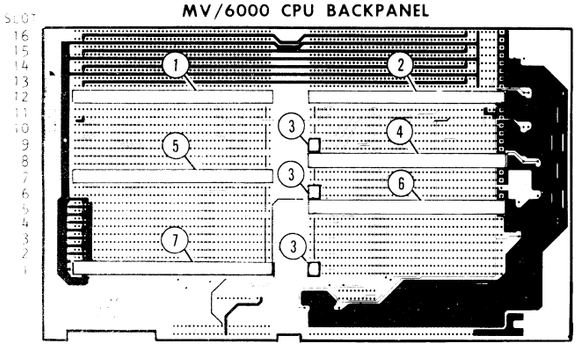
INTERNAL CABLING

TERMINATORS

MV/6000 I/O BACKPANEL

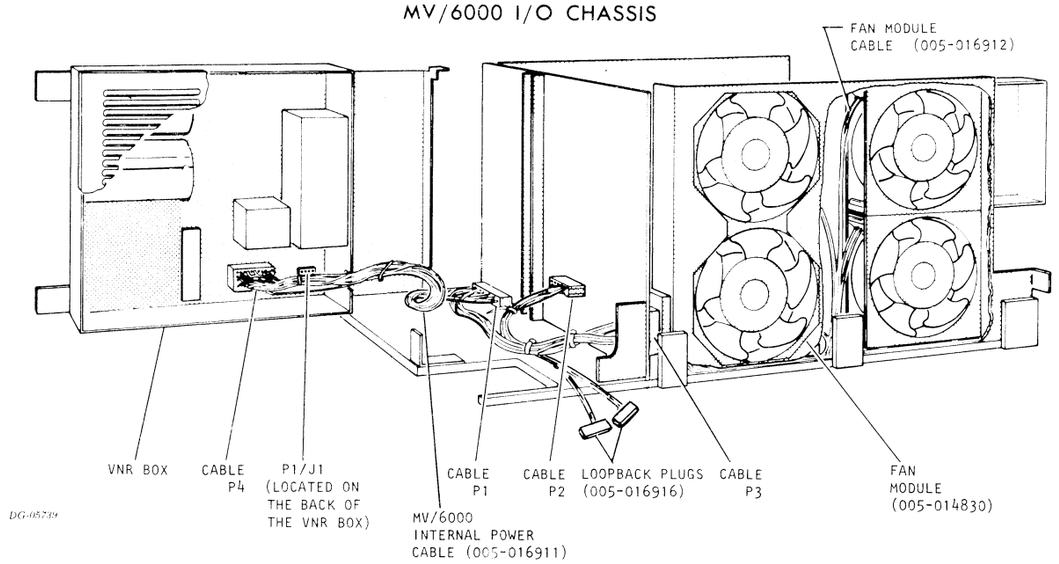


MV/6000 CPU BACKPANEL

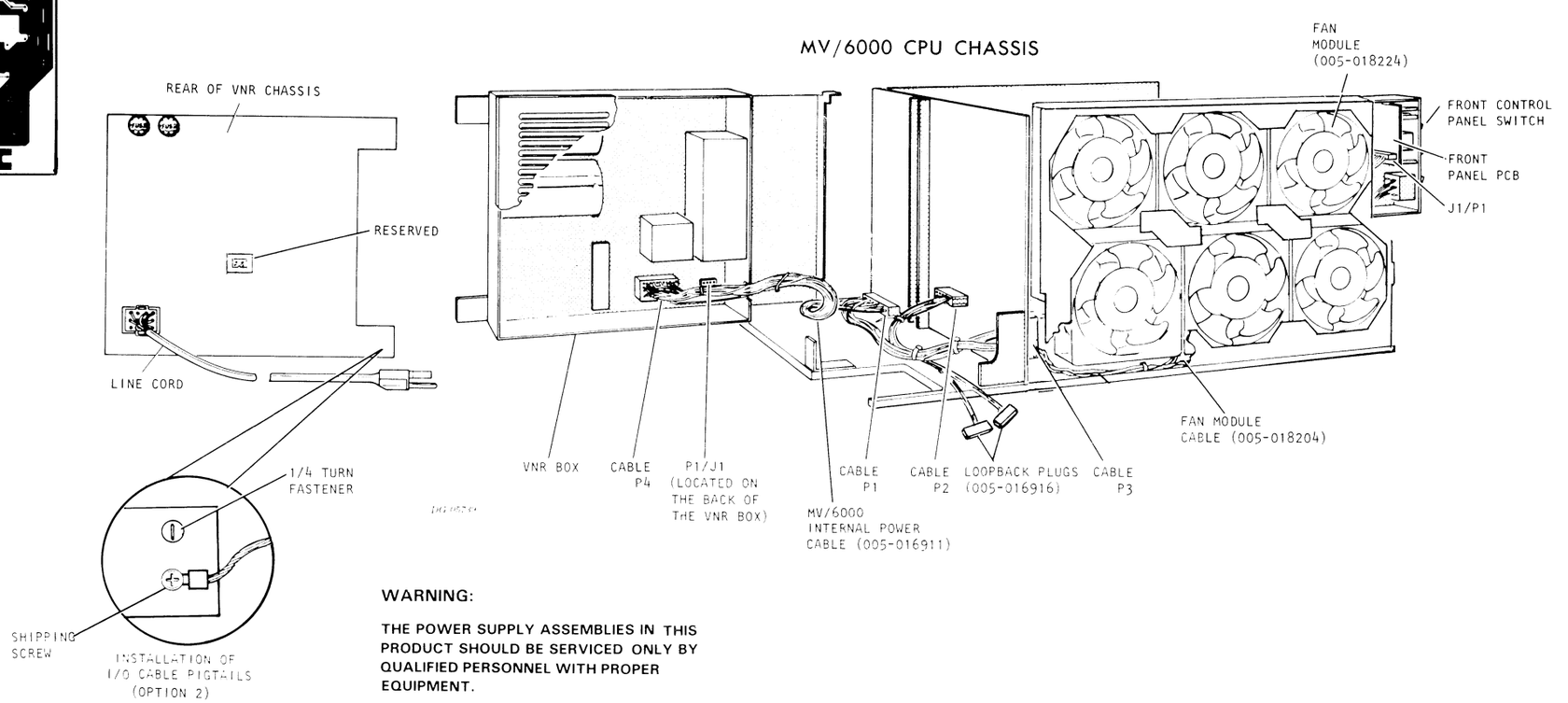


TERMINATION		
1	I/O PORT A	005-014297
2	I/O PORT B	005-014299
3	SYSCLK	005-014291
4	PROC PORT B	005-014295
5	PROC PORT A	005-014293
6	MEM B	005-014289
7	MEM A	005-014301
8	I/O BUS A	005-019992
9	I/O BUS B	005-019993

MV/6000 I/O CHASSIS



MV/6000 CPU CHASSIS

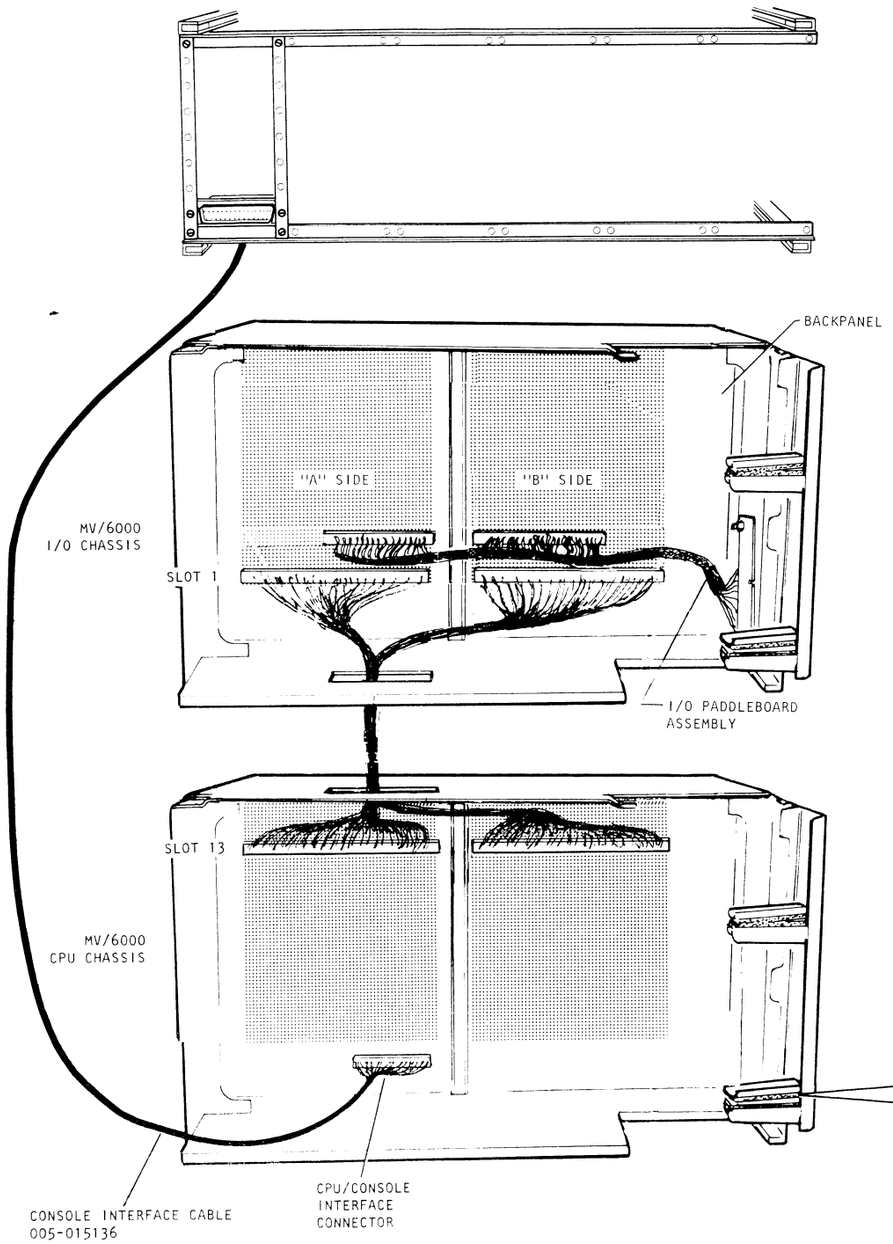


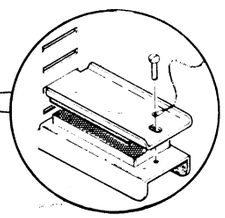
WARNING:

THE POWER SUPPLY ASSEMBLIES IN THIS PRODUCT SHOULD BE SERVICED ONLY BY QUALIFIED PERSONNEL WITH PROPER EQUIPMENT.

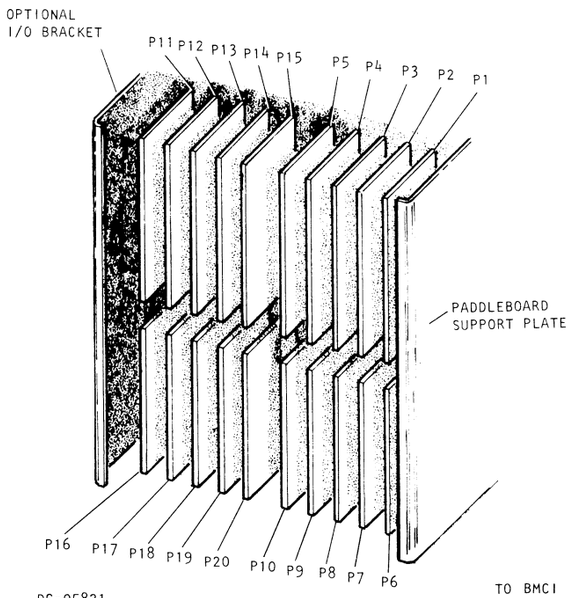
INTERNAL CABLING

BACKPANEL CONNECTORS





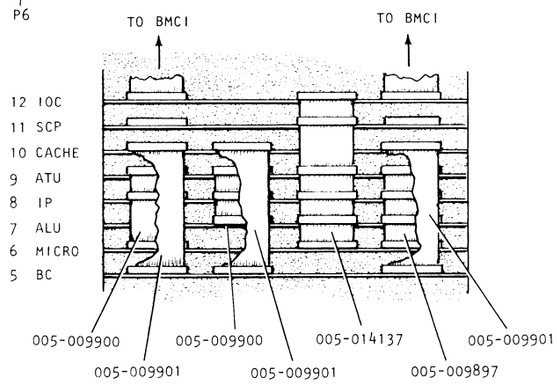
INSTALLATION OF
I/O CABLE PIGTAILS
(OPTION 1)



DG-05821

MV/6000 PADDLE BOARDS

005-012472	GENERAL PURPOSE I/O
005-018230	DCU/200 (DRIVING E2 BUS)
005-017451	BUS REPEATER (DRIVING E2 BUS)
005-012585	MCA MODEL 4206



BMC INTERNAL CABLES -- CONNECT THE IOC WITH BMC DEVICES

1 BMC DEVICE	005-012860
2 BMC DEVICES	005-012858
3 BMC DEVICES	005-012859
4 BMC DEVICES	005-012857
5 BMC DEVICES	005-017669

BMC DEVICE CONTROLLERS MUST BE PLACED IN SLOT 2 THROUGH 6 OF THE I/O CHASSIS.

INTERNAL CABLING (CONT)

BACKPANEL JUMPERING

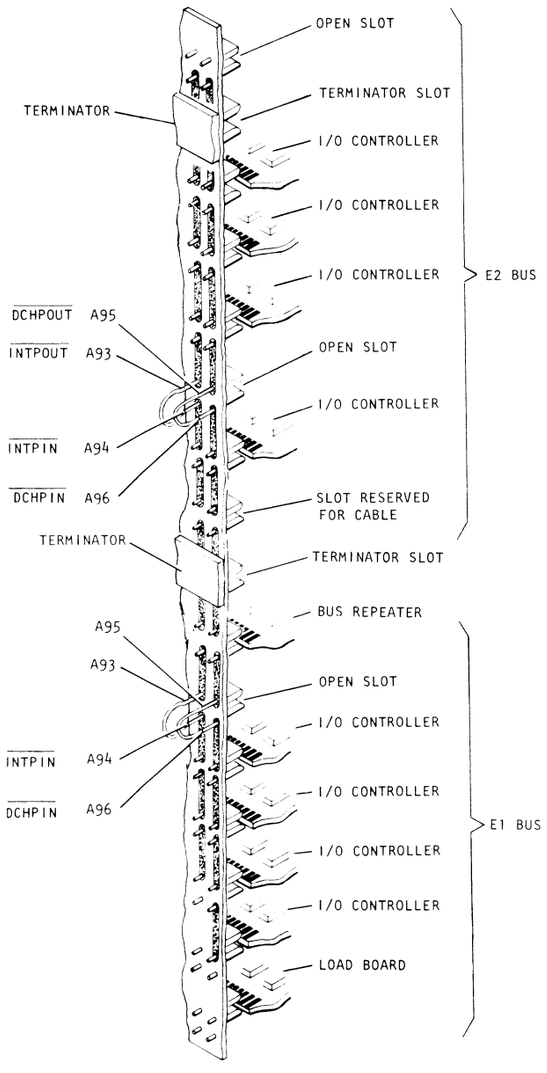
EACH GROUP OF OPEN (EMPTY), SLOTS IN BETWEEN SLOTS CONTAINING BOARDS, MUST HAVE INTERRUPT AND DATA CHANNEL PRIORITY JUMPERS INSTALLED ACROSS THEM. IN ADDITION, IF A COMMUNICATIONS BOARD RESIDES IN A SLOT ABOVE A GROUP OF OPEN SLOTS, COMMUNICATIONS INTERRUPTS PRIORITY JUMPERS MUST ALSO BE INSTALLED. ONLY GROUPS OF OPEN SLOTS BETWEEN FULL SLOTS ON THE SAME BUS MUST BE JUMPERED.

INTERRUPT AND DATA CHANNEL PRIORITY JUMPERS: JUMPER PINS A96 AND A94 OF THE LOWEST OPEN SLOT IN THE GROUP TO PINS A95 AND A93, RESPECTIVELY, OF THE HIGHEST OPEN SLOT IN THE GROUP.

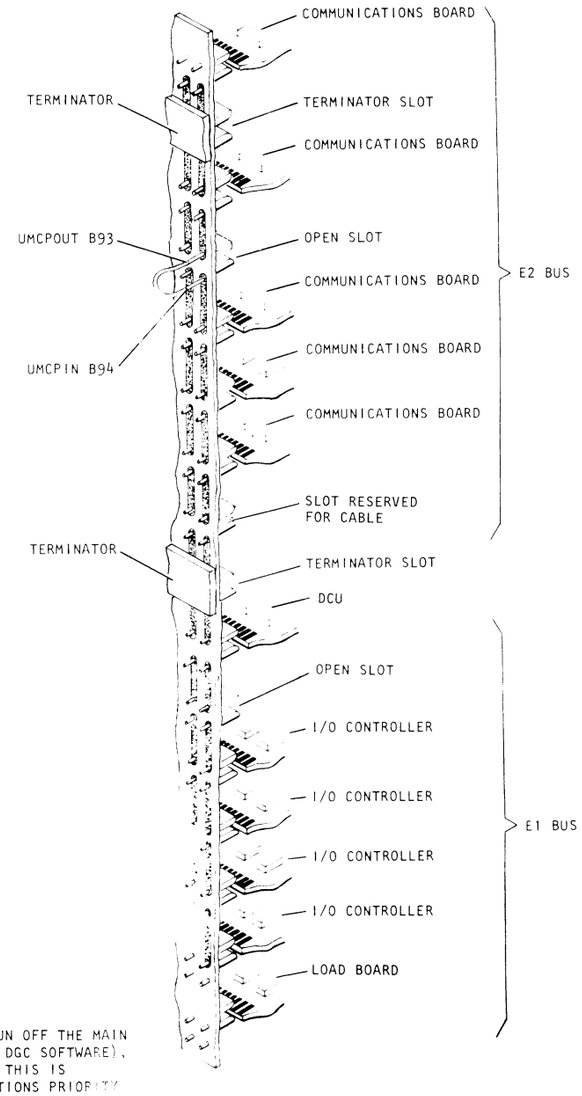
COMMUNICATIONS PRIORITY JUMPERS: JUMPER PIN B94 OF THE LOWEST OPEN SLOT IN THE GROUP TO PIN B93 OF THE HIGHEST OPEN SLOT IN THE GROUP.

NOTE: TO USE SLOT 16, WIREWRAP SLOTS 15 A94 TO A93 AND 15 A96 TO A95.

INTERRUPT AND DATA CHANNEL PRIORITY JUMPERING
(I/O - REPEATED I/O BUS)



COMMUNICATIONS PRIORITY JUMPERING
(I/O - DCU I/O BUS)

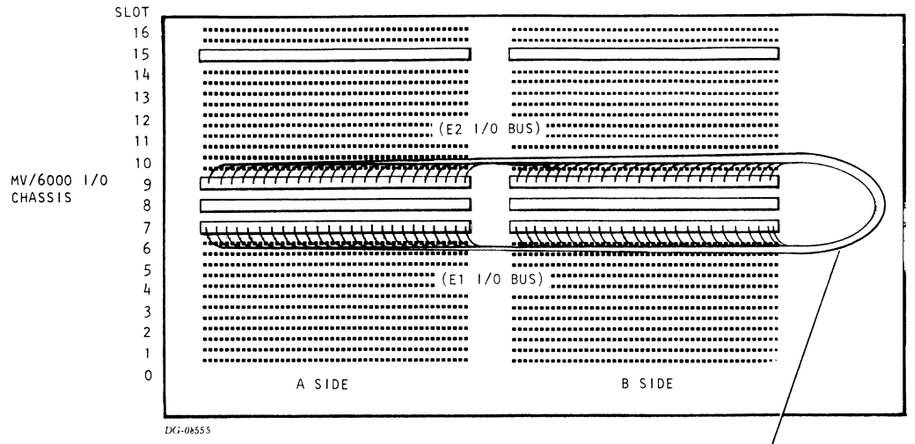


NOTE

IF COMMUNICATIONS BOARDS AND IACS RUN OFF THE MAIN CPU (A CONFIGURATION NOT ALLOWED BY DGC SOFTWARE), IACS MUST BE SEGREGATED FROM THEM. THIS IS BECAUSE AN IAC BREAKS THE COMMUNICATIONS PRIORITY CHAIN.

CABLING

CONFIGURING THE E2 I/O SLOTS



WHEN USING A BUS REPEATER (MODEL 8706-L), USE BUS REPEATER CABLE (005-018770)*

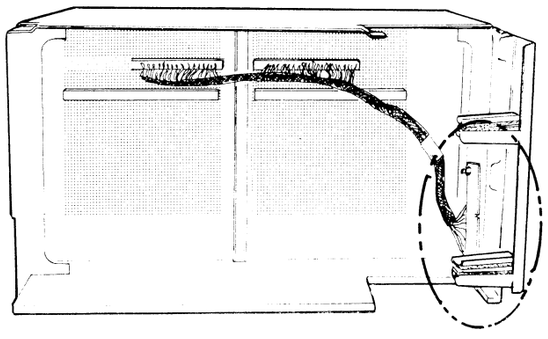
WHEN USING A DCU, (MODEL 4254-L), USE DCU CABLE (005-018230)

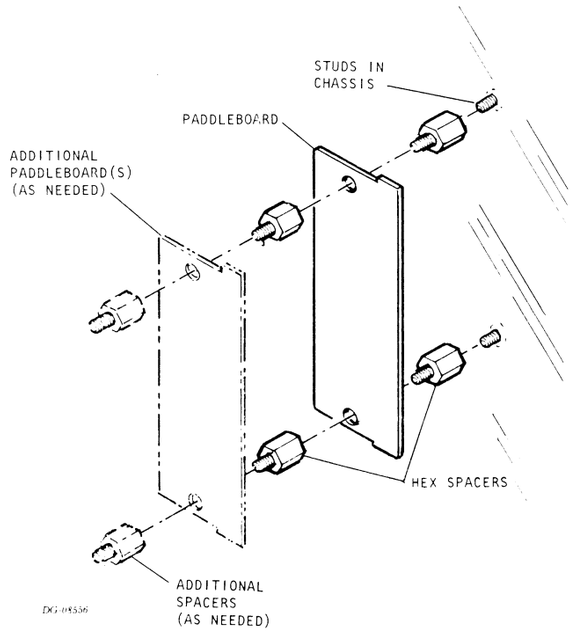
NOTE: BUS REPEATER (005-018770) REPLACES PREVIOUS CABLE (005-017451).

* CONNECT BUS REPEATER CABLE (005-018770) AS FOLLOWS:

CABLE	BACKPANEL
P1, P2	7A, 7B
P3, P4	9A, 9B

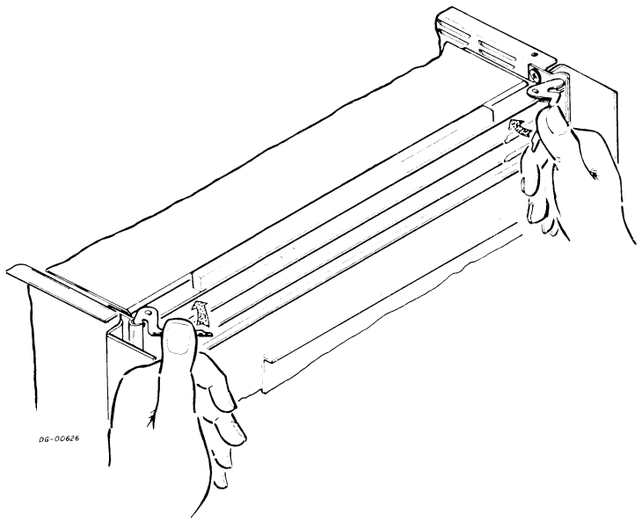
PADDLEBOARD MOUNTING



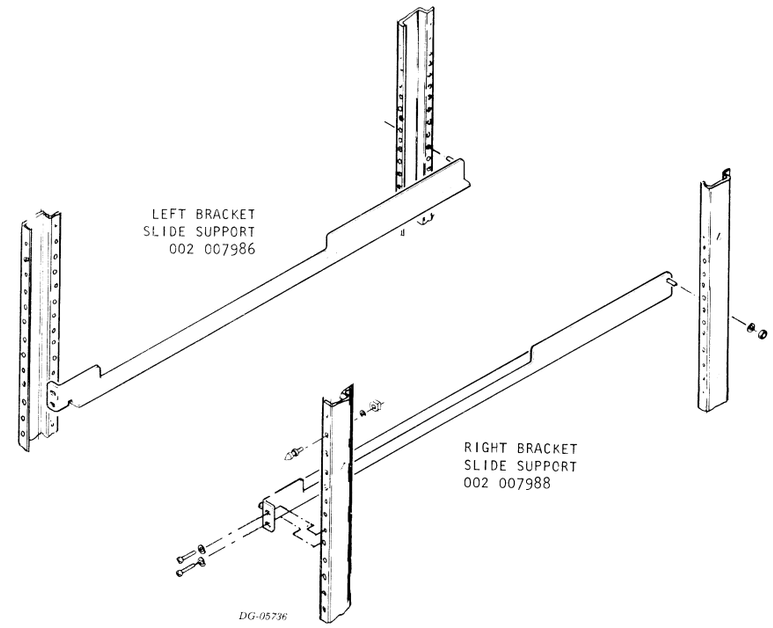


CABINET MOUNTING

INSERTING PC BOARD

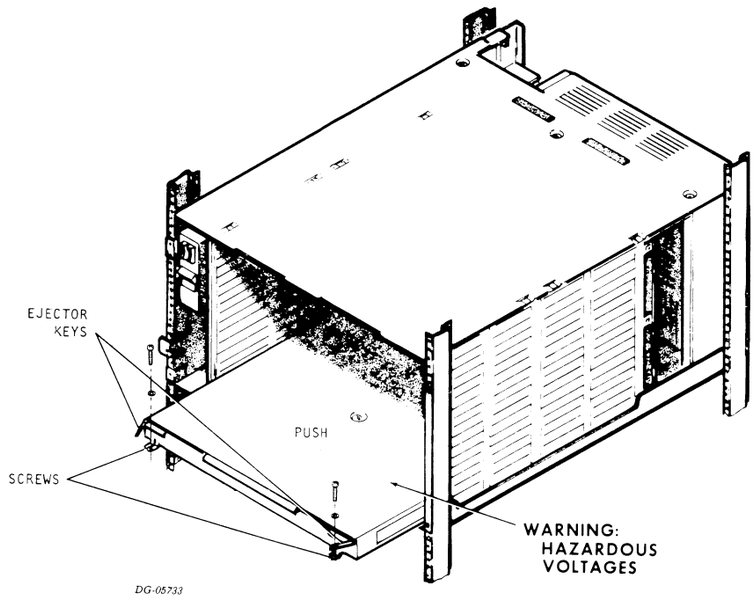


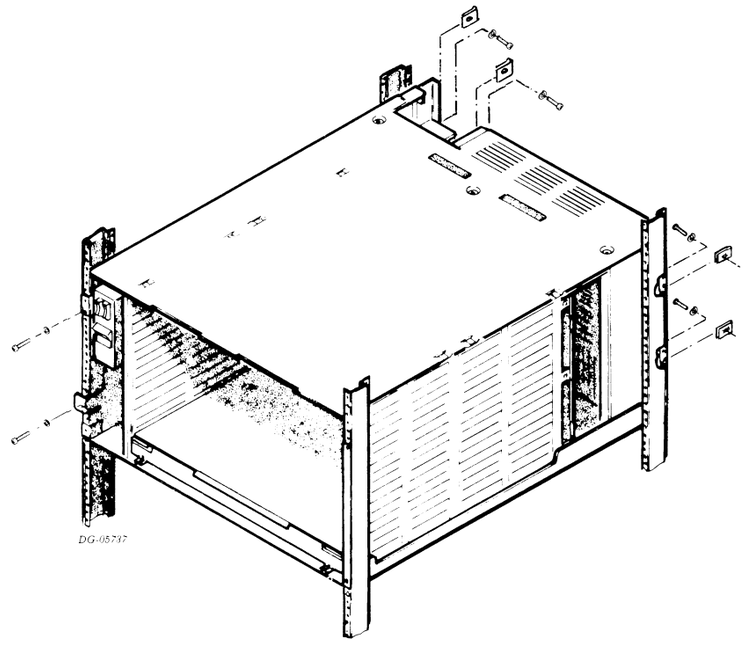
USE THE SAME DIRECTIONS FOR MOUNTING BOTH THE CPU AND I/O CHASSIS.



HARDWARE MOUNTING KIT
005 C12068

INSERTING POWER SUPPLY PCB



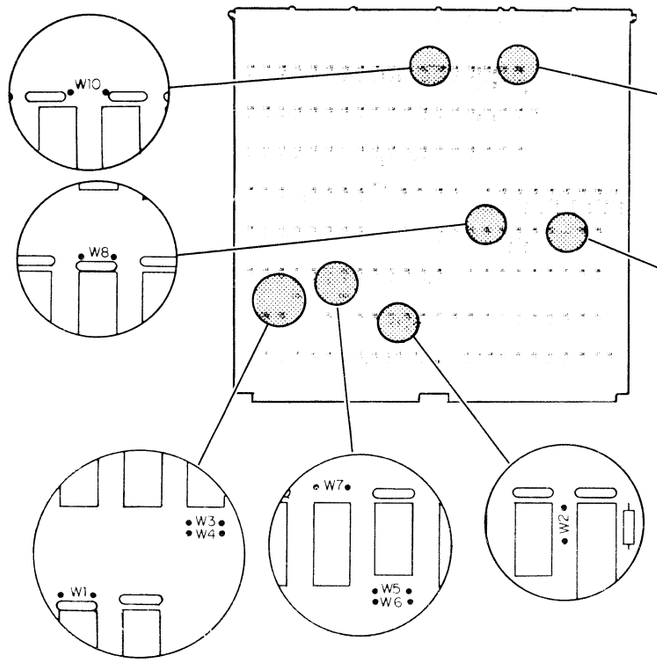


TAILORING

JUMPERING

BANK CONTROLLER

Ref DGC Dwg No 107-000982 Rev 01



JUMPERS

W1, W2	IN
W3	OUT
W4	IN
W5	OUT
W6-W11	IN

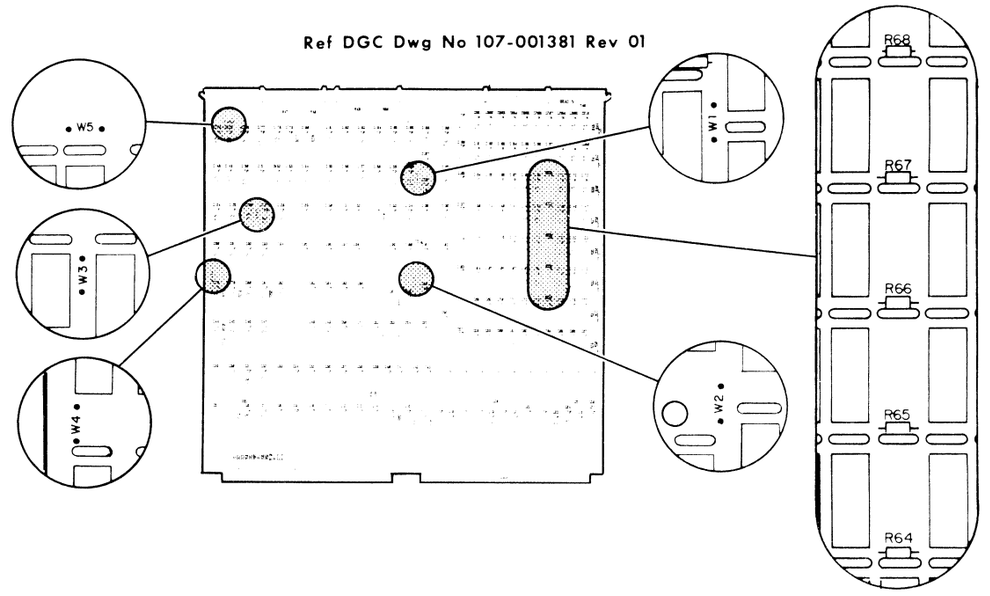
JUMPERS*

W1-W3	IN
W4	OUT
W5	IN
W6	OUT
W7-W11	IN

* NOTE: USE THIS CHART IF USING 1 AND 2 MB MODULES.

MICROSEQUENCER

Ref DGC Dwg No 107-001381 Rev 01



JUMPERS

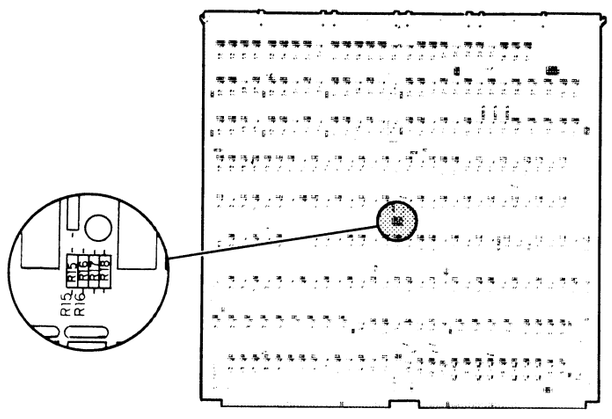
W1-W5	IN
R64-R68	OUT

TAILORING (CONT)

JUMPERING

INSTRUCTION PROCESSOR

Ref DGC Dwg No 107-001385 Rev 01

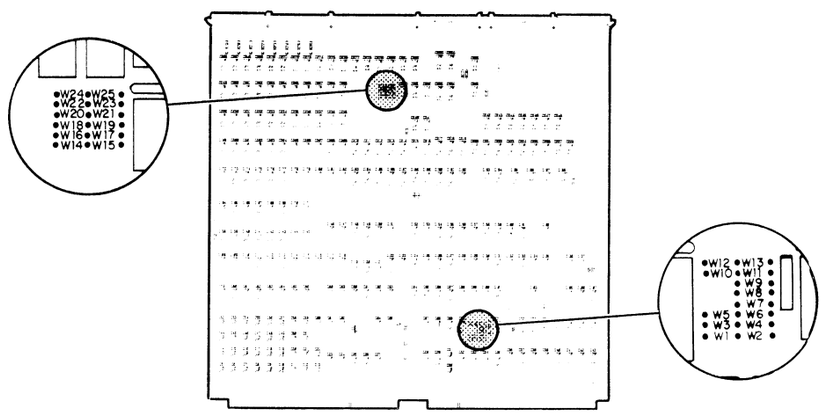


JUMPERS

R15 R16	IN OUT

SYSTEM CACHE

Ref DGC Dwg No 107-001304 Rev 01



JUMPERS

W1, W3, W5, W7, W8, W9, W10, W12, W14, W16, W18, W20, W22, W24	OUT
W2, W4, W6, W11, W13, W15, W17, W19, W21, W23, W25	IN

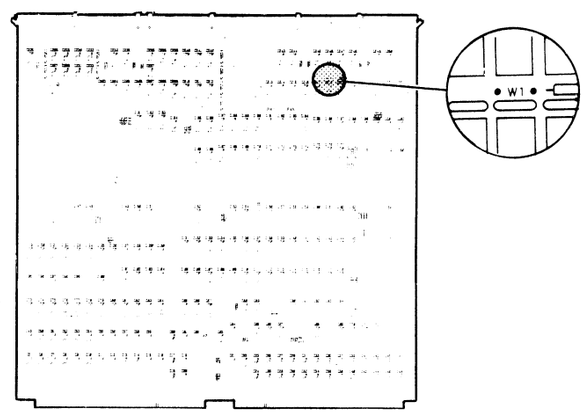
JUMPERS*

W1, W3, W5, W7, W11, W13	OUT
W14, W16, W18, W20, W22, W24	IN
W2, W4, W6, W8, W9, W10, W12	IN
W15, W17, W19, W21, W23, W25	OUT

* NOTE: USE THIS CHART IF USING 1 AND 2 MB MODULES.

I/O CHANNEL

Ref DGC Dwg No 107-001330 Rev 02

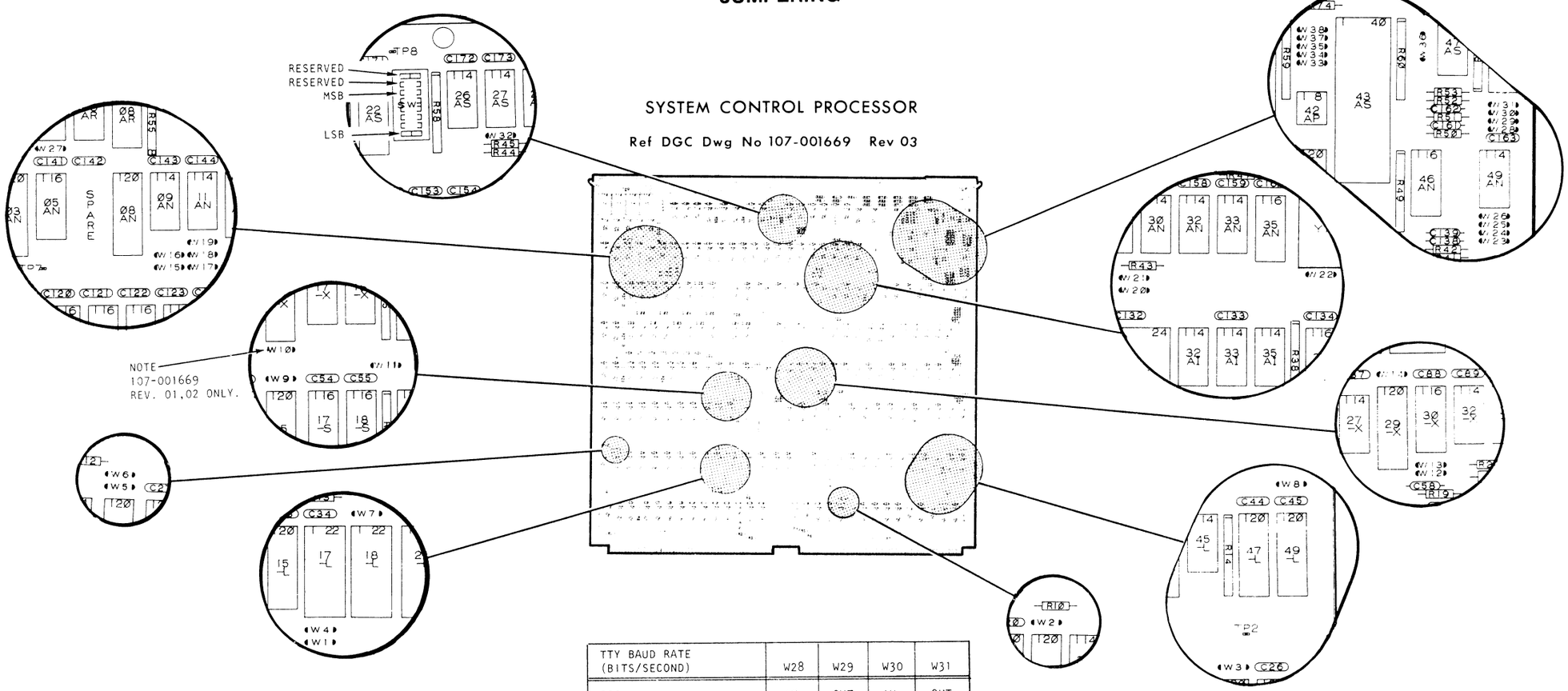


JUMPER

W1	OUT

TAILORING (CONT)

JUMPERING



JUMPERS

W2, W3, W5, W6, W7, W8, W9, W11, W14, W16, W17, W18, W22, W27, W36 R29	IN
W1, W4, W10, W15, W19, W20, W21, W32 R30	OUT

NOTE-W10 APPLIES TO REV 01.02 ONLY.

TTY INTERFACE	W12	W13	W23	W24	W25	W26
EIA RS-232-C	OUT	OUT	OUT	OUT	IN	IN
20 MA CURRENT LOOP 600 BAUD OR BELOW	OUT	IN	IN	IN	OUT	OUT
20 MA CURRENT LOOP ABOVE 600 BAUD	IN	IN	IN	IN	OUT	OUT

TTY BAUD RATE (BITS/SECOND)	W28	W29	W30	W31
300	IN	OUT	IN	OUT
600	IN	OUT	OUT	IN
1200	IN	OUT	OUT	OUT
2400	OUT	IN	OUT	IN
4800	OUT	OUT	IN	IN

TTY CHARACTER LENGTH	W35	W37
7 BITS	OUT	IN
8 BITS	OUT	OUT

TTY STOP BITS	W34
1 STOP BIT	IN
2 STOP BITS	OUT

TTY PARITY	W38	W33
EVEN	OUT	IN
ODD	IN	IN
NONE	OUT	OUT

DIP SWITCH
THE TWO UPPER SWITCHES MUST BE ON. THE LOWER SIX SWITCHES SPECIFY IN BINARY THE DEVICE THAT THE MV/6000 BOOTS FROM. THE OFF POSITION IS A 1; THE ON POSITION IS A 0.

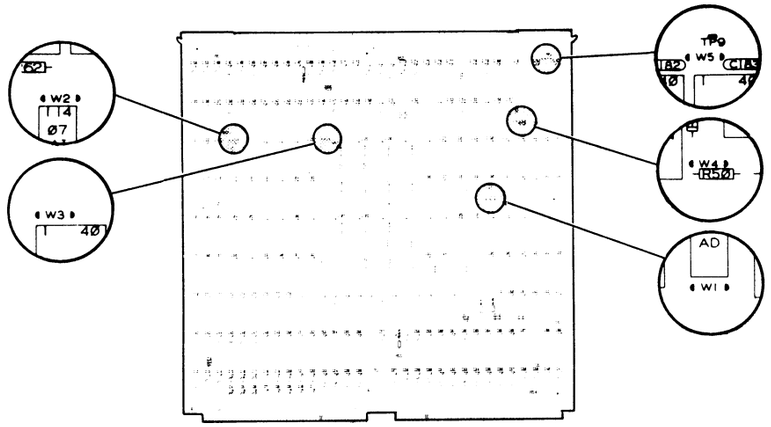
NOTE: IF SCP CPU DEVICES ARE TO HAVE HIGHEST INTERRUPT PRIORITY, ENSURE A76 OF SCP BACKPANEL SLOT IS WIRE WRAPPED TO GROUND.

TAILORING (CONT)

JUMPERING

ARITHMETIC AND LOGIC UNIT (ALU1)

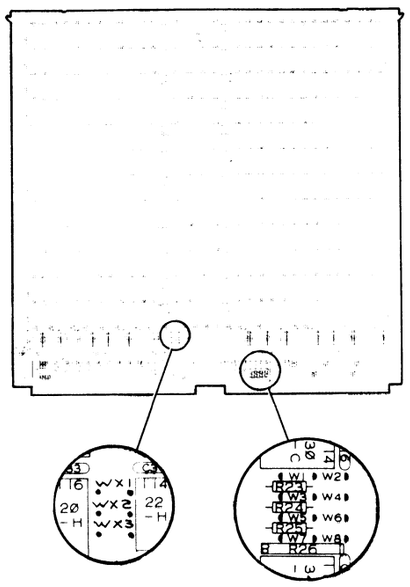
Ref DGC Dwg No 107-001627 Rev 00



JUMPERS	
W1-W5	IN

DOUBLE DENSITY MEMORY ARRAY

Ref DGC Dwg No 107-001603 Ref 00*



	DDMA JUMPERS	
107-001063 REV. 00	W1 THRU W8	OUT
	R22, WX3	OUT
	R23, R24, R25	IN
	WX1, WX2	IN

MEMORY SIZE	SLOT LOCATION #1	#2	#3	#4
1MB			512kB	512kB
1MB	NC	NC		1MB
1.5MB		512kB	512kB	512kB
2.0MB	512kB	512kB	512kB	512kB
2.0MB	NC	NC	1MB	1MB
2.0MB	NC	NC		2MB
3.0MB	NC	NC	1MB	2MB
4.0MB	NC	NC	2MB	2MB

(NC) NOT CONFUGURABLE WHEN 1 AND 2MB MODULES ARE USED.

NOTE: 1.0 AND 2.0MB MODULES MAY NOT BE MIXED WITH 512KB MODULES.

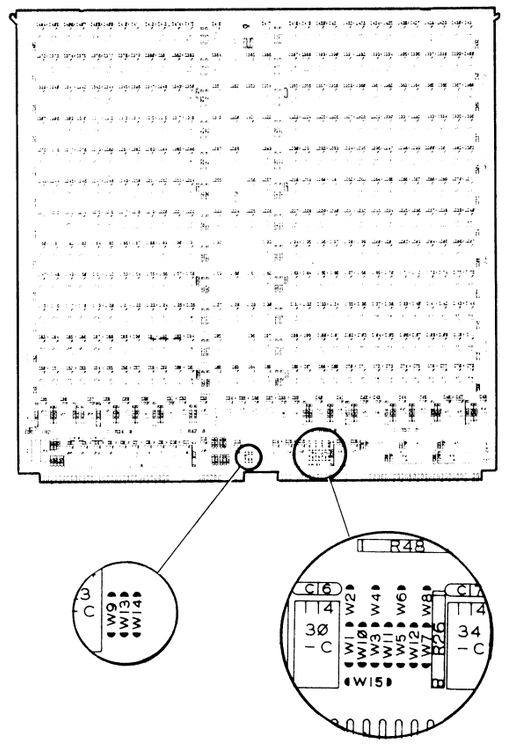
* FOR Rev 01 BOARDS, SEE NEXT PAGE FOR JUMPERING.

TAILORING (CONT)

JUMPERING

DOUBLE DENSITY MEMORY ARRAY

Ref DGC Dwg No 107-001603 Rev 01



MEMORY BOARDS ARE INSERTED CONSECUTIVELY FROM SLOT 4 TO SLOT 1 IN THE BACKPANEL. THE FOLLOWING CONFIGURATIONS OF MEMORY ARE ALLOWED:

	1MB MEMORY BOARD		512kB AND 2MB MEMORY BOARD	
MODULE	IN	OUT	IN	OUT
0	W1, W3, W5, W7, W9, W15	W2, W4, W6, W8, W10, W11, W12, W13, W14	W10 - W14	W1 - W9, W15
1	W1, W3, W5, W8, W9, W15	W2, W4, W6, W7, W10, W11, W12, W13, W14		
2	W1, W3, W6, W7, W9, W15	W2, W4, W5, W8, W10, W11, W12, W13, W14	W10 - W14	W1 - W9, W15
3	NC*	NC*		

1 MEGB & 2 MEGB MEMORY BOARDS

1. 1MB/ 2MB ARE INSTALLED CONSECUTIVELY FROM SLOT 4 THRU SLOT 3. (MAX OF 2 MEMORY BOARDS)
2. 2MB MEMORY ARE FIRST INSTALLED CONSECUTIVELY FROM SLOT 4 THRU SLOT 3.
3. IF ANY 1MB MEMORY BOARDS ARE IN THE SYSTEM THEY ARE CONSECUTIVELY INSTALLED AFTER THE LAST 2MB MEMORY BOARD.
4. THE 2MB MEMORY BOARD IS ALWAYS JUMPERED THE SAME.
5. THE 1MB MEMORY BOARD IS JUMPERED ACCORDING TO THE MEMORY MODULE ASSIGNED TO IT.

   2 MB MEMORY BOARD HAS 2 MODULES
   1 MB MEMORY BOARD HAS 1 MODULE
6. THE MODULE ADDRESS OF THE FIRST CONSECUTIVE 1 MB MEMORY WILL BE EVEN, THE NEXT ODD AND SO FORTH.

* NC - NOT CONFIGURABLE WHEN USING 1 OR 2MB MEMORY BOARDS.

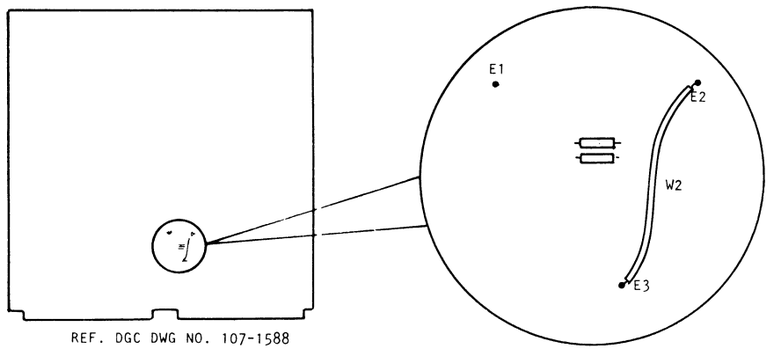
LOAD BALANCING RULES

I/O CHASSIS

DO NOT POWER UP SYSTEM WITHOUT A LOAD BOARD IN THE I/O CHASSIS SINCE POWERING UP THE I/O CHASSIS WITHOUT A LOAD ON THE POWER SUPPLY WILL BLOW PICO FUSE F5 IN THE VNR UNIT.

LOAD BOARD JUMPERING

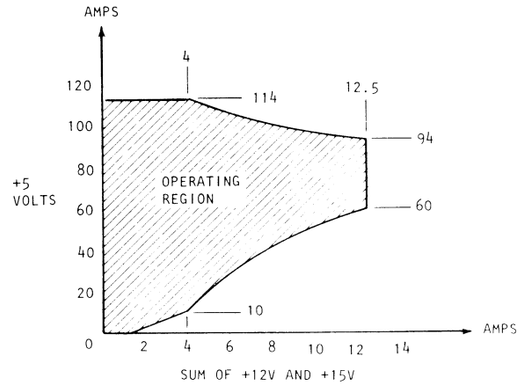
W2 MUST CONNECT E2 TO E3



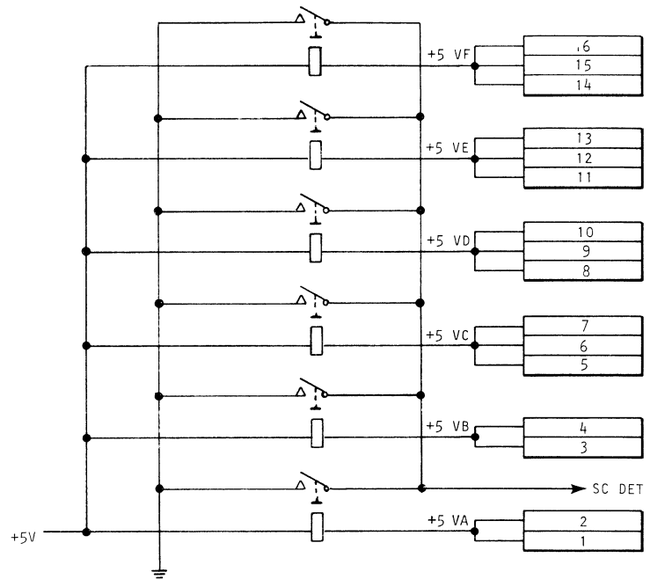
REF. DGC DWG NO. 107-1588

DC LOADING RULES FOR THE I/O CHASSIS WITH THE LOAD BOARD

1. THE LOAD ON +15V MUST NOT EXCEED 1.5 AMPS.
2. THE SUM OF THE LOADS ON +12V AND +15V MUST NOT EXCEED 12.5 AMPS.
3. THE LOAD ON -5V MUST NOT EXCEED 3 AMPS WHEN THE LOAD BOARD JUMPER (W2) CONNECTS E2 TO E3 OR 6 AMPS WHEN W2 CONNECTS E1 TO E3.
4. THE LOADS MUST BE WITHIN THE OPERATING REGION SHOWN BELOW:



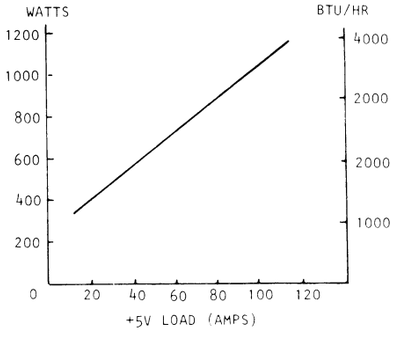
SUM OF +12V AND +15V



NOTE:

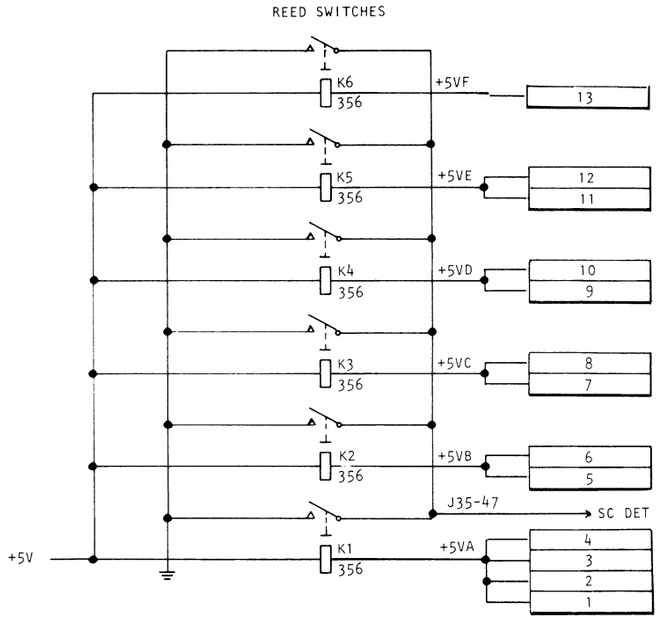
REED SWITCH TRIPS AT 44 AMPS

POWER CONSUMPTION VS LOADING*

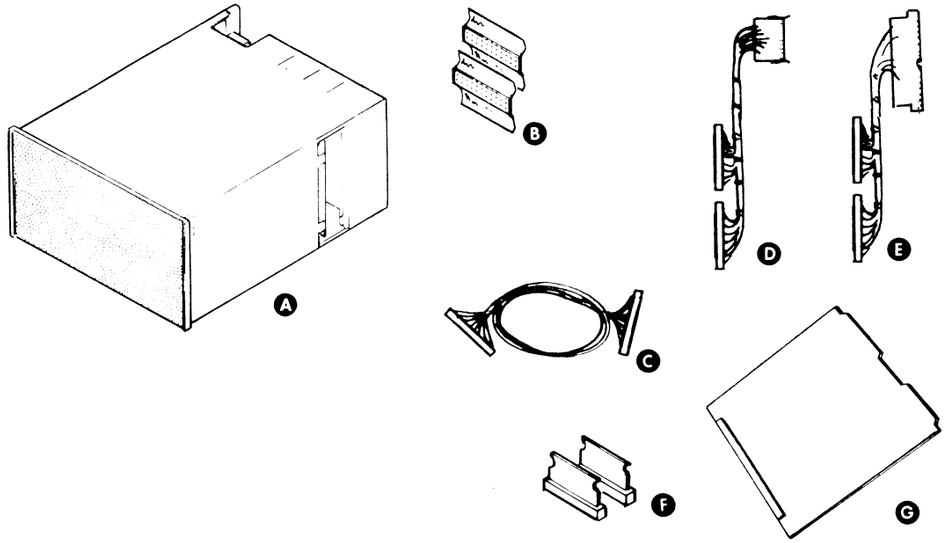


*THIS CHART IS A GUIDELINE TO THE ACTUAL HEAT OUTPUT OF A SPECIFIC SYSTEM.

CPU CHASSIS



INSTALLATION SPECIFICATIONS



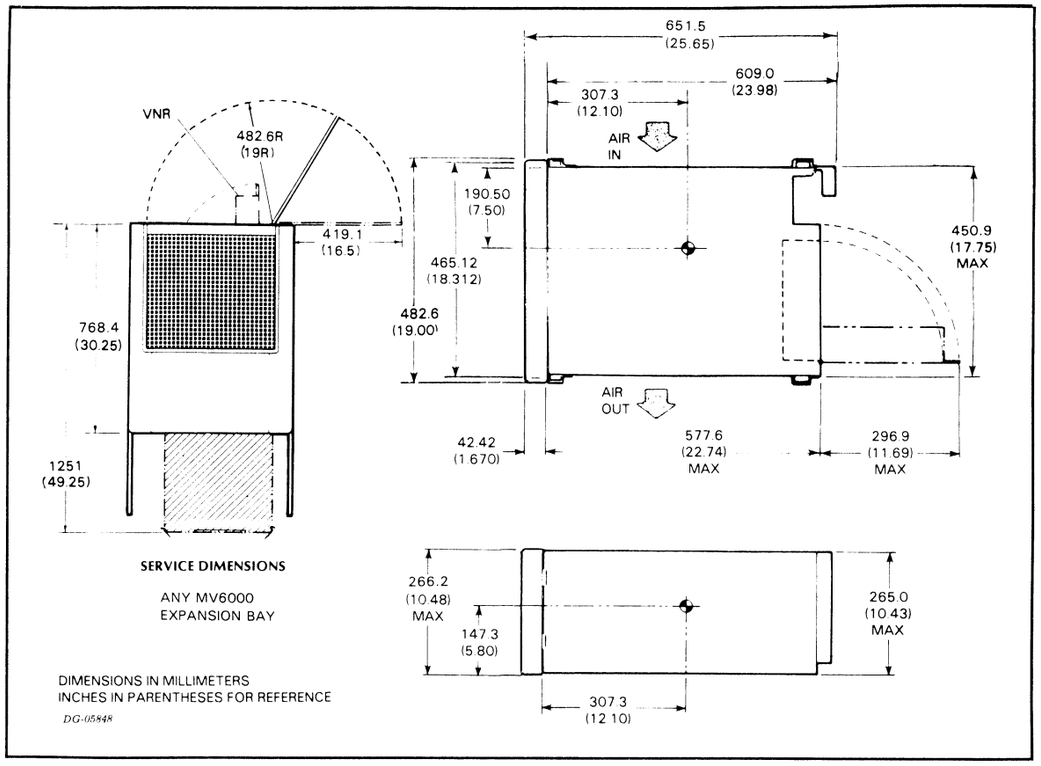
MAJOR COMPONENT

ITEM	COMPONENT	MOUNTING LOCATION	NOTES
A	EXPANSION CHASSIS	CABINET	MOUNT IN ADJACENT CABINET IF POSSIBLE

CABLES

ITEM	CABLE	CONNECTING			NOTES
B	B/P INTERCONNECT ASSY A SIDE (005-014955) B SIDE (005-014829)	EXP CHASSIS SLOT 8	&	EXP CHASSIS SLOT 9	SINGLE BUS CONFIGS
C	DAISY CHAIN CABLE (005-006291)	INT CABLE ON MAIN CHASSIS	&	INT CABLE ON EXP CHASSIS	ALL CONFIGS
D	DCU PADDLEBOARD (005-012590)	MAIN CHASSIS	&	DAISY CHAIN CABLE	CONFIGS USING DCU
	BUS REPEATER PADDLEBOARD (005-013522)	MAIN CHASSIS	&	DAISY CHAIN CABLE	CONFIGS USING BUS REPEATER
	DCU & SBUS (005-014978)	MAIN CHASSIS	&	DAISY CHAIN CABLE	CONFIGS USING ADDITIONAL DCU W/SBUS
	BUS REPEATER W/ SBUS (005-014609)	MAIN CHASSIS	&	DAISY CHAIN CABLE	CONFIGS USING BUS REPEATER W/SBUS
E	DUAL I/O & SBUS (005-015843)	DAISY CHAIN CABLE	&	EXP CHASSIS	DUAL BUS CONFIGS

ITEM	TERMINATOR	LOCATION	NOTES
F	I/O BUS TERMINATORS A SIDE (005-013406) B SIDE (005-013407)	B/P EXP CHASSIS	DUAL CONFIGS, TWO TERMINATORS FOR A-SIDE TWO TERMINATORS FOR B-SIDE
G	LOAD BOARD (005-015455)	EXP CHASSIS SLOT 1	REQUIRED FOR ALL CONFIGS.



SERVICE DIMENSIONS

ANY MV6000
EXPANSION BAY

DIMENSIONS IN MILLIMETERS
INCHES IN PARENTHESES FOR REFERENCE

DG-05848

DIMENSIONS:	Width	Depth	Height
Millimeters	482.6	651.5	266.2
Inches	19.0	25.65	10.48

SERVICE CLEARANCES:	Front	Rear
Millimeters	482.6	296.9
Inches	19.0	11.69

WEIGHT:	Empty	Fully Loaded
Kilograms	35.38	49.9
Pounds	78.0	110.0

OPERATING ENVIRONMENT:	
Temperature (max)	55°C(131°F) 60Hz, 45°C(113°F) 50Hz
Relative Humidity (max)	90%
Altitude (max)	2438m (8000 ft)

CABLES:

Primary Power	Length	Conn	Mating Conn
Domestic	1.8m(6')	5-15P	5-15R
Export	1.8m(6')	6-15P	6-15R

SEE TABLES TO THE LEFT FOR
ADDITIONAL CABLE INFORMATION

CPU DESIGNATOR:

Designator Range: 22-22

HEAT OUTPUT:	1100 watt (3750 BTU/hr) max (SEE CHART ON PAGE 9)
POWER REQUIREMENTS:	
(Domestic)	
Voltage	120 + 10 -15%
Hz	60 ± 1%
Max Amp per Phase	12.0
Phase	1
Startup Surge per Phase	20A (max) for 0.25 seconds
(Export)	
Voltage	220/240 + 10 - 15%
Hz	50/60 ± 1%
Max Amp per Phase	7.0
Phase	1
Startup Surge per Phase	40A (max) for 0.12 seconds

LINE CORDS:

Supply	Part No.
120V	109 000455
220/240	109 000456

Warning: This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instruction manual, may cause interference to radio communications. As temporarily permitted by regulation it has not been tested for compliance with the limits for Class A computing devices pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference. Operation of this equipment in a residential area is likely to cause interference, in which case the user, at his own expense, will be required to take whatever measures may be required to correct the interference.

SHIPPING

**FOR PACKING PROCEDURE,
SEE 010-000263**

STORAGE SPECIFICATIONS

Temperature Range °F / °C	Relative Humidity (Non-condensing)	Maximum Period
-40 to 150 / -40 to 65	0-90%	90 days

SLOT ASSIGNMENTS

SINGLE BUS CONFIGURATIONS

DATA CHANNEL SPEEDS AVAILABLE

STANDARD ☐

HIGH SPEED [X]

SLOT	ALLOWED (SLOT CHART)	ASSIGNED	CURRENT DRAW +5V	+12V	-5V
16	I/O				
15	TERMINATORS				
14	I/O				
13					
12					
11					
10					
9					
8					
7					
6					
5					
4					
3					
2	I/O				
1	LOAD BOARD		6 A		
0	POWER SUPPLY				

TOTAL +5 CURRENT DRAW _____ A
MAX +5 CURRENT AVAILABLE 100 A
+5 CURRENT SURPLUS _____ A
MINIMUM +5 CURRENT 8 A

TOTAL +12 CURRENT DRAW _____ A
MAX +12 CURRENT AVAILABLE 8 A
+12 CURRENT SURPLUS _____ A
MINIMUM +12 CURRENT _____ A

TOTAL -5 CURRENT DRAW _____ A
MAX -5 CURRENT AVAILABLE 6 A
-5 CURRENT SURPLUS _____ A
MINIMUM -5 CURRENT _____ A

DUAL BUS CONFIGURATIONS

DATA CHANNEL SPEEDS AVAILABLE:

STANDARD ☐

HIGH SPEED [X]

SLOT	ALLOWED (SLOT CHART)	ASSIGNED	CURRENT DRAW +5V	+12V	-5V
16	I/O (E2 BUS-NOTE 1)				
15	TERMINATORS				
14	I/O (E2 BUS-NOTE 1)				
13					
12					
11					
10					
9	I/O (E2 BUS-NOTE 1)				
8	TERMINATORS				
7	I/O (E1 BUS NOTE 2)				
6					
5					
4					
3					
2	I/O (E1 BUS NOTE 2)		6 A		
1	LOAD BOARD				
0	POWER SUPPLY				

TOTAL +5 CURRENT DRAW _____ A
MAX +5 CURRENT AVAILABLE 100 A
+5 CURRENT SURPLUS _____ A
MINIMUM +5 CURRENT 8 A

TOTAL +12 CURRENT DRAW _____ A
MAX +12 CURRENT AVAILABLE _____ A
+12 CURRENT SURPLUS _____ A
MINIMUM +12 CURRENT _____ A

TOTAL -5 CURRENT DRAW _____ A
MAX -5 CURRENT AVAILABLE _____ A
-5 CURRENT SURPLUS _____ A
MINIMUM -5 CURRENT _____ A

1. THE E2 BUS IS THE 7-SLOT PORTION AND IS CONNECTED TO J2 OF THE DUAL I/O AND SBUS CABLE (SEE DWG OF PADDLEBOARD, PAGE 7).

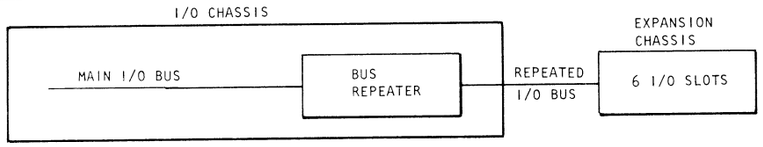
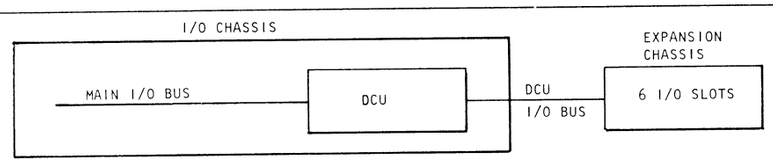
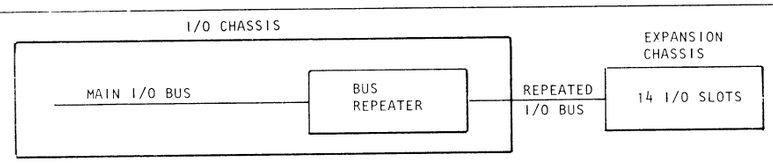
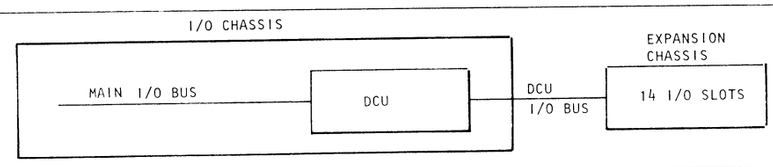
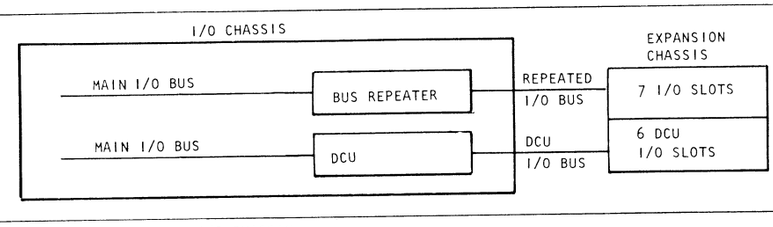
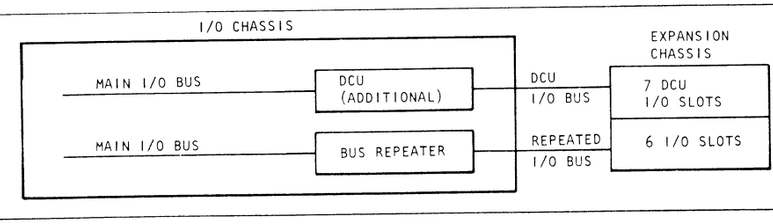
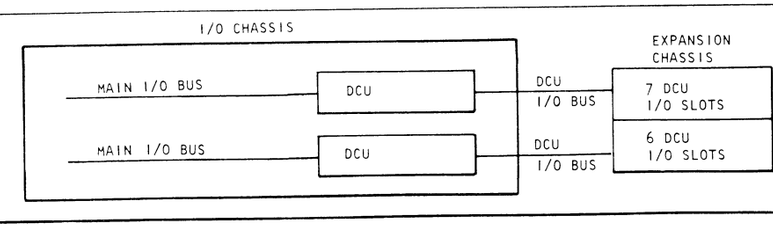
2. THE E1 BUS IS THE 6-SLOT PORTION AND IS CONNECTED TO J1 OF THE DUAL I/O AND SBUS CABLE.

CONFIGURATION

THE CONFIGURATION OF A MODEL 8702-XX EXPANSION CHASSIS IS DEFINED BY THE XX SPECIFIER IN THE MODEL NUMBER. XX SPECIFIES THE FUNCTION OF THE SLOTS WITHIN THE EXPANSION CHASSIS. SEE THE FOLLOWING TABLE TO DETERMINE YOUR MODEL TYPE.

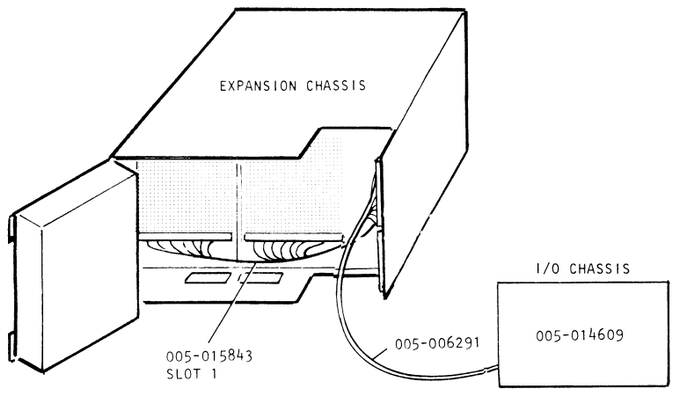
MAIN CHASSIS BOARD LOCATIONS

THE BUS REPEATER ON THE MAIN I/O BUS IS IN AN I/O CHASSIS. THE BUS REPEATER IS MODEL 8706 (005-017374).

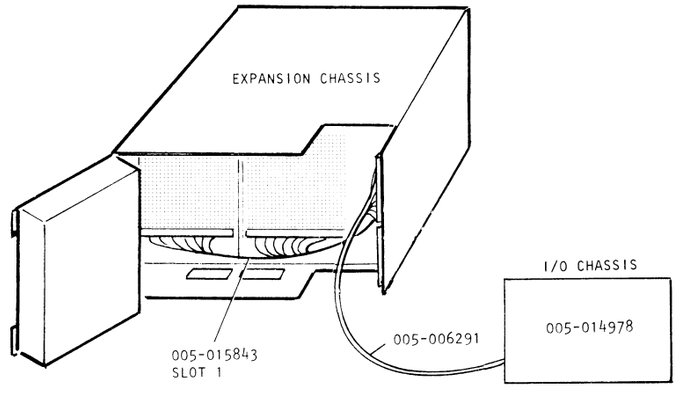
MODEL/ CONFIGURATION	CONFIGURATION	NOTES	PARTS REQUIRED IN ADDITION TO EXPANSION CHASSIS		
			ASSEMBLY NO.	QTY	DESCRIPTION
8702-AA		SINGLE REPEATER I/O BUS. THE 6 I/O SLOTS ARE DRIVEN BY A BUS REPEATER.	005-014609 005-015843 005-006291	1 1 1	BUS REPEATER & SBUS CABLE DUAL I/O & SBUS CABLE DAISY CHAIN CABLE
8702-D		SINGLE DCU I/O BUS. THE 6 DCU I/O SLOTS ARE DRIVEN BY A DCU	005-015843 005-006291 005-014978	1 1 1	DUAL I/O & SBUS CABLE DAISY CHAIN CABLE DCU & SBUS CABLE
8702-EA		SINGLE REPEATER I/O BUS. THE 14 I/O SLOTS ARE DRIVEN BY A BUS REPEATER.	005-014609 005-015843 005-006291 005-014955 005-014829	1 1 1 1 1	BUS REPEATER & SBUS CABLE DUAL I/O & SBUS CABLE DAISY CHAIN CABLE EXP B/P INTERCONNECT (A SIDE) EXP B/P INTERCONNECT (B SIDE)
8702-H		SINGLE DCU I/O BUS.	005-014978 005-015843 005-006291 005-014955 005-014829	1 1 1 1 1	DCU & SBUS CABLE DUAL I/O & SBUS CABLE DAISY CHAIN CABLE EXP B/P INTERCONNECT (A SIDE) EXP B/P INTERCONNECT (B SIDE)
8702-MA		DUAL BUS (REPEATER I/O & DCU I/O). THE 7 I/O SLOTS ARE DRIVEN BY A BUS REPEATER. THE 6 I/O SLOTS ARE DRIVEN BY A DCU.	005-014978 005-015843 005-006291 005-013522 005-019992 005-019993	1 1 2 1 1 1	DCU & SBUS CABLE DUAL I/O & SBUS CABLE DAISY CHAIN CABLE BUS REPEATER CABLE TERMINATOR (A SIDE) TERMINATOR (B SIDE)
8702-SA		DUAL BUS (DCU I/O & REPEATER I/O) THE 7 DCU I/O SLOTS ARE DRIVEN BY A DCU. THE 6 I/O SLOTS ARE DRIVEN BY A BUS REPEATER.	005-014609 005-015843 005-006291 005-012590 005-019992 005-019993	1 1 2 1 1 1	BUS REPEATER & SBUS CABLE DUAL I/O & SBUS CABLE DAISY CHAIN CABLE DCU CABLE TERMINATOR (A SIDE) TERMINATOR (B SIDE)
8702-V		DUAL DCU I/O BUS. THE 7 DCU I/O SLOTS AND THE 6 DCU I/O SLOTS ARE DRIVEN BY DCUs.	005-014978 005-015843 005-006291 005-012590 005-019992 055-019993	1 1 2 1 1 1	DCU & SBUS CABLE DUAL I/O & SBUS CABLE DAISY CHAIN CABLE DCU CABLE TERMINATOR (A SIDE) TERMINATOR (B SIDE)

CONFIGURATION (CONT)

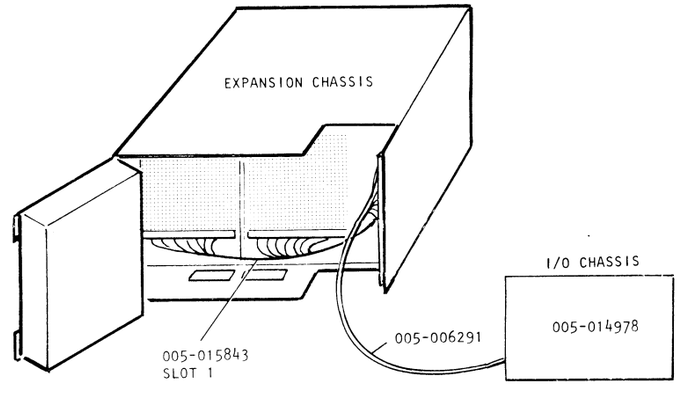
8702-AA — 6 SLOTS
8702-EA — 14 SLOTS
REPEATER I/O BUS (SINGLE BUS)



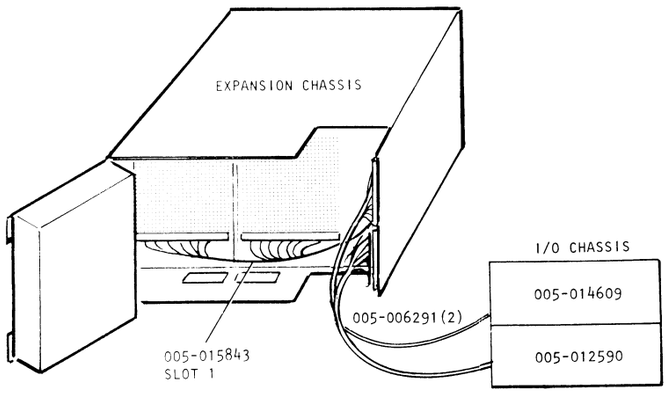
8702- D — 6 SLOTS
DCU I/O BUS (SINGLE BUS)



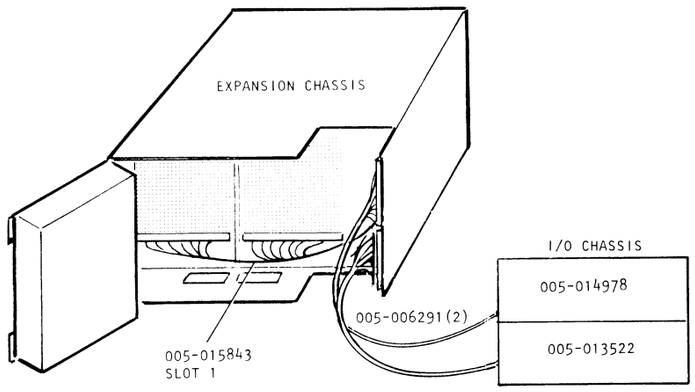
8702- H — 14 SLOTS
DCU I/O BUS (SINGLE BUS)



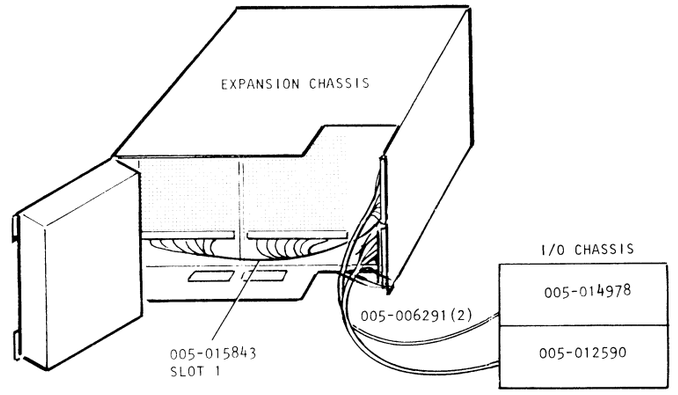
8702-SA
REPEATER I/O BUS - DCU I/O BUS (DUAL BUS)



8702-MA
DCU I/O BUS - REPEATER I/O BUS (DUAL BUS)

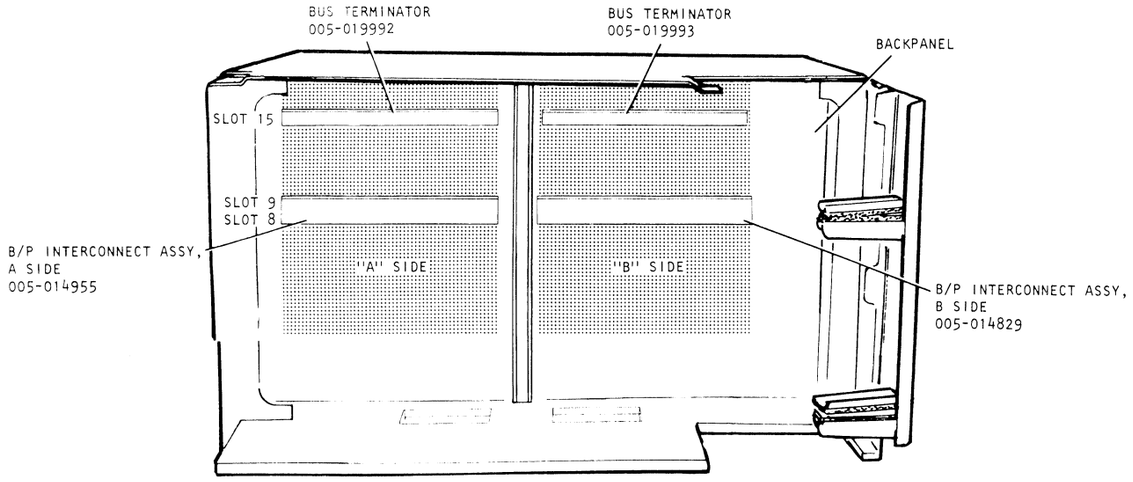


8702- V
DCU-DCU I/O BUS (DUAL BUS)



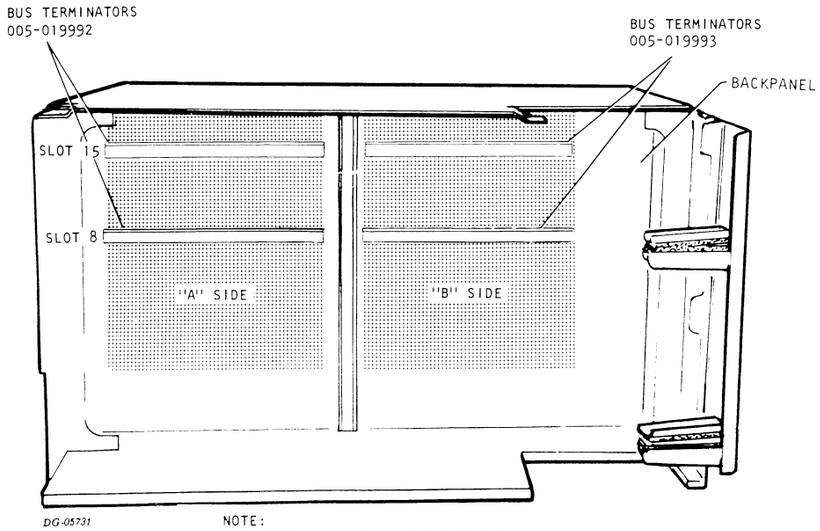
INTERNAL CABLING

14-SLOT SINGLE BUS CONFIGURATION EXPANSION CHASSIS



THE B/P INTERCONNECT ASSEMBLIES MOUNT OVER THE BACKPANEL PINS OF SLOTS 8 AND 9. THE A SIDE ASSEMBLY (NO. 005-14955) MOUNTS SO THAT PINS A1 AND A99 OF SLOT 9 ARE IN THE HOLES NUMBERED 1 AND 99, RESPECTIVELY; THE B SIDE ASSEMBLY (NO. 005-14829) MOUNTS SO THAT PINS B1 AND B99 OF SLOT 9 ARE IN HOLES NUMBERED 1 AND 99, RESPECTIVELY.

6-SLOT SINGLE BUS AND DUAL BUS CONFIGURATIONS EXPANSION CHASSIS



NOTE:
6-SLOT SINGLE BUS CONFIGURATIONS
DO NOT INCLUDE UPPER TERMINATORS.

JUMPERING

THE DUAL I/O & SBUS CABLE HAS ADDRESS JUMPERS LOCATED ON THE PADDLEBOARD. THE ALLOWABLE ADDRESSES FOR THE CABLE ARE ONLY 1 - 14 (1 - 16 OCTAL). IF YOU HAVE MORE THAN ONE EXPANSION CHASSIS IN USE, EACH CABLE MUST HAVE A DIFFERENT ADDRESS. CABLE ADDRESSES DO NOT HAVE TO GO IN ORDER, THEY JUST HAVE TO BE DIFFERENT. (I.E., CHASSIS #1 ADDRESS 13, CHASSIS #2 ADDRESS 4, CHASSIS #3 ADDRESS 6, ETC.)

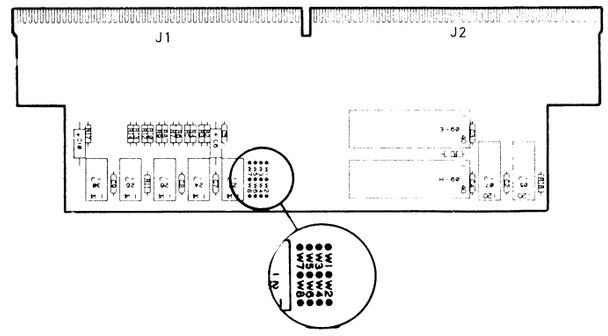
A JUMPER IN AN EVEN NUMBER IS A ONE, AND IN AN ODD NUMBER IS A ZERO. 7, 8, IS MSB, 1, 2, IS LSB. (I.E., CABLE ADDRESS 8 WOULD BE; 8, 5, 3, 1)

```
o o o o
7 5 3 1
o o o o
8 6 4 2
o o o o
```

```
EX.)  o o o o
      7 | | |
      o o o o
      | 6 4 2
      o o o o
```

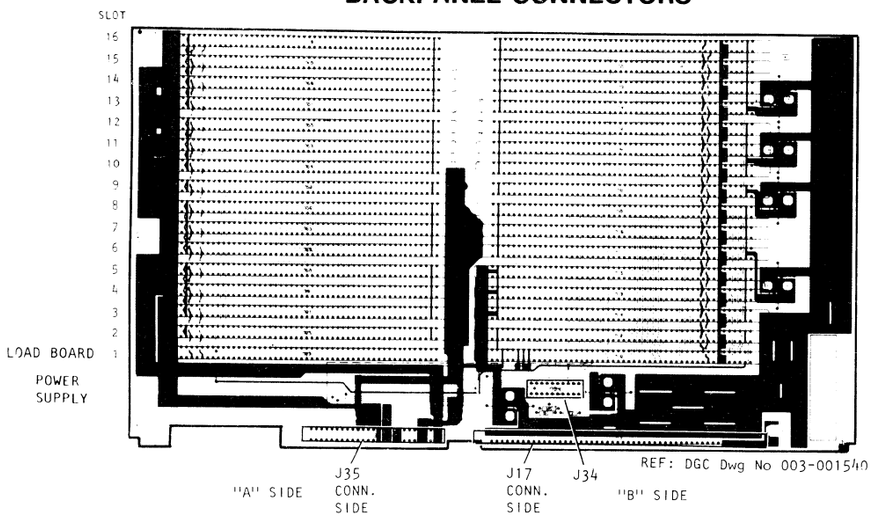
CABLE 8 ADDRESS

Ref DGC Dwg No 003-001641 Rev 02

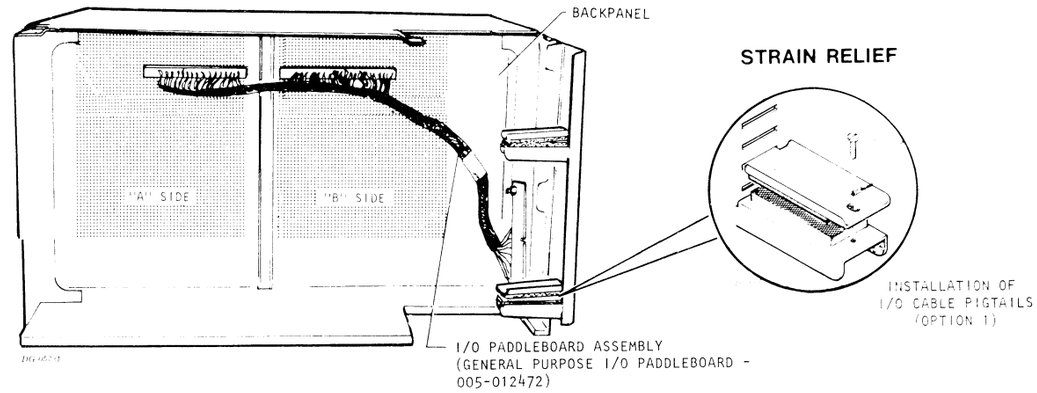


INTERNAL CABLING (CONT)

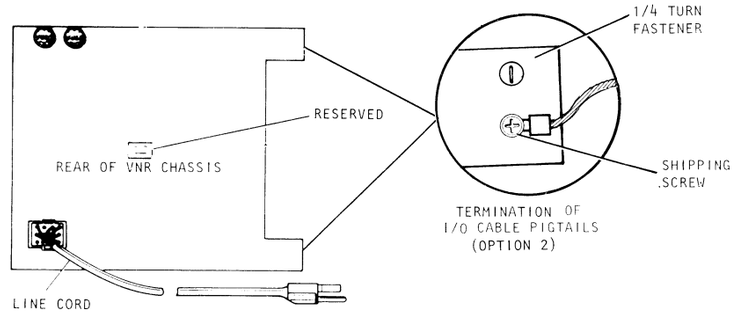
BACKPANEL CONNECTORS

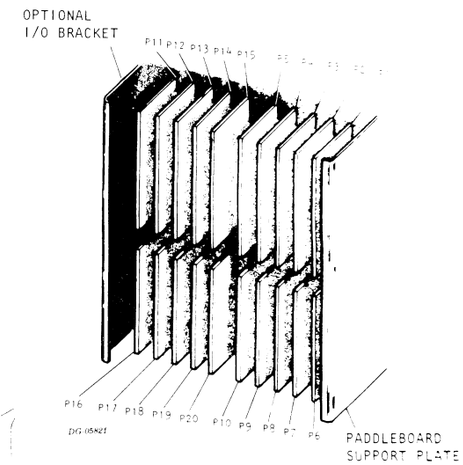


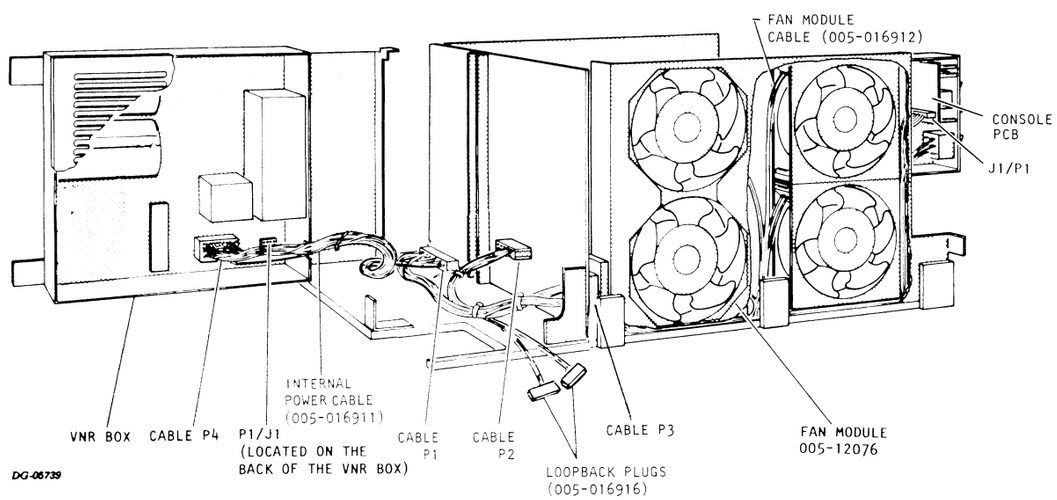
PADDLEBOARD MOUNTING

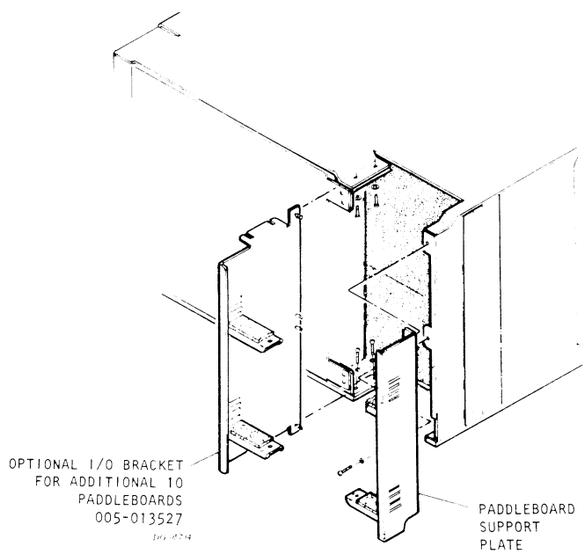


WARNING
FOR SERVICING DISCONNECT POWER, WAIT 5 MINUTES REASSEMBLE UNIT BEFORE APPLYING POWER









MV/6000 EXPANSION CHASSIS

INTERNAL CABLING (CONT)

BACKPANEL JUMPERING

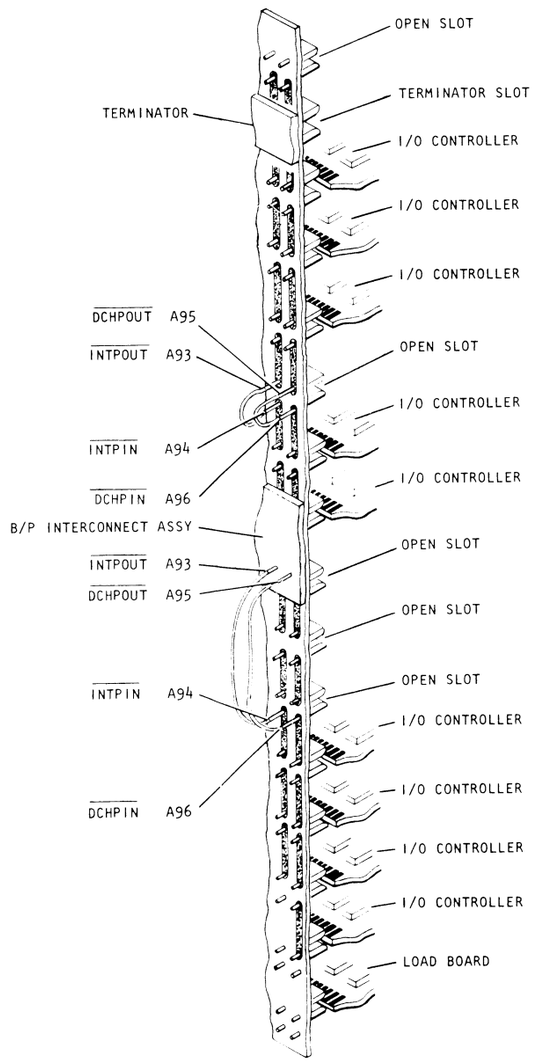
EACH GROUP OF OPEN (EMPTY, NON-TERMINATOR) SLOTS IN BETWEEN SLOTS CONTAINING BOARDS, MUST HAVE INTERRUPT AND DATA CHANNEL PRIORITY JUMPERS INSTALLED ACROSS THEM. IN ADDITION, IF A COMMUNICATIONS BOARD RESIDES IN A SLOT ABOVE A GROUP OF OPEN SLOTS, COMMUNICATIONS INTERRUPT PRIORITY JUMPERS MUST ALSO BE INSTALLED. IN DUAL BUS CONFIGURATIONS, ONLY GROUPS OF OPEN SLOTS BETWEEN FULL SLOTS ON THE SAME BUS MUST BE JUMPERED.

INTERRUPT AND DATA CHANNEL PRIORITY JUMPERS: JUMPER PINS A96 AND A94 OF THE LOWEST OPEN SLOT IN THE GROUP TO PINS A95 AND A93, RESPECTIVELY, OF THE HIGHEST OPEN SLOT IN THE GROUP.

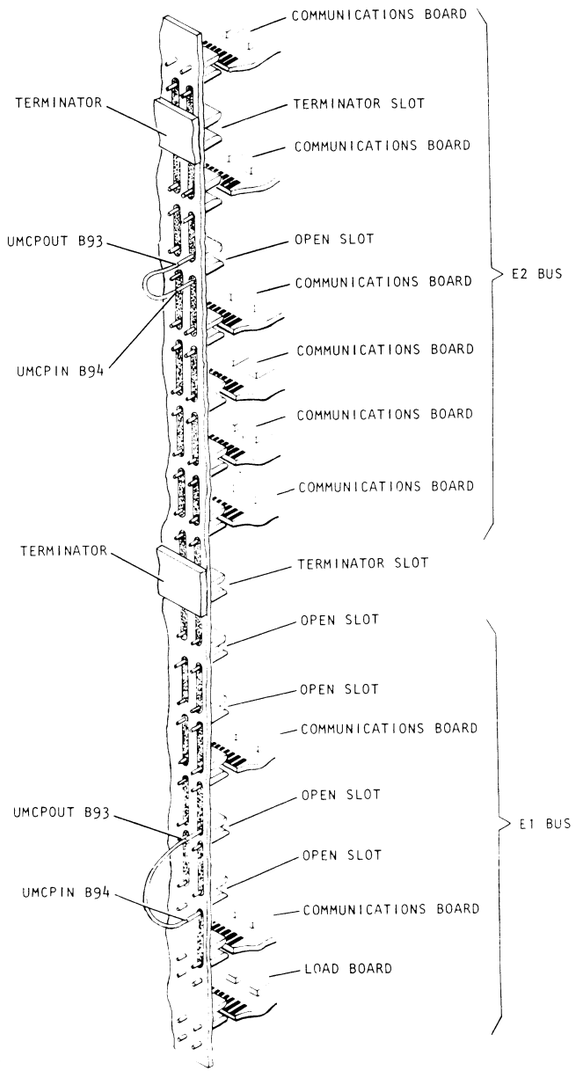
COMMUNICATIONS PRIORITY JUMPERS: JUMPER PIN B94 OF THE LOWEST OPEN SLOT IN THE GROUP TO PIN B93 OF THE HIGHEST OPEN SLOT IN THE GROUP.

NOTE: TO USE SLOT 16, WIREWRAP SLOTS 15 A94 TO A93 AND A96 TO A95.

INTERRUPT AND DATA CHANNEL PRIORITY JUMPERING
(SINGLE REPEATED I/O BUS SHOWN)



COMMUNICATIONS PRIORITY JUMPERING
(DUAL DCU-DCU I/O BUS SHOWN)

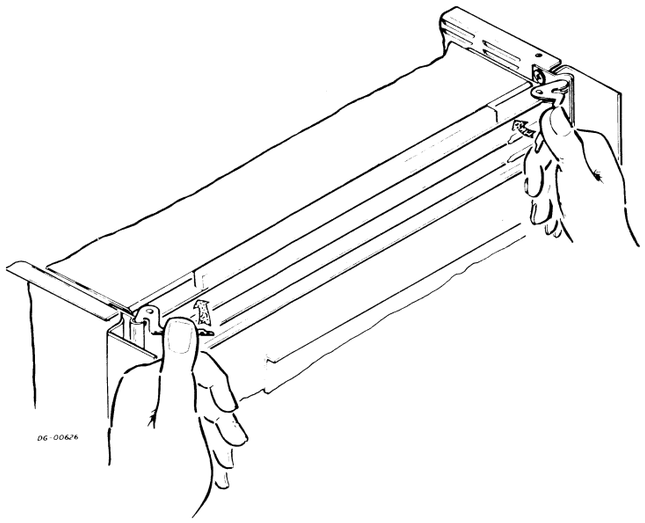


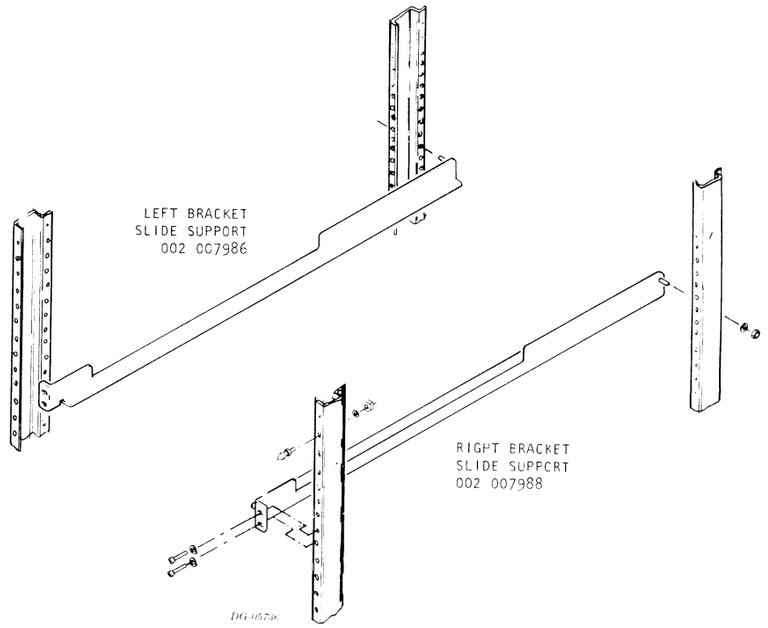
NOTE:

IF COMMUNICATION BOARDS AND IACs RUN OFF THE MAIN CPU (A CONFIGURATION NOT ALLOWED BY DGC SOFTWARE), IACs MUST BE SEGREGATED FROM THEM. THIS IS BECAUSE AN IAC BREAKS THE COMMUNICATIONS PRIORITY CHAIN.

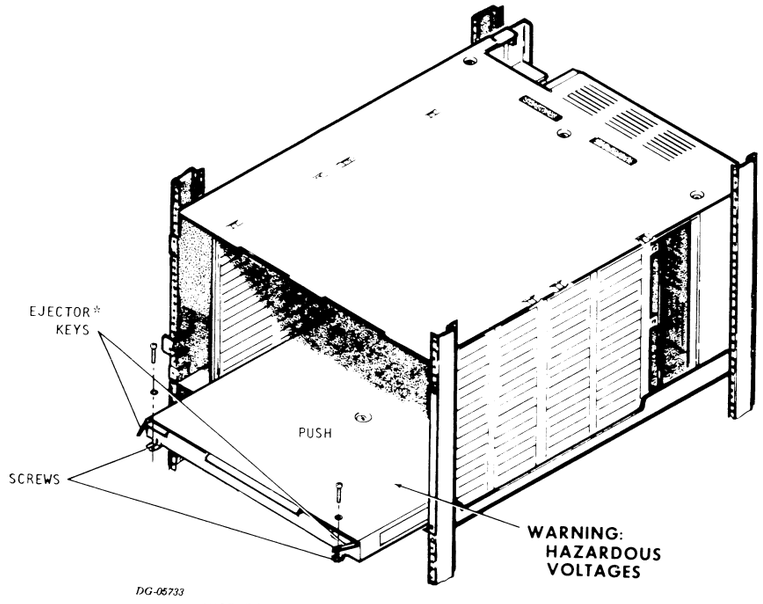
CABINET MOUNTING

INSERTING PC BOARD



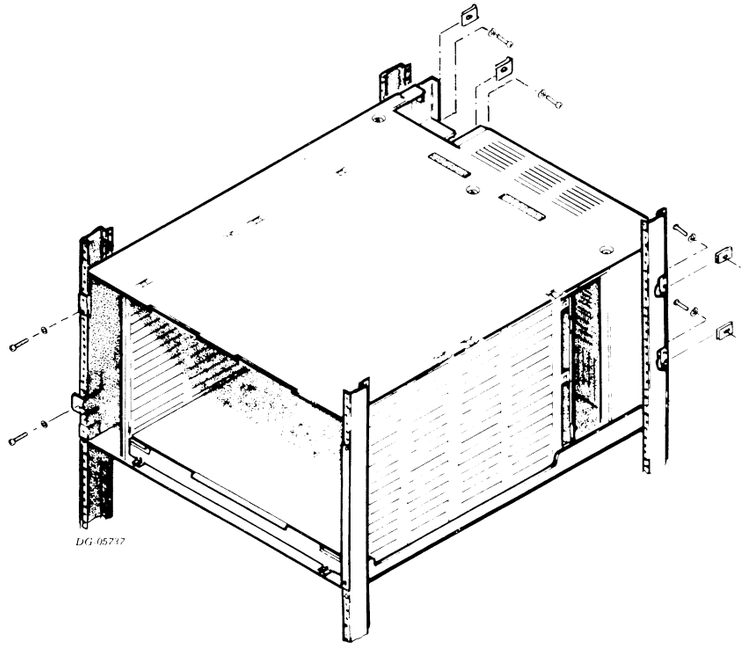


INSERTING POWER SUPPLY PCB



*USE EJECTOR KEYS ONLY FOR REMOVING THE POWER SUPPLY PCB. TO INSTALL THE PCB PUSH ON THE FRONT OF IT.

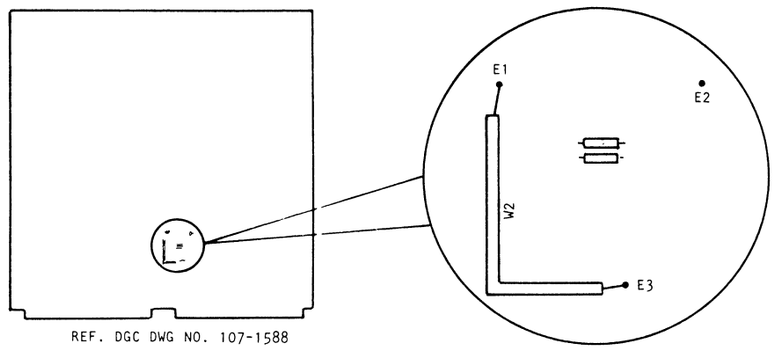
HARDWARE MOUNTING KIT
005 012068



DC LOADING RULES

LOAD BOARD JUMPERING

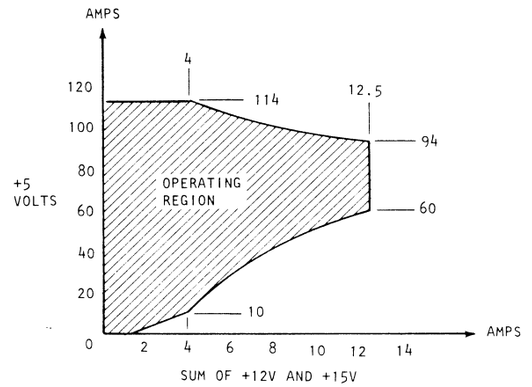
W2 MUST CONNECT E2 TO E3 UNLESS THE EXPANSION CHASSIS CONTAINS MORE THAN SEVEN 16-LINE COMMUNICATIONS BOARDS; IN THIS CASE, W2 MUST CONNECT E1 TO E3.



REF. DGC DWG NO. 107-1588

DC LOADING RULES FOR THE EXPANSION CHASSIS WITH THE LOAD BOARD

1. THE LOAD ON +15V MUST NOT EXCEED 1.5 AMPS.
2. THE SUM OF THE LOADS ON +12V AND +15V MUST NOT EXCEED 12.5 AMPS.
3. THE LOAD ON -5V MUST NOT EXCEED 3 AMPS WHEN THE LOAD BOARD JUMPER (W2) CONNECTS E2 TO E3 OR 6 AMPS WHEN W2 CONNECTS E1 TO E3.
4. THE LOADS MUST BE WITHIN THE OPERATING REGION SHOWN BELOW:



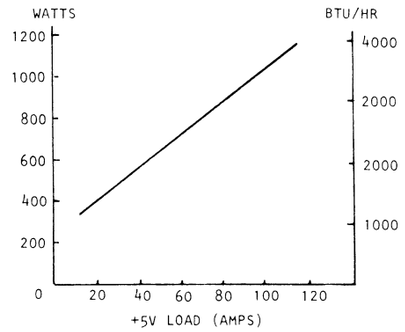
CAUTION:

DO NOT POWER UP THE SYSTEM WITHOUT A LOAD BOARD IN THE EXPANSION CHASSIS, SINCE POWERING UP THE EXPANSION CHASSIS WITHOUT A LOAD ON THE POWER SUPPLY WILL BLOW PICO FUSE F5 IN THE VNR UNIT.

+5V LOAD DISTRIBUTION WITH LOAD BOARD IN SLOT 1

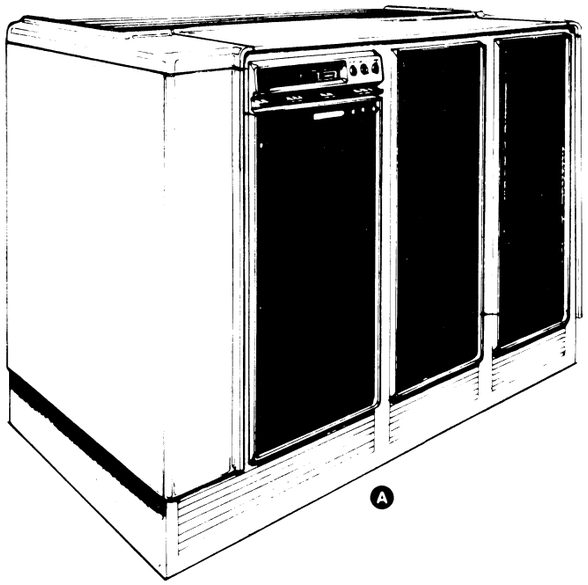
GROUP OF SLOTS	MAXIMUM CURRENT (AMPS) FOR GROUP
1, 2	44
3, 4	44
5, 6, 7	44
8, 9, 10	44
11, 12, 13	44
14, 15, 16	44

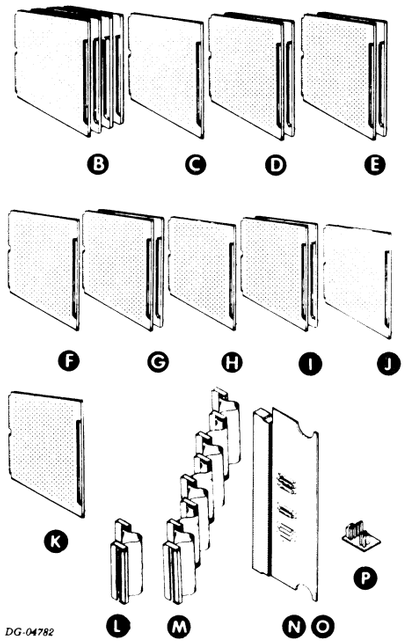
POWER CONSUMPTION VS LOADING*



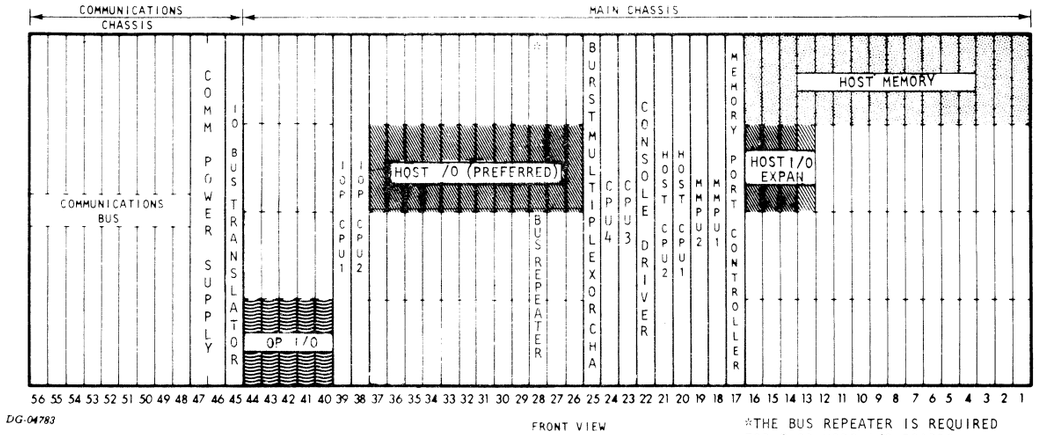
*THIS CHART IS A GUIDELINE TO THE ACTUAL HEAT OUTPUT OF A SPECIFIC SYSTEM.

INSTALLATION SPECIFICATIONS





DG-04782



DG-04783

FRONT VIEW

*THE BUS REPEATER IS REQUIRED FOR 8 OR MORE I/O BOARDS.

MAJOR COMPONENT

Item	Component	Mounting Location	Notes
A	3 BAY CABINET ASSY	FLOOR	1-30" BAY 5 FT. 2-19" BAY 5 FT.
B	MEMORY 4 BOARDS	CABINET *	4-64KB SEMI-CONDUCTOR MEMORY BOARDS
C	MEMORY PORT CONTROLLER	CABINET	
D	MMPU1 MMPU2	CABINET	
E	CPU1 CPU2	CABINET	
F	CONSOLE BOARD	CABINET	
G	CPU3 CPU4	CABINET	
H	BURST MULTIPLEXOR CHANNEL (BMC)	CABINET	
I	IOP CPU2 IOP CPU1	CABINET	
J	COMM I/O BUS TRANSLATOR	CABINET	
K	COMMUNICATIONS POWER SUPPLY	CABINET	REQUIRES 2 SLOTS

CABLE

Item	Cable	Connecting	Max Allowed Lg ft / m	Notes
L	INTERBD CABLES	and		8 FOR BETWEEN PROCESSOR BOARDS
M	(BMC)	"		2 SIZE DEPENDS UPON NUMBER OF HIGH SPEED CHANNEL INTERFACES
		"		

TERMINATOR

Item	Terminator	Location	Notes
N	BUS TERMINATORS	CABINET	
O	COMMUNICATIONS BUS TERMINATOR	CABINET	
P	SYS CLK TERMINATORS	CABINET	

* MINIMUM SYSTEM CONTAINS 256KB ERCC SEMICONDUCTOR MEMORY. CORE MEMORY IS ALSO AVAILABLE.

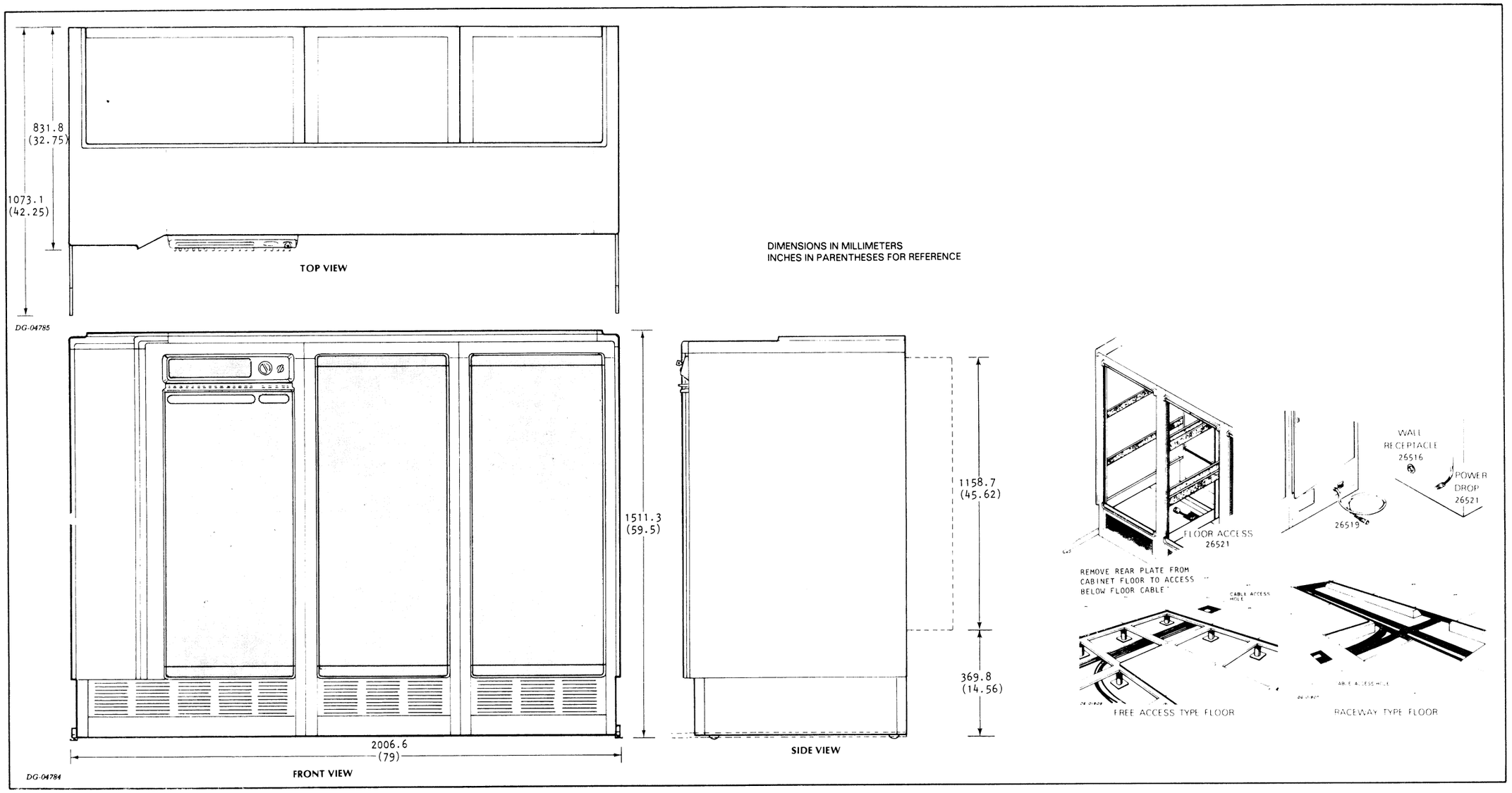
CPU DESIGNATOR:
Designator Number: 130
Designator: 13-14

Data Channel Speeds Available: Standard ☑ Burst Mux ☑

Slot	Allowed (Slot Chart)		Assigned	+5V Current Draw
1-12	HOST MEMORY	32kb CORE / 64kb SC		1.8 / 3.5
		128kb SC / 256kb SC		3.3 / 3.5
13-16	HOST MEMORY OR I/O EXPANSION			
17	MEMORY PORT CONTROLLER		17	5.2
18	MMPU1		18	5.0
19	MMPU2		19	8.0
20	CPU1		20	9.9
21	CPU2	W/ERCC	21	18.5
22	CONSOLE DRIVER		22	7.3
23	CPU3		23	11.0
24	CPU4		24	18.0
25	BURST MULTIPLEXOR CHANNEL (BMC)		25	12.0
26-28	HOST I/O			
29	HOST I/O			
30-37	HOST I/O			
38	IOP2		38	12.0
39	IOP1		39	9.9
40-44	IOP I/O			
45	I/O BUS TRANSLATOR		45	
46-47	COMMUNICATIONS POWER SUPPLY		46,47	
48-56	COMMUNICATIONS BOARDS DG/CS			

Total +5V Current draw: ____
Max +5V Current Available: 300
+5V Current Surplus: ____

INSTALLATION SPECIFICATIONS



DIMENSIONS:	Width	Depth	Height
Millimeters	2006.6	831.85	1511.3
Inches	79.00	32.75	59.50

SERVICE CLEARANCES:	Front	Rear	Right	Left
Millimeters	800.1	812.8	419.1	762.00
Inches	31.50	32.00	16.50	30

WEIGHT:	Empty	Fully Loaded	
	187/152	492/221	BAY A
kilograms/pounds	187/152	412 185	BAY B
	356/161.8	356/160	BAY C

HEAT OUTPUT:	Watts	BTU/hr	
	150	511.50	BAYS A+B
	3500	11935	BAY C

POWER REQUIREMENTS:

(Domestic)				
Voltage	120	208		
Hz	47-63	47-63		
Max Amp per Phase	32	32		
Phase	3	3		
Startup Surge per Phase				
(Export)				
Voltage	200	220	380/220	415/240
Hz	47-63	~7-63	47-63	47-63
Max Amp per Phase	33	30	18	16
Phase	3	3	3	3
Startup Surge per Phase				

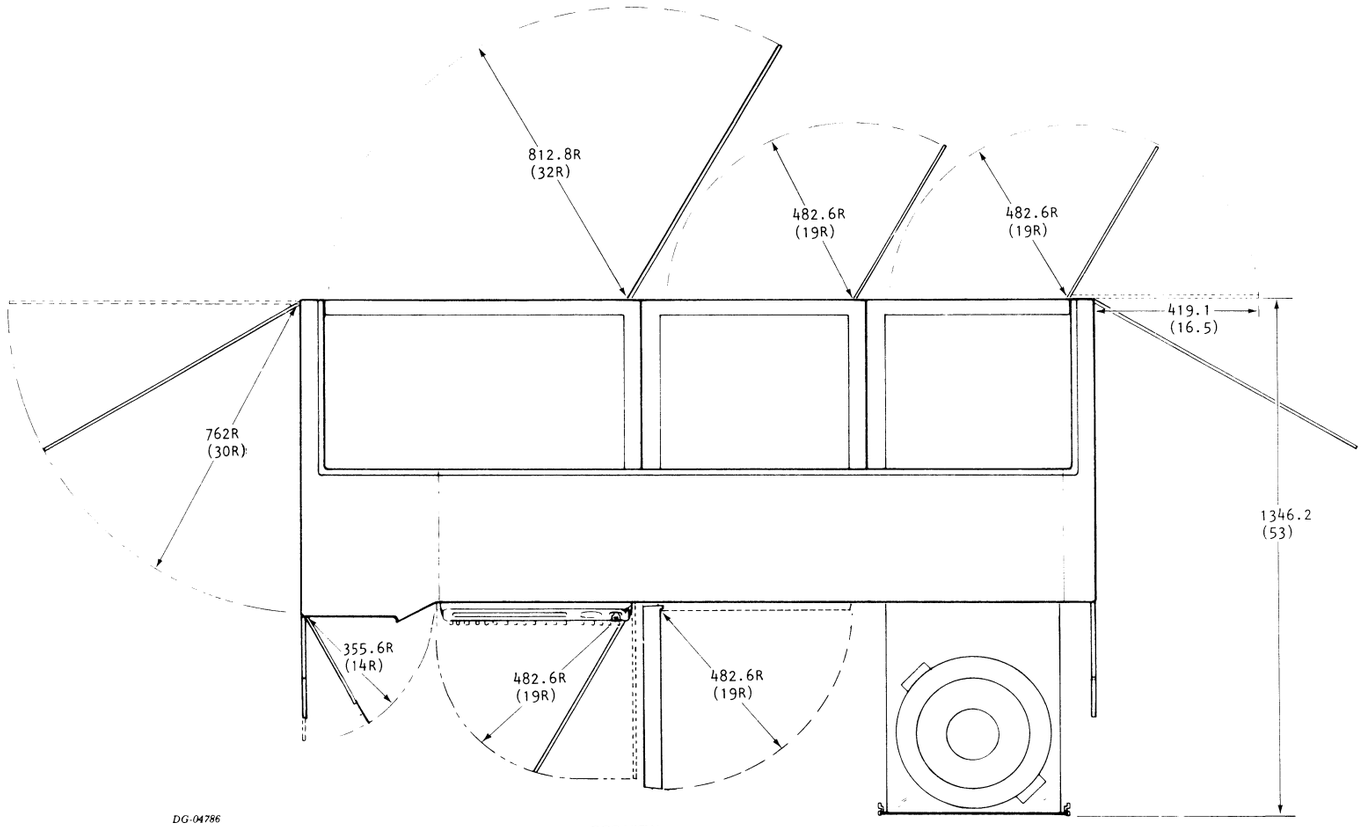
CABLES:

Primary Power

	Conn
Domestic 60Hz	5-15R
Export 50Hz	6-15R

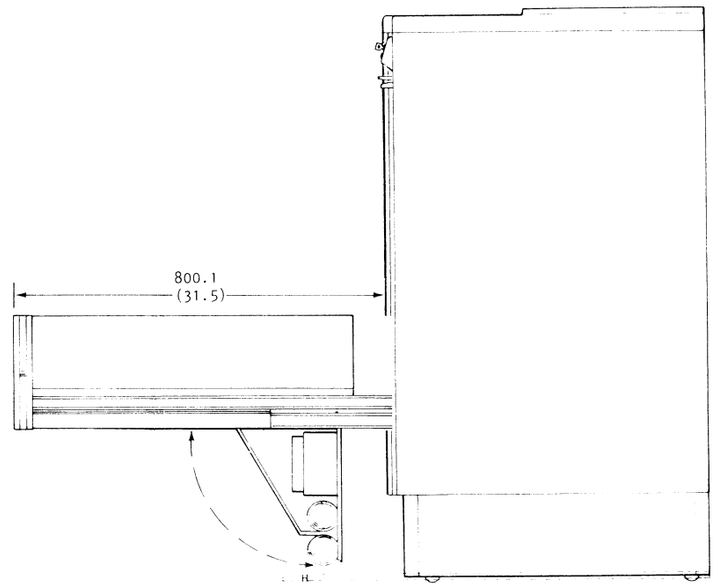
CPU DESIGNATOR:
Designator Number: 130
Designator: 13-14

INSTALLATION SPECIFICATIONS



TOP VIEW

SERVICE CLEARANCES

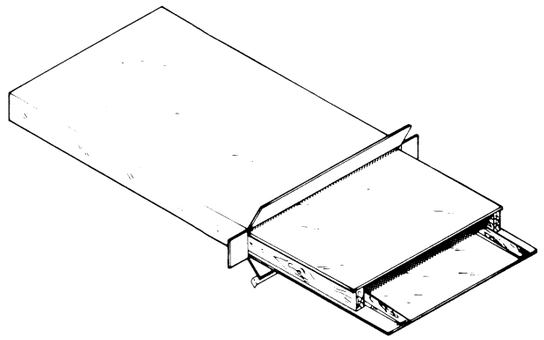


SIDE VIEW

DIMENSIONS IN MILLIMETERS
INCHES IN PARENTHESES FOR REFERENCE

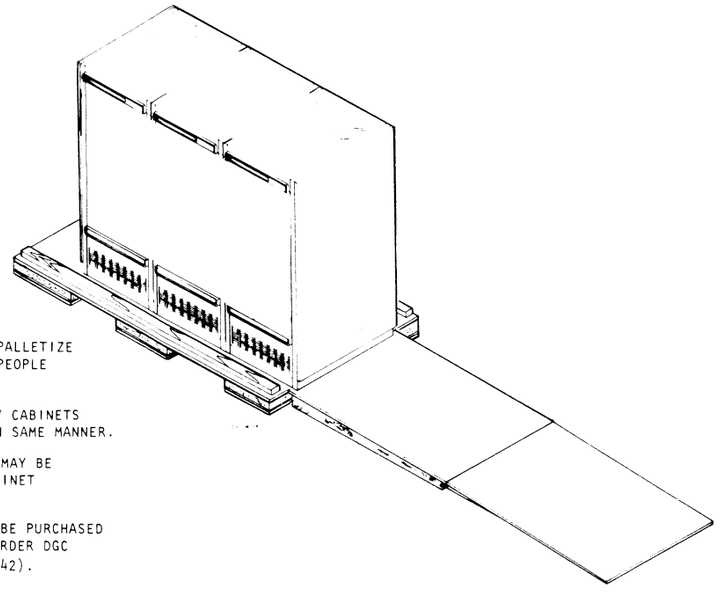
SHIPPING

RAMP PACKAGE



SHIPPING AND PACKAGE DATA					
Outside Dimensions			Weight (Gross)	Volume	Density
Length	Width	Depth			
in. / cm	in. / cm	in. / cm	lbs. / kg	cu ft. / cu m	lbs/cu ft / kg/cu m
32.25 / 82	5.25 / 13	50.75 / 129	50 / 22.5	4.77 / .1431	10.48 / 157

DEPALLETIZE CABINET

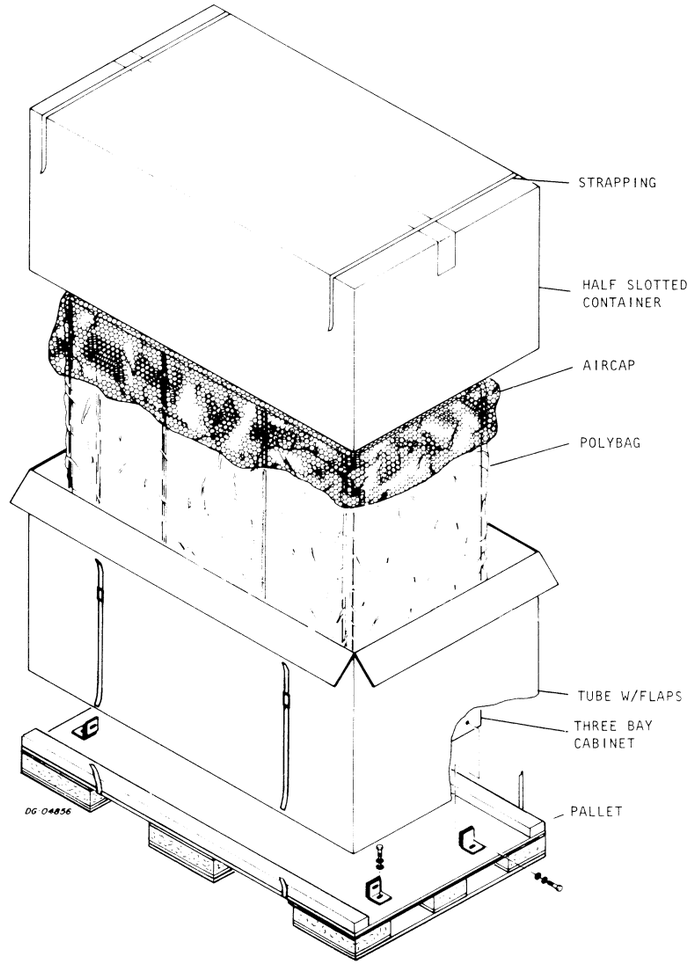


1) DO NOT ATTEMPT TO DEPALLETIZE UNLESS AT LEAST TWO PEOPLE ARE PRESENT.

2) SINGLE AND DOUBLE BAY CABINETS ARE TO BE UNLOADED IN SAME MANNER.

3) SAVE THIS RAMP AS IT MAY BE NEEDED FOR FUTURE CABINET DELIVERIES.

4) ADDITIONAL RAMPS MAY BE PURCHASED AT ADDITIONAL COST (ORDER DGC PART NUMBER 129-000-242).

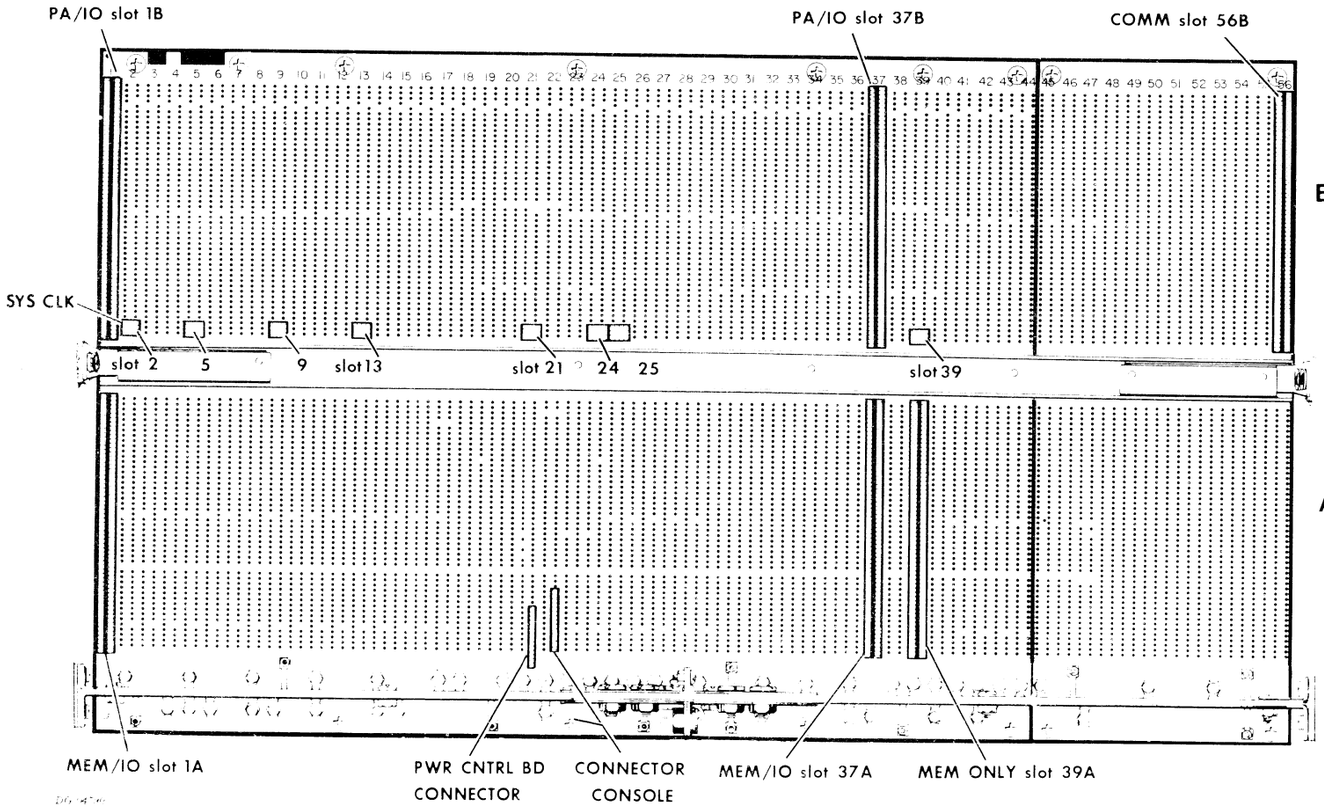


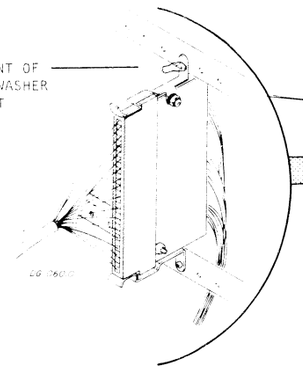
SHIPPING AND PACKAGE DATA							
Outside Dimensions			Weight (Gross)	Volume	Density		
Length	Width	Depth					
in. / cm	in. / cm	in. / cm	lbs. / kg	cu ft. / cu m	lbs/cu ft / kg/cu m		
85.8 / 218	43 / 109.2	66 / 168	1300 / 591	141 / 4	8.9 / 148		
SHIPPING SPECIFICATIONS			STORAGE SPECIFICATIONS				
Temperature Range °F / °C	Relative Humidity (Non-condensing)	Maximum Altitude	Temperature Range °F / °C	Relative Humidity (Non-condensing)	Maximum Period		
-40to+160 / -40 to +71	0%/80%	50,000ft. 15,200m	-40to+160 / -40 to +71	0%/30%	90 days		

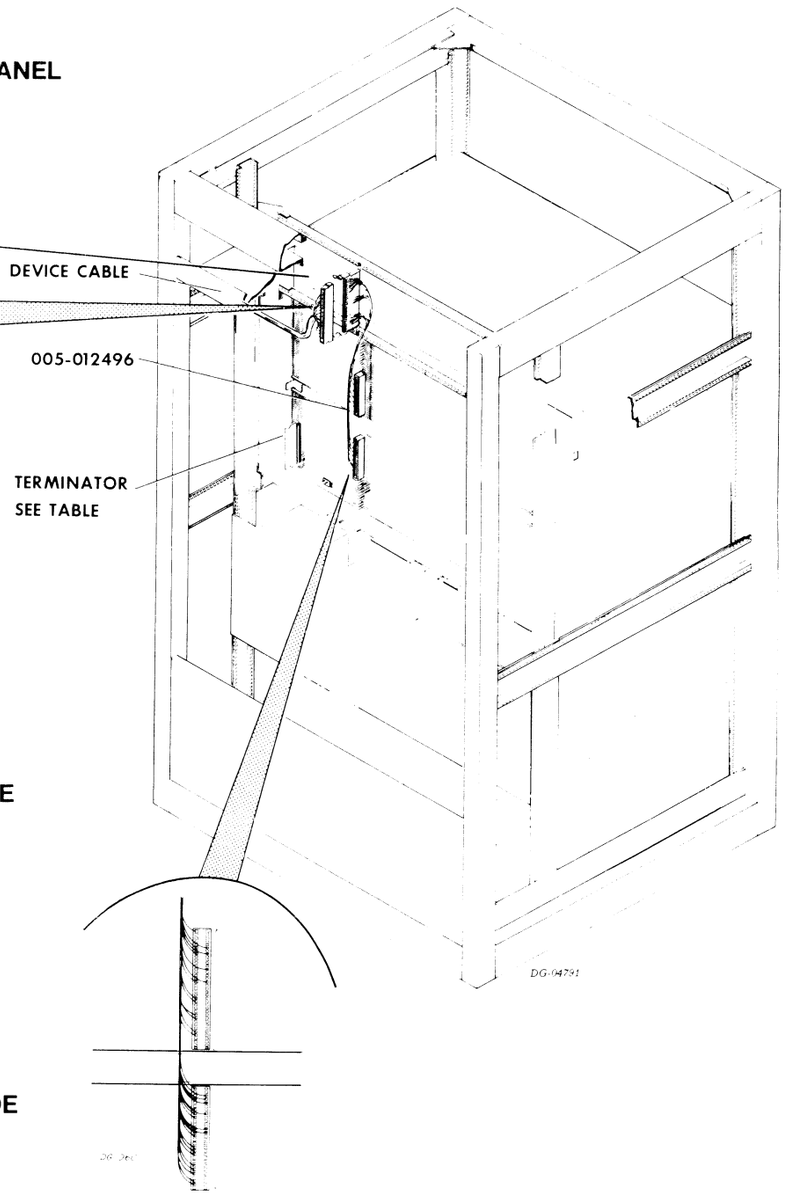
DG-03224

INTERNAL CABLING

TERMINATORS PLACEMENT REAR VIEW BACKPANEL



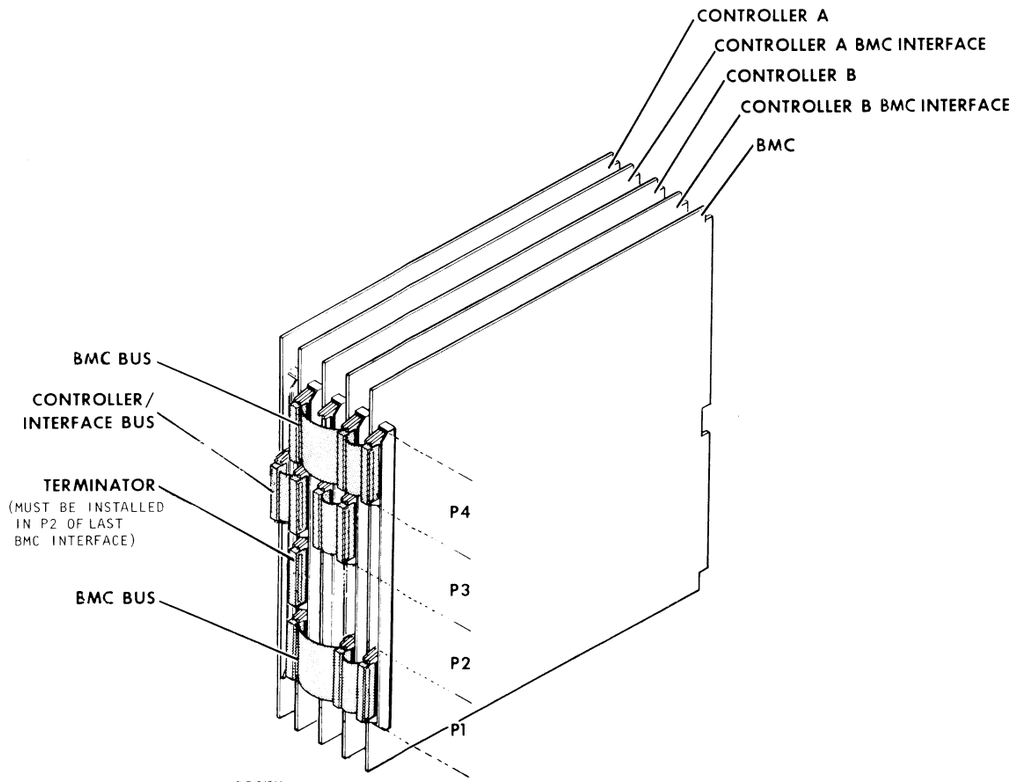




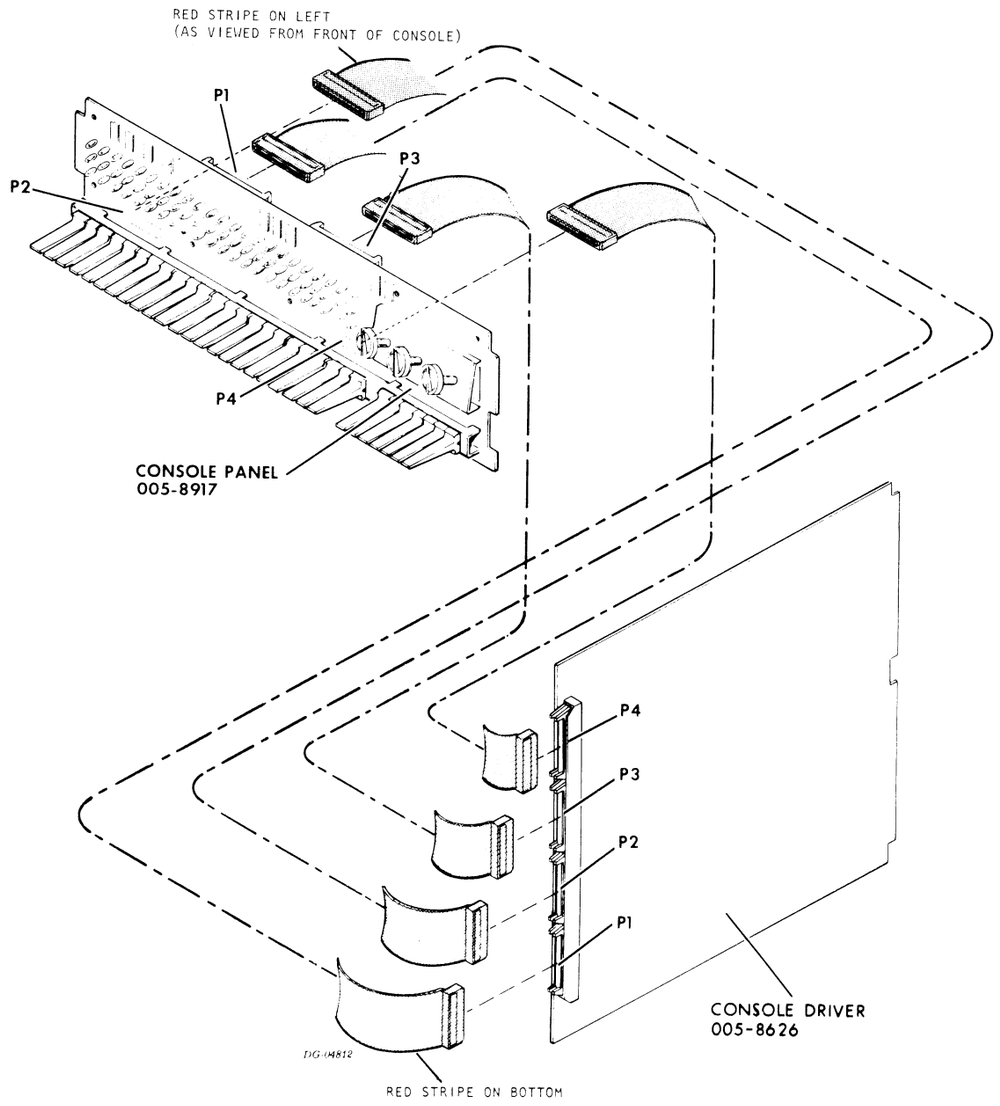
ASSY TERMINATOR	
005-008086	MEM I/O A SIDE
005-008087	PA I/O B SIDE
005-008034	MEM ONLY
005-009893	COMM. B SIDE
005-008033	SYS CLK

INTERNAL CABLING (CONT)

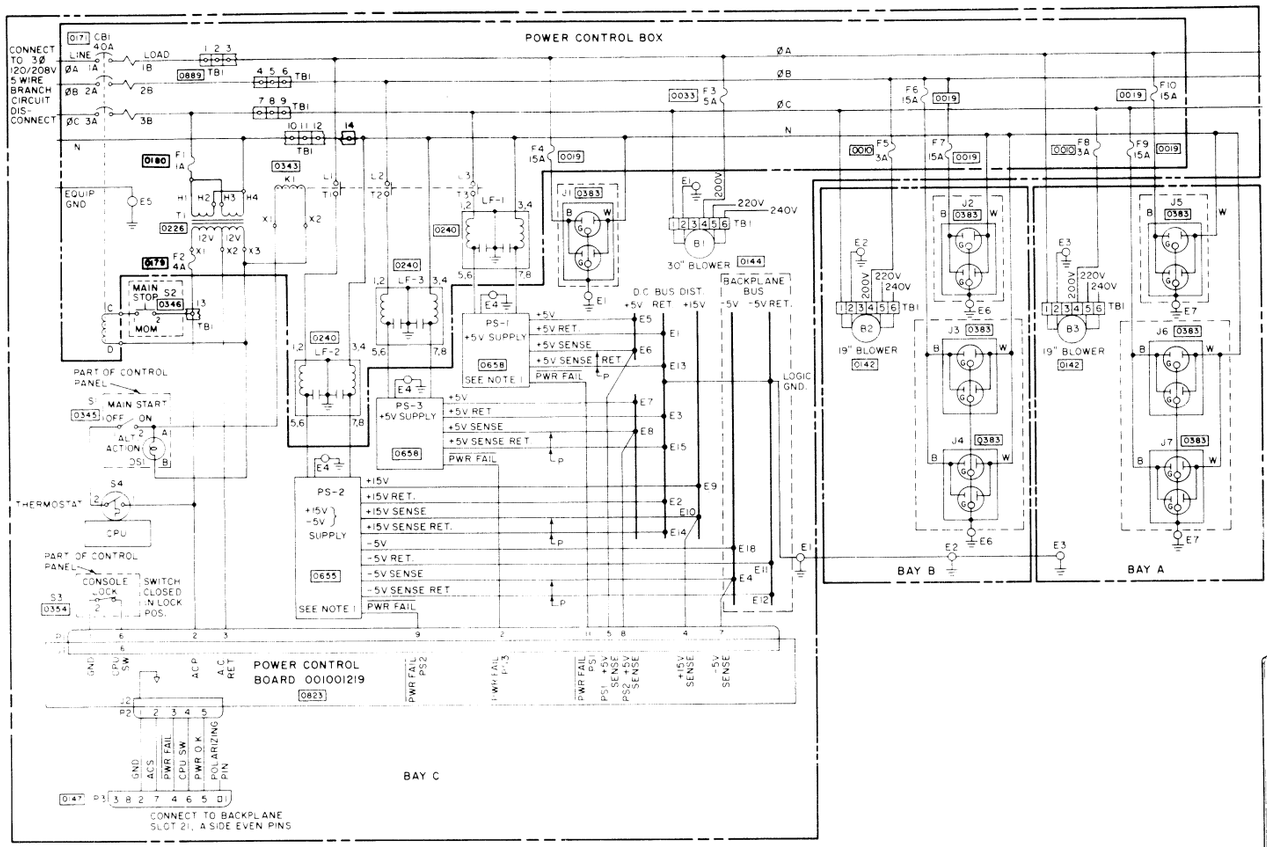
INTERFACE AND BMC



CONSOLE

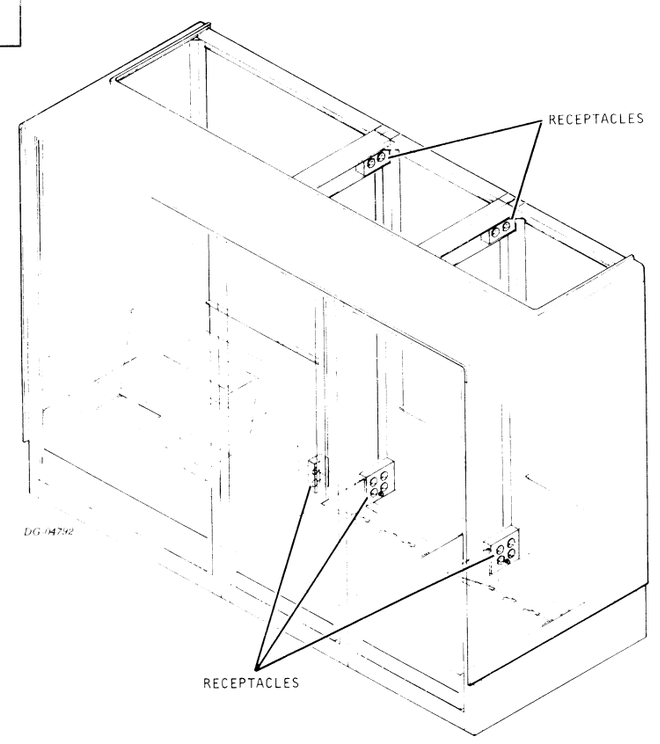


INTERNAL CABLING (Cont)

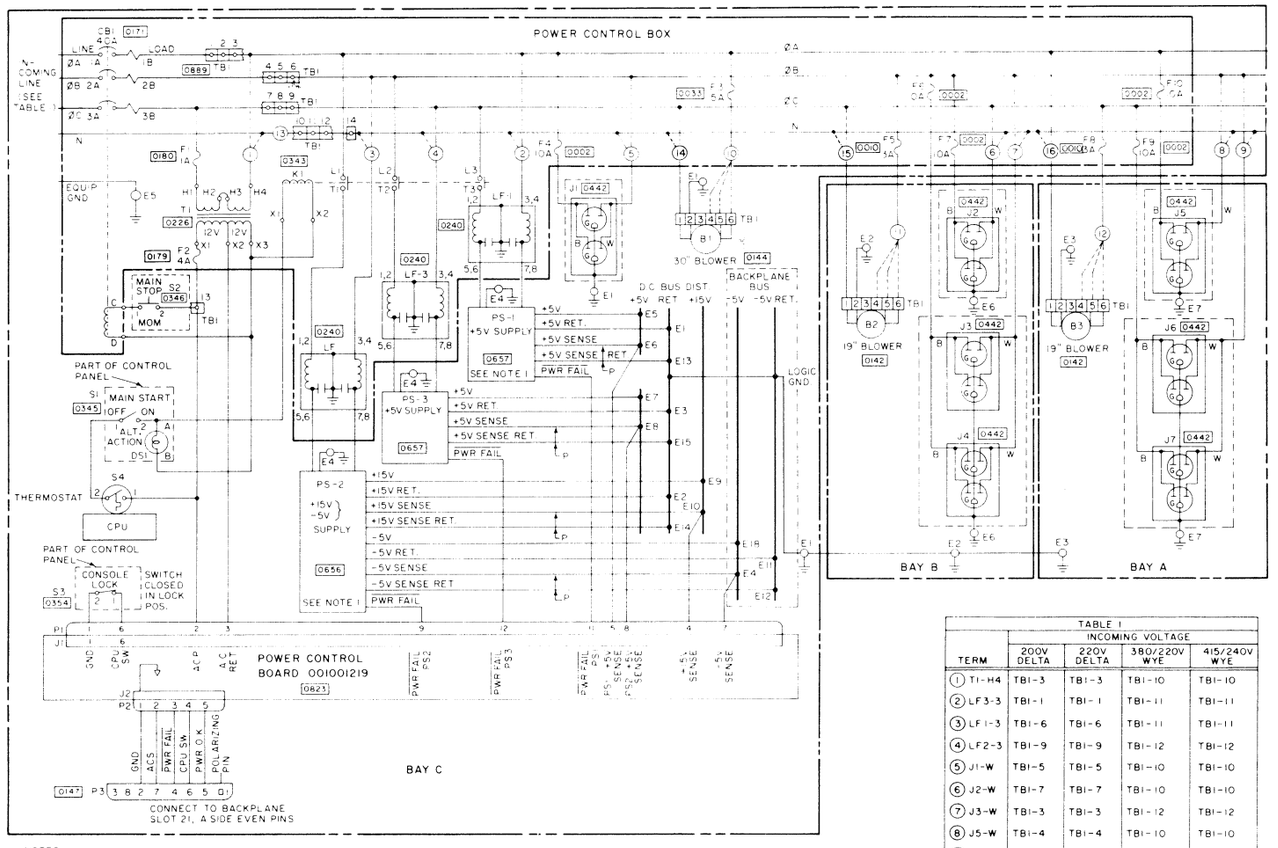


NOTES:
1. FOR +5V TERMINAL CONNECTIONS SEE POWER SUPPLY No. 118-0658.
   FOR +5V, -5V TERMINAL CONNECTIONS SEE POWER SUPPLY No 118-0655.
2. DATA GENERAL PART No's SHOWN AS [XXXX].

DG-02480



INTERNAL CABLING (Cont)



NOTES

1 FOR +5V. TERMINAL CONNECTIONS SEE POWER SUPPLY No. 118-0657.
FOR +15V,-5V TERMINAL CONNECTIONS SEE POWER SUPPLY No 118-0656.

2 DATA GENERAL PART No.s SHOWN AS [xxxx].

DG-04479

TABLE 1

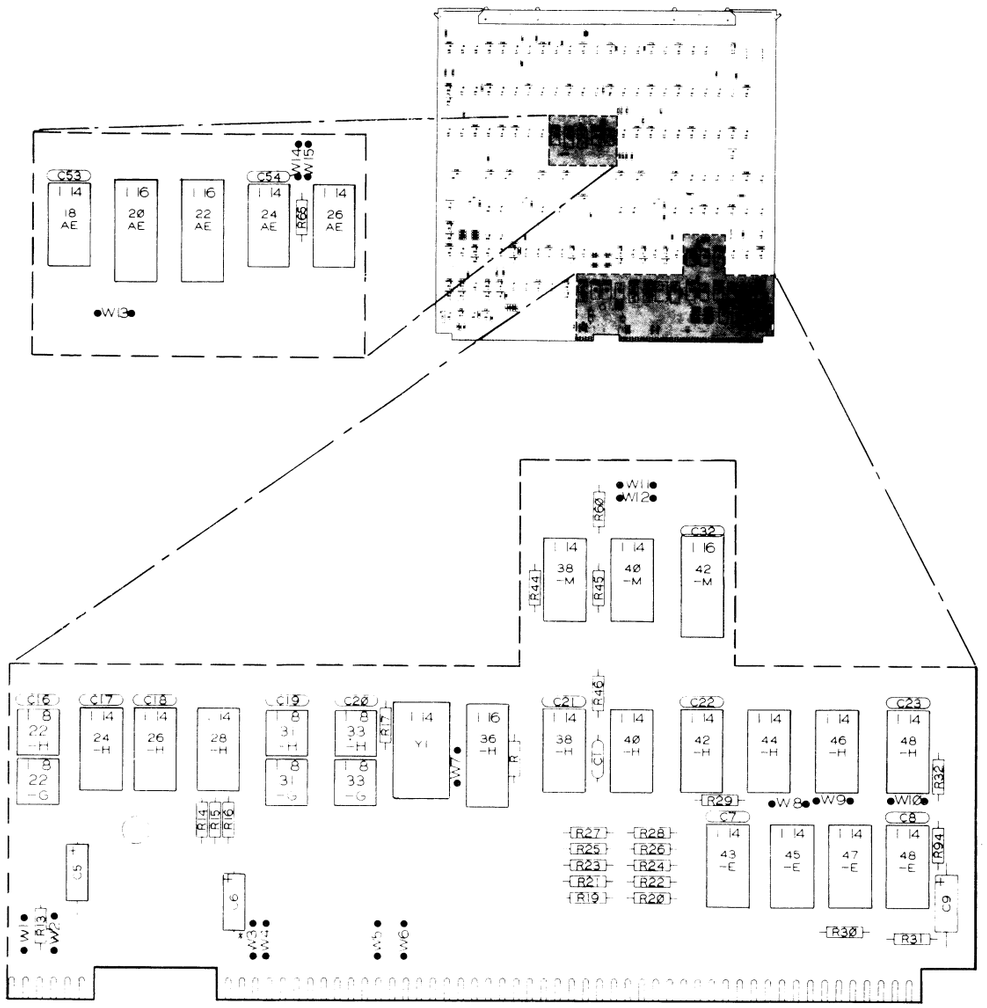
TERM	INCOMING VOLTAGE 200V DELTA	220V DELTA	380/220V WYE	415/240V WYE
(1) T1-H4	TB1-3	TB1-3	TB1-10	TB1-10
(2) LF3-3	TB1-1	TB1-1	TB1-11	TB1-11
(3) LF1-3	TB1-6	TB1-6	TB1-11	TB1-11
(4) LF2-3	TB1-9	TB1-9	TB1-12	TB1-12
(5) J1-W	TB1-5	TB1-5	TB1-10	TB1-10
(6) J2-W	TB1-7	TB1-7	TB1-10	TB1-10
(7) J3-W	TB1-3	TB1-3	TB1-12	TB1-12
(8) J5-W	TB1-4	TB1-4	TB1-10	TB1-10
(9) J6-W	TB1-5	TB1-5	TB1-12	TB1-12
(10) F3	B1 TB1-4	B1 TB1-5	B1 TB1-5	B1 TB1-6
(11) F5	B2 TB1-4	B2 TB1-5	B2 TB1-5	B2 TB1-6
(12) F8	B3 TB1-4	B3 TB1-5	B3 TB1-5	B3 TB1-6
(13) PWR CAB N			TB1-11	TB1-
(14) B1 TB1-1	TB1-7	TB1-7	TB1-4	TB1-4
(15) B2 TB1-1	TB1-7	TB1-7	TB1-4	TB1-4
(16) B3 TB1-1	TB1-1	TB1-	TB1-4	TB1-4

TAILORING

JUMPERING

CPU 1 PCB

Ref. DGC 107 000261 Rev. 01



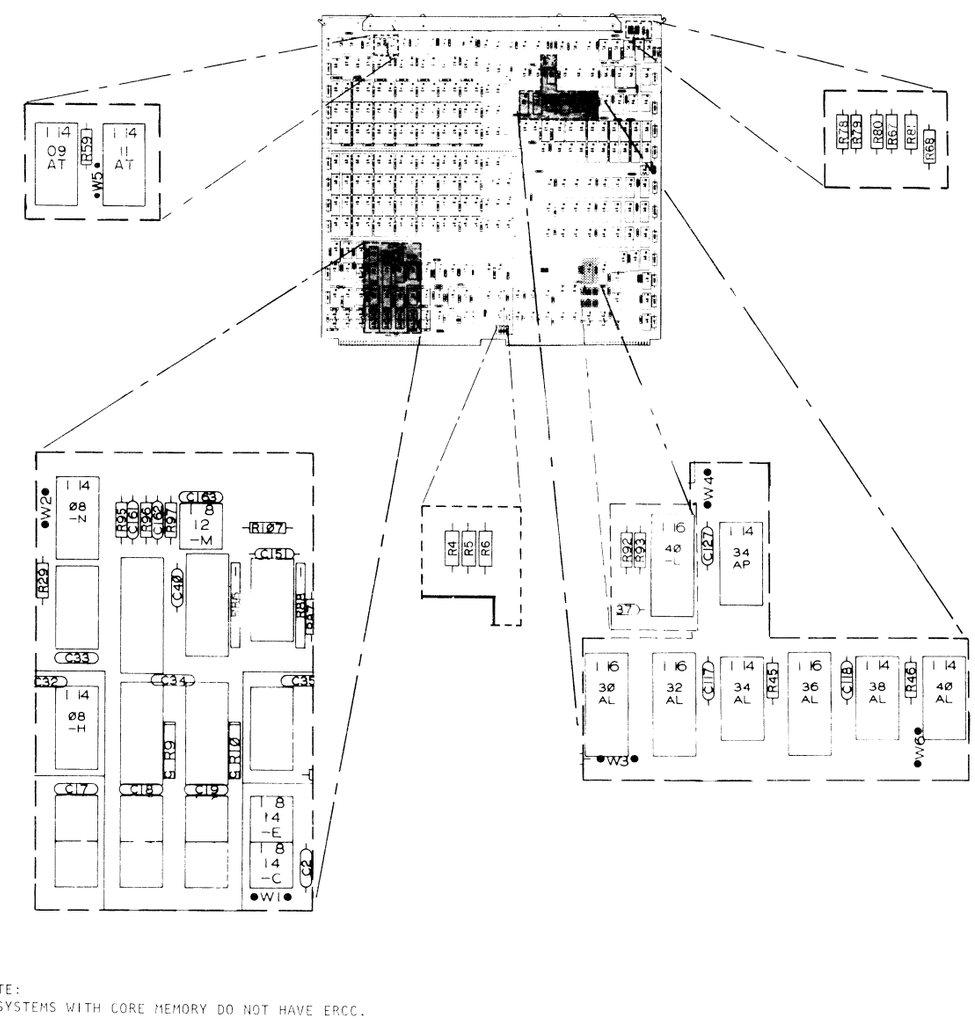
W1	OUT	
W2	OUT	
W3	OUT	
W4	OUT	
W5	IN	INH AINPUT PORT
W6	IN	REG CLK
W7	OUT	20-mhz
W8	OUT	REG CLK
W9	OUT	CLK LMC1,3
W10	OUT	CLK LMC4
W11	IN	STOP CPU
W12	IN	STOP CPU
W13	IN	LDIR CLK
W14	IN	CPU ST CLK
W15	OUT	CPU CLK

10P1

W1-W7	OUT
W8	IN
W9	IN
W10	IN
W11	IN
W12	IN
W13	OUT
W14	OUT
W15	IN

CPU 2 ERCC PCB

Ref. DGC 107 000657 Rev. 01



W1	IN	EMST
W2	OUT	ERR HALT
W3	OUT	PF ART
W4	OUT	PF DRS
W5	OUT	
W6	OUT	
R6	OUT	
R73	IN	
R92	OUT	

NOTE:
SYSTEMS WITH CORE MEMORY DO NOT HAVE ERCC.

TAILORING (Cont)

JUMPERING

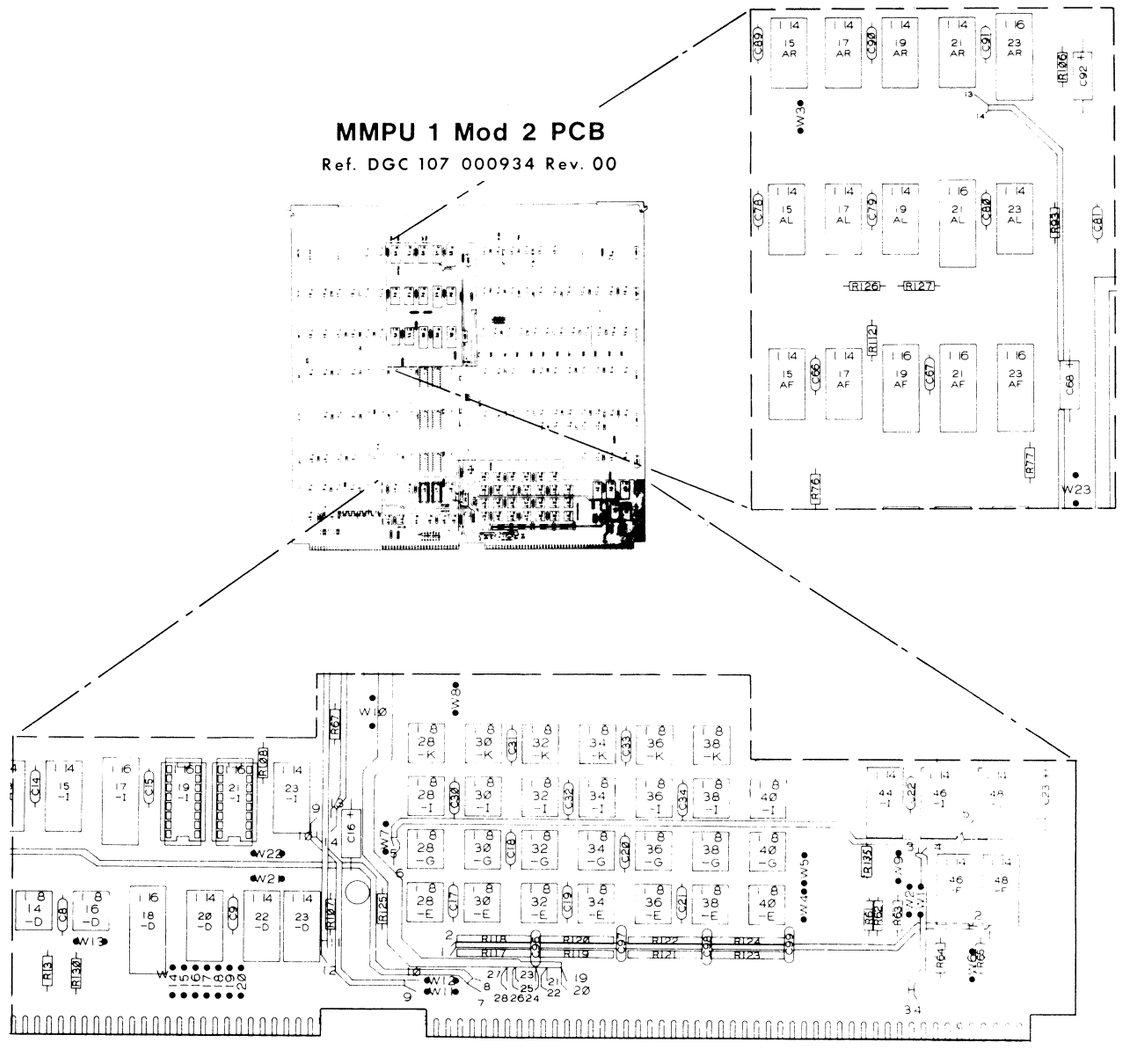
SC MEMORY PCB

Ref. DGC 107 000611 Rev. 03

Refer to Memory Installation Data Sheet 010-000211

MMPU 1 Mod 2 PCB

Ref. DGC 107 000934 Rev. 00



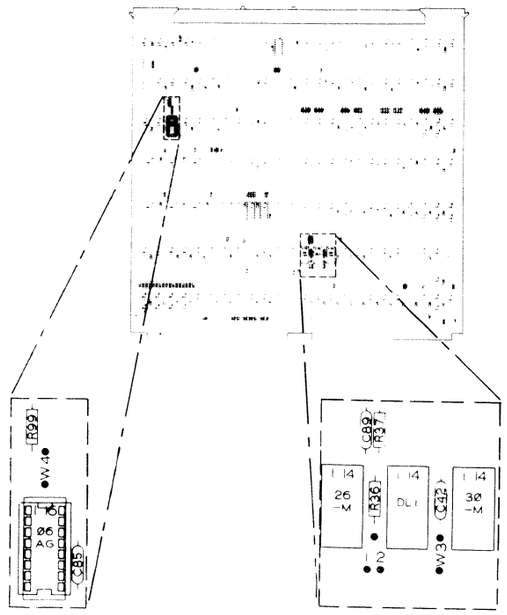
W1	OUT	W13	IN
W2	OUT	W14	OUT
W3	IN	W15	IN
W4	IN	W16	OUT
W5	IN	W17	IN
W6	IN	W18	OUT
W7	OUT	W19	OUT
W8	OUT	W20	IN
W9	OUT	W21	IN
W10	IN	W22	OUT
W11	IN	W23	IN
W12	OUT		

TAILORING (Cont)

JUMPERING

MMPU2 PCB

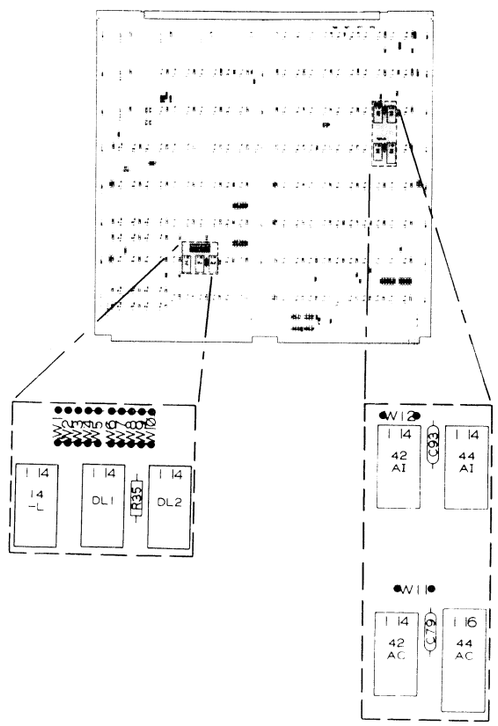
Ref. DGC 107 000602 Rev. 01



W1	OUT	
W2	OUT	
W3	IN	
W4	OUT	FP BUF

MPC PCB

Ref. DGC 107 000692 Rev. 01

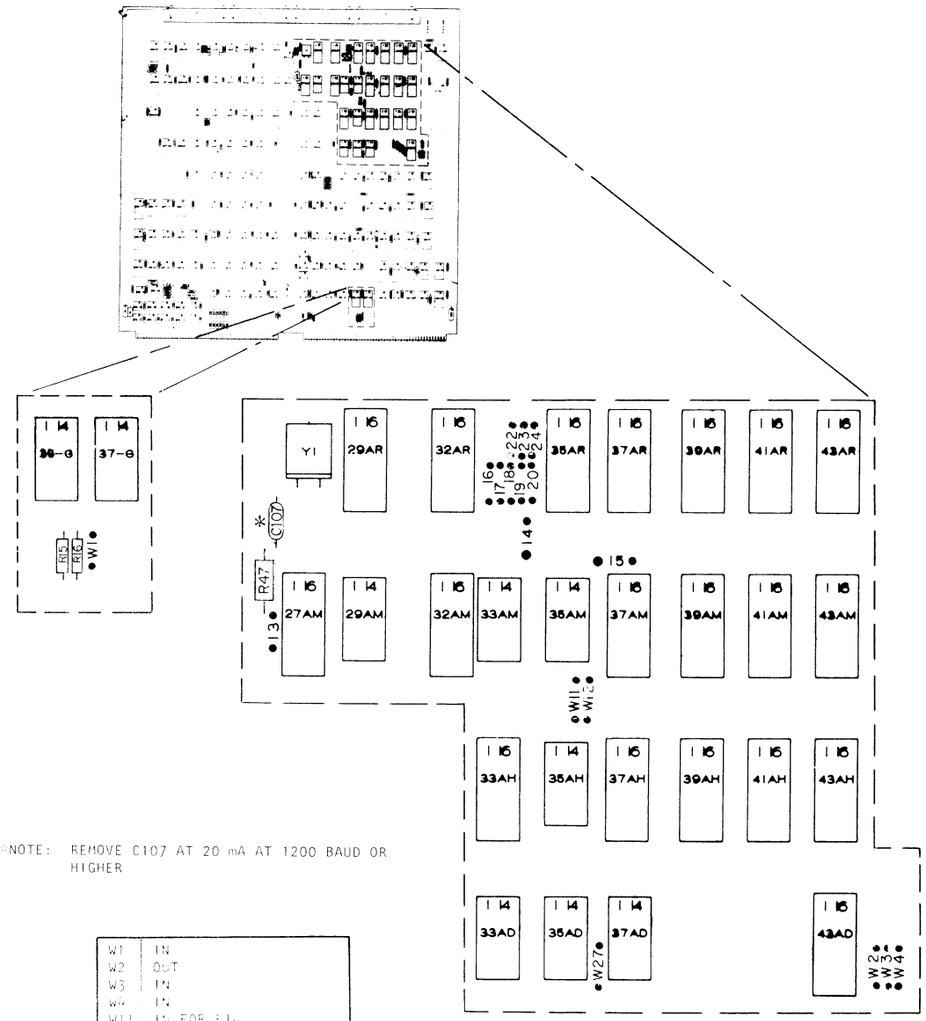


W1-W10	SKEW CLK
W11	IN
W12	IN

INSERT ONE TO MAKE $\overline{\text{DPORT1}}$ TOGGLE AT SYSCLK FALLING EDGE +5 TO 10NS

CONSOLE PCB

Ref. DGC 107 000664 Rev. 04



*NOTE: REMOVE C107 AT 20 mA AT 1200 BAUD OR HIGHER

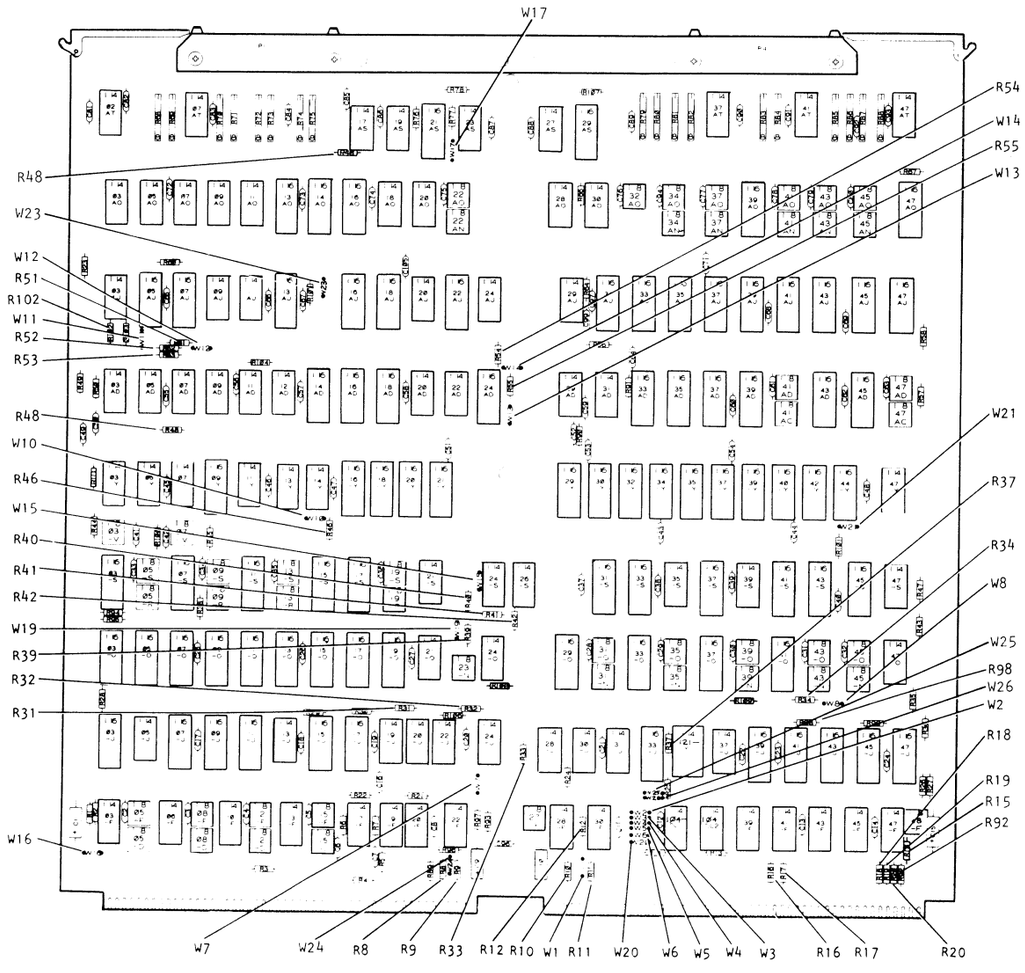
W1	IN
W2	OUT
W3	IN
W4	IN
W11	IN FOR EIA
W12	IN FOR 20MA CURR LOOP
W13	IN FOR 20MA CURR LOOP
W14	IN FOR EIA
W15	IN FOR ASR33/OUT FOR DASHER, CRTS
W16	1200 BAUD
W17	1800 BAUD
W18	2400 BAUD
W19	4800 BAUD
W20	300 BAUD
W21	110 BAUD
W23	9600 BAUD
W24	600 BAUD
W27	OUT

TAILORING (Cont)

JUMPERING

BURST MULTIPLEXOR CHANNEL PCB

Ref. DGC 107 000559 Rev. 09



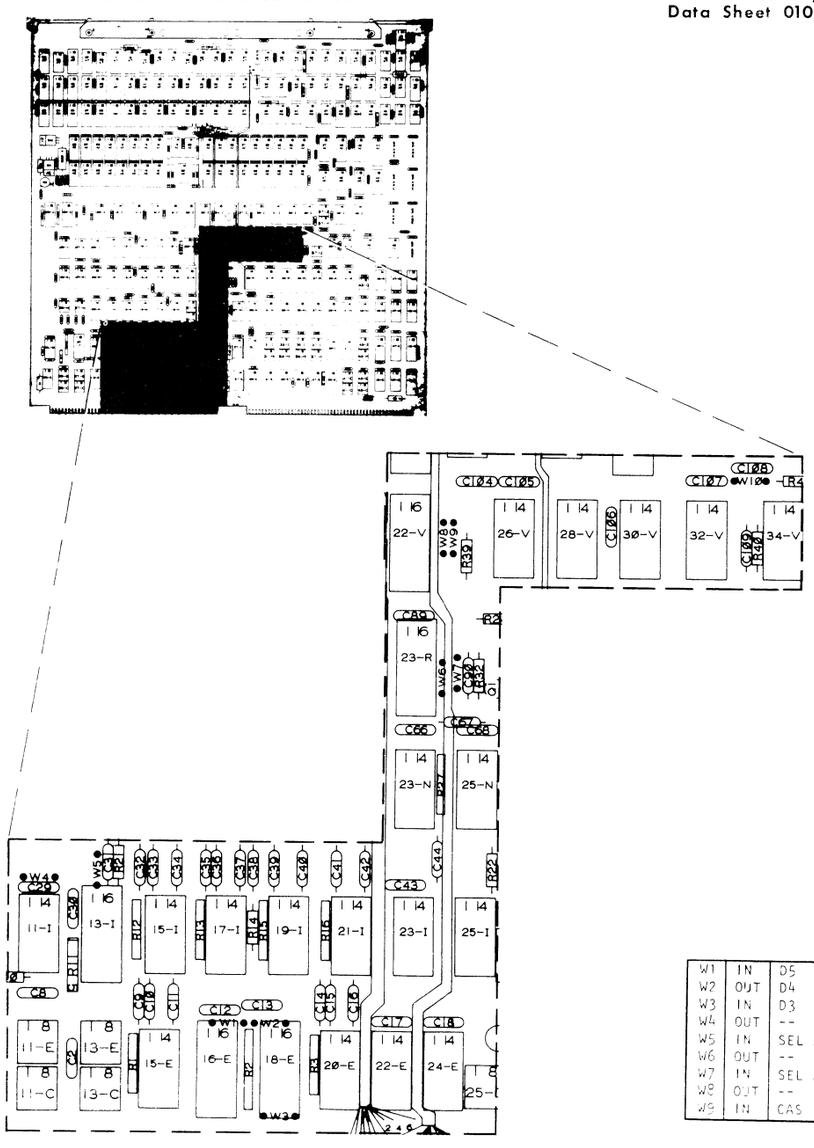
SCM LOC	DUMMY RES.	SIGNAL NAME	
3A5	R8	$\overline{\text{SYSCLKC}}$	OUT
3A5	R9	$\overline{\text{SYSCLKD}}$	OUT
3A5	R10	$\overline{\text{SYSCLKS}}$	OUT
3A5	R11	$\overline{\text{SYSCLKN}}$	OUT
3B5	R12	$\overline{\text{SYSCLK}}$	OUT
3D6	R15	$\overline{\text{PMC3}}$	OUT
3D6	R16	$\overline{\text{PMC1}}$	OUT
3C6	R17	$\overline{\text{PMC4}}$	OUT
3D2	R18	$\overline{\text{APORT0}}$	OUT
3C2	R19	$\overline{\text{DPORT0}}$	OUT
3C2	R20	$\overline{\text{APORT1}}$	OUT
2A6	R31	$\overline{\text{AOMEM}}$	0
2B4	R32	$\overline{\text{PHASE}}$/$\overline{\text{PHASE}}$	0
2D4	R33	$\overline{\text{HSCMC1}}$	0
3C5	R34	$\overline{\text{PHASE}}$ /PHASE	0
3A8	R37	$\overline{\text{SYSCLK}}$	OUT
4D6	R39	AOMEM	IN
4D8	R40	$\overline{\text{PHASE}}$ /PHASE	0
3D4	R41	$\overline{\text{HSCAMD}}$	OUT
3C4	R42	$\overline{\text{HSCMMD}}$	OUT
2D5	R46	$\overline{\text{PHASE}}$ /PHASE	0
2C4	R48	$\overline{\text{AOMSIN}}$	OUT
2C3	R51	PHASE/$\overline{\text{PHASE}}$	0
2B3	R52	$\overline{\text{SET ENAOMEM}}$	0
2B3	R53	$\overline{\text{SET ENAOMEM}}$	OUT
2B2	R54	$\overline{\text{PHASE}}$/GND	0
2B2	R55	$\overline{\text{AOMEM}}$/ $\overline{\text{PHASE}}$	0
3C2	R92	$\overline{\text{DPORT1}}$	OUT
3D5	R98	$\overline{\text{AOMC1}}$ /HI	OUT
2D5	R102	$\overline{\text{STOP}}$ /HI	0
3B5	W1	$\overline{\text{SYSCLK}}$ / $\overline{\text{SYSCLKN}}$	IN
3B6	W2	SKW CLK	OUT
3B6	W3	SKW CLK	OUT
3B6	W4	SKW CLK	OUT
3B6	W5	SKW CLK	OUT
3B6	W6	SKW CLK	OUT
3B6	W20	SKW CLK	OUT
2B3	W7	PHASE/$\overline{\text{PHASE}}$	0
3C5	W8	$\overline{\text{PHASE}}$ /PHASE	0
2D5	W10	$\overline{\text{PHASE}}$ /PHASE	0
2B3	W11	$\overline{\text{SET ENAOMEM}}$	OUT
2C3	W12	PHASE/$\overline{\text{PHASE}}$	0
2B2	W13	$\overline{\text{AOMEM}}$ / $\overline{\text{PHASE}}$	0
2B2	W14	$\overline{\text{PHASE}}$ /GND	0
4D7	W15	$\overline{\text{PHASE}}$ /PHASE	0
3B4	W16	$\overline{\text{ECC LOAD}}$	OUT
2C4	W17	$\overline{\text{HSC MSIN}}$	IN
4D6	W19	$\overline{\text{AOMEM/PHASE}}$	OUT
1C8	W23	$\overline{\text{ROM ADDR X1}}$	OUT
8D7	W24	$\overline{\text{HSCOUT}}$/HI	OUT
3A5	W25	$\overline{\text{SYSCLKC}}$	OUT
2B5	W26	GND	0
2B5		AOMCi	0

TAILORING (Cont)

JUMPERING

IOP2 PCB

Ref. DGC 107 000632 Rev. 00



CORE MEMORY PCB

Reference to Memory Installation Data Sheet 010-000211

W1	IN	D5
W2	OUT	D4
W3	IN	D3
W4	OUT	--
W5	IN	SEL ADDR
W6	OUT	--
W7	IN	SEL ADDR
W8	OUT	--
W9	IN	CAS

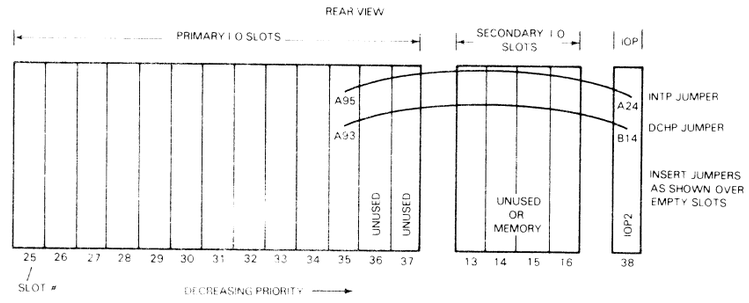
PRIORITY CHAIN MAINTENANCE

THE BACKPANEL SUPPLIES THE PRIORITY CHAIN FOR BOTH THE INTERRUPT AND DATA CHANNEL REQUESTS. THE BACKPANEL HAS TWO SIGNALS, DCHP AND INTP, WHICH GO FROM ONE I/OCONTROLLER TO THE NEXT, ENTERING THE CONTROLLER ON ONE PIN OF THE SLOT AND LEAVING THE CONTROLLER ON ANOTHER PIN. IF A SLOT IN THE I/O SYSTEM IS EMPTY, THE CHAIN HAS BEEN BROKEN; ALL CONTROLLERS FARTHER DOWN THE CHAIN FROM THE EMPTY SLOT WILL NEVER BE ABLE TO ACKNOWLEDGE AN INTERRUPT. JUMPERS MUST BE USED TO KEEP THE CHAIN INTACT.

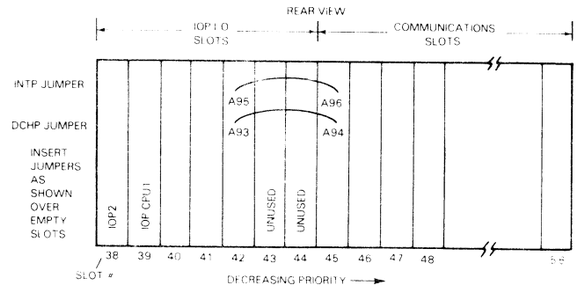
THE CENTRAL PROCESSOR'S I/O SLOTS IN THE ECLIPSE M/600 COMPUTER ARE NOT CONTIGUOUS. THE MAIN GROUP OF I/O SLOTS START WITH SLOT 25 (HIGHEST PRIORITY) AND GO THROUGH SLOT 37. A SECONDARY GROUP OF SLOTS IS SLOT 13 THROUGH SLOT 16. THE IOP IS IN SLOT 38 AND IT IS THE LOWEST PRIORITY. TO MAINTAIN THE PRIORITY CHAIN THROUGH THESE GROUPS, JUMPERS MUST BE INSTALLED BEGINNING AT THE FIRST EMPTY SLOT AND GOING TO THE IOP. ALSO, THE FIRST AND SECOND GROUPS OF SLOTS MUST BE JUMPERED TOGETHER IF THE SECOND GROUP IS USED FOR I/O INSTEAD OF MEMORY.

THE IOP'S I/O SLOTS (SLOTS 40 THROUGH 44) ALSO MUST BE JUMPERED IF ALL OF THEM ARE NOT USED.

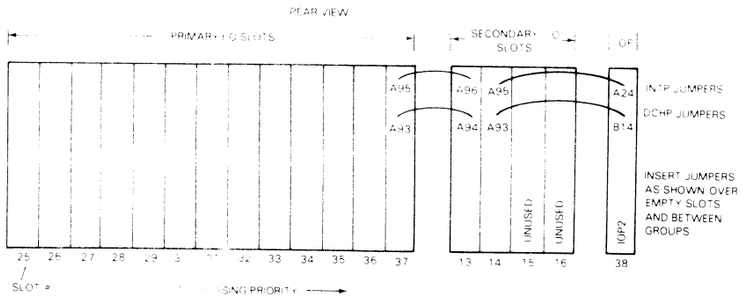
THE THREE EXAMPLES AT RIGHT SHOW HOW TO JUMPER THE PRIORITY CHAIN.



DG-05154

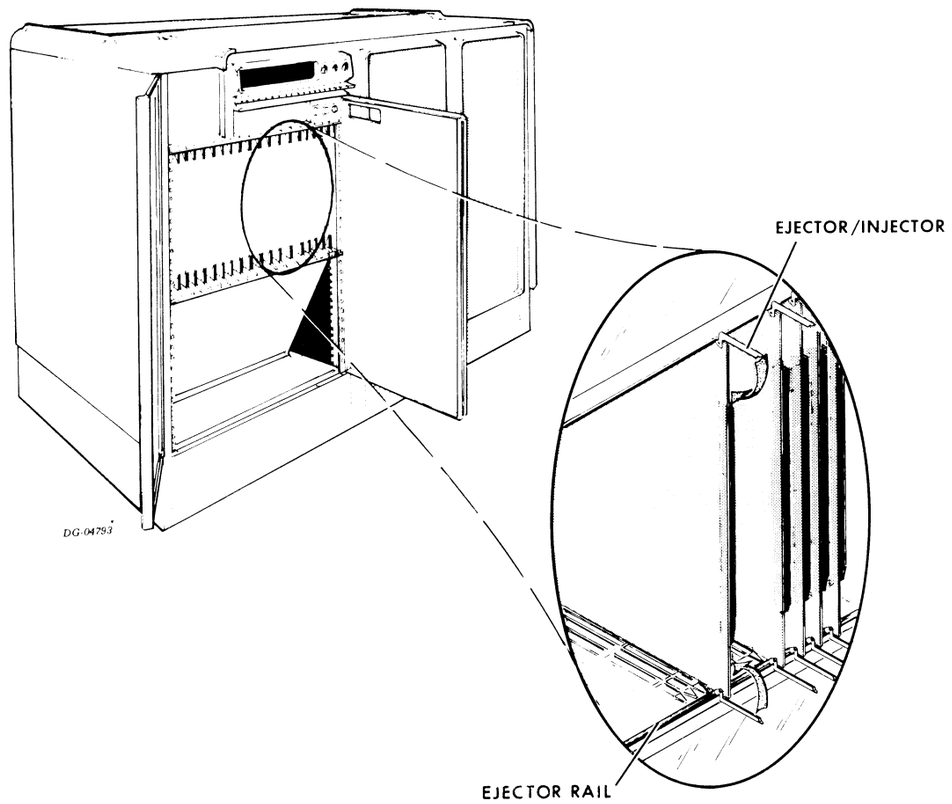


DG-05149



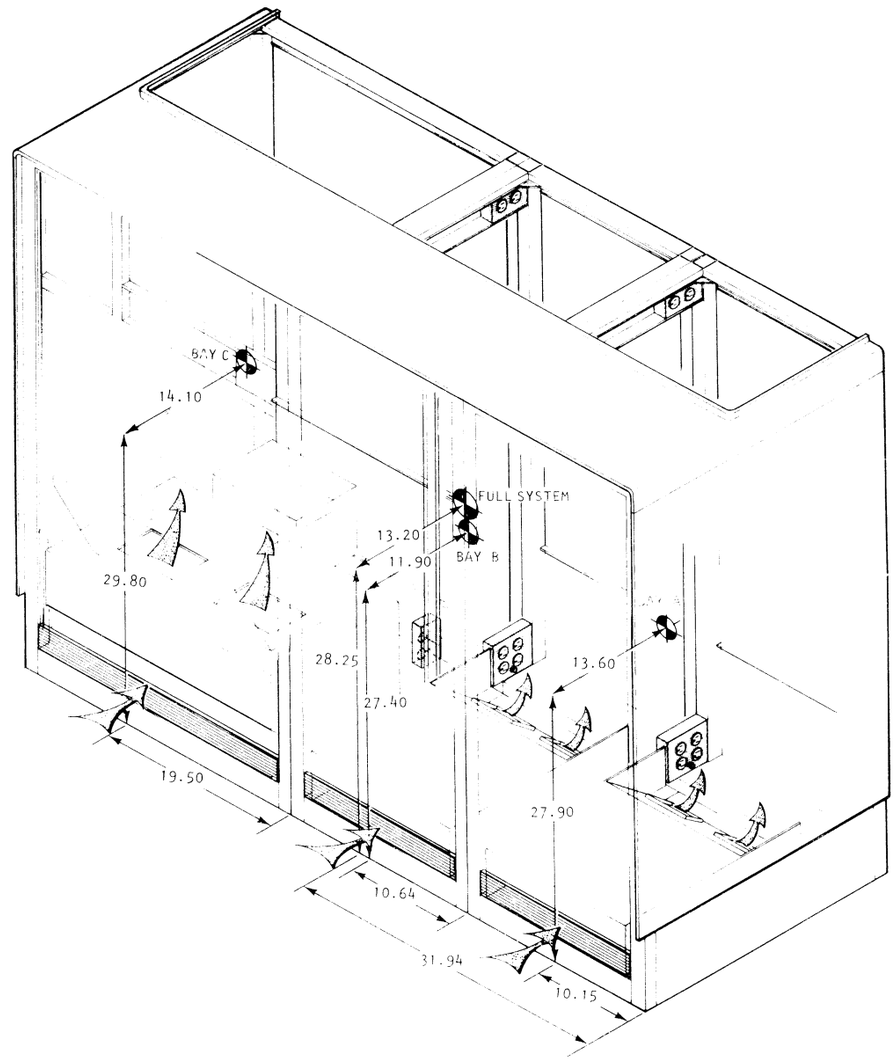
DG-05150

INSERTING PC BOARD



AIR FLOW IN CABINETS

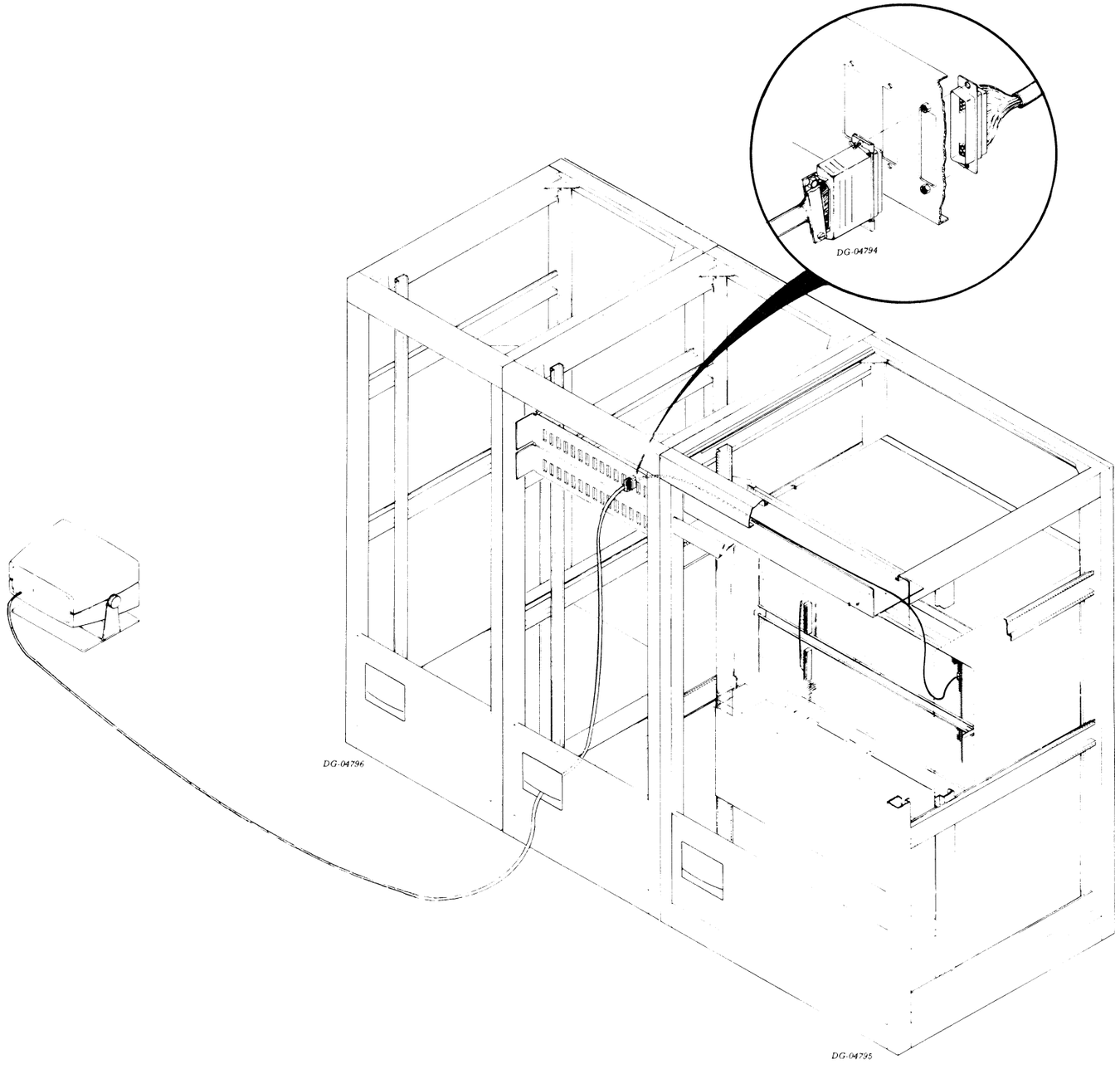
CENTER OF GRAVITY



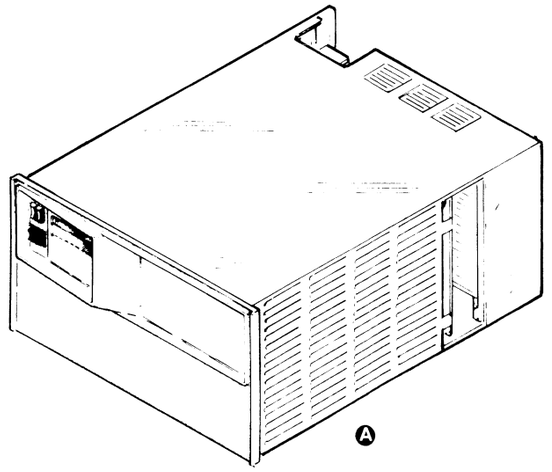
CENTER OF GRAVITY IS CALCULATED FOR A TYPICAL SYSTEM

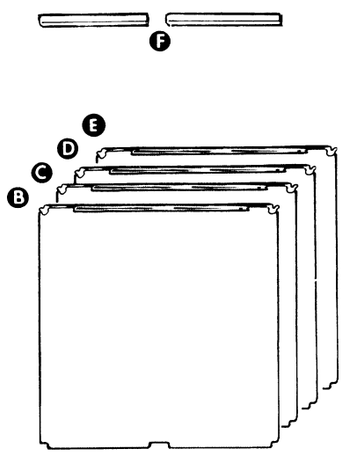
EXTERNAL CABLING

INTERNAL CABLES		
FROM	TO	ASSY
4010	EIA CONNECTOR PANEL	005-010706
UMCS, ALM-16	EIA CONNECTOR PANEL MODEM CONNECTORS	005-010708
ULM/5 SYNCHRONOUS LINE	EIA CONNECTOR PANEL MODEM CONNECTORS	005-010709
UMCS, ALM-8	EIA CONNECTOR PANEL MODEM CONNECTORS	005-010710
EXTERNAL CABLES		
UMCS	EIA CONNECTOR PANEL	005-010711
SERIAL I/O FOR 6052/3 DISPLAY AND SERIAL PRINTER		005-010707
DCU/50 DCU/200		005-012590
MCA		005-012585



INSTALLATION SPECIFICATIONS



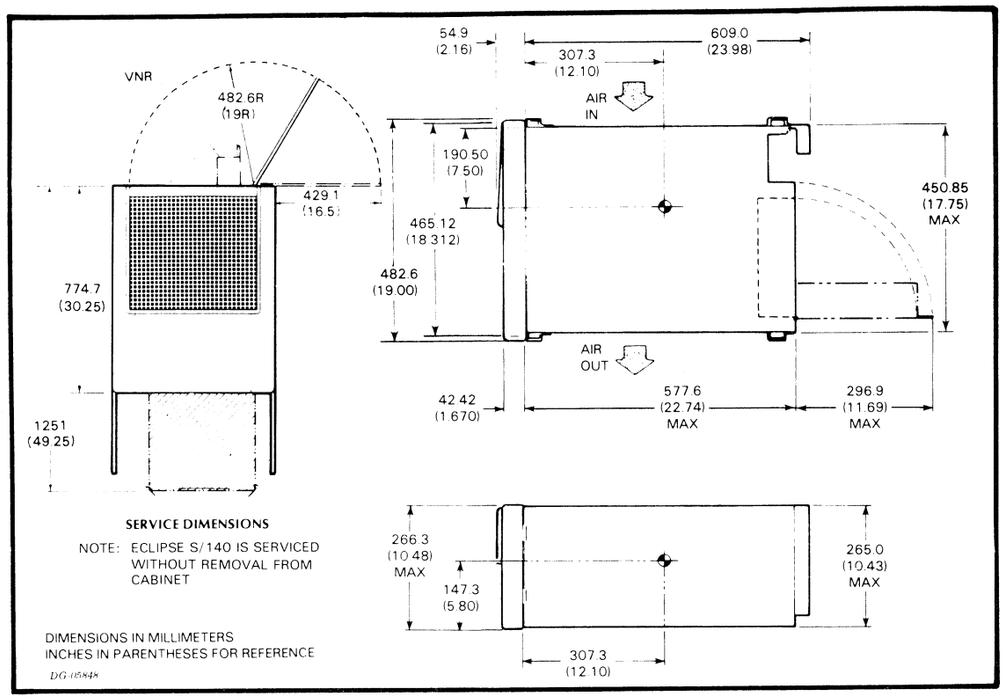


	Component	Mounting Location
A	16-SLOT CHASSIS	CABINET
B	CPU	16-SLOT CHASSIS
C	MEMORY	16-SLOT CHASSIS
D	HARDWARE FLOATING POINT UNIT (FPU)	16-SLOT CHASSIS
E	ERROR CHECK AND CORRECTING UNIT (ERCC) OR BURST MULTIPLEXOR CHANNEL AND ERCC UNIT (BMC-ERCC)	16-SLOT CHASSIS
F	BUS TERMINATORS	16-SLOT CHASSIS

POWER SUPPLY vs MEMORY CAPACITY

Assy P/S PCB Tstd	BBU	Max. Number of Memory Boards per. P/S 128kB/256kB	512kB/1024kB	Max Unit Memory Size
005-12061	N	4	N/A	1.0MB
005-12064	Y	4	N/A	1.0MB
005-17673	N	4	N/A	1.0MB
005-17674	Y	4	N/A	1.0MB
005-18878	N	8	5	2.0MB
005-18877	Y	8	5	2.0MB

NOTE: MAXIMUM SYSTEM MEMORY CAPACITY IS 2.0MB



SERVICE DIMENSIONS

NOTE: ECLIPSE S/140 IS SERVICED WITHOUT REMOVAL FROM CABINET

DIMENSIONS IN MILLIMETERS
INCHES IN PARENTHESES FOR REFERENCE

SLOT ASSIGNMENTS

Data Channel Speeds Available	Standard ✓ High Speed ✓		
Slot	Allowed (Slot Chart)	Assigned	+5V Current Draw
16	I/O		
15	I/O		
14	I/O		
13	I/O		
12	I/O		
11	MEMORY or I/O		
10	MEMORY or I/O		
9	MEMORY or I/O		
8	MEMORY or I/O		
7	MEMORY or I/O		
6	MEMORY or I/O		
5	MEMORY or I/O		
4	MEMORY or I/O		
3	ERCC, BMC-ERCC, MEMORY OR I/O		NOTE 3, 4, 5
2	FPU, ERCC, OR BMC-ERCC		NOTE 2, 3, 4
1	CPU		NOTE 1
0	POWER SUPPLY		NOTE 10
	Total +5V Current draw		SEE
	Max +5v Current Available	100A	NOTE
	+5v Current Surplus		9

NOTES:

1. ECLIPSE S/140
   W/FIRMWARE FLOATING POINT UNIT 18A
   W/O FIRMWARE FLOATING POINT UNIT 17.5A
2. HARDWARE FLOATING POINT UNIT 15A
3. ERROR CHECKING AND CORRECTING UNIT 2.7A
4. BURST MULTIPLEXOR CHANNEL AND ERROR CHECKING AND CORRECTING UNIT.
5. MEMORY
   W/BATTERY BACKUP 5.1A
   W/O BATTERY BACKUP 6.3A
   MEMORY-2
   W/BATTERY BACKUP 4.8A
   W/O BATTERY BACKUP 9.8A
6. A MAXIMUM OF 10 TTL LOADS ON THE I/O BUS W/O A BUS REPEATER. THE ERROR CHECKING AND CORRECTING UNIT IS 1 TTL LOAD.
7. PUSH-ON TERMINATORS ON TOP MEMORY SLOT SEE PAGE 11 FOR +12V LOAD RESTRICTIONS
9. JAPAN MODEL (-1) LIMITED TO 90 AMPS - 5V CURRENT DRAW AND 550 WATTS TOTAL POWER DRAW.
10. FOR SYSTEMS WITH MORE THAN 4 MEMORY MODULES, POWER SUPPLY NO. (SEE CHART) MUST BE USED.

SPECIFICATIONS

DIMENSIONS:

	Width	Depth	Height
Millimeters	482.6	663.9	266.3
Inches	19.0	26.14	10.48

SERVICE CLEARANCES:

	Front	Rear
Millimeters	508.0	296.9
Inches	20.0	11.69

WEIGHT:

	Empty	Fully Loaded
Kilograms	35.38	49.9
Pounds	78.0	110.0

OPERATING ENVIRONMENT:

Temperature (max)	55°C(131°F) 60Hz, 45°C(113°F) 50Hz
Relative Humidity (max)	90
Altitude (max)	2440m(8000ft)

CABLES:

Primary Power	Length	Conn	Mating Conn
Domestic	1.8m(6')	5-15P	5-15R
Export	1.8m(6')		

External I/O Bus Cable 15.3m(50') max

CPU DESIGNATOR:

Designator Number: 220
Designator Range: 22-22

HEAT OUTPUT: 1100 watts (3750 BTU hr) SEE CHART SHEET 11

POWER REQUIREMENTS:

(Domestic)

Voltage	120V +10% -15%
Hz	50/60 ±1%
Max Amp per Phase	12.0
Phase	1
Startup Surge per Phase	20A (max) for 0.25 seconds

(Export)

		(JAPAN)
Voltage	220/240 +10% -15%	100 ± 10%
Hz	50/60 ±1%	50/60 ±1%
Max Amp per Phase	7.0	12.0
Phase	1	1
Startup Surge per Phase	40A (max) for 0.12 seconds	20A for 0.25 seconds SEE NOTE 9

LINE CORDS:

Supply	Part No.
100 120V	109 000455
220 240	109 000456

FOR PACKING PROCEDURE, SEE 010-000262/263

TAILORING
CPU JUMPERING
ECLIPSE S/140

BAUD RATE JUMPERS

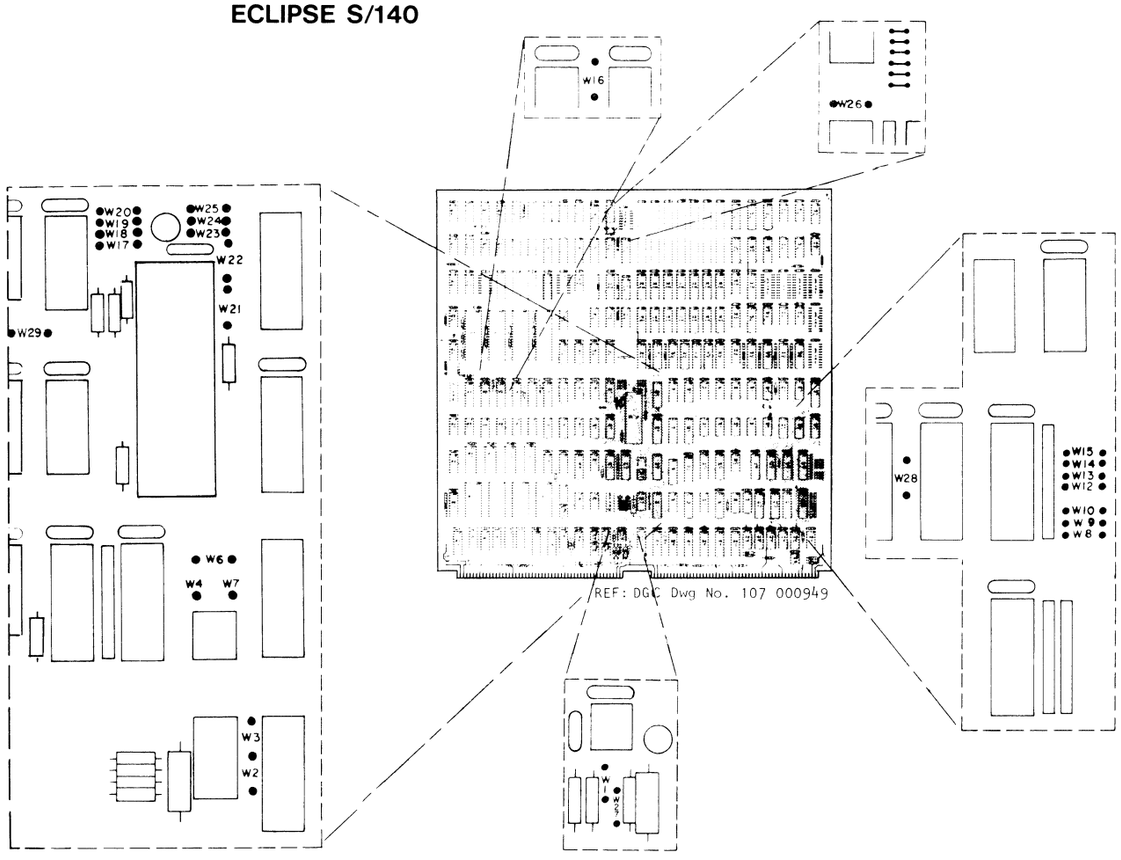
BAUD RATE	JUMPER POSITION W17	W18	W19	W20	W27
50	IN	IN	OUT	IN	OUT
75	IN	IN	OUT	OUT	OUT
110	OUT	OUT	OUT	OUT	IN
134.5	IN	OUT	IN	IN	OUT
150	OUT	OUT	OUT	IN	OUT
200	IN	OUT	IN	OUT	OUT
300	OUT	OUT	IN	OUT	OUT
600	IN	OUT	OUT	IN	OUT
1200	OUT	IN	OUT	OUT	OUT
1800	OUT	IN	OUT	IN	OUT
2400	OUT	OUT	IN	IN	OUT
4800	OUT	IN	IN	OUT	OUT
9600	OUT	IN	IN	IN	OUT
19200	IN	IN	IN	OUT	OUT

PARITY JUMPERS

TYPE OF PARITY	JUMPER POSITION W22	W21
EVEN	OUT	IN
ODD	IN	IN
NONE	OUT	OUT

CHARACTER LENGTH JUMPERS

CHARACTER LENGTH	JUMPER POSITION W25	W24
5 BITS	IN	IN
6 BITS	OUT	IN
7 BITS	IN	OUT
8 BITS	OUT	OUT



TYPE OF TRANSMISSION JUMPERS

TYPE OF TRANSMISSION	JUMPERS INSERTED
20MA CURRENT LOOP	W4, W7, W2, W1
EIA RS232-C	W6, W3

STOP BIT JUMPERS

NUMBER OF STOP BITS	W23 JUMPER POSITION
1	IN
2	OUT

REAL TIME CLOCK JUMPER

	W28
RTC ENABLED	IN
RTC DISABLED	OUT

DEVICE CODE JUMPERS FOR FRONT PANEL AUTOMATIC PROGRAM LOAD

SELECT THE PROGRAM LOAD DEVICE CODE BY INSTALLING JUMPERS W13, W15, W14, W12, W10, W8 AS FOLLOWS:

JUMPER IN = 1 JUMPER OUT = 0

EXAMPLE JUMPERING FOR DEVICE CODE 27 (8):

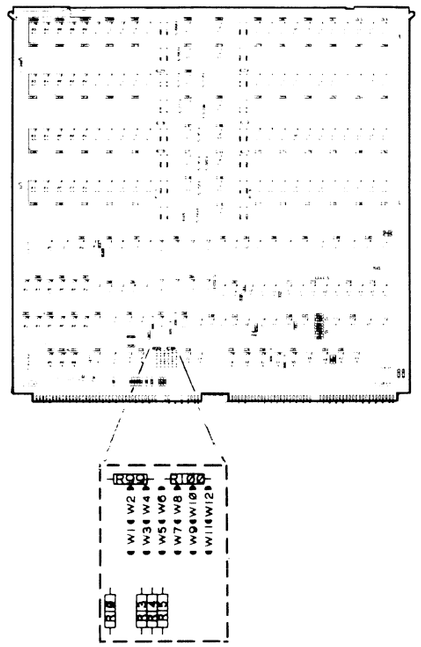
W13	W15	W14	W12	W10	W8
OUT	IN	OUT	IN	IN	IN

W9 IS INSERTED IF THE PROGRAM LOAD DEVICE IS A HIGH SPEED DEVICE, OTHERWISE, IT IS REMOVED.

NOTE: JUMPERS W16, W26 AND W29 ARE ALWAYS INSERTED. JUMPERS W5 AND W11 DO NOT EXIST ON ANY BOARDS AND JUMPER W29 DOES NOT EXIST ON BOARDS WITH ARTWORK No. 107-000949, Rev 00.

TAILORING (CONT)

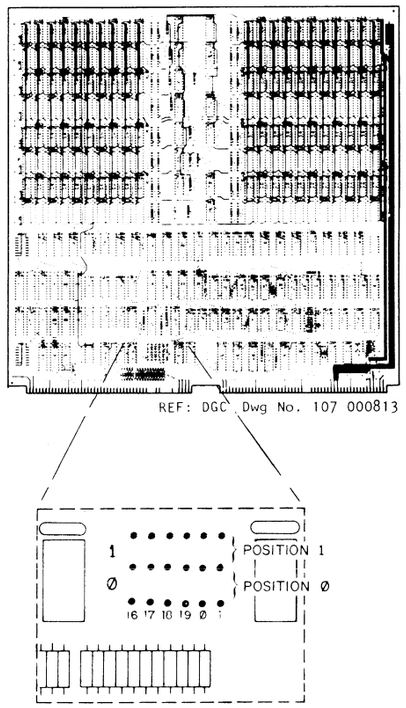
MEMORY JUMPERING
ECLIPSE S/140



THE S140-2 MEMORY BOARDS (512KB AND 1024KB) MAY BE MIXED WITH EXISTING S140 MEMORY BOARDS (128KB AND 256KB) IN ANY COMBINATION. MEMORY CONFIGURATIONS WILL BE LIMITED TO A MAXIMUM OF 5 BOARDS (DUE TO RESTRICTIONS ON +5MEM OF 9.5 AMPS.) AND THE LARGEST MEMORY BOARDS OCCUPYING THE LOWER ADDRESS RANGES.

MEMORY LOADS

VOLTAGE	DESCRIPTION	CURRENT DRAW
+5V	SYSTEM WITH BATTERY BACKUP	4.8A
+5V	SYSTEM WITHOUT BATTERY BACKUP	9.3A
+5MEM	FIRST MEMORY IN CHASSIS	5.0A
+5MEM	EACH ADDITIONAL MEMORY	1.5A



SYSTEMS SHOULD BE CONFIGURED WITH THE LARGER BOARDS OCCUPYING THE LOWER MEMORY ADDRESS RANGES.

MEMORY LOADS

VOLTAGE	DESCRIPTION	CURRENT DRAW
+5V	SYSTEM WITH BATTERY BACKUP	5.1A
+5V	SYSTEM WITHOUT BATTERY BACKUP	6.3A
+12V MEM	FIRST BOARD IN CHASSIS	3.0A
+12V MEM	EACH ADDITIONAL BOARD	0.39A

ECLIPSE S140 MEMORY BOARD SELECT JUMPERS

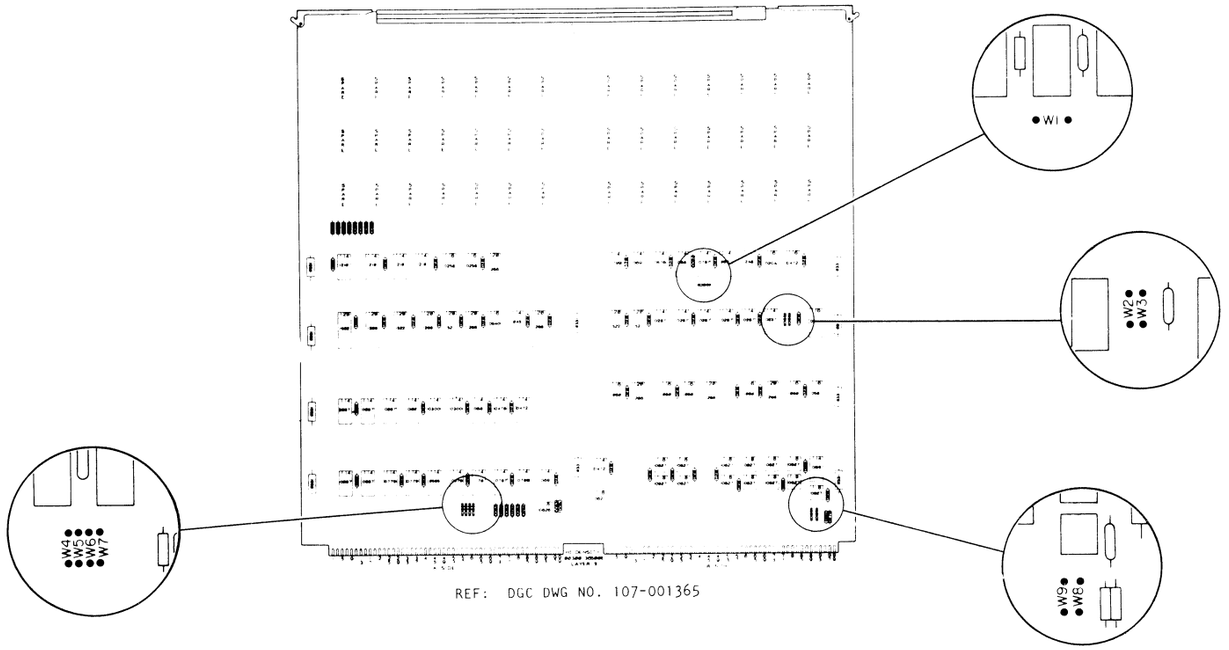
PHYSICAL ADDRESS RANGE	JUMPERS INSERTED NUMBER (POSITIONS) BOARD SIZE 1M BYTE	512 kBYTE	256 kBYTE	128 kBYTE
3777777-3600000	16(1)	16(1) 17(1)	16(1) 17(1) 18(1)	16(1) 17(1) 18(1) 19(1)
3577777-3400000				16(1) 17(1) 18(1) 19(0)
3377777-3200000			16(1) 17(1) 18(0)	16(1) 17(1) 18(0) 19(1)
3177777-3000000				16(1) 17(1) 18(0) 19(0)
2777777-2600000		16(1) 17(0)	16(1) 17(0) 18(1)	16(1) 17(0) 18(1) 19(1)
2577777-2400000				16(1) 17(0) 18(1) 19(0)
2377777-2200000			16(1) 17(0) 18(0)	16(1) 17(0) 18(0) 19(1)
2177777-2000000				16(1) 17(0) 18(0) 19(0)
1777777-1600000	16(0)	16(0) 17(1)	16(0) 17(1) 18(1)	16(0) 17(1) 18(1) 19(1)
1577777-1400000				16(0) 17(1) 18(1) 19(0)
1377777-1200000			16(0) 17(1) 18(0)	16(0) 17(1) 18(0) 19(1)
1177777-1000000				16(0) 17(1) 18(0) 19(0)
0777777-0600000		16(0) 17(0)	16(0) 17(0) 18(1)	16(0) 17(0) 18(1) 19(1)
0577777-0400000				16(0) 17(0) 18(1) 19(0)
0377777-0200000			16(0) 17(0) 18(0)	16(0) 17(0) 18(0) 19(1)
0177777-0000000				16(0) 17(0) 18(0) 19(0)

* THE JUMPERS LISTED SHOULD BE INSERTED IN THE POSITION (0 OR 1) GIVEN IN PARENTHESES. NONE OF THE UNLISTED JUMPERS IS INSERTED. NOTE THAT THE 001 DRAWINGS AND THE 016 DRAWINGS USE NUMBERS W1 THRU W12 TO REFER TO JUMPER POSITIONS. THE TABLE BELOW SHOWS WHICH "W" NUMBERS CORRESPOND WITH WHICH JUMPER POSITIONS.

ETCHED JUMPER NUMBER (POSITION)	010 AND 016 JUMPER NUMBER
16(0)	W1
16(1)	W2
17(0)	W3
17(1)	W4
18(0)	W5
18(1)	W6
19(0)	W7
19(1)	W8
1(0)	W9
1(1)	W10
0(0)	W11
0(1)	W12

TAILORING (CONT)

ERROR CHECKING AND CORRECTING UNIT JUMPERING



REF: DGC DWG NO. 107-001365

DEVICE CODE JUMPERS

SELECT DEVICE CODE 2 FOR THE ECLIPSE AS FOLLOWS:

W4	W5	W6	W7	W8	W9
OUT	OUT	IN	IN	IN	OUT

PFP ENABLE JUMPER

TO ALLOW PFP REQUESTS TO START THE ERCC LOGIC, INSERT W1; OTHERWISE DO NOT INSERT IT. THIS JUMPER MUST BE INSERTED TO PROVIDE FULL CORRECTION CAPABILITIES.

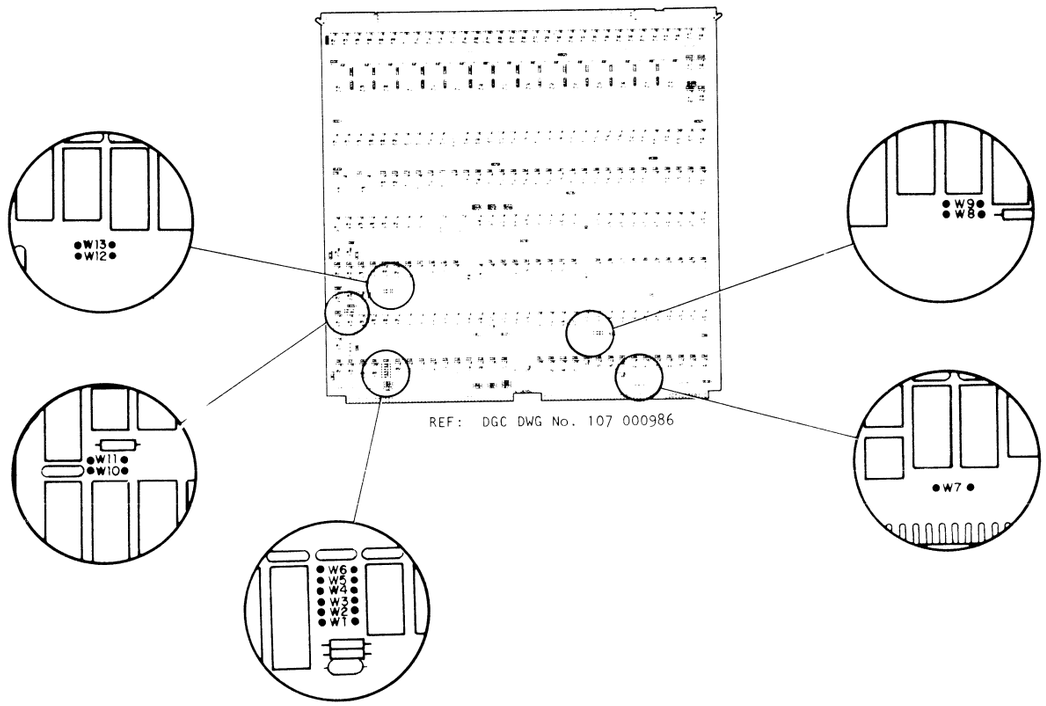
ERCC CORRECTION ENABLE JUMPERS

JUMPER	ENABLE CORRECTION	DISABLE* CORRECTION
W2	IN	OUT
W3	OUT	IN

*CHECKWORD BITS ARE STILL WRITTEN WITH DATA.

TAILORING (CONT)

HARDWARE FLOATING POINT UNIT JUMPERING



REF: DGC DWG No. 107 000986

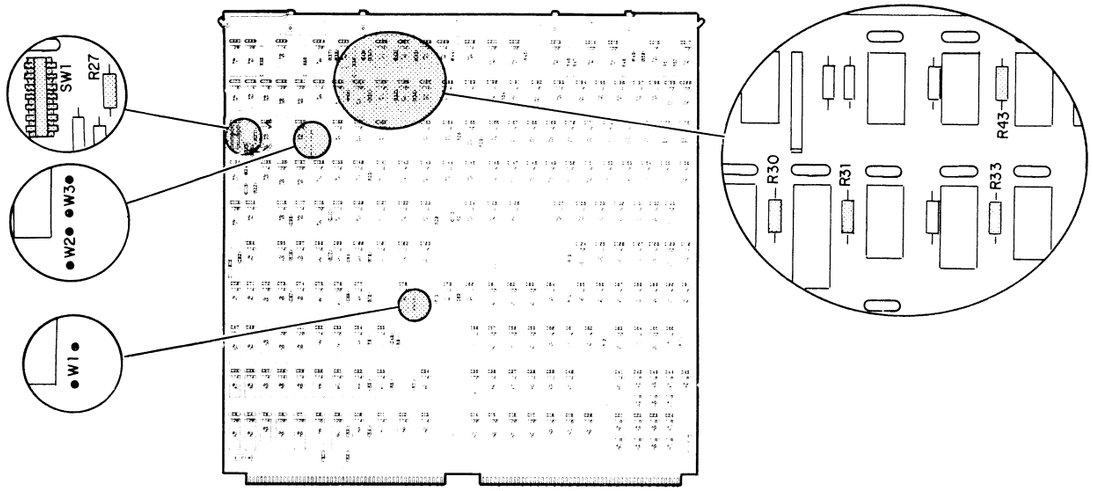
THE JUMPERS MUST BE POSITIONED ON THE HARDWARE FLOATING POINT UNIT PRINTED CIRCUIT BOARD AS INDICATED IN THE TABLE BELOW.

JUMPER	POSITION
W1	OUT
W2	IN
W3	IN
W4	OUT
W5	IN
W6	OUT
W7	IN
W8	IN
W9	OUT
W10	IN
W11	OUT
W12	IN
W13	OUT

TAILORING (CONT)

BURST MULTIPLEXOR CHANNEL / ERROR CHECKING AND CORRECTION UNIT

JUMPERING



REF DGC DWG No 003-001610 Rev 01

BMC

FUNCTIONS SELECTED BY DUMMY RESISTORS.
R27, R30 AND R43 ARE NORMALLY IN;
R31 AND R33 ARE NORMALLY OUT.

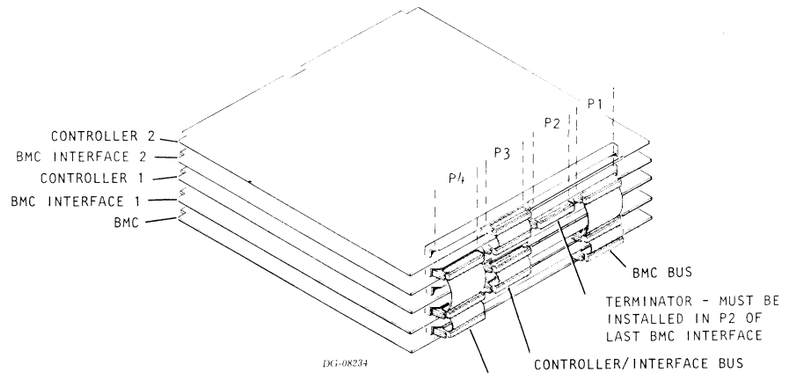
DUMMY RESISTORS	FUNCTIONS
R27	DRIVES $\overline{\text{ADDRERROR}}$ ON VALIDITY PROTECT
R30	GROUNDS J1 - 36 ($\overline{\text{VALERROR}}$)
R43	PROVIDES DISCONTINUOUS $\overline{\text{SYNCLOCK}}$
R31	DRIVES VALIDITY PROTECT ERROR ON $\overline{\text{VALERROR}}$
R33	PROVIDES CONTINUOUS $\overline{\text{SYNCLOCK}}$

SIMULTANEOUS REQUESTS
NEEDED TO GO INTO OVERDRIVE

NUMBER OF REQUESTS	SWITCHES ON *
2	4
3	3, 5
4	2, 6
(DISABLE OVERDRIVE)	(1, 5, 6)

* DEPRESS THE SIDE MARKED "ON" TO TURN SWITCH ON.

BMC AND INTERFACE CONNECTION



INTERNAL CABLING

NO. OF BMC INTERFACES	CABLE NO.
1	005-012860
2	005-012858
3	005-012859
4	005-012857

ERCC

PFP ENABLE JUMPER

TO ALLOW THE PFP REQUESTS TO START THE ERCC LOGIC, INSERT W1; OTHERWISE DO NOT INSERT IT. THIS JUMPER MUST BE INSERTED TO PROVIDE FULL CORRECTION CAPABILITIES.

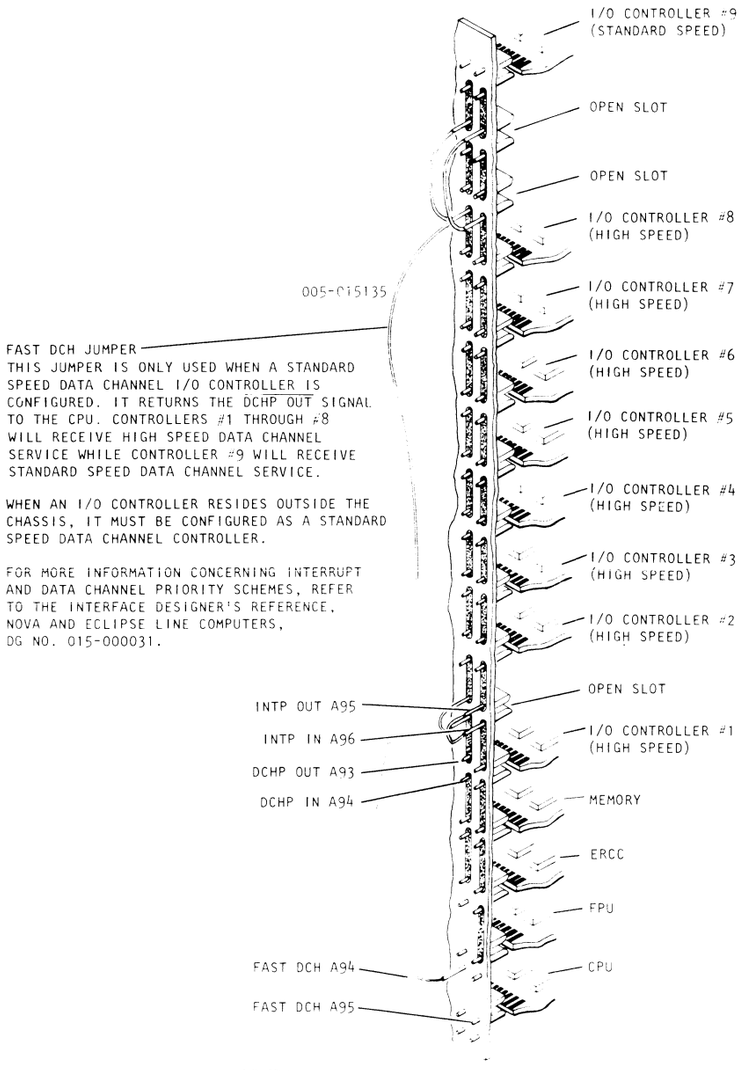
ERCC CORRECTION ENABLE JUMPERS

JUMPER	ENABLE CORRECTION	DISABLE * CORRECTION
W2	OUT	IN
W3	IN	OUT

* CHECKWORD BITS ARE STILL WRITTEN WITH DATA.

TAILORING (CONT)

BACKPANEL JUMPERING



THIS JUMPER IS ONLY USED WHEN A STANDARD SPEED DATA CHANNEL I/O CONTROLLER IS CONFIGURED. IT RETURNS THE DCHP OUT SIGNAL TO THE CPU. CONTROLLERS #1 THROUGH #8 WILL RECEIVE HIGH SPEED DATA CHANNEL SERVICE WHILE CONTROLLER #9 WILL RECEIVE STANDARD SPEED DATA CHANNEL SERVICE.

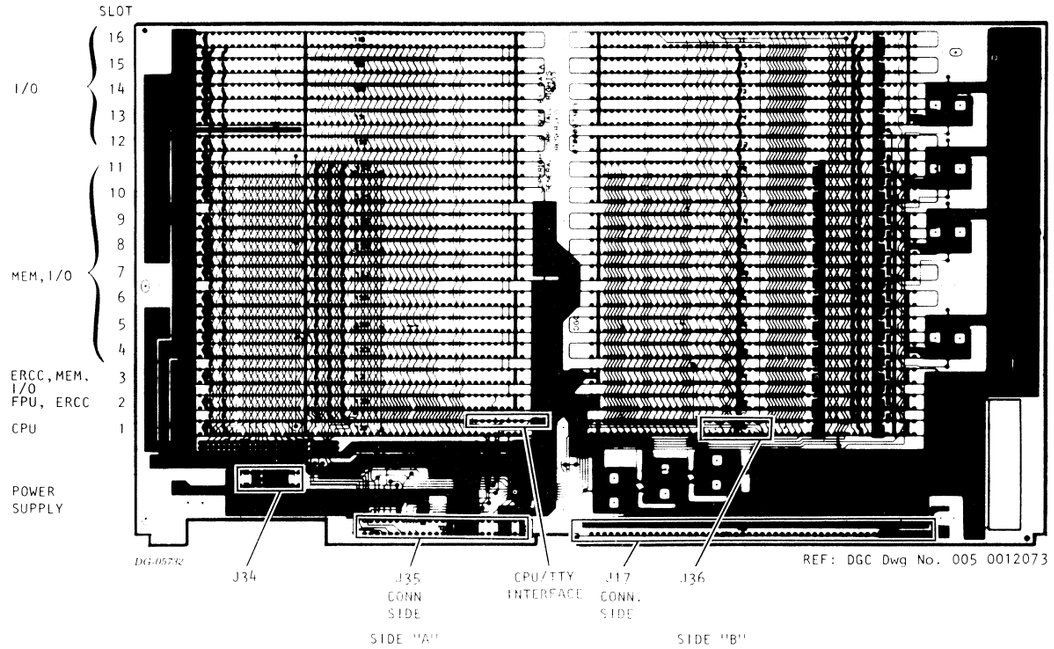
WHEN AN I/O CONTROLLER RESIDES OUTSIDE THE CHASSIS, IT MUST BE CONFIGURED AS A STANDARD SPEED DATA CHANNEL CONTROLLER.

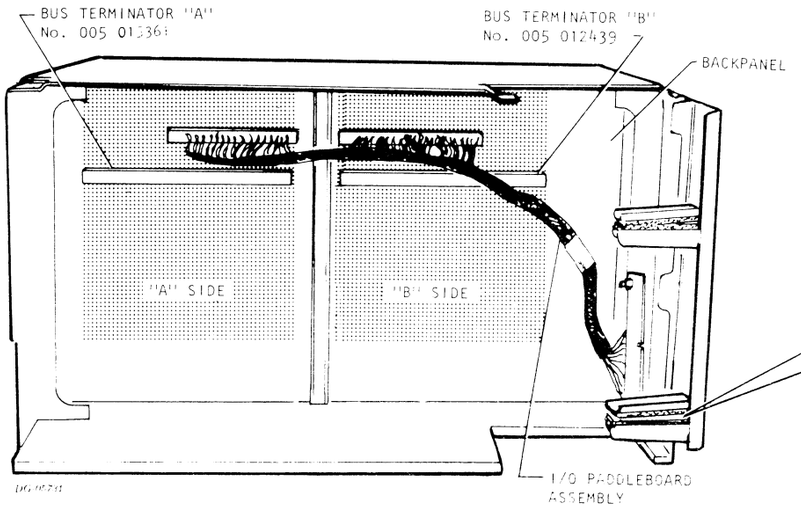
FOR MORE INFORMATION CONCERNING INTERRUPT AND DATA CHANNEL PRIORITY SCHEMES, REFER TO THE INTERFACE DESIGNER'S REFERENCE, NOVA AND ECLIPSE LINE COMPUTERS, DG NO. 015-000031.

NO JUMPERS NEEDED EXCEPT FOR OPEN SLOTS AND STANDARD SPEED DATA CHANNEL I/O CONTROLLERS.

INTERNAL CABLING

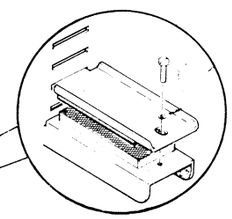
BACKPANEL CONNECTORS





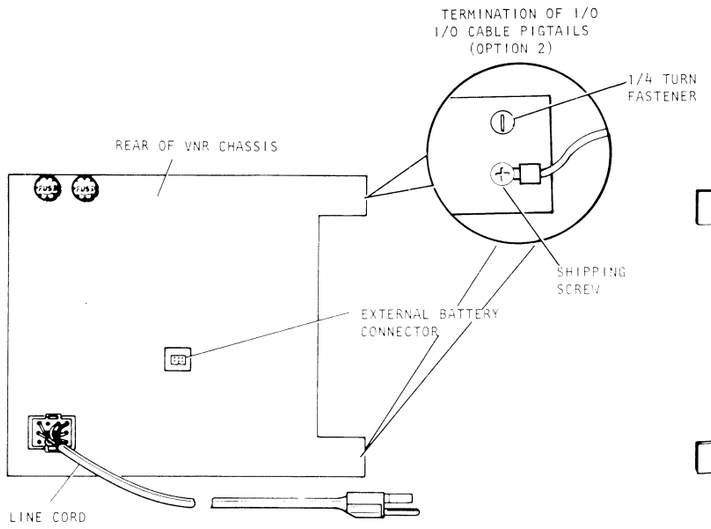
BUS TERMINATOR "A" AND "B" SHOULD BE INSTALLED ON THE LAST USED I/O BACKPANEL SLOT.

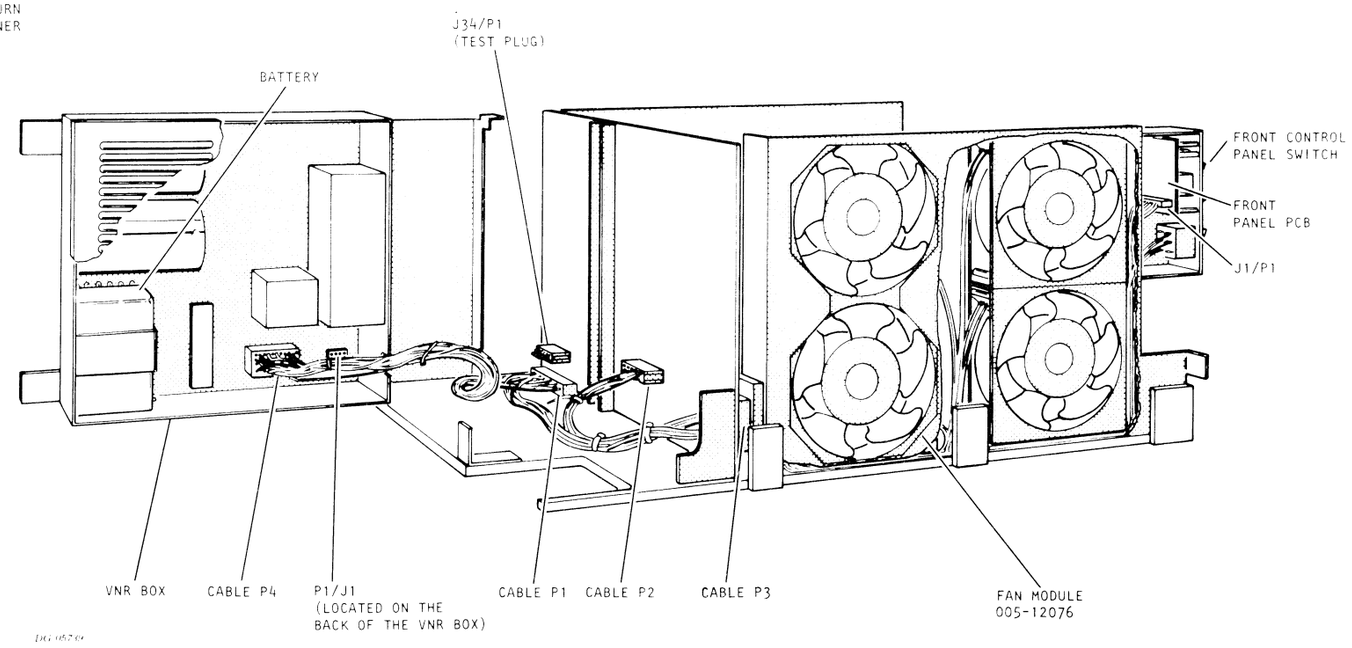
STRAIN RELIEF



TERMINATION OF I/O CABLE PIGTAILS (OPTION 1)

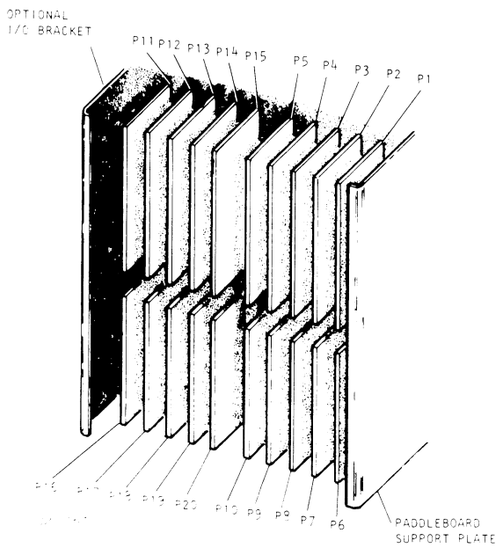
INTERNAL CABLING (CONT)





WARNING
FOR SERVICING DISCONNECT POWER, WAIT 5 MINUTES REASSEMBLE UNIT BEFORE APPLYING POWER

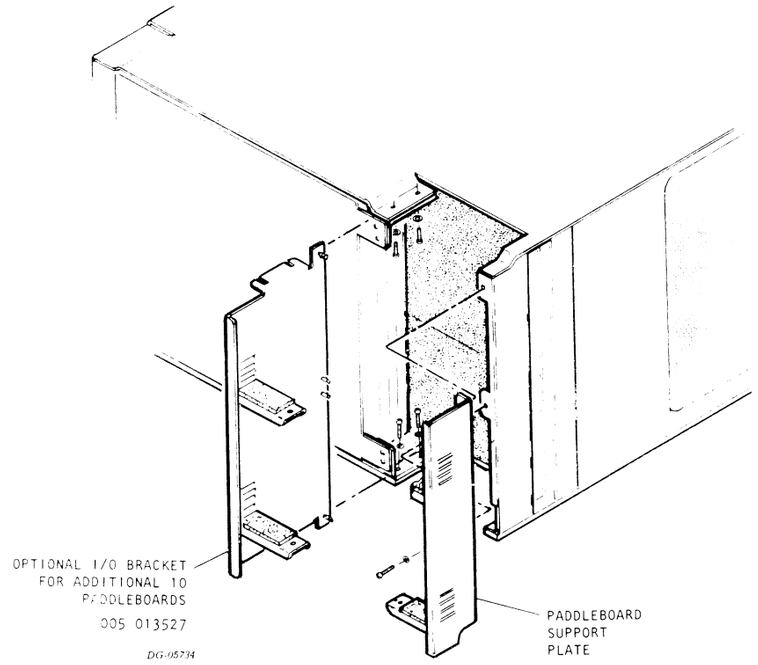
PADDLEBOARD MOUNTING



ECLIPSE S/140 PADDLEBOARDS

ASSEMBLY No.	TYPE
005-012472	GENERAL PURPOSE I/O
005-012476	I/O BUS REPEATER
005-012585	MCA
005-012590	DCU
005-012751	EXTERNAL I/O BUS (DG/DAC ONLY)

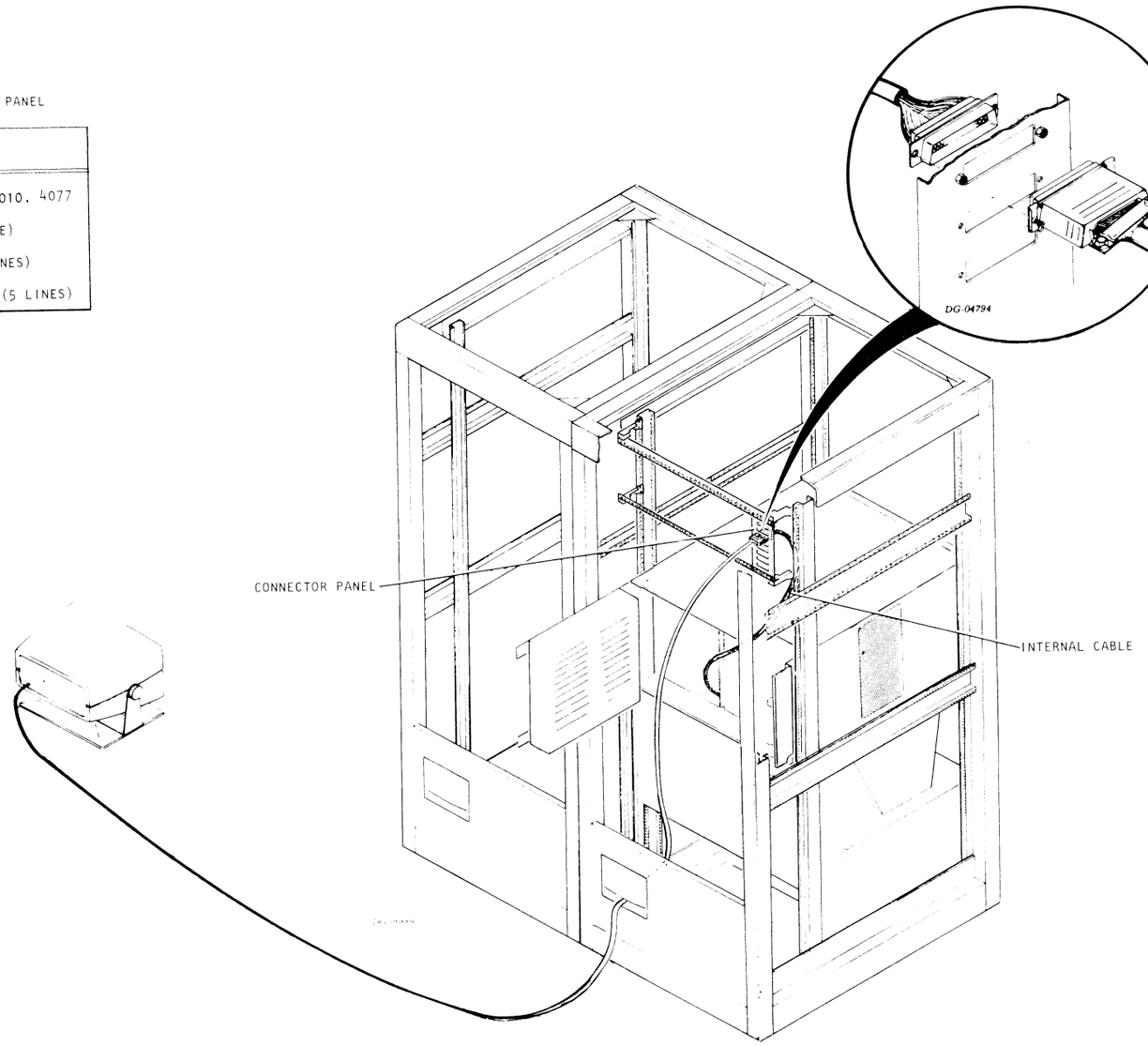
* REQUIRES TWO PADDLEBOARD LOCATIONS



INTERNAL CABLING (CONT)

INTERNAL CABLES TO EIA CONNECTOR PANEL

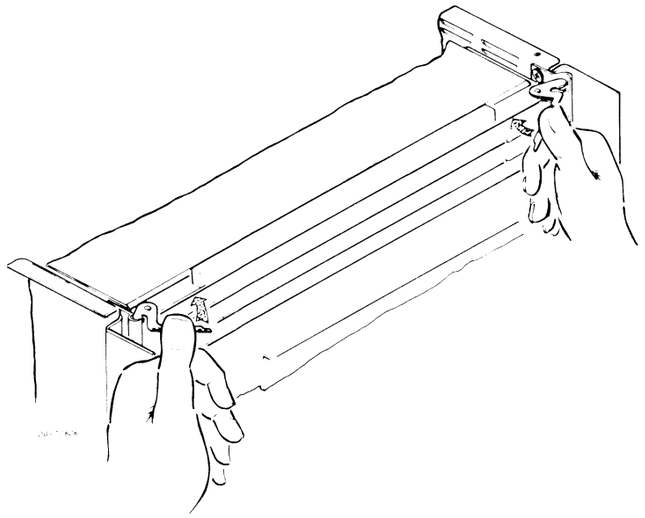
ASSEMBLY No	TYPE
005-015136	SYSTEM CONSOLE, 4010, 4077
005-013702	ULM/5 SYNC (1 LINE)
005-013524	ULM/5 ASYNC (4 LINES)
005-013529	ULM/5 SYNC/ASYNC (5 LINES)



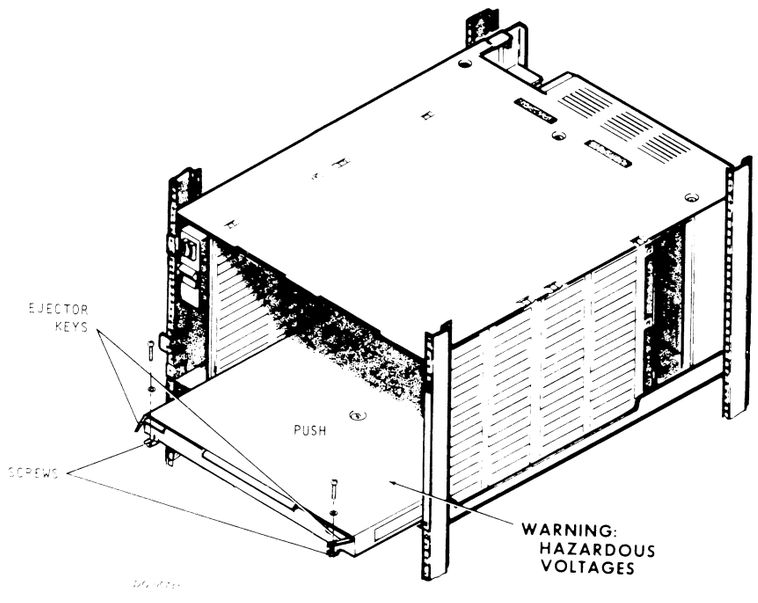
THE EIA CONNECTOR PANEL(S) ARE MOUNTED IN THE MOST CONVENIENT POSITION(S) ABOVE OR BELOW THE COMPUTER OR COMMUNICATIONS CHASSIS.

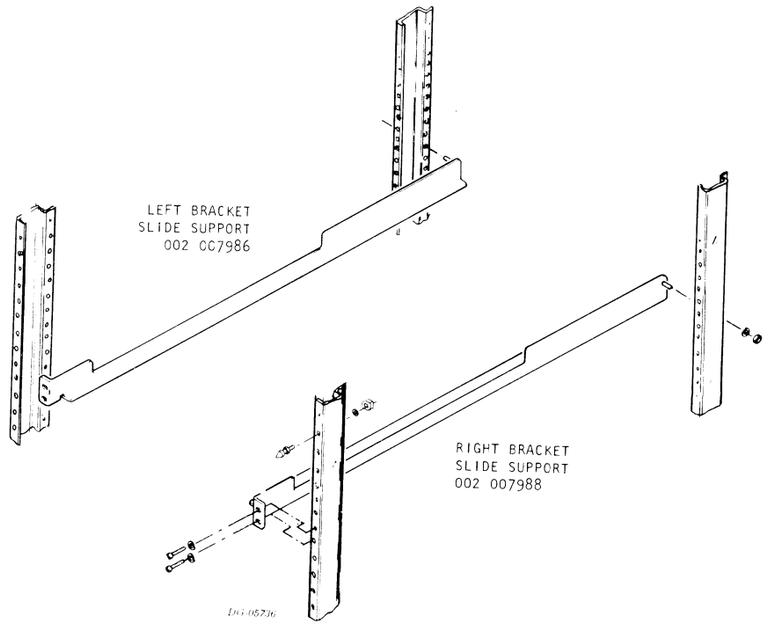
CABINET MOUNTING

INSERTING PC BOARD

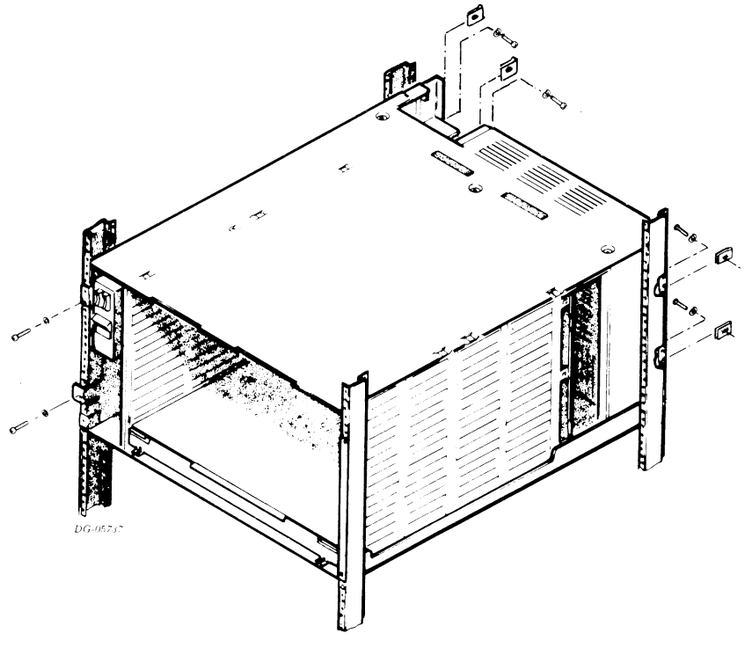


INSERTING POWER SUPPLY PCB





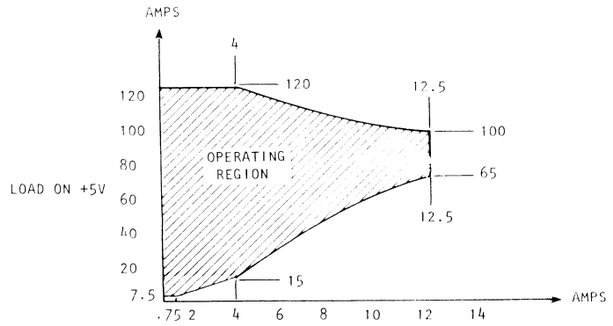
HARDWARE MOUNTING KIT
005 012068



16-SLOT CHASSIS LOAD BALANCING RULES

WITH BATTERY BACKUP:

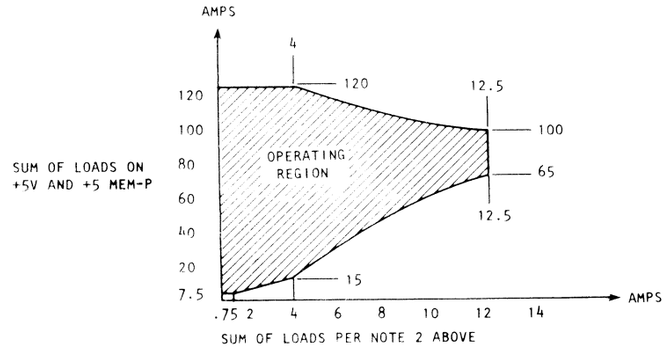
1. THE LOAD OF -5V MUST NOT EXCEED 3.0 AMPS.
2. THE SUM OF THE LOADS ON +12V, +12 MEM, +15V AND 0.55 (SUM OF CURRENT FROM +5 MEM-P AND -5 MEM-P) MUST NOT EXCEED 12.5 AMPS.
3. THE LOAD ON -5 MEM-P MUST NOT EXCEED 0.3 AMPS.
4. (SEE (+5MEM CURRENT VS. POWER SUPPLY.) CHART
5. THE LOAD ON +5V MUST NOT EXCEED 120 AMPS AND MUST BE AT LEAST 7.5 AMPS
6. THE LOADS MUST BE WITHIN THE OPERATING REGION SHOWN BELOW:
7. FOR JAPAN (-1) MODEL, TOTAL OUTPUT POWER NOT TO EXCEED 550 WATTS.



SUM OF LOADS PER NOTE 2 ABOVE.

WITHOUT BATTERY BACKUP:

1. THE SUM OF THE LOADS ON -5V AND -5 MEM-P MUST NOT EXCEED 3.0 AMPS.
2. THE SUM OF THE LOADS ON +12V, +12 MEM, AND +15V MUST NOT EXCEED 12.5 AMPS.
3. THE SUM OF THE LOADS ON +5V AND +5 MEM-P MUST NOT EXCEED 120 AMPS AND MUST BE AT LEAST 7.5 AMPS.
4. THE LOADS MUST BE WITHIN THE OPERATING REGION SHOWN BELOW:
5. FOR JAPAN (-1) MODEL, TOTAL OUTPUT POWER NOT TO EXCEED 550 WATTS.

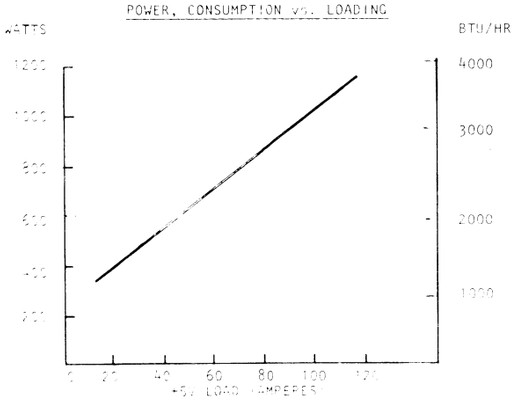


SUM OF LOADS PER NOTE 2 ABOVE

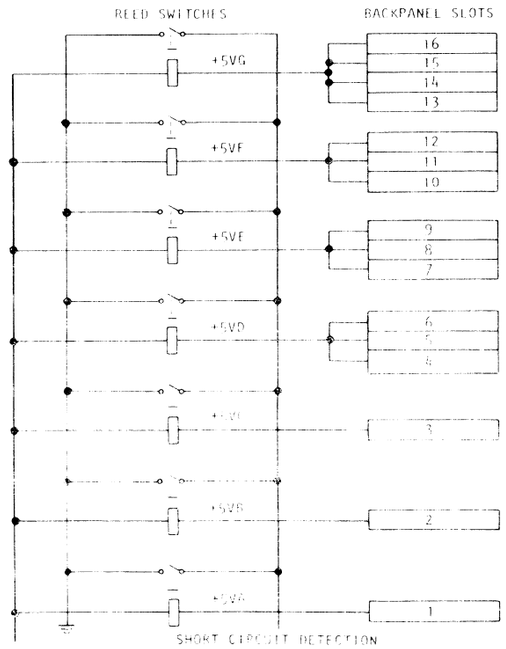
+5 MEM CURRENT VS. POWER SUPPLY

ASSY. P/S PCB. TSTD	+5MEM CURRENT MIN.	MAX.
005-012061	0.25A	4.5A
005-012064	0.25A	4.5A
005-017673	0.25A	4.5A
005-017674	0.25A	4.5A
005-018878	0.25A	9.5A
005-018877	0.25A	9.5A

POWER, CONSUMPTION VS. LOADING



SLOT LOADING RESTRICTIONS



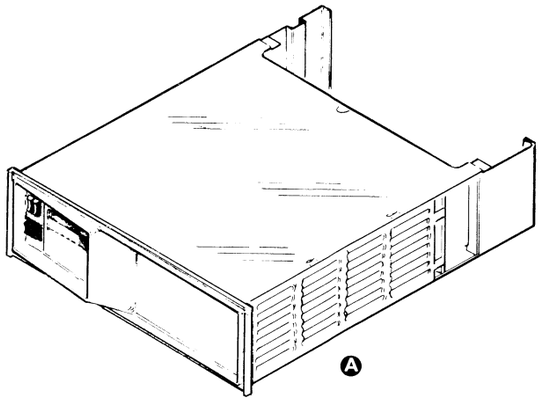
BATTERY BACKUP TIME

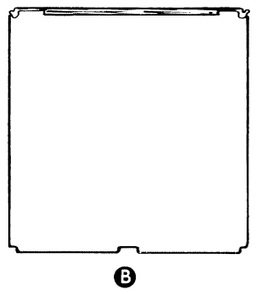
NUMBER OF MEMORY BOARDS (ANY SIZE)	BACKUP TIME FOR FULLY CHARGED BATTERY * (MINUTES)
1	90
2	60
3	30
4	20
5	15
6	12
7	8
8	6
9	4

* THE BATTERY NEEDS 24 HOURS TO CHARGE FULLY.

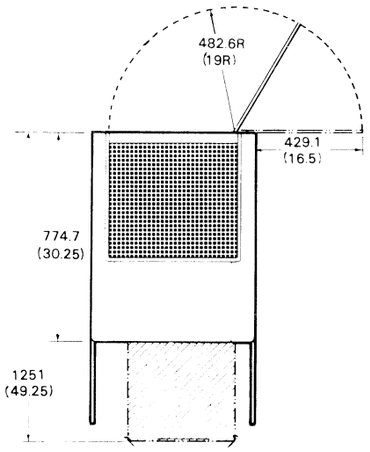
NOTE: REED SWITCH TRIPS AT 22 AMPS. REFERENCE DG 001-001563.

INSTALLATION SPECIFICATIONS



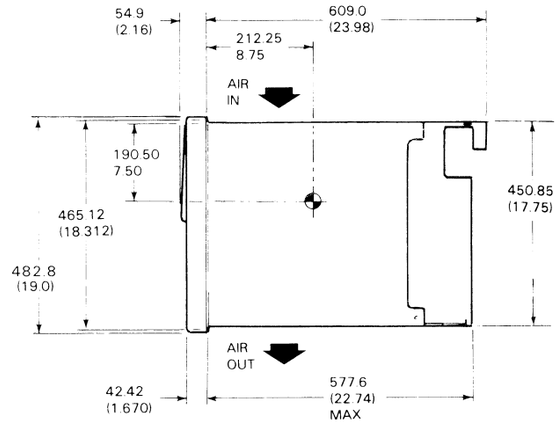


	Component	Mounting Location
A	5-SLOT CHASSIS	CABINET
B	SPU	5-SLOT CHASSIS

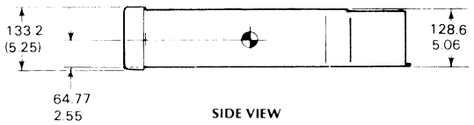


SERVICE DIMENSIONS

NOTE: S/120 IS SERVICED WITHOUT REMOVAL FROM CABINET.



TOP VIEW



SIDE VIEW

DIMENSIONS IN MILLIMETERS
INCHES IN PARENTHESES FOR REFERENCE

SLOT ASSIGNMENTS

Data Channel Speeds Available		Standard High Speed ☑	
Slot	Allowed (Slot Chart)	Assigned	+5V Current Draw
5	I/O		
4	I/O		
3	I/O		
2	I/O		NOTE 2
1	SPU		NOTE 1
0	POWER SUPPLY		
	Total +5V Current draw		
	Max +5 Current Available		35A
	+5 Current Surplus		

NOTES:

1. S/120 — 8A
2. MAX DRAW +15V, +12V, +12V MEM — 5.0A
3. MAX DRAW -5V, -5V MEM — 1.5A

Warning: This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instruction manual, may cause interference to radio communications. As temporarily permitted by regulation it has not been tested for compliance with the limits for Class A computing devices pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference. Operation of this equipment in a residential area is likely to cause interference, in which case the user, at his own expense, will be required to take whatever measures may be required to correct the interference.

DIMENSIONS:	Width	Depth	Height
Millimeters	482.6	663.9	133.2
Inches	19.0	26.14	5.25

SERVICE CLEARANCES:	Front	Rear
Millimeters	914.4	914.4
Inches	36	36

WEIGHT:	Empty	Fully Loaded
Kilograms	18.14	22.68
Pounds	40	50

OPERATING ENVIRONMENT:

Temperature (max)	55 C(131 F) 60Hz, 45 C(113 F) 50Hz
Relative Humidity (max)	90
Altitude (max)	2438m (8000ft)

CABLES:

Primary Power	Length	Conn	Mating Conn
Domestic	1.8m(6')	5-15P	5-15R
Export	1.8m(6')	6-15P	6-15R

External I/O Bus Cable — 15.3m (50') max

CPU DESIGNATOR:

Designator Number: 223
Designator Range: 22-22

HEAT OUTPUT: 400watts (1365BTU/hr)

POWER REQUIREMENTS:

(Domestic)

Voltage	102-132
Hz	47-63
Max Amp per Phase	8.0
Phase	1

(Export)

Voltage	187-264
Hz	47-63
Max Amp per Phase	4.0
Phase	1

LINE CORDS:

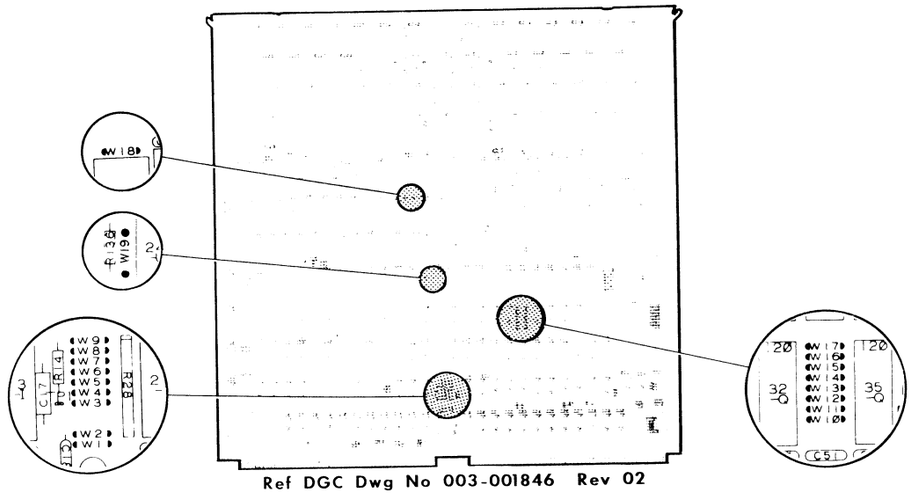
Supply	Part No.
100V	109 000239
120V	109 000238
220V	109 000237
240V	109 000240

FOR PACKING PROCEDURE, SEE 010-000262/263

TAILORING

SPU JUMPERING

S/120



Ref DGC Dwg No 003-001846 Rev 02

TYPE OF TRANSMISSION JUMPERS

TYPE OF TRANSMISSION	JUMPERS INSERTED
20MA CURRENT LOOP EIA RS232-C	W1, W2* (BOTH OUT)

* JUMPER 2 IS INSERTED ONLY IF 20mA CURRENT LOOP IS USED AT BAUD RATES OF 600 OR LESS, OTHERWISE IT IS NOT INSERTED.

DEVICE CODE JUMPERS FOR AUTOMATIC PROGRAM LOAD

SELECT THE PROGRAM LOAD DEVICE CODE BY INSTALLING JUMPERS W8, W7, W6, W5, W4, W3 AS FOLLOWS:

JUMPER OUT = 1 JUMPER IN = 0

EXAMPLE JUMPERING FOR DEVICE CODE 27_8:

W8	W7	W6	W5	W4	W3
IN	OUT	IN	OUT	OUT	OUT

W9 IS NOT INSERTED IF THE PROGRAM LOAD DEVICE IS A HIGH SPEED DEVICE, OTHERWISE IT IS INSERTED.

BAUD RATE JUMPERS

RATE	W10	W11	W12	W13
50	IN	IN	IN	IN
75	IN	OUT	OUT	OUT
110	IN	IN	OUT	OUT
134.5	OUT	OUT	OUT	OUT
150	OUT	OUT	IN	IN
200	OUT	IN	OUT	OUT
300	OUT	OUT	IN	OUT
600	IN	IN	OUT	IN
1200	IN	OUT	IN	OUT
1800	IN	OUT	IN	IN
2000	OUT	IN	IN	IN
2400	OUT	IN	OUT	IN
4800	OUT	IN	IN	OUT
9600	IN	OUT	OUT	IN
19200	IN	IN	IN	OUT
38400	OUT	OUT	OUT	IN

50, 75, 110, 134.5 BAUD RATES HAVE 2 STOP BITS, ALL OTHER BAUD RATES HAVE 1 STOP BIT. ALL BAUD RATES HAVE NO PARITY.

PIT RATE JUMPERS

RATE	W14	W15
1kHz	OUT	OUT
10kHz	IN	OUT
100kHz	OUT	IN
1MHz	IN	IN

BREAK KEY DISABLE

JUMPER W16 IS INSERTED TO DISABLE BREAK KEY DETECTION, OTHERWISE BREAK DETECTION IS ENABLED.

HALT DISPATCH DISABLE

JUMPER W17 IS INSERTED TO DISABLE DISPATCH TO VIRTUAL CONSOLE UPON EXECUTION OF HALT INSTRUCTION, OTHERWISE DISPATCH IS ENABLED.

SYSTEM CLOCK ENABLE

JUMPER W18 IS INSERTED TO ENABLE THE SYSTEM TIMING CLOCK. THIS JUMPER SHOULD ONLY BE REMOVED FOR ATE TESTING PURPOSES.

HYPERSPACE/MAP RAM ENABLE

JUMPER W19 IS INSERTED TO ENABLE HYPERSPACE/MAP RAM. THIS JUMPER SHOULD ONLY BE REMOVED FOR ATE TESTING PURPOSES.

W18 AND W19 ARE ALWAYS INSERTED.

SPU/MEMORY LOADS

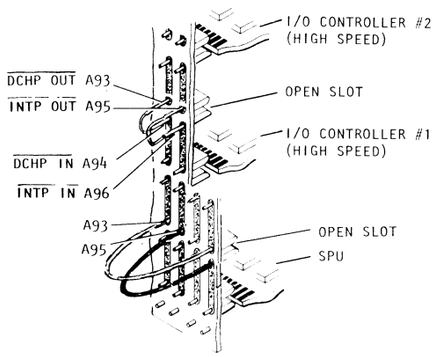
VOLTAGE	DESCRIPTION	CURRENT DRAW
+5V	SYSTEM WITHOUT BATTERY BACKUP	8.0A
+12V		0.02A
-12V		0.02A

TAILORING (CONT)

BACKPANEL JUMPERING

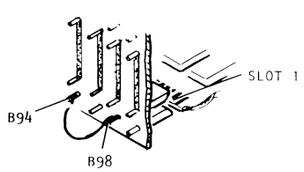
FOR MORE INFORMATION CONCERNING INTERRUPT AND DATA CHANNEL PRIORITY SCHEMES, REFER TO THE INTERFACE DESIGNER'S REFERENCE, NOVA AND ECLIPSE LINE COMPUTERS, DG No. 014-000629.

TYPICAL CONFIGURATION - A SIDE



CONNECT A JUMPER BETWEEN PINS A93 (INPUT) AND A99 (GND) AND A JUMPER BETWEEN PINS A95 (DCHP OUT) AND A100 (GND) OF THE SLOT IMMEDIATELY BELOW THE LOWEST NUMBERED CHASSIS SLOT THAT CONTAINS AN I/O BOARD.

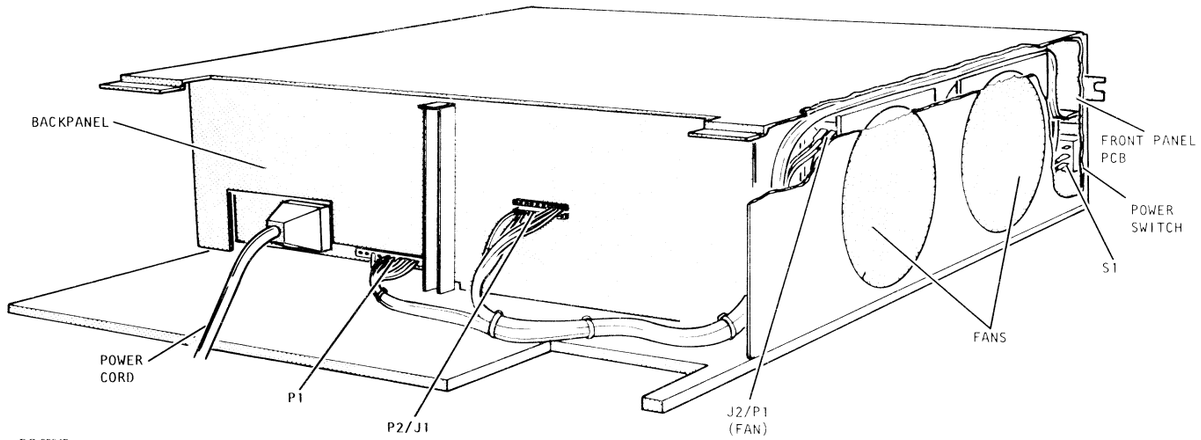
B-SIDE

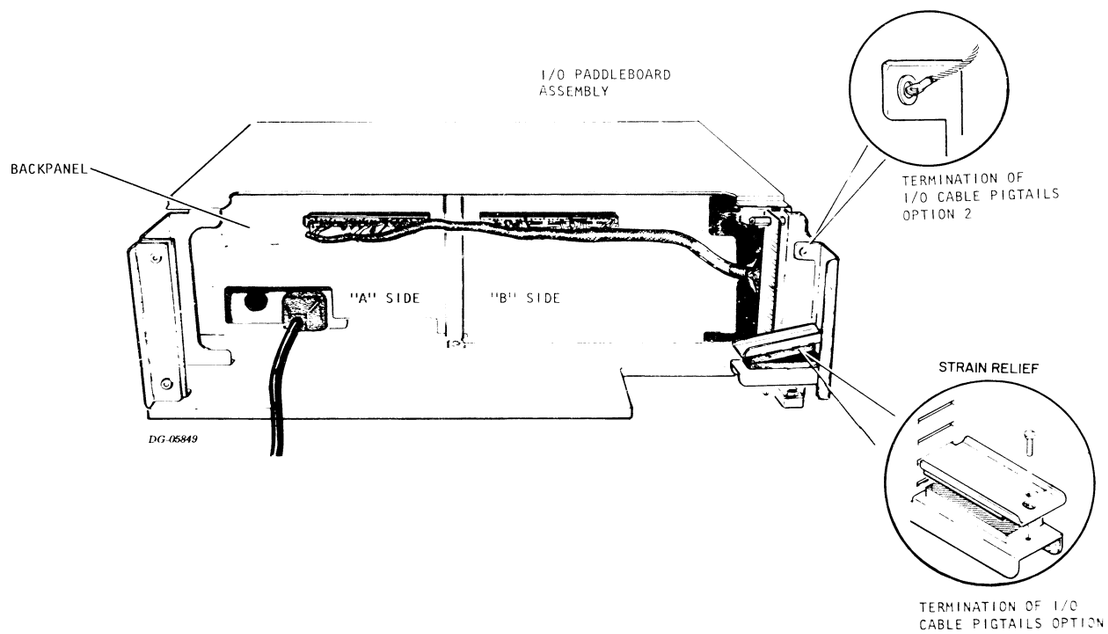


A JUMPER CONNECTING B94 (+5 MEM) TO PIN B98 (+5V) MUST BE INSERTED IF NO BATTERY BACKUP IS PRESENT.

INTERNAL CABLING

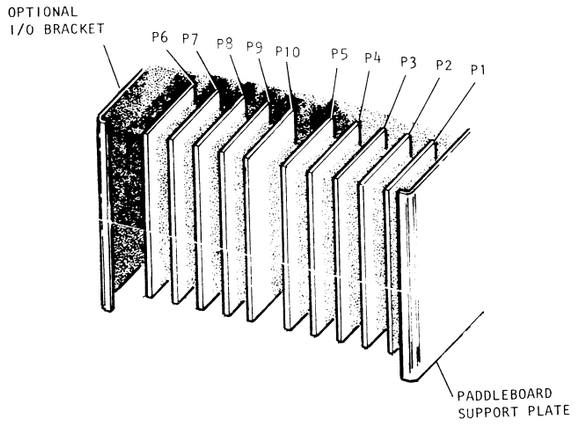
BACKPANEL CONNECTORS





INTERNAL CABLING (CONT)

PADDLEBOARD MOUNTING



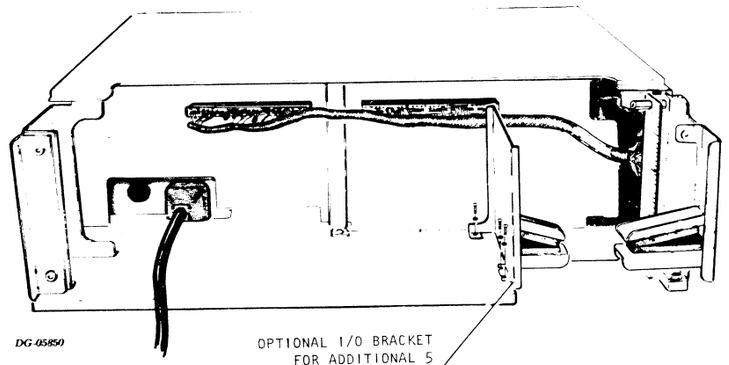
ECLIPSE S/120 PADDLEBOARDS

ASSEMBLY No.	TYPE
005-012472	GENERAL PURPOSE I/O
005-012751	EXTERNAL I/O BUS**
005-012765	UNIVERSAL LINE MUX (SYNC) MODEL 4241, 4241A, 4242, 4243***
005-012476	I/O BUS REPEATER MODEL 8315
005-012590	DCU-50, MODELS 4250, 4254
005-012473*	ASYNCHRONOUS INTERFACE MODELS 4007, 4010, 4023, 4075, 4077, 4078
005-012585	MCA MODEL 4206

* THIS PADDLEBOARD MUST BE PLACED IN THE OUTSIDE POSITION: i.e. THE FURTHEST AWAY FROM THE PADDLEBOARD SUPPORT PLATE.

** EXTERNAL I/O BUS MUST BE TERMINATED AT THE END AWAY FROM THE COMPUTER BY TERMINATOR No 005-009067 OR EQUIVALENT,

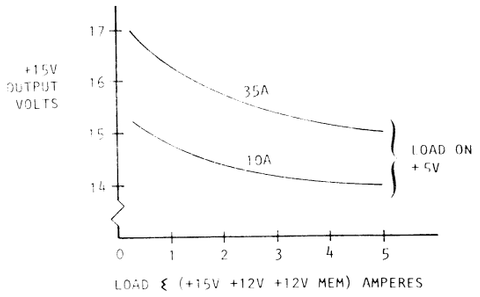
*** REQUIRES TWO PADDLEBOARD LOCATIONS.



POWER SYSTEM LOADING RULES:

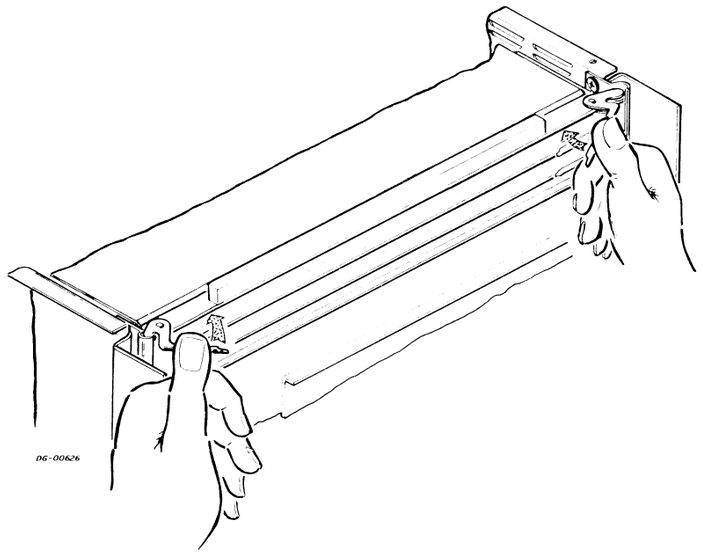
1. SUPPLY VOLTAGES +5V, +12V,AND -5V ARE TIGHTLY REGULATED (SEE 001-001615 FOR LIMITS). +15V IS NOT LOAD REGULATED; ITS TYPICAL OUTPUT VOLTAGE IS SHOWN IN THE GRAPH TO THE RIGHT.

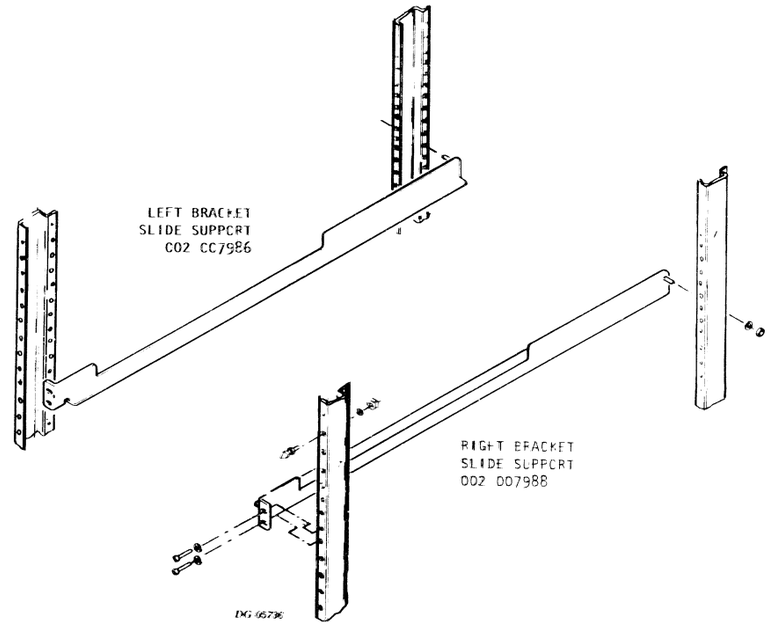
2. LOADING ON +5V MUST BE DIVIDED SO THAT SLOTS 1 AND 2 DRAW LESS THAN 22 AMPERES, SLOTS 3, 4, AND 5 DRAW LESS THAN 22 AMPERES, AND THE TOTAL LOAD IS LESS THAN 35 AMPERES.



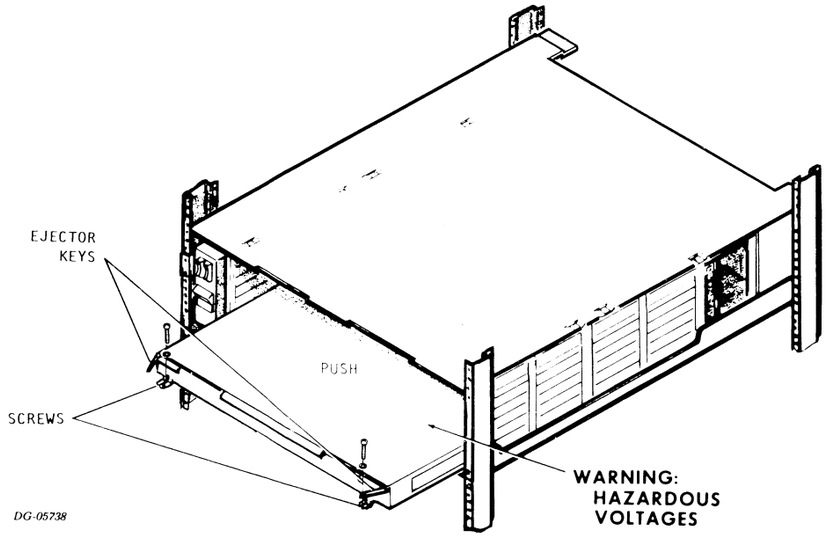
CABINET MOUNTING

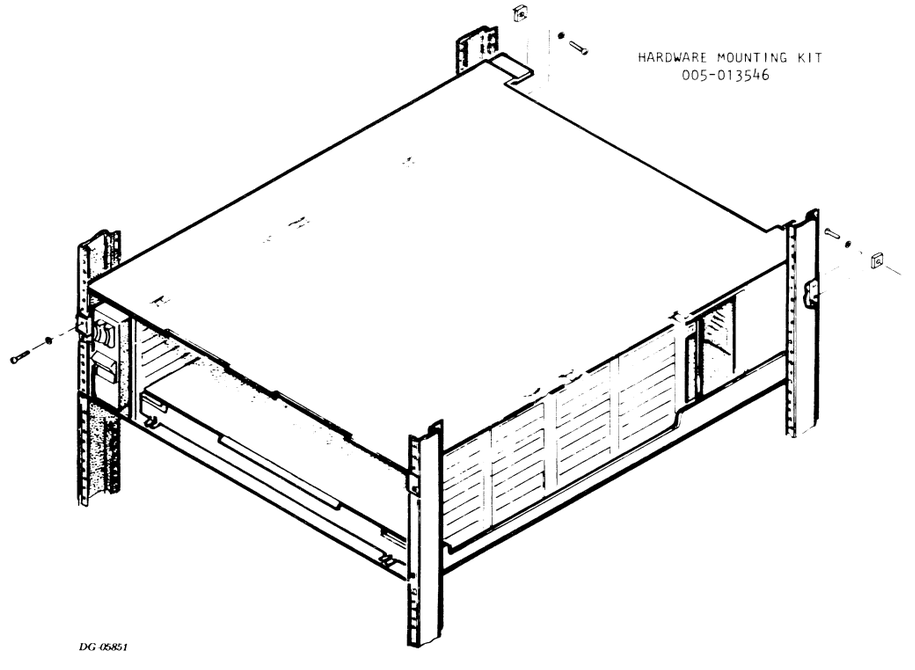
INSERTING PC BOARD



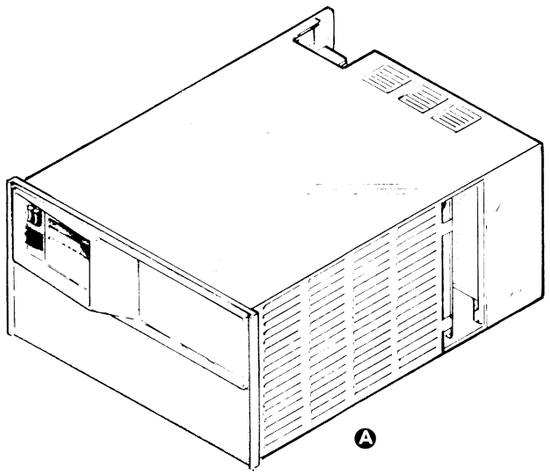


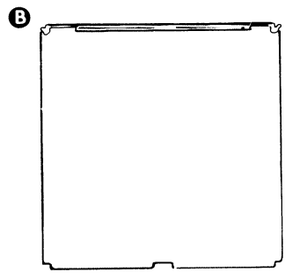
INSERTING POWER SUPPLY PCB





INSTALLATION SPECIFICATIONS





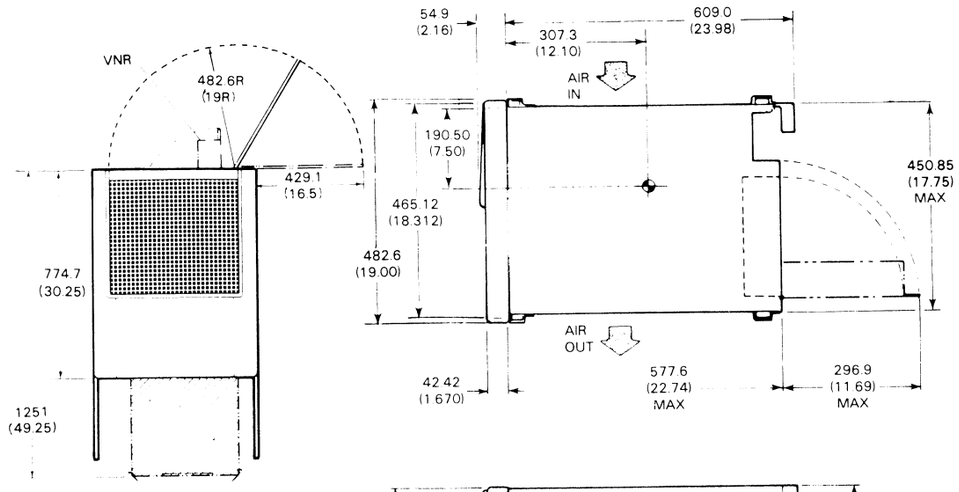
	Component	Mounting Location
A	16-SLOT CHASSIS	CABINET
B	SPU	16-SLOT CHASSIS

SLOT ASSIGNMENTS

Slot	Data Channel Speeds Available Allowed (Slot Chart)	Standard High Speed ✓ Assigned	+5V Current Draw
16	I/O		
15	I/O		
14	I/O		
13	I/O		
12	I/O		
11	I/O		
10	I/O		
9	I/O		
8	I/O		
7	I/O		
6	I/O		
5	I/O		
4	I/O		
3	I/O		
2	RESERVED		
1	SPU	NOTE 1,5	
0	POWER SUPPLY		
	Total +5V Current draw		SEE
	Max +5V Current Available	100A	NOTE
	+5V Current Surplus		4

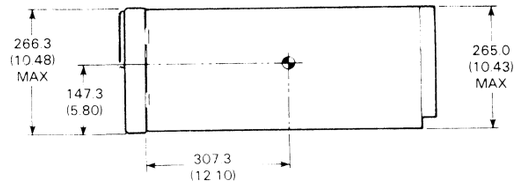
NOTES:

1. ECLIPSE S/120 — 5A
2. MAXIMUM 10 I/O BOARDS CONNECTED TO I/O BUS W/O A BUS REPEATER.
3. SEE PAGE 6 FOR +12V LOAD RESTRICTIONS.
4. JAPAN MODEL (-1) LIMITED TO 90 AMPS + 5V CURRENT DRAW AND 550 WATTS TOTAL POWER DRAW.
5. MAXIMUM DRAW +5 MEM — 3.0A



SERVICE DIMENSIONS

NOTE: S/120 IS SERVICED WITHOUT REMOVAL FROM CABINET



DIMENSIONS IN MILLIMETERS
INCHES IN PARENTHESES FOR REFERENCE

DG 0838

DIMENSIONS:	Width	Depth	Height
Millimeters	482.6	663.9	266.3
Inches	19.0	26.14	10.48

SERVICE CLEARANCES:	Front	Rear
Millimeters	914.4	914.4
Inches	36	36

WEIGHT:	Empty	Fully Loaded
Kilograms	35.38	49.9
Pounds	78.0	110.0

OPERATING ENVIRONMENT:

Temperature (max)	55°C (131°F) 60Hz. 45°C (113°F) 50Hz
Relative Humidity (max)	90
Altitude (max)	2438m (8000ft)

CABLES:

Primary Power	Length	Conn	Mating Conn
Domestic	1.8m(6')	5-15P	5-15R
Export	1.8m(6')	6-15P	6-15R

External I/O Bus Cable — 15.3m(50') max

CPU DESIGNATOR:

Designator Number: 222
Designator Range: 22-22

HEAT OUTPUT: 1100 watts (3750 BTU/hr)

POWER REQUIREMENTS:

(Domestic)

Voltage	102-132
Hz	47-63
Max Amp per Phase	12.0
Phase	1
Startup Surge per Phase	20A (max) for 0.25 seconds

(Export)

		(JAPAN)
Voltage	187-264	90-110
Hz	47-63	47-63
Max Amp per Phase	7.0	12.0
Phase	1	1
Startup Surge per Phase	40A (max) for 0.12 seconds	20A for 0.25 seconds SEE NOTE 4

LINE CORDS:

Supply	Part No.
100-120V	109 000455
220-240	109 000456

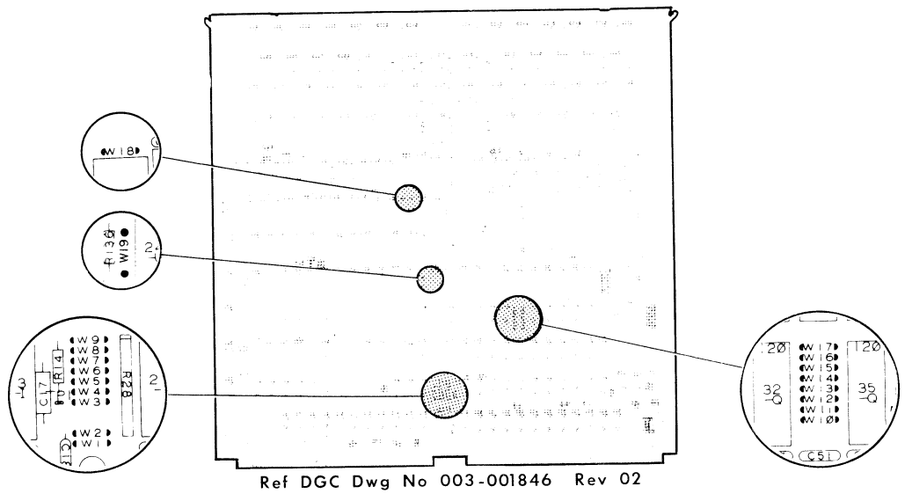
FOR PACKING PROCEDURE, SEE 010-000262/263

Warning: This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instruction manual, may cause interference to radio communications. As temporarily permitted by regulation, it has not been tested for compliance with the limits for Class A computing devices pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference. Operation of this equipment in a residential area is likely to cause interference, in which case the user, at his own expense, will be required to take whatever measures may be required to correct the interference.

TAILORING

SPU JUMPERING

S/120



Ref DGC Dwg No 003-001846 Rev 02

TYPE OF TRANSMISSION JUMPERS

TYPE OF TRANSMISSION	JUMPERS INSERTED
20MA CURRENT LOOP EIA RS232-C	W1, W2* (BOTH OUT)

* JUMPER 2 IS INSERTED ONLY IF 20mA CURRENT LOOP IS USED AT BAUD RATES OF 600 OR LESS, OTHERWISE IT IS NOT INSERTED.

DEVICE CODE JUMPERS FOR AUTOMATIC PROGRAM LOAD

SELECT THE PROGRAM LOAD DEVICE CODE BY INSTALLING JUMPERS W8, W7, W6, W5, W4, W3 AS FOLLOWS:

JUMPER OUT = 1 JUMPER IN = 0

EXAMPLE JUMPERING FOR DEVICE CODE 27_8:

W8	W7	W6	W5	W4	W3
IN	OUT	IN	OUT	OUT	OUT

INSERT W9 IF PROGRAM LOADING IS TO BE DONE FROM A PROGRAMMED I/O (LOW SPEED) DEVICE.

DO NOT INSERT W9 IF PROGRAM LOADING IS TO BE DONE FROM A DATA CHANNEL (HIGH SPEED) DEVICE.

BAUD RATE JUMPERS

RATE	W10	W11	W12	W13
50	IN	IN	IN	IN
75	IN	OUT	OUT	OUT
110	IN	IN	OUT	OUT
134.5	OUT	OUT	OUT	OUT
150	OUT	OUT	IN	IN
200	OUT	IN	OUT	OUT
300	OUT	OUT	IN	OUT
600	IN	IN	OUT	IN
1200	IN	OUT	IN	OUT
1800	IN	OUT	IN	IN
2000	OUT	IN	IN	IN
2400	OUT	IN	OUT	IN
4800	OUT	IN	IN	OUT
9600	IN	OUT	OUT	IN
19200	IN	IN	IN	OUT
38400	OUT	OUT	OUT	IN

50, 75, 110, 134.5 BAUD RATES HAVE 2 STOP BITS, ALL OTHER BAUD RATES HAVE 1 STOP BIT. ALL BAUD RATES HAVE NO PARITY.

PIT RATE JUMPERS

RATE	W14	W15
1kHz	OUT	OUT
10kHz	IN	OUT
100kHz	OUT	IN
1MHz	IN	IN

BREAK KEY DISABLE

JUMPER W16 IS INSERTED TO DISABLE BREAK KEY DETECTION, OTHERWISE BREAK DETECTION IS ENABLED.

HALT DISPATCH DISABLE

JUMPER W17 IS INSERTED TO DISABLE DISPATCH TO VIRTUAL CONSOLE UPON EXECUTION OF HALT INSTRUCTION, OTHERWISE DISPATCH IS ENABLED.

SYSTEM CLOCK ENABLE

JUMPER W18 IS INSERTED TO ENABLE THE SYSTEM TIMING CLOCK. THIS JUMPER SHOULD ONLY BE REMOVED FOR ATE TESTING PURPOSES.

HYPERSPACE/MAP RAM ENABLE

JUMPER W19 IS INSERTED TO ENABLE HYPERSPACE/MAP RAM. THIS JUMPER SHOULD ONLY BE REMOVED FOR ATE TESTING PURPOSES.

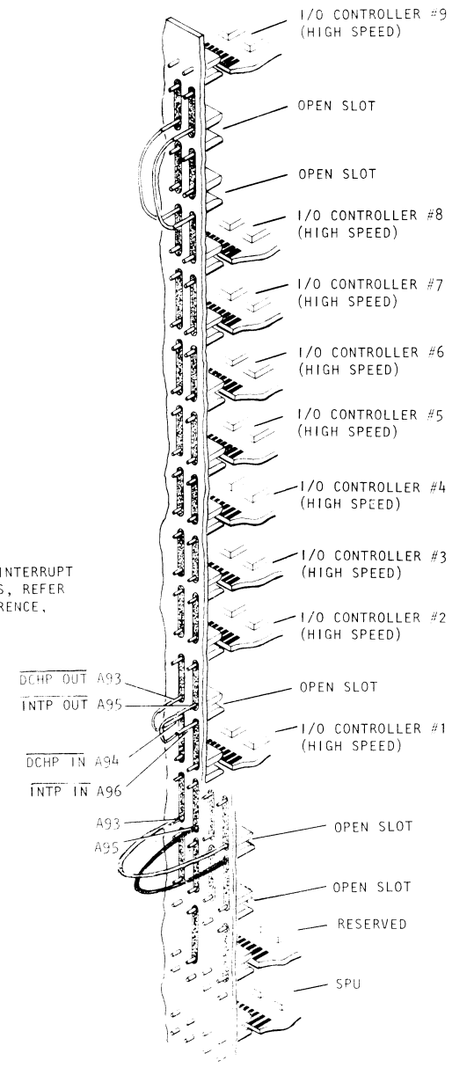
W18 AND W19 ARE ALWAYS INSERTED.

SPU/MEMORY LOADS

VOLTAGE	DESCRIPTION	CURRENT DRAW
+5V	SYSTEM WITHOUT BATTERY BACKUP	5.0A
+5V	SYSTEM WITH BATTERY BACKUP	5.0A
+5V MEM		3.0A
+12V		0.02A
-12V		0.02A

TAILORING (CONT)

BACKPANEL JUMPERING



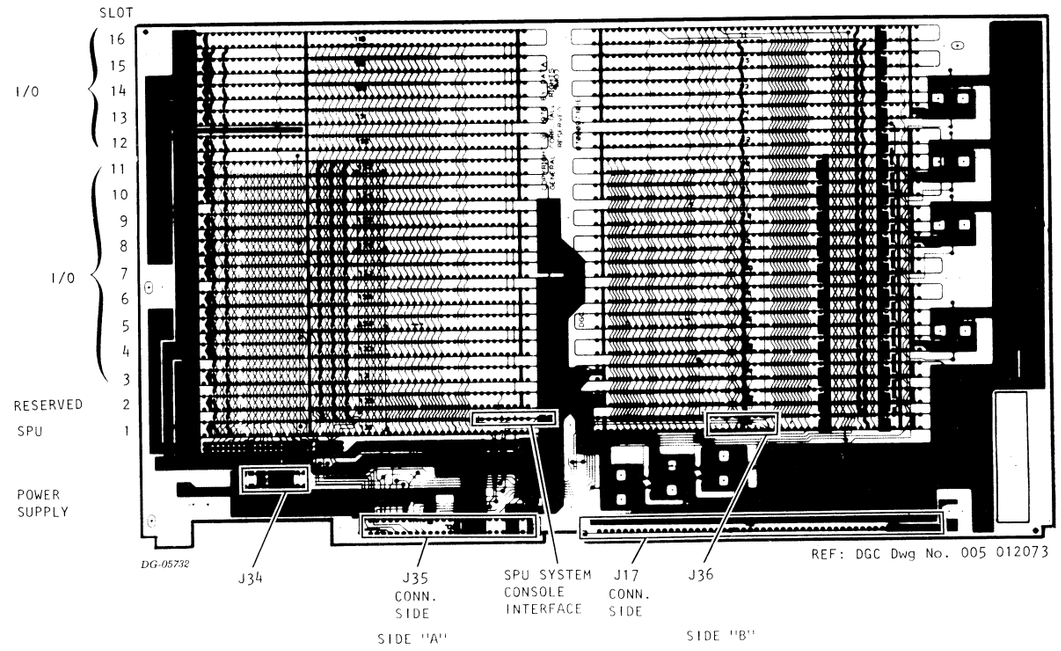
FOR MORE INFORMATION CONCERNING INTERRUPT AND DATA CHANNEL PRIORITY SCHEMES, REFER TO THE INTERFACE DESIGNER'S REFERENCE, NOVA AND ECLIPSE LINE COMPUTERS, DG NO. 014-000629

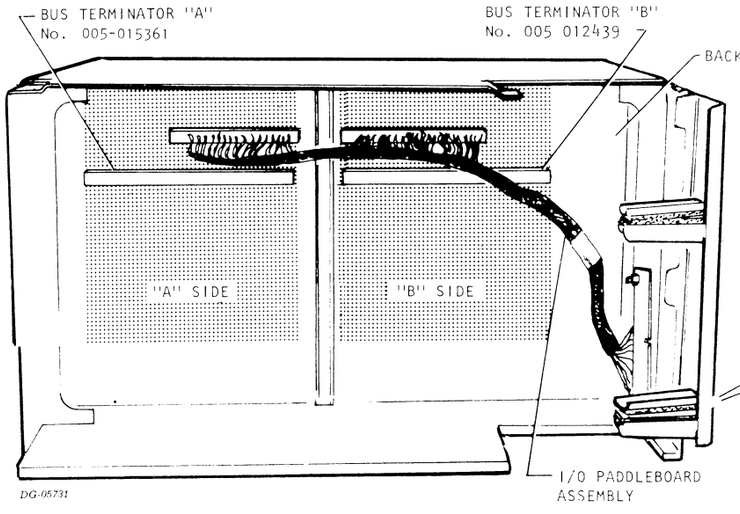
DG-05722

CONNECT A JUMPER BETWEEN PINS A93 (INPUT) AND A99 (GND) AND A JUMPER BETWEEN PINS A95 (DCHP OUT) AND A100 (GND) OF THE SLOT IMMEDIATELY BELOW THE LOWEST NUMBERED CHASSIS SLOT THAT CONTAINS AN I/O BOARD.

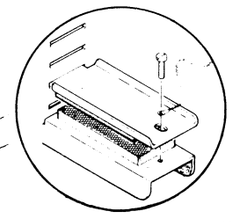
INTERNAL CABLING

BACKPANEL CONNECTORS





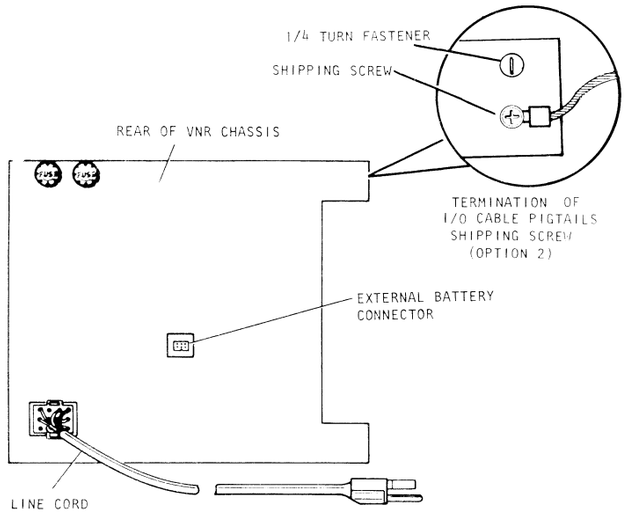
STRAIN RELIEF



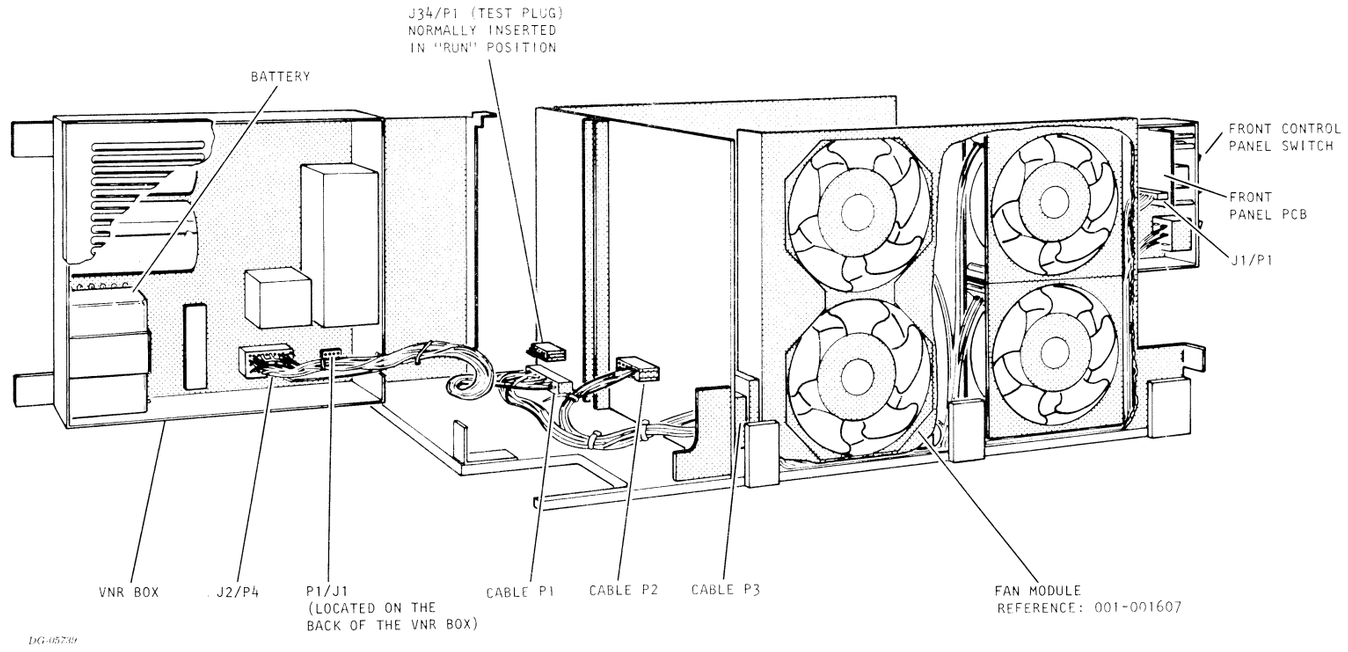
INSTALLATION OF I/O CABLE PIGTAILS (OPTION 1)

BUS TERMINATORS "A" AND "B" SHOULD BE INSTALLED ON ANY I/O SLOT BACKPANEL PINS THAT ARE NOT USED BY DEVICE CABLE CONNECTORS. INSTALL THE TERMINATORS AS CLOSE TO THE CENTER (VERTICAL) OF THE BACKPANEL AS POSSIBLE.

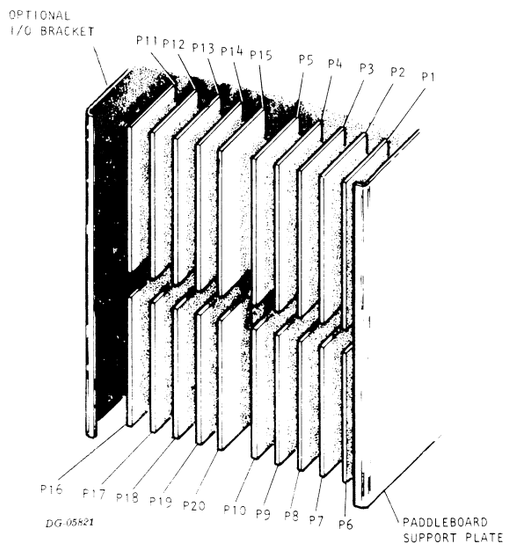
INTERNAL CABLING (CONT)



WARNING
FOR SERVICING DISCONNECT POWER, WAIT 5 MINUTES REASSEMBLE UNIT BEFORE APPLYING POWER



PADDLEBOARD MOUNTING

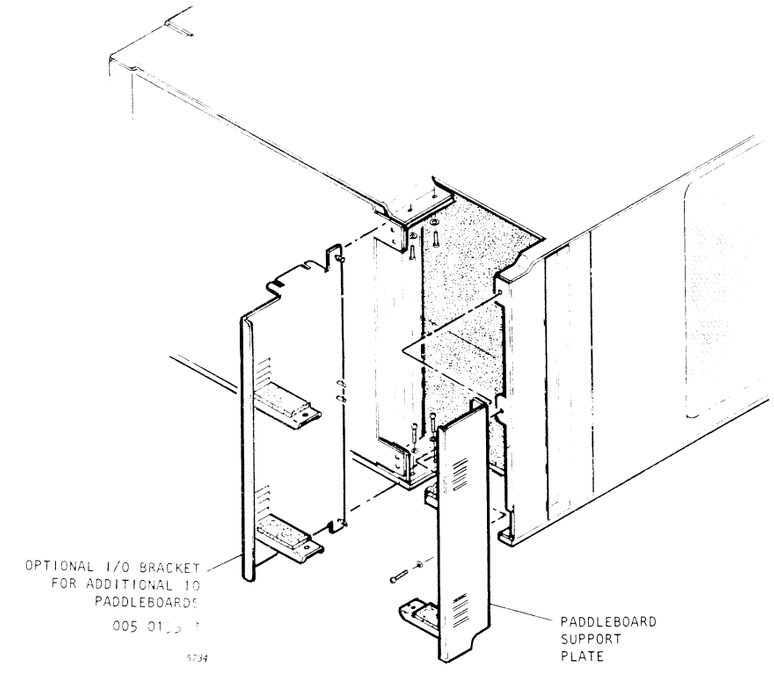


ASSEMBLY NO.	TYPE
005 012472	GENERAL PURPOSE I/O
005 012751	EXTERNAL I/O BUS **
005 012765	UNIVERSAL LINE MUX (SYNC) MODEL 4241, 4241A, 4242, 4243***
005 012476	I/O BUS REPEATER MODEL 8315
005 012590	DCU-50 MODELS 4250, 4254
005 012473*	ASYNCHRONOUS INTERFACE MODELS 4007, 4010, 4023, 4075, 4077, 4078
005 012[illegible]	MCA MODEL 4206

* THIS PADDLEBOARD MUST BE PLACED IN THE OUTSIDE POSITION: i.e. THE FURTHEST AWAY FROM THE PADDLEBOARD SUPPORT PLATE.

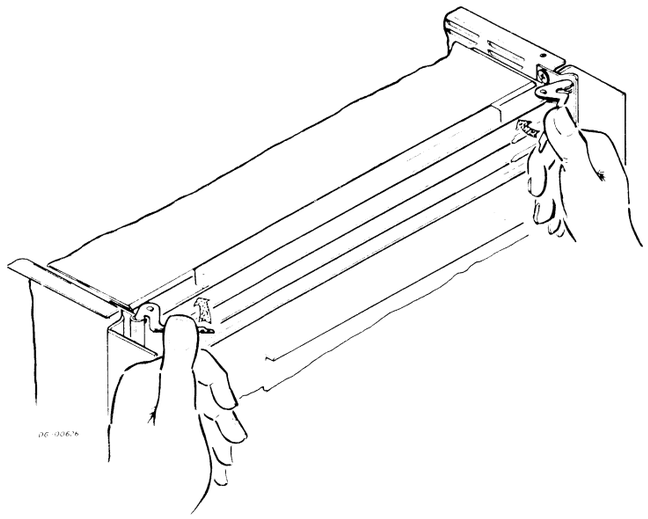
** EXTERNAL I/O BUS MUST BE TERMINATED AT THE END AWAY FROM THE COMPUTER BY TERMINATOR NO. 005-9067, OR EQUIVALENT.

*** REQUIRES TWO PADDLEBOARD LOCATIONS.

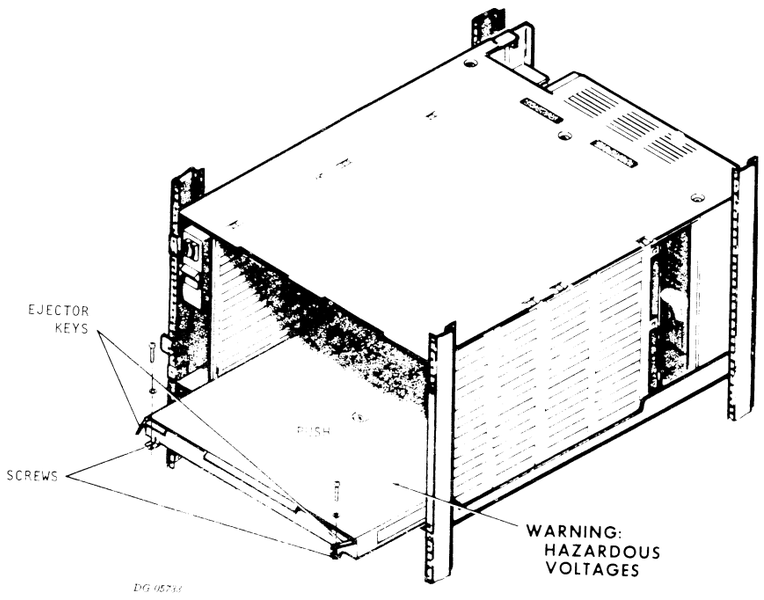


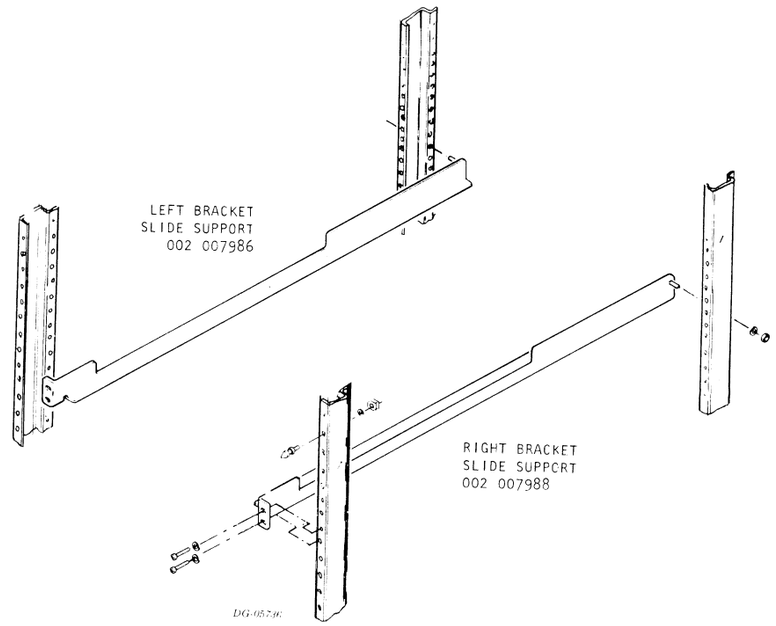
CABINET MOUNTING

INSERTING PC BOARD

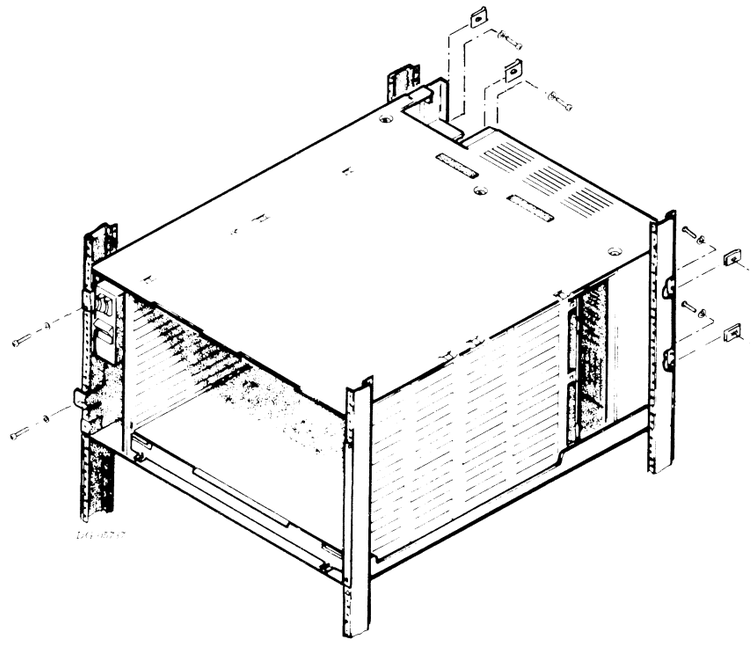


INSERTING POWER SUPPLY PCB





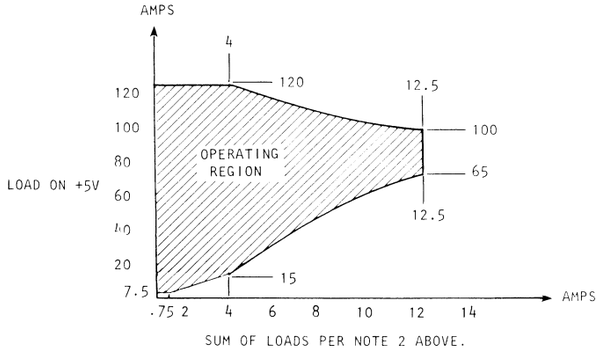
HARDWARE MOUNTING KIT
005 C12068



16-SLOT CHASSIS LOAD BALANCING RULES

WITH BATTERY BACKUP:

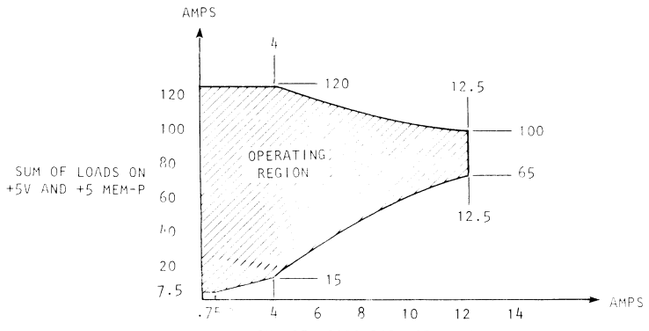
1. THE LOAD OF -5V MUST NOT EXCEED 3.0 AMPS.
2. THE SUM OF THE LOADS ON +12V, +12 MEM, +15V AND 0.55 (SUM OF CURRENT FROM +5 MEM-P AND -5 MEM-P) MUST NOT EXCEED 12.5 AMPS.
3. THE LOAD ON -5 MEM-P MUST NOT EXCEED 0.3 AMPS.
4. THE LOAD ON +5 MEM-P MUST NOT EXCEED 4.5 AMPS AND MUST BE AT LEAST 0.25 AMPS
5. THE LOAD ON +5V MUST NOT EXCEED 120 AMPS AND MUST BE AT LEAST 15 AMPS.
6. THE LOADS MUST BE WITHIN THE OPERATING REGION SHOWN BELOW:
7. FOR JAPAN (-1) MODEL, TOTAL OUTPUT POWER NOT TO EXCEED 550 WATTS.



SUM OF LOADS PER NOTE 2 ABOVE.

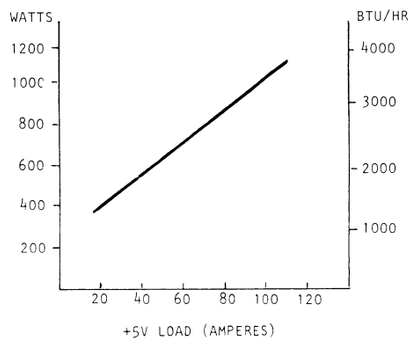
WITHOUT BATTERY BACKUP:

1. THE SUM OF THE LOADS ON -5V AND -5 MEM-P MUST NOT EXCEED 3.0 AMPS.
2. THE SUM OF THE LOADS ON +12V, +12 MEM, AND +15V MUST NOT EXCEED 12.5 AMPS.
3. THE SUM OF THE LOADS ON +5V AND +5 MEM-P MUST NOT EXCEED 120 AMPS AND MUST BE AT LEAST 15 AMPS.
4. THE LOADS MUST BE WITHIN THE OPERATING REGION SHOWN BELOW:
5. FOR JAPAN (-1) MODEL, TOTAL OUTPUT POWER NOT TO EXCEED 550 WATTS.



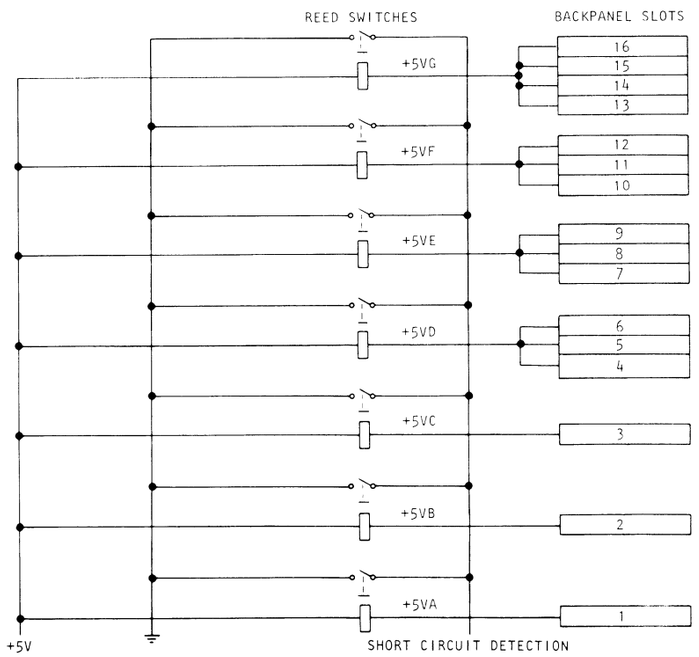
SUM OF LOADS PER NOTE 2 ABOVE.

POWER CONSUMPTION vs LOADING

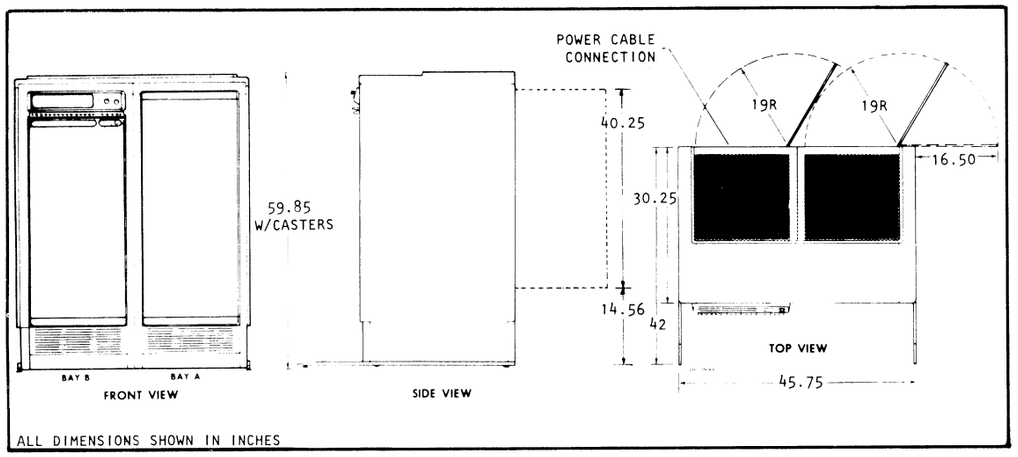


THIS CHART MAY BE USED AS A GUIDELINE OF ACTUAL HEAT OUTPUT OF A SPECIFIC SYSTEM.

SLOT LOADING RESTRICTIONS



ECLIPSE C/350 2-BAY CABINET SPECIFICATIONS



SPECIFICATIONS

DIMENSIONS:	Width	Depth	Height
Millimeters	1162.1	1073.2	1515.5
Inches	45.75	42.25	59.5

SERVICE CLEARANCES:	Front	Rear	Right*	Left*
Millimeters	812.8	762	762	762
Inches	32	30	30	30

WEIGHT:	Empty	Fully Loaded
	205 kg (452 lb)	374 kg (838 lb)

HEAT OUTPUT:

3500 watts (11,935 BTU/hr plus equip. in Bay A)

POWER REQUIREMENTS:

(Domestic)

Voltage (47-63Hz)	208/120V
Max Amp per Phase	25
Phase	3
Startup Surge per Phase	70 Amp

(Export)

Voltage (47-63Hz)	200	220	380/220	415/240
Max Amp per Phase	25	23	13	12
Phase	3	3	3	3
Startup Surge per Phase	70	70	70	70 Amp

OPERATING ENVIRONMENT:

Temperature (max)	45 degC (110 degF)
Relative Humidity (max)	90%

CABLES:	Length	Conn	Mating Conn
Primary Power 120V	2.75m(9')	2811	2810 (wall) 2813 (drop)
200/220/240V	2.75m(9')	NONE SUPPLIED	

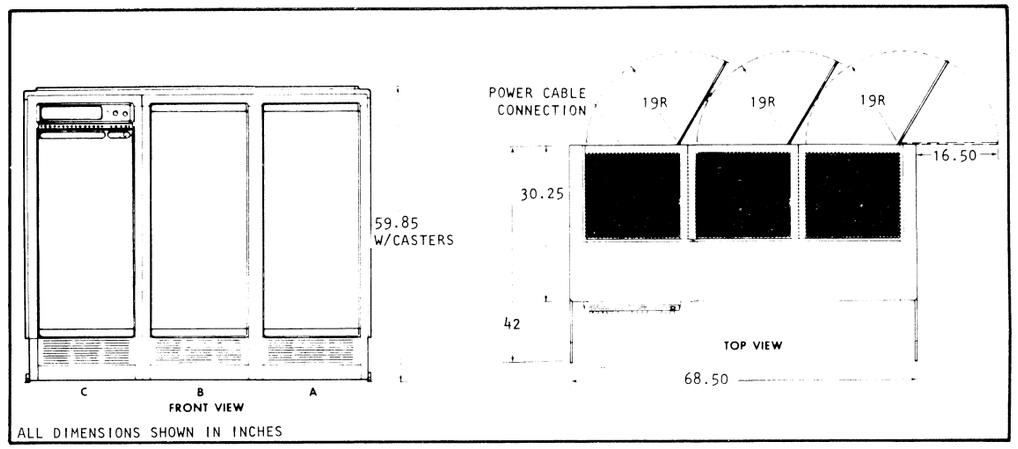
POWER AVAILABLE:

Internal Receptacles

Domestic	15A
Export	10A

* SIDE CLEARANCES, THOUGH GIVEN, ARE NOT REQUIRED. ALL COMPONENTS ARE SERVICED FROM THE FRONT OR REAR OF THE CABINET.

ECLIPSE C/350 3-BAY CABINET SPECIFICATIONS



SPECIFICATIONS

DIMENSIONS:	Width	Depth	Height
Millimeters	1739.9	1073.2	1515.8
Inches	68.5	42.25	59.5

SERVICE CLEARANCES:	Front	Rear	Right*	Left*
Millimeters	812.8	762	762	762
Inches	32	30	30	30

WEIGHT:	Empty	Fully Loaded
	252 kg (608 lb)	579 kg (1295 lb)

HEAT OUTPUT:

3500 watts (11,935 BTU/hr plus equip. in Bays A & B)

POWER REQUIREMENTS:

(Domestic)

Voltage (47-63Hz)	208/120V
Max Amp per Phase	25
Phase	3
Startup Surge per Phase	70 Amp

(Export)

Voltage (47-63Hz)	200	220	380/220	415/240
Max Amp per Phase	25	23	13	12
Phase	3	3	3	3
Startup Surge per Phase	70	70	70	70 Amp

OPERATING ENVIRONMENT:

Temperature (max)	45 degC (110 degF)
Relative Humidity (max)	90%

CABLES:	Length	Conn	Mating Conn
Primary Power 120V	2.75m(9')	2811	2810 (wall) 2813 (drop)
200/220/240V	2.75m(9')	NONE SUPPLIED	

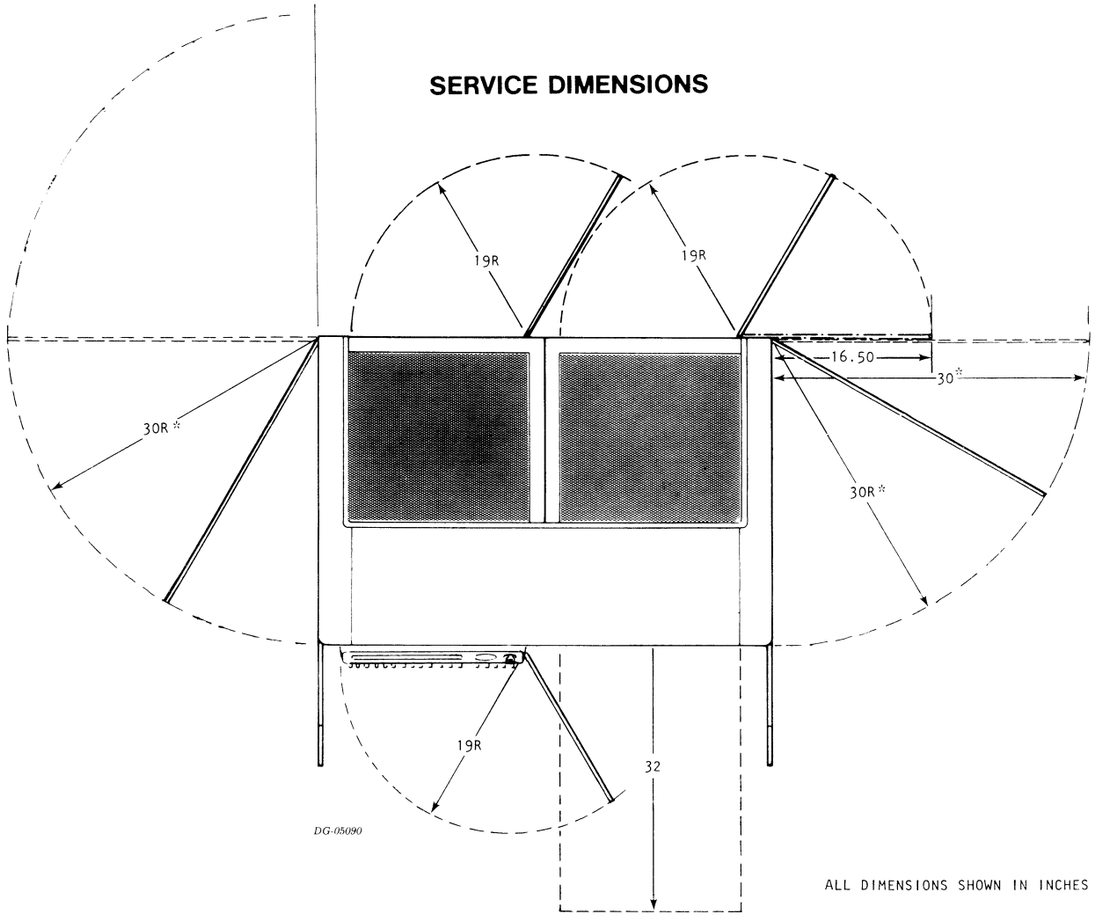
POWER AVAILABLE:

Internal Receptacles

Domestic	15A
Export	10A

* SIDE CLEARANCES, THOUGH GIVEN, ARE NOT REQUIRED. ALL COMPONENTS ARE SERVICED FROM THE FRONT OR REAR OF THE CABINET.

SERVICE DIMENSIONS



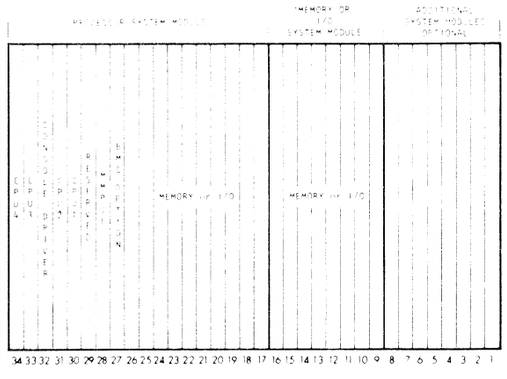
TOP VIEW

ALL DIMENSIONS SHOWN IN INCHES

* SIDE CLEARANCES, THOUGH GIVEN, ARE NOT REQUIRED. ALL COMPONENTS ARE SERVICED FROM THE FRONT OR REAR OF THE CABINET.

ECLIPSE C/350

PROCESSOR MODULES



Data Channel Speeds Available — Standard ☐ High Speed ☐

Slot	Allowed (Slot Chart)	Assigned	+5V Current Draw
34	CPU 4	34	18.0
33	CPU 3	33	11.0
32	CONSOLE DRIVER	32	7.3
31	CPU 2	31	8.0
30	CPU 1	30	5.0
29	RESERVED	29	
28	MMPU	28	5.2
27	RESERVED FOR BMC	27	12.3
9-26	MEMORY OR I/O	9 - 26	
1-8	I/O ONLY	1 - 8	

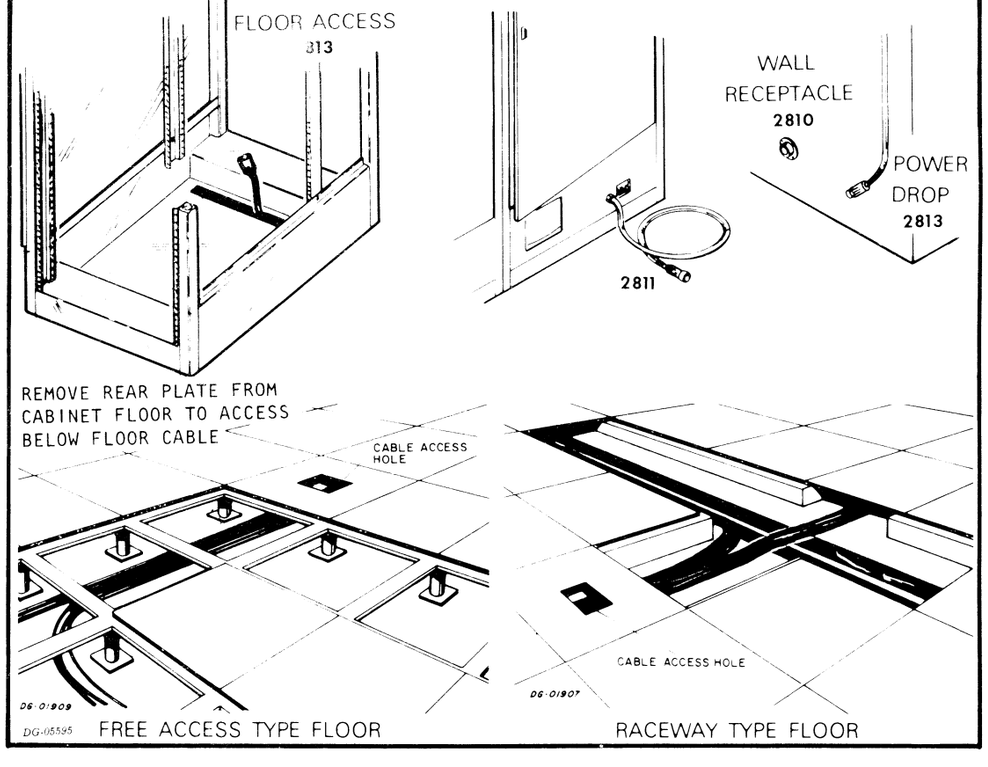
Total +5V Current draw

Max +5V Current Available (135 watts)

+5V Current Surplus

OPTIONS
4K MEMORY 1.7 CURRENT DRAW
MAXI 5C MEMORY 2.7 CURRENT DRAW
12MAXI 5C MEMORY 4.3 CURRENT DRAW
16MAXI 5C MEMORY 3.6 CURRENT DRAW

CABLING DETAILS



SHIPPING

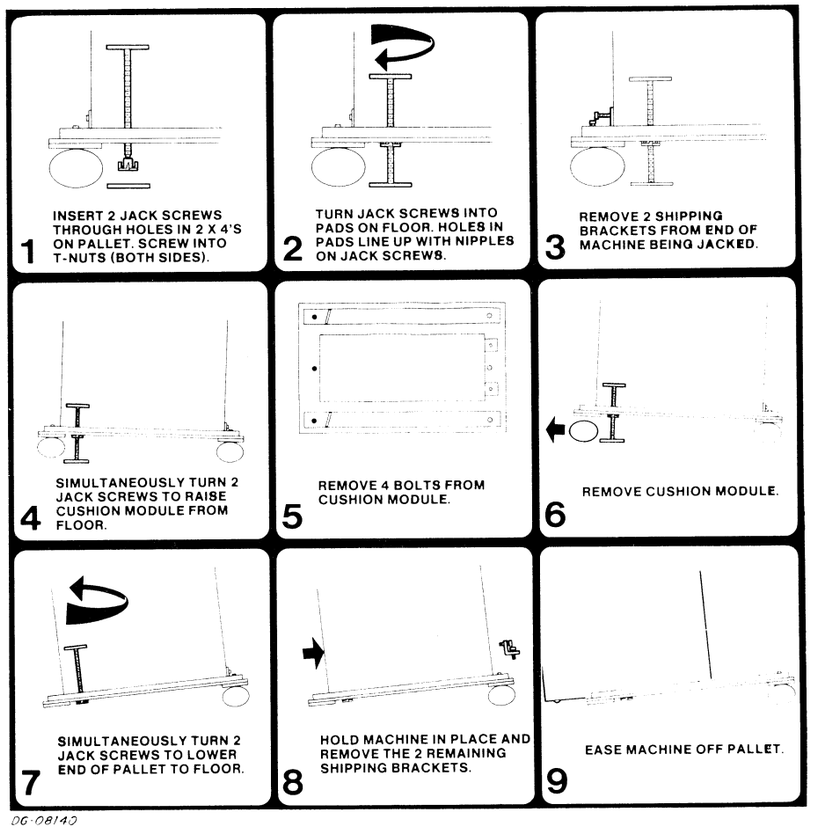
FOR PACKING 2-BAY CABINETS,
SEE 010-000267;

FOR PACKING 3-BAY CABINETS,
SEE 010-000268

UNLOADING INSTRUCTIONS

IMPORTANT

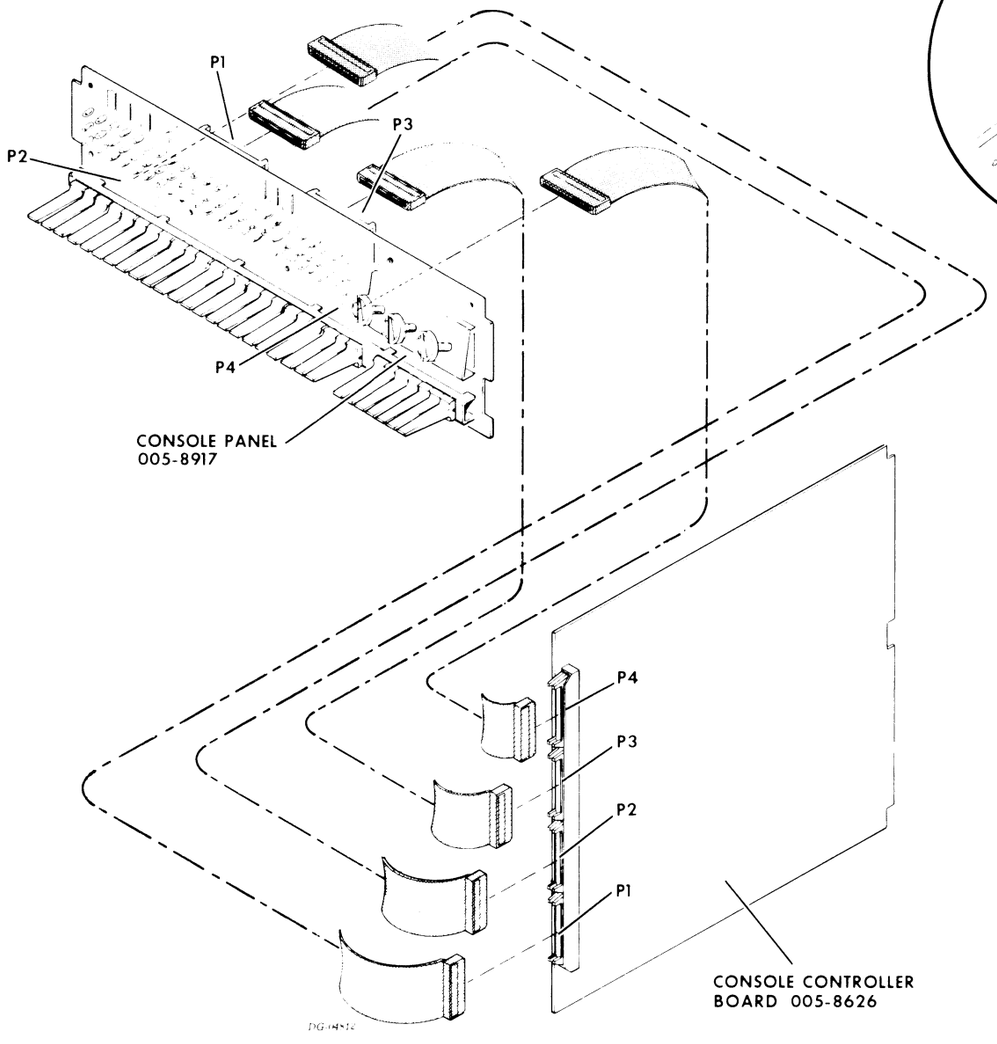
THIS IS A TWO-MAN OPERATION

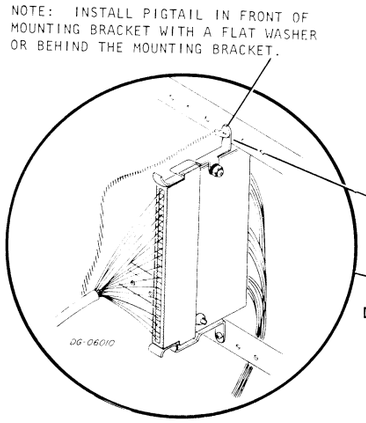


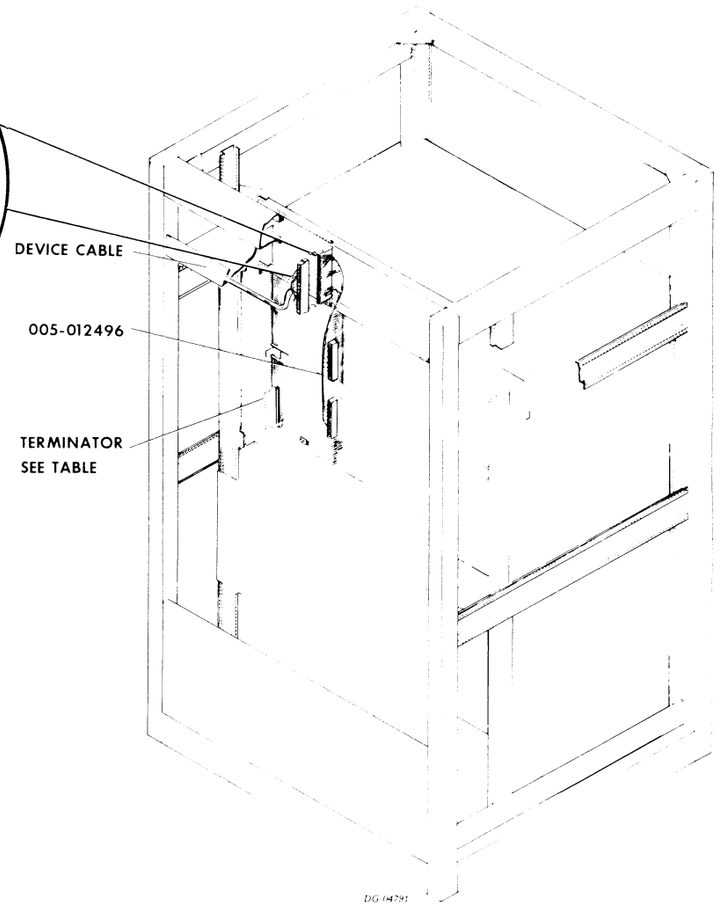
DG-08140

INTERNAL CABLING

CONSOLE CONTROLLER



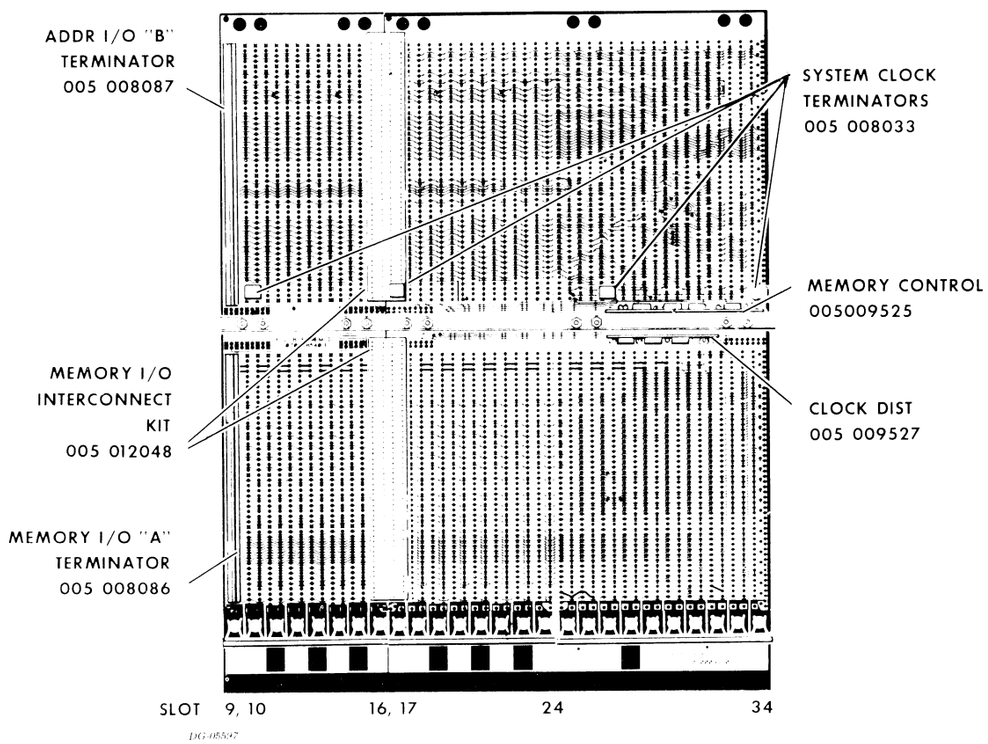




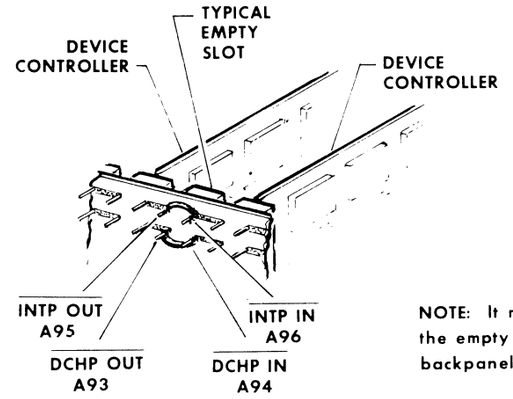
INTERNAL CABLING (CONT)

REAR VIEW BACKPANEL

TERMINATORS PLACEMENT



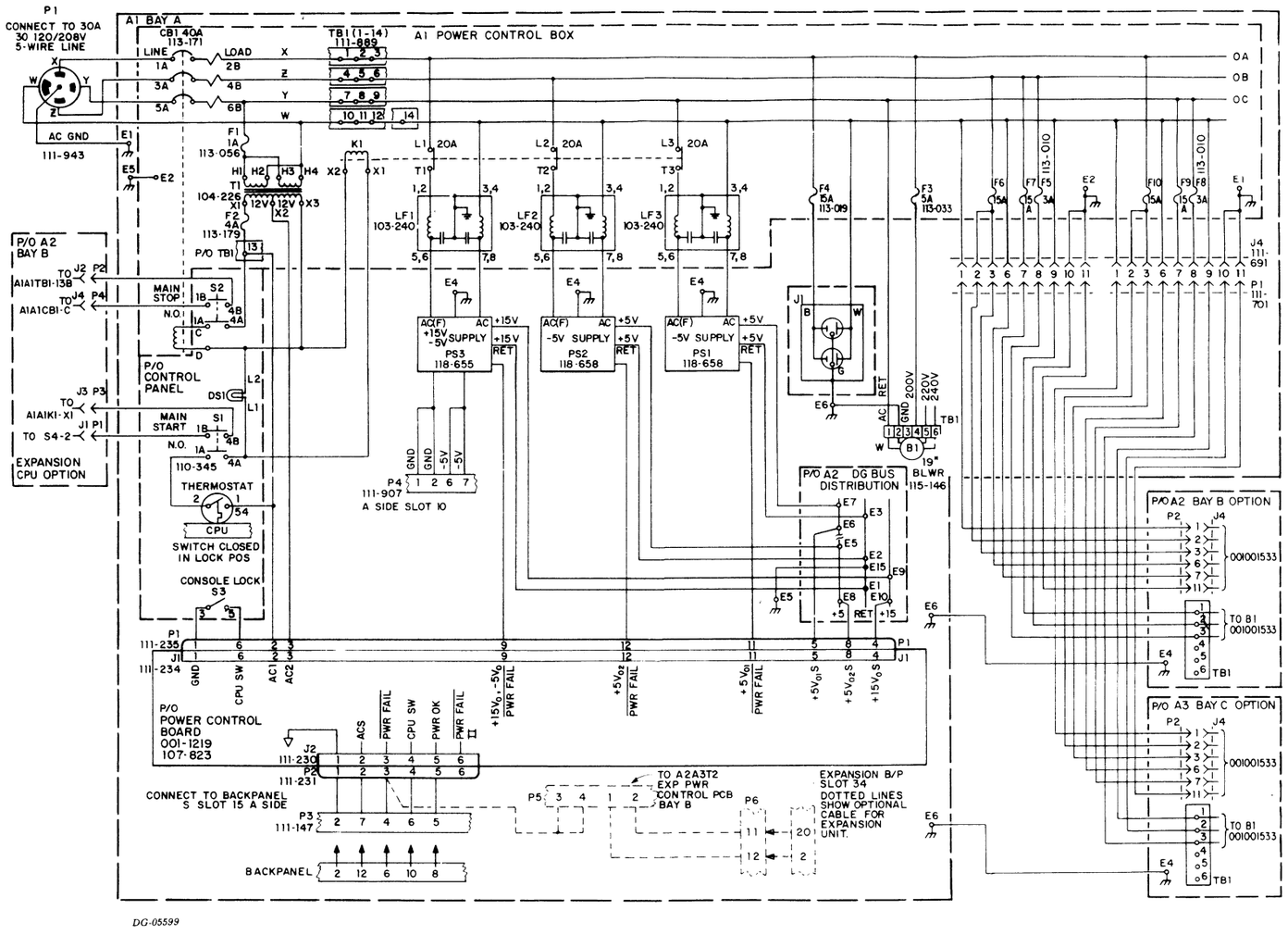
JUMPERING



NOTE: It may be necessary to remove the empty slots' internal cable from the backpanel to jumper the priority chain.

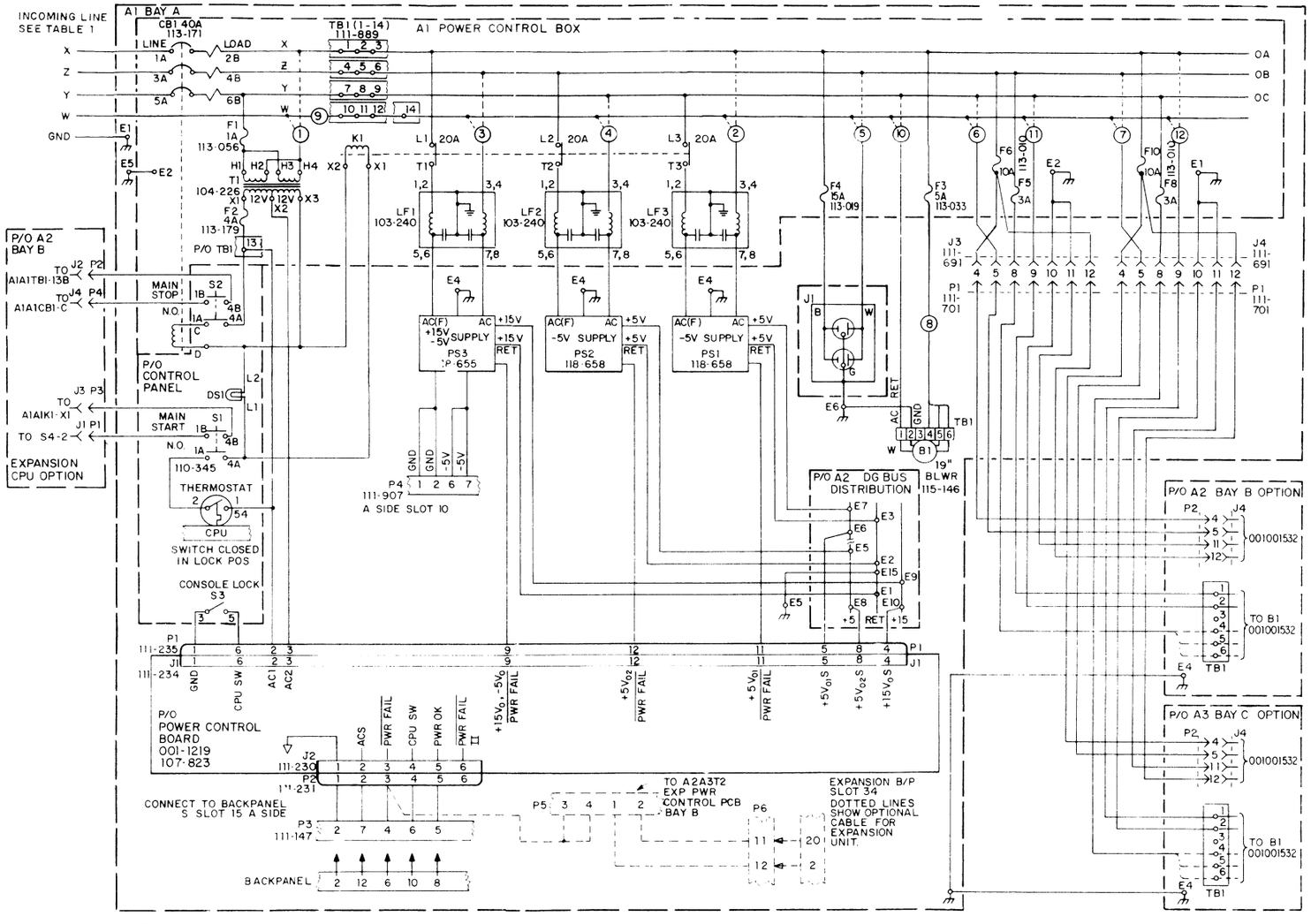
INTERNAL CABLING (CONT)

POWER DISTRIBUTION UNIT — DOMESTIC



INTERNAL CABLING (CONT)

POWER DISTRIBUTION UNIT — EXPORT



DG-05680

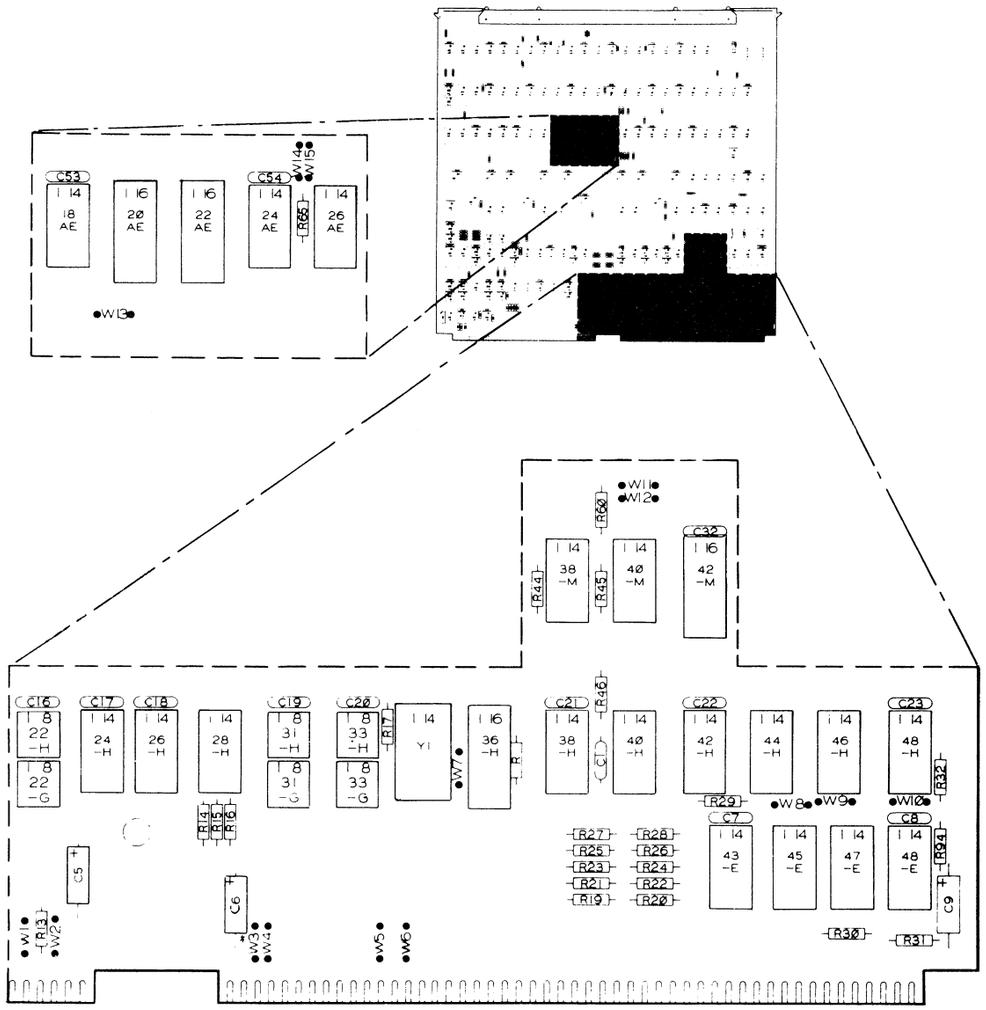
TERM.	INCOMING VOLTAGE			
	200V DELTA	220V DELTA	380/220V WYE	415/240V WYE
T1-H4	TB1-3	TB1-3	TB1-10	TB1-10
LF3-3	TB1-1	TB1-1	TB1-11	TB1-11
LF1-3	TB1-6	TB1-6	TB1-11	TB1-11
LF2-3	TB1-9	TB1-9	TB1-12	TB1-12
J1-W	TB1-5	TB1-5	TB1-10	TB1-10
J3 PIN 5	TB1-7	TB1-7	TB1-10	TB1-10
J4 PIN 5	TB1-5	TB1-5	TB1-12	TB1-12
F3-S	A1 TB1 4	A1 TB1 5	A1 TB1 5	A1 TB1 6
PWR CA N			TB1-11	TB1-11
B1 TB1-7	TB1-7	TB1-7	TB1-14	TB1-14
J3 PIN 9	TB1-8	TB1-8	TB1-14	TB1-14
J4 PIN 9	TB1-3	TB1-3	TB1-14	TB1-14

TAILORING

JUMPERING

CPU 1 PCB

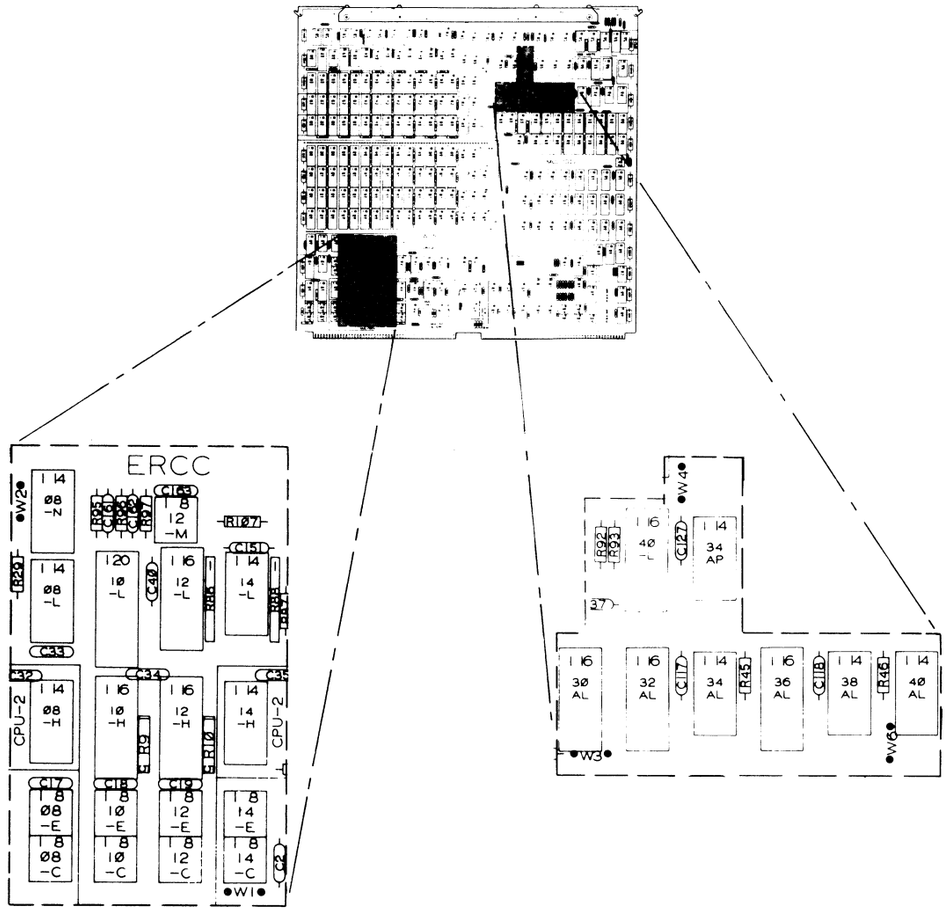
Ref. DGC 003 000261 Rev 24



	W/BMC OPTION	W/O BMC OPTION
W1	OUT	IN
W2	OUT	OUT
W3	OUT	OUT
W4	OUT	OUT
W5	IN	IN
W6	IN	IN
W7	OUT	IN
W8	IN	IN
W9	OUT	OUT
W10	OUT	OUT
W11	IN	IN
W12	IN	IN
W13	OUT	OUT
W14	OUT	OUT
W15	IN	IN

CPU 2 ERCC PCB

Ref. DGC 003 000657 Rev 07



	W/BMC OPTION	W/O BMC OPTION	
W1	IN	IN	
W2	OUT	OUT	
W3	*	*	POWER FAIL RESTART
W4	*	*	POWER FAIL RESTART
W5	OUT	OUT	
W6	OUT	OUT	
R6	OUT	OUT	
R78	IN	IN	
R92	OUT	IN	

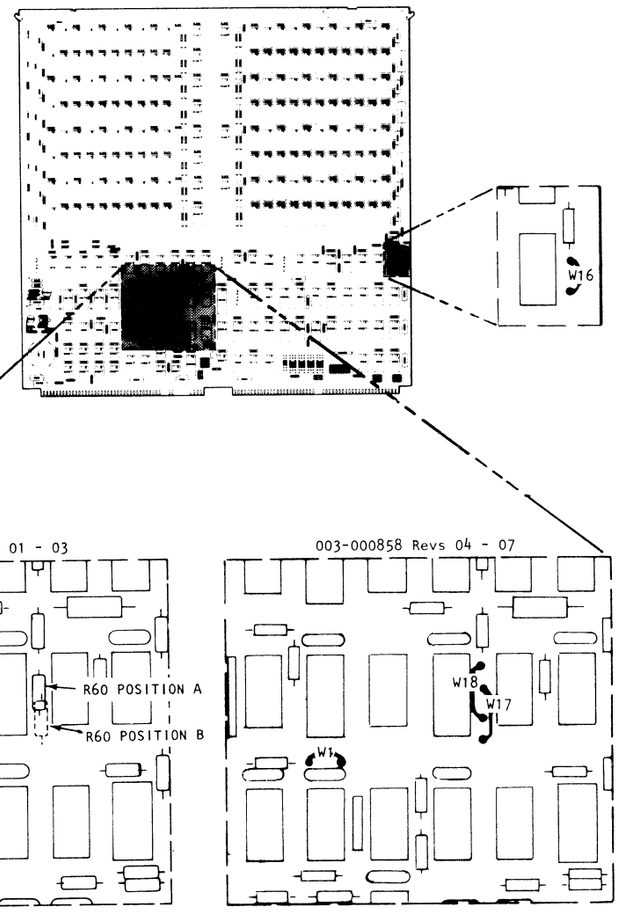
*

W3	W4	IF CONSOLE IS LOCKED
OUT	OUT	NORMAL AUTO RESTART
OUT	IN	HALT
IN	OUT	AUTO REBOOT DEVICE 33
IN	IN	AUTO REBOOT DEVICE 73

TAILORING (CONT)

SC MEMORY PCB

Ref. DGC 003 000858



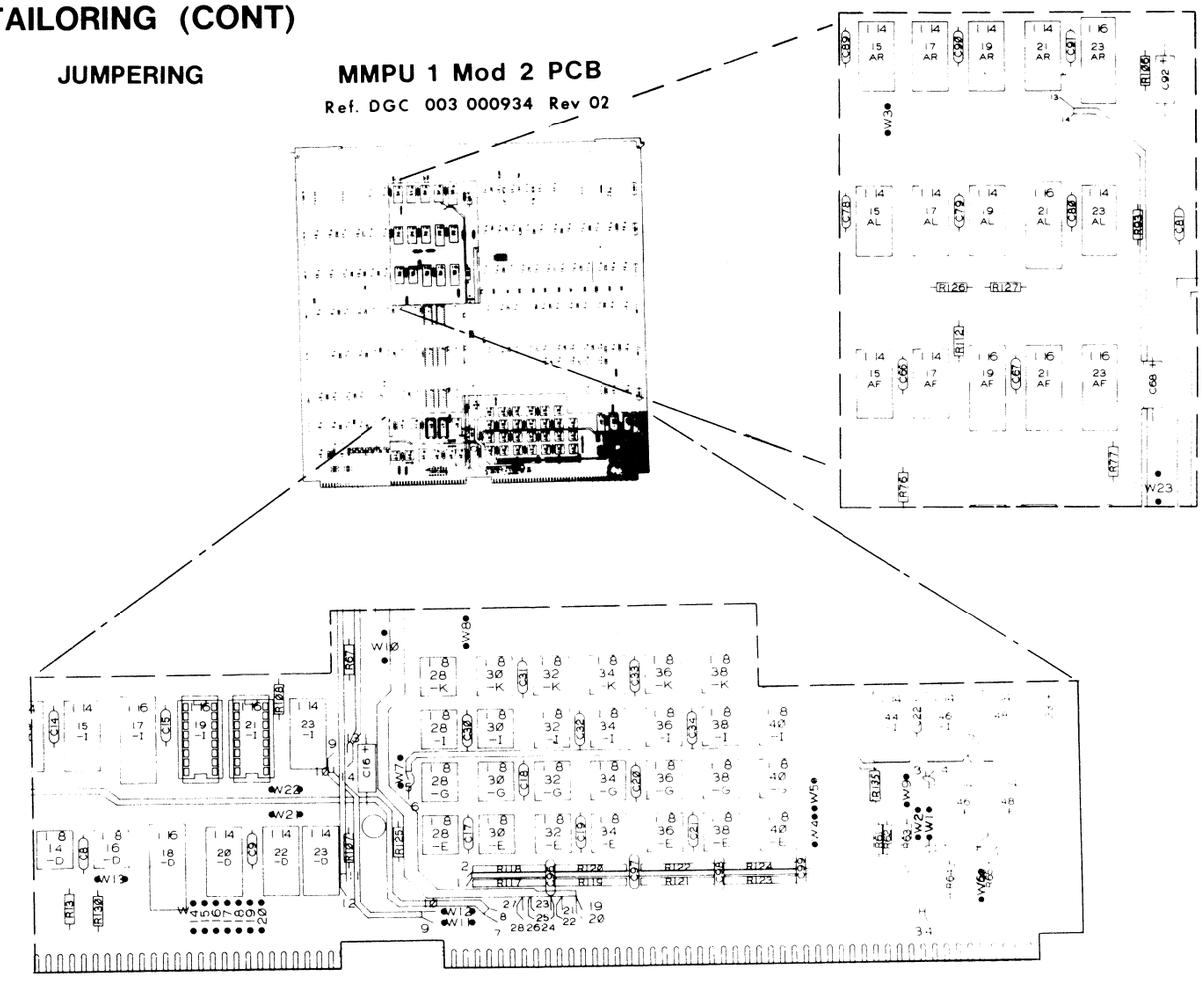
	W/BMC OPTION	W/O BMC OPTION
W1	OUT	OUT
R60	POS B	POS A

	W/BMC OPTION	W/O BMC OPTION
W1	OUT	OUT
W16	OUT	IN
W17	IN	OUT
W18	OUT	IN

JUMPERING

MMPU 1 Mod 2 PCB

Ref. DGC 003 000934 Rev 02



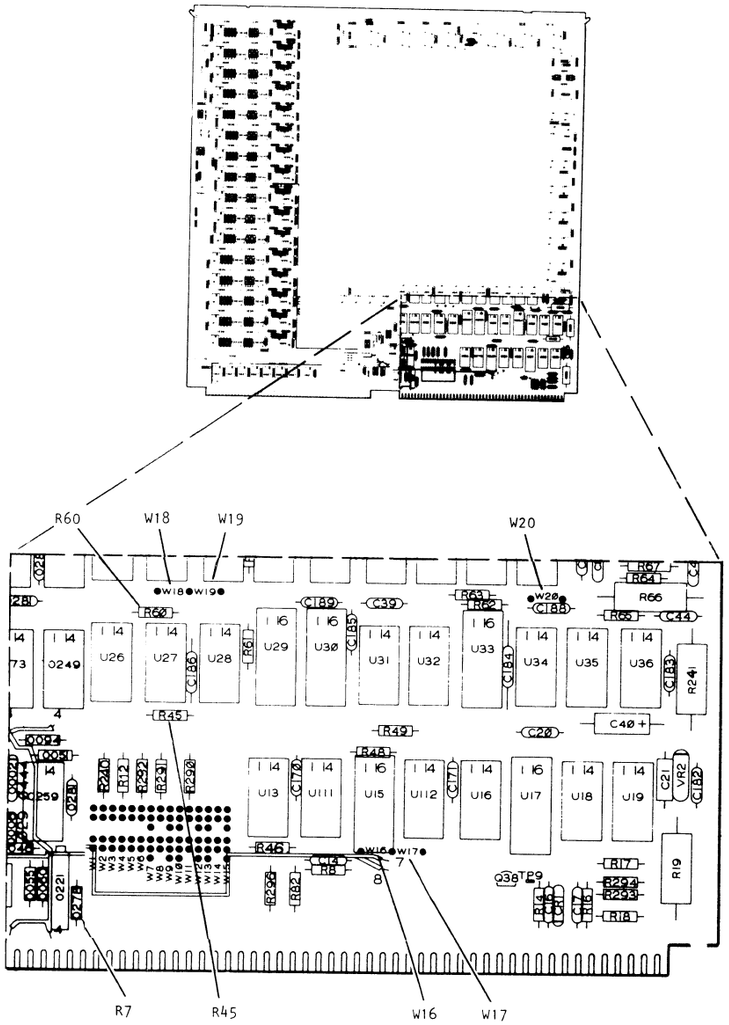
	W/BMC OPTION	W/O BMC OPTION
W1	OUT	IN
W2	OUT	OUT
W3	IN	IN
W4	IN	IN
W5	IN	IN
W6	IN	OUT
W7	OUT	IN
W8	OUT	OUT
W9	OUT	OUT
W10	IN	IN
W11	IN	IN
W12	OUT	OUT
W13	IN	IN
W14	OUT	OUT
W15	IN	IN
W16	OUT	OUT
W17	IN	IN
W18	OUT	OUT
W19	OUT	OUT
W20	IN	IN
W21	IN	IN
W22	OUT	OUT
W23	IN	IN

TAILORING (CONT)

JUMPERING

CORE MEMORY PCB

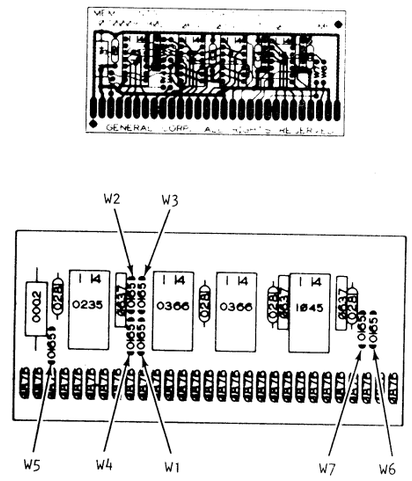
Ref. DGC 003 000896 Rev 02



	W/BMC OPTION	W/O BMC OPTION
W16	IN	IN
W17	OUT	OUT
W18	OUT	IN
W19	IN	OUT
W20	IN	IN
R7	OUT	IN
R45	IN	IN
R60	IN	IN

MEMORY CONTROL PCB

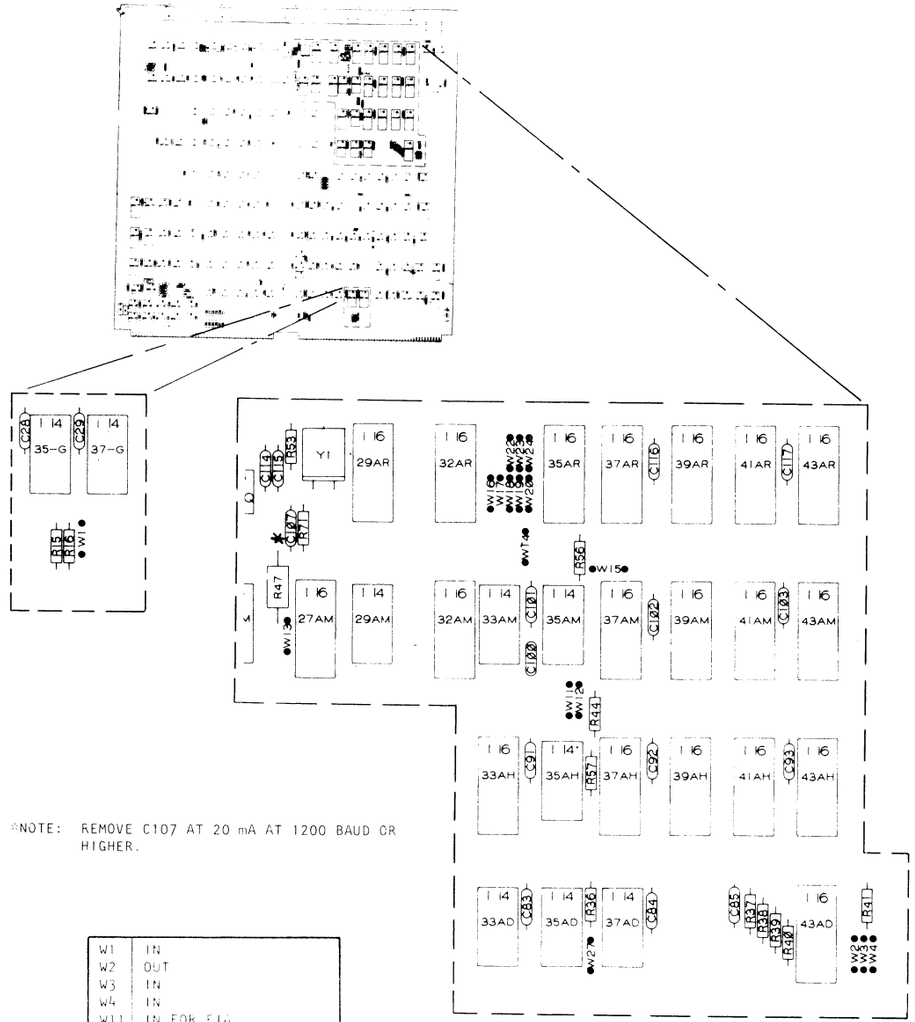
Ref. DGC 107 000878 Rev. 01



	W/BMC OPTION	W/O BMC OPTION
W1	OUT	IN
W2	OUT	IN
W3	IN	OUT
W4	OUT	IN
W5	IN	OUT
W6	OUT	IN
W7	OUT	IN

CONSOLE PCB

Ref. DGC 003 000664 Rev 04



*NOTE: REMOVE C107 AT 20 mA AT 1200 BAUD OR HIGHER.

W1	IN
W2	OUT
W3	IN
W4	IN
W11	IN FOR EIA
W12	IN FOR 20MA CURR LOOP
W13	IN FOR 20MA CURR LOOP
W14	IN FOR EIA
W15	IN FOR ASR33/OUT FOR
W16	1200 BAUD DASHER,
W17	1800 BAUD CRTS
W18	2400 BAUD
W19	4800 BAUD
W20	300 BAUD
W22	110 BAUD
W23	9600 BAUD
W24	600 BAUD
W27	OUT

TAILORING (CONT)

MIXING MEMORY SIZES

IT IS POSSIBLE TO MIX BOTH 16K CORE AND SEMICONDUCTOR MEMORY IN THE SAME SYSTEM. TO DO THIS, YOU MUST FOLLOW THE GUIDELINES:

A. ONLY 16 MEMORY BOARDS OF ANY SIZE AND MIXTURE MAY BE USED IN ANY ONE SYSTEM.

B. DO NOT INTERLEAVE DIFFERENT SIZED MEMORIES WITH ONE ANOTHER.

THE PROCEDURE FOR CONFIGURING A MIXED MEMORY SYSTEM IS DIVIDED INTO 3 STEPS: ASSIGNING BOARD POSITIONS, ASSIGNING THE LEVEL OF INTERLEAVING FOR EACH BOARD, AND JUMPERING THE BOARDS FOR BOARD POSITION AND LEVEL OF INTERLEAVING.

1. ASSIGNING BOARD POSITIONS

ASSIGN BOARD NUMBERS IN GROUPS OF 128K, 64K, OR 32K WORDS. BEGIN AT THE LOWEST MEMORY POSITION ASSIGNING EITHER A SINGLE 128K, 64K, OR 32K SEMICONDUCTOR MEMORY BOARD OR A MINIMUM OF TWO 16K CORE MEMORY BOARDS, A SINGLE 16K CORE MEMORY BOARD WILL OCCUPY THE LOW POSITION IN THE HIGHEST ASSIGNED GROUP. IF A LARGER MEMORY BOARD IS PLACED ABOVE A GROUP OF SMALLER BOARDS, THE GROUP BELOW MUST EQUAL THE SIZE OF THE BOARD ABOVE, (E.G., 128K BOARD IS ABOVE A GROUP OF SMALLER BOARDS, THE BOARDS BELOW MAY BE OF ANY COMBINATION OF THAT IS EQUAL TO 128K). AN EXAMPLE BEING, ONE 64K, ONE 32K, AND TWO 16K CORE ARE EQUAL TO THE 128K BOARD.

NOTE: REMEMBER THAT INTERLEAVING MAY ONLY BE PERFORMED ON CONTIGUOUS BLOCKS OF THE SAME TYPE OF MEMORY. IN ADDITION, THE BEGINNING OF THESE BLOCKS MUST FALL ON AN INTERLEAVING BOUNDARY FOR THE PARTICULAR BOARD TYPE (SEE DESCRIPTION OF INTERLEAVING BELOW). SINCE INTERLEAVING AFFECTS SYSTEM PERFORMANCE, YOU MAY WANT TO ASSIGN BLOCKS OF MEMORY TO TAKE ADVANTAGE OF INTERLEAVING.

A. DRAW A DIAGRAM SIMILIAR TO THE ONE IN EXAMPLE 1 FOR ASSIGNING BOARD NUMBERS.

B. FILL IN THE THIRD COLUMN OF THE DIAGRAM WITH THE SIZE OF EACH MEMORY BOARD USED IN YOUR SYSTEM. BEGIN AT THE BOTTOM AND FILL IN THE DIAGRAM CONTIGUOUSLY.

C. CIRCLE THE NUMBER IN ONE OF THE TWO LEFT HAND COLUMNS THAT CORRESPONDS TO THE SIZE OF THE MEMORY YOU HAVE PLACED IN THE RIGHT HAND COLUMN. THE CIRCLED NUMBERS ARE THE BOARD NUMBER TO BE ASSIGNED TO THE CORRESPONDING MEMORY BOARD. YOU NOW HAVE THE ASSIGNED BOARD POSITIONS FOR EACH BOARD.

2. ASSIGNING THE LEVEL OF INTERLEAVING

REFER TO THE TABLE BELOW TO DETERMINE THE LEVEL OF INTERLEAVING POSSIBLE FOR EACH BOARD (SEE EXAMPLE 2). THE FOLLOWING PROCEDURE MAY BE HELPFUL.

A. USING THE REMAINDER OF THE DIAGRAM YOU DREW TO ASSIGN THE BOARD POSITIONS AND THE INTERLEAVING ASSIGNMENT CHARTS BELOW TO ASSIGN THE INTERLEAVING LEVEL FOR EACH BOARD.

B. BEGIN BY FILLING IN THE INTERLEAVING LEVEL FOR EACH CONTIGUOUS BLOCK OF SEMICONDUCTOR MEMORIES. BEGIN AT THE BOTTOM AND REFER TO THE INTERLEAVING SELECTION CHART FOR THE CORRECT LEVEL OF INTERLEAVING.

C. NEXT FILL IN THE INTERLEAVING LEVEL FOR EACH CONTIGUOUS BLOCK OF 16K CORE MEMORIES. BEGIN AT THE BOTTOM AND REFER TO THE INTERLEAVING SELECTION CHART FOR THE CORRECT LEVEL OF INTERLEAVING.

3. JUMPERING EACH BOARD

YOU CAN NOW JUMPER EACH BOARD FOR BOARD NUMBER AND LEVEL OF INTERLEAVING USING THE CHART YOU HAVE COMPILED. REFER TO THE ADDRESS SELECTION AND INTERLEAVING INSTRUCTIONS FOR THE CORRECT BOARD TYPE TO DETERMINE THE CORRECT JUMPER POSITIONS.

BOARD NUMBERS ASSIGNED FOR				BOARDS USED IN SYSTEM	LEVEL OF INTERLEAVING
128K	64K	32K	16K		
3	7	15	31		
			30		
		14	29		
			28		
	6	13	27		
			26		
		12	25		
			24		
2	5	11	23		
			22		
		10	21		
			20		
	4	9	19		
			18		
		(8)	17	32K BOARD	
			16		
(1)	3	7	15		
			14		
		6	13		
			12		
	2	5	11		
			10		
		4	9	128K BOARD	
			8		
0	(1)	3	7		
			6		
		2	5	64K BOARD	
			4		
	0	1	(3)	16K BOARD	
			(2)	16K BOARD	
		0	(1)	16K BOARD	
			(0)	16K BOARD	

EXAMPLE 1, SELECTING BOARD POSITIONS

BOARD NUMBERS ASSIGNED FOR				BOARDS USED IN SYSTEM	LEVEL OF INTERLEAVING
128K	64K	32K	16K		
3	7	15	31		
			30		
		14	29		
			28		
	6	13	27		
			26		
		12	25		
			24		
2	5	11	23		
			22		
		10	21		
			20		
	4	9	19		
			18		
		(8)	17	32K BOARD	NONE
			16		
(1)	3	7	15		
			14		
		6	13		
			12		
	2	5	11		
			10		
		4	9	128K BOARD	NONE
			8		
0	(1)	3	7		
			6		
		2	5	64K BOARD	NONE
			4		
	0	1	(3)	16K BOARD	4
			(2)	16K BOARD	4
		0	(1)	16K BOARD	4
			(0)	16K BOARD	4

EXAMPLE 2, SELECTING INTERLEAVING

ASSIGNED LEVELS OF INTERLEAVING
(16K CORE MEMORY IN MIXED MEMORY SYSTEMS)

STARTING BOARD NUMBER FOR BLOCK	NUMBER OF CONTIGUOUS BOARDS	ASSIGNED LEVEL OF INTERLEAVING WITHIN BLOCK
0,8,16,24	1	NONE
	2	2
	4	4
	8	8
1,3,5,7,9,11, 13,15,17,19,21, 23,25,27,29,31	1	NONE
2,6,10,14,18, 22,26,30	1	NONE
2,6,10,14 18,22,26,30	1	NONE
	2	2
4,12,20,28	1	NONE
	2	2
	4	4

FIGURE 3

ASSIGNED LEVELS OF INTERLEAVING
(32K SEMICONDUCTOR MEMORY IN MIXED MEMORY SYSTEMS)

STARTING BOARD NUMBER FOR BLOCK	NUMBER OF CONTIGUOUS BOARDS	ASSIGNED LEVEL OF INTERLEAVING WITHIN BLOCK
0,8	1	NONE
	2	2
	4	4
	8	8
1,3,5,7,9,11 13,15	1	NONE
2,6,10,14	1	NONE
	2	2
4,12	1	NONE
	2	2
	4	4

FIGURE 4

ASSIGNED LEVELS OF INTERLEAVING
(64K SEMICONDUCTOR MEMORY IN MIXED MEMORY SYSTEMS)

STARTING BOARD NUMBER FOR BLOCK	NUMBER OF CONTIGUOUS BOARDS	ASSIGNED LEVEL OF INTERLEAVING WITHIN BLOCK
0	1	NONE
	2	2
	4	4
	8	8
1,3,5,7	1	NONE
2,6	1	NONE
	2	2
4	1	NONE
	2	2
	4	4

FIGURE 5

ASSIGNED LEVELS OF INTERLEAVING
(128K SEMICONDUCTOR MEMORY IN MIXED MEMORY SYSTEMS)

STARTING BOARD NUMBER FOR BLOCK	NUMBER OF CONTIGUOUS BOARDS	ASSIGNED LEVEL OF INTERLEAVING WITHIN BLOCK
0	1	NONE
	2	2
	4	4
1,3	1	NONE
2	1	NONE
	2	2

FIGURE 6

TAILORING (CONT)

16K WORD CORE MEMORIES

INTERLEAVING AND ADDRESS SELECTION FOR 16x16 CORE MEMORY IS DETERMINED BY JUMPER ON THE MEMORY BOARD. TO PERFORM ADDRESS AND INTERLEAVING SELECTION, PROCEED AS FOLLOWS:

1. ASSIGN EACH MEMORY BOARD A (UNIQUE) NUMBER FROM 0-15.
2. ASSIGN EACH FROM THE TABLE BELOW THE APPROPRIATE LEVEL OF INTERLEAVING FOR EACH BOARD.

ASSIGNED LEVELS OF INTERLEAVING (16 x 16 BIT CORE MEMORY)

TOTAL NUMBER OF MEMORY BOARDS	BOARD NUMBERS	ASSIGNED LEVEL OF INTERLEAVING
1	0	NONE
2	0,1	2
3	0,1 2	2 NONE
4	0,1,2,3	4
5	0,1,2,3 4	4 NONE
6	0,1,2,3 4,5	4 2
7	0,1,2,3 4,5 6	4 2 NONE
8	0,1,2,3,4,5,6,7	8
9	0,1,2,3,4,5,6,7 8	8 NONE
10	0,1,2,3,4,5,6,7 8,9	8 2
11	0,1,2,3,4,5,6,7 8,9 10	8 2 NONE
12	0,1,2,3,4,5,6,7 8,9,10,11	8 4
13	0,1,2,3,4,5,6,7 8,9,10,11 12	8 4 NONE
14	0,1,2,3,4,5,6,7 8,9,10,11 12,13	8 4 2
15	0,1,2,3,4,5,6,7 8,9,10,11 12,13 14	8 4 2 NONE
16	0,1,2,3,4,5,6,7 8,9,10,11,12,13,14,15	8 8

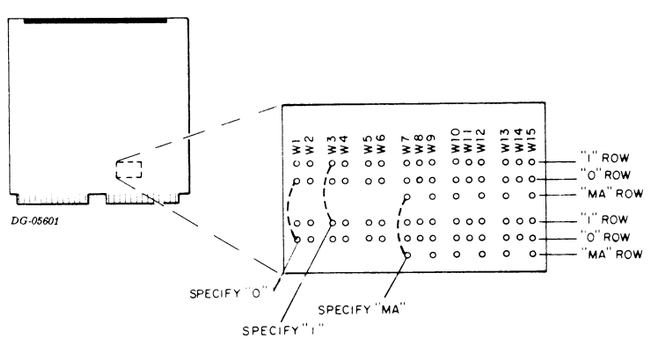
3. SELECT THE CORRESPONDING JUMPER POSITIONS FOR EACH BOARD FROM THE TABLE BELOW. THE "MEMORY SELECT JUMPER POSITIONS" FIGURE ILLUSTRATES WHERE EACH JUMPER GOES.

JUMPER POSITIONS FOR BOARD NUMBERS (16K x 16 BIT CORE MEMORY SYSTEMS)*

BOARD NUMBER	JUMPER ASSIGNMENTS					
	W1,W2	W3,W4	W5,W6	W8	W11	W14
0	0	0	0	0	0	0
1	0	0	0	0	0	1
2	0	0	0	0	1	0
3	0	0	0	0	1	1
4	0	0	0	1	0	0
5	0	0	0	1	0	1
6	0	0	0	1	1	0
7	0	0	0	1	1	1
8	0	0	1	0	0	0
9	0	0	1	0	0	1
10	0	0	1	0	1	0
11	0	0	1	0	1	1
12	0	0	1	1	0	0
13	0	0	1	1	0	1
14	0	0	1	1	1	0
15	0	0	1	1	1	1
16	0	1	0	0	0	0
17	0	1	0	0	0	1
18	0	1	0	0	1	0
19	0	1	0	0	1	1
20	0	1	0	1	0	0
21	0	1	0	1	0	1
22	0	1	0	1	1	0
23	0	1	0	1	1	1
24	0	1	1	0	0	0
25	0	1	1	0	0	1
26	0	1	1	0	1	0
27	0	1	1	0	1	1
28	0	1	1	1	0	0
29	0	1	1	1	0	1
30	0	1	1	1	1	0
31	0	1	1	1	1	1

*NOTE: BOARD NUMBERS 16-31 ARE USED ONLY IN CONFIGURING CERTAIN MIXED MEMORY SYSTEMS. THE MAXIMUM BOARD NUMBER IN AN S/250 OR C/350 COMPUTER USING ONLY 16K OF MEMORY IS 15.

MEMORY SELECT JUMPER POSITIONS



EACH OF THE JUMPER POSITIONS CROSSES SIX ROWS. SPECIFYING A "1" AT A JUMPER POSITION IS DONE BY INSERTING A JUMPER FROM THE TOP "1" ROW TO THE BOTTOM "1" ROW. A "0" IS SPECIFIED BY INSERTING A JUMPER FROM THE TOP "0" ROW TO THE BOTTOM "0" ROW. A BIT USED IN INTERLEAVING IS SPECIFIED BY INSERTING A JUMPER FROM THE TOP "MA" ROW TO THE BOTTOM "MA" ROW. EXAMPLES OF THE THREE BASIC JUMPER POSITIONS ARE SHOWN IN THE FIGURE.

4. SELECT THE INTERLEAVING JUMPERS FOR EACH BOARD FROM THE FOLLOWING TABLE, AND INSTALL THESE INTO THEIR CORRESPONDING MA POSITIONS ILLUSTRATED IN THE FIGURE.

LEVEL OF INTERLEAVING JUMPERS

LEVEL OF INTERLEAVING	JUMPER INSERTED
NONE	W6 W9 W12 W15
2	W6 W9 W12 W13
4	W6 W9 W10 W13
8	W6 W7 W10 W13

5. THERE REMAINS OPEN ONE JUMPER POSITION IN EACH OF THE FOLLOWING PAIRS: W7/W9, W10/W12 AND W13/W15. INSTALL THESE THREE JUMPERS ON EACH BOARD BY MATCHING THEM TO JUMPERS ALREADY INSTALLED ACCORDING TO THE TABLE BELOW.

GATE-ENABLED JUMPERS

PAIR	MATCH
W7/W9	W8
W10/W12	W11
W13/W15	W14

TAILORING (CONT)

SC MEMORIES

INTERLEAVING AND ADDRESS SELECTION IS DETERMINED ON ALL ECLIPSE SC BOARDS BY JUMPER POSITIONS. PROCEED AS FOLLOWS TO ASSIGN JUMPER POSITIONS.

1. ASSIGN EACH MEMORY BOARD A (UNIQUE) NUMBER FROM 0-15.

2. ASSIGN EACH FROM THE TABLE BELOW THE APPROPRIATE LEVEL OF INTERLEAVING FOR EACH BOARD.

ASSIGNED LEVELS OF INTERLEAVING
(128K, 64K & 32K X 21BIT SEMICONDUCTOR MEMORY)

TOTAL NUMBER OF MEMORY BOARDS	BOARD NUMBERS	ASSIGNED LEVEL OF INTERLEAVING
1	0	NONE
2	0,1	2
3	0,1 2	2 NONE
4	0,1,2,3	4
5	0,1,2,3 4	4 NONE
6	0,1,2,3 4,5	4 2
7	0,1,2,3 4,5 6	4 2 NONE
8	0,1,2,3,4,5,6,7	8
9	0,1,2,3,4,5,6,7 8	8 NONE
10	0,1,2,3,4,5,6,7 8,9	8 2
11	0,1,2,3,4,5,6,7 8,9 10	8 2 NONE
12	0,1,2,3,4,5,6,7 8,9,10,11	8 4
13	0,1,2,3,4,5,6,7 8,9,10,11 12	8 4 NONE
14	0,1,2,3,4,5,6,7 8,9,10,11 12,13	8 4 2
15	0,1,2,3,4,5,6,7 8,9,10,11 12,13 14	8 4 2 NONE
16	0,1,2,3,4,5,6,7 8,9,10,11,12,13,14,15	8* 8

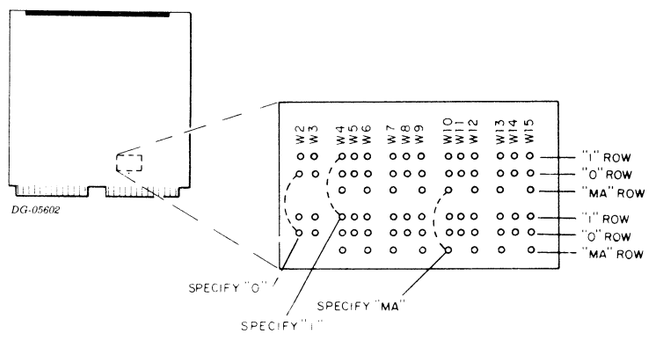
*NOTE: SEMICONDUCTOR MEMORIES MAY BE INTERLEAVED 16 WAYS WHEN THERE ARE 16 BOARDS IN THE SYSTEM. FOR MOST APPLICATIONS, THERE IS NO ADVANTAGE TO 16WAY INTERLEAVING SO DATA GENERAL RECOMMENDS INTERLEAVING IN 2 SETS OF 8 BOARDS.

3. SELECT THE CORRESPONDING JUMPER POSITIONS FOR EACH BOARD FROM THE TABLE BELOW: THE "MEMORY SELECT JUMPER POSITIONS" FIGURE ILLUSTRATES WHERE EACH JUMPER GOES.

JUMPER POSITIONS FOR BOARD NUMBERS
(128K, 64K, 32K X 21 BIT SEMICONDUCTOR MEMORY)

BOARD NUMBER	JUMPER ASSIGNMENTS				
	A2,A3	A5	A8	A11	A14
0	0	0	0	0	0
1	0	0	0	0	1
2	0	0	0	1	0
3	0	0	0	1	1
4	0	0	1	0	0
5	0	0	1	0	1
6	0	0	1	1	0
7	0	0	1	1	1
8	0	1	0	0	0
9	0	1	0	0	1
10	0	1	0	1	0
11	0	1	0	1	1
12	0	1	1	0	0
13	0	1	1	0	1
14	0	1	1	1	0
15	0	1	1	1	1

MEMORY SELECT JUMPER POSITIONS



EACH OF THE JUMPER POSITIONS CROSSES SIX ROWS, SPECIFYING A "1" AT A JUMPER POSITION IS DONE BY INSERTING A JUMPER FROM THE TOP "1" ROW TO THE BOTTOM "1" ROW. A "0" IS SPECIFIED BY INSERTING A JUMPER FROM THE TOP "0" ROW TO THE BOTTOM "0" ROW. A BIT USED IN INTERLEAVING IS SPECIFIED BY INSERTING A JUMPER FROM THE TOP "MA" ROW TO THE BOTTOM "MA" ROW. EXAMPLES OF THE THREE BASIC JUMPER POSITIONS ARE SHOWN IN THE FIGURE.

4. SELECT THE INTERLEAVING JUMPERS FOR EACH BOARD FROM THE FOLLOWING TABLE, AND INSTALL THESE INTO THEIR CORRESPONDING MA POSITIONS ILLUSTRATED IN THE FIGURE.

LEVEL OF INTERLEAVING JUMPERS

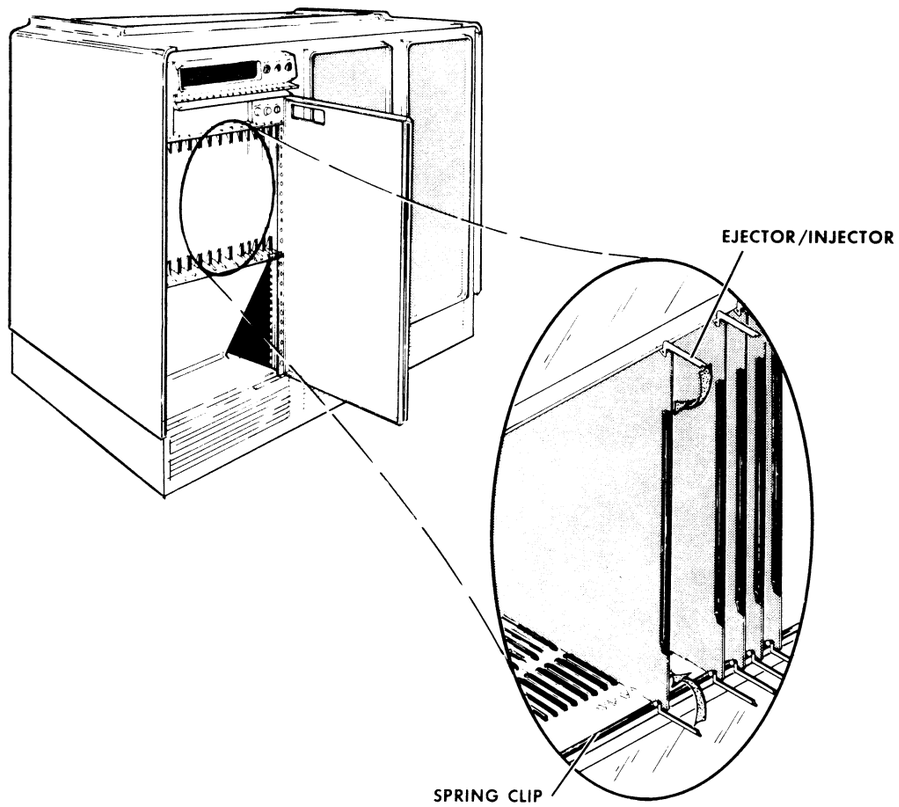
LEVEL OF INTERLEAVING	JUMPER INSERTED
NONE	A6 A9 A12 A15
2	A6 A9 A12 A13
4	A6 A9 A10 A13
8	A6 A7 A10 A13
16	A4 A7 A10 A13

5. THERE REMAINS OPEN ONE JUMPER POSITION IN EACH OF THE FOLLOWING PAIRS: W4/W6, W7/W9, W10/W12 AND W13/W15. INSTALL THESE FOUR JUMPERS ON EACH BOARD BY MATCHING THEM TO JUMPERS ALREADY INSTALLED ACCORDING TO THE TABLE BELOW.

GATE-ENABLED JUMPERS

PAIR	MATCH
W4/W6	A5
W7/W9	A8
W10/W12	A11
W13/W15	A14

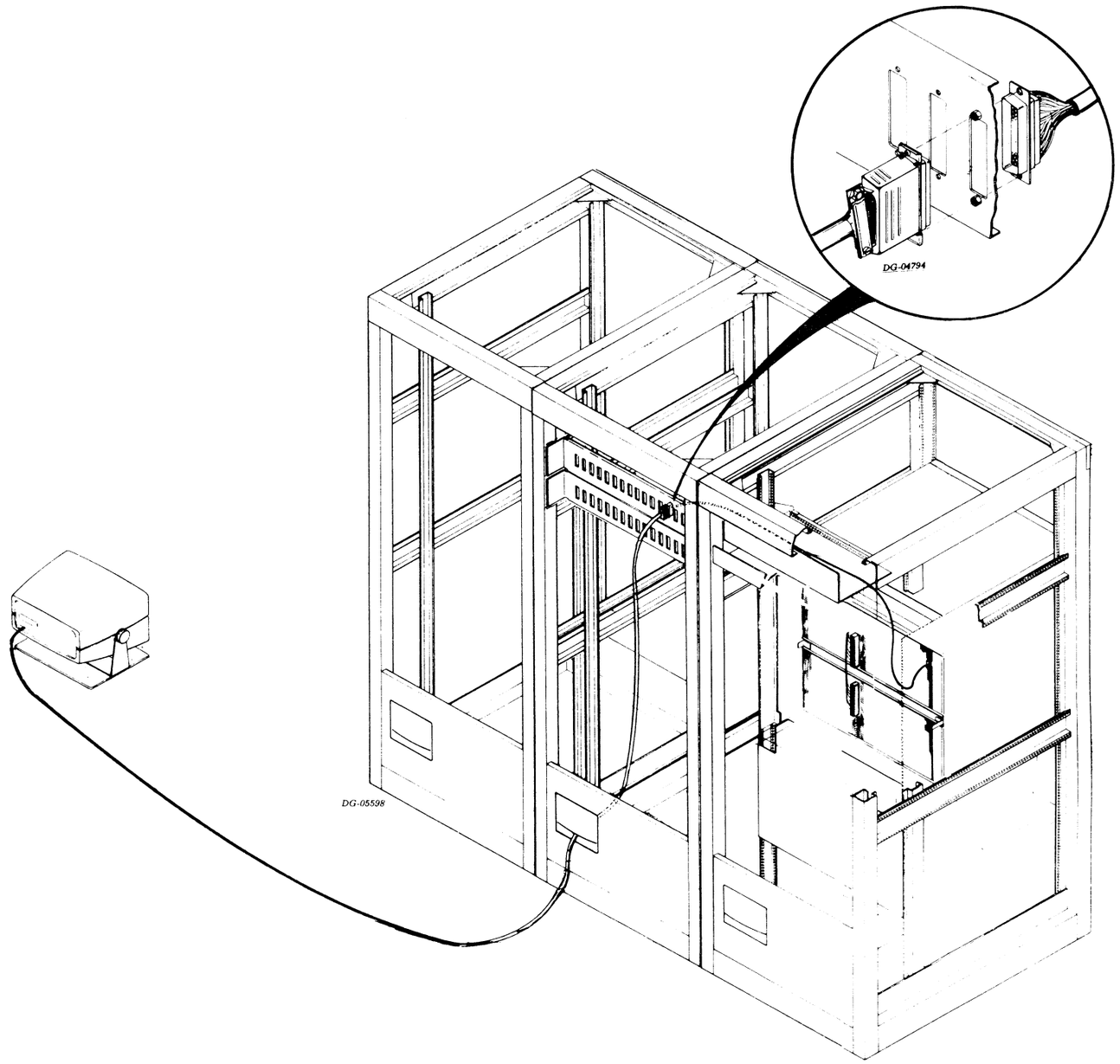
INSERTING PC BOARD



EXTERNAL CABLING

INTERNAL CABLES		
FROM	TO	ASSY
4010	EIA CONNECTOR PANEL	005-010706*
UMCS, ALM-16	EIA CONNECTOR PANEL	005-010708
UMCS, ALM-8	EIA CONNECTOR PANEL	005-010710
UMCS, SLM	E A CONNECTOR PANEL	005-012804
ULM /5 SYNC LINE	EIA CONNECTOR PANEL	005-010709
DCU/50 OR DCU/200	EIA CONNECTOR PANEL	005-012590
MCA	EIA CONNECTOR PANEL	005-012585
TTY- 4007 TYPE	EIA CONNECTOR PANEL	005-012473
ULM/5	DEVICE	005-012765
EXTERNAL CABLES		
UMCS, MODEM		005-010711
SERIAL I/O FOR 6052/3 DISPLAY AND SERIAL PRINTER		005-010707

*ONE IS SUPPLIED FOR PRIMARY CONSOLE

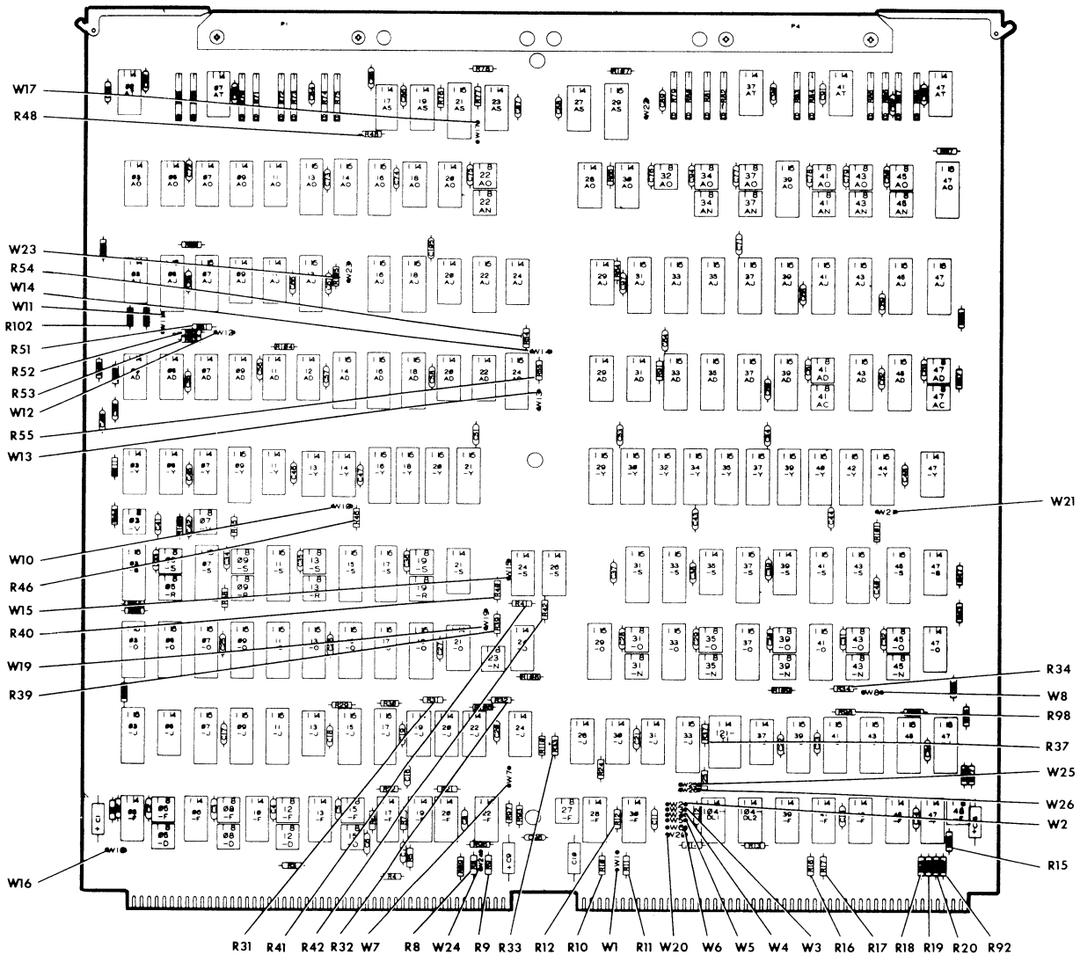


S/250, C/350 OPTION

BURST MULTIPLEXOR CHANNEL

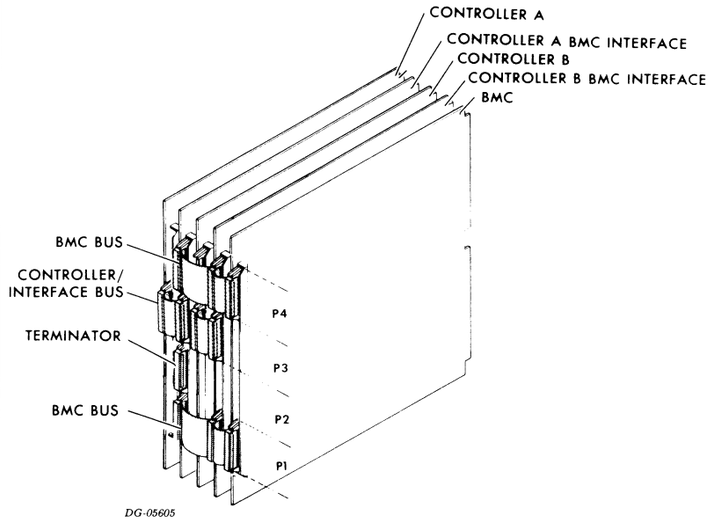
JUMPERING

Ref. DGC 003 000559 Rev 09

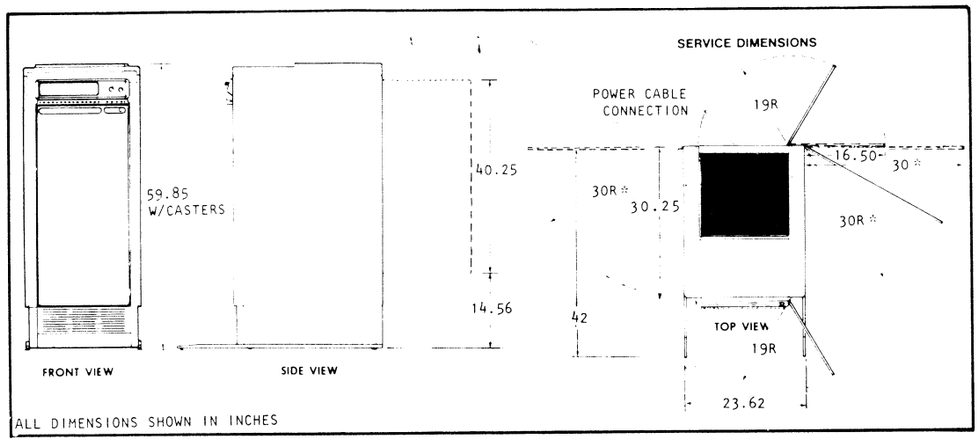


SCM LOC	DUMMY RES.	SIGNAL NAME	W/MPC
3A5	R8	SYSCLKC	OUT
3A5	R9	SYSCLKD	OUT
3A5	R10	SYSCLKS	OUT
3A5	R11	SYSCLKN	OUT
3B5	R12	SYSCLK	IN
3D6	R15	PMC1	IN
3D6	R16	PMC3	IN
3C6	R17	PMC4	IN
3D2	R18	APORT0	IN
3C2	R19	DPORT0	IN
3C2	R20	APORT1	IN
2A6	R31	AOMEM	IN
2B4	R32	PHASE/PHASE	IN
2D4	R33	HSCMC1	IN
3C5	R34	PHASE/PHASE	IN
3A8	R37	SYSCLK	IN
4D6	R39	AOMEM	IN
4D8	R40	PHASE/PHASE	IN
3D4	R41	HSCAMD	IN
3C4	R42	HSCMMD	IN
2D5	R46	PHASE/PHASE	IN
2C4	R48	AOMSIN	IN
2C3	R51	PHASE/PHASE	IN
2B3	R52	SET ENAOMEM	IN
2B3	R53	SET ENAOMEM	IN
2B2	R54	PHASE/GND	IN
2B2	R55	AOMEM/PHASE	IN
3C2	R92	DPORT1	IN
3D5	R98	AOMC1/HI	IN
2D5	R102	STOP/HI	IN
3B5	W1	SYSCLK/SYSCLKN	OUT
3B6	W2	SKW CLK	INSERT ONE
3B6	W3	SKW CLK	TO MAKE DPORT1
3B6	W4	SKW CLK	TOGGLE AT
3B6	W5	SKW CLK	SYSCLK FALLING
3B6	W6	SKW CLK	EDGE PLUS
3B6	W20	SKW CLK	5 TO 10 NS.
2B3	W7	PHASE/PHASE	OUT
3C5	W8	PHASE/PHASE	OUT
2D5	W10	PHASE/PHASE	OUT
2B3	W11	SET ENAOMEM/GND	OUT
2C3	W12	PHASE/PHASE	OUT
2B2	W13	AOMEM/PHASE	OUT
2B2	W14	PHASE/GND	OUT
4D7	W15	PHASE/PHASE	OUT
3B4	W16	ECC LOAD	OUT
2C4	W17	HSC MS IN	OUT
4D6	W19	AOMEM/PHASE	OUT
1C8	W23	ROM ADDR X1	OUT
8D7	W21	HSCOUT/HI	OUT
3A5	W24	SYS CLKC	IN
2B5	W25	GND	OUT
2B5	W26	AOMC1	IN

INTERFACE AND BMC



ECLIPSE S/250 1-BAY CABINET SPECIFICATIONS



SPECIFICATIONS

DIMENSIONS:	Width	Depth	Height
Millimeters	599.9	1073.2	151
Inches	23.62	42.25	59.5

SERVICE CLEARANCES:	Front	Rear	Right *	Left *
Millimeters	812.8	762	762	762
Inches	32	30	30	30

WEIGHT:	Empty	Fully Loaded
	134 kg (296 lb)	173 kg (381 lb)

HEAT OUTPUT:

3500 watts (11,935 BTU/hr plus equip. in Bays A & B)

POWER REQUIREMENTS:

(Domestic)

Voltage (47-63Hz)	208/120V
Max Amp per Phase	25
Phase	3
Startup Surge per Phase	70 Amp

(Export)

Voltage (47-63Hz)	200	220	380/220	415/240
Max Amp per Phase	25	23	13	12
Phase	3	3	3	3
Startup Surge per Phase	70	70	70	70 Amp

* SIDE CLEARANCES, THOUGH GIVEN, ARE NOT REQUIRED. ALL COMPONENTS ARE SERVICED FROM THE FRONT OR REAR OF THE CABINET.

OPERATING ENVIRONMENT:

Temperature (max)	45 degC (110 degF)
Relative Humidity (max)	90%

CABLES:	Length	Conn	Mating Conn
Primary Power 120V	2.75m(9')	2811	2810 (wall) 2813 (drop)
200/220/240V	2.75m(9')	NONE SUPPLIED	

POWER AVAILABLE:

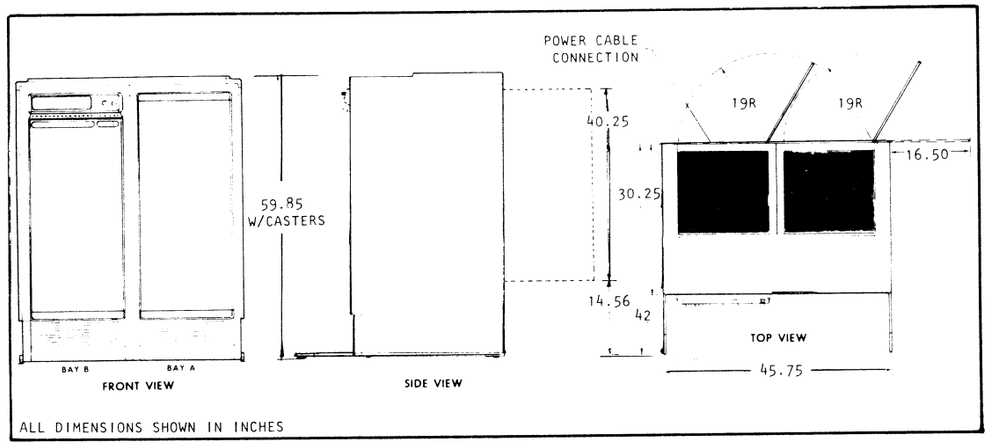
Internal Receptacles

Domestic	15A
Export	10A

WARNING

THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY ENERGY AND IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTION MANUAL, MAY CAUSE INTERFERENCE TO RADIO COMMUNICATIONS. AS TEMPORARILY PERMITTED BY REGULATION IT HAS NOT BEEN TESTED FOR COMPLIANCE WITH THE LIMITS FOR CLASS A COMPUTING DEVICES PURSUANT TO SUBPART J OF PART 15 OF FCC RULES, WHICH ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST SUCH INTERFERENCE. OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA IS LIKELY TO CAUSE INTERFERENCE IN WHICH CASE THE USER AT HIS OWN EXPENSE WILL BE REQUIRED TO TAKE WHATEVER MEASURES MAY BE REQUIRED TO CORRECT THE INTERFERENCE.

ECLIPSE S/250 2-BAY CABINET SPECIFICATIONS



SPECIFICATIONS

DIMENSIONS:	Width	Depth	Height
Millimeters	1162.1	1073.2	1515.5
Inches	45.75	42.25	59.5

SERVICE CLEARANCES:	Front	Rear	Right *	Left *
Millimeters	812.8	762	762	762
Inches	32	30	30	30

WEIGHT:	Empty	Fully Loaded
	205 kg (452 lb)	374 kg (838 lb)

HEAT OUTPUT:

3500 watts (11,935 BTU/hr plus equip. in Bays A & B)

POWER REQUIREMENTS:

(Domestic)

Voltage (47-63Hz)	208/120V
Max Amp per Phase	25
Phase	3
Startup Surge per Phase	70 Amp

(Export)

Voltage (47-63Hz)	200	220	380/220	415/240
Max Amp per Phase	25	23	13	12
Phase	3	3	3	3
Startup Surge per Phase	70	70	70	70 Amp

CPU DESIGNATOR:

Designator Number: 141
Designator Range: 13-14

OPERATING ENVIRONMENT:

Temperature (max)	45 degC (110 degF)
Relative Humidity (max)	90%

CABLES:	Length	Conn	Mating Conn
Primary Power 120V	2.75m(9')	2811	2810 (wall) 2813 (drop)
200/220/240V	2.75m(9')	NONE SUPPLIED	

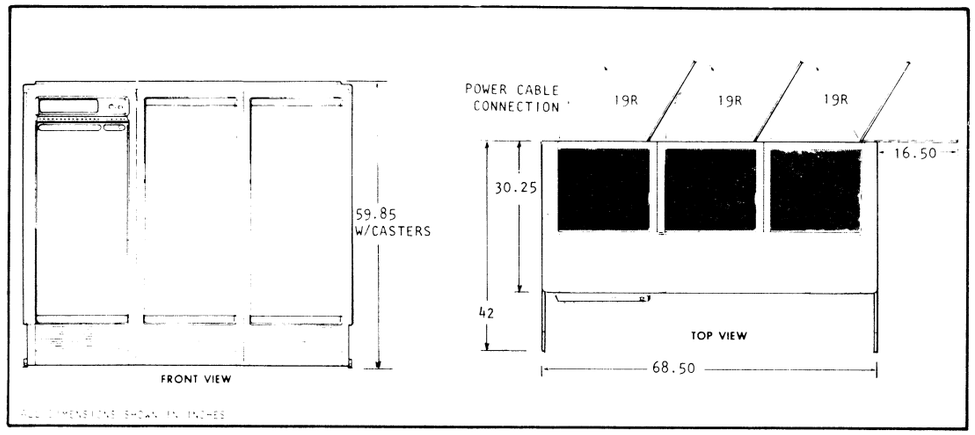
POWER AVAILABLE:

Internal Receptacles

Domestic	15A
Export	10A

* SIDE CLEARANCES, THOUGH GIVEN, ARE NOT REQUIRED. ALL COMPONENTS ARE SERVICED FROM THE FRONT OR REAR OF THE CABINET.

ECLIPSE S/250 3-BAY CABINET SPECIFICATIONS



SPECIFICATIONS

DIMENSIONS:	Width	Depth	Height
Millimeters	1739.9	1073.2	1515.5
Inches	68.5	42.25	59.5

SERVICE CLEARANCES:	Front	Rear	Right*	Left*
Millimeters	812.8	762	762	762
Inches	32	30	30	30

WEIGHT:	Empty	Fully Loaded
	252 kg (608 lb)	579 kg (1295 lb)

HEAT OUTPUT:

3500 watts (11,935 BTU/hr plus equip. in Bays A & B)

POWER REQUIREMENTS:

(Domestic)

Voltage (47-63Hz)	208/120V
Max Amp per Phase	25
Phase	3
Startup Surge per Phase	70 Amp

(Export)

Voltage (47-63Hz)	200	220	380/220	415/240
Max Amp per Phase	25	23	13	12
Phase	3	3	3	3
Startup Surge per Phase	70	70	70	70 Amp

OPERATING ENVIRONMENT:

Temperature (max)	45 degC (110 degF)
Relative Humidity (max)	90%

CABLES:	Length	Conn	Mating Conn
Primary Power			
120V	2.75m(9')	2811	2810 (wall) 2813 (drop)
200/220/240V	2.75m(9')	NONE SUPPLIED	

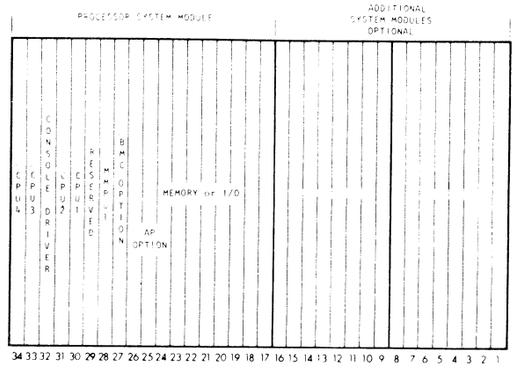
POWER AVAILABLE:

Internal Receptacles

Domestic	15A
Export	10A

* SIDE CLEARANCES, THOUGH GIVEN, ARE NOT REQUIRED. ALL COMPONENTS ARE SERVICED FROM THE FRONT OR REAR OF THE CABINET.

PROCESSOR MODULES



Data Channel Speeds Available — Standard ☐ High Speed ☐

Slot	Allowed (Slot Chart)	Assigned	+5V Current Draw
34	CPU 4 ☆	34	18.0
33	CPU 3 ☆	33	11.0
32	CONSOLE DRIVER	32	7.3
31	CPU 2	31	8.0
30	CPU 1	30	5.0
29	RESERVED	29	
28	MMPU 1	28	5.2
27	RESERVED FOR BMC	27	12.0
17-26	MEMORY or I/O	17 - 26	

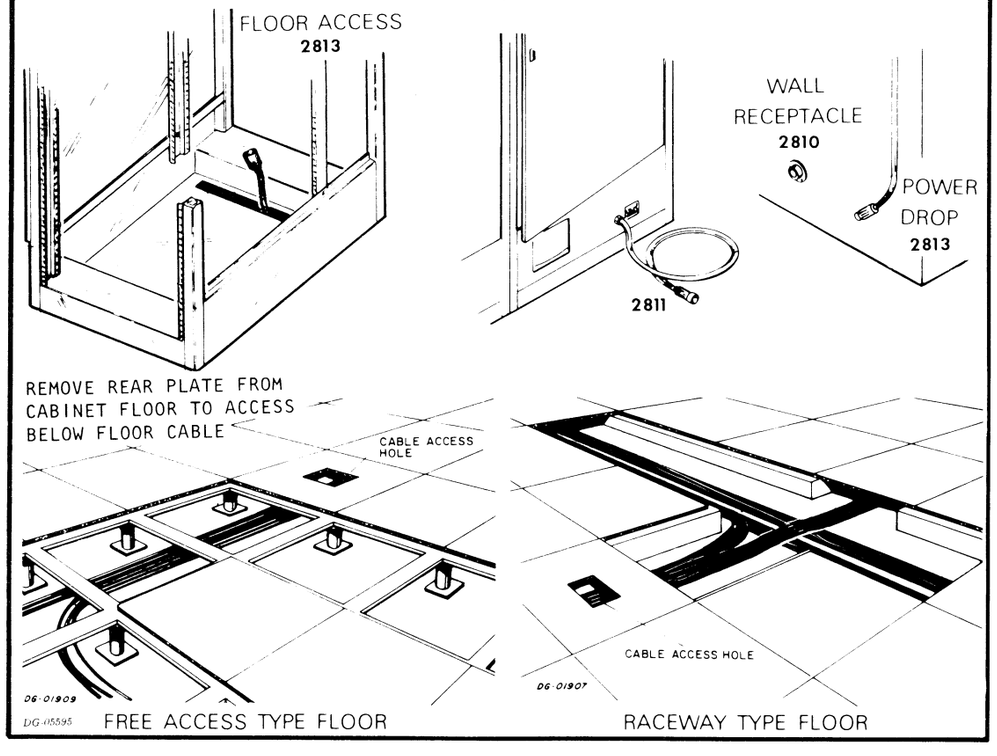
Total +5V Current draw

Max +5V Current Available — 135 std. / 270 optional

+5V Current Surplus

OPTIONAL
32kb CORE MEMORY 1.8 CURRENT DRAW
64kb SC MEMORY 3.9 CURRENT DRAW
128kb SC MEMORY 3.3 CURRENT DRAW
256kb SC MEMORY 3.5 CURRENT DRAW

CABLING DETAILS



SHIPPING

FOR PACKING 1-BAY CABINETS, SEE 010-000266;

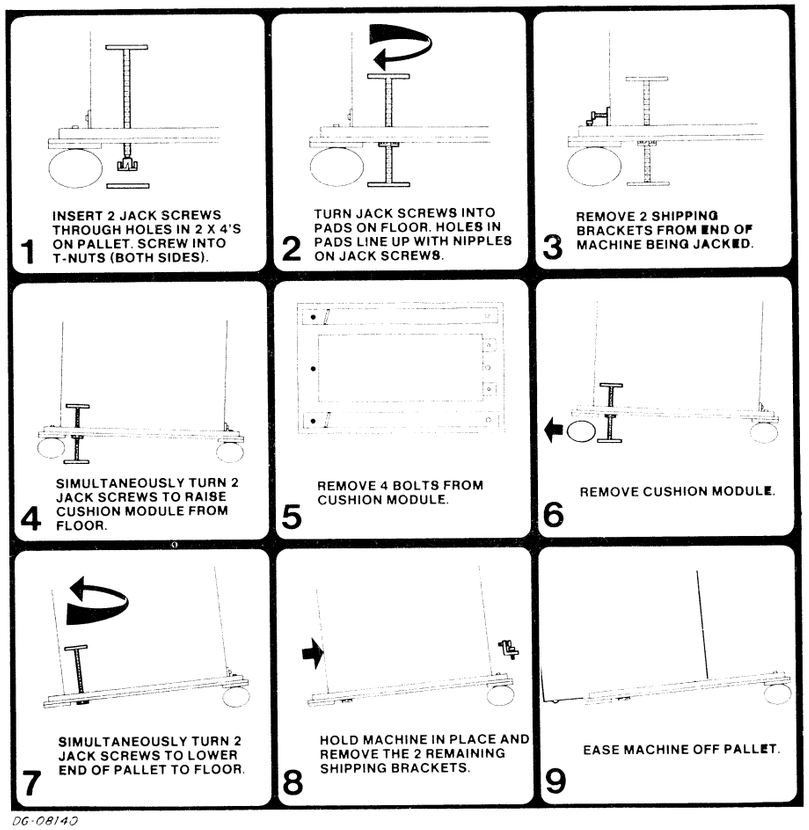
FOR PACKING 2-BAY CABINETS, SEE 010-000267;

FOR PACKING 3-BAY CABINETS, SEE 010-000268

UNLOADING INSTRUCTIONS

IMPORTANT

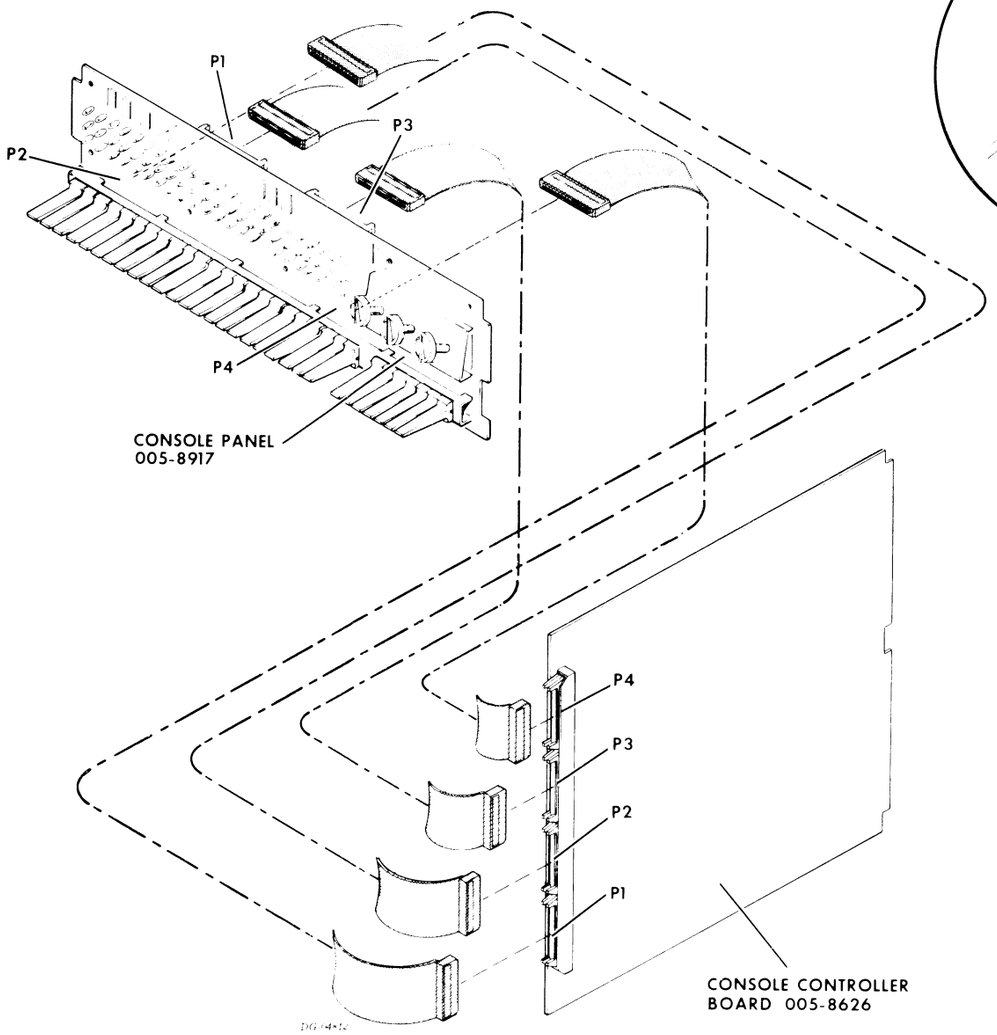
THIS IS A TWO-MAN OPERATION

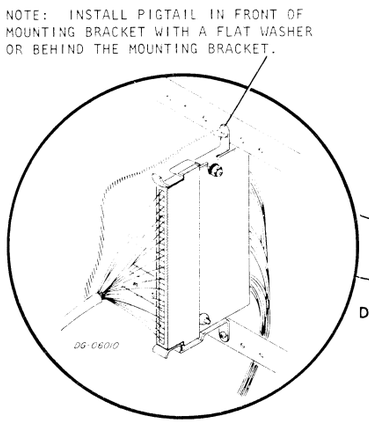


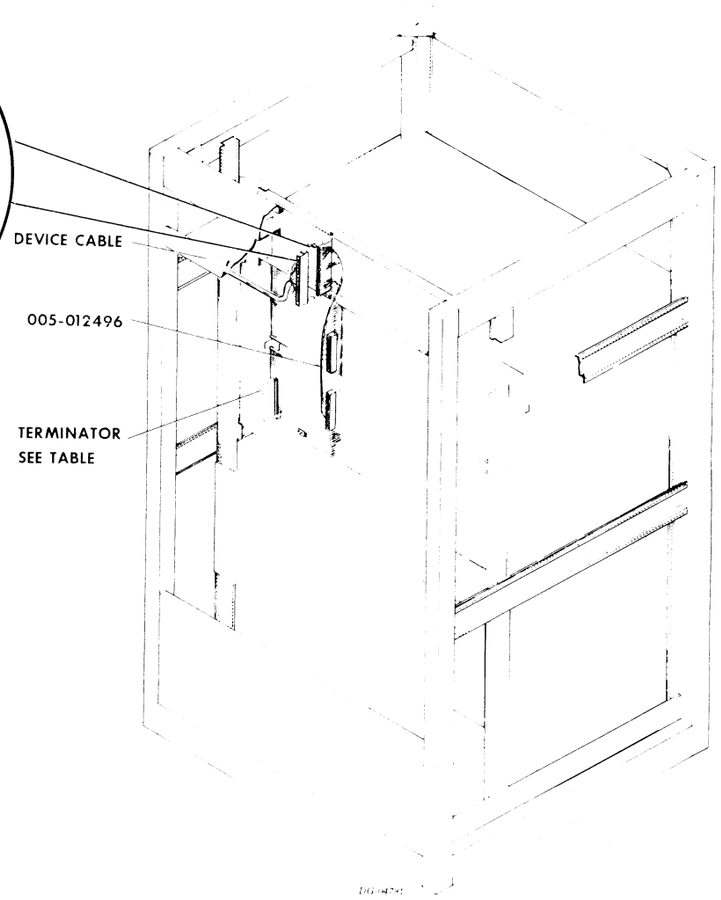
DG-08140

INTERNAL CABLING

CONSOLE CONTROLLER



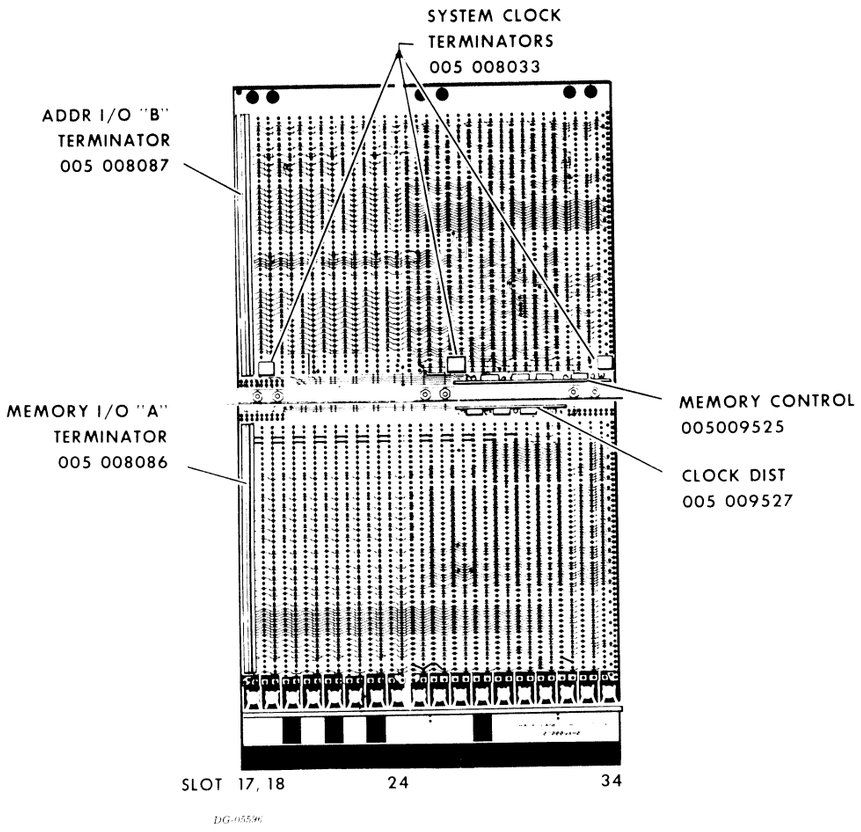




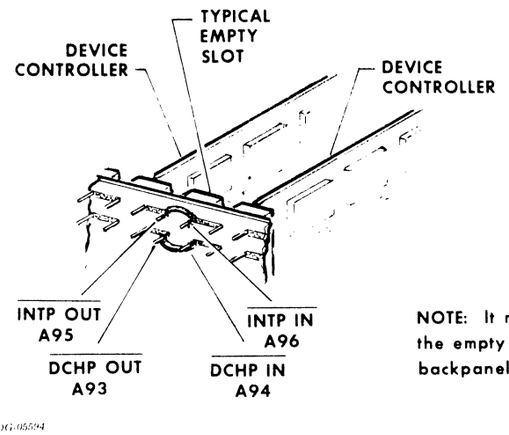
INTERNAL CABLING (CONT)

REAR VIEW BACKPANEL

TERMINATORS PLACEMENT



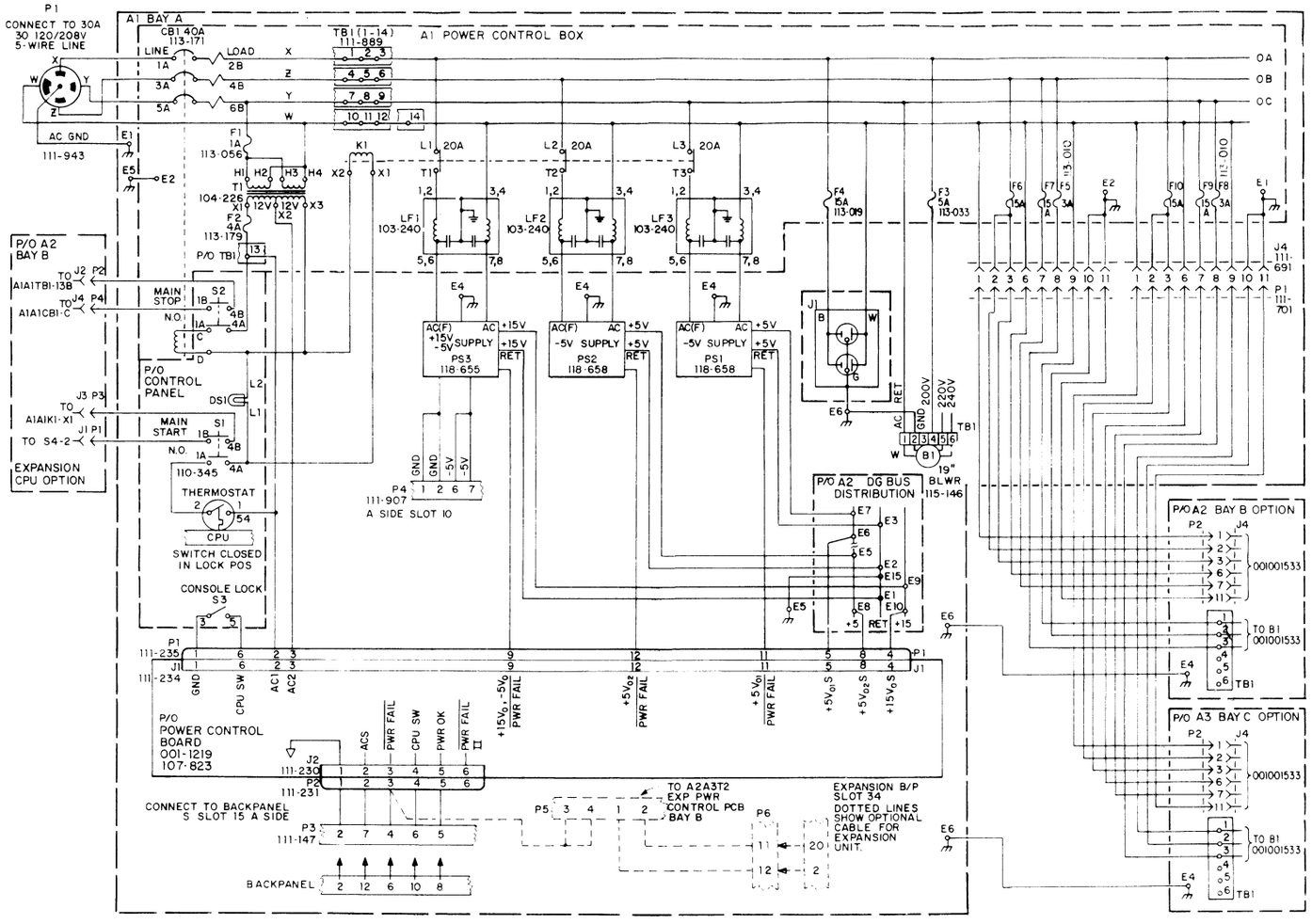
JUMPERING



NOTE: It may be necessary to remove the empty slots' internal cable from the backpanel to jumper the priority chain.

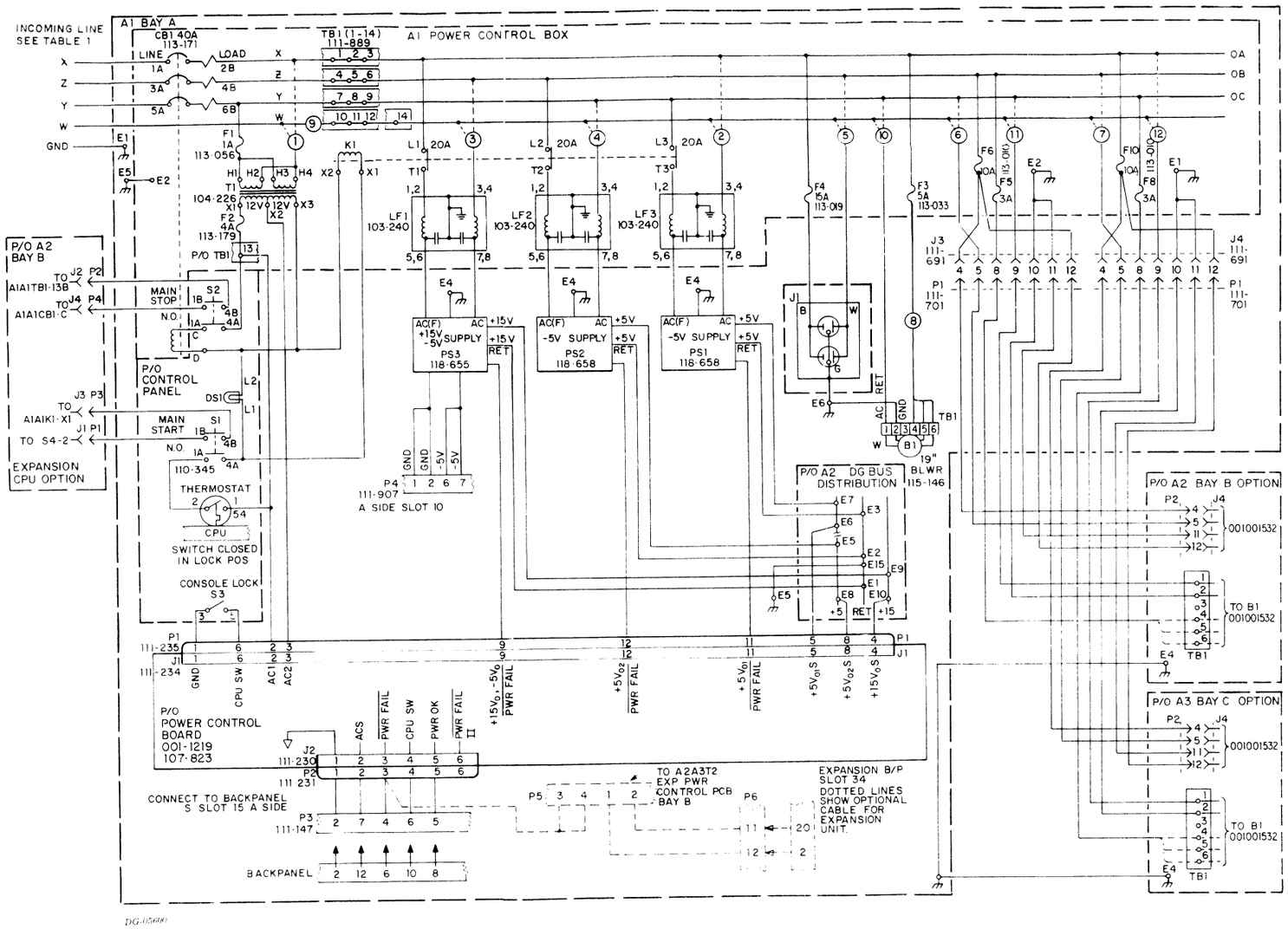
INTERNAL CABLING (CONT)

POWER DISTRIBUTION UNIT — DOMESTIC



INTERNAL CABLING (CONT)

POWER DISTRIBUTION UNIT – EXPORT



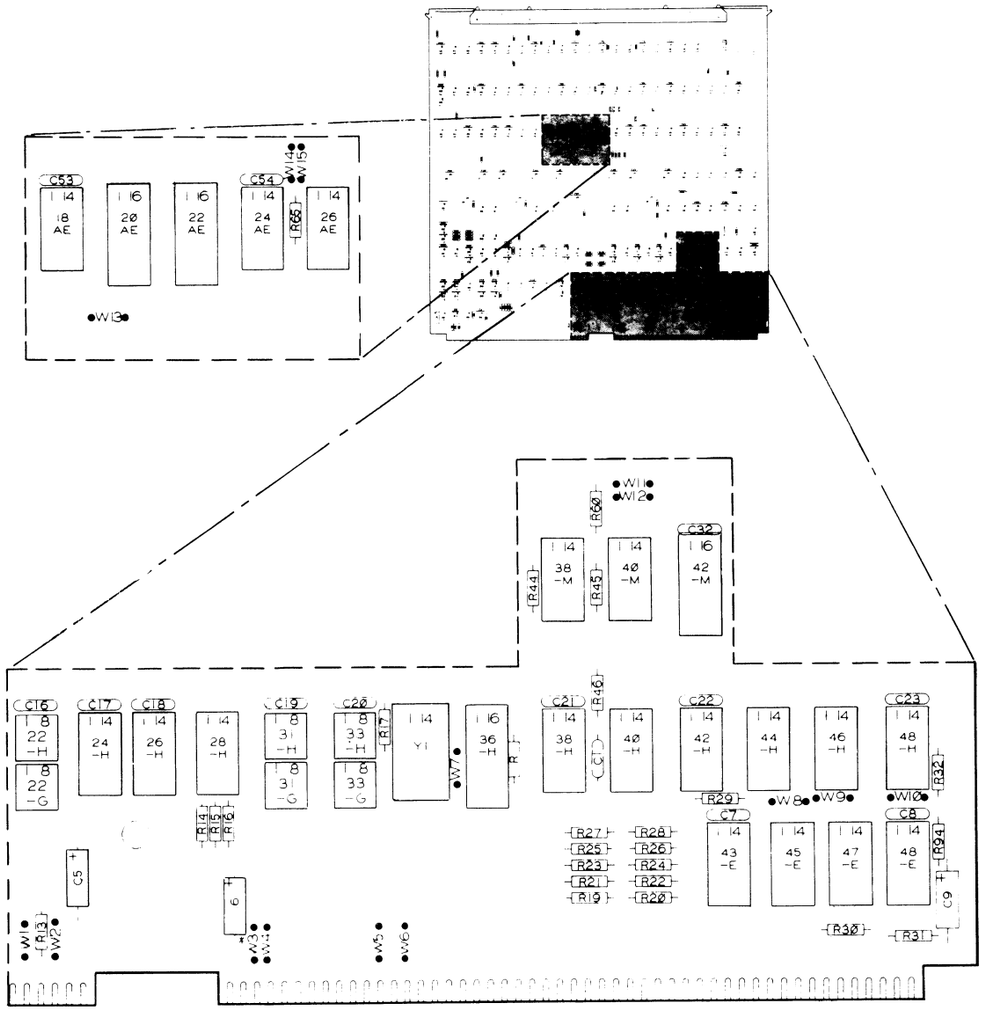
TERM.	INCOMING VOLTAGE			
	200V DELTA	220V DELTA	380/220V WYE	415/240V WYE
T1-H4	TB1-3	TB1-3	TB1-10	TB1-10
LF3-3	TB1-1	TB1-1	TB1-11	TB1-11
LF1-3	TB1-6	TB1-6	TB1-11	TB1-11
LF2-3	TB1-9	TB1-9	TB1-12	TB1-12
J1-W	TB1-5	TB1-5	TB1-10	TB1-10
J3 PIN 5	TB1-7	TB1-7	TB1-10	TB1-10
J4 PIN 5	TB1-5	TB1-5	TB1-12	TB1-12
F3-S	A1 TB1 4	A1 TB1 5	A1 TB1 5	A1 TB1 6
PWR CA N -			TB1-11	TB1-11
B1 TB1-7	TB1-7	TB1-7	TB1-14	TB1-14
J3 PIN 9	TB1-8	TB1-8	TB1-14	TB1-14
J4 PIN 9	TB1-3	TB1-3	TB1-14	TB1-14

TAILORING

JUMPERING

CPU 1 PCB

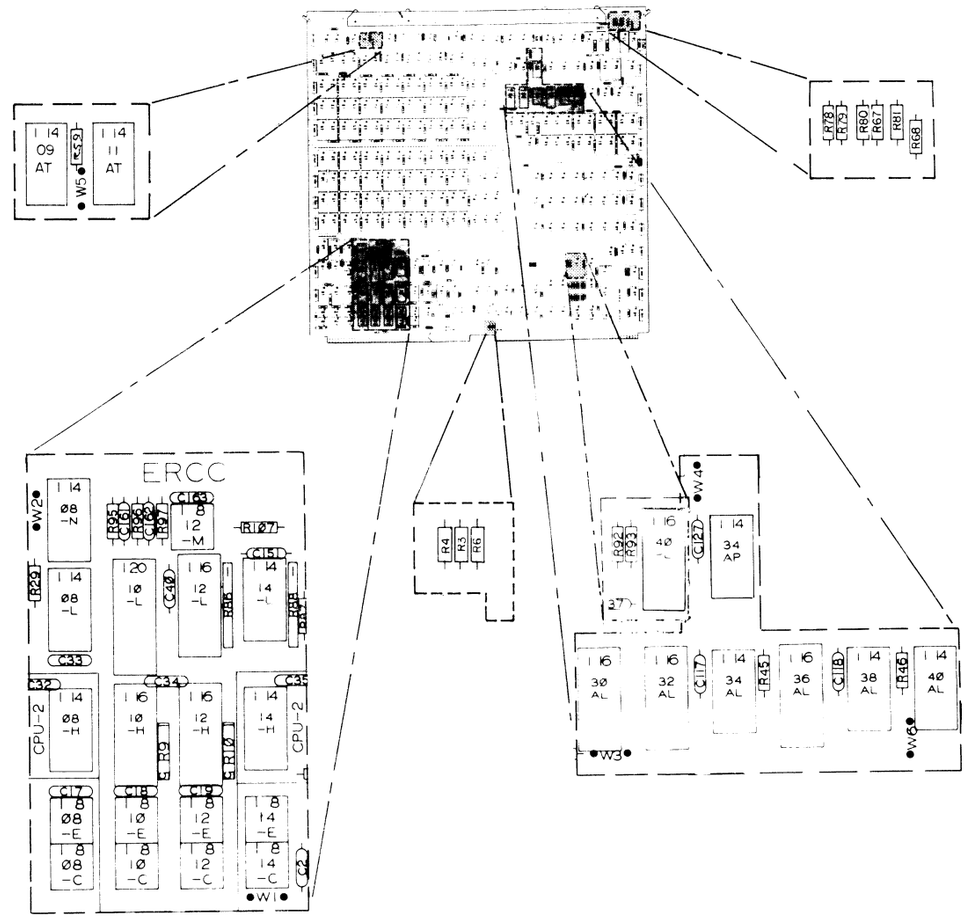
Ref. DGC 003 000261 Rev 24



	W/BMC OPTION	W/O BMC OPTION
W1	OUT	IN
W2	OUT	OUT
W3	OUT	OUT
W4	OUT	OUT
W5	IN	IN
W6	IN	IN
W7	OUT	IN
W8	IN	IN
W9	OUT	OUT
W10	OUT	OUT
W11	IN	IN
W12	IN	IN
W13	OUT	OUT
W14	OUT	OUT
W15	IN	IN

CPU 2 ERCC PCB

Ref. DGC 003 000657 Rev 07



	W/BMC OPTION	W/O BMC OPTION	
W1	IN	IN	
W2	OUT	OUT	
W3	*	*	POWER FAIL RESTART
W4	*	*	POWER FAIL RESTART
W5	OUT	OUT	
W6	-	-	IN, IF WCS/UCS OPTION INSTALLED
R6	OUT	OUT	
R78	IN	IN	
R92	OUT	IN	

*

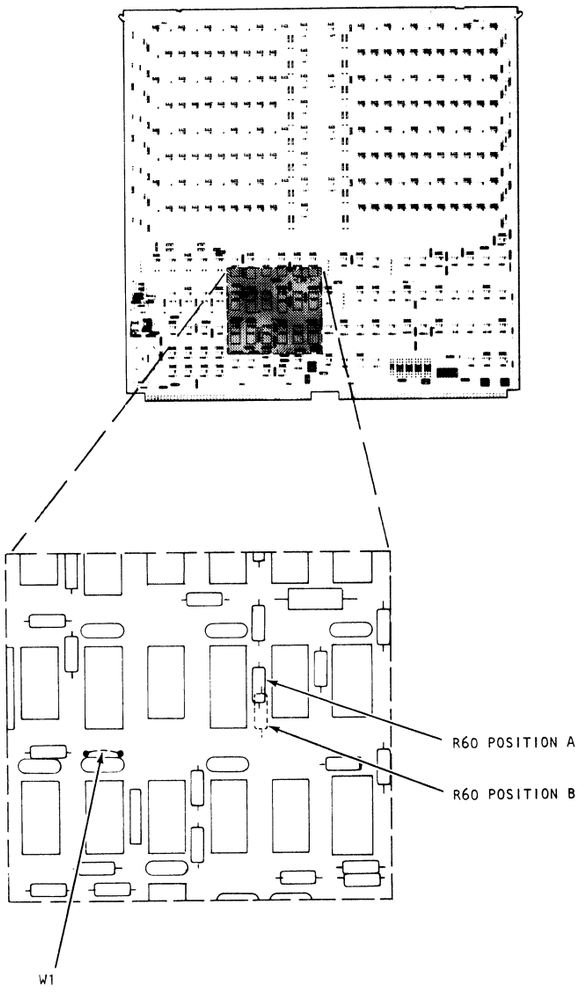
W3	W4	IF CONSOLE IS LOCKED
OUT	OUT	NORMAL AUTO RESTART
OUT	IN	HALT
IN	OUT	AUTO REBOOT DEVICE 33
IN	IN	AUTO REBOOT DEVICE 73

TAILORING (CONT)

JUMPERING

SC MEMORY PCB

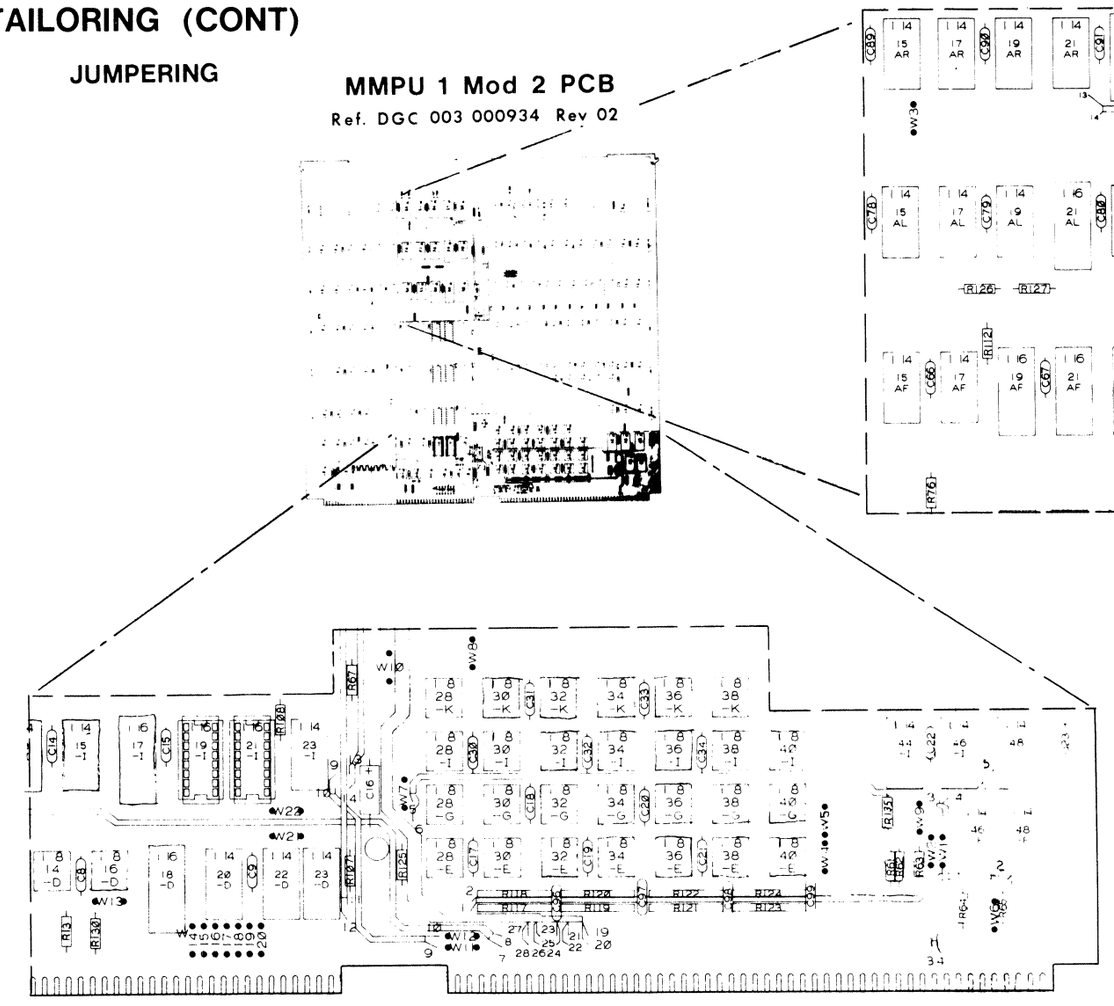
Ref. DGC 003 000858 Rev 01



	W/BMC OPTION	W/O BMC OPTION
W1	OUT	OUT
R60	POS B	POS A

MMPU 1 Mod 2 PCB

Ref. DGC 003 000934 Rev 02



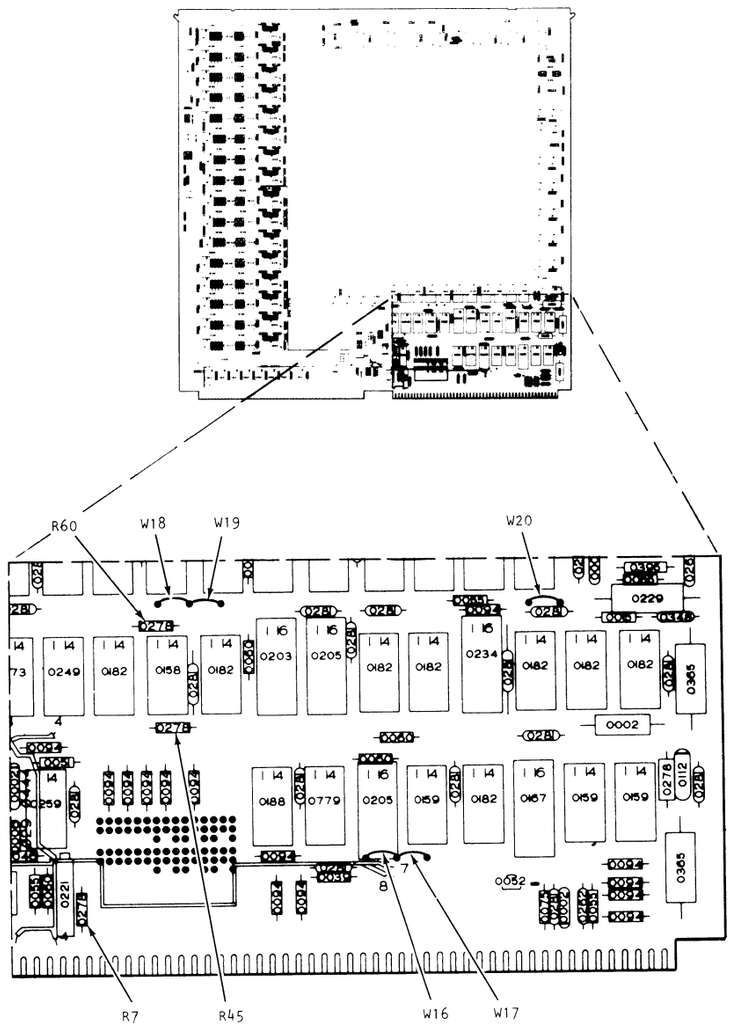
	W/BMC OPTION	W/O BMC OPTION
W1	OUT	IN
W2	OUT	OUT
W3	IN	IN
W4	IN	IN
W5	IN	IN
W6	IN	OUT
W7	OUT	IN
W8	OUT	OUT
W9	OUT	OUT
W10	IN	IN
W11	IN	IN
W12	OUT	OUT
W13	IN	IN
W14	OUT	OUT
W15	IN	IN
W16	OUT	OUT
W17	IN	IN
W18	OUT	OUT
W19	OUT	OUT
W20	IN	IN
W21	IN	IN
W22	OUT	OUT
W23	IN	IN

TAILORING (CONT)

JUMPERING

CORE MEMORY PCB

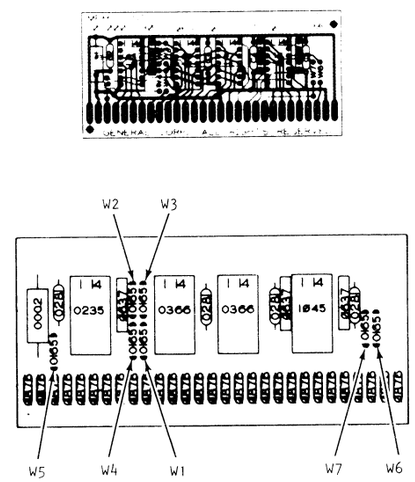
Ref. DGC 003 000896 Rev 02



	W/BMC OPTION	W/O BMC OPTION
W16	IN	IN
W17	OUT	OUT
W18	OUT	IN
W19	IN	OUT
W20	IN	IN
R7	OUT	IN
R45	IN	IN
R60	IN	IN

MEMORY CONTROL PCB

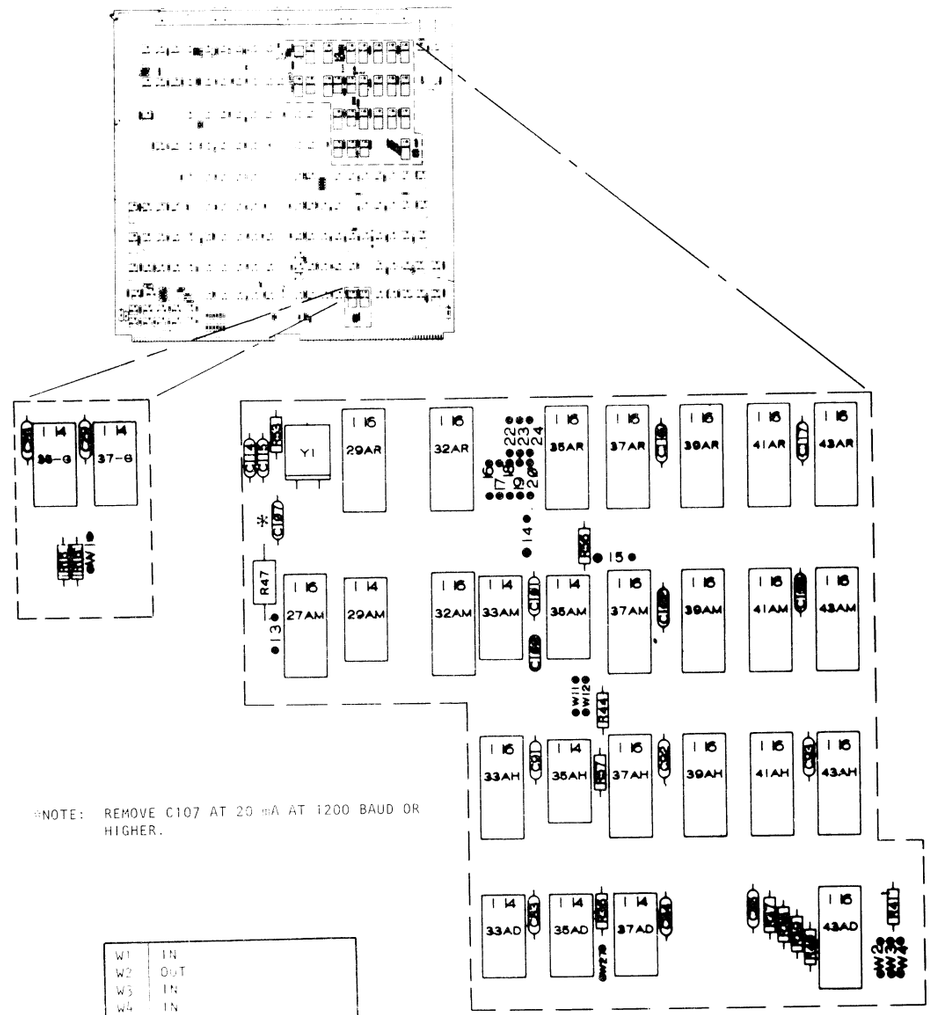
Ref. DGC 107 000878 Rev. 01



	W/BMC OPTION	W/O BMC OPTION
W1	OUT	IN
W2	OUT	IN
W3	IN	OUT
W4	OUT	IN
W5	IN	OUT
W6	OUT	IN
W7	OUT	IN

CONSOLE PCB

Ref. DGC 003 000664 Rev 04



*NOTE: REMOVE C107 AT 20 mA AT 1200 BAUD OR HIGHER.

W1	IN
W2	OUT
W3	IN
W4	IN
W11	IN FOR EIA
W12	IN FOR 20MA CURR LOOP
W13	IN FOR 20MA CURR LOOP
W14	IN FOR EIA
W15	IN FOR ASR33/OUT FOR DASHER,
W16	[illegible]
W17	1200 BAUD
W18	2400 BAUD
W19	4800 BAUD
W20	300 BAUD
W21	[illegible]
W22	[illegible]
W23	9600 BAUD
W24	600 BAUD
W27	OUT

TAILORING (CONT)

16K WORD CORE MEMORIES

INTERLEAVING AND ADDRESS SELECTION FOR 16x16 CORE MEMORY IS DETERMINED BY JUMPER ON THE MEMORY BOARD. TO PERFORM ADDRESS AND INTERLEAVING SELECTION, PROCEED AS FOLLOWS:

1. ASSIGN EACH MEMORY BOARD A (UNIQUE) NUMBER FROM 0-15.

2. ASSIGN EACH FROM THE TABLE BELOW THE APPROPRIATE LEVEL OF INTERLEAVING FOR EACH BOARD.

ASSIGNED LEVELS OF INTERLEAVING
(16 x 16 BIT CORE MEMORY)

TOTAL NUMBER OF MEMORY BOARDS	BOARD NUMBERS	ASSIGNED LEVEL OF INTERLEAVING
1	0	NONE
2	0,1	2
3	0,1 2	2 NONE
4	0,1,2,3	4
5	0,1,2,3 4	4 NONE
6	0,1,2,3 4,5	4 2
7	0,1,2,3 4,5 6	4 2 NONE
8	0,1,2,3,4,5,6,7	8
9	0,1,2,3,4,5,6,7 8	8 NONE
10	0,1,2,3,4,5,6,7 8,9	8 2
11	0,1,2,3,4,5,6,7 8,9 10	8 2 NONE
12	0,1,2,3,4,5,6,7 8,9,10,11	8 4
13	0,1,2,3,4,5,6,7 8,9,10,11 12	8 4 NONE
14	0,1,2,3,4,5,6,7 8,9,10,11 12,13	8 4 2
15	0,1,2,3,4,5,6,7 8,9,10,11 12,13 14	8 4 2 NONE
16	0,1,2,3,4,5,6,7 8,9,10,11,12,13,14,15	8 8

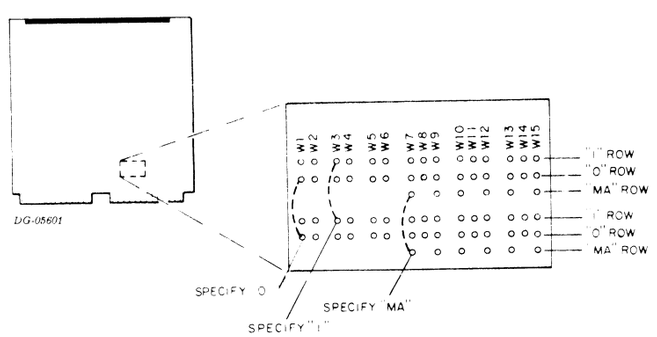
3. SELECT THE CORRESPONDING JUMPER POSITIONS FOR EACH BOARD FROM THE TABLE BELOW. THE "MEMORY SELECT JUMPER POSITIONS" FIGURE ILLUSTRATES WHERE EACH JUMPER GOES.

JUMPER POSITIONS FOR BOARD NUMBERS
(16K x 16 BIT CORE MEMORY SYSTEMS)*

BOARD NUMBER	JUMPER ASSIGNMENTS					
	W1,W2	W3,W4	W5,W6	W8	W11	W14
0	0	0	0	0	0	0
1	0	0	0	0	0	1
2	0	0	0	0	1	0
3	0	0	0	0	1	1
4	0	0	0	1	0	0
5	0	0	0	1	0	1
6	0	0	0	1	1	0
7	0	0	0	1	1	1
8	0	0	1	0	0	0
9	0	0	1	0	0	1
10	0	0	1	0	1	0
11	0	0	1	0	1	1
12	0	0	1	1	0	0
13	0	0	1	1	0	1
14	0	0	1	1	1	0
15	0	0	1	1	1	1
16	0	1	0	0	0	0
17	0	1	0	0	0	1
18	0	1	0	0	1	0
19	0	1	0	0	1	1
20	0	1	0	1	0	0
21	0	1	0	1	0	1
22	0	1	0	1	1	0
23	0	1	0	1	1	1
24	0	1	1	0	0	0
25	0	1	1	0	0	1
26	0	1	1	0	1	0
27	0	1	1	0	1	1
28	0	1	1	1	0	0
29	0	1	1	1	0	1
30	0	1	1	1	1	0
31	0	1	1	1	1	1

*NOTE: BOARD NUMBERS 16-31 ARE USED ONLY IN CONFIGURING CERTAIN MIXED MEMORY SYSTEMS. THE MAXIMUM BOARD NUMBER IN AN S/250 OR C/350 COMPUTER USING ONLY 16K OF MEMORY IS 15.

MEMORY SELECT JUMPER POSITIONS



EACH OF THE JUMPER POSITIONS CROSSES SIX ROWS. SPECIFYING A "1" AT A JUMPER POSITION IS DONE BY INSERTING A JUMPER FROM THE TOP "1" ROW TO THE BOTTOM "1" ROW. A "0" IS SPECIFIED BY INSERTING A JUMPER FROM THE TOP "0" ROW TO THE BOTTOM "0" ROW. A BIT USED IN INTERLEAVING IS SPECIFIED BY INSERTING A JUMPER FROM THE TOP "MA" ROW TO THE BOTTOM "MA" ROW. EXAMPLES OF THE THREE BASIC JUMPER POSITIONS ARE SHOWN IN THE FIGURE.

4. SELECT THE INTERLEAVING JUMPERS FOR EACH BOARD FROM THE FOLLOWING TABLE, AND INSTALL THESE INTO THEIR CORRESPONDING MA POSITIONS ILLUSTRATED IN THE FIGURE.

LEVEL OF INTERLEAVING JUMPERS

LEVEL OF INTERLEAVING	JUMPER INSERTED
NONE	W6 W9 W12 W15
2	W6 W9 W12 W13
4	W6 W9 W10 W13
8	W6 W7 W10 W13

5. THERE REMAINS OPEN ONE JUMPER POSITION IN EACH OF THE FOLLOWING PAIRS: W7/W9, W10/W12 AND W13/W15. INSTALL THESE THREE JUMPERS ON EACH BOARD BY MATCHING THEM TO JUMPERS ALREADY INSTALLED ACCORDING TO THE TABLE BELOW.

GATE-ENABLED JUMPERS

PAIR	MATCH
W7/W9	W8
W10/W12	W11
W13/W15	W14

TAILORING (CONT)

SC MEMORIES

INTERLEAVING AND ADDRESS SELECTION IS DETERMINED ON ALL ECLIPSE SC BOARDS BY JUMPER POSITIONS. PROCEED AS FOLLOWS TO ASSIGN JUMPER POSITIONS.

1. ASSIGN EACH MEMORY BOARD A (UNIQUE) NUMBER FROM 0-15.

2. ASSIGN EACH FROM THE TABLE BELOW THE APPROPRIATE LEVEL OF INTERLEAVING FOR EACH BOARD.

ASSIGNED LEVELS OF INTERLEAVING
(128K, 64K & 32K x 21BIT SEMICONDUCTOR MEMORY)

TOTAL NUMBER OF MEMORY BOARDS	BOARD NUMBERS	ASSIGNED LEVEL OF INTERLEAVING
1	0	NONE
2	0,1	2
3	0,1 2	2 NONE
4	0,1,2,3	4
5	0,1,2,3 4	4 NONE
6	0,1,2,3 4,5	4 2
7	0,1,2,3 4,5 6	4 2 NONE
8	0,1,2,3,4,5,6,7	8
9	0,1,2,3,4,5,6,7 8	8 NONE
10	0,1,2,3,4,5,6,7 8,9	8 2
11	0,1,2,3,4,5,6,7 8,9 10	8 2 NONE
12	0,1,2,3,4,5,6,7 8,9,10,11	8 4
13	0,1,2,3,4,5,6,7 8,9,10,11 12	8 4 NONE
14	0,1,2,3,4,5,6,7 8,9,10,11 12,13	8 4 2
15	0,1,2,3,4,5,6,7 8,9,10,11 12,13 14	8 4 2 NONE
16	0,1,2,3,4,5,6,7 8,9,10,11,12,13,14,15	8* 8

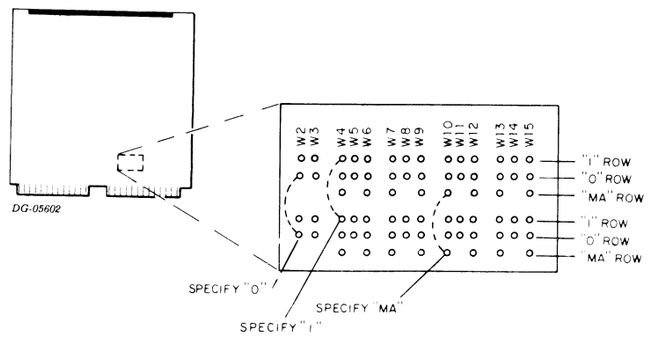
*NOTE: SEMICONDUCTOR MEMORIES MAY BE INTERLEAVED 16 WAYS WHEN THERE ARE 16 BOARDS IN THE SYSTEM. FOR MOST APPLICATIONS, THERE IS NO ADVANTAGE TO 16-WAY INTERLEAVING SO DATA GENERAL RECOMMENDS INTERLEAVING IN 2 SETS OF 8 BOARDS.

3. SELECT THE CORRESPONDING JUMPER POSITIONS FOR EACH BOARD FROM THE TABLE BELOW: THE "MEMORY SELECT JUMPER POSITIONS" FIGURE ILLUSTRATES WHERE EACH JUMPER GOES.

JUMPER POSITIONS FOR BOARD NUMBERS
(128K, 64K, 32K x 21 BIT SEMICONDUCTOR MEMORY)

BOARD NUMBER	JUMPER ASSIGNMENTS				
	W2,W3	W5	W8	W11	W14
0	0	0	0	0	0
1	0	0	0	0	1
2	0	0	0	1	0
3	0	0	0	1	1
4	0	0	1	0	0
5	0	0	1	0	1
6	0	0	1	1	0
7	0	0	1	1	1
8	0	1	0	0	0
9	0	1	0	0	1
10	0	1	0	1	0
11	0	1	0	1	1
12	0	1	1	0	0
13	0	1	1	0	1
14	0	1	1	1	0
15	0	1	1	1	1

MEMORY SELECT JUMPER POSITIONS



EACH OF THE JUMPER POSITIONS CROSSES SIX ROWS. SPECIFYING A "1" AT A JUMPER POSITION IS DONE BY INSERTING A JUMPER FROM THE TOP "1" ROW TO THE BOTTOM "1" ROW. A "0" IS SPECIFIED BY INSERTING A JUMPER FROM THE TOP "0" ROW TO THE BOTTOM "0" ROW. A BIT USED IN INTERLEAVING IS SPECIFIED BY INSERTING A JUMPER FROM THE TOP "MA" ROW TO THE BOTTOM "MA" ROW. EXAMPLES OF THE THREE BASIC JUMPER POSITIONS ARE SHOWN IN THE FIGURE.

4. SELECT THE INTERLEAVING JUMPERS FOR EACH BOARD FROM THE FOLLOWING TABLE, AND INSTALL THESE INTO THEIR CORRESPONDING MA POSITIONS ILLUSTRATED IN THE FIGURE.

LEVEL OF INTERLEAVING JUMPERS

LEVEL OF INTERLEAVING	JUMPER INSERTED
NONE	W6 W9 W12 W15
2	W6 W9 W12 W13
4	W6 W9 W10 W13
8	W6 W7 W10 W13
16	W4 W7 W10 W13

5. THERE REMAINS OPEN ONE JUMPER POSITION IN EACH OF THE FOLLOWING PAIRS: W4/W6, W7/W9, W10/W12 AND W13/W15. INSTALL THESE FOUR JUMPERS ON EACH BOARD BY MATCHING THEM TO JUMPERS ALREADY INSTALLED ACCORDING TO THE TABLE BELOW.

GATE-ENABLED JUMPERS

PAIR	MATCH
W4/W6	W5
W7/W9	W8
W10/W12	W11
W13/W15	W14

MIXING MEMORY SIZES

IT IS POSSIBLE TO MIX BOTH 16K CORE AND SEMICONDUCTOR MEMORY IN THE SAME SYSTEM. TO DO THIS, YOU MUST FOLLOW THE GUIDELINES:

A. ONLY 16 MEMORY BOARDS OF ANY SIZE AND MIXTURE MAY BE USED IN ANY ONE SYSTEM.

B. DO NOT INTERLEAVE DIFFERENT SIZED MEMORIES WITH ONE ANOTHER.

THE PROCEDURE FOR CONFIGURING A MIXED MEMORY SYSTEM IS DIVIDED INTO 3 STEPS: ASSIGNING BOARD POSITIONS, ASSIGNING THE LEVEL OF INTERLEAVING FOR EACH BOARD, AND JUMPERING THE BOARDS FOR BOARD POSITION AND LEVEL OF INTERLEAVING.

1. ASSIGNING BOARD POSITIONS

ASSIGN BOARD NUMBERS IN GROUPS OF 128K, 64K, OR 32K WORDS. BEGIN AT THE LOWEST MEMORY POSITION ASSIGNING EITHER A SINGLE 128K, 64K, OR 32K SEMICONDUCTOR MEMORY BOARD OR A MINIMUM OF TWO 16K CORE MEMORY BOARDS, A SINGLE 16K CORE MEMORY BOARD WILL OCCUPY THE LOW POSITION IN THE HIGHEST ASSIGNED GROUP. IF A LARGER MEMORY BOARD IS PLACED ABOVE A GROUP OF SMALLER BOARDS, THE GROUP BELOW MUST EQUAL THE SIZE OF THE BOARD ABOVE, (E.G., 128K BOARD IS ABOVE A GROUP OF SMALLER BOARDS, THE BOARDS BELOW MAY BE OF ANY COMBINATION OF THAT IS EQUAL TO 128K). AN EXAMPLE BEING, ONE 64K, ONE 32K, AND TWO 16K CORE ARE EQUAL TO THE 128K BOARD.

NOTE: REMEMBER THAT INTERLEAVING MAY ONLY BE PERFORMED ON CONTIGUOUS BLOCKS OF THE SAME TYPE OF MEMORY. IN ADDITION, THE BEGINNING OF THESE BLOCKS MUST FALL ON AN INTERLEAVING BOUNDARY FOR THE PARTICULAR BOARD TYPE (SEE DESCRIPTION OF INTERLEAVING BELOW). SINCE INTERLEAVING AFFECTS SYSTEM PERFORMANCE, YOU MAY WANT TO ASSIGN BLOCKS OF MEMORY TO TAKE ADVANTAGE OF INTERLEAVING.

A. DRAW A DIAGRAM SIMILIAR TO THE ONE IN EXAMPLE 1 FOR ASSIGNING BOARD NUMBERS.

B. FILL IN THE THIRD COLUMN OF THE DIAGRAM WITH THE SIZE OF EACH MEMORY BOARD USED IN YOUR SYSTEM. BEGIN AT THE BOTTOM AND FILL IN THE DIAGRAM CONTIGUOUSLY.

C. CIRCLE THE NUMBER IN ONE OF THE TWO LEFT HAND COLUMNS THAT CORRESPONDS TO THE SIZE OF THE MEMORY YOU HAVE PLACED IN THE RIGHT HAND COLUMN. THE CIRCLED NUMBERS ARE THE BOARD NUMBER TO BE ASSIGNED TO THE CORRESPONDING MEMORY BOARD. YOU NOW HAVE THE ASSIGNED BOARD POSITIONS FOR EACH BOARD.

2. ASSIGNING THE LEVEL OF INTERLEAVING

REFER TO THE TABLE BELOW TO DETERMINE THE LEVEL OF INTERLEAVING POSSIBLE FOR EACH BOARD (SEE EXAMPLE 2). THE FOLLOWING PROCEDURE MAY BE HELPFUL.

A. USING THE REMAINDER OF THE DIAGRAM YOU DREW TO ASSIGN THE BOARD POSITIONS AND THE INTERLEAVING ASSIGNMENT CHARTS BELOW TO ASSIGN THE INTERLEAVING LEVEL FOR EACH BOARD.

B. BEGIN BY FILLING IN THE INTERLEAVING LEVEL FOR EACH CONTIGUOUS BLOCK OF SEMICONDUCTOR MEMORIES. BEGIN AT THE BOTTOM AND REFER TO THE INTERLEAVING SELECTION CHART FOR THE CORRECT LEVEL OF INTERLEAVING.

C. NEXT FILL IN THE INTERLEAVING LEVEL FOR EACH CONTIGUOUS BLOCK OF 16K CORE MEMORIES. BEGIN AT THE BOTTOM AND REFER TO THE INTERLEAVING SELECTION CHART FOR THE CORRECT LEVEL OF INTERLEAVING.

3. JUMPERING EACH BOARD

YOU CAN NOW JUMPER EACH BOARD FOR BOARD NUMBER AND LEVEL OF INTERLEAVING USING THE CHART YOU HAVE COMPILED. REFER TO THE ADDRESS SELECTION AND INTERLEAVING INSTRUCTIONS FOR THE CORRECT BOARD TYPE TO DETERMINE THE CORRECT JUMPER POSITIONS.

TAILORING (CONT)

BOARD NUMBERS ASSIGNED FOR				BOARDS USED IN SYSTEM	LEVEL OF INTERLEAVING
128K	64K	32K	16K		
3	7	15	31 30		
		14	29 28		
	6	13	27 26		
		12	25 24		
2	5	11	23 22		
		10	21 20		
	4	9	19 18		
		(8)	17 16	32K BOARD	
(1)	3	7	15 14		
		6	13 12		
	2	5	11 10		
		4	9 8	128K BOARD	
0	(1)	3	7 6		
		2	5 4	64K BOARD	
	0	1	(3) (2)	16K BOARD 16K BOARD	
		0	(1) (0)	16K BOARD 16K BOARD	

EXAMPLE 1, SELECTING BOARD POSITIONS

BOARD NUMBERS ASSIGNED FOR				BOARDS USED IN SYSTEM	LEVEL OF INTERLEAVING
128K	64K	32K	16K		
3	7	15	31 30		
		14	29 28		
	6	13	27 26		
		12	25 24		
2	5	11	23 22		
		10	21 20		
	4	9	19 18		
		(8)	17 16	32K BOARD	NONE
(1)	3	7	15 14		
		6	13 12		
	2	5	11 10		
		4	9 8	128K BOARD	NONE
0	(1)	3	7 6		
		2	5 4	64K BOARD	NONE
	0	1	(3) (2)	16K BOARD 16K BOARD	4 4
		0	(1) (0)	16K BOARD 16K BOARD	4 4

EXAMPLE 2, SELECTING INTERLEAVING

ASSIGNED LEVELS OF INTERLEAVING
(16K CORE MEMORY IN MIXED MEMORY SYSTEMS)

STARTING BOARD NUMBER FOR BLOCK	NUMBER OF CONTIGUOUS BOARDS	ASSIGNED LEVEL OF INTERLEAVING WITHIN BLOCK
0,8,16,24	1 2 4 8	NONE 2 4 8
1,3,5,7,9,11, 13,15,17,19,21, 23,25,27,29,31	1	NONE
2,6,10,14,18, 22,26,30	1	NONE
2,6,10,14 18,22,26,30	1 2	NONE 2
4,12,20,28	1 2 4	NONE 2 4

FIGURE 3

ASSIGNED LEVELS OF INTERLEAVING
(32K SEMICONDUCTOR MEMORY IN MIXED MEMORY SYSTEMS)

STARTING BOARD NUMBER FOR BLOCK	NUMBER OF CONTIGUOUS BOARDS	ASSIGNED LEVEL OF INTERLEAVING WITHIN BLOCK
0,8	1 2 4 8	NONE 2 4 8
1,3,5,7,9,11 13,15	1	NONE
2,6,10,14	1 2	NONE 2
4,12	1 2 4	NONE 2 4

FIGURE 4

ASSIGNED LEVELS OF INTERLEAVING
(64K SEMICONDUCTOR MEMORY IN MIXED MEMORY SYSTEMS)

STARTING BOARD NUMBER FOR BLOCK	NUMBER OF CONTIGUOUS BOARDS	ASSIGNED LEVEL OF INTERLEAVING WITHIN BLOCK
0	1 2 4 8	NONE 2 4 8
1,3,5,7	1	NONE
2,6	1 2	NONE 2
4	1 2 4	NONE 2 4

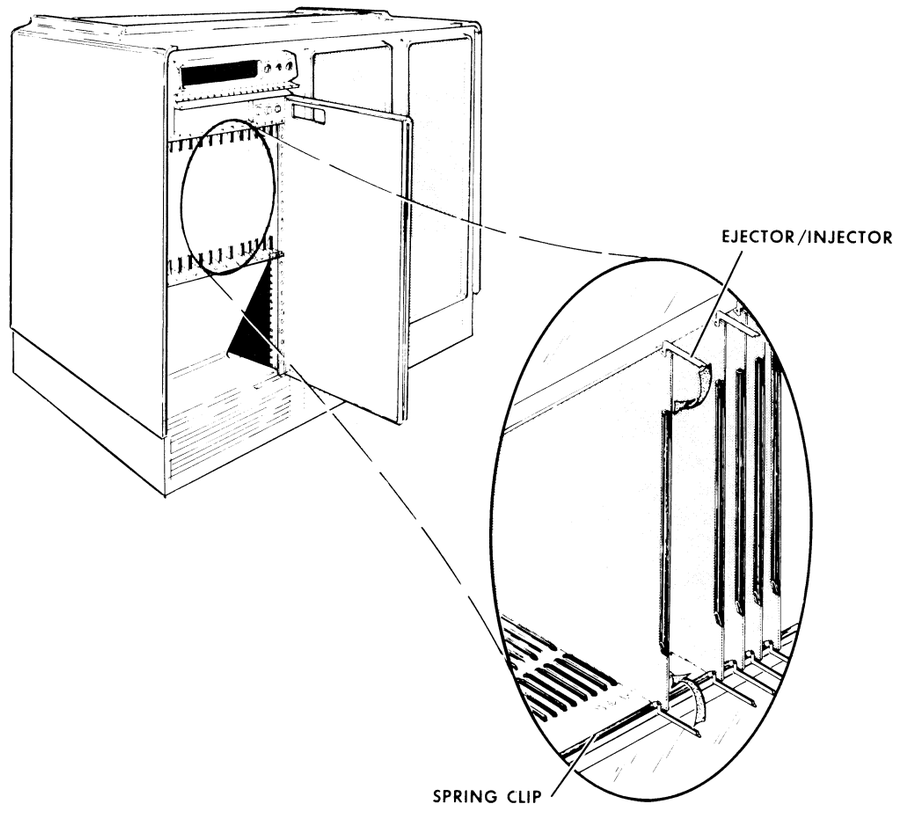
FIGURE 5

ASSIGNED LEVELS OF INTERLEAVING
(128K SEMICONDUCTOR MEMORY IN MIXED MEMORY SYSTEMS)

STARTING BOARD NUMBER FOR BLOCK	NUMBER OF CONTIGUOUS BOARDS	ASSIGNED LEVEL OF INTERLEAVING WITHIN BLOCK
0	1 2 4	NONE 2 4
1,3	1	NONE
2	1 2	NONE 2

FIGURE 6

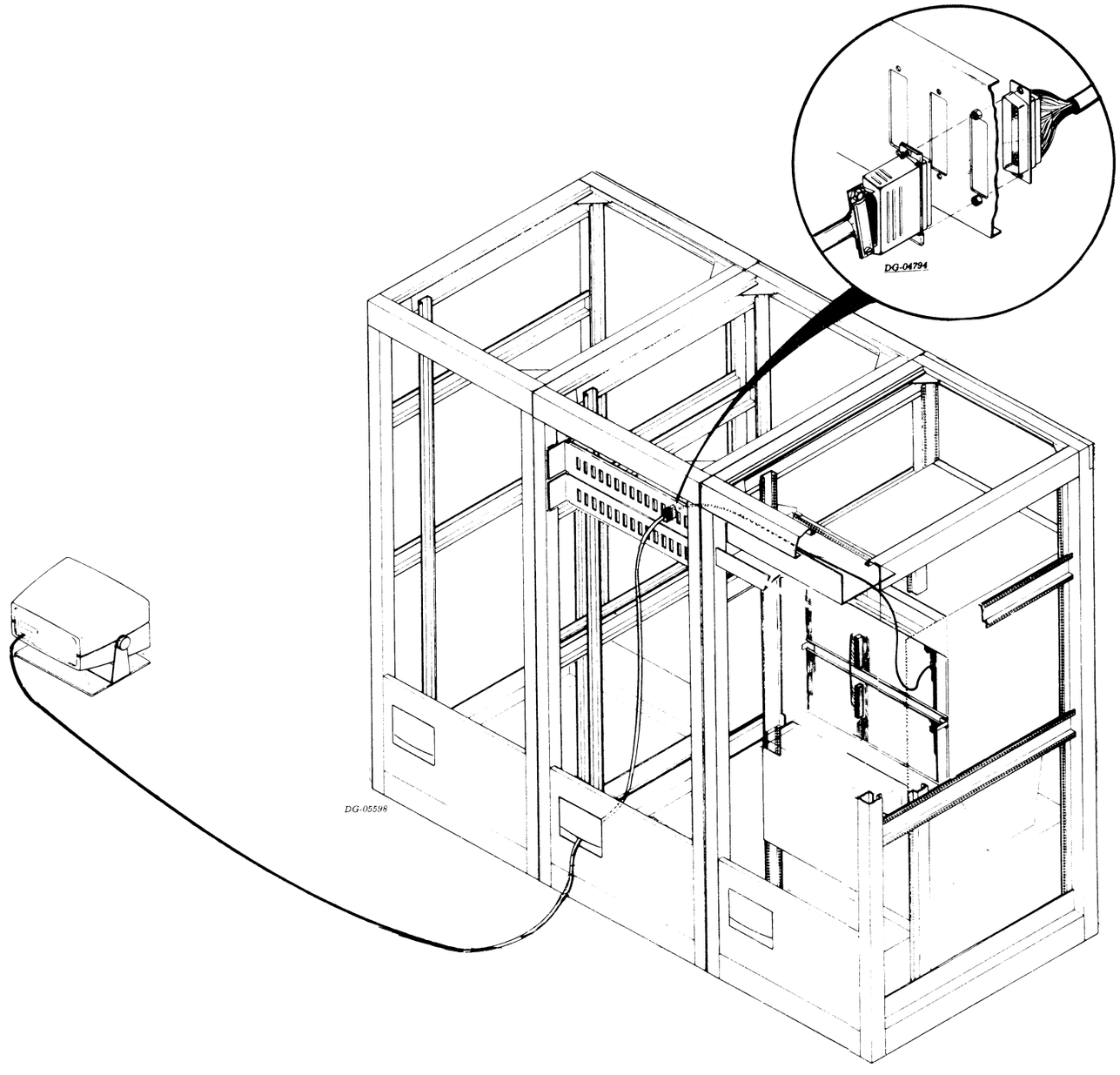
INSERTING PC BOARD



EXTERNAL CABLING

INTERNAL CABLES		
FROM	TO	ASSY
4010	EIA CONNECTOR PANEL	005-010706*
UMCS, ALM-16	EIA CONNECTOR PANEL	005-010708
UMCS, ALM-8	EIA CONNECTOR PANEL	005-010710
UMCS, SLM	E A CONNECTOR PANEL	005-012804
ULM /5 SYNC LINE	EIA CONNECTOR PANEL	005-010709
DCU/50 OR DCU/200	EIA CONNECTOR PANEL	005-012590
MCA	EIA CONNECTOR PANEL	005-012585
TTY- 4007 TYPE	EIA CONNECTOR PANEL	005-012473
ULM/5	DEVICE	005-012765
EXTERNAL CABLES		
UMCS, MODEM		005-010711
SERIAL I/O FOR 6052/3 DISPLAY AND SERIAL PRINTER		005-010707

*ONE IS SUPPLIED FOR PRIMARY CONSOLE

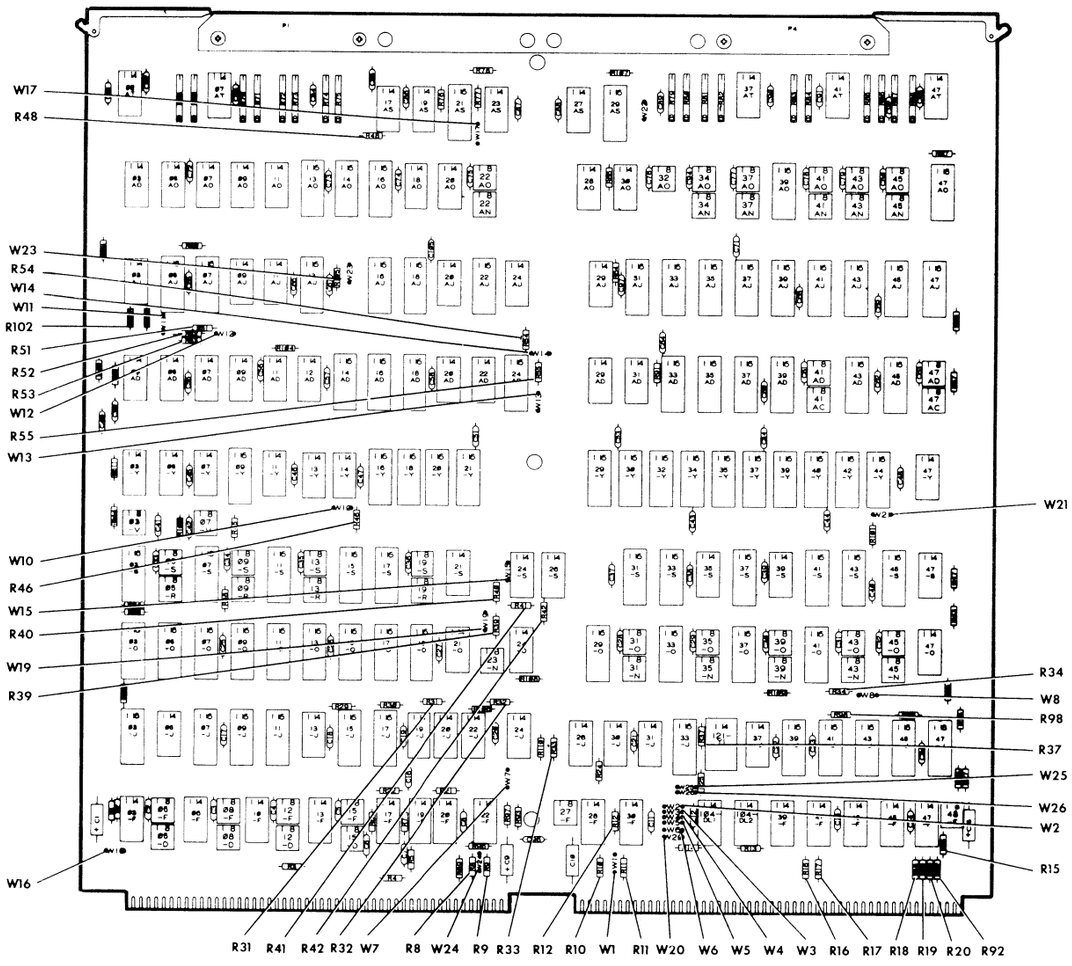


S/250, C/350 OPTION

BURST MULTIPLEXOR CHANNEL

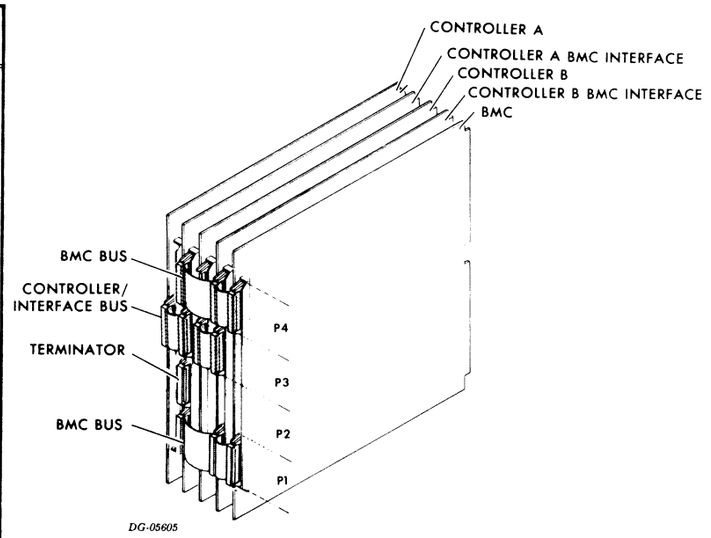
JUMPERING

Ref. DGC 003 000559 Rev 09



SCM LOC	DUMMY RES.	SIGNAL NAME	W/MPC
3A5	R8	SYSCLKC	OUT
3A5	R9	SYSCLKD	OUT
3A5	R10	SYSCLKS	OUT
3A5	R11	SYSCLKN	OUT
3B5	R12	SYSCLK	IN
3D6	R15	PMC1	IN
3D6	R16	PMC3	IN
3C6	R17	PMC4	IN
3D2	R18	APORT0	IN
3C2	R19	DPORT0	IN
3C2	R20	APORT1	IN
2A6	R31	AOMEM	IN
2B4	R32	PHASE/PHASE	IN
2D4	R33	HSCMC1	IN
3C5	R34	PHASE/PHASE	IN
3A8	R37	SYSCLK	IN
4D6	R39	AOMEM	IN
4D8	R40	PHASE/PHASE	IN
3D4	R41	HSCAMD	IN
3C4	R42	HSCMMD	IN
2D5	R46	PHASE/PHASE	IN
2C4	R48	AOMSIN	IN
2C3	R51	PHASE/PHASE	IN
2B3	R52	SET ENAOMEM	IN
2B3	R53	SET ENAOMEM	IN
2B2	R54	PHASE/GND	IN
2B2	R55	AOMEM/PHASE	IN
3C2	R92	DPORT1	IN
3D5	R98	AOMC1/HI	IN
2D5	R102	STOP/HI	IN
3B5	W1	SYSCLK/SYSCLKN	OUT
3B6	W2	SKW CLK	INSERT ONE
3B6	W3	SKW CLK	TO MAKE DPORT1
3B6	W4	SKW CLK	TOGGLE AT
3B6	W5	SKW CLK	SYSCLK FALLING
3B6	W6	SKW CLK	EDGE PLUS
3B6	W20	SKW CLK	5 TO 10 NS.
2B3	W7	PHASE/PHASE	OUT
3C5	W8	PHASE/PHASE	OUT
2D5	W10	PHASE/PHASE	OUT
2B3	W11	SET ENAOMEM/GND	OUT
2C3	W12	PHASE/PHASE	OUT
2B2	W13	AOMEM/PHASE	OUT
2B2	W14	PHASE/GND	OUT
4D7	W15	PHASE/PHASE	OUT
3B4	W16	ECC LOAD	OUT
2C4	W17	HSC MS IN	OUT
4D6	W19	AOMEM/PHASE	OUT
1C8	W23	ROM ADDR X1	OUT
8D7	W21	HSCOUT/HI	OUT
3A5	W24	SYS CLKC	IN
2B5	W25	GND	OUT
2B5	W26	AOMC1	IN

INTERFACE AND BMC



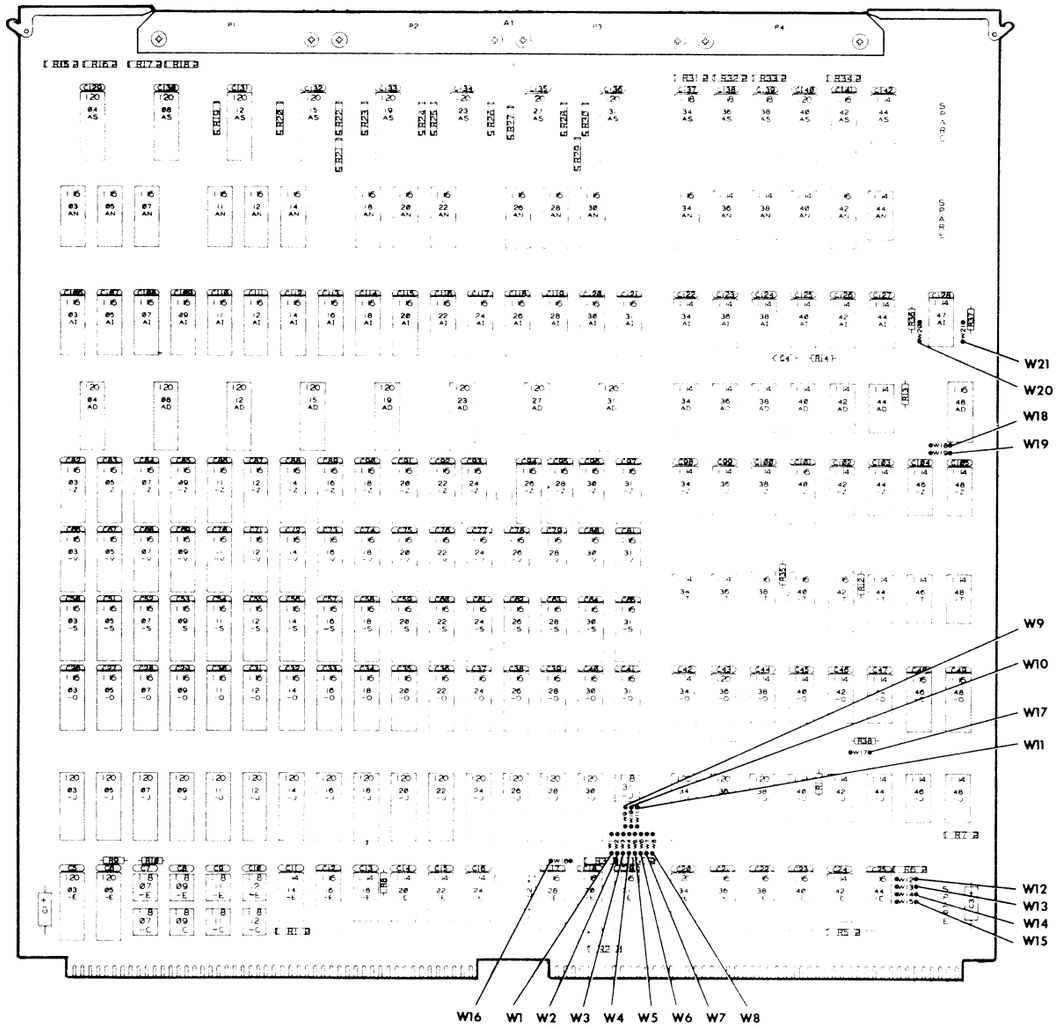
DG-05605

S/250 OPTION
INTEGRAL ARRAY PROCESSOR

JUMPERING

AP1 PCB

Ref DGC 003-000745 Rev 04



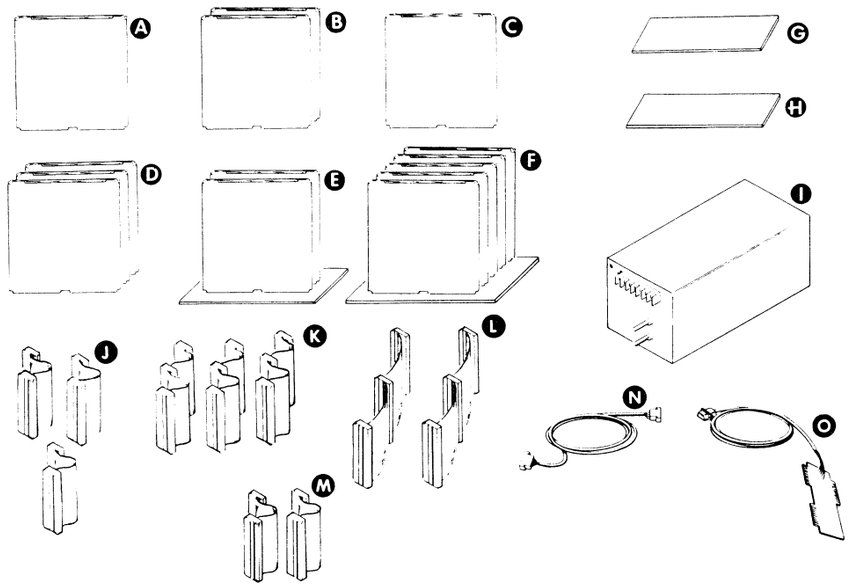
		W/BMC	W/O BMC	
W1	256K			SELECTS THE STARTING ADDRESS OF A.P. MEMORY
W2	512K			
W3	128K			
W4	64K			
W5	32K			
W6	16K			
W7	8K			
W8	4K			
W9		IN	OUT	
W10		OUT	IN	
W11		IN	OUT	
W12		OUT	OUT	
W13		IN	IN	
W14		OUT	OUT	
W15		OUT	OUT	
W16		OUT	IN	
W17		OUT	OUT	
W18		IN	OUT	
W19		OUT	IN	
W20		OUT	IN	
W21		OUT	IN	

INTEGRAL ARRAY PROCESSOR (IAP)

PC BOARD AP1 IS INSTALLED IN SLOT 26, BOARD AP2 IN SLOT 25 AND BOARD AP 3 IN SLOT 24.

IAP REQUIRES BACKPANEL WIRING ASSEMBLY 005-012540; WIRE LIST 008-003311.

SUBSYSTEM COMPONENT BREAKDOWN



MAJOR COMPONENTS

ITEM	COMPONENT	MOUNTING LOCATION	NOTES
A	CPU2 OPTIONS	MAIN BAY - SLOT 31	WCS; CIS; FCS
B	CPU3, CPU4	MAIN BAY - SLOTS 33 34	FLOATING POINT PROCESSOR
C	BMC	MAIN BAY - SLOT 27	
D	AP1, AP2, AP3	MAIN BAY - SLOTS 26, 25, 24	INTEGRAL ARRY PROCESSOR; REQUIRES WIRING ASSY 005-12540
E	CPU1, IOP2, 8 SLOT BKPNL	MAIN OR EXPANSION BAY	SATELLITE PROCESSOR
F	CPU1, IOP2, AP1, AP2, AP3 8 SLOT BKPNL	MAIN OR EXPANSION BAY	SATELLITE PROCESSOR
G	MEM/IO 8 SLOT BKPNL	MAIN BAY	
H	IO 8 SLOT BKPNL	MAIN OR EXPANSION BAY	
I	BOOSTER POWER SUPPLY	MAIN OR EXPANSION BAY	

CABLES

ITEM	CABLE	CONNECTING	MAX ALLOWED LG FT / M	NOTES
J	INTER BOARD CABLE	CPU3 AND CPU4	1.5 / .5	3 REQUIRED
K	INTER BOARD CABLE	AP1 AND AP2 AND AP3	1.5 / .5	3 REQUIRED
L	INTER BOARD CABLE	BMC AND BMC CONTROLLERS		2 REQUIRED; LENGTH DEPENDS ON NUMBER OF CONTROLLERS
M	INTER BOARD CABLE	CPU1 AND IOP2	1.5 / .5	2 REQUIRED
N	I/O BUS JUMPER CABLE	BUS REPEATER OR DCU AND I/O SYSTEM MODULE	10 / 3	1 PER I/O SYSTEM MODULE
O	SP JUMPER CABLE	BUS REPEATER OR SP AND SP	4 / 1.2	REQUIRED IF ANY SP IN EXPANSION BAY

CPU DESIGNATOR:
Designator Range: 13-14

SPECIFICATIONS OF CHASSIS MOUNTED COMPONENTS

MODEL #	ITEM	COMPONENT	NO. OF SLOTS REQUIRED	NO. OF SLOTS PROVIDED	TOTAL 5V CURRENT DRAW (AMPS)	REMARKS
8638	A	CPU2 OPTION - WCS	NA	NA	8.7	S/250 ONLY;
8639	A	CPU2 OPTION - CIS	NA	NA	1.4	STANDARD ON C/350
8640	A	CPU2 OPTION - FCS	NA	NA	1.4	S/250 ONLY;
8641	B	CPU3, CPU4	2	NA	29.0	STANDARD ON C/350
8642	C	BMC	1	NA	12.0	
8644	D	AP1, AP2, AP3	3	NA	37.5	REQUIRES MODEL #8638 (WCS); S/250 ONLY
8660	E	CPU1, IOP2, 8 SLOT BKPNL	2	6	21.9	S/250 ONLY
8661	F	CPU1, IOP2, AP1, AP2, AP3 8 SLOT BKPNL	5	3	59.4	S/250 ONLY
8648	G	MEM/IO 8 SLOT BKPNL	NA	8	NA	STANDARD ON C/350
8652	H	IO 8 SLOT BKPNL	NA	8	NA	
8649	I	BOOSTER POWER SUPPLY	NA	NA	NA	SUPPLIES 5V @ 135A

MEMORY I/O
8 SLOT BACKPANEL

SLOT	ALLOWED	ASSIGNED	5V CURRENT DRAW
16	MEMORY OR I/O		
15	MEMORY OR I/O		
14	MEMORY OR I/O		
13	MEMORY OR I/O		
12	MEMORY OR I/O		
11	MEMORY OR I/O		
10	MEMORY OR I/O		
9	MEMORY		
	TOTAL 5V CURRENT DRAW		

I/O
8 SLOT BACKPANEL

SLOT	ALLOWED	ASSIGNED	5V CURRENT DRAW
8	I/O		
7	I/O		
6	I/O		
5	I/O		
4	I/O		
3	I/O		
2	I/O		
1	I/O		
	TOTAL 5V CURRENT DRAW		

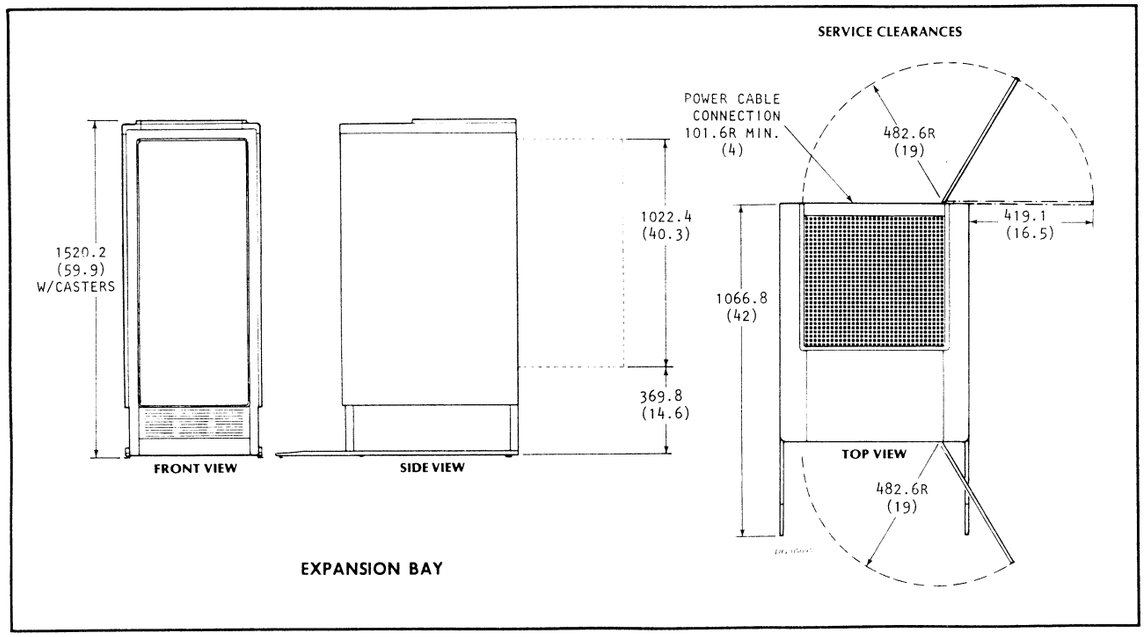
8660 SP
BACKPANEL

SLOT	ALLOWED	ASSIGNED	5V CURRENT DRAW
8	IOP2	IOP2	12.0
7	CPU1	CPU1	9.9
6	SP I/O		
5	SP I/O		
4	SP I/O		
3	SP I/O		
2	SP I/O		
1	SP I/O		
	TOTAL 5V CURRENT DRAW		

8661 SP
BACKPANEL

SLOT	ALLOWED	ASSIGNED	5V CURRENT DRAW
8	IOP2	IOP2	12.0
7	CPU1	CPU1	9.9
6	AP1	AP1	12.5
5	AP2	AP2	12.5
4	AP3	AP3	12.5
3	SP I/O		
2	SP I/O		
1	SP I/O		
	TOTAL 5V CURRENT DRAW		

INSTALLATION SPECIFICATIONS



DIMENSIONS:	Width	Depth	Height
Centimeters	60	107.3	151.1
Inches	23.62	42.25	59.5

SERVICE CLEARANCES:	Front	Rear
Centimeters	76.2	48.3
Inches	30	19

WEIGHT:	Empty	Fully Loaded
Kilograms	134	173
Pounds	296	381

HEAT OUTPUT:	Watts	BTU/hr
	3500	11,935

OPERATING ENVIRONMENT:		
Temperature (max)	45 C	110 F
Relative Humidity (max)	90%	

POWER REQUIREMENTS:

(Domestic)				
Voltage	208/120			
Hz	47-63			
Amp per Phase	25			
Phase	3			
Startup Surge per Phase	70			
(Export)				
Voltage	200	220	380/220	415/240
Hz	47-63	47-63	47-63	47-63
Amp per Phase	25	23	13	12
Phase	3	3	3	3
Startup Surge per Phase	70	70	70	70

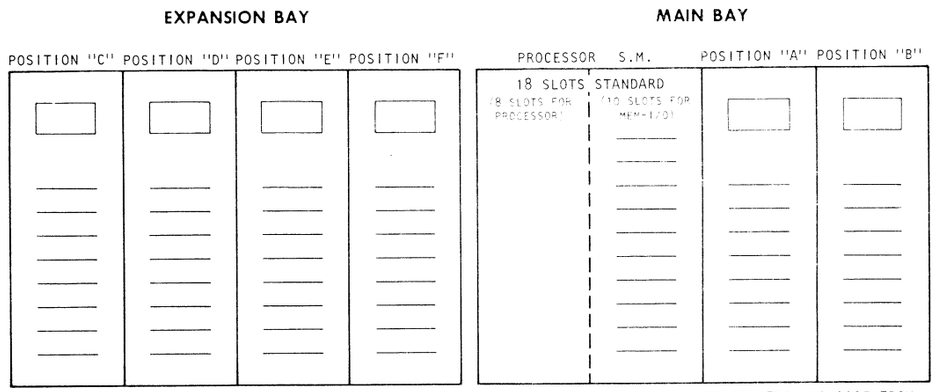
CABLES:	Length	Conn	Mating Conn
Primary Power			
120V	2.75m(9')	2811	2810 (wall) 2813 (drop)
200 220 240	2.75m(9')	NONE SUPPLIED	

POWER AVAILABLE:

Internal Receptacles

Domestic	15A
Export	10A

CONFIGURATION GUIDELINES



CHOOSE FROM:	CHOOSE FROM:	CHOOSE FROM:	CHOOSE FROM:
8652-C	8652-C	8652-C	8652-C
8660	8660	8660	8660
8661	8661	8661	8661
	8652-D*	8652-D*	8652-D*

CHOOSE FROM:	CHOOSE FROM:
8648	8652-B
8660	9660
8661	8661
8652-C	8652-C
	8652-D*

* REQUIRES 8660 OR 8661 IN PREVIOUS SYSTEM MODULE POSITION (E.G. IF 8652-D IS IN POSITION "D" 8660 OR 8661 MUST BE IN POSITION "C".)

SYSTEM MODULE INTRODUCTION

SYSTEM MODULES ARE EIGHT SLOT BACKPANELS THAT CAN ELECTRICALLY AND PHYSICALLY EXPAND THE BACKPANEL OF THE SYSTEM. THE S/250 HAS ROOM FOR TWO SYSTEM MODULES IN THE MAIN BAY; THE C/350 HAS ROOM FOR ONE ADDITIONAL SYSTEM MODULE IN THE MAIN BAY (8648 IS STANDARD IN POSITION "A"). BOTH SYSTEMS ALLOW AN OPTIONAL EXPANSION BAY TO BE ADDED TO THE SYSTEM. IT HAS ROOM FOR FOUR MORE SYSTEM MODULES. THE DIAGRAM SHOWS THE POSITIONS IN THE TWO BAYS WHERE THE SYSTEM MODULES MAY BE CONFIGURED.

ADDING THESE SYSTEM MODULES FOLLOW SEVERAL BASIC RULES:

(1) ANY I/O BUS CAN ACCOMODATE NO MORE THAN 10 (TEN) BUS LOADS. A CONTROLLER CAN BE MORE THAN ONE BUS LOAD (E.G. A 6063 DISC DRIVE CONTROLLER IS TWO BUS LOADS WHEN IT IS CONFIGURED ON THE DATA CHANNEL). THE MODEL 8652-B (FOR EXPANDING THE S/250 I/O BUS) OR THE MODEL 8652-D (FOR EXPANDING ANY SP I/O BUS) PROVIDE MORE I/O SLOTS BUT DO NOT ALLOW YOU TO EXCEED THE 10 BUS LOAD LIMIT.

(2) FOR MORE THAN 10 I/O CONTROLLERS, USE A BUS REPEATER. A BUS REPEATER PROVIDES A "PRIVATE" I/O BUS CAPABLE OF 10 I/O CONTROLLERS AND LOGICALLY THE SAME AS THE HOST'S I/O BUS. THE MODEL 8652-C (USED WITH A BUS REPEATER) PROVIDES MORE I/O SLOTS FOR EITHER THE S/250 OR SP I/O BUS.

(3) ALL SATELLITE PROCESSORS (S/250 OPTIONS) MUST BE DRIVEN BY A SINGLE BUS REPEATER. THE CABLE FROM THE BUS REPEATER IS "DAISY-CHAINED" BETWEEN THE SYSTEM MODULES.

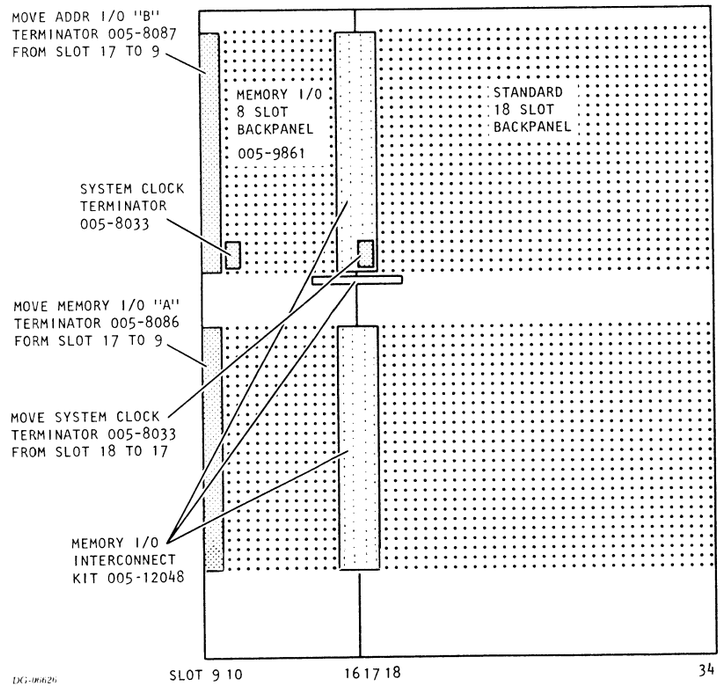
SHIPPING

FOR PACKING PROCEDURE, SEE 010-000262/266

INTERNAL CABLING

MEMORY I/O SYSTEM MODULE

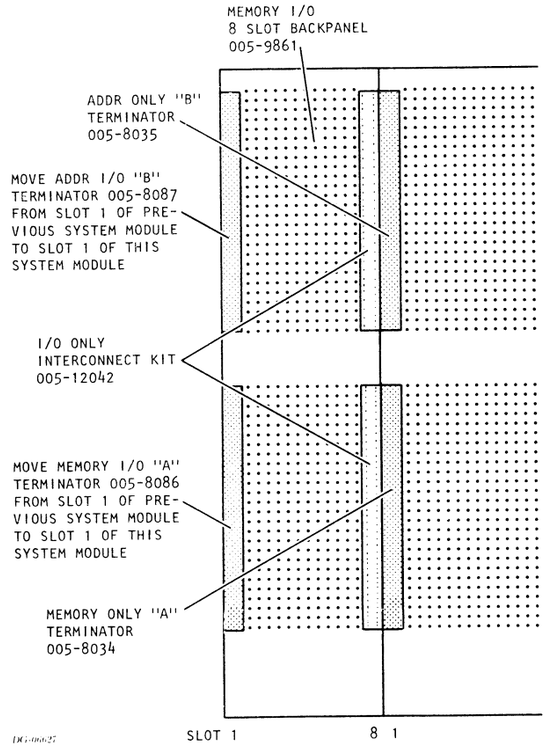
MODEL 8648



REAR VIEW

I/O SYSTEM MODULE

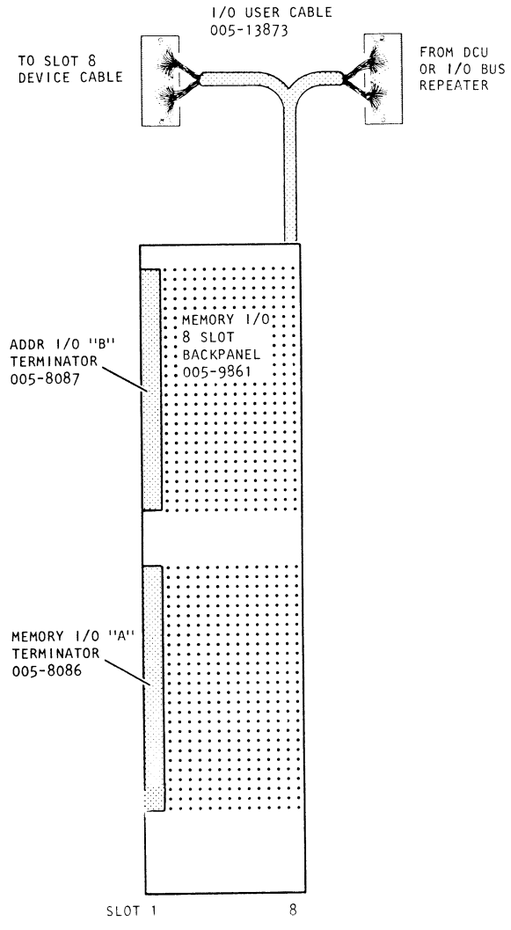
MODEL 8652-B OR 8652-D



REAR VIEW

I/O SYSTEM MODULE OPTION

MODEL 8652-C

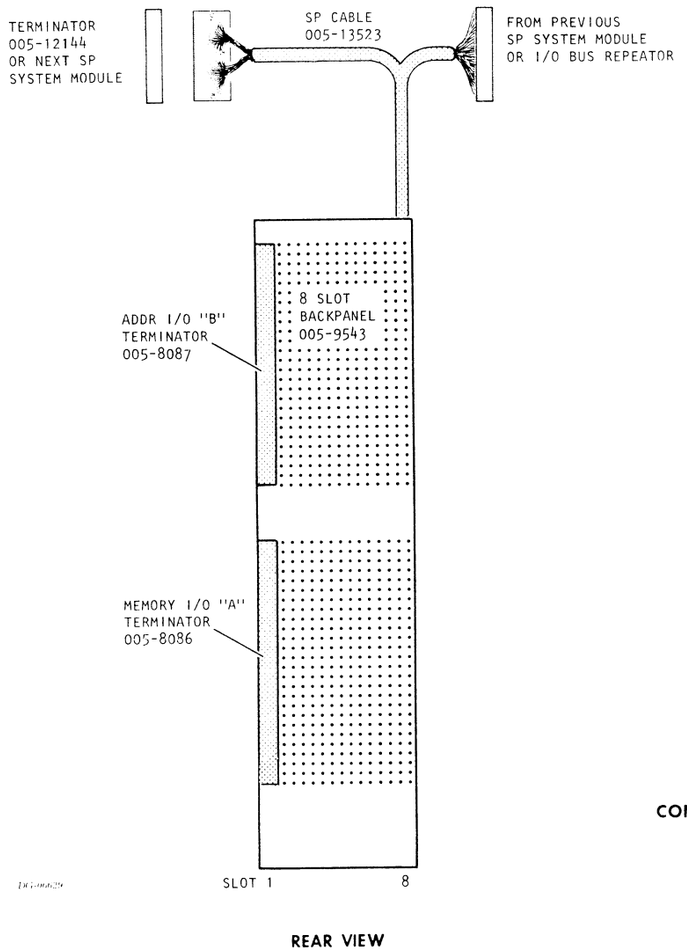


REAR VIEW

INTERNAL CABLING (CONT)

SP SYSTEM MODULE

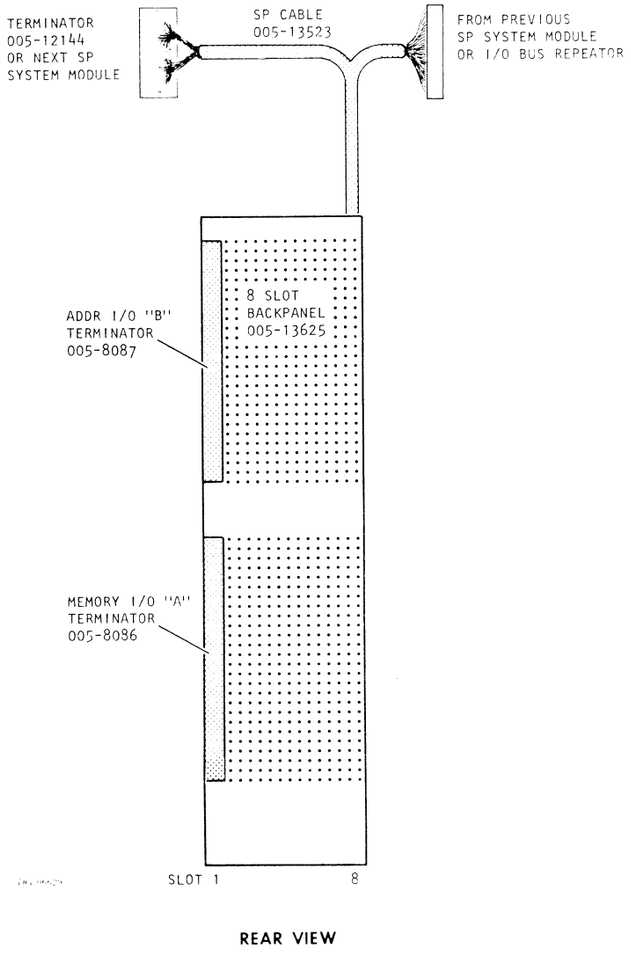
MODEL 8660



REAR VIEW

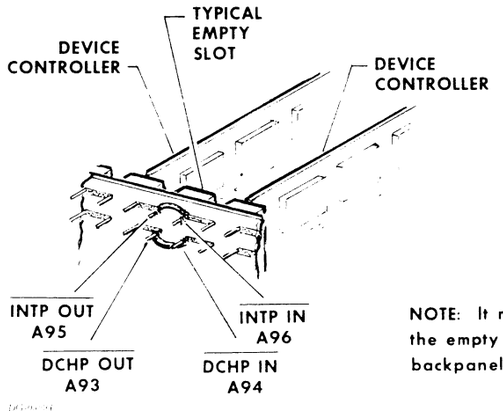
SP SYSTEM MODULE

MODEL 8661



REAR VIEW

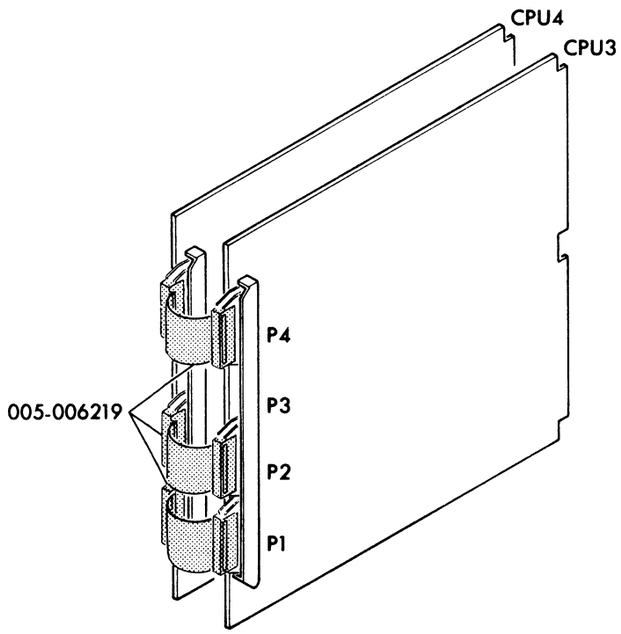
PRIORITY JUMPERING



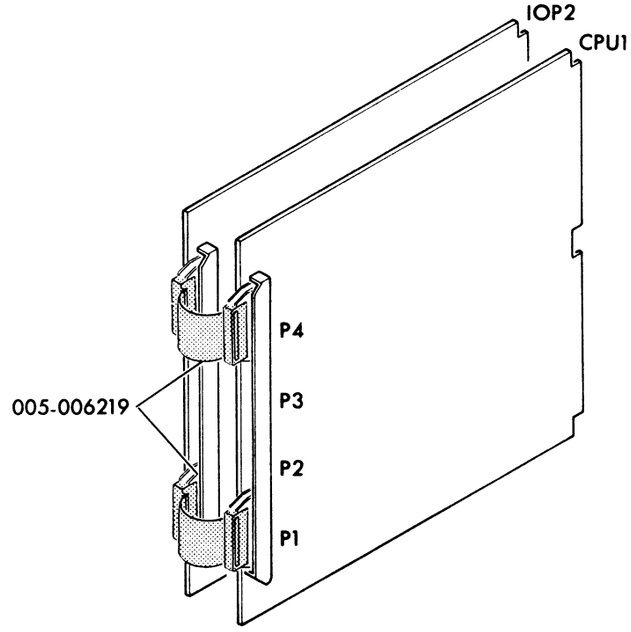
NOTE: It may be necessary to remove the empty slots' internal cable from the backpanel to jumper the priority chain.

INTERNAL CABLING (CONT)

CPU3 AND CPU4

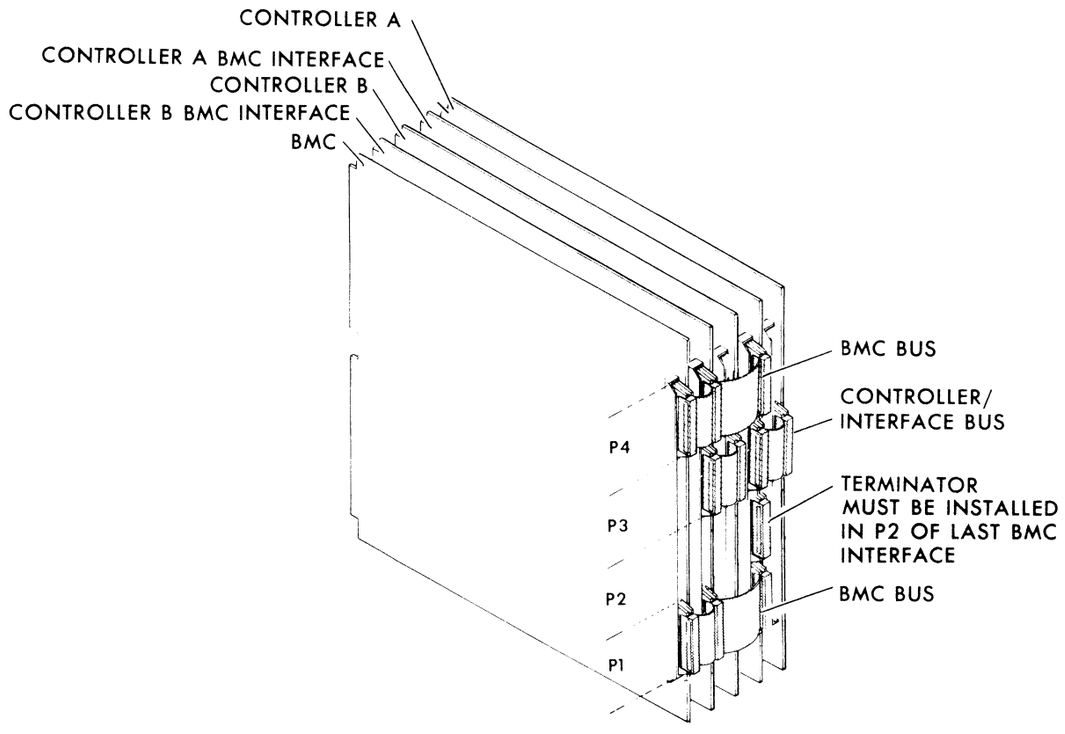


CPU1 AND IOP2

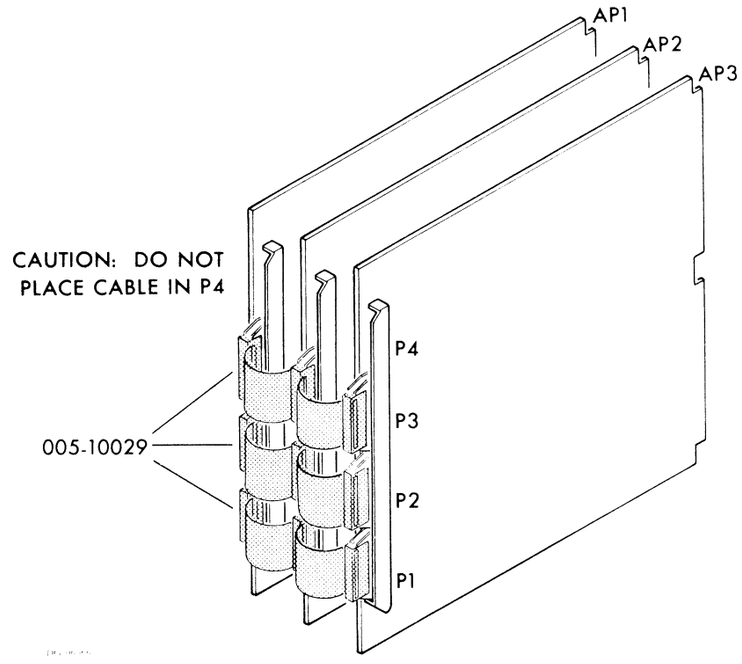


INTERNAL CABLING (CONT)

BMC AND BMC INTERFACE



AP1, AP2, AND AP3

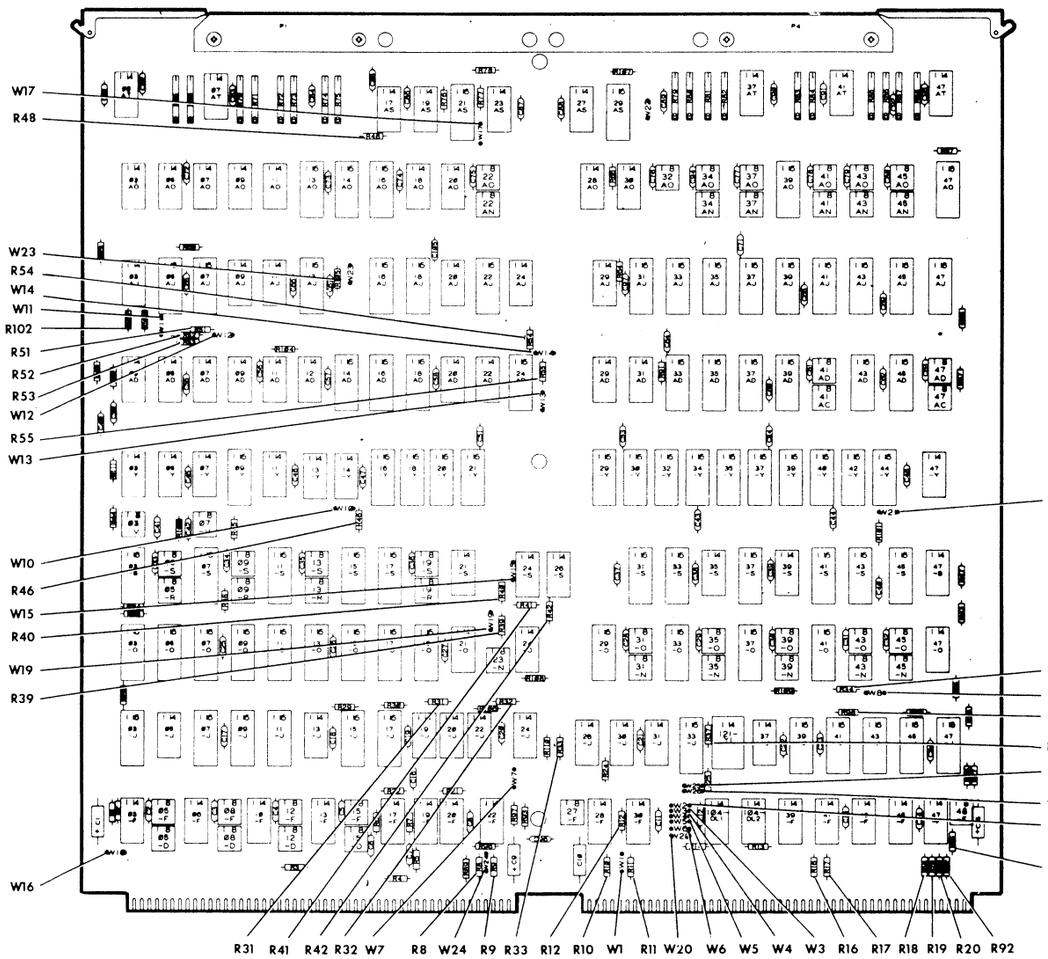


TAILORING

JUMPERING

BMC

Ref DGC No 003-000559 Rev 03



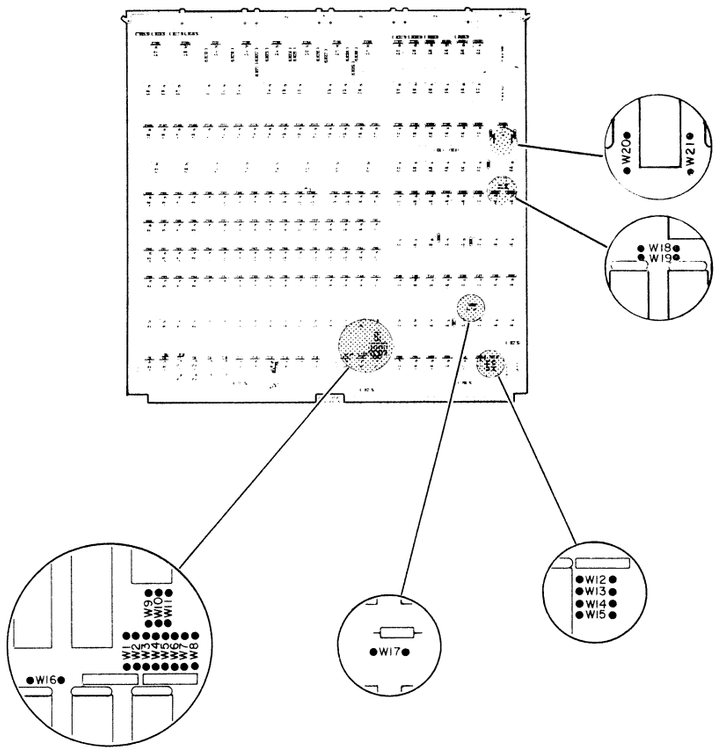
SCM LOC	DUMMY RES.	SIGNAL NAME	W/MPC
3A5	R8	SYSCLKC	OUT
3A5	R9	SYSCLKD	OUT
3A5	R10	SYSCLKS	OUT
3A5	R11	SYSCLKN	OUT
3B5	R12	SYSCLK	IN
3D6	R15	PMC1	IN
3D6	R16	PMC3	IN
3C6	R17	PMC4	IN
3D2	R18	APORT0	IN
3C2	R19	DPORT0	IN
3C2	R20	APORT1	IN
2A6	R31	AOMEM	IN
2B4	R32	PHASE/PHASE	IN
2D4	R33	HSCMC1	IN
3C5	R34	PHASE/PHASE	IN
3A8	R37	SYSCLK	IN
4D6	R39	AOMEM	IN
4D8	R40	PHASE/PHASE	IN
3D4	R41	HSCAMD	IN
3C4	R42	HSCMMD	IN
2D5	R46	PHASE/PHASE	IN
2C4	R48	AOMSIN	IN
2C3	R51	PHASE/PHASE	IN
2B3	R52	SET ENAOMEM	IN
2B3	R53	SET ENAOMEM	IN
2B2	R54	PHASE/GND	IN
2B2	R55	AOMEM/PHASE	IN
3C2	R92	DPORT1	IN
3D5	R98	AOMC1/HI	IN
2D5	R102	STOP/HI	IN
3B5	W1	SYSCLK/SYSCLKN	OUT
3B6	W2	SKW CLK	INSERT ONE
3B6	W3	SKW CLK	TO MAKE DPORT1
3B6	W4	SKW CLK	TOGGLE AT
3B6	W5	SKW CLK	SYSCLK FALLING
3B6	W6	SKW CLK	EDGE PLUS
3B6	W20	SKW CLK	5 TO 10 NS.
2B3	W7	PHASE/PHASE	OUT
3C5	W8	PHASE/PHASE	OUT
2D5	W10	PHASE/PHASE	OUT
2B3	W11	SET ENAOMEM/GND	OUT
2C3	W12	PHASE/PHASE	OUT
2B2	W13	AOREM/PHASE	OUT
2B2	W14	PHASE/GND	OUT
4D7	W15	PHASE/PHASE	OUT
3B4	W16	ECC LOAD	OUT
2C4	W17	HSC MS IN	OUT
4D6	W19	AOMEM/PHASE	OUT
1C8	W23	ROM ADDR X1	OUT
8D7	W21	HSCOUT/HI	OUT
3A5	W24	SYS CLKC	IN
2B5	W25	GND	OUT
2B5	W26	AOMC1	IN

TAILORING (CONT)

JUMPERING

AP1

Ref DGC No 003-000745



		#8661	#8644 W/ BMC	#8644 W/O BMC
W1	256K	OUT		
W2	512K	OUT		
W3	128K	OUT		
W4	64K	OUT		
W5	32K	OUT		
W6	16K	IN		
W7	8K	IN		
W8	4K	IN		
W9		OUT	IN	OUT
W10		IN	OUT	IN
W11		OUT	IN	OUT
W12		OUT	OUT	OUT
W13		OUT	IN	IN
W14		OUT	OUT	OUT
W15		IN	OUT	OUT
W16		IN	OUT	IN
W17		IN	OUT	OUT
W18		IN	IN	OUT
W19		OUT	OUT	IN
W20		IN	IN	IN
W21		IN	IN	IN

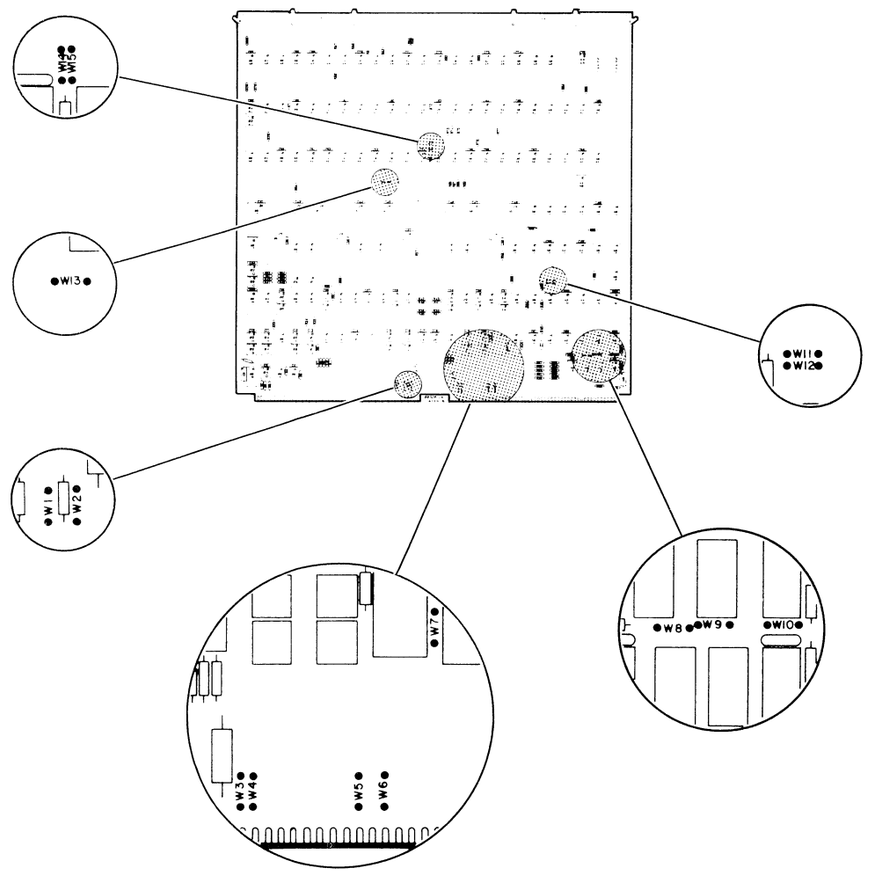
SELECT THE STARTING ADDRESS OF A.P. MEMORY

TAILORING (CONT)

JUMPERING

CPU1

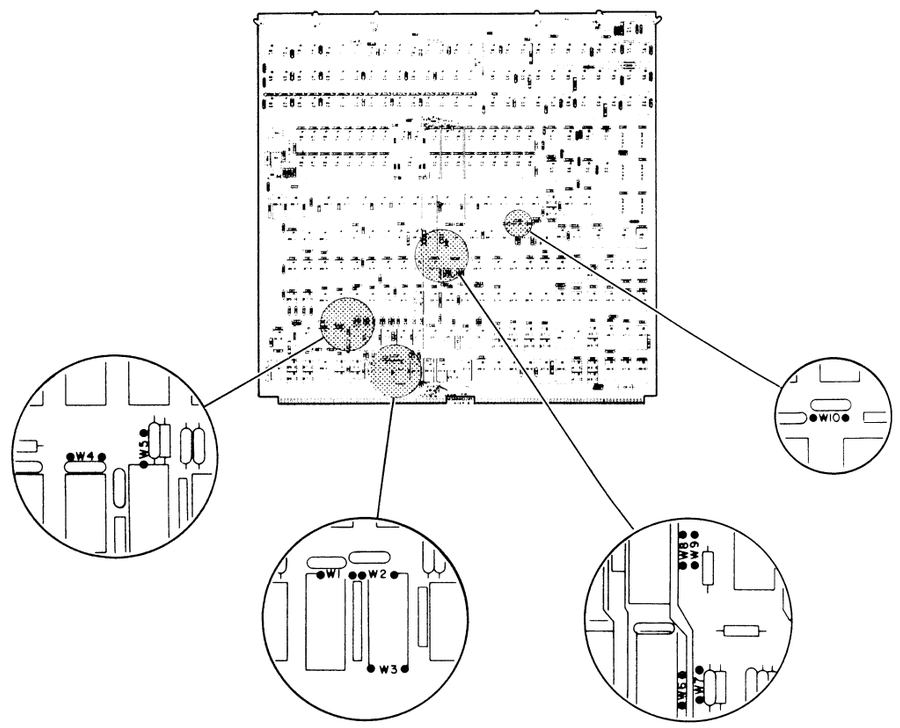
Ref DGC No 003-000261



	#8660 OR #8661
W1 - W2	OUT
W3 - W4	IN
W5 - W6	OUT
W7 - W12	IN
W13 - W14	OUT
W15	IN

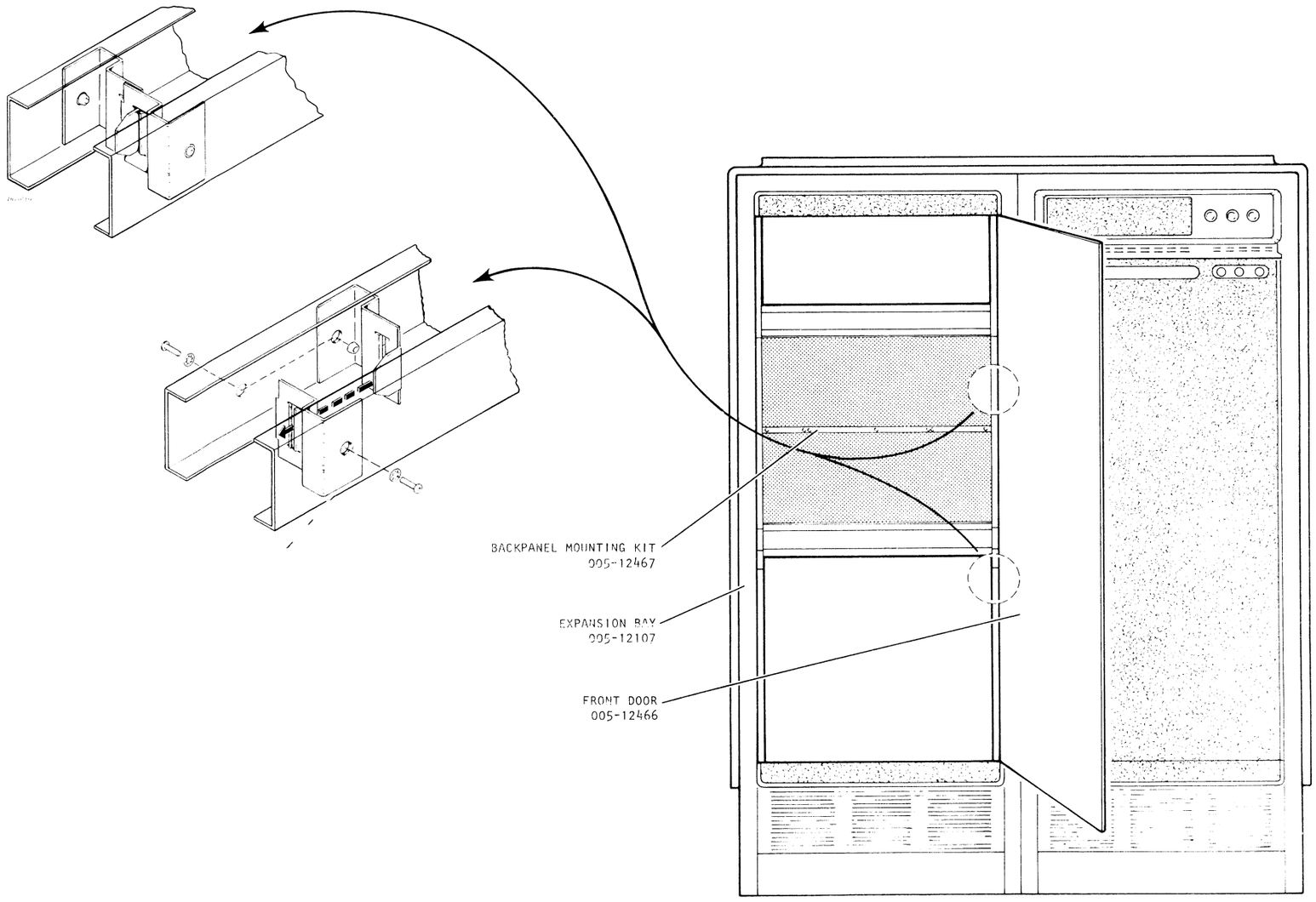
IOP2

Ref DGC No 003-000632



	#8660	#8661	
W1			DS5) SELECTS DEVICE
W2			DS4) CODES 60_8-67_8
W3			DS3) (DS5 IS L.S.B.)
W4	IN	IN	
W5	OUT	OUT	
W6	OUT	OUT	
W7	IN	IN	
W8	OUT	OUT	
W9	IN	IN	
W10	OUT	IN	

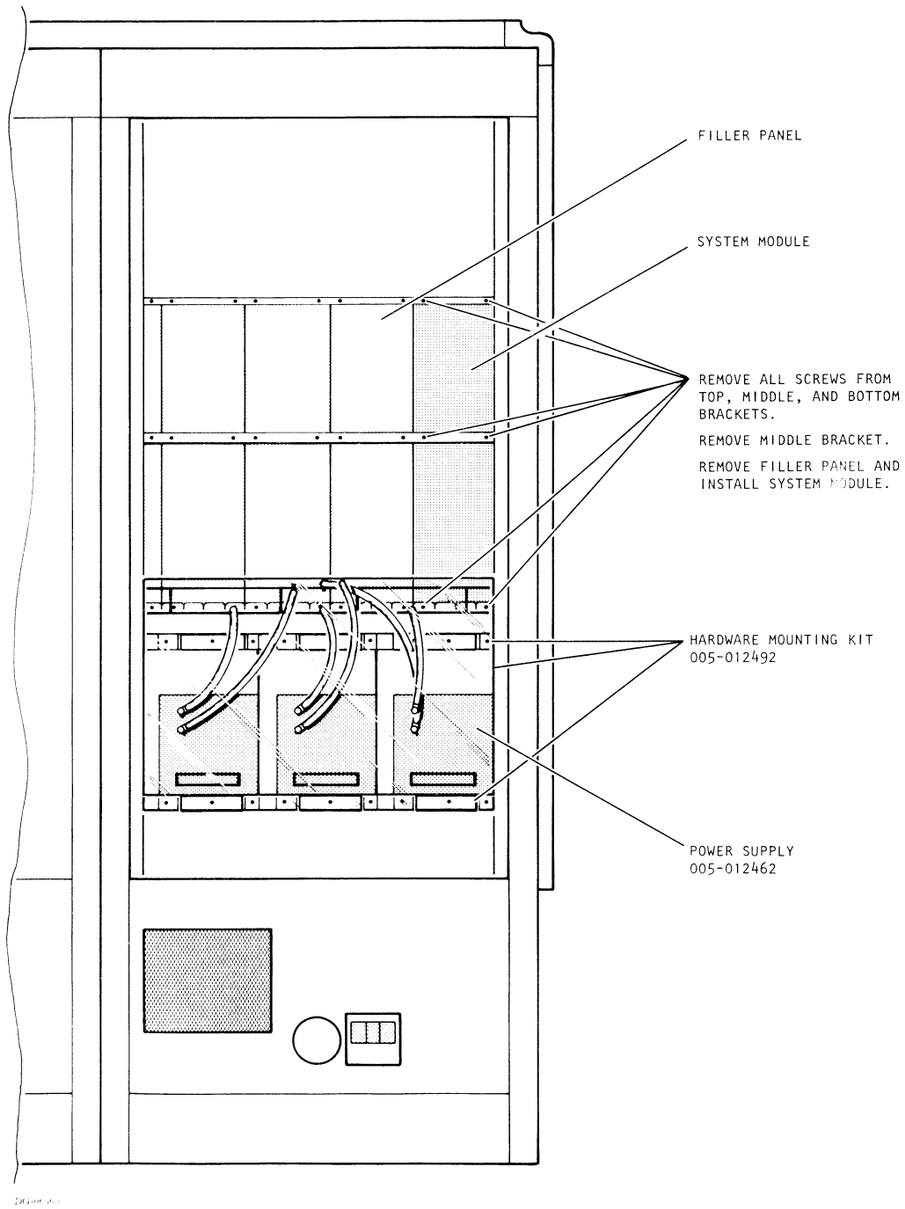
EXPANSION BAY MOUNTING



FRONT VIEW

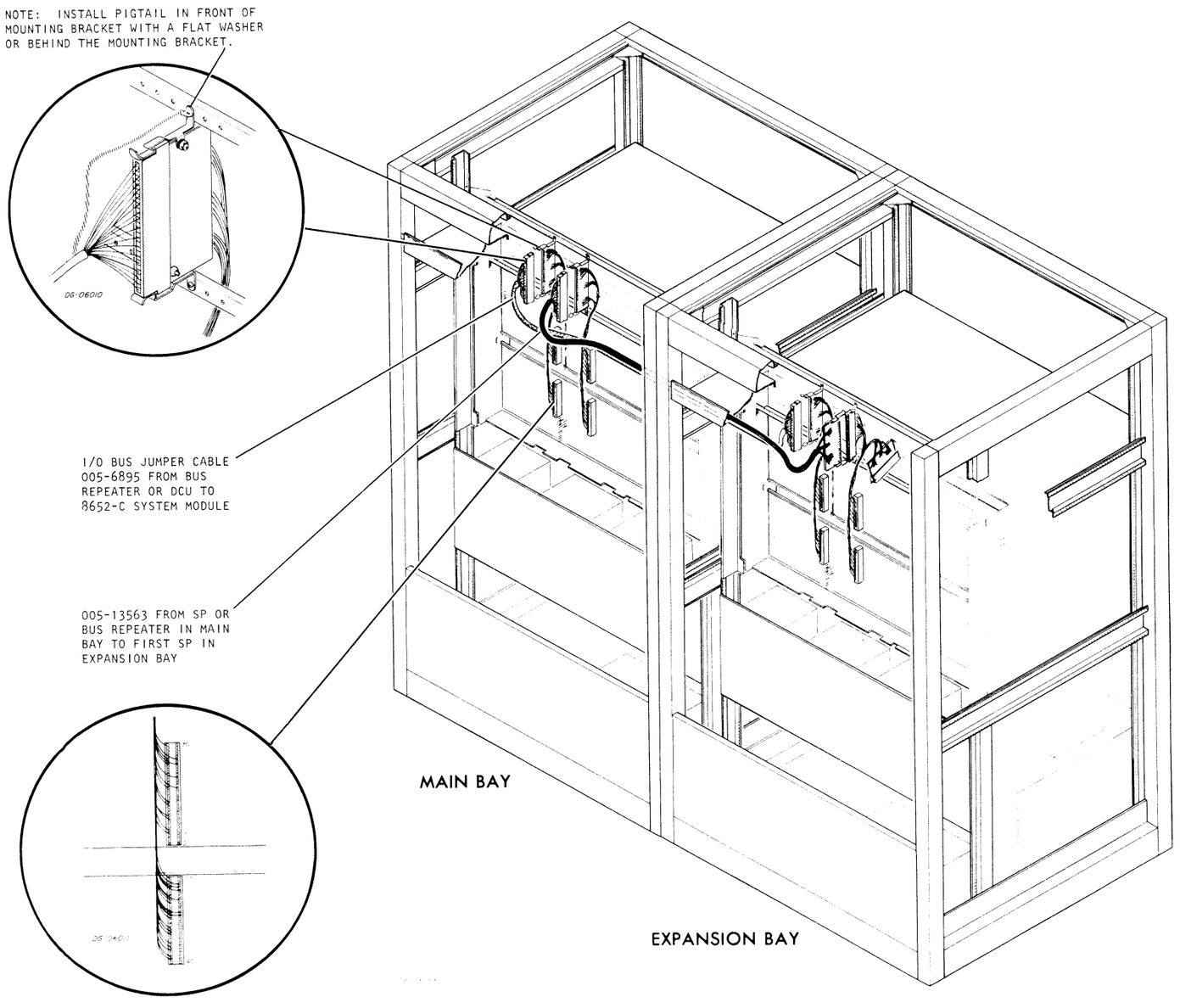
NOTE: EXPANSION BAY CAN NOT BE ADDED TO
A 3-BAY S/250 OR C/350 SYSTEM

SYSTEM MODULE AND BOOSTER POWER SUPPLY MOUNTING



REAR VIEW

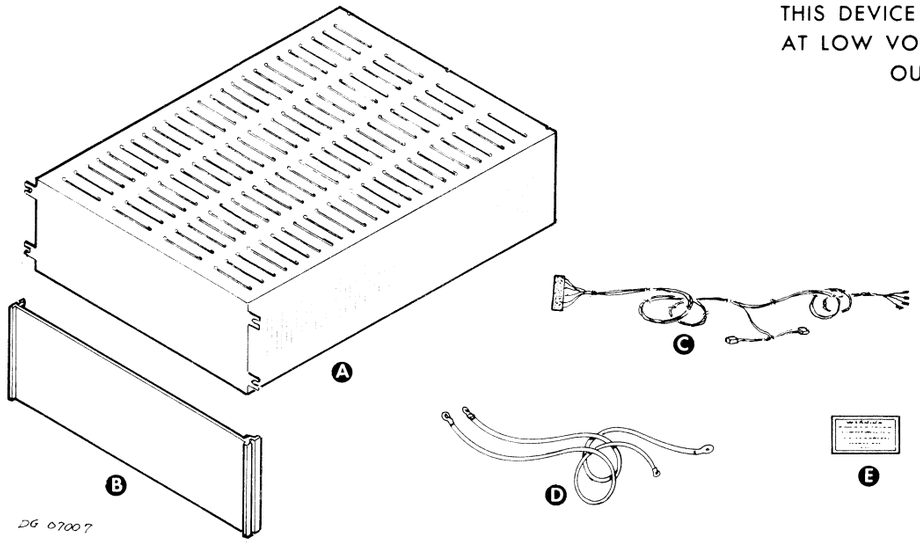
EXTERNAL CABLING



INSTALLATION SPECIFICATIONS

WARNING

THIS DEVICE CONTAINS HIGH ENERGY
AT LOW VOLTAGE - DO NOT SHORT
OUTPUT TERMINALS



MAJOR COMPONENTS

ITEM	COMPONENT	MOUNTING LOCATION	NOTES
A	BATTERY BACKUP CHASSIS	CABINET	REQUIRED MOUNTING LOCATIONS: AREAS 3-16 OF BAY ADJACENT TO CPU-REQUIRES 3 1/2" AIR SPACE ABOVE CHASSIS
B	FRONT PANEL	CABINET	005-014922

NOTE: FOR PROPER OPERATION, THE POWER CONTROL BOARD (005-0089250) MUST BE AT REV 06 OR ABOVE.

CABLE

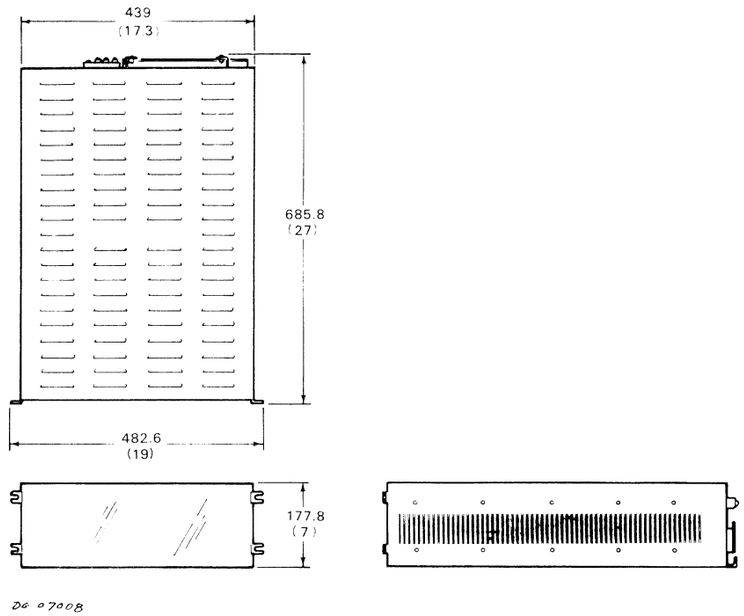
ITEM	CABLE	CONNECTING	MAX LG FT / M	NOTES
C	SIGNAL CABLE	BBU AND POWER CONTROL	NA / NA	005-014685
D	POWER CABLES	BBU AND CPU POWER SUPPLIES	NA / NA	005-014687

LABEL

ITEM	LABEL	LOCATION	NOTES
E	WARNING LABEL	REAR DOOR, CPU BAY ABOVE HANDLE	

WARNING - FOR CONTINUED PROTECTION AND PERFORMANCE, REPLACE BATTERY WITH SAME TYPE INDICATED IN SERVICE MANUAL.

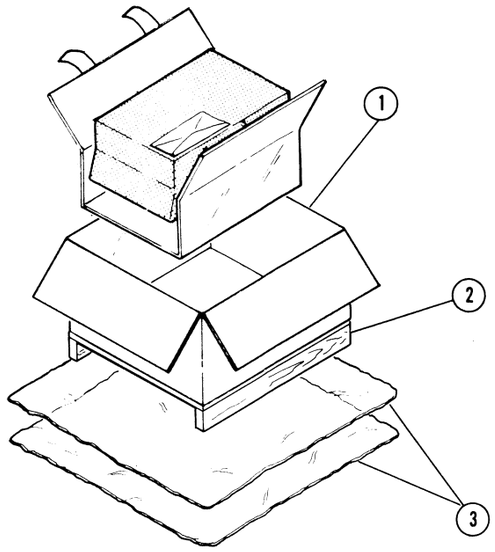
AVERTISSEMENT - POUR ASSURER UNE PROTECTION CONTINUE ET UNE BONNE PERFORMANCE, LA BATTERIE DE RECHANGE DOIT ETRE DU TYPE INDIQUE DANS LA NOTICE TECHNIQUE.



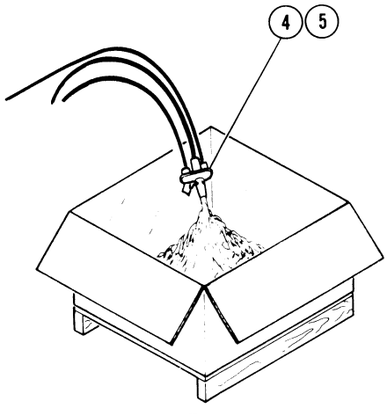
DIMENSIONS IN MILLIMETERS
INCHES IN PARENTHESES FOR REFERENCE

DIMENSIONS:	**Width**	**Depth**	**Height**
Millimeters	482.6	685.8	177.8
Inches	19	27	7
SERVICE CLEARANCES:	**Front**		
Millimeters			
Inches			
WEIGHT:			
Kilograms	36.75		
Pounds	81		
HEAT OUTPUT:	**Watts**	**BTU/hr**	
Standby Mode	60	205	
OPERATING ENVIRONMENT:			
Temperature	0°C (32°F) to 45°C (110°F)		
Relative Humidity	10% to 90%		
Operating Altitude (Max)	10,000 ft		
Non-operating altitude (Max)	50,000 ft		
POWER:			
DC Requirements	+5V @ 7A		
	+15V @ 1.5A		
	-5V @ 0.5A		
DC Power Supplied for 2 Minutes	+5V @ 270A		
	+15V @ 20A		
	-5V @ 10A		
No AC Power Requirements			
CHARGING TIME:			
From Full Discharge	16 Hrs.		

SHIPPING



A



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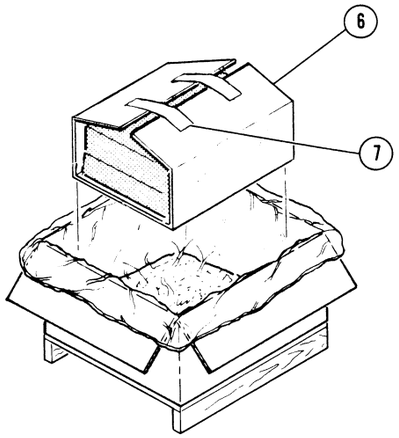

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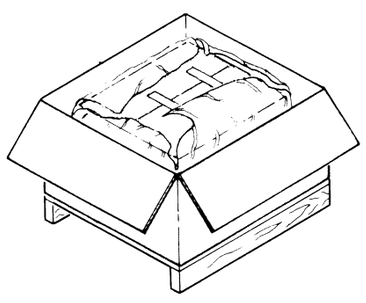
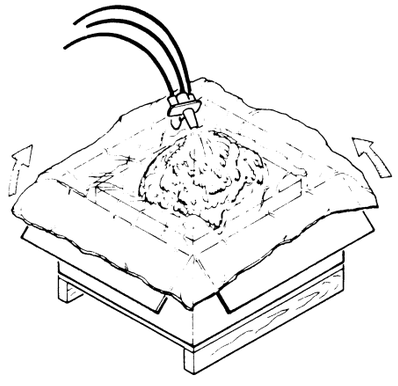
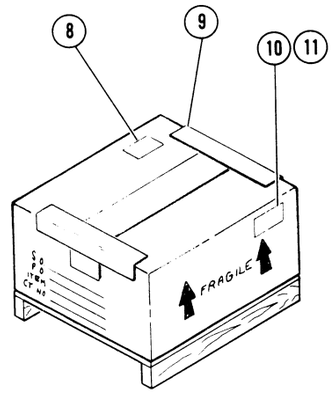


D



E



F

GENERAL PROCEDURE FOR FOAM-IN-PLACE PACKAGING

A. SET UP CARTON.
CUT 2 SHEETS OF POLYTHYLENE FILM 6 FEET LONG.
WRAP PRODUCT IN SLEEVE AND CLOSE WITH PERMACEL TAPE.

B. SPRAY FOAM INTO BOTTOM OF CARTON TO FORM 4-INCH THICK CUSHION.

C. AS FOAM RISES, PLACE POLYFILM OVER FOAM, AND PRODUCT OVER FILM.

D. WRAP EXCESS FILM AROUND PRODUCT.

E. PLACE THE SECOND SHEET OF FILM OVER THE PRODUCT.
MAKE CERTAIN THAT THE FILM CONFORMS TO SPACES AROUND THE PRODUCT.
SPRAY FOAM AROUND AND OVER THE PRODUCT. AS THE FOAM EXPANDS, FOLD THE FILM AND CARTON FLAPS OVER IT, FORMING A MOLDED CAP.
OPEN AND INSPECT FOR VOIDS. FILL ANY VOIDS.

F. CLOSE AND SEAL CARTON. APPLY LABEL AND COVER WITH CLEAR SCOTCH TAPE.

ELEMENTS OF SHIPPING PACKAGE
(044)

ITEM	DESCRIPTION	PART NO.	QTY
1	HSC 32.31 x 21.375 x 12	129-000494	1
2	GENERAL TRANSPORTER PALLET	129-000493	1
3	POLYFILM 100"	129-000315	A/R
4	PART "A" FOAM IN PLACE (LB.)	129-000319	1.7
5	PART "B" FOAM IN PLACE (LB.)	129-000320	1.7
6	SLEEVE	129-000326	
	SLEEVE	129-000321	1
7	PERMACEL TAPE	129-000026	1FT
8	PKG LIST ENVELOPE	129-000042	1
9	TAPE	129-000027	A/R
10	DGC SHIPPING LABEL	129-000030	1
11	CLEAR SCOTCH TAPE	129-000051	2FT

INTERNAL CABLING

WARNING

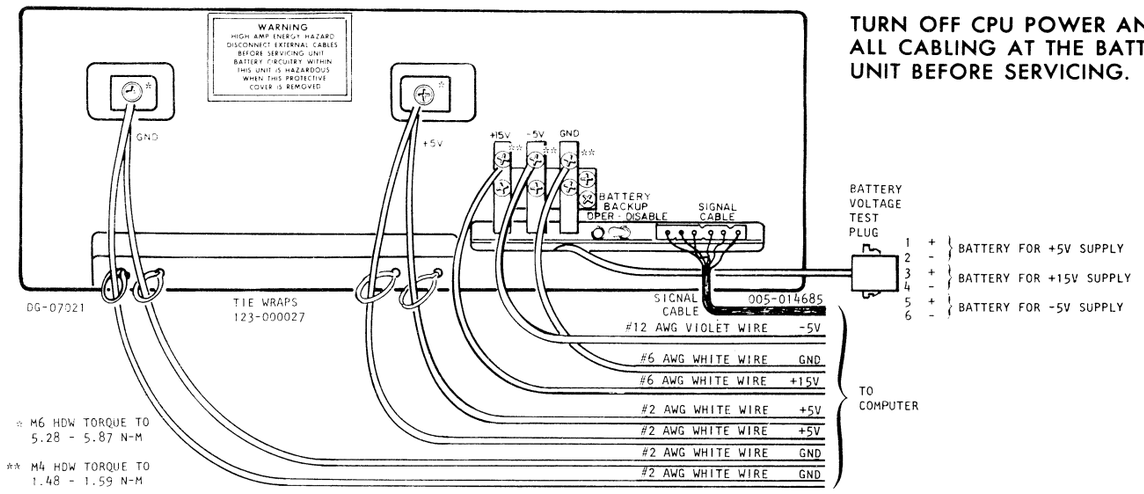
THIS DEVICE CONTAINS HIGH ENERGY AT LOW VOLTAGE - DO NOT SHORT OUTPUT TERMINALS WHILE IN USE.

BE SURE OPER-DISABLE SWITCH IS IN DISABLE POSITION BEFORE SERVICING OR CABLING UNIT.

TURN OFF CPU POWER AND DISCONNECT ALL CABLING AT THE BATTERY BACKUP UNIT BEFORE SERVICING.

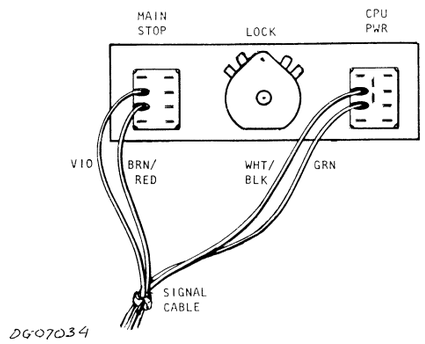
CABLING TO BATTERY BACKUP UNIT

REAR VIEW



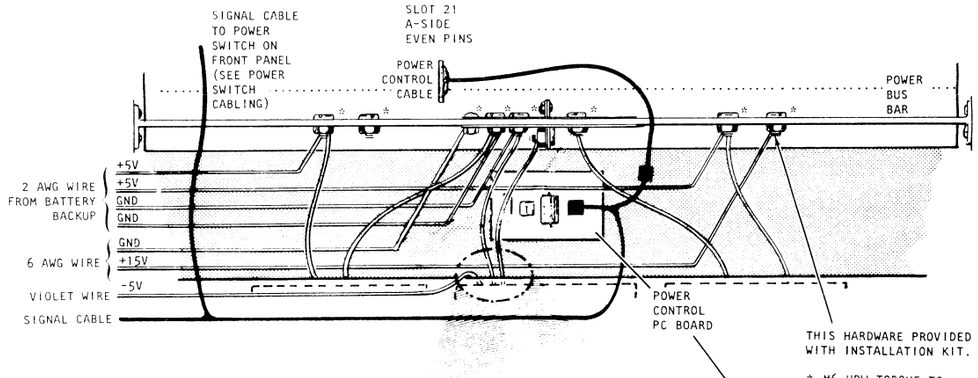
POWER SWITCH CABLING

REAR VIEW



CABLING TO M/600 COMPUTER

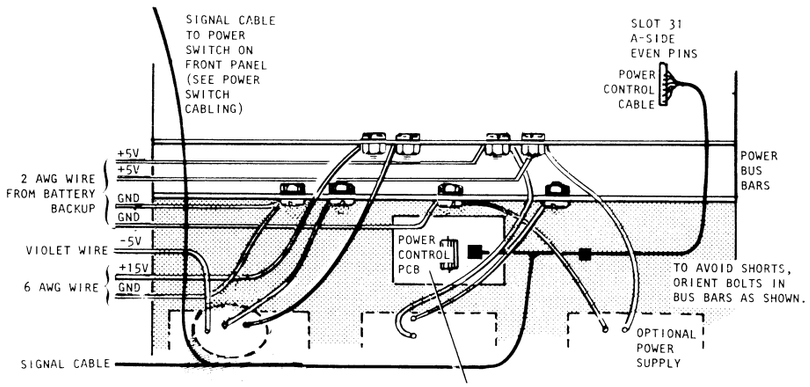
REAR VIEW



DG-07028

CABLING TO S/250 OR C/350 COMPUTER

REAR VIEW

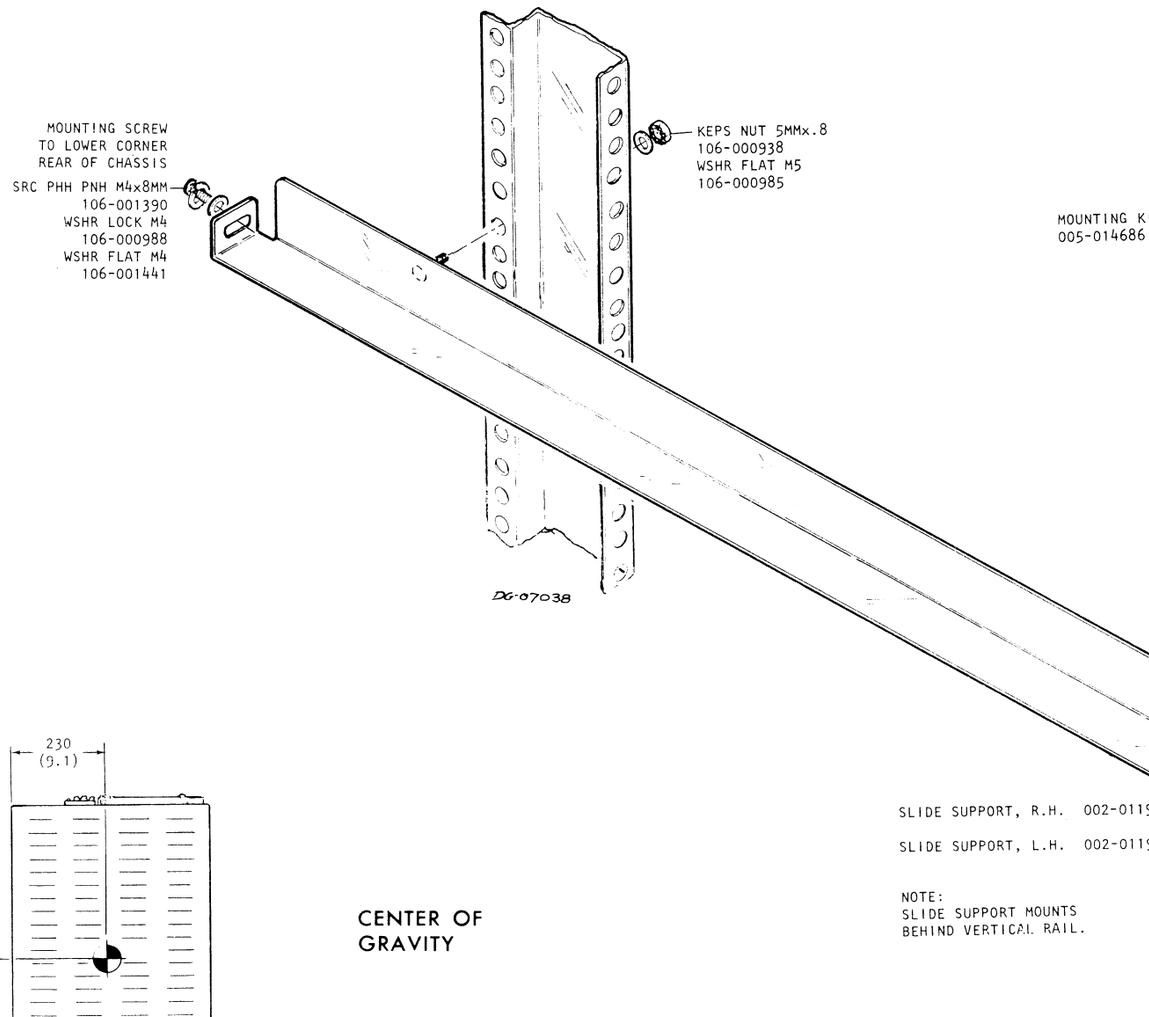


DG-07029

CABINET MOUNTING

WARNING

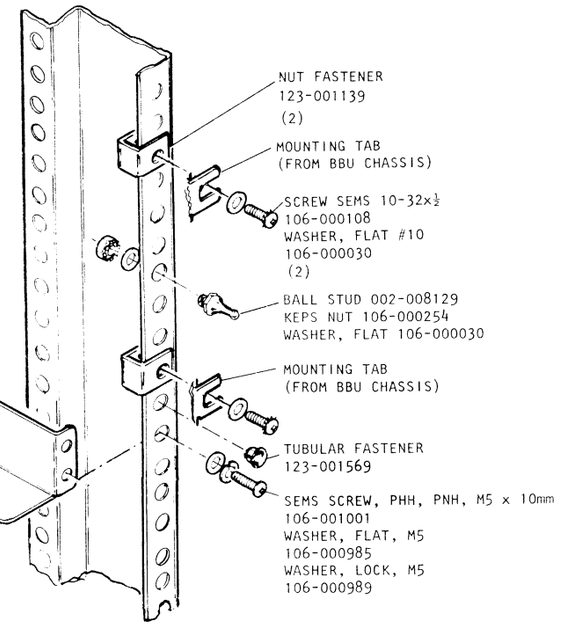
UNIT WILL TIP IF EXTENDED ON RAILS BEYOND CENTER OF GRAVITY.



MOUNTING KIT
005-014686

NOTE:

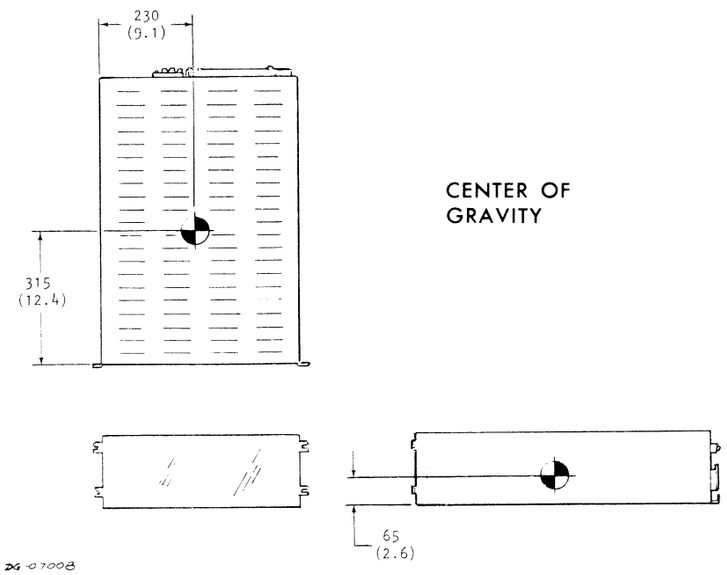
REQUIRED MOUNTING LOCATION - AREAS 3-16 OF BAY ADJACENT TO CPU, AND REQUIRES 3 1/2" AIR SPACE ABOVE CHASSIS.



SLIDE SUPPORT, R.H. 002-011948

SLIDE SUPPORT, L.H. 002-011950

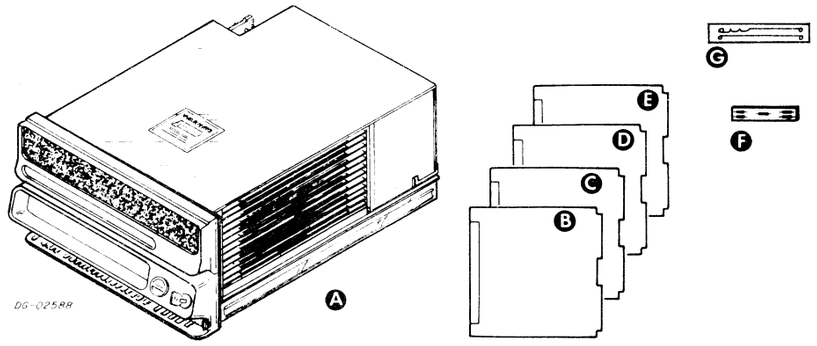
NOTE:
SLIDE SUPPORT MOUNTS BEHIND VERTICAL RAIL.



CENTER OF GRAVITY

DIMENSIONS IN MILLIMETERS
INCHES IN PARENTHESES FOR REFERENCE.

INSTALLATION SPECIFICATIONS



MAJOR COMPONENT

Item	Component	Mounting Location	Notes
A	MAIN CHASSIS	CABINET	1144A CABINET IS STANDARD. SEE 010-000204
B	CPU-1	MAIN CHASSIS	
C	CPU-2	MAIN CHASSIS	
D	MMPU1	MAIN CHASSIS	
E	4075	MAIN CHASSIS	SEE 010-000115

TERMINATOR

Item	Terminator	Location	Notes
F	I/O BUS PADDLEBOARD TERMINATOR	BACKPANEL	PLACED ON P3 OF B/P WHEN NO I/O CABLE CONNECTED TO P3
G	ADDRESS TERMINATOR	BACKPANEL	PLACED ON B SIDE SLOT 12

CHASSIS SLOT ASSIGNMENTS

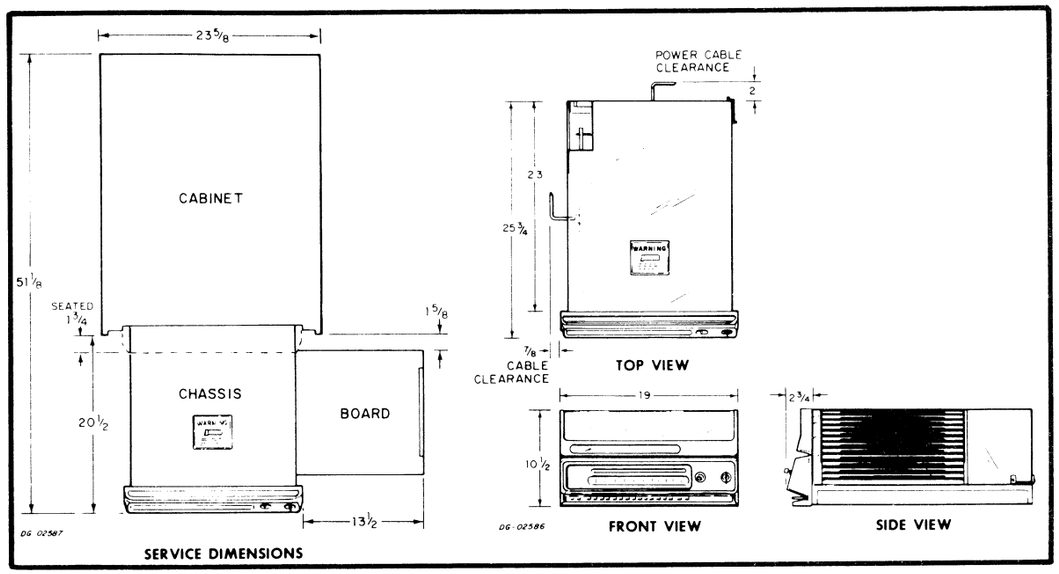
Data Channel Speeds Available: Standard ☒ High Speed ☐

Slot	Allowed (Slot Chart)	Assigned	+5V Current Draw
12	MEMORY		
11	MEMORY OR I/O		
10	↕		
9			
8	MEMORY OR I/O		
7	4075		
6	MEMORY OR I/O		
5	MEMORY OR I/O		
4	MEMORY OR I/O		
3	MMPU1		
2	CPU-2		
1	CPU-1		

Total +5V Current draw _____

Max +5V Current Available 60A

+5V Current Surplus _____



SPECIFICATIONS

DIMENSIONS:	Width	Depth	Height
Millimeters	483	654	267
Inches	19	25.75	10.5

SERVICE CLEARANCES:	Front	Rear	Right	Left
Millimeters	914.4	914.4	609.6	609.6
Inches	36	36	24	24

WEIGHT:	Empty	Fully Loaded
Kilograms	48.18	59
Pounds	106	130

HEAT OUTPUT:

1050 watts (3580.5 BTU/hr)

POWER REQUIREMENTS:

(Domestic)

Voltage (47-63Hz)	105/130V
Max Amp per Phase	8.75
Startup Surge per Phase	100A
Phase	1

(Export)

Voltage (47-63Hz)	85/110V	205/230V	225/250V
Max Amp per Phase	10.5	4.77	4.38
Phase	1	1	1
Startup Surge per Phase	100A	100A	100A

OPERATING ENVIRONMENT:

Temperature (max)	45 degC (113degF)
Relative Humidity (max)	90%

CABLES:	Length	Conn	Mating Conn
Primary Power			
100/120V	1.8m(6')	5-15P	5-15R
220/240V	1.8m(6')	6-15P	6-15R

PREFERRED LOCATION: Areas 11-16

CPU DESIGNATOR:

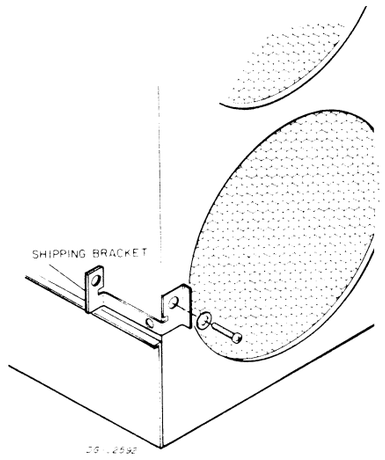
DESIGNATOR NUMBER: 083
DESIGNATOR RANGE: 05-12

SHIPPING

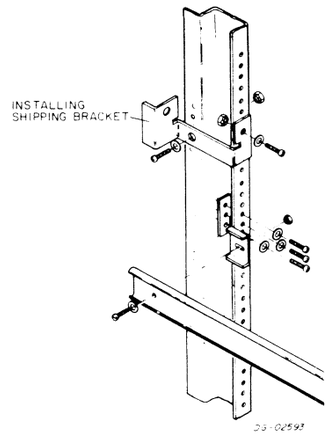
FOR PACKING PROCEDURE,
SEE 010-000262/263

SHIPPING SPECIFICATIONS			STORAGE SPECIFICATIONS		
Temperature Range °F / °C	Relative Humidity (Non-condensing)	Maximum Altitude	Temperature Range °F / °C	Relative Humidity (Non-condensing)	Maximum Period
-40 to +150 / -40 to +65	0%/80%	50,000ft. 15,200m	-40 to +160 / -40 to +65	0%/80%	90 days

MOUNTING SHIPPING BRACKET TO CHASSIS

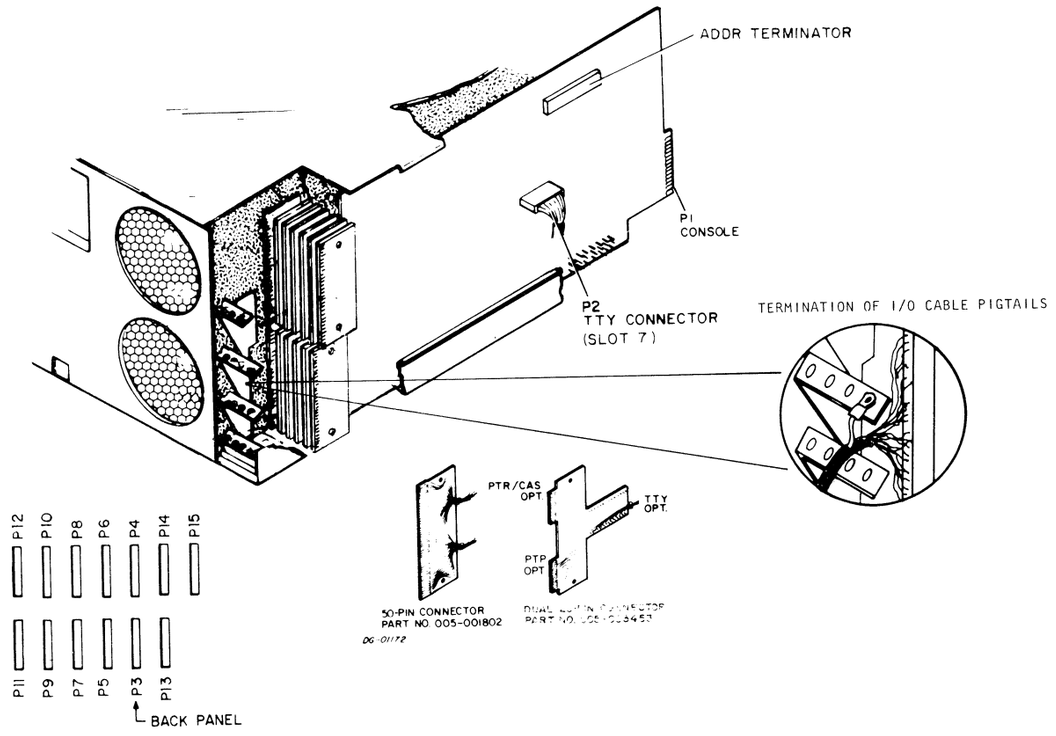


MOUNTING SHIPPING BRACKET TO RAILS



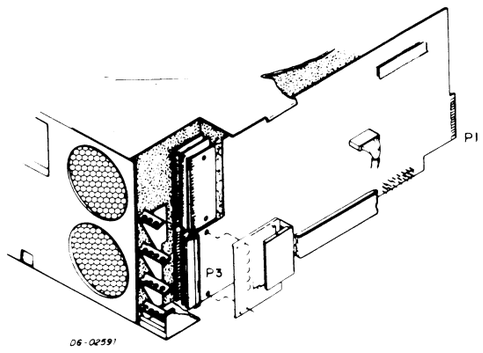
INTERNAL CABLING

BACKPANEL CONNECTORS



4083 OPTION CONNECTOR

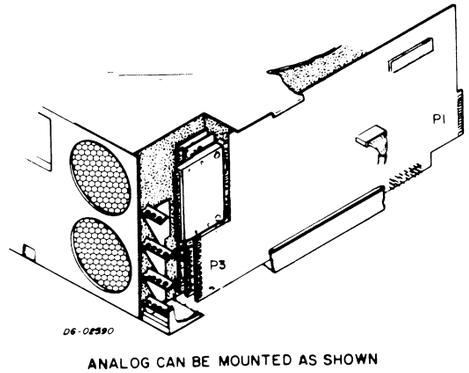
005 006040



CONNECTOR CAN BE MOUNTED ON TOP OR BOTTOM, ON PADDLEBOARD.

ANALOG PADDLEBOARD

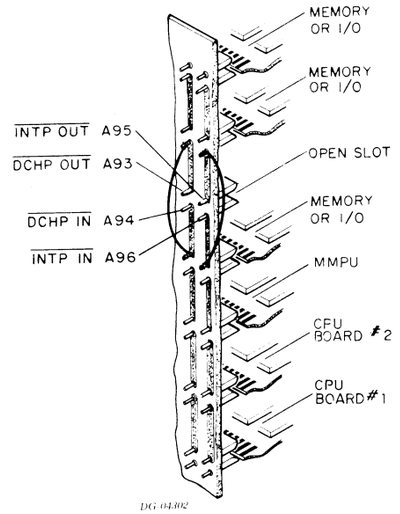
005 001371



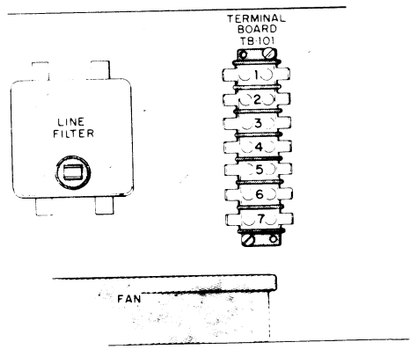
ANALOG CAN BE MOUNTED AS SHOWN

TAILORING

JUMPERING BACKPANEL



JUMPERING TRANSFORMER



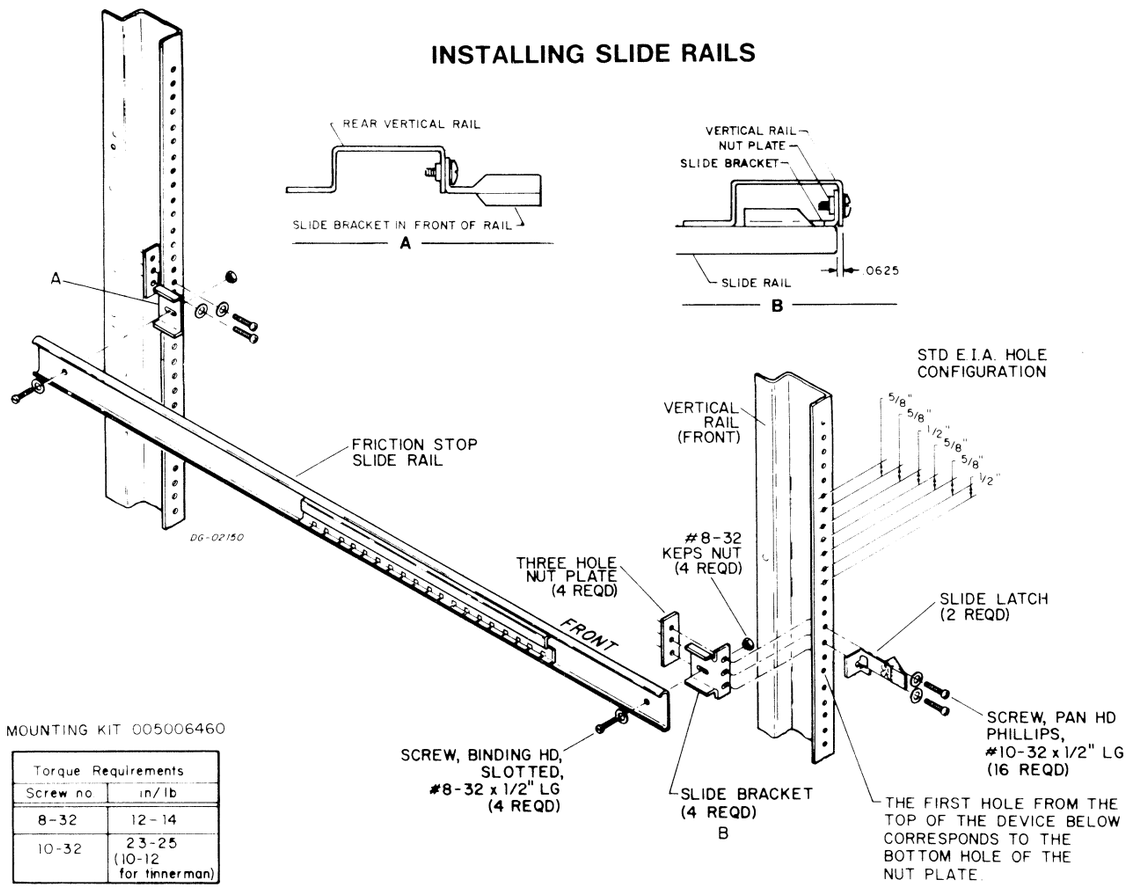
TB-101 SHOWN WITH ALL WIRING REMOVED FOR CLARITY IN IDENTIFYING CONNECTOR NUMBERS

TERMINAL BOARD JUMPERS TB-101 FOR TRANSFORMER

100 VAC	1-5, 2-6
120	1-4, 3-6
200	2-5
220	2-4
240	3-4

INSTALLATION IN A CABINET

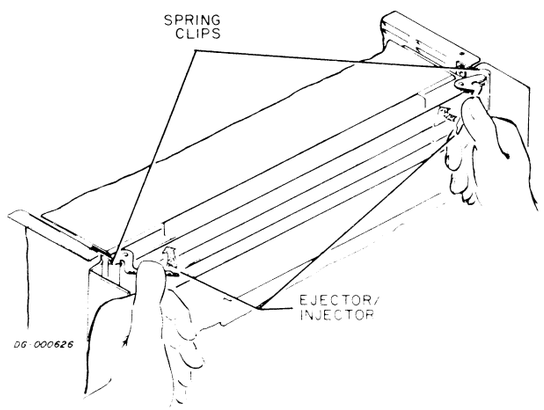
INSTALLING SLIDE RAILS



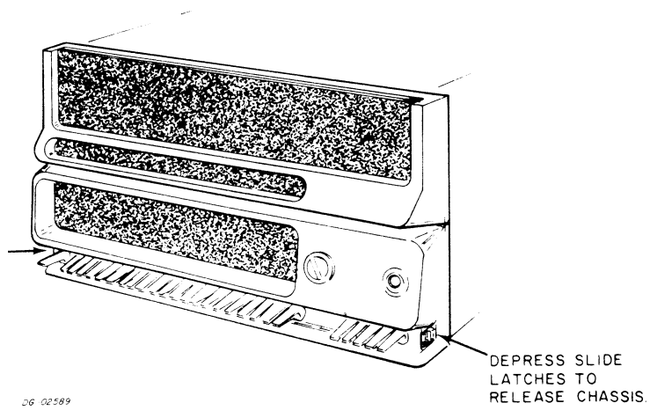
MOUNTING KIT 005006460

Torque Requirements	
Screw no	in/lb
8-32	12-14
10-32	23-25 (10-12 for tinnerman)

INSERTING PC BOARD

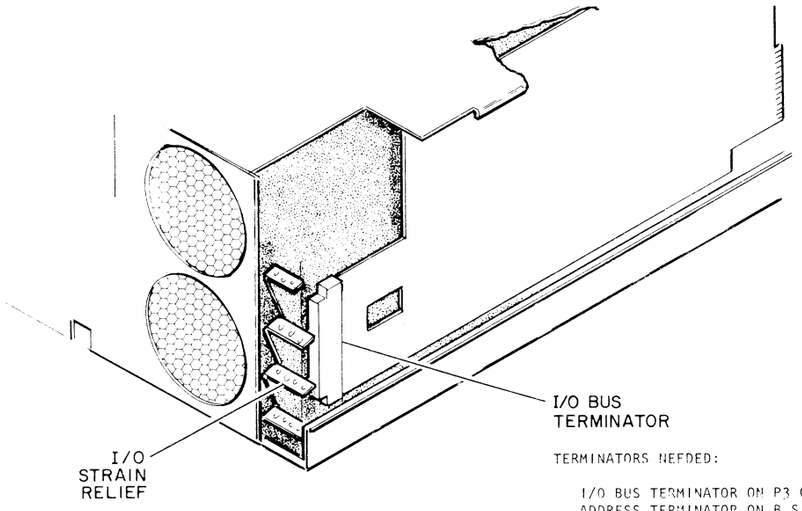


LATCH RELEASE



EXTERNAL CABLING

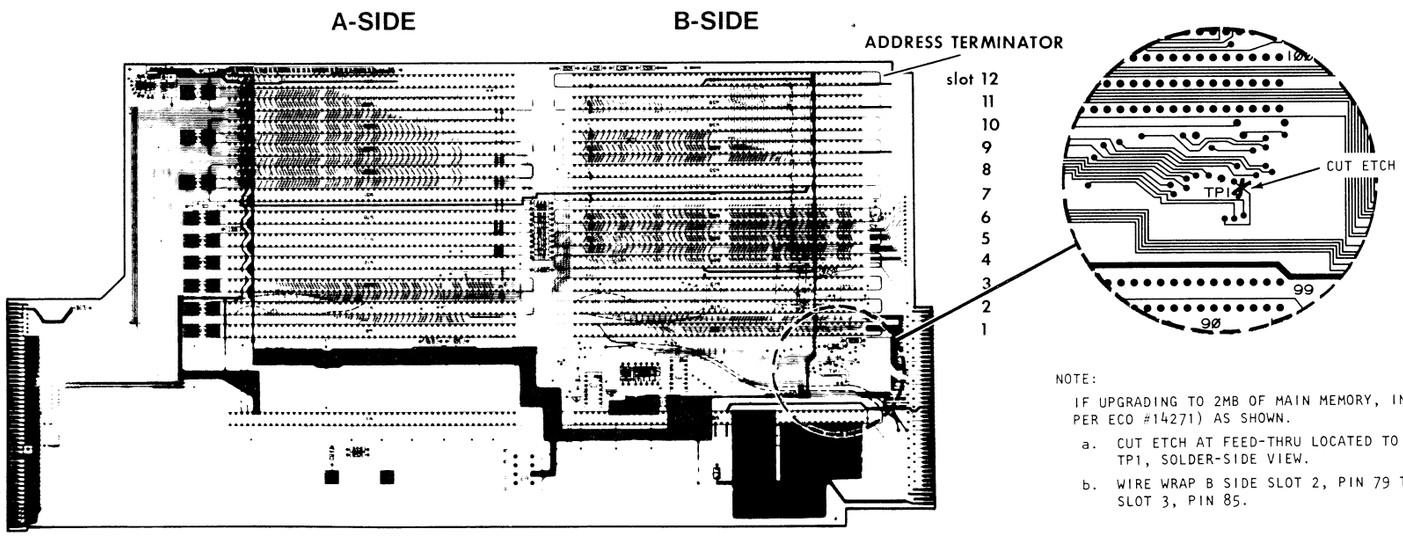
I/O BUS CABLE



TERMINATORS NEEDED:

I/O BUS TERMINATOR ON P3 OF BACKPANEL
ADDRESS TERMINATOR ON B SIDE SLOT 12

IF I/O BUS IS TO BE EXTENDED FROM THE MAIN CHASSIS TO AN EXTERNAL I/O DEVICE, I.E. COMMUNICATIONS CHASSIS , OR I/O EXPANSION CHASSIS, THE I/O BUS TERMINATOR IS REMOVED AND AN I/O CABLE IS PLUGGED ONTO P3 OF THE MAIN CHASSIS BACKPANEL AND CONNECTED TO THE I/O DEVICE.



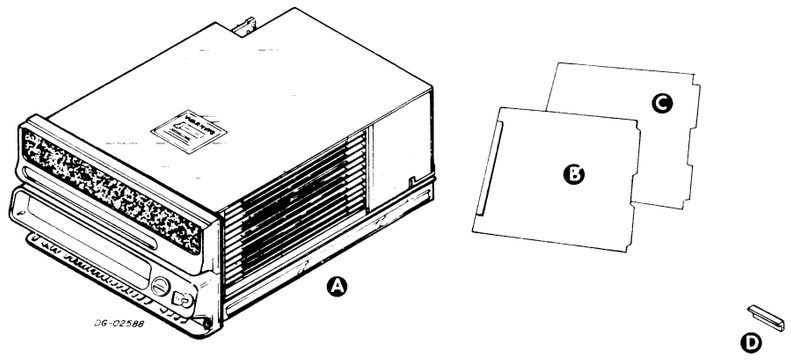
NOTE:

IF UPGRADING TO 2MB OF MAIN MEMORY, INSTALL (AS PER ECO #14271) AS SHOWN.

a. CUT ETCH AT FEED-THRU LOCATED TO RIGHT OF TP1, SOLDER-SIDE VIEW.

b. WIRE WRAP B SIDE SLOT 2, PIN 79 TO B SIDE SLOT 3, PIN 85.

SUBSYSTEM COMPONENT BREAKDOWN



MAJOR COMPONENT

Item	Component	Mounting Location	Notes
A	MAIN CHASSIS	CABINET	
B	CPU-1	MAIN CHASSIS	
C	CPU-2	MAIN CHASSIS	

Item	Terminator	Location	Notes
D	I/O BUS PADDLE BOARD TERMINATOR	BACKPANEL	PLACED ON P3 OF BACKPANEL WHEN NO I/O CABLE CONNECTED TO P3

CHASSIS SLOT ASSIGNMENTS

Data Channel Speeds Available: Standard ☑

Slot	Allowed (Slot Chart)	Assigned	+5V Current Draw
12	MEMORY		
11	MEMORY or I/O		
10			
9			
8	MEMORY or I/O		
7	4010, 4075 PREF		
6	MEMORY or I/O		
5	MEMORY or I/O		
4	MEMORY or I/O		
3	MMPU1		
2	CPU-2		
1	CPU-1		

Total +5V Current Draw _____

Max +5V Current Available 5.0A

+5V Current Surplus _____

SPECIFICATIONS OF THE CABINET-MOUNTED COMPONENTS

Item	Component	Number in Subsystem	Maximum Operating Temperature Component °F/°C	Maximum Operating Temperature Media °F/°C	Primary Power Volts	Hz	Phase	Cond	Amps	Cabinet Height Required Area	in.	cm	Weight lbs/kg	Power Dissipation (Max Watts)	Preferred Location or Remarks	Operating Humidity (Relative) min %/% max
A	S/130 100V		110 / 45		100 +10 -15	47-63	1	3	10.5	6	10.5	26.67	130 / 58.96	1050	AREAS 11-16	20 / 90
	120V		110 / 45		120 +10 -15	47-63	1	3	8.75	6	10.5	26.67	130 / 58.96	1050	AREAS 11-16	20 / 90
	220V		110 / 45		220 +10 -15	47-63	1	3	4.77	6	10.5	26.67	130 / 58.96	1050	AREAS 11-16	20 / 90
	240V		110 / 45		240 +10 -15	47-63	1	3	4.38	6	10.5	26.67	130 / 58.96	1050	AREAS 11-16	20 / 90

DG-01914

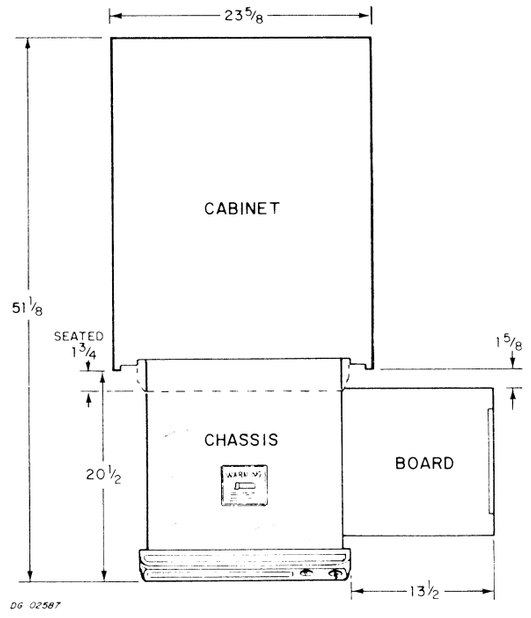
Voltage	Power Cable Length ft	Power Cable Length m	Power Cable Plug	Mating Receptacle on Power Drop	Mating Receptacle in Wall
100	6	1.8	5-15P	5-15R	5-15R
120	6	1.8	5-15P	5-15R	5-15R
220	6	1.8	6-15P	6-15R	6-15R
240	6	1.8	6-15P	6-15R	6-15R

DG-02717

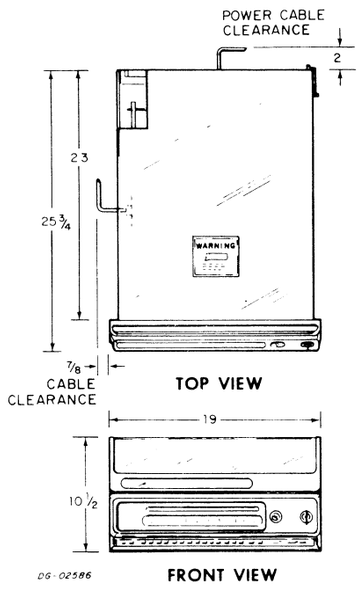
CPU DESIGNATOR:

Designator Number: 085
Designator Range: 05-12

SERVICE CLEARANCES	FRONT & REAR	LEFT & RIGHT
MM	914.4	609.6
IN	36	24

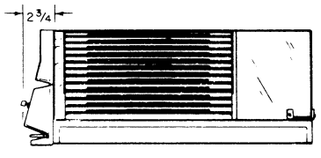


SERVICE DIMENSIONS



TOP VIEW

FRONT VIEW

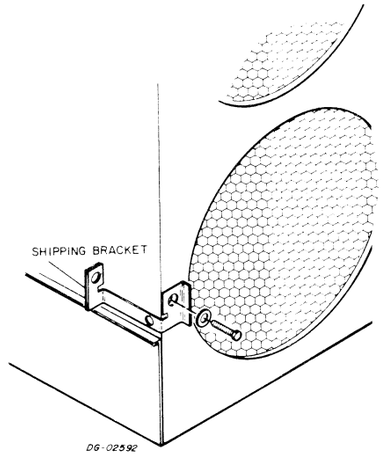


SIDE VIEW

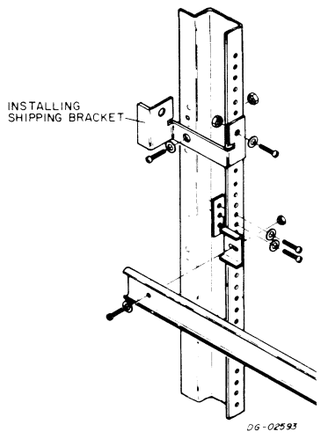
SHIPPING

FOR PACKING PROCEDURE,
SEE 010-000262/263

MOUNTING SHIPPING BRACKET TO CHASSIS

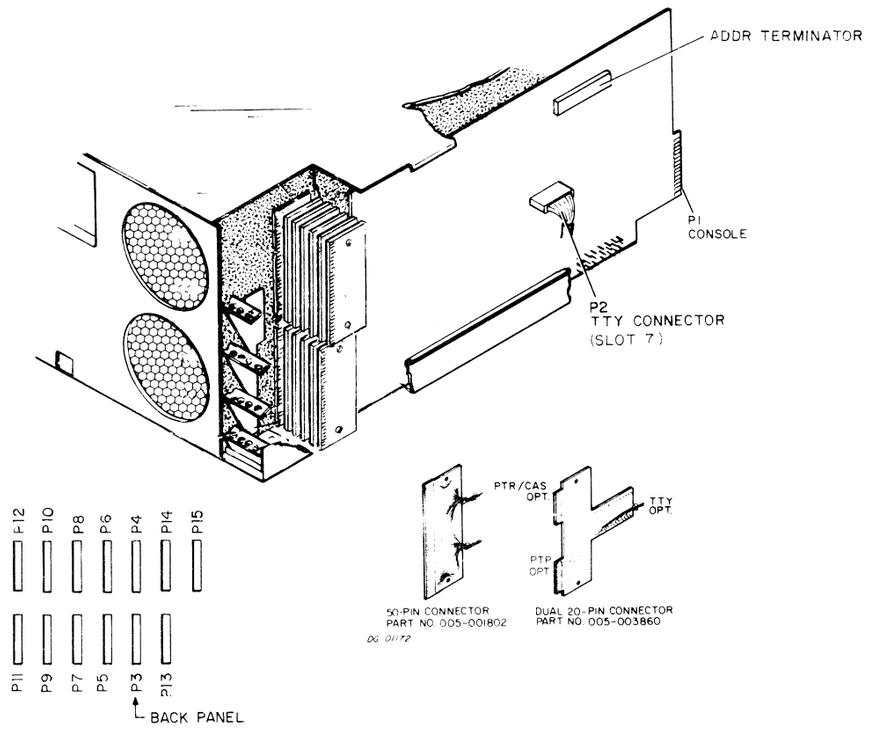


MOUNTING SHIPPING BRACKET TO RAILS



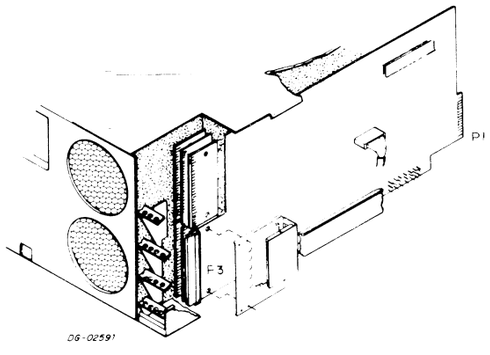
INTERNAL CABLING

BACKPANEL CONNECTORS



4083 OPTION CONNECTOR

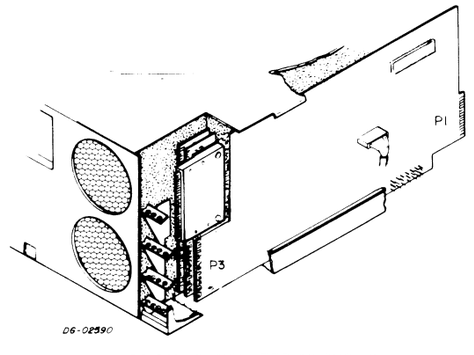
005 006040



CONNECTOR CAN BE MOUNTED ON TOP OR BOTTOM, ON PADDLEBOARD.

ANALOG PADDLEBOARD

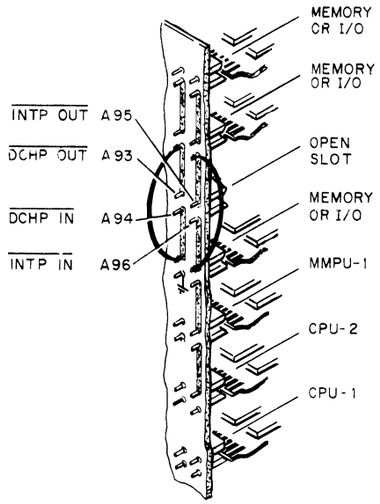
005 001371



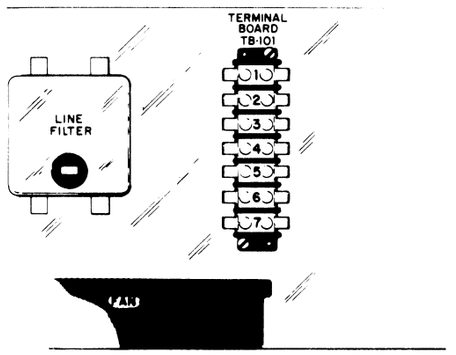
ANALOG CAN BE MOUNTED AS SHOWN

JUMPERS

JUMPERING BACKPANEL



JUMPERING TRANSFORMER



DG-02388

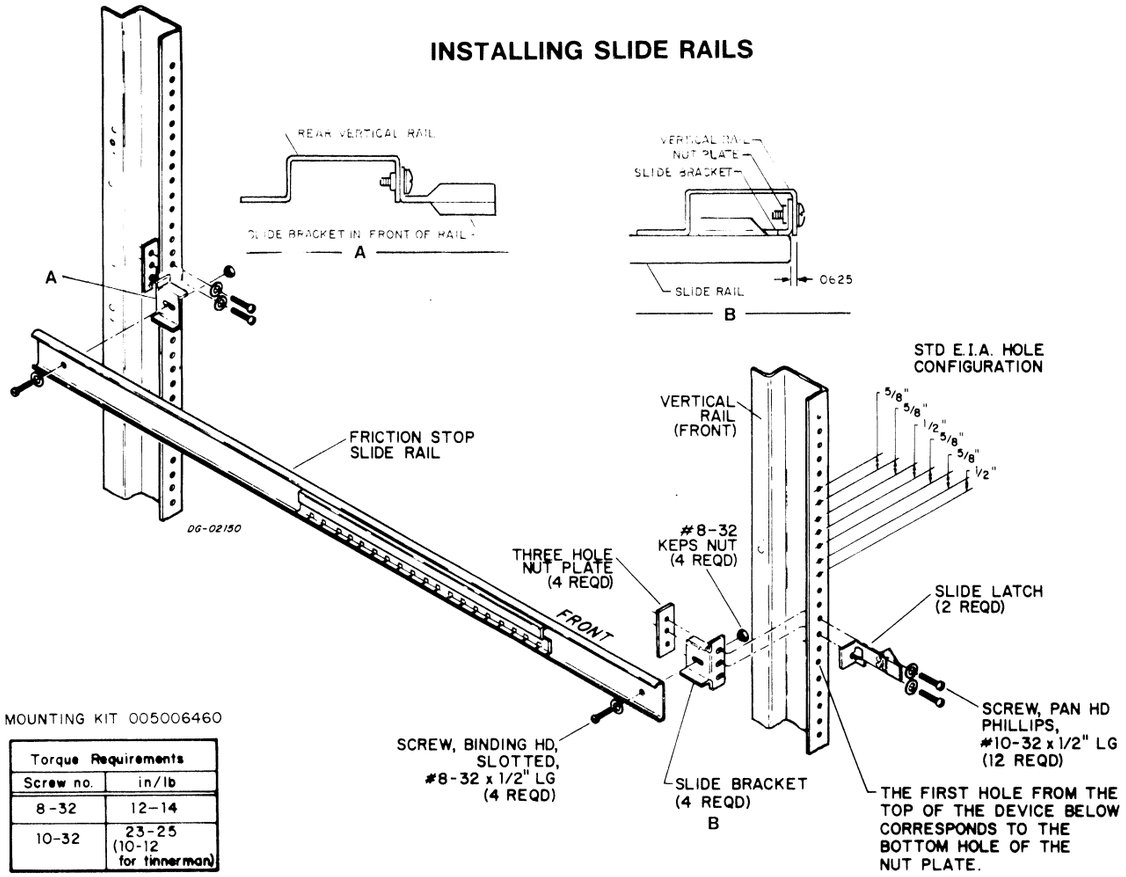
TB-101 SHOWN WITH ALL WIRING REMOVED FOR CLARITY IN IDENTIFYING CONNECTOR NUMBERS

TERMINAL BOARD JUMPERS TB-101 FOR TRANSFORMER

100 VAC	1-5, 2-6
120	1-4, 3-6
200	2-5
220	2-4
240	3-4

CABINET-MOUNTING

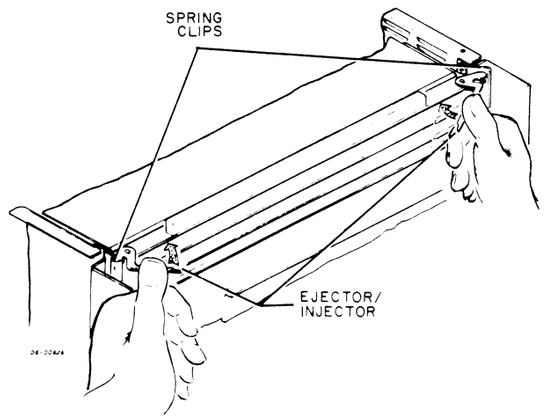
INSTALLING SLIDE RAILS



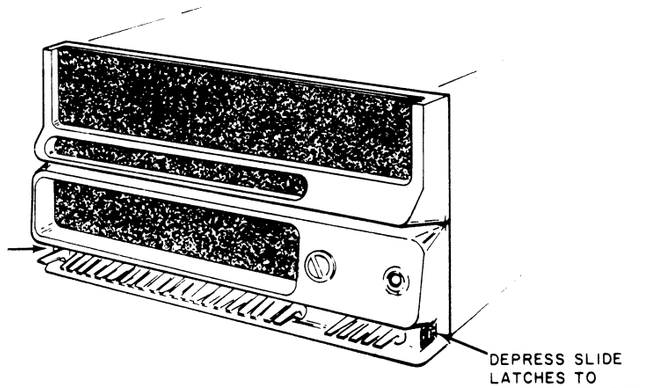
MOUNTING KIT 005006460

Torque Requirements	
Screw no.	in/lb
8-32	12-14
10-32	23-25 (10-12 for tinnerman)

INSERTING PC BOARD



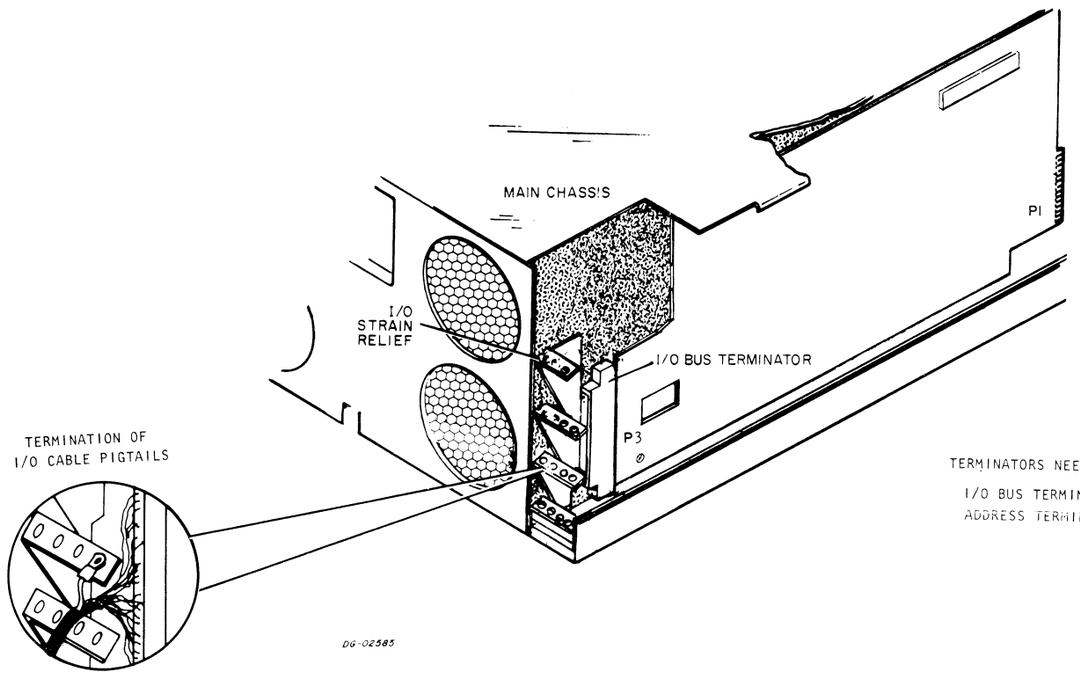
LATCH RELEASE



DG-02589

EXTERNAL CABLING

I/O BUS CABLE

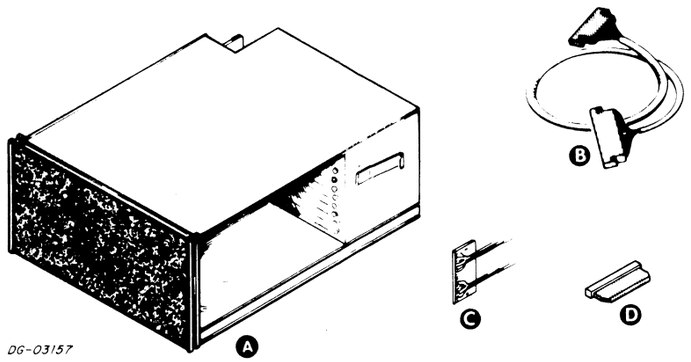


TERMINATORS NEEDED:

I/O BUS TERMINATOR ON P3 OF BACK PANEL
ADDRESS TERMINATOR ON 6 SIDE SLOT 12

IF I/O BUS IS TO BE EXTENDED FROM THE MAIN CHASSIS TO AN EXTERNAL I/O DEVICE, I.E. COMMUNICATIONS CHASSIS OR I/O EXPANSION CHASSIS, I/O BUS TERMINATOR IS REMOVED AND AN I/O CABLE IS PLUGGED ONTO P3 OF THE MAIN CHASSIS BACK PANEL AND CONNECTED TO THE I/O DEVICE.

SUBSYSTEM COMPONENT BREAKDOWN



DG-03157

MAJOR COMPONENT

Item	Component	Mounting Location	Notes
A	EXPANSION CHASSIS	CABINET	

DG 02672

CABLE

Item	Cable	Connecting	Max Allowed Lg ft / m	Notes
B	DAISY CHAIN CA	MAIN CHASSIS and EXP CHASSIS	5 / 1.52	
	OPTIONAL I/O CA			
		MAXIMUM DAISY CHAIN LENGTH FROM MAIN CHASSIS IS 50 FT (15.24M).		
C	INT CABLE	MAIN CHASSIS and EXP CHASSIS		

Item	Terminator	Location	Notes
D	S/130 EXP CHASSIS TERMINATOR	EXP CHASSIS PX12 EXT I/O PADDLEBOARD	

DG 02674

SLOT ASSIGNMENTS

Dcta Channel Speeds Available: Standard ☑

Slot	Allowed (Slot Chart)	Assigned	+5V Current Draw
X12	I/O		
X11	↑		
X10			
X9			
X8			
X7			
X6			
X5			
X4			
X3			
X2	↓		
X1	I/O		

Total +5V Current draw ____

Max +5V Current Available 40A

+5V Current Surplus ____

SPECIFICATIONS OF THE CABINET-MOUNTED COMPONENTS

Item	Component	Number in Subsystem	Maximum Operating Temperature: Component °F / °C	Media °F / °C	Primary Power: Current (nom Draw (Amp)	Voltage ±ΔV	Frequency	Cabinet Height Required: Area	in.	cm	Weight lbs / kg	Power Dissipation (Max Watts)	Preferred Location or Remarks	Operating Humidity (Relative) min% / max%
A	100V		131 / 55		6.5	100 +10 -15	47-63Hz	6	10.5	26.7	130 / 58.96	650	IS MOUNTED ABOVE THE MAIN CHASSIS.	20 / 90
	120V		131 / 55		5.5	120 +12 -18	47-63Hz	6	10.5	26.7	130 / 58.96	650		20 / 90
	220V		131 / 55		3.0	220 +22 -33	47-63Hz	6	10.5	26.7	130 / 58.96	650		20 / 90
	240V		131 / 55		2.8	240 +24 -36	47-63Hz	6	10.5	26.7	130 / 58.96	650		20 / 90

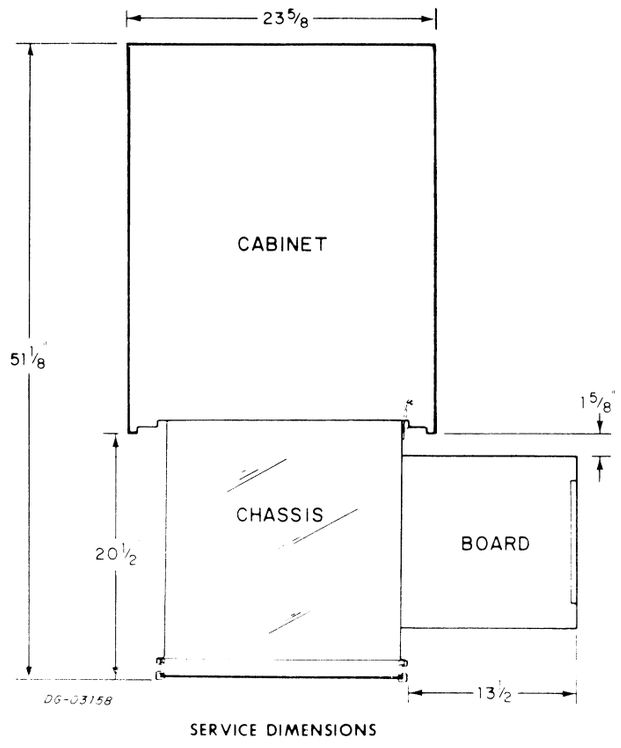
DG-01914

Voltage	Power Cable Length ft	m	Power Cable Plug	Mating Receptacle on Power Drop	Mating Receptacle in Wall
100	6	1.8	5-15P	5-15R	5-15R
120	6	1.8	5-15P	5-15R	5-15R
220	6	1.8	6-15P	6-15R	6-15R
240	6	1.8	6-15P	6-15R	6-15R

DG-02717

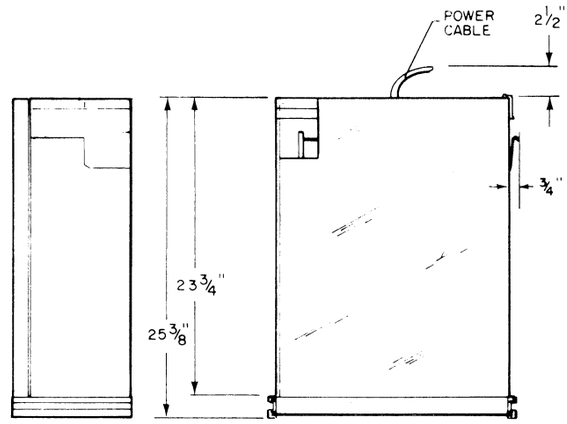
CPU DESIGNATOR:

Designator Range: 05-12



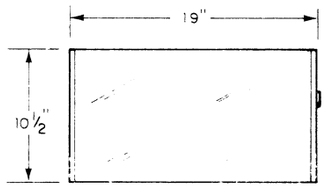
DG-03158

SERVICE DIMENSIONS



SIDE VIEW

TOP VIEW



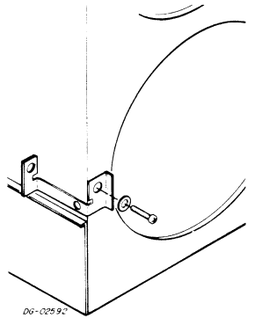
DG-03159

FRONT VIEW

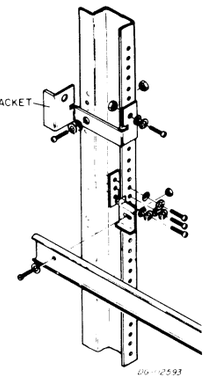
SHIPPING

FOR PACKING PROCEDURE,
SEE 010-000262/263

MOUNTING SHIPPING BRACKET TO CHASSIS

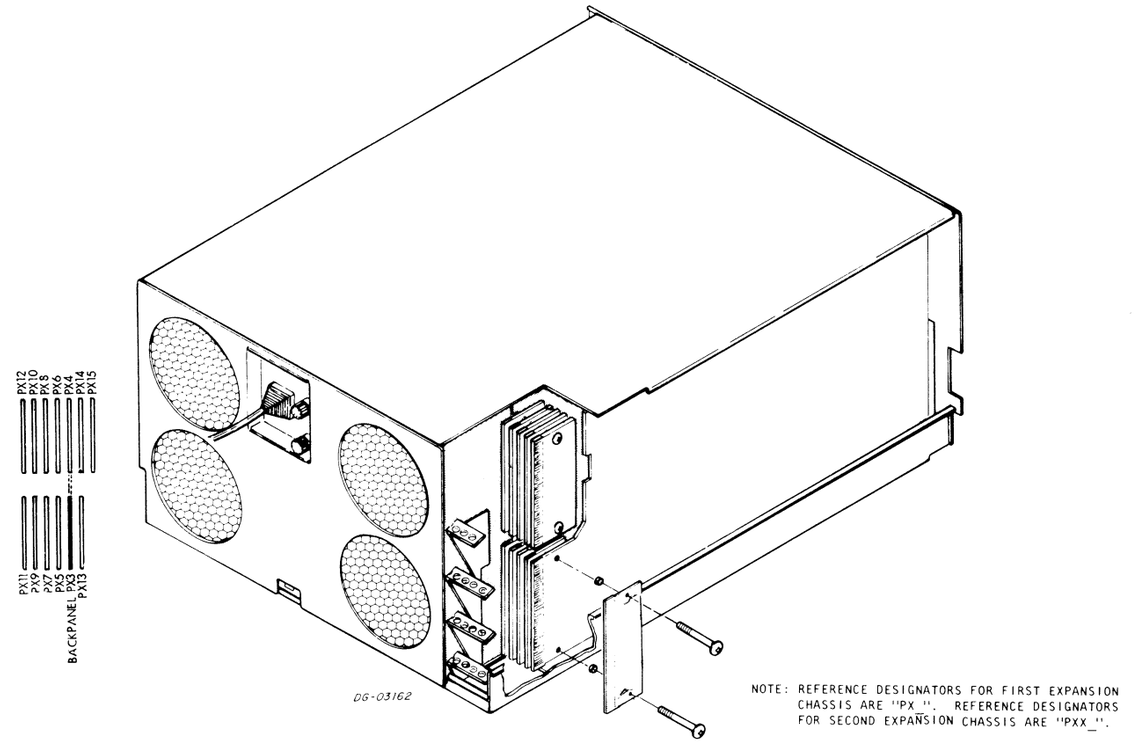


MOUNTING SHIPPING BRACKET TO RAILS



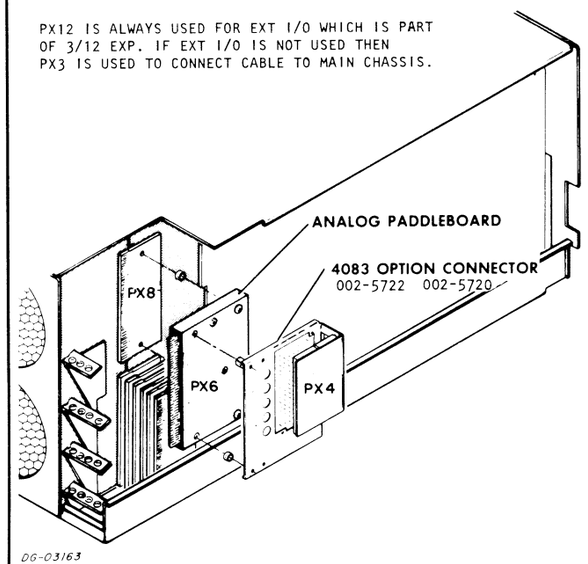
INTERNAL CABLING

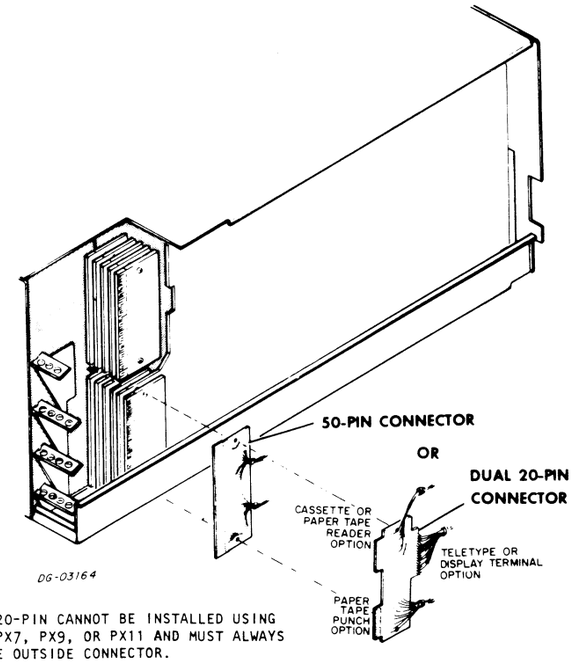
BACKPANEL CONNECTOR



NOTE: REFERENCE DESIGNATORS FOR FIRST EXPANSION CHASSIS ARE "PX_". REFERENCE DESIGNATORS FOR SECOND EXPANSION CHASSIS ARE "PXX_".

PX12 IS ALWAYS USED FOR EXT I/O WHICH IS PART OF 3/12 EXP. IF EXT I/O IS NOT USED THEN PX3 IS USED TO CONNECT CABLE TO MAIN CHASSIS.

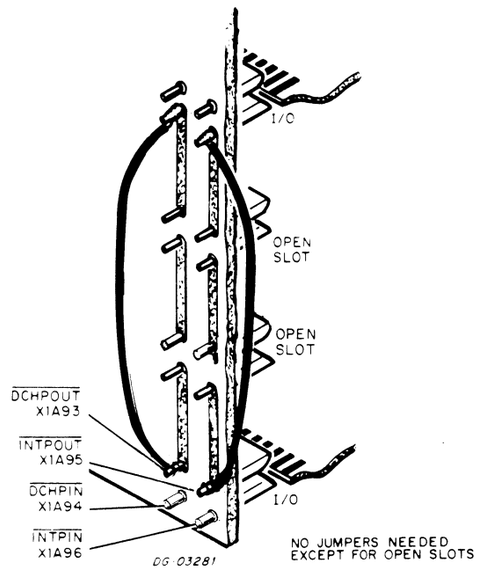




DUAL 20-PIN CANNOT BE INSTALLED USING PX5, PX7, PX9, OR PX11 AND MUST ALWAYS BE THE OUTSIDE CONNECTOR.

TAILORING

JUMPERING BACKPANEL



NO JUMPERS NEEDED EXCEPT FOR OPEN SLOTS

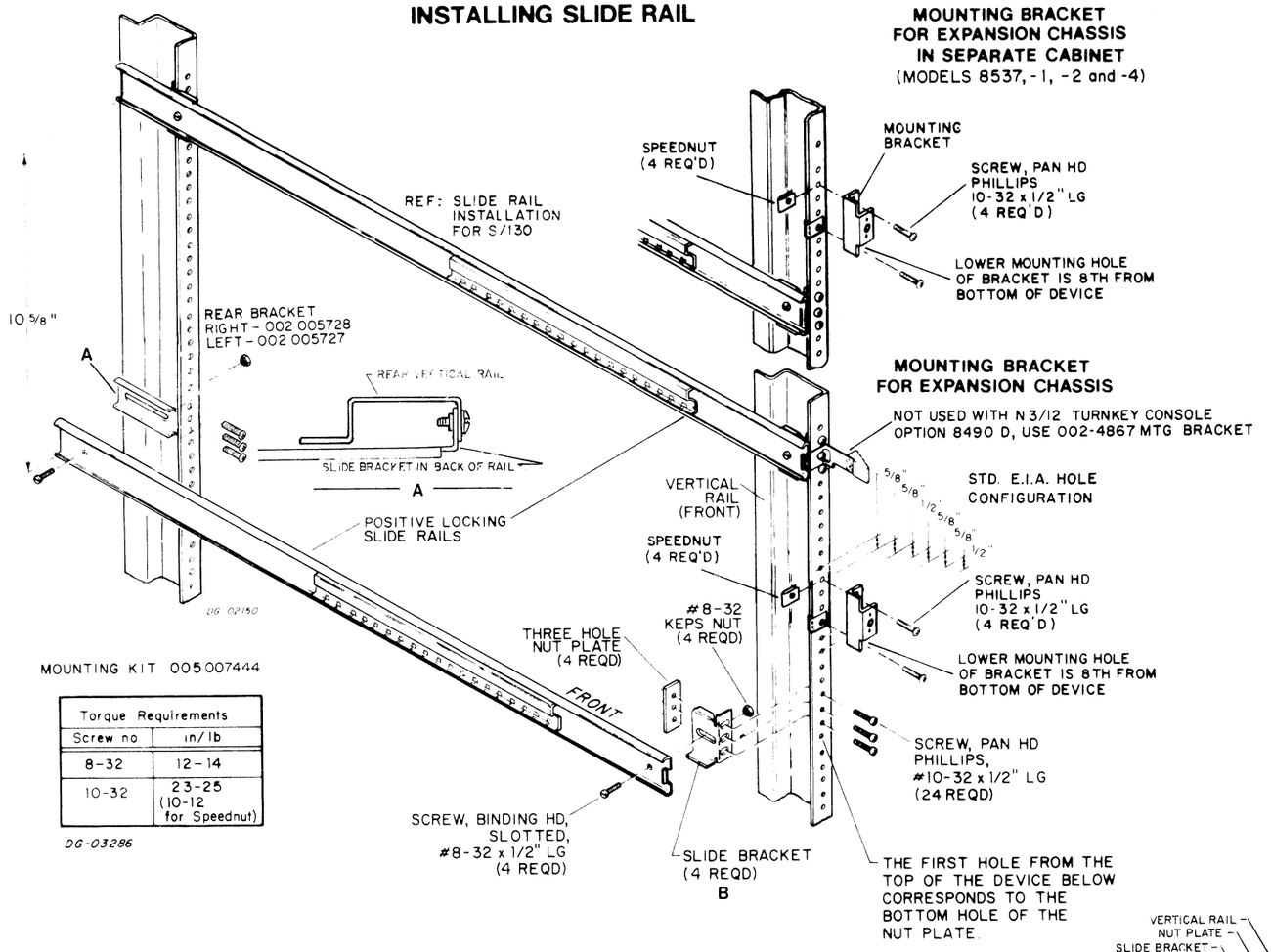
START AT SLOT 1 (X1A96 & X1A94) AND WIRE TO FIRST USED SLOT (X_A96 & X_A94).

AC VOLTAGE DETERMINED BY SELECTING LINE CORD

	PART NO.	MODEL NO.
100 VAC	109 000239	1118G
120 VAC	109 000238	1118D
220 VAC	109 000237	1118E
240 VAC	109 000240	1118F

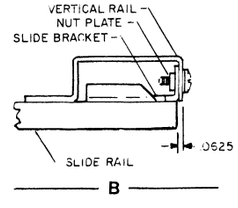
INSTALLATION IN A CABINET

INSTALLING SLIDE RAIL

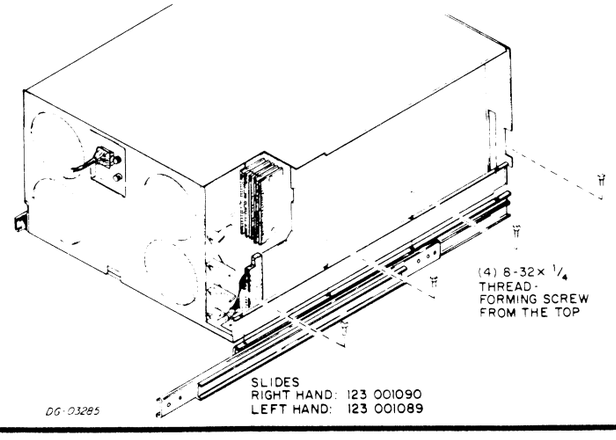


Torque Requirements	
Screw no	in/lb
8-32	12-14
10-32	23-25 (10-12 for Speednut)

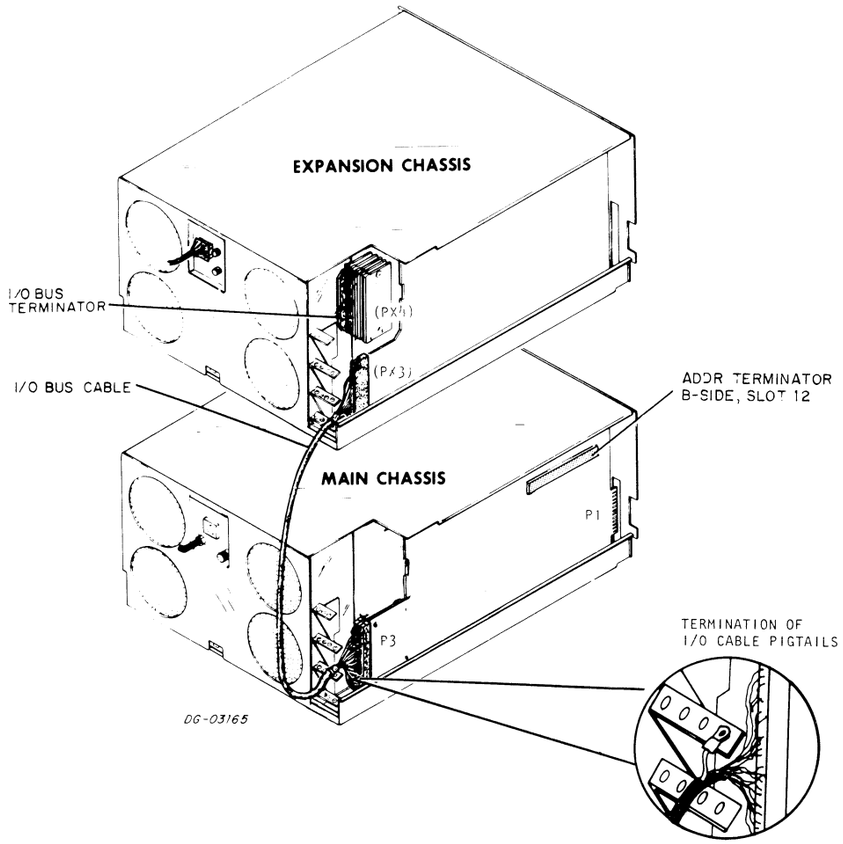
DG-03286

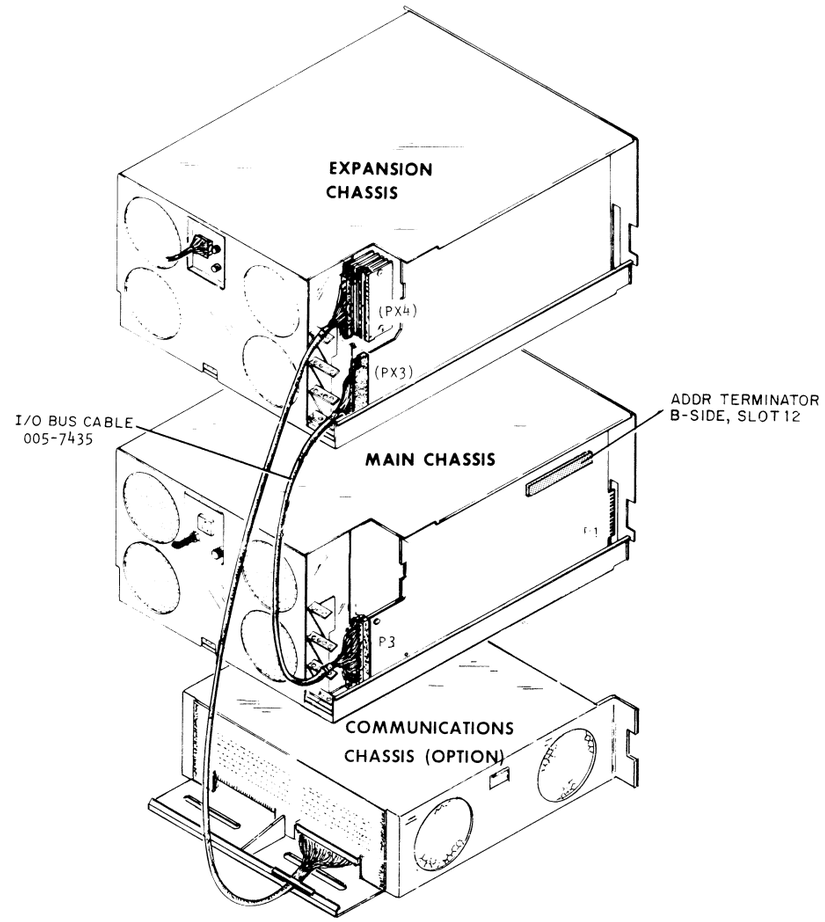


MOUNTING SLIDE ON CHASSIS



EXTERNAL CABLING

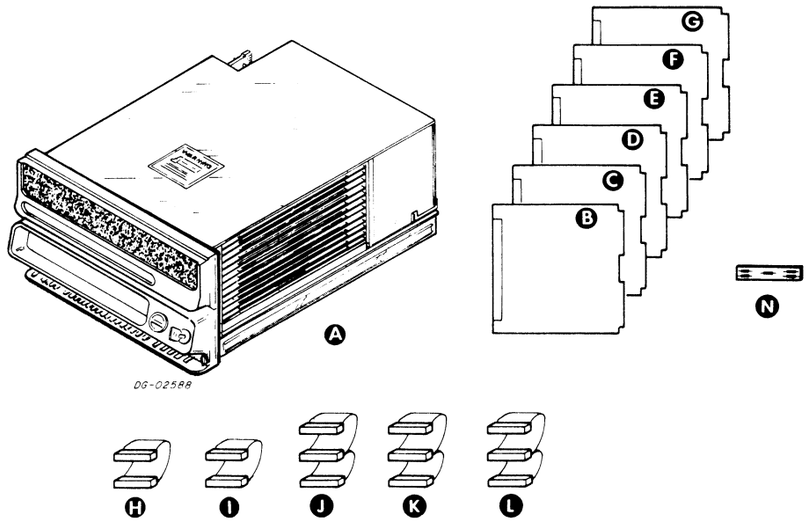




THIS CONFIGURATION ALLOWED ONLY IF CABINET HAS SUFFICIENT POWER.

NOTE: EXTERNAL I/O CONNECTIONS WHICH ARE NORMALLY AVAILABLE ON THE MAIN CHASSIS (P3), BECOME AVAILABLE ON THE EXPANSION CHASSIS (ON PX12 FOR A ONE-EXPANSION CHASSIS SUBSYSTEM.

SUBSYSTEM COMPONENT BREAKDOWN



MAJOR COMPONENT

Item	Component	Mounting Location	Notes
A	MAIN CHASSIS	CABINET	
B	CPU-1	MAIN CHASSIS	
C	CPU-2	MAIN CHASSIS	
D	MMPU1	MAIN CHASSIS	
E	AP1	MAIN CHASSIS	
F	AP2	MAIN CHASSIS	
G	AP3	MAIN CHASSIS	REQUIRED

CABLE

Item	Cable	Connecting	Max Allowed Lg ft / m	Notes
H	005-006219 INTERBOARD	CPU-1 and CPU-2		CONNECTOR P3
I	005-006219 INTERBOARD	CPU-1 " CPU-2		CONNECTOR P4
J	005-010029 INTERBOARD	AP1 and AP2 and AP3		CONNECTOR P1
K	005-01002? INTERBOARD	AP1 and AP2 and AP3		CONNECTOR P2
L	005-010029 INTERBOARD	AP1 and AP2 and AP3		CONNECTOR P3

TERMINATOR

Item	Terminator	Location	Notes
N	I/O BUS PADDLE BOARD TERMINATOR	BACKPANEL	PLACED ON P3 OF BACKPANEL WHEN NO I/O CABLE CONNECTED TO P2

CHASSIS SLOT ASSIGNMENTS

Data Channel Speeds Available: Standard [XX] High Speed [ ]

Slot	Allowed (Slot Chart)	Assigned	+5V Current Draw
12	MEMORY OR I/O		1.8
11	MEMORY OR I/O		1.8
10	MEMORY OR I/O		1.8
9	MEMORY OR I/O		1.8
8	MEMORY OR I/O		1.8
7	4010, 4075 PREF		
6	AP3		12.5
5	AP2		12.5
4	AP1		12.5
3	MMPU1		
2	CPU-2		6.2
1	CPU-1		6.2

Total +5V Current draw _____

Max +5V Current Available 100A

+5V Current Surplus _____

SPECIFICATIONS OF THE CABINET-MOUNTED COMPONENTS

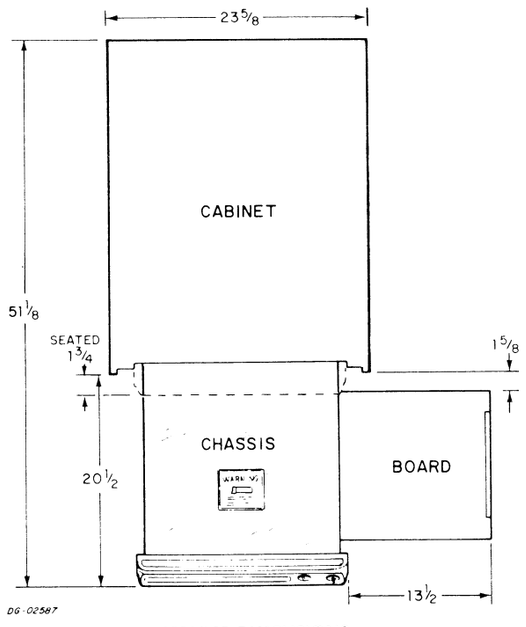
Item	Component	Number in Sub-system	Maximum Operating Temperature: Component °F / °C	Maximum Operating Temperature: Media °F / °C	Primary Power: Volts	Hz	Phase	Cond	Amps	Cabinet Height Required: Area	in.	cm	Weight: lbs / kg	Power Dissipation (Max Watts)	Preferred Location or Remarks	Operating Humidity (Relative): min % / % max
A	AP/130 100V		110 / 45		100 +10 -15	47-63	1	3	12.0	6	10.5	26.67	130 / 58.96	1200	AREAS 11-16	20 / 90
	120V		110 / 45		120 +10 -15	47-63	1	3	10.0	6	10.5	26.67	130 / 58.96	1200	AREAS 11-16	20 / 90
	220V		110 / 45		220 +10 -15	47-63	1	3	5.5	6	10.5	26.67	130 / 58.96	1200	AREAS 11-16	20 / 90
	240V		110 / 45		240 +10 -15	47.63	1	3	5.0	6	10.5	26.67	130 / 58.96	1200	AREAS 11-16	20 / 90

CPU DESIGNATOR:

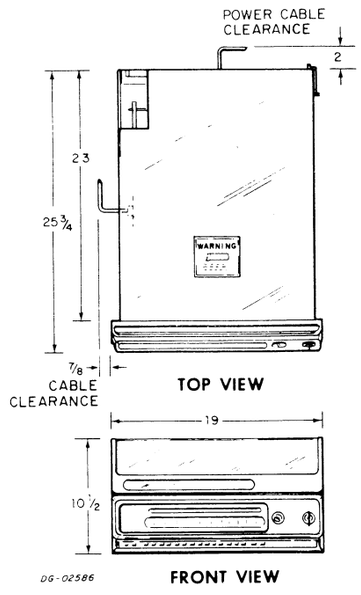
Designator Number: 084
Designator Range: 05-12

Voltage	Power Cable Length ft	Power Cable Length m	Power Cable Plug	Mating Receptacle on Power Drop	Mating Receptacle in Wall
100	6	1.8	5-15P	5-15R	5-15R
120	6	1.8	5-15P	5-15R	5-15R
220	6	1.8	6-15P	6-15R	6-15R
240	6	1.8	6-15P	6-15R	6-15R

DG-02717

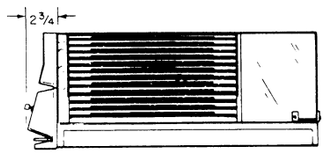


SERVICE DIMENSIONS



TOP VIEW

FRONT VIEW



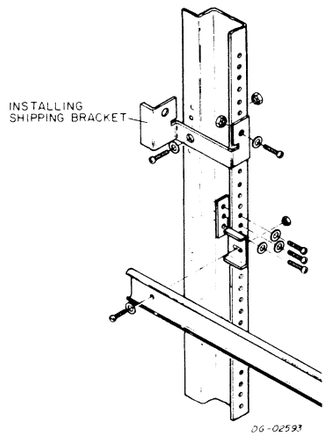
SIDE VIEW

SHIPPING

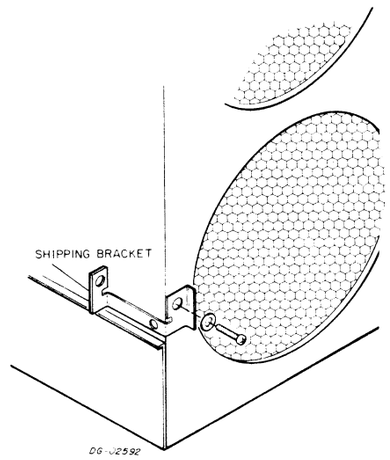
FOR PACKING PROCEDURE,
SEE 010-000262/263

SHIPPING SPECIFICATIONS			STORAGE SPECIFICATIONS		
Temperature Range °F / °C	Relative Humidity (Non-condensing)	Maximum Altitude	Temperature Range °F / °C	Relative Humidity (Non-condensing)	Maximum Period
-40 to +160 / -40 to +71	0 /80	50,000ft. 15,200m	-40 to +160 / -40 to +71	0 /80	90 days

MOUNTING SHIPPING BRACKET TO RAILS

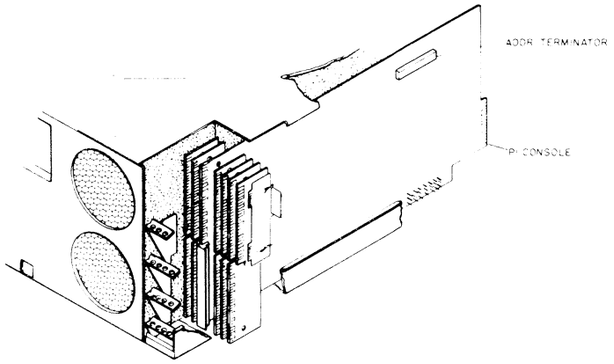


MOUNTING SHIPPING BRACKET TO CHASSIS



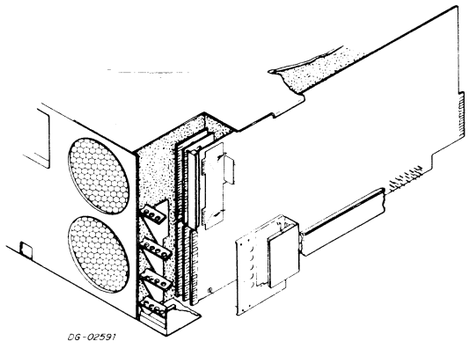
INTERNAL CABLING

BACKPANEL CONNECTORS

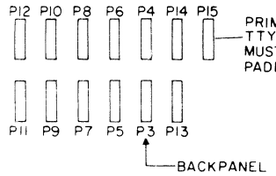


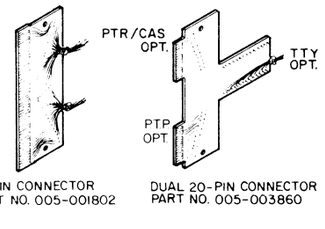
4083 OPTION CONNECTOR

005 006040



CONNECTOR CAN BE MOUNTED ON TOP OR BOTTOM, ON PADDLEBOARD.

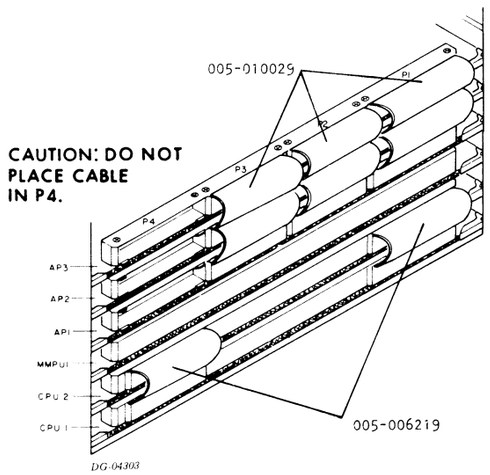




ANALOG PADDLEBOARD

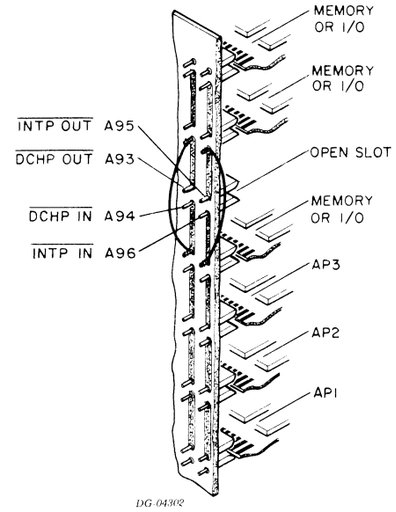
TO BE SUPPLIED

INTERBOARD CABLING

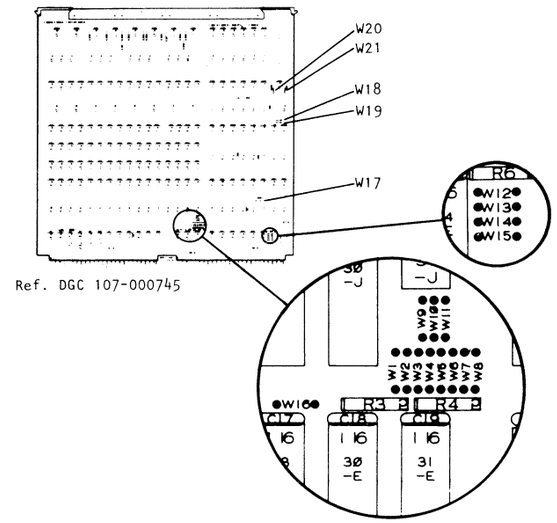


TAILORING

JUMPERING BACKPANEL



AP1

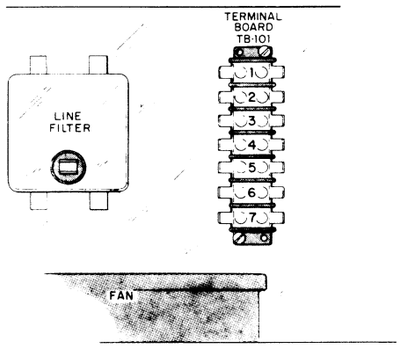


Ref. DGC 107-000745

JUMPER	POS.	JUMPER	POS.
W1	IN for 256K	W12	OUT
W2	IN for 512K	W13	IN
W3	IN for 128K	W14	OUT
W4	IN for 64K	W15	OUT
W5	IN for 32K	W16	IN
W6	IN for 16K	W17	OUT
W7	IN for 8K	W18	OUT
W8	IN for 4K	W19	IN
W9	OUT	W20	IN
W10	IN	W21	IN
W11	OUT		

512K	SELECT THE STARTING ADDRESS
256K	OF AP MEMORY (ON THE PA-BUS
128K	FOR CPU-AP, ON THE SLA-BUS FOR
64K	IOP-AP). FOR EXAMPLE, TO START
32K	AP MEMORY AT 32K PUT IN W5.
16K	TO START AP MEMORY AT 24K PUT
8K	IN W6 AND W7.
4K	

JUMPERING TRANSFORMER



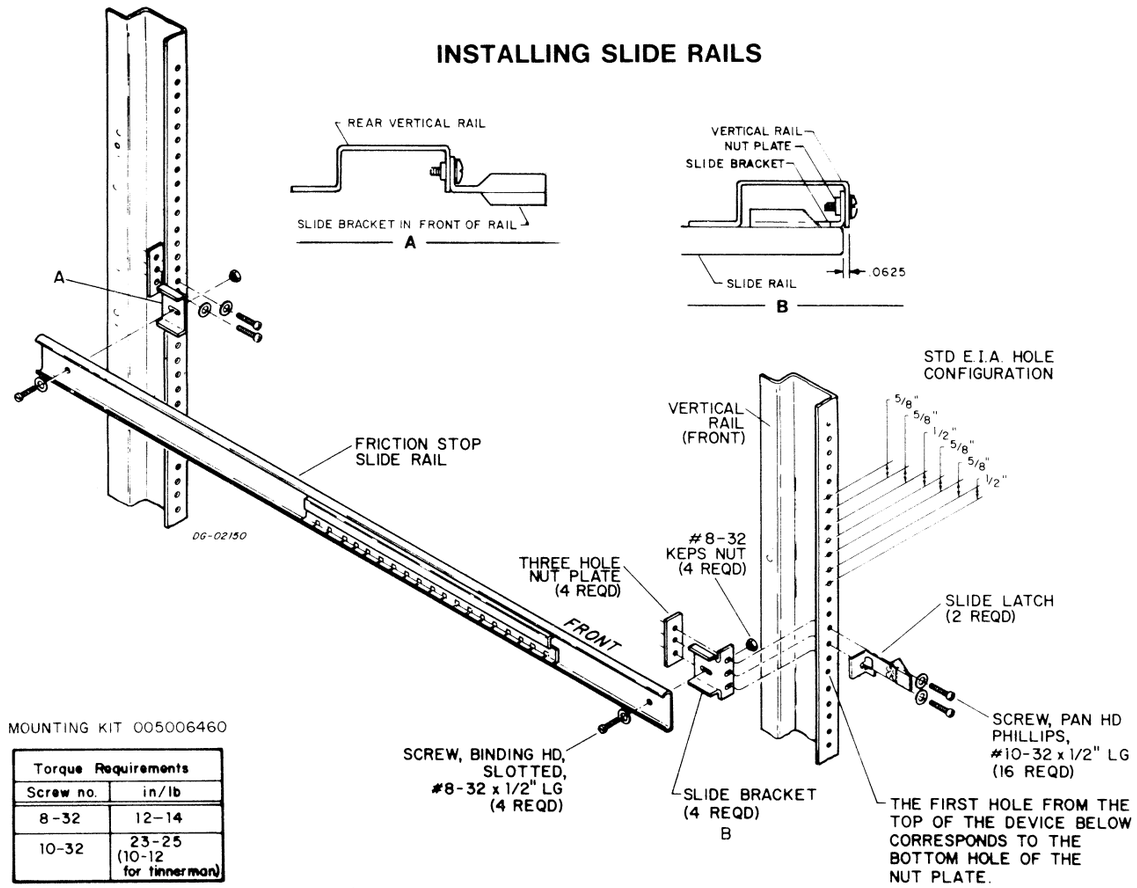
TB-101 SHOWN WITH ALL WIRING REMOVED FOR CLARITY IN IDENTIFYING CONNECTOR NUMBERS

TERMINAL BOARD JUMPERS TB-101 FOR TRANSFORMER

100 VAC	1-5, 2-6
120	1-4, 3-6
200	2-5
220	2-4
240	3-4

INSTALLATION IN A CABINET

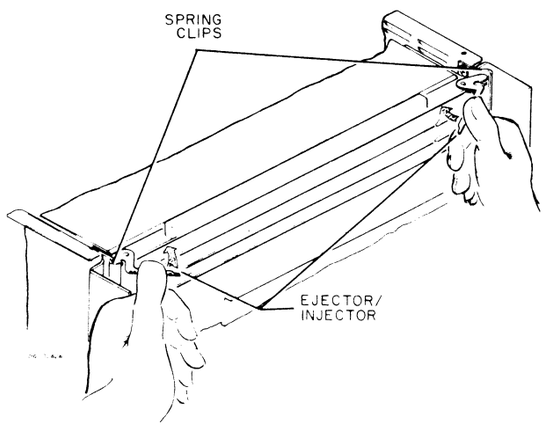
INSTALLING SLIDE RAILS



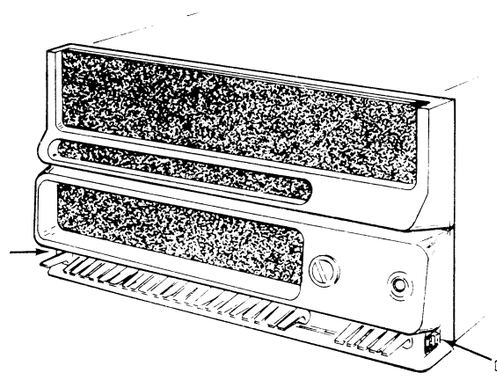
MOUNTING KIT 005006460

Torque Requirements	
Screw no.	in/lb
8-32	12-14
10-32	23-25 (10-12 for tinnerman)

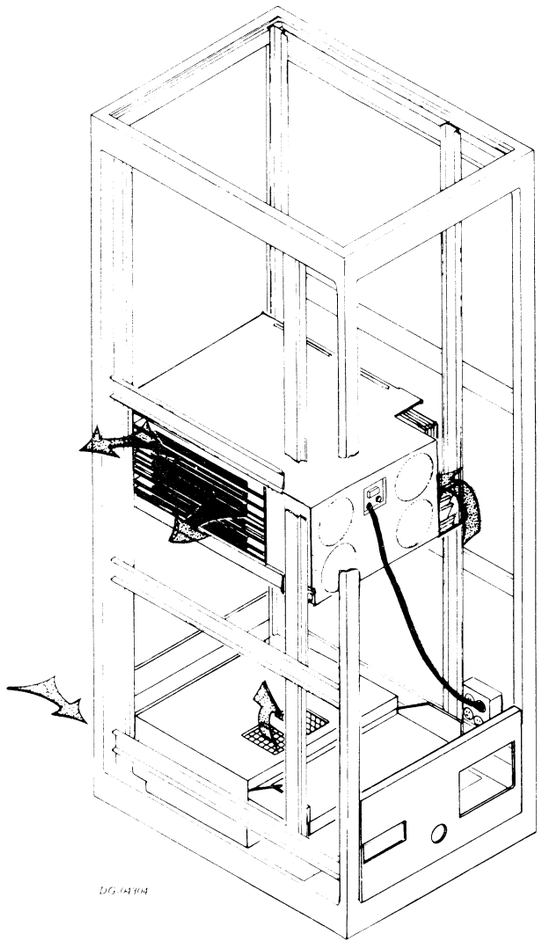
INSERTING PC BOARD

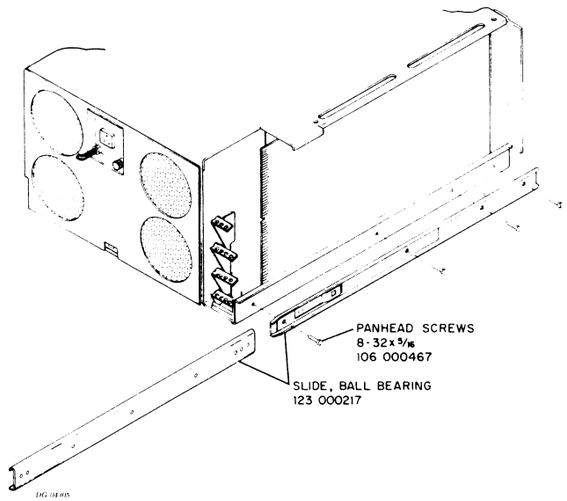


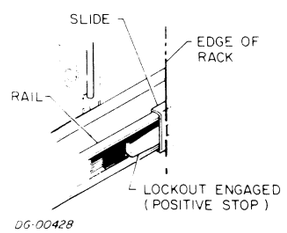
LATCH RELEASE

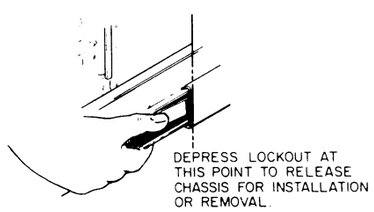


INSTALLATION PROCEDURE



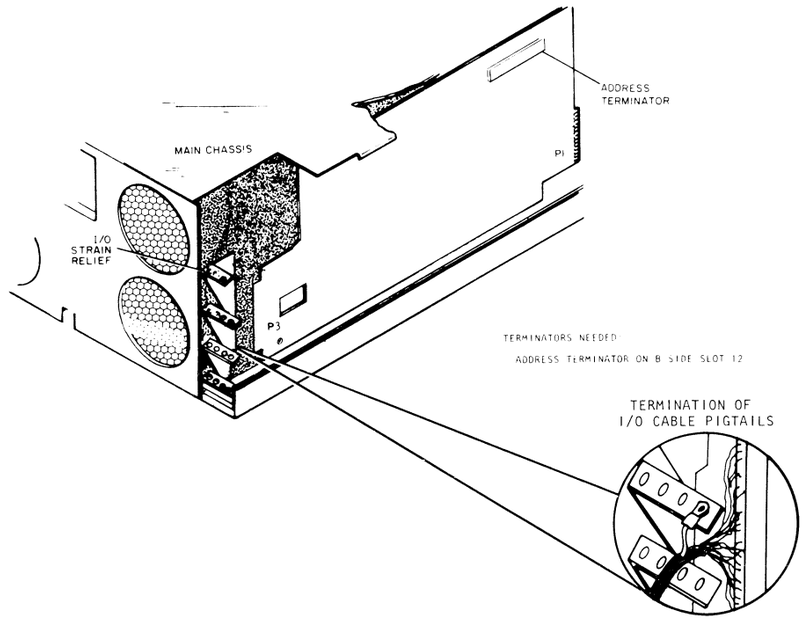






EXTERNAL CABLING

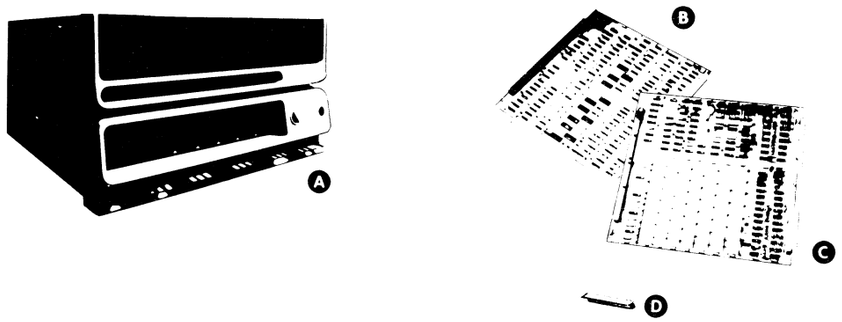
I/O BUS CABLE



IF I/O BUS IS TO BE EXTENDED FROM THE MAIN CHASSIS TO AN

IF I/O BUS IS TO BE EXTENDED FROM THE MAIN CHASSIS TO AN EXTERNAL DEVICE, I.E COMMUNICATIONS CHASSIS OR I/O EXPANSION CHASS CHASSIS, I/O BUS TERMINATOR IS REMOVED AND AN I/O CABLE IS PLUGGED ONTO P3 OF THE MAIN CHASSIS BACK PANEL AND CONNECTED TO THE I/O DEVICE.

SUBSYSTEM COMPONENT BREAKDOWN



MAJOR COMPONENT

Item	Component		Mounting Location	Notes
A	MAIN CHASSIS	S/230 C/330	CABINET	
B	CPU-1		MAIN CHASSIS	
C	CPU-2		MAIN CHASSIS	

DG-02672

TERMINATOR

Item	Terminator	Location	Notes
D	A-MEM BUS	BACK PANEL	USED WHEN EXPANSION CHASSIS IS NOT PRESENT

DG-02674

CHASSIS SLOT ASSIGNMENTS

RULES

IN GENERAL

Never assign more than 4 memory boards to a main chassis. Systems with more than 4 memory boards must have an 8414-A expansion chassis and all memory boards (including the first 4) must go into that chassis.

IN PARTICULAR

1. On systems with 4 or less memory boards, assign those boards to the main chassis from slot 16 down. On systems with more than 4 memory boards, do not assign any to the main chassis; assign them all to the 8414-A expansion chassis.

2. Assign I/O boards to the main chassis from slot 6 up. If the main chassis cannot accomodate all I/O boards, add an 8414-B expansion chassis. Do not place I/O boards in the 8414-A memory expansion chassis, nor memory boards in the 8414-B expansion chassis.

Data Channel Speeds Available — Standard ☑ High Speed ☐

Slot	Allowed (Slot Chart)	Assigned	+5V Current Draw
17			
16	MEMORY or I/O		
15			
14			
13	MEMORY		
12			
11			
10			
9			
8			
7			
6			
5	MMPU1		
4	FPU/EAU-2		
3	FPU/EAU-1		
2			
1	CPU		

Total +5v Current draw

Max +5v Current Available — 60 A

+5v Current Surplus

DG-01915

SPECIFICATIONS OF THE CABINET-MOUNTED COMPONENTS

Item	Component	Number in Subsystem	Maximum Operating Temperature Component °F/°C	Maximum Operating Temperature Media °F/°C	Primary Power Current Draw (Amp)	Primary Power Voltage ±ΔV	Primary Power Frequency ±Δf	Cabinet Height Required Area	Cabinet Height Required in.	Cabinet Height Required cm	Weight lbs/kg	Power Dissipation (Max Watts)	Preferred Location or Remarks	Operating Humidity (Relative) min%/max%
A	MAIN CHASSIS	1	131/55		9.6	120 +12 −18	50/60 ±1	6	10.5	26.45	110/50	1150	11-16	20/90
					4.8	240 +24 −53	50 ±1							

DG-01914

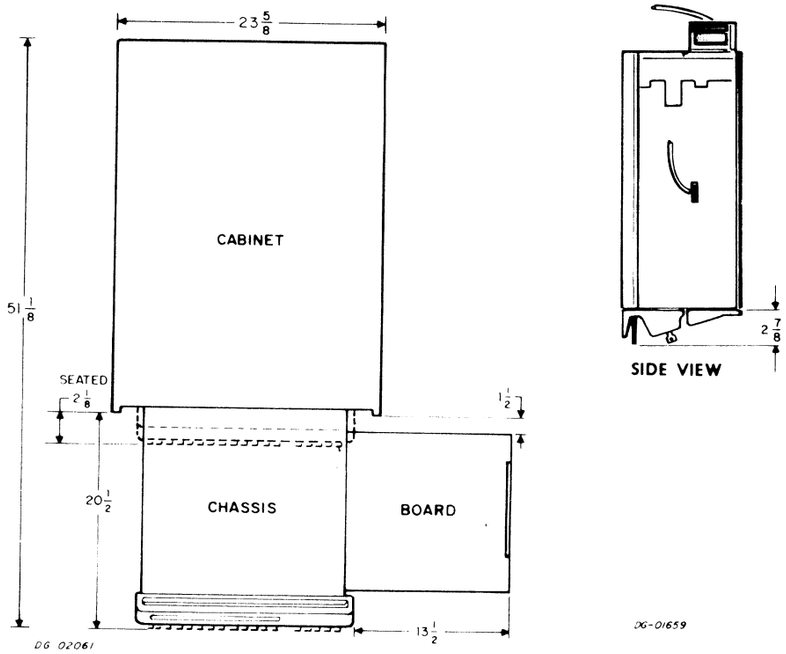
CPU DESIGNATOR:

Designator Range: 05-12

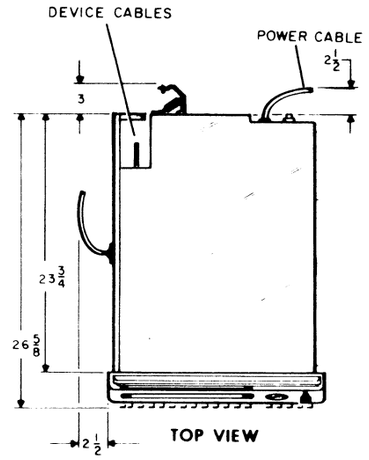
Voltage	Power Cable Length ft	Power Cable Length m	Power Cable Plug	Mating Receptacle on Power Drop	Mating Receptacle in Wall
120V	6	1.8	NEMA 5-15P	NEMA 5-15R	NEMA 5-15R
240V	6	1.8	NEMA 6-15P	NEMA 6-15R	NEMA 6-15R

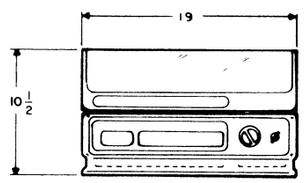
DG-02717

	SERVICE CLEARANCES	
	FRONT & REAR	LEFT & RIGHT
MM	914.4	609.6
IN	36	24



SERVICE DIMENSIONS





DG-01659

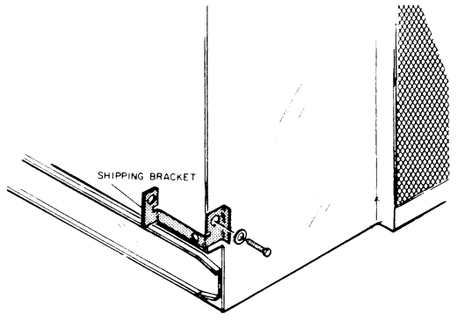
WARNING

THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY ENERGY AND IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTION MANUAL, MAY CAUSE INTERFERENCE TO RADIO COMMUNICATIONS. AS TEMPORARILY PERMITTED BY REGULATION IT HAS NOT BEEN TESTED FOR COMPLIANCE WITH THE LIMITS FOR CLASS A COMPUTING DEVICES PURSUANT TO SUBPART J OF PART 15 OF FCC RULES, WHICH ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST SUCH INTERFERENCE. OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA IS LIKELY TO CAUSE INTERFERENCE IN WHICH CASE THE USER AT HIS OWN EXPENSE WILL BE REQUIRED TO TAKE WHATEVER MEASURES MAY BE REQUIRED TO CORRECT THE INTERFERENCE.

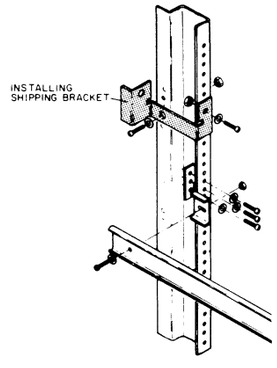
SHIPPING

**FOR PACKING PROCEDURE,
SEE 010-000262/263**

MOUNTING SHIPPING BRACKET TO CHASSIS

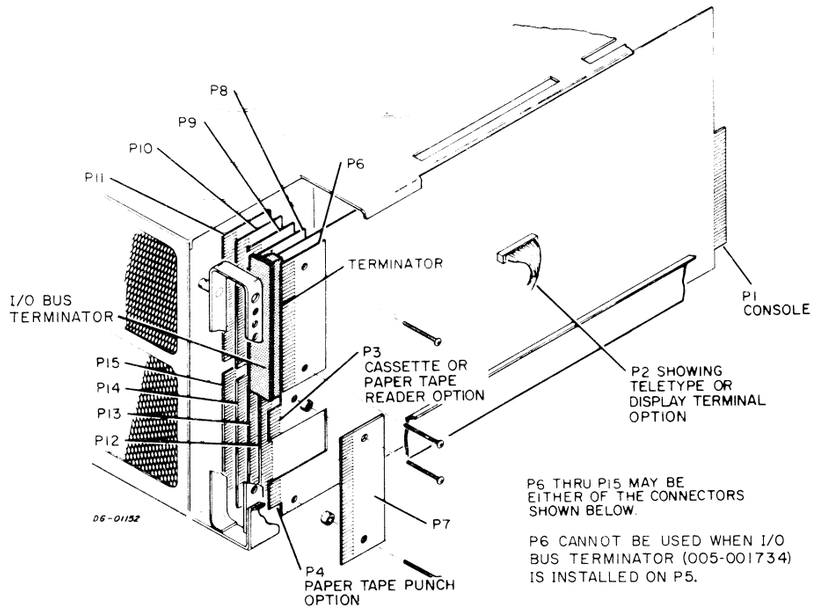


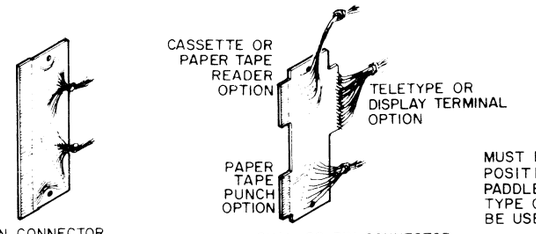
MOUNTING SHIPPING BRACKET TO RAILS



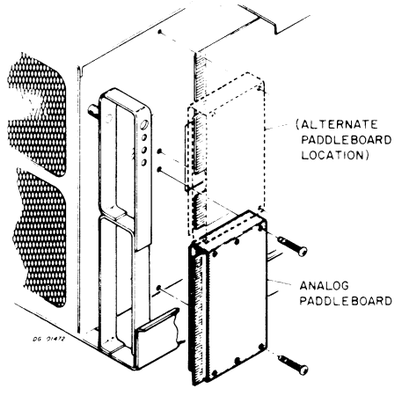
INTERNAL CABLING

BACKPANEL CONNECTORS

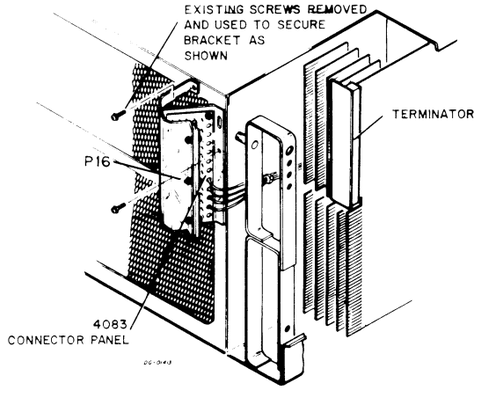




ANALOG PADDLEBOARD

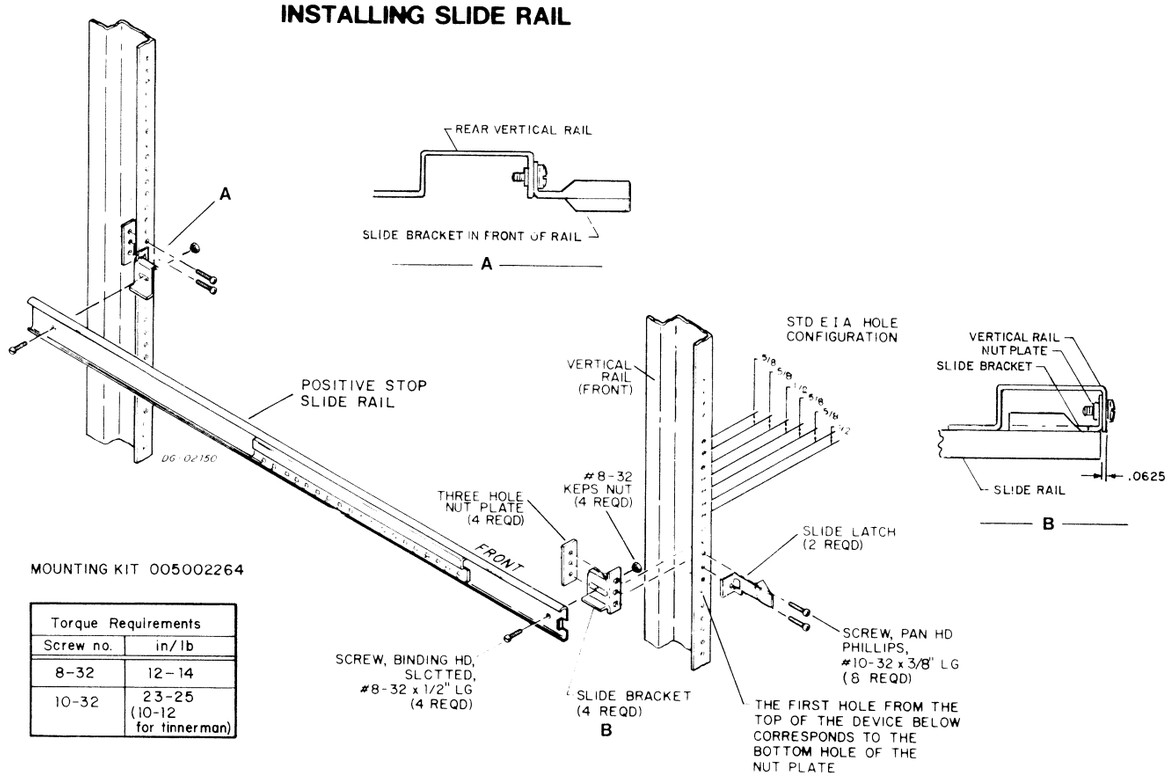


4083 OPTION CONNECTOR



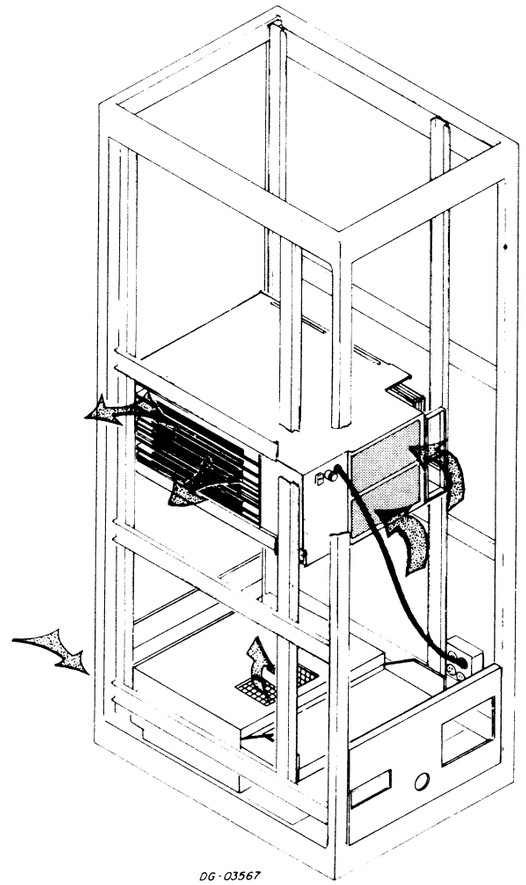
INSTALLATION IN A CABINET

INSTALLING SLIDE RAIL

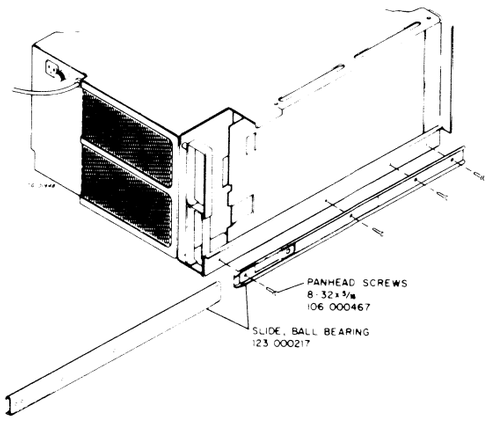


Torque Requirements	
Screw no.	in/lb
8-32	12-14
10-32	23-25 (10-12 for tinnerman)

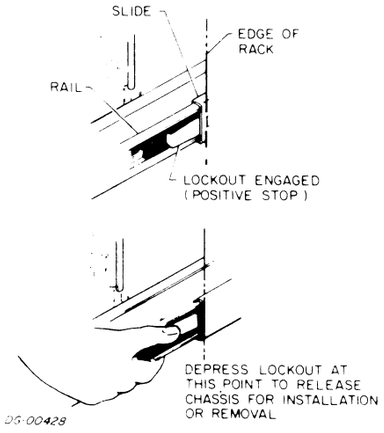
AIR FLOW



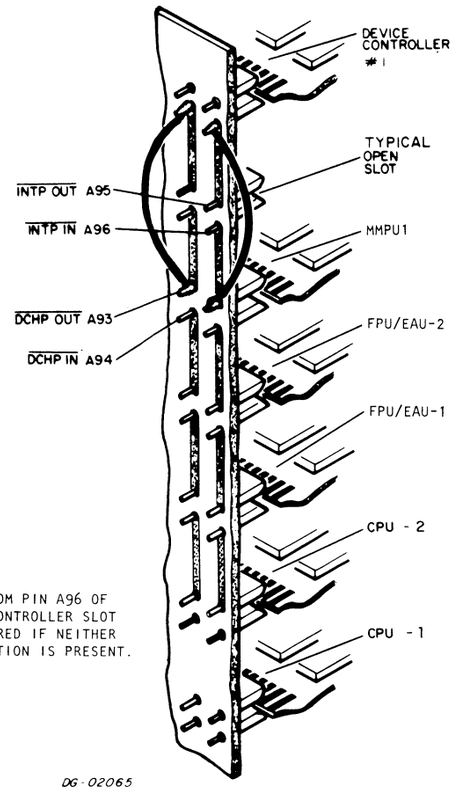
MOUNTING SLIDE ON CHASSIS



SLIDE LOCKOUT



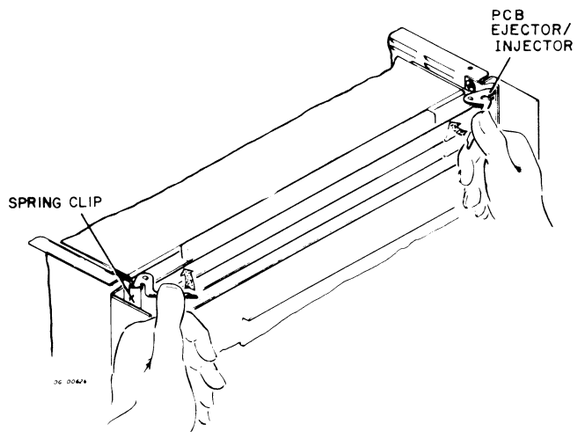
PRIORITY CHAIN JUMPERS



NOTE: A JUMPER FROM PIN A96 OF THE FIRST DEVICE CONTROLLER SLOT TO GROUND IS REQUIRED IF NEITHER THE WCS OR ERCC OPTION IS PRESENT.

NOTE:
JUMPER W2 ON CPU-1 PC BOARD IS REMOVED WHEN THE MAP OPTION (MMPU-1) IS INSTALLED.

PCB PLACEMENT IN SLOT



TAILORING

JUMPERS, TERMINATORS

IN GENERAL

A basic Eclipse computer system is contained in a 16 slot main chassis. The system must be expanded to include an 8414-A expansion chassis if more than four memory boards are required. The system may also be expanded to include an 8414-B expansion chassis if additional room for I/O boards is required.

The 8414-A is a memory expansion chassis that is bolted to the bottom of a main chassis. The 8414-B is an I/O expansion chassis that is cabled to the main chassis.

In configuring an Eclipse computer system with or without an expansion chassis, certain slots and parts of the back panel must be jumpered and the I/O and Mem bus must be terminated.

The procedures for cabling and terminating are dependent on the kind of chassis used and the configuration of the system.

IN PARTICULAR

This figure shows how a main chassis without any expansion chassis is terminated. For configuration rules of systems having an I/O only expansion chassis (Model 8414-B) and/or a memory only expansion chassis (Model 8414-A), see Expansion Chassis, 010-000137

TERMINATORS NEEDED:

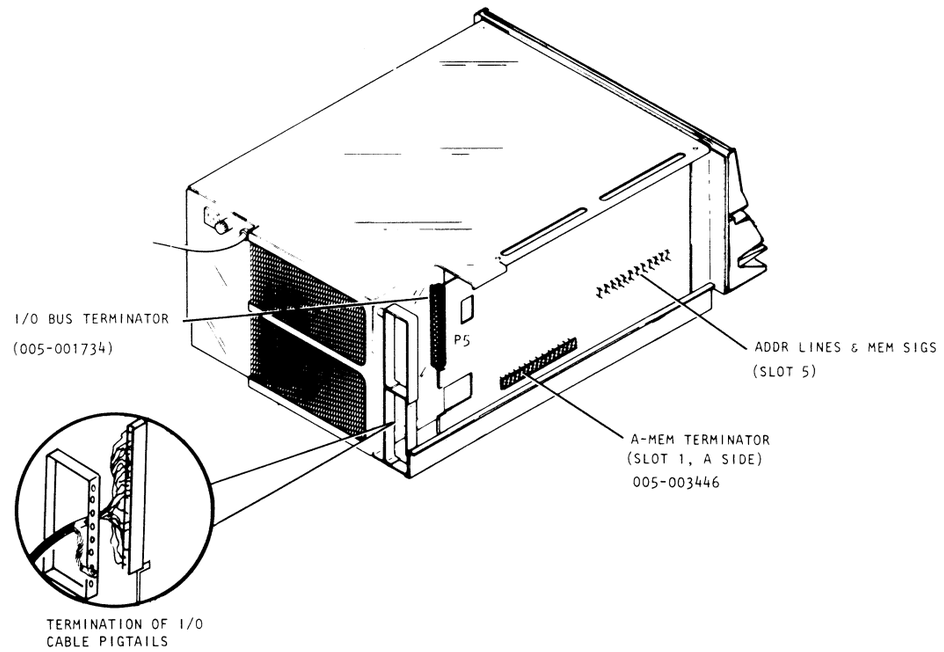
I/O Bus terminator (005-001734) for P5 main chassis

A-Mem terminator (005-003446) for slot 1 main chassis

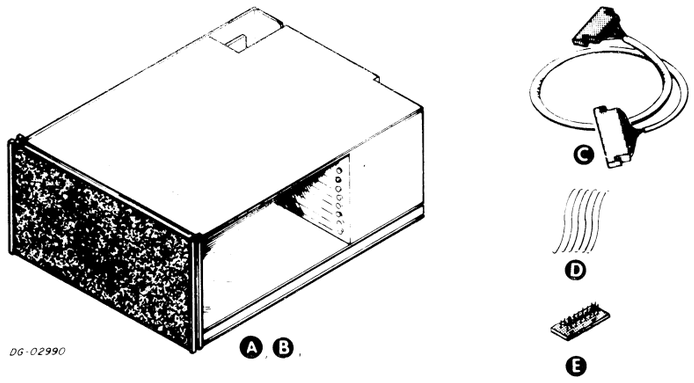
I/O bus terminator (005-001734)on P5 must be removed if an I/O cable is connected between P5 and an external I/O device; e.g. communications chassis, I/O only expansion chassis (8414-B).

If MMPU1 board is not present in slot 5, use wire list 008-000655 to jumper memory control signals and address lines.

If MMPU1 board is present in slot 5, use wire list 008-000654 to connect control signals to MMPU1 back panel slot.



SUBSYSTEM COMPONENT BREAKDOWN



DG-02990

MAJOR COMPONENT

Item	Component	Mounting Location	Notes
A,B	EXPANSION CHASSIS	CABINET	A-MEMORY ONLY B-I/O ONLY

CABLE DG-02672

Item	Cable	Connecting		Max Allowed Lg ft / m	Notes
C	EXT I/O BUS	MAIN CHAS	and EXPANSION CHAS	15 / 4.56	
D	EXP W/L ASSY	MAIN CHAS	" EXPANSION CHAS	- / -	USED FOR EXP CHAS MEM ONLY

TERMINATOR

Item	Terminator	Location	Notes
E	MEM BUS	B/P (EXP CHASSIS)	WHEN EXT I/O IS USED
	A-MEM/ I/O BUS	"	WHEN NO EXT I/O IS USED
	B-ADDR/ I/O BUS	"	WHEN NO EXT I/O IS USED IN A MAPPED MACHINE
	B-I/O BUS	"	USED WHEN NO EXT I/O IS USED IN AN UNMAPPED MACH
	B-ADDR BUS	"	USED WHEN EXT I/O IS USED IN A MAPPED MACHINE

DG-02674

SPECIFICATIONS OF CABINET-MOUNTED COMPONENTS

Item	Component	Number in Subsystem	Maximum Operating Temperature: Component °F / °C	Maximum Operating Temperature: Media °F / °C	Primary Power: Current Draw (Amp)	Primary Power: Voltage ±ΔV	Primary Power: Frequency	Cabinet Height Required: Area	Cabinet Height Required: in.	Cabinet Height Required: cm	Weight lbs / kg	Power Dissipation (Max Watts)	Preferred Location or Remarks	Operating Humidity (Relative) min / max
A	MEMORY ONLY	1	113 / 45	— / —	9.6 *	120 · 12 - 18	50 60 1	6	10.5	26.45	110 / 50	1150 *	FIRST EXPANSION CHASSIS MOUNTS BELOW MAIN CHASSIS	20 / 90
B	I/O ONLY	1	113 / 45	— / —	4.8	240 · 24 - 53	50 60 1	6	10.5	26.45	110 / 50	1150	SECOND EXPANSION CHASSIS MOUNTS IN SEPARATE CABINET.	20 / 90
			/	— / —							/			/

DG-01914

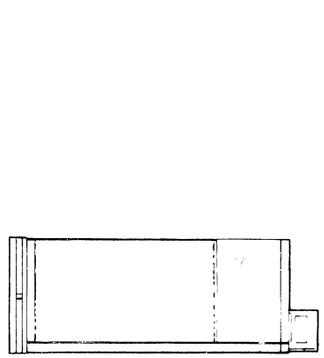
Voltage	Power Cable Length ft	Power Cable Length m	Power Cable Plug	Mating Receptacle on Power Drop	Mating Receptacle in Wall
EXPANSION CHASSIS 120	10	3	NEMA 5-15P	NEMA 5-15R	NEMA 5-15R
EXPANSION CHASSIS 240	10	3	NEMA 6-15P	NEMA 6-15R	NEMA 6-15R

DG-02713

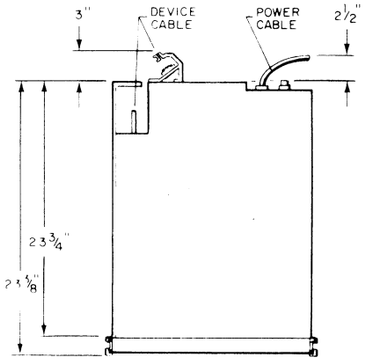
* THE MAIN CHASSIS AND FIRST EXPANSION CHASSIS TOGETHER DRAW ONLY 16A AND DISSIPATE 1920 WATTS.

CPU DESIGNATOR:

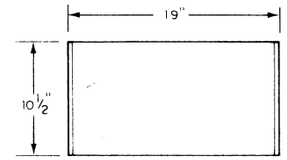
Designator Range: 05-12



SIDE VIEW



TOP VIEW



DG-02991

FRONT VIEW

SLOT ASSIGNMENTS

MEMORY ONLY

Data Channel Speeds Available — 8414-A — Standard ☑ High Speed ☐

Slot	Allowed (Slot Chart)	Assigned	+5V Current Draw
7			
6	MEMORY		
5	↑		
4			
3			
2			
1			
0			
9			
8			
7			
6			
5			
4			
3			
2	↓		
1	MEMORY		

Total +5V Current draw _____

Max +5V Current Available 60A

+5V Current Surplus _____

I/O ONLY

Data Channel Speeds Available — 8414-B — Standard ✓ High Speed ☐

Slot	Allowed (Slot Chart)	Assigned	+5V Current Draw
7			
6	I/O		
5	↑		
4			
3			
2			
1			
0			
9			
8			
7			
6			
5			
4			
3			
2	↓		
1	I/O		

Total +5V Current draw _____

Max +5V Current Available 60A

+5V Current Surplus _____

RULES

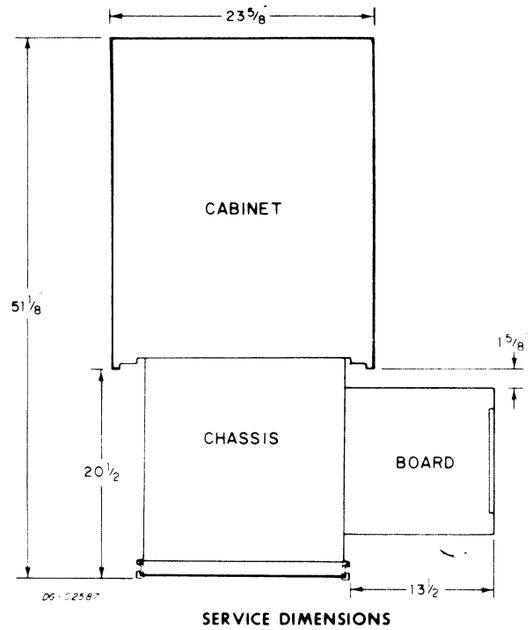
IN GENERAL

Use an 3414-A expansion chassis if the system has more than 4 memory boards. In this case, put all the memory boards in this expansion chassis. Use an 8414-B expansion chassis if the main chassis cannot accomodate all the I/O boards.

IN PARTICULAR

1. If there are 8 memory boards or less place them in every second slot of the 8414-A chassis.

2. If the 8414-B expansion chassis has the B-I/O (005-003444) and A-Mem I/O (005-003447) terminators of slot 16, then that slot of the 8414-B chassis cannot accomodate a board which requires a wire-wrapped internal cable.



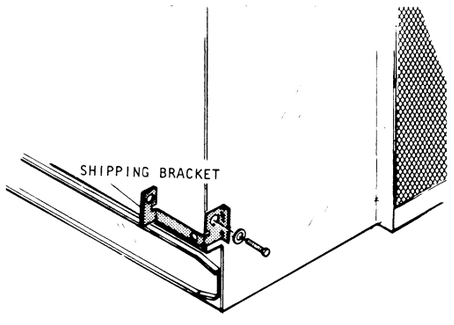
DG-02587

SERVICE DIMENSIONS

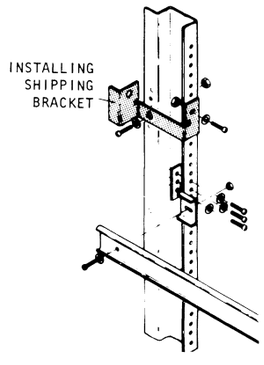
SHIPPING

FOR PACKING PROCEDURE,
SEE 010-000263

MOUNTING SHIPPING BRACKET TO CHASSIS

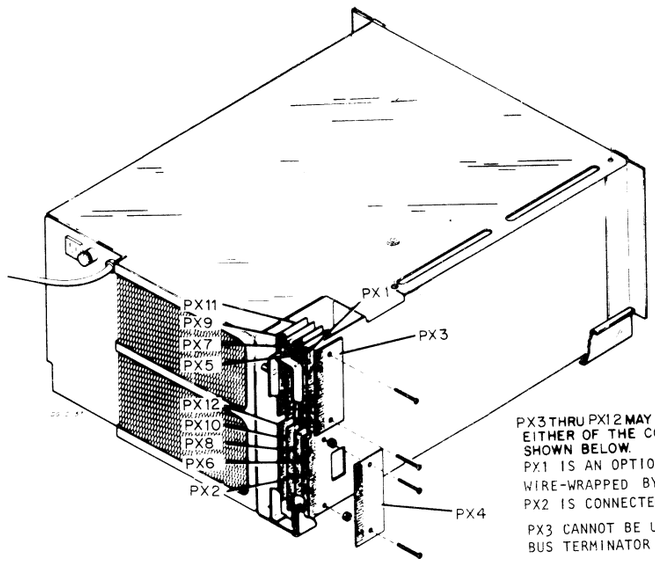


MOUNTING SHIPPING BRACKET TO RAILS

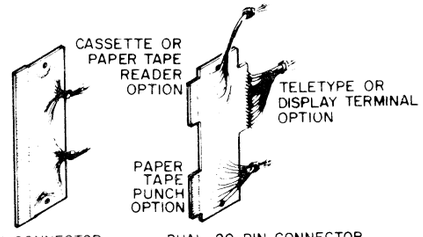


INTERNAL CABLING

BACKPANEL CONNECTOR



PX3 THRU PX12 MAY BE EITHER OF THE CONNECTORS SHOWN BELOW.
PX1 IS AN OPTIONAL PADDLE BOARD WIRE-WRAPPED BY THE USER.
PX2 IS CONNECTED TO THE I/O BUS.
PX3 CANNOT BE USED WHEN THE I/O BUS TERMINATOR IS INSTALLED.

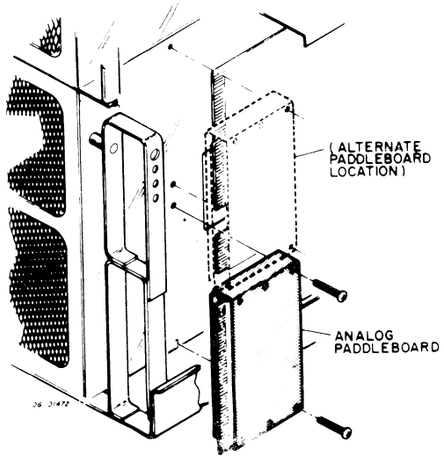


50-PIN CONNECTOR
PART NO. 005-001802

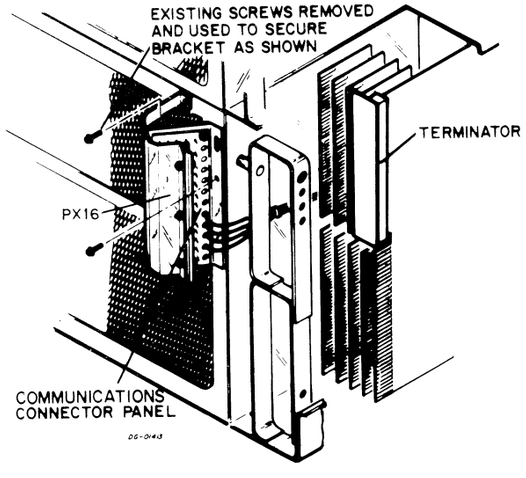
DUAL 20-PIN CONNECTOR
005-003453

DG-01172

ANALOG PADDLEBOARD



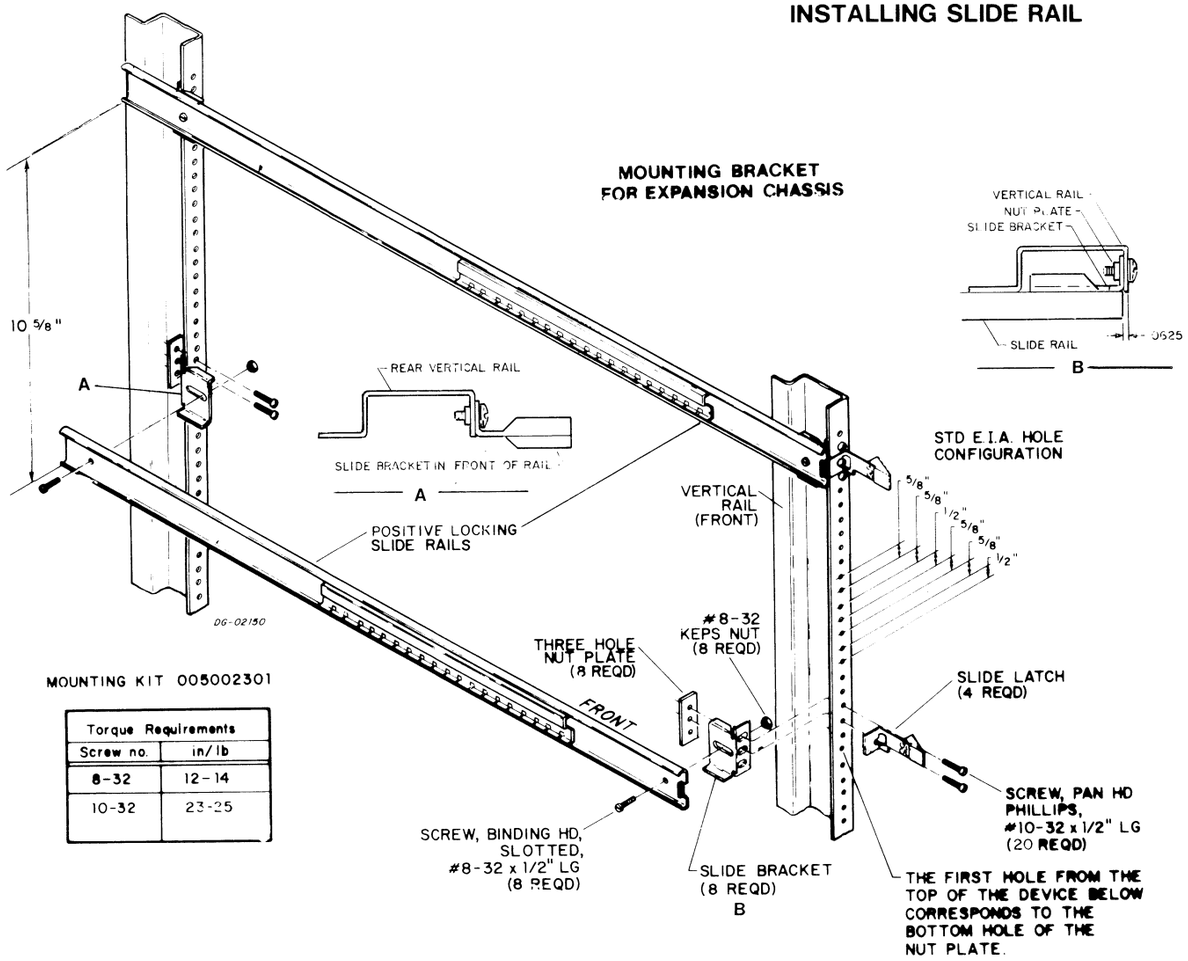
COMMUNICATIONS CONNECTOR



DG-0143

CABINET MOUNTING

INSTALLING SLIDE RAIL

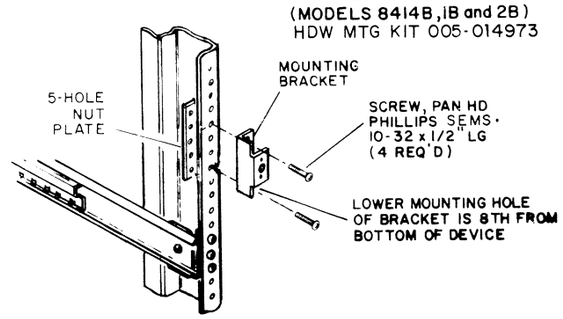


MOUNTING KIT 005002301

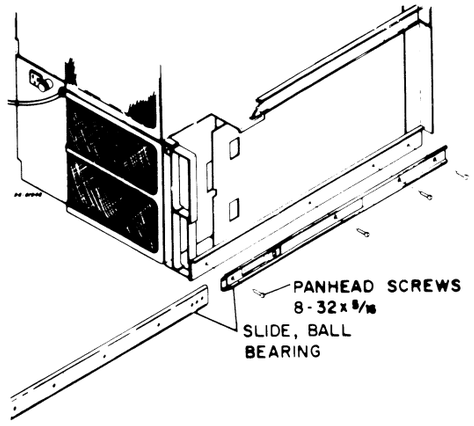
Torque Requirements	
Screw no.	in/lb
8-32	12-14
10-32	23-25

MOUNTING BRACKET FOR EXPANSION CHASSIS IN SEPARATE CABINET

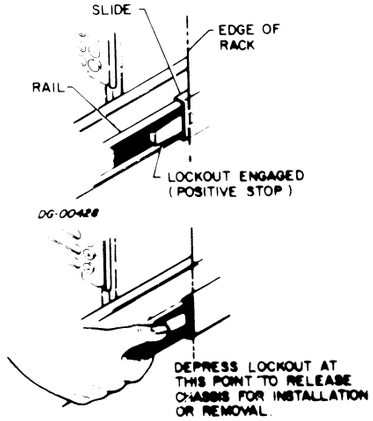
(MODELS 8414B, 1B and 2B)
HDW MTG KIT 005-014973



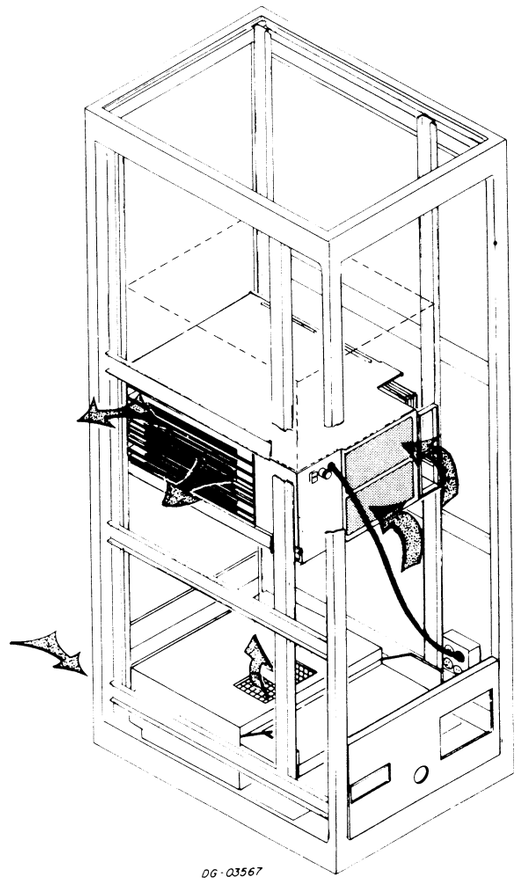
MOUNTING SLIDE ON CHASSIS



SLIDE LOCKOUT

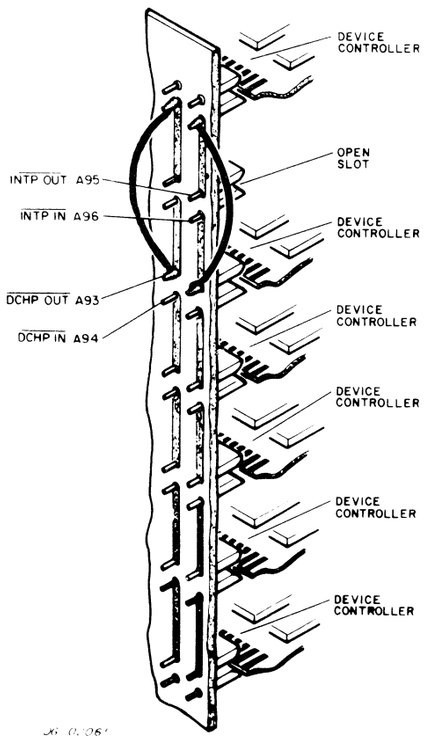


AIR FLOW

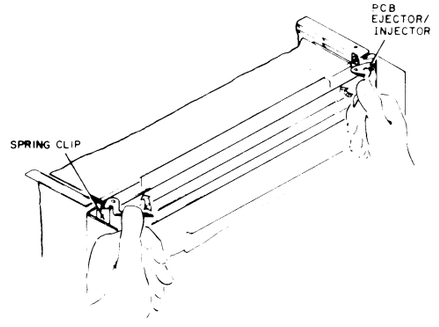


TAILORING AND EXTERNAL CABLING

PRIORITY CHAIN JUMPERS



PCB PLACEMFNT IN SLOT



MAIN CHASSIS WITH MEMORY ONLY EXPANSION CHASSIS (model 8414-A)

Terminators Needed:

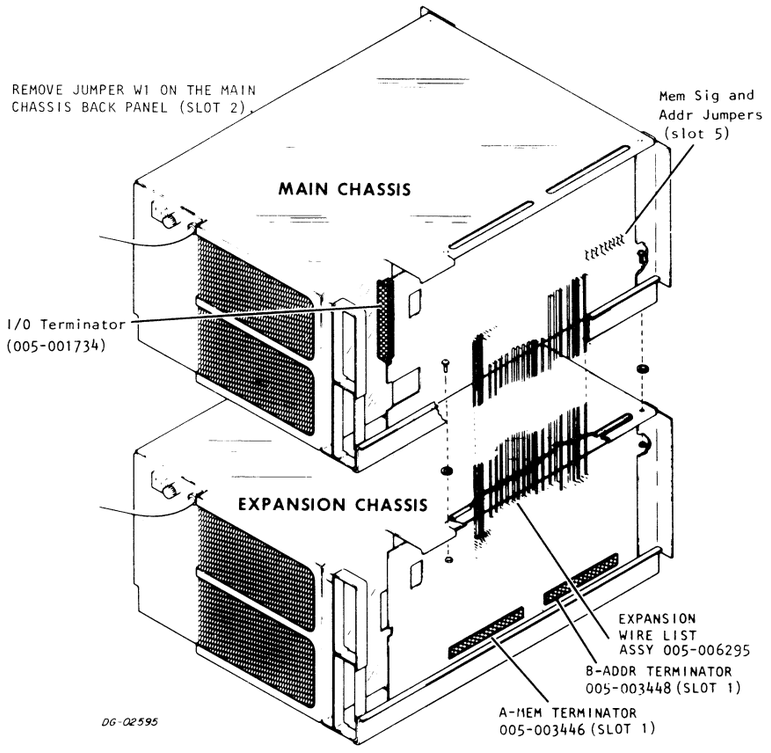
I/O Bus terminator (005-001734) for P5 main chassis
A-Mem terminator (oo5-003446) for slot 1 of 8414-A
B-Addr terminator (005-003448) for slot 1 of 8414-A

I/O bus terminator (005-001734) on P5 must be removed if an I/O cable is connected to P5 and an external I/O device; e.g. communications chassis or I/O expansion chassis (Model 8414-B).

If MMPU1 board is not present in slot 5, use wire list 008-000655 to jumper memory control signals and address lines.

If MMPU1 board is present in slot 5, use wire list 008-000654 to connect control signals to MMPU1 back panel slot.

Chassis are bolted together. Use wire list 005-006295 to connect Mem Bus, Addr Bus and necessary control signals between main chassis and memory only expansion chassis 8414-A.



MAIN CHASSIS WITH I/O ONLY EXPANSION CHASSIS (model 8414-B)

Terminators Needed:

A-Mem terminator (005-003446) for slot 1 of main chassis

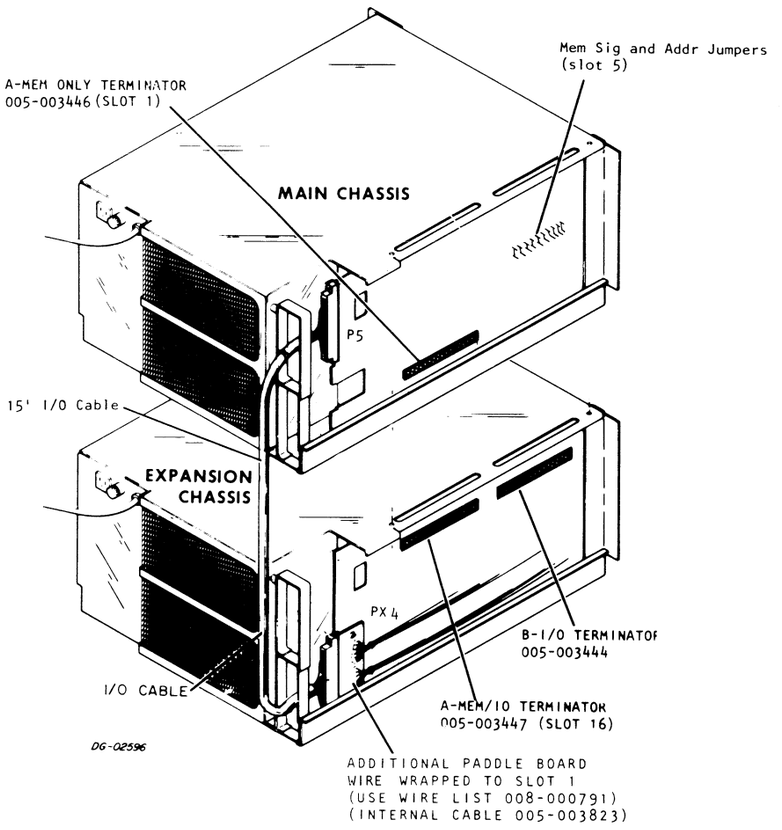
A-Mem/IO terminator (005-003447) for slot 16 of 8414-B

B-I/O terminator (005-003444) for slot 16 of 8414-B

If MMPU1 board is not present in slot 5, use wire list 008-000655 to jumper memory control signals and address lines.

If MMPU1 board is present in slot 5, use wire list 008-000654 to connect control signals to MMPU1 back panel slot.

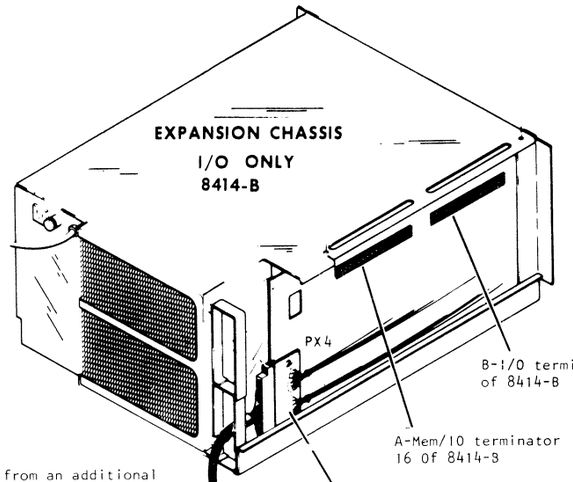
To connect an I/O cable frome an additional paddle board of 8414-B to an I/O cevice, e.q. communication chassis, use wire list 008-000791 and internal cable 005-003823. Also remove A-Mem/I/O terminator (005-003447) and B-I/O terminator (005-003444) from slot i6 of 8414-B.



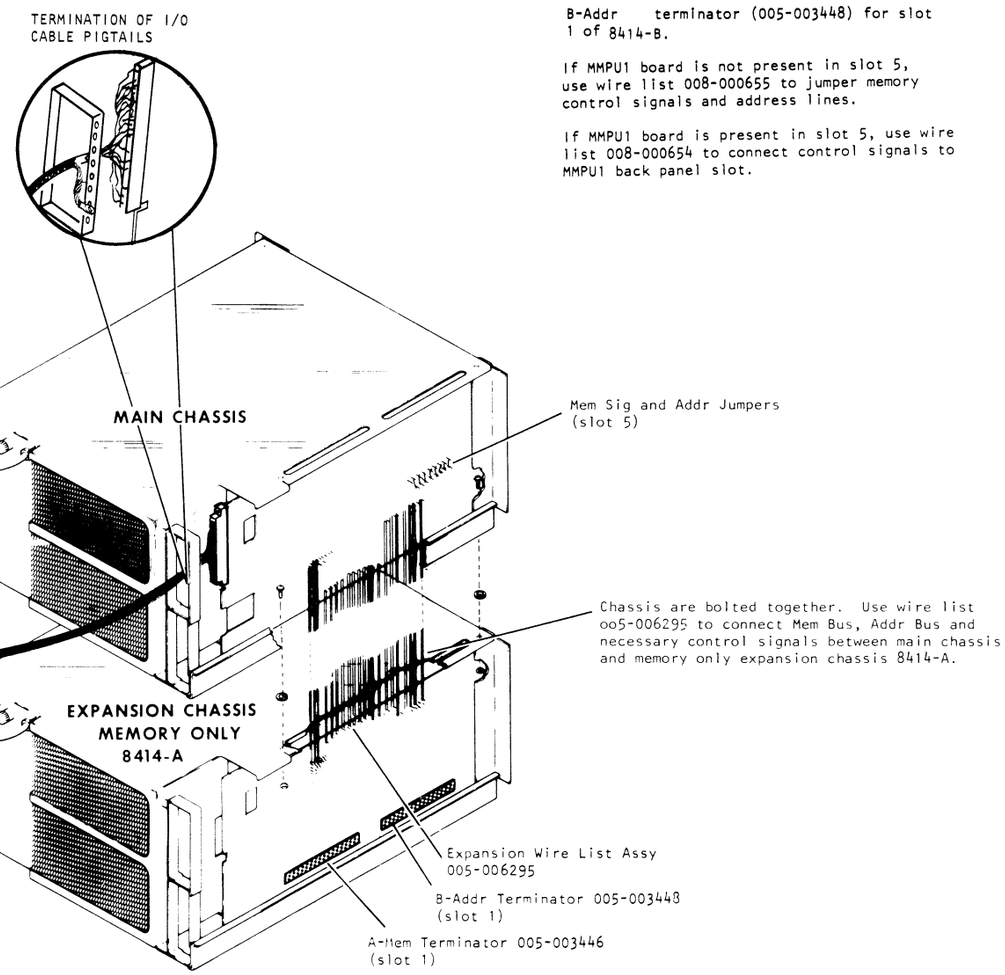
ECLIPSE S/230, C/330 EXPANSION CHASSIS

EXTERNAL CABLING

MAIN CHASSIS WITH I/O ONLY (model 8414-B) AND MEMORY ONLY (model 8414-A) EXPANSION CHASSIS



To connect an I/O cable from an additional paddle board of 8414-B to an I/O device, e.g. communication chassis, use wire list 008-000791 and internal cable 005-003823. Also remove A-Mem/I/O terminator (005-003447) and B-I/O terminator (005-003444) from slot 16 of 8414-B.



Terminators Needed:

A-Mem/IO terminator (005-003447) for slot 16 Of 8414-B

B-I/O terminator (005-003444) for slot 16 of 8414-B

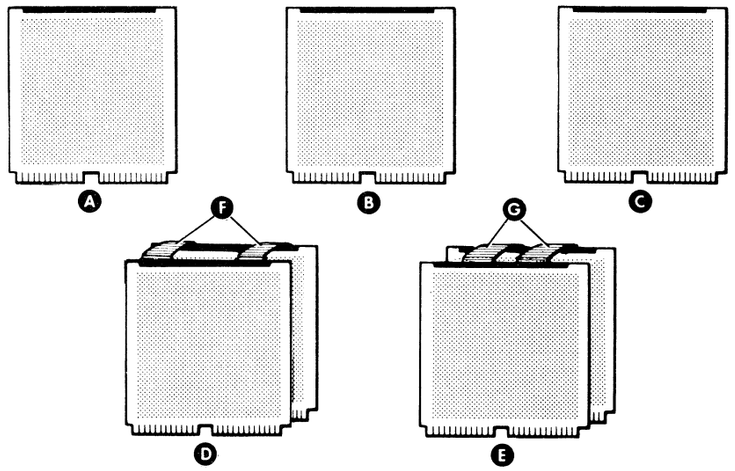
A-Mem terminator (005-003446) for slot 1 of 8414-A.

B-Addr terminator (005-003448) for slot 1 of 8414-B.

If MMPU1 board is not present in slot 5, use wire list 008-000655 to jumper memory control signals and address lines.

If MMPU1 board is present in slot 5, use wire list 008-000654 to connect control signals to MMPU1 back panel slot.

SUBSYSTEM COMPONENT BREAKDOWN



MAJOR COMPONENT

Item	Component	Mounting Location	Notes
A	16KB CORE MEMORY	ECLIPSE CHASSIS (MAIN or EXPANSION)	WITH or WITHOUT ERCC
	32KB CORE MEMORY	ECLIPSE CHASSIS (MAIN or EXPANSION)	WITHOUT ERCC
B	64KB SC MEMORY	ECLIPSE CHASSIS (MAIN or EXPANSION)	WITH ERCC
C	512KB MAP BOARD	MAIN CHASSIS	
D**	CPU-1 & CPU-2	MAIN CHASSIS	WITH or WITHOUT WCS and/or ERCC
E*	EAU-1 & EAU-2 OR FPU-1 & FPU-2	MAIN CHASSIS	FLOATING POINT PROCESSOR

CABLE

Item	Cable	Connecting	Max Allowed Lg ft / m	Notes
F	CPU INTERBOARD CABLE	CPU-1 and CPU-2	1.5 / .5	2 REQUIRED
G*	FPU INTERBOARD CABLE	FPU-1 " FPU-2	1.5 / .5	2 REQUIRED

* STANDARD WITH C/330 COMPUTER.
** WCS OPTION NOT AVAILABLE WITH C/330.

SPECIFICATIONS OF CHASSIS MOUNTED COMPONENTS

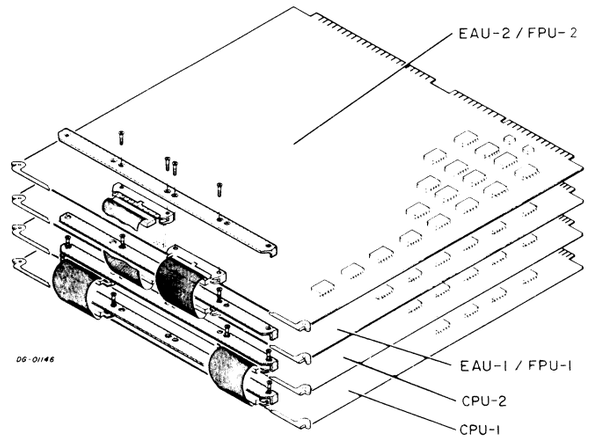
Model #	Item	Component	No. of Slots Required	Total +5V Current Draw (Amps)	Remarks
8418	A	16KB CORE MEMORY	1	1.6	
8416		16KB CORE & ERCC	1	2.6	Requires ERCC on CPU-2
8603		32KB CORE MEMORY	1	1.8	
8602	B	64KB SC MEMORY	1	4.5	Requires ERCC on CPU-2
8601	C	512KB MAP BOARD	1	6	
**	D	CPU-1 & CPU-2	2	16	
		CPU-1, 2, & ERCC	2	17.6	ERCC adds 1.6A @ +5V to CPU-2
		CPU-1, 2, WCS & ERCC	2	23.8	WCS adds 6.2A @ +5V to CPU-2
8313*	E	FPU-1, FPU-2 or EAU-1, EAU-2	2	16	Floating Point Processor

SHIPPING

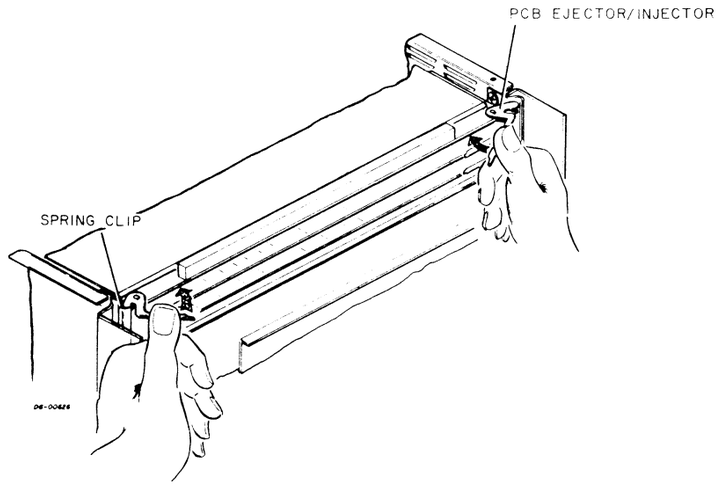
FOR PACKING PROCEDURE,
SEE 010-000262

INTERNAL CABLING

EAU-1/FPU-1 and EAU-1/FPU-2; CPU-1 and CPU-2 are cabled together as shown below.



INSTALLING PC BOARD



TAILORING and SWITCHES

MEMORIES

Interleaving and address selection is determined on core and semiconductor boards by jumpers or switches, depending on when the board was manufactured. In either case, proceed as follows:

1. Assign each memory board a (unique) number from 0-15.

2. Assign from the table below the appropriate level of interleaving for each board.

3. If a board uses switches, go to step 7 otherwise, proceed to step 4.

4. Select the corresponding jumper-positions for each board from the table below: The "Memory Select Jumper Positions" figure illustrates where each jumper goes on the board.

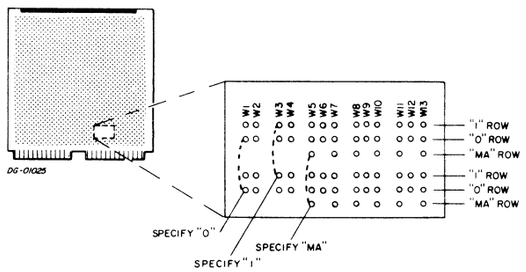
Assigned Levels of Interleaving		
Total Number of Memory Boards	Board Numbers	Assigned Level of Interleaving
1	0	none
2	0,1	2
3	0,1 2	2 none
4	0,1,2,3	4
5	0,1,2,3 4	4 none
6	0,1,2,3 4,5	4 2
7	0,1,2,3 4,5 6	4 2 none
8	0,1,2,3,4,5,6,7	8
9	0,1,2,3,4,5,6,7 8	8 none
10	0,1,2,3,4,5,6,7 8,9	8 2
11	0,1,2,3,4,5,6,7 8,9 10	8 2 none
12	0,1,2,3,4,5,6,7 8,9,10,11	8 4
13	0,1,2,3,4,5,6,7 8,9,10,11 12	8 4 none
14	0,1,2,3,4,5,6,7 8,9,10,11 12,13	8 4 2
15	0,1,2,3,4,5,6,7 8,9,10,11 12,13 14	8 4 2 none
16	0,1,2,3,4,5,6,7 8,9,10,11,12,13,14,15	8 8

DG-01183

JUMPER POSITIONS FOR BOARD NUMBERS					
Board Number Jumpers					
	Jumper Assignments				
Board Number	W1 and W2	W3 and W4	W6	W9	W12
0	0	0	0	0	0
1	0	0	0	0	1
2	0	0	0	1	0
3	0	0	0	1	1
4	0	0	1	0	0
5	0	0	1	0	1
6	0	0	1	1	0
7	0	0	1	1	1
8	0	1	0	0	0
9	0	1	0	0	1
10	0	1	0	1	0
11	0	1	0	1	1
12	0	1	1	0	0
13	0	1	1	0	1
14	0	1	1	1	0
15	0	1	1	1	1

DG-01184

MEMORY SELECT JUMPER POSITIONS



DG-01625

Each of the jumper positions crosses six rows. Specifying a "1" at a jumper position is done by inserting a jumper from the top "1" row to the bottom "1" row. A "0" is specified by inserting a jumper from the top "0" row to the bottom "0" row. A bit used in interleaving is specified by inserting a jumper from the top "MA" row to the bottom "MA" row. Examples of the three basic jumper positions are shown in the figure above.

5. Select the interleaving jumpers for each board from the following table, and install these into their corresponding position illustrated in the above figure. Note that core and semiconductor memories cannot be interleaved with one another.

Level of Interleaving Jumpers	
Level of Interleaving	Jumpers Inserted
none	W7, W10, W13
2	W7, W10, W11
4	W7, W8, W11
8	W5, W8, W11

6. There remains open one jumper position in each of the following pairs: W5/W7, W8/W10 and W11/W13. Install these three jumpers on each board by matching them to jumpers already installed according to the table below. The board is ready to be installed in its chassis.

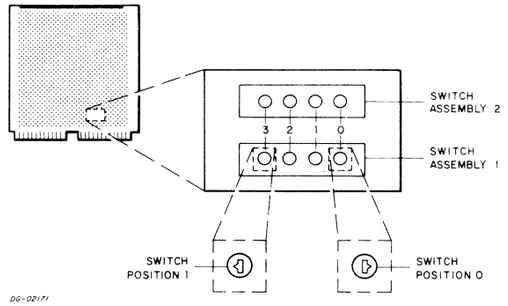
Gate-Enable Jumpers	
Pair	Match
W5/W7	W6
W8/W10	W9
W11/W13	W12

7. Select the address switches for each board from the following table. The "Memory Select Switch Positions" figure illustrates where each switch is positioned on a board.

Address Switch Position for Each Board				
Board Number	Switch Assembly 2			
	Switch 3	Switch 2	Switch 1	Switch 0
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
10	1	0	1	0
11	1	0	1	1
12	1	1	0	0
13	1	1	0	1
14	1	1	1	0
15	1	1	1	1

DG-02233

MEMORY SELECT SWITCH POSITIONS



DG-02171

The memory select switches, as shown above, are arranged in two assemblies; four switches per assembly. Switches 0-3 in switch assembly 2 select the board number (0-15). Switches 0-2 in switch assembly 1 select the level of interleaving (none, 2-, 4-, or 8-way) for the board. Each switch has two positions 0 and 1. These positions are selected by inserting a screwdriver in the switch notch and rotating the switch.

8. Select the interleaving switches for each board from the following table. Note that core and semiconductor memories cannot be interleaved with one another.

SWITCH POSITIONS FOR INTERLEAVING				
Level of Interleaving	Switch Assembly 1			
	Switch 3	Switch 2	Switch 1	Switch 0
none	0	0	0	0
2-Way	0	0	0	1
4-Way	0	0	1	1
8-Way	0	1	1	1

DG-02194

TAILORING AND SWITCHES (CONT)

16K CORE MEMORIES

Interleaving and address selection is determined on ECLIPSE 16K core boards by switch positions. Proceed as follows to assign switch positions.

1. Assign each memory board a (unique) number from 0-15.

2. Assign from the table below the appropriate level of interleaving for each board.

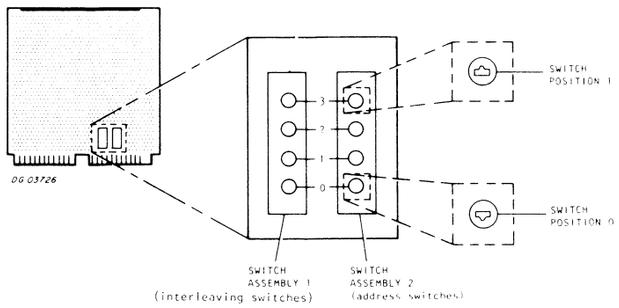
Assigned Levels of Interleaving		
Total Number of Memory Boards	Board Numbers	Assigned Level of Interleaving
1	0	none
2	0,1	2
3	0,1 2	2 none
4	0,1,2,3	4
5	0,1,2,3 4	4 none
6	0,1,2,3 4,5	4 2
7	0,1,2,3 4,5 6	4 2 none
8	0,1,2,3,4,5,6,7	8
9	0,1,2,3,4,5,6,7 8	8 none
10	0,1,2,3,4,5,6,7 8,9	8 2
11	0,1,2,3,4,5,6,7 8,9 10	8 2 none
12	0,1,2,3,4,5,6,7 8,9,10,11	8 4
13	0,1,2,3,4,5,6,7 8,9,10,11 12	8 4 none
14	0,1,2,3,4,5,6,7 8,9,10,11 12,13	8 4 2
15	0,1,2,3,4,5,6,7 8,9,10,11 12,13 14	8 4 2 none
16	0,1,2,3,4,5,6,7 8,9,10,11,12,13,14,15	8 8

DG-01183

3. Select the address switches for each board from the following table. The Memory Select Switch Positions figure illustrates where each switch is positioned on a board.

Address Switch Position for Each Board				
Board Number	Switch Assembly 2			
	Switch 3	Switch 2	Switch 1	Switch 0
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
10	1	0	1	0
11	1	0	1	1
12	1	1	0	0
13	1	1	0	1
14	1	1	1	0
15	1	1	1	1

DG-02778



MEMORY SELECT SWITCH POSITIONS

The memory select switches as shown above, are arranged in two assemblies; four switches per assembly. Switches 0-3 in switch assembly 2 select the board number (0-15). Switches 0-2 in switch assembly 1 select the level of interleaving (none, 2-, 4-, or 8-way) for the board. Each switch has two positions 0 and 1. These positions are selected by inserting a screwdriver in the switch notch and rotating the switch.

4. Select the interleaving switches for each board from the following table.

SWITCH POSITIONS FOR INTERLEAVING				
Level of Interleaving	Switch Assembly 1			
	Switch 3	Switch 2	Switch 1	Switch 0
none	0	0	0	0
2-Way	0	0	0	1
4-Way	0	0	1	1
8-Way	0	1	1	1

DG-02194

32Kx21 BIT SC MEMORIES

Interleaving and address selection is determined on ECLIPSE 32K X 21 SC boards by jumper positions. Proceed as follows to assign jumper positions.

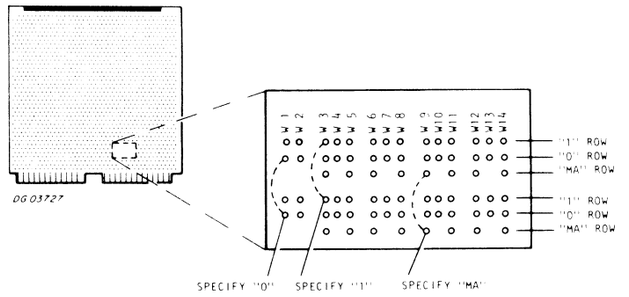
1. Assign each memory board a (unique) number from 0-7.

2. Assign each from the table below the appropriate level of interleaving for each board.

Assigned Levels of Interleaving		
Total Number of Memory Boards	Board Numbers	Assigned Level of Interleaving
1	0	none
2	0,1	2
3	0,1 2	2 none
4	0,1,2,3	4
5	0,1,2,3 4	4 none
6	0,1,2,3 4,5	4 2
7	0,1,2,3 4,5 6	4 2 none
8	0,1,2,3,4,5,6,7	8

3. Select the corresponding jumper-positions for each board from the table below: The "Memory Select Jumper Positions" figure illustrates where each jumper goes.

JUMPER POSITIONS FOR BOARD NUMBERS					
	Board Number Jumpers				
	Jumper Assignments				
Board Number	W1 to W4	W5	W7	W10	W13
0	0	MA	0	0	0
1	0	MA	0	0	1
2	0	MA	0	1	0
3	0	MA	0	1	1
4	0	MA	1	0	0
5	0	MA	1	0	1
6	0	MA	1	1	0
7	0	MA	1	1	1



MEMORY SELECT JUMPER POSITIONS

Each of the jumper positions crosses six rows. Specifying a "1" at a jumper position is done by inserting a jumper from the top "1" row to the bottom "1" row. A "0" is specified by inserting a jumper from the top "0" row to the bottom "0" row. A bit used in interleaving is specified by inserting a jumper from the top "MA" row to the bottom "MA" row. Examples of the three basic jumper positions are shown in the figure above.

4. Select the interleaving jumpers for each board from the following table, and install these into their corresponding MA positions illustrated in the above figure.

Level of Interleaving Jumpers	
Level of Interleaving	Jumpers Inserted
none	W8 W11 W14
2	W8 W11 W12
4	W8 W9 W12
8	W6 W9 W12

5. There remains open one jumper position in each of the following pairs: W6/W8, W9/W11 and W12/W14. Install these three jumpers on each board by matching them to jumpers already installed according to the table below.

Gate-Enable Jumpers	
Pair	Match
W6/W8	W7
W9/W11	W10
W12/W14	W13

COMPUTERS WITH MIXED SIZE MEMORIES

1. 8K AND 16K WORD CORE MEMORIES CAN BE MIXED IN THE SAME SYSTEM. (NON-ERCC MEMORIES)

2. INTERLEAVING OF MEMORIES IS POSSIBLE IN A SYSTEM WITH MIXED SIZED MEMORIES AS LONG AS THE DIFFERENT SIZE MEMORIES ARE NOT INTERLEAVED WITH ONE ANOTHER. ONLY THE SAME SIZE MEMORIES CAN BE INTERLEAVED WITH ONE ANOTHER.

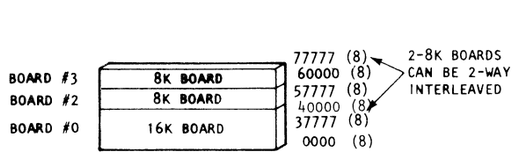
3. ONLY 16 MEMORY BOARDS OF ANY SIZE AND MIXTURE MAY BE USED IN ANY ONE SYSTEM.

BOARD NUMBER ASSIGNMENTS IN MIXED MEMORY SYSTEMS

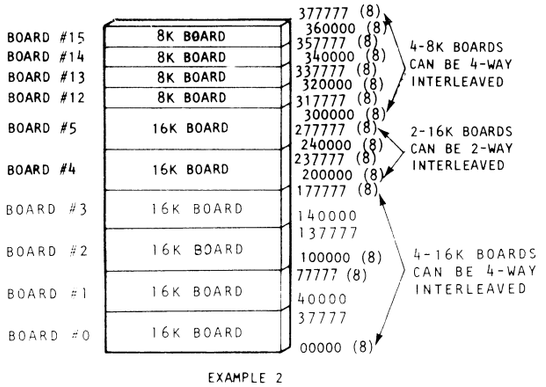
1. IT IS RECOMMENDED THAT THE 16K WORD MEMORIES BE CONFIGURED TO HAVE THE LOWEST ADDRESSES OF THE SYSTEM.

FOR EXAMPLE:

(ASSIGNMENT OF BOARD NUMBERS IS EXPLAINED IN STEP 5)

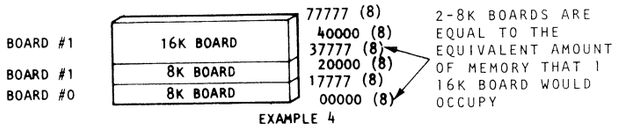


EXAMPLE 1

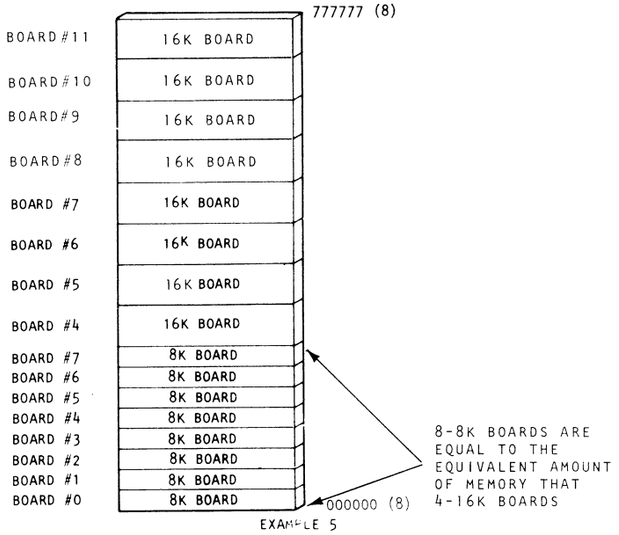


EXAMPLE 2

2. IT IS POSSIBLE TO HAVE THE 8K BOARDS CONTAIN THE LOWER MEMORY LOCATIONS IN A MIXED MEMORY SYSTEM. TO DO SO REQUIRES THAT THE SIZE OF THE SMALLER MEMORIES ADD UP TO AN INTEGRAL AMOUNT OF THE SIZE OF THE LARGER MEMORIES.



EXAMPLE 4



EXAMPLE 5

3. IN MIXED MEMORY SYSTEMS HAVING MORE THAN 128K WORDS OF MEMORY AND USING 8K MEMORY BOARDS, IT IT NECESSARY TO ASSIGN THE 8K BOARD NUMBERS SO THAT THE MEMORY ADDRESSES ASSOCIATED WITH THEM ARE NOT GREATER THAN 377777 (8) IN THE LOWER 128K OF MEMORY).

4. THE INTERLEAVING JUMPERS ON MEMORIES USED IN A MIXED MEMORY SYSTEM ARE CONFIGURED IN THE SAME MANNER AS IS DESCRIBED IN THE MEMORY JUMPERING SECTION FOR SYSTEMS USING ONE SIZE OF MEMORY BOARDS.

5. THE FOLLOWING PROCEDURE IS RECOMMENDED FOR USE IN DETERMINING THE BOARD NUMBERS OF THE DIFFERENT SIZE MEMORY BOARDS USED IN A MIXED MEMORY SYSTEM.

a. DRAW A DIAGRAM LIKE THE ONE USED FOR THE TWO EXAMPLES BELOW.

b. FILL IN THE RIGHT HAND COLUMN OF THE DIAGRAM WITH THE SIZE OF EACH MEMORY BOARD USED IN YOUR SYSTEM. BEGIN AT THE BOTTOM AND FILL IN THE DIAGRAM CONTIGUOUSLY.

c. CIRCLE THE NUMBER IN ONE OF THE TWO LEFT HAND COLUMNS THAT CORRESPONDS TO THE SIZE OF MEMORY YOU HAVE PLACED IN THE RIGHT HAND COLUMN. THE CIRCLED NUMBERS ARE THE BOARD NUMBER TO BE ASSIGNED TO THE CORRESPONDING MEMORY BOARD.

d. REFER TO THE SECTION FOR SYSTEMS USING ONE SIZE MEMORY BOARDS TO SELECT THE JUMPER POSITIONS FOR THE MEMORY BOARD NUMBERS DETERMINED BY YOUR DIAGRAM.

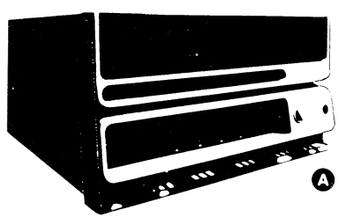
BOARD NUMBERS ASSIGNED FOR		
16K BOARD	8K BOARD	BOARDS USED IN SYSTEM
15	*	
	*	
14	*	
	*	
13	*	
	*	
12	*	
	*	
11	*	
	*	
10	*	
	*	
9	*	
	*	
8	*	
	*	
7	(15)	8K BOARD
	(14)	8K BOARD
6	(13)	8K BOARD
	(12)	8K BOARD
(5)	11	16K BOARD
	10	
(4)	9	16K BOARD
	8	
(3)	7	16K BOARD
	6	
(2)	5	16K BOARD
	4	
(1)	3	16K BOARD
	2	
(0)	1	16K BOARD
	0	

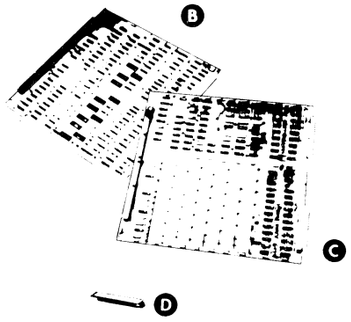
EXAMPLE 6

BOARD NUMBERS ASSIGNED FOR		
16K BOARD	8K BOARD	BOARDS USED IN SYSTEM
(15)	*	
	*	
(14)	*	
	*	
(13)	*	16K BOARD
	*	
(12)	*	16K BOARD
	*	
(11)	*	16K BOARD
	*	
(10)	*	16K BOARD
	*	
(9)	*	16K BOARD
	*	
(8)	*	16K BOARD
	*	
(7)	15	16K BOARD
	14	
(6)	13	16K BOARD
	12	
(5)	11	16K BOARD
	10	
(4)	9	16K BOARD
	8	
(3)	7	16K BOARD
	6	
(2)	5	16K BOARD
	4	
1	(3)	8K BOARD
	(2)	8K BOARD
0	(1)	8K BOARD
	(0)	8K BOARD

EXAMPLE 7

INSTALLATION SPECIFICATIONS





MAJOR COMPONENT

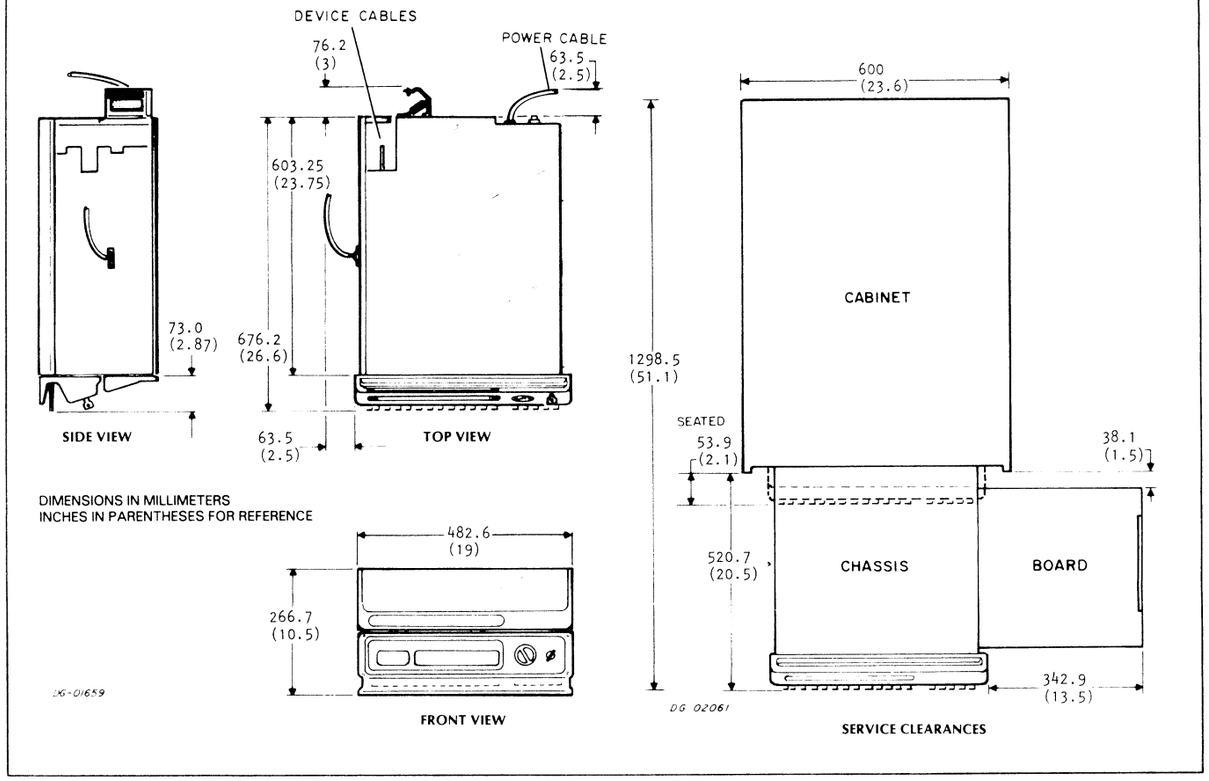
Item	Component	Mounting Location	Notes
A	MAIN CHASSIS	CABINET	
B	CPU-1	MAIN CHASSIS	
C	CPU-2	MAIN CHASSIS	

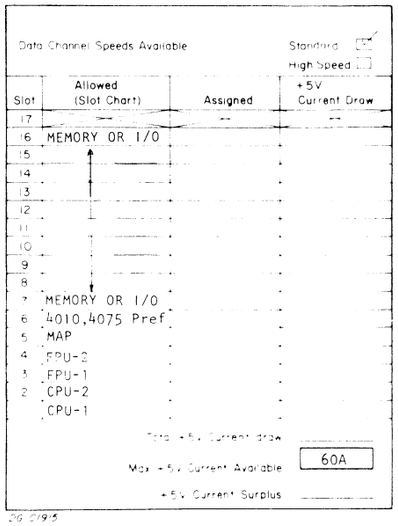
DG-02872

TERMINATOR

Item	Terminator	Location	Notes
D	A-MEM BUS	BACK PANEL	USED WHEN EXPANSION CHASSIS IS NOT PRESENT

DG-02674





DG-01975

DIMENSIONS:	Width	Depth	Height
Millimeters	482.60	676.4	26.67
Inches	19.00	26.63	10.50

SERVICE CLEARANCES:	Front	Right
Millimeters	520.7	342.9
Inches	20.50	13.50

WEIGHT:	Empty
kilograms	50
Pounds	110

HEAT OUTPUT:	Watts	BTU/hr
	1150	3921.5

OPERATING ENVIRONMENT:		
Temperature (max)	55 C	131 F
Relative Humidity (max)	20-90%	
Altitude		

PREFERRED LOCATION: 9-15

CPU DESIGNATOR:
Designator Range: 05-12

POWER REQUIREMENTS:

(Domestic)			
Voltage	102-132		
Hz	60 + 1		
Max Amp per Phase	9.6		
Phase			
Startup Surge per Phase			
(Export)			
Voltage	102-132	187-264	
Hz	50 + 1	50 + 1	
Max Amp per Phase	9.6	4.8	
Phase			
Startup Surge per Phase			

CABLES:

Primary Power	Length	Conn	Mating Conn
Domestic 60Hz	1.8m(6')	5-15P	5-15R
Export 50Hz	1.8m(6')	6-15P	6-15R

PACKING KIT

FOR PACKING PROCEDURE,
SEE 010-000262/263

Storage Specifications		
Temperature Range °F / °C	Relative Humidity (Non-condensing)	Maximum Period
−40 TO +185 / −40 TO +85	0–85%	90 days

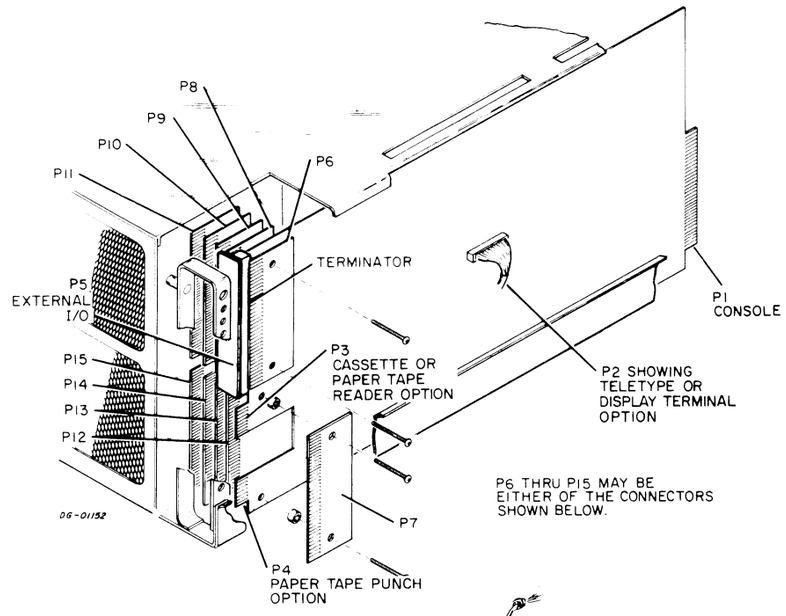
DG-02062

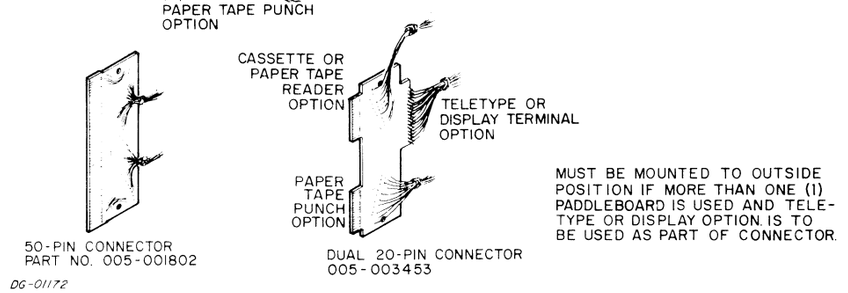
Shipping Specifications			
Temperature Range °F / °C	Relative Humidity (Non-condensing)	Maximum Altitude	———
−40 TO +185 / −40 TO +85	0–85%	50,000 ft.	———

DG-02063

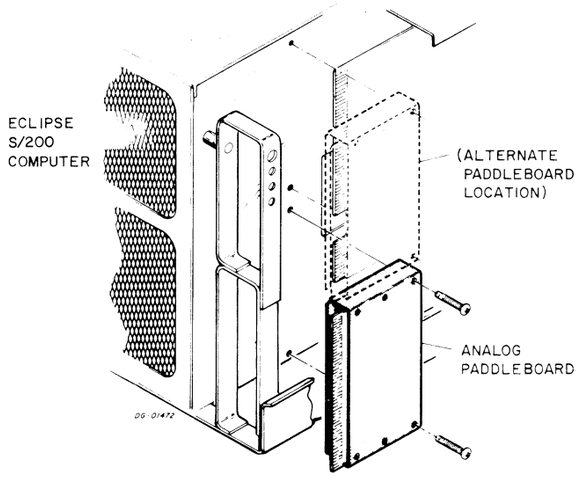
INTERNAL CABLING

BACKPANEL CONNECTORS

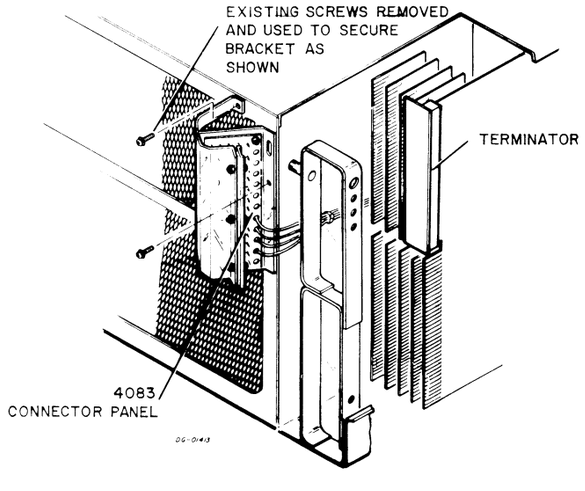




ANALOG PADDLEBOARD

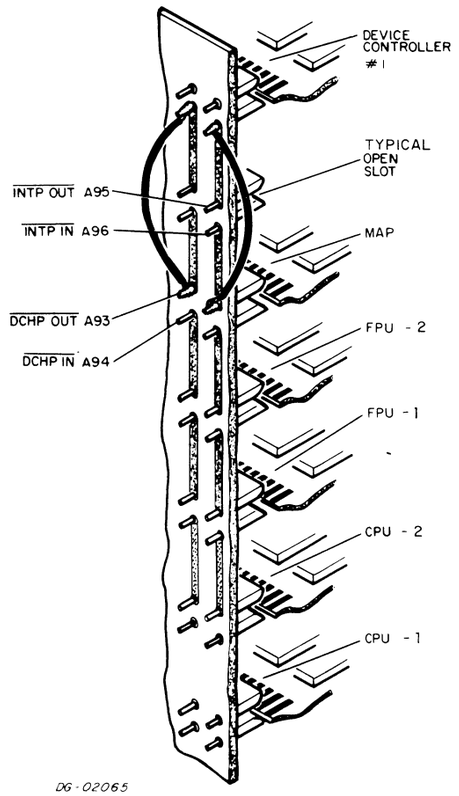


4083 OPTION CONNECTOR



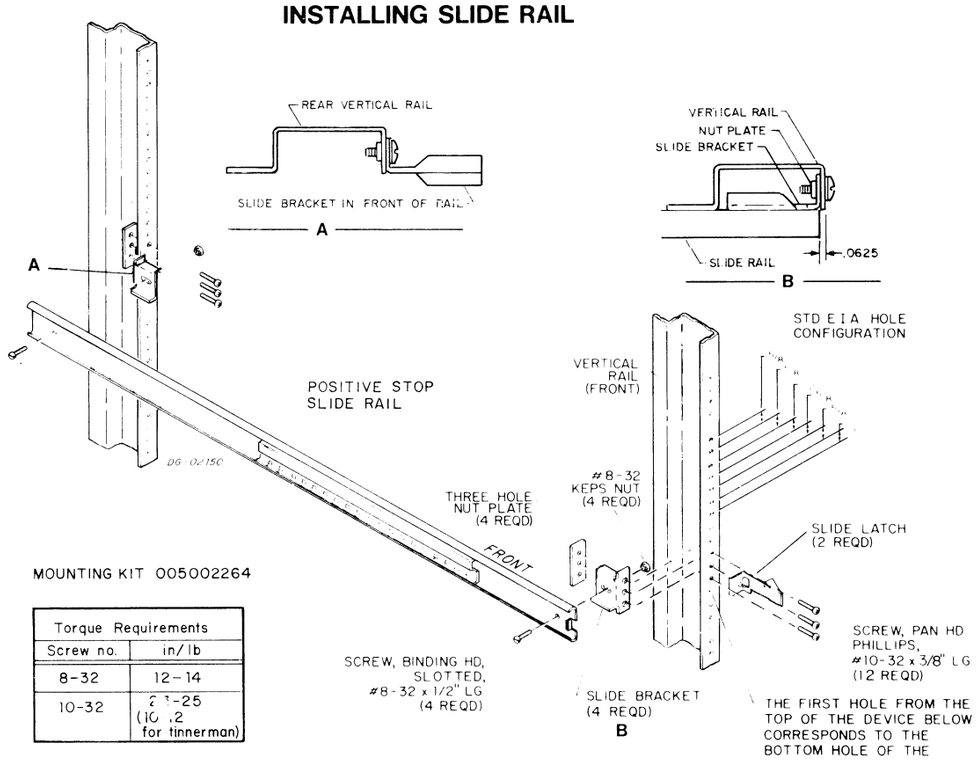
JUMPERS

JUMPERING BACKPANEL



SLIDE RAILS

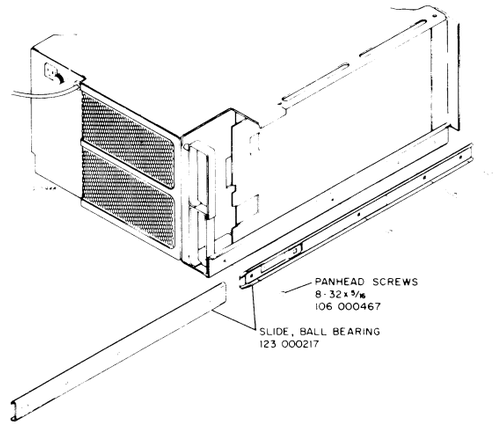
INSTALLING SLIDE RAIL



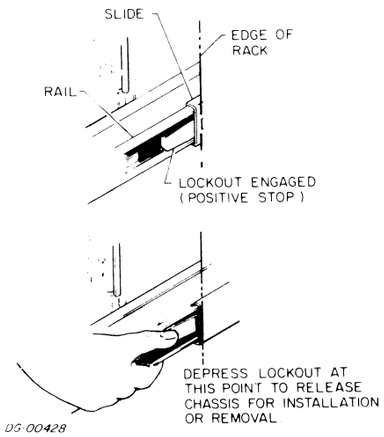
MOUNTING KIT 005002264

Torque Requirements	
Screw no.	in/lb
8-32	12-14
10-32	2[illegible]-25 (10 ,2 for tinnerman)

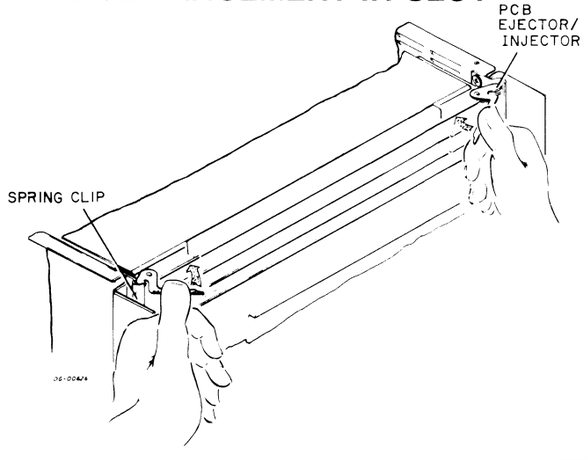
MOUNTING SLIDE ON CHASSIS



SLIDE LOCKOUT

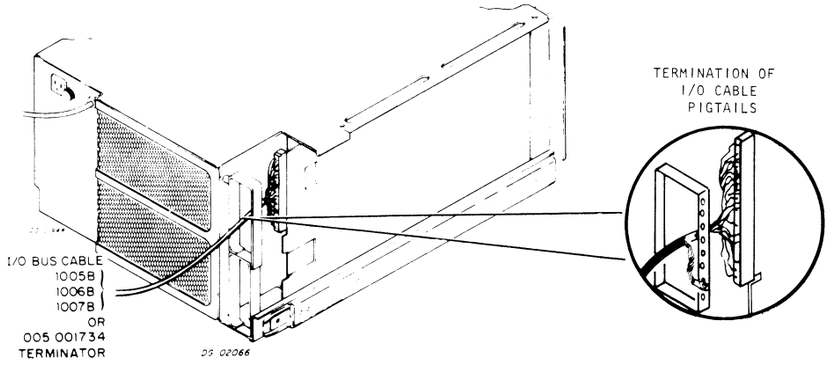


PCB PLACEMENT IN SLOT

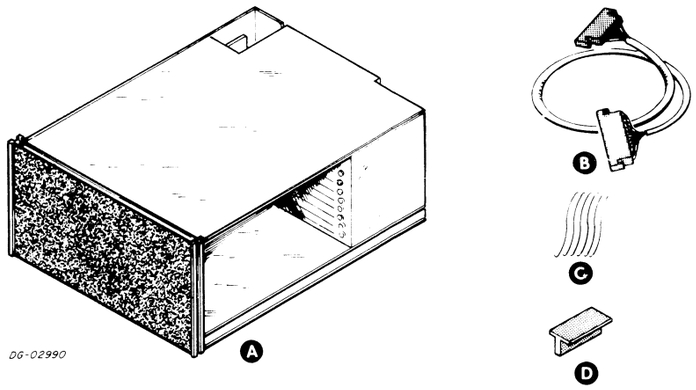


EXTERNAL CABLING

I/O BUS CABLE



INSTALLATION SPECIFICATIONS



DG-02990

MAJOR COMPONENT

Item	Component	Mounting Location	Notes
A	EXPANSION CHASSIS	CABINET	8414 - MEMORY AND OF I/O 8414-A - MEMORY ONLY 8414-B - I/O ONLY

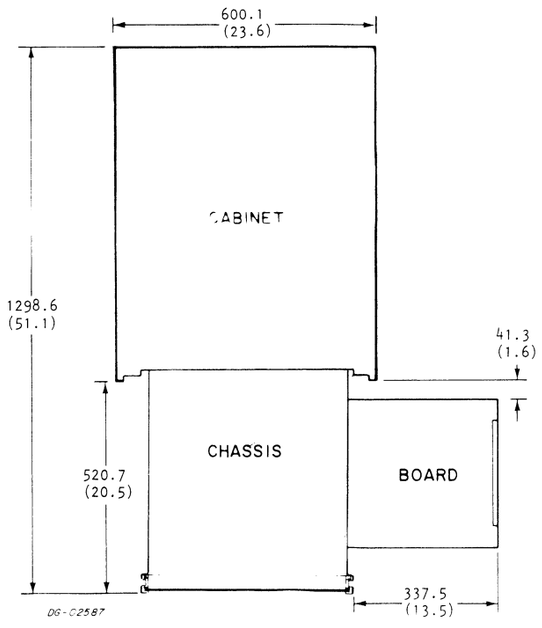
CABLE DG-02672

Item	Cable	Connecting		Max Allowed Lg ft / m	Notes
B	EXT I/O CABLE	EXP CHAS and	EXTERNAL I/O BOX	50 / 15.3	USED TO CONN MAIN CHAS TO I/O ONLY EXP CHAS
C	EXP W/L ASSY	MAIN CHAS "	EXPANSION CHAS	- / -	USED FOR EXP CHAS MEM-MEM AND/OR I/O

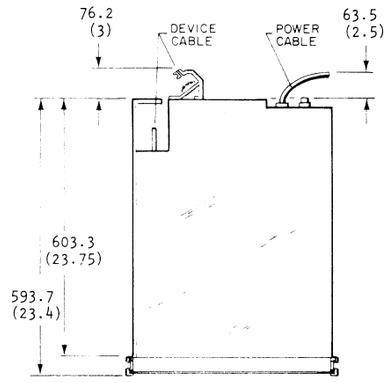
TERMINATOR

Item	Terminator	Location	Notes
D	MEM BUS	B/P (EXP CHASSIS)	WHEN EXT I/O IS USED
	A-MEM/ I/O BUS	"	WHEN NO EXT I/O IS USED
	B-ADDR/ I/O BUS	"	WHEN NO EXT I/O IS USED IN A MAPPED MACHINE
	B-I/O BUS	"	USED WHEN NO EXT I/O IS USED IN AN UNMAPPED MACH
	B-ADDR BUS	"	USED WHEN EXT I/O IS USED IN A MAPPED MACHINE

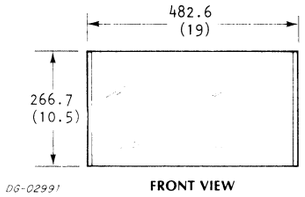
DG-02674



SERVICE CLEARANCES



TOP VIEW



FRONT VIEW

SIDE VIEW

ECLIPSE EXPANSION CHASSIS

DIMENSIONS IN MILLIMETERS
INCHES IN PARENTHESES FOR REFERENCE

DIMENSIONS:	Width	Depth	Height
Millimeters	482.6	593.85	266.7
Inches	19.00	23.38	10.50

SERVICE CLEARANCES:	Front	Right
Millimeters	914.4	609.6
Inches	36	24

WEIGHT:	Empty
kilograms	50
Pounds	110

HEAT OUTPUT:	Watts	BTU/hr
	1150	3921.5

OPERATING ENVIRONMENT:	
Temperature (max)	45°C 113°F
Relative Humidity	20-90%

CPU DESIGNATOR:
Designator Range: 05-12

POWER REQUIREMENTS:

(Domestic)			
Voltage	102-132		
Hz	60 + 1		
Max Amp per Phase	9.6		
(Export)			
Voltage	102-132	187-264	187-264
Hz	50 + 1	50 + 1	60 + 1
Max Amp per Pnase	9.6	4.8	4.8

CABLES:

Primary Power	Length	Conn	Mating Conn
Domestic 60Hz	3m(10')	5-15P	5-15R
Export 50Hz	3m(10')		

PREFERRED LOCATION: FIRST EXPANSION CHASSIS MOUNTS BELOW MAIN CHASSIS. SECOND MOUNTS ABOVE MAIN CHASSIS, MAX. NUMBER OF TWO EXPANSION CHASSIS.

MEMORY AND or I/O

Data Channel Speeds Available: Standard ☑ High Speed ☐

Slot	Allowed (Slot Chart)	Assigned	+5V Current Draw
17			
16	MEMORY		
15	MEMORY or I/O		
14			
13			
12			
11			
10			
9			
8			
7			
6			
5			
4			
3			
2	MEMORY or I/O		
1	MEMORY		

Total +5V Current draw _____
Max +5V Current Available 60A
+5V Current Surplus _____

DG-01914

MEMORY ONLY

Data Channel Speeds Available: Standard ☑ High Speed ☐

Slot	Allowed (Slot Chart)	Assigned	+5V Current Draw
17			
16	MEMORY		
15			
14			
13			
12			
11			
10			
9			
8			
7			
6			
5			
4			
3			
2			
1	MEMORY		

Total +5V Current draw _____
Max +5V Current Available 60 A
+5V Current Surplus _____

DG-01915

I/O ONLY

Data Channel Speeds Available: Standard ☑ High Speed ☐

Slot	Allowed (Slot Chart)	Assigned	+5V Current Draw
17			
16	I/O		
15			
14			
13			
12			
11			
10			
9			
8			
7			
6			
5			
4			
3			
2			
1	I/O		

Total +5V Current draw _____
Max +5V Current Available 60 A
+5V Current Surplus _____

DG-01915

WARNING

THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY ENERGY AND IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTION MANUAL, MAY CAUSE INTERFERENCE TO RADIO COMMUNICATIONS. AS TEMPORARILY PERMITTED BY REGULATION IT HAS NOT BEEN TESTED FOR COMPLIANCE WITH THE LIMITS FOR CLASS A COMPUTING DEVICES PURSUANT TO SUBPART J OF PART 15 OF FCC RULES, WHICH ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST SUCH INTERFERENCE. OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA IS LIKELY TO CAUSE INTERFERENCE IN WHICH CASE THE USER AT HIS OWN EXPENSE WILL BE REQUIRED TO TAKE WHATEVER MEASURES MAY BE REQUIRED TO CORRECT THE INTERFERENCE.

SHIPPING

FOR PACKING PROCEDURE, SEE 010-000263

Shipping Specifications			
Temperature Range °F / °C	Relative Humidity (Non-condensing)	Maximum Altitude	—
-40 to +185 / -40 to +85	0–85%	50,000 ft.	—

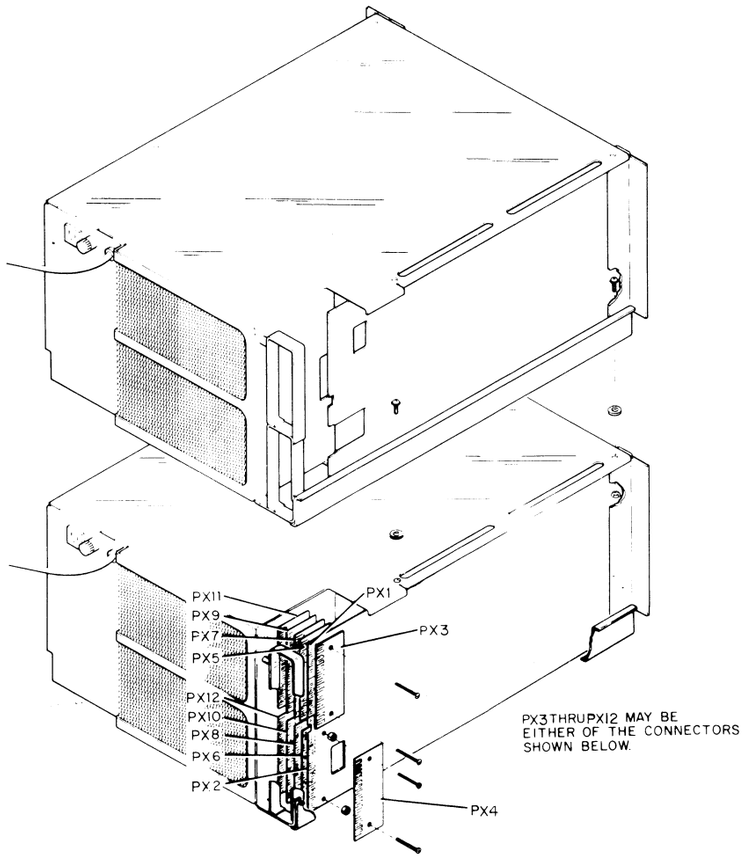
DG-02063

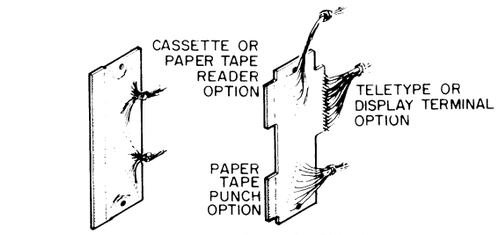
Storage Specifications		
Temperature Range °F / °C	Relative Humidity (Non-condensing)	Maximum Period
-40 to +185 / -40 to +85	0–85%	90 days

DG-02063

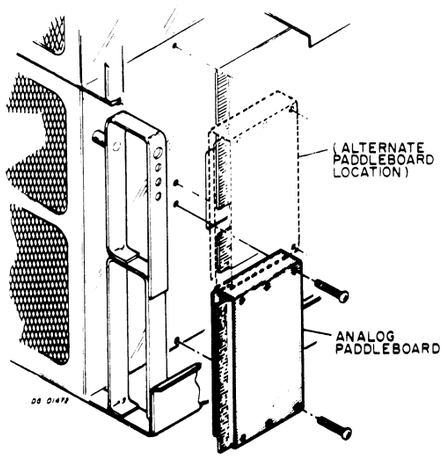
INTERNAL CABLING

BACKPANEL CONNECTOR

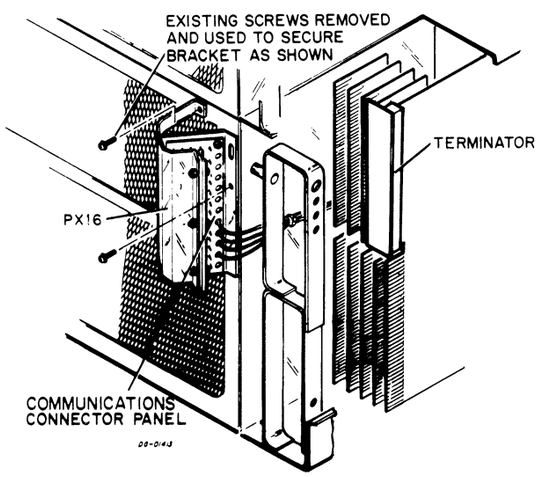




ANALOG PADDLEBOARD

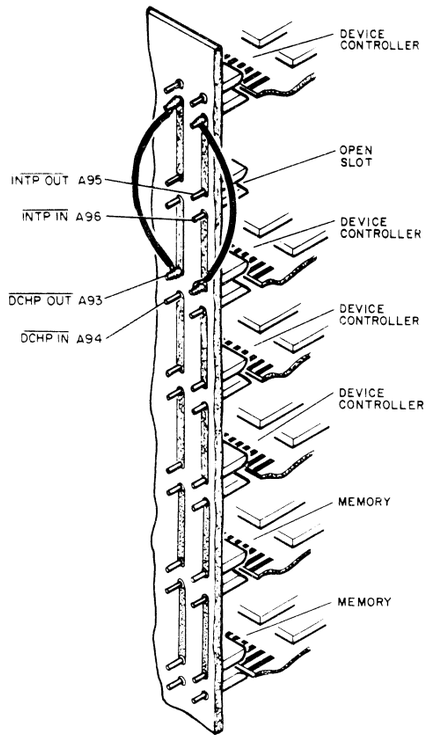


COMMUNICATIONS CONNECTOR

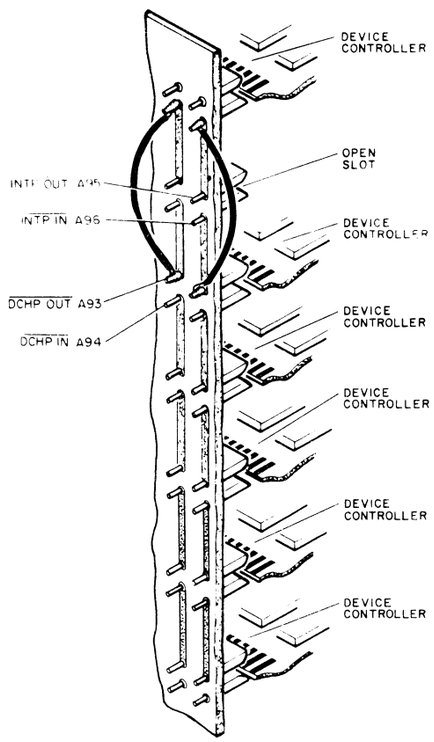


JUMPERS

JUMPERING BACKPANEL

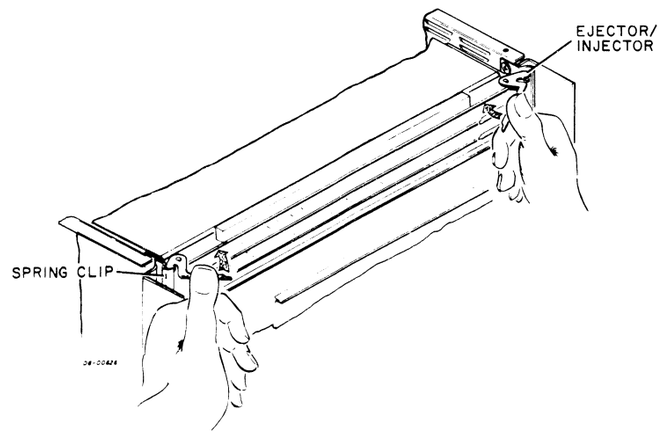


DG 02065



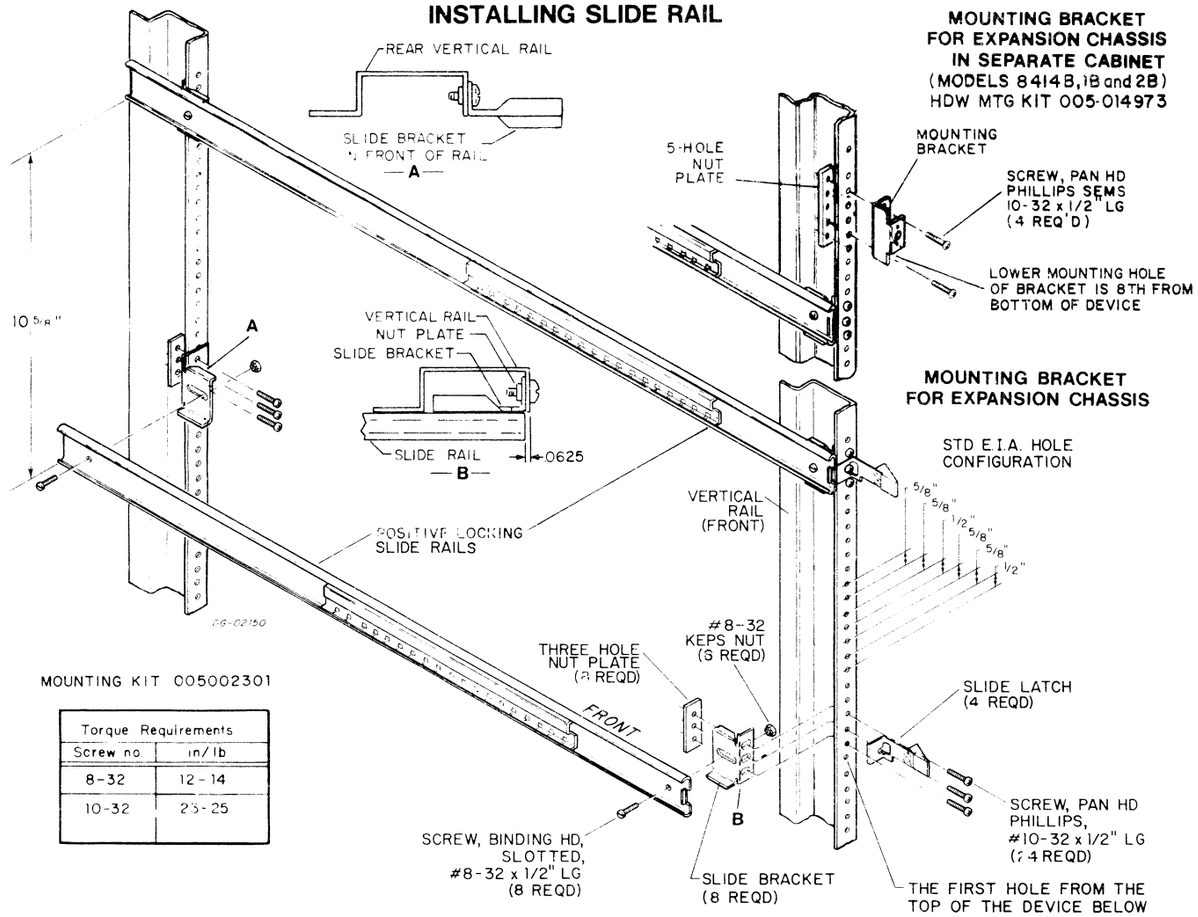
DG 02065

INSERTING PC BOARD



CABINET MOUNTING

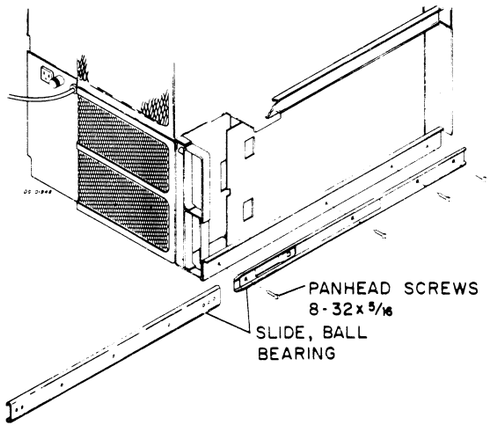
INSTALLING SLIDE RAIL



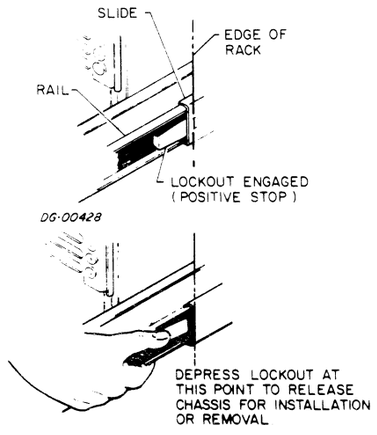
MOUNTING KIT 005002301

Torque Requirements	
Screw no	in/lb
8-32	12-14
10-32	23-25

MOUNTING SLIDE ON CHASSIS

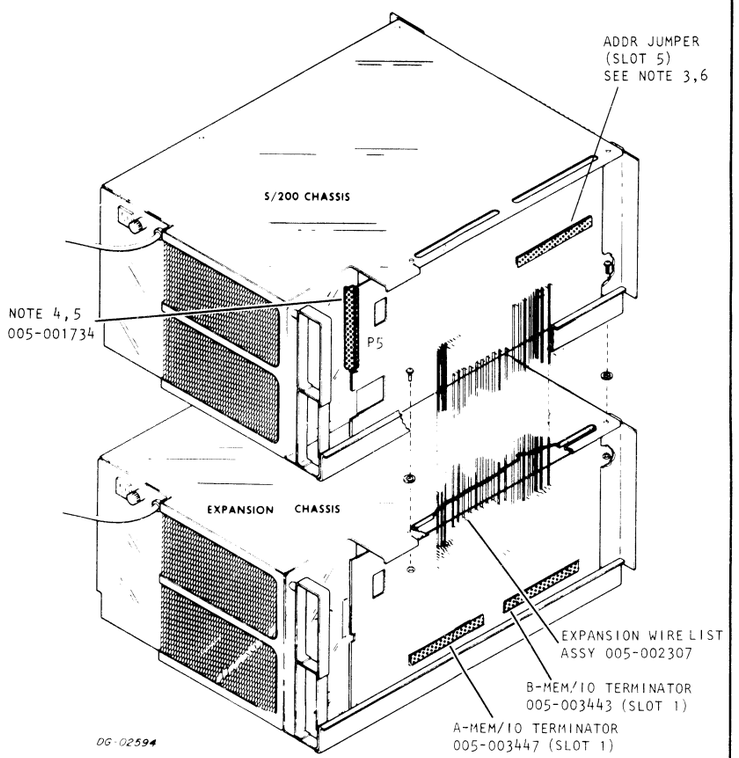


SLIDE LOCKOUT

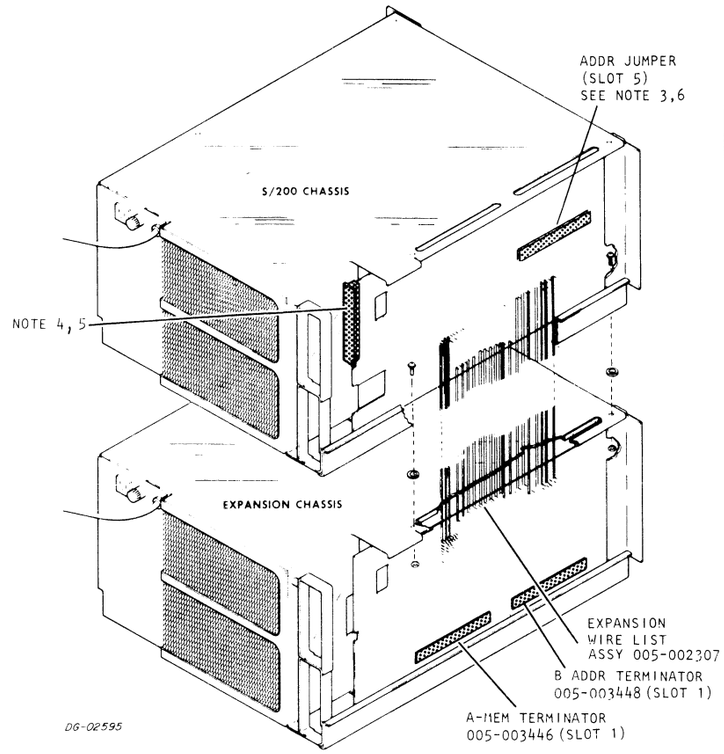


EXTERNAL CABLING

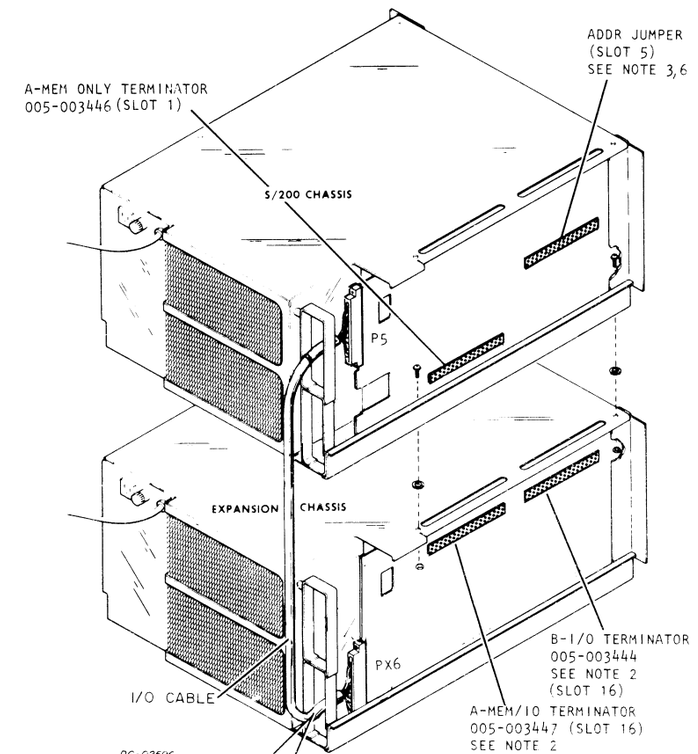
MEMORY or I/O

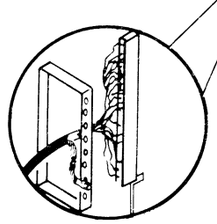


MEMORY ONLY



I/O ONLY



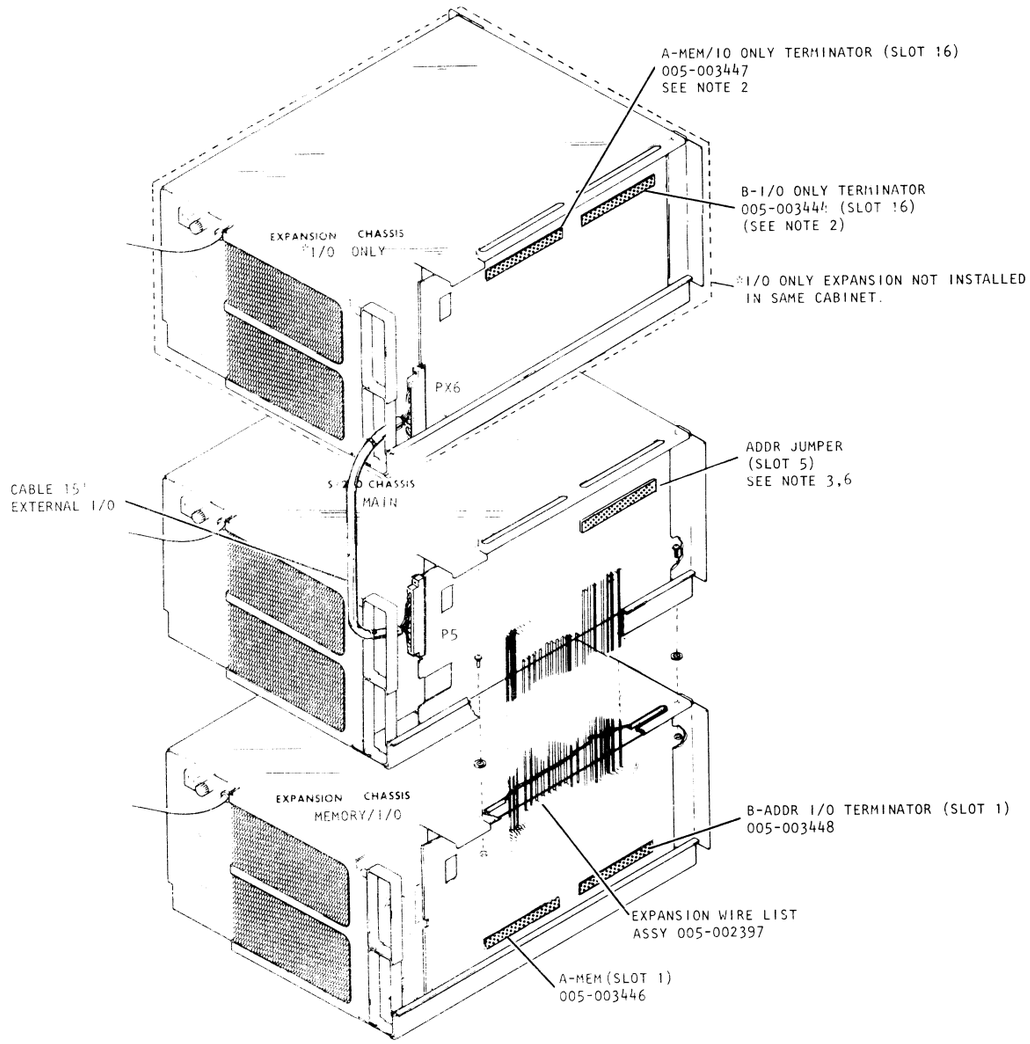


TERMINATION OF
I/O CABLE PIGTAILS

NOTE

1. THE PADDLE BOARD IS WRAPPED TO SLOT 1 OF I/O EXPANSION BOX. WIRE LIST 008-000791 MUST BE USED FOR THIS APPLICATION ONLY.
2. IF EXTERNAL I/O BUS IS CONNECTED THEN TERMINATORS A-MEM/IO AND B-I/O ON SLOTS 16 OF I/O EXPANSION MUST BE REMOVED. THE EXTERNAL I/O BUS MUST ALWAYS BE TERMINATED USING DGC 005-001734 TERMINATOR BOARD. TO CONNECT EXTERNAL I/O BUS USE WIRE LIST 008-000891.
3. ADDR JUMPER USED ONLY WHEN MAP BOARD NOT INSTALLED IN SYSTEM (SLOT 5, MAIN CHASSIS.
4. THE EXTERNAL I/O BUS MUST ALWAYS BE TERMINALED.
5. EXTERNAL I/O BUS MUST ALWAYS BE TERMINATED WITH DGC 005-001734 TERMINATOR BOARD AT P5 UNLESS I/O IS CONNECTED.
6. WHEN MAP IS INSTALLED, ALSO INSTALL JUMPERS OFF WIRE LIST 008-000654.

EXTERNAL CABLING

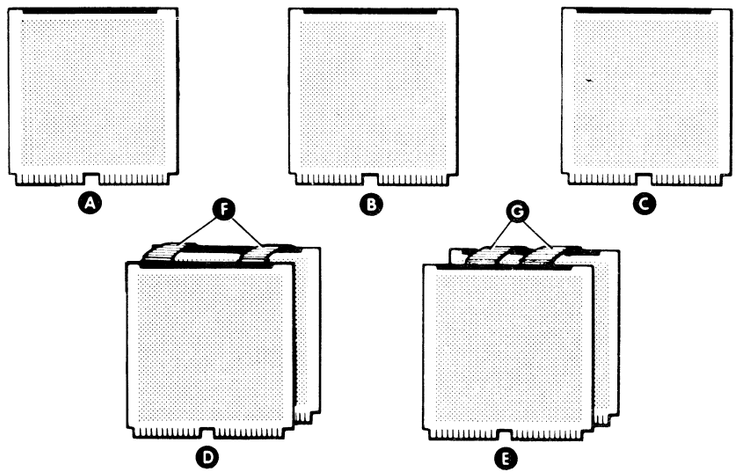


NOTES:

1. THE PADDLE BOARD IS WRAPPED TO SLOT 1 OF I/O EXPANSION BOX. WIRE LIST 008-000791 MUST BE USED FOR THIS APPLICATION ONLY.
2. IF EXTERNAL I/O BUS IS CONNECTED THEN TERMINATORS A-MEM/IO AND B-I/O ON SLOTS 16 OF I/O EXPANSION MUST BE REMOVED. THE EXTERNAL I/O BUS MUST ALWAYS BE TERMINATED USING DGC 005-001734 TERMINATOR BOARD. TO CONNECT EXTERNAL I/O BUS USE WIRE LIST 008-000891. ALSO ORDER 8411
3. ADDR JUMPER USED ONLY WHEN MAP BOARD NOT INSTALLED IN SYSTEM (SLOT 5, MAIN CHASSIS.
4. THE EXTERNAL I/O BUS MUST ALWAYS BE TERMINALED.
5. EXTERNAL I/O BUS MUST ALWAYS BE TERMINATED WITH DGC 005-001734 TERMINATOR BOARD AT P5 UNLESS I/O IS CONNECTED.
6. WHEN MAP IS INSTALLED, ALSO INSTALL JUMPERS OFF WIRE LIST 008-000654.

ECLIPSE S/200, C/300 EXPANSION CHASSIS

SUBSYSTEM COMPONENT BREAKDOWN



MAJOR COMPONENT

Item	Component	Mounting Location	Notes
A	16KB CORE MEMORY	ECLIPSE CHASSIS (MAIN or EXPANSION)	WITH or WITHOUT ERCC
	32KB CORE MEMORY	ECLIPSE CHASSIS (MAIN or EXPANSION)	WITHOUT ERCC
B	16KB SC MEMORY	ECLIPSE CHASSIS (MAIN or EXPANSION)	WITH or WITHOUT ERCC
	64KB SC MEMORY	ECLIPSE CHASSIS (MAIN or EXPANSION)	WITH ERCC
C	256or512KB MAP BOARD	MAIN CHASSIS	CANNOT BE USED IN S/100
D	CPU-1 & CPU-2	MAIN CHASSIS	WITH or WITHOUT WCS and/or ERCC
E	FPU-1 & FPU-2	MAIN CHASSIS	CANNOT BE USED IN S/100

DG-02672

CABLE

Item	Cable	Connecting	Max Allowed Lg ft / m	Notes
F	CPU INTERBOARD CABLE	CPU-1 and CPU-2	1.5 / .5	2 REQUIRED
G	FPU INTERBOARD CABLE	FPU-1 " FPU-2	1.5 / .5	2 REQUIRED

DG-02673

SPECIFICATIONS OF CHASSIS MOUNTED COMPONENTS

Item	Component	No. of Slots Required	Total +5V Current Draw (Amps)	Remarks
A	16KB CORE MEMORY	1	1.6	
	16KB CORE & ERCC	1	2.6	Requires ERCC on CPU-2
	32KB CORE MEMORY	1	1.8	
B	16KB SC MEMORY	1	4.1	
	16KB SC MEM&ERCC	1	4.1	Requires ERCC on CPU-2
	64KB SC MEMORY	1	4.5	Requires ERCC on CPU-2
C	256KB MAP BOARD	1	5	S200 and C300 only
	512KB MAP BOARD	1	6	S230 and C330 only
D	CPU-1 & CPU-2	2	16	
	CPU-1, 2, & ERCC	2	17.6	ERCC adds 1.6A @ +5V to CPU-2
	CPU-1, 2, WCS & ERCC	2	23.8	WCS adds 6.2A @ +5V to CPU-2
E	FPU-1, & FPU-2	2	16	

DG-02193

SHIPPING

FOR PACKING PROCEDURE,
SEE 010-000262

Storage Specifications		
Temperature Range °F / °C	Relative Humidity (Non-condensing)	Maximum Period
-40 to +185 / -40 to +85	0-85%	90 days

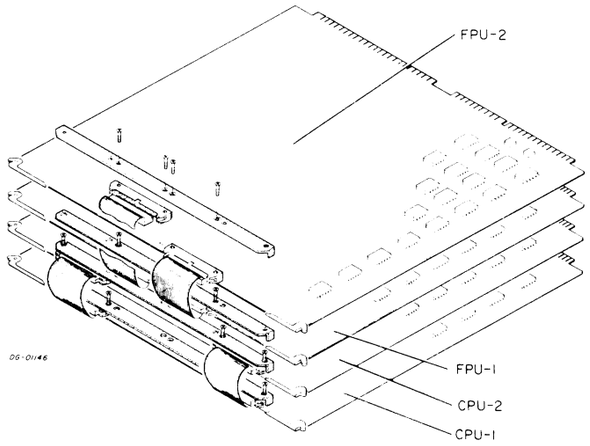
DA-12CE6E

Shipping Specifications			
Temperature Range °F / °C	Relative Humidity (Non-condensing)	Maximum Period	—
-40 to +185 / -40 to +85	0-85%	50,000 ft	—

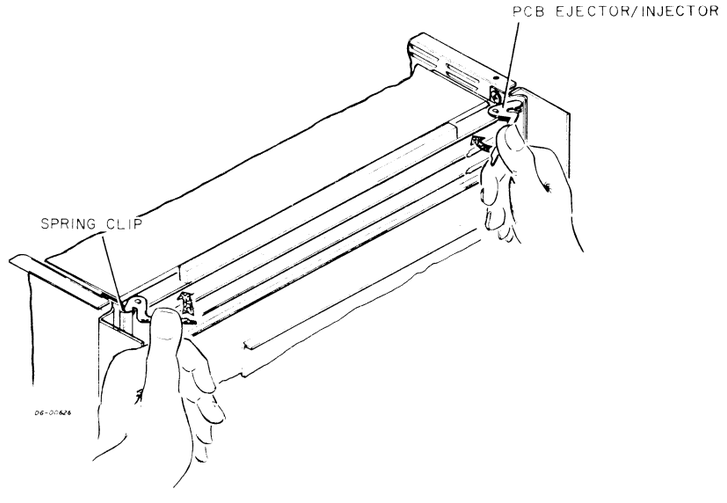
DA-12CE7E

INTERNAL CABLING

FPU-1 and FPU-2: CPU-1 and CPU-2 are cabled together as shown below.



INSTALLING PC BOARD



TAILORING and SWITCHES

COMPUTERS WITH ONE SIZE MEMORIES

MEMORIES

Interleaving and address selection is determined on core and semiconductor boards by jumpers or switches, depending on when the board was manufactured. In either case, proceed as follows:

1. Assign each memory board a (unique) number from 0-15.

2. Assign from the table below the appropriate level of interleaving for each board.

3. If a board uses switches, go to step 7 otherwise, proceed to step 4.

4. Select the corresponding jumper-positions for each board from the table below: The "Memory Select Jumper Positions" figure illustrates where each jumper goes on the board.

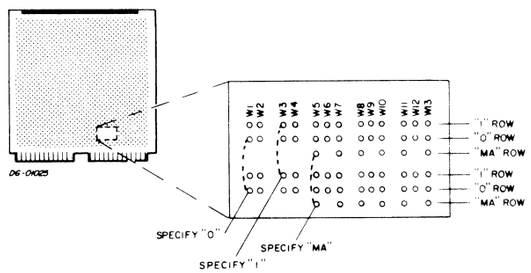
Assigned Levels of Interleaving		
Total Number of Memory Boards	Board Numbers	Assigned Level of Interleaving
1	0	none
2	0,1	2
3	0,1 2	2 none
4	0,1,2,3	4
5	0,1,2,3 4	4 none
6	0,1,2,3 4,5	4 2
7	0,1,2,3 4,5 6	4 2 none
8	0,1,2,3,4,5,6,7	8
9	0,1,2,3,4,5,6,7 8	8 none
10	0,1,2,3,4,5,6,7 8,9	8 2
11	0,1,2,3,4,5,6,7 8,9 10	8 2 none
12	0,1,2,3,4,5,6,7 8,9,10,11	8 4
13	0,1,2,3,4,5,6,7 8,9,10,11 12	8 4 none
14	0,1,2,3,4,5,6,7 8,9,10,11 12,13	8 4 2
15	0,1,2,3,4,5,6,7 8,9,10,11 12,13 14	8 4 2 none
16	0,1,2,3,4,5,6,7 8,9,10,11,12,13,14,15	8 8

DG-01183

JUMPER POSITIONS FOR BOARD NUMBERS					
Board Number Jumpers					
	Jumper Assignments				
Board Number	W1 and W2	W3 and W4	W6	W9	W12
0	0	0	0	0	0
1	0	0	0	0	1
2	0	0	0	1	0
3	0	0	0	1	1
4	0	0	1	0	0
5	0	0	1	0	1
6	0	0	1	1	0
7	0	0	1	1	1
8	0	1	0	0	0
9	0	1	0	0	1
10	0	1	0	1	0
11	0	1	0	1	1
12	0	1	1	0	0
13	0	1	1	0	1
14	0	1	1	1	0
15	0	1	1	1	1

DG-01184

MEMORY SELECT JUMPER POSITIONS



DG-01025

Each of the jumper positions crosses six rows. Specifying a "1" at a jumper position is done by inserting a jumper from the top "1" row to the bottom "1" row. A "0" is specified by inserting a jumper from the top "0" row to the bottom "0" row. A bit used in interleaving is specified by inserting a jumper from the top "MA" row to the bottom "MA" row. Examples of the three basic jumper positions are shown in the figure above.

5. Select the interleaving jumpers for each board from the following table, and install these into their corresponding position illustrated in the above figure.

Level of Interleaving Jumpers	
Level of Interleaving	Jumpers Inserted
none	W7, W10, W13
2	W7, W10, W11
4	W7, W8, W11
8	W5, W8, W11

6. There remains open one jumper position in each of the following pairs: W5/W7, W8/W10 and W11/W13. Install these three jumpers on each board by matching them to jumpers already installed according to the table below. The board is ready to be installed in its chassis.

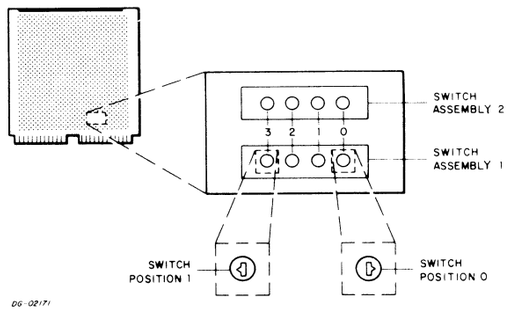
Gate-Enable Jumpers	
Pair	Match
W5/W7	W6
W8/W10	W9
W11/W13	W12

7. Select the address switches for each board from the following table. The "Memory Select Switch Positions" figure illustrates where each switch is positioned on a board.

Address Switch Position for Each Board				
Board Number	Switch Assembly 2			
	Switch 3	Switch 2	Switch 1	Switch 0
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
10	1	0	1	0
11	1	0	1	1
12	1	1	0	0
13	1	1	0	1
14	1	1	1	0
15	1	1	1	1

DG-02233

MEMORY SELECT SWITCH POSITIONS



DG-02171

The memory select switches, as shown above, are arranged in two assemblies; four switches per assembly. Switches 0-3 in switch assembly 2 select the board number (0-15). Switches 0-2 in switch assembly 1 select the level of interleaving (none, 2-, 4-, or 8-way) for the board. Each switch has two positions 0 and 1. These positions are selected by inserting a screwdriver in the switch notch and rotating the switch.

8. Select the interleaving switches for each board from the following table.

SWITCH POSITIONS FOR INTERLEAVING				
Level of Interleaving	Switch Assembly 1			
	Switch 3	Switch 2	Switch 1	Switch 0
none	0	0	0	0
2-Way	0	0	0	1
4-Way	0	0	1	1
8-Way	0	1	1	1

DG-02194

Note:
16 KB Cache SC memories cannot be interleaved with any other type of Eclipse memory.

COMPUTERS WITH MIXED SIZE MEMORIES

1. 8K, 16K AND 32K WORD MEMORIES CAN BE MIXED IN THE SAME SYSTEM.

2. INTERLEAVING OF MEMORIES IS POSSIBLE IN A SYSTEM WITH MIXED SIZED MEMORIES AS LONG AS THE DIFFERENT SIZE MEMORIES ARE NOT INTERLEAVED WITH ONE ANOTHER. ONLY THE SAME SIZE MEMORIES CAN BE INTERLEAVED WITH ONE ANOTHER.

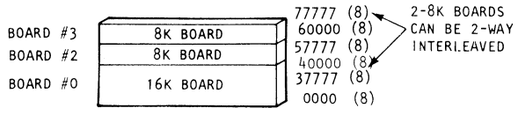
3. ONLY 16 MEMORY BOARDS OF ANY SIZE AND MIXTURE MAY BE USED IN ANY ONE SYSTEM.

BOARD NUMBER ASSIGNMENTS IN MIXED MEMORY SYSTEMS

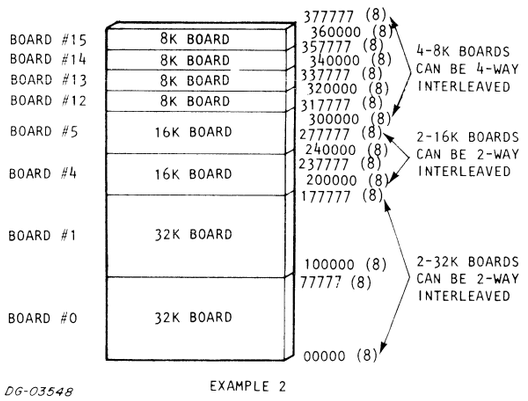
1. IT IS RECOMMENDED THAT THE LARGEST SIZE MEMORIES BE CONFIGURED TO HAVE THE LOWEST ADDRESSES OF THE SYSTEM.

FOR EXAMPLE:

(ASSIGNMENT OF BOARD NUMBERS IS EXPLAINED IN STEP 5)

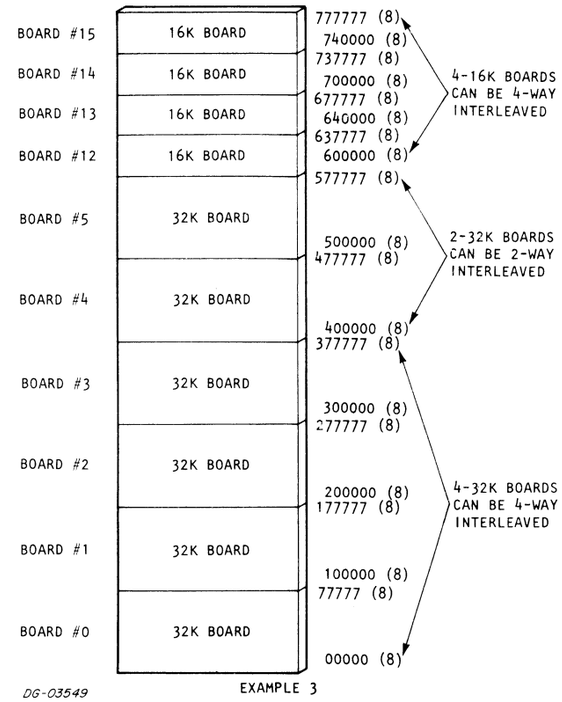


EXAMPLE 1



DG-03548

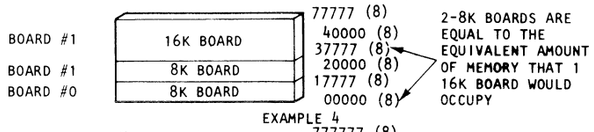
EXAMPLE 2



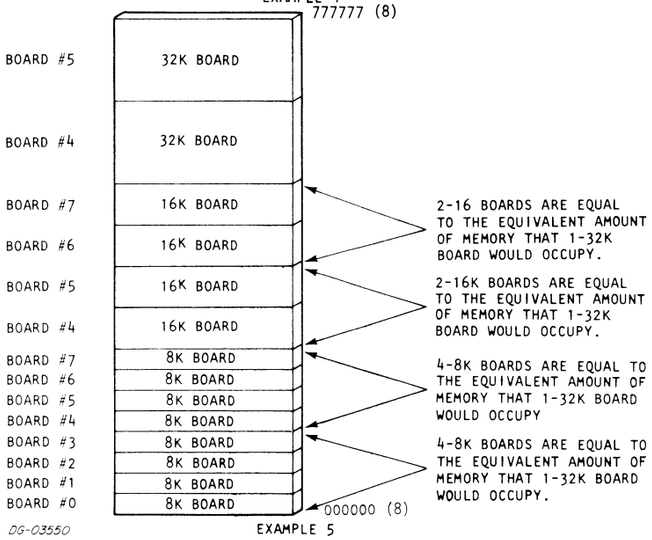
DG-03549

EXAMPLE 3

2. IT IS POSSIBLE TO HAVE THE SMALLER SIZE MEMORY BOARDS CONTAIN THE LOWER MEMORY LOCATIONS IN A MIXED MEMORY SYSTEM. TO DO SO REQUIRES THAT THE SIZE OF THE SMALLER MEMORIES ADD UP TO AN INTEGRAL AMOUNT OF THE SIZE OF THE LARGER MEMORIES.



EXAMPLE 4



DG-03550

EXAMPLE 5

3. IN MIXED MEMORY SYSTEMS HAVING MORE THAN 128K WORDS OF MEMORY AND USING 8K MEMORY BOARDS, IT IS NECESSARY TO ASSIGN THE 8K BOARD NUMBERS SO THAT THE MEMORY ADDRESSES ASSOCIATED WITH THEM ARE NOT GREATER THAN 377777 (8) (IN THE LOWER 128K OF MEMORY).

4. THE INTERLEAVING JUMPERS ON MEMORIES USED IN A MIXED MEMORY SYSTEM ARE CONFIGURED IN THE SAME MANNER AS IS DESCRIBED IN THE MEMORY JUMPERING SECTION FOR SYSTEMS USING ONE SIZE OF MEMORY BOARDS.

5. THE FOLLOWING PROCEDURE IS RECOMMENDED FOR USE IN DETERMINING THE BOARD NUMBERS OF THE DIFFERENT SIZE MEMORY BOARDS USED IN A MIXED MEMORY SYSTEM.

a. DRAW A DIAGRAM LIKE THE ONE USED FOR THE TWO EXAMPLES BELOW.

b. FILL IN THE RIGHT HAND COLUMN OF THE DIAGRAM WITH THE SIZE OF EACH MEMORY BOARD USED IN YOUR SYSTEM. BEGIN AT THE BOTTOM AND FILL IN THE DIAGRAM CONTIGUOUSLY.

c. CIRCLE THE NUMBER IN ONE OF THE THREE LEFT HAND COLUMNS THAT CORRESPONDS TO THE SIZE OF MEMORY YOU HAVE PLACED IN THE RIGHT HAND COLUMN. THE CIRCLED NUMBERS ARE THE BOARD NUMBER TO BE ASSIGNED TO THE CORRESPONDING MEMORY BOARD.

d. REFER TO THE SECTION FOR SYSTEMS USING ONE SIZE MEMORY BOARDS TO SELECT THE JUMPER POSITIONS FOR THE MEMORY BOARD NUMBERS DETERMINED BY YOUR DIAGRAM.

BOARD NUMBERS ASSIGNED FOR			
32K BOARD	16K BOARD	8K BOARD	BOARDS USED IN SYSTEM
7	15	*	
		*	
	14	*	
		*	
6	13	*	
		*	
	12	*	
		*	
5	11	*	
		*	
	10	*	
		*	
4	9	*	
		*	
	8	*	
		*	
3	7	(15)	8K BOARD
		(14)	8K BOARD
	6	(13)	8K BOARD
		(12)	8K BOARD
2	5	11	16K BOARD
		10	
	(4)	9	16k BOARD
		8	
(1)	3	7	32K BOARD
		6	
	2	5	
		4	
(0)	1	3	32K BOARD
		2	
	0	1	
		0	

DG-03551

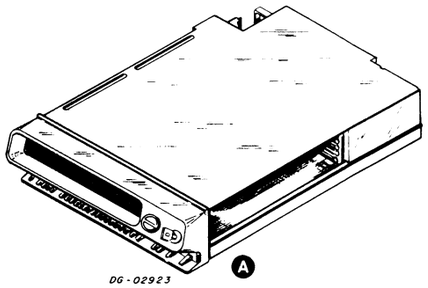
EXAMPLE 6

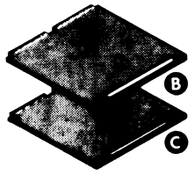
BOARD NUMBERS ASSIGNED FOR			
32K BOARD	16K BOARD	8K BOARD	BOARDS USED IN SYSTEM
7	(15)	*	16K BOARD
		*	
	(14)	*	16K BOARD
		*	
6	(13)	*	16K BOARD
		*	
	(12)	*	16K BOARD
		*	
(5)	11	*	32K BOARD
		*	
	10	*	
		*	
(4)	9	*	32K BOARD
		*	
	8	*	
		*	
(3)	7	15	32K BOARD
		14	
	6	13	
		12	
(2)	5	11	32K BOARD
		10	
	4	9	
		8	
(1)	3	7	32K BOARD
		6	
	2	5	
		4	
0	1	(3)	8K BOARD
		(2)	8K BOARD
	0	(1)	8K BOARD
		(0)	8K BOARD

DG-03552

EXAMPLE 7

INSTALLATION SPECIFICATIONS

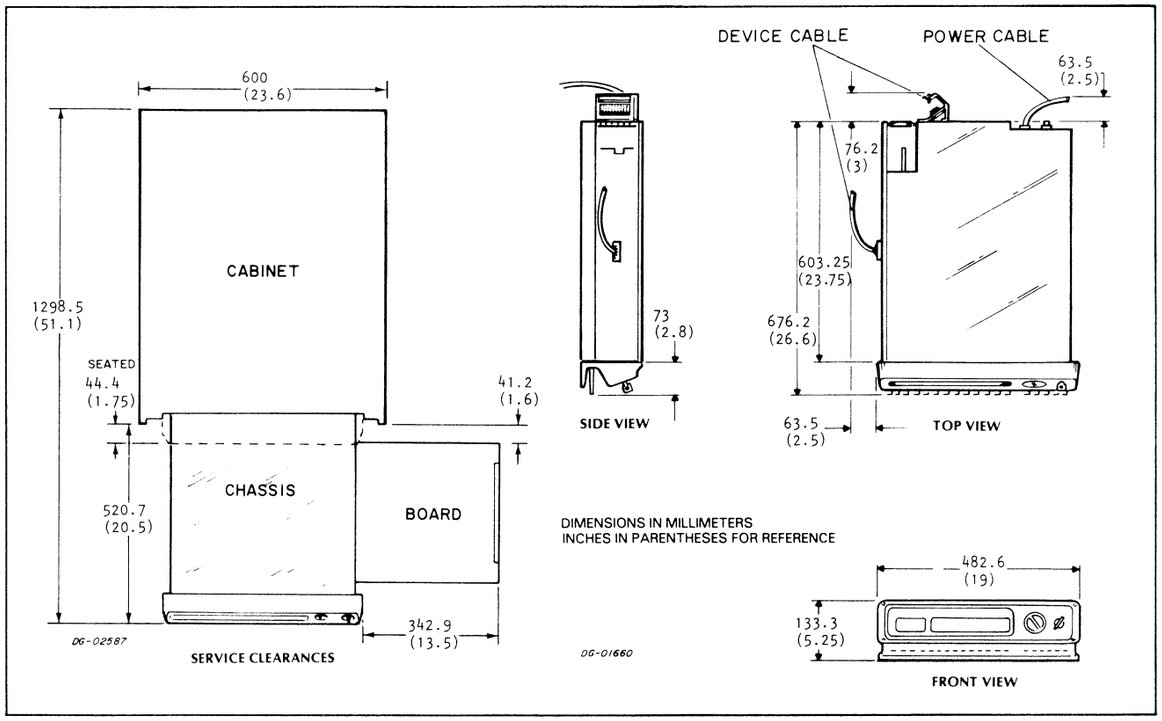




MAJOR COMPONENT

Item	Component	Mounting Location	Notes
A	MAIN CHASSIS (S/100)	CABINET	
	CPU-1	MAIN CHASSIS	
C	CPU-2	MAIN CHASSIS	

DG-02672



Data Channel Speeds Available: Standard ☐ High Speed ☐

Slot	Allowed (Slot Chart)	Assigned	+5V Current Draw
7	MEMORY or I/O		
6	"		
5	4010,4075 PREF		
4	MEMORY or I/O		
3	"		
2	CPU-2		16A
1	CPU-1		16A

Total +5V Current draw _____

Max +5V Current Available 40A

+5V Current Surplus _____

DIMENSIONS:

	Width	Depth	Height
Millimeters	482.6	676.4	133.35
Inches	19.00	26.63	5.25

SERVICE CLEARANCES:

	Front	Right
Millimeters	520.7	342.9
Inches	20.50	13.50

WEIGHT:

kilograms	63.6
Pounds	140

HEAT OUTPUT:

575 Watts	1960.75 BTU/hr

OPERATING ENVIRONMENT:

Temperature (max)	55°C	131°F
Relative Humidity	20-90%	

PREFERRED LOCATION: 9-15

POWER REQUIREMENTS:

(Domestic)		
Voltage	102-132	
Hz	60 ± 1	
Max Amp per Phase	5.7	
(Export)		
Voltage	102-132	187-264
Hz	50 ± 1	50 ± 1
Max Amp per Phase	5.7	2.4

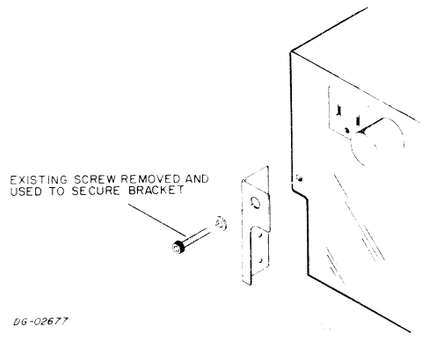
CABLES:

Primary Power	Length	Conn	Mating Conn
Domestic 60Hz	1.8m(6')	5-15P	5-15R
Export 50Hz	1.8m(6')		

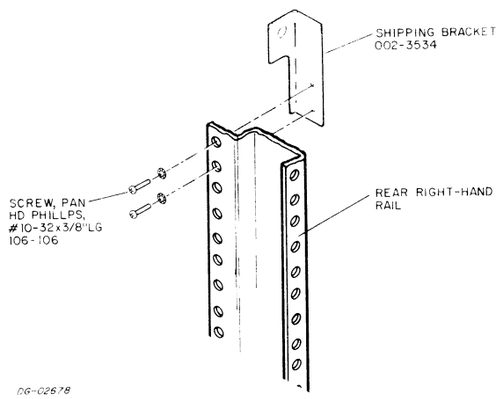
SHIPPING

FOR PACKING PROCEDURE,
SEE 010-000262/263

MOUNTING SHIPPING BRACKET TO CHASSIS

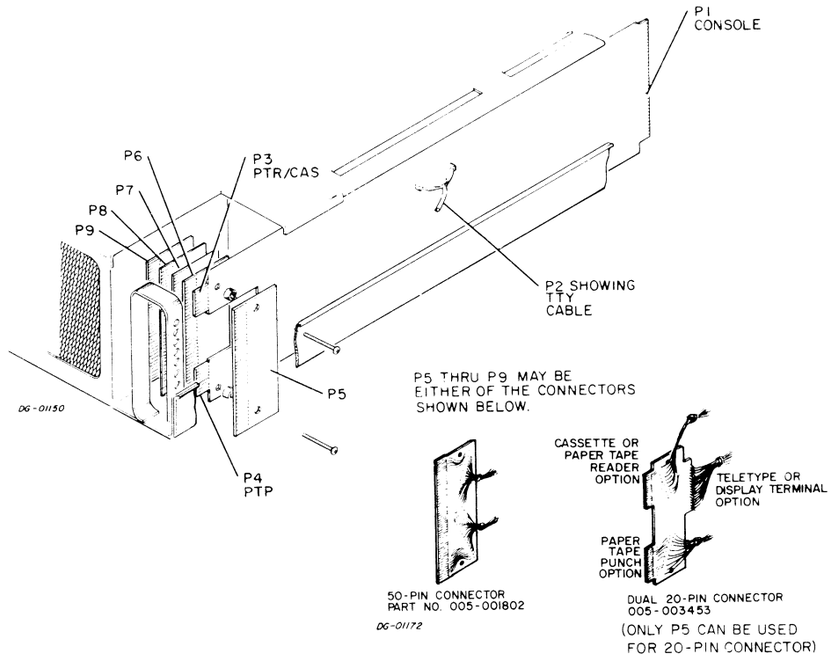


MOUNTING SHIPPING BRACKET TO RAIL

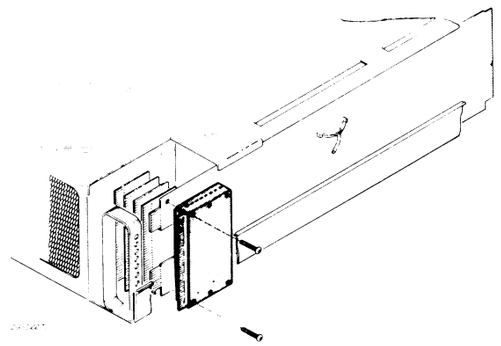


INTERNAL CABLING

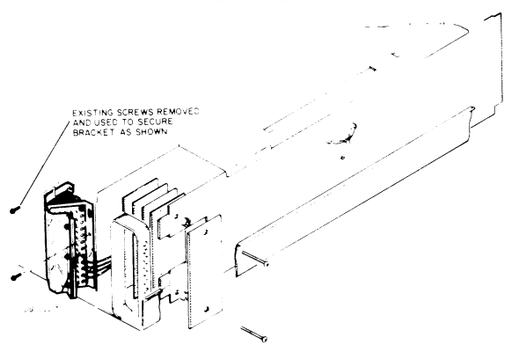
BACKPANEL CONNECTORS



ANALOG PADDLEBOARD

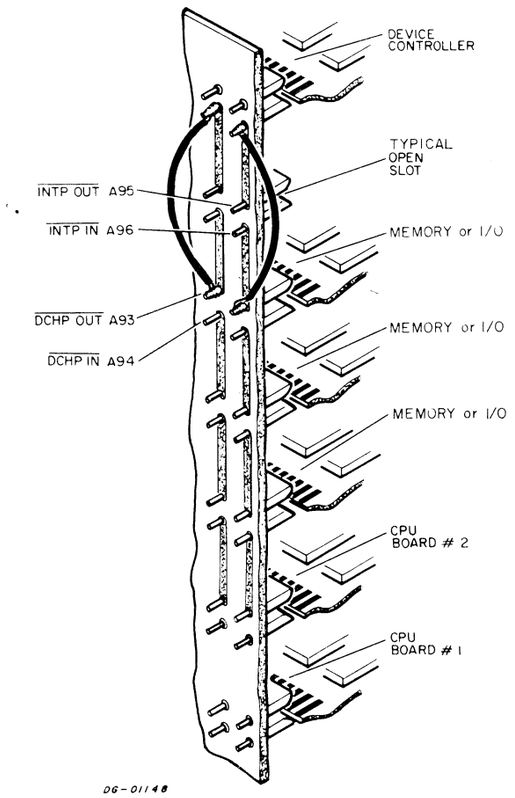


4083 OPTION CONNECTOR

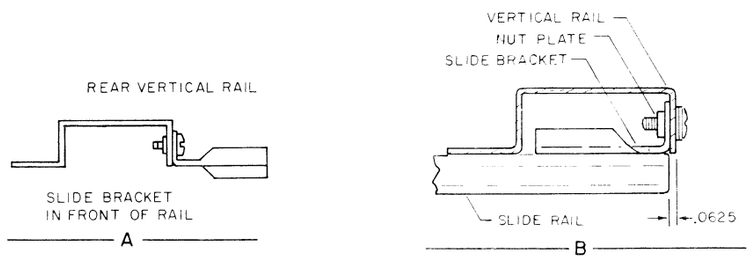


JUMPERS

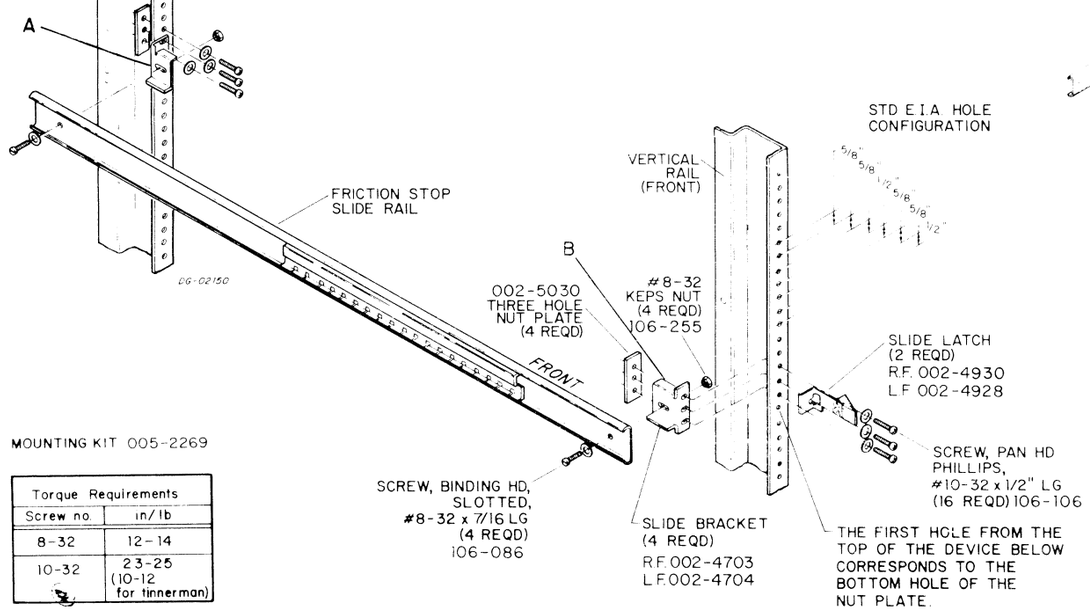
JUMPERING BACKPANEL



CABINET MOUNTING



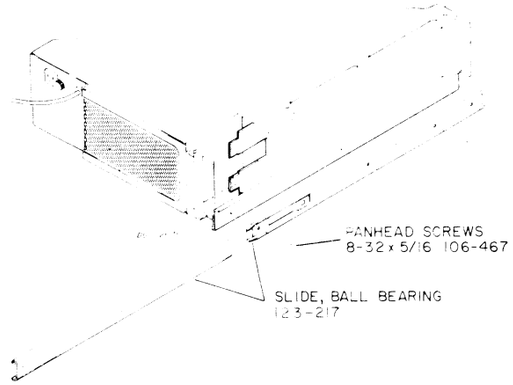
INSTALLING SLIDE RAIL



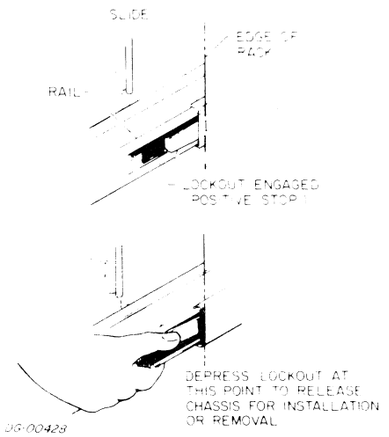
MOUNTING KIT 005-2269

Torque Requirements	
Screw no.	in/lb
8-32	12-14
10-32	23-25 (10-12 for tinnerman)

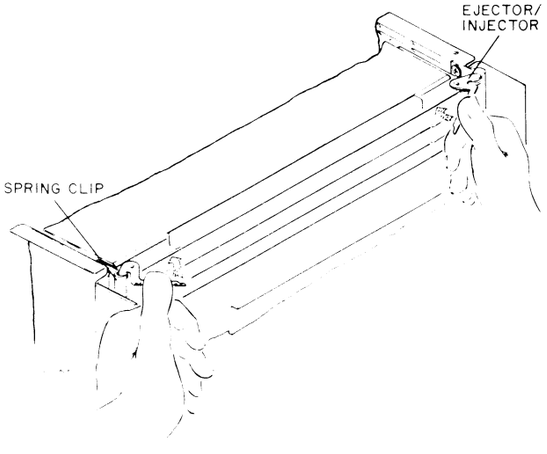
MOUNTING SLIDE ON CHASSIS



SLIDE LOCKOUT

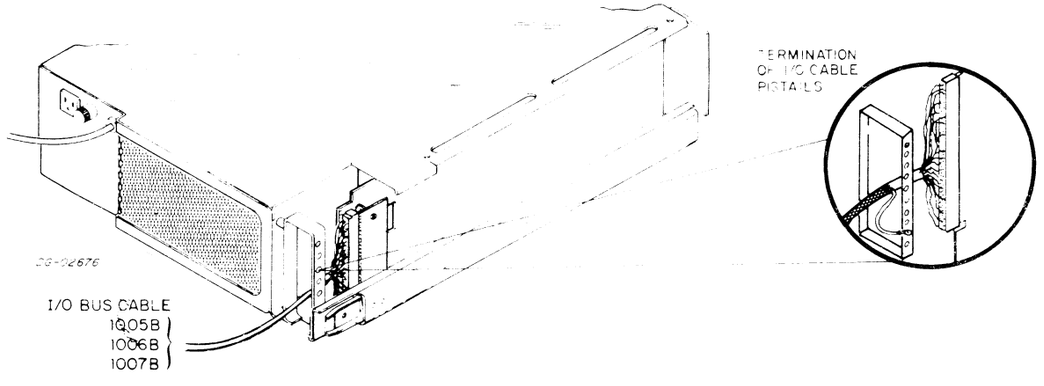


CPU PLACEMENT IN SLOT



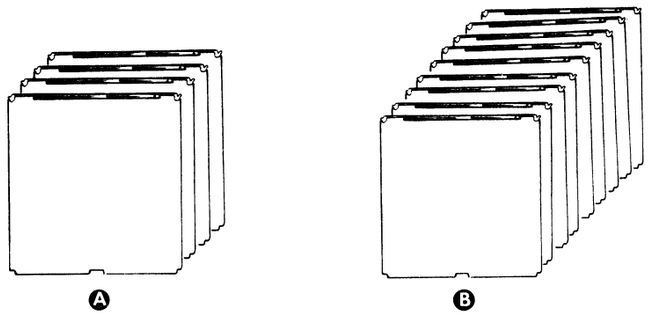
EXTERNAL CABLING

I/O BUS CABLE



SPECIFICATIONS

PC BOARDS



A	CORE MEMORIES
B	SC MEMORIES

	MEMORY SIZE	+5V CURRENT DRAW	
A	8K X 21	2.6	005-3171 107-308
	8K X 16	1.6	005-3172 107-414
	16K X 16	1.8	005-6786 107-570
	16K X 16	1.8	005-9817 107-896 OR 107-570 REV 4
B	8K X 21	4.1	005-5875 107-268
	32K X 21	4.5	005-7425 107-611
	32K X 21	4.5	005-9384 107-931
	32K X 21	3.5	005-12385 107-858
	32K X 21	3.3	005-13632 107-858
	64K X 21	3.4	005-15409 107-858
	128K X 21	3.5	005-12381 107-858
	256KX21	5.1	005-19017 107-1857
	512KX21	5.9	005-19015 107-1857

MEMORY INTRODUCTION

THERE ARE FOUR GUIDELINES FOR CONFIGURING ANY MEMORY SYSTEM FOR AN ECLIPSE COMPUTER. THEY ARE:

I. ONLY 16 MEMORY BOARDS OF ANY SIZE AND MIXTURE MAY BE USED IN ANY ONE SYSTEM.

II. DO NOT INTERLEAVE DIFFERENT SIZED MEMORIES WITH ONE ANOTHER.

III. DO NOT EXCEED THE MAXIMUM AMOUNT OF MEMORY AS GIVEN IN THE TABLE BELOW FOR EACH ECLIPSE SYSTEM.

IV. USE ONLY THOSE MEMORY BOARDS WHICH ARE ALLOWED IN THE PARTICULAR ECLIPSE SYSTEM (ALSO DENOTED IN THE TABLE BELOW BY AN 'X').

THE PROCEDURE FOR CONFIGURING ANY MEMORY SYSTEM IS DIVIDED INTO 4 STEPS. THESE STEPS ARE: ASSIGNING BOARD POSITIONS, ASSIGNING THE LEVEL OF INTERLEAVING FOR EACH BOARD, ASSIGNING BMC JUMPERS, AND JUMPERING THE BOARDS.

FOR PACKING PROCEDURE, SEE 010-000262

INTRODUCTION

1. ASSIGNING BOARD POSITIONS

ASSIGN BOARD NUMBERS IN GROUPS OF 512K, 256K, 128K, 64K, 32K, OR 16K WORDS. BEGIN AT THE LOWEST MEMORY POSITION. IF YOU HAVE AN ODD NUMBER OF MEMORY BOARDS, A SINGLE MEMORY BOARD WILL OCCUPY THE LOW POSITION IN THE HIGHEST ASSIGNED GROUP. IF A LARGER MEMORY BOARD IS PLACED ABOVE A GROUP OF SMALLER BOARDS, THE GROUP BELOW MUST EQUAL THE SIZE OF THE BOARD ABOVE, (E.G., 128K BOARD IS ABOVE A GROUP OF SMALLER BOARDS; THE BOARDS BELOW MAY BE OF ANY COMBINATION THAT IS EQUAL TO 128K. AN EXAMPLE BEING, ONE 64K, ONE 32K, AND TWO 16K CORE BOARDS ARE EQUAL TO THE 128K BOARD).

NOTE: REMEMBER THAT INTERLEAVING MAY ONLY BE PERFORMED ON CONTIGUOUS BLOCKS OF THE SAME TYPE MEMORY. IN ADDITION, THE BEGINNING OF THESE BLOCKS MUST FALL ON AN INTERLEAVING BOUNDARY FOR THE PARTICULAR BOARD TYPE (SEE DESCRIPTION OF INTERLEAVING BELOW). SINCE INTERLEAVING AFFECTS SYSTEM PERFORMANCE, YOU MAY WANT TO ASSIGN BLOCKS OF MEMORY TO TAKE ADVANTAGE OF INTERLEAVING.

A. DRAW A DIAGRAM SIMILAR TO THE ONE ON THE NEXT PAGE FOR ASSIGNING BOARD NUMBERS.

B. FILL IN THE THIRD COLUMN OF THE DIAGRAM WITH THE SIZE OF EACH MEMORY BOARD USED IN YOUR SYSTEM. BEGIN AT THE BOTTOM AND FILL IN THE DIAGRAM CONTIGUOUSLY.

C. CIRCLE THE NUMBER IN ONE OF THE LEFT-HAND COLUMNS THAT CORRESPONDS TO THE SIZE OF THE MEMORY YOU HAVE PLACED IN THE RIGHT-HAND COLUMN. THE CIRCLED NUMBERS ARE THE BOARD NUMBER TO BE ASSIGNED TO THE CORRESPONDING MEMORY BOARD. YOU NOW HAVE THE ASSIGNED BOARD POSITIONS FOR EACH BOARD.

2. ASSIGNING THE LEVEL OF INTERLEAVING

REFER TO THE TABLE BELOW TO DETERMINE THE LEVEL OF INTERLEAVING POSSIBLE FOR EACH BOARD. THE FOLLOWING PROCEDURE MAY BE HELPFUL.

A. USE THE DIAGRAM FROM STEP ONE AND THE INTERLEAVING ASSIGNMENT CHARTS BELOW TO ASSIGN THE INTERLEAVING LEVEL FOR EACH BOARD.

B. BEGIN BY FILLING IN THE INTERLEAVING LEVEL FOR EACH CONTIGUOUS BLOCK OF SEMICONDUCTOR MEMORIES. BEGIN AT THE BOTTOM AND REFER TO THE INTERLEAVING SELECTION CHART FOR THE CORRECT LEVEL OF INTERLEAVING.

C. NEXT FILL IN THE INTERLEAVING LEVEL FOR EACH CONTIGUOUS BLOCK OF MEMORIES. BEGIN AT THE BOTTOM AND REFER TO THE INTERLEAVING SELECTION CHART FOR THE CORRECT LEVEL OF INTERLEAVING.

ASSIGNED LEVELS OF INTERLEAVING

STARTING BOARD NUMBER FOR BLOCK	NUMBER OF CONTIGUOUS BOARDS	ASSIGNED LEVEL OF INTERLEAVING WITHIN BLOCK
0,8,16,24,32 40,48,56	1 2 4 8	NONE 2 4 8
1,3,5,7,9,11, 13,15,17,19,21 23,25,27,29,31 33,35,37,39,41 43,45,47,49,51 53,55,57,59,61 63	1	NONE
2,6,10,14 18,22,26,30,34 38,42,46,50,54 58,62	1 2	NONE 2
4,12,20,28,36 44,52,60	1 2 4	NONE 2 4

3. ASSIGNING BMC JUMPERS

DETERMINE WHETHER THE BMC IS PRESENT IN YOUR SYSTEM. THE BMC IS STANDARD IN THE M600 AND OPTIONAL IN THE S250/C350.

4. JUMPERING EACH BOARD

YOU CAN NOW JUMPER EACH BOARD FOR BOARD NUMBER, LEVEL OF INTERLEAVING, AND BMC (IF PRESENT), USING THE CHART YOU HAVE COMPILED. REFER TO THE ADDRESS SELECTION AND INTERLEAVING INSTRUCTIONS FOR THE CORRECT BOARD TYPE TO DETERMINE THE CORRECT JUMPER POSITIONS.

005 NUMBER	3171	3172	5875	6786	7425	9384	9817	12385	13632	15409	12381	19017	19015
BD TYPE	CORE	CORE	SC	CORE	SC	SC	CORE	SC	SC	SC	SC	SC	SC
BD SIZE	8Kx21	8Kx16	8K	16K	32K	32K	16K	32K	32K	64K	128K	256K	512K
MAX BD =	31	31	15	63	31	31	63	31	31	31	31	31	31
MAX SYSTEM MEM													
S/100 32K	X	X	X	X	X								
S/130 512K				X	X	X		X	X	X	X		
AP/130 128K					X	X		X	X				
C/150 1024K					X	X	X	X	X	X	X	X	X
S/200 128K	X	X	X	X	X								
S/230 256K	X			X	X	X		X	X	X	X		
S/250 1024K						X	X	X	X	X	X		
C/300 128K	X	X	X	X	X								
C/330 256K	X			X	X	X		X	X	X	X		
C/350 1024K						X	X	X	X	X	X		
M/600 1024K						X	X	X	X	X	X		

MEMORY SYSTEM CONFIGURATION CHART

PHYSICAL ADDRESS (OCTAL)	BOARD NUMBERS ASSIGNED FOR 512K	256K	128K	64K	32K	16K	3K	BOARDS USED IN SYSTEM	LEVEL OF INTERLEAVING
3777777					31	63	*		
						62	*		
				15	30	61	*		
						60	*		
			7		29	59	*		
				14		58	*		
					28	57	*		
3400000						56	*		
3377777		3			27	55	*		
				13		54	*		
					26	53	*		
			6			52	*		
					25	51	*		
				12		50	*		
					24	49	*		
3000000						48	*		
2777777	1				23	47	*		
				11		46	*		
					22	45	*		
			5			44	*		
					21	43	*		
				10		42	*		
					20	41	*		
2400000						40	*		
2377777		2			19	39	*		
				9		38	*		
					18	37			
			4			36			
					17	35	*		
				8		34	*		
					16	33	*		
2000000						32	*		

PHYSICAL ADDRESS (OCTAL)	BOARD NUMBERS ASSIGNED FOR 512K	236K	128K	64K	32K	16K	8K	BOARDS USED IN SYSTEM	LEVEL OF INTERLEAVING
1777777					15	31	*		
				7		30	*		
					14	29	*		
			3			28	*		
				6	13	27	*		
						26	*		
					12	25	*		
1400000						24	*		
1377777		1			11	23	*		
				5		22	*		
					10	21	*		
			2			20	*		
				4	9	19	*		
						18	*		
					8	17	*		
1000000						16	*		
0777777	0				7	15	31/30		
				3		14	29/28		
					6	13	27/26		
			1			12	25/24		
				2	5	11	23/22		
						10	21/20		
					4	9	19/18		
0400000						8	17/16		
0377777		0			3	7	15/14		
				1		6	13/12		
			0		2	5	11/10		
				0		4	9/ 8		
					1	3	7/ 6		
						2	5/ 4		
					0	1	3/ 2		
0000000						0	1/ 0		

8K MEMORIES

(005-003171) (005-003172) (005-005875)

MEMORIES

INTERLEAVING AND ADDRESS SELECTION IS DETERMINED ON CORE AND SEMICONDUCTOR BOARDS BY JUMPERS OR SWITCHES, DEPENDING ON WHEN THE BOARD WAS MANUFACTURED. IN EITHER CASE, PROCEED AS FOLLOWS:

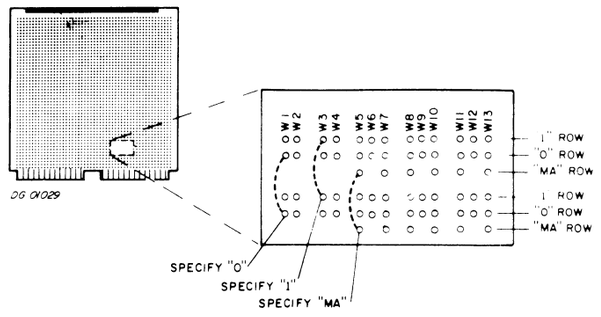
1. IF A BOARD USES SWITCHES, GO TO STEP 5 OTHERWISE, PROCEED TO STEP 2.

2. SELECT THE CORRESPONDING JUMPER-POSITIONS FOR EACH BOARD FROM THE TABLE BELOW: THE "MEMORY SELECT JUMPER POSITIONS" FIGURE ILLUSTRATES WHERE EACH JUMPER GOES ON THE BOARD.

JUMPER POSITIONS FOR BOARD NUMBERS

BOARD NUMBER	JUMPER ASSIGNMENTS				
	W1&W2	W3&W4	W6	W9	W12
0	0	0	0	0	0
1	0	0	0	0	1
2	0	0	0	1	0
3	0	0	0	1	1
4	0	0	1	0	0
5	0	0	1	0	1
6	0	0	1	1	0
7	0	0	1	1	1
8	0	1	0	0	0
9	0	1	0	0	1
10	0	1	0	1	0
11	0	1	0	1	1
12	0	1	1	0	0
13	0	1	1	0	1
14	0	1	1	1	0
15	0	1	1	1	1
16	1	0	0	0	0
17	1	0	0	0	1
18	1	0	0	1	0
19	1	0	0	1	1
20	1	0	1	0	0
21	1	0	1	0	1
22	1	0	1	1	0
23	1	0	1	1	1
24	1	1	0	0	0
25	1	1	0	0	1
26	1	1	0	1	0
27	1	1	0	1	1
28	1	1	1	0	0
29	1	1	1	0	1
30	1	1	1	1	0
31	1	1	1	1	1

MEMORY SELECT JUMPER POSITIONS



EACH OF THE JUMPER POSITIONS CROSSES SIX ROWS. SPECIFYING A "1" AT A JUMPER POSITION IS DONE BY INSERTING A JUMPER FROM THE TOP "1" ROW TO THE BOTTOM "1" ROW. A "0" IS SPECIFIED BY INSERTING A JUMPER FROM THE TOP "0" ROW TO THE BOTTOM "0" ROW. A BIT USED IN INTERLEAVING IS SPECIFIED BY INSERTING A JUMPER FROM THE TOP "MA" ROW TO THE BOTTOM "MA" ROW. EXAMPLES OF THE THREE BASIC JUMPER POSITIONS ARE SHOWN IN THE FIGURE ABOVE.

3. SELECT THE INTERLEAVING JUMPERS FOR EACH BOARD FROM THE FOLLOWING TABLE, AND INSTALL THESE INTO THEIR CORRESPONDING POSITION ILLUSTRATED IN THE ABOVE FIGURE. NOTE THAT CORE AND SEMICONDUCTOR MEMORIES CANNOT BE INTERLEAVED WITH ONE ANOTHER.

LEVEL OF INTERLEAVING JUMPERS

LEVEL OF INTERLEAVING	JUMPERS INSERTED
NONE	W7, W10, W13
2	W7, W10, W11
4	W7, W8, W11
8	W5, W8, W11

4. THERE REMAINS OPEN ONE JUMPER POSITION IN EACH OF THE FOLLOWING PAIRS: W5/W7, W8/W10 AND W11/W13. INSTALL THESE THREE JUMPERS ON EACH BOARD BY MATCHING THEM TO JUMPERS ALREADY INSTALLED ACCORDING TO THE TABLE BELOW. THE BOARD IS READY TO BE INSTALLED IN ITS CHASSIS.

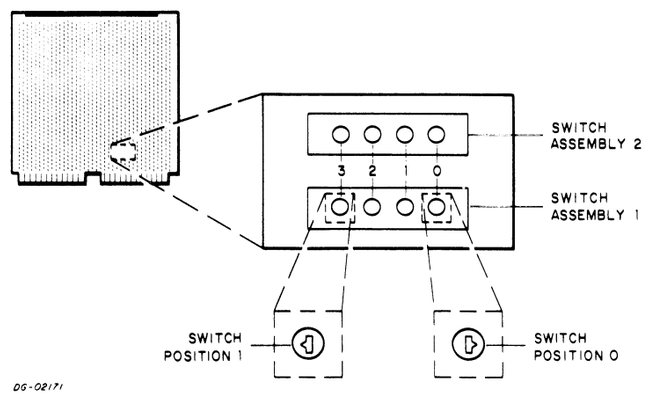
GATE-ENABLE JUMPERS	
PAIR	MATCH
W5/W7	W6
W8/W10	W9
W11/W13	W12

5. SELECT THE ADDRESS SWITCHES FOR EACH BOARD FROM THE FOLLOWING TABLE. THE "MEMORY SELECT SWITCH POSITIONS" FIGURE ILLUSTRATES WHERE EACH SWITCH IS POSITIONED ON A BOARD.

ADDRESS SWITCH POSITION FOR EACH BOARD

BOARD NUMBER	SWITCH ASSEMBLY 2			
	SWITCH 3	SWITCH 2	SWITCH 1	SWITCH 0
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
10	1	0	1	0
11	1	0	1	1
12	1	1	0	0
13	1	1	0	1
14	1	1	1	0
15	1	1	1	1

MEMORY SELECT SWITCH POSITIONS



THE MEMORY SELECT SWITCHES, AS SHOWN ABOVE, ARE ARRANGED IN TWO ASSEMBLIES; FOUR SWITCHES PER ASSEMBLY. SWITCHES 0-3 IN SWITCH ASSEMBLY 2 SELECT THE BOARD NUMBER (0-15). SWITCHES 0-2 IN SWITCH ASSEMBLY 1 SELECT THE LEVEL OF INTERLEAVING (NONE, 2-, 4-, or 8-WAY) FOR THE BOARD. EACH SWITCH HAS TWO POSITIONS 0 AND 1. THESE POSITIONS ARE SELECTED BY INSERTING A SCREWDRIVER IN THE SWITCH NOTCH AND ROTATING THE SWITCH.

6. SELECT THE INTERLEAVING SWITCHES FOR EACH BOARD FROM THE FOLLOWING TABLE. NOTE THAT CORE AND SEMICONDUCTOR MEMORIES CANNOT BE INTERLEAVED WITH ONE ANOTHER.

SWITCH POSITIONS FOR INTERLEAVING

LEVEL OF INTERLEAVING	SWITCH ASSEMBLY 1			
	SWITCH 3	SWITCH 2	SWITCH 1	SWITCH 0
NONE	0	0	0	0
2-WAY	0	0	0	1
4-WAY	0	0	1	1
8-WAY	0	1	1	1

16K MEMORIES
(005-006786)

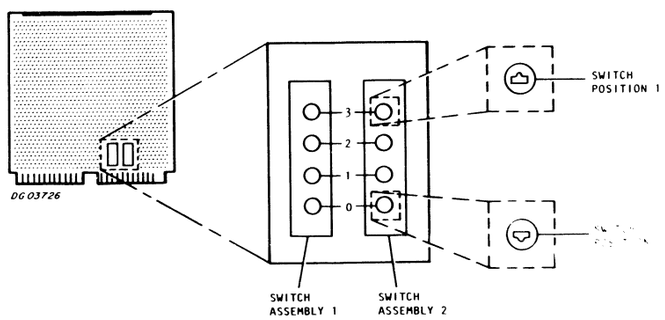
16K CORE MEMORIES

INTERLEAVING AND ADDRESS SELECTION IS DETERMINED ON ECLIPSE 16K CORE BOARDS BY SWITCH POSITIONS. PROCEED AS FOLLOWS TO ASSIGN SWITCH POSITIONS.

1. SELECT THE ADDRESS SWITCHES FOR EACH BOARD FROM THE FOLLOWING TABLE. THE MEMORY SELECT SWITCH POSITIONS FIGURE ILLUSTRATES WHERE EACH SWITCH IS POSITIONED ON A BOARD.

THE MEMORY SELECT SWITCHES AS SHOWN BELOW ARE ARRANGED IN TWO ASSEMBLIES; FOUR SWITCHES PER ASSEMBLY. EACH SWITCH HAS TWO POSITIONS, 0 AND 1. THESE POSITIONS ARE SELECTED BY INSERTING A SCREWDRIVER IN THE SWITCH NOTCH AND ROTATING THE SWITCH.

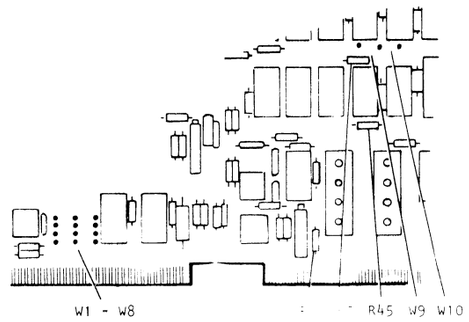
MEMORY SELECT SWITCH POSITIONS



2. SELECT THE INTERLEAVING SWITCHES FOR EACH BOARD FROM THE FOLLOWING TABLE.

SWITCH POSITIONS FOR INTERLEAVING

LEVEL OF INTERLEAVING	SWITCH ASSEMBLY 1 SWITCH 2	SWITCH 1	SWITCH 0
NONE	0	0	0
2-WAY	0	0	1
4-WAY	0	1	1
8-WAY	1	1	1



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(SEE PAGE 7)

JUMPERS AND SWITCH POSITIONS FOR BOARD NUMBERS

BOARD NUMBER	JUMPERS W3 W8	W4 W7	W1 W6	W2 W5	SWITCHES ASSY 1 SWTCH 3	ASSY 2 SWTCH 3	SWTCH 2	SWTCH 1	SWTCH 0
0	OUT	IN	OUT	IN	0	0	0	0	0
1	OUT	IN	OUT	IN	0	0	0	0	1
2	OUT	IN	OUT	IN	0	0	0	1	0
3	OUT	IN	OUT	IN	0	0	0	1	1
4	OUT	IN	OUT	IN	0	0	1	0	0
5	OUT	IN	OUT	IN	0	0	1	0	1
6	OUT	IN	OUT	IN	0	0	1	1	0
7	OUT	IN	OUT	IN	0	0	1	1	1
8	OUT	IN	OUT	IN	0	1	0	0	0
9	OUT	IN	OUT	IN	0	1	0	0	1
10	OUT	IN	OUT	IN	0	1	0	1	0
11	OUT	IN	OUT	IN	0	1	0	1	1
12	OUT	IN	OUT	IN	0	1	1	0	0
13	OUT	IN	OUT	IN	0	1	1	0	1
14	OUT	IN	OUT	IN	0	1	1	1	0
15	OUT	IN	OUT	IN	0	1	1	1	1
16	OUT	IN	OUT	IN	1	0	0	0	0
17	OUT	IN	OUT	IN	1	0	0	0	1
18	OUT	IN	OUT	IN	1	0	0	1	0
19	OUT	IN	OUT	IN	1	0	0	1	1
20	OUT	IN	OUT	IN	1	0	1	0	0
21	OUT	IN	OUT	IN	1	0	1	0	1
22	OUT	IN	OUT	IN	1	0	1	1	0
23	OUT	IN	OUT	IN	1	0	1	1	1
24	OUT	IN	OUT	IN	1	1	0	0	0
25	OUT	IN	OUT	IN	1	1	0	0	1
26	OUT	IN	OUT	IN	1	1	0	1	0
27	OUT	IN	OUT	IN	1	1	0	1	1
28	OUT	IN	OUT	IN	1	1	1	0	0
29	OUT	IN	OUT	IN	1	1	1	0	1
30	OUT	IN	OUT	IN	1	1	1	1	0
31	OUT	IN	OUT	IN	1	1	1	1	1
32	OUT	IN	IN	OUT	0	0	0	0	0
33	OUT	IN	IN	OUT	0	0	0	0	1
34	OUT	IN	IN	OUT	0	0	0	1	0
35	OUT	IN	IN	OUT	0	0	0	1	1
36	OUT	IN	IN	OUT	0	0	1	0	0
37	OUT	IN	IN	OUT	0	0	1	0	1
38	OUT	IN	IN	OUT	0	0	1	1	0
39	OUT	IN	IN	OUT	0	1	1	1	1
40	OUT	IN	IN	OUT	0	1	0	0	0
41	OUT	IN	IN	OUT	0	1	0	0	1
42	OUT	IN	IN	OUT	0	1	0	1	0
43	OUT	IN	IN	OUT	0	1	0	1	1
44	OUT	IN	IN	OUT	0	1	1	0	0
45	OUT	IN	IN	OUT	0	1	1	0	1
46	OUT	IN	IN	OUT	0	1	1	1	0
47	OUT	IN	IN	OUT	1	0	1	1	1
48	OUT	IN	IN	OUT	1	0	0	0	0
49	OUT	IN	IN	OUT	1	0	0	0	1
50	OUT	IN	IN	OUT	1	0	0	1	0
51	OUT	IN	IN	OUT	1	0	0	1	1
52	OUT	IN	IN	OUT	1	0	1	0	0
53	OUT	IN	IN	OUT	1	0	1	0	1
54	OUT	IN	IN	OUT	1	0	1	1	0
55	OUT	IN	IN	OUT	1	0	1	1	1
56	OUT	IN	IN	OUT	1	1	0	0	0
57	OUT	IN	IN	OUT	1	1	0	0	1
58	OUT	IN	IN	OUT	1	1	0	1	0
59	OUT	IN	IN	OUT	1	1	0	1	1
60	OUT	IN	IN	OUT	1	1	1	0	0
61	OUT	IN	IN	OUT	1	1	1	0	1
62	OUT	IN	IN	OUT	1	1	1	1	0
63	OUT	IN	IN	OUT	1	1	1	1	1

32K MEMORIES

(005-007425) (005-009384)

32K × 21 BIT SC MEMORIES

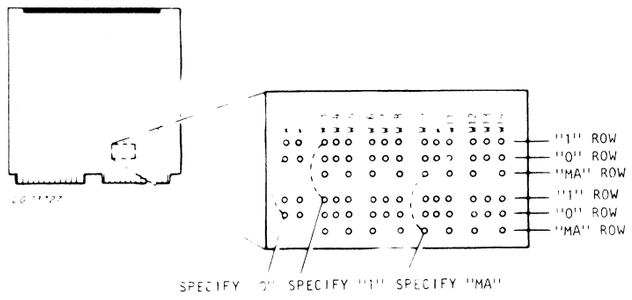
INTERLEAVING AND ADDRESS SELECTION IS DETERMINED ON ECLIPSE 32K X 21 SC BOARDS BY JUMPER POSITIONS. PROCEED AS FOLLOWS TO ASSIGN JUMPER POSITIONS.

1. SELECT THE CORRESPONDING JUMPER POSITIONS FOR EACH BOARD FROM THE TABLE BELOW. THE "MEMORY SELECT JUMPER POSITIONS" FIGURE ILLUSTRATES WHERE EACH JUMPER GOES.

JUMPER POSITIONS FOR BOARD NUMBERS

BOARD NO.	JUMPER ASSIGNMENTS W1, W2	W4	W7	W10	W13
0	0	0	0	0	0
1	0	0	0	0	1
2	0	0	0	1	0
3	0	0	0	1	1
4	0	0	1	0	0
5	0	0	1	0	1
6	0	0	1	1	0
7	0	0	1	1	1
8	0	1	0	0	0
9	0	1	0	0	1
10	0	1	0	1	0
11	0	1	0	1	1
12	0	1	1	0	0
13	0	1	1	0	1
14	0	1	1	1	0
15	0	1	1	1	1
16	1	0	0	0	0
17	1	0	0	0	1
18	1	0	0	1	0
19	1	0	0	1	1
20	1	0	1	0	0
21	1	0	1	0	1
22	1	0	1	1	0
23	1	0	1	1	1
24	1	1	0	0	0
25	1	1	0	0	1
26	1	1	0	1	0
27	1	1	0	1	1
28	1	1	1	0	0
29	1	1	1	0	1
30	1	1	1	1	0
31	1	1	1	1	1

MEMORY SELECT JUMPER POSITIONS



EACH OF THE JUMPER POSITIONS CROSSES SIX ROWS. SPECIFYING A "1" AT A JUMPER POSITION IS DONE BY INSERTING A JUMPER FROM THE TOP "1" ROW TO THE BOTTOM "1" ROW. A "0" IS SPECIFIED BY INSERTING A JUMPER FROM THE TOP "0" ROW TO THE BOTTOM "0" ROW. A BIT USED IN INTERLEAVING IS SPECIFIED BY INSERTING A JUMPER FROM THE TOP "MA" ROW TO THE BOTTOM "MA" ROW. EXAMPLES OF THE THREE BASIC JUMPER POSITIONS ARE SHOWN IN THE FIGURE ABOVE.

2. SELECT THE INTERLEAVING JUMPERS FOR EACH BOARD FROM THE FOLLOWING TABLE, AND INSTALL THESE INTO THEIR CORRESPONDING MA POSITIONS ILLUSTRATED IN THE ABOVE FIGURE.

LEVEL OF INTERLEAVING JUMPERS

LEVEL OF INTERLEAVING	JUMPER INSERTED
NONE	W5 W8 W11 W14
2	W5 W8 W11 W12
4	W5 W8 W9 W12
8	W5 W6 W9 W12
16	W3 W6 W9 W12

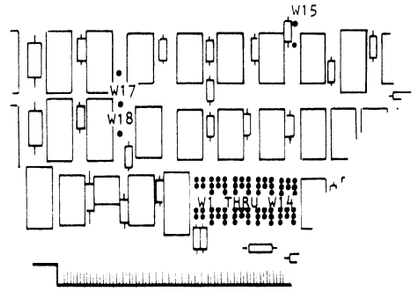
3. THERE REMAINS ONE JUMPER POSITION IN EACH OF THE FOLLOWING PAIRS: W3/W5, W6/W8, W9/W11, AND W12/W14. INSTALL THESE FOUR JUMPERS ON EACH BOARD BY MATCHING THEM TO JUMPERS ALREDY INSTALLED ACCORDING TO THE TABLE BELOW.

GATE-ENABLE JUMPERS

PAIR	MATCH
W3/W5	W4
W6/W8	W7
W9/W11	W10
W12/W14	W13

THE FOLLOWING CHART SHOWS JUMPER CONFIGURATIONS WITH OR WITHOUT THE BMC.

	WITH BMC	WITHOUT BMC
W15	OUT	IN
W17	IN	OUT
W18	OUT	IN



W15, W17 AND W18
DGC No. 005-009384 ONLY

16K MEMORIES

(005-009817)

16K × 16 BIT CORE MEMORIES

INTERLEAVING AND ADDRESS SELECTION FOR 16K X 16 CORE MEMCRY IS DETERMINED BY JUMPER ON THE MEMORY BOARD. TO PERFORM ADDRESS AND INTERLEAVING SELECTION, PROCEED AS FOLLOWS:

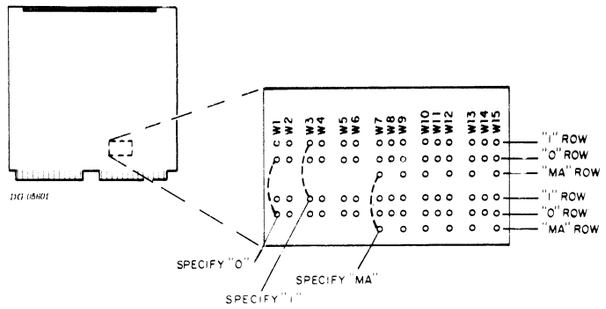
1. SELECT THE CORRESPONDING JUMPER POSITIONS FOR EACH BOARD FROM THE TABLE BELOW: THE "MEMORY SELECT JUMPER POSITIONS" FIGURE ILLUSTRATES WHERE EACH JUMPER GOES.

JUMPER POSITIONS FOR BOARD NUMBERS (16K X 16 BIT CORE MEMORY SYSTEMS)*

BOARD NUMBER	JUMPER ASSIGNMENTS					
	W1, W2	W3, W4	W5, W6	W8	W11	W14
0	0	0	0	0	0	0
1	0	0	0	0	0	1
2	0	0	0	0	1	0
3	0	0	0	0	1	1
4	0	0	0	1	0	0
5	0	0	0	1	0	1
6	0	0	0	1	1	0
7	0	0	0	1	1	1
8	0	0	1	0	0	0
9	0	0	1	0	0	1
10	0	0	1	0	1	0
11	0	0	1	0	1	1
12	0	0	1	1	0	0
13	0	0	1	1	0	1
14	0	0	1	1	1	0
15	0	0	1	1	1	1
16	0	1	0	0	0	0
17	0	1	0	0	0	1
18	0	1	0	0	1	0
19	0	1	0	0	1	1
20	0	1	0	1	0	0
21	0	1	0	1	0	1
22	0	1	0	1	1	0
23	0	1	0	1	1	1
24	0	1	1	0	0	0
25	0	1	1	0	0	1
26	0	1	1	0	1	0
27	0	1	1	0	1	1
28	0	1	1	1	0	0
29	0	1	1	1	0	1
30	0	1	1	1	1	0
31	0	1	1	1	1	1

*NOTE: BOARD NUMBERS 16-31 ARE USED ONLY IN CONFIGURING CERTAIN MIXED MEMORY SYSTEMS.

MEMORY SELECT JUMPER POSITIONS



EACH OF THE JUMPER POSITIONS CROSSES SIX ROWS. SPECIFYING A "1" AT A JUMPER POSITION IS DONE BY INSERTING A JUMPER FROM THE TOP "1" ROW TO THE BOTTOM "1" ROW. A "0" IS SPECIFIED BY INSERTING A JUMPER FROM THE TOP "0" ROW TO THE BOTTOM "0" ROW. A BIT USED IN INTERLEAVING IS SPECIFIED BY INSERTING A JUMPER FROM THE TOP "MA" ROW TO THE BOTTOM "MA" ROW. EXAMPLES OF THE THREE BASIC JUMPER POSITIONS ARE SHOWN IN THE FIGURE.

2. SELECT THE INTERLEAVING JUMPERS FOR EACH BOARD FROM THE FOLLOWING TABLE, AND INSTALL THESE INTO THEIR CORRESPONDING MA POSITIONS ILLUSTRATED IN THE FIGURE.

LEVEL OF INTERLEAVING JUMPERS

LEVEL OF INTERLEAVING	JUMPER INSERTED
NONE	W9 W12 W15
2	W9 W12 W13
4	W9 W10 W13
8	W7 W10 W13

3. THERE REMAINS OPEN ONE JUMPER POSITION IN EACH OF THE FOLLOWING PAIRS: W7/W9, W10/W12 AND W13/W15. INSTALL THESE THREE JUMPERS ON EACH BOARD BY MATCHING THEM TO JUMPERS ALREADY INSTALLED ACCORDING TO THE TABLE BELOW.

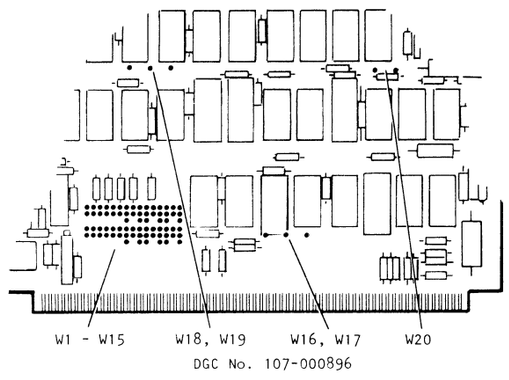
GATE-ENABLED JUMPERS

PAIR	MATCH
W7/W9	W8
W10/W12	W11
W13/W15	W14

THE FOLLOWING CHARTS SHOW JUMPER CONFIGURATIONS WITH OR WITHOUT THE BMC.

ARTWORK 107-000896

	WITH BMC	WITHOUT BMC	S130-C150
W16	IN	IN	OUT
W17	OUT	OUT	IN
W18	OUT	IN	IN
W19	IN	OUT	OUT
W20	IN	IN	OUT
R7	OUT	IN	IN
R45	IN	IN	IN
R60	IN	IN	IN



DGC No. 107-000896

ARTWORK 107-000570 REV. 04

	WITH BMC	WITHOUT BMC	S130-C150
W9	OUT	IN	IN
W10	IN	OUT	OUT
W11	IN	IN	OUT
R7	OUT	IN	IN
R45	IN	IN	IN
R60	IN	IN	IN

NOTE: THIS ASSEMBLY IS THE EQUIVALENT OF 005-6786 WITH ECO D520.

SEE 005-006786 FOR ADDRESS AND INTERLEAVING SELECTION.

SC MEMORIES

(005-012381) (005-012385) (005-013632) (005-019015) (005-019017)

SEMICONDUCTOR MEMORIES

INTERLEAVING AND ADDRESS SELECTION IS DETERMINED ON ALL ECLIPSE SC BOARDS BY JUMPER POSITIONS. PROCEED AS FOLLOWS TO ASSIGN JUMPER POSITIONS.

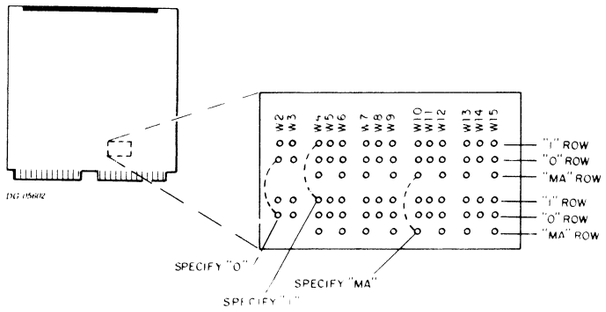
*NOTE: SEMICONDUCTOR MEMORIES MAY BE INTERLEAVED 16 WAYS WHEN THERE ARE 16 BOARDS IN THE SYSTEM. FOR MOST APPLICATIONS, THERE IS NO ADVANTAGE TO 16 WAY INTERLEAVING SO DATA GENERAL RECOMMENDS INTERLEAVING IN 2 SETS OF 8 BOARDS.

1. SELECT THE CORRESPONDING JUMPER POSITIONS FOR EACH BOARD FROM THE TABLE BELOW: THE "MEMORY SELECT JUMPER POSITIONS" FIGURE ILLUSTRATES WHERE EACH JUMPER GOES.

JUMPER POSITIONS FOR BOARD NUMBERS (512K, 256K, 128K, 64K 32Kx21 BIT SEMICONDUCTOR MEMORY)

BOARD NO.	JUMPER ASSIGNMENTS W2, W3	W5	W8	W11	W14
0	0	0	0	0	0
1	0	0	0	0	1
2	0	0	0	1	0
3	0	0	0	1	1
4	0	0	1	0	0
5	0	0	1	0	1
6	0	0	1	1	0
7	0	0	1	1	1
8	0	1	0	0	0
9	0	1	0	0	1
10	0	1	0	1	0
11	0	1	0	1	1
12	0	1	1	0	0
13	0	1	1	0	1
14	0	1	1	1	0
15	0	1	1	1	1
16	1	0	0	0	0
17	1	0	0	0	1
18	1	0	0	1	0
19	1	0	0	1	1
20	1	0	1	0	0
21	1	0	1	0	1
22	1	0	1	1	0
23	1	0	1	1	1
24	1	1	0	0	0
25	1	1	0	0	1
26	1	1	0	1	0
27	1	1	0	1	1
28	1	1	1	0	0
29	1	1	1	0	1
30	1	1	1	1	0
31	1	1	1	1	1

MEMORY SELECT JUMPER POSITIONS



EACH OF THE JUMPER POSITIONS CROSSES SIX ROWS. SPECIFYING A "1" AT A JUMPER POSITION IS DONE BY INSERTING A JUMPER FROM THE TOP "1" ROW TO THE BOTTOM "1" ROW. A "0" IS SPECIFIED BY INSERTING A JUMPER FROM THE TOP "0" ROW TO THE BOTTOM "0" ROW. A BIT USED IN INTERLEAVING IS SPECIFIED BY INSERTING A JUMPER FROM THE TOP "MA" ROW TO THE BOTTOM "MA" ROW. EXAMPLES OF THE THREE BASIC JUMPER POSITIONS ARE SHOWN IN THE FIGURE.

2. SELECT THE INTERLEAVING JUMPERS FOR EACH BOARD FROM THE FOLLOWING TABLE, AND INSTALL THESE INTO THEIR CORRESPONDING MA POSITIONS ILLUSTRATED IN THE FIGURE.

LEVEL OF INTERLEAVING JUMPERS

LEVEL OF INTERLEAVING	JUMPER INSERTED
NONE	W6 W9 W12 W15
2	W6 W9 W12 W13
4	W6 W9 W10 W13
8	W6 W7 W10 W13
16	W4 W7 W10 W13

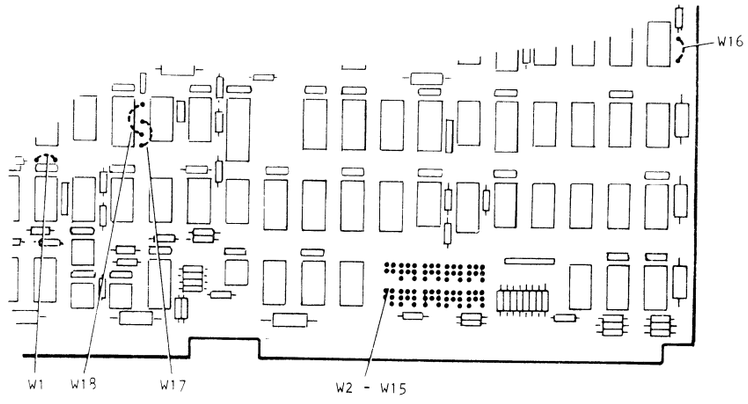
3. THERE REMAINS OPEN ONE JUMPER POSITION IN EACH OF THE FOLLOWING PAIRS: W4/W6, W7/W9, W10/W12 AND W13/W15. INSTALL THESE FOUR JUMPERS ON EACH BOARD BY MATCHING THEM TO JUMPERS ALREADY INSTALLED ACCORDING TO THE TABLE BELOW.

GATE-ENABLED JUMPERS

PAIR	MATCH
W4/W6	W5
W7/W9	W8
W10/W12	W11
W13/W15	W14

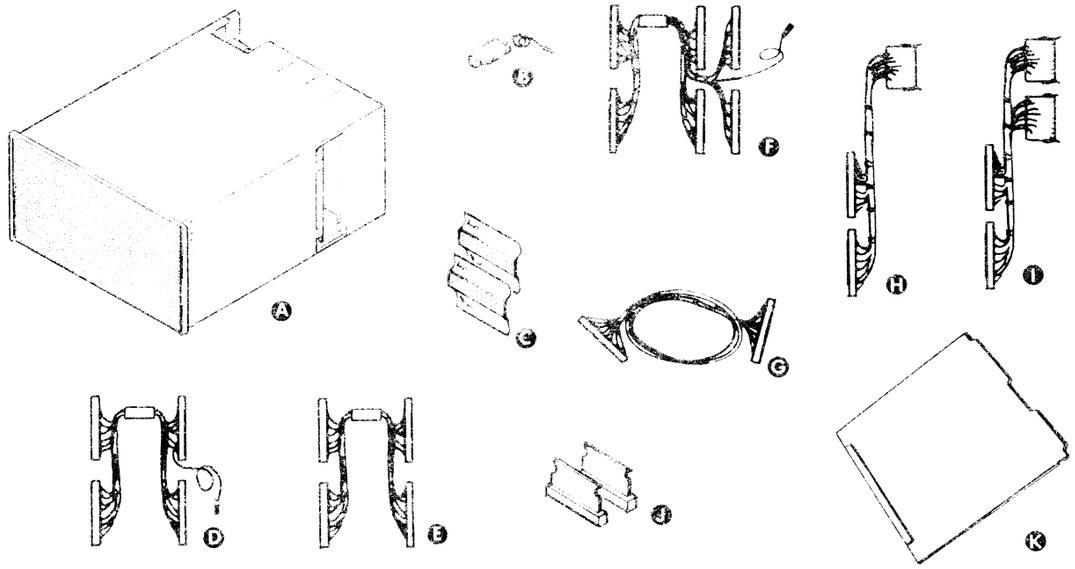
THE FOLLOWING CHART SHOWS JUMPER CONFIGURATIONS WITH OR WITHOUT THE BMC.

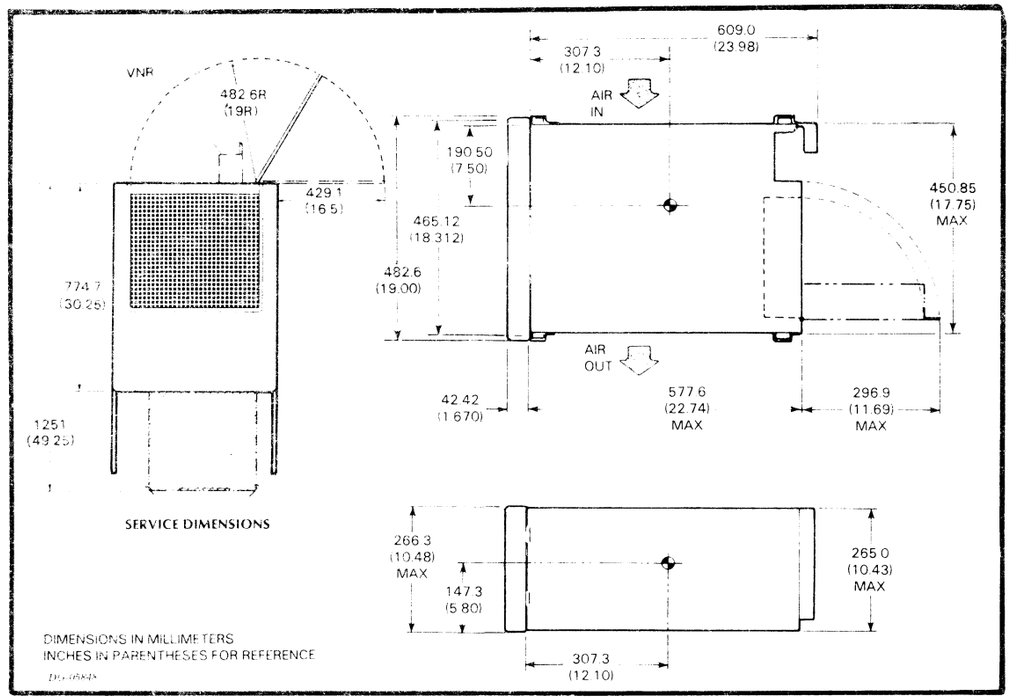
	WITH BMC	WITHOUT BMC
W1	OUT	OUT
W16	OUT	IN
W17	IN	OUT
W18	OUT	IN



DGC No. 107-000858
DGC No. 107-001857 Rev 00

INSTALLATION SPECIFICATIONS





MAIN COMPONENT

ITEM	COMPONENT	MOUNTING LOCATION	NOTES
A	[illegible]	CABINET	MOUNT DIRECTLY ABOVE MAIN CHASSIS IF POSSIBLE
B	[illegible]	I/O P MAIN CHASSIS	

CABLE (DIRECT CONNECTION, SEE PAGE 2)

ITEM	CABLE	CONNECTING			MAX LG FT	MAX LG M	NOTES
C	B P INTERCONNECT ASSY	EXP CHASSIS SLOT 8	AND	EXP CHASSIS SLOT 9			SINGLE BUS CONFIGS
D	DCU CABLE	MAIN CHASSIS	TO	EXP CHASSIS			SINGLE DCU I/O BUS CONFIG
E	REPEATER CABLE	MAIN CHASSIS	TO	EXP CHASSIS			SINGLE REPEATED I/O BUS CONFIG
F	DCU REPEATER CABLE	MAIN CHASSIS	TO	EXP CHASSIS			DUAL BUS (DCU-REPEATER) CONFIG
F	DUAL DCU CABLE	MAIN CHASSIS	TO	EXP CHASSIS			DUAL BUS (DCU-DCU) CONFIG

CABLE (REMOTE CONNECTION, SEE PAGE 2)

ITEM	CABLE	CONNECTING			MAX LG FT	MAX LG M	NOTES
C	B P INTERCONNECT ASSY	EXP CHASSIS SLOT 8	AND	EXP CHASSIS SLOT 9			SINGLE BUS CONFIG
C	[illegible]	[illegible]	TO	EXP CHASSIS	5	1.52	ALL CONFIGS
[illegible]	[illegible]	[illegible]	TO	EXP CHASSIS			CONFIGS USING BUS REPEATER
H	[illegible]	[illegible]	TO	EXP CHASSIS			CONFIGS USING BUS REPEATER
[illegible]	[illegible]	[illegible]	TO	EXP CHASSIS			CONFIGS USING DCU, TWO REQUIRED FOR DUAL BUS CONFIGS
[illegible]	[illegible]	[illegible]	TO	EXP CHASSIS			DUAL BUS CONFIGS

TERMINATOR

ITEM	TERMINATOR	LOCATION	NOTES
J	[illegible]	[illegible]	DUAL CONFIGS: ONE TERMINATOR FOR A-SIDE, ONE TERMINATOR FOR B-SIDE
K	[illegible]	[illegible]	REQUIRED FOR ALL CONFIGS

NOVA/ECLIPSE EXPANSION CHASSIS I

SPECIFICATIONS — NOVA/ECLIPSE EXPANSION CHASSIS I

DIMENSIONS:	Width	Depth	Height
Millimeters	483.1	663.9	266.3
Inches	19.02	26.14	10.48

SERVICE CLEARANCES:	Front	Rear
Millimeters	508.0	269.9
Inches	20.0	11.69

WEIGHT	Empty	Fully Loaded
Kilograms	35.38	49.9
Pounds	78.0	110.0

OPERATING ENVIRONMENT:

Temperature (max)	55°C (131°F) 60Hz, 45°C (113°F) 50Hz
Relative Humidity (max)	90
Altitude (max)	3084m (10,000')

CABLES

Primary Power	Length	Conn	Mating Conn
Domestic	1.8m (6')	5-15P	5-15R
Export	1.8m (6')	6-15P	6-15R

SEE TABLES TO THE LEFT FOR ADDITIONAL CABLE INFORMATION

CPU DESIGNATOR:
Designator Range: 22-22

FOR PACKING PROCEDURE, SEE 010-000262/263

HEAT OUTPUT: 1100 watts (3750 BTU/hr) max

POWER REQUIREMENTS:

(Domestic)

Voltage	102-132
Hz	47-63
Max Amp per Phase	12.0
Phase	1
Startup Surge per Phase	20A (max) for 0.25 seconds

(Export)

		(JAPAN)
Voltage	187-264	90-110
Hz	47-63	47-63
Max Amp per Phase	7.0	12.0
Phase	1	1
Startup Surge per Phase	40A (max) for 0.12 seconds	20A for 0.25 seconds

LINE CORDS:

Supply	Part No.
100-120V	109 000455
220-240	109 000456

Warning: This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instruction manual, may cause interference to radio communications. As temporarily permitted by regulation it has not been tested for compliance with the limits for Class A computing devices pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference. Operation of this equipment in a residential area is likely to cause interference, in which case the user, at his own expense, will be required to take whatever measures may be required to correct the interference.

CONFIGURATIONS

THE CONFIGURATION OF A MODEL 8654-XY EXPANSION CHASSIS IS DEFINED BY THE XY SPECIFIERS IN THE MODEL NUMBER. X SPECIFIES THE CONNECTION BETWEEN THE EXPANSION CHASSIS AND THE MAIN CHASSIS (THE EXTERNAL CONNECTION); Y SPECIFIES THE FUNCTION OF THE SLOTS WITHIN THE EXPANSION CHASSIS (THE INTERNAL CONFIGURATION). FOR THE EXACT MEANING OF THESE SPECIFIERS, SEE THE TABLES BELOW AND TO THE RIGHT.

EXTERNAL CONNECTION

X SPECIFIER	CONNECTION	NOTES
	DIRECT - THE EXPANSION CHASSIS IS MOUNTED DIRECTLY ABOVE THE MAIN CHASSIS.	RECOMMENDED CONNECTION
B	REMOTE - THE EXPANSION CHASSIS IS NOT MOUNTED DIRECTLY ABOVE THE MAIN CHASSIS. A 5 FOOT CABLE CONNECTS THE TWO CHASSIS.	USED ONLY WHEN SPACE RESTRICTIONS DO NOT PERMIT DIRECT CONNECTION

INTERNAL CONFIGURATION

Y SPECIFIER	CONFIGURATION	NOTES
B	MAIN CHASSIS: CPU — I/O BUS → BUS REPEATER — REPEATED I/O BUS → EXPANSION CHASSIS: 14 I/O SLOTS	SINGLE BUS CONFIGURATION
C	MAIN CHASSIS: CPU — I/O BUS → DCU — DCU I/O BUS → EXPANSION CHASSIS: 14 I/O SLOTS	SINGLE BUS CONFIGURATION
D	MAIN CHASSIS: CPU — I/O BUS → DCU, BUS REPEATER — DCU I/O BUS → 7 DCU I/O SLOTS; REPEATED I/O BUS → 6 I/O SLOTS	DUAL BUS CONFIGURATION
E	MAIN CHASSIS: CPU — I/O BUS → DCU#2, DCU#1 — DCU#2 I/O BUS → 7 DCU#2 I/O SLOTS; DCU#1 I/O BUS → 6 DCU#1 I/O SLOTS	DUAL BUS CONFIGURATION

SLOT ASSIGNMENTS

SINGLE BUS CONFIGURATIONS

DATA CHANNEL SPEEDS AVAILABLE — STANDARD [X] HIGH SPEED [ ]

SLOT	ALLOWED (SLOT CHART)	ASSIGNED	+5 CURRENT DRAW
16	I/O		
15	TERMINATORS (NOTE 3)		
14	I/O		
13			
12			
11			
10			
9			
8			
7			
6			
5			
4			
3			
2	I/O		
1	LOAD BOARD		6 A
0	POWER SUPPLY		

TOTAL +5 CURRENT DRAW _____ A
MAX +5 CURRENT AVAILABLE 100 A SEE NOTE 4
+5 CURRENT SURPLUS _____ A
MINIMUM +5 CURRENT 8 A

DUAL BUS CONFIGURATIONS

DATA CHANNEL SPEEDS AVAILABLE: — STANDARD [X] HIGH SPEED [ ]

SLOT	ALLOWED (SLOT CHART)	ASSIGNED	-5 CURRENT DRAW
16	I/O (E2 BUS-NOTE 1)		
15	TERMINATORS (NOTE 3)		
14	I/O (E2 BUS-NOTE 1)		
13			
12			
11			
10			
9	I/O (E2 BUS-NOTE 1)		
8	TERMINATORS		
7	I/O (E1 BUS-NOTE 2)		
6			
5			
4			
3			
2	I/O (E1 BUS-NOTE 2)		
1	LOAD BOARD		6 A
0	POWER SUPPLY		

TOTAL -5 CURRENT DRAW _____ A
MAX -5 CURRENT AVAILABLE 100 A SEE NOTE 4
-5 CURRENT SURPLUS _____ A
MINIMUM -5 CURRENT 8 A

NOTES:

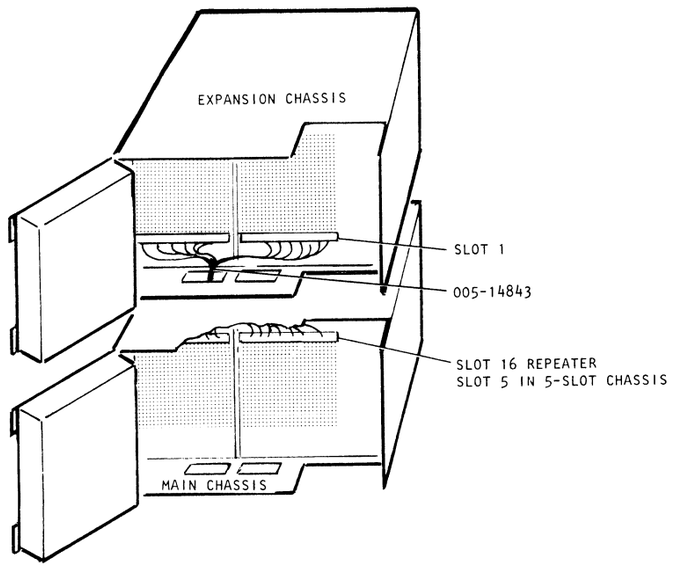
1. THE E2 BUS IS THE DCU I/O BUS. IN DCU-DCU CONFIGURATIONS IT IS THE DCU I/O BUS CONTROLLED BY DCU #2 (THE DCU BOARD IN SLOT 15 OF THE MAIN CHASSIS).
2. IN DCU-REPEATER CONFIGURATIONS THE E1 BUS IS THE REPEATED I/O BUS. IN DCU-DCU CONFIGURATIONS, THE E1 BUS IS THE DCU I/O BUS CONTROLLED BY DCU #1 (THE DCU BOARD IN SLOT 16 OF THE MAIN CHASSIS).
3. IF ANY BOARD IS INSTALLED IN SLOT 16 ENSURE PRIORITIES ARE PASSED AROUND SLOT 15 (TERMINATORS).
4. JAPAN MODEL (-1) LIMITED TO 90 AMPS +5V CURRENT DRAW AND 550 WATTS TOTAL POWER DRAW.

CONFIGURATION (CONT)

DIRECT CONNECTION

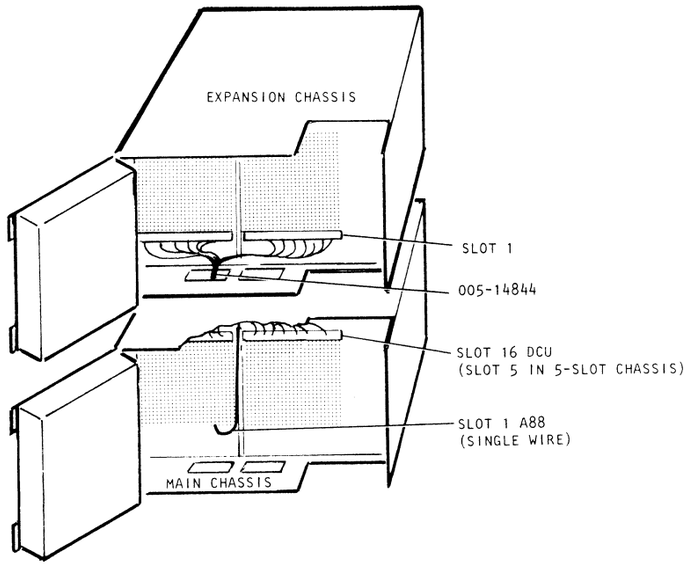
8684-AB

REPEATER I/O BUS (SINGLE BUS)



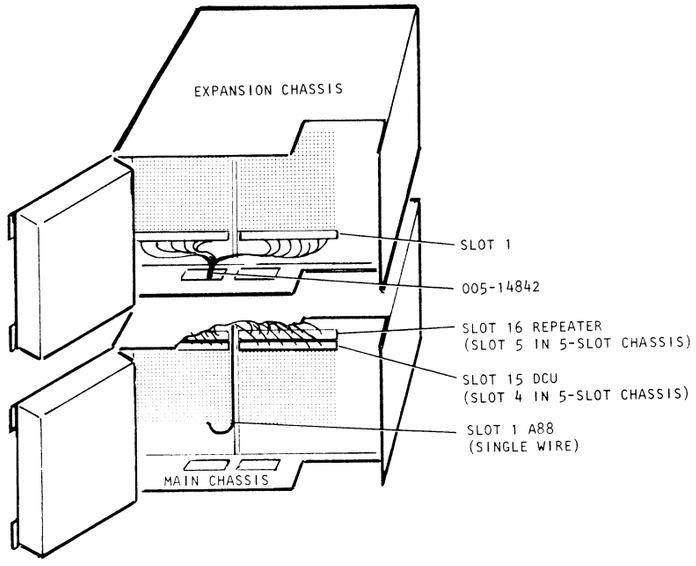
8684-AC

DCU I/O BUS (SINGLE BUS)



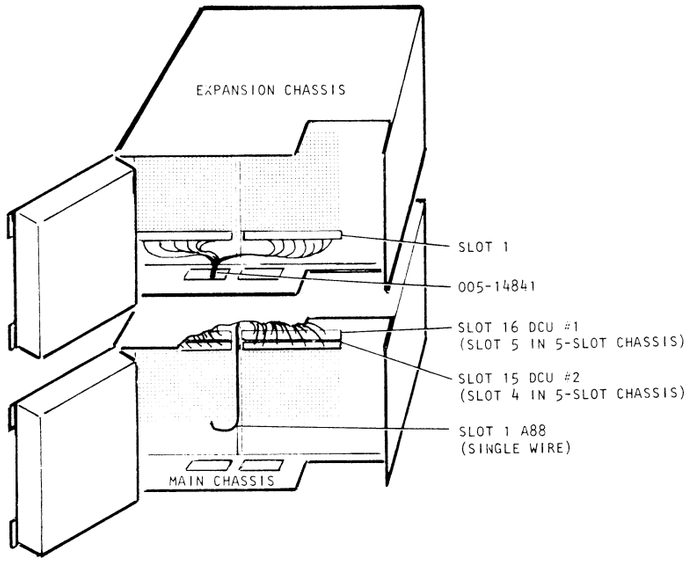
8684-AD

REPEATER -DCU I/O BUS (DUAL BUS)



8684-AE

DCU-DCU I/O BUS (DUAL BUS)

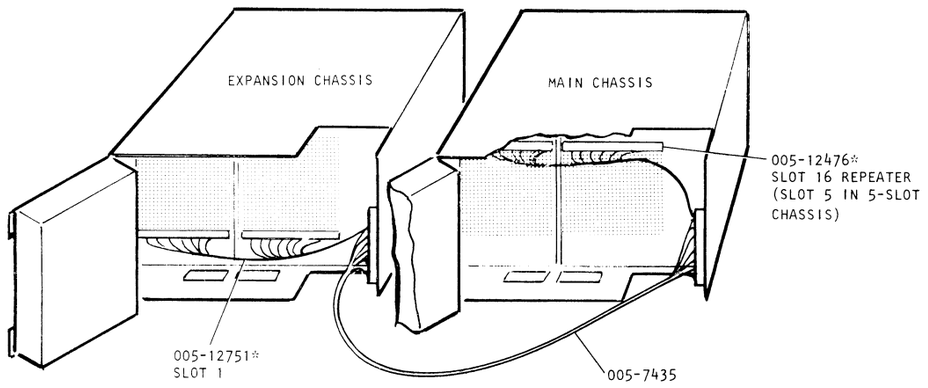


CONFIGURATION (CONT)

REMOTE CONNECTION

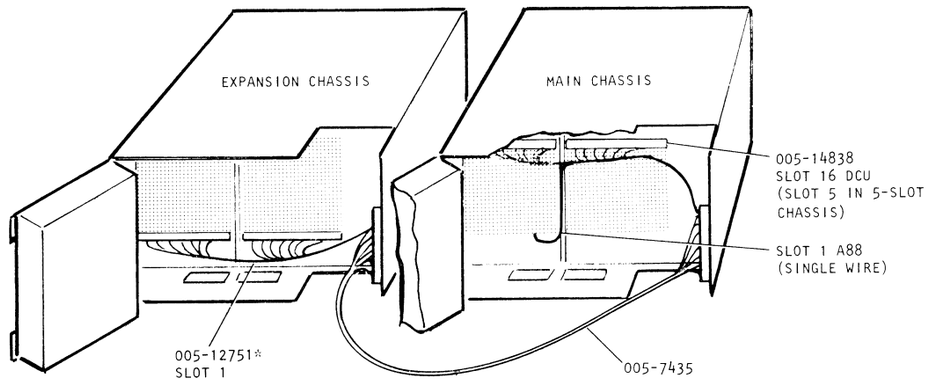
8684-BB

REPEATER I/O BUS (SINGLE BUS)



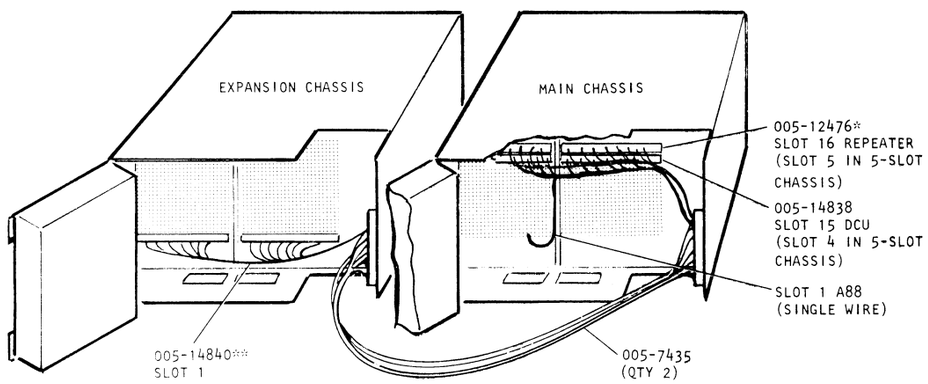
8684-BC

DCU I/O BUS (SINGLE BUS)



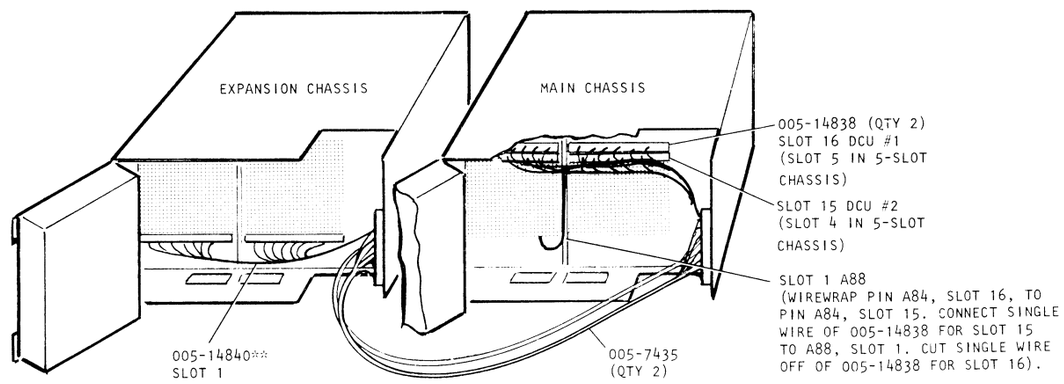
8684-BD

REPEATER—DCU I/O BUS (DUAL BUS)



8684-BE

DCU—DCU I/O BUS (DUAL BUS)



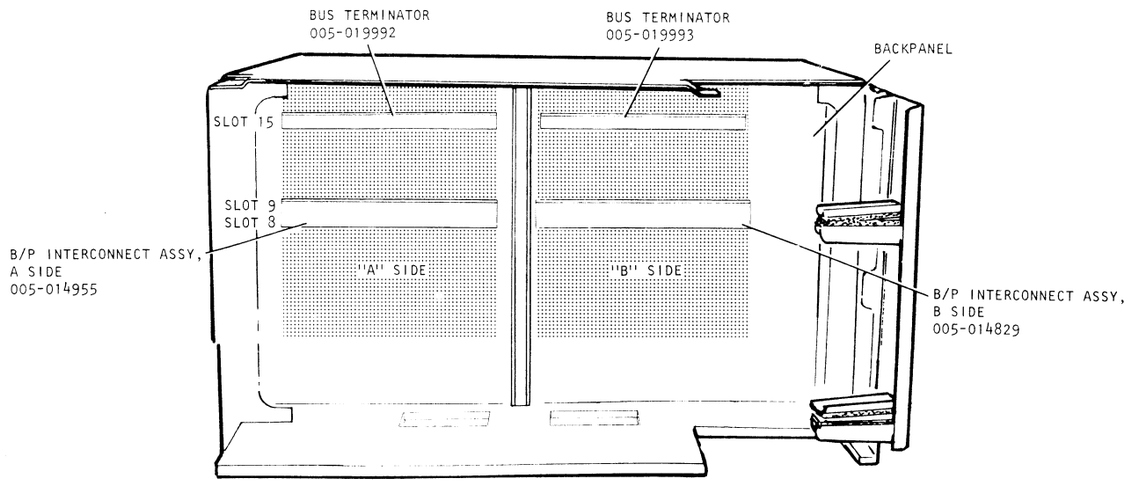
NOTES:
* PADDLEBOARDS 005-12476 AND 005-12751 MUST BE AT REV. 02 OR HIGHER.

** ON DUAL PADDLEBOARD 005-14840, THE J1 PADDLEBOARD IS FOR THE E1 BUS AND THE J2 PADDLEBOARD IS FOR THE E2 BUS.

INTERNAL CABLING

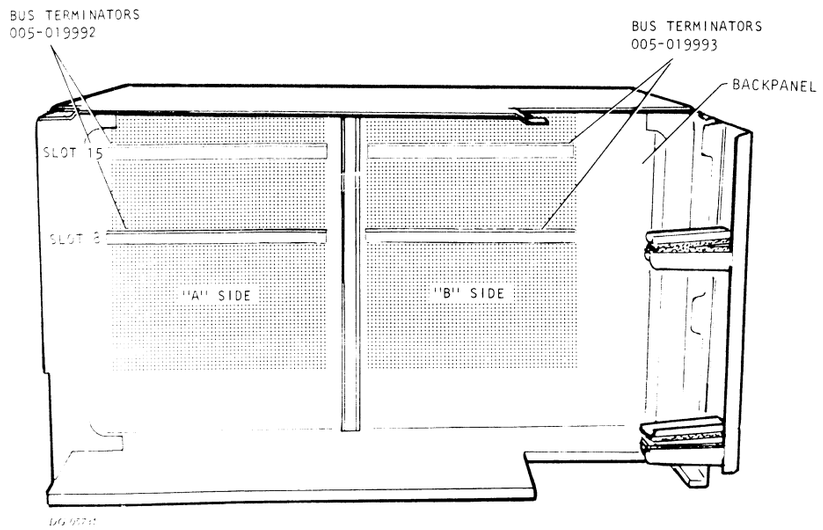
NOVA 4 AND ECLIPSE S/140 SYSTEMS

SINGLE BUS CONFIGURATION EXPANSION CHASSIS



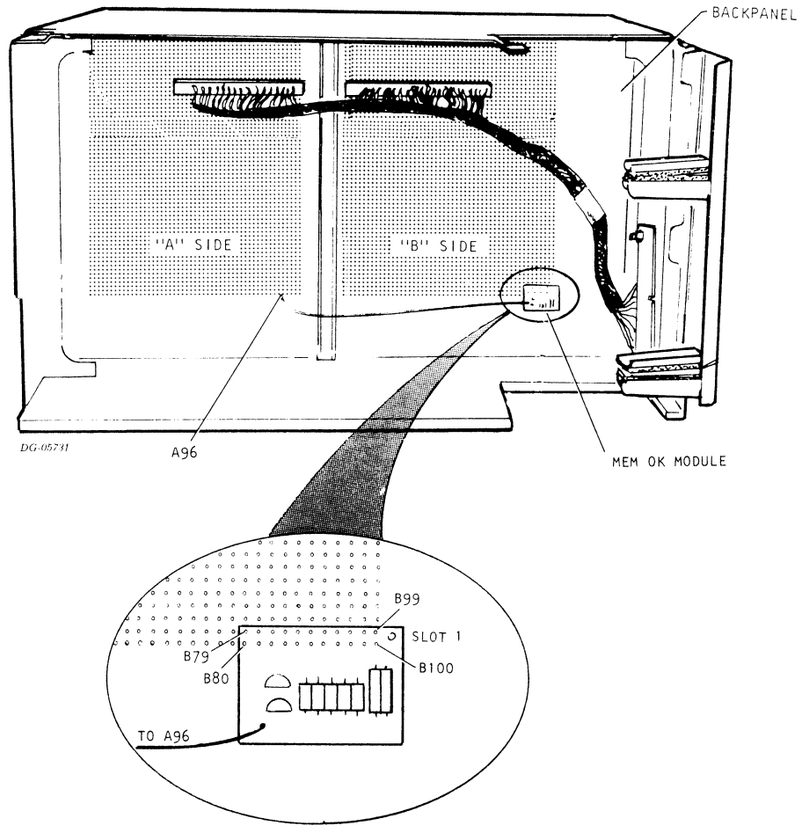
THE B/P INTERCONNECT ASSEMBLIES MOUNT OVER THE BACKPANEL PINS OF SLOTS 8 AND 9. THE A SIDE ASSEMBLY (NO. 005-14955) MOUNTS SO THAT PINS A1 AND A99 OF SLOT 9 ARE IN THE HOLES NUMBERED 1 AND 99, RESPECTIVELY; THE B SIDE ASSEMBLY (NO. 005-14829) MOUNTS SO THAT PINS B1 AND B99 OF SLOT 9 ARE IN HOLES NUMBERED 1 AND 99, RESPECTIVELY.

DUAL BUS CONFIGURATIONS EXPANSION CHASSIS



MOUNTING MEMOK MODULE

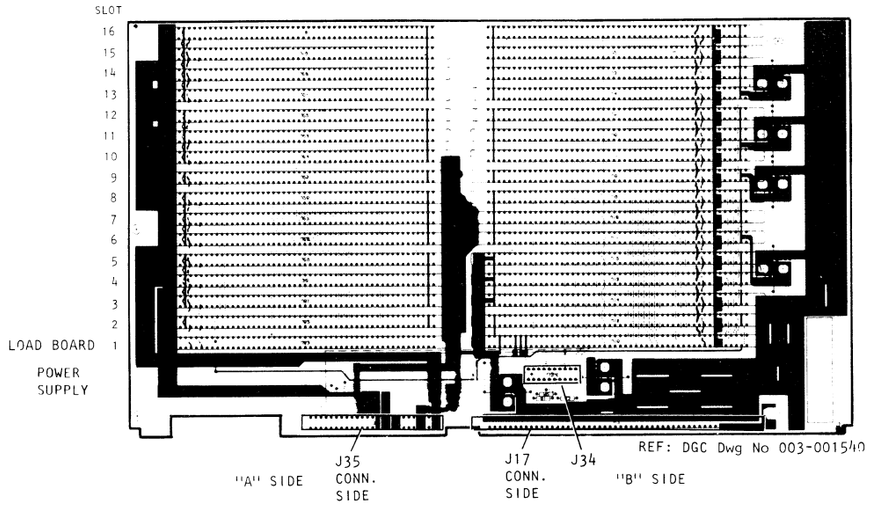
MAIN 16-SLOT CHASSIS



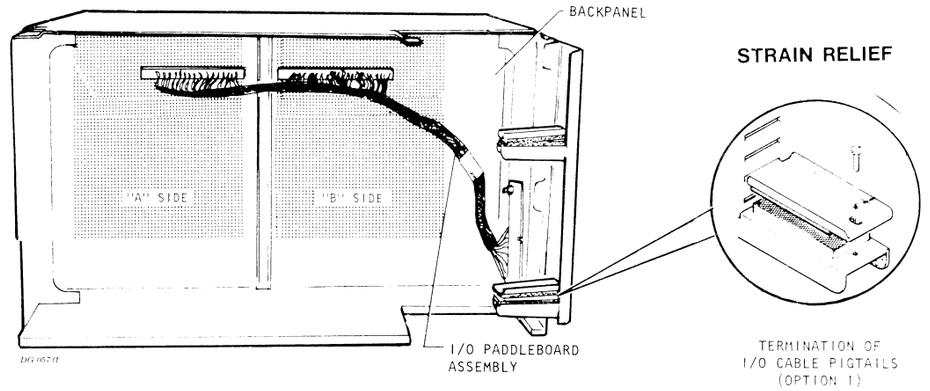
INTERNAL CABLING (CONT)

NOVA 4 AND S/140 SYSTEMS

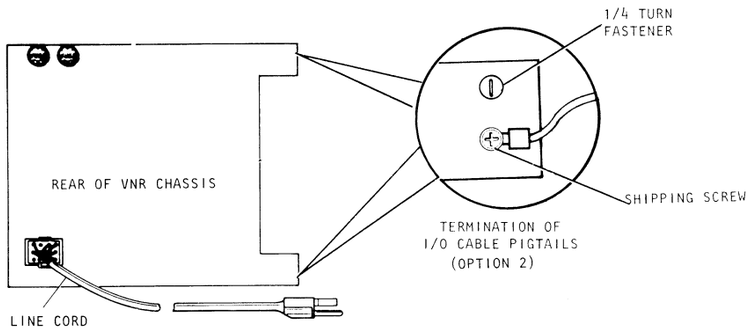
BACKPANEL CONNECTORS

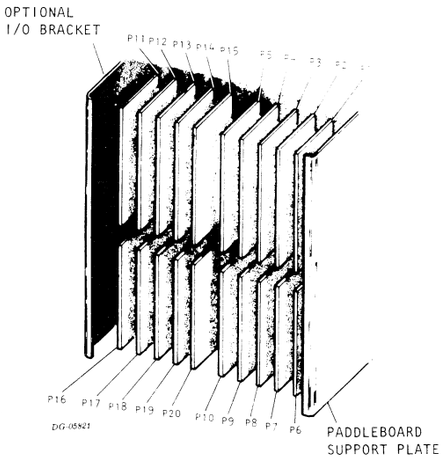


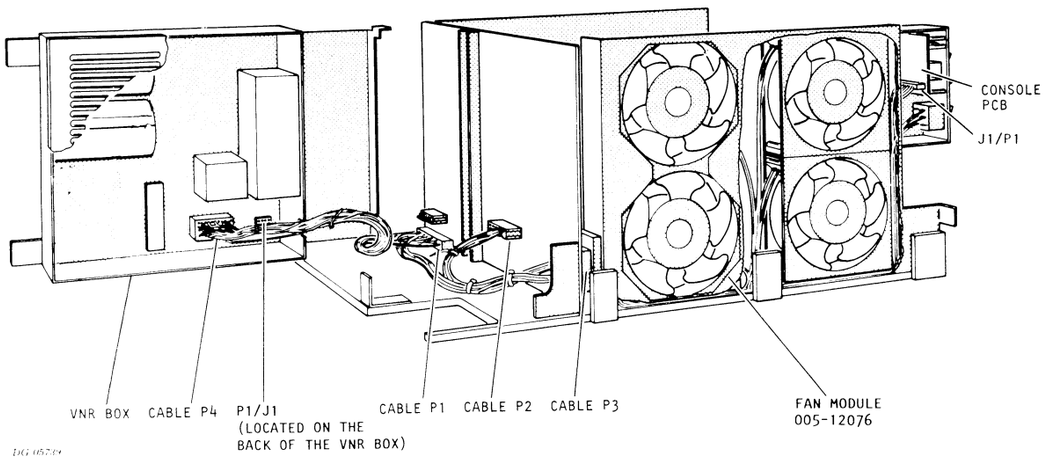
PADDLEBOARD MOUNTING

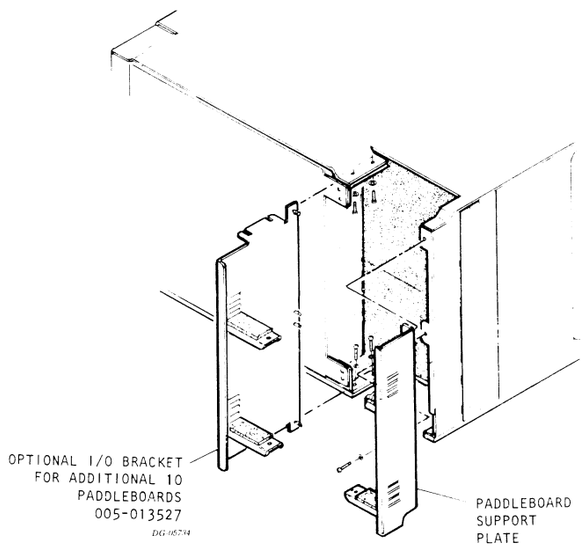


WARNING
FOR SERVICING DISCONNECT POWER, WAIT 5 MINUTES REASSEMBLE UNIT BEFORE APPLYING POWER









NOVA/ECLIPSE EXPANSION CHASSIS I

INTERNAL CABLING (CONT)

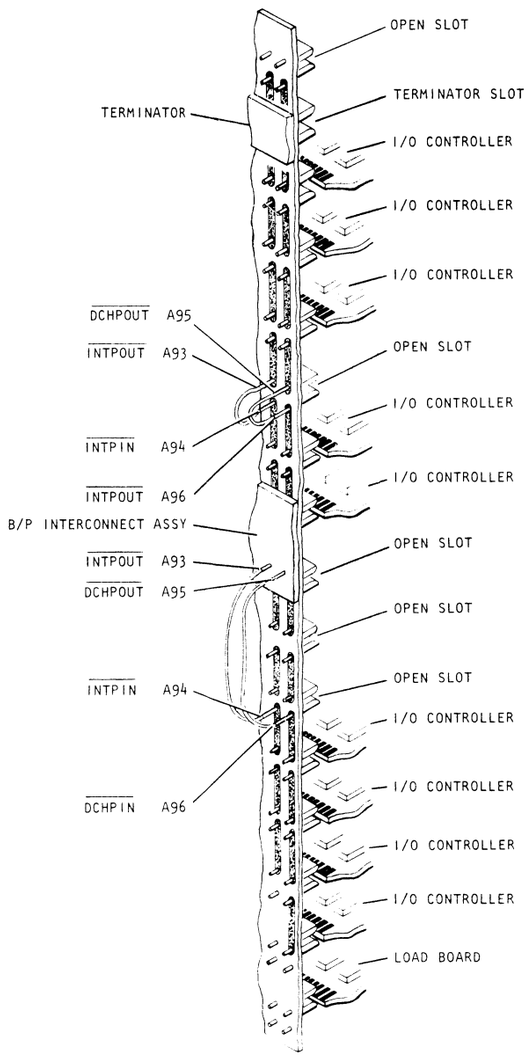
BACKPANEL JUMPERING

EACH GROUP OF OPEN (EMPTY, NON-TERMINATOR) SLOTS IN BETWEEN SLOTS CONTAINING BOARDS, MUST HAVE INTERRUPT AND DATA CHANNEL PRIORITY JUMPERS INSTALLED ACROSS THEM. IN ADDITION, IF A COMMUNICATIONS BOARD RESIDES IN A SLOT ABOVE A GROUP OF OPEN SLOTS, COMMUNICATIONS INTERRUPT PRIORITY JUMPERS MUST ALSO BE INSTALLED. IN DUAL BUS CONFIGURATIONS, ONLY GROUPS OF OPEN SLOTS BETWEEN FULL SLOTS ON THE SAME BUS MUST BE JUMPERED.

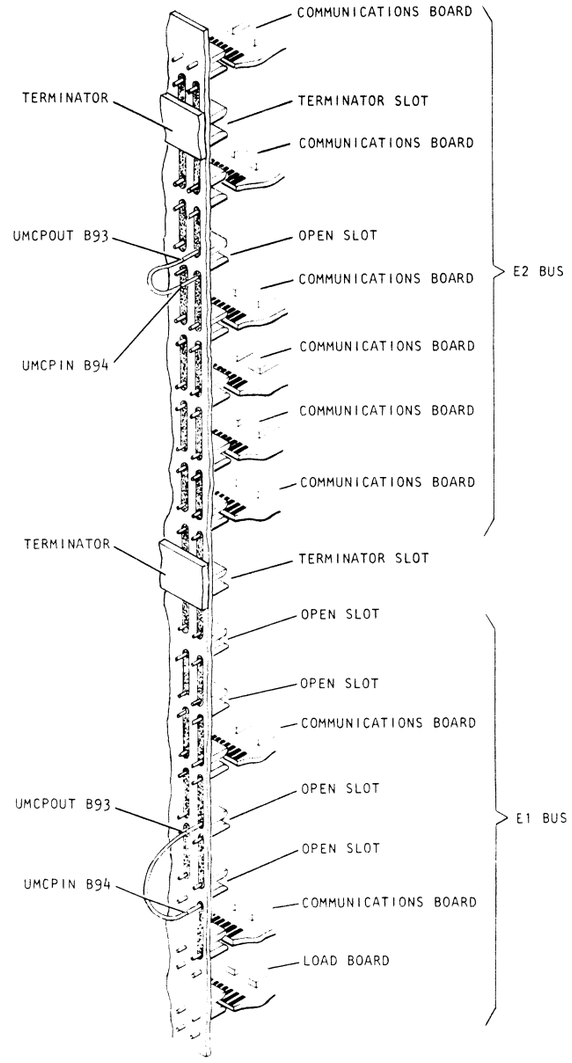
INTERRUPT AND DATA CHANNEL INTERRUPT PRIORITY JUMPERS: JUMPER PINS A96 AND A94 OF THE LOWEST OPEN SLOT IN THE GROUP TO PINS A95 AND A93, RESPECTIVELY, OF THE HIGHEST OPEN SLOT IN THE GROUP.

COMMUNICATIONS PRIORITY JUMPERS: JUMPER PIN B94 OF THE LOWEST OPEN SLOT IN THE GROUP TO PIN B93 OF THE HIGHEST OPEN SLOT IN THE GROUP.

INTERRUPT AND DATA CHANNEL PRIORITY JUMPERING
(SINGLE REPEATED I/O BUS SHOWN)

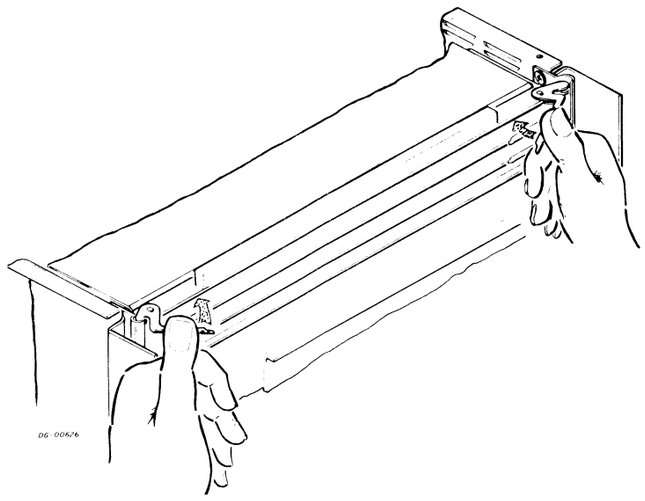


COMMUNICATIONS PRIORITY JUMPERING
(DUAL DCU-DCU I/O BUS SHOWN)

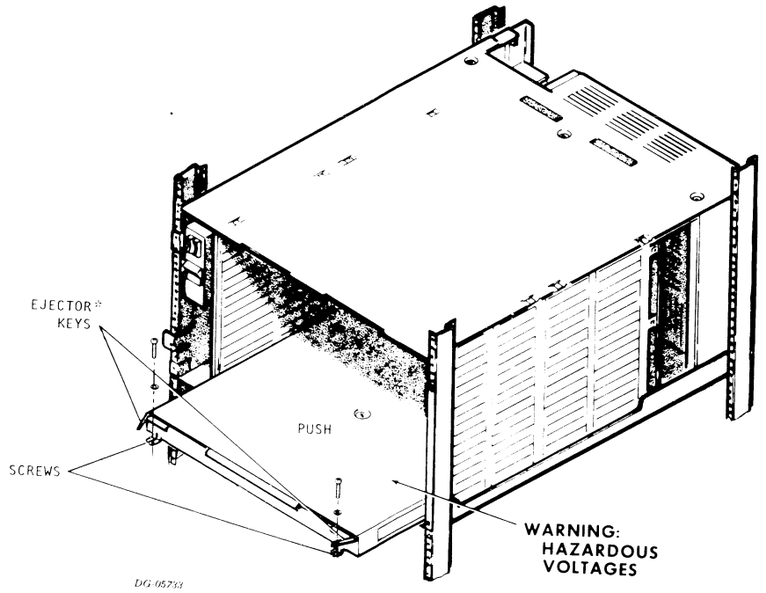


CABINET MOUNTING

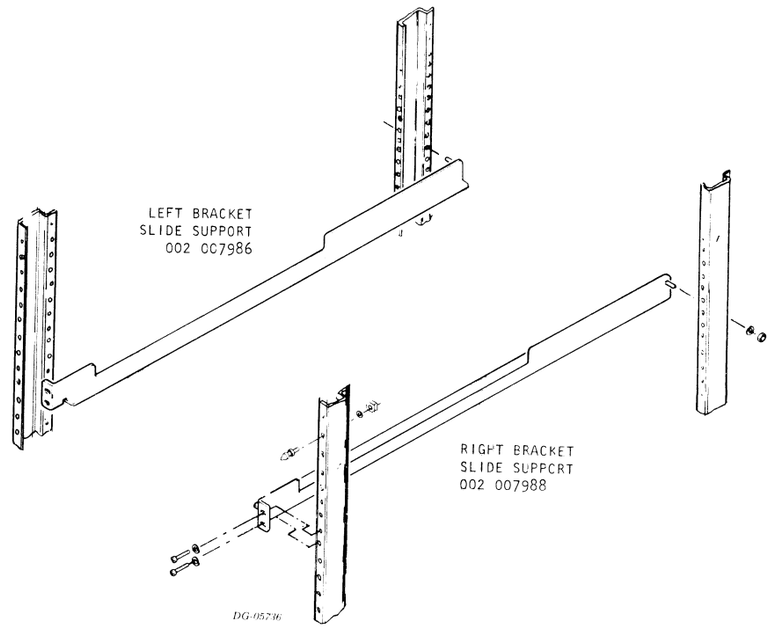
INSERTING PC BOARD



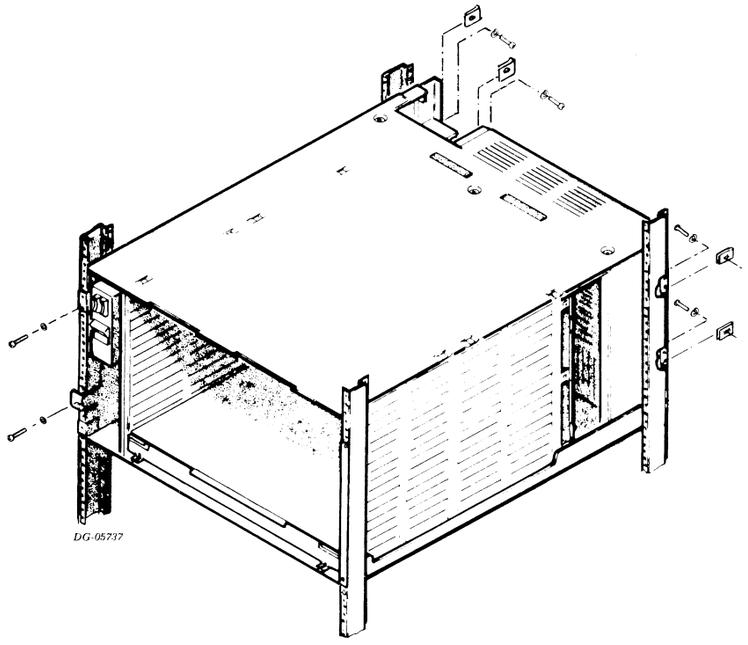
INSERTING POWER SUPPLY PCB



*USE EJECTOR KEYS ONLY FOR REMOVING THE POWER SUPPLY PCB. TO INSTALL THE PCB PUSH ON THE FRONT OF IT.



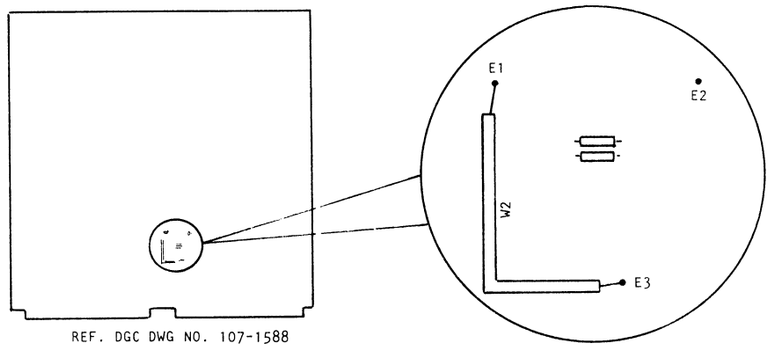
HARDWARE MOUNTING KIT
005 C12068



DC LOADING RULES

LOAD BOARD JUMPERING

W2 MUST CONNECT E2 TO E3 UNLESS THE EXPANSION CHASSIS CONTAINS MORE THAN SEVEN 16-LINE COMMUNICATIONS BOARDS; IN THIS CASE, W2 MUST CONNECT E1 TO E3.



REF. DGC DWG NO. 107-1588

CAUTION:

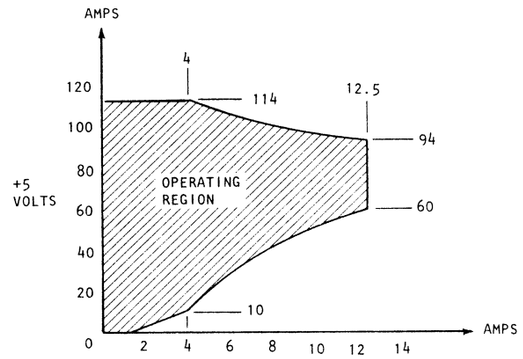
DO NOT POWER UP THE SYSTEM WITHOUT A LOAD BOARD IN THE EXPANSION CHASSIS SINCE POWERING UP THE EXPANSION CHASSIS WITHOUT A LOAD ON THE POWER SUPPLY WILL BLOW PICO FUSE F5 IN THE VNR UNIT.

+5V LOAD DISTRIBUTION WITH LOAD BOARD IN SLOT 1

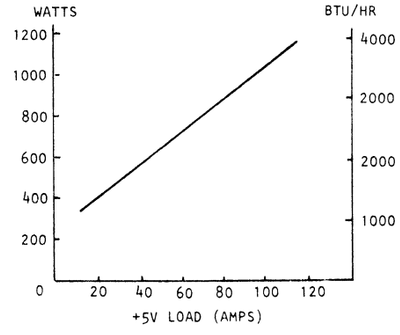
GROUP OF SLOTS	MAXIMUM CURRENT (AMPS) FOR GROUP
2	16
3, 4, 5	22
6, 7, 8	22
9	22
10, 11, 12	22
13, 14, 15, 16	22

DC LOADING RULES FOR THE EXPANSION CHASSIS WITH THE LOAD BOARD

1. THE LOAD ON +15V MUST NOT EXCEED 1.5 AMPS.
2. THE SUM OF THE LOADS ON +12V AND +15V MUST NOT EXCEED 12.5 AMPS.
3. THE LOAD ON -5V MUST NOT EXCEED 3 AMPS WHEN THE LOAD BOARD JUMPER (W2) CONNECTS E2 TO E3 OR 6 AMPS WHEN W2 CONNECTS E1 TO E3.
4. THE LOADS MUST BE WITHIN THE OPERATING REGION SHOWN BELOW:
5. FOR JAPAN (-1) MODEL, TOTAL OUTPUT POWER NOT TO EXCEED 550 WATTS.

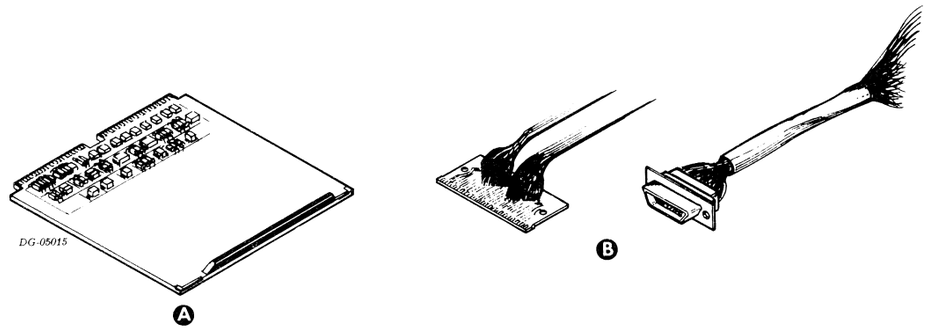


POWER CONSUMPTION VS LOADING*



*THIS CHART IS A GUIDELINE TO THE ACTUAL HEAT OUTPUT OF A SPECIFIC SYSTEM.

SUBSYSTEM COMPONENT BREAKDOWN



MAJOR COMPONENT

Item	Component	Mounting Location	Notes
A	BUS REPEATER	CPU or EXPANSION CHASSIS	REQUIRES ONE I/O SLOT

CABLE

Item	Cable	Connecting	Max Allowed Lg ft N/A m	Notes
B	005 011979 INTERNAL	CPU and DEVICE		50 PIN EDGE CONNECTOR NOVA 2,3, ECLIPSES
	005 011980 INTERNAL	"		CANNON CONNECTOR NOVA 800,1200

SPECIFICATIONS OF THE CHASSIS-MOUNTED COMPONENTS

Item	Component	Chassis	Slots Required	Max Allowable Data Channel Latency (μ sec)	Type of Data Channel Service Desired: High Speed	Type of Data Channel Service Desired: Standard	Max Allowable Programmed I/O Latency +	Controller's +5 Volt Current Draw (Amps)
B	BUS REPEATER	CPU or EXPANSION	1	N/A		X	N/A	2.0

SHIPPING

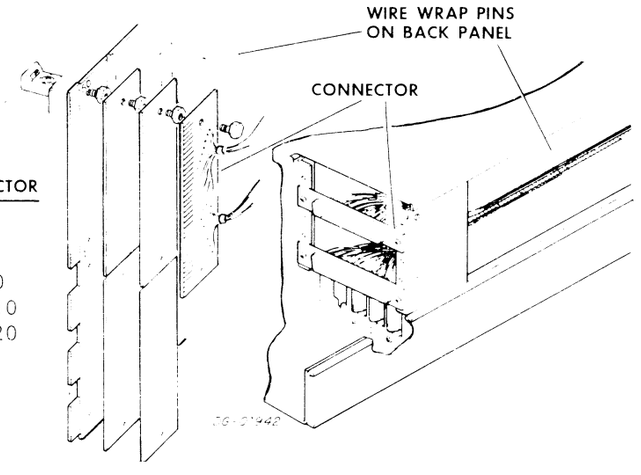
FOR PACKING PROCEDURE,
SEE 010-000262

SHIPPING SPECIFICATIONS			STORAGE SPECIFICATIONS		
Temperature Range °F / °C	Relative Humidity (Non-condensing)	Maximum Altitude	Temperature Range °F / °C	Relative Humidity (Non-condensing)	Maximum Period
-40 to +160 / -40 to +71	0 - 80%	50,000 ft. 15,200 m	-40 to +160 / -40 to +71	0 - 80%	90 days

DG-03224

INTERNAL CABLING

SIGNAL NAME	BACK PANEL PIN NUMBER	PADDLE CONNECTOR PIN NUMBER	CANNON CONNECTOR PIN NUMBER
GND	XA01	AF	50
DATA 6	XA92	AE	9
DATA 2	XA91	AD	5
DATA 10	XA78	AC	13
DATA 3	XA77	AB	6
DATA 15	XA76	AA	18
DATA 1	XA75	Z	4
DATA 13	XA73	Y	16
DATA 9	XA71	X	12
DATA 0	XA69	W	3
DATA 4	XA67	V	7
DATA 8	XA65	U	11
DATA 12	XA63	T	15
DATA 11	XA61	S	14
DATA 5	XA59	R	8
DATA 14	XA57	P	17
DATA 7	XA47	N	10
RQENB	XA49	M	45
OVFLO	XA79	L	44
DCHI	XA81	K	26
DCHR	XA84	J	31
DCHO	XA83	H	29
INTR	XA86	F	40
DCHMI	XA85	E	28
DCHMO	XA88	D	27
INTPOUT	XA87	C	39
DCHPOUT	XA89	B	30
SELB	XA90	A	46
SELD	XB06	Z	47
IOPLS	XB11	Y	41
DS0	XB13	X	32
IORST	XB15	W	42
DS1	XB19	V	33
DS2	XB23	U	34
DS5	XB25	T	37
DS4	XB27	S	36
DCHA	XB31	R	25
DATOA	XB34	P	22
DATOB	XB36	N	23
DATIC	XB38	M	21
STRT	XB40	L	48
CLR	XB42	K	2
DATOC	XB49	J	24
DS3	XB51	H	35
DATIA	XB52	F	19
DATIB	XB53	E	20
INTA	XB54	D	38
MSKO	XB67	C	43
+5V	XA03	B	49
GND	XA02	A	1



DG-01948

EDGE CONNECTOR

NOVA 2
NOVA 3
NOVA 820
NOVA 1210
NOVA 1220

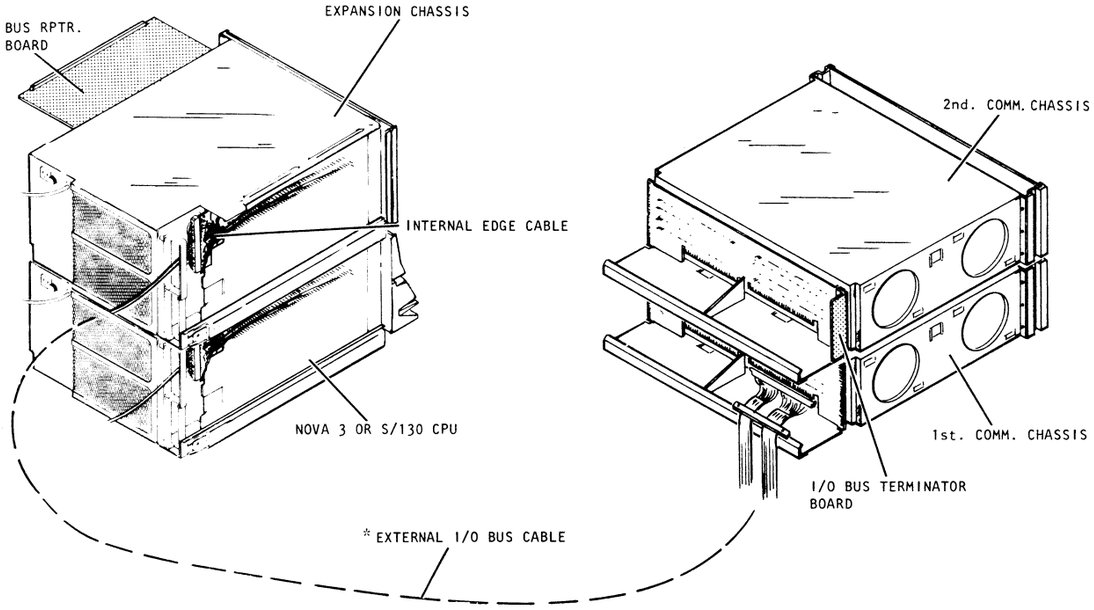
CANNON CONNECTOR

NOVA
SUPERNOVA
NOVA 800
NOVA 830
NOVA 840
NOVA 1200
NOVA 1230

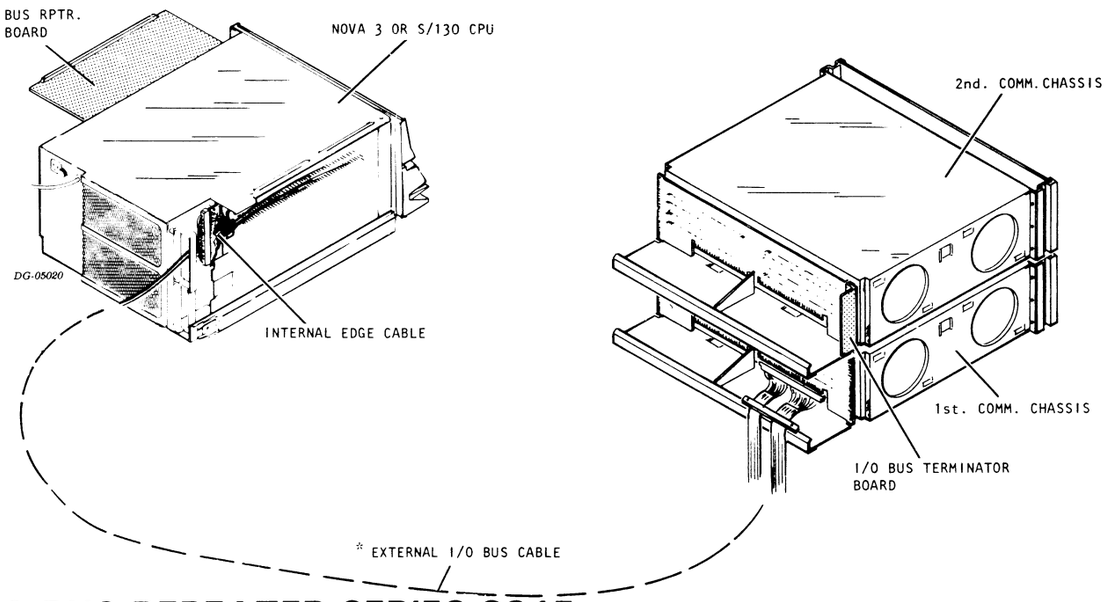
EXTERNAL CABLING

IN THE CONFIGURATIONS BELOW, IF THE COMM. CHASSIS IS NOT DRIVEN BY DCU, AN I/O BUS REPEATER SHOULD BE USED FOR INTERFACING THE COMM. CHASSIS TO THE I/O BUS.

ONE OR MORE DAISY-CHAINED COMM. CHASSIS CONNECTED TO A NOVA 3 OR S/130 EXPANSION CHASSIS.

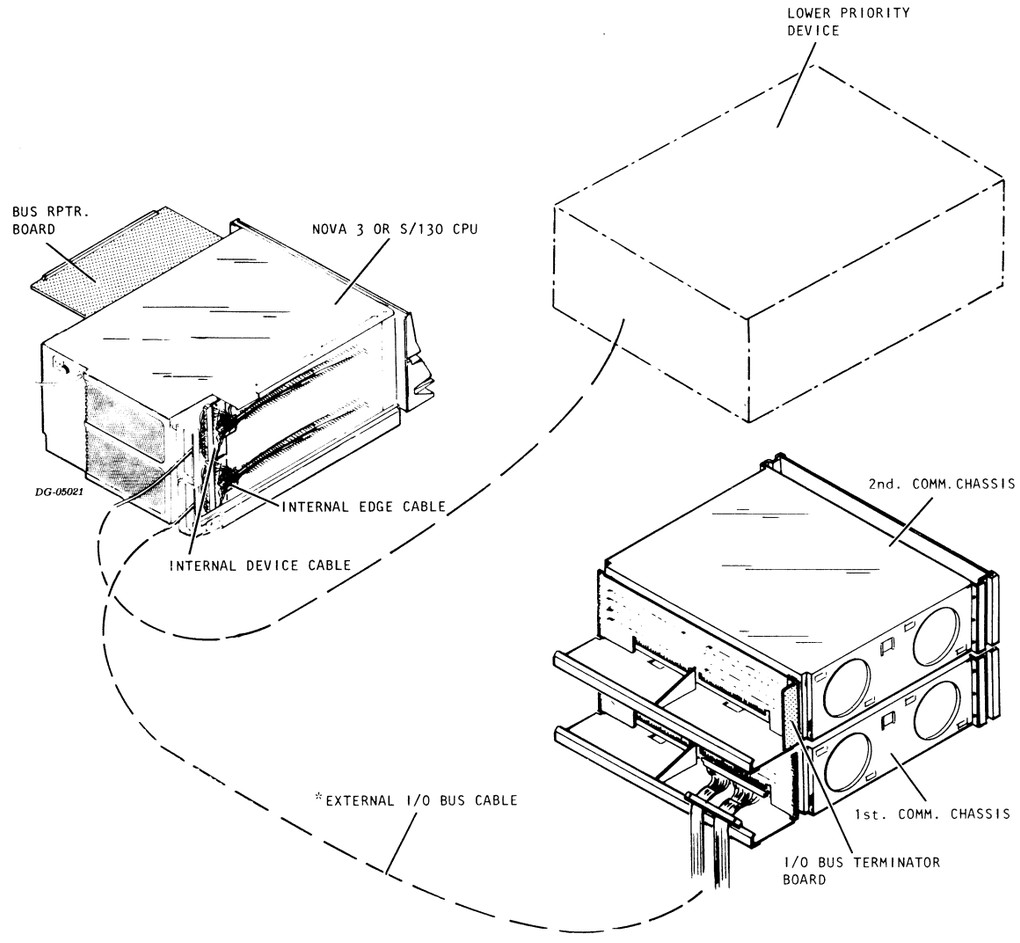


MORE THAN ONE DAISY-CHAINED COMM. CHASSIS CONNECTED TO A NOVA 3 OR S/130 CPU CHASSIS.



ONE OR MORE COMM. CHASSIS CONNECTED TO ANY CPU OR EXPANSION CHASSIS IN WHICH OTHER DEVICES MUST BE ASSIGNED LOWER PRIORITY THAN THE COMM. DEVICES ON THE I/O BUS.

COMM. CHASSIS AND DG/DAC ON THE SAME MACHINE. (ANY CPU-DG/DAC CONNECTS TO END OF I/O BUS.)



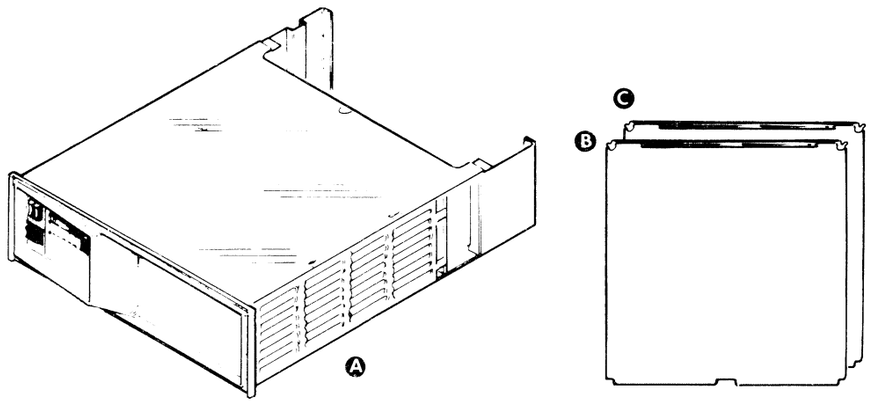
*MAXIMUM IS 25ft.

I/O BUS REPEATER SERIES 8315

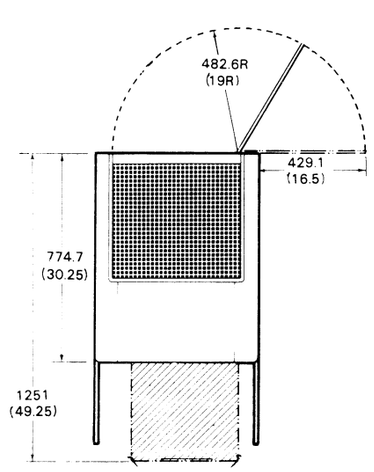
NOVA LINE

CHAPTER III

INSTALLATION SPECIFICATIONS

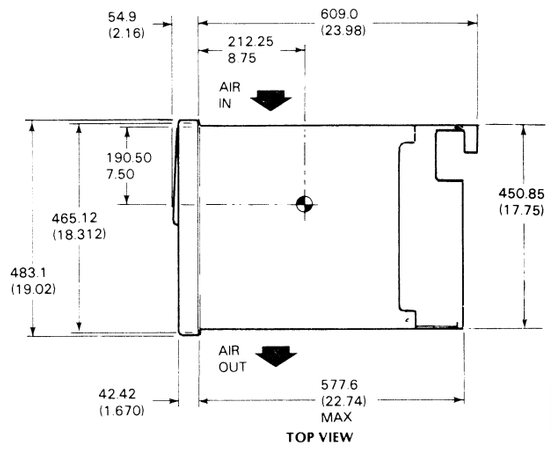


	Component	Mounting Location
A	5-SLOT CHASSIS	CABINET
B	CPU	5-SLOT CHASSIS
C	MEMORY	5-SLOT CHASSIS

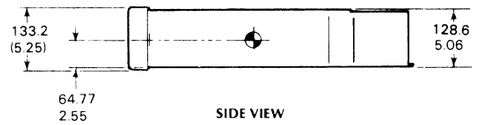


SERVICE DIMENSIONS

NOTE: NOVA 4 IS SERVICED WITHOUT REMOVAL FROM CABINET.



TOP VIEW



SIDE VIEW

DIMENSIONS IN MILLIMETERS
INCHES IN PARENTHESES FOR REFERENCE

SLOT ASSIGNMENTS

Slot	Data Channel Speeds Available — Allowed (Slot Chart)	Assigned	Standard ☛ High Speed ☛ +5V Current Draw
5	I/O		
4	I/O		
3	I/O		
2	MEMORY or I/O		NOTE 2
1	CPU		NOTE 1
0	POWER SUPPLY		
	Total +5V Current draw		
	Max +5 Current Available		35A
	+5 Current Surplus		

NOTES:

1. NOVA 4/S and NOVA 4/X — 17A
   NOVA 4/C — 8A
2. MEMORY (NOVA 4/S & 4/X only) — 5.6A
3. PUSH ON TERMINATORS ON MEMORY SLOT (NOVA 4/S & 4/X ONLY)
4. MAX DRAW +15V, +12V, +12V MEM — 5.0A
5. MAX DRAW -5V, -5V MEM — 1.5A

WARNING

THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY ENERGY AND IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTION MANUAL, MAY CAUSE INTERFERENCE TO RADIO COMMUNICATIONS. AS TEMPORARILY PERMITTED BY REGULATION IT HAS NOT BEEN TESTED FOR COMPLIANCE WITH THE LIMITS FOR CLASS A COMPUTING DEVICES PURSUANT TO SUBPART J OF PART 15 OF FCC RULES, WHICH ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST SUCH INTERFERENCE. OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA IS LIKELY TO CAUSE INTERFERENCE IN WHICH CASE THE USER AT HIS OWN EXPENSE WILL BE REQUIRED TO TAKE WHATEVER MEASURES MAY BE REQUIRED TO CORRECT THE INTERFERENCE.

SPECIFICATIONS — NOVA 4 5-slot

DIMENSIONS:	Width	Depth	Height
Millimeters	483.1	663.9	133.2
Inches	19.02	26.14	5.25

SERVICE CLEARANCES:	Front	Rear
Millimeters	914.4	914.4
Inches	36	36

WEIGHT:	Empty	Fully Loaded
Kilograms	18.14	22.68
Pounds	40	50

OPERATING ENVIRONMENT:

Temperature (max)	55°C(131°F) 60Hz, 45°C(113°F) 50Hz
Relative Humidity (max)	90%
Altitude (max)	3084m (10,000')

CABLES:

Primary Power	Length	Conn	Mating Conn
Domestic	1.8m(6')	5-15P	5-15R
Export	1.8m(6')	6-15P	6-15R

External I/O Bus Cable — 15.3m (50') max

HEAT OUTPUT: 400 watts (1365 BTU/hr)

POWER REQUIREMENTS:

(Domestic)

Voltage	85-132
Hz	47-63
Max Amp per Phase	8.0
Phase	1

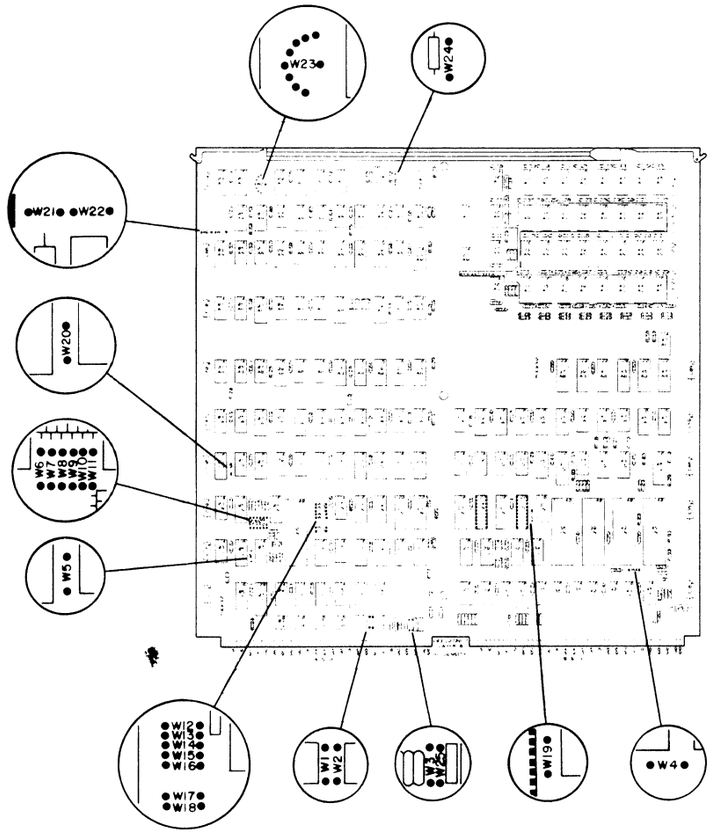
(Export)

Voltage	187-264
Hz	47-63
Max Amp per Phase	4.0
Phase	1

LINE CORDS:

Supply	Part No.
100V	109 000239
120V	109 000238
220V	109 000237
240V	109 000240

FOR PACKING PROCEDURE, SEE 010-000262/263



TAILORING

CPU JUMPERING

NOVA 4/C

DEVICE CODE JUMPERS FOR FRONT PANEL AUTOMATIC PROGRAM LOAD

SELECT THE PROGRAM LOAD DEVICE CODE BY INSTALLING JUMPERS W11, W8, W6, W7, W9, W10, AS FOLLOWS:

JUMPER OUT = 1 JUMPER IN = 0

EXAMPLE JUMPERING FOR DEVICE CODE 27_8:

W11	W8	W6	W7	W9	W10
IN	OUT	IN	OUT	OUT	OUT

W4 IS NOT INSERTED IF THE PROGRAM LOAD DEVICE IS A HIGH SPEED DEVICE, OTHERWISE IT IS INSERTED.

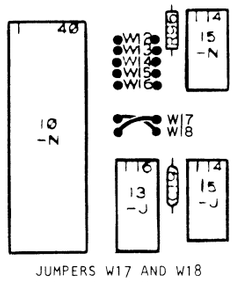
TYPE OF TRANSMISSION JUMPERS

TYPE OF TRANSMISSION	JUMPERS INSERTED*
20MA CURRENT LOOP	W1, W3
EIA RS232-C	W2

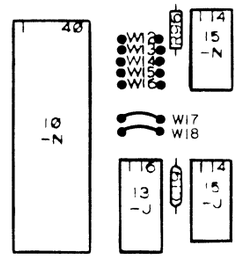
* JUMPER 25 IS INSERTED IF THE SYSTEM TERMINAL IS A TELETYPE, OTHERWISE IT IS NOT INSERTED.

* JUMPERS W17 AND W18 MUST ALSO BE INSERTED AS SHOWN BELOW.

20MA CURRENT LOOP

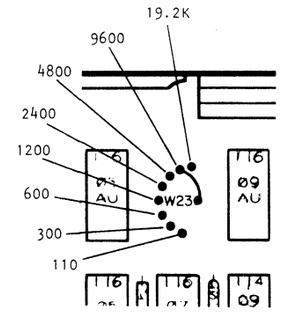


EIA RS232-C



JUMPERS W17 AND W18 MUST NOT TOUCH!

W23 IS INSERTED TO DETERMINE THE BAUD RATE AS SHOWN BELOW:
(9600 SHOWN)



W22 IS NEVER INSERTED.

THE FOLLOWING JUMPERS ARE ALWAYS INSERTED:

W5
W19
W20
W21
W24

STOP BIT JUMPERS

NUMBER OF STOP BITS	W15 JUMPER POSITION
1	IN
2	OUT

PARITY JUMPERS

TYPE OF PARITY	JUMPER POSITION W12	W16
EVEN	OUT	IN
ODD	IN	IN
NONE	OUT	OUT

CHARACTER LENGTH JUMPERS

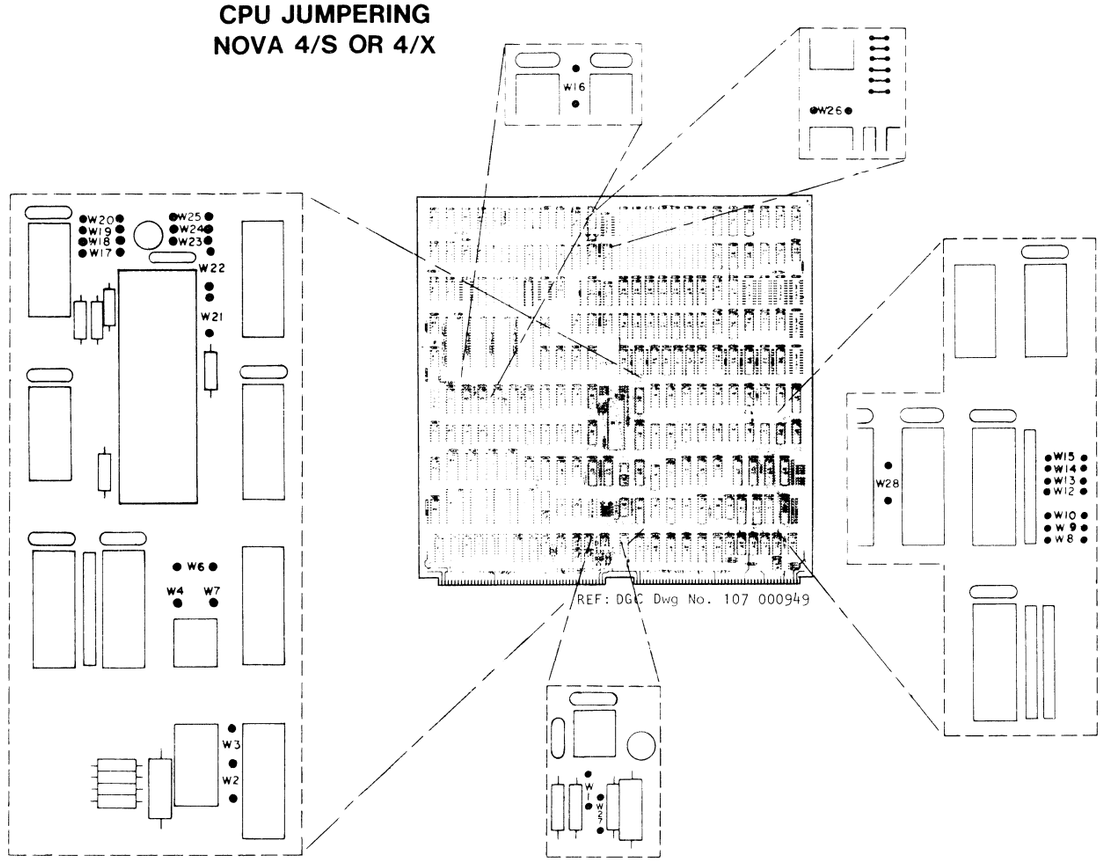
CHARACTER LENGTH	JUMPER POSITION W13	W14
5 BITS	IN	IN
6 BITS	OUT	IN
7 BITS	IN	OUT
8 BITS	OUT	OUT

CPU/MEMORY LOADS

VOLTAGE	DESCRIPTION	CURRENT DRAW
+5V	SYSTEM WITHOUT BATTERY BACKUP	8.0A
+5V	SYSTEM WITH BATTERY BACKUP	7.5A
+5V MEM		0.5A
+12V MEM		0.7A
+15V		0.04A

TAILORING (CONT)

CPU JUMPERING
NOVA 4/S OR 4/X



BAUD RATE JUMPERS

BAUD RATE	JUMPER POSITION W17	W18	W19	W20	W27
50	IN	IN	OUT	IN	OUT
75	IN	IN	OUT	OUT	OUT
110	OUT	OUT	OUT	OUT	IN
134.5	IN	OUT	IN	IN	OUT
150	OUT	OUT	OUT	IN	OUT
200	IN	OUT	IN	OUT	OUT
300	OUT	OUT	IN	OUT	OUT
600	IN	OUT	OUT	IN	OUT
1200	OUT	IN	OUT	OUT	OUT
1800	OUT	IN	OUT	IN	OUT
2400	OUT	OUT	IN	IN	OUT
4800	OUT	IN	IN	OUT	OUT
9600	OUT	IN	IN	IN	OUT
19200	IN	IN	IN	OUT	OUT

PARITY JUMPERS

TYPE OF PARITY	JUMPER POSITION W22	W21
EVEN	OUT	IN
ODD	IN	IN
NONE	OUT	OUT

CHARACTER LENGTH JUMPERS

CHARACTER LENGTH	JUMPER POSITION W25	W24
5 BITS	IN	IN
6 BITS	OUT	IN
7 BITS	IN	OUT
8 BITS	OUT	OUT

TYPE OF TRANSMISSION JUMPERS

TYPE OF TRANSMISSION	JUMPERS INSERTED
20MA CURRENT LOOP	W4, W7, W2, W1
EIA RS232-C	W6, W3

STOP BIT JUMPERS

NUMBER OF STOP BITS	W23 JUMPER POSITION
1	IN
2	OUT

REAL TIME CLOCK JUMPER

	W28
RTC ENABLED	IN
RTC DISABLED	OUT

DEVICE CODE JUMPERS FOR FRONT PANEL AUTOMATIC PROGRAM LOAD

SELECT THE PROGRAM LOAD DEVICE CODE BY INSTALLING JUMPERS W13, W15, W14, W12, W10, W8 AS FOLLOWS:

JUMPER IN = 1 JUMPER OUT = 0

EXAMPLE JUMPERING FOR DEVICE CODE 27 (8):

W13	W15	W14	W12	W10	W8
OUT	IN	OUT	IN	IN	IN

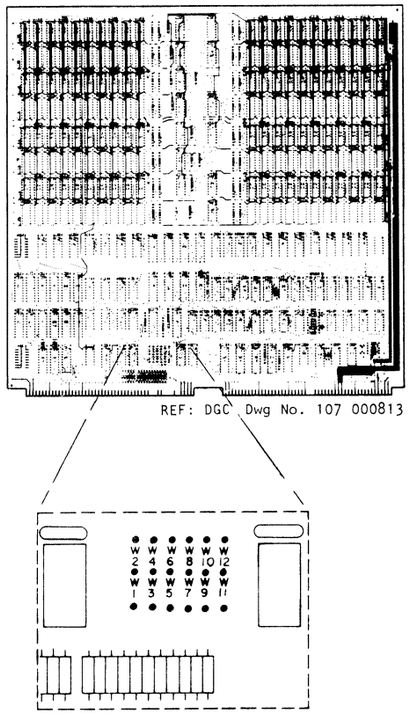
W9 IS INSERTED IF THE PROGRAM LOAD DEVICE IS A HIGH SPEED DEVICE, OTHERWISE, IT IS REMOVED.

NOTE: JUMPERS W16 AND W26 ARE ALWAYS INSERTED. JUMPERS W5 AND W11 DO NOT EXIST.

+5V CURRENT DRAW = 13.5A

TAILORING (CONT)

MEMORY JUMPERING
NOVA 4/S AND 4/X



REF: DGC Dwg No. 107 000813

NOVA 4/X MEMORY BOARD SELECT JUMPERS

ADDRESS RANGE	JUMPERS INSERTED*	
	BOARD SIZE	
	256KBYTES	128KBYTES
0377777- 0300000-	NONE	W8
0277777- 0200000-		
0177777- 0100000-		W7
0077777- 0000000-		

*NOTE: JUMPERS W1, W3, AND W5 ARE ALWAYS INSERTED.
JUMPERS W2, W4, AND W6 ARE NEVER INSERTED.

NOVA 4/S MEMORY BOARD SELECT JUMPERS

ADDRESS RANGE	JUMPERS INSERTED*	
	BOARD SIZE	
	64 KBYTES	32KBYTES
0077777- 0040000-	W7 W9	W7 W9 W12
0037777- 0000000-		W7 W9 W11

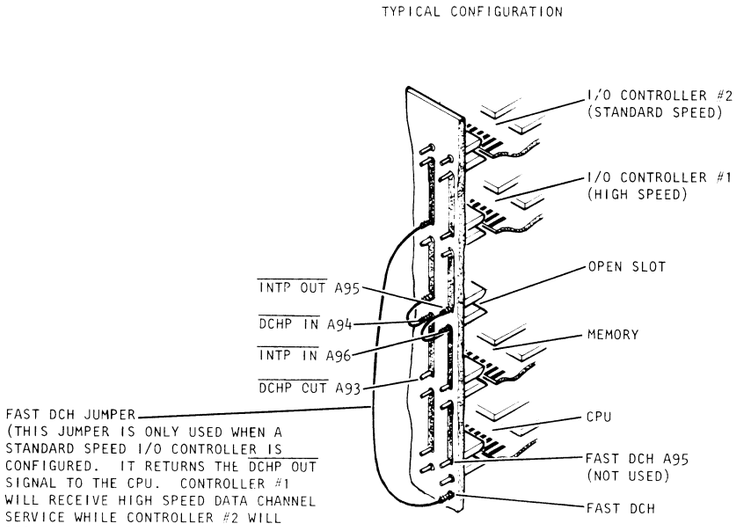
NOTE: JUMPERS W1, W3, AND W5 ARE ALWAYS INSERTED;
JUMPERS W2, W4, AND W6 ARE NEVER INSERTED.

MEMORY LOADS

VOLTAGE	DESCRIPTION	CURRENT DRAW
+5V	SYSTEM WITH BATTERY BACKUP	4.4A
+5V	SYSTEM WITHOUT BATTERY BACKUP	5.6A
+5V MEM		1.2A
+12V MEM	FIRST BOARD IN CHASSIS	2.3A

TAILORING (CONT)

BACKPANEL JUMPERING



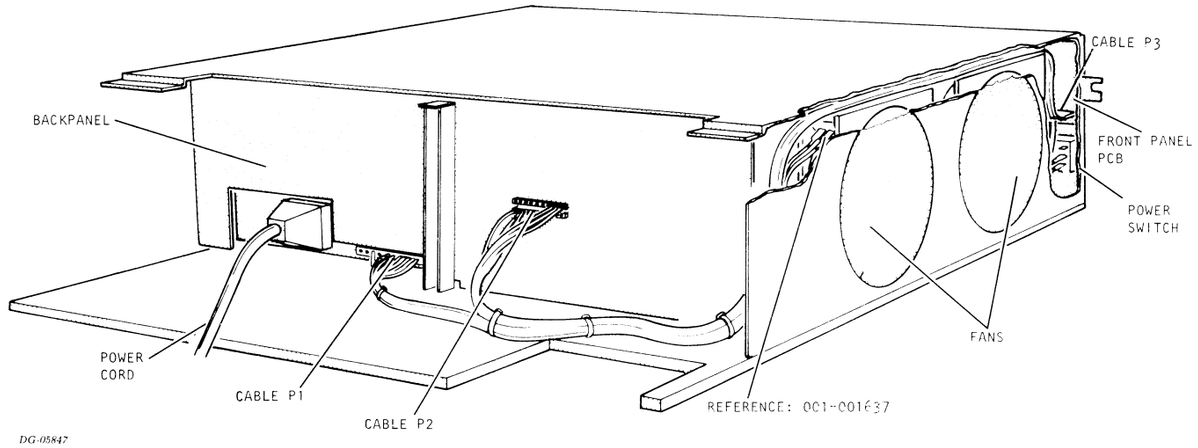
NOTE: WHEN AN I/O CONTROLLER RESIDES OUTSIDE THE CHASSIS, IT MUST BE CONFIGURED AS A STANDARD DATA CHANNEL CONTROLLER.

FOR MORE INFORMATION CONCERNING INTERRUPT AND DATA CHANNEL PRIORITY SCHEMES, REFER TO THE INTERFACE DESIGNER'S REFERENCE, NOVA AND ECLIPSE LINE COMPUTERS, DG NO. 015-000031.

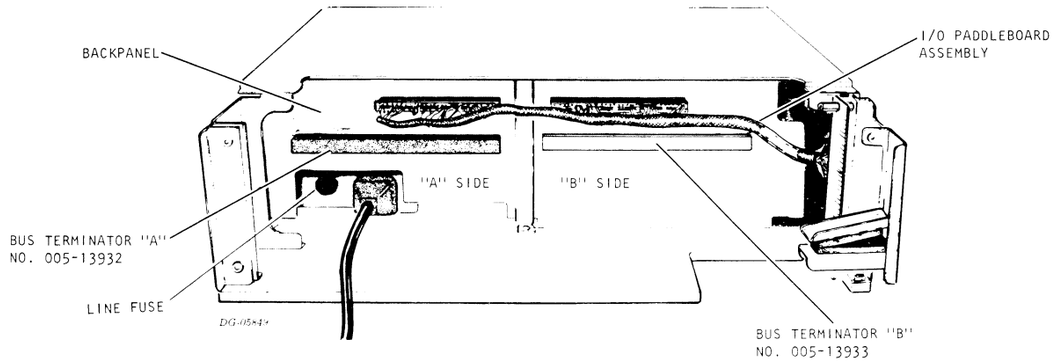
DG-05828

INTERNAL CABLING

BACKPANEL CONNECTORS



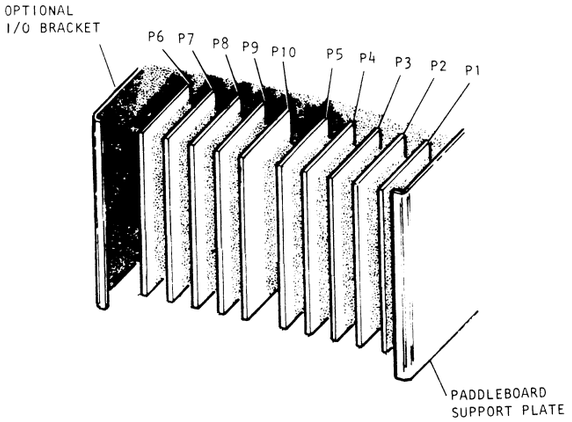
DG-05847



DG-05847

INTERNAL CABLING (CONT)

PADDLEBOARD MOUNTING



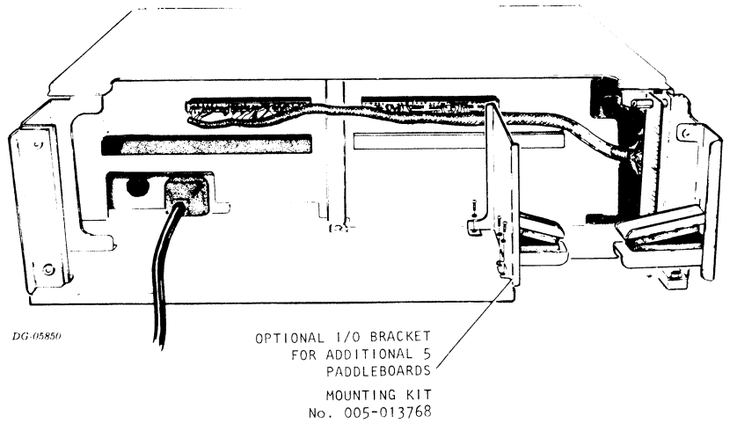
NOVA 4 I/O PADDLEBOARDS

ASSEMBLY No.	TYPE
005 012472	GENERAL PURPOSE I/O
005 012751	EXTERNAL I/O BUS **
005 012765	UNIVERSAL LINE MUX (SYNC) MODEL 4241, 4241A, 4242, 4243 ***
005 012476	I/O BUS REPEATER MODEL 8315
005 012590	DCU-50 MODELS 4250, 4254
005 012473 *	ASYNCHRONOUS INTERFACE MODELS 4007, 4010, 4023, 4075, 4077, 4078
005 012585	MCA MODEL 4206

* THIS PADDLEBOARD MUST BE PLACED IN THE OUTSIDE POSITION: i.e. THE FURTHEST AWAY FROM THE PADDLEBOARD SUPPORT PLATE.

** EXTERNAL I/O BUS MUST BE TERMINATED AT THE END AWAY FROM THE COMPUTER BY TERMINATOR NO. 005-9067, OR EQUIVALENT.

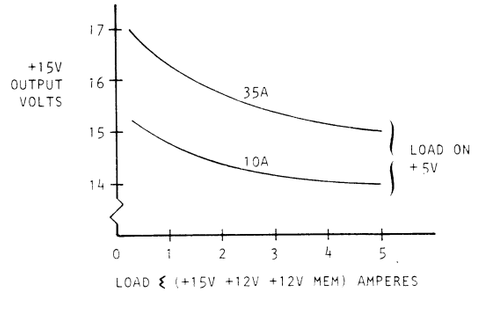
*** REQUIRES TWO PADDLEBOARD LOCATIONS.



POWER SYSTEM LOADING RULES:

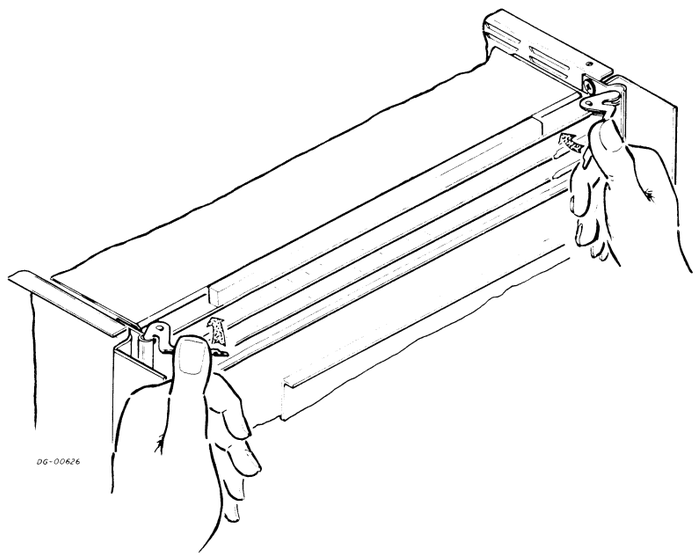
1) SUPPLY VOLTAGES +5V. +12V, -5V ARE TIGHTLY REGULATED (SEE 001-001615 FOR LIMITS). +15 VOLTS IS NOT LOAD REGULATED; IT'S TYPICAL OUTPUT VOLTAGE IS SHOWN IN THE GRAPH TO THE RIGHT.

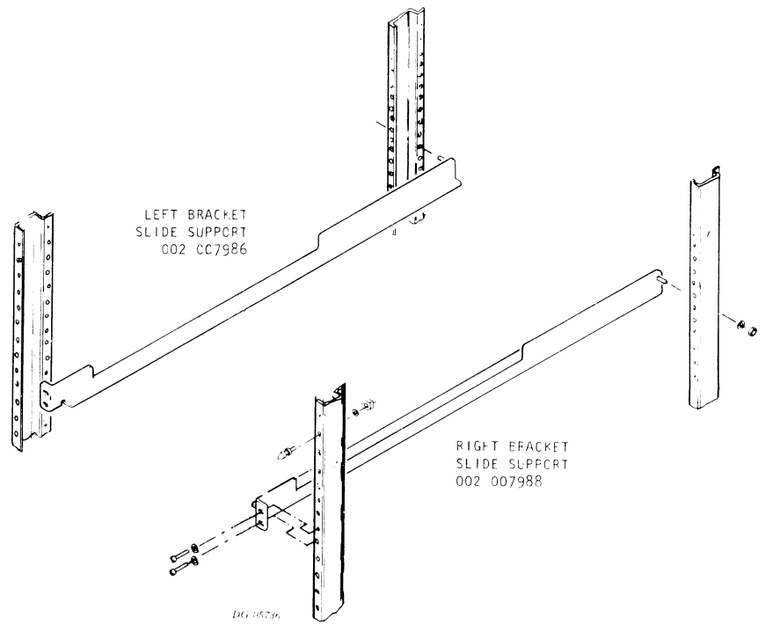
2) LOADING ON +5V VOLTS MUST BE DIVIDED SO THAT SLOTS 1 AND 2 DRAW LESS THAN 22 AMPERES, SLOTS 3, 4, AND 5 DRAW LESS THAN 22 AMPERES AND THE TOTAL LOAD IS LESS THAN 35 AMPERES.



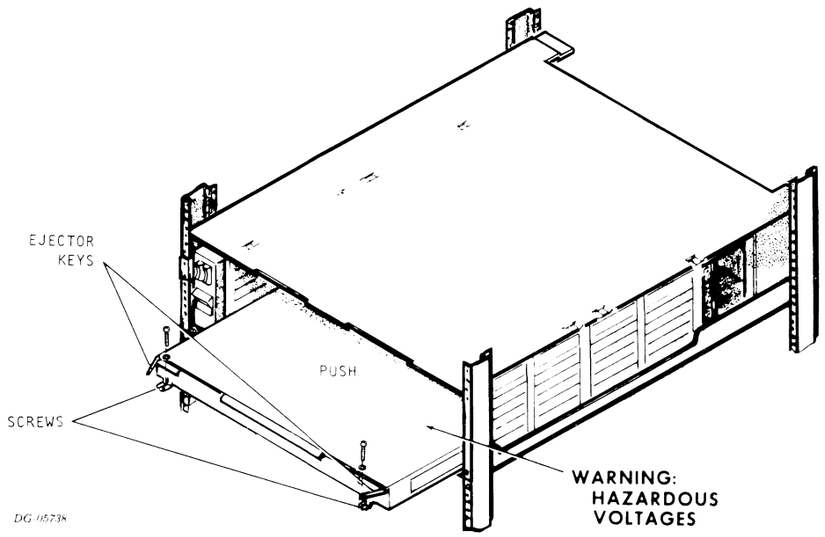
CABINET MOUNTING

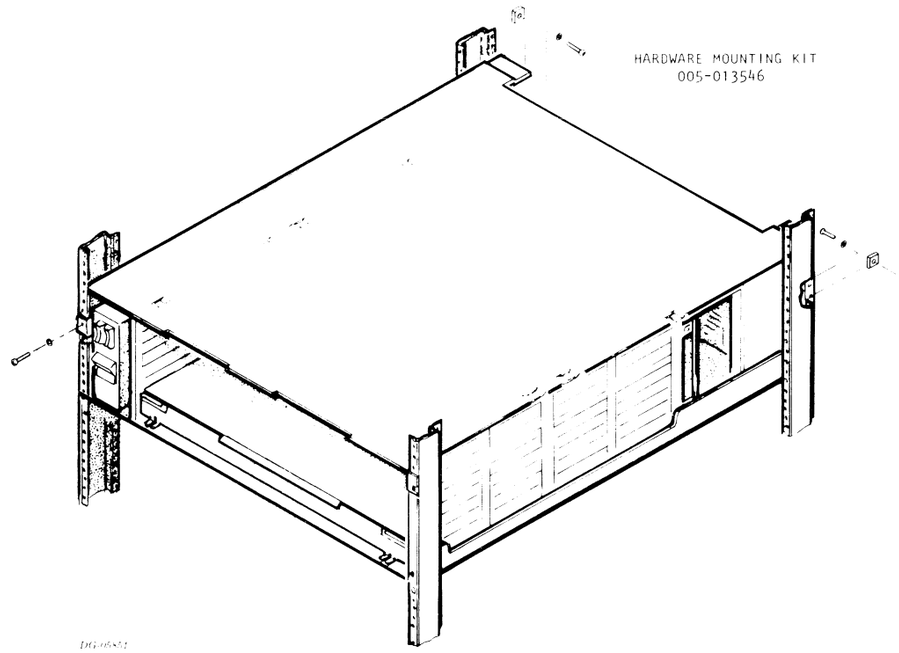
INSERTING PC BOARD





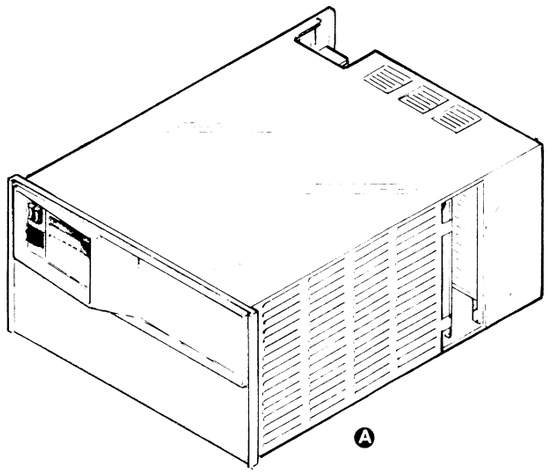
INSERTING POWER SUPPLY PCB

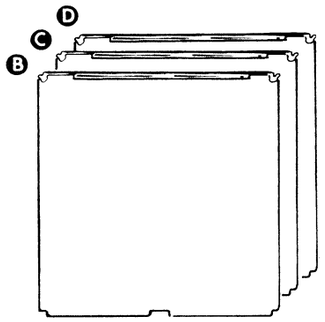




NOVA 4 5-SLOT

INSTALLATION SPECIFICATIONS





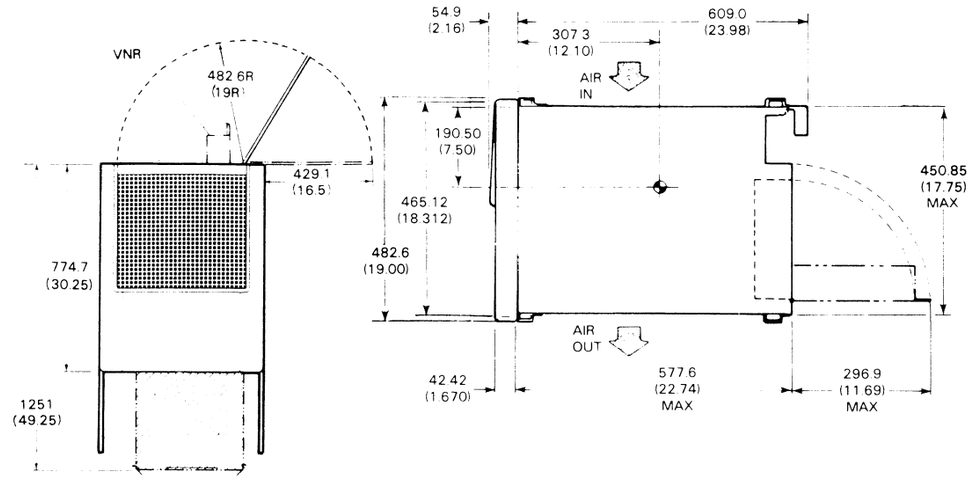
	Component	Mounting Location
A	16-SLOT CHASSIS	CABINET
B	CPU	16-SLOT CHASSIS
C	MEMORY	16-SLOT CHASSIS
D	FLOATING POINT UNIT (FPU)	16-SLOT CHASSIS

SLOT ASSIGNMENTS

Slot	Data Channel Speeds Available (Slot Chart)	Standard ☐ High Speed ☑ Assigned	+5V Current Draw
16	I/O		
15	I/O		
14	I/O		
13	I/O		
12	I/O		
11	MEMORY or I/O		
10	MEMORY or I/O		
9	MEMORY or I/O		
8	MEMORY or I/O		
7	MEMORY or I/O		
6	MEMORY or I/O		
5	MEMORY or I/O		
4	MEMORY or I/O		
3	MEMORY or I/O		
2	MEMORY or FPU	NOTE 2,3	
1	CPU	NOTE 1	
0	POWER SUPPLY		
	Total +5V Current draw		____ SEE
	Max +5V Current Available		100A NOTE
	+5V Current Surplus		____ 9

NOTES:

1. NOVA 4/S and NOVA 4/X 13.5A
   NOVA 4/C 8A
2. MEMORY (NOVA 4/S & 4/X only)
   w/BATTERY BACKUP OPTION PRESENT 4.4A
   w/o BATTERY BACKUP OPTION PRESENT 5.6A
3. FLOATING POINT UNIT 15A
4. MAXIMUM 4 MEMORY BOARDS PER SYSTEM
5. MAXIMUM 10 I/O BOARDS CONNECTED TO I/O BUS W/O A BUS REPEATER.
6. PUSH-ON TERMINATORS ON TOP MEMORY SLOT FOR NOVA 4/S & 4/X.
7. PUSH ON TERMINATORS ON SLOT 2 FOR NOVA 4/C.
8. SEE PAGE 10 FOR +12V LOAD RESTRICTIONS.
9. JAPAN MODEL (-1) LIMITED TO 90 AMPS @ 5V CURRENT DRAW AND 550 WATTS TOTAL POWER DRAW.



SERVICE DIMENSIONS

NOTE NOVA 4 IS SERVICED WITHOUT REMOVAL FROM CABINET

DIMENSIONS IN MILLIMETERS
INCHES IN PARENTHESES FOR REFERENCE

DG-0585

FOR PACKING PROCEDURE, SEE 010-000262/263

DIMENSIONS:	Width	Depth	Height
Millimeters	483.1	663.9	266.3
Inches	19.02	26.14	10.48

SERVICE CLEARANCES:	Front	Rear
Millimeters	508.0	269.9
Inches	20.0	11.69

WEIGHT:	Empty	Fully Loaded
Kilograms	35.38	49.9
Pounds	78.0	110.0

OPERATING ENVIRONMENT:	
Temperature (max)	55°C(131°F) 60Hz, 45°C(113°F) 50Hz
Relative Humidity (max)	90
Altitude (max)	3084m(10,000')

CABLES:	Length	Conn	Mating Conn
Primary Power			
Domestic	1.8m(6')	5-15P	5-15R
Export	1.8m(6')	6-15P	6-15R
External I/O Bus Cable	15.3m(50') max		

CPU DESIGNATOR :	NOVA 4/C-16	NOVA 4/S-16	NOVA 4/X-16
Designator Number:	201	203	205
Designator Range:	20-21	20-21	20-21

HEAT OUTPUT:	1100 watts (3750 BTU/hr)

POWER REQUIREMENTS: (Domestic)	
Voltage	102-132
Hz	47-63
Max Amp per Phase	12.0
Phase	1
Startup Surge per Phase	20A (max) for 0.25 seconds

(Export)		(JAPAN)
Voltage	187-264	90-110
Hz	47-63	47-63
Max Amp per Phase	7.0	12.0
Phase	1	1
Startup Surge per Phase	40A (max) for 0.12 seconds	20A for 0.25 seconds SEE NOTE 9

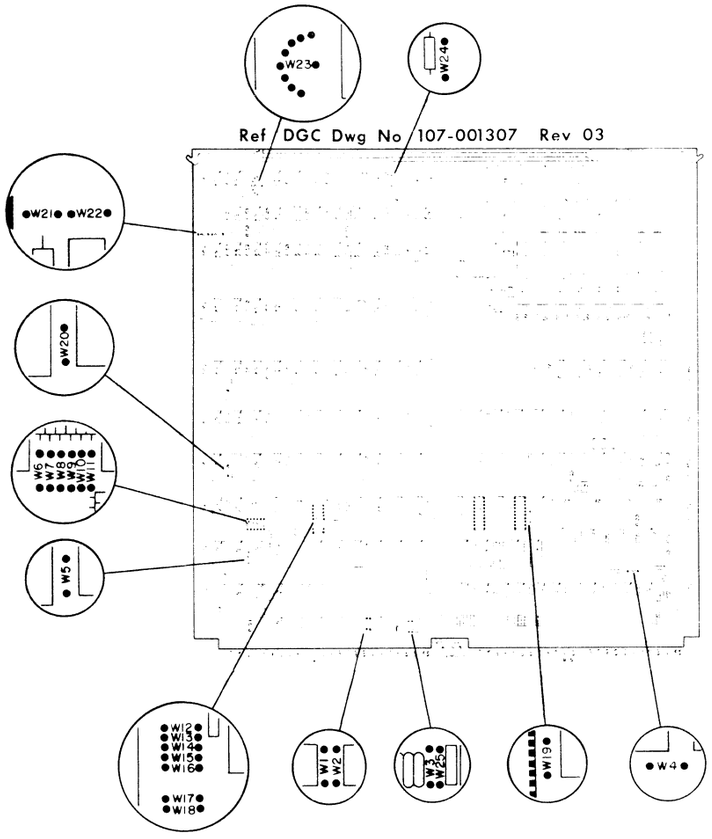
LINE CORDS:

Supply	Part No.
100/120V	109 000455
220/240	109 000456

TAILORING

CPU JUMPERING

NOVA 4/C



DEVICE CODE JUMPERS FOR FRONT PANEL AUTOMATIC PROGRAM LOAD

SELECT THE PROGRAM LOAD DEVICE CODE BY INSTALLING JUMPERS W11, W8, W6, W7, W9, W10, AS FOLLOWS:

JUMPER OUT = 1 JUMPER IN = 0

EXAMPLE JUMPERING FOR DEVICE CODE 27_8:

W11	W8	W6	W7	W9	W10
IN	OUT	IN	OUT	OUT	OUT

W4 IS NOT INSERTED IF THE PROGRAM LOAD DEVICE IS A HIGH SPEED DEVICE, OTHERWISE IT IS INSERTED.

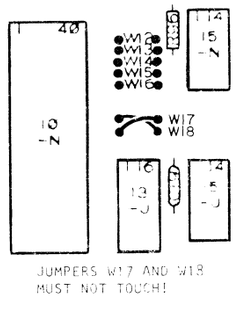
TYPE OF TRANSMISSION JUMPERS

TYPE OF TRANSMISSION	JUMPERS INSERTED*
20MA CURRENT LOOP	W1, W3
EIA RS232-C	W2

* JUMPER 25 IS INSERTED IF THE SYSTEM TERMINAL IS A TELETYPE, OTHERWISE IT IS NOT INSERTED.

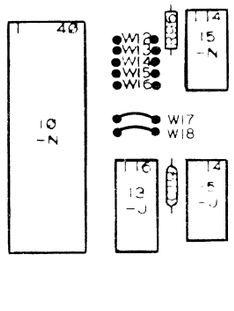
* JUMPERS W17 AND W18 MUST ALSO BE INSERTED AS SHOWN BELOW.

20MA CURRENT LOOP

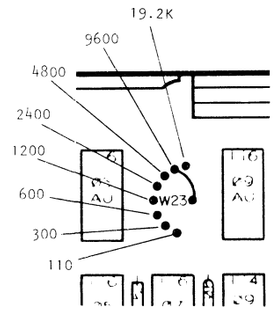


JUMPERS W17 AND W18 MUST NOT TOUCH!

EIA RS232-C



W23 IS INSERTED TO DETERMINE THE BAUD RATE AS SHOWN BELOW:
(9600 SHOWN)



W22 IS NEVER INSERTED.

THE FOLLOWING JUMPERS ARE ALWAYS INSERTED:

W5
W19
W20
W21
W24

STOP BIT JUMPERS

NUMBER OF STOP BITS	W15 JUMPER POSITION
1	IN
2	OUT

PARITY JUMPERS

TYPE OF PARITY	JUMPER POSITION W12	W16
EVEN	OUT	IN
ODD	IN	IN
NONE	OUT	OUT

CHARACTER LENGTH JUMPERS

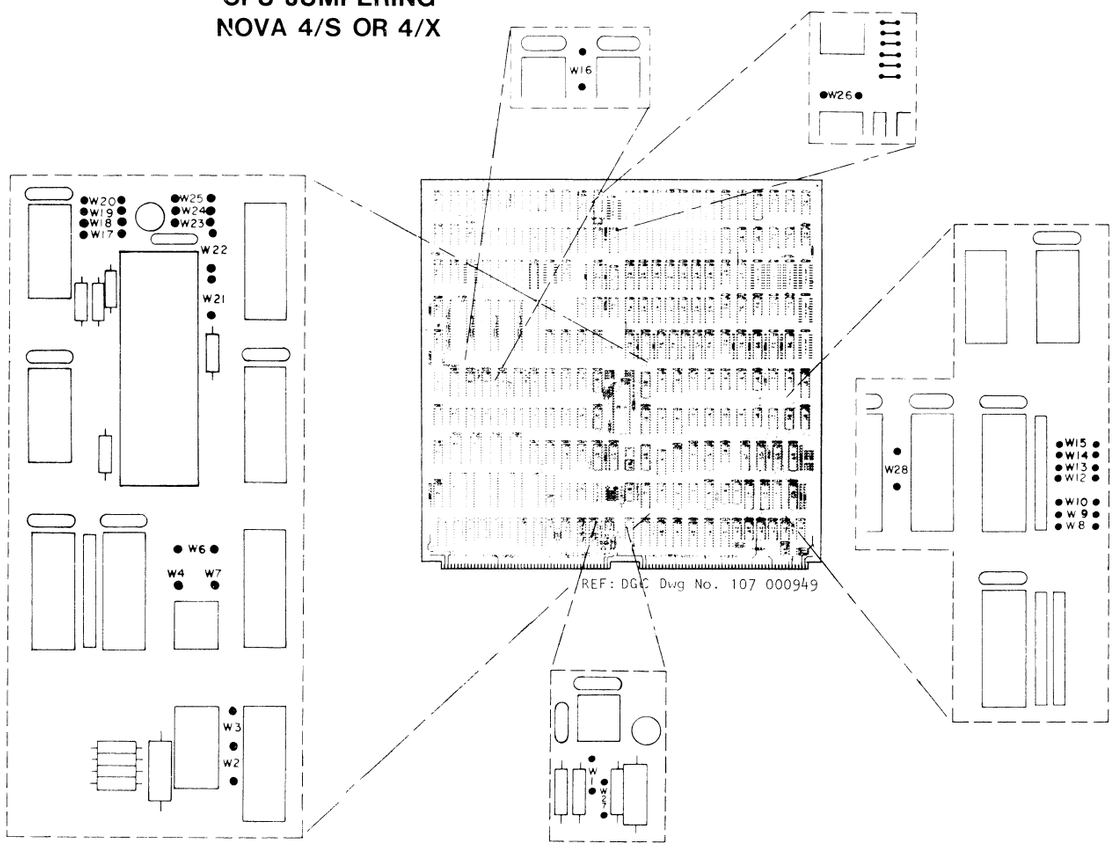
CHARACTER LENGTH	JUMPER POSITION W13	W14
5 BITS	IN	IN
6 BITS	OUT	IN
7 BITS	IN	OUT
8 BITS	OUT	OUT

CPU/MEMORY LOADS

VOLTAGE	DESCRIPTION	CURRENT DRAW
+5V	SYSTEM WITHOUT BATTERY BACKUP	8.0A
+5V	SYSTEM WITH BATTERY BACKUP	7.5A
+5V MEM		0.5A
+12V MEM		0.7A
+15V		0.04A

TAILORING (CONT)

CPU JUMPERING
NOVA 4/S OR 4/X



BAUD RATE JUMPERS

BAUD RATE	JUMPER POSITION W17	W18	W19	W20	W27
50	IN	IN	OUT	IN	OUT
75	IN	IN	OUT	OUT	OUT
110	OUT	OUT	OUT	OUT	IN
134.5	IN	OUT	IN	IN	OUT
150	OUT	OUT	OUT	IN	OUT
200	IN	OUT	IN	OUT	OUT
300	OUT	OUT	IN	OUT	OUT
600	IN	OUT	OUT	IN	OUT
1200	OUT	IN	OUT	OUT	OUT
1800	OUT	IN	OUT	IN	OUT
2400	OUT	OUT	IN	IN	OUT
4800	OUT	IN	IN	OUT	OUT
9600	OUT	IN	IN	IN	OUT
19200	IN	IN	IN	OUT	OUT

PARITY JUMPERS

TYPE OF PARITY	JUMPER POSITION W22	W21
EVEN	OUT	IN
ODD	IN	IN
NONE	OUT	OUT

CHARACTER LENGTH JUMPERS

CHARACTER LENGTH	JUMPER POSITION W25	W24
5 BITS	IN	IN
6 BITS	OUT	IN
7 BITS	IN	OUT
8 BITS	OUT	OUT

TYPE OF TRANSMISSION JUMPERS

TYPE OF TRANSMISSION	JUMPERS INSERTED
20MA CURRENT LOOP	W4, W7, W2, W1
EIA RS232-C	W6, W3

STOP BIT JUMPERS

NUMBER OF STOP BITS	W23 JUMPER POSITION
1	IN
2	OUT

REAL TIME CLOCK JUMPER

	W23
RTC ENABLED	IN
RTC DISABLED	OUT

DEVICE CODE JUMPERS FOR FRONT PANEL AUTOMATIC PROGRAM LOAD

SELECT THE PROGRAM LOAD DEVICE CODE BY INSTALLING JUMPERS W13, W15, W14, W12, W10, W8 AS FOLLOWS:

JUMPER IN = 1 JUMPER OUT = 0

EXAMPLE JUMPERING FOR DEVICE CODE 27 : 8

W13	W15	W14	W12	W10	W8
OUT	IN	OUT	IN	IN	IN

W9 IS INSERTED IF THE PROGRAM LOAD DEVICE IS A HIGH SPEED DEVICE, OTHERWISE, IT IS REMOVED.

NOTE: JUMPERS W16 AND W26 ARE ALWAYS INSERTED. JUMPERS W5 AND W11 DO NOT EXIST.

+5V CURRENT DRAW = 13.5A

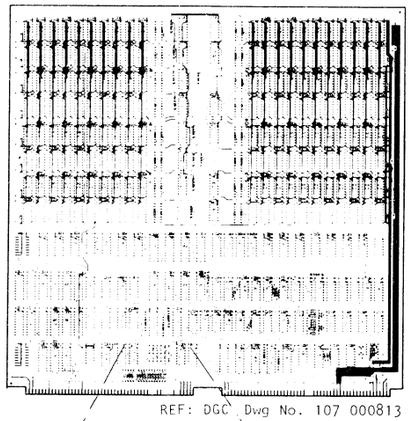
TAILORING (CONT)

MEMORY JUMPERING
NOVA 4/S AND 4/X

NOVA 4/X MEMORY BOARD SELECT JUMPERS

ADDRESS RANGE	JUMPERS INSERTED*		
	BOARD SIZE		
	256KBYTES	128KBYTES	64KBYTES
0377777- 0300000-	NONE	W8	W8 W10
0277777- 0200000-			W8 W9
0177777- 0100000-		W7	W7 W10
0077777- 0000000-			W7 W9

*NOTE: JUMPERS W1, W3, AND W5 ARE ALWAYS INSERTED.
JUMPERS W2, W4, AND W6 ARE NEVER INSERTED.



REF: DGC Dwg No. 107 000813

NOVA 4/S MEMORY BOARD SELECT JUMPERS

ADDRESS RANGE	JUMPERS INSERTED*	
	BOARD SIZE	
	64 KBYTES	32KBYTES
0077777- 0040000-	W7 W9	W7 W9 W12
0037777- 0000000-		W7 W9 W11

NOTE: JUMPERS W1, W3, AND W5 ARE ALWAYS INSERTED;
JUMPERS W2, W4, AND W6 ARE NEVER INSERTED.

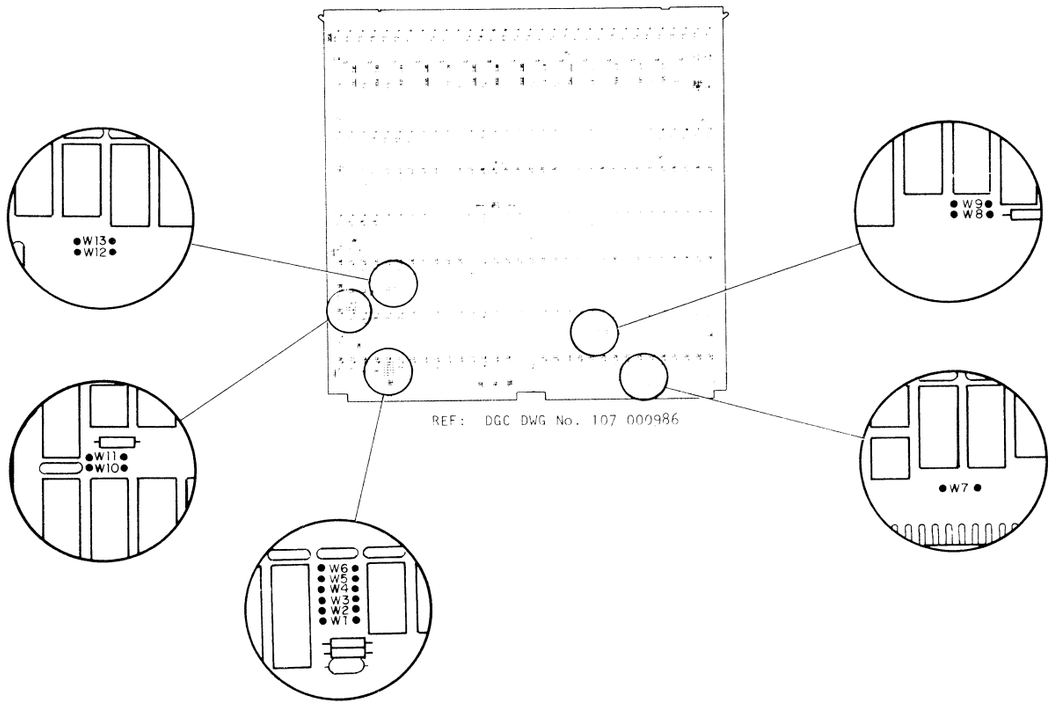
SYSTEMS SHOULD BE CONFIGURED WITH THE LARGER BOARDS OCCUPYING THE LOWER MEMORY ADDRESS RANGES.

MEMORY LOADS

VOLTAGE	DESCRIPTION	CURRENT DRAW
+5V	SYSTEM WITH BATTERY BACKUP	4.4A
+5V	SYSTEM WITHOUT BATTERY BACKUP	5.6A
+5V MEM		1.2A
+12V MEM	FIRST BOARD IN CHASSIS	2.3A
+12V MEM	EACH ADDITIONAL BOARD	0.3A

TAILORING (CONT)

FLOATING POINT UNIT JUMPERING



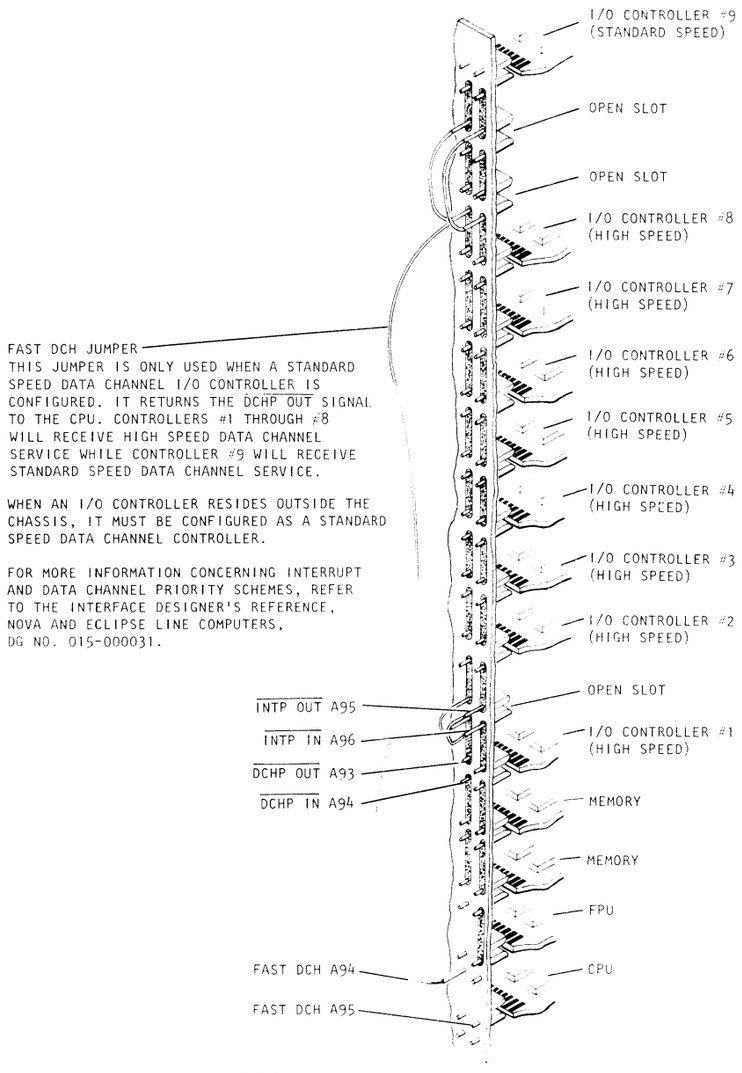
REF: DGC DWG No. 107 000986

THE JUMPERS MUST BE POSITIONED ON THE FLOATING POINT UNIT PRINTED CIRCUIT BOARD AS INDICATED IN THE TABLE BELOW.

JUMPER	POSITION
W1	IN
W2	OUT
W3	OUT
W4	IN
W5	OUT
W6	IN
W7	IN
W8	OUT
W9	IN
W10	OUT
W11	IN
W12	OUT
W13	IN

TAILORING (CONT)

BACKPANEL JUMPERING

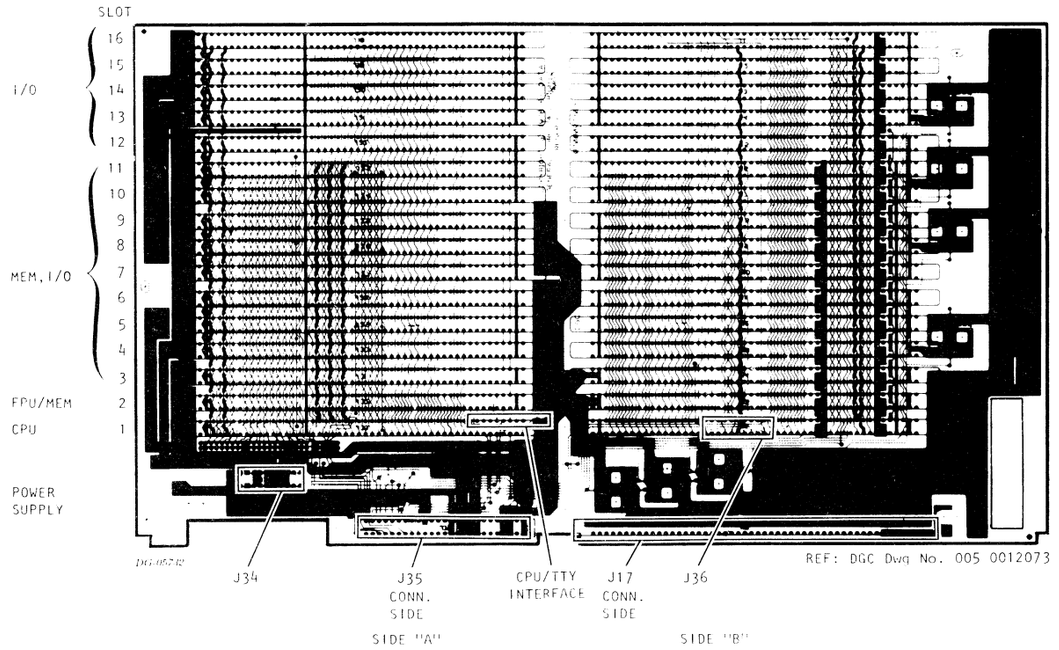


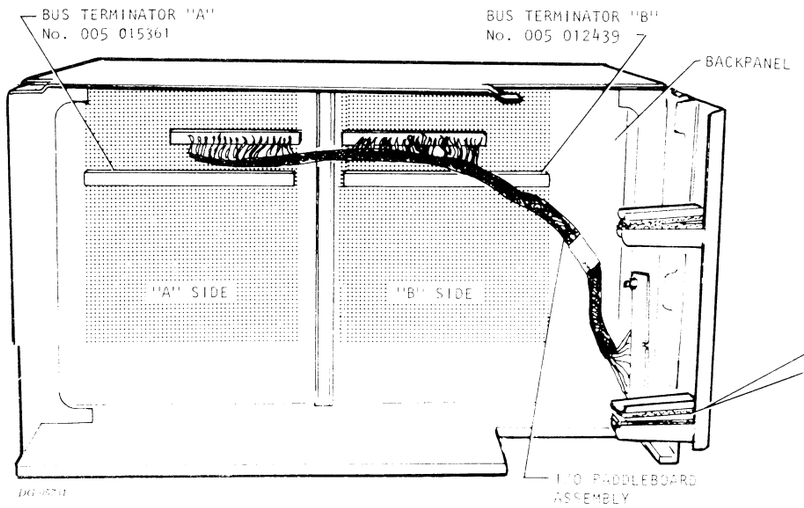
NO JUMPERS NEEDED EXCEPT FOR OPEN SLOTS AND STANDARD SPEED DATA CHANNEL I/O CONTROLLERS.

WHEN A 4C PROCESSOR IS USED IN THIS CHASSIS, THE END OF THE INTP PRIORITY NETWORK CLOSEST TO THE PROCESSOR (HIGHEST PRIORITY) MUST BE CONNECTED TO THE NEAREST GROUND (PIN A99 OR A100).

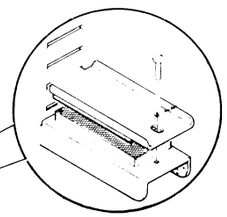
INTERNAL CABLING

BACKPANEL CONNECTORS

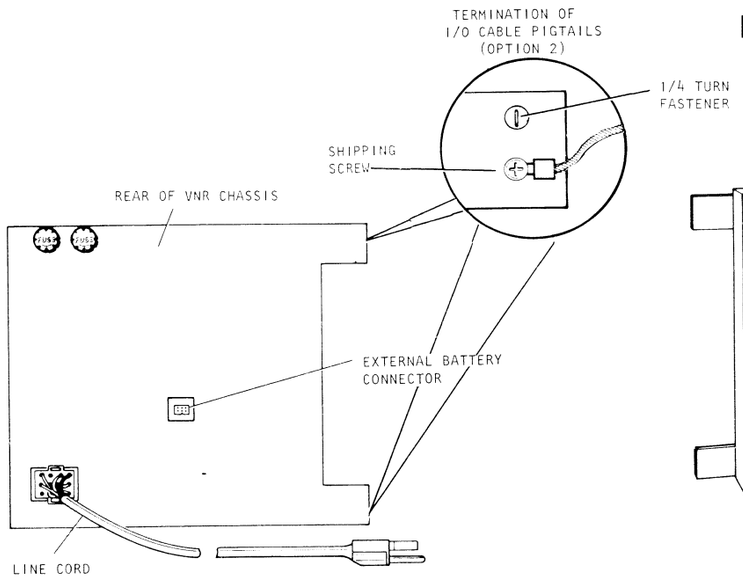


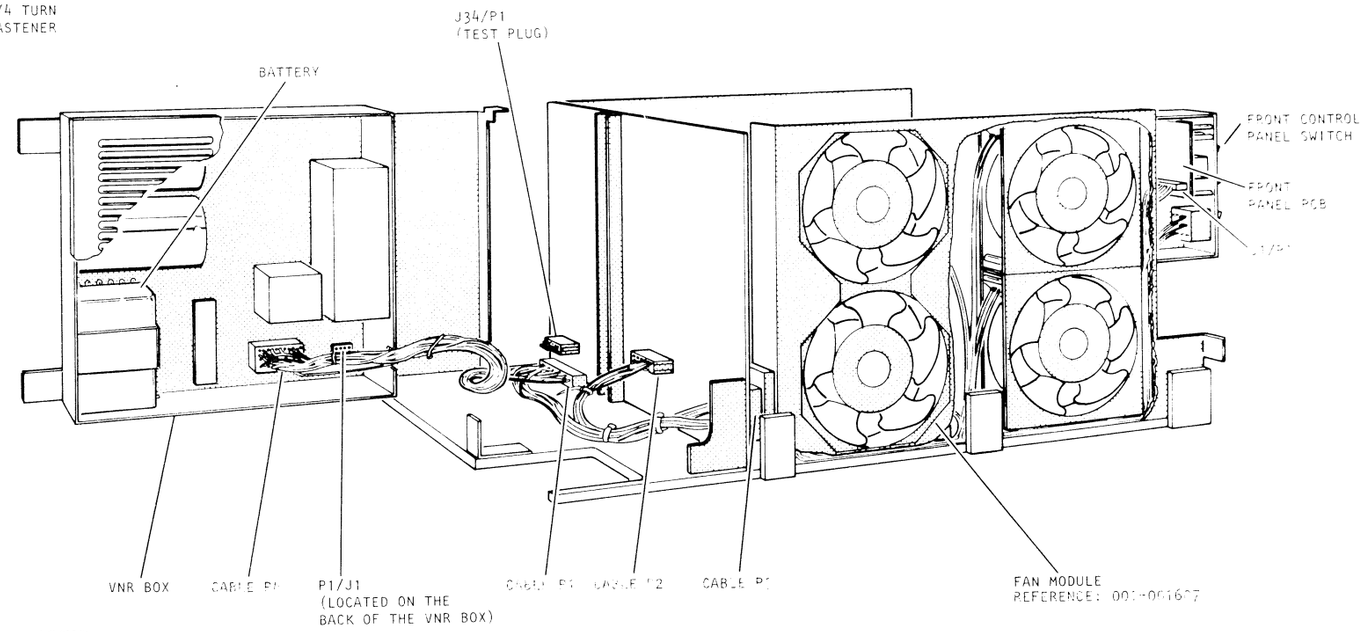


STRAIN RELIEF



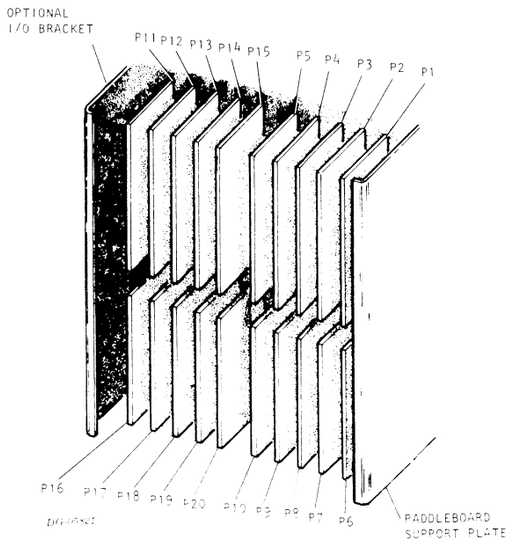
INTERNAL CABLING (CONT)





WARNING
FOR SERVICING DISCONNECT POWER, WAIT 5 MINUTES REASSEMBLE UNIT BEFORE APPLYING POWER

PADDLEBOARD MOUNTING



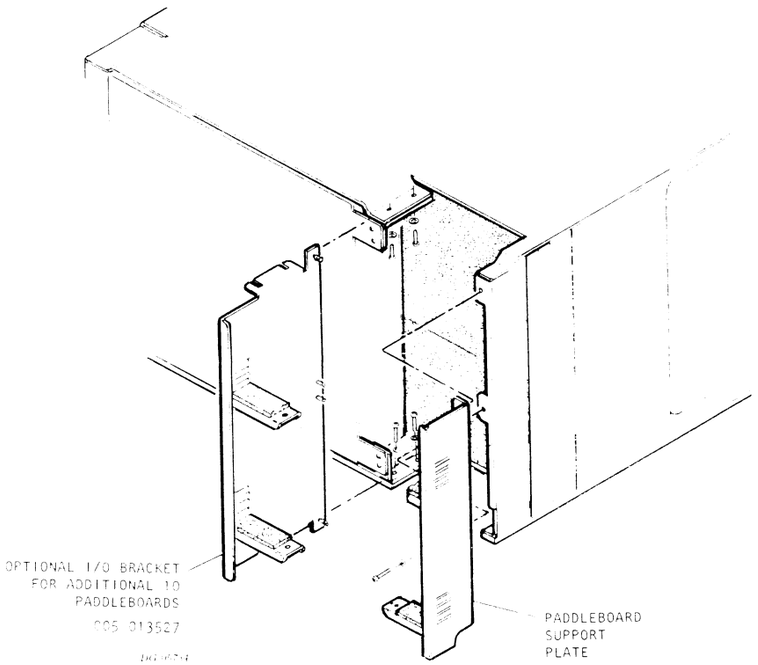
NOVA 4 16-SLOT PADDLEBOARDS

ASSEMBLY NO.	TYPE
005 012472	GENERAL PURPOSE I/O
005 012471	EXTERNAL I/O BUS**
005 012765	UNIVERSAL LINE MUX MODEL 4241, 4241A, 4242, 4243***
005 012470	I/O BUS REPEATER MODELS 8315
005 012590	DCU-50 MODELS 4250, 4254
005 012473*	ASYNCHRONOUS INTERFACE MODELS 4007, 4010, 4023, 4075, 4077, 4078
005 012595	MCA MODEL 4206

* THIS PADDLEBOARD MUST BE PLACED IN THE LEFTMOST POSITION WHEN THERE ARE NO PADDLEBOARDS FROM THE PAND EBOARD SUPPORT PLATE.

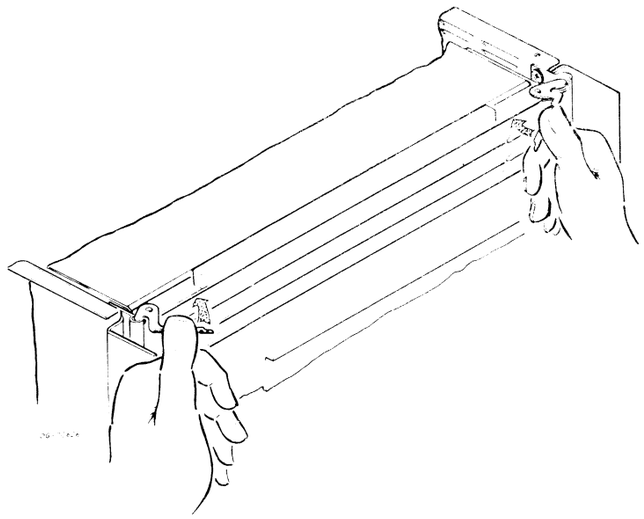
** EXTERNAL I/O BUS MUST BE TERMINATED AT THE END AWAY FROM THE COMPUTER BY TERMINATOR NO. 005-9067, OR EQUIVALENT.

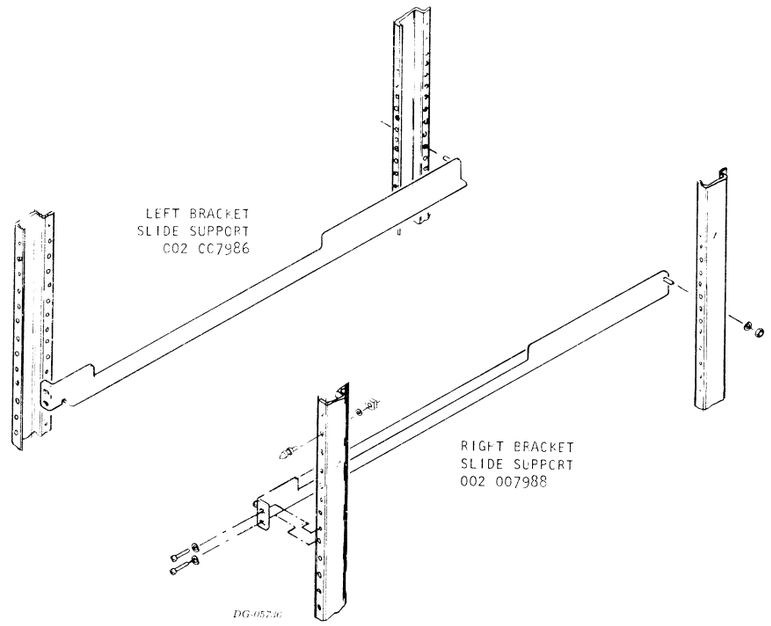
*** REQUIRES TWO PADDLEBOARD LOCATIONS.



CABINET MOUNTING

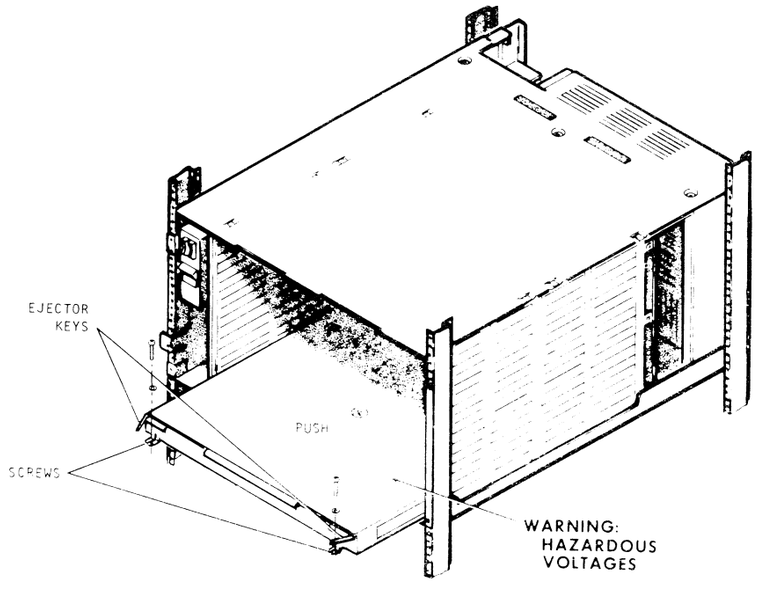
INSERTING PC BOARD

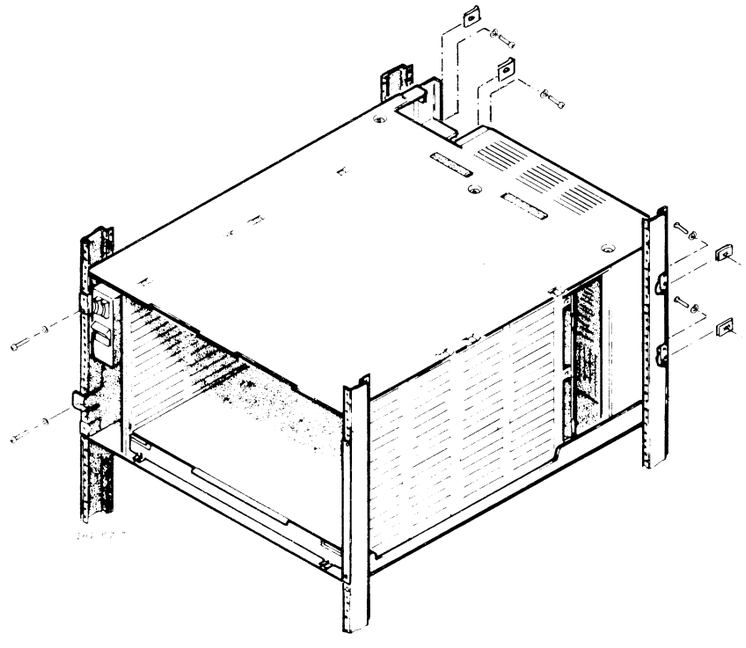




HARDWARE MOUNTING KIT
005 C12068

INSERTING POWER SUPPLY PCB

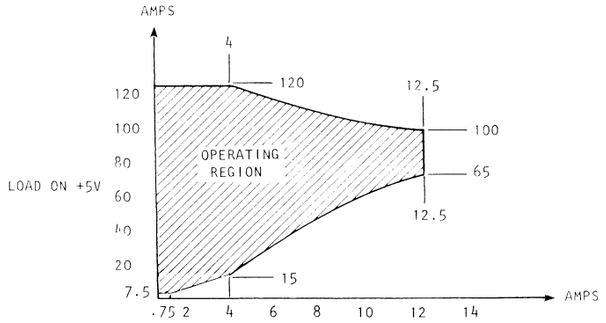




16-SLOT CHASSIS LOAD BALANCING RULES

WITH BATTERY BACKUP:

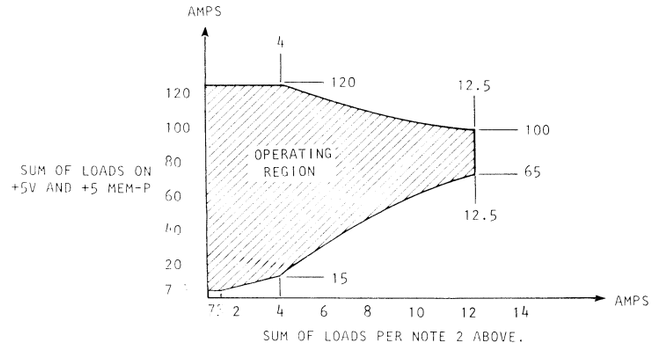
1. THE LOAD OF -5V MUST NOT EXCEED 3.0 AMPS.
2. THE SUM OF THE LOADS ON +12V, +12 MEM, +15V AND 0.55 (SUM OF CURRENT FROM +5 MEM-P AND -5 MEM-P) MUST NOT EXCEED 12.5 AMPS.
3. THE LOAD ON -5 MEM-P MUST NOT EXCEED 0.3 AMPS.
4. THE LOAD ON +5 MEM-P MUST NOT EXCEED 4.5 AMPS AND MUST BE AT LEAST 0.25 AMPS
5. THE LOAD ON +5V MUST NOT EXCEED 120 AMPS AND MUST BE AT LEAST 15 AMPS.
6. THE LOADS MUST BE WITHIN THE OPERATING REGION SHOWN BELOW:
7. FOR JAPAN (-1) MODEL, TOTAL OUTPUT POWER NOT TO EXCEED 550 WATTS.



SUM OF LOADS PER NOTE 2 ABOVE.

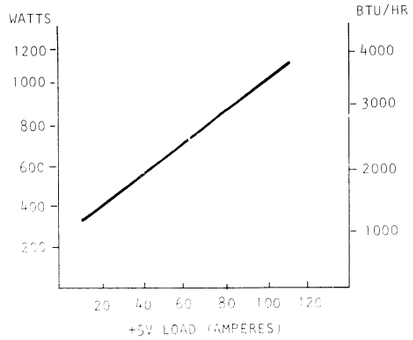
WITHOUT BATTERY BACKUP:

1. THE SUM OF THE LOADS ON -5V AND -5 MEM-P MUST NOT EXCEED 3.0 AMPS.
2. THE SUM OF THE LOADS ON +12V, +12 MEM, AND +15V MUST NOT EXCEED 12.5 AMPS.
3. THE SUM OF THE LOADS ON +5V AND +5 MEM-P MUST NOT EXCEED 120 AMPS AND MUST BE AT LEAST 15 AMPS.
4. THE LOADS MUST BE WITHIN THE OPERATING REGION SHOWN BELOW:
5. FOR JAPAN (-1) MODEL, TOTAL OUTPUT POWER NOT TO EXCEED 550 WATTS.



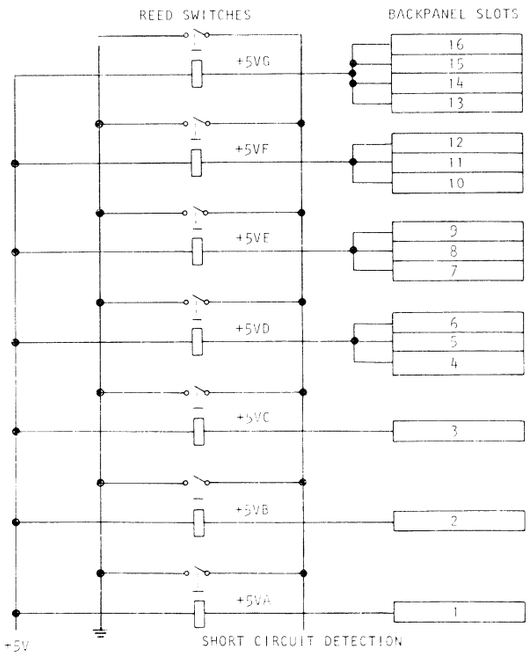
SUM OF LOADS PER NOTE 2 ABOVE.

POWER CONSUMPTION vs LOADING



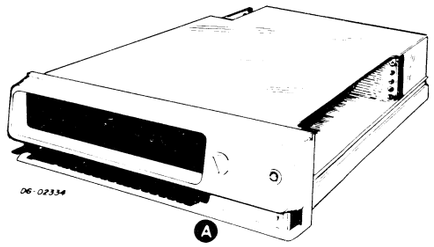
THIS CHART MAY BE USED AS A GUIDELINE OF ACTUAL HEAT OUTPUT OF A SPECIFIC SYSTEM.

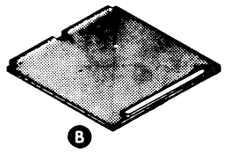
SLOT LOADING RESTRICTIONS



NOTE: REED SWITCH TRIPS AT 22 AMPS. REFERENCE DG 001-001563.

INSTALLATION SPECIFICATIONS

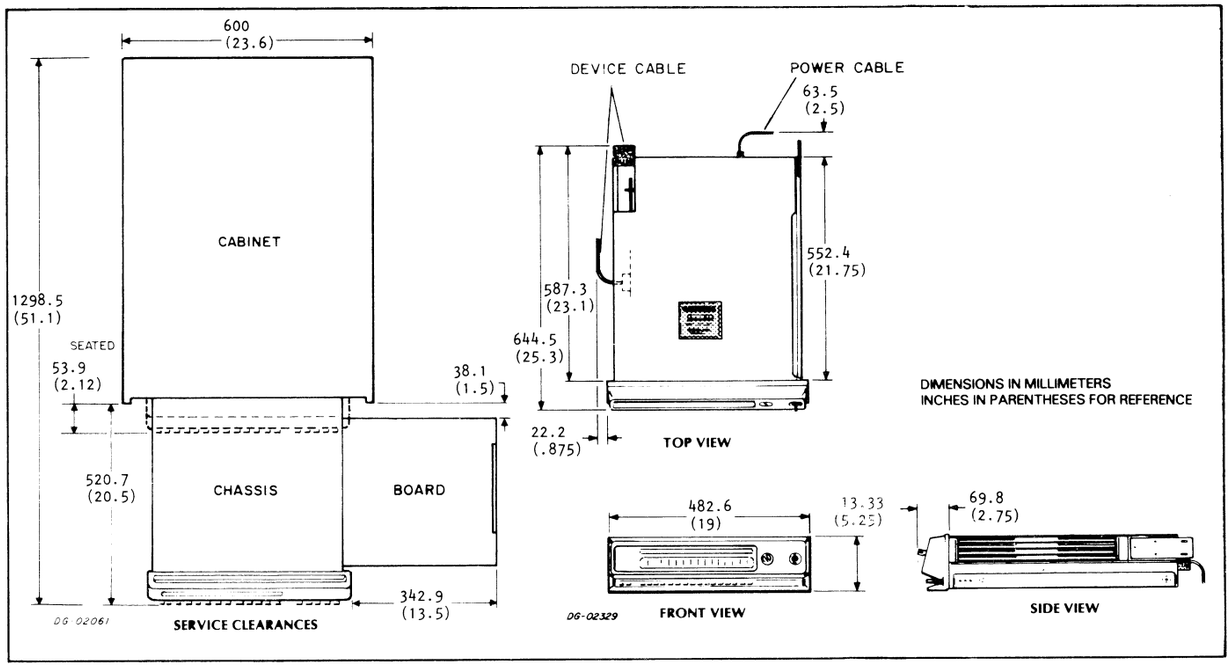


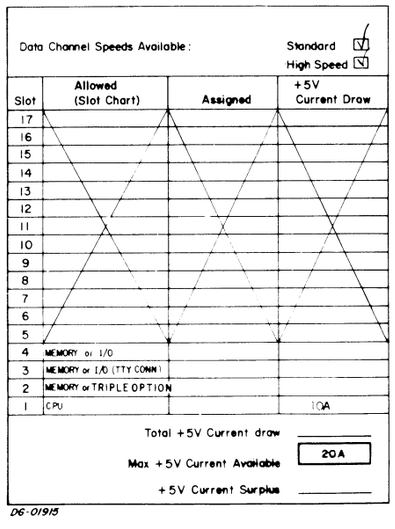


MAJOR COMPONENT

	Component	Mounting Location	Notes
A	MAIN CHASSIS (NOVA 3/4)	CABINET	
B	CPU	MAIN CHASSIS	

DG-02672





DIMENSIONS:	Width	Depth	Height
Millimeters	48.26	644.65	13.33
Inches	19.00	25.38	5.25

SERVICE CLEARANCES:	Front	Rear	Right & Left
Millimeters	1219.2	914.4	609.6
Inches	48	36	24

WEIGHT:	Empty
kilograms	38.6
Pounds	85

HEAT OUTPUT:		
	375 Watts	1278.75 BTU/hr

OPERATING ENVIRONMENT:		
Temperature (max)	55°C	131°F
Relative Humidity	20-90%	

PREFERRED LOCATION: Areas 14-16

CPU DESIGNATOR:
Designator Number: 090
Designator Range: 05-12

POWER REQUIREMENTS:

(Domestic)			
Voltage	102-132		
Hz	47-63		
Max Amp per Phase	3.13		

(Export)			
Voltage	85-110	187-242	204-264
Hz	47-63	47-63	47-63
Max Amp per Phase	3.75	1.7	1.56

CABLES:

Primary Power	Length	Conn	Mating Conn
Domestic 60Hz	1.8m(6')	5-15P	5-15R
Export 50Hz	1.8m(6')		

PACKING KIT

NOVA 3/4 CHASSIS

FOR PACKING PROCEDURE, SEE 010-000262/263

Shipping Specifications			
Temperature Range °F / °C	Relative Humidity (Non-condensing)	Maximum Altitude	
-40 to +185° / -40 to +85°	0 to 85 %	15,000 ft	

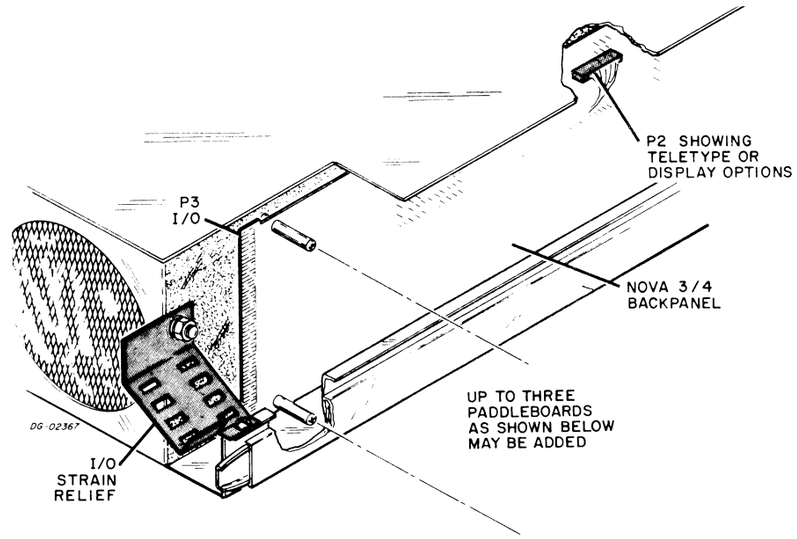
DG-02063

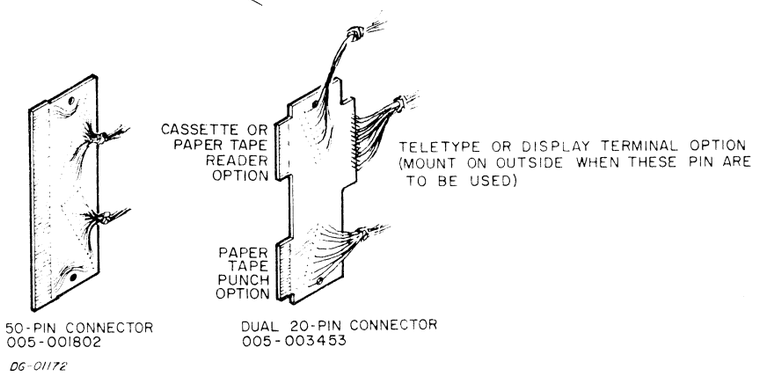
Storage Specifications		
Temperature Range °F / °C	Relative Humidity (Non-condensing)	Maximum Period
-40 to +185° / -40 to +85°	0 to 85 %	90 days

DG-02062

INTERNAL CABLING

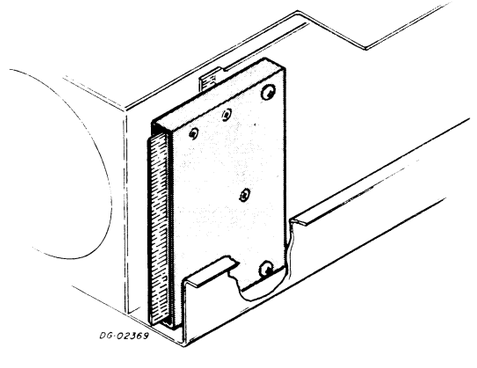
BACKPANEL CONNECTORS





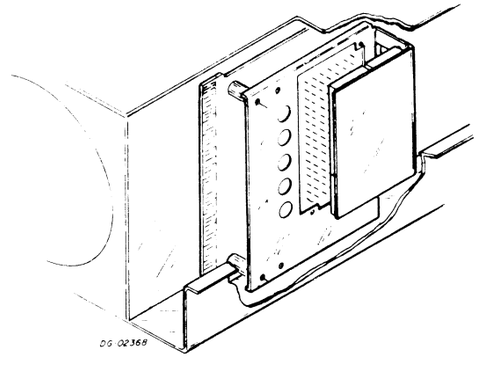
ANALOG PADDLEBOARD

005 001371



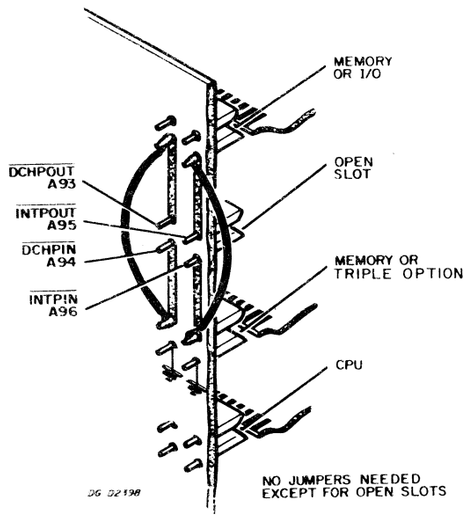
4083 OPTION CONNECTOR

005 006040

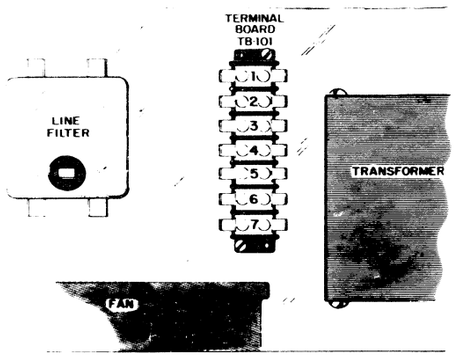


JUMPERS

JUMPERING BACKPANEL



JUMPERING TRANSFORMER



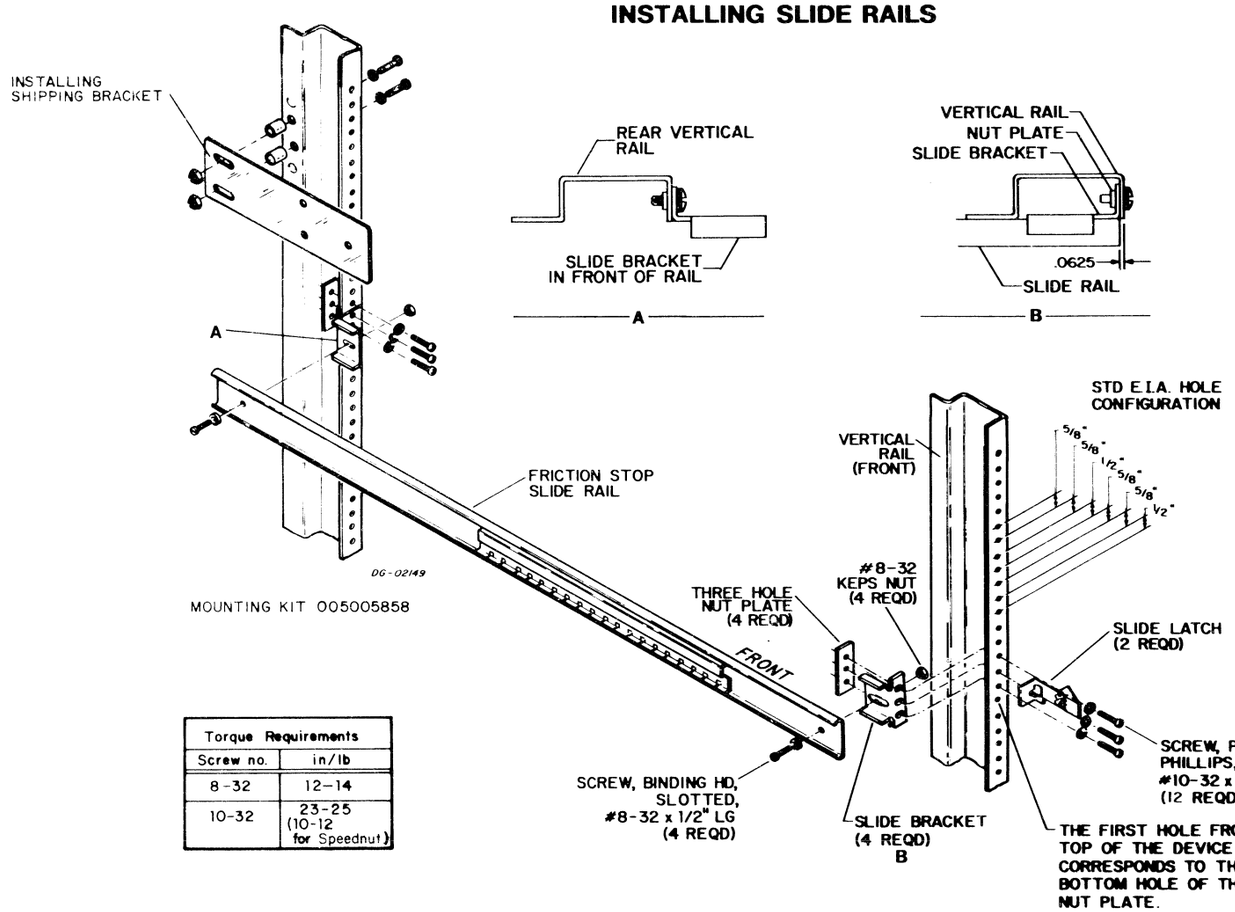
DG 02328 TB-101 SHOWN WITH ALL WIRING REMOVED FOR CLARITY IN IDENTIFYING CONNECTOR NUMBERS

TERMINAL BOARD JUMPERS TB 101 FOR TRANSFORMER

100 VAC	1-5, 2-6
120	1-4, 3-6
200	2-5
220	2-4
240	3-4

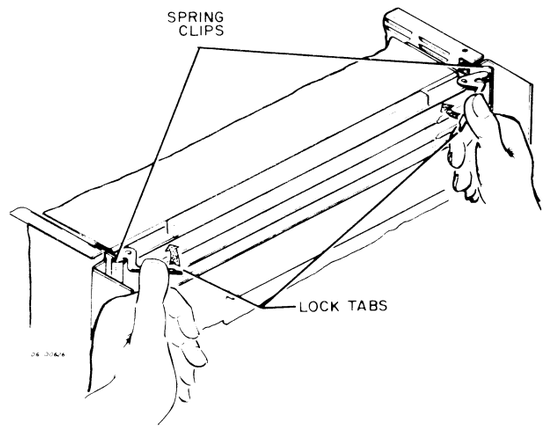
SLIDE RAILS

INSTALLING SLIDE RAILS

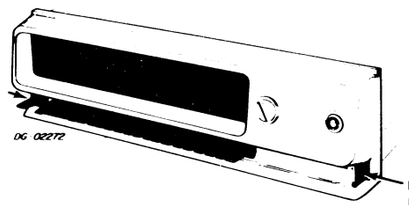


Torque Requirements	
Screw no.	in/lb
8-32	12-14
10-32	23-25 (10-12 for Speednut)

INSERTING PC BOARD

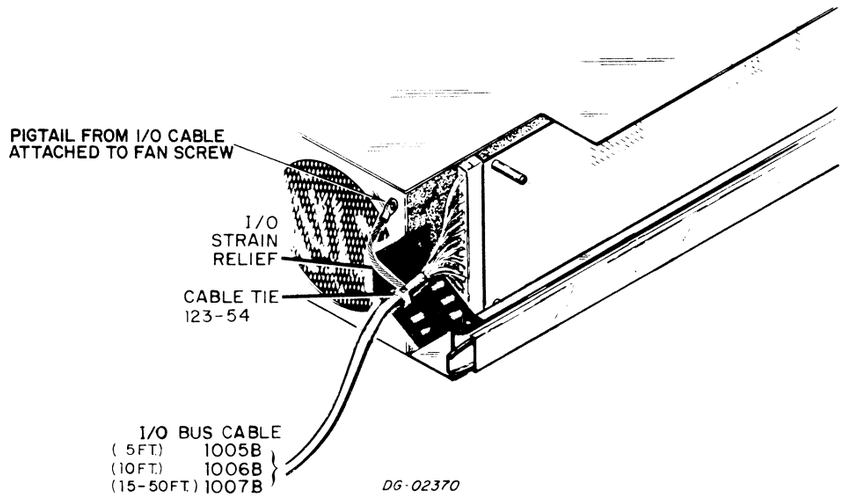


LATCH RELEASE

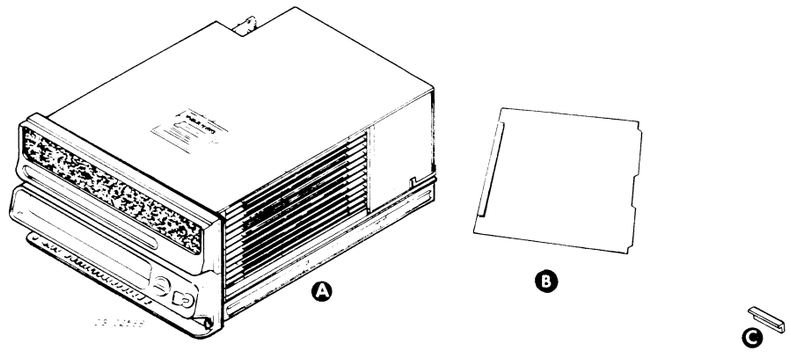


EXTERNAL CABLING

I/O BUS CABLE



INSTALLATION SPECIFICATIONS



MAJOR COMPONENT

Item	Component	Mounting Location	Notes
A	MAIN CHASSIS (NOVA 3/12)	CABINET	
B	CPU	MAIN CHASSIS	

DG-02672

TERMINATOR

Item	Terminator	Location	Notes
C	NOVA 3 TERMINATOR	BACK PANEL	

DG-02674

Data Channel Speeds Available:			Standard ☑ High Speed ☑
Slot	Allowed (Slot Chart)	Assigned	+5V Current Draw
17			
16			
15			
14			
13			
12	MEMORY or I/O		
11			
10	MEMORY or I/O/TTY CONN		
9	MEMORY or I/O		
8			
7			
6			
5			
4	MEMORY or I/O		
3	MEMORY or I/O		
2	MEMORY or TRIPLE SPTON		
1	CPU		10A
		Total +5V Current draw	
		Max +5V Current Available	40A
		+5V Current Surplus	

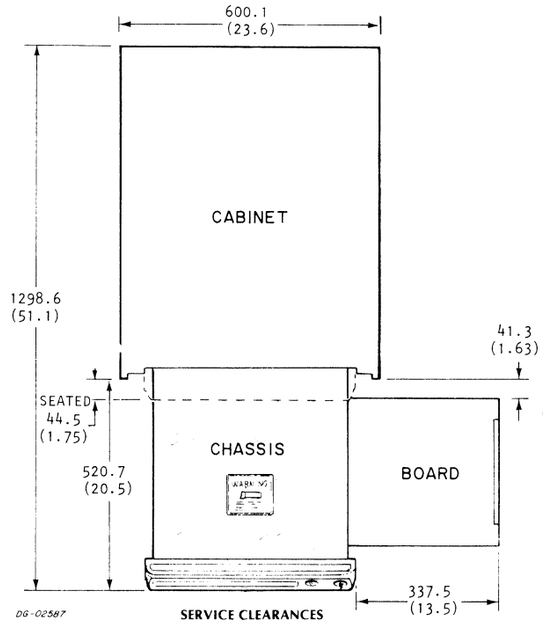
DG-01915

1. A NOVA 3 BUS REPEATER MUST BE ADDED TO THE MAIN CHASSIS IF IF THERE ARE MORE THAN 10 I/O BOARDS IN THE SYSTEM.

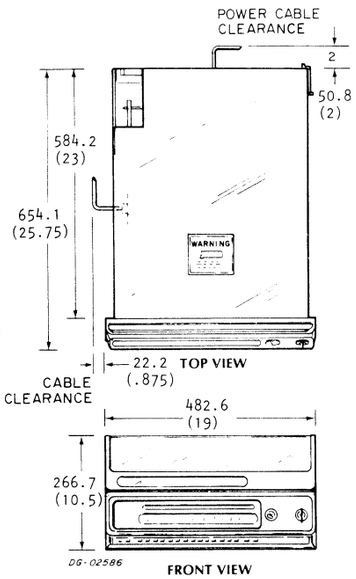
2. NEVER PUT MORE THAN 10 I/O BOARDS IN THE MAIN CHASSIS, OR 10 I/O BOARDS IN THE EXPANSION CHASSIS.

3. THE NOVA 3 BATTERY BACKUP OPTION WILL SUPPORT UP TO 3 32K SC MEMORIES OR 4 16K SC MEMORIES.

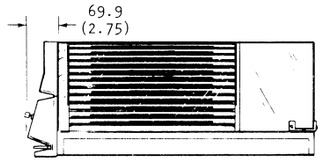
4. MEMORY EXPANSION BEYOND THOSE LIMITS WILL REQUIRE THAT THE ADDITION MEMORY BOARD BE INSTALLED IN SLOT 9 OR ABOVE, WHERE THERE IS NO BATTERY BACKUP.



SERVICE CLEARANCES



FRONT VIEW



SIDE VIEW

DIMENSIONS IN MILLIMETERS
INCHES IN PARENTHESES FOR REFERENCE

NOVA 3/12

DIMENSIONS:	Width	Depth	Height
Millimeters	482.6	654.05	266.70
Inches	19.00	25.75	10.50

SERVICE CLEARANCES:	Front	Right
Millimeters	520.7	342.9
Inches	20.50	13.5

WEIGHT:	Empty
kilograms	58.96
Pounds	130

HEAT OUTPUT:		
	650	2216.50
	Watts	BTU/hr

OPERATING ENVIRONMENT:		
Temperature (max)	55°C	131°F
Relative Humidity	20-90%	

PREFERRED LOCATION: Areas 11-16

CPU DESIGNATOR:

DESIGNATOR NUMBER: 080
DESIGNATOR RANGE: 05-12

POWER REQUIREMENTS:

(Domestic)			
Voltage	102-132		
Hz	47-63		
Max Amp per Phase	5.5		

(Export)			
Voltage	85-110	97-242	204-268
Hz	47-63	47-63	47-63
Max Amp per Phase	6.5	3.0	2.7

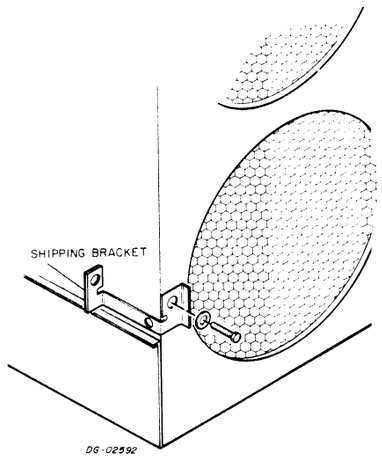
CABLES:

Primary Power	Length	Conn	Mating Conn
Domestic 60Hz	1.8m(6')	5-15P	5-15R
Export 50Hz	1.8m(6')		

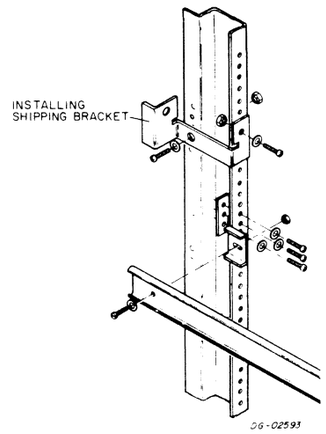
SHIPPING

FOR PACKING PROCEDURE,
SEE 010-000262/263

MOUNTING SHIPPING BRACKET TO CHASSIS

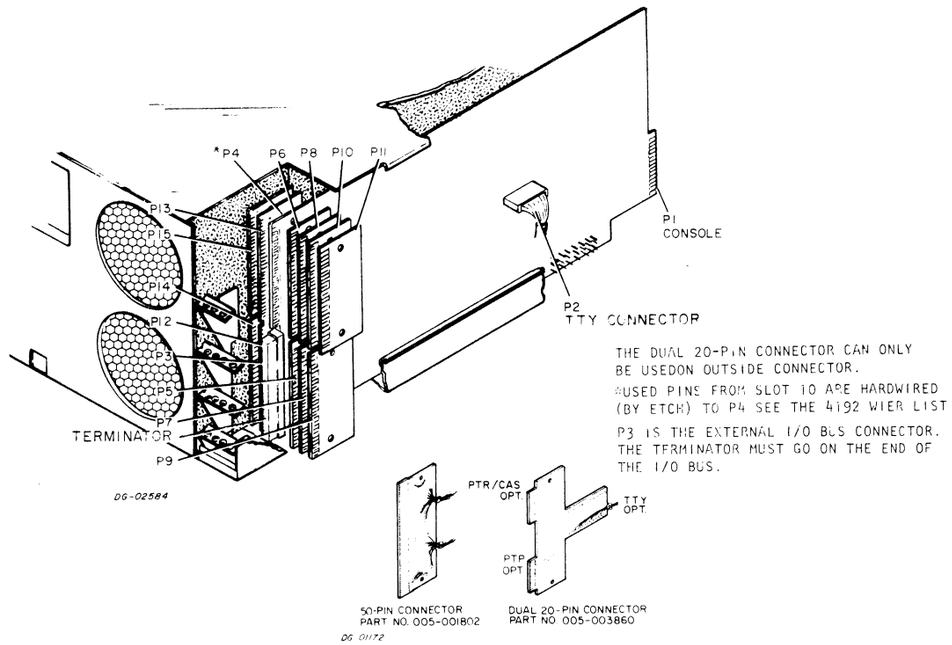


MOUNTING SHIPPING BRACKET TO RAILS



INTERNAL CABLING

BACKPANEL CONNECTORS



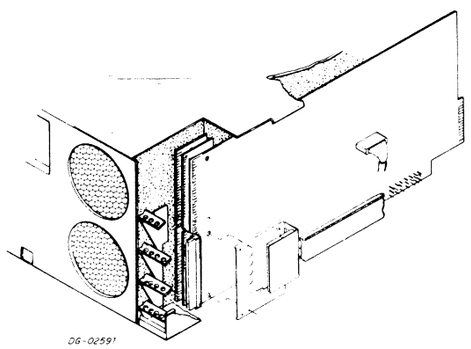
THE DUAL 20-PIN CONNECTOR CAN ONLY BE USEDON OUTSIDE CONNECTOR.

*USED PINS FROM SLOT 10 ARE HARDWIRED (BY ETCH) TO P4 SEE THE 4192 WIER LIST

P3 IS THE EXTERNAL I/O BUS CONNECTOR. THE TERMINATOR MUST GO ON THE END OF THE I/O BUS.

4083 OPTION CONNECTOR

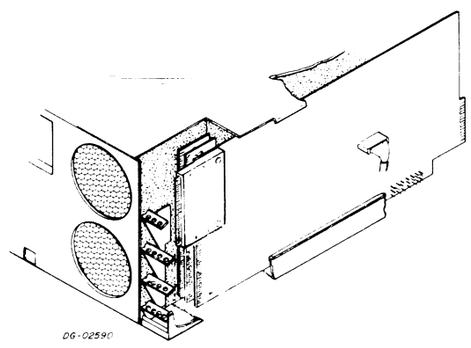
005 006040



CONNECTOR CAN BE MOUNTED ON TOP OR BOTTOM, ON PADDLEBOARD.

ANALOG PADDLEBOARD

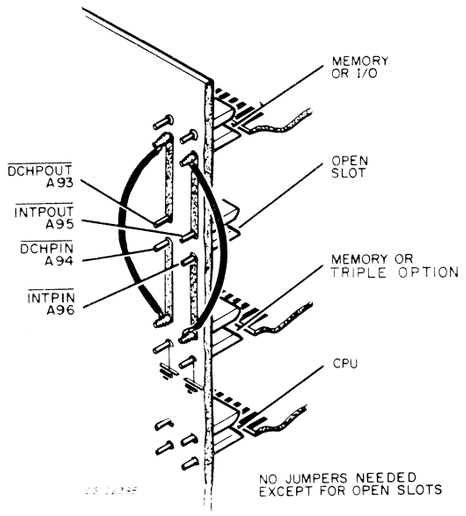
005 001371



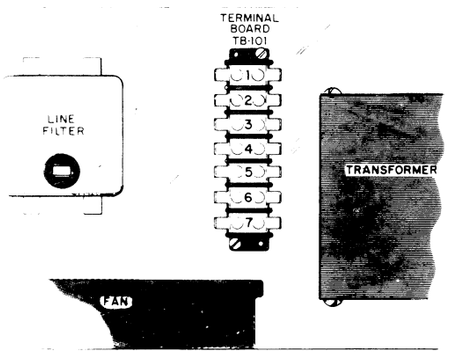
ANALOG CAN BE MOUNTED ON TOP OF P6, P8, AND P10

JUMPERS

JUMPERING BACKPANEL



JUMPERING TRANSFORMER



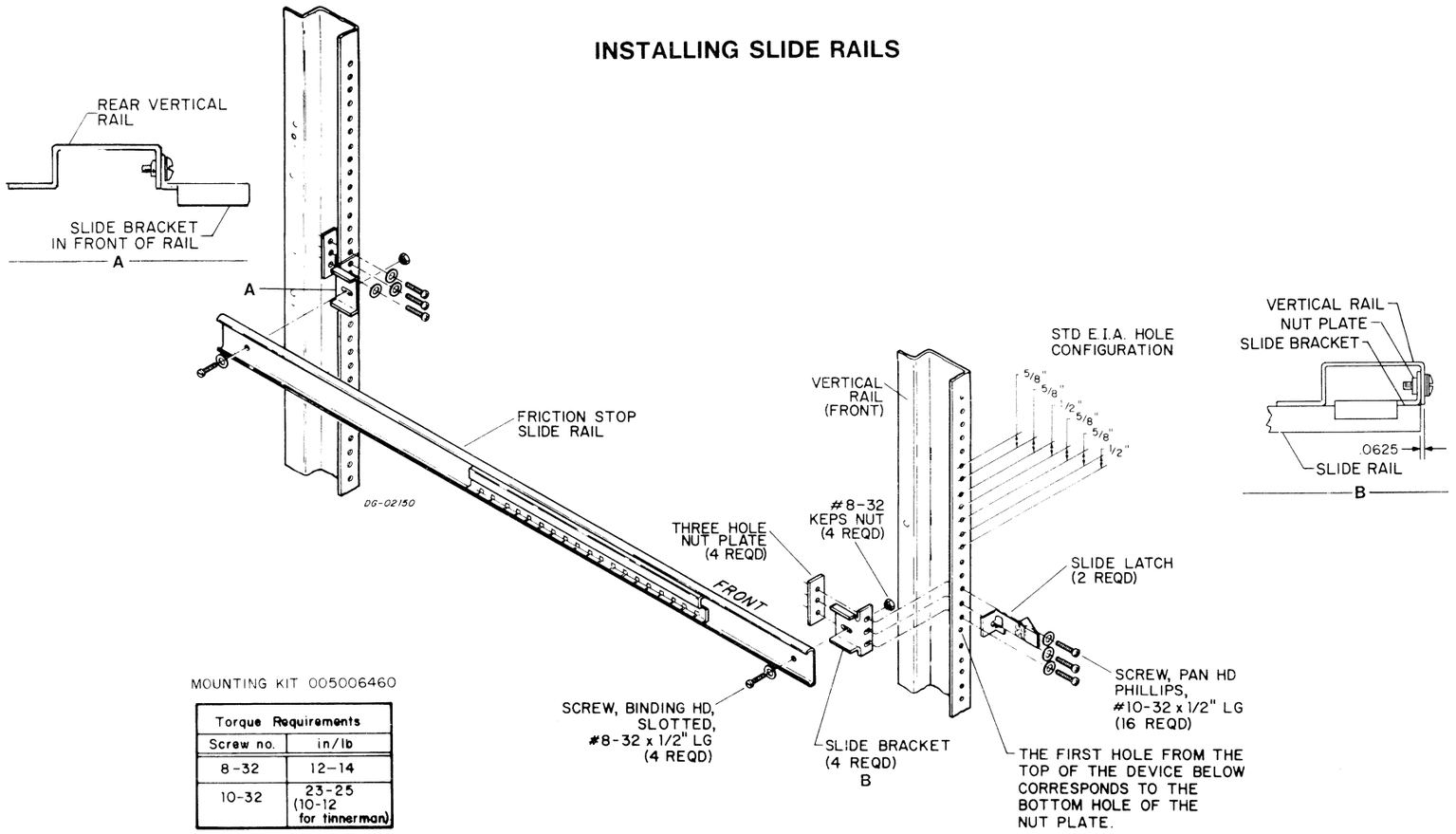
TB-01 SHOWN WITH ALL WIRING REMOVED FOR CLARITY IN IDENTIFYING CONNECTOR NUMBERS

TERMINAL BOARD JUMPERS TB-01 FOR TRANSFORMER

100 VAC	1-5, 2-6
120	1-4, 3-6
208	2-5
220	2-4
240	3-4

CABINET-MOUNTING

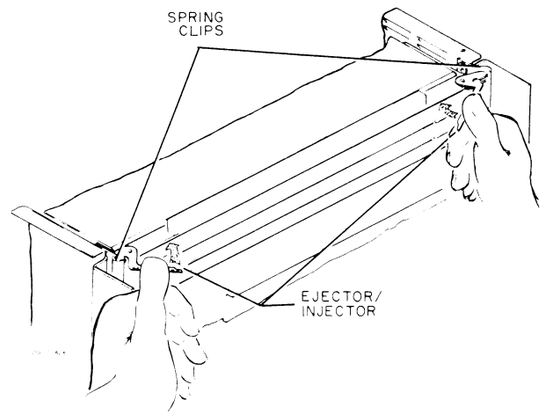
INSTALLING SLIDE RAILS



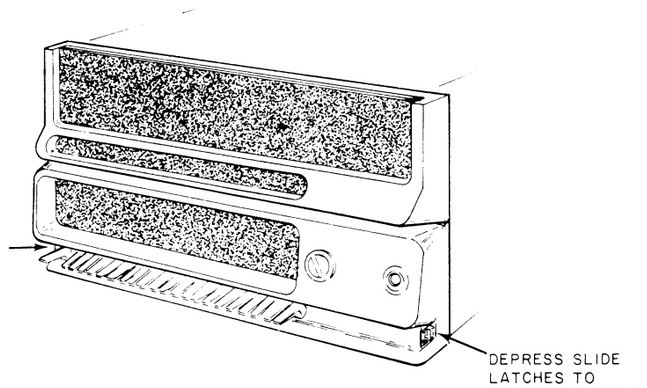
MOUNTING KIT 005006460

Torque Requirements	
Screw no.	in/lb
8-32	12-14
10-32	23-25 (10-12 for tinnerman)

INSERTING PC BOARD

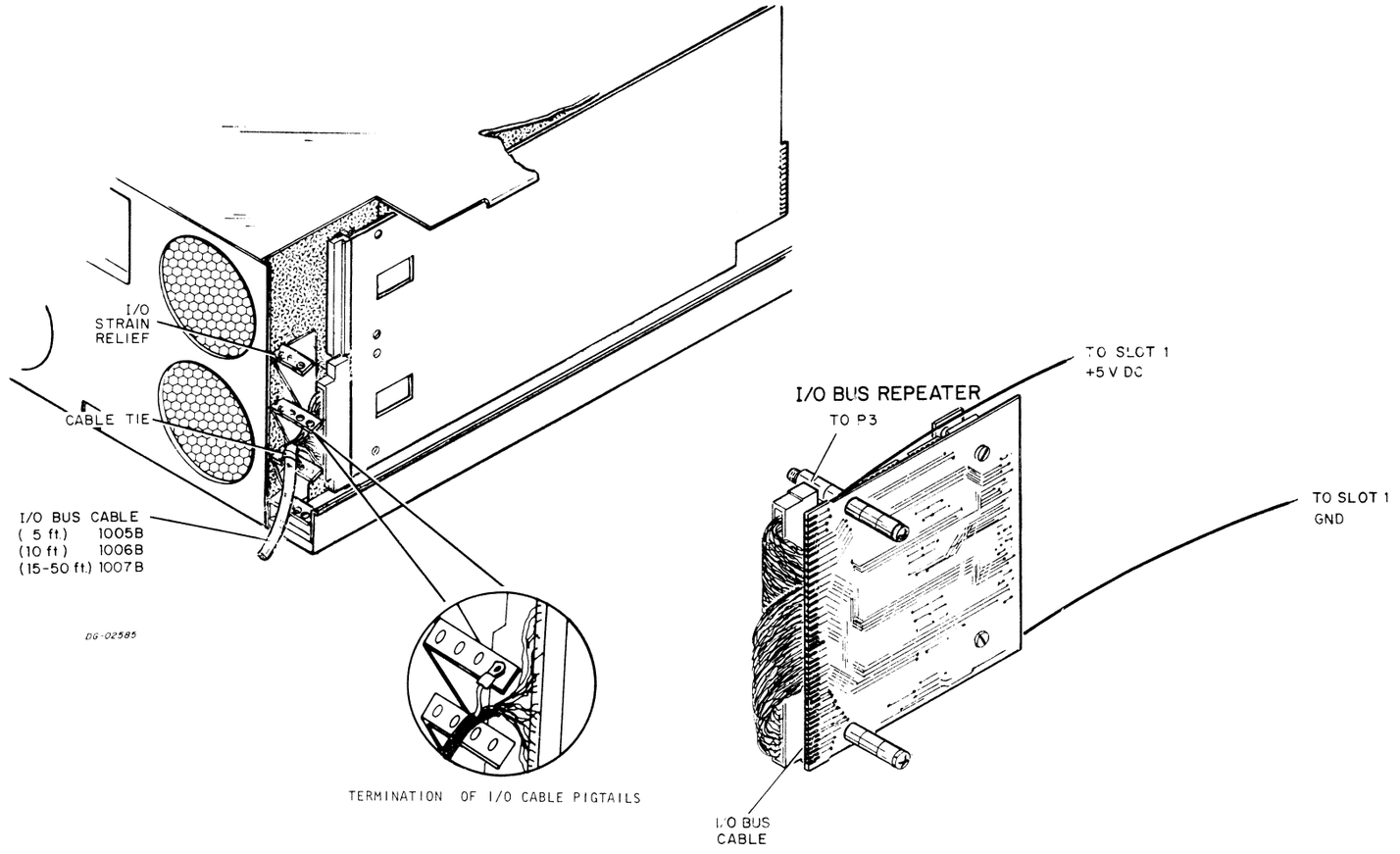


LATCH RELEASE

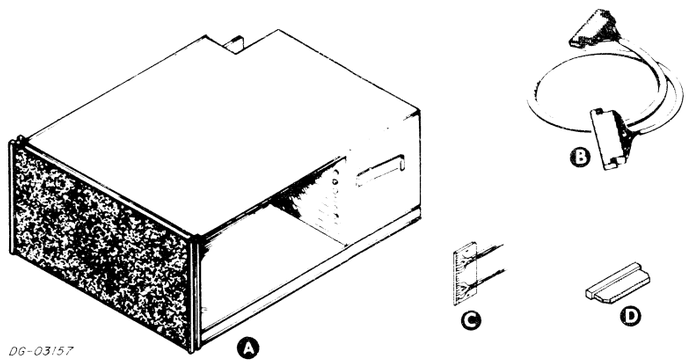


EXTERNAL CABLING

I/O BUS CABLE



SUBSYSTEM COMPONENT BREAKDOWN



DG-03157

MAJOR COMPONENT

Item	Component	Mounting Location	Notes
A	EXPANSION CHASSIS	CABINET	

DG-02672

CABLE

Item	Cable	Connecting	Max Allowed Lg ft	m	Notes
B	DAISY CHAIN CA	MAIN CHASSIS and EXP CHASSIS	5	1.52	
	OR	EXP CHASSIS 1 "EXP CHASSIS 2	5	1.52	
	OPTIONAL I/O CA				
		IF EXPANSION CHASSIS CONTAINS ONLY STANDARD CONTROLLERS, THE MAXIMUM DAISY CHAIN LENGTH FROM MAIN CHASSIS IS 50 FT (15.24m).			
C	INT CABLE	MAIN CHASSIS and EXP CHASSIS			

Item	Terminator	Location	Notes
D	NOVA 3 EXP CHASSIS TERMINATOR	EXP CHASSIS PX12 EXT I/O PADDLEBOARD	

DG-02674

SLOT ASSIGNMENTS

SLOT ASSIGNMENT RULES

1. Do not operate controllers in this chassis in high speed data channel mode.

2. More than 10 I/O controllers in the system require a bus repeater. No more than 10 I/O controllers c can go into this expansion chassis.

Data Channel Speeds Available: Standard ☑

Slot	Allowed (Slot Chart)	Assigned	+5V Current Draw
X12	I/O		
X11			
X10			
X9			
X8			
X7			
X6			
X5			
X4			
X3			
X2			
X1	I/O		

Total +5V Current draw

Max +5V Current Available 40A

+5V Current Surplus

NOVA 3 EXPANSION CHASSIS

SPECIFICATIONS OF THE CABINET-MOUNTED COMPONENTS

Item	Component	Number in Subsystem	Maximum Operating Temperature Component °F/°C	Media °F/°C	Primary Power Current (nom) Draw (Amp)	Voltage ±ΔV	Frequency	Cabinet Height Required Area	in.	cm	Weight lbs/kg	Power Dissipation (Max Watts)	Preferred Location or Remarks	Operating Humidity (Relative) min%/%max
A	100V		131/55		6.5	100 +10 -15	47-63Hz	6	10.5	26.7	130/58.96	650	FIRST EXPANSION CHASSIS IS MOUNTED ABOVE THE MAIN CHASSIS. A MAXIMUM OF TWO EXPANSION CHASSIS ARE AVAILABLE PER MAIN CHASSIS.	20/90
	120V		131/55		5.5	120 +12 -18	47-63Hz	6	10.5	26.7	130/58.96	650		20/90
	220V		131/55		3.0	220 +22 -33	47-63Hz	6	10.5	26.7	130/58.96	650		20/90
	240V		131/55		2.8	240 +24 -36	47-63Hz	6	10.5	26.7	130/58.96	650		20/90

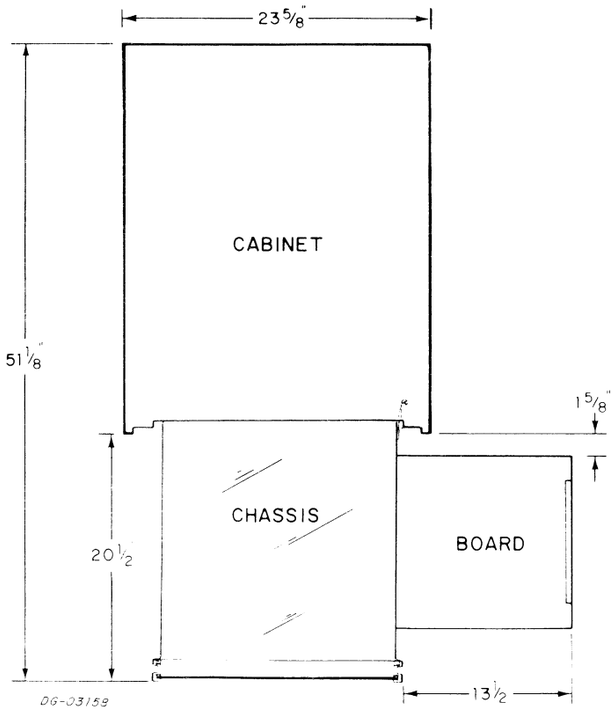
DG-01914

Voltage	Power Cable Length ft	m	Power Cable Plug	Mating Receptacle on Power Drop	Mating Receptacle in Wall
100	6	1.8	5-15P	5-15R	5-15R
120	6	1.8	5-15P	5-15R	5-15R
220	6	1.8	6-15P	6-15R	6-15R
240	6	1.8	6-15P	6-15R	6-15R

DG-02717

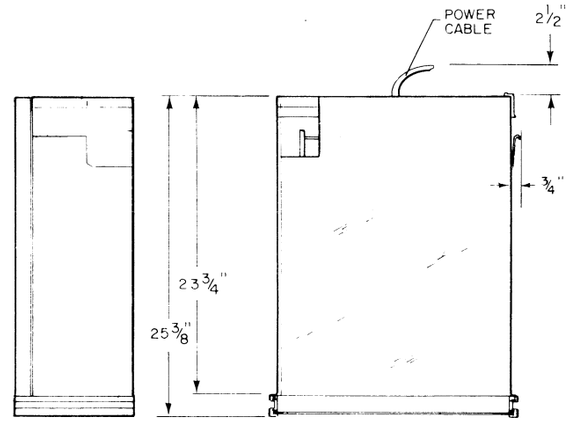
CPU DESIGNATOR:

Designator Range: 05-12



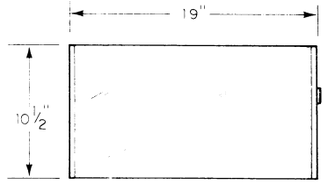
DG-03159

SERVICE DIMENSIONS



SIDE VIEW

TOP VIEW



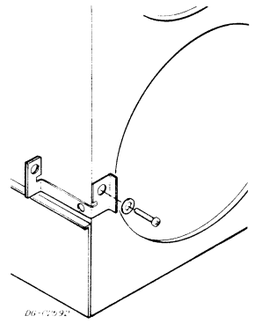
DG-03159

FRONT VIEW

SHIPPING

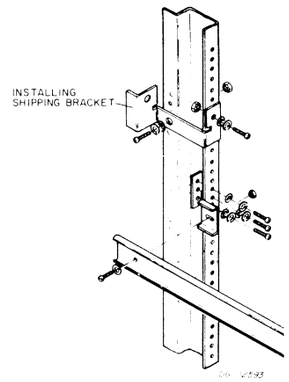
FOR PACKING PROCEDURE,
SEE 010-000263

MOUNTING SHIPPING BRACKET TO CHASSIS



DG-02592

MOUNTING SHIPPING BRACKET TO RAILS



DG-02593

Shipping Specifications			
Temperature Range °F / °C	Relative Humidity (Non-condensing)	Maximum Altitude	—
-40 to +185 / -40 to +85	0–85%	50,000 ft.	—

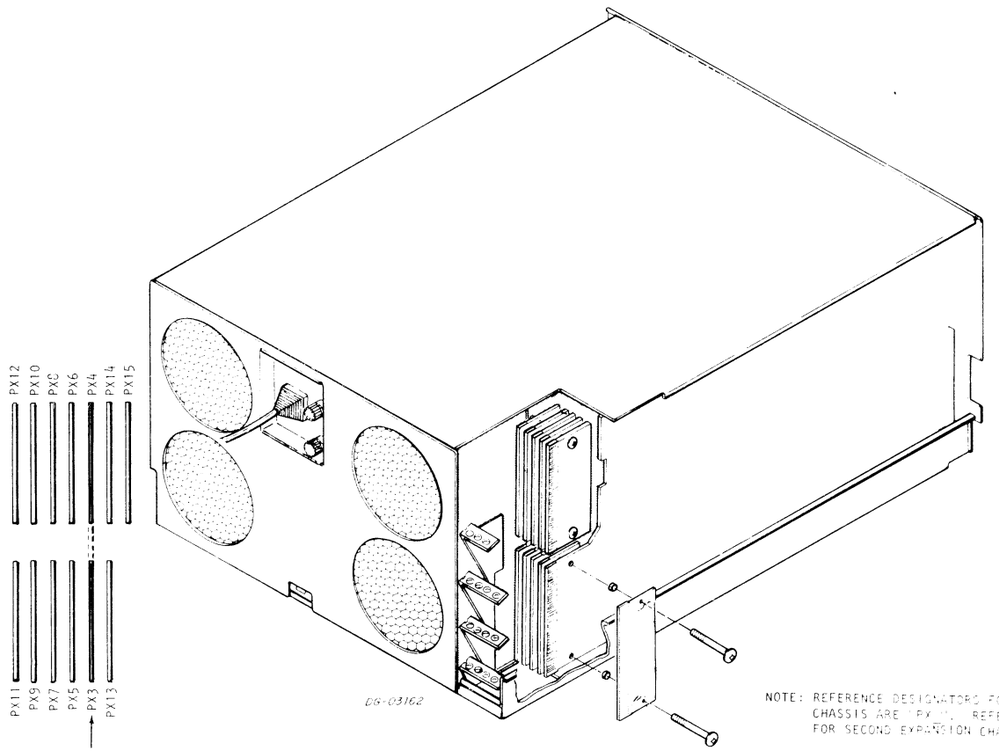
DG-02063

Storage Specifications		
Temperature Range °F / °C	Relative Humidity (Non-condensing)	Maximum Period
-40 to +185 / -40 to +85	0–85%	90 days

DG-02062

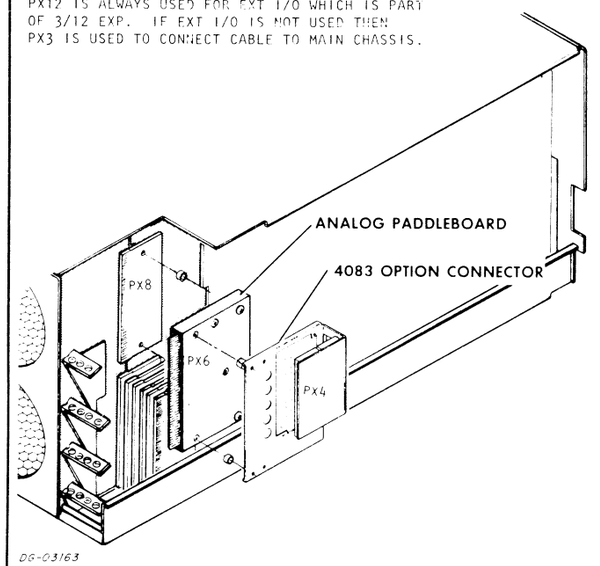
INTERNAL CABLING

BACKPANEL CONNECTOR

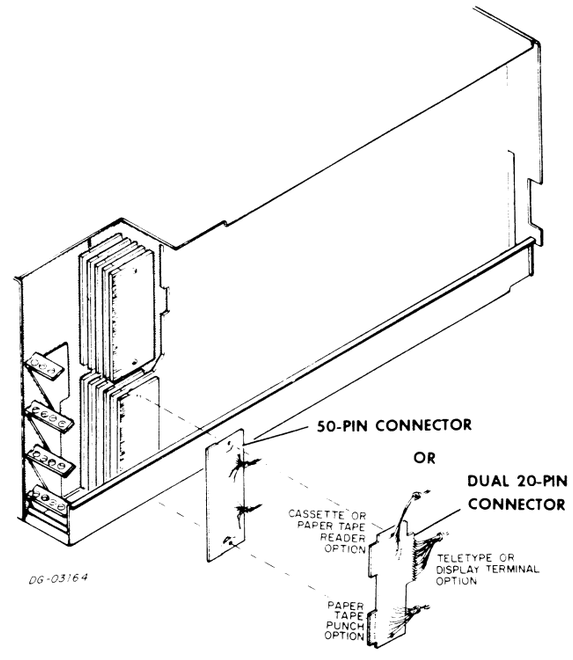


NOTE: REFERENCE DESIGNATORS FOR FIRST EXPANSION CHASSIS ARE "PX__". REFERENCE DESIGNATORS FOR SECOND EXPANSION CHASSIS ARE "PXX__".

PX12 IS ALWAYS USED FOR EXT I/O WHICH IS PART OF 3/12 EXP. IF EXT I/O IS NOT USED THEN PX3 IS USED TO CONNECT CABLE TO MAIN CHASSIS.



DG-03163

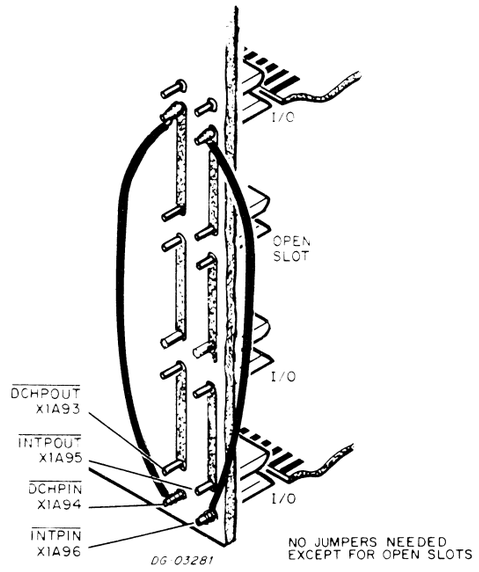


DG-03164

DUAL 20-PIN CANNOT BE INSTALLED USING PX5, PX7, PX9, OR PX11 AND MUST ALWAYS BE THE OUTSIDE CONNECTOR.

TAILORING

JUMPERING BACKPANEL



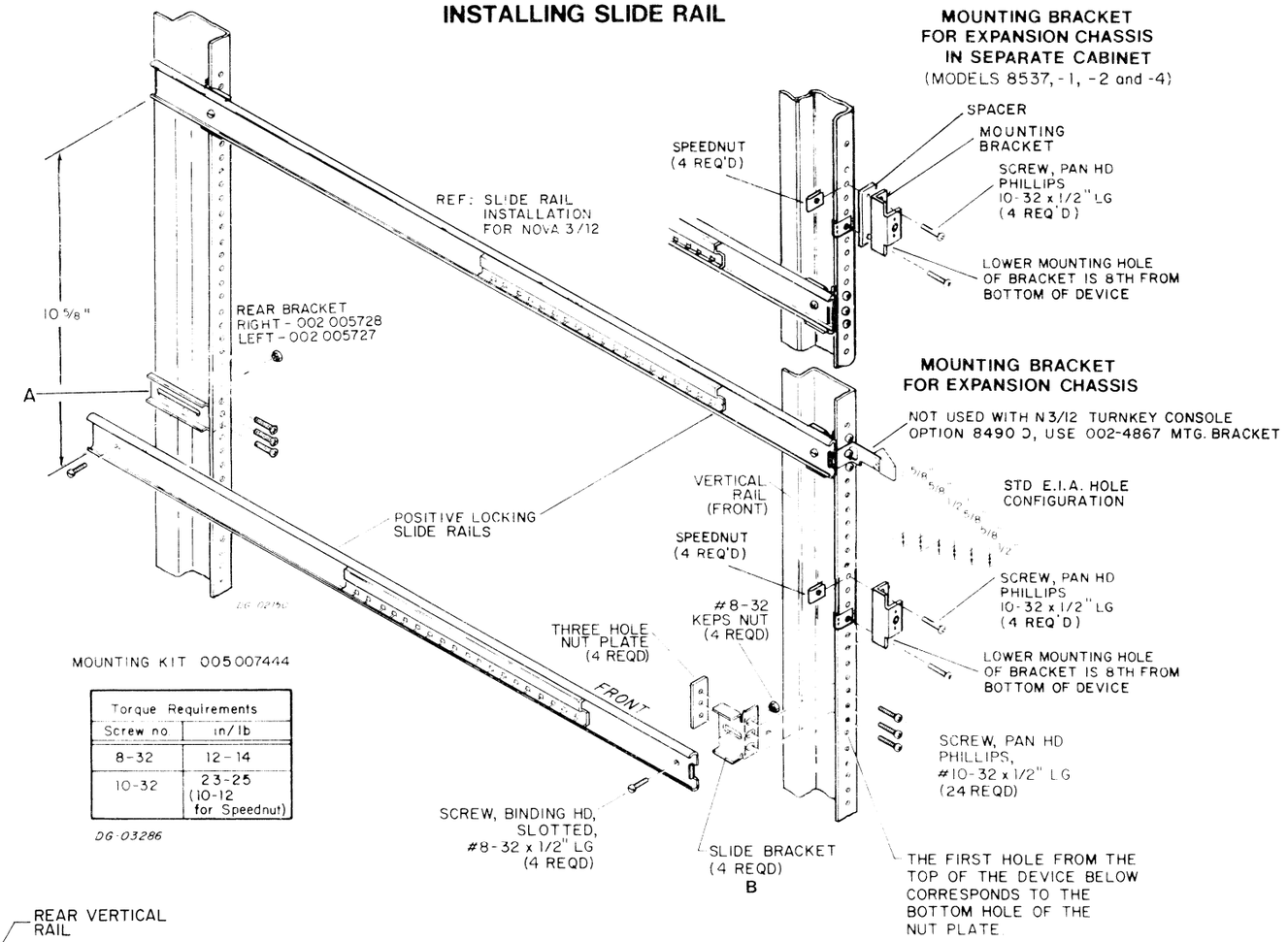
START AT SLOT 1 (X1A96 & X1A94) AND WIRE TO FIRST USED SLOT (X A95 & X A93)

AC VOLTAGE DETERMINED BY SELECTING LINE CORD

	PART NO.	MODEL NO.
100 VAC	109 000239	1118G
120 VAC	109 000238	1118D
220 VAC	109 000237	1118E
240 VAC	109 000240	1118F

INSTALLATION IN A CABINET

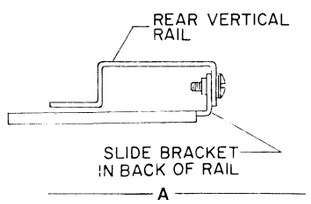
INSTALLING SLIDE RAIL

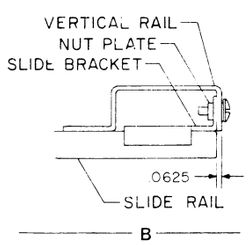


MOUNTING KIT 005007444

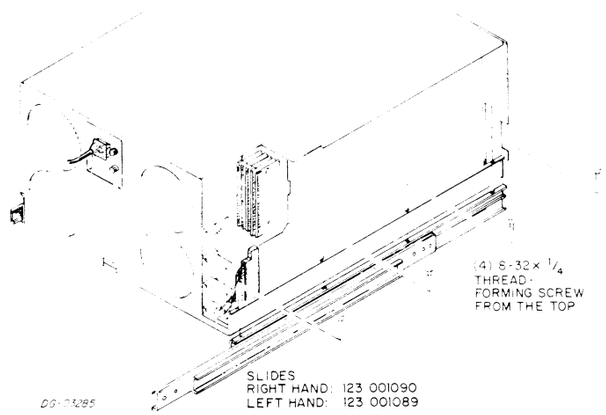
Torque Requirements	
Screw no	in/lb
8-32	12-14
10-32	23-25 (10-12 for Speednut)

DG-03286

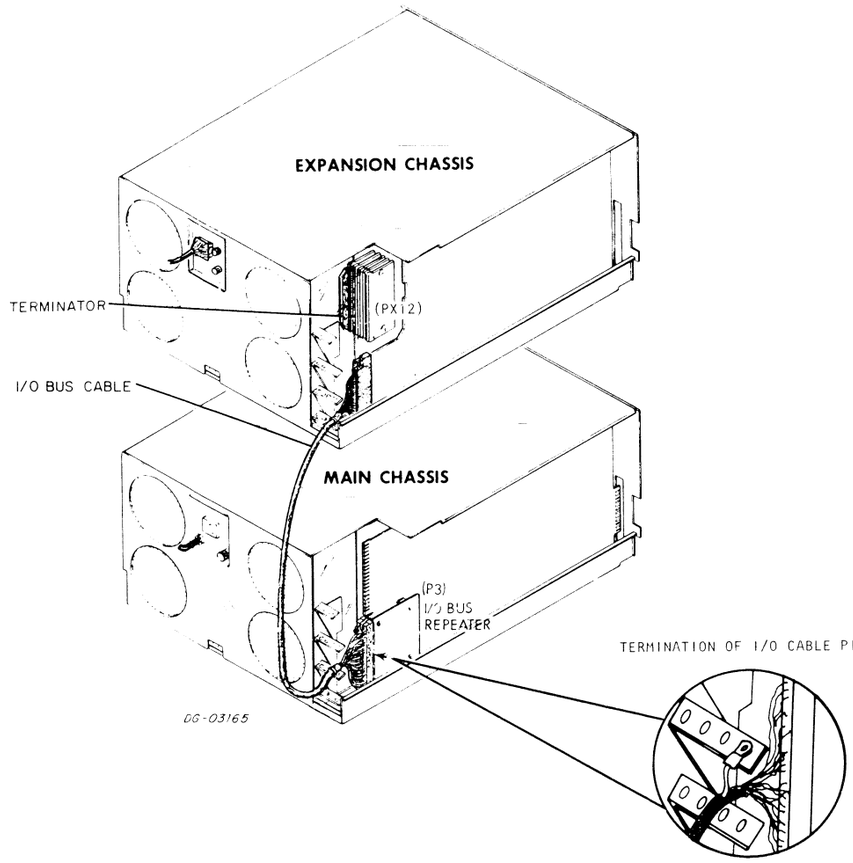




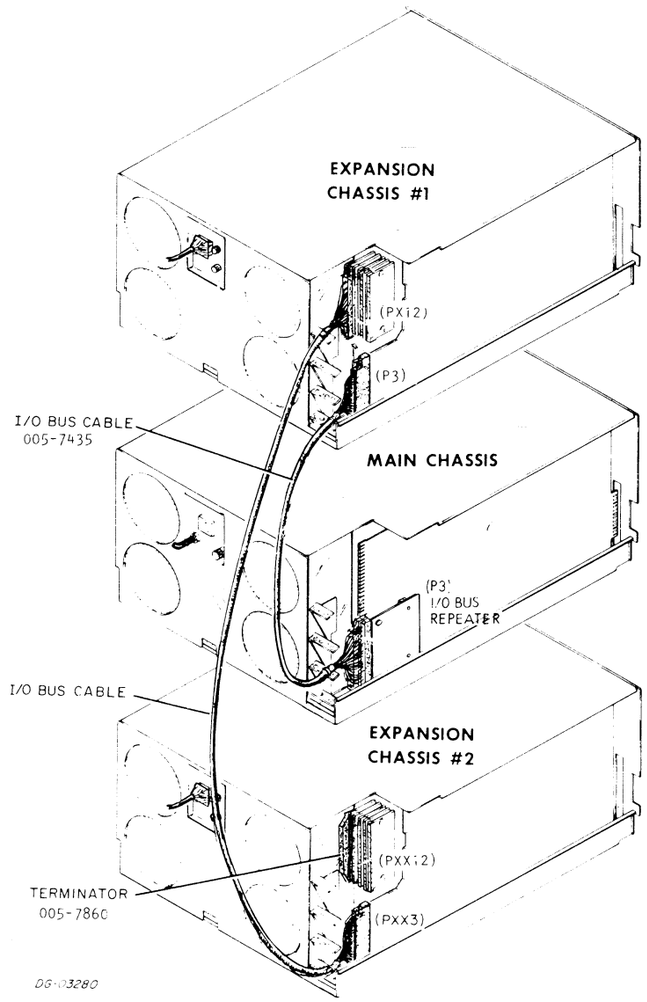
MOUNTING SLIDE ON CHASSIS



EXTERNAL CABLING



TERMINATION OF I/O CABLE PIGTAILS

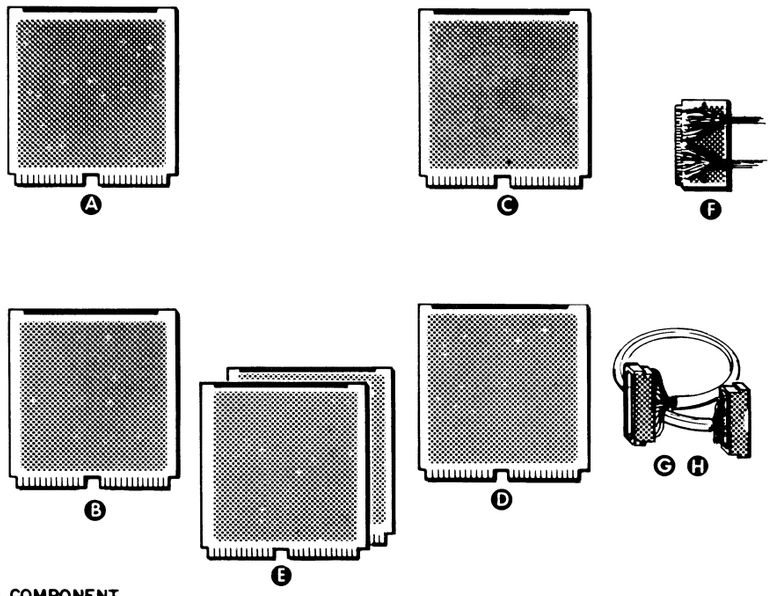


THIS CONFIGURATION ALLOWED ONLY IF CAB NET HAS SUFFICIENT POWER

NOTE: EXTERNAL I/O CONNECTIONS WHICH ARE NORMALLY AVAILABLE ON THE MAIN CHASSIS (P3), BECOME AVAILABLE ON THE EXPANSION CHASSIS (ON PX12 FOR A ONE-EXPANSION CHASSIS SUBSYSTEM, OR ON PXX12 ON A TWO-EXPANSION CHASSIS SUBSYSTEM).

THIS BUS REPEATER REQUIRED IF THERE ARE MORE THAN 10 I/O CONTROLLERS IN THE SYSTEM. OTHERWISE, THE I/O BUS CABLE GOES DIRECTLY TO P3.

SUBSYSTEM COMPONENT BREAKDOWN



MAJOR COMPONENT

Item	Component	Mounting Location	Notes
A	OPTION SUBASSEMBLY BOARD (8533)	SLOT 2	MMPU, MMU, MUL/DIV, AND/OR PARITY AVAIL FOR NOVA 3/12
			MUL/DIV AND/OR PARITY AVAIL FOR NOVA 3/4
B	4K,8K,16K,32K SC MEMORY BOARD	SLOTS 2-4 NOVA 3/4 SLOTS 2-12 NOVA 3/12	
C	8K or 16K CORE MEMORY BOARD	SLOTS 2-4 NOVA 3/4 SLOTS 2-12 NOVA 3/12	
D	CPU W/PROGRAM LOAD AND/OR AUTO-RESTRT	SLOT 1	
E	FPU-1, FPU-2	I/O SLOT OF COMP CHASSIS	CANNOT BE USED WITH NOVA 3/4

CABLES

Item	Cable	Connecting	Max Allowed Lg ft / m	Notes
F	FPU INTERNAL CABLE	SLOT 2 TO CONNECTOR OF MAIN CHASSIS		2 REQUIRED W/EXPANSION CHASSIS IS IN SYSTEM
G	FPU EXTERNAL CABLE	MAIN CHASSIS TO EXPANSION CHASSIS	5 / 1.75	1 REQUIRED W/EXPANSION CHASSIS IS IN SYSTEM
H	EXTERNAL I/O CABLE	MAIN CHASSIS TO EXTERNAL I/O CHASSIS		

SPECIFICATIONS OF CHASSIS MOUNTED COMPONENTS

Item	Component	No. of Slots Required	Total +5V Current Draw (Amps)	Remarks
A	MMU	1	3	
	MUL/DIV		1	
	PARITY		0.5	
	MMPU	1	4	MMPU AVAILABLE ON NOVA 3/D
B	4, 8, 16K SC MEMORY	1	3.0	
	32K SC MEMORY	1	2 3.5 3.5	SLOT 7 AND BELOW } WITH BATTERY BACKUP SLOT 8 AND ABOVE } WITHOUT BATTERY BACKUP
C	8 OR 16K MEMORY CORE	1	1.5	
D	CPU & PROGRAM LOAD	1	10	
	CPU & AUTO RESTART	1	10	
	CPU & PROGRAM LD & AUTORST	1	10	

Item	Component	Chassis	Slots Required	Max Allowable Data Channel Latency (μ sec)	Type of Data Channel Service Desired: High Speed	Type of Data Channel Service Desired: Standard	Controller's +5 Volt Current Draw (Amps)
E	FPU-1&2 (8539)	COMPUTER	2	*SEE NOTE	✓	✓	6 6

FPU SHOULD HAVE LOWEST DCH PRIORITY.
IF EXPANSION CHASSIS IS IN SYSTEM,
USE SLOTS X11 AND X12 FOR FPU1 AND
FPU2, RESPECTIVELY.

SHIPPING

FOR PACKING PROCEDURE,
SEE 010-000262

TAILORING

JUMPERS and SWITCHES

BOARD ASSIGNMENT RULES:

1. Largest capacity memory boards are assigned to lowest available addresses.

2. An XK board (where X = 4, 8, 16 or 32) is assigned a board number according to the number of XK address segments below it.

   NOTE: Maximum number of memory boards in a NOVA 3 computer system is eight.

EXAMPLE:

Assume, in a 108K system, there are the following boards: two 32K boards, one 16K board, three 8K, and one 4K board.

1st board: By rule (1), one 32K board is assigned to the lowest 32K addresses, and by rule (2), this is 32K board 0.

2nd board: By rule (1), the other 32K board is assigned to the next 32K addresses, and by rule (2), this is 32K board 1.

3rd board: By rule (1), the 16K board is assigned to the next 16K addresses, and by rule (2), this is 16K board 4.

4th board: By rule (1), one 8K board is assigned to the next 8K addresses, and by rule (2), this is 8K board 10.

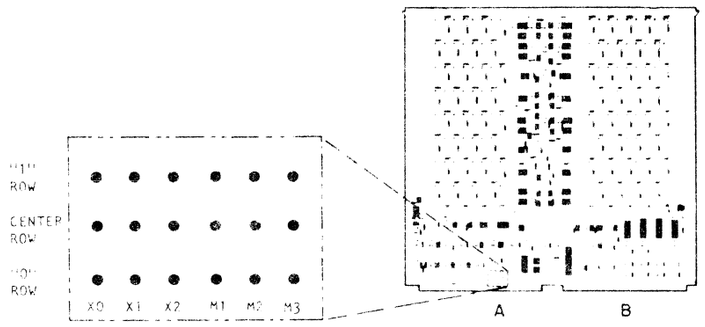
5th board: By rule (1), one 8K board is assigned to the next 8K addresses, and by rule (2), this is 8K board 11.

6th board: By rule (1), the last 8K board is assigned to the next 8K addresses, and by rule (2), this is 8K board 12.

7th board: By rule (1), the 4K board is assigned to the highest 4K addresses, and by rule (2), this is 4K board 26.

NOTE:
MAXIMUM PHYSICAL MEMORY SPACE = 128K IN THOSE SYSTEMS CONFIGURED TO RUN 128K OF MEMORY. THE LOWEST LOGICAL SEGMENT OF MEMORY MUST HAVE JUMPER OR SWITCH "X0" SET TO "0" INSTEAD OF "OPEN".

DGC SEMICONDUCTOR BOARDS



Ref: DGC 107 000625 Rev. 02

FOR "OPEN", CONNECT NO JUMPER

FOR A "1", INSERT JUMPER CONNECTING "1" ROW AND CENTER ROW

FOR A "0", INSERT JUMPER CONNECTING "0" ROW AND CENTER ROW

4K SEMICONDUCTOR MEMORY BOARDS

BD No.	JUMPER ASSIGNMENTS					
	X0	X1	X2	M1	M2	M3
0	0	0	0	0	0	0
1	0	0	0	0	0	1
2	0	0	0	0	1	0
3	0	0	0	0	1	1
4	0	0	0	1	0	0
5	0	0	0	1	0	1
6	0	0	0	1	1	0
7	0	0	0	1	1	1
8	0	0	1	0	0	0
9	0	0	1	0	0	1
10	0	0	1	0	1	0
11	0	0	1	0	1	1
12	0	0	1	1	0	0
13	0	0	1	1	0	1
14	0	0	1	1	1	0
15	0	0	1	1	1	1
16	0	1	0	0	0	0
17	0	1	0	0	0	1
18	0	1	0	0	1	0
19	0	1	0	0	1	1
20	0	1	0	1	0	0
21	0	1	0	1	0	1
22	0	1	0	1	1	0
23	0	1	0	1	1	1
24	0	1	1	0	0	0
25	0	1	1	0	0	1
26	0	1	1	0	1	0
27	0	1	1	0	1	1
28	0	1	1	1	0	0
29	0	1	1	1	0	1
30	0	1	1	1	1	0
31	0	1	1	1	1	1

8K SEMICONDUCTOR BOARDS

BD No.	X0	X1	X2	M1	M2	M3
0	0	0	0	0	0	OPEN
1	0	0	0	0	1	
2	0	0	0	1	0	
3	0	0	0	1	1	
4	0	0	1	0	0	
5	0	0	1	0	1	
6	0	0	1	1	0	
7	0	0	1	1	1	
8	0	1	0	0	0	
9	0	1	0	0	1	
10	0	1	0	1	0	
11	0	1	0	1	1	
12	0	1	1	0	0	
13	0	1	1	0	1	
14	0	1	1	1	0	
15	0	1	1	1	1	OPEN

16K SEMICONDUCTOR BOARDS

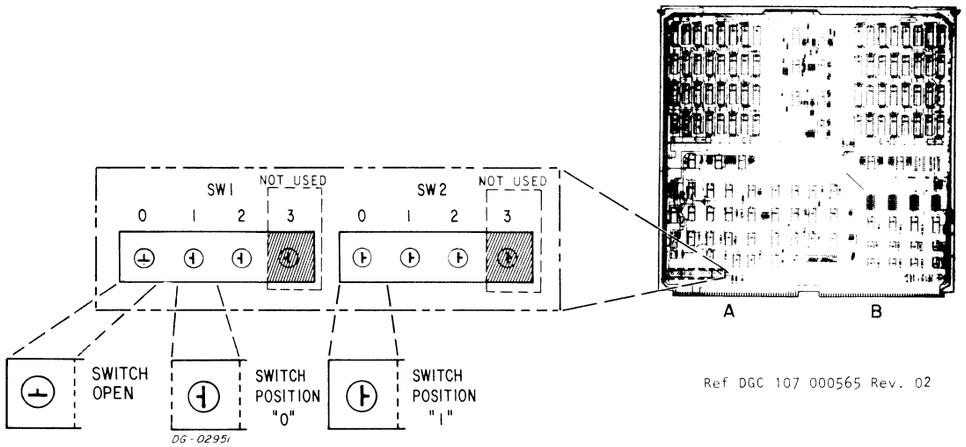
BD No.	X0	X1	X2	M1	M2	M3
0	0	0	0	0	OPEN	
1	0	0	0	1		
2	0	0	1	0		
3	0	0	1	1		
4	0	1	0	0		
5	0	1	0	1		
6	0	1	1	0		
7	0	1	1	1	OPEN	

32K SEMICONDUCTOR BOARDS

BD No.	X0	X1	X2	M1	M2	M3
0	0	0	0	OPEN		
1	0	0	1			
2	0	1	0			
3	0	1	1			

JUMPERS and SWITCHES (CONT)

DGC SEMICONDUCTOR MEMORY BOARDS



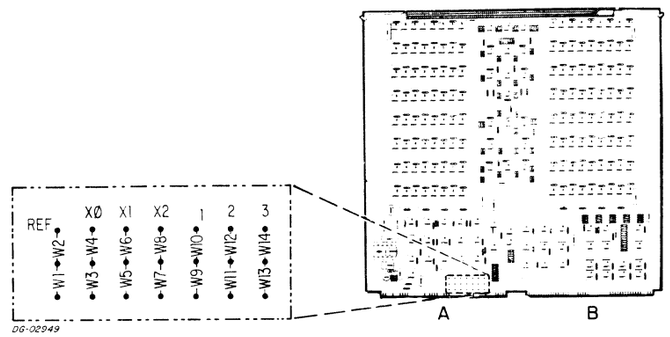
Ref DGC 107 000565 Rev. 02

4K SEMICONDUCTOR MEMORY BOARDS						
	SWITCH ASSIGNMENTS					
	SW1			SW2		
BOARD NUMBER	0	1	2	0	1	2
0	0	0	0	0	0	0
1	0	0	0	0	0	1
2	0	0	0	0	1	0
3	0	0	0	0	1	1
4	0	0	0	1	0	0
5	0	0	0	1	0	1
6	0	0	0	1	1	0
7	0	0	0	1	1	1
8	0	0	1	0	0	0
9	0	0	1	0	0	1
10	0	0	1	0	1	0
11	0	0	1	0	1	1
12	0	0	1	1	0	0
13	0	0	1	1	0	1
14	0	0	1	1	1	0
15	0	0	1	1	1	1
16	0	1	0	0	0	0
17	0	1	0	0	0	1
18	0	1	0	0	1	0
19	0	1	0	0	1	1
20	0	1	0	1	0	0
21	0	1	0	1	0	1
22	0	1	0	1	1	0
23	0	1	0	1	1	1
24	0	1	1	0	0	0
25	0	1	1	0	0	1
26	0	1	1	0	1	0
27	0	1	1	0	1	1
28	0	1	1	1	0	0
29	0	1	1	1	0	1
30	0	1	1	1	1	0
31	0	1	1	1	1	1

8K SEMICONDUCTOR MEMORY BOARDS						
	SWITCH ASSIGNMENTS					
	SW1			SW2		
BOARD NUMBER	0	1	2	0	1	2
0	0	0	0	0	0	OPEN
1	0	0	0	0	1	
2	0	0	0	1	0	
3	0	0	0	1	1	
4	0	0	1	0	0	
5	0	0	1	0	1	
6	0	0	1	1	0	
7	0	0	1	1	1	
8	0	1	0	0	0	
9	0	1	0	0	1	
10	0	1	0	1	0	
11	0	1	0	1	1	
12	0	1	1	0	0	
13	0	1	1	0	1	
14	0	1	1	1	0	
15	0	1	1	1	1	OPEN

16K SEMICONDUCTOR MEMORY BOARDS						
	SWITCH ASSIGNMENTS					
	SW1			SW2		
BOARD NUMBER	0	1	2	0	1	2
0	0	0	0	0	OPEN	
1	0	0	0	1		
2	0	0	1	0		
3	0	0	1	1		
4	0	1	0	0		
5	0	1	0	1		
6	0	1	1	0		
7	0	1	1	1	OPEN	

SEMICONDUCTOR MEMORY BOARDS



Ref DGC 107 000592 Rev. 04
DGC 107 000975 Rev. 00

4K SEMICONDUCTOR MEMORY BOARDS												
	JUMPER ASSIGNMENTS											
BD No.	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	W14
0	1	0	1	0	1	0	1	0	1	0	1	0
1	1	0	1	0	1	0	1	0	1	0	0	1
2	1	0	1	0	1	0	1	0	0	1	1	0
3	1	0	1	0	1	0	1	0	0	1	0	1
4	1	0	1	0	1	0	0	1	1	0	1	0
5	1	0	1	0	1	0	0	1	1	0	0	1
6	1	0	1	0	1	0	0	1	0	1	1	0
7	1	0	1	0	1	0	0	1	0	1	0	1
8	1	0	1	0	0	1	1	0	1	0	1	0
9	1	0	1	0	0	1	1	0	1	0	0	1
10	1	0	1	0	0	1	1	0	0	1	1	0
11	1	0	1	0	0	1	1	0	0	1	0	1
12	1	0	1	0	0	1	0	1	1	0	1	0
13	1	0	1	0	0	1	0	1	1	0	0	1
14	1	0	1	0	0	1	0	1	0	1	1	0
15	1	0	1	0	0	1	0	1	0	1	0	1
16	1	0	0	1	1	0	1	0	1	0	1	0
17	1	0	0	1	1	0	1	0	1	0	0	1
18	1	0	0	1	1	0	1	0	0	1	1	0
19	1	0	0	1	1	0	1	0	0	1	0	1
20	1	0	0	1	1	0	0	1	1	0	1	0
21	1	0	0	1	1	0	0	1	1	0	0	1
22	1	0	0	1	1	0	0	1	0	1	1	0
23	1	0	0	1	1	0	0	1	0	1	0	1
24	1	0	0	1	0	1	1	0	1	0	1	0
25	1	0	0	1	0	1	1	0	1	0	0	1
26	1	0	0	1	0	1	1	0	0	1	1	0
27	1	0	0	1	0	1	1	0	0	1	0	1
28	1	0	0	1	0	1	0	1	1	0	1	0
29	1	0	0	1	0	1	0	1	1	0	0	1
30	1	0	0	1	0	1	0	1	0	1	1	0
31	1	0	0	1	0	1	0	1	0	1	0	1

NOTE:
W1 IS NORMALLY OUT
W2 IS NORMALLY IN

JUMPERS and SWITCHES (CONT)

SEMICONDUCTOR MEMORY BOARDS (CONT)

8K SEMICONDUCTOR MEMORY BOARDS

BD No.	JUMPER ASSIGNMENTS											
	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	W14
0	1	0	1	0	1	0	1	0	1	0	0	0
1	1	0	1	0	1	0	1	0	0	1	0	0
2	1	0	1	0	1	0	0	1	1	0	0	0
3	1	0	1	0	1	0	0	1	0	1	0	0
4	1	0	1	0	0	1	1	0	1	0	0	0
5	1	0	1	0	0	1	1	0	0	1	0	0
6	1	0	1	0	0	1	0	1	1	0	0	0
7	1	0	1	0	0	1	0	1	0	1	0	0
8	1	0	0	1	1	0	1	0	1	0	0	0
9	1	0	0	1	1	0	1	0	0	1	0	0
10	1	0	0	1	1	0	0	1	1	0	0	0
11	1	0	0	1	1	0	0	1	0	1	0	0
12	1	0	0	1	0	1	1	0	1	0	0	0
13	1	0	0	1	0	1	1	0	0	1	0	0
14	1	0	0	1	0	1	0	1	1	0	0	0
15	1	0	0	1	0	1	0	1	0	1	0	0

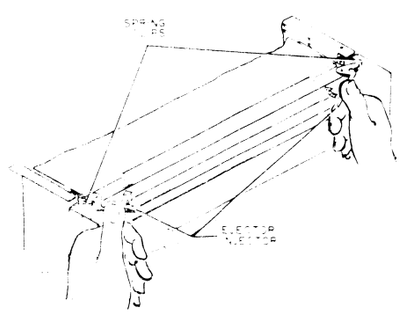
16K SEMICONDUCTOR MEMORY BOARDS

BD No.	JUMPER ASSIGNMENTS											
	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	W14
0	1	0	1	0	1	0	1	0	0	0	0	0
1	1	0	1	0	1	0	0	1	0	0	0	0
2	1	0	1	0	0	1	1	0	0	0	0	0
3	1	0	1	0	0	1	0	1	0	0	0	0
4	1	0	0	1	1	0	1	0	0	0	0	0
5	1	0	0	1	1	0	0	1	0	0	0	0
6	1	0	0	1	0	1	1	0	0	0	0	0
7	1	0	0	1	0	1	0	1	0	0	0	0

32K SEMICONDUCTOR MEMORY BOARDS

BD No.	JUMPER ASSIGNMENTS											
	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	W14
0	1	0	1	0	1	0	0	0	0	0	0	0
1	1	0	1	0	0	1	0	0	0	0	0	0
2	1	0	0	1	1	0	0	0	0	0	0	0
3	1	0	0	1	0	1	0	0	0	0	0	0

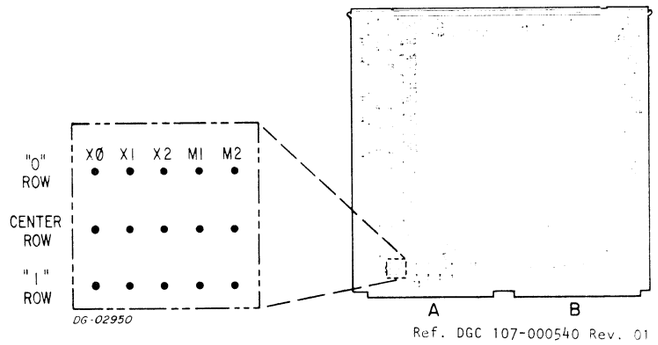
INSERTING PC BOARD



8K CORE MEMORY BOARDS

8K CORE MEMORY BOARDS

BD No.	JUMPER ASSIGNMENTS				
	X0	X1	X2	M1	M2
0	1	0	0	0	0
1	1	0	0	0	1
2	1	0	0	1	0
3	1	0	0	1	1
4	1	0	1	0	0
5	1	0	1	0	1
6	1	0	1	1	0
7	1	0	1	1	1
8	1	1	0	0	0
9	1	1	0	0	1
10	1	1	0	1	0
11	1	1	0	1	1
12	1	1	1	0	0
13	1	1	1	0	1
14	1	1	1	1	0
15	1	1	1	1	1



Ref. DGC 107-000540 Rev. 01

FOR A "0" INSERT JUMPER CONNECTING "0" ROW AND CENTER ROW.

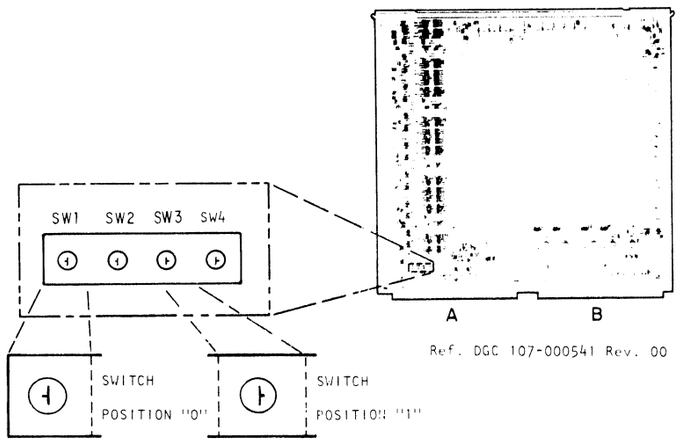
FOR A "1" INSERT JUMPER CONNECTING "1" ROW AND CENTER ROW.

FOR "OPEN" INSERT NO JUMPER.

16K CORE MEMORY BOARDS WITH SWITCHES

16K CORE MEMORY BOARDS

BD No.	SWITCH ASSIGNMENTS			
	SW1	SW2	SW3	SW4
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	1	0	0	0
5	1	0	0	1
6	1	0	1	0
7	1	0	1	1

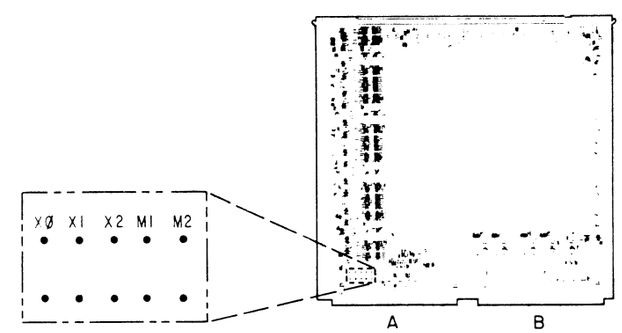


Ref. DGC 107-000541 Rev. 00

16K CORE MEMORY BOARDS WITH JUMPERS

16K CORE MEMORY BOARDS

BD No.	JUMPER ASSIGNMENTS				
	X0	X1	X2	M1	M2
0	0	0	0	0	OPEN
1	0	0	0	1	"
2	0	0	1	0	"
3	0	0	1	1	"
4	0	1	0	0	"
5	0	1	0	1	"
6	0	1	1	0	"
7	0	1	1	1	OPEN

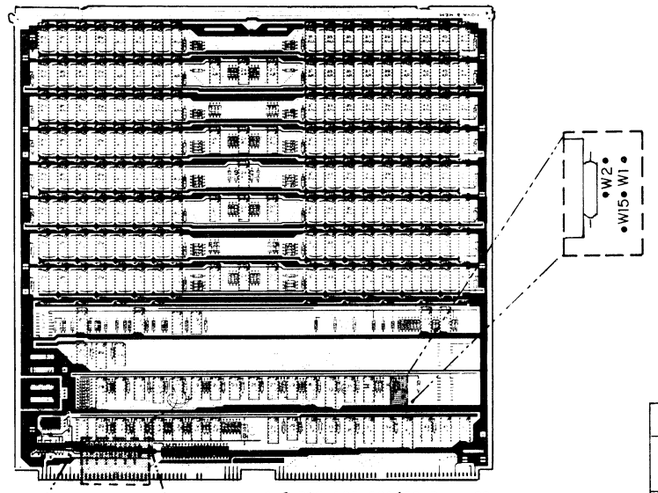


JUMPER IN "1" JUMPER OUT "0"

Ref. DGC 107-000541 Rev. 01

JUMPERS (CONT)

SEMICONDUCTOR MEMORY BOARDS



Ref DGC 107 001632 Rev. 00

NOTES:
W1 AND W15 ARE NORMALLY OUT
W2 IS NORMALLY IN

4K SEMICONDUCTOR MEMORY BOARDS												
	JUMPER ASSIGNMENTS											
BD NO.	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	W14
0	1	0	1	0	1	0	1	0	1	0	1	0
1	1	0	1	0	1	0	1	0	1	0	0	1
2	1	0	1	0	1	0	1	0	0	1	1	0
3	1	0	1	0	1	0	1	0	0	1	0	1
4	1	0	1	0	1	0	0	1	1	0	1	0
5	1	0	1	0	1	0	0	1	1	0	0	1
6	1	0	1	0	1	0	0	1	0	1	1	0
7	1	0	1	0	1	0	0	1	0	1	0	1
8	1	0	1	0	0	1	1	0	1	0	1	0
9	1	0	1	0	0	1	1	0	1	0	0	1
10	1	0	1	0	0	1	1	0	0	1	1	0
11	1	0	1	0	0	1	1	0	0	1	0	1
12	1	0	1	0	0	1	0	1	1	0	1	0
13	1	0	1	0	0	1	0	1	1	0	0	1
14	1	0	1	0	0	1	0	1	0	1	1	0
15	1	0	1	0	0	1	0	1	0	1	0	1
16	1	0	0	1	1	0	1	0	1	0	1	0
17	1	0	0	1	1	0	1	0	1	0	0	1
18	1	0	0	1	1	0	1	0	0	1	1	0
19	1	0	0	1	1	0	1	0	0	1	0	1
20	1	0	0	1	1	0	0	1	1	0	1	0
21	1	0	0	1	1	0	0	1	1	0	0	1
22	1	0	0	1	1	0	0	1	0	1	1	0
23	1	0	0	1	1	0	0	1	0	1	0	1
24	1	0	0	1	0	1	1	0	1	0	1	0
25	1	0	0	1	0	1	1	0	1	0	0	1
26	1	0	0	1	0	1	1	0	0	1	1	0
27	1	0	0	1	0	1	1	0	0	1	0	1
28	1	0	0	1	0	1	0	1	1	0	1	0
29	1	0	0	1	0	1	0	1	1	0	0	1
30	1	0	0	1	0	1	0	1	0	1	1	0
31	1	0	0	1	0	1	0	1	0	1	0	1

8K SEMICONDUCTOR MEMORY BOARDS												
	JUMPER ASSIGNMENTS											
BD NO.	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	W14
0	1	0	1	0	1	0	1	0	1	0	0	0
1	1	0	1	0	1	0	1	0	0	1	0	0
2	1	0	1	0	1	0	0	1	1	0	0	0
3	1	0	1	0	1	0	0	1	0	1	0	0
4	1	0	1	0	0	1	1	0	1	0	0	0
5	1	0	1	0	0	1	1	0	0	1	0	0
6	1	0	1	0	0	1	0	1	1	0	0	0
7	1	0	1	0	0	1	0	1	0	1	0	0
8	1	0	0	1	1	0	1	0	1	0	0	0
9	1	0	0	1	1	0	1	0	0	1	0	0
10	1	0	0	1	1	0	0	1	1	0	0	0
11	1	0	0	1	1	0	0	1	0	1	0	0
12	1	0	0	1	0	1	1	0	1	0	0	0
13	1	0	0	1	0	1	1	0	0	1	0	0
14	1	0	0	1	0	1	0	1	1	0	0	0
15	1	0	0	1	0	1	0	1	0	1	0	0

16K SEMICONDUCTOR MEMORY BOARDS												
	JUMPER ASSIGNMENTS											
BD NO.	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	W14
0	1	0	1	0	1	0	1	0	0	0	0	0
1	1	0	1	0	1	0	0	1	0	0	0	0
2	1	0	1	0	0	1	1	0	0	0	0	0
3	1	0	1	0	0	1	0	1	0	0	0	0
4	1	0	0	1	1	0	1	0	0	0	0	0
5	1	0	0	1	1	0	0	1	0	0	0	0
6	1	0	0	1	0	1	1	0	0	0	0	0
7	1	0	0	1	0	1	0	1	0	0	0	0

32K SEMICONDUCTOR MEMORY BOARDS												
	JUMPER ASSIGNMENTS											
BD NO.	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	W14
0	1	0	1	0	1	0	0	0	0	0	0	0
1	1	0	1	0	0	1	0	0	0	0	0	0
2	1	0	0	1	1	0	0	0	0	0	0	0
3	1	0	0	1	0	1	0	0	0	0	0	0

BATTERY BACK-UP OPTION

I. INSTALLATION - BATTERY BACK-UP PCB TO NOVA 3/4 OR NOVA 3/12 MAIN FRAME
(KIT 005-006029)

A. TOP COVER NEED NOT BE REMOVED TO INSTALL PCB.

B. INSERT GOLD FINGER OF BATTERY BACK-UP PCB (005-006029) INTO "J-1" (15 DUAL CONNECTOR) LOCATED INSIDE MAIN FRAME LOWER LEFT SIDE OF BACK PANEL.

C. SECURE PCB TO STANDOFF ON BASE WITH (1) 6-32 X 5/16 SOCKET HEAD CAP SCREW (106-000483).

D. REMOVE OR CUT OUT THE FOLLOWING RESISTORS LOCATED ON THE SOLDER SIDE OF BACK PANEL.

NOVA 3/4 - R4, R26 and R27 QTY (3)
NOVA 3/12 - R2, R3 and R7 QTY (3)

E. PREPARE AND INSTALL BATTERIES PER INSTRUCTION II AND III, OR EXTENSION CABLE PER INSTRUCTION IV.

NOTE: USE 15" PCB IN TOP SLOT TO SET GUIDE DISTANCE BEFORE SECURING TOP COVER (IF REMOVAL IS NECESSARY). NO OTHER ALIGNMENT IS REQUIRED.

THE NOVA BATTERY BACKUP WILL SUPPORT UP TO 3 32K SC MEMORIES OR 4 16K SC MEMORIES. MEMORY EXPANSION BEYOND THESE LIMITS MUST BE ACCOMPLISHED BY INSTALLING THE ADDITIONAL MEMORY BOARDS INTO SLOT 8 OR ABOVE. THE SLOTS ARE NOT SUPPORTED BY BATTERY BACKUP.

II. PREPARATION - BATTERIES AND BATTERY CABLE
(SAME FOR BOTH NOVA 3/4, MTG KIT 005-006028, AND NOVA 3/12, MTG KIT 005-006473).

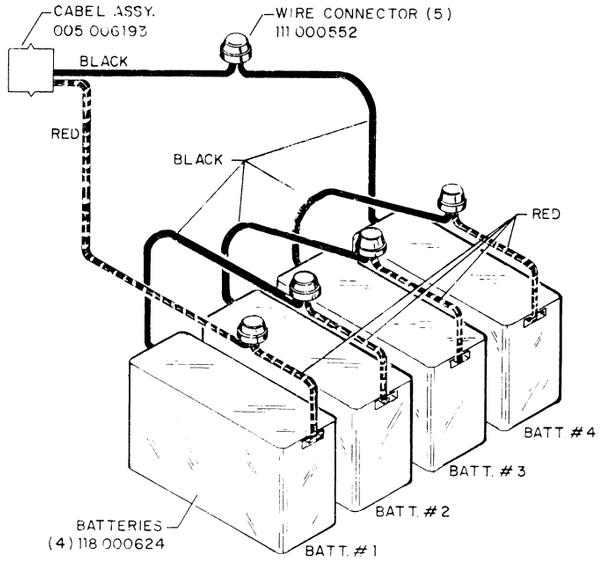
CAUTION: DO NOT SHORT BATTERY LEADS

THIS IS A SERIES HOOK-UP FOR A TOTAL OF 24 VOLTS.

A. PLACE (4) BATTERIES 118-000- IN A ROW WITH BLACK AND RED LEADS UP AND TOWARD THE OPERATOR.

B. STRIP LEADS ON BATTERIES, ASSEMBLE AND SECURE TOGETHER WITH SET SCREW TYPE WIRE CONNECTOR 111-000552.

FROM	TO	COMMENT
BATT #1 BLACK	BATT #2 RED	CUT LEADS TO 3/4"; STRIP LEAD 3/8" AND SECURE TOGETHER WITH CONN WIRE 111-000552
BATT #2 BLACK	BATT #3 RED	CUT LEADS TO 8 1/2"; STRIP LEAD 3/8" AND SECURE TOGETHER WITH CONN WIRE 111-000552
BATT #3 BLACK	BATT #4 RED	CUT LEADS TO 3/4"; STRIP LEAD 3/8" AND SECURE TOGETHER WITH CONN WIRE 111-000552
BATT #4 BLACK	CABLE 005-0006193 BLACK	STRIP LEAD 3/8" AND SECURE TOGETHER WITH 111-000552 DO NOT CUT BLACK BATTERY LEAD.
BATT #1 RED	CABLE 005-005-006193 RED	CUT BATT LEAD TO 8 1/2"; STRIP 3/8" AND SECURE TOGETHER WITH 111-000552



III. INSTALLATION - BATTERY BACK-UP
(PREREQUISITE: BATTERY BACK-UP PCB CARD 005-006029)

CAUTION: DO NOT SHORT BATTERY LEADS

NOVA 3/4 (MGT KIT 005-006028)

A. REMOVE TOP COVER AND BRACKET HOLDING CAPACITORS DOWN.

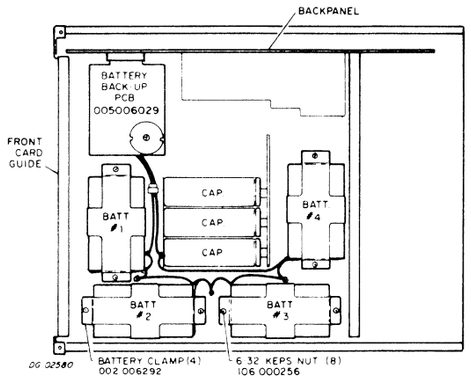
B. PLACE (4) BATTERIES ASSEMBLED IN INSTRUCTION II IN BOTTOM OF MAIN FRAME BASE, AS PER ILLUSTRATION.

C. DRESS LEADS CLOSE TO BATTERIES AND ASSEMBLE (4) BATTERY CLAMPS (002-006292) over each one. SECURE EACH WITH (2) 6-32 KEPS NUTS 106-000256. SECURE BATTERY #1 AND #4 BEFORE #2 AND #3.

D. PLUG BATTERY CABLE CONNECTOR INTO PCB CONNECTOR PLUG AND DRESS LEADS ALONG BATTERIES.

E. REPLACE CAPACITOR BRACKET HOLDDOWN.

F. REPLACE TOP COVER. USE 15" PCB IN TOP SLOT TO SET GUIDE DISTANCE BEFORE SECURING TO COVER.



BATTERY BACK-UP INSTALLATION — NOVA 3/4

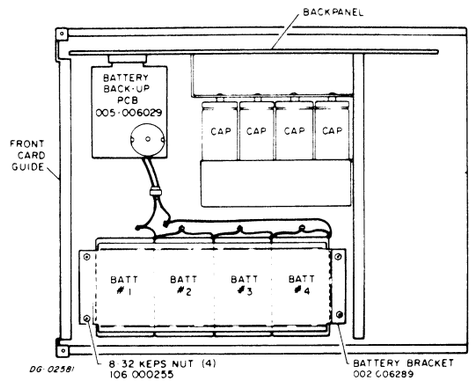
NOVA 3/12 (MTG KIT 005-006473)

A. TOP COVER NEED NOT BE REMOVED TO INSTALL BATTERIES.

B. PLACE BATTERIES ON SIDE AS SHOWN IN ILLUSTRATION. ASSEMBLE BATTERY BRACKET 002-006289 OVER BATTERIES AND SECURE WITH (4) SCREWS 8-32 KEPS NUTS (106-000255).

C. DRESS BATTERY LEADS DOWN CENTER ALONG BATTERIES.

D. PLUG BATTERY CABLE CONNECTOR INTO PCB CONNECTOR PLUG.



BATTERY BACK-UP INSTALLATION — NOVA 3/12

IV. INSTALLATION - BATTERY BACK-UP EXTENSION CABLE
005-006454 TO NOVA 3/4 AND NOVA 3/12 MAIN FRAME. (PREREQUISITE: BATTERY BACK-UP PCB CARD.)

NOVA 3/4

A. REMOVE TOP COVER.

B. ASSEMBLE CABLE END (CONNECTOR WITH EARS) THROUGH THE RECTANGULAR OPENING ABOVE THE TRANSFORMER IN THE AC POWER SUPPLY.

C. RUN CABLE TO RIGHT OR LEFT OF TRANSFORMER, THROUGH OPENING IN REAR CARD GUIDE AND ALONG BOTTOM OF BASE TO BATTERY PCB CARD. PLUG CABLE END INTO PCB CONNECTOR PLUG.

D. REPLACE COVER. USE 15" PCB IN TOP SLOT TO SET GUIDE DISTANCE BEFORE SECURING.

NOVA 3/12

A. REMOVE REAR FAN PANEL.

B. ASSEMBLE CABLE END (CONNECTOR WITH EARS) THROUGH THE RECTANGULAR OPENING TO REAR OF THE TRANSFORMER (PART OF AC POWER SUPPLY BRACKET).

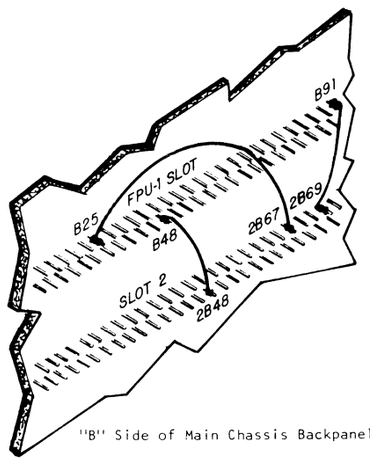
C. RUN CABLE ALONG LEFT SIDE OF TRANSFORMER, THROUGH OPENING IN REAR CARD GUIDE AND DOWN MIDDLE OF BASE TO BATTERY PCB CARD. PLUG CABLE END INTO PCB CONNECTOR PLUG.

D. REPLACE REAR FAN PANEL.

FLOATING POINT UNIT INTERNAL AND EXTERNAL CABLING

1. If the floating point option is installed in a system without an expansion chassis, slot 2 of the main chassis is wire-wrapped to the slot accommodating FPU1 according to the following table:

MMU	FPU1
2B48	B48
2B67	B25
2B69	B91



"B" Side of Main Chassis Backpanel

2. If the floating point option is installed in a system with an expansion chassis the following procedure is preferred:

   a. Install FPU1 and FPU2 in slots X11 and X12, respectively.
   b. Install an internal cable connecting slot X11 of expansion chassis to connector PX10 as specified in Table I.
   c. Install an internal cable connecting slot 2 of the main chassis to connector P5, as specified in Table II.
   d. Install cable 005-7435 that connects PX10 to P5.

Table I
FPU Internal Cable - Expansion Chassis

Signal Name	Paddleboard Edge Connector Pin No's.	Destination Pins
GND	1	XA1
GND / FPDCH	1) 17)	XB1) XB48)
GND / RESETFP	1) 18)	XB2) XB25)
GND / FPSEL	1) 38)	XB50) XB91)

Note: Brackets indicate twisted pairs. Remove all excess wires from connector assembly.

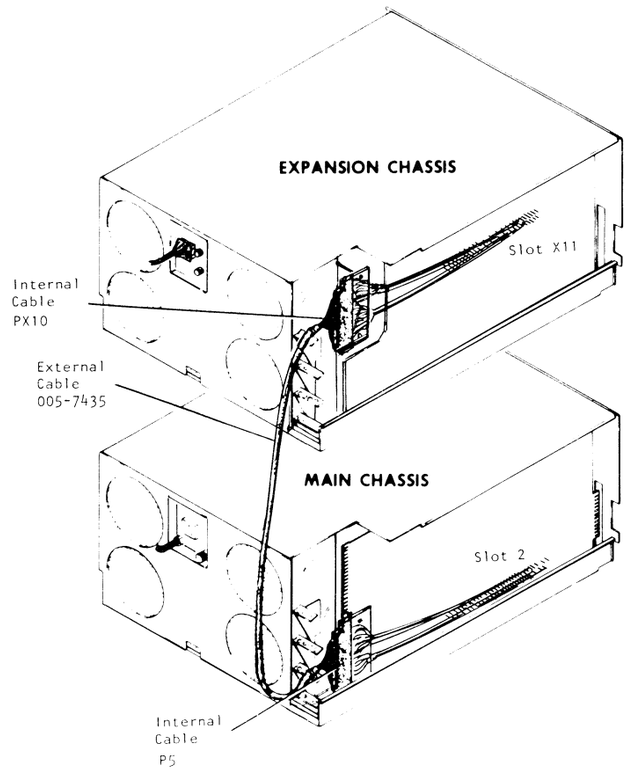
3. If the floating point option is installed in a system with an expansion chassis and FPU1 and FPU2 are to be installed in expansion chassis slots other than X11 abd X12, perform the following procedure:

   a. Install FPU1 and FPU2 in d desired expansion chassis slots.
   b. Install an internal cable connecting the slot accommodating FPU1 to the desired connector, as specified in Table I.
   c. Install an internal cable connecting slot 2 of the main chassis to the desired connector as specified in Table II.
   d. Install cable 005-7435 which connects the desired expansion chassis connector to the desired main chassis connector.

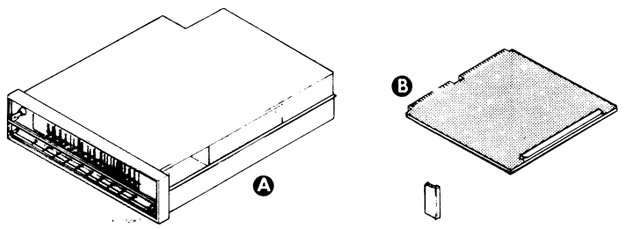
Table II
FPU Internal Cable - Main Chassis

Signal Name	Paddleboard Edge Connector Pin No's.	Destination Pins
GND	1	2A1
GND / FPDCM	1) 17)	2B1) 2B48)
GND / RESETFP	1) 18)	2B2) 2B67)
GND / FPSEL	1) 38)	2B50) 2B69)

Note: Brackets indicate twisted pairs. Remove all excess wires from connector assembly.



INSTALLATION SPECIFICATIONS



MAJOR COMPONENT

Item	Component	Mounting Location	Notes
A	NOVA 2/4	CABINET	
B	CPU BOARD	CHASSIS	

DG-02672

TERMINATOR

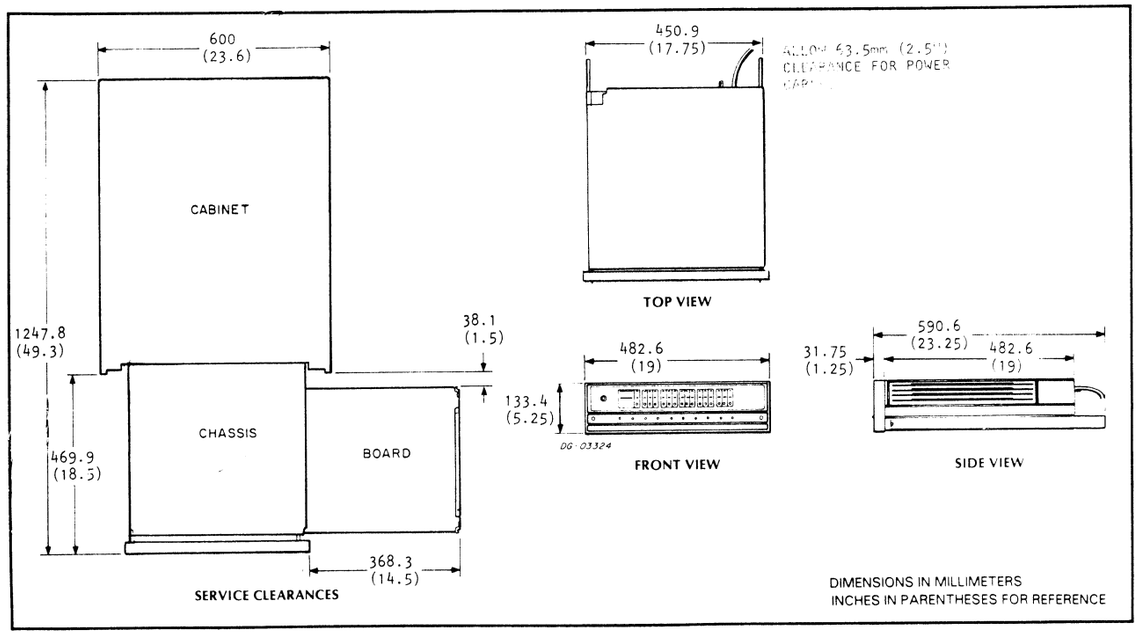
Item	Terminator	Location	Notes
C	DGC TERMINATOR	LAST DEVICE OF I/O	

Data Channel Speeds Available: Standard ☒ High Speed ☒

Slot	Allowed (Slot Chart)	Assigned	+5V Current Draw
4	MEMORY OR I/O		
3	MEMORY OR I/O *		
2	MEMORY OR MULT/DIV		
1	CPU		
		Total +5V Current draw	
		Max +5V Current Available	
		+5V Current Surplus	

DG-01915

* IF TTY, PTR, PTP ARE ORDERED, THEY MUST BE CONFIGURED IN SLOT 3.



DIMENSIONS:	Width	Depth	Height
Millimeters	482.6	482.6	133.35
Inches	19.00	19.00	5.25

SERVICE CLEARANCES:	Front	Right
Millimeters	469.90	368.3
Inches	18.50	14.5

WEIGHT:	Empty
kilograms	22.5
Pounds	50

HEAT OUTPUT:		
	300	1023.00
	Watts	BTU/hr

OPERATING ENVIRONMENT:		
Temperature (max)	54.4°C	130°F
Relative Humidity	20-90%	

PREFERRED LOCATION: Area 14-16

CPU DESIGNATOR:

Designator Number: 075
Designator Range: 05-12

POWER REQUIREMENTS:

(Domestic)	
Voltage	92-138
Hz	47-63
Max Amp per Phase	2.5

(Export)	
Voltage	184-276
Hz	47-63
Max Amp per Phase	1.2

CABLES:

Primary Power	Length	Conn	Mating Conn
Domestic 60Hz	1.8m(6')	5-15P	5-15R
Export 50Hz	1.8m(6')		

WARNING

THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY ENERGY AND IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTION MANUAL, MAY CAUSE INTERFERENCE TO RADIO COMMUNICATIONS. AS TEMPORARILY PERMITTED BY REGULATION IT HAS NOT BEEN TESTED FOR COMPLIANCE WITH THE LIMITS FOR CLASS A COMPUTING DEVICES PURSUANT TO SUBPART J OF PART 15 OF FCC RULES, WHICH ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST SUCH INTERFERENCE. OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA IS LIKELY TO CAUSE INTERFERENCE IN WHICH CASE THE USER AT HIS OWN EXPENSE WILL BE REQUIRED TO TAKE WHATEVER MEASURES MAY BE REQUIRED TO CORRECT THE INTERFERENCE.

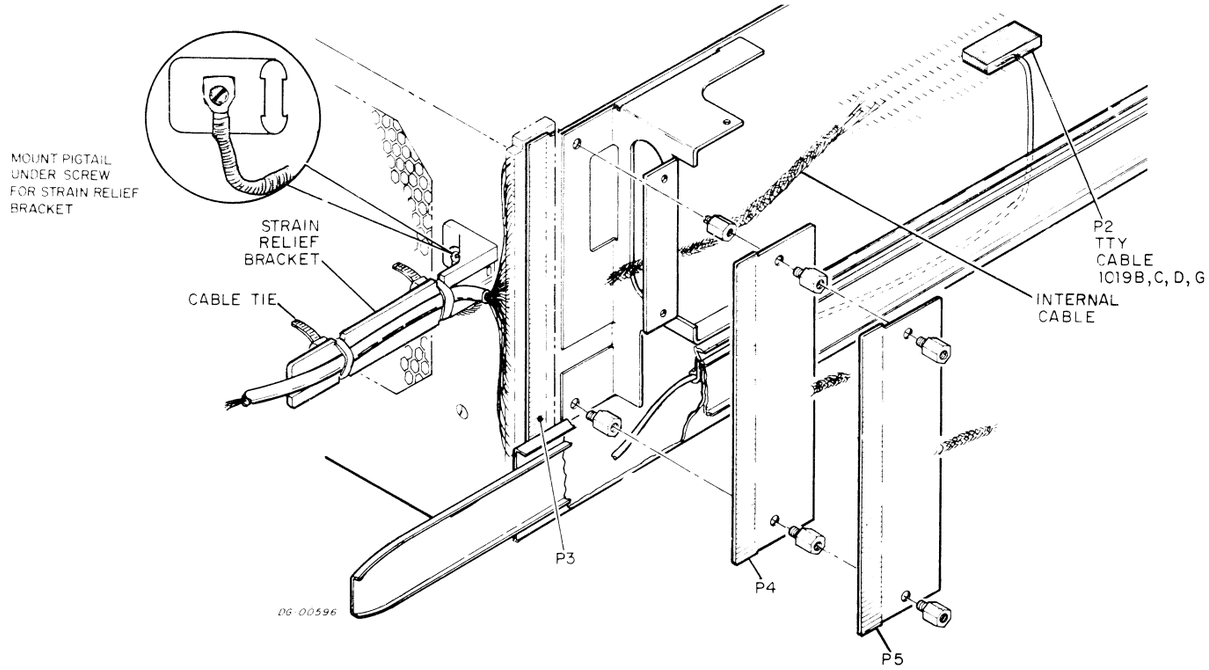
PACKING KIT

FOR PACKING PROCEDURE, SEE 010-000262/263

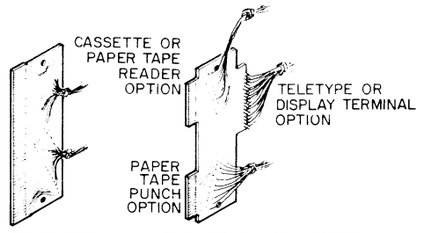
SHIPPING SPECIFICATIONS			STORAGE SPECIFICATIONS		
Temperature Range °F / °C	Relative Humidity (Non-condensing)	Maximum Altitude	Temperature Range °F / °C	Relative Humidity (Non-condensing)	Maximum Period
-40 to +160 / -40 to +71	0% to 80%	50,000 ft 15,200 m	-40 to +160 / -40 to +71	0% to 80%	90 days

DG-03224

INTERNAL / EXTERNAL CABLING

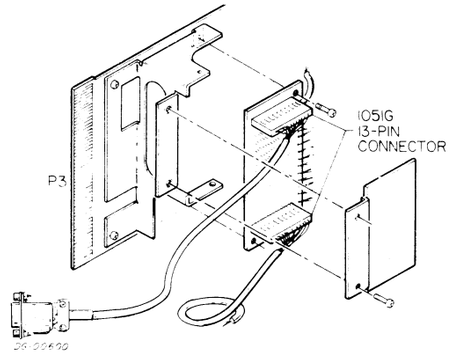


BACKPANEL CONNECTOR

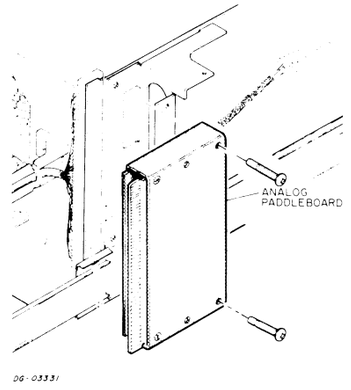


P3 PIN CONNECTOR	BACK PANEL PIN	SIGNAL NAME
1 THRU 50		GND
A		GND
B	A3	PWR ON (+5V)
C	A38	MSKO
D	A40	INTA
E	A42	DATIB
F	A44	DATIA
H	A46	DS3
J	A48	DATOC
K	A50	CLR
L	A52	STRT
M	A54	DATIC
N	A56	DATOB
P	A58	DATOA
R	A60	DCHA
S	A62	DS4
T	A64	DS5
U	A66	DS2
V	A68	DS1
W	A70	IORST
X	A72	DS0
Y	A74	IO PLS
Z	A80	SELD
a	A82	SELB
b	B-10 A83	DCHP OUT
c	B-10 A85	INTP OUT
d	B17	DCHM0
e	B21	DCHM1
f	B29	INTR
g	B33	DCH0
h	B35	DCH1
j	B37	DCH2
k	B39	OVFLO
l	B41	PQENB
m	B53	DATA7
n	B54	DATA14
p	B57	DATA5
r	B58	DATA11
s	B59	DATA12
t	B60	DATA2
u	B61	DATA4
v	B62	DATA0
w	B63	DATA9
x	B64	DATA13
y	B65	DATA1
AA	B66	DATA15
AB	B73	DATA3
AC	B75	DATA10
AD	B82	DATA2
AE	B95	DATA6
AF		GND

4083 OPTION CONNECTOR

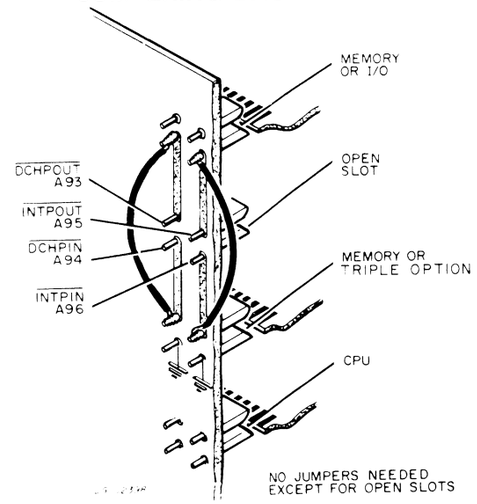


ANALOG PADDLEBOARD

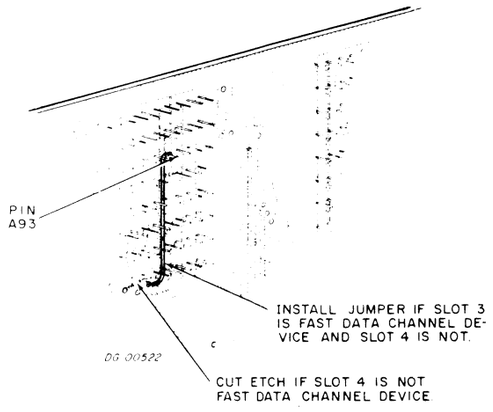


TAILORING

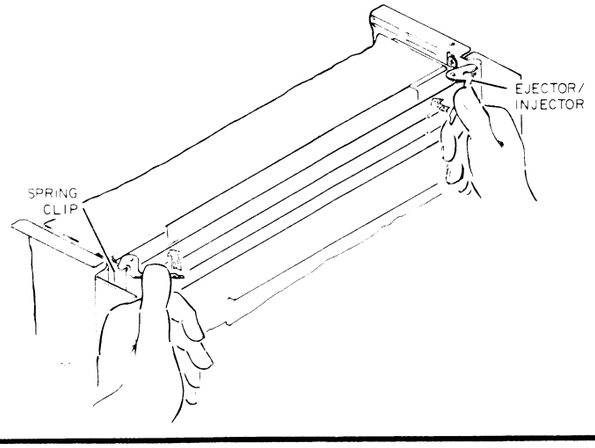
JUMPERING BACKPANEL



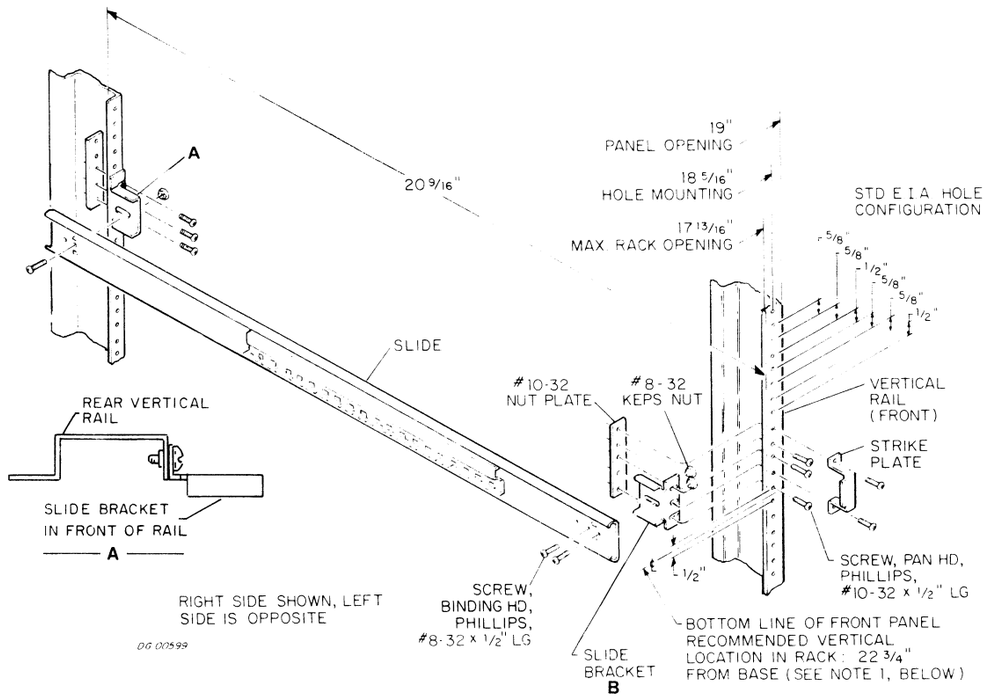
JUMPERING FOR FAST CHANNEL MODIFICATION

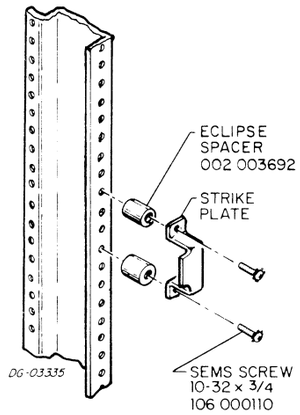


INSERTING PC BOARD

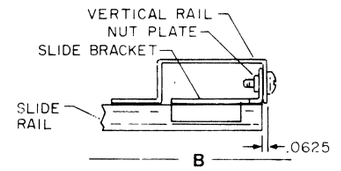


SLIDE RAILS





RIGHT SIDE SHOWN, LEFT SIDE OPPOSITE.
HARDWARE IDENTICAL TO NOVA EXCEPT AS SHOWN ABOVE.

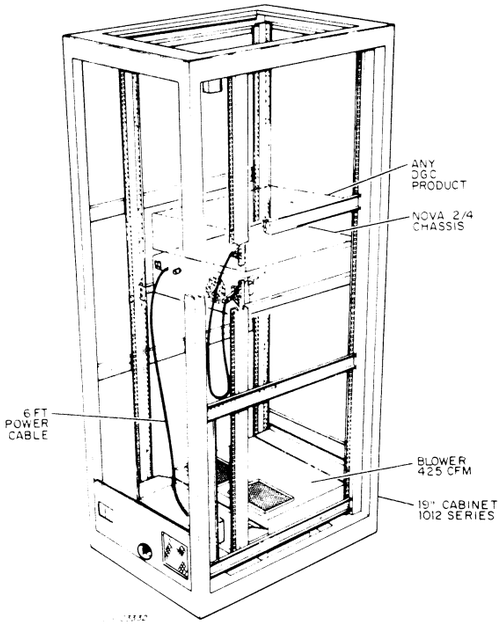


RACK MOUNTING PROCEDURE

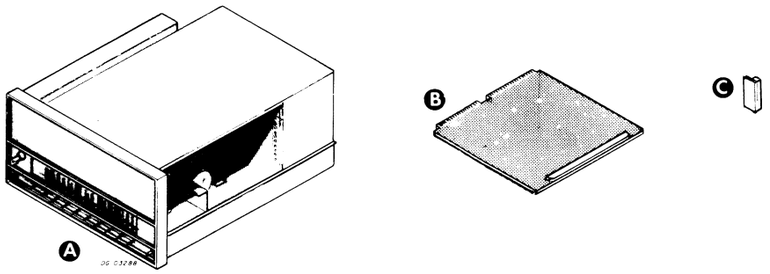
1. MEASURE AND MARK 22 3/4 INCHES (TYPICAL) UP FROM THE BASE. INSTALL SLIDE ASSEMBLIES AND STRIKE PLATES AS SHOWN.
2. GUIDE RAILS ON BOTH SIDES OF THE CHASSIS INTO THE SLIDES AND PUSH THE NOVA 2/4 ALL THE WAY INTO THE CABINET.
3. ENGAGE THE STRIKE PLATES WITH THE QUARTER-TURN FASTENERS ON THE FRONT PANEL TO LOCK THE NOVA 2/4 IN PLACE.
4. FROM REAR ACCESS, CABLE AS REQUIRED, MAKING SURE TO LEAVE SUFFICIENT SLACK TO ALLOW THE CHASSIS TO BE PULLED FORWARD WITHOUT STRAINING THE CABLES.

LATCH RELEASE

CABINET MOUNTING



INSTALLATION SPECIFICATIONS



MAJOR COMPONENT

Item	Component	Mounting Location	Notes
A	NOVA 2/10	CABINET	
B	CPU BOARD	CHASSIS	

DG-02672

TERMINATOR

Item	Terminator	Location	Notes
C	DGC TERMINATOR	LAST DEVICE OF I/O	

Data Channel Speeds Available: Standard ☑ High Speed ☑

Slot	Allowed (Slot Chart)	Assigned	+5V Current Draw
0	I/O		
9	I/O *		
8	I/O		
7	I/O		
6	MEMORY OR I/O		
5	MEMORY OR I/O		
4	MEMORY OR I/O		
3	MEMORY OR I/O **		
2	MEMORY OR MULT/DIV		
1	CPU		

Total +5V Current draw _____

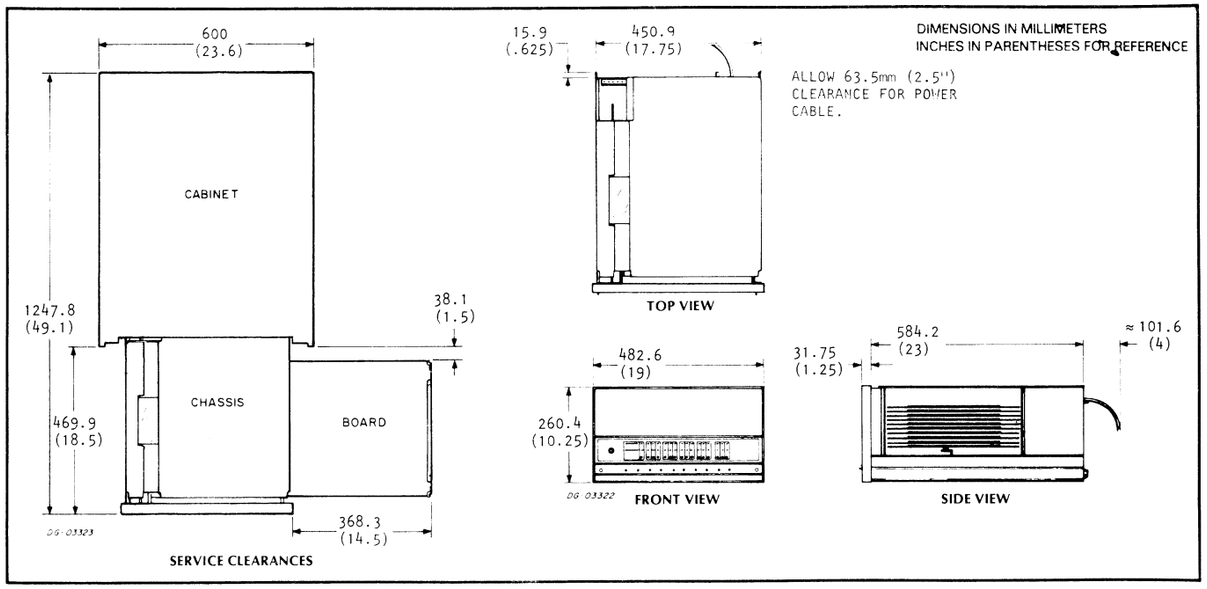
Max +5V Current Available ☐

+5V Current Surplus _____

5

LOT 9 IS CONNECTED BY WAY OF ETCH TO CONNECTOR P4 AND S NORMALLY LEFT OPEN FOR CUSTOMER EXPANSION.

IF TTY, PTR OR PTP OPTIONS ARE ORDERED, THEY MUST BE CONFIGURED IN SLOT 3.



DIMENSIONS:	Width	Depth	Height
Millimeters	482.6	584.2	260.35
Inches	19.00	23.00	10.25

WEIGHT:	Empty
kilograms	52
Pounds	115

HEAT OUTPUT:		
	725	2472.25
	Watts	BTU/hr

OPERATING ENVIRONMENT:		
Temperature (max)	54.4°C	130°F
Relative Humidity	20-90%	

PREFERRED LOCATION: Areas 11-16

CPU DESIGNATOR

Designator Number: 060
Designator Range: 05-12

POWER REQUIREMENTS:			
(Domestic)			
Voltage	92-138		
Hz	60 + 1		
Max Amp per Phase	5		
(Export)			
Voltage	92-138	184-276	184-276
Hz	50 ± 1	50 ± 1	60 ± 1
Max Amp per Phase	6.1	6.1	3

CABLES:			
Primary Power			Mating
	Length	Conn	Conn
Domestic 60Hz	1.8m(6')	5-15P	5-15R
Export 50Hz	1.8m(6')		

WARNING

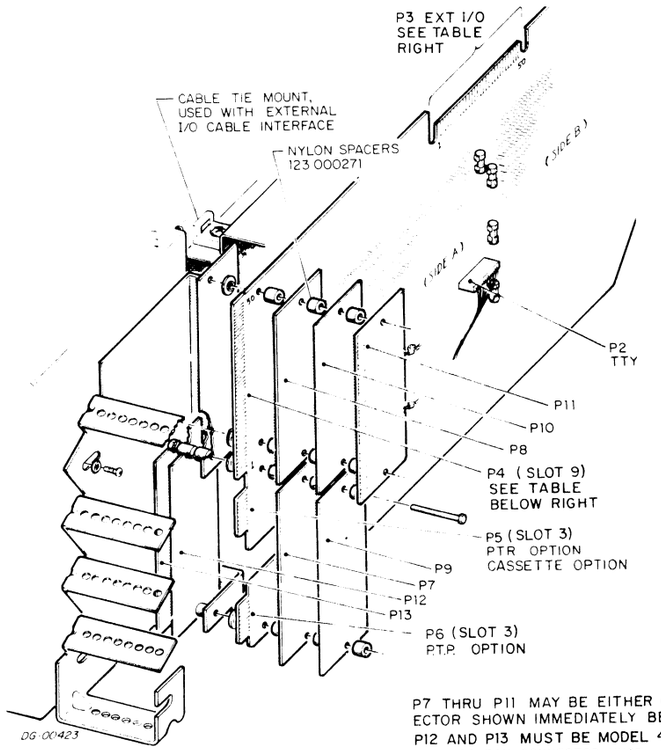
THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY ENERGY AND IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTION MANUAL, MAY CAUSE INTERFERENCE TO RADIO COMMUNICATIONS. AS TEMPORARILY PERMITTED BY REGULATION IT HAS NOT BEEN TESTED FOR COMPLIANCE WITH THE LIMITS FOR CLASS A COMPUTING DEVICES PURSUANT TO SUBPART J OF PART 15 OF FCC RULES, WHICH ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST SUCH INTERFERENCE. OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA IS LIKELY TO CAUSE INTERFERENCE IN WHICH CASE THE USER AT HIS OWN EXPENSE WILL BE REQUIRED TO TAKE WHATEVER MEASURES MAY BE REQUIRED TO CORRECT THE INTERFERENCE.

SHIPPING

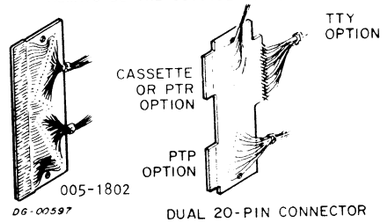
**FOR PACKING PROCEDURE,
SEE 010-000262/263**

INTERNAL CABLING

BACKPANEL CONNECTORS



P7 THRU P11 MAY BE EITHER CONNECTOR SHOWN IMMEDIATELY BELOW.
P12 AND P13 MUST BE MODEL 4192.
DUAL 20-PIN CONNECTOR MUST ALWAYS BE THE OUTSIDE CONNECTOR.



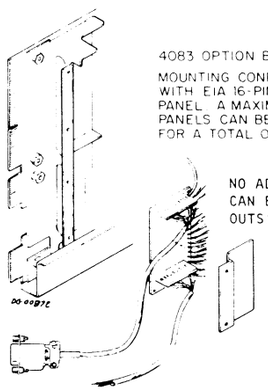
DUAL 20-PIN CONNECTOR

NOTE:
EARLIER MACHINES MAY HAVE SLIGHTLY DIFFERENT PADDLEBOARDS.

P3 PIN CONNECTOR	BACK PANEL PIN	SIGNAL NAME
1 THRU 50		GND
A		GND
B	A3	PWR ON + 5V
C	A38	MSKO
D	A40	INTA
E	A42	DATIB
F	A44	DATIA
H	A46	DS3
J	A48	DATOC
K	A50	CLR
L	A52	STRT
M	A54	DATIC
N	A56	DATOB
P	A58	DATOA
R	A60	DCHA
S	A62	DS4
T	A64	DS5
U	A66	DS2
V	A68	DS1
W	A70	IORST
X	A72	DS0
Y	A74	IO PLS
Z	A80	SELD
a	A82	SELB
b	3-10 A93	DCHP OUT
c	3-10 A95	INTP OUT
d	B17	DCHM0
e	B21	DCHM1
f	B29	INTR
h	B33	DCHO
j	B35	DCHR
k	B37	DCHI
l	B39	OVFLO
m	B41	RQENB
n	B55	DATA7
p	B56	DATA14
r	B57	DATA5
s	B58	DATA11
t	B59	DATA12
u	B60	DATA8
v	B61	DATA4
w	B62	DATA0
x	B63	DATA9
y	B64	DATA13
z	B65	DATA1
AA	B66	DATA15
AB	B73	DATA3
AC	B75	DATA10
AD	B82	DATA2
AE	B95	DATA6
AF		GND

P4 NUMBER SIDE	LETTER SIDE A THRU AF GND	BACK PANEL SLOT-SIDE-PIN No.
1		GND
2		9 A 92
3		9 A 91
4		9 A 78
5		9 A 77
6		9 A 76
7		9 A 75
8		9 A 73
9		9 A 71
10		9 A 69
11		9 A 67
12		9 A 65
13		9 A 63
14		9 A 61
15		9 A 59
16		9 A 57
17		9 A 47
18		9 A 49
19		9 A 79
20		9 A 81
21		9 A 84
22		9 A 83
23		9 A 86
24		9 A 85
25		9 A 88
26		9 A 87
27		9 A 89
28		9 A 90
29		9 B 6
30		9 B 11
31		9 B 13
32		9 B 15
33		9 B 19
34		9 B 23
35		9 B 25
36		9 B 27
37		9 B 31
38		9 B 34
39		9 B 36
40		9 B 38
41		9 B 40
42		9 B 48
43		9 B 49
44		9 B 51
45		9 B 52
46		9 B 53
47		9 B 54
48		9 B 67
49		9 B 69
50		RESERVED

4083 OPTION

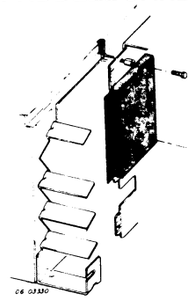


4083 OPTION BRACKET

MOUNTING CONFIGURATION WITH EIA 16-PIN JUNCTION PANEL. A MAXIMUM OF TWO PANELS CAN BE MOUNTED FOR A TOTAL OF 32 LINES

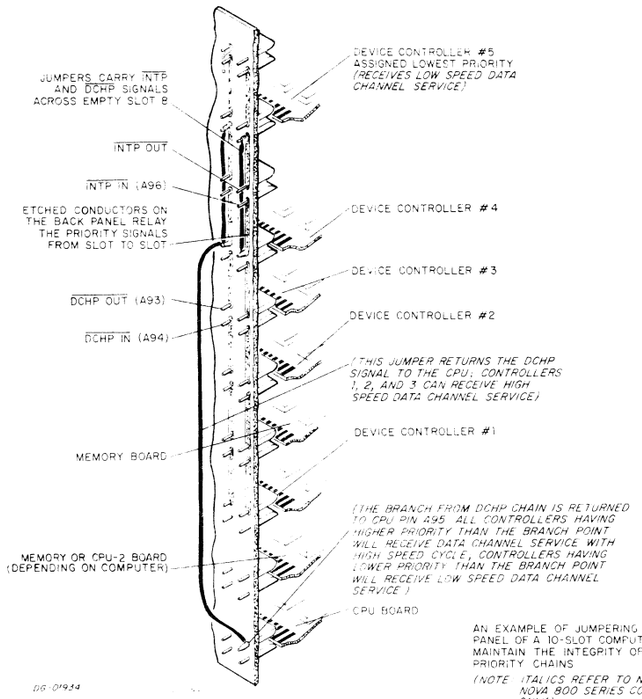
NO ADDITIONAL CONNECTORS CAN BE MOUNTED ON THE OUTSIDE OF THE 4083.

ANALOG PADDLEBOARD



TAILORING

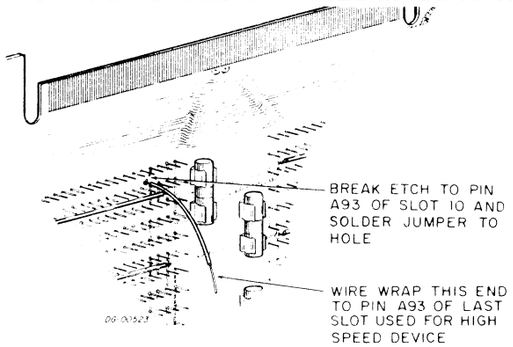
JUMPERING BACKPANEL



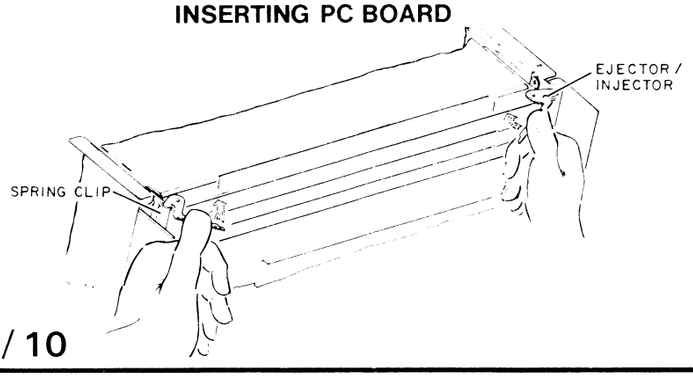
AN EXAMPLE OF JUMPERING THE BACK PANEL OF A 10-SLOT COMPUTER TO MAINTAIN THE INTEGRITY OF THE PRIORITY CHAINS

(NOTE: ITALICS REFER TO NOVA 2 AND NOVA 800 SERIES COMPUTERS ONLY)

JUMPERING FOR HIGH SPEED CHANNEL MODIFICATION

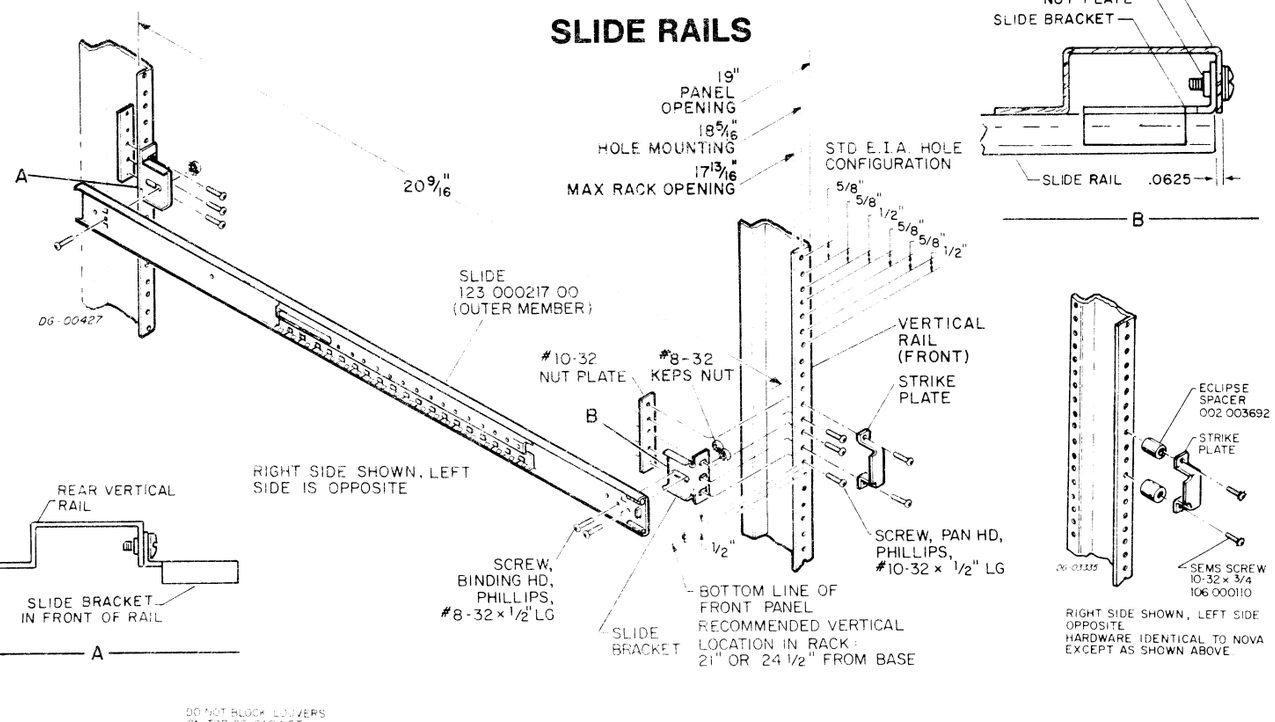


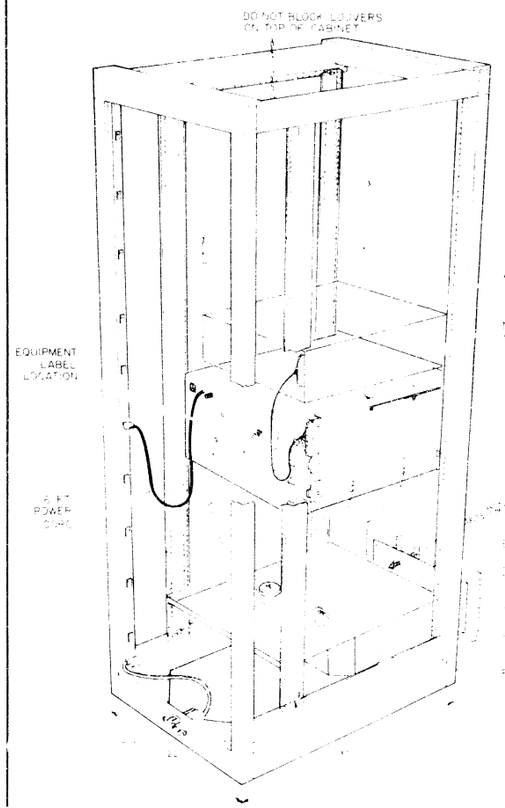
INSERTING PC BOARD

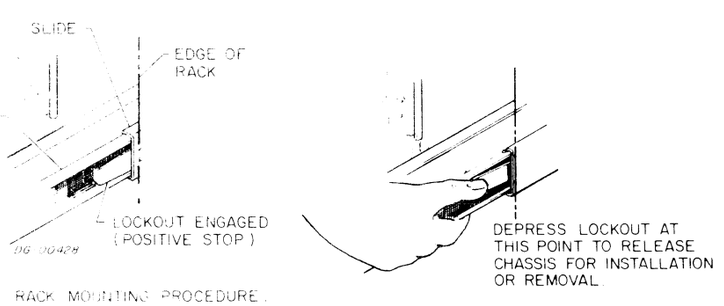


CABINET MOUNTING

SLIDE RAILS



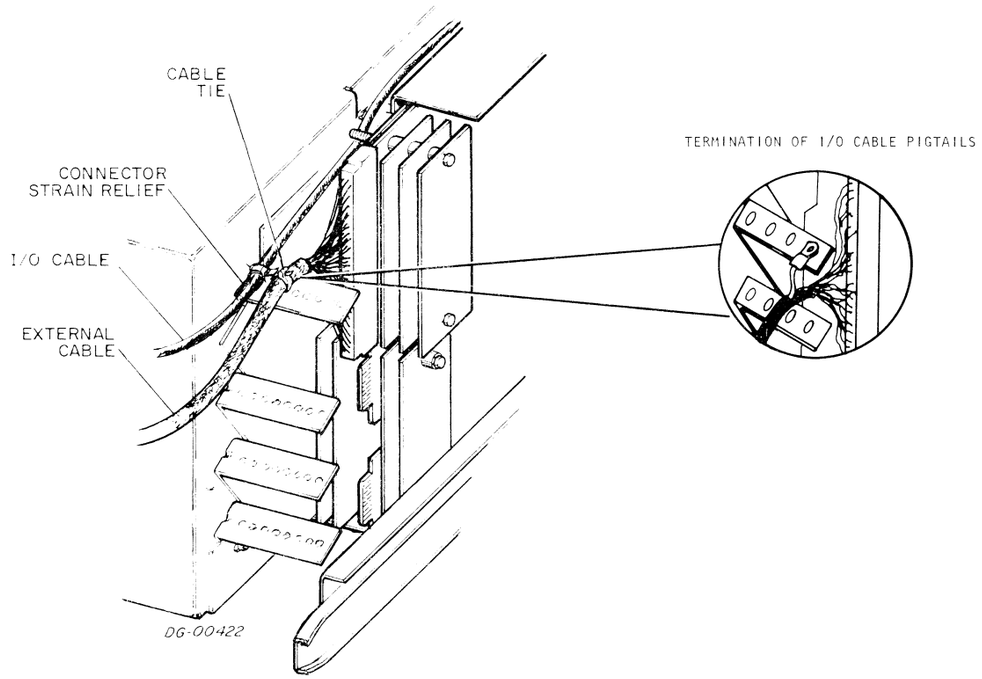




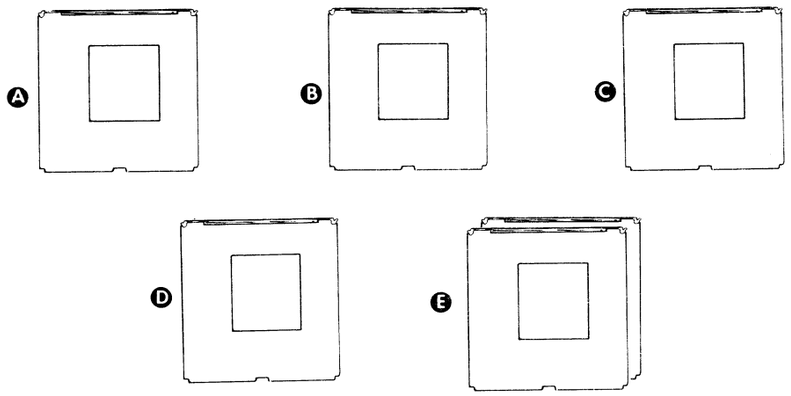
RACK MOUNTING PROCEDURE:

1. INSTALL SLIDE ASSEMBLY AS SHOWN.
2. GUIDE THE RAILS (INNER SLIDE MEMBERS) ON BOTH SIDES OF THE CHASSIS INTO THE SLIDES UNTIL THE LOCKOUTS ENGAGE. DEPRESS THE LOCKOUTS TO RELEASE, AND PUSH THE NOVA 2 INTO THE CABINET.
3. ENGAGE THE STRIKE PLATES WITH THE QUARTER-TURN FASTENERS ON THE FRONT PANEL TO LOCK THE NOVA 2 IN PLACE.
4. FROM THE REAR ACCESS, CABLE AS REQUIRED, MAKING SURE TO LEAVE SUFFICIENT SLACK TO ALLOW THE CHASSIS TO BE PULLED FORWARD WITHOUT STRAIN ON THE CABLES.

EXTERNAL CABLING



SUBSYSTEM COMPONENTS BREAKDOWN



MAJOR COMPONENT

Item	Component	Mounting Location	Notes	Model
A	4K CORE MEMORY	NOVA 2/4, 2/10 CHASSIS	1 4K BOARD	8300
B	8K CORE MEMORY	NOVA 2/4, 2/10 CHASSIS	1 8K BOARD	8301
C	16K CORE MEMORY	NOVA 2/4, 2/10 CHASSIS	1 16K BOARD	8302
D	MULTIPLY/DIVIDE OPTION	NOVA 2/4, 2/10 CHASSIS		8307
E	FLOATING POINT OPTION	NOVA 2/10 ONLY		8020

DG-02672

SPECIFICATIONS OF THE CHASSIS-MOUNTED COMPONENTS

Item	Component	No. of Slots Required	Total +5V Current Draw (Amps)	Remarks
A	4K MEMORY	1	1.5	
B	8K MEMORY	1	1.5	
C	16K MEMORY	1	1.5	
D	MULT/DIV	1	2.0	
E	FPU	2	6.6	NOVA 2/10 ONLY

DG-01913

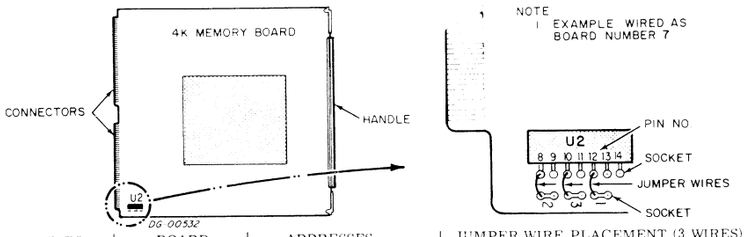
TAILORING

Memory Board Selection

The Data General NOVA 2 computer can address any one of 32K memory locations (words). Memory boards, however, are available covering 4K, 8K, or 16K segments. In order to configure a number of boards to cover a larger segment of memory, without overlapping, it is necessary to be able to assign each board to a unique segment of memory. This is accomplished through the memory select logic on each board. Every memory address consists of fifteen bits. The high-order bits are used to select a particular memory board (i.e., a segment of memory), while the remaining lower order bits select an address within that segment, or on that board. A 16K board uses the highest order bit for board selection; an 8K uses the two highest and a 4K the three highest order bits for board selection. (Note that the highest order bit of a memory address is equivalent to bit 1 of a word in storage). In order to assign a board to a particular segment of memory, the memory select logic must be wired so that the board responds only to addresses within the assigned memory segment; that is, only to addresses which have the proper highest order bits set. The memory select logic accomplishes this by ANDing the proper high-order bits in either their normal state (as sent by the processor) or after inverting them. A board is assigned to a particular segment of memory by wiring it so that the proper bits are inverted. The output from the AND gate then, will be true only for an address that has the proper high-order bits set.

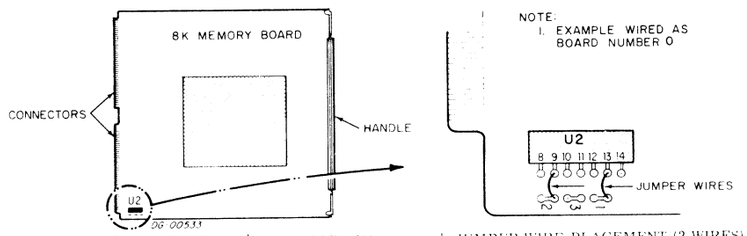
Jumpers are used to connect either the normal or the inverted side of the proper high-order bits of the memory address bus to the "and" gate. The jumpers are forced into points on the board located on the logic side of the board along the contact edge.

Each such selection must be unique to a particular memory board. If there is a mixture of boards of different capacities (i.e., 4K, 8K, 16K) it is best to assign the largest boards to lowest core, and use smaller boards for higher memory segments. In this way, there will not be any gaps in the system's core map. Figures A, B, and C show how the memory segment is selected on the various boards.



MA BITS JUMPERED 1	2	3	BOARD NUMBER	ADDRESSES ENABLED (OCTAL)	JUMPER WIRE PLACEMENT (3 WIRES) CONNECT SOCKET OF U2 TO SOCKET DIRECTLY OPPOSITE		
0	0	0	0	00000-07777	13-1,	9-2,	11-3
0	0	1	1	10000-17777	13-1,	9-2,	10-3
0	1	0	2	20000-27777	13-1,	8-2,	11-3
0	1	1	3	30000-37777	13-1,	8-2,	10-3
1	0	0	4	40000-47777	12-1,	9-2,	11-3
1	0	1	5	50000-57777	12-1,	9-2,	10-3
1	1	0	6	60000-67777	12-1,	8-2,	11-3
1	1	1	7	70000-77777	12-1,	8-2,	10-3

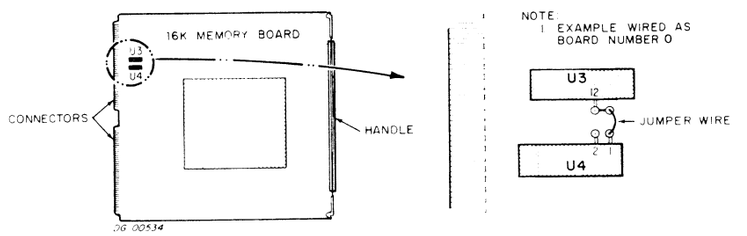
FIGURE A Wiring the Select Logic of NOVA 2 4K Memory Boards



MA BITS JUMPERED 1	2	BOARD NUMBER	ADDRESSES ENABLED (OCTAL)	JUMPER WIRE PLACEMENT (2 WIRES) CONNECT JUMPER FROM SOCKET OF U2 TO SOCKET DIRECTLY OPPOSITE	
0	0	0	00000-17777	13-1,	9-2
0	1	1	20000-37777	13-1,	8-2
1	0	2	40000-57777	12-1,	9-2
1	1	3	60000-77777	12-1,	8-2

(NOTE: Position 3, i.e., U2 pins 10 and 11, should not be jumpered).

FIGURE B Wiring the Select Logic of NOVA 2 8K Memory Boards



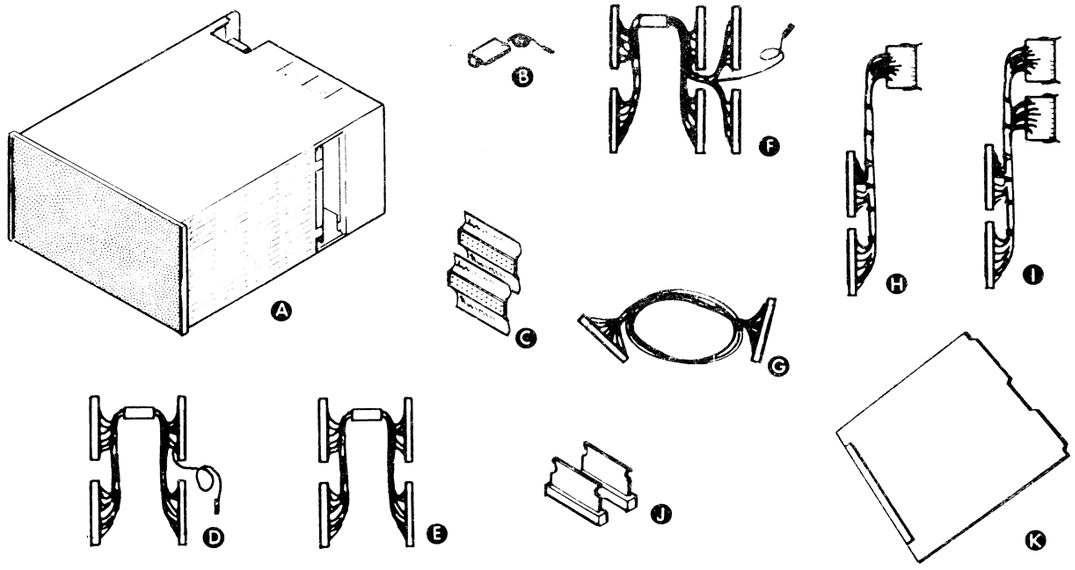
MA BITS JUMPERED 1	BOARD NUMBER	ADDRESSES ENABLED (OCTAL)	JUMPER WIRE PLACEMENT (1 WIRE)
0	0	00000-37777	12-1
1	1	40000-77777	12-2

FIGURE C Wiring the Select Logic of NOVA 2 16K Memory Boards

NOVA 2 External Memory Signals

$\overline{\text{MAB 1-15}}$	Memory Address bus--communicates from the CPU to the memory the address of the next word to be referenced.
$\overline{\text{DATA 0,15}}$	Bidirectional bus which transfers data between the CPU and the memory.
$\overline{\text{INH SELECT}}$	Inhibits selection of the memory module.
$\overline{\text{B MEMEN}}$	Issued by the CPU to start a memory cycle.
$\overline{\text{WRITE}}$	Causes the memory to write data into core.
$\overline{\text{BRMW}}$	Issued by the CPU--causes the memory to pause between the read and write halves of its cycle.
$\overline{\text{WE}}$	Issued by the CPU--allows a memory to complete its cycle after a read-modify-write (BRMW).
$\overline{\text{SYNC ENABLE}}$	When low, allows the memory to halt the processor until the read cycle is complete.
$\overline{\text{RELOAD DISABLE}}$	Inhibits loading of the memory buffer.
$\overline{\text{WAIT}}$	Issued by a memory to prevent operation of any other memory boards until it has completed its write cycle.
MEM CLK	Basic timing information supplied to the memories by the CPU.
$\overline{\text{EXTERNAL SELECT}}$	Allows a particular board to be selected regardless of what high-order bits are set in the memory address.
EXT MBLD	Allows data to be stored in the memory buffer without actually causing a memory cycle.

INSTALLATION SPECIFICATIONS



MAIN COMPONENT

ITEM	COMPONENT	MOUNTING LOCATION	NOTES
A	EXPANSION CHASSIS	CABINET	MOUNT DIRECTLY ABOVE MAIN CHASSIS IF POSSIBLE
B	MEM OK MODULE	B/P MAIN CHASSIS	

CABLE (DIRECT CONNECTION. SEE PAGE 2)

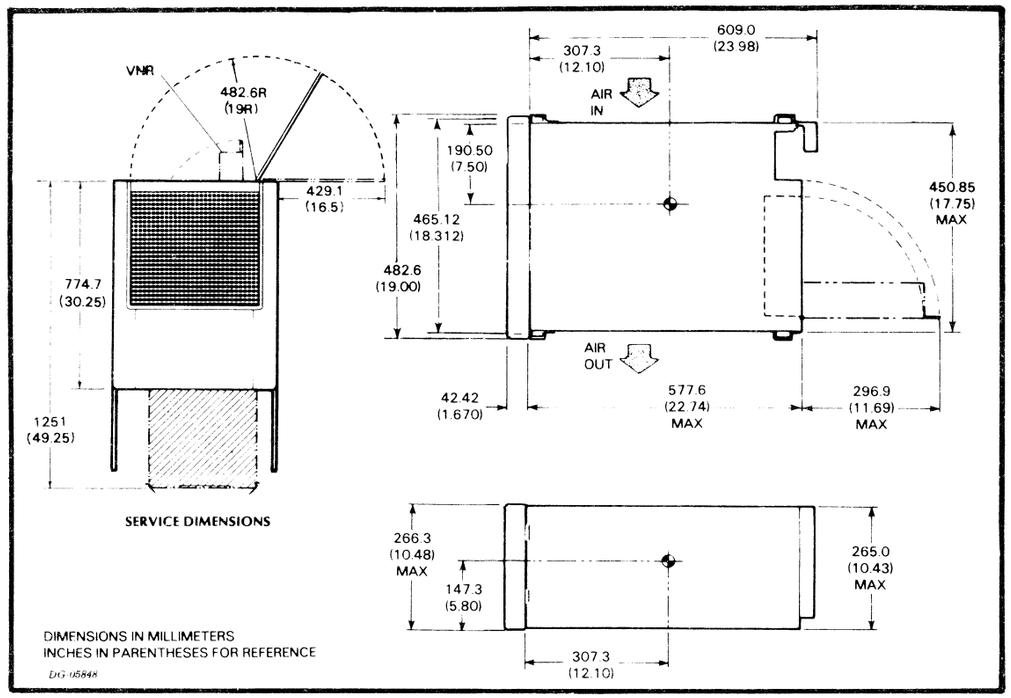
ITEM	CABLE	CONNECTING			MAX LG FT / M	NOTES
C	B/P INTERCONNECT ASSY	EXP CHASSIS SLOT 8	AND	EXP CHASSIS SLOT 9		SINGLE BUS CONFIGS
D	DCU CABLE	MAIN CHASSIS	,,	EXP CHASSIS		SINGLE DCU I/O BUS CONFIG
E	REPEATER CABLE	MAIN CHASSIS	,,	EXP CHASSIS		SINGLE REPEATED I/O BUS CONFIG
F	DCU-REPEATER CABLE	MAIN CHASSIS	,,	EXP CHASSIS		DUAL BUS (DCU-REPEATER) CONFIG
	DUAL DCU CABLE	MAIN CHASSIS	,,	EXP CHASSIS		DUAL BUS (DCU-DCU) CONFIG

CABLE (REMOTE CONNECTION. SEE PAGE 2)

ITEM	CABLE	CONNECTING			MAX LG FT / M	NOTES
C	B/P INTERCONNECT ASSY	EXP CHASSIS SLOT 8	AND	EXP CHASSIS SLOT 9		SINGLE BUS CONFIG
G	DAISY CHAIN CABLE	MAIN CHASSIS	,,	EXP CHASSIS	5 / 1.52	ALL CONFIGS
H	BUS REPEATER PADDLEBOARD	MAIN CHASSIS	,,	EXP CHASSIS		CONFIGS USING BUS REPEATER
	EXTERNAL I/O BUS PADDLEBOARD	MAIN CHASSIS	,,	EXP CHASSIS		CONFIGS USING BUS REPEATER
	DCU PADDLEBOARD	MAIN CHASSIS	,,	EXP CHASSIS		CONFIGS USING DCU. TWO REQUIRED FOR DUAL BUS CONFIGS
I	DUAL PADDLEBOARD	MAIN CHASSIS	,,	EXP CHASSIS		DUAL BUS CONFIGS

TERMINATOR

ITEM	TERMINATOR	LOCATION	NOTES
J	I/O BUS TERMINATORS	B P EXP CHASSIS	DUAL CONFIGS. ONE TERMINATOR FOR A-SIDE, ONE TERMINATOR FOR B-SIDE
K	LOAD BOARD	EXP CHASSIS SLOT 1	REQUIRED FOR ALL CONFIGS.



SPECIFICATIONS — **NOVA/ECLIPSE EXPANSION CHASSIS I**

DIMENSIONS:

	Width	Depth	Height
Millimeters	483.1	663.9	266.3
Inches	19.02	26.14	10.48

SERVICE CLEARANCES:

	Front	Rear
Millimeters	508.0	269.9
Inches	20.0	11.69

WEIGHT:

	Empty	Fully Loaded
Kilograms	35.38	49.9
Pounds	78.0	110.0

OPERATING ENVIRONMENT:

Temperature (max)	55°C(131°F) 60Hz, 45°C(113°F) 50Hz
Relative Humidity (max)	90%
Altitude (max)	3084m(10,000')

CABLES:

	Length	Conn	Mating Conn
Primary Power			
Domestic	1.8m(6')	5-15P	5-15R
Export	1.8m(6')	6-15P	6-15R

SEE TABLES TO THE LEFT FOR ADDITIONAL CABLE INFORMATION

CPU DESIGNATOR:
Designator Range: 22-22

FOR PACKING PROCEDURE, SEE 010-000262/263

HEAT OUTPUT: 1100 watts (3750 BTU/hr) max

POWER REQUIREMENTS:

(Domestic)

Voltage	102-132
Hz	47-63
Max Amp per Phase	12.0
Phase	1
Startup Surge per Phase	20A (max) for 0.25 seconds

(Export)

		(JAPAN)
Voltage	187-264	90-110
Hz	47-63	47-63
Max Amp per Phase	7.0	12.0
Phase	1	1
Startup Surge per Phase	40A (max) for 0.12 seconds	20A for 0.25 seconds

LINE CORDS:

Supply	Part No.
100/120V	109 000455
220/240	109 000456

Warning: This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instruction manual, may cause interference to radio communications. As temporarily permitted by regulation it has not been tested for compliance with the limits for Class A computing devices pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference. Operation of this equipment in a residential area is likely to cause interference, in which case the user, at his own expense, will be required to take whatever measures may be required to correct the interference.

NOVA/ECLIPSE EXPANSION CHASSIS I

CONFIGURATIONS

THE CONFIGURATION OF A MODEL 8684-XY EXPANSION CHASSIS IS DEFINED BY THE XY SPECIFIERS IN THE MODEL NUMBER. X SPECIFIES THE CONNECTION BETWEEN THE EXPANSION CHASSIS AND THE MAIN CHASSIS (THE EXTERNAL CONNECTION); Y SPECIFIES THE FUNCTION OF THE SLOTS WITHIN THE EXPANSION CHASSIS (THE INTERNAL CONFIGURATION). FOR THE EXACT MEANING OF THESE SPECIFIERS, SEE THE TABLES BELOW AND TO THE RIGHT.

EXTERNAL CONNECTION

X SPECIFIER	CONNECTION	NOTES
A	DIRECT - THE EXPANSION CHASSIS IS MOUNTED DIRECTLY ABOVE THE MAIN CHASSIS.	RECOMMENDED CONNECTION
B	REMOTE - THE EXPANSION CHASSIS IS NOT MOUNTED DIRECTLY ABOVE THE MAIN CHASSIS. A 5 FOOT CABLE CONNECTS THE TWO CHASSIS.	USED ONLY WHEN SPACE RESTRICTIONS DO NOT PERMIT DIRECT CONNECTION

INTERNAL CONFIGURATION

Y SPECIFIER	CONFIGURATION	NOTES
B	MAIN CHASSIS: CPU — I/O BUS — BUS REPEATER — REPEATED I/O BUS → EXPANSION CHASSIS: 14 I/O SLOTS	SINGLE BUS CONFIGURATION
C	MAIN CHASSIS: CPU — I/O BUS — DCU — DCU I/O BUS → EXPANSION CHASSIS: 14 I/O SLOTS	SINGLE BUS CONFIGURATION
D	MAIN CHASSIS: CPU — I/O BUS — DCU — DCU I/O BUS → 7 DCU I/O SLOTS; BUS REPEATER — REPEATED I/O BUS → 6 I/O SLOTS	DUAL BUS CONFIGURATION
E	MAIN CHASSIS: CPU — I/O BUS — DCU#2 — DCU#2 I/O BUS → 7 DCU#2 I/O SLOTS; DCU#1 — DCU#1 I/O BUS → 6 DCU#1 I/O SLOTS	DUAL BUS CONFIGURATION

SLOT ASSIGNMENTS

SINGLE BUS CONFIGURATIONS

DATA CHANNEL SPEEDS AVAILABLE — STANDARD [X] HIGH SPEED [ ]

SLOT	ALLOWED (SLOT CHART)	ASSIGNED	+5 CURRENT DRAW
16	I/O		
15	TERMINATORS (NOTE 3)		
14	I/O		
13			
12			
11			
10			
9			
8			
7			
6			
5			
4			
3			
2	I/O		
1	LOAD BOARD		6 A
0	POWER SUPPLY		

TOTAL +5 CURRENT DRAW _____ A
MAX +5 CURRENT AVAILABLE 100 A SEE NOTE 4
+5 CURRENT SURPLUS _____ A
MINIMUM +5 CURRENT 8 A

DUAL BUS CONFIGURATIONS

DATA CHANNEL SPEEDS AVAILABLE: — STANDARD [X] HIGH SPEED [ ]

SLOT	ALLOWED (SLOT CHART)	ASSIGNED	+5 CURRENT DRAW
16	I/O (E2 BUS-NOTE 1)		
15	TERMINATORS (NOTE 3)		
14	I/O (E2 BUS-NOTE 1)		
13			
12			
11			
10			
9	I/O (E2 BUS-NOTE 1)		
8	TERMINATORS		
7	I/O (E1 BUS-NOTE 2)		
6			
5			
4			
3			
2	I/O (E1 BUS-NOTE 2)		
1	LOAD BOARD		6 A
0	POWER SUPPLY		

TOTAL +5 CURRENT DRAW _____ A
MAX +5 CURRENT AVAILABLE 100 A SEE NOTE 4
+5 CURRENT SURPLUS _____ A
MINIMUM +5 CURRENT 8 A

NOTES:

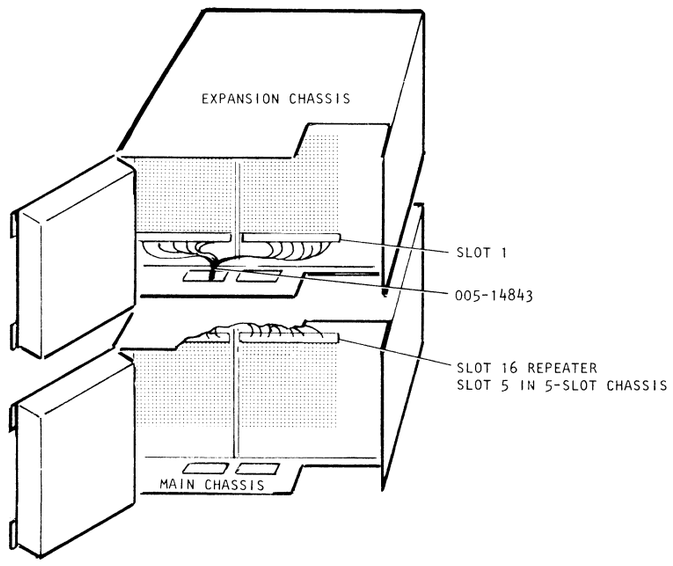
1. THE E2 BUS IS THE DCU I/O BUS. IN DCU-DCU CONFIGURATIONS, IT IS THE DCU I/O BUS CONTROLLED BY DCU #2 (THE DCU BOARD IN SLOT 15 OF THE MAIN CHASSIS).
2. IN DCU-REPEATER CONFIGURATIONS, THE E1 BUS IS THE REPEATED I/O BUS. IN DCU-DCU CONFIGURATIONS, THE E1 BUS IS THE DCU I/O BUS CONTROLLED BY DCU #1 (THE DCU BOARD IN SLOT 16 OF THE MAIN CHASSIS).
3. IF ANY BOARD IS INSTALLED IN SLOT 16 ENSURE PRIORITIES ARE PASSED AROUND SLOT 15 (TERMINATORS).
4. JAPAN MODEL (-1) LIMITED TO 90 AMPS +5V CURRENT DRAW AND 550 WATTS TOTAL POWER DRAW.

CONFIGURATION (CONT)

DIRECT CONNECTION

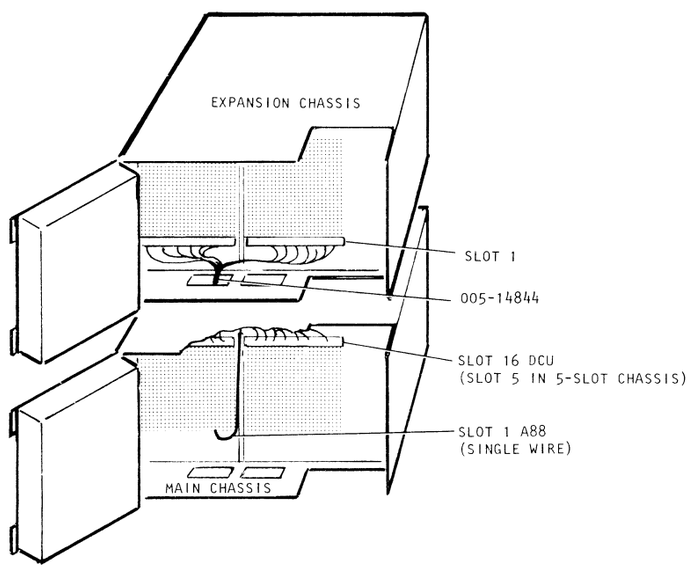
8684-AB

REPEATER I/O BUS (SINGLE BUS)



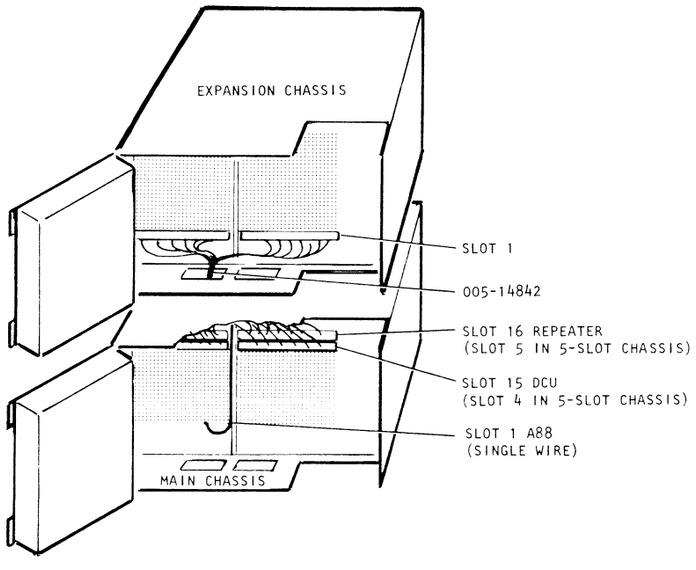
8684-AC

DCU I/O BUS (SINGLE BUS)



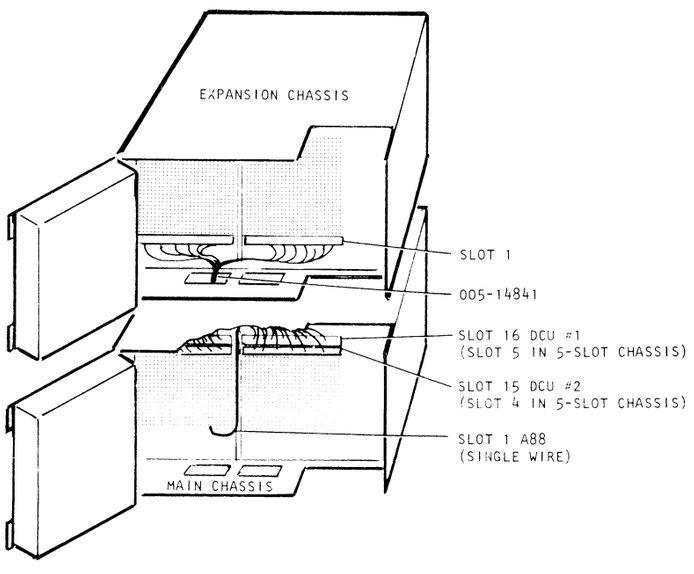
8684-AD

REPEATER -DCU I/O BUS (DUAL BUS)



8684-AE

DCU-DCU I/O BUS (DUAL BUS)

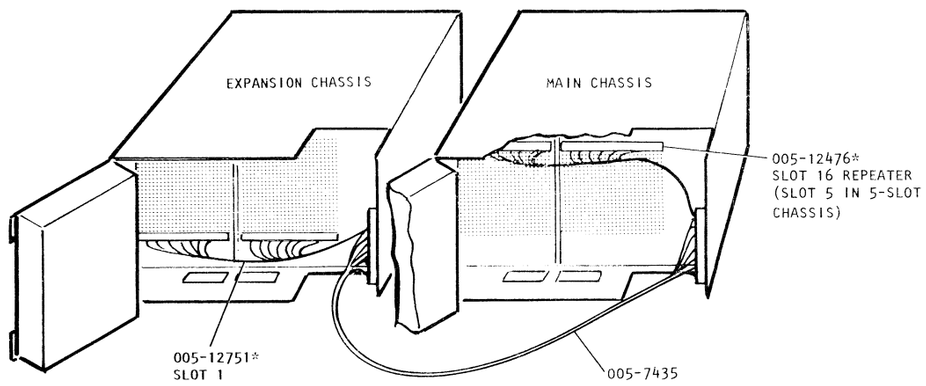


CONFIGURATION (CONT)

REMOTE CONNECTION

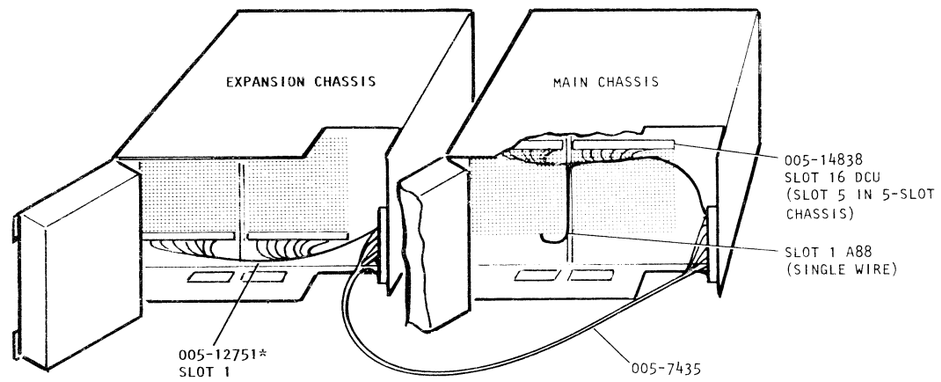
8684-BB

REPEATER I/O BUS (SINGLE BUS)



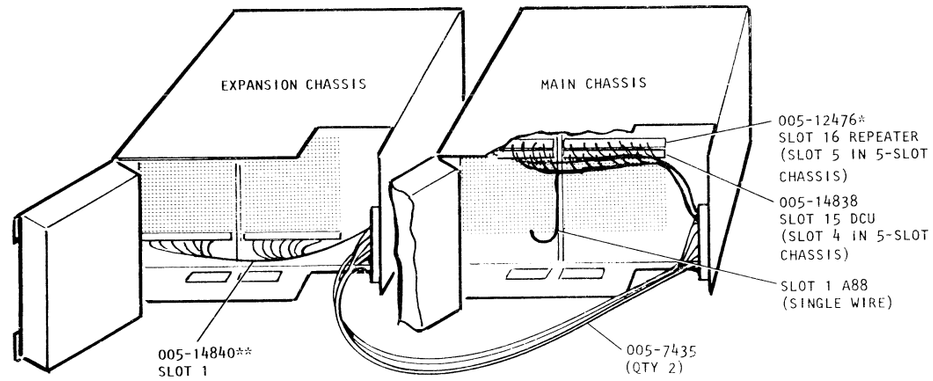
8684-BC

DCU I/O BUS (SINGLE BUS)



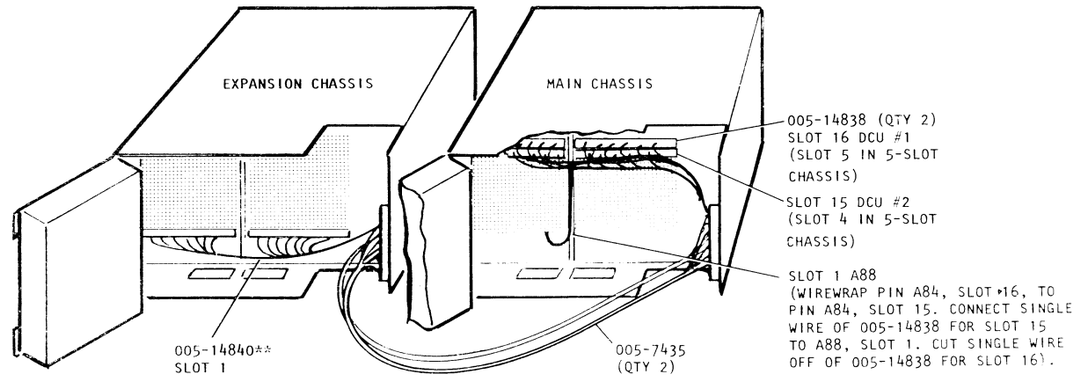
8684-BD

REPEATER—DCU I/O BUS (DUAL BUS)



8684-BE

DCU—DCU I/O BUS (DUAL BUS)



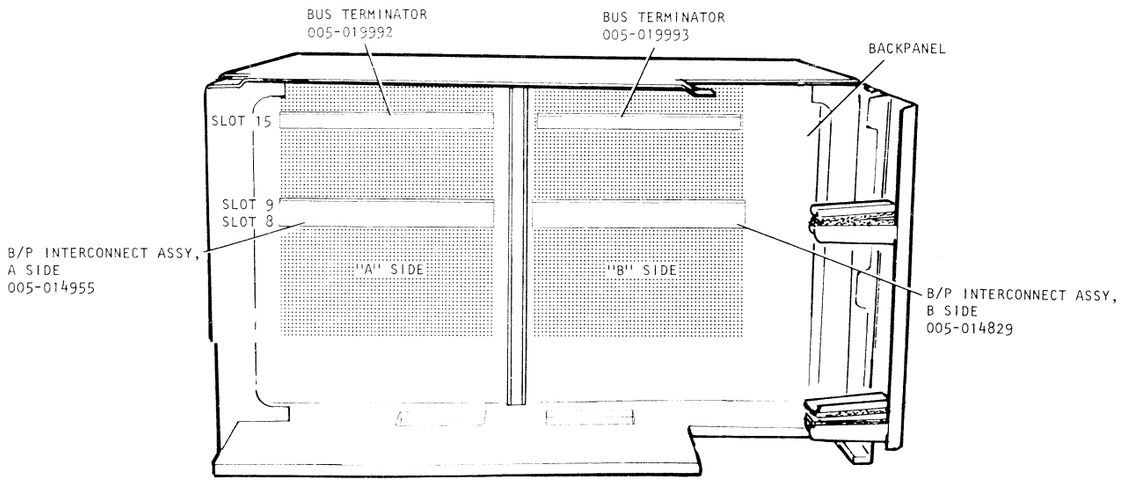
NOTES:
* PADDLEBOARDS 005-12476 AND 005-12751 MUST BE AT REV. 02 OR HIGHER.

** ON DUAL PADDLEBOARD 005-14840, THE J1 PADDLEBOARD IS FOR THE E1 BUS AND THE J2 PADDLEBOARD IS FOR THE E2 BUS.

INTERNAL CABLING

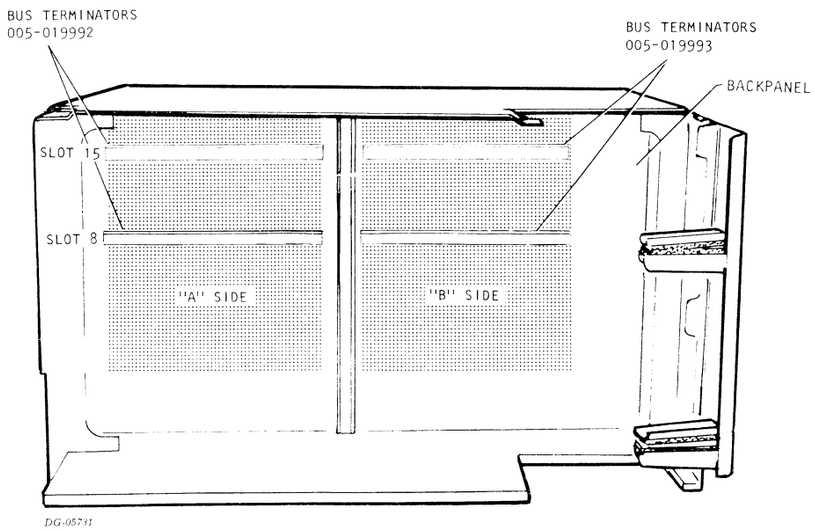
NOVA 4 AND ECLIPSE S/140 SYSTEMS

SINGLE BUS CONFIGURATION EXPANSION CHASSIS



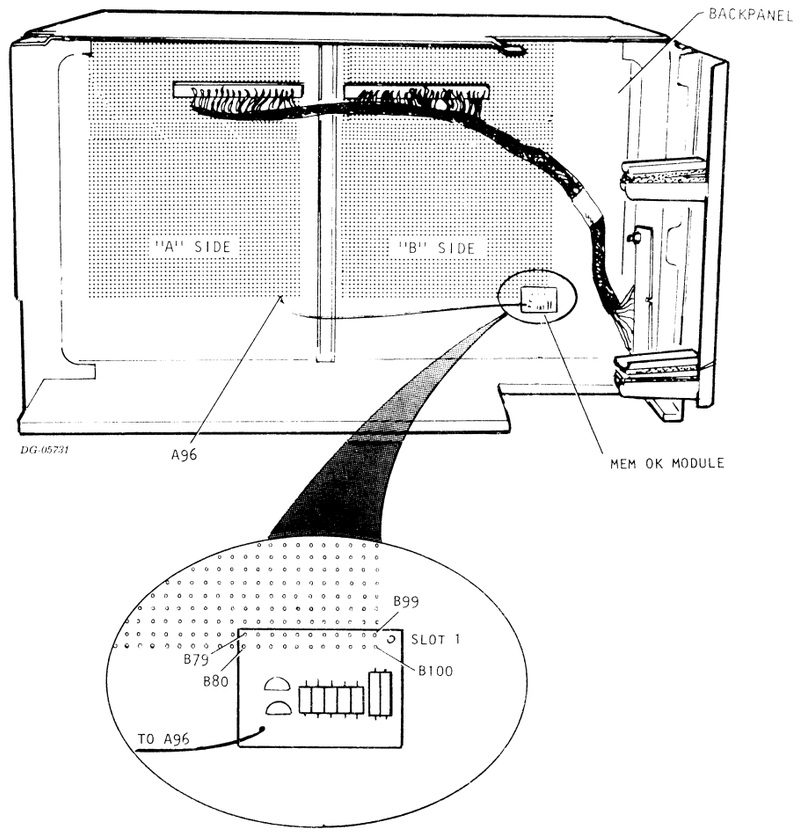
THE B/P INTERCONNECT ASSEMBLIES MOUNT OVER THE BACKPANEL PINS OF SLOTS 8 AND 9. THE A SIDE ASSEMBLY (NO. 005-14955) MOUNTS SO THAT PINS A1 AND A99 OF SLOT 9 ARE IN THE HOLES NUMBERED 1 AND 99, RESPECTIVELY; THE B SIDE ASSEMBLY (NO. 005-14829) MOUNTS SO THAT PINS B1 AND B99 OF SLOT 9 ARE IN HOLES NUMBERED 1 AND 99, RESPECTIVELY.

DUAL BUS CONFIGURATIONS EXPANSION CHASSIS



MOUNTING MEMOK MODULE

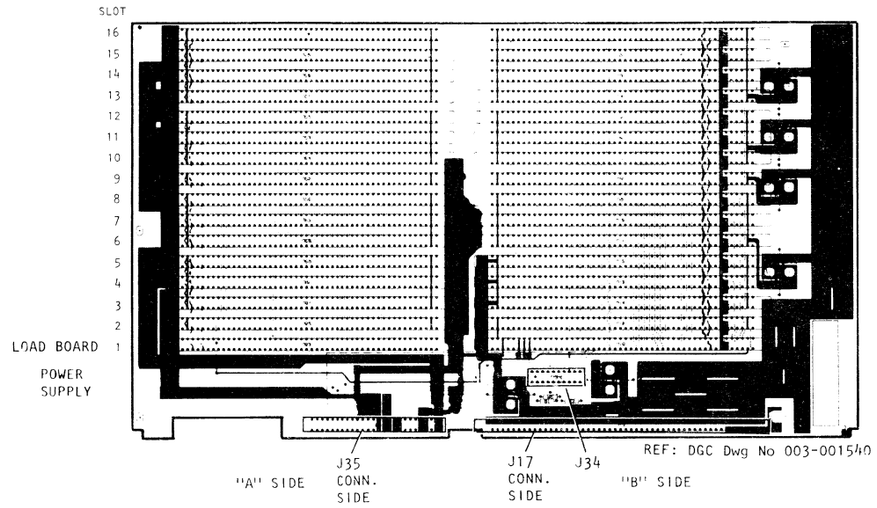
MAIN 16-SLOT CHASSIS



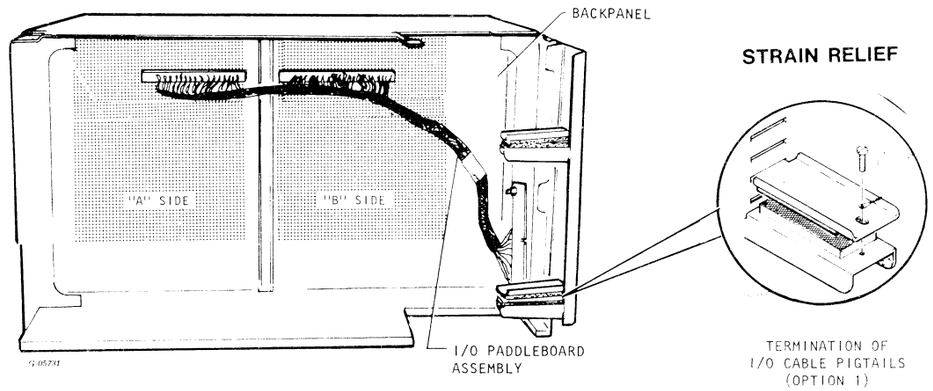
INTERNAL CABLING (CONT)

NOVA 4 AND S/140 SYSTEMS

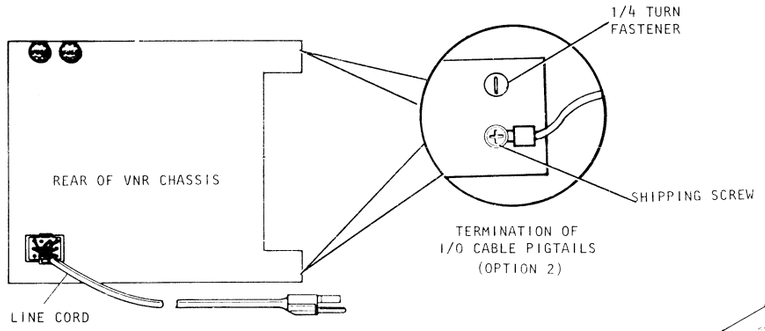
BACKPANEL CONNECTORS

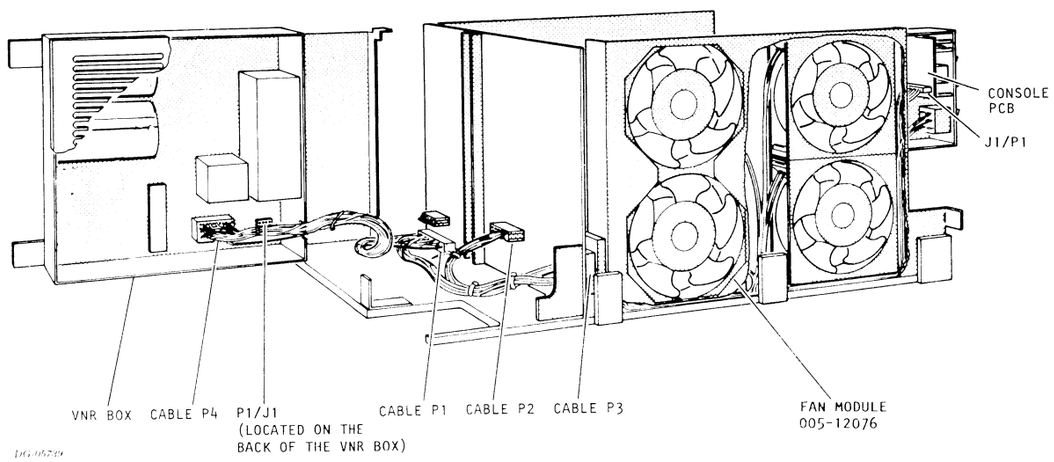


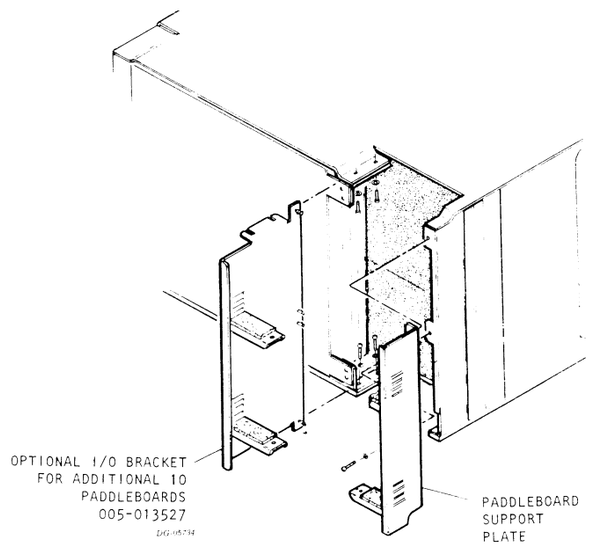
PADDLEBOARD MOUNTING

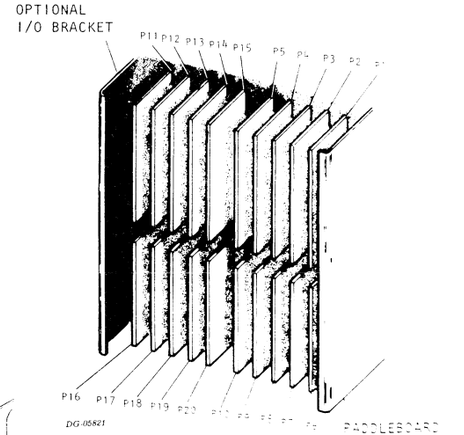


WARNING
FOR SERVICING DISCONNECT POWER, WAIT 5 MINUTES REASSEMBLE UNIT BEFORE APPLYING POWER









NOVA/ECLIPSE EXPANSION CHASSIS I

INTERNAL CABLING (CONT)

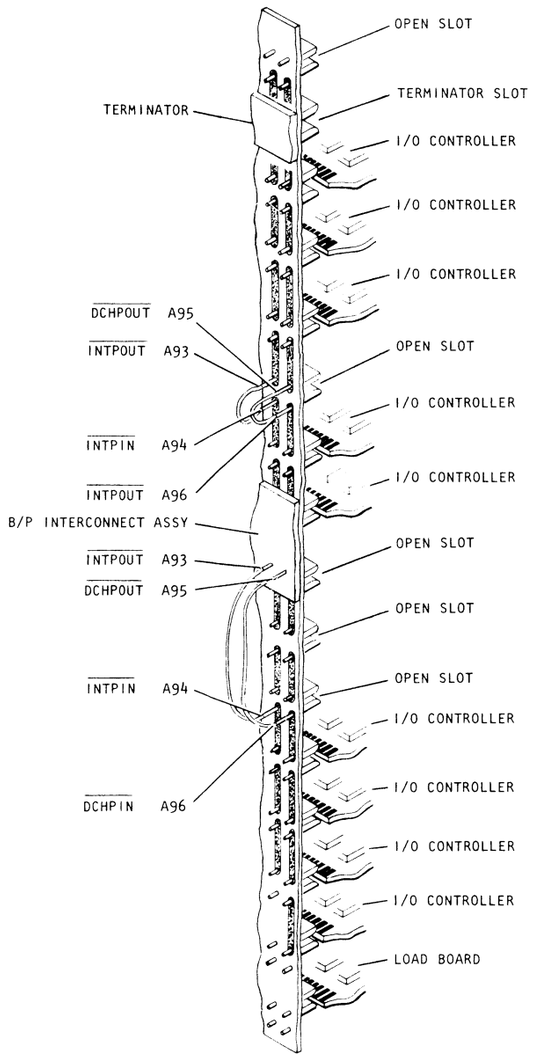
BACKPANEL JUMPERING

EACH GROUP OF OPEN (EMPTY, NON-TERMINATOR) SLOTS IN BETWEEN SLOTS CONTAINING BOARDS, MUST HAVE INTERRUPT AND DATA CHANNEL PRIORITY JUMPERS INSTALLED ACROSS THEM. IN ADDITION, IF A COMMUNICATIONS BOARD RESIDES IN A SLOT ABOVE A GROUP OF OPEN SLOTS, COMMUNICATIONS INTERRUPT PRIORITY JUMPERS MUST ALSO BE INSTALLED. IN DUAL BUS CONFIGURATIONS, ONLY GROUPS OF OPEN SLOTS BETWEEN FULL SLOTS ON THE SAME BUS MUST BE JUMPERED.

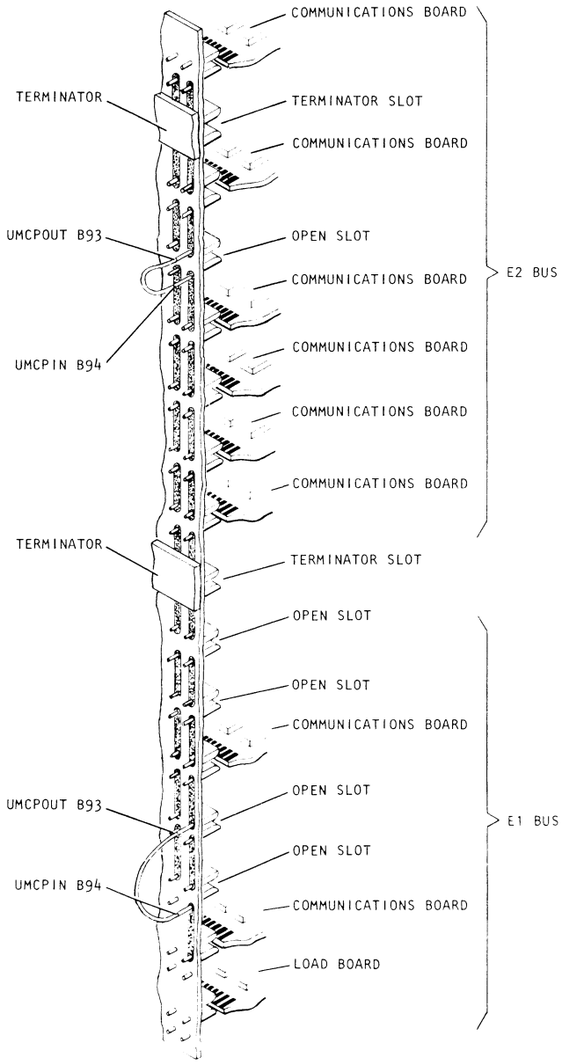
INTERRUPT AND DATA CHANNEL INTERRUPT PRIORITY JUMPERS: JUMPER PINS A96 AND A94 OF THE LOWEST OPEN SLOT IN THE GROUP TO PINS A95 AND A93, RESPECTIVELY, OF THE HIGHEST OPEN SLOT IN THE GROUP.

COMMUNICATIONS PRIORITY JUMPERS: JUMPER PIN B94 OF THE LOWEST OPEN SLOT IN THE GROUP TO PIN B93 OF THE HIGHEST OPEN SLOT IN THE GROUP.

INTERRUPT AND DATA CHANNEL PRIORITY JUMPERING
(SINGLE REPEATED I/O BUS SHOWN)

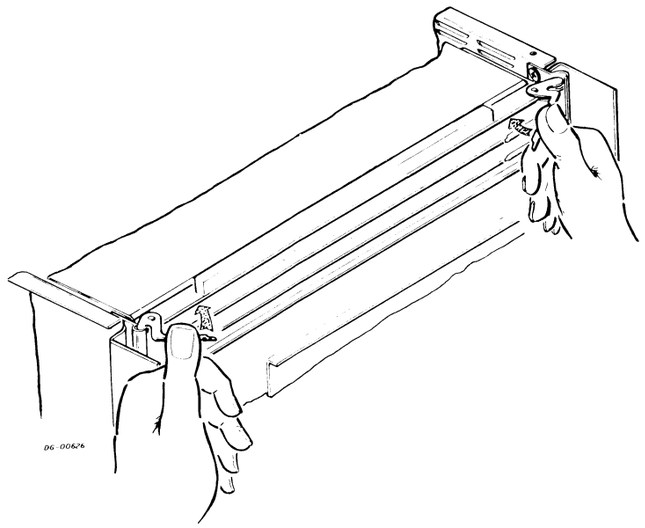


COMMUNICATIONS PRIORITY JUMPERING
(DUAL DCU-DCU I/O BUS SHOWN)

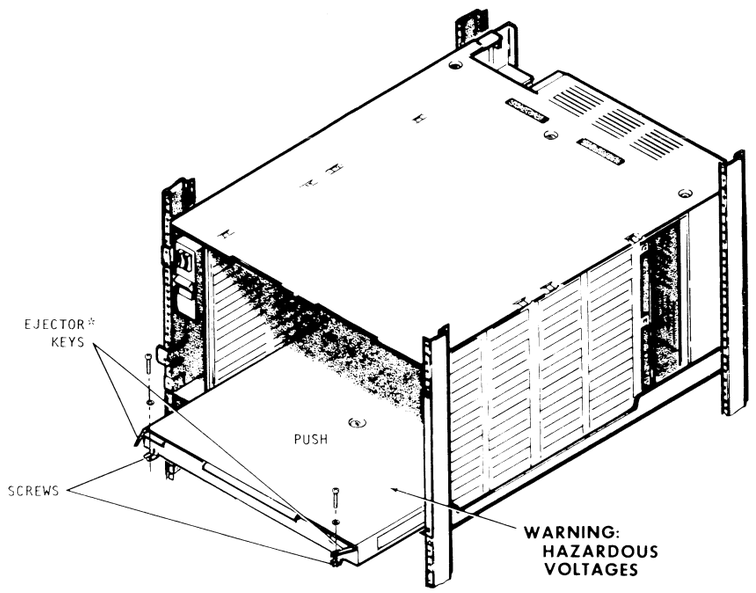


CABINET MOUNTING

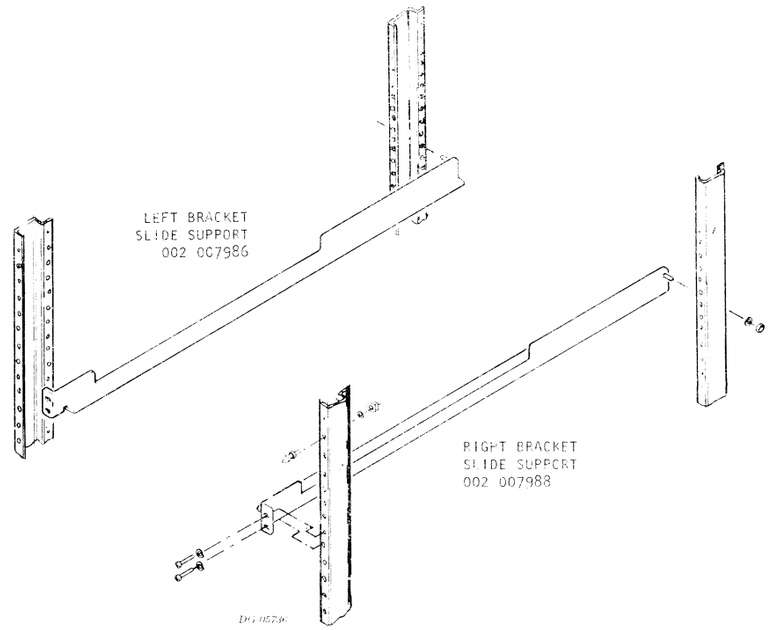
INSERTING PC BOARD



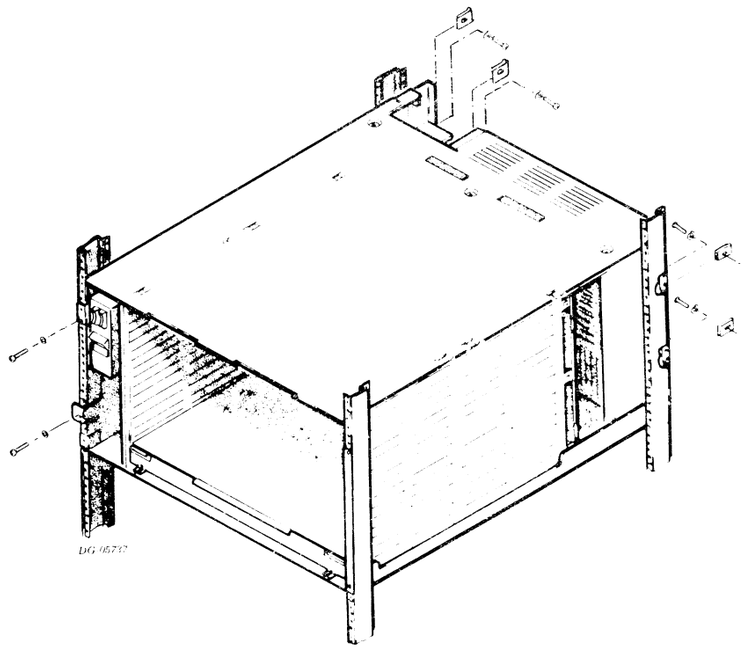
INSERTING POWER SUPPLY PCB



*USE EJECTOR KEYS ONLY FOR REMOVING THE POWER SUPPLY PCB. TO INSTALL THE PCB PUSH ON THE FRONT OF IT.



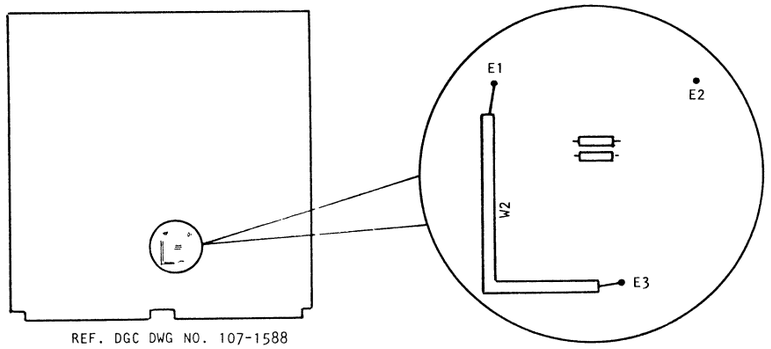
HARDWARE MOUNTING KIT
005 012068



DC LOADING RULES

LOAD BOARD JUMPERING

W2 MUST CONNECT E2 TO E3 UNLESS THE EXPANSION CHASSIS CONTAINS MORE THAN SEVEN 16-LINE COMMUNICATIONS BOARDS; IN THIS CASE, W2 MUST CONNECT E1 TO E3.



REF. DGC DWG NO. 107-1588

CAUTION:

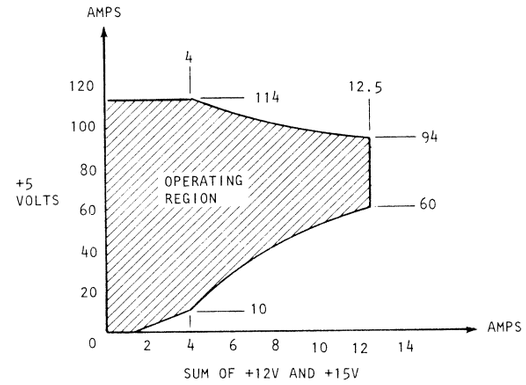
DO NOT POWER UP THE SYSTEM WITHOUT A LOAD BOARD IN THE EXPANSION CHASSIS SINCE POWERING UP THE EXPANSION CHASSIS WITHOUT A LOAD ON THE POWER SUPPLY WILL BLOW PICO FUSE F5 IN THE VNR UNIT.

+5V LOAD DISTRIBUTION WITH LOAD BOARD IN SLOT 1

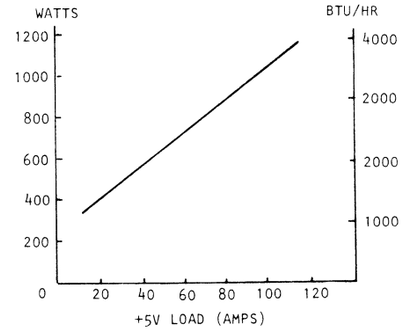
GROUP OF SLOTS	MAXIMUM CURRENT (AMPS) FOR GROUP
2	16
3, 4, 5	22
6, 7, 8	22
9	22
10, 11, 12	22
13, 14, 15, 16	22

DC LOADING RULES FOR THE EXPANSION CHASSIS WITH THE LOAD BOARD

1. THE LOAD ON +15V MUST NOT EXCEED 1.5 AMPS.
2. THE SUM OF THE LOADS ON +12V AND +15V MUST NOT EXCEED 12.5 AMPS.
3. THE LOAD ON -5V MUST NOT EXCEED 3 AMPS WHEN THE LOAD BOARD JUMPER (W2) CONNECTS E2 TO E3 OR 6 AMPS WHEN W2 CONNECTS E1 TO E3.
4. THE LOADS MUST BE WITHIN THE OPERATING REGION SHOWN BELOW:
5. FOR JAPAN (-1) MODEL, TOTAL OUTPUT POWER NOT TO EXCEED 550 WATTS.



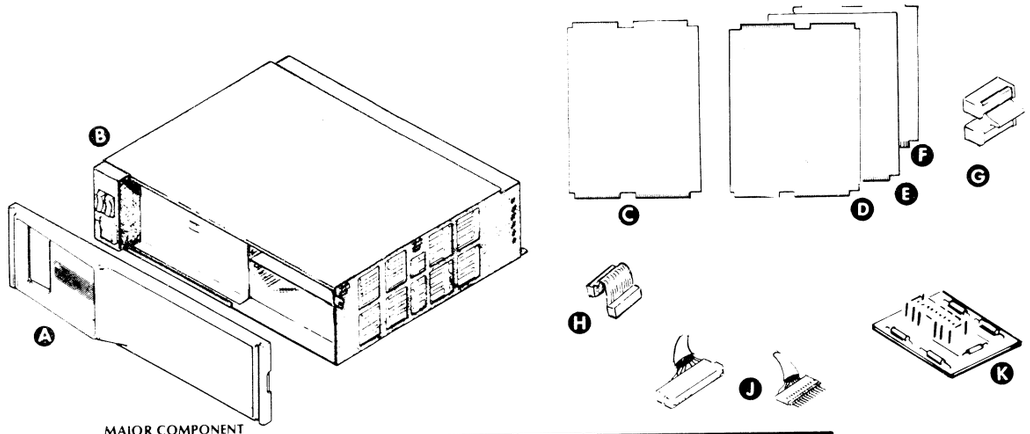
POWER CONSUMPTION VS LOADING*



*THIS CHART IS A GUIDELINE TO THE ACTUAL HEAT OUTPUT OF A SPECIFIC SYSTEM.

microPRODUCTS LINE

CHAPTER IV



MAJOR COMPONENT

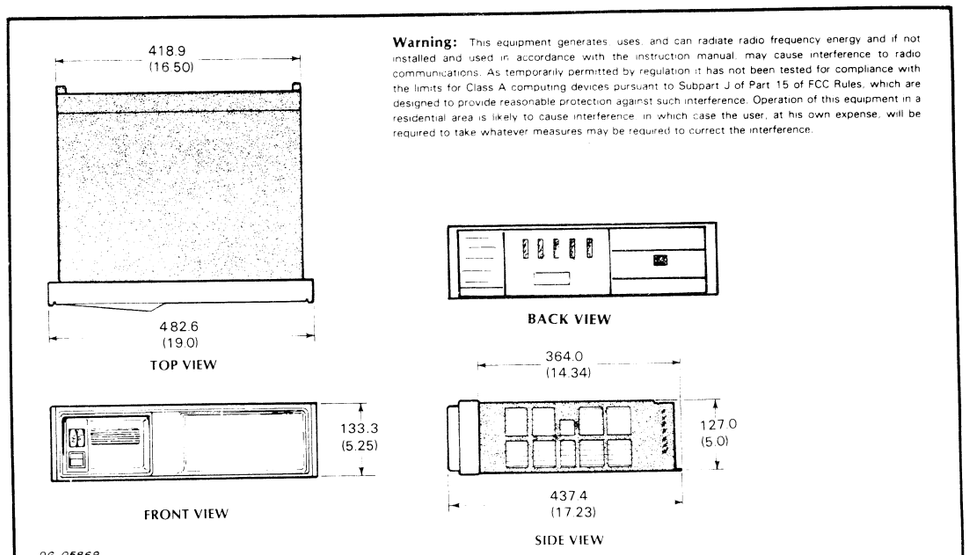
ITEM	COMPONENT	MOUNTING LOCATION	NOTES
A	FRONT PANEL	CABINET	
B	S/20 CHASSIS	CABINET	
C	S/20 SPU	S/20 CHASSIS	
D	S/20 FLOATING POINT	S/20 CHASSIS	NO TAILORING IS REQUIRED FOR THIS BOARD
E	S/20 RAM MEMORY	S/20 CHASSIS	
F	S/20 BMC	S/20 CHASSIS	

CABLES

ITEM	CABLE	CONNECTING	MAX LENGTH FT	MAX LENGTH M	NOTES
G	005-009663	SPU TO FLOATING POINT	1	0.3	USE C SIDE EDGE CONNECTOR OF SPU TO C SIDE OF FLOATING POINT
H	I/O BUS LINK 005-012784	SLOT 4 TO SLOT 5	0.25	0.08	
J	ASYNC ADAPTER 005-007506	FROM SPU TO COMM LINE	1	0.3	COMM LINE TO DEVICE 50 FT MAX FOR EIA 1000 FT MAX FOR 20 mA CURRENT LOOP
L	005-020135	SPU TO BMC			USE C SIDE EDGE CONNECTOR OF SPU TO C SIDE CONNECTOR OF BMC

TERMINATOR

ITEM	TERMINATOR	LOCATION	NOTES
K	I/O BUS 005-008152		MOUNT TERMINATOR ON LAST DEVICE ON I/O BUS WHEN EXTERNAL TO CHASSIS



Warning: This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instruction manual, may cause interference to radio communications. As temporarily permitted by regulation it has not been tested for compliance with the limits for Class A computing devices pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference. Operation of this equipment in a residential area is likely to cause interference, in which case the user, at his own expense, will be required to take whatever measures may be required to correct the interference.

DIMENSIONS:	Width	Depth	Height
Millimeters	482.6	437.4	133.3
Inches	19.0	17.23	5.25

SERVICE CLEARANCES:	Front
Millimeters	355.6
Inches	14

WEIGHT:	Empty	Fully Loaded
Kilograms	10.4	12.3
Pounds	23	27

HEAT OUTPUT (MAX)	Watts	BTU/hr
	480	1640

OPERATING ENVIRONMENT:	
Temperature (max)	55°C @ 60Hz 45°C (113°F) @ 50Hz
Relative Humidity (max)	90% (non-condensing)
Altitude	8000 ft (2438m)

POWER REQUIREMENTS:

(Domestic)	
Voltage	120 +10 -15
Hz	60 ± 1%
Max Amp per Phase	5
Phase	1
Startup Surge per Phase	40 amps for 8 milliseconds

(Export)			
Voltage	100 +10 -10	220 +10 -15	240 +10 -15
Hz	50/60 ± 1%	50 ± 1%	50 ± 1%
Max Amp per Phase	5	3	3
Phase	1	1	1
Startup Surge per Phase	40 amps for 8 milliseconds	30 amps for 8 milliseconds	

CABLES:

Primary Power	Length	Conn	Mating Conn
Domestic 60Hz	6ft 1.83m	5-15P	5-15R
Export 50Hz	6ft 1.83m	6-15P	6-15R

DATA CHANNEL SPEEDS AVAILABLE — STANDARD ☑ HIGH SPEED ☐

SLOT	ALLOWED SLOT CHART	ASSIGNED	CURRENT DRAW (AMPS) +5V	-5	+12	-12
8	I/O					
7	I/O					
6	MEMORY OR I/O					
5	MEMORY OR I/O					
4	MEMORY OR I/O					
3	MEMORY OR I/O					
2	MEMORY FLOATING POINT OR BMC					
1	S/20 SPU					
	CURRENT DRAW					
	MAXIMUM CURRENT AVAILABLE*		20	1.85	1.85	1.5
	CURRENT SURPLUS					

NOTES:
MINIMUM LOAD FOR MAIN CHASSIS IS 4A @ +5V, 0.2A @ -5V, 0.2A @ +12V, AND 0.2A @ -12V.

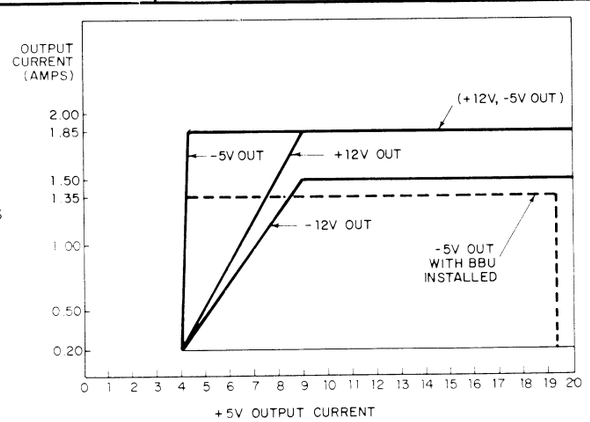
MINIMUM LOAD FOR EXPANSION CHASSIS IS 5A @ +5V. USE OPTION 1227 (LOAD PLUG) WHEN DRAWING LESS THAN 5A @ +5V. INSTALL ON J19 OF BACKPANEL.

* WHEN LESS THAN 9 AMPS OF +5V CURRENT IS BEING USED, THE +12V AND -12V CURRENT SOURCES ARE DERATED AS SHOWN.

THE MAXIMUM MEMORY CONFIGURATION IS FOUR MEMORY PCB's.

THE MAXIMUM I/O BUS LENGTH IS 100 FEET.

THE MAXIMUM NUMBER OF I/O DEVICES ON THE I/O BUS IS 15.



PCB POWER REQUIREMENTS		+5V	-5V	+12V	-12V
SPU		5.5	.03	.10	.10
FPU		4.0	-	-	-
128KB MEM W/16K RAMS	OPERATING	1.7	.03	.57	-
	STANDBY	1.7	.03	.14	-
256KB MEM W/64K RAMS	OPERATING	2.1	-	-	-
	STANDBY	1.7	-	-	-
512KB MEM W/64K RAMS	OPERATING	2.4	-	-	-
	STANDBY	2.0	-	-	--
BMC		4.5	-	-	-

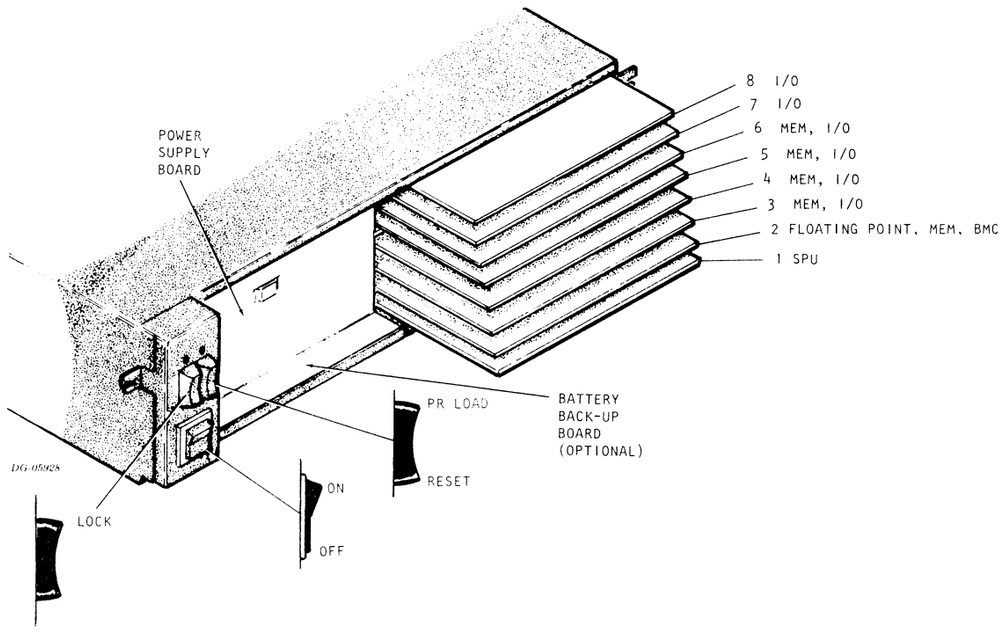
NOTE: WHEN DETERMINING MEMORY SYSTEM, CURRENT DRAW, USE OPERATING CURRENT OF LARGEST MEMORY BOARD, AND STANDBY CURRENT OF REMAINING MEMORY.

THE S/20 SPU REQUIRES 5.5A @ +5V, @ +5V, .03A @ -5V; 0.1A @ +12V; AND 0.1A @ +12V; AND 0.1A @ -12V.
THE S/20 RAM REQUIRES 2.45A @ +5V; 0.03A @ -5V; AND 0.5A A +12V.
THE S/20 FLOATING POINT OPTION REQUIRES 4.6A @ +5V.

SHIPPING

FOR PACKING PROCEDURE,
SEE 010-000262/263

BOARD ASSIGNMENTS



NOTE: THE POWER SUPPLY PC BOARD IS ALWAYS INSTALLED IN THE UPPER SLOT (SLOT 6). THE BATTERY BACK-UP PC BOARD IS INSTALLED IN THE LOWER SLOT (SLOT 2) IN SYSTEMS WHICH HAVE THE BATTERY BACK-UP OPTION

CHASSIS SLOT ASSIGNMENT STARTING WITH SLOT 1 IS:
SPU, FP OR BMC (IF USED), MEMORY, THEN I/O.

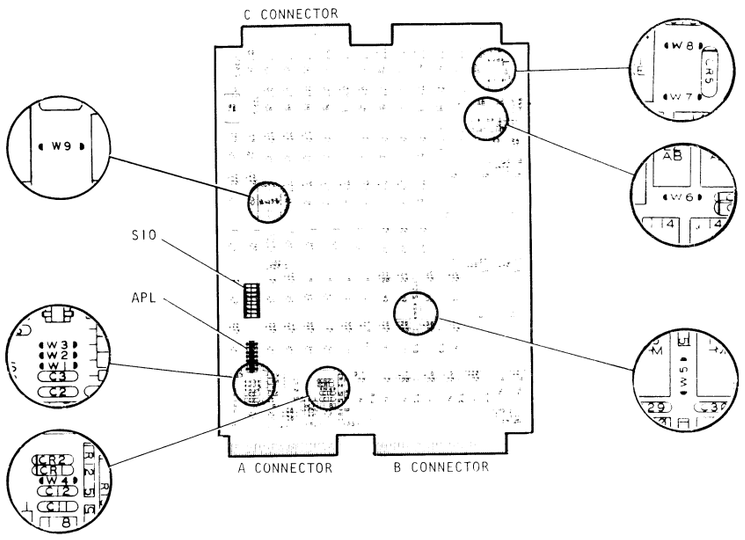
JUMPER 7 IS "IN" ONLY ON THE MEMORY THAT IS FARTHEST AWAY FROM SPU. ON ALL OTHER MEMORIES IT IS "OUT".

IF SOCKETED BOARD, DO NOT USE SLOTS 4 OR 8.

TAILORING

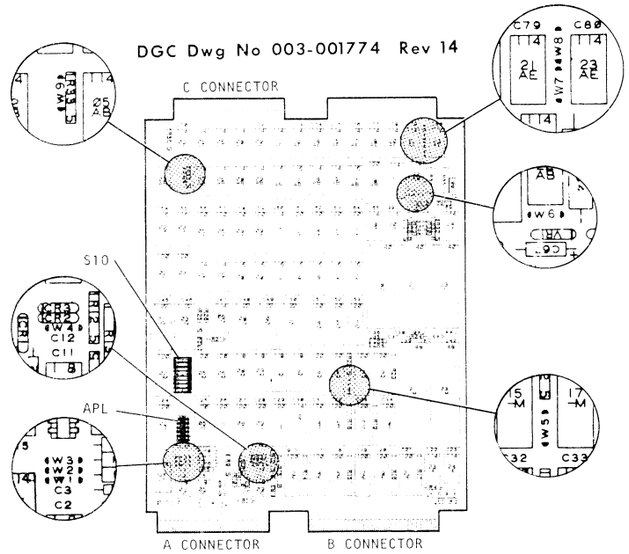
SPU

Ref DGC Dwg No 003-001774 Rev 04



W9	FUNCTION
IN	SPU WILL DELAY 1 MINUTE BEFORE BOOTING AFTER A "COLD" (NO BBU HOLDUP) POWER UP.
OUT	"COLD" BOOT BEGINS IMMEDIATELY AFTER POWER ON.

DGC Dwg No 003-001774 Rev 14



INTERFACE MODE SELECT

LINE TYPE	JUMPERS W1	W2
EIA	OUT	OUT
20mA CURRENT LOOP (600 BAUD AND BELOW)	IN	IN
(ABOVE 600 BAUD)	IN	OUT

W3	FUNCTION
IN	CPU ENABLES CLEAR TO SEND
OUT	HALF-DUPLEX MODEM, 60 CPS DASHER, CONTROLS CLEAR TO SEND.

JUMPER	FUNCTION
W4	INSERT ONLY IF AN EXTERNAL I/O CABLE IS CONNECTED TO THE BACKPANEL OR IF ANY I/O BOARDS ARE INSTALLED IN THE CHASSIS.
W5	IN ENABLES POWER FAIL INTERRUPTS OUT DISABLES POWER FAIL INTERRUPTS
W6, W7, W8	MUST BE IN

SIO SWITCHES

SWITCH	FUNCTION
1	HALT DISPATCH SWITCH: SET IT "ON" (TO 1) TO CAUSE THE S/20 PROCESSOR TO ENTER THE VIRTUAL CONSOLE WHEN IT ENCOUNTERS A HALT INSTRUCTION. SET SWITCH 1 TO "OFF" (TO 0) TO CAUSE THE PROCESSOR TO DO A HARD HALT WHEN IT ENCOUNTERS A HALT INSTRUCTION.
2	BREAK ENABLE SWITCH: SET IT "ON" (TO 1) TO ENABLE INTERRUPTS INITIATED BY THE VIRTUAL CONSOLE BREAK KEY. IF YOU DO NOT WANT TO CAUSE CPU INTERRUPTS BY DEPRESSING THE VIRTUAL CONSOLE BREAK KEY, SWITCH SWITCH 2 "OFF" (TO 0).
3-4	SET THE COUNTER RATE FOR THE PROGRAMMABLE INTERVAL TIMER, AS SHOWN IN THE PIT RATE SELECT TABLE.
5-8	SET THE TRANSMISSION RATE OF THE ASYNCHRONOUS INTERFACE, AS SHOWN BY THE BAUD RATE TABLE.

APL SWITCH

BIT POSITION	10	11	12	13	14	15
"ON" TO SPECIFY 1	S2 MSB	S3	S4	S5	S6	S7 LSB

NOTE:

SET APL SWITCH 1 "ON" TO LOAD FROM A HIGH-SPEED (DATA CHANNEL) DEVICE. SET APL SWITCH 1 "OFF" TO LOAD FROM A LOW-SPEED (PROGRAMMED I/O) DEVICE.

SET SWITCHES S2-S7 TO THE DEVICE CODE OF THE LOAD DEVICE. EXAMPLE: FOR DEVICE CODE 23 OCTAL, SET S2 OFF, S3 ON, S4 OFF, S5 OFF, S6 ON, AND S7 ON.

BAUD RATE

kHz	SWITCH SETTINGS SW5	SW6	SW7	SW8
50	OFF	OFF	OFF	OFF
75	ON	ON	ON	OFF
110	ON	ON	OFF	OFF
134.5	ON	ON	ON	ON
150	OFF	OFF	ON	ON
200	ON	ON	OFF	ON
300	ON	OFF	ON	ON
600	OFF	ON	OFF	OFF
1200	ON	OFF	ON	OFF
1800	OFF	OFF	ON	OFF
2000	OFF	OFF	OFF	ON
2400	OFF	ON	OFF	ON
4800	ON	OFF	OFF	ON
9600	OFF	ON	ON	OFF
19200	ON	OFF	OFF	OFF
38400	OFF	ON	ON	ON

PIT RATE

kHz	SWITCH SETTINGS SW3	SW4
1	ON	ON
10	ON	OFF
100	OFF	ON
1000	OFF	OFF

TAILORING

S/20 MEMORY SYSTEM CONFIGURATION CHART

BOARD NUMBER	ALL 512 KB BOARDS	ALL 256KB BOARDS	ALL 128KB BOARDS	512KB AND 256KB BOARDS			256KB AND 128KB BOARDS			512KB AND 128KB BOARDS			512 KB AND 256KB AND 128KB BOARDS		
3	512KB NONE	126KB W1	256KB W1, 2	256KB W3	256KB W2	256KB W2, 3	128KB W1m 4	128KB W1, 3	128KB W1, 3, 4	128KB W3, 4	128KB W2, 3	128KB W1, 4	128KB W2, 4	128KB W2, 3, 4	128KB W1
2	512KB W2	256KB W1, 3	128KB W1, 2, 4	512KB W2	256KB W2, 3	256KB W1	256KB W1, 3	128KB W1, 3,4	128KB W1, 2	512KB W2	128KB W2,3,4	128KB W1, 3	256KB W2, 3	256KB W1	128KB W1, 4
1	512KB W1	256KB W1, 2	128KB W1, 2, 3	512KB	512KB	256KB	256KB	256KB	128KB	512KB	512KB	128KB	512KB	256KB	256KB
0	512KB W1, 2	256KB W1, 2, 3	128KB W1, 2, 3, 4	512KB W1, 2	512KB W1, 2	512KB W1, 2	256KB W1,2,3	256KB W1,2,3	256KB W1,2,3	512KB W1, 2	512KB W1, 2	512KB W1, 2	512KB W1, 2	512KB W1, 2	512KB W1, 2

W JUMPERS LISTED INDICATE THE "IN" POSITION

EXAMPLES:

1.

	SLOT	BOARD NUMBER	BOARD SIZE	JUMPERS IN
	5	3	128KB	W1
1024KB	4	2	128KB	W1,4
	3	1	256KB	W1,3
	2	0	512KB	W1,2

2.

	SLOT	BOARD NUMBER	BOARD SIZE	JUMPER IN
	5	——	NO BOARD	——
	4	——	NO BOARD	——
384KB	3	1	128KB	W1,2,4
	2	0	256KB	W1,2,3

3.

	SLOT	BOARD NUMBER	BOARD SIZE	JUMPERS IN
	6	——	NO BOARD	——
	5	2	256KB	W1
1024KB	4	1	256KB	W1,3
	*3	0	512KB	W1,2

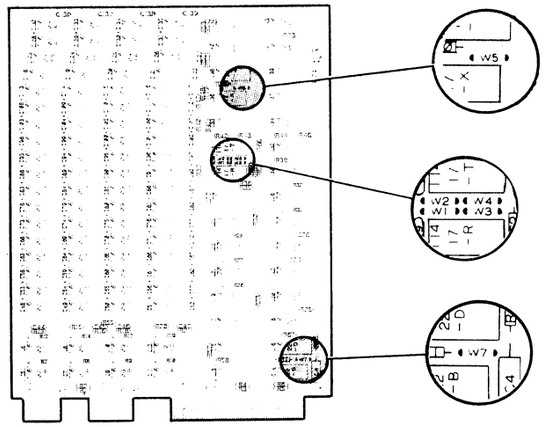
4.

	SLOT	BOARD NUMBER	BOARD SIZE	JUMPERS IN
	6	——	NO BOARD	——
	5	——	NO BOARD	——
512KB	4	——	NO BOARD	——
	*3	0	512KB	W1,2

* THESE SYSTEMS START MEMORY BOARDS IN SLOT 3 BECAUSE SLOT 2 HAS AN FPU.

RAM BOARD

Ref DGC Dwg No 003-001809 Rev 01



NOTE: RAM BOARD SHOWN IS 005-18375 (128KB MEMORY MODULE) THE JUMPERS ARE LOCATED IN THE SAME PLACE FOR ALL S/20 MEMORY BOARDS

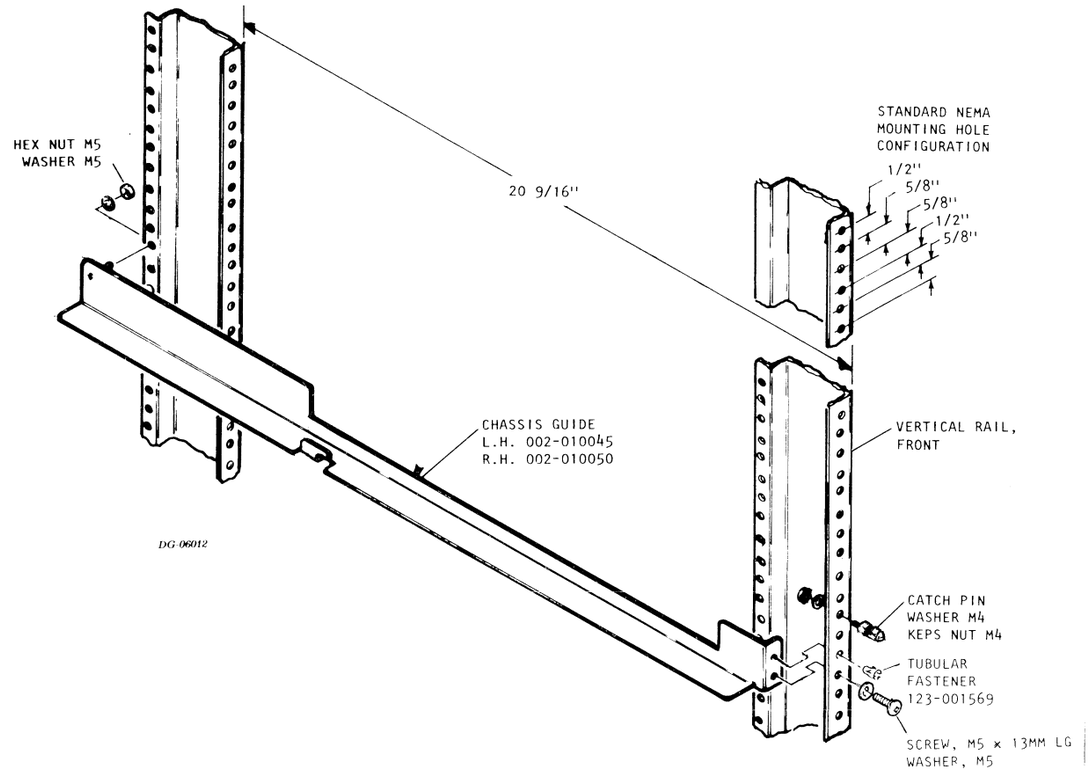
NOTES:

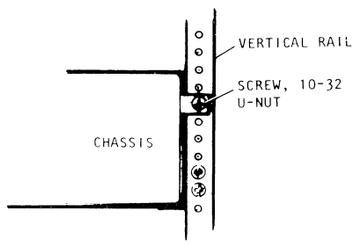
1. DIFFERENT COMBINATIONS OF MEMORY BOARDS MAY BE INTERMIXED IN THE S/20 MEMORY SYSTEM (SEE CONFIGURATION CHART).
2. LARGEST MEMORY BOARD SIZES ARE CONFIGURED INTO THE LOWEST NUMBERED MEMORY SLOTS.
3. JUMPERS W1 THRU W4 DEFINE THE ADDRESS BOUNDARIES OF EACH MEMORY BOARD.
4. JUMPER W5 IS ALWAYS "OUT."
5. THERE IS NO W6.
6. JUMPER W7 IS "IN" ONLY ON THE MEMORY THAT IS FARTHEST AWAY FROM SPU. ON ALL OTHER MEMORIES IT IS "OUT."

MEMORY BOARDS

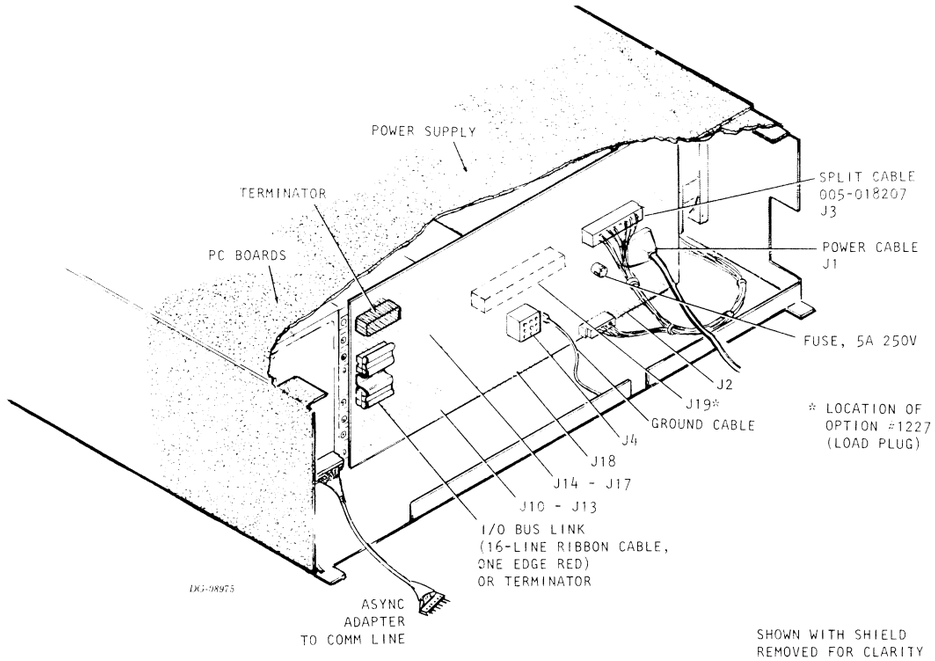
MEMORY SIZE	RAM TYPE	ASSEMBLY NUMBER
512KB	64K	005-19537
256KB	64K	005-19538
128KB	16K	005-18375

CABINET MOUNTING





EXTERNAL/INTERNAL CABLING



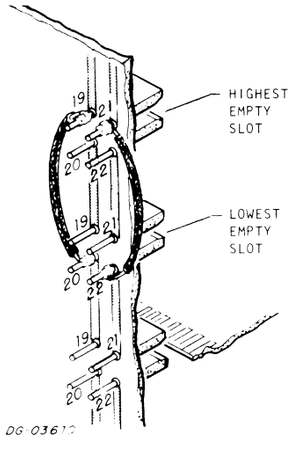
* LOCATION OF OPTION #1227 (LOAD PLUG)

SHOWN WITH SHIELD REMOVED FOR CLARITY ONLY

THIS DRAWING SHOWS CABLING WHEN NO BATTERY BACK-UP OPTION IS INSTALLED. IF BATTERY BACK-UP OPTION IS INSTALLED, THE CONNECTOR SHOWN AT J3 WILL BE MOVED TO J2.

NOTE:
A TERMINATOR IS INSTALLED ONLY IF THERE ARE I/O BOARDS IN THE CHASSIS AND NO EXTERNAL I/O CABLE IS USED. (JUMPER W4 ON THE SPU BOARD SHOULD BE "IN" IN THIS CASE.)

JUMPERING BACKPANEL



AN 8-SLOT CARDFRAME, HAVING EMPTY SLOTS BETWEEN SYSTEM MODULES, MUST HAVE PRIORITY JUMPERS INSTALLED ACROSS THOSE SLOTS AS FOLLOWS: PINS 20 AND 22 OF THE LOWEST EMPTY SLOT SHOULD BE CONNECTED TO PINS 19 AND 21, RESPECTIVELY, OF THE HIGHEST EMPTY SLOT. THE HIGHEST AND THE LOWEST EMPTY SLOT MAY BE THE SAME. NO JUMPERS ARE REQUIRED IF THE GROUP OF EMPTY SLOTS INCLUDES SLOT 8, UNLESS THE EXTERNAL I/O BUS IS USED. THE HIGHEST LEVEL PRIORITY BOARD IS THE ONE NEAREST THE CPU SLOT.

PIN ASSIGNMENTS, A CONNECTOR

EVEN	SIGNAL NAMES	ODD
2	CTS	TTIN 1
4		-5V 3
6		GND 5
8		7
10	DTR	+5V 9
12		11
14		13
16		15
18		17
20		19
22		TTOUT 21
24		+V 23
26		25
28		27
30		29
32		31
34		33
36		35
38		37
40		39
42		41
44		43
46		45
48		47
50		49

NOTE: BLANK PINS NOT USED.

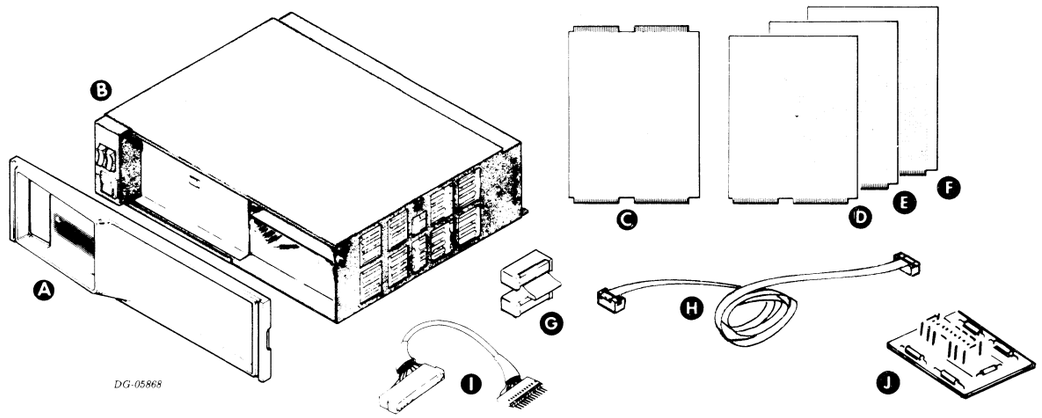
PIN ASSIGNMENTS, B CONNECTOR

PIN		PIN	
1	BMCLOCK	2	$\overline{\text{BMCLOCK}}$
3	GROUND	4	BI/O DATA1
5	$\overline{\text{BI/ODATA1}}$	6	$\overline{\text{CLEAR}}$
7	$\overline{\text{PWRFAIL}}$	8	$\overline{\text{EXTINT}}$
9	$\overline{\text{EXT DCHR}}$	10	$\overline{\text{CONSOLE LOCK}}$
11	GROUND	12	$\overline{\text{BI/ODATA2}}$
13	BI/ODATA2	14	GROUND
15	$\overline{\text{BI/OCLOCK}}$	16	BI/OCLOCK
17	HALT	18	BUS READY
19	INTPOUT	20	$\overline{\text{PF}}$
21	DCHPOUT	22	POWEROK
23	$\overline{\text{DATA15}}$	24	$\overline{\text{DATA7}}$
25	$\overline{\text{XMA4}}$	26	BUS MEMCYC
27	$\overline{\text{DATA14}}$	28	$\overline{\text{DATA6}}$
29	$\overline{\text{WL/PARL}}$	30	$\overline{\text{WH/PARH}}$
31	$\overline{\text{DATA13}}$	32	$\overline{\text{DATA5}}$
33	$\overline{\text{DATA12}}$	34	$\overline{\text{DATA4}}$
35	$\overline{\text{RTC}}$	36	GROUND
37	$\overline{\text{DATA11}}$	38	$\overline{\text{DATA3}}$
39	-12V	40	$\overline{\text{XMA3}}$
41	$\overline{\text{DATA10}}$	42	$\overline{\text{DATA2}}$
43	$\overline{\text{BOOT}}$	44	$\overline{\text{XMA2}}$
45	$\overline{\text{DATA9}}$	46	$\overline{\text{DATA1}}$
47	$\overline{\text{XMA0}}$	48	$\overline{\text{BUS ADDREN}}$
49	$\overline{\text{DATA8}}$	50	$\overline{\text{DATA0}}$
51	$\overline{\text{XMA1}}$	52	$\overline{\text{SYSCLOCK}}$
53	GROUND	54	GROUND
55	+12V	56	+12V
57	+5V	58	-5V
59	+5V	60	+5V

PIN ASSIGNMENTS, C CONNECTOR

PIN	SIGNAL	PIN	SIGNAL
1	GROUND	2	GROUND
3		4	$\overline{\text{TEST}}$
5	GROUND	6	GROUND
7		8	
9		10	
11		12	
13		14	
15		16	
17		18	
19	QPIPE	20	GROUND
21	+5V	22	+5V
23	GROUND	24	
25	$\overline{\text{QUACK}}$	26	
27	$\overline{\text{QSKIP}}$	28	
29		30	
31	$\overline{\text{QREQ}}$	32	
33	$\overline{\text{QFETCH}}$	34	
35		36	
37		38	
39		40	
41		42	
43		44	
45	$\overline{\text{BLOCK}}$	46	
47		48	
49	GROUND	50	

INSTALLATION SPECIFICATIONS



MAJOR COMPONENT

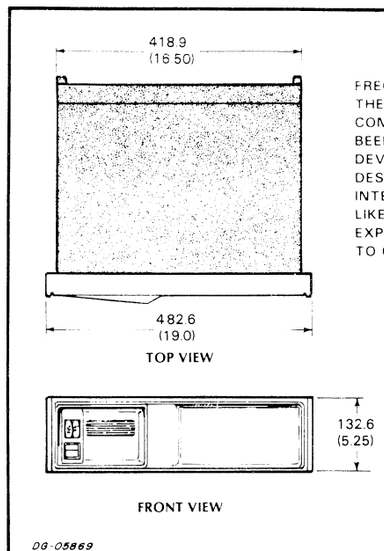
ITEM	COMPONENT	MOUNTING LOCATION	NOTES
A	FRONT PANEL	CABINET	
B	MP/100 CHASSIS	CABINET	
C	SPU 602	MP/100 CHASSIS	
D	4/8/16/32 K RAM MEMORY	MP/100 CHASSIS	
E	8K PROM MEMORY	MP/100 CHASSIS	WITHOUT PROMS
F	4/16 K RAM MEMORY / 2/4/8/16K EPROM MEMORY	MP/100 CHASSIS	WITHOUT EPROMS

CABLES

ITEM	CABLE	CONNECTING	MAX LENGTH FT / M	NOTES
G	I/O BUS LINK 005-005454	SLOT 4 TO SLOT 5	0.25 / 0.08	
H	EXTERNAL I/O 005-009695	BACKPANEL TO EXTERNAL I/O DEVICE	100 / 30	
I	ASYNC 005-007506	FROM CPU TO COMM LINE	1 / 0.3	COMM LINE TO DEVICE. 50 FT MAX FOR EIA. 1000 FT MAX FOR 20 AMP CURRENT LOOP.

TERMINATOR

ITEM	TERMINATOR	LOCATION	NOTES
J	I/O BUS 005-008152		MOUNT TERMINATOR ON LAST DEVICE ON I/O BUS WHEN EXTERNAL TO CHASSIS



WARNING

THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY ENERGY AND IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTION MANUAL, MAY CAUSE INTERFERENCE TO RADIO COMMUNICATIONS. AS TEMPORARILY PERMITTED BY REGULATION IT HAS NOT BEEN TESTED FOR COMPLIANCE WITH THE LIMITS FOR CLASS A COMPUTING DEVICES PURSUANT TO SUBPART J OF PART 15 OF FCC RULES, WHICH ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST SUCH INTERFERENCE. OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA IS LIKELY TO CAUSE INTERFERENCE IN WHICH CASE THE USER AT HIS OWN EXPENSE WILL BE REQUIRED TO TAKE WHATEVER MEASURES MAY BE REQUIRED TO CORRECT THE INTERFERENCE.

DIMENSIONS:	Width	Depth	Height
Millimeters	482.6	401.0	132.6
Inches	19	15.8	5.25

SERVICE CLEARANCES:	Front
Millimeters	355.6
Inches	14

WEIGHT:	Empty	Fully Loaded
Kilograms	10.4	12.3
Pounds	23	27

HEAT OUTPUT (MAX)	Watts	BTU/hr
	200	680

OPERATING ENVIRONMENT:

Temperature (max)	55°C
Relative Humidity (max)	80% (non-condensing)
Altitude	10,000ft 3084m

POWER REQUIREMENTS:

(Domestic)	
Voltage	120 +10% -15%
Hz	47-63
Max Amp per Phase	5
Phase	1
Startup Surge per Phase	33 amps for 8 milliseconds

(Export)			
Voltage	100 +10% -15%	220 +10% -15%	240 +10% -15%
Hz	47-63	47-63	47-63
Max Amp per Phase	5	3	3
Phase	1	1	1
Startup Surge per Phase	33 amps for 8 milliseconds	17 amps for 8 milliseconds	

CABLES:

Primary Power	Length	Conn	Mating Conn
Domestic 60Hz	6ft 1.83m	5-15P	5-15R
Export 50Hz	6ft 1.83m	6-15P	6-15R

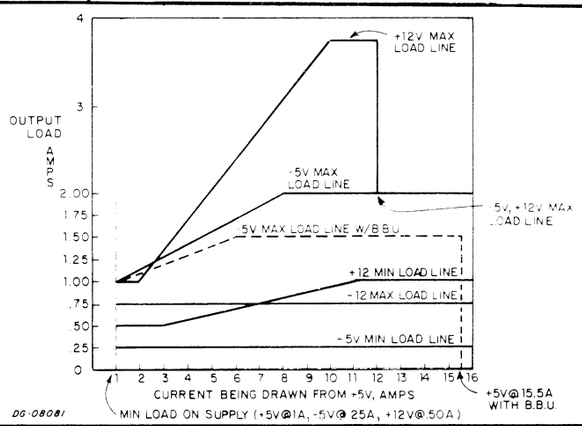
DATA CHANNEL SPEEDS AVAILABLE — STANDARD ✓ / HIGH SPEED ✓

SLOT	ALLOWED SLOT CHART	ASSIGNED	CURRENT DRAW (AMPS) +5V	-5	+12	-12
8	MEMORY OR I O					
7	MEMORY OR I O					
6	MEMORY OR I O					
5	MEMORY OR I O					
4	MEMORY OR I O					
3	MEMORY OR I O					
2	MEMORY OR I O					
1	MP 100 SPU		2.0	0.1	0.3	0.1
		CURRENT DRAW				
		MAXIMUM CURRENT AVAILABLE*	16	2	1.75	0.7
		CURRENT SURPLUS				

NOTE: MINIMUM LOAD FOR EXPANSION CHASSIS IS 5A @ +5V. USE OPTION 1227 (LOAD PLUG) WHEN DRAWING LESS THAN 5A @ 5V. INSTALL ON J19 OF BACKPANEL.

* WHEN LESS THAN 8 AMPS OF -5V CURRENT IS BEING USED, THE +12V AND -5V CURRENT SOURCES ARE DERATED AS SHOWN.

FOR MODELS MP/100-1, THE MAXIMUM AVAILABLE +5V CURRENT IS 15 AMPS.



THE MP/100 SPU REQUIRES 2.0A @ +5V; 0.1A @ -5V; 0.3A @ +12V; AND 0.1A @ -12V.

THE MP/100 RAM REQUIRES 0.5A @ +5V; 0.02A @ -5V; AND 0.3A @ +12V.

THE MP/100 8K PROM REQUIRES 0.9A @ +5V; 0.25A @ +12V.

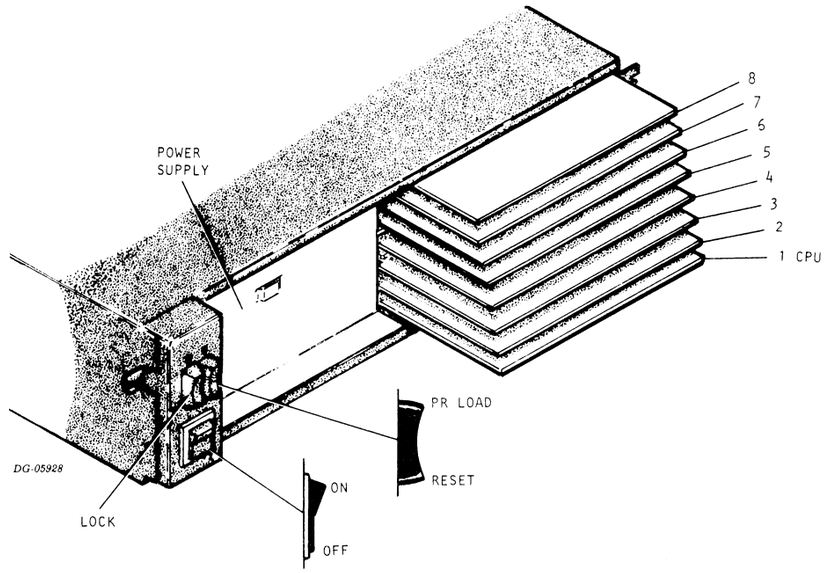
THE MP/100 4/16K RAM and the 2/4/8/16K EPROM REQUIRES 0.46A @ +5V; 0.003A @ -5V; AND 0.56A @ +12V.

NOTE: EPROM AND PROM BOARDS' POWER REQUIREMENTS DO NOT INCLUDE REQUIREMENTS OF USER-SUPPLIED PROMS.

SHIPPING

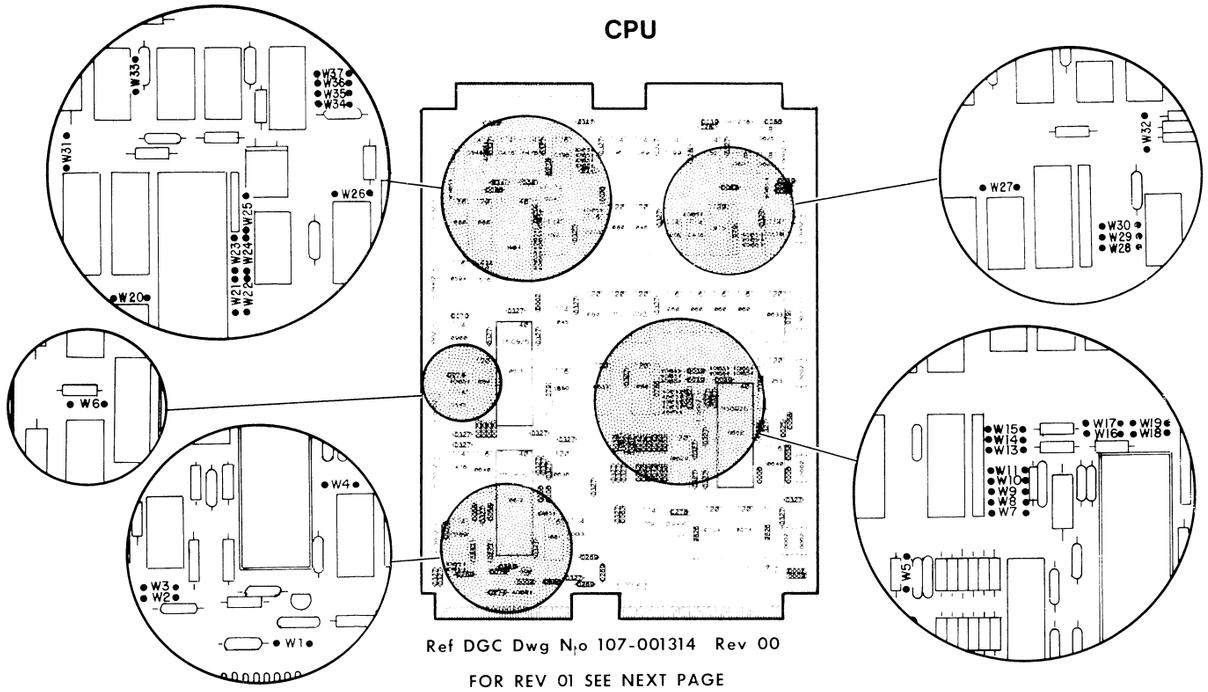
**FOR PACKING PROCEDURE,
SEE 010-000262/263**

BOARD ASSIGNMENTS



TAILORING

CPU



Ref DGC Dwg No 107-001314 Rev 00

FOR REV 01 SEE NEXT PAGE

INTERFACE MODE SELECT

LINE TYPE	JUMPERS W1	W2	W3	W4
EIA	OUT	OUT	OUT	IN
20AMP CURRENT LOOP (600 BAUD AND BELOW)	IN	IN	IN	OUT
(ABOVE 600 BAUD)	IN	OUT	IN	OUT

JUMPER	FUNCTION
W5	INSERT IF EXTERNAL I/O CABLE.
W27	INSERT TO ENABLE POWER FAIL INTERRUPTS. REMOVE TO IGNORE POWER FAIL INTERRUPTS.

DEVICE CODE SELECT

	JUMPER W6	DEVICE TTI	TTO
DEVICE CODE	IN	10	11
	OUT	50	51

JUMPER WORD IS ENABLED WHEN ADDRESS 77777 IS ISSUED AND MAPON IS ASSERTED; JUMPER WORD IS (HIGH BYTE*) OF A STARTING ADDRESS.

JUMPER WORD IS ENABLED WHEN ADDRESS 77776 IS ISSUED AND MAPON IS ASSERTED; JUMPER WORD IS THE DEVICE CODE TO PROGRAM LOAD FROM. IF DEVICE CODE 77, ENTER SOFT CONSOLE.

W28 OUT IN

W9	A0	**
W10	A1	***
W13	A2	DS0
W11	A3	DS1
W8	A4	DS2
W7	A5	DS3
W15	A6	DS4
W14	A7	DS5

NOTE: JUMPER IN = 1

* STARTING ADDRESS LOW BYTE = 00,000,001
** IN FOR DCH LOAD; OUT FOR PIO LOAD
*** IN FOR 1 MINUTE WAIT PRIOR TO PROGRAM LOAD EXECUTION; OUT FOR NO WAIT

JUMPER	FUNCTION
W16	INSERT JUMPER TO SYSTEM BOOT, OR RESTART WHEN LOCKED.
W17	INSERT JUMPER FOR UNCONDITIONAL RESTART AFTER POWER FAIL WHEN UNLOCKED.
W18	NORMALLY OUT. INSERT TO ACCESS THE SECONDARY ADDRESS SPACE ON TRAP.
W19	NORMALLY IN. INSERT WHEN THE SECONDARY 32-WORD ADDRESS SPACE ENABLED.
W20	INSERT TO ENABLE MODEM CHARGE INTERRUPT.
W26	NORMALLY IN. ENABLES NON-MASHABLE INTERRUPT REQUESTS ON "BREAK", IF FRONT CONSOLE IS UNLOCKED.
W29	NORMALLY OUT. ENABLES THE JUMPER WORD STROBE. INSERT TO DISABLE STROBE.
W31	INSERT TO ENABLE EXTENDED STATUS.
W32	INSERT TO ENABLE SOFT CONTROL PANEL MEMORY.

FREQUENCY SELECT

W30	REAL TIME CLOCK FREQUENCY SELECT
IN	POWER LINE FREQUENCY
OUT	INTERNAL FREQUENCY

W33	FUNCTION
IN	CPU ENABLES CLEAR TO SEND
OUT	HALF-DUPLEX MODEM, 60 CPS DASHER, CONTROLS CLEAR TO SEND.

BAUD RATE SELECT

RATE	W34	W35	W36	W37
50	IN	IN	OUT	IN
75	IN	IN	OUT	OUT
110	OUT	OUT	OUT	OUT
134.5	IN	OUT	IN	IN
150	OUT	OUT	OUT	IN
200	IN	OUT	IN	OUT
300	OUT	OUT	IN	OUT
600	IN	OUT	OUT	IN
1200	OUT	IN	OUT	OUT
1800	OUT	IN	OUT	IN
2400	OUT	OUT	IN	IN
4800	OUT	IN	IN	OUT
9600	OUT	IN	IN	IN
19200	IN	IN	IN	OUT

PARITY SELECT

PARITY	W21	W23
ODD	IN	IN
EVEN	OUT	IN
NONE	OUT	OUT

STOP BIT SELECT

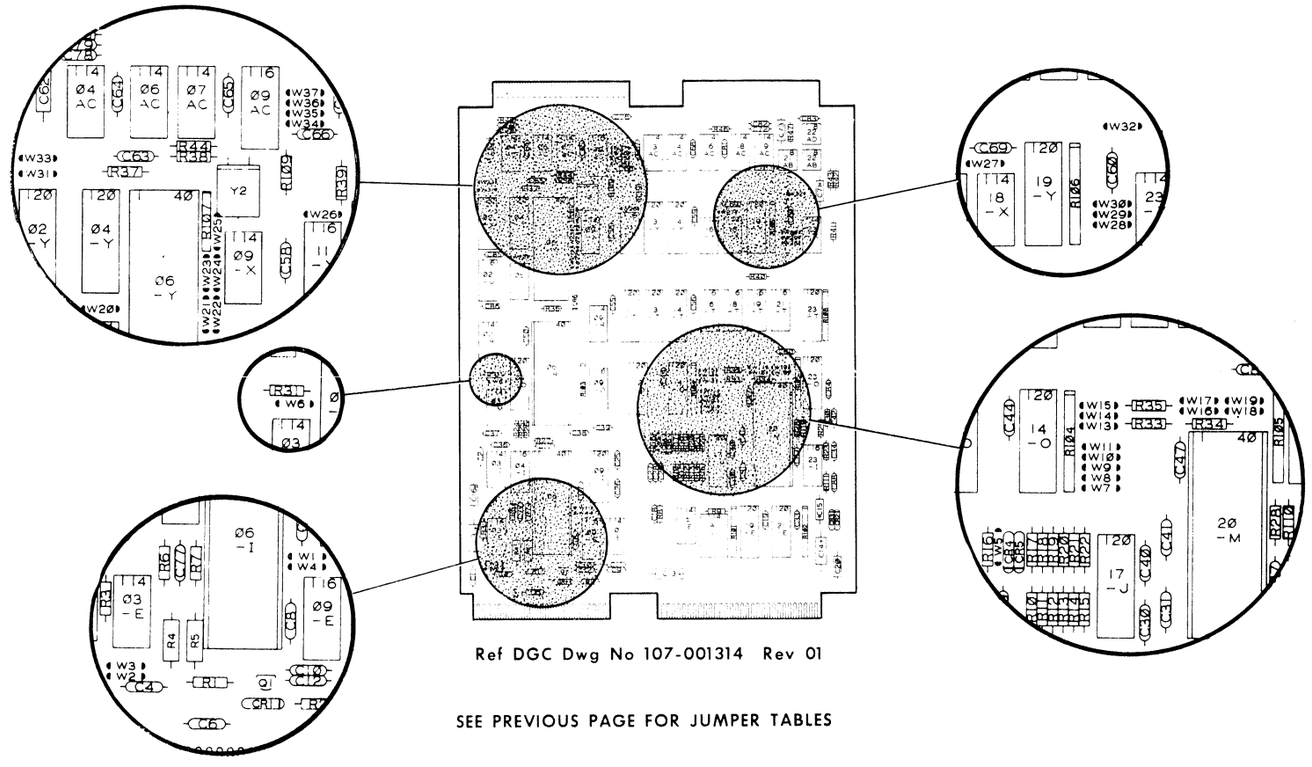
W22	STOP BIT SELECT
IN	ONE STOP BIT
OUT	TWO STOP BITS

CHARACTER SELECT

LENGTH	W24	W25
5 BITS	IN	IN
6 BITS	IN	OUT
7 BITS	OUT	IN
8 BITS	OUT	OUT

TAILORING

CPU

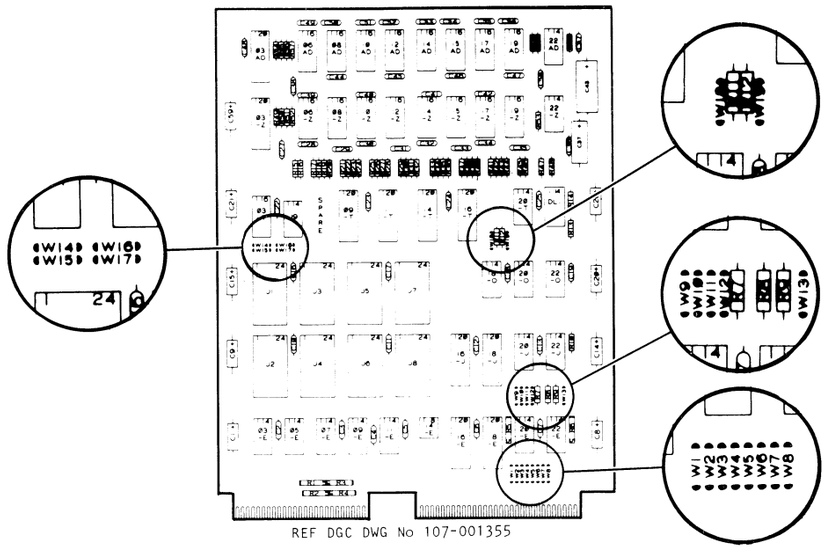


Ref DGC Dwg No 107-001314 Rev 01

SEE PREVIOUS PAGE FOR JUMPER TABLES

TAILORING (CONT)

MP/100 RAM/EPROM BOARD



REF DGC DWG No 107-001355

RAM 4/16K WORDS

4K WORDS

ADDRESS	JUMPERS W6	W8	W7
0K-4K	OUT	OUT	OUT
4K-8K	OUT	OUT	IN
8K-12K	OUT	IN	OUT
12K-16K	OUT	IN	IN
16K-20K	IN	OUT	OUT
20K-24K	IN	OUT	IN
24K-28K	IN	IN	OUT
28K-32K	IN	IN	IN

NOTE: RESISTORS R8, R52, AND R62 ARE NORMALLY IN.
RESISTORS R51, AND R61 ARE NORMALLY OUT.

16K WORDS

ADDRESS	JUMPER W6
0K-16K	OUT
16K-32K	IN

NOTE: RESISTORS R8, R52, AND R62 ARE NORMALLY OUT.
RESISTORS R51, AND R61 ARE NORMALLY IN.
REMOVE JUMPERS W7 AND W8.

MAPPED MEMORY

PHYSICAL ADDRESS	JUMPERS W5	W13
0K-32K	OUT	IN
32K-64K	IN	IN

EPROM 2/4/8/16K WORDS

2K WORDS

ADDRESS	JUMPERS W4	W3	W2	W1	SOCKET PAIR HIGH	LOW
0K-2K	OUT	OUT	OUT	OUT	J1	J2
2K-4K	OUT	OUT	OUT	IN	J5	J6
4K-6K	OUT	OUT	IN	OUT	J3	J4
6K-8K	OUT	OUT	IN	IN	J7	J8
8K-10K	OUT	IN	OUT	OUT	J1	J2
10K-12K	OUT	IN	OUT	IN	J5	J6
12K-14K	OUT	IN	IN	OUT	J3	J4
14K-16K	OUT	IN	IN	IN	J7	J8
16K-18K	IN	OUT	OUT	OUT	J1	J2
18K-20K	IN	OUT	OUT	IN	J5	J6
20K-22K	IN	OUT	IN	OUT	J3	J4
22K-24K	IN	OUT	IN	IN	J7	J8
24K-26K	IN	IN	OUT	OUT	J1	J2
26K-28K	IN	IN	OUT	IN	J5	J6
28K-30K	IN	IN	IN	OUT	J3	J4
30K-32K	IN	IN	IN	IN	J7	J8

NOTE: JUMPERS W9, W10, AND W11 ARE INSERTED FOR 2K EPROM MEMORY BLOCKS.

4K WORDS

ADDRESS	JUMPERS W4	W3	W2	SOCKET PAIR HIGH	LOW
0K-4K	OUT	OUT	OUT	J1	J2
4K-8K	OUT	OUT	IN	J3	J4
8K-12K	OUT	IN	OUT	J5	J6
12K-16K	OUT	IN	IN	J7	J8
16K-20K	IN	OUT	OUT	J1	J2
20K-24K	IN	OUT	IN	J3	J4
24K-28K	IN	IN	OUT	J5	J6
28K-32K	IN	IN	IN	J7	J8

NOTE:JUMPERS W1, AND W9 ARE NORMALLY OUT FOR 4K EPROM MEMORY BLOCKS.
JUMPERS W10, AND W11 ARE NORMALLY IN FOR 4K EPROM MEMORY BLOCKS.

NOTE: FOR A SINGLE PAIR OF EPROMS, THE ABOVE TABLES GIVE THE CORRESPONDING BLOCK OF MEMORY TO THE PAIR INSERTED.

8K WORDS

ADDRESS	JUMPERS W4	W3
0k-8K	OUT	OUT
8K-16K	OUT	IN
16K-24K	IN	OUT
24K-32K	IN	IN

NOTE: JUMPERS W1, W2, W9, AND W10 ARE NORMALLY OUT FOR 8K EPROM MEMORY BLOCKS. JUMPER W11 IS NORMALLY IN.

16K WORDS

ADDRESS	JUMPERS W4	W3
0K-16K	OUT	OUT
16K-32K	IN	OUT

NOTE: JUMPERS W1, W2, W9, W10, AND W11 ARE NORMALLY OUT.

MAPPED MEMORY

PHYSICAL ADDRESS	JUMPERS W19	W12
0K-32K	OUT	IN
32K-64K	IN	IN

PINOUT JUMPERS

EPROM CHIP SIZE	TYPE	W14	W15	W16	W17	W18
2K X 8	A	OUT	IN	IN	OUT	OUT
2K X 8	B	OUT	IN	IN	OUT	OUT
4K X 8	A	IN	OUT	IN	OUT	IN
4K X 8	B	IN	OUT	OUT	IN	OUT

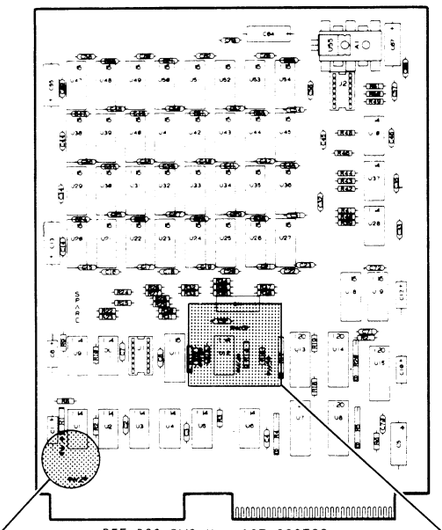
NOTE: A TYPE EPROMS HAVE PINOUTS COMPATIBLE WITH TEXAS INSTRUMENTS' EPROMS
B TYPE EPROMS HAVE PINOUTS COMPATIBLE WITH INTEL EPROMS.

NOTE: ALL EPROMS ARE USER SUPPLIED.

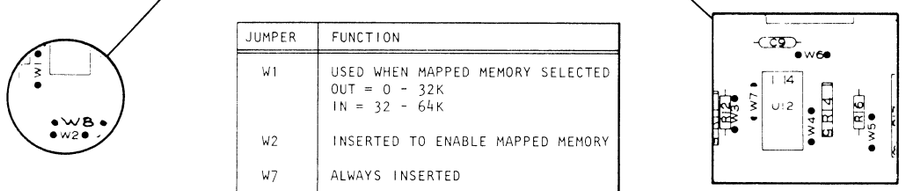
NOTE: JUMPER W20 NORMALLY OUT TO ENABLE EPROM MEMORY.

TAILORING (CONT)

RAM BOARD 4/8/16/32K WORDS



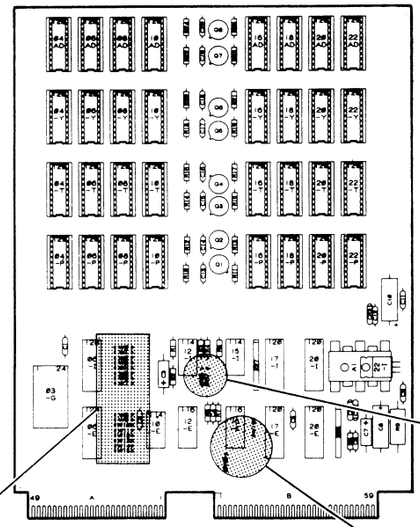
REF DGC DWG No. 107-000799



JUMPER	FUNCTION
W1	USED WHEN MAPPED MEMORY SELECTED OUT = 0 - 32K IN = 32 - 64K
W2	INSERTED TO ENABLE MAPPED MEMORY
W7	ALWAYS INSERTED
W8	NOT INSTALLED IF MEMORY IS TO BE USED ON +15V SYSTEMS. DO NOT INSTALL IF MEMORY IS INSTALLED IN MP/100 SYSTEM, SLOT 1 OR 2.

MEMORY ALLOCATION	ADDRESS JUMPERS W3	W4	W5	W6
4K MEMORY BOARDS				
0K - 4K	OUT	IN	OUT	OUT
4K - 8K	OUT	IN	OUT	IN
8K - 12K	OUT	IN	IN	OUT
12K - 16K	OUT	IN	IN	IN
16K - 20K	IN	IN	OUT	OUT
20K - 24K	IN	IN	OUT	IN
24K - 28K	IN	IN	IN	OUT
28K - 32K	IN	IN	IN	IN
8K MEMORY BOARDS				
0K - 8K	OUT	IN	OUT	IN
8K - 16K	OUT	IN	IN	OUT
16K - 24K	IN	IN	OUT	OUT
24K - 32K	IN	IN	IN	OUT
16K MEMORY BOARDS				
0K - 16K	OUT	OUT	OUT	OUT
16K - 32K	OUT	OUT	OUT	IN
32K MEMORY BOARDS				
0K - 32K	OUT	OUT	OUT	OUT

8K WORD PROM BOARD



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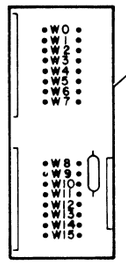
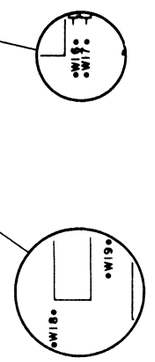


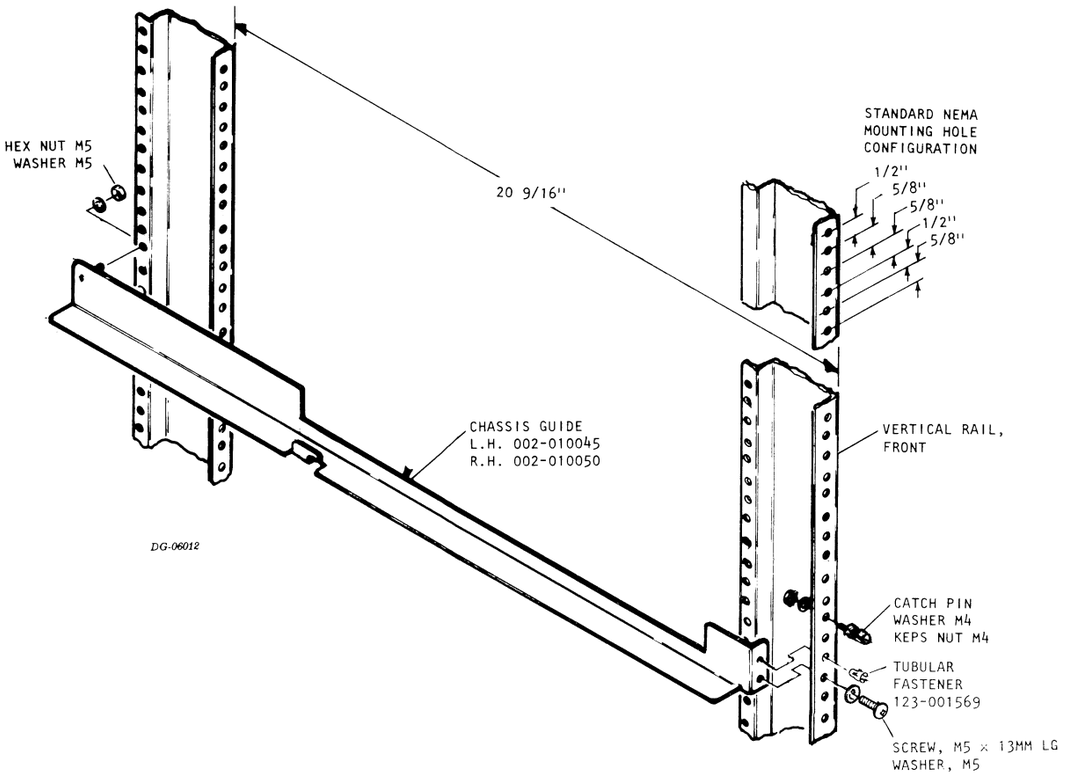


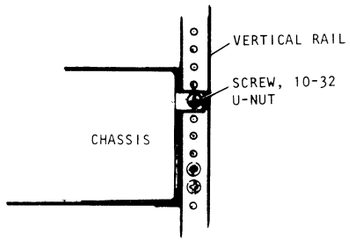
PROM BANK SELECT	INSERT JUMPER
BANK 0	(W0)
BANK 1	(W1)
BANK 2	(W2)
BANK 3	(W3)
BANK 4	(W4)
BANK 5	(W5)
BANK 6	(W6)
BANK 7	(W7)
BANK 8	(W8)
BANK 9	(W9)
BANK 10	(W10)
BANK 11	(W11)
BANK 12	(W12)
BANK 13	(W13)
BANK 14	(W14)
BANK 15	(W15)

MEMORY ADDRESSES SELECTED	JUMPER W16	W17
0 TO 17777	OUT	OUT
20000 TO 37777	IN	OUT
40000 TO 57777	OUT	IN
60000 TO 77777	IN	IN

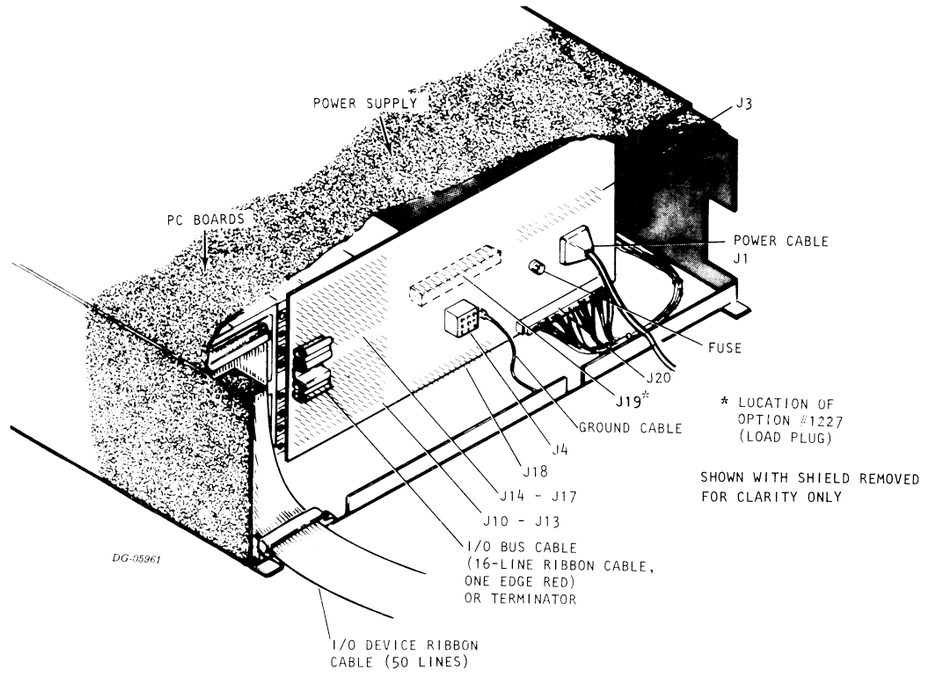
JUMPER	FUNCTION
W18	USED WHEN MAPPED MEMORY SELECTED OUT = 0 - 32K IN = 32 - 64K
W19	INSERTED TO ENABLE MAPPED MEMORY

CABINET MOUNTING





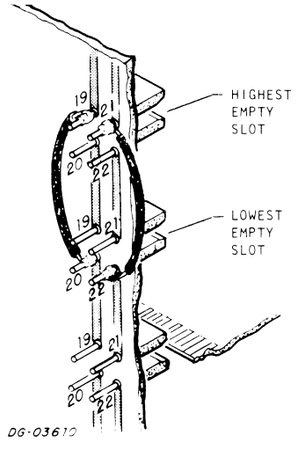
EXTERNAL/INTERNAL CABLING



* LOCATION OF OPTION #1227 (LOAD PLUG)

SHOWN WITH SHIELD REMOVED FOR CLARITY ONLY

JUMPERING BACKPANEL



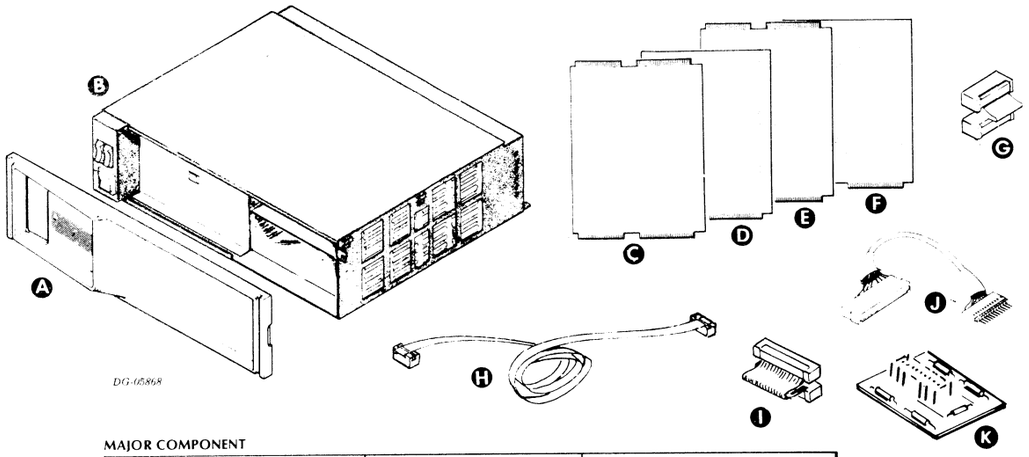
AN 8-SLOT CARDFRAME, HAVING EMPTY SLOTS BETWEEN SYSTEM MODULES, MUST HAVE PRIORITY JUMPERS INSTALLED ACROSS THOSE SLOTS AS FOLLOWS: PINS 20 AND 22 OF THE LOWEST EMPTY SLOT SHOULD BE CONNECTED TO PINS 19 AND 21, RESPECTIVELY, OF THE HIGHEST EMPTY SLOT. THE HIGHEST AND THE LOWEST EMPTY SLOT MAY BE THE SAME. NO JUMPERS ARE REQUIRED IF THE GROUP OF EMPTY SLOTS INCLUDES SLOT 8, UNLESS THE EXTERNAL I/O BUS IS USED. THE HIGHEST LEVEL PRIORITY BOARD IS THE ONE NEAREST THE CPU SLOT.

PIN ASSIGNMENTS

SLOT 1

	EVEN	ODD	
2	MCLOCK-L	MCLOCK-L	1
4	BIO1-L	GND	3
6	CLEAR-L	BIO1-L	5
8	BEXTINT-L	PWR-FAIL	7
10	LOCK	BDCINT-L	9
12	BIO2-L	GND	11
14	GND	BIO2-L	13
16	BIOCLOCK-L	BIOCLOCK-L	15
18	SPARE 0	HALT	17
20	PWR-FAIL	INTP→2	19
22	PWR OK	DCHP→2	21
24	BDATA7	BDATA15	23
26	BP	WAIT	25
28	BDATA6	BDATA14	27
30	FDCHR	FDCHE	29
32	BDATA5	BDATA13	31
34	BDATA4	BDATA12	33
36	GND	RTC	35
38	BDATA3	BDATA11	37
40	BMAP	-12V	39
42	BDATA2	BDATA10	41
44	RQENB	BOOT	43
46	BDATA1	BDATA9	45
48	BWE	BSAE	47
50	BDATA0	BDATA8	49
52	PHIL	SPARE2	51
54	GND	GND	53
56	+12V	+12V	55
58	-5V	+5V	57
60	+5V	+5V	59

INSTALLATION SPECIFICATIONS



MAJOR COMPONENT

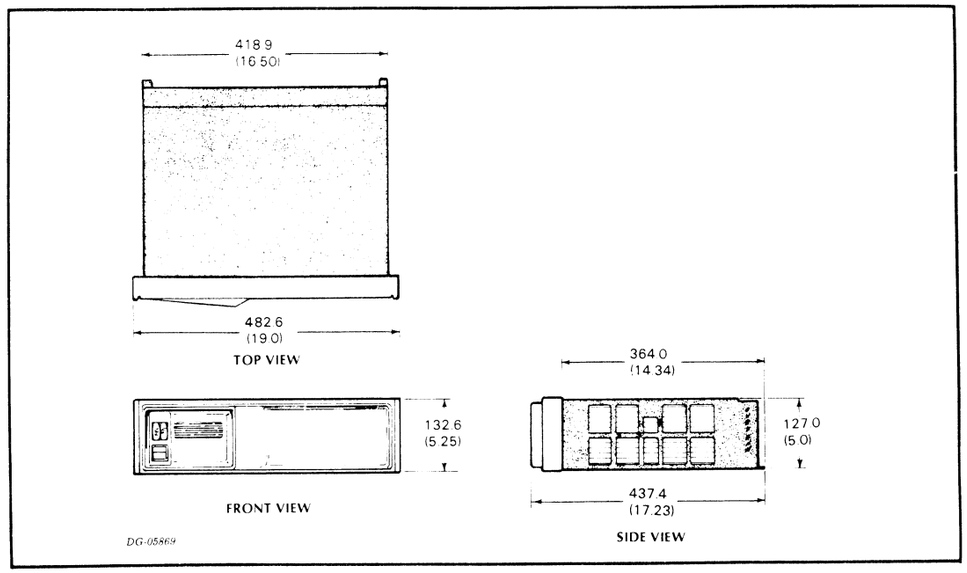
ITEM	COMPONENT	MOUNTING LOCATION	NOTES
A	FRONT PANEL	CABINET	
B	MP/200 CHASSIS	CABINET	
C	MP/200 CPU	MP/200 CHASSIS	A, C, D EDGE CONNECTOR 50 PINS B EDGE CONNECTOR 60 PINS
D	8/16/32 K RAM MEMORY	MP/200 CHASSIS	
E	MP/200 CONTROLLER	MP/200 CHASSIS	
F	MP/200 RAM/EPROM MEMORY	MP/200 CHASSIS	

CABLES

ITEM	CABLE	CONNECTING	MAX LENGTH FT	MAX LENGTH M	NOTES
G	I/O BUS LINK 005-005454	SLOT 4 TO SLOT 5	0.25	0.08	
H	EXTERNAL I/O 005-009695	BACKPANEL EXTERNAL TO I/O DEVICE	100	30	
I	MP/200 CONTROLLER 005-009663	CONTROLLER TO MP/200 CPU	1	0.3	USE C SIDE EDGE CONNECTOR OF CONTROLLER TO C SIDE OF CPU
J	ASYNC 005-007506	CONTROLLER TO COMM LINE	1	0.3	COMM LINE TO DEVICE 50 FT MAX FOR EIA. 1000 FT MAX FOR 20 AMP CURRENT LOOP

TERMINATOR

ITEM	TERMINATOR	LOCATION	NOTES
K	I/O BUS 005-008152	BACKPANEL OVER SLOTS 7 & 8	MOUNT TERMINATOR ON LAST DEVICE ON I/O BUS WHEN EXTERNAL TO CHASSIS.



DIMENSIONS:	Width	Depth	Height
Millimeters	482.6	401.0	132.6
Inches	19	15.8	5.25

SERVICE CLEARANCES:	Front
Millimeters	355.6
Inches	14

WEIGHT:	Empty	Fully Loaded
Kilograms	10.4	12.3
Pounds	23	27

HEAT OUTPUT (MAX)	Watts	BTU/hr
	200	680

OPERATING ENVIRONMENT:

Temperature (max)	55°C
Relative Humidity (max)	80 (non-condensing)
Altitude	10,000 ft 3084m

POWER REQUIREMENTS:

(Domestic)

Voltage	120 +10 -15
Hz	47-63
Max Amp per Phase	5
Phase	1
Startup Surge per Phase	33 amps for 8 milliseconds

(Export)

Voltage	100 +10 -15	220 +10 -15	240 +10 -15
Hz	47-63	47-63	47-63
Max Amp per Phase	5	3	3
Phase	1	1	1
Startup Surge per Phase	33 amps for 8 milliseconds	17 amps for 8 milliseconds	

CABLES:

Primary Power	Length	Conn	Mating Conn
Domestic 60Hz	6ft 1.83m	5-15P	5-15R
Export 50Hz	6ft 1.83m		

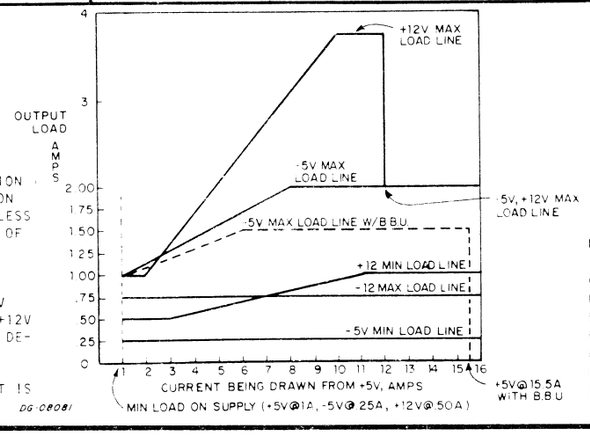
DATA CHANNEL SPEEDS AVAILABLE — STANDARD ☑ HIGH SPEED ☑

SLOT	ALLOWED SLOT CHART	ASSIGNED	CURRENT DRAW (AMPS) +5V	-5	+12	-12
8	MEMORY OR I/O					
7	MEMORY OR I/O					
6	MEMORY OR I/O					
5	MEMORY OR I/O					
4	MEMORY OR I/O					
3	MEMORY OR I/O					
2	MP/200 BASIC CONTROLLER		2.5	0.11	0.3	
1	MP/200 CPU		5.0	0.03		
	CURRENT DRAW					
	MAXIMUM CURRENT AVAILABLE*		16	2	1.75	0.75
	CURRENT SURPLUS					

NOTE: MINIMUM LOAD FOR EXPANSION CHASSIS IS 5A @ +5V. USE OPTION 1227 (LOAD PLUG) WHEN DRAWING LESS THAN 5A @ +5V. INSTALL ON J19 OF BACKPANEL.

* WHEN LESS THAN 8 AMPS OF +5V CURRENT IS BEING USED, THE +12V AND -5V CURRENT SOURCES ARE DE-RATED AS SHOWN.

MP/200-1 MAXIMUM +5V CURRENT IS 15 AMPS.



THE MP/200 CPU REQUIRES 5.0A @ +5V; 0.033A @ -5V.

THE MP/200 CONTROLLER REQUIRES 2.5A @ +5V; 0.11A @ +12V.

THE RAM MEMORY REQUIRES 0.5A @ +5V; 0.02A @ -5V; 0.3A @ +12V.

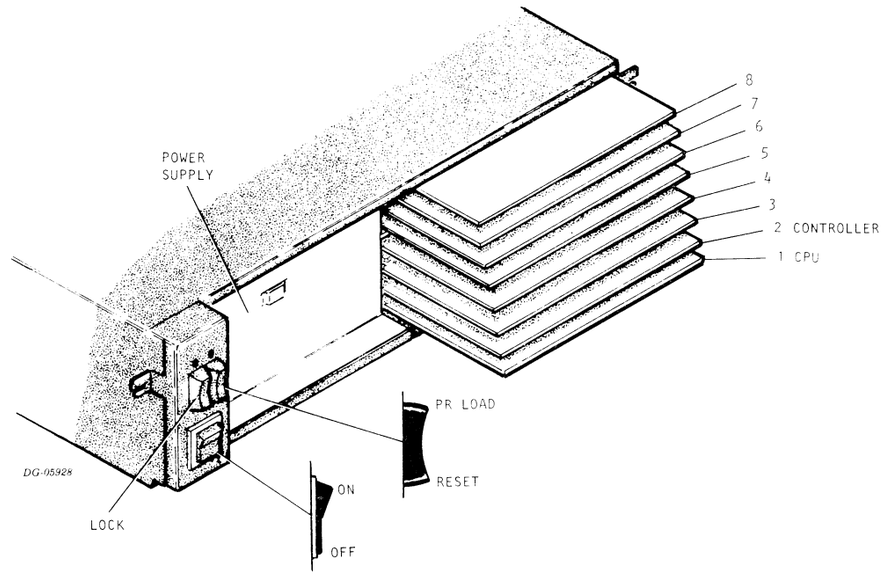
WARNING

THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY ENERGY AND IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTION MANUAL, MAY CAUSE INTERFERENCE TO RADIO COMMUNICATIONS. AS TEMPORARILY PERMITTED BY REGULATION IT HAS NOT BEEN TESTED FOR COMPLIANCE WITH THE LIMITS FOR CLASS A COMPUTING DEVICES PURSUANT TO SUBPART J OF PART 15 OF FCC RULES, WHICH ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST SUCH INTERFERENCE. OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA IS LIKELY TO CAUSE INTERFERENCE IN WHICH CASE THE USER AT HIS OWN EXPENSE WILL BE REQUIRED TO TAKE WHATEVER MEASURES MAY BE REQUIRED TO CORRECT THE INTERFERENCE.

SHIPPING

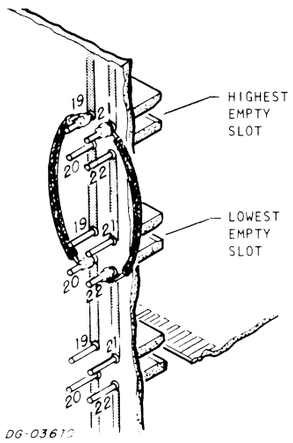
**FOR PACKING PROCEDURE,
SEE 010-000262/263**

BOARD ASSIGNMENTS



BACKPANEL

JUMPERING BACKPANEL



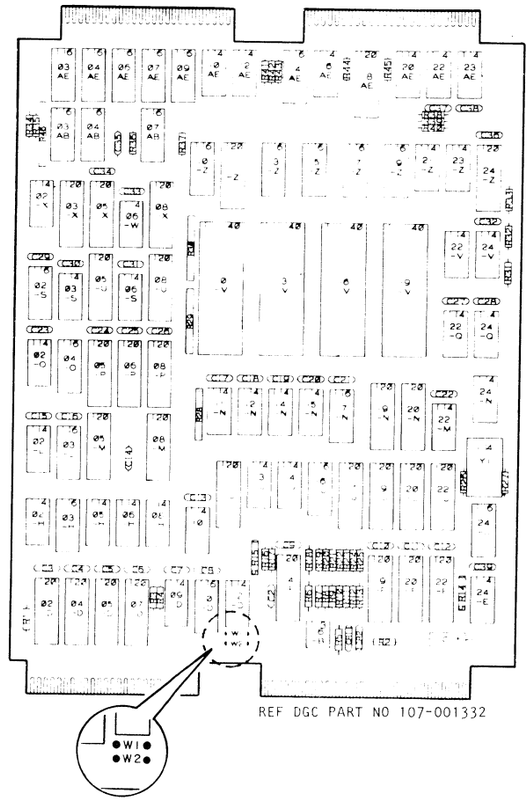
AN 8-SLOT CARDFRAME, HAVING EMPTY SLOTS BETWEEN SYSTEM MODULES, MUST HAVE PRIORITY JUMPERS INSTALLED ACROSS THOSE SLOTS AS FOLLOWS: PINS 20 AND 22 OF THE LOWEST EMPTY SLOT SHOULD BE CONNECTED TO PINS 19 AND 21, RESPECTIVELY, OF THE HIGHEST EMPTY SLOT. THE HIGHEST AND THE LOWEST EMPTY SLOT MAY BE THE SAME. NO JUMPERS ARE REQUIRED IF THE GROUP OF EMPTY SLOTS INCLUDES SLOT 8, UNLESS THE EXTERNAL I/O BUS IS USED. THE HIGHEST LEVEL PRIORITY BOARD IS THE ONE NEAREST THE CPU SLOT.

PIN ASSIGNMENTS

SLOT 1

	EVEN	ODD	
2	MCLOCK-L	MCLOCK-L	1
4	BIO1-L	GND	3
6	CLEAR-L	BIO1-L	5
8	BEXTINT-L	PWR-FAIL	7
10	LOCK	BDCINT-L	9
12	BIO2-L	GND	11
14	GND	BIO2-L	13
16	BIOCLOCK-L	BIOCLOCK-L	15
18	MEMINT	HALT	17
20	PWR-FAIL	INTP→2	19
22	PWR OK	DCHP→2	21
24	BUS7	BUS15	23
26	MEMIO	WAIT	25
28	BBUS6	BUS14	27
30	WEHI	WELO	29
32	BUS5	BUS13	31
34	BUS4	BUS12	33
36	GND	60Hz	35
38	BUS3	BUS11	37
40	BPHASE	-12V	39
42	BUS2	BUS10	41
44	XMA1	BOOT	43
46	BUS1	BUS9	45
48	ADREN	DATEN	47
50	BBUS0	BUS8	49
52	SYSCLK	CONT	51
54	GND	GND	53
56	+12V	+12V	55
58	-5V	+5V	57
60	+5V	+5V	59

CPU

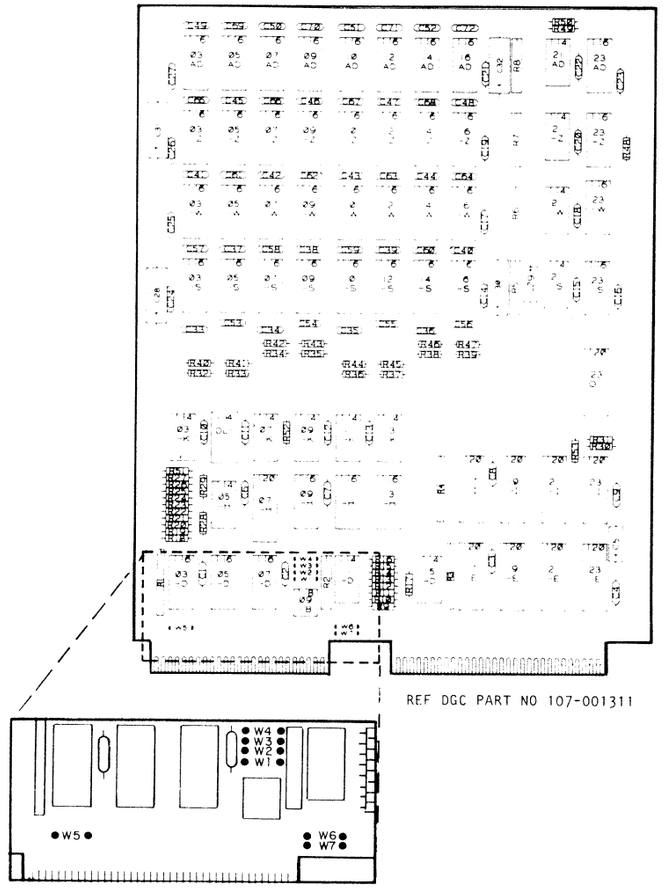


REF DGC PART NO 107-001332

JUMPER W1	JUMPER W2	FUNCTION
IN	OUT	AN EXTERNAL CABLE/BUS TERMINATOR IS PRESENT
OUT	IN	CABLE/BUS TERMINATOR IS INTERNAL TO CHASSIS

TAILORING

MP/200 8/16/32K RAM BOARD



REF DGC PART NO 107-001311

8K-WORD

ADDRESS SELECT	JUMPERS W3	JUMPERS W4
0K-8K	OUT	OUT
8K-16K	OUT	IN
16K-24K	IN	OUT
24K-32K	IN	IN

NOTE: JUMPERS W1, W2, W5, W6 AND W7 ARE NORMALLY OUT.

16K-WORDS

ADDRESS SELECT	JUMPERS W3
0K-16K	OUT
16K-32K	IN

NOTE: JUMPERS W1, W2, W4, W5, W6 AND W7 ARE NORMALLY OUT.

32K-WORDS

NOTE: ALL JUMPERS ARE NORMALLY OUT FOR 32K BOARD.

TAILORING (CONT)

MP/200 CONTROLLER BOARD

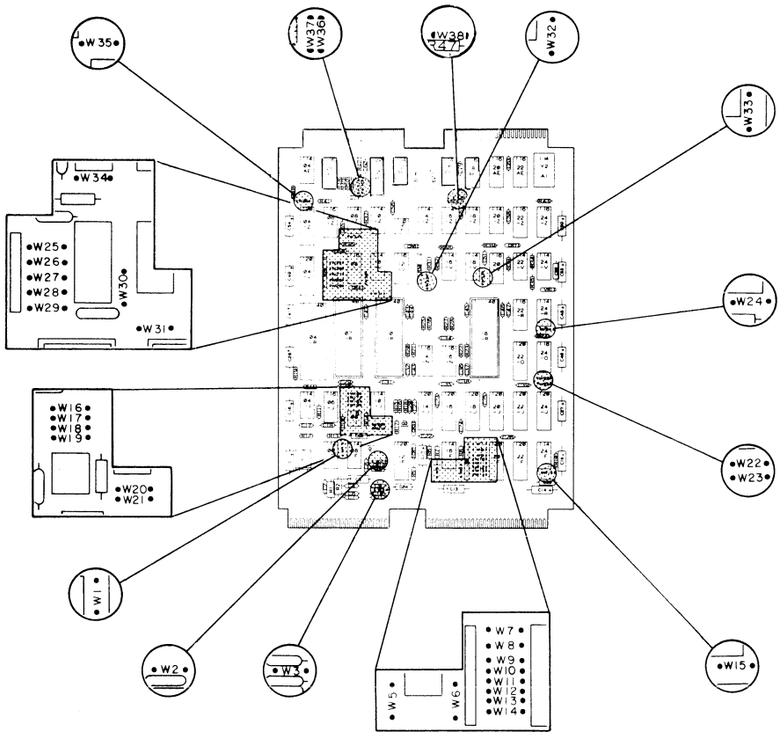
Ref DGC Dwg No 107-001313 Rev 02

JUMPER	FUNCTION
W5	NORMALLY INSERTED. ALONG WITH W24 ENABLES JUMPER REGISTER.
W6	NORMALLY INSERTED. ALONG WITH W24 ENABLES SOFT CONTROL PANEL.
W15	NORMALLY OUT. INSERTED IF W5 AND W24 ARE INSERTED AND W6 IS OUT.
W24	NORMALLY INSERTED. NEEDED TO ENABLE SOFT CONTROL PANEL ROMS AND JUMPER WORD REGISTER.
W26	SELECT NUMBER OF STOP BITS ON ASYNCHRONOUS INTERFACE. INSERT FOR 1 STOP BIT. OUT FOR 2 STOP BITS.
W34	INSERT TO ENABLE MODEM CHANGE INTERRUPT.
W35	INSERT TO ENABLE EXTENDED STATUS.
W36	IN = DISABLE POWERFAIL INTERRUPT. OUT = ENABLE POWERFAIL INTERRUPT.
W37	INSERT TO ENABLE AUTO RESTART AFTER HALT. OUT FOR HARD HALT.

BAUD RATE SELECT

RATE	JUMPERS W16	W17	W18	W19
50	IN	OUT	IN	IN
75	OUT	OUT	IN	IN
110	OUT	OUT	OUT	OUT
134.5	IN	IN	OUT	IN
150	IN	OUT	OUT	OUT
200	OUT	IN	OUT	IN
300	OUT	IN	OUT	OUT
600	IN	OUT	OUT	IN
1200	OUT	OUT	IN	OUT
1800	iN	OUT	IN	OUT
2700	IN	IN	OUT	OUT
4800	OUT	IN	IN	OUT
9600	IN	IN	IN	OUT
19200	OUT	IN	IN	IN

W38 ADDED
REV 02



	JUMPER REGISTER IS ENABLED WHEN ADDRESS 077777 IS ISSUED; JUMPER REGISTER IS (HIGH BYTE*) OF STARTING ADDRESS.	
	JUMPER REGISTER IS ENABLED WHEN ADDRESS 077776 IS ISSUED; JUMPER REGISTER IS DEVICE CODE TO PROGRAM LOAD FROM. IF DEVICE CODE IS 77 ENTER SOFT CONSOLE.	
W22	OUT	IN
W23	IN	OUT

W7	A0	**
W8	A1	***
W9	A2	DS0
W10	A3	DS1
W11	A4	DS2
W12	A5	DS3
W13	A6	DS4
W14	A7	DS5

NOTE: JUMPER IN = 0
OUT = 1

* STARTING ADDRESS LOW BYTE = 00,000,001
** OUT FOR DCH LOAD; IN FOR PIO LOAD
*** OUT FOR 1 MINUTE WAIT PRIOR TO PROGRAM LOAD EXECUTION; IN FOR NO WAIT PRIOR TO PROGRAM LOAD EXECUTION

INTERFACE MODE SELECT

LINE TYPE	W1	W2	W3	W32
EIA	IN	OUT	OUT	OUT
20AMP CURRENT LOOP (600 BAUD AND BELOW)	OUT	IN	IN	IN
(ABOVE 600 BAUD)	OUT	IN	OUT	IN

DEVICE CODE SELECT

JUMPER	FUNCTION
W30	NORMALLY OUT SELECTS THE PRIMARY TTO. INSERTED SELECTS SECONDARY TTO.
W31	NORMALLY OUT SELECTS THE PRIMARY TTI. INSERTED SELECTS SECONDARY TTI.
W33	NORMALLY OUT SELECTS THE PRIMARY RTC. DEVICE CODE 14. INSERT TO SELECT DEVICE CODE 54.

JUMPER W20	W21	FUNCTION
OUT	IN	FORCE CLEAR TO SEND HALF-DUPLEXED MODEM, 60-CPS DASHER
IN	OUT	

PARITY SELECT

PARITY	JUMPERS W25	W29
ODD	IN	IN
EVEN	IN	OUT
NONE	OUT	OUT

CHARACTER SELECT

LENGTH	JUMPERS W27	W28
5 BITS	IN	IN
6 BITS	IN	OUT
7 BITS	OUT	IN
8 BITS	OUT	OUT

W38	IN = DISABLE NON-MASKABLE INTERRUPT ON "BREAK" OUT = ENABLE NON-MASKABLE INTERRUPT ON "BREAK" WHEN FRONT CONSOLE IS UNLOCKED

W38 ADDED REV 02

TAILORING (CONT)

EPROM 1/2/4/8/16K WORDS

NOTE: THE JUMPERING INFORMATION GIVEN ON THIS DOCUMENT SUPERCEDES THAT GIVEN IN THE MP/200 HARDWARE REFERENCE MANUAL DGC 014-000667.

1K × 8 EPROMS

ADDRESS	JUMPERS W14	W15	W16	W13	W12	SOCKET PAIR MSB	LSB
0K- 1K	OUT	OUT	OUT	OUT	OUT	J1	J5
1K- 2K	OUT	OUT	OUT	OUT	IN	J2	J6
2K- 3K	OUT	OUT	OUT	IN	OUT	J3	J7
3K- 4K	OUT	OUT	OUT	IN	IN	J4	J8
4K- 5K	OUT	OUT	IN	OUT	OUT	J1	J5
5K- 6K	OUT	OUT	IN	OUT	IN	J2	J6
6K- 7K	OUT	OUT	IN	IN	OUT	J3	J7
7K- 8K	OUT	OUT	IN	IN	IN	J4	J8
8K- 9K	OUT	IN	OUT	OUT	OUT	J1	J5
9K-10K	OUT	IN	OUT	OUT	IN	J2	J6
10K-11K	OUT	IN	OUT	IN	OUT	J3	J7
11K-12K	OUT	IN	OUT	IN	IN	J4	J8
12K-13K	OUT	IN	IN	OUT	OUT	J1	J5
13K-14K	OUT	IN	IN	OUT	IN	J2	J6
14K-15K	OUT	IN	IN	IN	OUT	J3	J7
15K-16K	OUT	IN	IN	IN	IN	J4	J8
16K-17K	IN	OUT	OUT	OUT	OUT	J1	J5
17K-18K	IN	OUT	OUT	OUT	IN	J2	J6
18K-19K	IN	OUT	OUT	IN	OUT	J3	J7
19K-20K	IN	OUT	OUT	IN	IN	J4	J8
20K-21K	IN	OUT	IN	OUT	OUT	J1	J5
21K-22K	IN	OUT	IN	OUT	IN	J2	J6
22K-23K	IN	OUT	IN	IN	OUT	J3	J7
23K-24K	IN	OUT	IN	IN	IN	J4	J8
24K-25K	IN	IN	OUT	OUT	OUT	J1	J5
25K-26K	IN	IN	OUT	OUT	IN	J2	J6
26K-27K	IN	IN	OUT	IN	OUT	J3	J7
27K-28K	IN	IN	OUT	IN	IN	J4	J8
28K-29K	IN	IN	IN	OUT	OUT	J1	J5
29K-30K	IN	IN	IN	OUT	IN	J2	J6
30K-31K	IN	IN	IN	IN	OUT	J3	J7
31K-32K	IN	IN	IN	IN	IN	J4	J8

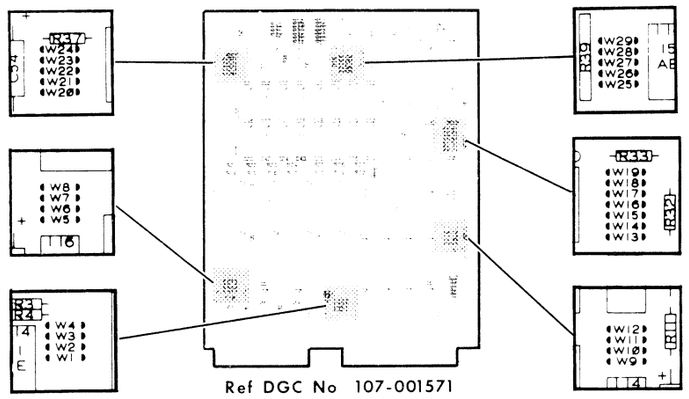
NOTE: JUMPERS W10, W17, W18, AND W19 ARE NORMALLY IN FOR 1K EPROM MEMORY BLOCKS.

2K-WORD ADDRESS SELECT

ADDRESS	JUMPERS W14	W15	W16	W13	SOCKET PAIR MSB	LSB
0K-2K	OUT	OUT	OUT	OUT	J1	J5
2K-4K	OUT	OUT	OUT	IN	J3	J7
4K-6K	OUT	OUT	IN	OUT	J2	J6
6K-8K	OUT	OUT	IN	IN	J4	J8
8K-10K	OUT	IN	OUT	OUT	J1	J5
10K-12K	OUT	IN	OUT	IN	J3	J7
12K-14K	OUT	IN	IN	OUT	J2	J6
14K-16K	OUT	IN	IN	IN	J4	J8
16K-18K	IN	OUT	OUT	OUT	J1	J5
18K-20K	IN	OUT	OUT	IN	J3	J7
20K-22K	IN	OUT	IN	OUT	J2	J6
22K-24K	IN	OUT	IN	IN	J4	J8
24K-26K	IN	IN	OUT	OUT	J1	J5
26K-28K	IN	IN	OUT	IN	J3	J7
28K-30K	IN	IN	IN	OUT	J2	J6
30K-32K	IN	IN	IN	IN	J4	J8

NOTE: JUMPERS W17, W18, AND W19 ARE NORMALLY IN AND W10 AND W12 ARE NORMALLY OUT FOR 2K EPROM MEMORY BLOCKS. 2K-WORDS CAN NOT BE IMPLEMENTED WITH 2 PAIRS OF 1K EPROMS.

MP/200 RAM/EPROM BOARD



Ref DGC No 107-001571

4K-WORD ADDRESS SELECT
(FOR 1 PAIR OF 4K EPROMS)

ADDRESS	JUMPERS W14	W15	W16	SOCKET PAIR MSB	LSB
0K-4K	OUT	OUT	OUT	J1	J5
4K-8K	OUT	OUT	IN	J2	J6
8K-12K	OUT	IN	OUT	J3	J7
12K-16K	OUT	IN	IN	J4	J8
16K-20K	IN	OUT	OUT	J1	J5
20K-24K	IN	OUT	IN	J2	J6
24K-28K	IN	IN	OUT	J3	J7
28K-32K	IN	IN	IN	J4	J8

NOTE: JUMPERS W10, W12, W13, AND W19 ARE NORMALLY OUT FOR 4K EPROM MEMORY BLOCKS.
JUMPERS W17 AND W18 ARE NORMALLY IN FOR 4K EPROM MEMORY BLOCKS.
4K-WORDS CAN ALSO BE IMPLEMENTED WITH 4 PAIRS OF 1K EPROMS. REFER TO THE 1K × 8 EPROM TABLE FOR CONFIGURATION OF JUMPERS W12 - W16. LEAVE JUMPER W10 AND W12 OUT WHEN 4 K-WORDS ARE USED. 4K-WORDS CAN NOT BE IMPLEMENTED WITH 2 PAIRS OF 2K EPROMS.

NOTE: FOR A SINGLE PAIR OF EPROMS, ADDRESS DEPENDS ON THE SOCKET LOCATION AS MUCH AS THE JUMPERS INSERTED.

8K-WORD ADDRESS SELECT
(FOR 4 PAIRS OF 2K EPROMS)

ADDRESS	JUMPERS W14	W15	SOCKET PAIR MSB	LSB
0K-2K	OUT	OUT	J1	J5
2K-4K	OUT	OUT	J3	J7
4K-8K	OUT	OUT	J2	J6
6K-8K	OUT	OUT	J4	J8
8K-10K	OUT	IN	J1	J5
10K-12K	OUT	IN	J3	J7
12K-14K	OUT	IN	J2	J6
14K-16K	OUT	IN	J4	J8
16K-18K	IN	OUT	J1	J5
18K-20K	IN	OUT	J3	J7
20K-22K	IN	OUT	J2	J6
22K-24K	IN	OUT	J4	J8
24K-26K	IN	IN	J1	J5
26K-28K	IN	IN	J3	J7
28K-30K	IN	IN	J2	J6
30K-32K	IN	IN	J4	J8

NOTE: JUMPERS W10, W12, W13, W16, W18, AND W19 ARE NORMALLY OUT FOR 8K EPROM MEMORY BLOCKS. 8K-WORDS CAN NOT BE IMPLEMENTED WITH 2 PAIRS OF 4K EPROMS.

16K-WORD ADDRESS SELECT
(FOR 4 PAIRS OF 4K EPROMS)

ADDRESS	JUMPERS W14	W15
0K-16K	OUT	OUT
16K-32K	IN	OUT

NOTE: JUMPERS W10, W12, W13, W16, W17, W18, AND W19 ARE NORMALLY OUT. INSERT THE EPROM PAIRS IN SOCKETS J1 - J8 AS SHOWN IN THE TABLE FOR 4K-WORD ADDRESS SPACE.

JUMPER W1 IS INSERTED TO DISABLE EPROM MEMORY. JUMPER W1 IS NORMALLY OUT JUMPERS W2 AND W25 ARE NORMALLY INSERTED AND W3 IS NORMALLY REMOVED; IN THIS CASE, THE CPU MEMINH SIGNAL CONTROLS THE BOARD. IF THE EPROM SECTION IS REQUIRED TO GENERATE ITS OWN MEMINH SIGNAL, WHILE IGNORING THAT OF THE CPU, THEN REMOVE JUMPERS W2 AND W25, AND INSERT W3.

JUMPERS W9, W11, AND W27 ARE NORMALLY OUT.

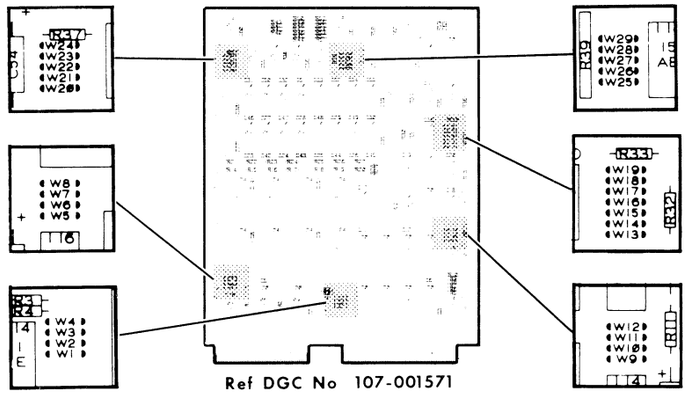
EPROM TYPES

		JUMPERS W4	W5	W6	W7	W8	W20	W21	W22	W23	W24
1K X 8-BIT T.I.	2508	OUT	IN	OUT	IN	OUT	OUT	OUT	IN	OUT	OUT
ANY	2708	OUT	IN	OUT	IN	OUT	IN	IN	OUT	OUT	OUT
2K X 8-BIT T.I.	2516	IN	OUT	IN	IN	OUT	OUT	OUT	IN	OUT	OUT
ANY	2716	IN	OUT	IN	IN	OUT	OUT	OUT	IN	OUT	OUT
4K X 8-BIT T.I.	2532	IN	OUT	IN	OUT	IN	OUT	OUT	IN	OUT	IN
ANY	2732	IN	OUT	IN	OUT	IN	OUT	OUT	OUT	IN	OUT

MP/200 RAM/EPROM BOARD Continued next page.

TAILORING (CONT)

MP/200 RAM/EPROM BOARD (CONT)



Ref DGC No 107-001571

RAM 4/16K WORDS

4K-WORD ADDRESS SELECT

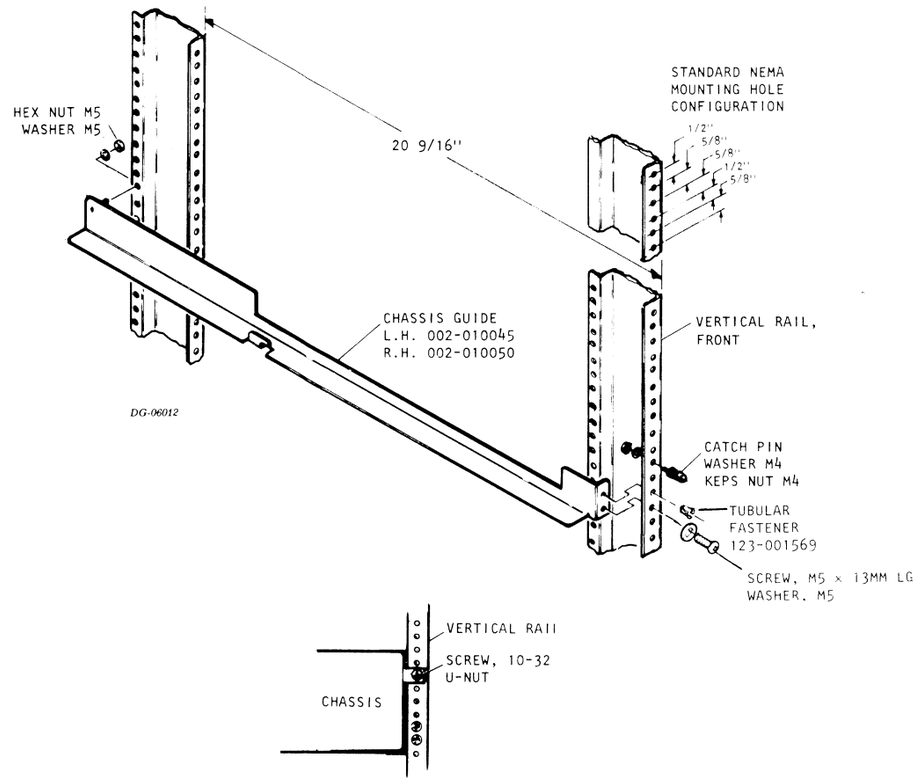
ADDRESS	JUMPERS W26	W28	W29
0K-4K	OUT	OUT	OUT
4K-8K	OUT	OUT	IN
8K-12K	OUT	IN	OUT
12K-16K	OUT	IN	IN
16K-20K	IN	OUT	OUT
20K-24K	IN	OUT	IN
24K-28K	IN	IN	OUT
28K-32K	IN	IN	IN

16K-WORD ADDRESS SELECT

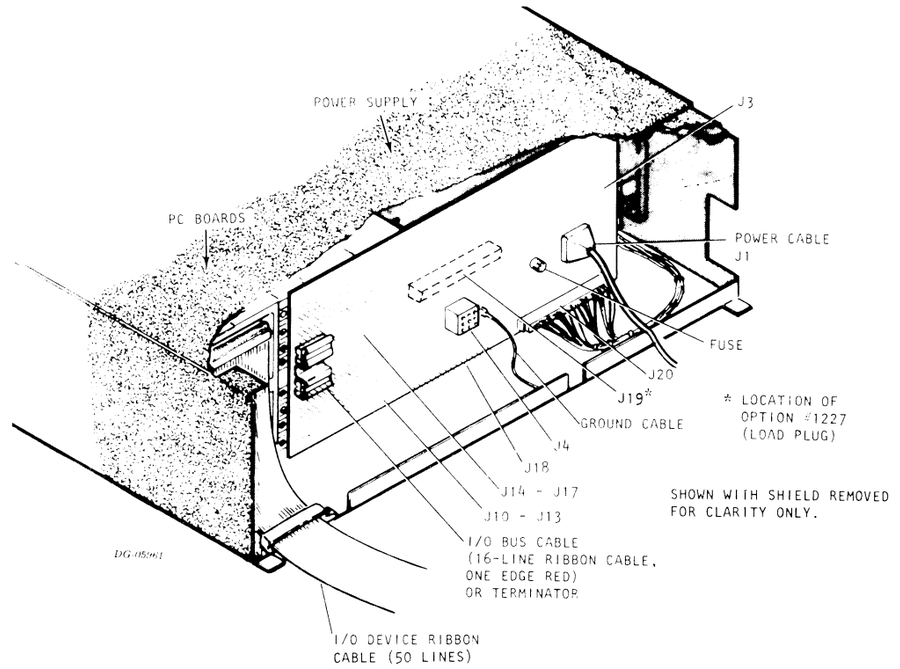
ADDRESS	JUMPER W26
0K-16K	OUT
16K-32K	IN

NOTE: THE USER SELECTS THE 32K-WORD ADDRESS SPACE FOR RAM MEMORY INDEPENDENTLY OF EPROM MEMORY.

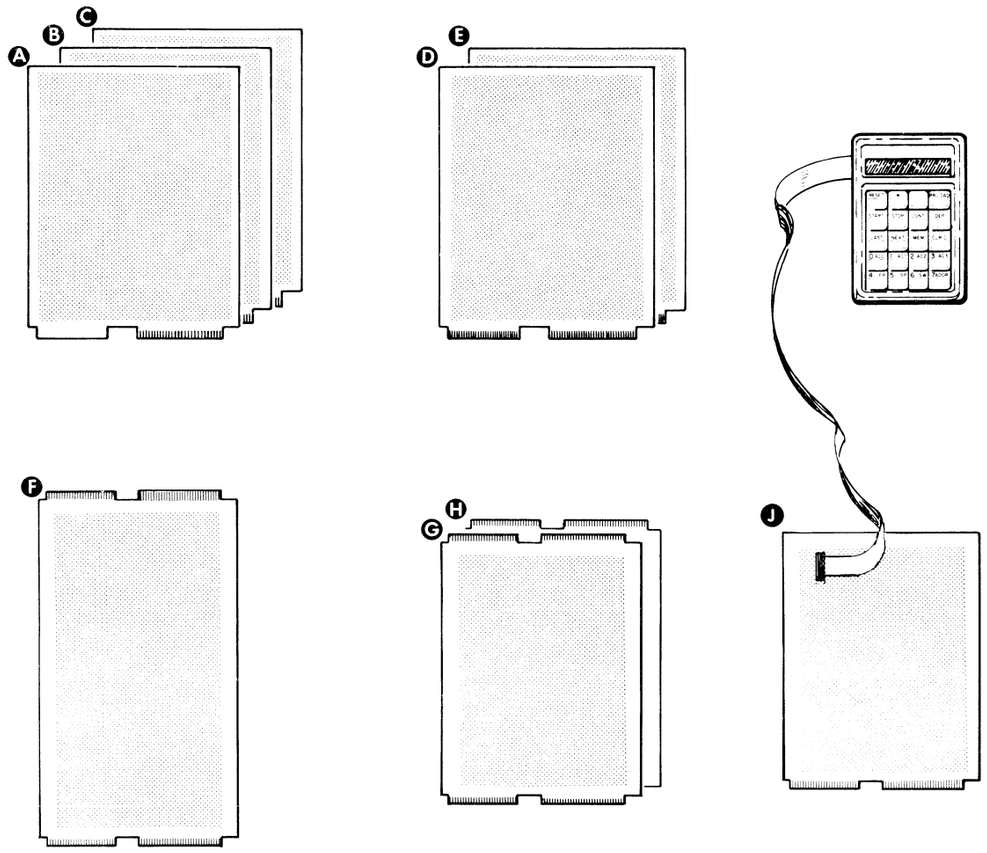
CABINET MOUNTING



EXTERNAL/INTERNAL CABLING



SUBSYSTEM COMPONENT BREAKDOWN



MAJOR COMPONENT

ITEM	COMPONENT	MOUNTING LOCATION	NOTES
A	4K 8K RANDOM ACCESS MEMORY	SLOTS 2-9	107-000624
B	4K 8K RANDOM ACCESS MEMORY	SLOTS 2-9	107-000961
C	16K 32K RANDOM ACCESS MEMORY	SLOTS 2-9	107-000799
D	4K PROGRAMMABLE READ-ONLY MEMORY	SLOTS 2-9	
E	8K PROGRAMMABLE READ-ONLY MEMORY	SLOTS 2-9	
F	PROM PROGRAMMER	SLOTS 2-9	
G	HIGH SPEED DATA CHANNEL CONTROLLER	SLOT 2	
H	HIGH SPEED DATA CHANNEL ADAPTER	SLOT 10	
J	HAND-HELD CONSOLE	HAND-HELD CONSOLE MOUNTS IN FRONT PANEL. CONTROLLER BOARD PREFERRED LOCATION: SLOT 8	
K	BATTERY BACK-UP	CHASSIS	

CABLE

ITEM	CABLE	CONNECTING			MAX ALLOWED LG FT / M	NOTES
L	HIGH SPEED DATA CHANNEL ADAPTER	H.S.D.C. CONTROLLER	AND	H.S.D.C ADAPTER	1.0 / 0.3	SLOT 2 TO SLOT 10
M	HIGH SPEED DATA CHANNEL CONTROLLER	H.S.D.C. CONTROLLER	AND	CPU	0.5 / .15	SLOT 1 TO SLOT 2

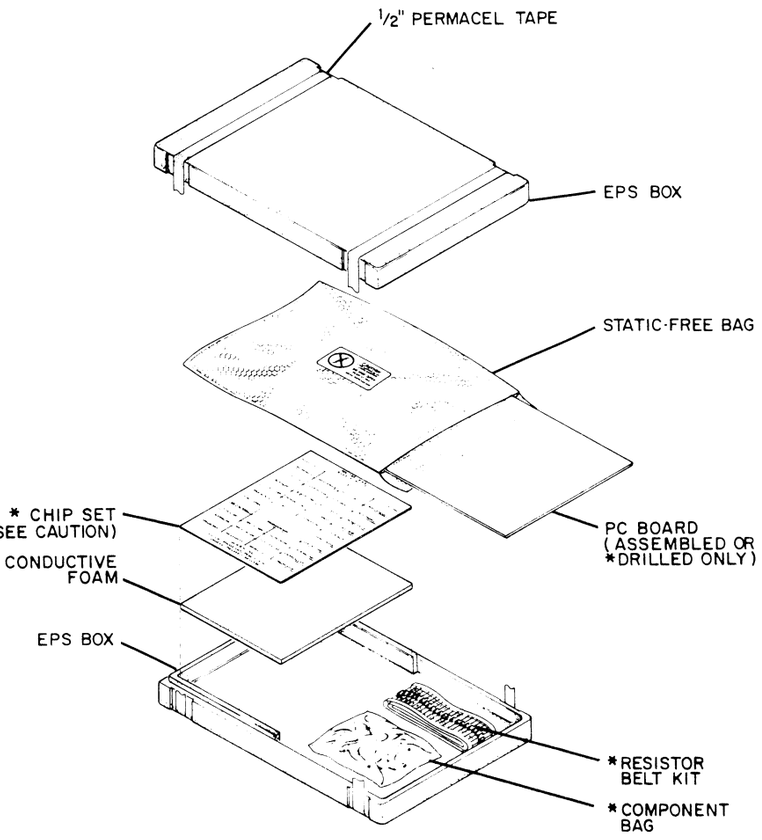
NOTE: FOR ASYNCHRONOUS INTERFACE REF. 010-226
FOR RTC/PTR AND LINE PRINTER REF. 010-227
FOR COMMUNICATIONS AIDS REF. 010-225

SPECIFICATIONS OF CHASSIS-MOUNTED COMPONENTS

ITEM	COMPONENT	NO. OF SLOTS REQUIRED	TOTAL +5V	+15V	-5V	REMARKS
A	4K 8K RANDOM ACCESS MEMORY	1	0.6A	0.3	0.2	DGC P/N 107-000624
B	4K 8K RANDOM ACCESS MEMORY	1	0.7	0.25	0.005	DGC P/N 107-000961
C	16K 32K RANDOM ACCESS MEMORY	1	0.7	0.25	0.005	
D	4K PROGRAMMABLE READ-ONLY MEMORY	1	1.0	—	—	
E	8K PROGRAMMABLE READ-ONLY MEMORY	1	0.9	0.25	—	+15V OR +12V
F	PROM PROGRAMMER	1	1.7	0.17	0.03	
G	HIGH SPEED DATA CHANNEL CONTROLLER	1	1.25	—	—	
H	HIGH SPEED DATA CHANNEL ADAPTER	1	0.4	—	—	
J	HAND-HELD CONSOLE	1	2.4	0.10	0.03	
K	BATTERY BACK-UP	—	—	0.3	—	

SHIPPING

**FOR PACKING PROCEDURE,
SEE 010-000262**



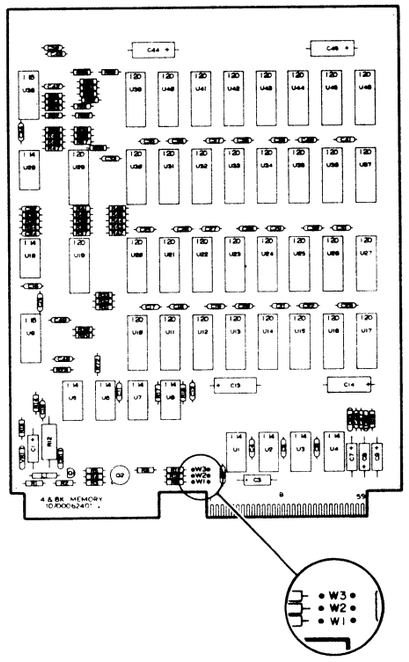
CAUTION:
IN ORDER TO PREVENT STATIC ELECTRICITY BUILD UP, ALWAYS KEEP ONE FINGER ON LABEL WHEN INSERTING OR REMOVING CHIPS AND ALWAYS WORK AT APPROVED WORK STATION.

*STARRED REFERENCES PERTAIN ONLY TO THOSE CASES WHERE THE CUSTOMER WILL ASSEMBLE HIS OWN BOARD.

TAILORING

4/8K RANDOM ACCESS MEMORY

REF. DGC P/N 107-000624-01



OCTAL STARTING/ENDING ADDRESS	W1	W2	W3
4K ADDRESS SELECTION JUMPERS			
00000-07777	OUT	OUT	OUT
10000-17777	OUT	OUT	IN
20000-27777	OUT	IN	OUT
30000-37777	OUT	IN	IN
40000-47777	IN	OUT	OUT
50000-57777	IN	OUT	IN
60000-67777	IN	IN	OUT
70000-77777	IN	IN	IN
8K ADDRESS SELECTION JUMPERS			
00000-17777	OUT	OUT	OUT
20000-37777	OUT	IN	OUT
40000-57777	IN	OUT	OUT
60000-77777	IN	IN	OUT

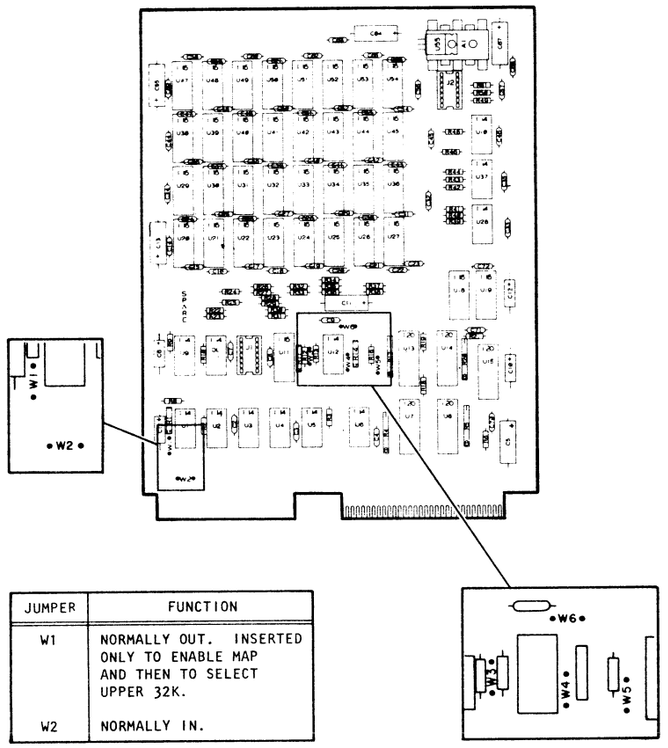
W1 IS THE JUMPER FOR BDATA1 (MSB OF MEMORY ADDRESS; IN FOR A 1, OUT FOR A 0)

W2 IS FOR BDATA2 (IN FOR A 1, OUT FOR A 0)

W3 IS FOR BDATA3 (IN FOR A 1, OUT FOR A 0)

4/8/16/32K RANDOM ACCESS MEMORY

REF. DGC P/N 107-000961 (4K/8K)
107-000799 (16K/32K)



JUMPER	FUNCTION
W1	NORMALLY OUT. INSERTED ONLY TO ENABLE MAP AND THEN TO SELECT UPPER 32K.
W2	NORMALLY IN.

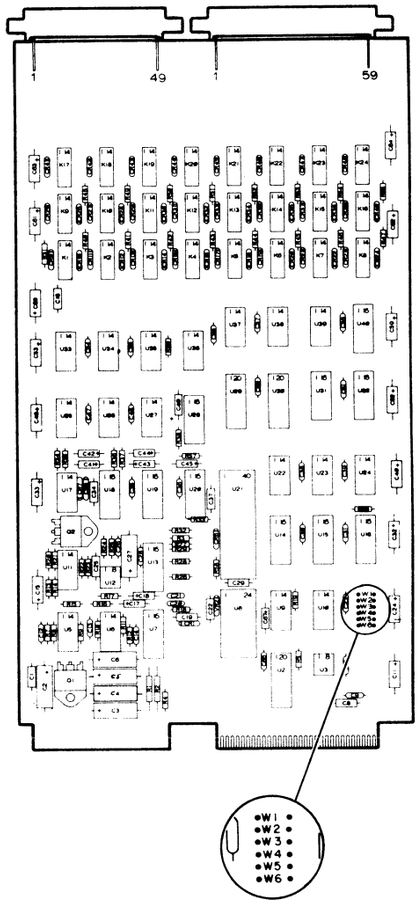
ADDRESS SELECTION JUMPERS

OCTAL STARTING/ENDING ADDRESS	W3	W4	W5	W6
4K MEMORY ADDRESS				
00000-07777	OUT	IN	OUT	OUT
10000-17777	OUT	IN	OUT	IN
20000-27777	OUT	IN	IN	OUT
30000-37777	OUT	IN	IN	IN
40000-47777	IN	IN	OUT	OUT
50000-57777	IN	IN	OUT	IN
60000-67777	IN	IN	IN	OUT
70000-77777	IN	IN	IN	IN
8K MEMORY ADDRESS				
00000-17777	OUT	IN	OUT	OUT
20000-37777	OUT	IN	IN	OUT
40000-57777	IN	IN	OUT	OUT
60000-77777	IN	IN	IN	OUT
16K MEMORY ADDRESS				
00000-37777	OUT	OUT	OUT	OUT
40000-77777	OUT	OUT	OUT	IN
32K MEMORY ADDRESS				
00000-77777	OUT	OUT	OUT	OUT

NOTE: 16K/32K MEMORY BOARDS ARE AVAILABLE FOR MP/100 ONLY.

PROM PROGRAMMER

REF. DGC P/N 107-000641-01



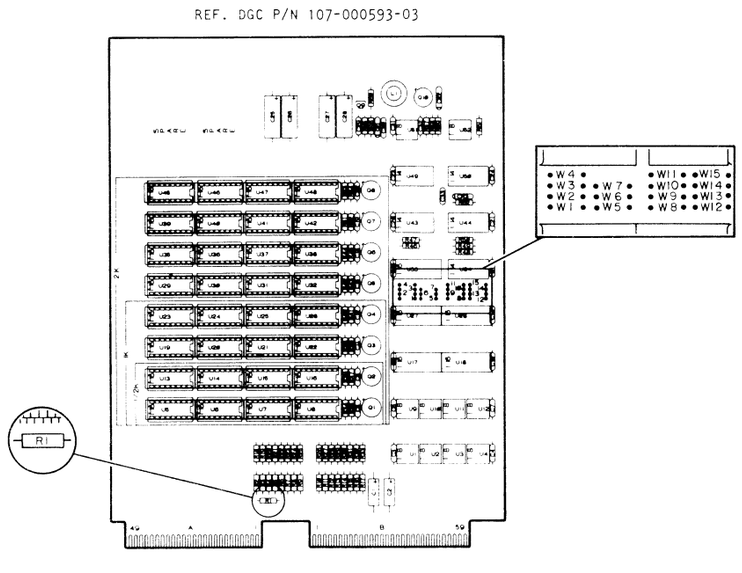
BIT POSITION OF DEVICE CODE	D10	D11	D12	D13	D14	D15
INSERT JUMPER TO SPECIFY A 1	W1	W2	W3	W4*	W5	W6*

*NORMAL DEVICE CODE = 05_8

TAILORING (CONT)

2K/4K PROGRAMMABLE READ ONLY MEMORY

REF. DGC P/N 107-000593-03



PROM SIZE JUMPERS

SIZE OF PROM CHIPS	INSERT JUMPERS*
256 x 4 BITS	W1,W3,W6,R1
512 x 4 BITS	W2,W4,W5,W7

*APPROPRIATE JUMPERS MUST BE IN PLACE WHEN PROGRAMMING THE PROM BOARD.

NOTES:
1. ALL OF THE ADDRESS SELECTION JUMPERS MUST BE REMOVED WHEN THE BOARD IS BEING PROGRAMMED WITH THE MICRONOVA PROM PROGRAMMER.
2. SELECTION OF 1/2K, 1K, AND 2K PROM BOARDS IS DONE IN 2K INCREMENTS.
3. THE SHORTING PLUG ON CONNECTOR A OF THE PROM BOARD MUST BE IN PLACE FOR NORMAL USE. REMOVE THE SHORTING PLUG WHEN THE PROM BOARD IS INSERTED INTO THE PROM PROGRAMMER CONNECTORS.
4. ADDRESS JUMPERS W8 - W15 MUST BE OUT WHEN PROGRAMMING THE PROM BOARD.

2K ADDRESS SELECTION JUMPERS (NOTE 2)

OCTAL STARTING/ENDING ADDRESS	ADDRESS BIT							
	BDATA4		BDATA3		BDATA1		BDATA2	
	W8	W9	W10	W11	W12	W13	W14	W15
00000-03777	IN	OUT	IN	OUT	IN	OUT	IN	OUT
04000-07777	OUT	IN	IN	OUT	IN	OUT	IN	OUT
10000-13777	IN	OUT	OUT	IN	IN	OUT	IN	OUT
14000-17777	OUT	IN	OUT	IN	IN	OUT	IN	OUT
20000-23777	IN	OUT	IN	OUT	IN	OUT	OUT	IN
24000-27777	OUT	IN	IN	OUT	IN	OUT	OUT	IN
30000-33777	IN	OUT	OUT	IN	IN	OUT	OUT	IN
34000-37777	OUT	IN	OUT	IN	IN	OUT	OUT	IN
40000-43777	IN	OUT	IN	OUT	OUT	IN	IN	OUT
44000-47777	OUT	IN	IN	OUT	OUT	IN	IN	OUT
50000-53777	IN	OUT	OUT	IN	OUT	IN	IN	OUT
54000-57777	OUT	IN	OUT	IN	OUT	IN	IN	OUT
60000-63777	IN	OUT	IN	OUT	OUT	IN	OUT	IN
64000-67777	OUT	IN	IN	OUT	OUT	IN	OUT	IN
70000-73777	IN	OUT	OUT	IN	OUT	IN	OUT	IN
74000-77777	OUT	IN	OUT	IN	OUT	IN	OUT	IN

4K ADDRESS SELECTION JUMPERS

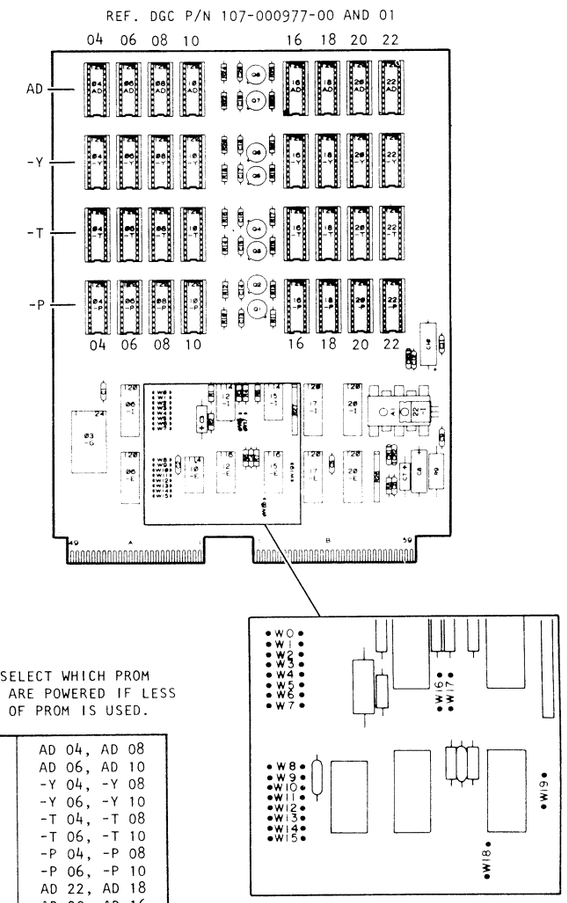
OCTAL STARTING/ENDING ADDRESS	ADDRESS BIT					
	BDATA3		BDATA1		BDATA2	
	W10	W11	W12	W13	W14	W15
00000-07777	IN	OUT	IN	OUT	IN	OUT
10000-17777	OUT	IN	IN	OUT	IN	OUT
20000-27777	IN	OUT	IN	OUT	OUT	IN
30000-37777	OUT	IN	IN	OUT	OUT	IN
40000-47777	IN	OUT	OUT	IN	IN	OUT
50000-57777	OUT	IN	OUT	IN	IN	OUT
60000-67777	IN	OUT	OUT	IN	OUT	IN
70000-77777	OUT	IN	OUT	IN	OUT	IN

JUMPERS W8 AND W9 ARE REMOVED ON THE 4K PROM BOARD.

NOTE: POWER CONSUMPTION SPECIFIED DOES NOT INCLUDE USER SUPPLIED PROMS.

8K PROGRAMMABLE READ-ONLY MEMORY

REF. DGC P/N 107-000977-00 AND 01



W0-W15 SELECT WHICH PROM SOCKETS ARE POWERED IF LESS THAN 8K OF PROM IS USED.

W0	AD 04, AD 08
W1	AD 06, AD 10
W2	-Y 04, -Y 08
W3	-Y 06, -Y 10
W4	-T 04, -T 08
W5	-T 06, -T 10
W6	-P 04, -P 08
W7	-P 06, -P 10
W8	AD 22, AD 18
W9	AD 20, AD 16
W10	-Y 22, -Y 18
W11	-Y 20, -Y 16
W12	-T 22, -Y 18
W13	-T 20, -T 16
W14	-P 22, -P 18
W15	-P 20, -P 16

FOR FULL 8K MEMORY INSERT ALL THE JUMPERS W0-W15

W18 AND W19 ARE OUT

ADDRESS SELECTION JUMPERS

OCTAL STARTING/ENDING ADDRESS	W16	W17
00000-177777	OUT	OUT
20000-37777	OUT	IN
40000-57777	IN	OUT
60000-77777	IN	IN

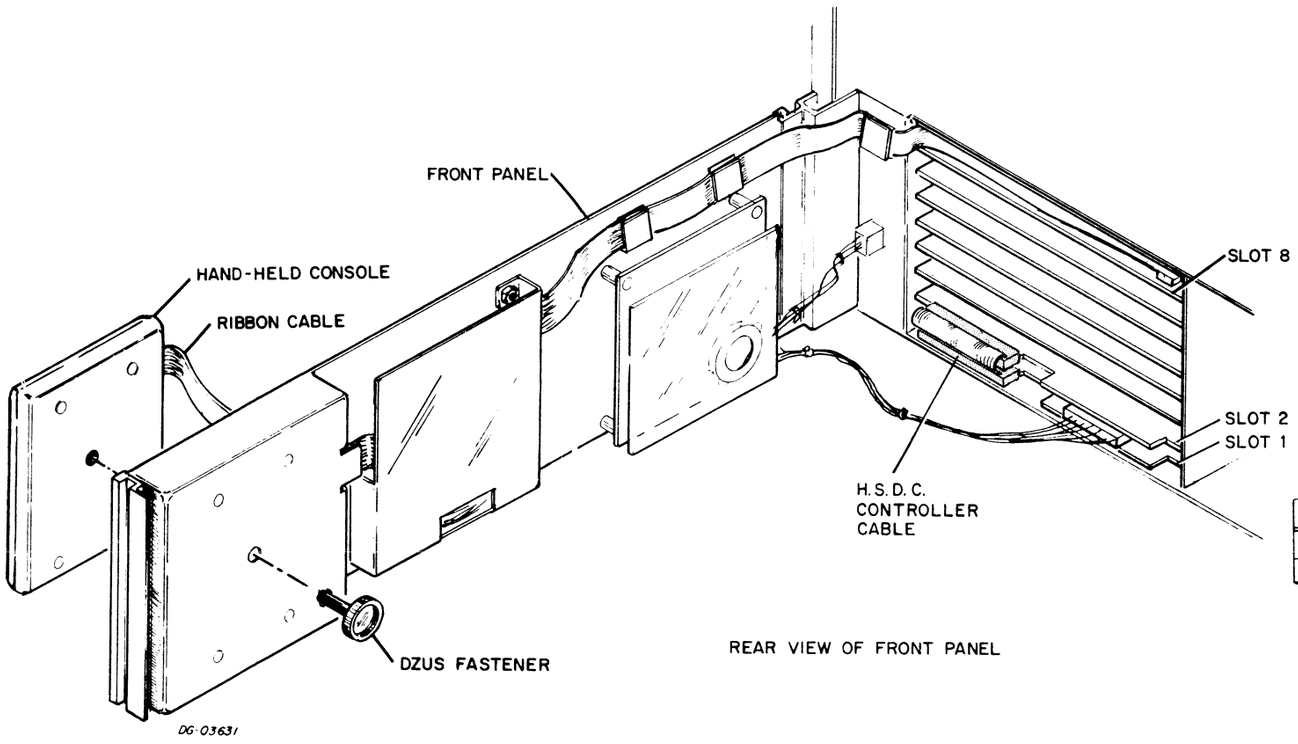
NOTE: THIS BOARD IS SUPPLIED WITHOUT PROMS THE PROMS ARE INSTALLED BY THE USER.

SUITABLE PROMS ARE DGC P/N 100-001065 OR EQUIVALENT.

POWER CONSUMPTION SPECIFIED DOES NOT INCLUDE USER SUPPLIED PROMS.

HAND-HELD CONSOLE

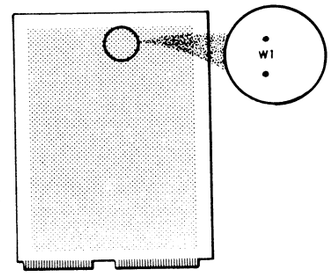
9 SLOT AND 18 SLOT



REAR VIEW OF FRONT PANEL

HAND-HELD CONSOLE CONTROLLER

REF: DGC P/N 107-000660-04
AND DGC 107-000660-05

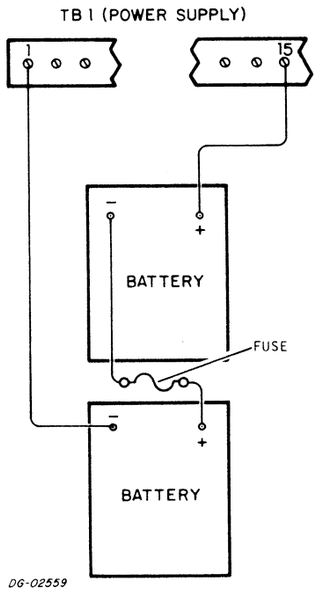


W1	Function
IN	When bus signal LOCK is active, all keys are program disabled.
OUT	All keys are program enabled.

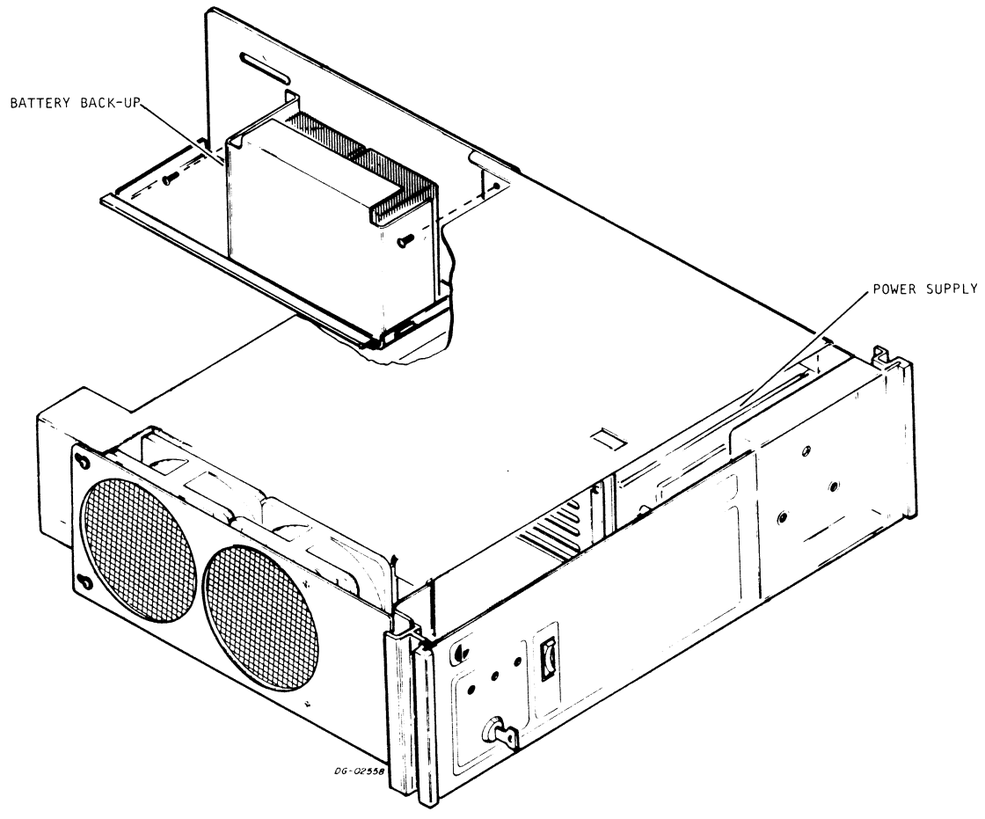
BATTERY BACKUP OPTION

9 SLOT

BATTERY WIRING



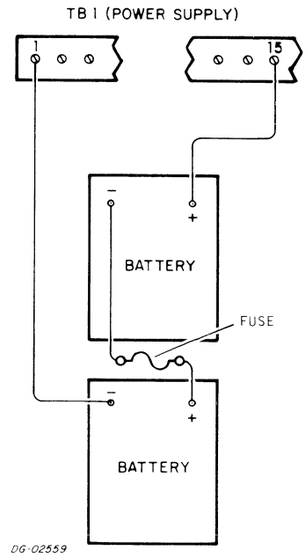
BATTERY BACK-UP KIT 005-007030



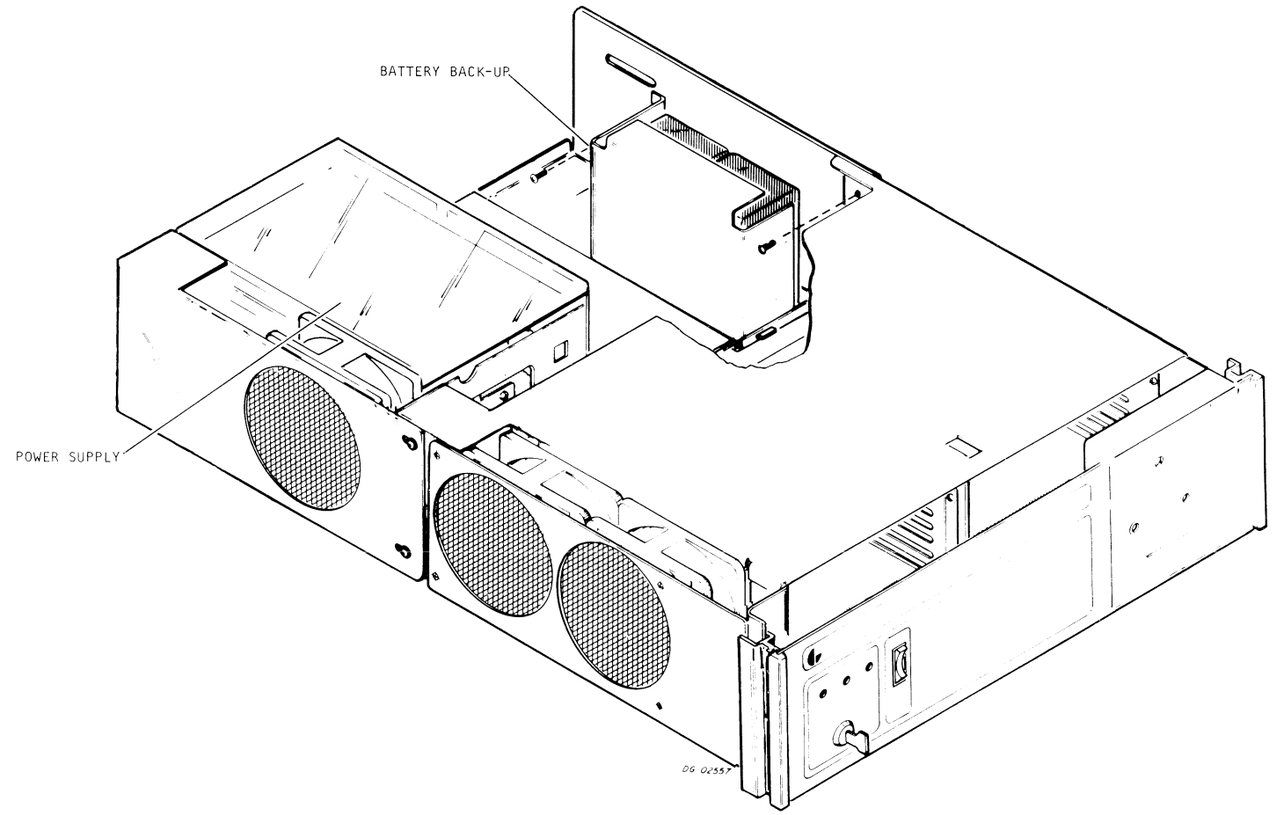
BATTERY BACKUP OPTION

18 SLOT

BATTERY WIRING

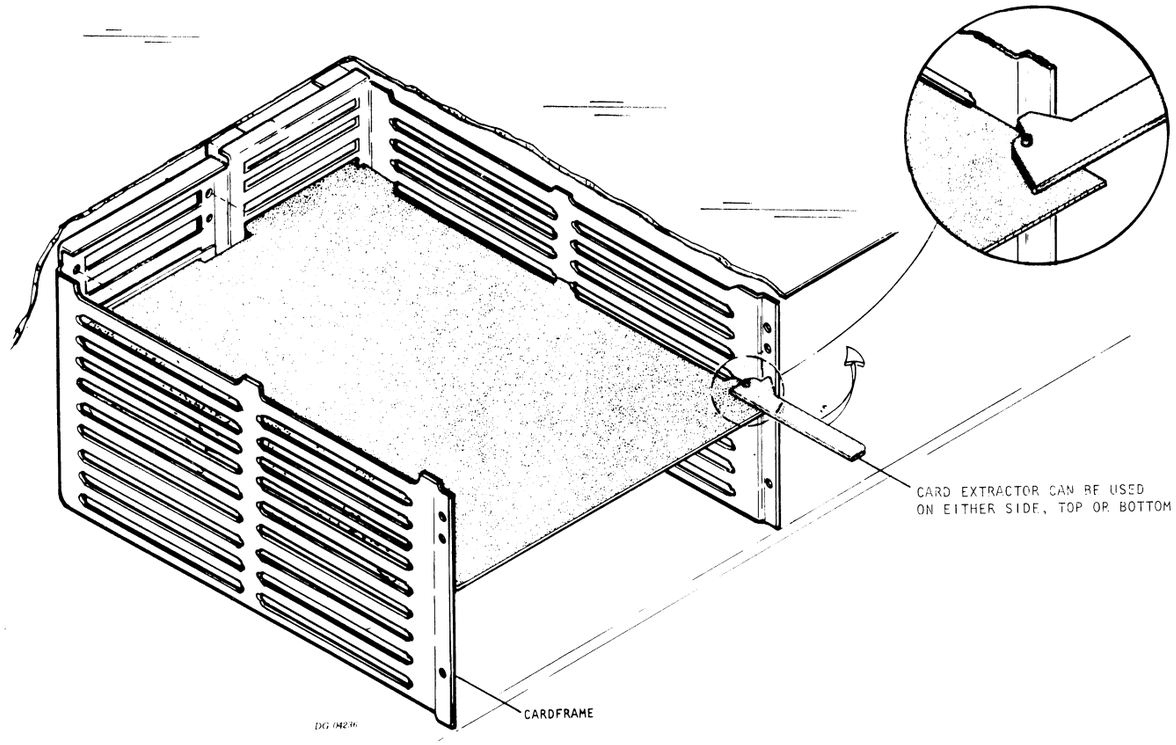


BATTERY BACK-UP KIT 005-007030

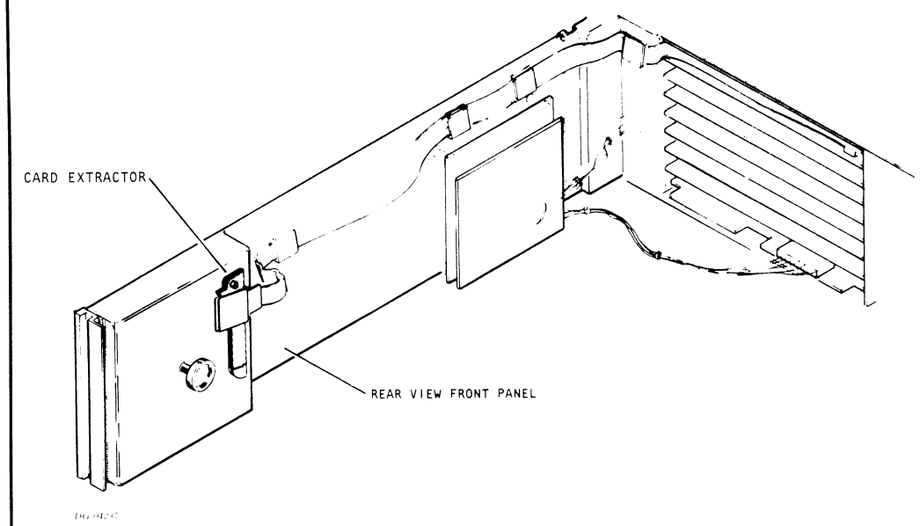


KEY CARD EXTRACTOR

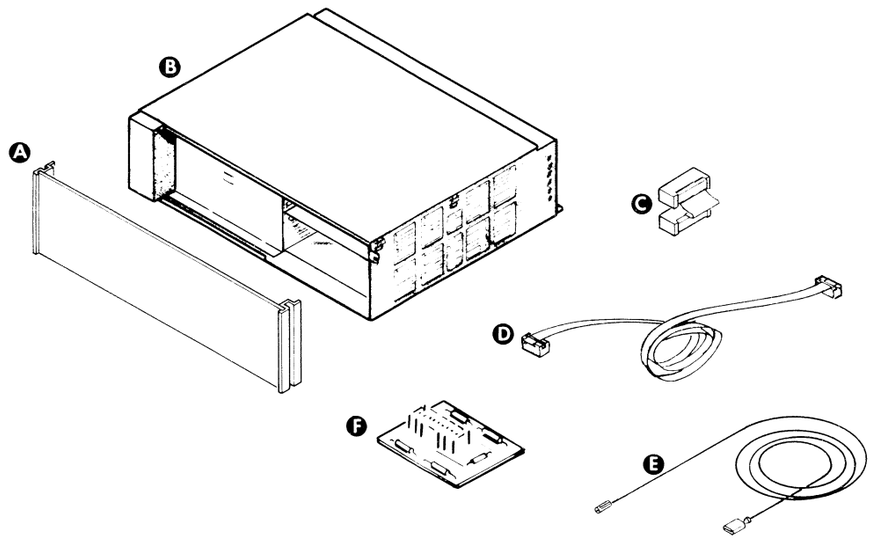
EXTRACTING POSITIONS



STORAGE POSITIONS



INSTALLATION SPECIFICATIONS



MAJOR COMPONENT

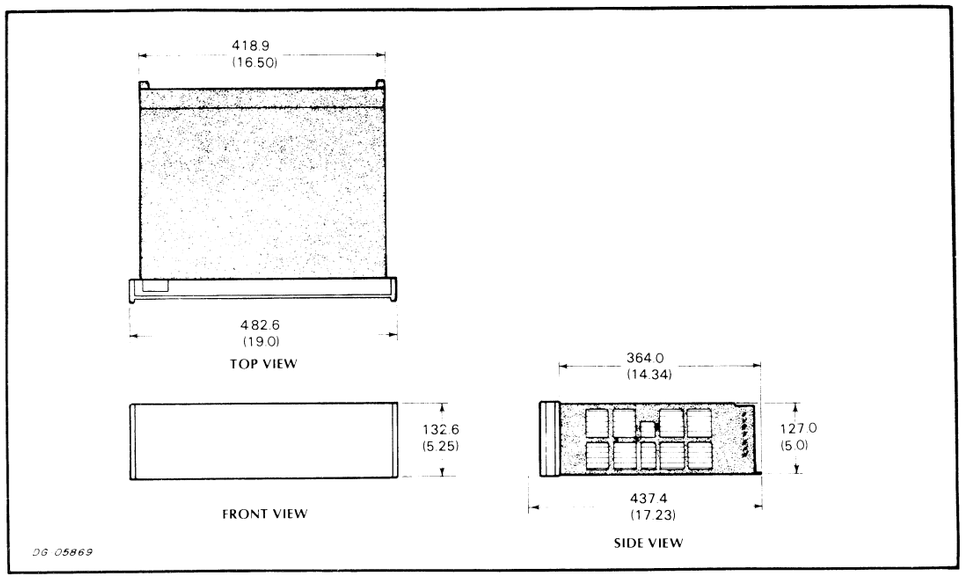
ITEM	COMPONENT	MOUNTING LOCATION	NOTES
A	FRONT PANEL	CABINET	002-009668
B	EXPANSION CHASSIS	CABINET	

CABLES

ITEM	CABLE	CONNECTING	MAX LENGTH FT / M	NOTES
C	I/O BUS LINK 005-005454	SLOT 4 TO SLOT 5	0.25 / 0.08	005-012784
D	EXTERNAL I/O 005-009695	BACKPANEL TO EXTERNAL I/O DEVICE	100 / 30	MAXIMUM TOTAL I/O BUS LENGTH EQUALS 100 FT
E	REMOTE START CABLE	PIN B59, MAIN CHASSIS TO EXP. CHASSIS RELAY	10 / 3.0	005-013872

TERMINATOR

ITEM	TERMINATOR	LOCATION	NOTES
F	I/O BUS 005-008152		MOUNT TERMINATOR ON LAST DEVICE ON I/O BUS WHEN EXTERNAL TO CHASSIS



DIMENSIONS:	Width	Depth	Height
Millimeters	482.6	401.0	132.6
Inches	19	15.8	5.25

SERVICE CLEARANCES:	Front
Millimeters	355.6
Inches	14

WEIGHT:	Empty	Fully Loaded
Kilograms	10.4	12.3
Pounds	23	27

HEAT OUTPUT (MAX)	Watts	BTU/hr
	200	680

OPERATING ENVIRONMENT:	
Temperature (max)	55°C
Relative Humidity (max)	80% (non-condensing)
Altitude	10,00 ft 3084m

POWER REQUIREMENTS:

(Domestic)	
Voltage	120 +10 -15
Hz	47-63
Max Amp per Phase	5
Phase	1
Startup Surge per Phase	33 amps for 8 milliseconds

(Export)			
Voltage	100 +10 -15	220 +10 -15	240 +10 -15
Hz	47-63	47-63	47-63
Max Amp per Phase	5	3	3
Phase	1	1	1
Startup Surge per Phase	33 amps for 8 milliseconds	17 amps for 8 milliseconds	

CABLES:

Primary Power	Length	Conn	Mating Conn
Domestic 60Hz	6ft 1.83m	5-15P	5-15R
Export 50Hz	6ft 1.83m	6-15P	6-15R

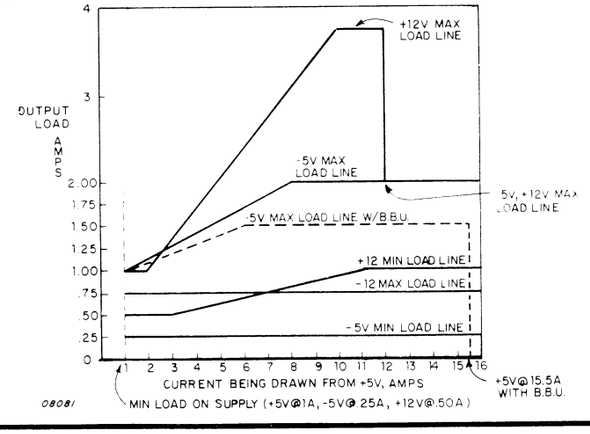
DATA CHANNEL SPEEDS AVAILABLE — STANDARD ☑ HIGH SPEED ☐

SLOT	ALLOWED SLOT CHART	ASSIGNED	CURRENT DRAW (AMPS) -5V	-5	+12	-12
8	I/O					
7	I/O					
6	I/O					
5	I/O					
4	I/O					
3	I/O					
2	I/O					
1	I/O					
CURRENT DRAW						
MAXIMUM CURRENT AVAILABLE*			16	2	1.75	0.75
CURRENT SURPLUS						

* WHEN LESS THAN 8 AMPS OF +5V CURRENT IS USED, THE +12V AND -5V SUPPLIES ARE DERATED AS SHOWN. THE MAXIMUM CURRENT AVAILABLE FROM THE +5V SUPPLY FOR MODELS MP 100-1 AND MP 200-1 IS 15 AMPS.

WARNING

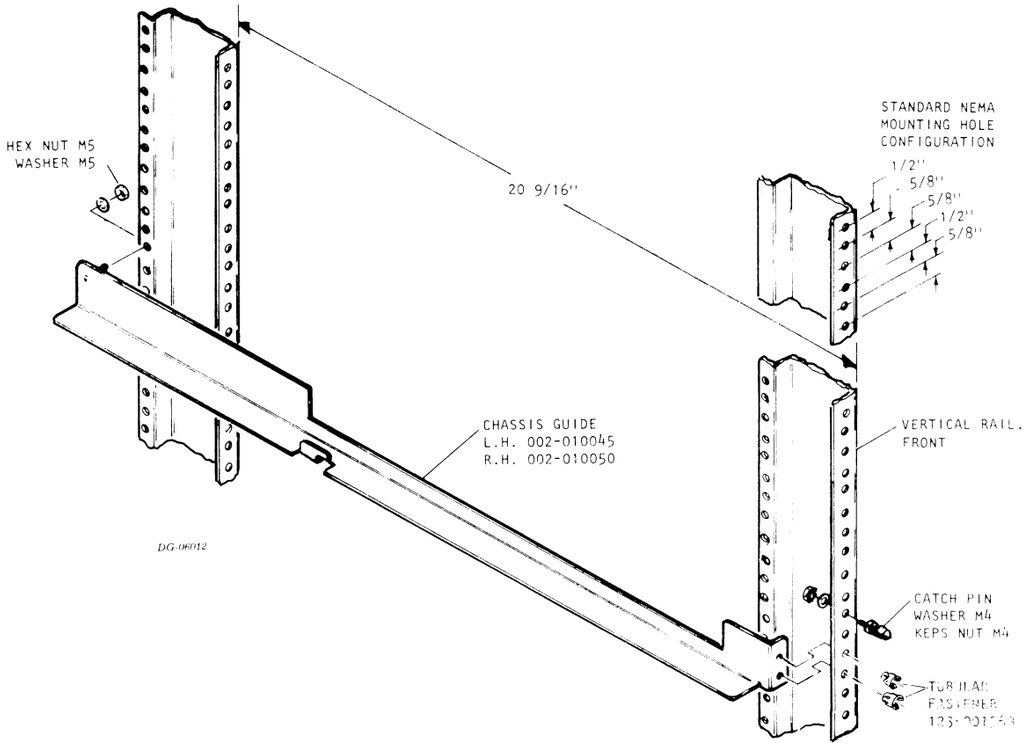
THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY ENERGY AND IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTION MANUAL, MAY CAUSE INTERFERENCE TO RADIO COMMUNICATIONS. AS TEMPORARILY PERMITTED BY REGULATION IT HAS NOT BEEN TESTED FOR COMPLIANCE WITH THE LIMITS FOR CLASS A COMPUTING DEVICES PURSUANT TO SUBPART J OF PART 15 OF FCC RULES, WHICH ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST SUCH INTERFERENCE. OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA IS LIKELY TO CAUSE INTERFERENCE IN WHICH CASE THE USER AT HIS OWN EXPENSE WILL BE REQUIRED TO TAKE WHATEVER MEASURES MAY BE REQUIRED TO CORRECT THE INTERFERENCE.

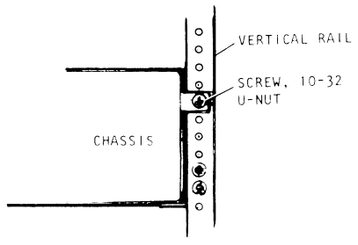


SHIPPING

**FOR PACKING PROCEDURE,
SEE 010-000263**

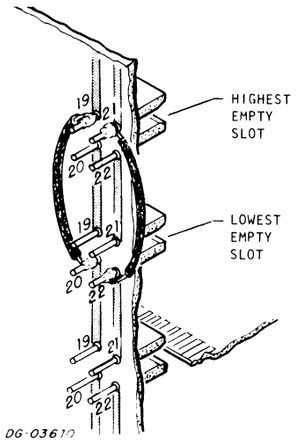
CABINET MOUNTING



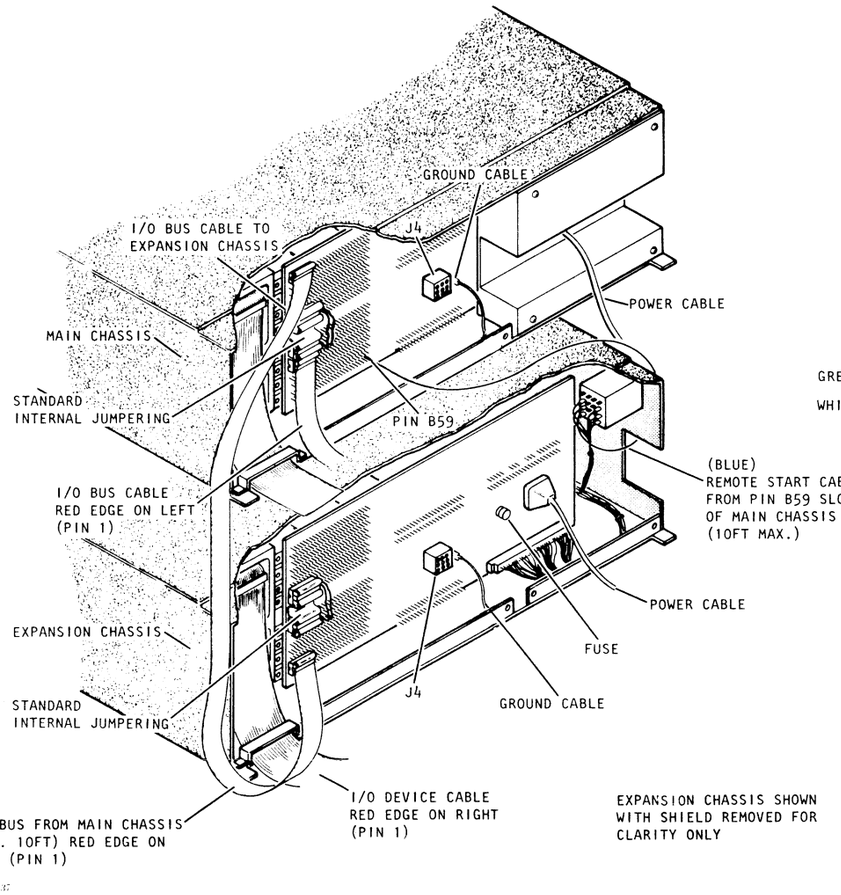


EXTERNAL/INTERNAL CABLING

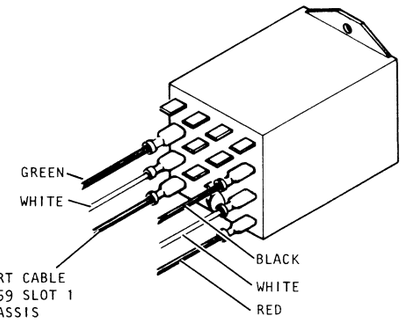
JUMPERING BACKPANEL



AN 8-SLOT CARDFRAME, HAVING EMPTY SLOTS BETWEEN SYSTEM MODULES, MUST HAVE PRIORITY JUMPERS INSTALLED ACROSS THOSE SLOTS AS FOLLOWS: PINS 20 AND 22 OF THE LOWEST EMPTY SLOT SHOULD BE CONNECTED TO PINS 19 AND 21, RESPECTIVELY, OF THE HIGHEST EMPTY SLOT. THE HIGHEST AND THE LOWEST EMPTY SLOT MAY BE THE SAME. NO JUMPERS ARE REQUIRED IF THE GROUP OF EMPTY SLOTS INCLUDES SLOT 8, UNLESS THE EXTERNAL I/O BUS IS USED. THE HIGHEST LEVEL PRIORITY BOARD IS THE ONE NEAREST THE CPU SLOT.



EXPANSION CHASSIS SHOWN WITH SHIELD REMOVED FOR CLARITY ONLY



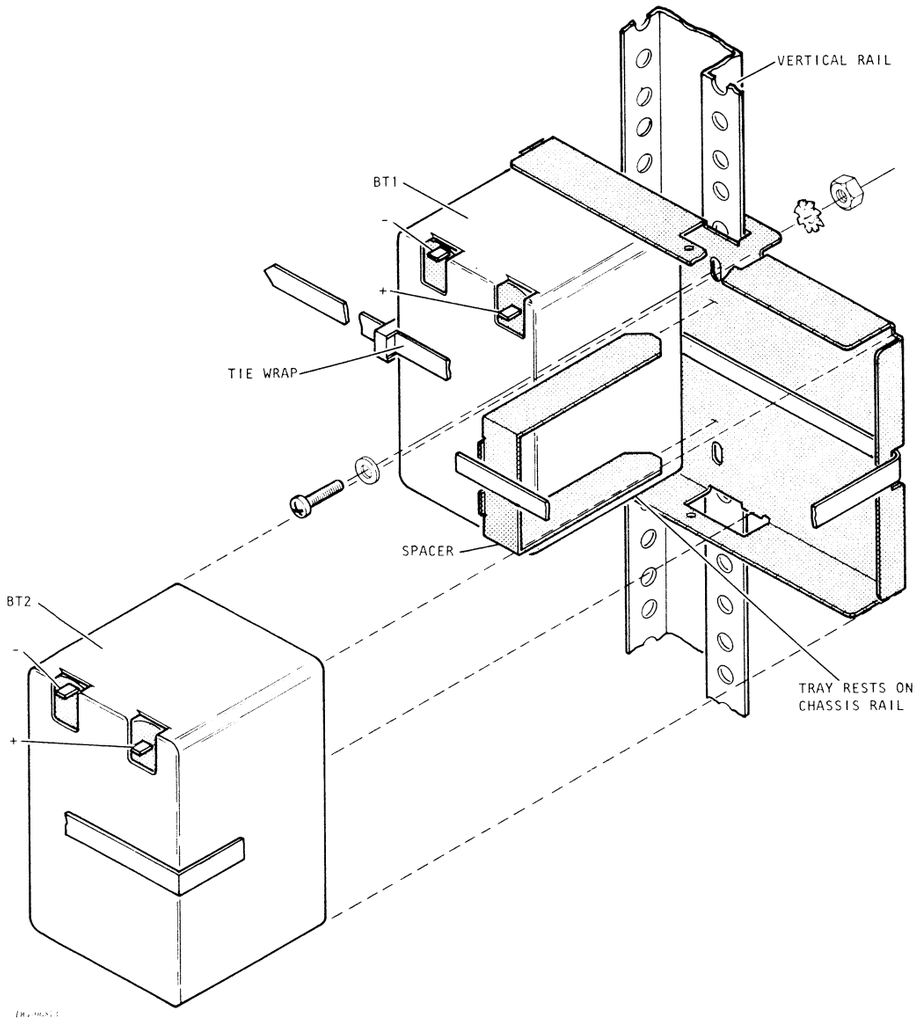
NOTE: AFTER THE I/O BUS CABLE IS CONNECTED FROM SLOT 8 OF THE MAIN CHASSIS TO PINS 1-16 OF THE EXPANSION CHASSIS, THE INTERRUPT AND DATA CHANNEL PRIORITY MUST BE CONNECTED TO THE CORRESPONDING PINS ON THE EXPANSION CHASSIS.

B CONNECTOR PIN ASSIGNMENTS

SLOTS 1-8

	EVEN	ODD	
2	$\overline{\text{MCLOCK-L}}$	MCLOCK-L	1
4	$\overline{\text{BIO1-L}}$	GND	3
6	$\overline{\text{CLEAR-L}}$	$\overline{\text{BIO1-L}}$	5
8	$\overline{\text{BEXTINT-L}}$		7
10		$\overline{\text{BDCINT-L}}$	9
12	$\overline{\text{BIO2-L}}$	GND	11
14	GND	$\overline{\text{BIO2-L}}$	13
16	BIOCLOCK-L	$\overline{\text{BIOCLOCK-L}}$	15
18			17
20		INTP→2	19
22		DCHP→2	21
24			23
26			25
28			27
30			29
32			31
34			33
36	GND		35
38			37
40		-12V	39
42			41
44			43
46			45
48			47
50			49
52			51
54	GND	GND	53
56	+12V	+12V	55
58	-5V	+5V	57
60	+5V	+5V	59

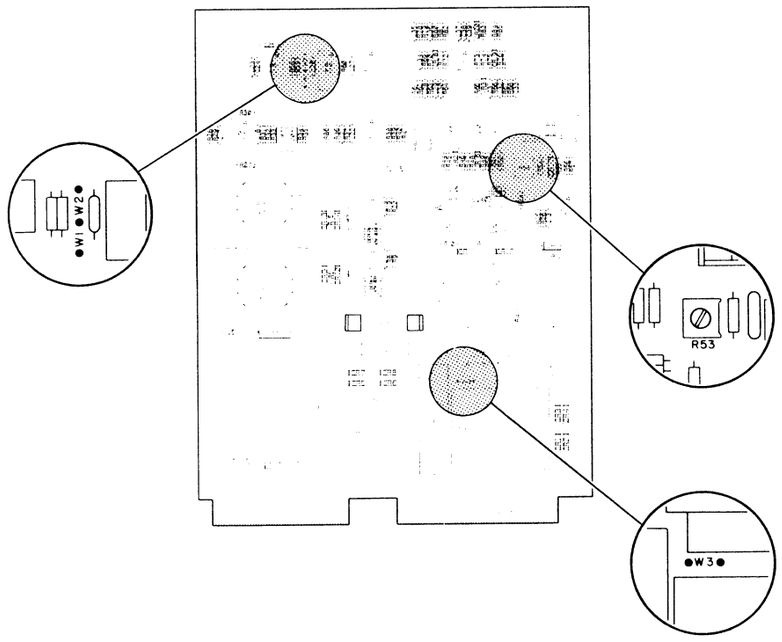
CABINET MOUNTING



MOUNTING PROCEDURE:

1. MOVE THE POWER SUPPLY BOARD TO THE UPPER LEFT HAND SLOT, AND PLACE THE BATTERY BACK-UP BOARD IN THE LOWER LEFT HAND SLOT.
2. PLACE THE BOTTOM OF THE BATTERY TRAY ON THE CHASSIS MOUNTING RAIL, WITH TOP AND BOTTOM HOOKS OF THE TRAY AROUND THE VERTICAL RAIL, AND ANCHOR WITH SCREW AND NUT AT TOP.
3. THREAD TIE-WRAP THROUGH LEFT SIDE OF THE TRAY, AND THROUGH THE RIGHT SIDE OF THE TRAY, WITH LOCK ON THE LEFT SIDE OF THE TRAY.
4. INSERT BATTERIES AND SPACER. THEN THREAD POINTED END OF TIE-WRAP THROUGH THE LOCK END, AND PULL TIGHT
5. CONNECT CABLE AS SHOWN.

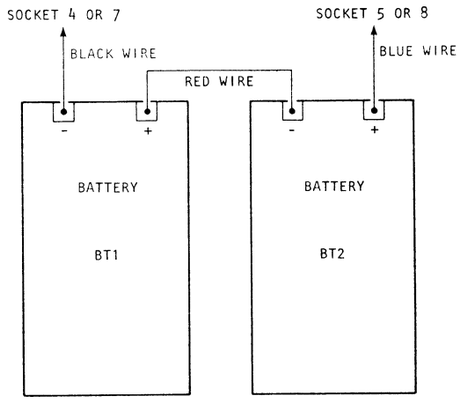
TAILORING



JUMPER	FUNCTION
W1	NORMALLY OUT.
W2	NORMALLY IN.
W3	NORMALLY IN. REMOVE WHEN USING OTHER THAN DG No 005-007093 BATTERIES.

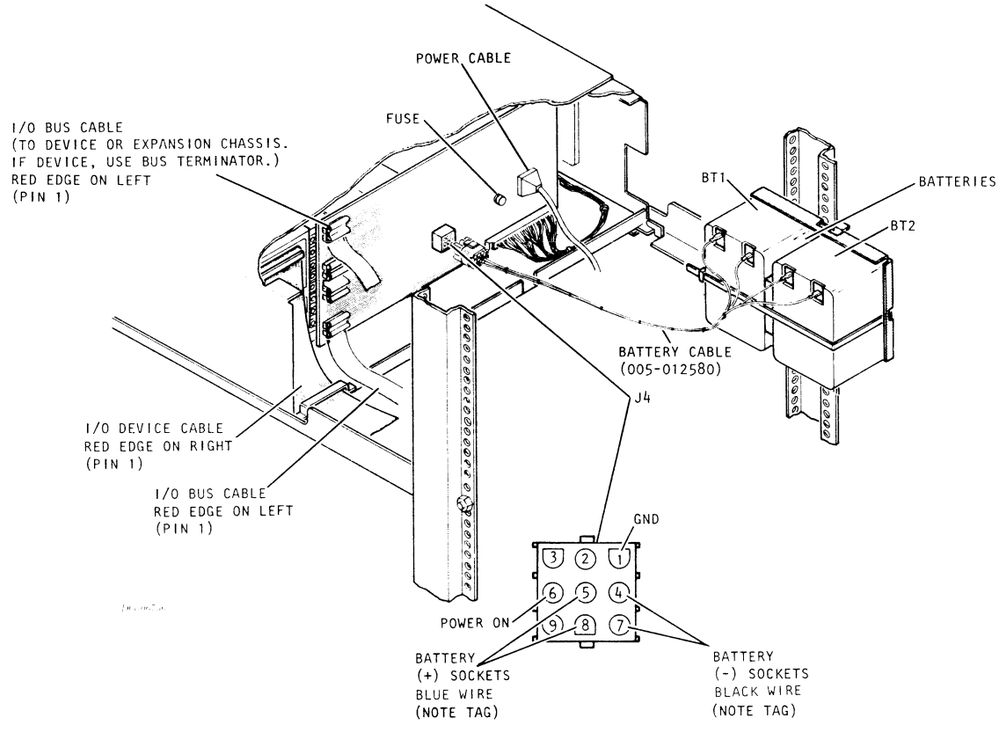
NOTE:
1. FOR MP/100 SYSTEMS REMOVE JUMPER W27 AND INSERT JUMPER W16 ON CPU BOARD TO IGNORE POWER-FAIL INTERRUPTS.
2. FOR MP/200 SYSTEMS INSERT JUMPERS W36 AND W37, ON MULTIFUNCTION CONTROLLER BOARD.
3. USE TRIM POT (R53) TO ADJUST LEVEL OF CHARGE.

INTERNAL/EXTERNAL CABLING

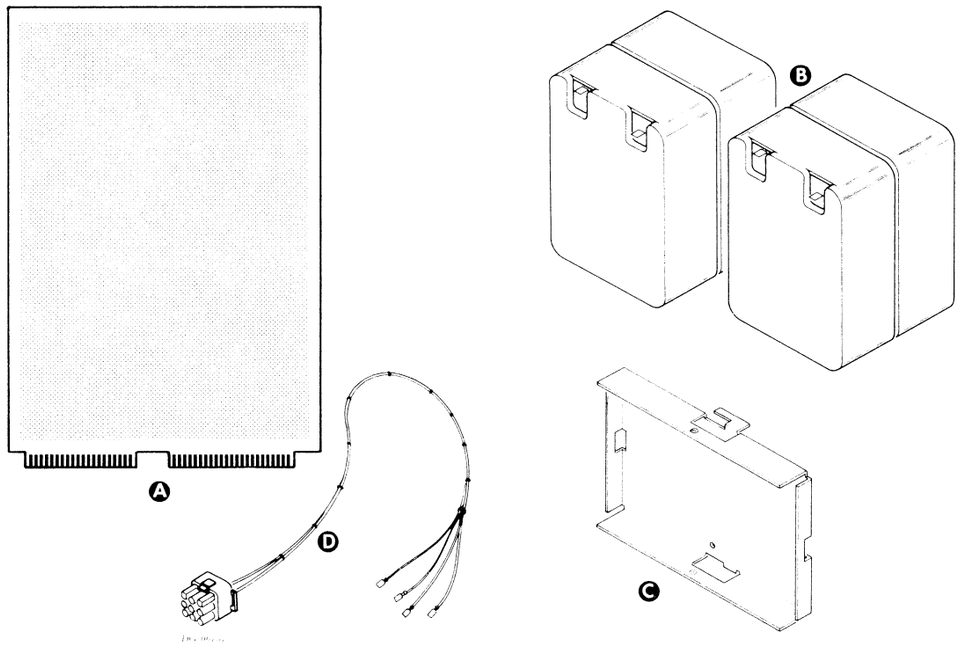


WARNING

DO NOT CONNECT THE BATTERY CABLE TO THE BACKPANEL WHILE THE POWER SUPPLY BOARD IS IN THE LOWER LEFT HAND SLOT. THE BATTERIES WILL SHORT OUT. FOLLOW THE MOUNTING PROCEDURE ON PAGE 3.



INSTALLATION SPECIFICATIONS



MAJOR COMPONENTS

ITEM	COMPONENT	MOUNTING LOCATION	NOTES
A	BATTERY BACK-UP UNIT	LEFT SIDE OF CHASSIS SLOT 1	MOVE THE POWER SUPPLY BOARD TO SLOT 2 ON THE LEFT SIDE OF THE CHASSIS 005-12581
B	BATTERIES	BATTERY TRAY	005-007093
C	BATTERY TRAY	RIGHT VERTICAL RAIL OF CABINET	002-009913

CABLE

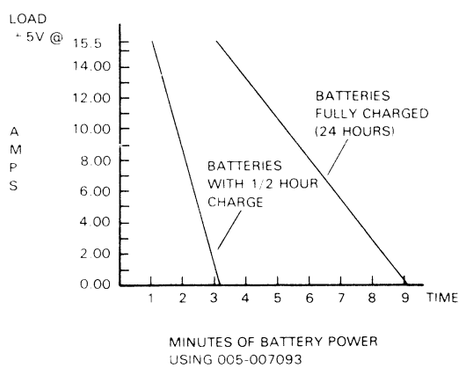
ITEM	COMPONENT	CONNECTING	MAX LENGTH FT / M	NOTES
D	BATTERY CABLES	BATTERIES TO BACKPANEL	2.0 / 0.57	005-12580

POWER REQUIREMENTS

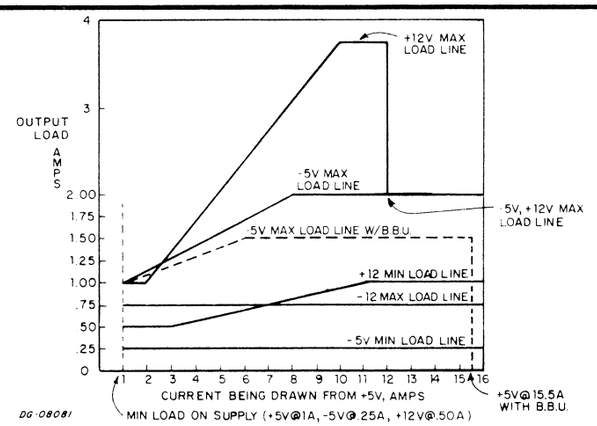
SLOT	ALLOWED SLOT CHART	ASSIGNED	CURRENT DRAW (AMPS) 5V	-5	12	-12
8	MEMORY OR I/O					
7	MEMORY OR I/O					
6	MEMORY OR I/O					
5	MEMORY OR I/O					
4	MEMORY OR I/O					
3	MEMORY OR I/O					
2	MEMORY OR I/O					
1	CPU					
	CURRENT DRAW		___	___	___	___
	MAXIMUM CURRENT AVAILABLE		15.5	1.5	1.75	.75
	CURRENT SURPLUS		___	___	___	___

SHIPPING

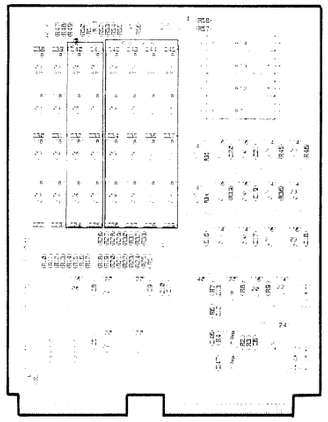
INFORMATION NOT AVAILABLE



MINUTES OF BATTERY POWER USING 005-007093



INSTALLATION SPECIFICATIONS



I/O MEMORY

Component	Mounting Location	Notes
I/O MEMORY	ANY I/O SLOT	AS MANY AS 8 I/O MEMORY BOARDS CAN BE INSTALLED

SPECIFICATIONS

Component	No. of Slots Required	Max Allowable Data Channel or Program I/O Latency (usec)	Total +5V Current Draw (A)	Remarks
I/O MEMORY	1	NO LIMIT	0.8	+12V - 0.065 A -5V - 0.03A

OPERATING ENVIRONMENT:

Temperature (max)	38°C	100°F
Relative Humidity (max)	80%	(non-condensing)
Altitude	3084m	(10,000')

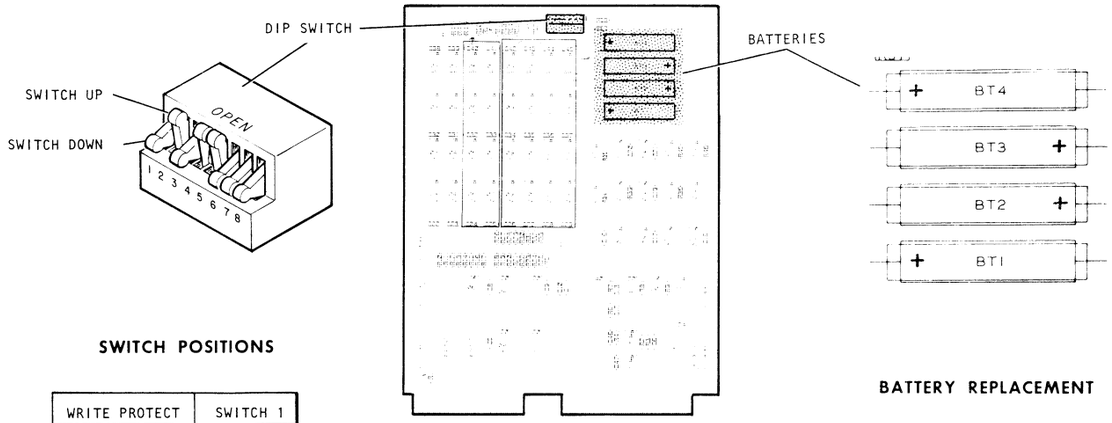
CAUTION

DO NOT PLACE THE I/O MEMORY BOARD ON A METAL SURFACE. CONTACT BETWEEN SUCH A SURFACE AND THE PINS ON THE BOARD WILL CAUSE A SHORT CIRCUIT THAT WILL DISCHARGE THE BATTERIES AND MAY DAMAGE THE IC's.

TAILORING

microNOVA I/O MEMORY PCB

Ref DGC Dwg 003-001570 Rev 01



SWITCH POSITIONS

WRITE PROTECT	SWITCH 1
ENABLE WRITE	UP
DISABLE WRITE	DOWN

BATTERY	SWITCH 3
CONNECT	DOWN
DISCONNECT	UP

DEVICE CODE	SWITCH No 6	7	8
24	UP	UP	UP
25	UP	UP	DOWN
26	UP	DOWN	UP
27	UP	DOWN	DOWN
64	DOWN	UP	UP
65	DOWN	UP	DOWN
66	DOWN	DOWN	UP
67	DOWN	DOWN	DOWN

CAUTION:
DEVICE CODE MAY CONFLICT WITH DISK DEVICE CODES.

PIN ASSIGNMENTS

EVEN	SIGNAL NAMES		ODD
2	$\overline{\text{MCLOCK}}$	MCLOCK	1
4	BI/ODATA1	GND	3
6	$\overline{\text{CLEAR}}$	$\overline{\text{BI/ODATA1}}$	5
8	$\overline{\text{BEXTINT}}$		7
10		$\overline{\text{BDCHINT}}$	9
12	$\overline{\text{BI/ODATA2}}$	GND	11
14	GND	BI/ODATA2	13
16	BI/OCLOCK	$\overline{\text{BI/OCLOCK}}$	15
18			17
20	INTP IN	INTP OUT	19
22	DCHP IN	DCHP OUT	21
24			23
26			25
28			27
30			29
32			31
34			33
36	GND		35
38			37
40			39
42			41
44			43
46			45
48			47
50			49
52			51
54	GND	GND	53
56	+12V	+12V	55
58	-5V	+5V	57
60	+5V	+5V	59

BATTERY REPLACEMENT

THE RECOMMENDED BATTERY CHANGE INTERVAL FOR THE microNOVA I/O MEMORY BOARD IS 1 YEAR. TO CHANGE THE BATTERIES, PROCEED AS FOLLOWS:

1. TURN THE SYSTEM POWER OFF.

2. REMOVE THE I/O MEMORY FROM THE CHASSIS. PLACE THE BOARD ON A NON-CONDUCTING SURFACE.

3. DISCONNECT THE BATTERIES FROM THE MEMORY CIRCUITS BY SETTING THE BATTERY CONNECT DIP SWITCH NUMBER 3 TO THE OFF (UP) POSITION.

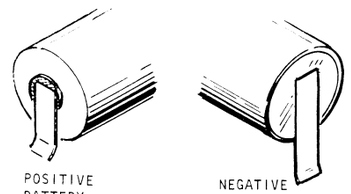
4. UNSOLDER AND REMOVE THE OLD BATTERIES.

5. POSITION THE NEW BATTERIES AS SHOWN IN THE ACCOMPANYING FIGURE, MAKING SURE THAT THE POSITIVE TERMINALS OF THE BATTERIES ARE IN THE ORIENTATION SHOWN AND SOLDER THEM IN.

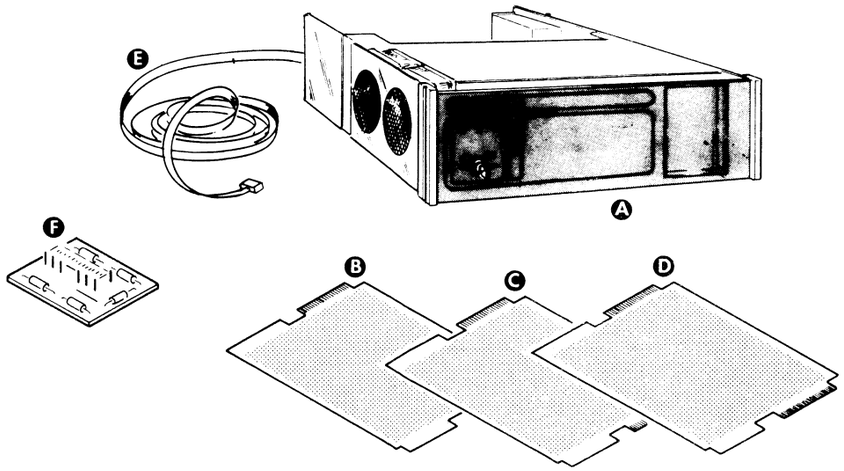
6. FLIP THE NUMBER 3 DIP SWITCH TO THE ON (DOWN) POSITION TO RECONNECT THE BATTERIES.

7. RETURN BOARD TO CHASSIS.

8. TURN THE SYSTEM POWER ON. THE BATTERIES WILL BE FULLY CHARGED AFTER 48 HOURS.



INSTALLATION SPECIFICATIONS



MAJOR COMPONENT

Item	Component	Mounting Location	Notes
A	9-SLOT CPU CHASSIS	CABINET	CHOOSE BOARD B,C, OR D FOR CPU IN SLOT 1.
B	CPU, 4K RAM BOARD	CHASSIS	DGC 107000533
C	CPU 2K/4K RAM BOARD	CHASSIS	DGC 107000712
D	CPU ØK RAM BOARD	CHASSIS	DGC 107000911

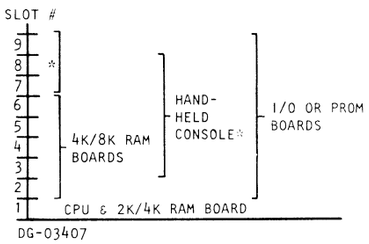
CABLE

Item	Cable	Connecting	Max Allowed Lg. ft / m	Notes
E	EXTERNAL I/O	CPU CHASSIS and EXTERNAL CHASSIS	100 / 30.5	REQUIRED FOR EXPANSION OF I/O BUS

TERMINATOR

Item	Terminator	Location	Notes
F	I/O BUS	TOP OF BACKPANEL ASSEMBLY	SLOT 8- PINS 1,3,5,7,9,11,13,15 SLOT 9- PINS 2,4,6,8,10,12,14,16

SLOT ASSIGNMENTS



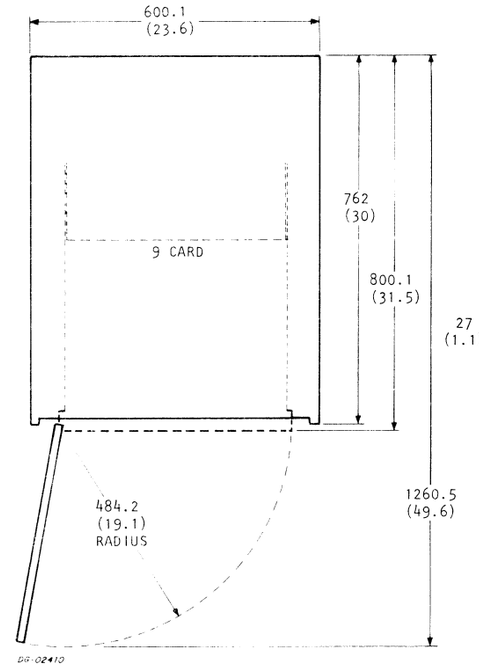
* IT IS RECOMMENDED THAT THE HAND-HELD CONSOLE BE INSERTED INTO SLOT 8 TO AID IN PROPER CABLE DRESSING INTO THE FRONT PANEL.

MAX CURRENT AVAILABLE = 15A @ +5V
2.5A @ +15V
1.8A @ -5V

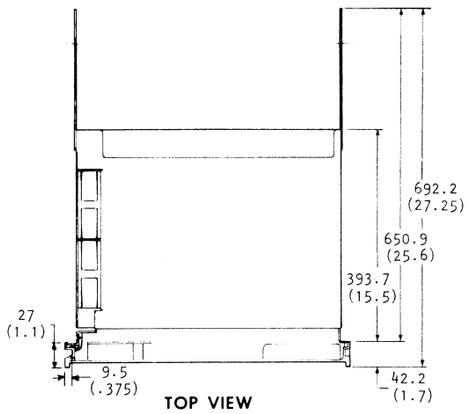
*ALLOWED, BUT BATTERY BACKUP NOT AVAILABLE FOR SLOTS 7-9.

CPU + ØK BOARD REQUIRES
1.9A @ +5V
0.3A @ +15V
0.25A @ -5V

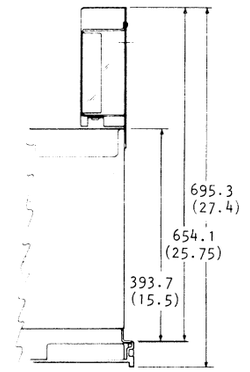
CPU + 4K BOARD
AND
CPU + 2K/4K BOARD
REQUIRE
1.9A @ +5V
0.5A @ +15V
0.25A @ -5V



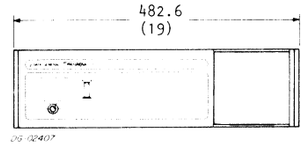
MINIMUM SERVICE CLEARANCE DIMENSIONS



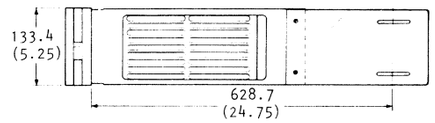
TOP VIEW



TOP VIEW
(WITH BATTERY BACKUP OPTION)



FRONT VIEW



SIDE VIEW

DIMENSIONS:	Width	Depth	Height
Millimeters	482.6	692.15	133.35
Inches	19.00	27.25	5.25

SERVICE CLEARANCES:	Front	Rear	Right & Left
Millimeters	914.4	609.6	609.6
Inches	36	24	24

WEIGHT:	Empty
Kilograms	23.4
Pounds	52

HEAT OUTPUT:
312 1063.92
Watts BTU/hr

OPERATING ENVIRONMENT:

Temperature (max)	55 C	131 F
Relative Humidity (max)	20-80%	
Altitude		

POWER REQUIREMENTS:

(Domestic)			
Voltage	120		
Hz	60		
Amp per Phase	2.6		
Phase	1		
Startup Surge per Phase			
(Export)			
Voltage	100	220	240
Hz	60	50	50
Amp per Phase	3	1.4	1.2
Phase	1	1	1
Startup Surge per Phase			

CABLES:

Primary Power	Length	Conn	Mating Conn
Domestic 60Hz	1.83m(6')	5-15P	5-15R
Export 50Hz	1.83m(6')	6-15P	6-15R

WARNING

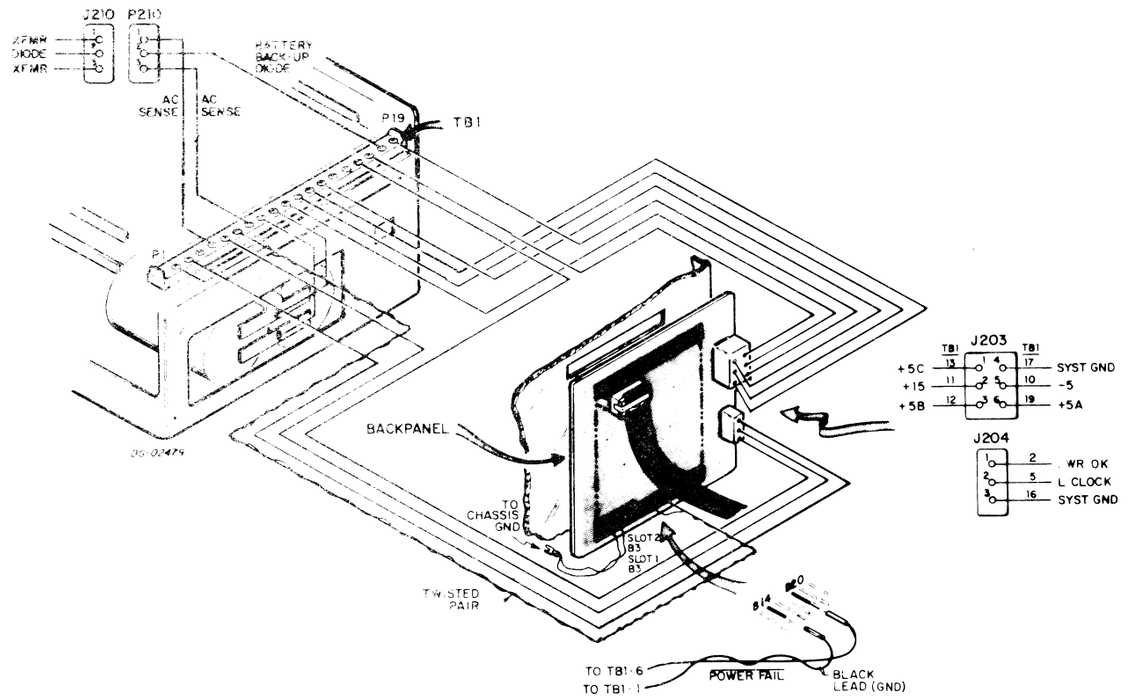
THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY ENERGY AND IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTION MANUAL, MAY CAUSE INTERFERENCE TO RADIO COMMUNICATIONS. AS TEMPORARILY PERMITTED BY REGULATION IT HAS NOT BEEN TESTED FOR COMPLIANCE WITH THE LIMITS FOR CLASS A COMPUTING DEVICES PURSUANT TO SUBPART J OF PART 15 OF FCC RULES, WHICH ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST SUCH INTERFERENCE. OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA IS LIKELY TO CAUSE INTERFERENCE IN WHICH CASE THE USER AT HIS OWN EXPENSE WILL BE REQUIRED TO TAKE WHATEVER MEASURES MAY BE REQUIRED TO CORRECT THE INTERFERENCE.

SHIPPING

FOR PACKING PROCEDURE,
SEE 010-000262/263

INTERNAL CABLING

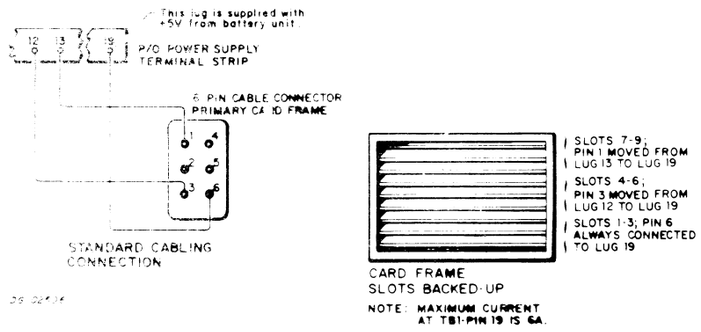
TERMINAL STRIP CONNECTIONS



CARDFRAME PIN ASSIGNMENTS

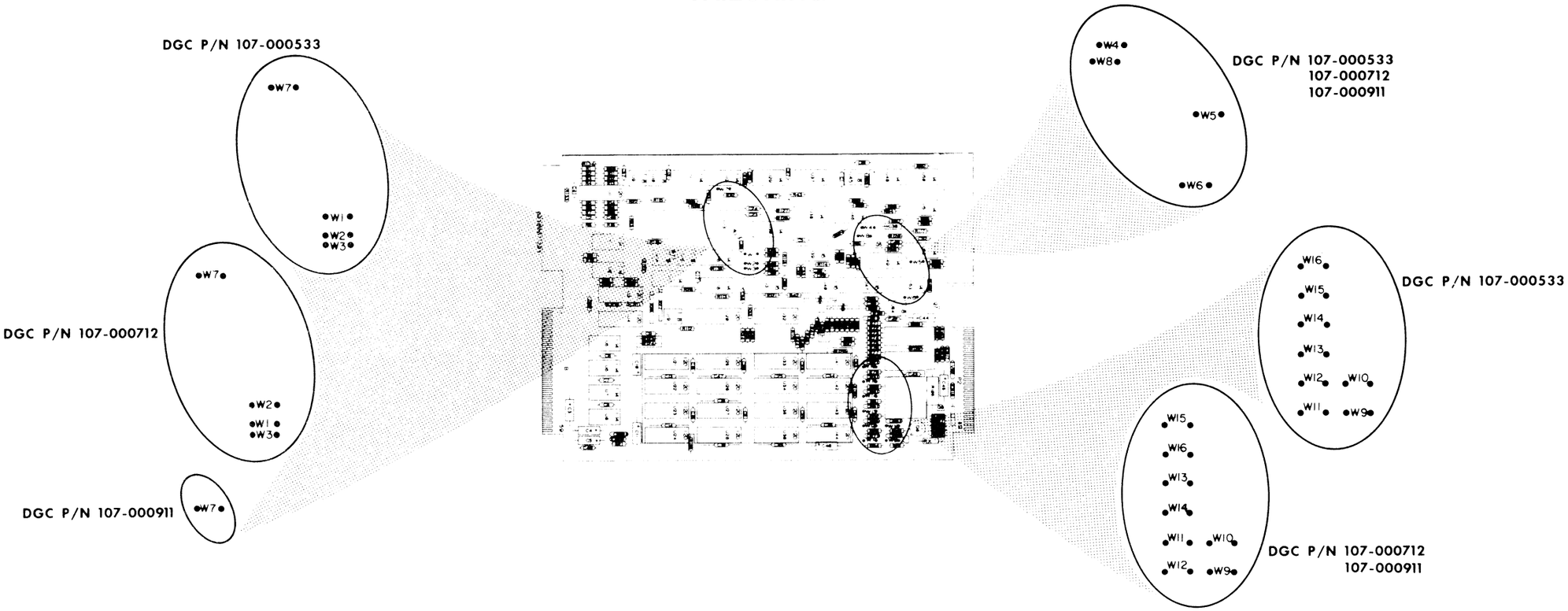
	1	3	5	7	9	11	13	15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	45	47	49	51	53	55	57	59
SIDE	MCLOCK	GND	BIO1	INTPOUT	BEOIN	GND	BIO2	BIOCLOCK		INTPOUT	DCHPOUT	BDATA15	BSP1	BDATA14	DATAXFER	BDATA13	BDATA12		BDATA11		BDATA10		BDATA9	BSAE	BDATA8	BOTEN	GND	+15V	VCC	VCC
COMPONENT	MCLOCK	BIO1	CLEAR	BEXTINT	LOOK	BIO2	GND	BIOCLOCK	VCC	INTPIN	DCHPIN	BDATA7	BP	BDATA6	FDCHR	BDATA5	BDATA4	GND	BDATA3		BDATA2	BSP2	BDATA1	BWE	BDATA0	PHIL	GND	+15V	-5V	VCC
	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54	56	58	60

CABLE CONNECTIONS FOR BATTERY BACK-UP PROTECTION



NOTE: MAXIMUM CURRENT AT TB1-PIN 19 IS 6A.

TAILORING



JUMPER	DESCRIPTION
W1,W2,W3	THESE ARE THE CPU 4K MEMORY ADDRESS JUMPERS. W3 IS THE LSB AND CORRESPONDS TO ADDRESS BIT 3, BDATA3. W1 IS THE MSB, BDATA1. INSERTING A JUMPER MEANS THAT THE CORRESPONDING ADDRESS BIT MUST BE A 1 TO SELECT THE MEMORY.
W4	WHEN INSTALLED, THIS JUMPER ENABLES THE READING OF THE JUMPER WORD. WHEN THIS JUMPER IS NOT INSTALLED, THE JUMPER WORD IS DISABLED. WHEN W4 IS IN, W5, W6, AND W8 FURTHER DEFINE THE USE OF THE JUMPER WORD.
W5	WHEN W5 IS INSTALLED (AND W4 IS IN), THE JUMPER WORD ADDRESS IS 077776_8. THE JUMPER WORD CONTAINS THE DEVICE CODE AND DATA CHANNEL SELECT BIT FOR THE APL OPTION.
W6	WHEN W6 IS INSERTED (AND W4 IS IN), THE JUMPER WORD ADDRESS IS 077777_8. THE JUMPER WORD CONTAINS THE ADDRESS AT WHICH THE CPU WILL START.
W7	WHEN W7 IS INSTALLED, AND THE BATTERY BACKUP OPTION IS INSTALLED, THE CPU IS NOT ALLOWED TO RESTART IF THE BATTERIES DISCHARGE DURING A POWER FAIL. WHEN W7 IS NOT INSTALLED, UNCONDITIONAL RESTART AFTER POWER FAIL IS ALLOWED.
W8	WHEN W8 IS INSTALLED (AND W4 IS IN), 64 WORDS OF LOCAL TCOM ASSOCIATED WITH ADDRESSES 077700-077777$_8$ INSERTED FOR APL ARE ENABLED.
W9-W16	THESE JUMPERS DEFINE THE JUMPER WORD, WHICH MAY HAVE ONE OF SEVERAL FUNCTIONS AS EXPLAINED IN W5 AND W6 ABOVE.

CPU OPTION JUMPERS

JUMPERS						JUMPER WORD								
OPTION	W4	W5	W6	W8	COMMENTS	W9	W10	W11	W12	W13	W14	W15	W16	0 0 0 0 0 0 0 1
ODT OR HHC	OUT	OUT	OUT	OUT	ASYNC BOARD MUST HAVE W26 IN FOR ODT	JUMPER WORD NOT USED								
APL	IN	IN	OUT	IN	(JUMPER WORD = DEVICE CODE)	- DEVICE CODE -								
					DEVICE HAS DATA CHANNEL APL	IN	OUT	D10	D11	D12	D13	D14	D15	- - - - - - - -
					DEVICE HAS PROGRAMMED I/O APL	OUT	OUT	D10	D11	D12	D13	D14	D15	- - - - - - - -
					EXAMPLE: FLOPPY DEVICE CODE = 33_8	OUT	OUT	OUT	IN	IN	OUT	IN	IN	
STARTING ADDRESS	IN	OUT	IN	OUT	(JUMPER WORD = STARTING ADDRESS)	- ADDRESS BIT POSITION -								
					INSERT JUMPER TO SPECIFY 1	0	1	2	3	4	5	6	7	- - - - - - - -
					EXAMPLE: STARTING ADDRESS = 070001_8	OUT	IN	IN	IN	OUT	OUT	OUT	OUT	

BATTERY BACK-UP JUMPER

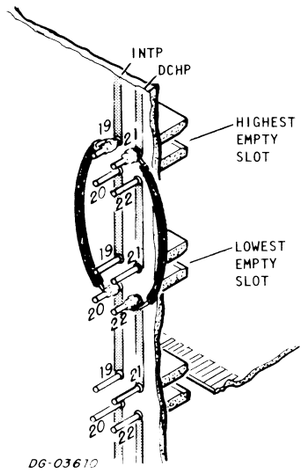
OPTION	W7
DISABLE AUTO-RESTART IF BATTERIES DISCHARGE DURING A POWER FAILURE	IN
NO BATTERY BACK-UP ON SYSTEM	OUT

CPU 4K MEMORY ADDRESS JUMPERS

OCTAL STARTING/ENDING ADDRESS	W1	W2	W3
00000 - 07777	OUT	OUT	OUT
10000 - 17777	OUT	OUT	IN
20000 - 27777	OUT	IN	OUT
30000 - 37777	OUT	IN	IN
40000 - 47777	IN	OUT	OUT
50000 - 57777	IN	OUT	IN
60000 - 67777	IN	IN	OUT
70000 - 77777	NOT ALLOWED		

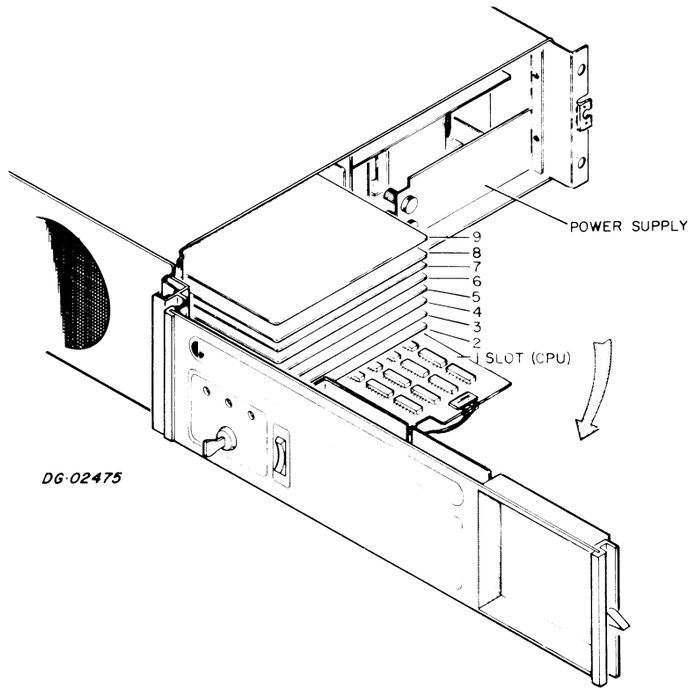
TAILORING (cont)

BACKPANEL JUMPERING

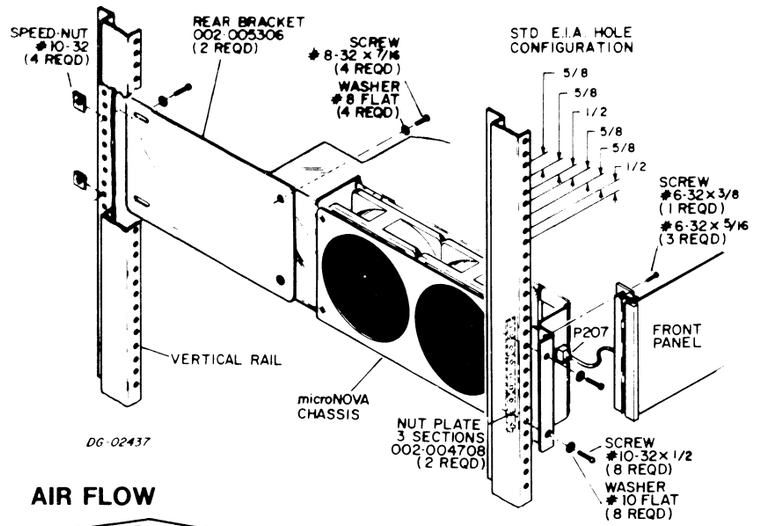


A 9-SLOT CARDFRAME, HAVING EMPTY SLOTS BETWEEN SYSTEM MODULES, MUST HAVE PRIORITY JUMPERS INSTALLED ACROSS THOSE SLOTS AS FOLLOWS: PIN 20 AND 22 OF THE LOWEST EMPTY SLOT SHOULD BE CONNECTED TO PINS 19 AND 21, RESPECTIVELY, OF THE HIGHEST EMPTY SLOT. THE HIGHEST AND LOWEST EMPTY SLOT MAY BE THE SAME. NO JUMPERS ARE REQUIRED IF THE GROUP OF EMPTY SLOTS INCLUDE SLOT 9 (UNLESS THE EXTERNAL I/O BUS IS USED). THE HIGHEST LEVEL PRIORITY BOARD IS THE ONE NEAREST THE CPU SLOT.

BOARD PLACEMENT IN SLOT

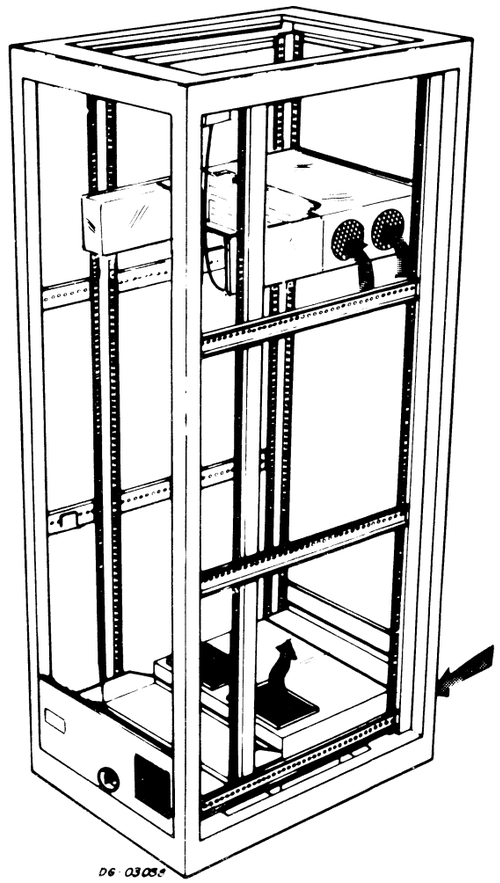


CABINET MOUNTING



Torque Requirements	
Screw Size	in/lb
6-32	7 - 8
8-32	12 - 14
10-32	23 - 25 (10 - 12 for speednuts)

AIR FLOW



MOUNTING PROCEDURE

THE FOLLOWING PROCEDURE REQUIRES THE USE OF MOUNTING KIT #005-7029.

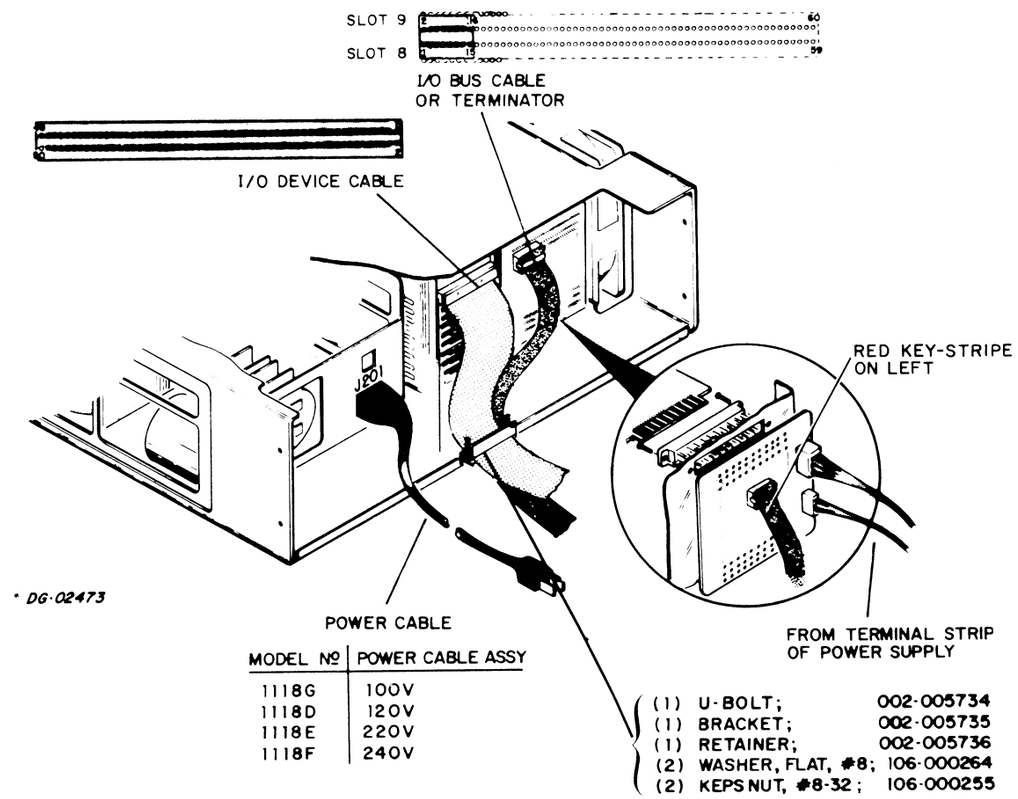
1. MOUNT THE CARDFRAME CHASSIS TO THE FRONT OF THE CABINET, USING (4) 10-32 X 3/8 SEMS SCREWS, WITH FLAT WASHERS, AND 2 NUT PLATES (002-5030).

2. MOUNT THE TWO REAR SUPPORT PANELS TO THE CARDFRAME CHASSIS AND THE SIDES OF THE CABINET.

   a) USE (2) 8-32 X 7/16 SEMS SCREWS, WITH FLAT WASHERS, TO MOUNT EACH SIDE PANEL TO THE CARDFRAME.

   b) USE (2) 10-32 X 1/2 SEMS SCREWS, WITH FLAT WASHERS, TO MOUNT EACH SUPPORT PANEL TO THE SIDE OF THE CABINET. TWO 10-32 SPEED NUTS ARE REQUIRED ON EACH SIDE RAIL OF THE CABINET, FOR THE SEMS SCREW HARDWARE.

EXTERNAL /INTERNAL CABLING



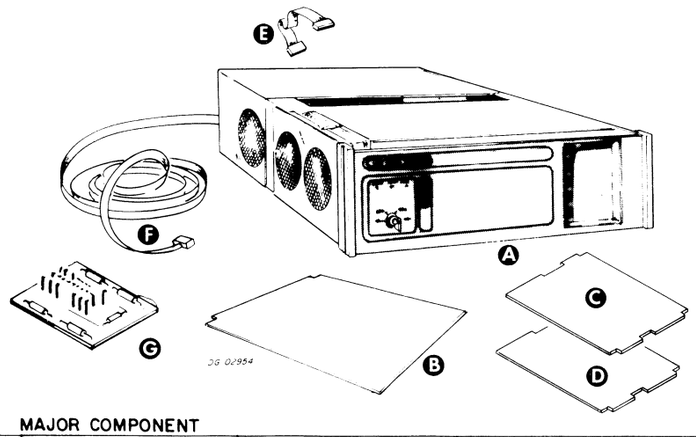
MODEL Nº	POWER CABLE ASSY
1118G	100V
1118D	120V
1118E	220V
1118F	240V

(1)	U-BOLT;	002-005734
(1)	BRACKET;	002-005735
(1)	RETAINER;	002-005736
(2)	WASHER, FLAT, #8;	106-000264
(2)	KEPS NUT, #8-32;	106-000255

NOTE: SYSTEM RELIABILITY MAY SUFFER IF THE AC POWER LINES DO NOT MEET MIL-STD-462 METHOD CS06 FOR A LEVEL 250 VOLT PULSE FOR A 10 MICROSECOND DURATION. IF YOUR AC POWER DOES NOT MEET THIS SPECIFICATION, SPECIAL FILTERING IS REQUIRED.

DATA GENERAL CORPORATION SUGGESTS ONE FILTER TO USE IS A TOPAZ ULTRA-ISOLATION TRANSFORMER WITH AN EFFECTIVE COUPLING CAPACITANCE OF .001PF. DATA GENERAL CORPORATION HAS MADE ARRANGEMENTS WITH TOPAZ ELECTRONICS FOR SPECIAL PRICES FOR OUR CUSTOMERS. REFER TO BLANKET QUOTATION PCS-1060 ON YOUR PURCHASE ORDER. ORDERS SHOULD BE SENT TO:

TOPAZ ELECTRONICS
3855 RUFFIN ROAD
SAN DIEGO, CALIFORNIA 92123
TELEPHONE 1-714-279-0111



MAJOR COMPONENT

Item	Component	Mounting Location	Notes
A	18-SLOT CPU CHASSIS	CABINET	
B	CPU, 4K RAM BOARD	CHASSIS	DGC 107-000533
C	CPU, 2K, 4K RAM	CHASSIS	DGC 107-000712
D	CPU, ØK RAM BOARD	CHASSIS	DGC 107-000911

DG-02672

CABLE

Item	Cable	Connecting		Max Allowed Lg ft / m	Notes
E	INTERNAL I/O	9-SLOT CPU BACKPANEL	and 9-SLOT EXP BACKPANEL		
F	EXTERNAL I/O	9-SLOT EXP BACKPANEL	" EXTERNAL BACKPANEL		

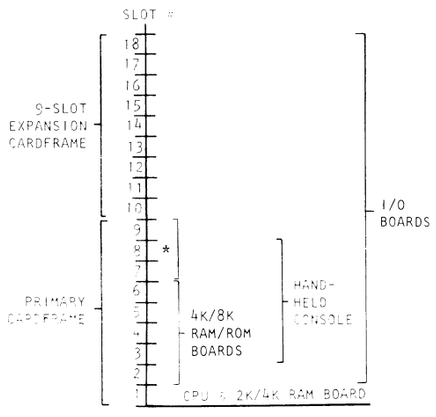
DG-02673

TERMINATOR

Item	Terminator	Location	Notes
G	I/O BUS	TOP OF EXPANSION BACKPANEL	SLOT 8- PINS 1,3,5,7,9,11,13,15 SLOT 9- PINS 2,4,6,8,10,12,14,16

DG-02674

SLOT ASSIGNMENTS



*ALLOWED BUT BATTERY BACKUP NOT AVAILABLE FOR SLOTS 7-9.

CPU + ØK BOARD REQUIRES:

1.9A @ +5V
0.3A @ +15V
0.25A @ -5V

CPU + 2K/4K BOARD REQUIRES:

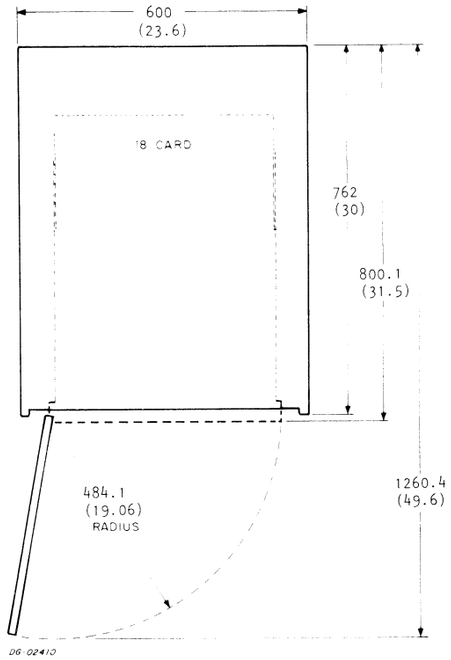
1.9A @ +5V
0.5A @ +15V
0.25A @ -5V

NOTES:

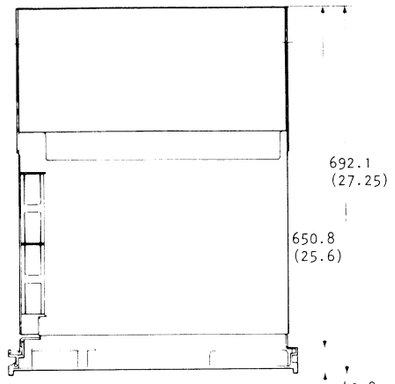
1. IT IS RECOMMENDED THAT THE HAND-HELD CONSOLE BE INSERTED INTO SLOT 8 TO AID IN PROPER CABLE DRESSING INTO THE FRONT PANEL.
2. ASYNCHRONOUS CONTROLLER WITH CONSOLE DEBUG MUST BE INSTALLED IN PRIMARY CARDFRAME (SLOTS 1-9); WITHOUT DEBUG, IT MAY BE INSTALLED IN ANY I/O SLOT.

MAX CURRENT AVAILABLE = 18A @ +5V
2.5A @ +15V
1.8A @ -5V

INSTALLATION SPECIFICATIONS

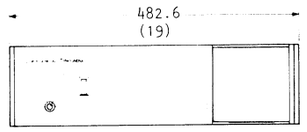


MINIMUM SERVICE CLEARANCE DIMENSIONS

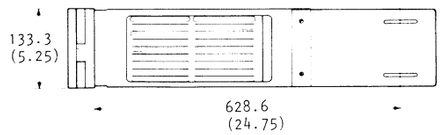


TOP VIEW

DIMENSIONS IN MILLIMETERS
INCHES IN PARENTHESES FOR REFERENCE



FRONT VIEW



SIDE VIEW

DIMENSIONS:	**Width**	**Depth**	**Height**
Millimeters	482.6	692.15	133.35
Inches	19	27.25	5.25
SERVICE CLEARANCES:	**Front**		
Millimeters	484.12		
Inches	19.06		
WEIGHT:	**Empty**		
Kilograms	37.8		
Pounds	84		
HEAT OUTPUT:	360 Watts	1227.60 BTU/hr	
OPERATING ENVIRONMENT:			
Temperature (max)	55 C	131 F	
Relative Humidity (max)	80		
Altitude			
PREFERRED LOCATION:	18-20		
	9-11		

POWER REQUIREMENTS:

(Domestic)			
Voltage	120		
Hz	60		
Amp per Phase	3.0		
Phase	1		
Startup Surge per Phase			
(Export)			
Voltage	100	220	240
Hz	60	50	50
Amp per Phase	3.5	1.6	1.5
Phase	1	1	1
Startup Surge per Phase			

CABLES:

Primary Power	Length	Conn	Mating Conn
Domestic 60Hz	1.83m(6')	5-15P	5-15R
Export 50Hz	1.83m(6')	6-15P	6-15R

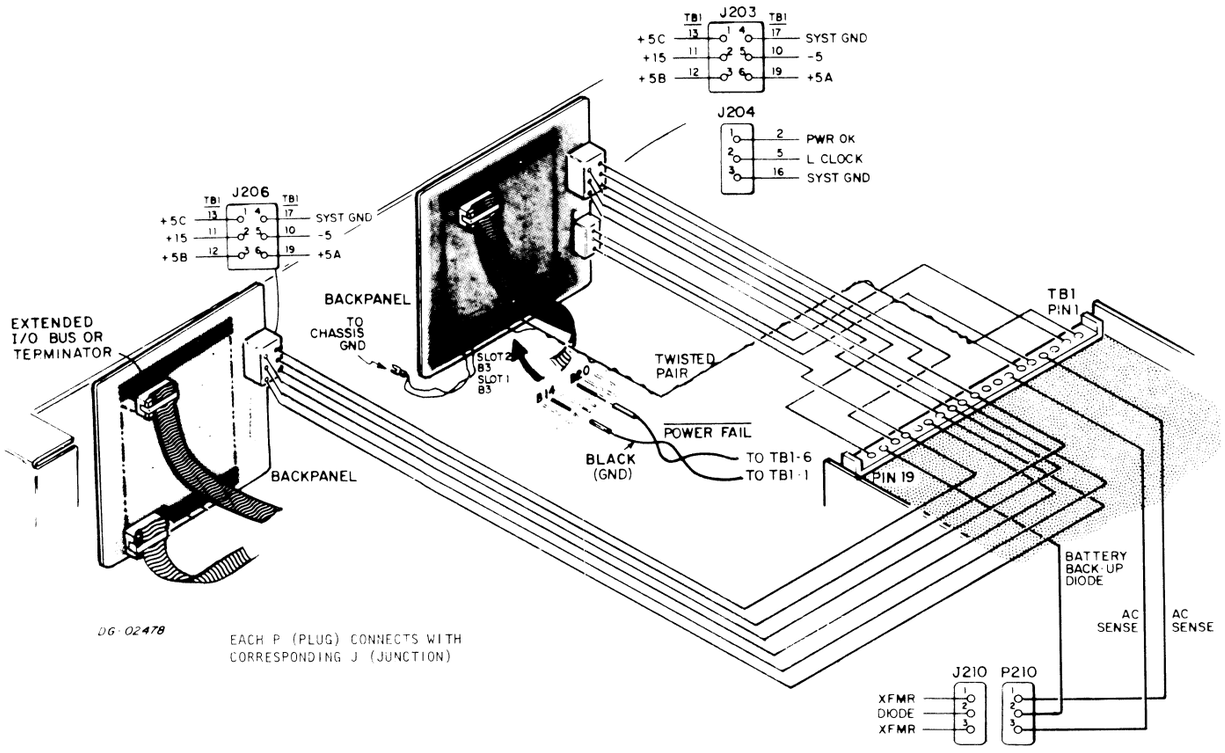
WARNING

THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY ENERGY AND IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTION MANUAL, MAY CAUSE INTERFERENCE TO RADIO COMMUNICATIONS. AS TEMPORARILY PERMITTED BY REGULATION IT HAS NOT BEEN TESTED FOR COMPLIANCE WITH THE LIMITS FOR CLASS A COMPUTING DEVICES PURSUANT TO SUBPART J OF PART 15 OF FCC RULES, WHICH ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST SUCH INTERFERENCE. OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA IS LIKELY TO CAUSE INTERFERENCE IN WHICH CASE THE USER AT HIS OWN EXPENSE WILL BE REQUIRED TO TAKE WHATEVER MEASURES MAY BE REQUIRED TO CORRECT THE INTERFERENCE.

FOR PACKING PROCEDURE, SEE 010-000262/263

INTERNAL CABLING

TERMINAL STRIP CONNECTIONS



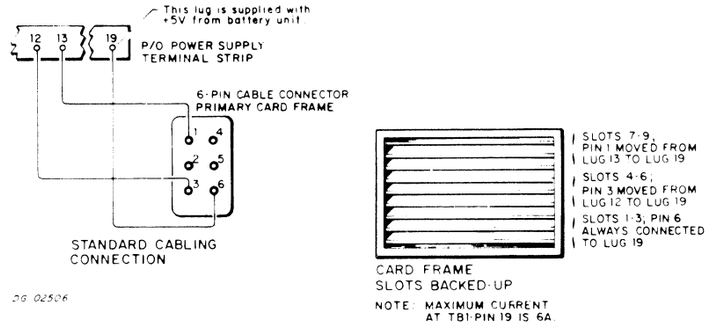
DG-02478

EACH P (PLUG) CONNECTS WITH CORRESPONDING J (JUNCTION)

CARDFRAME PIN ASSIGNMENTS

	1	3	5	7	9	11	13	15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	45	47	49	51	53	55	57	59
ODD	MCLOCK	GND	BIOT	INTPOUT	BDCINT	GND	BIO2	BIOCLOCK		INTPOUT	DCHPOUT	BDATA15	BSP1	BDATA14	DATAXFER	BDATA13	BDATA12		BDATA11		BDATA10		BDATA9	BSAE	BDATA8	BOTEN	GND	+15V	VCC	VCC
EVEN	MCLOCK	BIO1	CLEAR	BEXTINT	LOCK	BIO2	GND	BIOCLOCK	VCC	INTPIN	DCHPIN	BDATA7	BP	BDATA6	FDCHR	BDATA5	BDATA4	GND	BDATA3		BDATA2	BSP2	BDATA1	BWE	BDATA0	PHIL	GND	+15V	5V	VCC
	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54	56	58	60

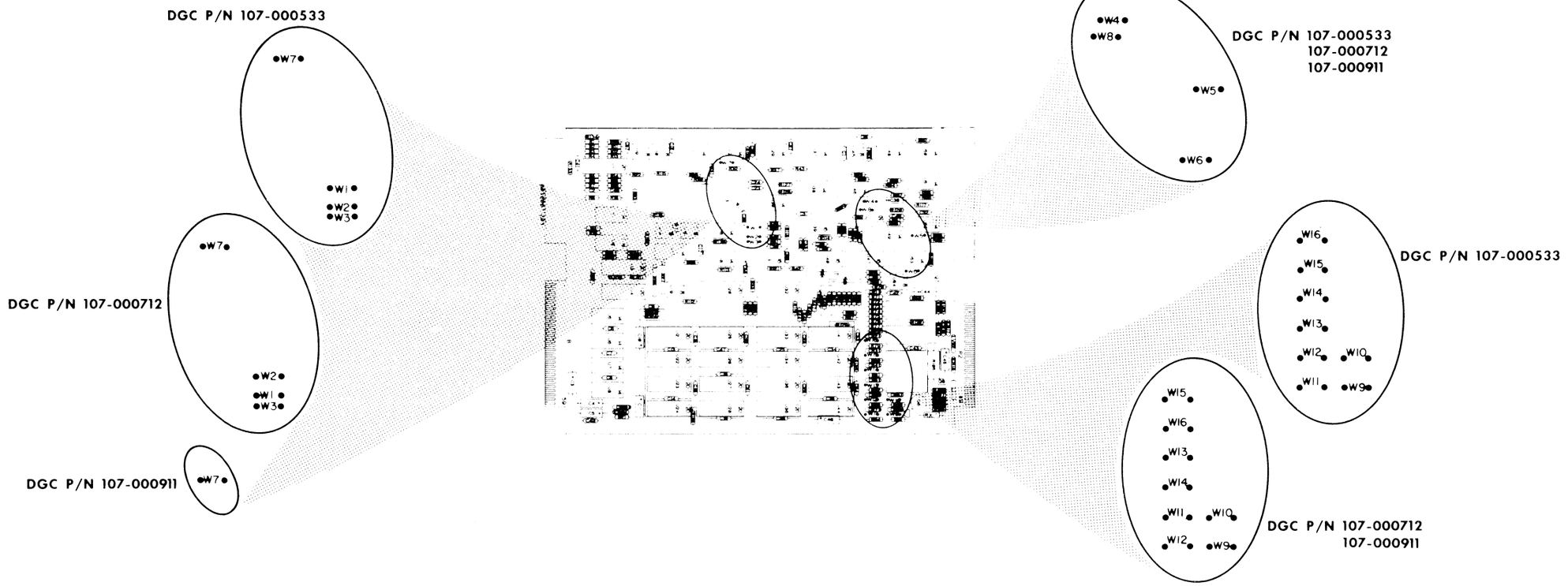
CABLE CONNECTIONS FOR BATTERY BACK-UP PROTECTION



DG-02506

NOTE: MAXIMUM CURRENT AT TB1-PIN 19 IS 6A.

TAILORING



JUMPER	DESCRIPTION
W1,W2,W3	THESE ARE THE CPU 4K MEMORY ADDRESS JUMPERS. W3 IS THE LSB AND CORRESPONDS TO ADDRESS BIT 3, BDATA3. W1 IS THE MSB, BDATA1. INSERTING A JUMPER MEANS THAT THE CORRESPONDING ADDRESS BIT MUST BE A 1 TO SELECT THE MEMORY.
W4	WHEN INSTALLED, THIS JUMPER ENABLES THE READING OF THE JUMPER WORD. WHEN THIS JUMPER IS NOT INSTALLED, THE JUMPER WORD IS DISABLED. WHEN W4 IS IN, W5, W6, AND W8 FURTHER DEFINE THE USE OF THE JUMPER WORD.
W5	WHEN W5 IS INSTALLED (AND W4 IS IN), THE JUMPER WORD ADDRESS IS 077776_8. THE JUMPER WORD CONTAINS THE DEVICE CODE AND DATA CHANNEL SELECT BIT FOR THE APL OPTION.
W6	WHEN W6 IS INSERTED (AND W4 IS IN), THE JUMPER WORD ADDRESS IS 077777_8. THE JUMPER WORD CONTAINS THE ADDRESS AT WHICH THE CPU WILL START.
W7	WHEN W7 IS INSTALLED, AND THE BATTERY BACKUP OPTION IS INSTALLED, THE CPU IS NOT ALLOWED TO RESTART IF THE BATTERIES DISCHARGE DURING A POWER FAIL. WHEN W7 IS NOT INSTALLED, UNCONDITIONAL RESTART AFTER POWER FAIL IS ALLOWED.
W8	WHEN W8 IS INSTALLED (AND W4 IS IN), 64 WORDS OF LOCAL TCOM ASSOCIATED WITH ADDRESSES 077700-077777_8 INSERTED FOR APL ARE ENABLED.
W9-W16	THESE JUMPERS DEFINE THE JUMPER WORD, WHICH MAY HAVE ONE OF SEVERAL FUNCTIONS AS EXPLAINED IN W5 AND W6 ABOVE.

CPU OPTION JUMPERS

JUMPERS						JUMPER WORD								
OPTION	W4	W5	W6	W8	COMMENTS	W9	W10	W11	W12	W13	W14	W15	W16	0 0 0 0 0 0 0 1
ODT OR HHC	OUT	OUT	OUT	OUT	ASYNC BOARD MUST HAVE W26 IN FOR ODT	JUMPER WORD NOT USED								
APL	IN	IN	OUT	IN	(JUMPER WORD = DEVICE CODE)	- DEVICE CODE -								
					DEVICE HAS DATA CHANNEL APL	IN	OUT	D10	D11	D12	D13	D14	D15	- - - - - - - -
					DEVICE HAS PROGRAMMED I/O APL	OUT	OUT	D10	D11	D12	D13	D14	D15	- - - - - - - -
					EXAMPLE: FLOPPY DEVICE CODE = 33_8	OUT	OUT	OUT	IN	IN	OUT	IN	IN	
STARTING ADDRESS	IN	OUT	IN	OUT	(JUMPER WORD = STARTING ADDRESS)	- ADDRESS BIT POSITION -								
					INSERT JUMPER TO SPECIFY 1	0	1	2	3	4	5	6	7	- - - - - - - -
					EXAMPLE: STARTING ADDRESS = 070001_8	OUT	IN	IN	IN	OUT	OUT	OUT	OUT	

BATTERY BACK-UP JUMPER

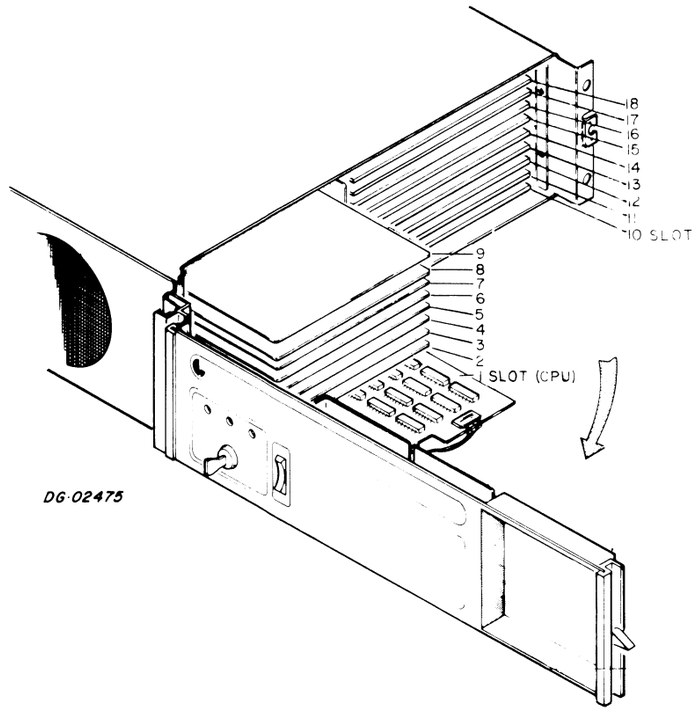
OPTION	W7
DISABLE AUTO-RESTART IF BATTERIES DISCHARGE DURING A POWER FAILURE	IN
NO BATTERY BACK-UP ON SYSTEM	OUT

CPU 4K MEMORY ADDRESS JUMPERS

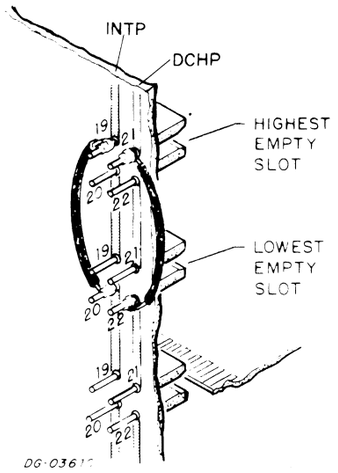
OCTAL STARTING/ENDING ADDRESS	W1	W2	W3
00000 - 07777	OUT	OUT	OUT
10000 - 17777	OUT	OUT	IN
20000 - 27777	OUT	IN	OUT
30000 - 37777	OUT	IN	IN
40000 - 47777	IN	OUT	OUT
50000 - 57777	IN	OUT	IN
60000 - 67777	IN	IN	OUT
70000 - 77777	NOT ALLOWED		

TAILORING (cont)

BOARD PLACEMENT IN SLOTS



BACKPANEL



AN 18-SLOT CPU CONTAINS TWO CARDFRAMES. THE LEFT CARDFRAME (LOOKING AT THE FRONT OF THE microNOVA) IS THE PRIMARY CARD-FRAME, CONTAINING THE CPU. ALL EMPTY SLOTS BETWEEN SYSTEM MODULES, OR INCLUDING SLOT 9, MUST HAVE PRIORITY LEVEL JUMPERS INSTALLED ACROSS THOSE SLOTS AS FOLLOWS: PINS 20 AND 22 OF THE LOWEST EMPTY SLOT SHOULD BE CONNECTED TO PINS 19 AND 21, RESPECTIVELY, OF THE HIGHEST EMPTY SLOT. THE HIGHEST AND LOWEST EMPTY SLOT MAY BE THE SAME.

EMPTY SLOTS IN THE RIGHT HAND CARDFRAME SHOULD BE JUMPERED, USING THE SAME METHOD. IF THE GROUP OF EMPTY SLOTS INCLUDE SLOT 9, JUMPERING IS UNNECESSARY. (UNLESS THE EXTERNAL I/O BUS IS USED)

NO JUMPERS SHOULD CONNECT THE LEFT AND RIGHT CARDFRAMES, EACH BEING JUMPERED INDEPENDENTLY. THE INTERNAL I/O CABLE CONNECTS THE TWO CARDFRAMES.

BOARDS IN THE LEFT CARDFRAME HAVE HIGHER PRIORITY THAN THOSE IN THE RIGHT HAND CARDFRAME. IN EITHER CARDFRAME ANY BOARD HAS HIGHER PRIORITY THAN THE ONE ABOVE IT, AND LOWER PRIORITY THAN THE ONE BELOW IT.

CABINET MOUNTING

STEP	FIG.	DESCRIPTION	HARDWARE
1	•	Unpack chassis.	
2	1	Remove front panel from chassis a. Detach green ground wire, chassis end, and replace screw. b. Unplug P207 (power supply) c. Disconnect P205 (CPU board) d. Remove three 6-32 x 5/16 screws and washers e. Remove one 6-32 x 3/8 screw, tie wrap and flat washer	Three 6-32 x 5/16 screws and lock washers, one 6-32 x 3/8 screw, tie wrap and flat washer.
3	2	Attach the two nut plates to the front rails of the cabinet in the desired locations.	Two nut plates, two 10-32 x 3/8 screws.
4	3	Separate the cardframe chassis from the power supply support and the battery mounting bracket.	Four 8-32 x 7/16 screws and flat washers.
5	1	Remove the PC boards from the cardframe (for convenience only). Remember the order.	
6	2	Mount the cardframe to the cabinet.	Four 10-32 x 3/8 screws and flat washers.
7	2	Remove the temporary screws holding the nut plates to the cabinet rails.	
8	3	Check the expansion cardframe for side-to-side play. If there is any play, push the rubber cushion (located between the cardframe) towards the front of the chassis to remove the play.	One rubber cushion.
9	4	Attach the 4 speed-nuts to the rear cabinet rails in the proper locations.	Four 10-32 speednuts.
10	3	Separate battery mounting bracket from power supply support.	Three 6-32 x 5/16 screws and flat washers.
11	4	Mount battery mounting bracket to cabinet.	
12	5	Attach battery mounting bracket to cardframe chassis.	Two 8-32 x 3/8 screws and flat washers.
13	3	Remove power supply from power supply support.	Two 4-40 x 3/16 screws, one 6-32 x 5/16 screw and flat washers.
14	5	Attach power supply to cardframe chassis.	Two 8-32 x 3/8 screws and flat washers.
15	5	Attach power supply support to battery mounting bracket.	Three 6-32 x 5/16 screws and flat washers.
16	4	Mount power supply support to cabinet.	Two 10-32 x 1/2 screws and flat washers.

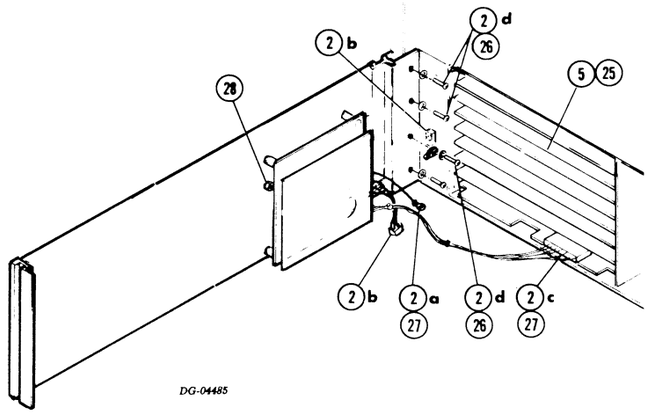


FIGURE 1

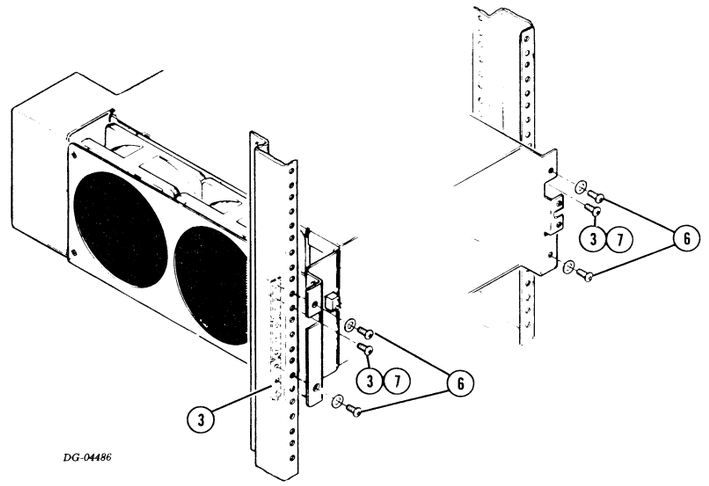


FIGURE 2

Torque Requirements	
Screw Size	in/lb
6-32	7 - 8
8-32	12 - 14
10-32	23 - 25 (10 - 12 for speednuts)

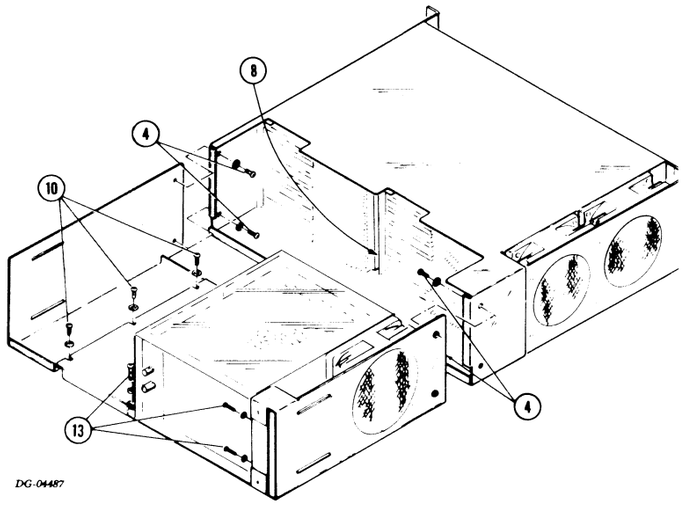


FIGURE 3

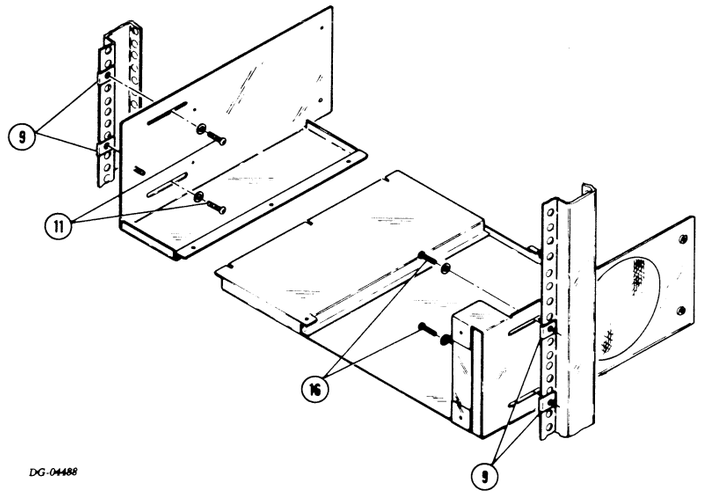


FIGURE 4

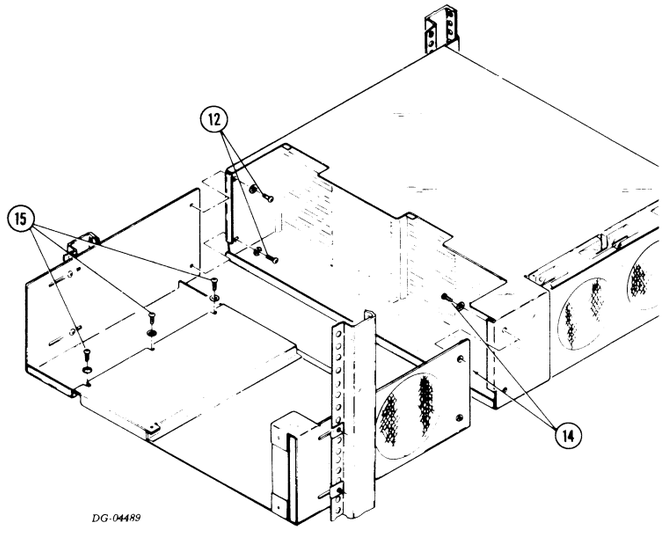


FIGURE 5

CABINET MOUNTING (CONT)

STEP	FIG.	DESCRIPTION	HARDWARE
17	6	Mount battery backup option, if applicable.	BBU Hardware mounting kit 005-007030.
18	7	Verify that the I/O bus cable is attached and folded properly.	
19	3	Place power supply in position but do not secure.	
20	8	Attach cables: a. P201 (power cable) b. P202 (front panel and fans) c. P208 (power supply fan) d. P204 (3-pin) e. Powerfail, twisted pair, orange and black f. P203 (primary backpanel) g. P206 (expansion backpanel) h. Battery backup wires.	
21	3	Secure power supply.	Two 4-40 x 3/16 screws, one 6-32 x 5/8 screw and flat washers.
22	9	Plug in any I/O device cables and the external I/O bus cable, if applicable.	
23	9	Feed all external cables through the three clips in the power supply support.	
24	7	Place Lexan covers over the backpanel pins.	
25	1	Replace PC boards in in proper order.	
26	1	Mount the front panel to the chassis. When mounting the front panel, the hardware in Step 6 may have to be loosened to facilitate adjustment of the cardframe for front panel alignment.	Reverse Step 2
27	1	Connect wires from front panel to cardframe chasis: a. Green ground wire b. P207 (power supply) c. P205 (CPU board)	
28	1	Verify that the green ground wire is connected to the ground post on the front panel.	

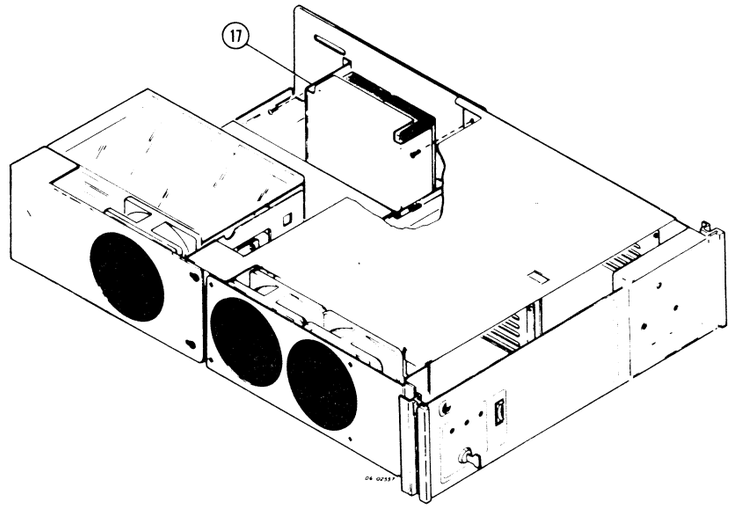


FIGURE 6

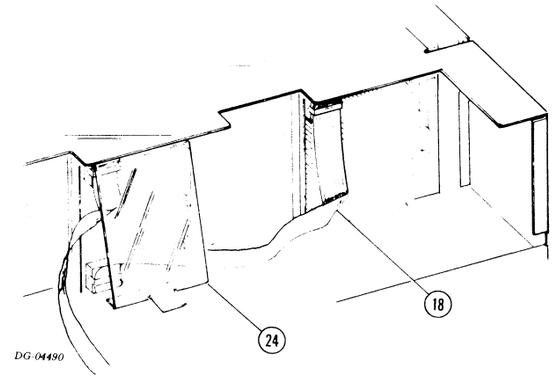


FIGURE 7

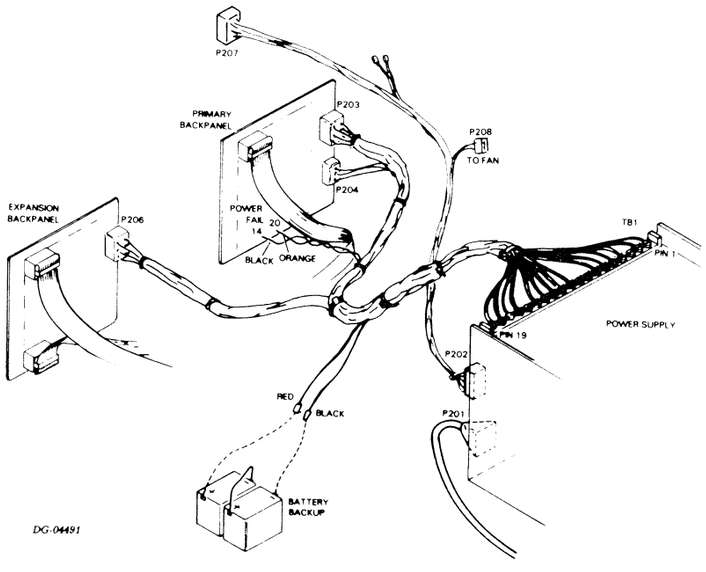


FIGURE 8

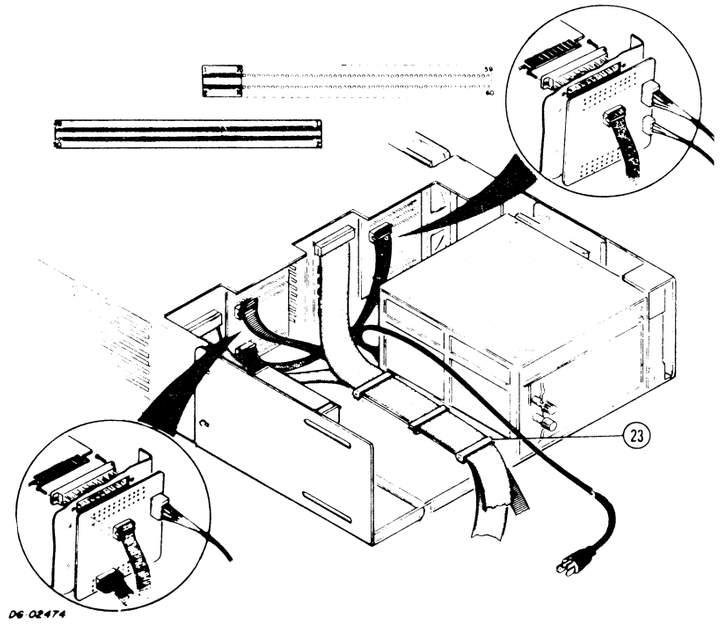
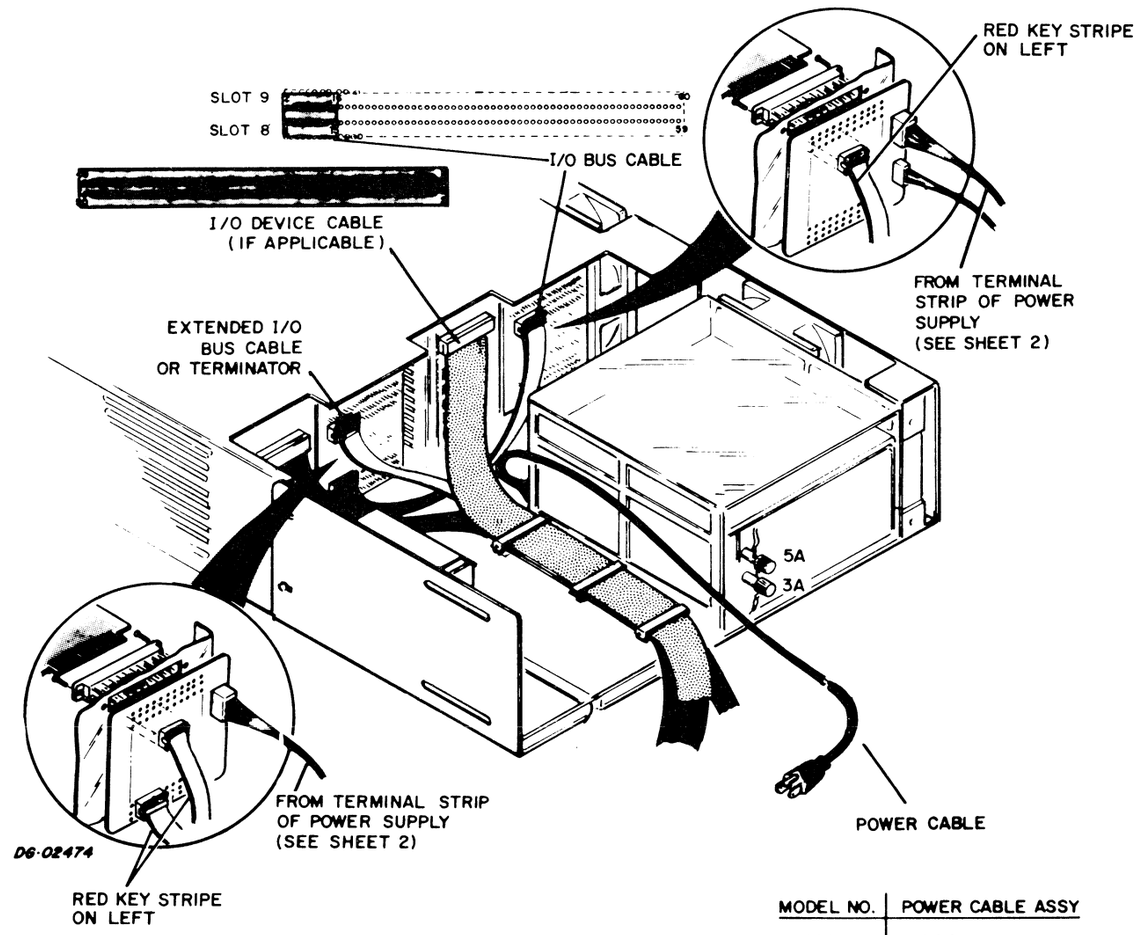


FIGURE 9

EXTERNAL/INTERNAL CABLING



MODEL NO.	POWER CABLE ASSY
1118G	100V
1118D	120V
1118E	220V
1118F	240V

NOTE: SYSTEM RELIABILITY MAY SUFFER IF THE AC POWER LINES DO NOT MEET MIL-STD-462 METHOD CS06 FOR A LEVEL 250 VOLT PULSE FOR A 10 MICROSECOND DURATION. IF YOUR AC POWER DOES NOT MEET THIS SPECIFICATION, SPECIAL FILTERING IS REQUIRED.

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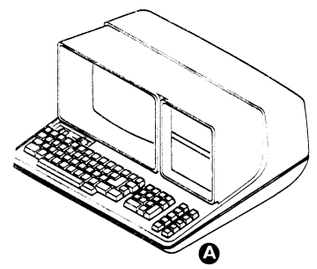
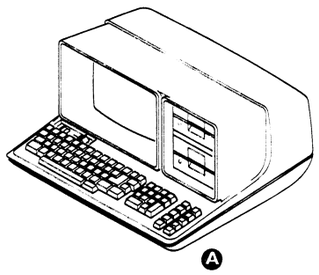
3855 RUFFIN ROAD
SAN DIEGO, CALIFORNIA 92123
TELEPHONE 1-714-279-0111

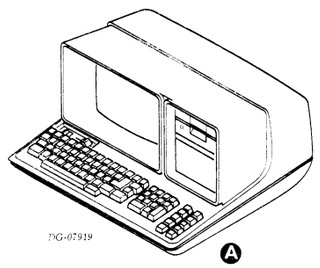
SYSTEMS

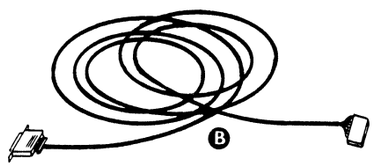
CHAPTER V

iNSTALLATION SPECIFICATIONS









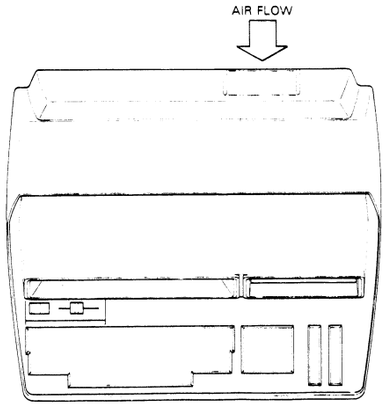
MAJOR COMPONENT

ITEM	COMPONENT	MOUNTING LOCATION	NOTES
A	Keyboard/display	Desktop	
	Keyboard/display and one diskette drive	Desktop	
	Keyboard/display and two diskette drives	Desktop	

CABLES

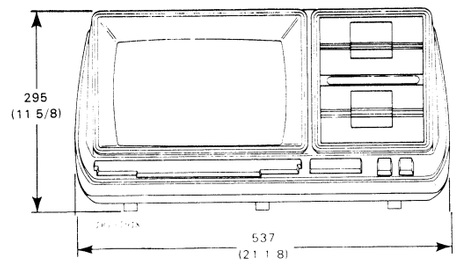
ITEM	CABLE	CONNECTING			MAX LENGTH FT / M	NOTES
B	Device cable (EIA)	System	and	Printer, Terminal, or Communications Controller	50 / 15.3	Device cable varies with: 1) Computer 2) Interface
	Device cable (Modem)	System	and	Modem	50 / 15.3	

WARNING: THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY ENERGY AND IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTIONS MANUAL, MAY CAUSE INTERFERENCE TO RADIO COMMUNICATIONS. AS TEMPORARILY PERMITTED BY REGULATION IT HAS NOT BEEN TESTED FOR COMPLIANCE WITH THE LIMITS FOR CLASS A COMPUTING DEVICES PURSUANT TO SUBPART J OF PART 15 OF FCC RULES, WHICH ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST SUCH INTERFERENCE. OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA IS LIKELY TO CAUSE INTERFERENCE IN WHICH CASE THE USER AT HIS OWN EXPENSE WILL BE REQUIRED TO TAKE WHATEVER MEASURES MAY BE REQUIRED TO CORRECT THE INTERFERENCE.

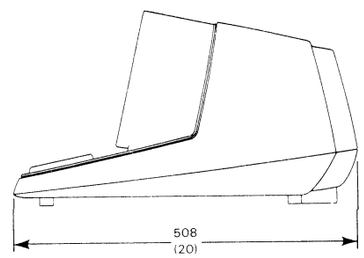


TOP VIEW

DIMENSIONS IN MILLIMETERS
(INCHES IN PARENTHESES)



FRONT VIEW



SIDE VIEW

DIMENSIONS:	Width	Depth	Height
Millimeters	537	508	295
Inches	21 1/8	20	11 5/8

WEIGHT:	Kilograms	Pounds
Unit without diskette drive	11.8	26.0
Unit with one diskette drive	13.4	29.5
Unit with two diskettes drives	14.8	32.5

POWER REQUIREMENTS:

(Domestic)	
Voltage	120 V (+ 10%, -15%)
Hz	47 - 63
Amp per Phase	3 max
Phase	1
Startup Surge per Phase	50 Amp
(Export)	
Voltage	100 V (+ 10%, -10%)
Hz	47 - 63
Amp per Phase	3 max
Phase	1
Startup Surge per Phase	50 Amp
Voltage	220/240 V (+ 10%, -15%)
Hz	47 - 63
Amp per Phase	1.5 max
Phase	1
Startup Surge per Phase	50 Amp

CABLES:

Primary Power

	Length	Conn	Mating Conn
Domestic 60Hz	2.4 m (8')	5-15 P	5-15 S
Export 50Hz		TBD	TBD

HEAT OUTPUT:	Watts	BTU/hr
	85	290

OPERATING ENVIRONMENT:

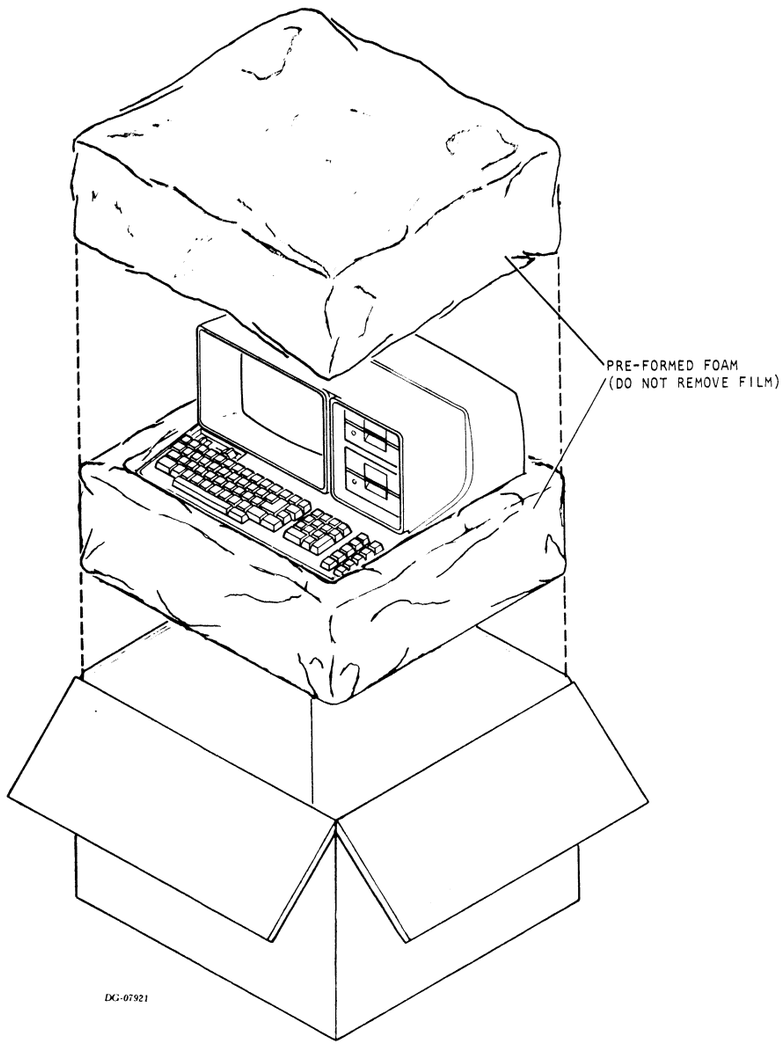
Temperature	10°C - 37.8°C (50°F - 100°F)
Relative Humidity (max)	80%
Altitude	2438 m (8,000')

STORAGE ENVIRONMENT:

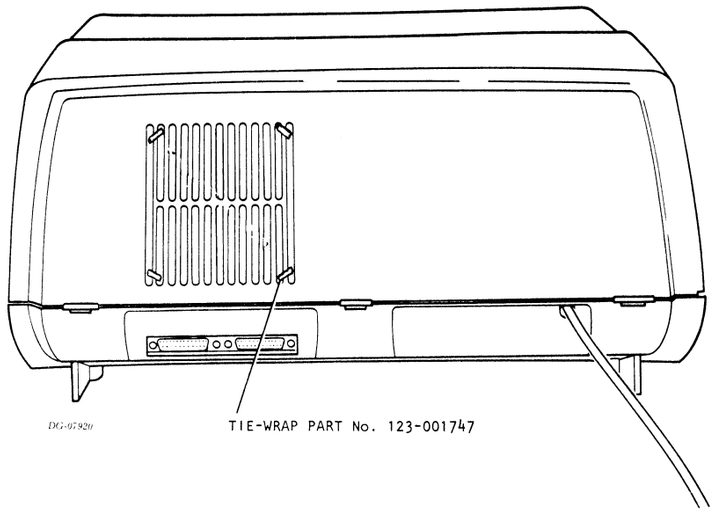
Temperature	-40°C - 65.6°C (-40°F - 150°F)
Relative Humidity (max)	90%
Altitude	15,240 m (50,000')

NOTE: MODELS 6183 AND 6187 MUST BE AT LEAST SIX INCHES AWAY FROM ANY RADIO FREQUENCY SOURCE.

SHIPPING



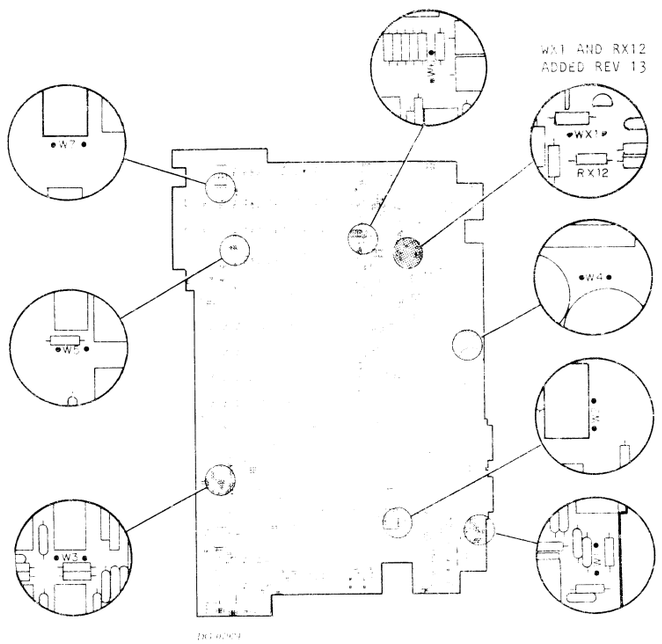
FOR PACKAGING INFORMATION,
REFER TO DGC DWG NUMBER 010-000263



NOTE: REMOVE TIE-WRAPS, IF PRESENT, BEFORE POWERING UP UNIT.

TAILORING

JUMPERING



Ref DGC Dwg No 003-001697 Rev 13

FREQUENCY SELECT JUMPERS

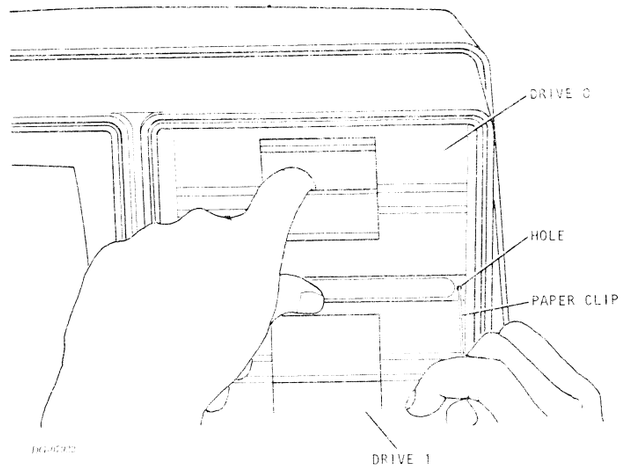
FREQUENCY	JUMPER W5, WX1	JUMPER W6
60Hz	OUT	IN
50Hz	IN	OUT

VOLTAGE SELECT JUMPER

VOLTAGE	JUMPER W4
120V	IN
220V	OUT

NOTE: JUMPERS W1, W2, W3, AND W7 ARE ALWAYS IN.

ACCESSING A DISKETTE DRIVE



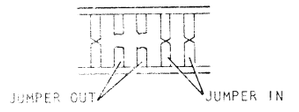
1. OPEN DOOR AND HOOK FINGER OVER BOTTOM PART OF CHASSIS.
2. GENTLY INSERT PAPER CLIP IN HOLE AND PULL DRIVE OUT UNTIL IT CLEARS MAIN CHASSIS.

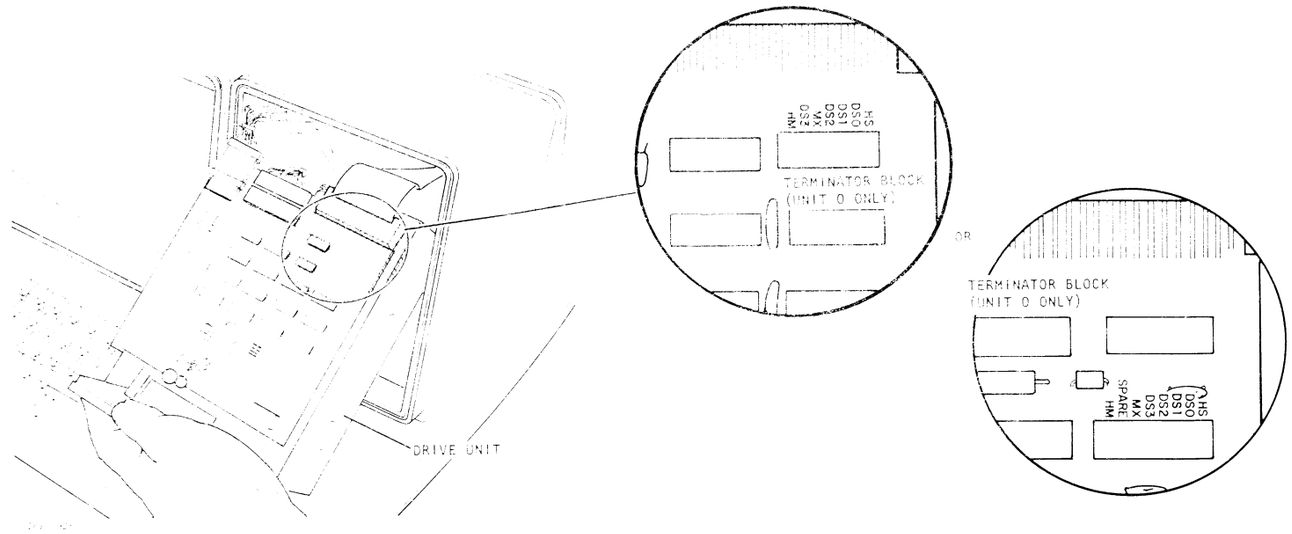
DRIVE UNIT SELECT JUMPERS AND TERMINATOR

FUNCTION*	JUMPERS DRIVE 0	JUMPERS DRIVE 1	PINS CONNECTED MODEL A	PINS CONNECTED MODEL B
HS	OUT	OUT	1, 14	1, 16
DS0	IN	OUT	2, 13	2, 15
DS1	OUT	IN	3, 12	3, 14
DS2	OUT	OUT	4, 11	4, 13
DS3	OUT	OUT	6, 9	5, 12
MX	OUT	OUT	5, 10	6, 11
SPARE (MODEL B ONLY)	OUT	OUT	N/A	7, 10
HM	IN	IN	7, 8	8, 9

* JUMPER FUNCTIONS ARE NOT MARKED ON MODEL B DRIVE PC BOARDS. THEY ARE INDICATED IN THE CALLOUT FOR EASY IDENTIFICATION.

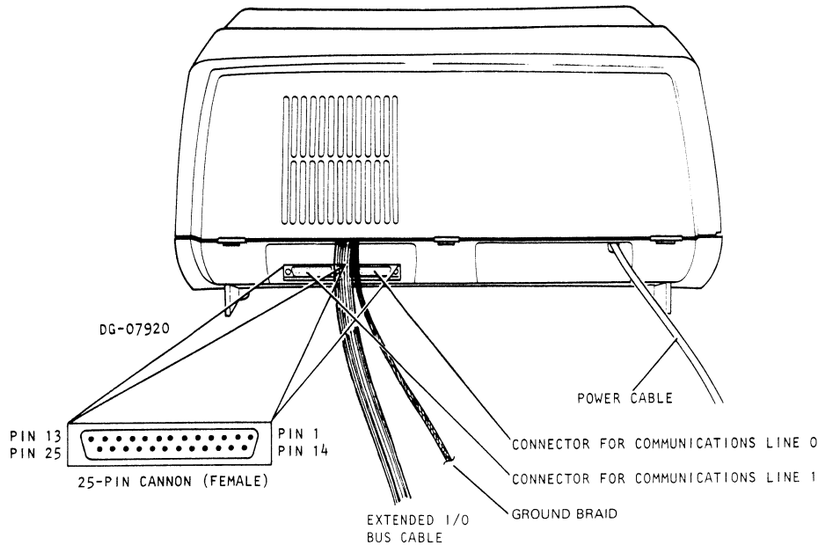
A JUMPER IN THE BLOCK IS "OUT" IF IT IS CUT IN HALF IN THE MIDDLE OF THE BLOCK. OTHERWISE IT IS "IN" (SEE BELOW).





EXTERNAL CABLING

COMMUNICATIONS LINES



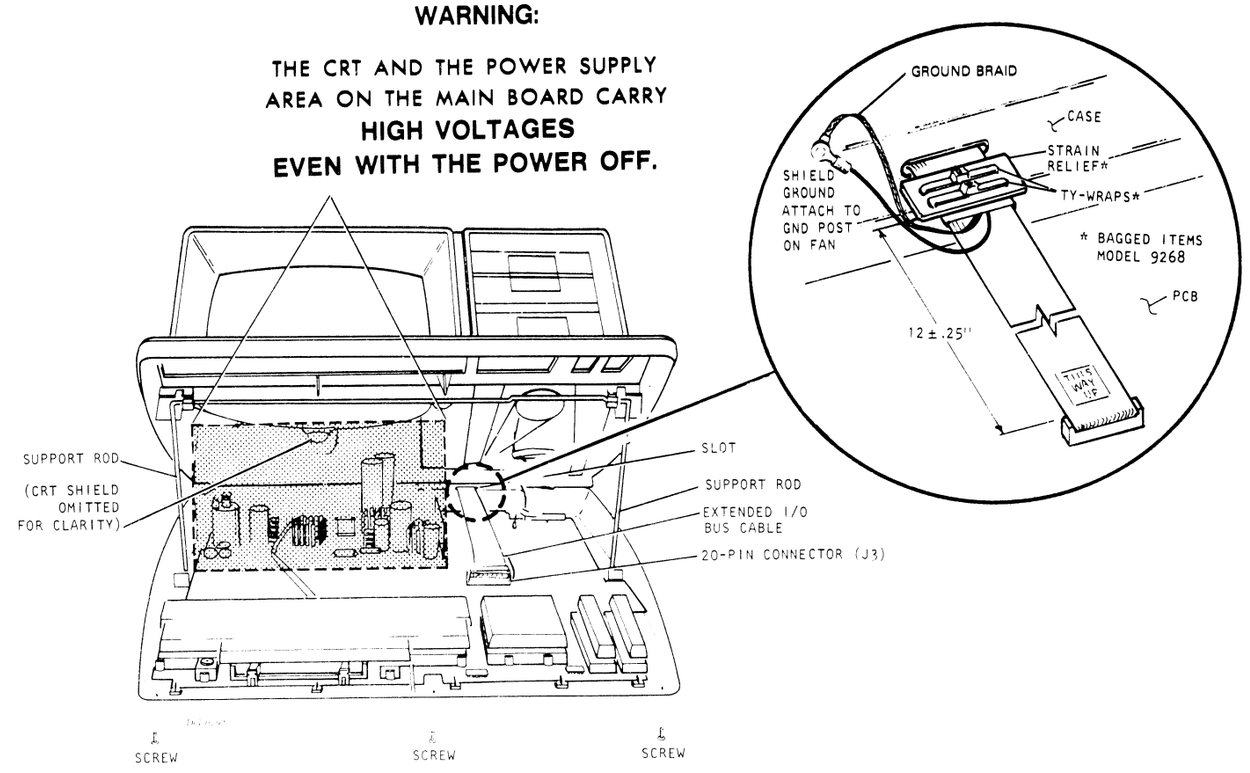
PIN ASSIGNMENTS

2	TxD (DATA TRANSMITTED BY TERMINAL)
3	RxD (DATA RECEIVED BY TERMINAL)
7	SIGNAL GROUND
4	RTS (REQUEST TO SEND)
5	CTS (CLEAR TO SEND)
6	DSR (DATA SET READY)
8	DCD (DATA CARRIER DETECT)
15	TxC (TRANSMIT CLOCK IN)
17	RxC (RECEIVE CLOCK IN)
20	DTR (DATA TERMINAL READY)
24	TxC (TRANSMIT CLOCK OUT)

I/O BUS

WARNING:

THE CRT AND THE POWER SUPPLY AREA ON THE MAIN BOARD CARRY HIGH VOLTAGES EVEN WITH THE POWER OFF.



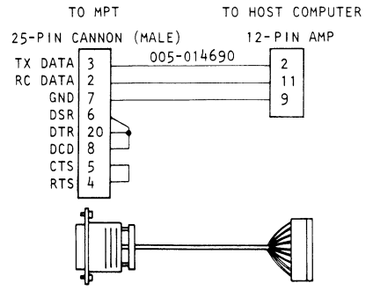
1. LOOSEN THREE SCREWS UNDERNEATH FRONT OF UNIT.
2. LIFT TOP OF UNIT UNTIL SUPPORT RODS LATCH IN PLACE ON BOTH SIDES.
3. INSERT THE EXTENDED I/O BUS CABLE AND GROUND STRAP THRU SLOT IN REAR OF UNIT. PLUG I/O CABLE ONTO 20 PIN CONNECTOR (J3) AND CONNECT I/O BUS SHIELD GROUND AND GROUND BRAID TO GROUND POST ON FAN.

   WARNING:

   THE I/O CABLE THAT PLUGS INTO THE MPT MAIN BOARD IS NOT KEYED. THIS CONNECTOR MUST BE PLUGGED IN CORRECTLY, PIN 1 TO PIN 1, IN ORDER TO PREVENT DAMAGE WHEN THE SYSTEM IS POWERED UP.

4. ATTACH TY-WRAPS AND STRAIN RELIEF AS SHOWN.
5. LIFT TOP OF UNIT SLIGHTLY TO UNLATCH SUPPORT RODS. THEN LOWER IT GRADUALLY TO CLOSE UNIT. TIGHTEN THREE SCREWS.

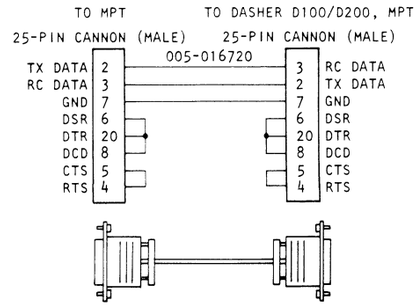
EXTERNAL CABLING

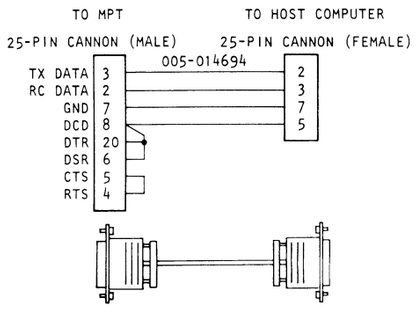


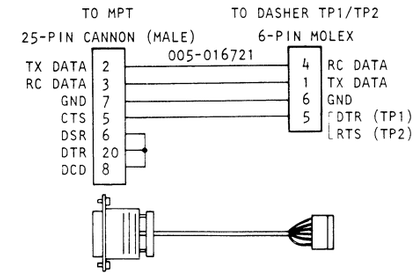
EIA ASYNCRONOUS INTERFACE CABLES

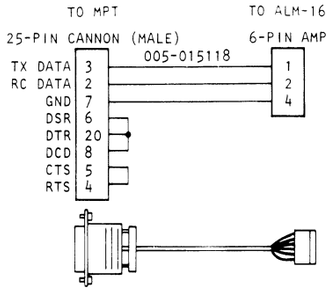
COMUPTER/CONTROLLER/DEVICE	CABLE NUMBER
PRIMARY TERMINAL (ALL CPU'S INCLUDING MICROPRODUCTS)*, ULM, 4010	005-014690
PRIMARY TERMINAL ECLIPSE S250/C350/M600/ MV8000	005-014694
ALM-8, CS SYSTEMS	005-015117
ALM-16	005-015118
DASHER D100/D200, MPT	005-016720
DASHER TP1/TP2	005-016721
MODEM	005-014692

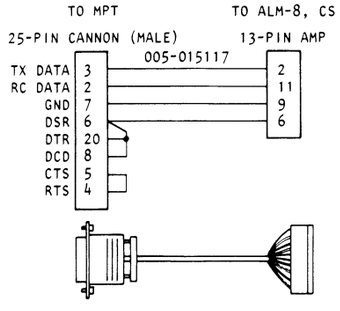
*EXCEPT ECLIPSE MV8000/M600/C350/S250.

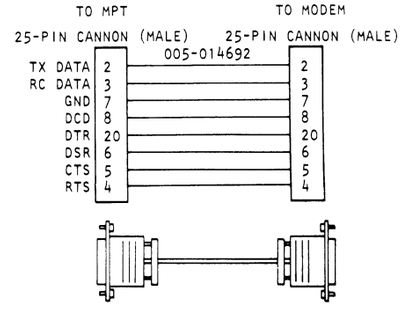










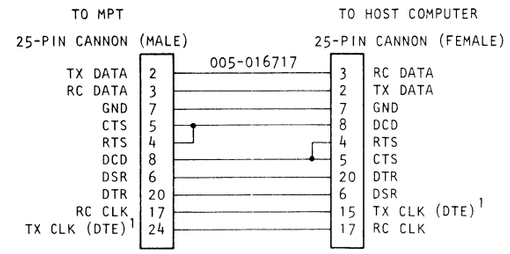


DG-07926

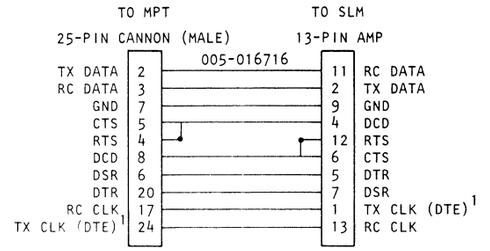
EXTERNAL CABLING

EIA SYNCHRONOUS INTERFACE CABLES

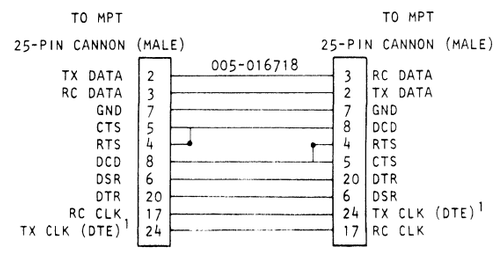
COMPUTER/CONTROLLER	CABLE NUMBER
PRIMARY TERMINAL ECLIPSE MV8000/M600 C350/S250/S140	005-016717
MPT SYSTEM	005-016718
SLM	005-016716
MODEM	005-016719



[1]DTE - TRANSMIT CLOCK SUPPLIED BY TRANSMITTING PROCESSOR.

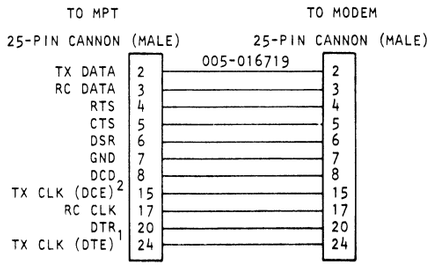


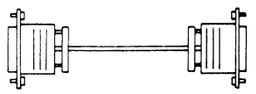
[1]DTE - TRANSMIT CLOCK SUPPLIED BY TRANSMITTING PROCESSOR.



[1]DTE - TRANSMIT CLOCK SUPPLIED BY TRANSMITTING PROCESSOR.

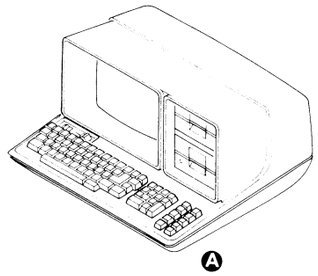
DG-07927

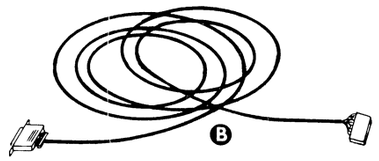




NOTES: [1]DTE - TRANSMIT/RECEIVE CLOCK SUPPLIED BY TRANSMITTING PROCESSOR.
[2]DCE - TRANSMIT/RECEIVE CLOCK SUPPLIED BY MODEM.

INSTALLATION SPECIFICATIONS





MAJOR COMPONENT

ITEM	COMPONENT	MOUNTING LOCATION	NOTES
A	Keyboard/display and two diskette drives	Desktop	

CABLES

ITEM	CABLE	CONNECTING			MAX LENGTH FT / M	NOTES
B	Device cable (EIA)	System	and	Printer, Terminal, or Communications Controller	50 / 15.3	Device cable varies with: 1) Computer 2) Interface
	Device cable (Modem)	System	and	Modem	50 / 15.3	

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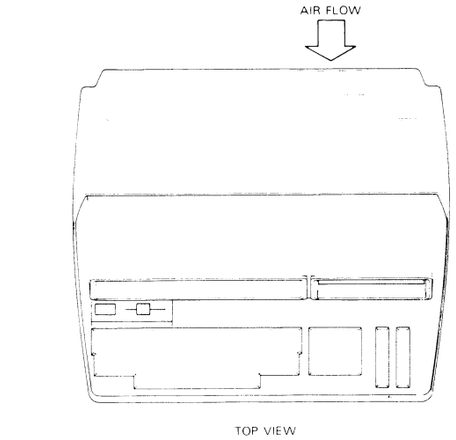
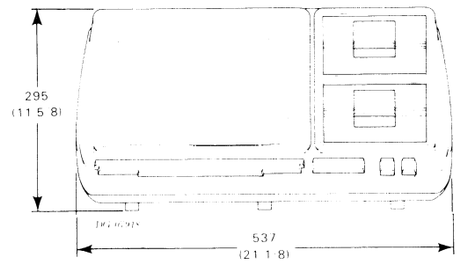
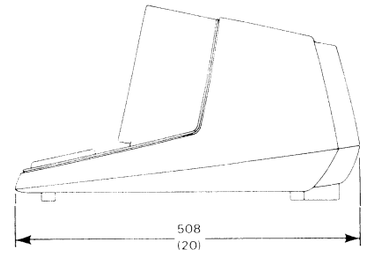


TOP VIEW

DIMENSIONS IN MILLIMETERS
(INCHES IN PARENTHESES)



FRONT VIEW



SIDE VIEW

DIMENSIONS:	Width	Depth	Height
Millimeters	537	508	295
Inches	21.1.8	20	11.5.8

WEIGHT:	Kilograms	Pounds
	14.8	32.5

HEAT OUTPUT:	Watts	BTU/hr
	85	290

OPERATING ENVIRONMENT:

Temperature	10°C - 37.8°C (50°F - 100°F)
Relative Humidity (max)	80%
Altitude	2438 m (8,000')

STORAGE ENVIRONMENT:

Temperature	-40°C - 65.6°C (-40°F - 150°F)
Relative Humidity (max)	90%
Altitude	15,240 m (50,000')

NOTE
MUST BE AT LEAST SIX INCHES AWAY FROM ANY RADIO FREQUENCY SOURCE.

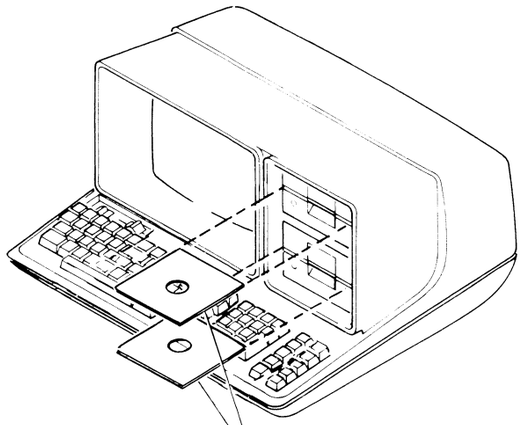
POWER REQUIREMENTS:

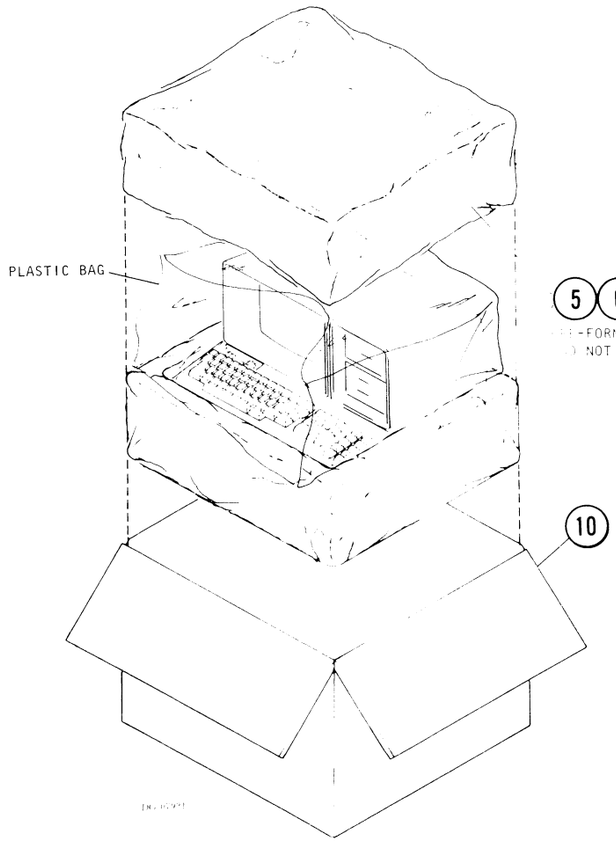
(Domestic)	
Voltage	120 V (+ 10%, -15%)
Hz	47 - 63
Amp per Phase	3 max
Phase	1
Startup Surge per Phase	50 Amp
(Export)	
Voltage	100 V (± 10%)
Hz	47 - 63
Amp per Phase	3 max
Phase	1
Startup Surge per Phase	50 Amp
Voltage	220 240 V (+ 10% - 15%)
Hz	47 - 63
Amp per Phase	1.5 max
Phase	1
Startup Surge per Phase	50 Amp

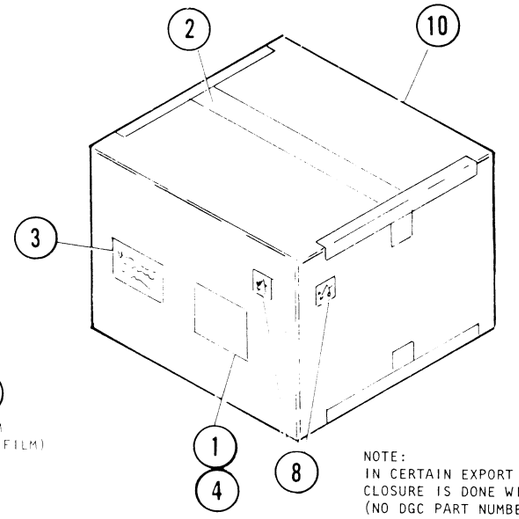
CABLES:
Primary Power

	Length	Conn	Mating Conn
Domestic 60Hz	2.4 m (8')	5-15 P	5-15 S
Export 50Hz		TBD	TBD

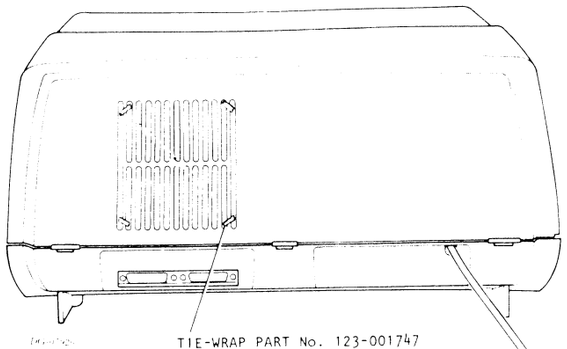
SHIPPING







NOTE:
IN CERTAIN EXPORT CARTONS, CLOSURE IS DONE WITH STAPLES. (NO DGC PART NUMBER)

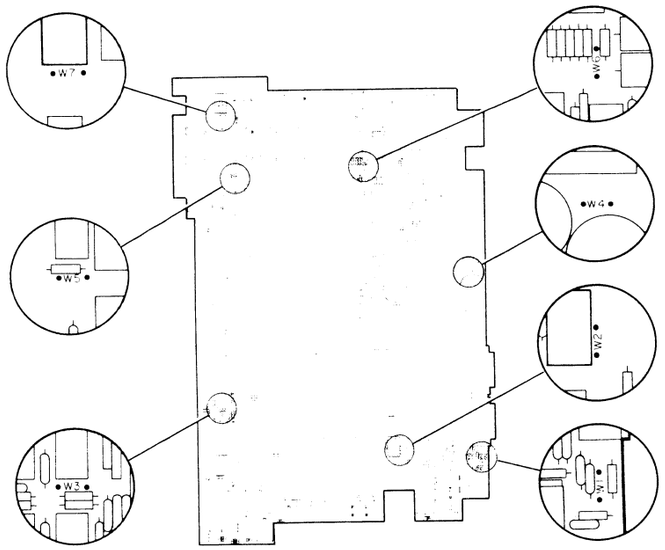


NOTE: REMOVE TIE-WRAPS, IF PRESENT, BEFORE POWERING UP UNIT.

ITEM	QTY	DESCRIPTION	PART NUMBER
10	1	RSC 26.5 x 24.75 x 16	129-000610
9	2	D/C HEAD SEPARATOR 5 1/4" DRIVES	129-000528
8	2	TIP-N-TELL INDICATOR	129-000469
7	2.5lb	PART A FOAM-IN-PLACE SYSTEM	129-000320
6	2.5lb	PART B FOAM-IN-PLACE SYSTEM	129-000319
5	16ft	POLYFILM 72RW FLD TO 36W	129-000317
4	1	PACKING ENVELOPE C-16 5 1/2 x 10"	129-000043
3	1	DGC SHIPPING LABEL	129-000030
2	5ft	REINFORCED SEALING TAPE 3"	129-000027
1	2ft	PERMACEL GLASS TAPE	129-000026

TAILORING

JUMPERING



DG-0924

FREQUENCY SELECT JUMPERS

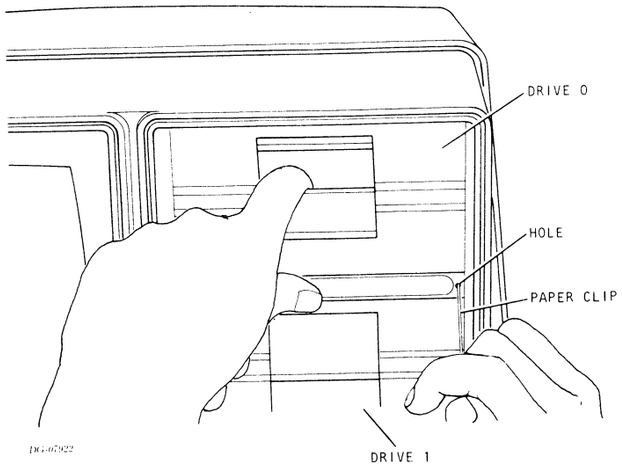
FREQUENCY	JUMPER W5	JUMPER W6
60Hz	OUT	IN
50Hz	IN	OUT

VOLTAGE SELECT JUMPER

VOLTAGE	JUMPER W4
120V	IN
220V	OUT

NOTE: JUMPERS W1, W2, W3, AND W7 ARE ALWAYS IN.

ACCESSING A DISKETTE DRIVE



DG-0922

1. OPEN DOOR AND HOOK FINGER OVER BOTTOM PART OF CHASSIS.
2. GENTLY INSERT PAPER CLIP IN HOLE AND PULL DRIVE OUT UNTIL IT CLEARS MAIN CHASSIS.

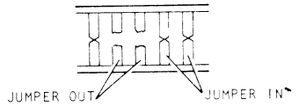
DRIVE UNIT SELECT JUMPERS AND TERMINATOR

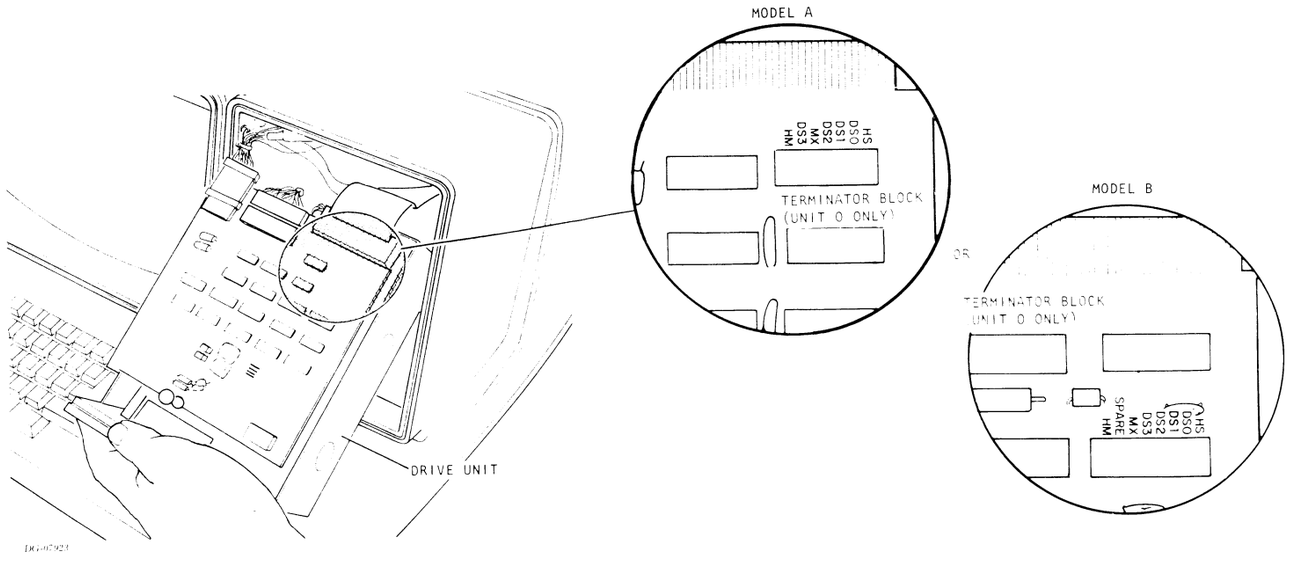
FUNCTION*	JUMPERS DRIVE 0	JUMPERS DRIVE 1	PINS CONNECTED MODEL A	PINS CONNECTED MODEL B
HS	OUT	OUT	1, 14	1, 16
DS0	IN	OUT	2, 13	2, 15
DS1	OUT	IN	3, 12	3, 14
DS2	OUT	OUT	4, 11	4, 13
DS3	OUT	OUT	6, 9	5, 12
MX	OUT	OUT	5, 10	6, 11
SPARE **	OUT	OUT	N/A	7, 10
HM	IN	IN	7, 8	8, 9

* JUMPER FUNCTIONS ARE NOT MARKED ON MODEL B DRIVE PC BOARDS. THEY ARE INDICATED IN THE CALLOUT FOR EASY IDENTIFICATION.

** MODEL B ONLY

A JUMPER IN THE BLOCK IS "OUT" IF IT IS CUT IN HALF IN THE MIDDLE OF THE BLOCK. OTHERWISE IT IS "IN" (SEE BELOW).

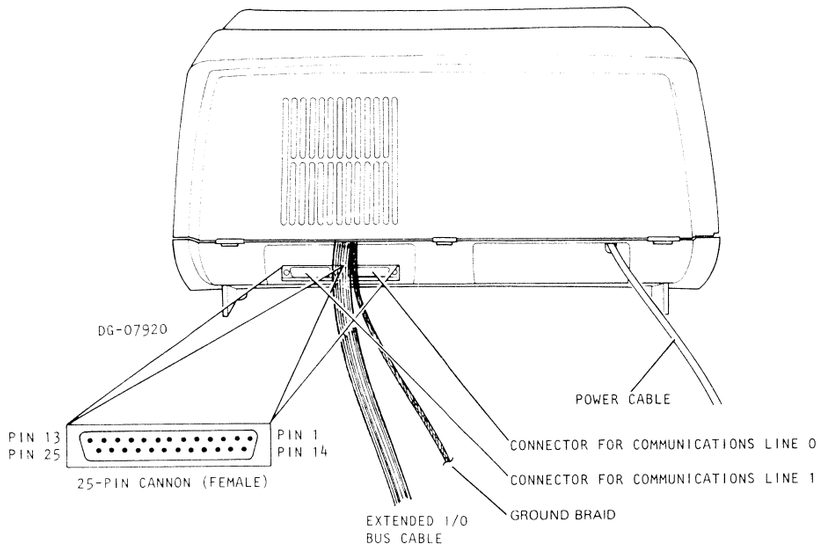




DG-0923

EXTERNAL CABLING

COMMUNICATIONS LINES



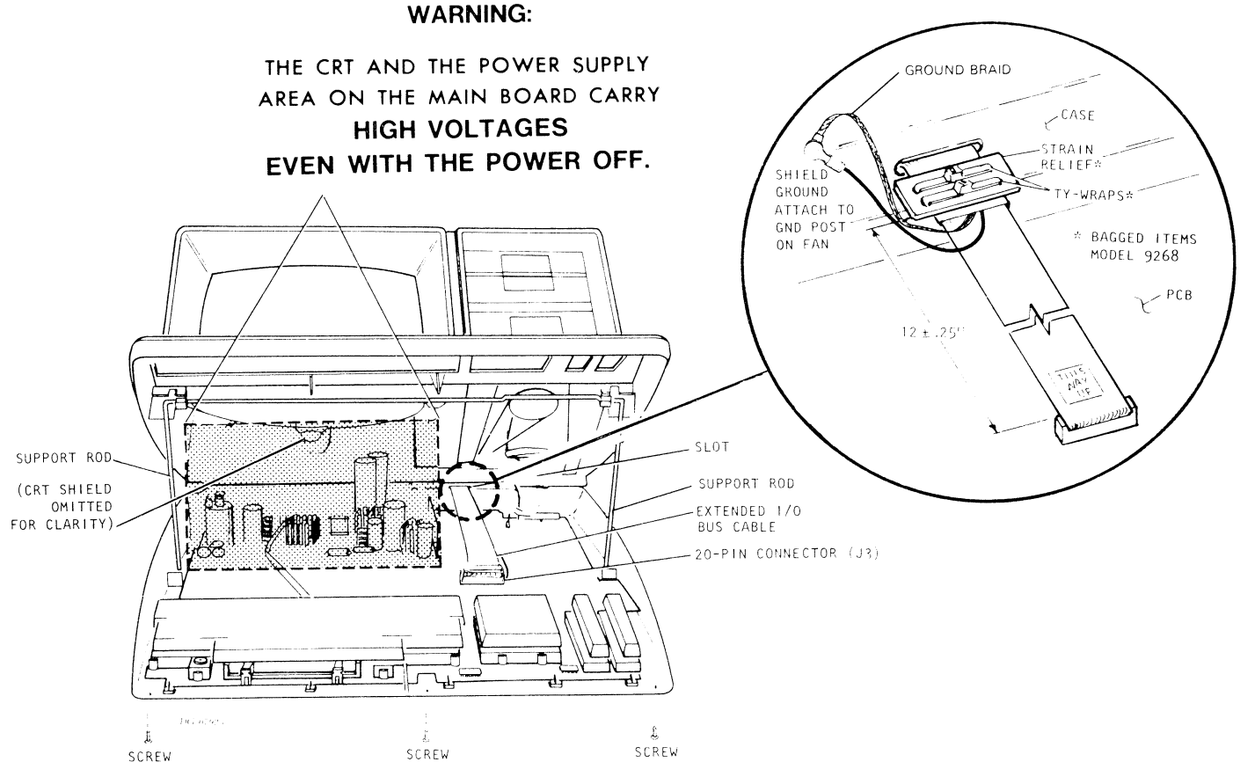
PIN ASSIGNMENTS

2	TxD (DATA TRANSMITTED BY TERMINAL)
3	RxD (DATA RECEIVED BY TERMINAL)
7	SIGNAL GROUND
4	RTS (REQUEST TO SEND)
5	CTS (CLEAR TO SEND)
6	DSR (DATA SET READY)
8	DCD (DATA CARRIER DETECT)
15	TxC (TRANSMIT CLOCK IN)
17	RxC (RECEIVE CLOCK IN)
20	DTR (DATA TERMINAL READY)
24	TxC (TRANSMIT CLOCK OUT)

I/O BUS

WARNING:

THE CRT AND THE POWER SUPPLY AREA ON THE MAIN BOARD CARRY **HIGH VOLTAGES EVEN WITH THE POWER OFF.**

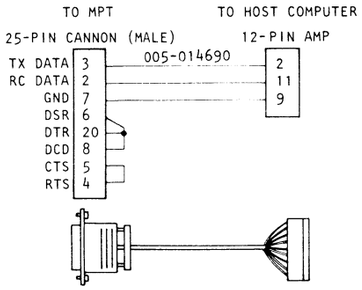


1. LOOSEN THREE SCREWS UNDERNEATH FRONT OF UNIT.
2. LIFT TOP OF UNIT UNTIL SUPPORT RODS LATCH IN PLACE ON BOTH SIDES.
3. INSERT THE EXTENDED I/O BUS CABLE AND GROUND STRAP THRU SLOT IN REAR OF UNIT. PLUG I/O CABLE ONTO 20 PIN CONNECTOR (J3) AND CONNECT I/O BUS SHIELD GROUND AND GROUND BRAID TO GROUND POST ON FAN.

   WARNING:

   THE I/O CABLE THAT PLUGS INTO THE MPT MAIN BOARD IS NOT KEYED. THIS CONNECTOR MUST BE PLUGGED IN CORRECTLY, PIN 1 TO PIN 1, IN ORDER TO PREVENT DAMAGE WHEN THE SYSTEM IS POWERED UP.
4. ATTACH TY-WRAPS AND STRAIN RELIEF AS SHOWN.
5. LIFT TOP OF UNIT SLIGHTLY TO UNLATCH SUPPORT RODS. THEN LOWER IT GRADUALLY TO CLOSE UNIT. TIGHTEN THREE SCREWS.

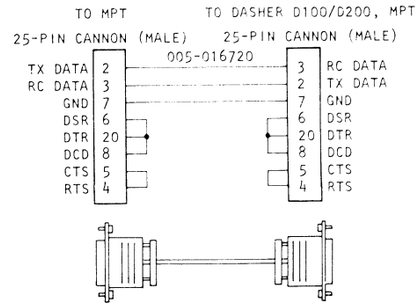
EXTERNAL CABLING (CONT)

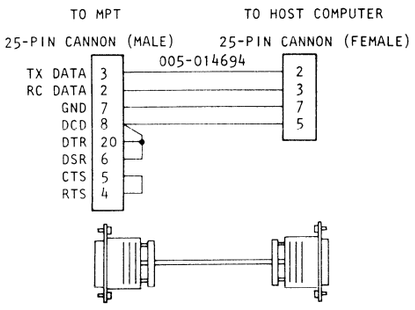


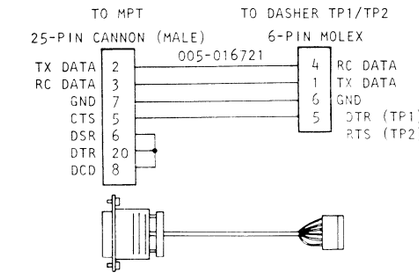
EIA ASYNCRONOUS INTERFACE CABLES

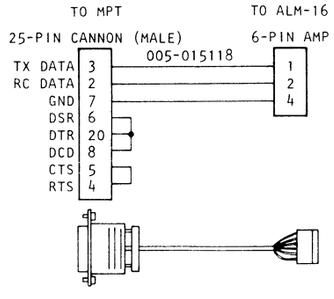
COMUPTER/CONTROLLER/DEVICE	CABLE NUMBER
PRIMARY TERMINAL (ALL CPU'S INCLUDING MICROPRODUCTS)*, ULM, 4010	005-014690
PRIMARY TERMINAL ECLIPSE S250/C350/M600/ MV8000	005-014694
ALM-8, CS SYSTEMS	005-015117
ALM-16	005-015118
DASHER D100/D200, MPT	005-016720
DASHER TP1/TP2	005-016721
MODEM	005-014692

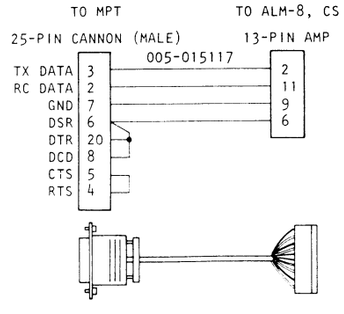
*EXCEPT ECLIPSE MV8000/M600/C350/S250.

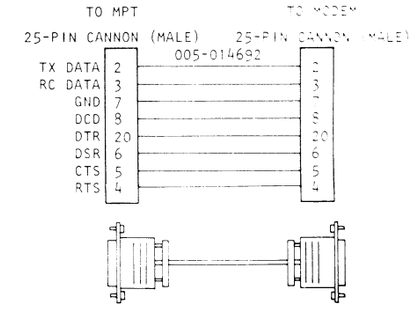








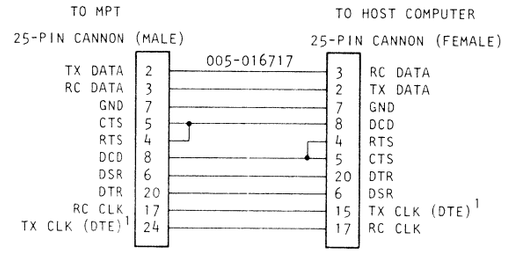




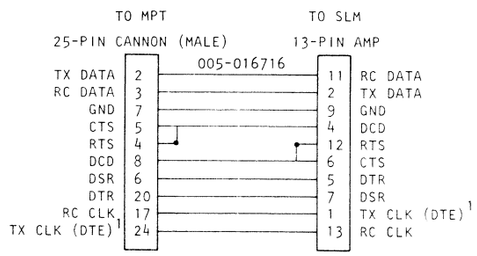
EXTERNAL CABLING (CONT)

EIA SYNCHRONOUS INTERFACE CABLES

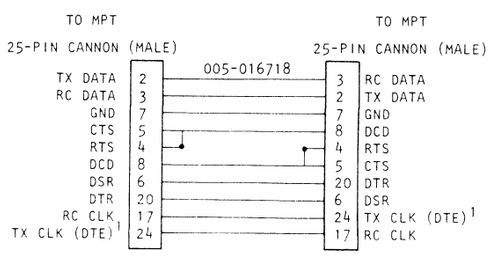
COMPUTER/CONTROLLER	CABLE NUMBER
PRIMARY TERMINAL ECLIPSE MV8000/M600 C350/S250/S140	005-016717
MPT SYSTEM	005-016718
SLM	005-016716
MODEM	005-016719



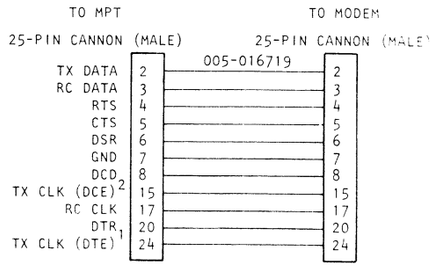
[1]DTE - TRANSMIT CLOCK SUPPLIED BY TRANSMITTING PROCESSOR.



[1]DTE - TRANSMIT CLOCK SUPPLIED BY TRANSMITTING PROCESSOR.



[1]DTE - TRANSMIT CLOCK SUPPLIED BY TRANSMITTING PROCESSOR.

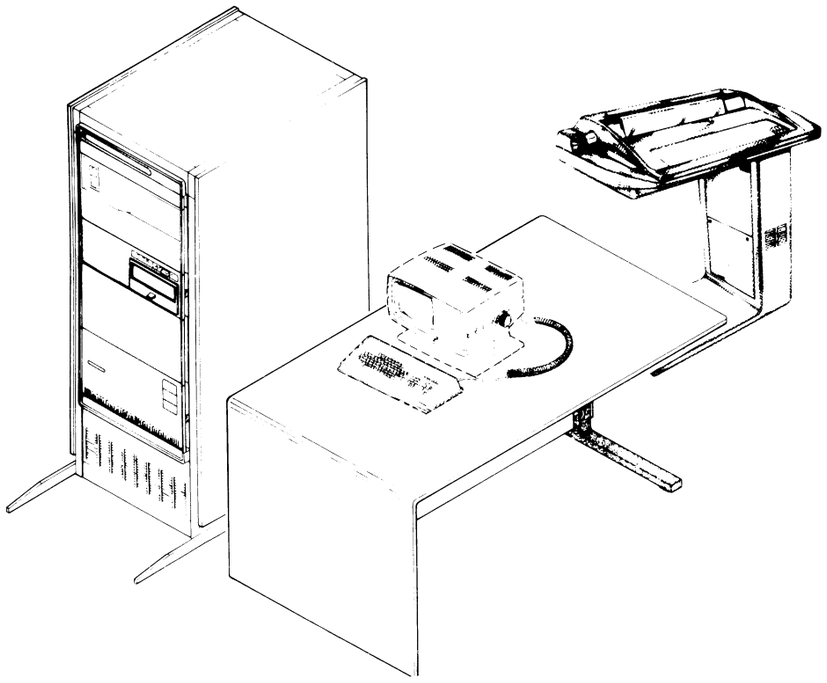


NOTES: [1]DTE - TRANSMIT/RECEIVE CLOCK SUPPLIED BY TRANSMITTING PROCESSOR.
[2]DCE - TRANSMIT/RECEIVE CLOCK SUPPLIED BY MODEM.

SUBSYSTEM COMPONENT BREAKDOWN

MODELS MOD 50, 9530, 9531

(ONE BAY SYSTEM SHOWN)



Warning: This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instruction manual, may cause interference to radio communications. As temporarily permitted by regulation it has not been tested for compliance with the limits for Class A computing devices pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference. Operation of this equipment in a residential area is likely to cause interference, in which case the user, at his own expense, will be required to take whatever measures may be required to correct the interference.

MAJOR COMPONENT

Component	Mounting Location	Notes
M4000	FREE STANDING	
NOVA 4/X	CABINET	
6070 OR 6045 DISK	CABINET	SEE 010-000192 OR 010-000110
DISKETTE 6031 OR 6097	CABINET	SEE 010-000064 OR 010-000255
TABLE	FREE STANDING	OPTIONAL
DASHER DISPLAY	FREE STANDING	SEE 010-000098 or 010-000215 or 010-000235 or 010-000241
DASHER PRINTER	FREE STANDING	SEE 010-000094 or 010-000214 or 010-000195

CABLE

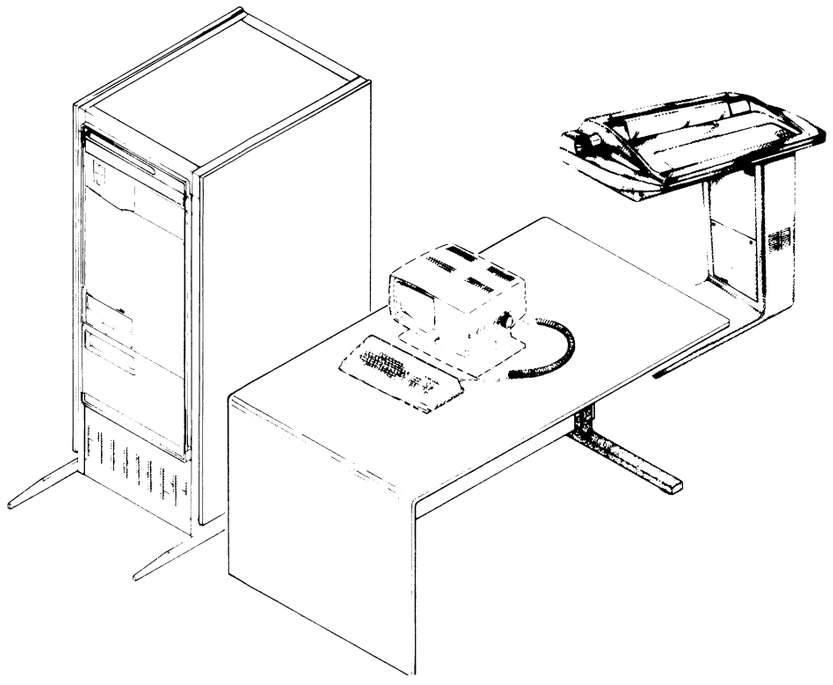
Cable	Connecting			Max Allowed Lg ft / m	Notes
DEVICE CABLE	VIDEO DISPLAY	and	CPU	2000 / 610	USED ON 6053-D*
DEVICE CABLE (CURRENT LOOP)	VIDEO DISPLAY	"	CONV. PANEL	2000 / 610	USED ON 6053-G*
DEVICE CABLE (EIA)	VIDEO DISPLAY	"	FULL DUPLEX MODEM	50 / 15.3	USED ON 6053-J**
DEVICE CABLE	VIDEO DISPLAY	and	CPU	2000 / 610	USED ON 6108-D****
DEVICE CABLE (CURRENT LOOP)	VIDEO DISPLAY	"	CONV. PANEL	2000 / 610	USED ON 6108-G****
DEVICE CABLE (EIA)	VIDEO DISPLAY	"	FULL DUPLEX MODEM	50 / 15.3	USED ON 6108-J****
DEVICE CABLE (CURRENT LOOP)	DASHER PRINTER	"	CONV. PANEL	2000 / 610	USED ON 6041-G***
DEVICE CABLE (EIA)	DASHER PRINTER	"	FULL DUPLEX MODEM	50 / 15.3	USED ON 6041-J***
DEVICE CABLE	300 LPM PRINTER	"	CONV. PANEL	15 / 4.6	USED ON 9125
DEVICE CABLE	240 LPM PRINTER	"	CONV. PANEL	15 / 4.6	USED ON 9128
DEVICE CABLE	MATRIX PRINTER	"	CONV. PANEL	25 / 7.4	9129
DEVICE CABLE	SYNCHRONOUS MODEM	"	CONV. PANEL	50 / 15.3	1084G
INTERDEVICE CABLE	SBS COMBO BOARD	"	CONV. PANEL	8 / 2.5	
INTERDEVICE CABLE	SLM BOARD	"	CONV. PANEL	8 / 2.5	
DEVICE CABLE	ASYNCHRONOUS MODEM	"	CONV. PANEL	50 / 15.3	1084G
DEVICE CABLE	INTERNATIONAL MODEM	"	CONV. PANEL	50 / 15.3	1084G

* ALSO 6093 & 6120
** ALSO 6093
*** ALSO 6076
**** ALSO 6108

SUBSYSTEM COMPONENT BREAKDOWN

MODELS MOD 50, 9533, 9534

(ONE BAY SYSTEM SHOWN)



MAJOR COMPONENT

Component	Mounting Location	Notes
M4000	FREE STANDING	
NOVA 4/X	CABINET	
6098 or 6100 DISK UNIT	CABINET	SEE 010-000221 or 010-000223
6098 or 6100 DISK UNIT	CABINET	SEE 010-000221 or 010-000223
TABLE	FREE STANDING	OPTIONAL
DASHER DISPLAY	FREE STANDING	SEE 010-000098 or 010-000215 or 010-000235 or 010-000241
DASHER PRINTER	FREE STANDING	SEE 010-000094 or 010-000214 or 010-000195

CABLE

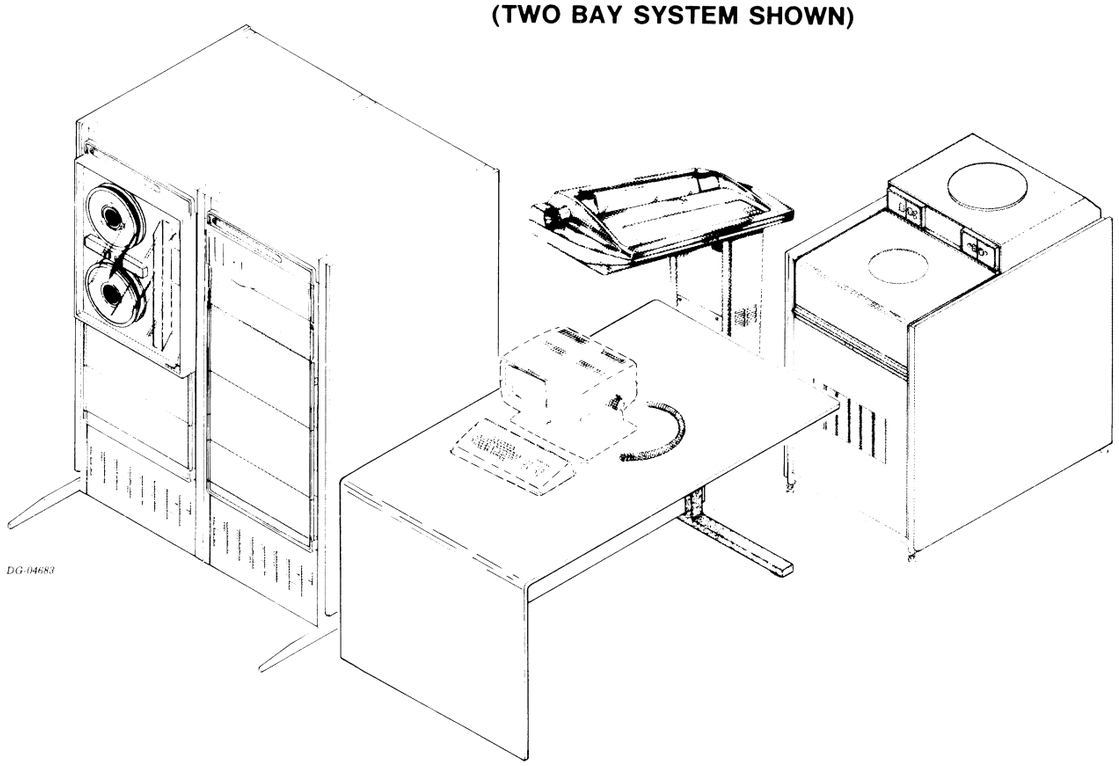
Cable	Connecting			Max Allowed Lg ft / m	Notes
DEVICE CABLE	VIDEO DISPLAY	and	CPU	2000 / 610	USED ON 6053-D*
DEVICE CABLE (CURRENT LOOP)	VIDEO DISPLAY	"	CONV. PANEL	2000 / 610	USED ON 6053-G*
DEVICE CABLE (EIA)	VIDEO DISPLAY	"	FULL DUPLEX MODEM	50 / 15.3	USED ON 6053-J**
DEVICE CABLE	VIDEO DISPLAY	and	CPU	2000 / 610	USED ON 6108-D*****
DEVICE CABLE (CURRENT LOOP)	VIDEO DISPLAY	"	CONV. PANEL	2000 / 610	USED ON 6108-G*****
DEVICE CABLE (EIA)	VIDEO DISPLAY	"	FULL DUPLEX MODEM	50 / 15.3	USED ON 6108-J*****
DEVICE CABLE (CURRENT LOOP)	DASHER PRINTER	"	CONV. PANEL	2000 / 610	USED ON 6041-G***
DEVICE CABLE (EIA)	DASHER PRINTER	"	FULL DUPLEX MODEM	50 / 15.3	USED ON 6041-J***
DEVICE CABLE	300 LPM PRINTER	"	CONV. PANEL	15 / 4.6	USED ON 9125
DEVICE CABLE	240 LPM PRINTER	"	CONV. PANEL	15 / 4.6	USED ON 9128
DEVICE CABLE	MATRIX PRINTER	"	CONV. PANEL	25 / 7.4	USED ON 9123
DEVICE CABLE	SYNCHRONOUS MODEM	"	CONV. PANEL	50 / 15.3	1084G
INTERDEVICE CABLE	SBS COMBO BOARD	"	CONV. PANEL	8 / 2.5	
INTERDEVICE CABLE	SLM BOARD	"	CONV. PANEL	8 / 2.5	
DEVICE CABLE	ASYNCHRONOUS MODEM	"	CONV. PANEL	50 / 15.3	1084G
DEVICE CABLE	INTERNATIONAL MODEM	"	CONV. PANEL	50 / 15.3	1084G

* ALSO 6093 & 6120
** ALSO 6093
*** ALSO 6076
***** ALSO 6108

SUBSYSTEM COMPONENT BREAKDOWN (CONT)

MODELS MOD 60, 9535, 9536, 9537

(TWO BAY SYSTEM SHOWN)



DG-04683

MAJOR COMPONENT

Component	Mounting Location	Notes
M4000	FREE STANDING	
NOVA 4/X	CABINET	
MAGTAPE 6021 or 6026	CABINET	SEE 010-000113 or 010-000197
TABLE	FREE STANDING	OPTIONAL
DASHER DISPLAY	FREE STANDING	SEE 010-000098 or 010-000215 or 010-000235 or 010-000241
DASHER PRINTER	FREE STANDING	SEE 010-000094 or 010-000214 or 010-000195
50/96/190 MB DISC DRIVE	FREE STANDING	SEE 010-000107 or 010-000200
DISKETTE 6097-A	CABINET	SEE 010-000255

CABLE

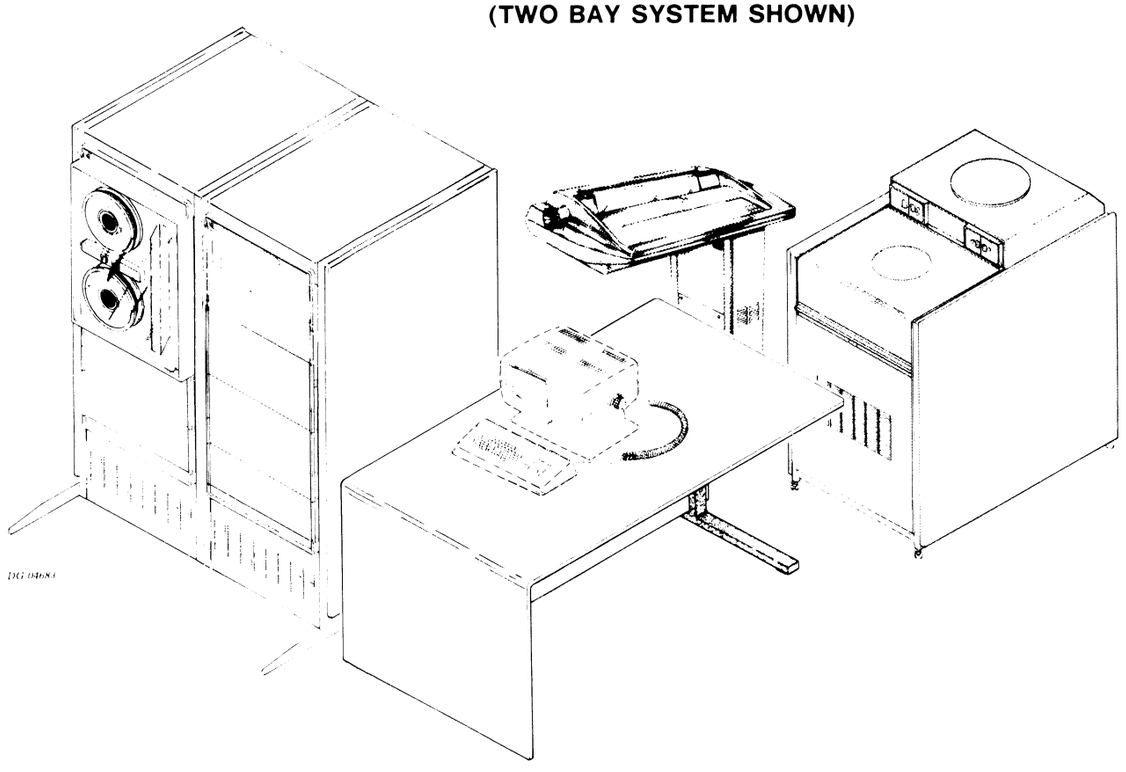
Cable	Connecting			Max Allowed Lg ft / m	Notes
DEVICE CABLE	VIDEO DISPLAY	and	CPU	2000 / 610	USED ON 6053-D*
DEVICE CABLE (CURRENT LOOP)	VIDEO DISPLAY	"	CONV. PANEL	2000 / 610	USED ON 6053-G*
DEVICE CABLE	VIDEO DISPLAY	"	FULL DUPLEX MODEM	50 / 15.3	USED ON 6053-J**
DEVICE CABLE	VIDEO DISPLAY	and	CPU	2000 / 610	USED ON 6108-D****
DEVICE CABLE (CURRENT LOOP)	VIDEO DISPLAY	"	CONV. PANEL	2000 / 610	USED ON 6108-G****
DEVICE CABLE	VIDEO DISPLAY	"	FULL DUPLEX MODEM	50 / 15.3	USED ON 6108-J****
DEVICE CABLE (CURRENT LOOP)	DASHER PRINTER	"	CONV. PANEL	2000 / 610	USED ON 6041-G***
DEVICE CABLE (EIA)	DASHER PRINTER	"	CONV. PANEL	50 / 15.3	USED ON 6041-J***
DEVICE CABLE	300 LPM PRINTER	"	CONV. PANEL	15 / 4.6	USED ON 9125
DEVICE CABLE	240 LPM PRINTER	"	CONV. PANEL	15 / 4.6	USED ON 9128
DEVICE CABLE	MATRIX PRINTER	"	CONV. PANEL	25 / 7.4	9126
DEVICE CABLE	SYNCHRONOUS MODEM	"	CONV. PANEL	50 / 15.3	1084G
DEVICE CABLE	INTERNATIONAL MODEM	"	CONV. PANEL	50 / 15.3	1084G
DEVICE CABLE	50/96/190 MB DISC DRIVE	"	ADAPTER	50 / 15.3	
INTERDEVICE CABLE	SBS COMBO BOARD	"	CONV. PANEL	8 / 2.5	
INTERDEVICE CABLE	SLM BOARD	"	CONV. PANEL	8 / 2.5	
INTERDEVICE CABLE	ASYNCHRONOUS MODEM	"	CONV. PANEL	8 / 2.5	1084G

* ALSO 6093 & 6120
** ALSO 6093
*** ALSO 6076
**** ALSO 6108

SUBSYSTEM COMPONENT BREAKDOWN (CONT)

MODELS MOD 40, 9542, 9543, 9544

(TWO BAY SYSTEM SHOWN)



DG 04884

MAJOR COMPONENT

Component	Mounting Location	Notes
M4000	FREE STANDING	
NOVA 4/S	CABINET	
MAGTAPE 6021 or 6026	CABINET	SEE 010-000113 or 010-000197
TABLE	FREE STANDING	OPTIONAL
DASHER DISPLAY	FREE STANDING	SEE 010-000098 or 010-000215 or 010-000235 or 010-000241
DASHER PRINTER	FREE STANDING	SEE 010-000094 or 010-000214 or 010-000195
50/96/190 MB DISK DRIVE	FREE STANDING	SEE 010-000107 or 010-000200
DISKETTE 6097-A	CABINET	SEE 010-000255
DISKETTE 6096-C	CABINET	SEE 010-000258

CABLE

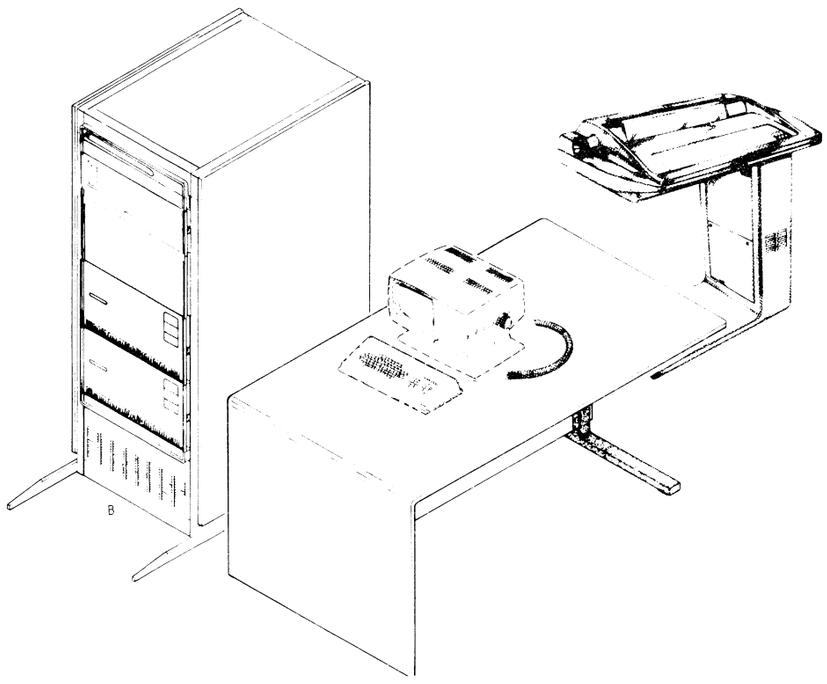
Cable	Connecting			Max Allowed Lg ft / m	Notes
DEVICE CABLE	VIDEO DISPLAY	and	CPU	2000 / 610	USED ON 6053-D*
DEVICE CABLE (CURRENT LOOP)	VIDEO DISPLAY	"	CONV. PANEL	2000 / 610	USED ON 6053-G*
DEVICE CABLE	VIDEO DISPLAY	"	FULL DUPLEX MODEM	50 / 15.3	USED ON 6053-J**
DEVICE CABLE	VIDEO DISPLAY	and	CPU	2000 / 610	USED ON 6108-D****
DEVICE CABLE (CURRENT LOOP)	VIDEO DISPLAY	"	CONV. PANEL	2000 / 610	USED ON 6108-G****
DEVICE CABLE	VIDEO DISPLAY	"	FULL DUPLEX MODEM	50 / 15.3	USED ON 6108-J****
DEVICE CABLE (CURRENT LOOP)	DASHER PRINTER	"	CONV. PANEL	2000 / 610	USED ON 6041-G***
DEVICE CABLE (EIA)	DASHER PRINTER	"	CONV. PANEL	50 / 15.3	USED ON 6041-J***
DEVICE CABLE	300 LPM PRINTER	"	CONV. PANEL	15 / 4.6	USED ON 9125
DEVICE CABLE	240 LPM PRINTER	"	CONV. PANEL	15 / 4.6	USED ON 9128
DEVICE CABLE	MATRIX PRINTER	"	CONV. PANEL	25 / 7.4	9126
DEVICE CABLE	SYNCHRONOUS MODEM	"	CONV. PANEL	50 / 15.3	1084G
DEVICE CABLE	INTERNATIONAL MODEM	"	CONV. PANEL	50 / 15.3	1084C
DEVICE CABLE	50/96/190 MB DISC DRIVE	"	ADAPTER	50 / 15.3	
INTERDEVICE CABLE	SBS COMBO BOARD	"	CONV. PANEL	8 / 2.5	
INTERDEVICE CABLE	SLM BOARD	"	CONV. PANEL	8 / 2.5	
INTERDEVICE CABLE	ASYNCHRONOUS MODEM	"	CONV. PANEL	8 / 2.5	1084G

* ALSO 6093 & 6120
** ALSO 6093
*** ALSO 6076
**** ALSO 6108

SUBSYSTEM COMPONENT BREAKDOWN

MODELS MOD 30, 9538, 9539

(ONE BAY SYSTEM SHOWN)



MAJOR COMPONENT

Component	Mounting Location	Notes
M4000	FREE STANDING	
NOVA 4/S	CABINET	
6070 OR 6045 DISK	CABINET	SEE 010-000192 OR 010-000110
TABLE	FREE STANDING	OPTIONAL
DASHER DISPLAY	FREE STANDING	SEE 010-000098 or 010-000215 or 010-000235 or 010-000241
DASHER PRINTER	FREE STANDING	SEE 010-000094 or 010-000214 or 010-000195

CABLE

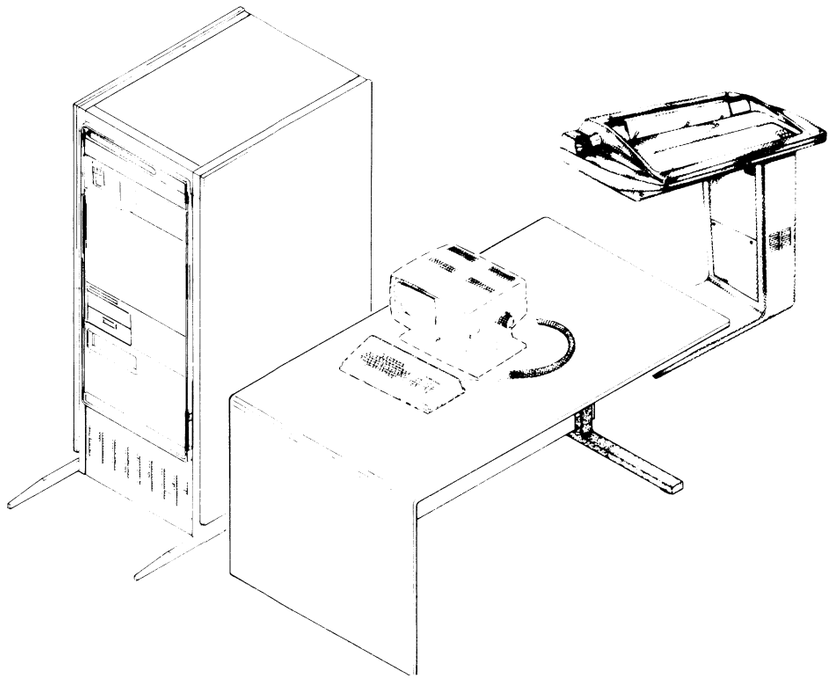
Cable	Connecting			Max Allowed Lg ft / m	Notes
DEVICE CABLE	VIDEO DISPLAY	and	CPU	2000 / 610	USED ON 6053-D*
DEVICE CABLE (CURRENT LOOP)	VIDEO DISPLAY	"	CONV. PANEL	2000 / 610	USED ON 6053-G*
DEVICE CABLE (EIA)	VIDEO DISPLAY	"	FULL DUPLEX MODEM	50 / 15.3	USED ON 6053-J**
DEVICE CABLE	VIDEO DISPLAY	and	CPU	2000 / 610	USED ON 6108-D****
DEVICE CABLE (CURRENT LOOP)	VIDEO DISPLAY	"	CONV. PANEL	2000 / 610	USED ON 6108-G****
DEVICE CABLE (EIA)	VIDEO DISPLAY	"	FULL DUPLEX MODEM	50 / 15.3	USED ON 6108-J****
DEVICE CABLE (CURRENT LOOP)	DASHER PRINTER	"	CONV. PANEL	2000 / 610	USED ON 6041-G***
DEVICE CABLE (EIA)	DASHER PRINTER	"	FULL DUPLEX MODEM	50 / 15.3	USED ON 6041-J***
DEVICE CABLE	300 LPM PRINTER	"	CONV. PANEL	15 / 4.6	USED ON 9125
DEVICE CABLE	240 LPM PRINTER	"	CONV. PANEL	15 / 4.6	USED ON 9128
DEVICE CABLE	MATRIX PRINTER	"	CONV. PANEL	25 / 7.4	9129
DEVICE CABLE	SYNCHRONOUS MODEM	"	CONV. PANEL	50 / 15.3	1084G
INTERDEVICE CABLE	SBS COMBO BOARD	"	CONV. PANEL	8 / 2.5	
INTERDEVICE CABLE	SLM BOARD	"	CONV. PANEL	8 / 2.5	
DEVICE CABLE	ASYNCHRONOUS MODEM	"	CONV. PANEL	50 / 15.3	1084G
DEVICE CABLE	INTERNATIONAL MODEM	"	CONV. PANEL	50 / 15.3	1084G

* ALSO 6093 & 6120
** ALSO 6093
*** ALSO 6076
**** ALSO 6108

SUBSYSTEM COMPONENT BREAKDOWN

MODELS MOD 30, 9540, 9541

(ONE BAY SYSTEM SHOWN)



MAJOR COMPONENT

Component	Mounting Location	Notes
M4000	FREE STANDING	
NOVA 4/S	CABINET	
6098 OR 6100 DISK UNIT	CABINET	SEE 010-000221
DISKETTE 6096-C	CABINET	SEE 010-000258
TABLE	FREE STANDING	OPTIONAL
DASHER DISPLAY	FREE STANDING	SEE 010-000098 or 010-000215 or 010-000235 or 010-000241
DASHER PRINTER	FREE STANDING	SEE 010-000094 or 010-000214 or 010-000195

CABLE

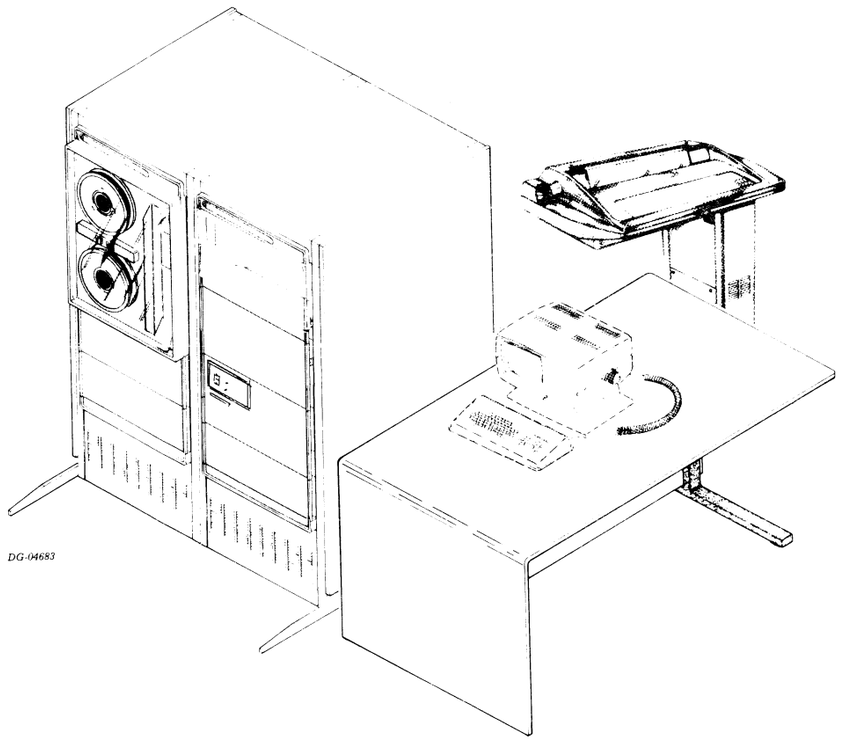
Cable	Connecting			Max Allowed Lg ft / m	Notes
DEVICE CABLE	VIDEO DISPLAY	and	CPU	2000 / 610	USED ON 6053-D*
DEVICE CABLE (CURRENT LOOP)	VIDEO DISPLAY	"	CONV. PANEL	2000 / 610	USED ON 6053-G*
DEVICE CABLE (EIA)	VIDEO DISPLAY	"	FULL DUPLEX MODEM	50 / 15.3	USED ON 6053-J**
DEVICE CABLE	VIDEO DISPLAY	and	CPU	2000 / 610	USED ON 6108-D****
DEVICE CABLE (CURRENT LOOP)	VIDEO DISPLAY	"	CONV. PANEL	2000 / 610	USED ON 6108-G****
DEVICE CABLE (EIA)	VIDEO DISPLAY	"	FULL DUPLEX MODEM	50 / 15.3	USED ON 6108-J****
DEVICE CABLE (CURRENT LOOP)	DASHER PRINTER	"	CONV. PANEL	2000 / 610	USED ON 6041-G***
DEVICE CABLE (EIA)	DASHER PRINTER	"	FULL DUPLEX MODEM	50 / 15.3	USED ON 6041-J***
DEVICE CABLE	300 LPM PRINTER	"	CONV. PANEL	15 / 4.6	USED ON 9125
DEVICE CABLE	240 LPM PRINTER	"	CONV. PANEL	15 / 4.6	USED ON 9128
DEVICE CABLE	MATRIX PRINTER	"	CONV. PANEL	25 / 7.4	9129
DEVICE CABLE	SYNCHRONOUS MODEM	"	CONV. PANEL	50 / 15.3	1084G
INTERDEVICE CABLE	SBS COMBO BOARD	"	CONV. PANEL	8 / 2.5	
INTERDEVICE CABLE	SLM BOARD	"	CONV. PANEL	8 / 2.5	
DEVICE CABLE	ASYNCHRONOUS MODEM	"	CONV. PANEL	50 / 15.3	1084G
DEVICE CABLE	INTERNATIONAL MODEM	"	CONV. PANEL	50 / 15.3	1084G

* ALSO 6093 & 6120
** ALSO 6093
*** ALSO 6076
**** ALSO 6108

SUBSYSTEM COMPONENT BREAKDOWN (CONT)

MODELS MOD 30, 9541-Y, 9541-X

(TWO BAY SYSTEM SHOWN)



DG-04683

MAJOR COMPONENT

Component	Mounting Location	Notes
M4000	FREE STANDING	
NOVA 4/S	CABINET	
MAGTAPE 6021 or 6026	CABINET	SEE 010-000113 or 010000197
DISKETTE 6096-C	CABINET	SEE 010-000258
TABLE	FREE STANDING	OPTIONAL
DASHER DISPLAY	FREE STANDING	SEE 010-000098 or 010-000241
DASHER PRINTER	FREE STANDING	SEE 010-000094
DISK UNIT 6103	CABINET	SEE 010-000225

CABLE

Cable	Connecting			Max Allowed Lg ft / m	Notes
DEVICE CABLE	VIDEO DISPLAY	and	CONV. PANEL	2000 / 610	USED ON 6053-D*
DEVICE CABLE (CURRENT LOOP)	VIDEO DISPLAY	"	CONV. PANEL	2000 / 610	USED ON 6053-G*
DEVICE CABLE	VIDEO DISPLAY	"	FULL DUPLEX MODEM	50 / 15.3	USED ON 6053-J**
DEVICE CABLE	VIDEO DISPLAY	and	CONV. PANEL	2000 / 610	USED ON 6108-D****
DEVICE CABLE (CURRENT LOOP)	VIDEO DISPLAY	"	CONV. PANEL	2000 / 610	USED ON 6108-G****
DEVICE CABLE	VIDEO DISPLAY	"	FULL DUPLEX MODEM	50 / 15.3	USED ON 6108-J*****
DEVICE CABLE (CURRENT LOOP)	DASHER PRINTER	"	CONV. PANEL	2000 / 610	USED ON 6041-G***
DEVICE CABLE (EIA)	DASHER PRINTER	"	FULL DUPLEX MODEM	50 / 15.3	USED ON 6041-J***
DEVICE CABLE	300 LPM PRINTER	"	CONV. PANEL	15 / 4.6	USED ON 9125
DEVICE CABLE	240 LPM PRINTER	"	CONV. PANEL	15 / 4.6	USED ON 9128
DEVICE CABLE	MATRIX PRINTER	"	CONV. PANEL	25 / 7.4	9129
DEVICE CABLE	SYNCHRONOUS MODEM	"	CONV. PANEL	50 / 15.3	1084G
INTERDEVICE CABLE	SBS COMBO BOARD	"	CONV. PANEL	8 / 2.5	
INTERDEVICE CABLE	SLM BOARD	"	CONV. PANEL	8 / 2.5	
INTERDEVICE CABLE	ASYNCHRONOUS MODEM	"	CONV. PANEL	8 / 2.5	1084G
DEVICE CABLE	INTERNATIONAL MODEM	"	CONV. PANEL	50 / 2.5	1084G

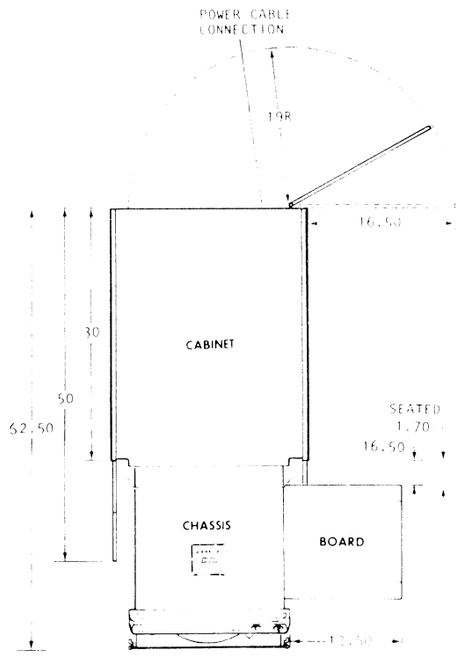
* ALSO 6093 & 6120
** ALSO 6093
*** ALSO 6076
**** ALSO 6109

SPECIFICATIONS OF FREE-STANDING COMPONENTS

	PRIMARY POWER REQUIRED FOR CABINET									BTU/Hr.	WEIGHT			COOLING UNIT				
	POWER					CORD SUPPLIED		MATING RECEPTACLE REQ'D				GROSS, FULLY LOADED			POWER			
No Bays	Volts	Hz	Phase	Conductors	Amps	Cable Length ft/in	Cable Connector Nema	Power Drop Nema	Wall Receptacle Nema			Total lb/kg	Per Bay lb/kg	No Units	Volt	Hz	Amp	Watts
1	240 Vac	60	1	3 W/G	40	9/2.74	14-50P	14-50R	14-50R	6,000		565/254	565/254	1	120	60	1.5	140
2	240 Vac	60	1	3 W/G	40	9/2.74	14-50P	14-50R	14-50R	10,600		1090/492	525/238	2	120	60	1.5	140
3	240 Vac	60	1	3 W/G	40	9/2.74	14-50P	14-50R	14-50R	16,500		1615/730	525/238	3	120	60	1.5	140
1	230Vac	50	1	2 W/G	40	9/2.74				6,000		565/254	565/254	1	230	50	0.75	140
2	230Vac	50	1	2 W/G	40	9/2.74				10,600		1090/492	525/238	2	230	50	0.75	140
3	230Vac	50	1	2 W/G	40	9/2.74				16,500		1615/730	525/238	3	230	50	0.75	140

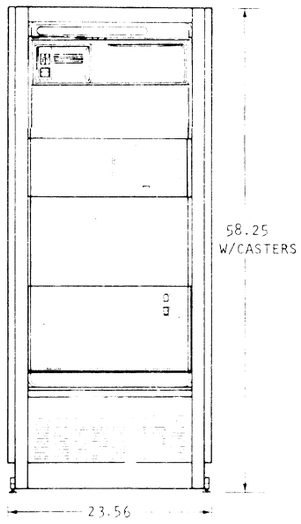
SINGLE BAY CABINET

MODELS 9530, 9531



TOP VIEW

SERVICE DIMENSIONS



FRONT VIEW

SIDE VIEW

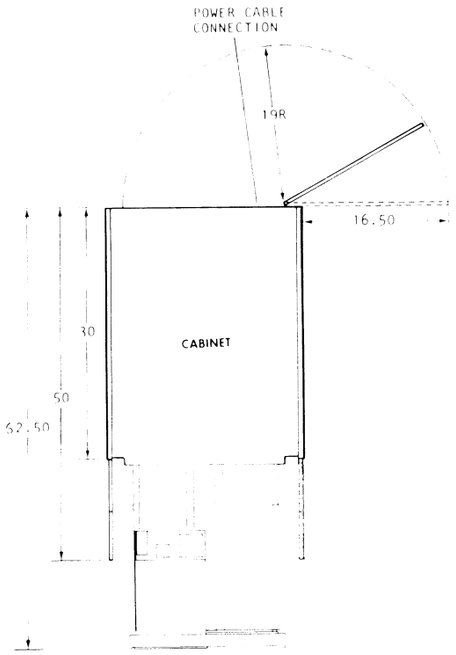
ALL DIMENSIONS IN INCHES

SPECIFICATIONS OF FREE-STANDING COMPONENTS

	PRIMARY POWER REQUIRED FOR CABINET									BTU/Hr.	WEIGHT			COOLING UNIT				
	POWER					CORD SUPPLIED		MATING RECEPTACLE REQ'D				GROSS, FULLY LOADED			POWER			
No Bays	Volts	Hz	Phase	Conductors	Amps	Cable Length ft/in	Cable Connector Nema	Power Drop Nema	Wall Receptacle Nema			Total lb/kg	Per Bay lb/kg	No Units	Volt	Hz	Amp	Watts
1	240 Vac	60	1	3 W/G	40	9/2.74	14-50P	14-50R	14-50R	6,000		565/254	565/254	1	120	60	1.5	140
2	240 Vac	60	1	3 W/G	40	9/2.74	14-50P	14-50R	14-50R	10,600		1090/492	525/238	2	120	60	1.5	140
3	240 Vac	60	1	3 W/G	40	9/2.74	14-50P	14-50R	14-50R	16,500		1615/730	525/238	3	120	60	1.5	140
1	230Vac	50	1	2 W/G	40	9/2.74				6,000		565/254	565/254	1	230	50	0.75	140
2	230Vac	50	1	2 W/G	40	9/2.74				10,600		1090/492	525/238	2	230	50	0.75	140
3	230Vac	50	1	2 W/G	40	9/2.74				16,500		1615/730	525/238	3	230	50	0.75	140

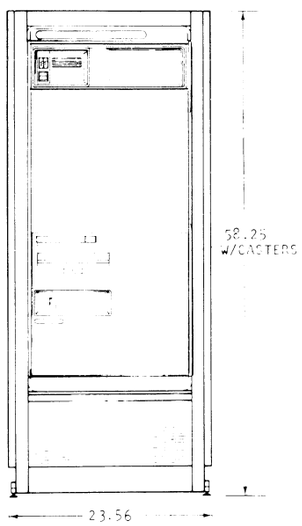
SINGLE BAY CABINET

MODELS 9533, 9534

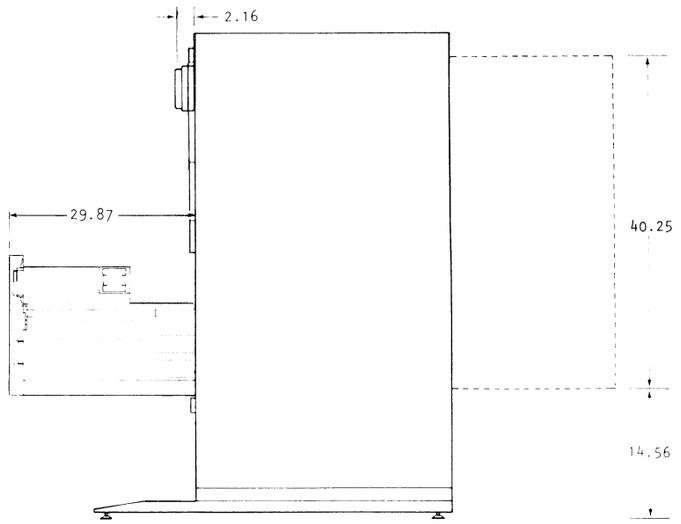


TOP VIEW

SERVICE DIMENSIONS



FRONT VIEW

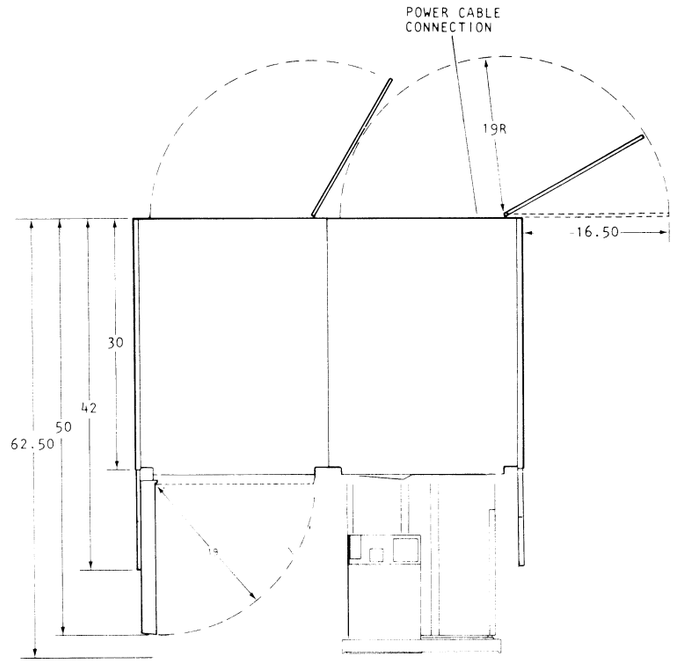


SIDE VIEW

SPECIFICATIONS OF FREE-STANDING COMPONENTS (CONT)

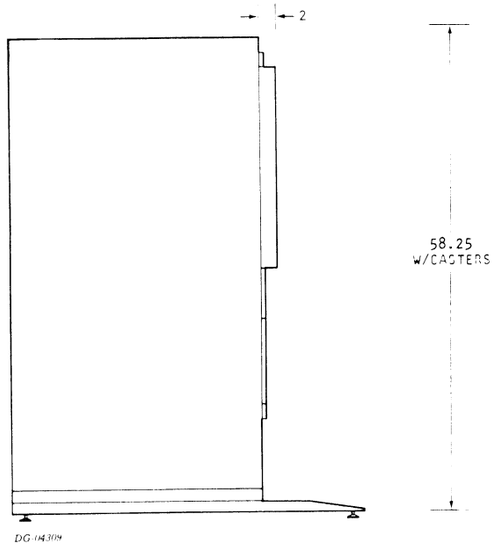
TWO BAY CABINET

MODELS 9535, 9536, 9537

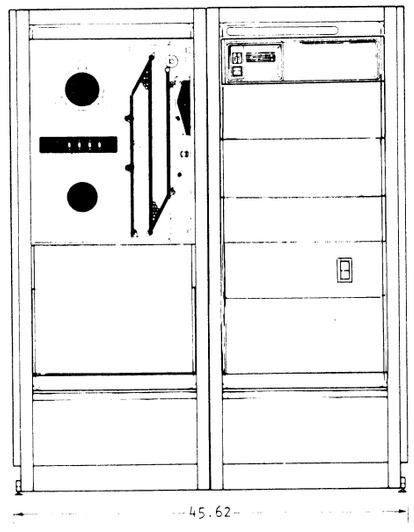


TOP VIEW

SERVICE DIMENSIONS

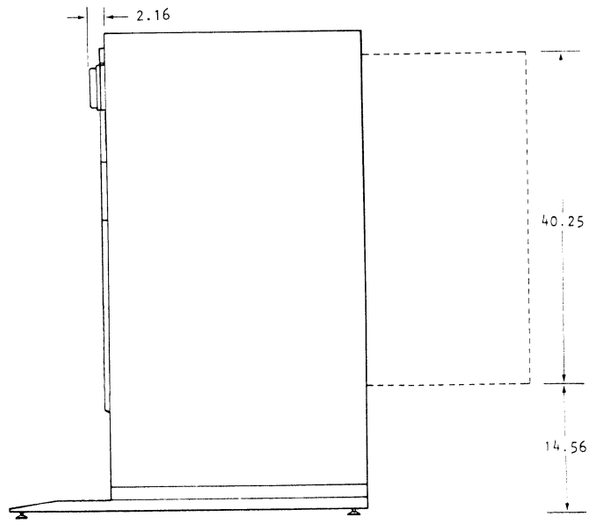


SIDE VIEW



FRONT VIEW

★ OPTIONAL



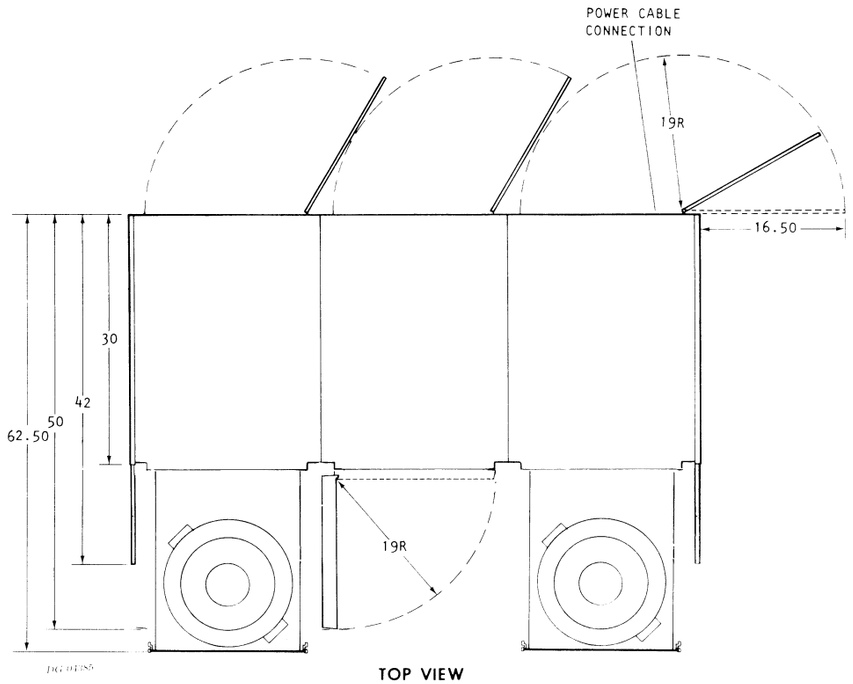
SIDE VIEW

ALL DIMENSIONS IN INCHES

SPECIFICATIONS OF FREE-STANDING COMPONENTS (Cont)

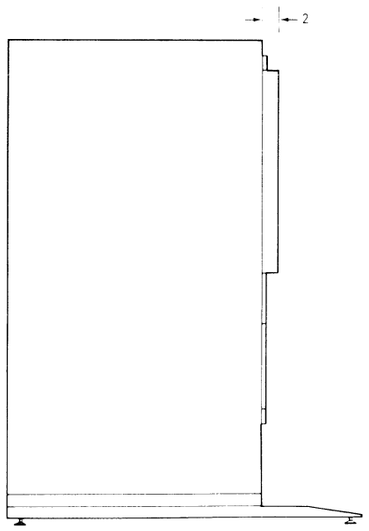
MODELS 9430, 9531

THREE BAY CABINET

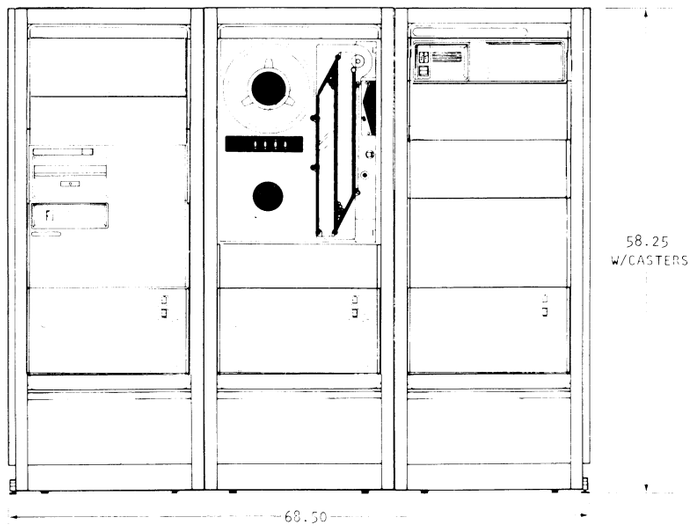


TOP VIEW

SERVICE DIMENSIONS

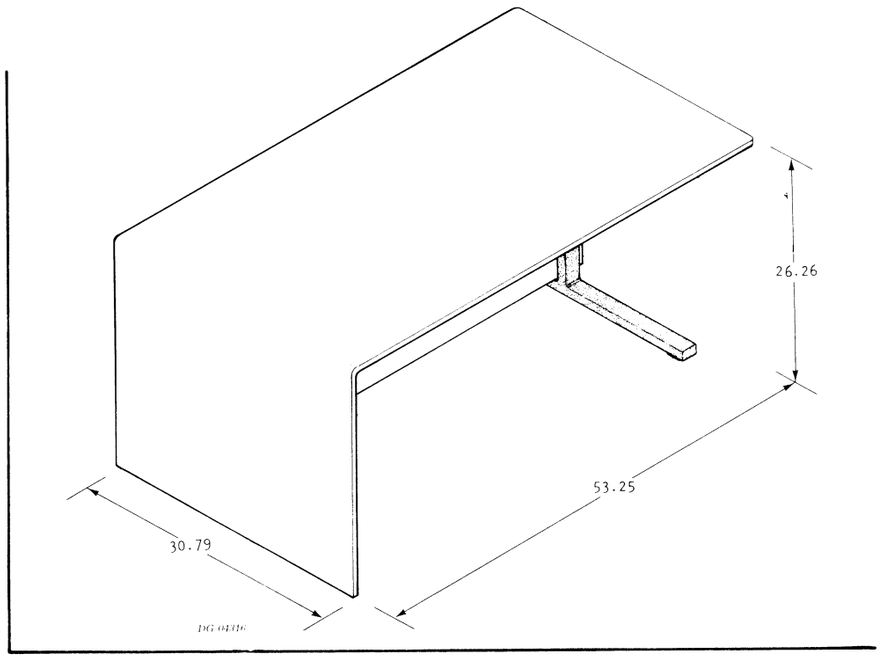


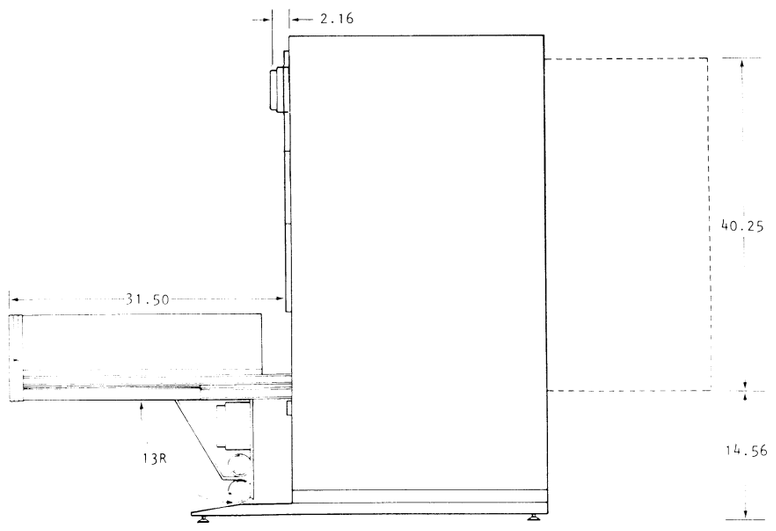
SIDE VIEW



FRONT VIEW

WORKTABLE





SIDE VIEW

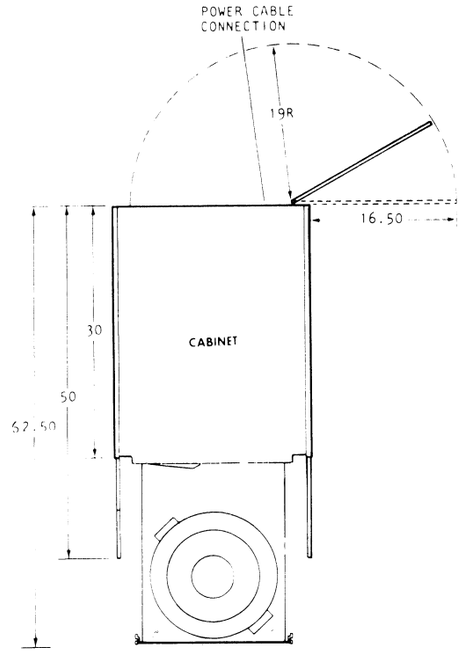
ALL DIMENSIONS IN INCHES

SPECIFICATIONS OF FREE-STANDING COMPONENTS

	PRIMARY POWER REQUIRED FOR CABINET									BTU/Hr.	WEIGHT			COOLING UNIT				
	POWER					CORD SUPPLIED		MATING RECEPTACLE REQ'D				GROSS, FULLY LOADED			POWER			
No Bays	Volts	Hz	Phase	Conductors	Amps	Cable Length ft/in	Cable Connector Nema	Power Drop Nema	Wall Receptacle Nema			Total lb/kg	Per Bay lb/kg	No Units	Volt	Hz	Amp	Watts
1	240 Vac	60	1	3 W/G	40	9/2.74	14-50P	14-50R	14-50R	6,000		565/254	565/254	1	120	60	1.5	140
2	240 Vac	60	1	3 W/G	40	9/2.74	14-50P	14-50R	14-50R	10,600		1090/492	525/238	2	120	60	1.5	140
3	240 Vac	60	1	3 W/G	40	9/2.74	14-50P	14-50R	14-50R	16,500		1615/730	525/238	3	120	60	1.5	140
1	230Vac	50	1	2 W/G	40	9/2.74				6,000		565/254	565/254	1	230	50	0.75	140
2	230Vac	50	1	2 W/G	40	9/2.74				10,600		1090/492	525/238	2	230	50	0.75	140
3	230Vac	50	1	2 W/G	40	9/2.74				16,500		1615/730	525/238	3	230	50	0.75	140

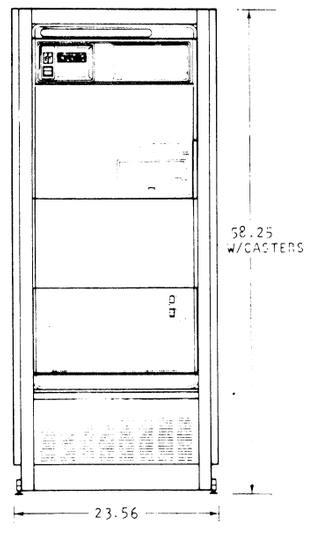
SINGLE BAY CABINET

MODELS 9538 , 9539

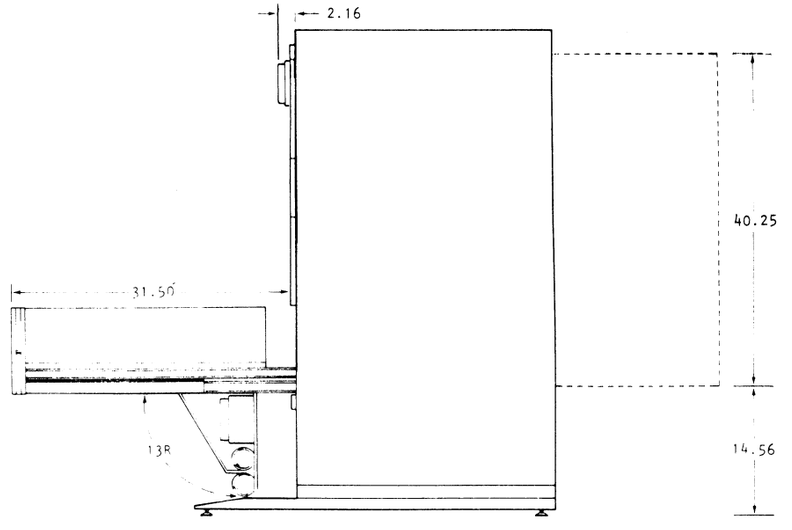


TOP VIEW

SERVICE DIMENSIONS



FRONT VIEW



SIDE VIEW

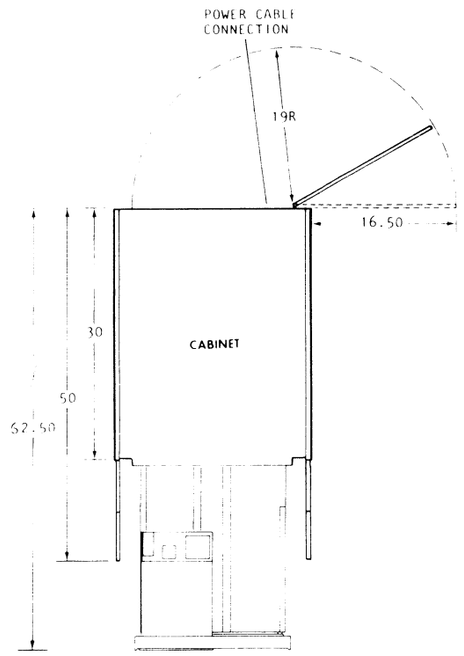
DIMENSIONS IN INCHES

SPECIFICATIONS OF FREE-STANDING COMPONENTS

	PRIMARY POWER REQUIRED FOR CABINET									BTU/Hr.	WEIGHT			COOLING UNIT				
	POWER					CORD SUPPLIED		MATING RECEPTACLE REQ'D				GROSS, FULLY LOADED			POWER			
No Bays	Volts	Hz	Phase	Conductors	Amps	Cable Length ft/in	Cable Connector Nema	Power Drop Nema	Wall Receptacle Nema			Total lb/kg	Per Bay lb/kg	No Units	Volt	Hz	Amp	Watts
1	240 Vac	60	1	3 W/G	40	9/2.74	14-50P	14-50R	14-50R	6,000		565/254	565/254	1	120	60	1.5	140
2	240 Vac	60	1	3 W/G	40	9/2.74	14-50P	14-50R	14-50R	10,600		1090/492	525/238	2	120	60	1.5	140
3	240 Vac	60	1	3 W/G	40	9/2.74	14-50P	14-50R	14-50R	16,500		1615/730	525/238	3	120	60	1.5	140
1	230Vac	50	1	2 W/G	40	9/2.74				6,000		565/254	565/254	1	230	50	0.75	140
2	230Vac	50	1	2 W/G	40	9/2.74				10,600		1090/492	525/238	2	230	50	0.75	140
3	230Vac	50	1	2 W/G	40	9/2.74				16,500		1615/730	525/238	3	230	50	0.75	140

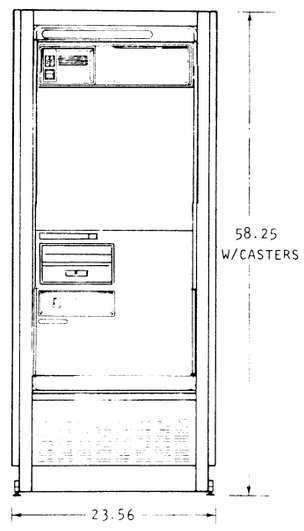
SINGLE BAY CABINET

MODELS 9540, 9541

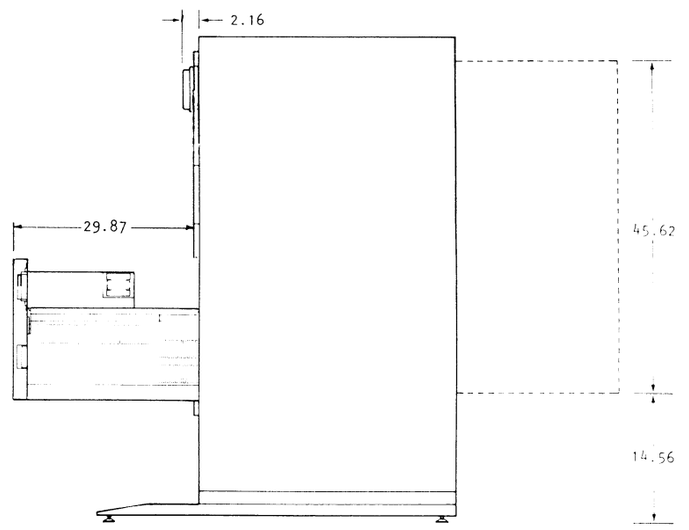


TOP VIEW

SERVICE DIMENSIONS



FRONT VIEW



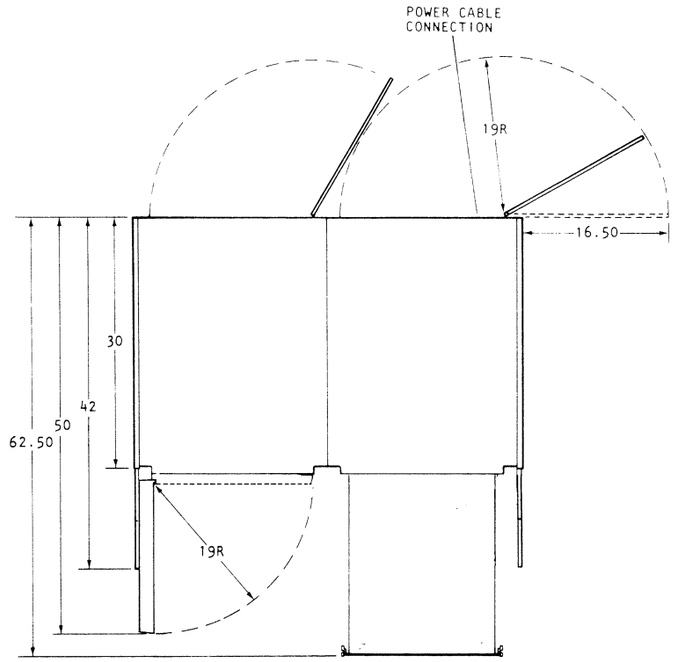
SIDE VIEW

DIMENSIONS IN INCHES

SPECIFICATIONS OF FREE-STANDING COMPONENTS (Cont)

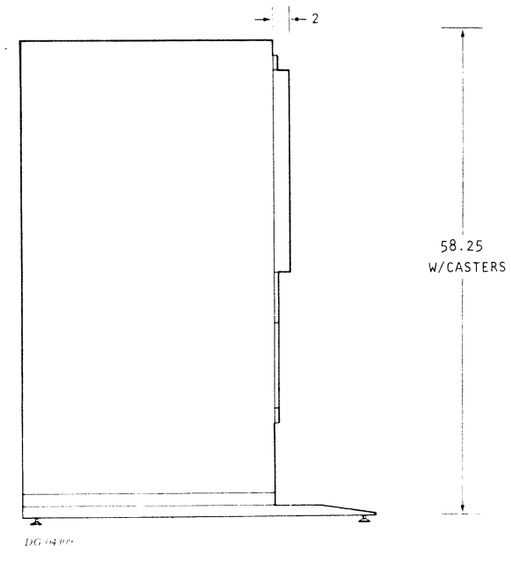
TWO BAY CABINET

MODELS 9541-Y, 9541-X

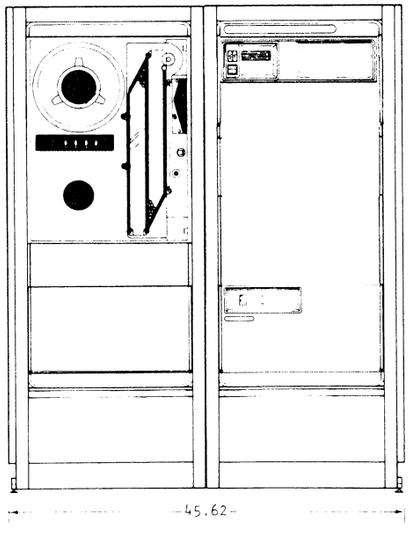


TOP VIEW

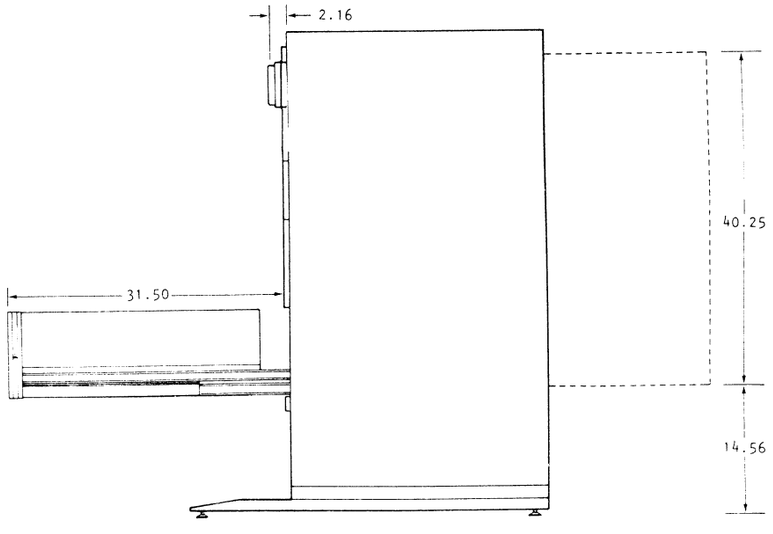
SERVICE DIMENSIONS



SIDE VIEW



FRONT VIEW

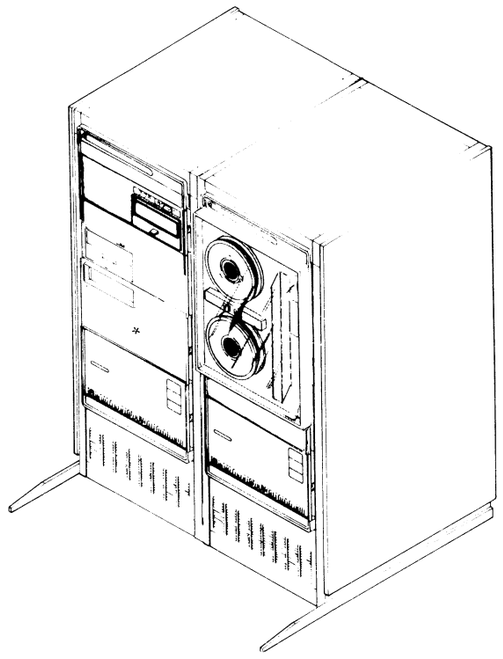


SIDE VIEW

ALL DIMENSIONS IN INCHES

OPTIONS FOR *MODELS 9530, 9531*

SUBSYSTEM COMPONENT BREAKDOWN



MAJOR COMPONENT

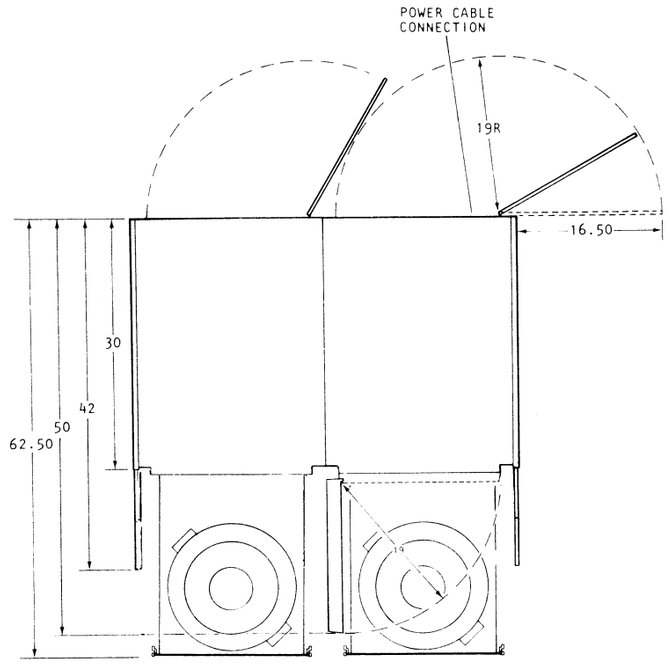
Component	Mounting Location	Notes
CABINET	FREE STANDING	
DISKETTE 6031, 6097	CABINET	SEE 010-000064 OR 010-000255
CARTRIDGE DISK 6070, 6045	CABINET	SEE 010-000192 OR 010-000110
MAG TAPE 6021 OR 6026	CABINET	SEE 010-000213 OR 010-000147
6098, 6099, 6100, 6103 DISK UNIT	CABINET	SEE 010-000222

CABLE

Cable	Connecting	Max Allowed Lg ft / m	Notes
INTERDEVICE CABLE	CARTRIDGE DISC and ETCHED PADDLEBOARD	25 / 7.6	

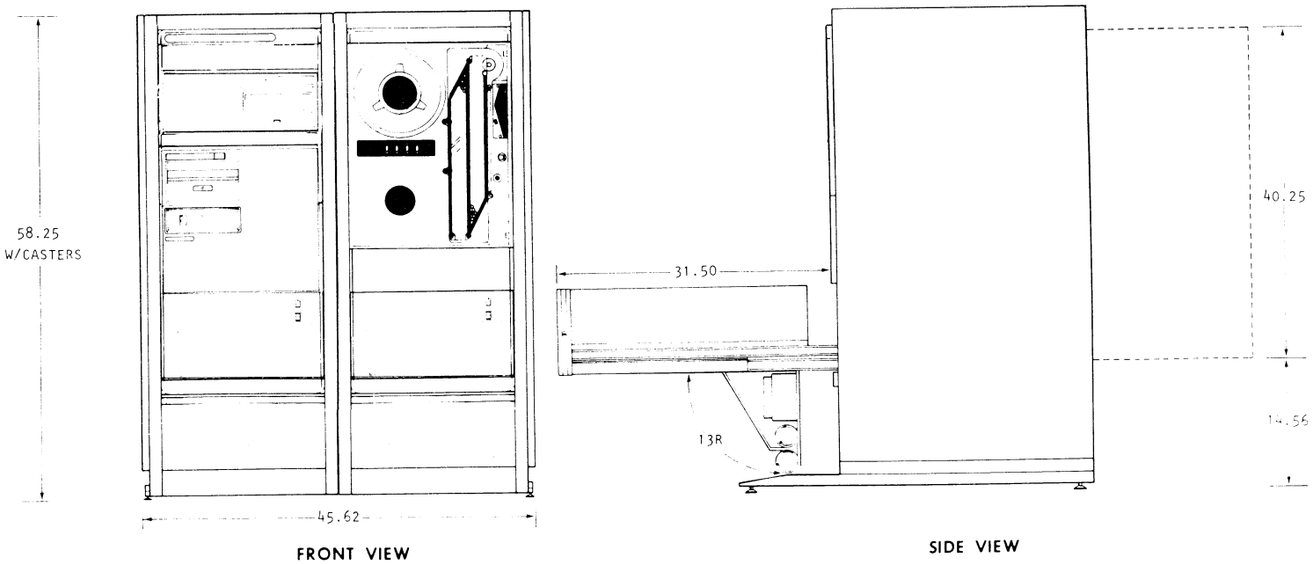
* OR 6070 OR 6045 CARTRIDGE DISK

SPECIFICATIONS OF FREE-STANDING COMPONENTS



TOP VIEW

SERVICE DIMENSIONS



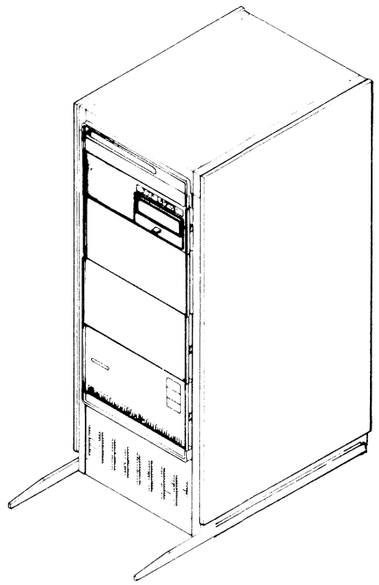
FRONT VIEW

SIDE VIEW

DIMENSIONS IN INCHES

OPTIONS FOR *MODELS 9533, 9534*

SUBSYSTEM COMPONENT BREAKDOWN



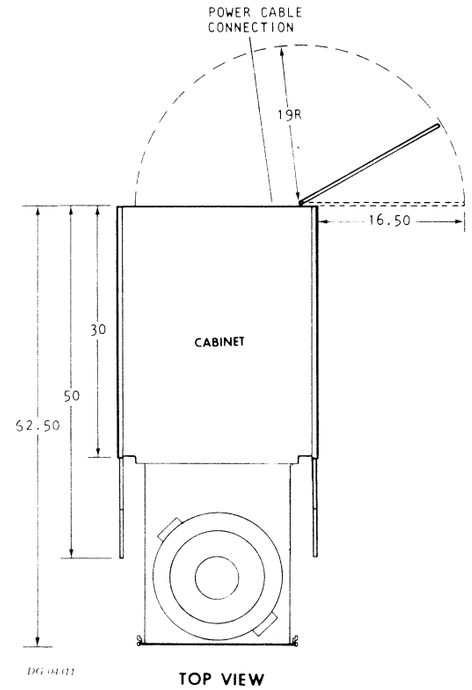
MAJOR COMPONENT

Component	Mounting Location	Notes
SINGLE BAY CABINET	FREE STANDING	
DISKETTE 6031, 6096	CABINET	SEE 010-000064 or 010-000258
CARTRIDGE DISK 6070, 6045	CABINET	SEE 010-000192 OR 010-000110
CARTRIDGE DISK 6099 OR 6103, 6100, 6098	CABINET	SEE 010-000222 OR 010-000222

CABLE

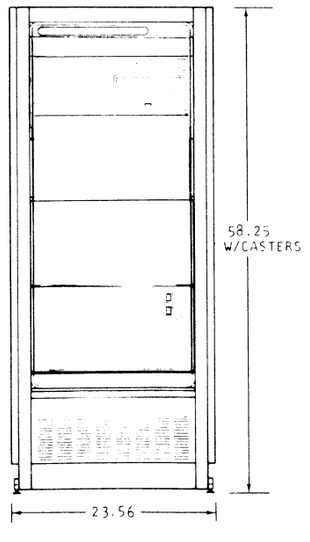
Cable	Connecting		Max Allowed Lg ft / m	Notes
INTERFACE CABLE	CARTRIDGE DISC 6070	" ETCHED PADDLEBOARD	25 / 7.6	

SPECIFICATIONS OF FREE-STANDING COMPONENTS

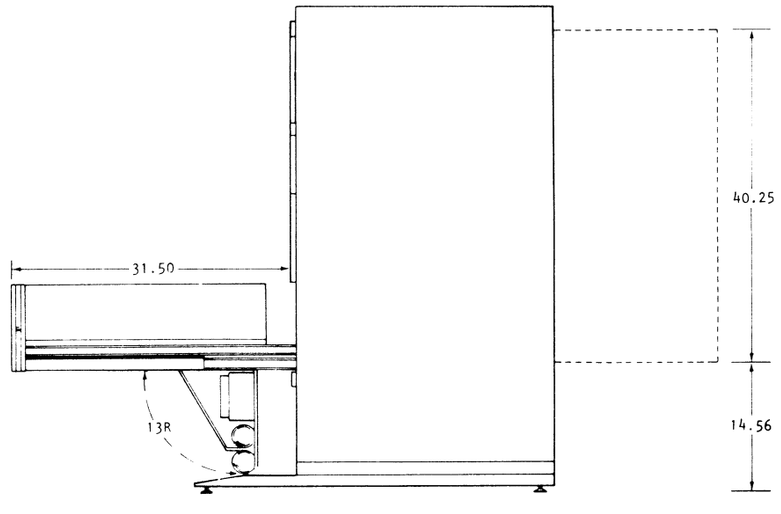


TOP VIEW

SERVICE DIMENSIONS



FRONT VIEW

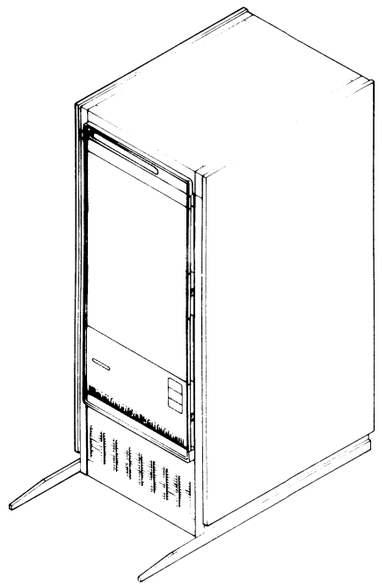


SIDE VIEW

ALL DIMENSIONS IN INCHES

OPTIONS FOR *MODELS 9535, 9536, 9537*

SUBSYSTEM COMPONENT BREAKDOWN



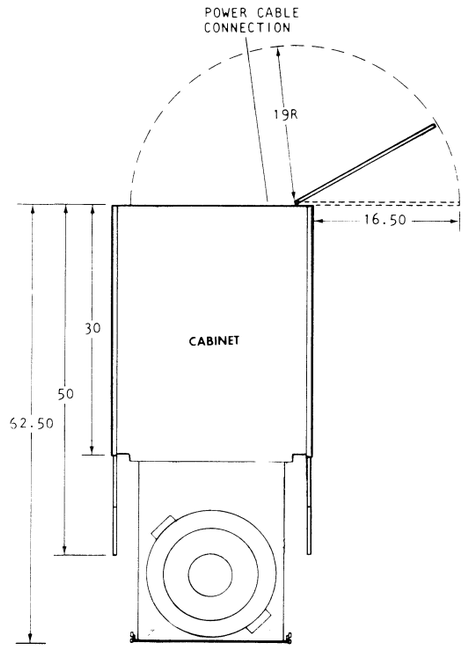
MAJOR COMPONENT

Component	Mounting Location	Notes
SINGLE BAY CABINET	FREE STANDING	
CARTRIDGE DISC 6070 6045	CABINET	SEE 010-000192 OR 010-000110
6098, 6100 DISK UNIT	CABINET	SEE 010-000221

CABLE

Cable	Connecting	Max Allowed Lg ft / m	Notes
INTERDEVICE CABLE	CARTRIDGE DISC and ETCHED PADDLEBOARD	25 / 7.6	

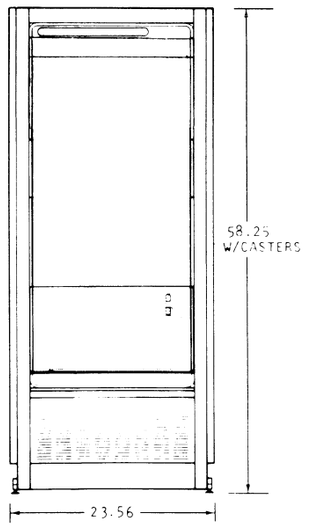
SPECIFICATIONS OF FREE-STANDING COMPONENTS



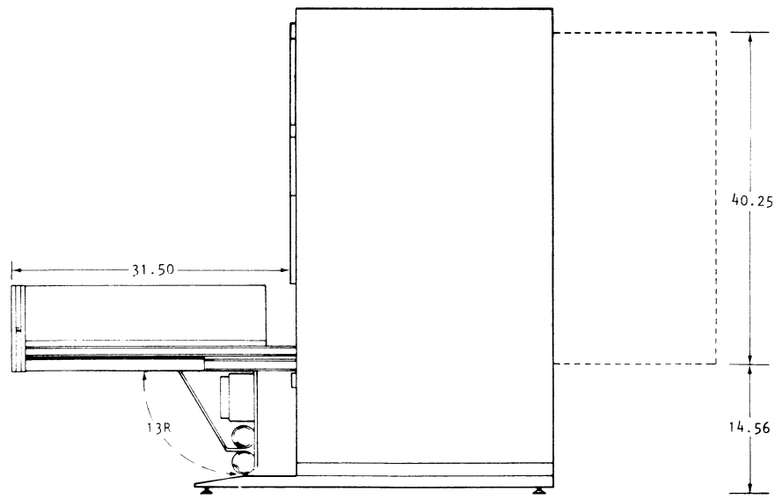
DG-04311

TOP VIEW

SERVICE DIMENSIONS



FRONT VIEW



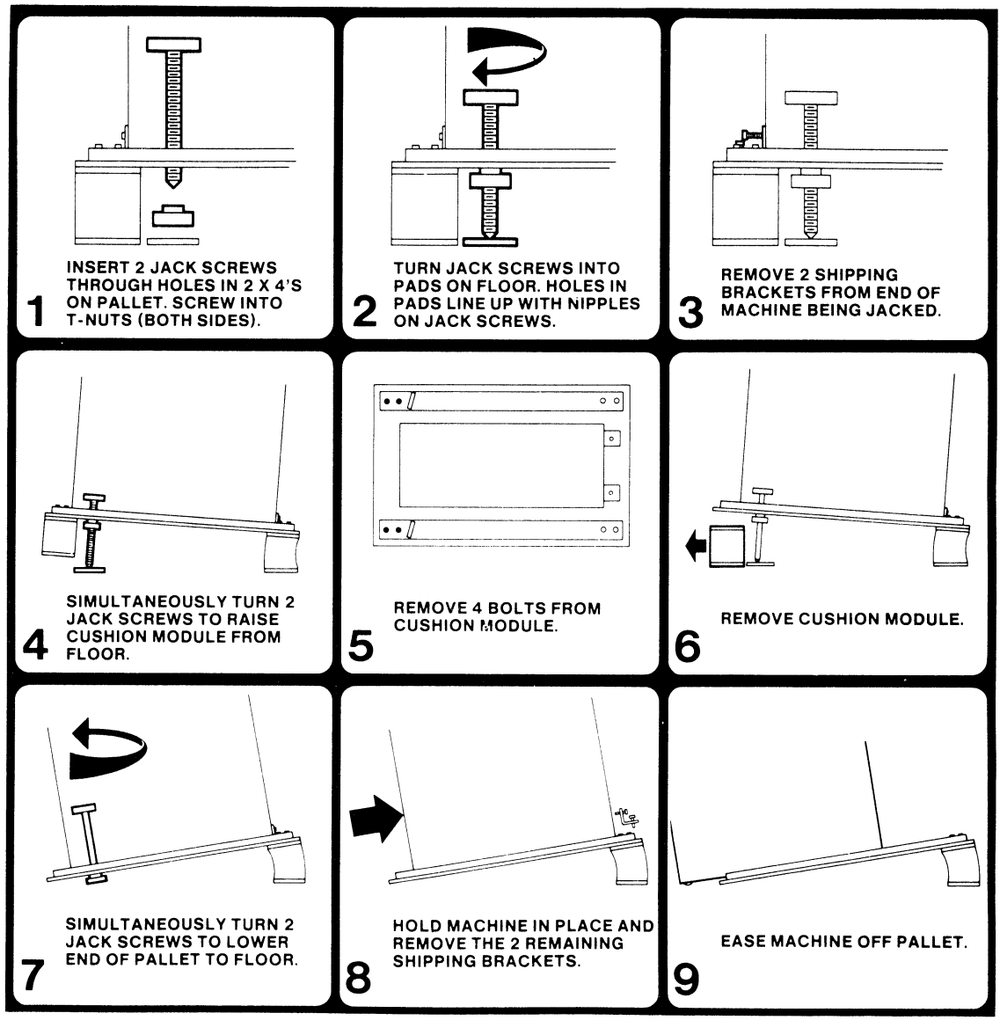
DG-04313

SIDE VIEW

DIMENSIONS IN INCHES

SHIPPING

UNLOADING INSTRUCTIONS - A 2-MAN OPERATION



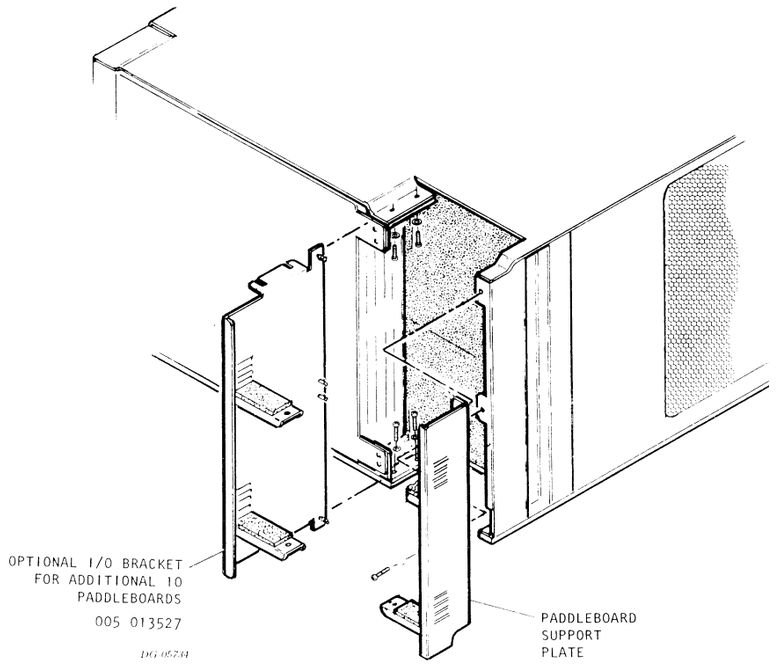
CHASSIS SLOT ASSIGNMENTS

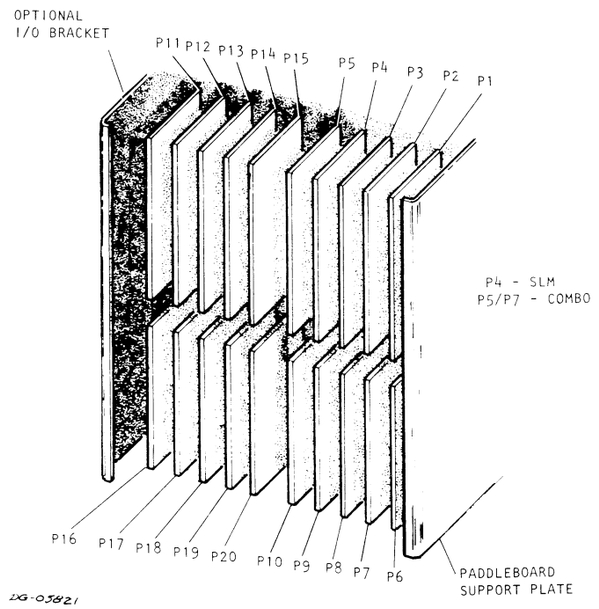
NOVA 4/X or 4/S

Data Channel Speeds Available:		Standard ☐ High Speed ☒	
Slot	Allowed (Slot Chart)	Assigned	+5V Current Draw
16	(SLM)		4.0
15	RESERVED		
14	(COMBO 2)		3.5
13	COMBO 1		3.5
12	(DCH PRINTER CONT)		2.5
11	6070 DISC CONT*		4.0
10	6026 CONT		2.6
9	6098/6100 DISC CONT		4.0
8	ZEBRA CONTR 2		3.4
7	ZEBRA CONTR 1*		2.9
6	6031/6045 CONT OR 6097 CONT		4.0
5	6021 CONT		2.6
4	(128 kB MEM)(ADD-ON)		4.4
3	(32, 64, 128kB MEM) (ADD-ON)		4.4
2	64, 128, 256kB MEM		4.4
1	CPU		17
		Total +5V Current draw	64.6
		Max +5V Current Available	100
		+5V Current Surplus	35.4

* OR 6099 OR 6103 CONTR (OPTION)

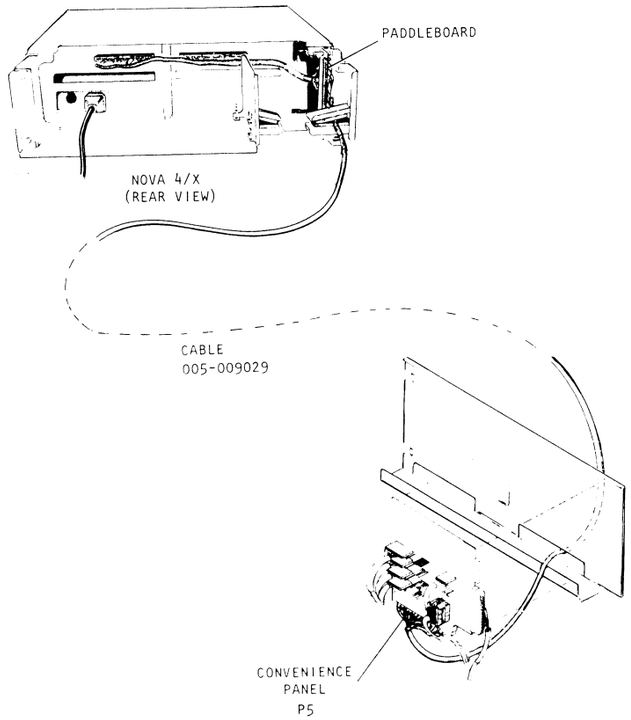
INTERNAL CABLING

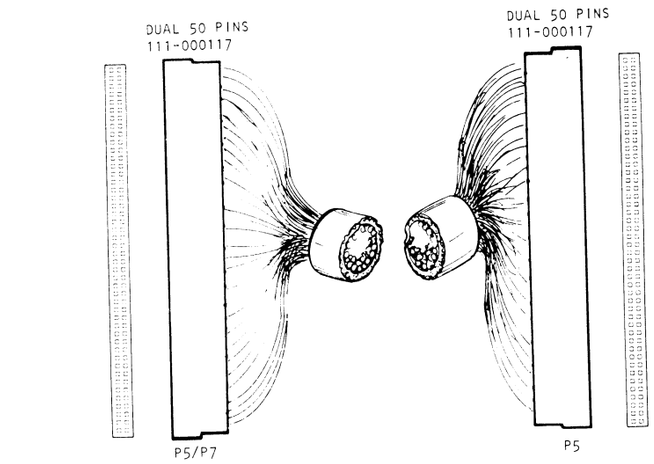


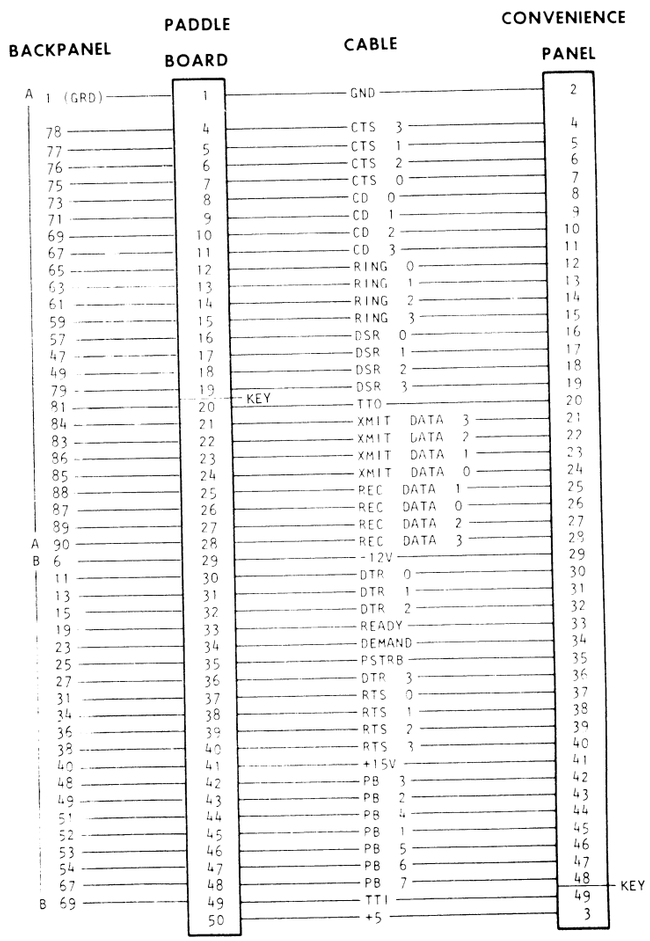


INTERNAL CABLING (Cont)

COMBO PCB

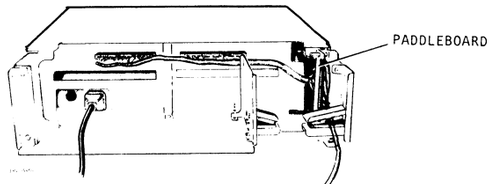




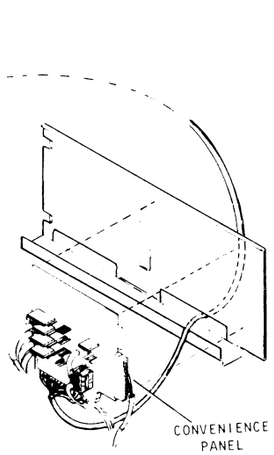


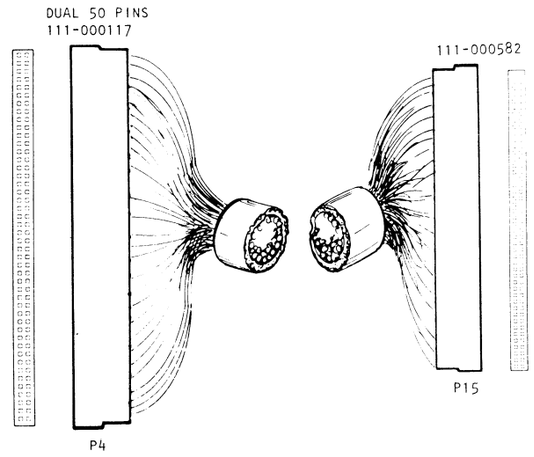
INTERNAL CABLING (Cont)

SYNC LINE MUX PCB



CABLE
005-009028

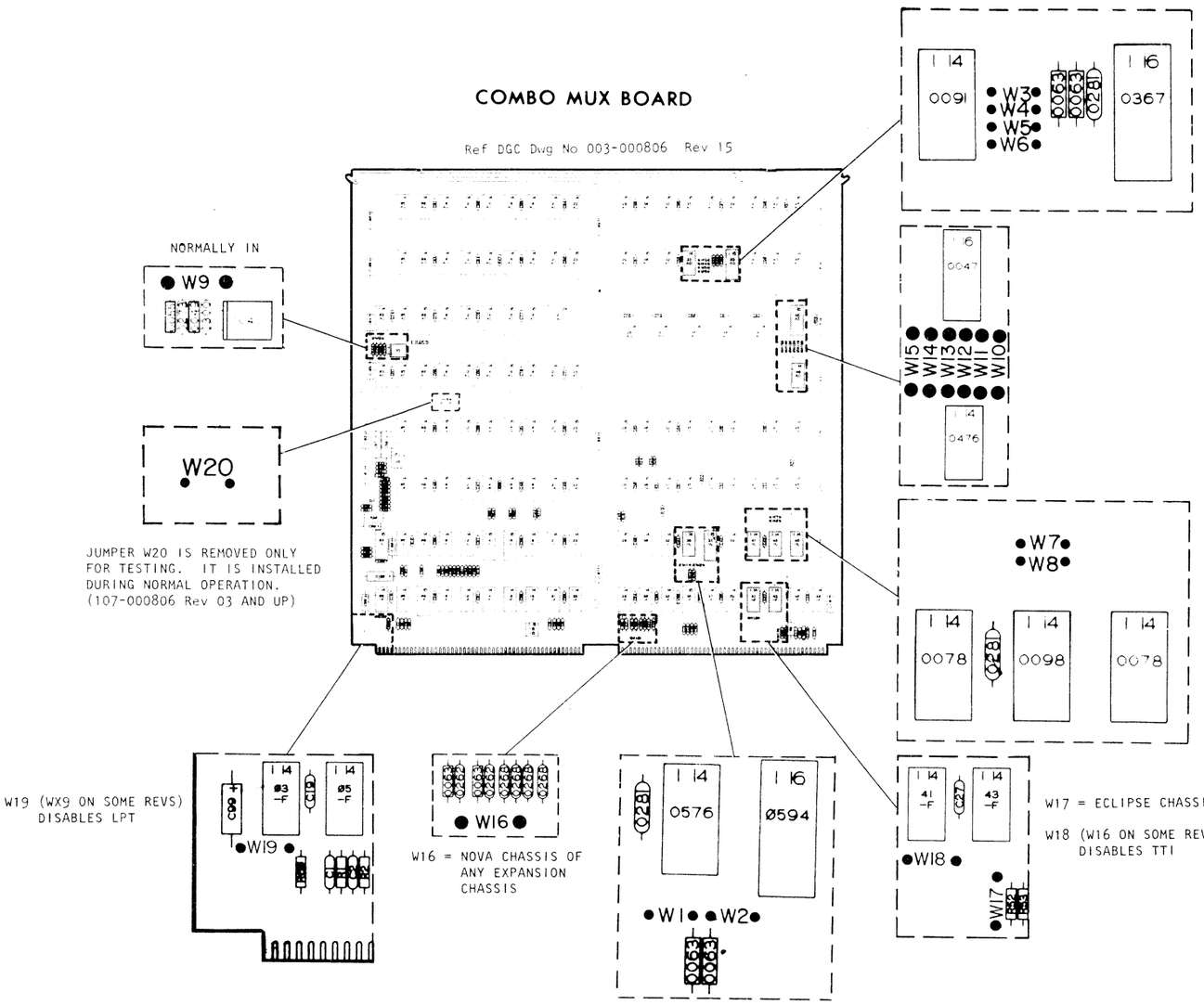




P5 BACKPANEL	PADDLE BOARD	CABLE 005-009028	P15 CONVENIENCE PANEL
A1	1	GND	26
75	7	ACU SP	3
73	8	DL 0	4
71	9	NB 8	5
69	10	NB 4	6 KEY
67	11	NB 2	7
65	12	NB 1	8
63	13	DSS	9
61	14	PWI	10
59	15	PND	11
57	16	CRQ	12
47	17	DPR	13
A49	18	ACR	22
B19	33	SPA	23
23	34	SPB	16
34	38	TX CLK	17
36	39	RING	18
38	40	CAR DET	19
40	41	DSR	20
49	43	DTR	21
51	44	REC CLK	15
52	45	REC DATA	14
53	46	XMIT DATA	2
54	47	CTS	24
67	48	INT CLK	25
B69	49	RTS	

TAILORING

JUMPERING



JUMPERS			
OUT	IN	ALM LINES	DEVICE CODES
W1,W2		0-3	TTI=10,TTO=11,RTC=14,LPT=17
W1	W2	4-7	TTI=50,TTO=51,RTC=54,LPT=57
W2	W1	8-11	TTO,TTI,RTC,LPT ARE DISABLED
	W1,W2	12-15	TTO,TTI,RTC,LPT ARE DISABLED

JUMPERS W1 AND W2 DETERMINE LINE NUMBERS AND DEVICE CODES FOR TTI,TTO,RTC AND LPT.

JUMPERS		
OUT	IN	BAUD
W3,W5		1200
W3	W5	1800
W5	W3	4800
	W3,W5	NOT USED

JUMPERS W3, W5 DETERMINE LINE SPEED FOR CLK2.

JUMPERS		
OUT	IN	BAUD
W4,W6		110
W6	W4	150
W4	W6	300
	W4,W6	2400

JUMPERS W4, W6 DETERMINE LINE SPEED FOR CLK3.

NOTE:
CLK 0 IS FIXED AT 9600 BAUD
CLK 1 IS FIXED AT 600 BUAD

JUMPERS W7 AND W8 DETERMINE POLARITY OF PRINTER STROBE
INSTALL W8 FOR 300LPM, 240 LPM
INSTALL W7 FOR 180CPS

JUMPERS W10 THRU W15 DETERMINE LINE SPEED FOR CONSOLE INTERFACE.

W10 = 300 BAUD
W11 = 600 BAUD
W12 = 1200 BAUD
W13 = 2400 BAUD
W14 = 4800 BAUD
W15 = 9600 BAUD

POWER +5 +15
3.5A 400ma
NOTE:
POWER REQUIREMENTS INCLUDE CONVENIENCE PANEL.

NOTE:
CONSOLE INTERFACE IS NORMALLY CONFIGURED FOR 9600 BAUD.

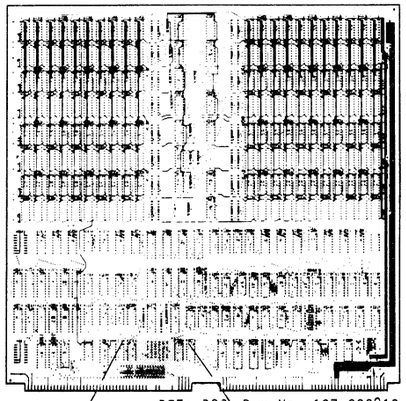
TAILORING (CONT)

MEMORY JUMPERING
NOVA 4/S AND 4/X

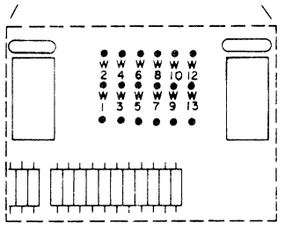
NOVA 4/X MEMORY BOARD SELECT JUMPERS

ADDRESS RANGE	JUMPERS INSERTED* BOARD SIZE 128KBYTES
0377777-0300000-0277777-0200000-	W8
0177777-0100000-0077777-0000000-	W7

*NOTE: JUMPERS W1, W3, AND W5 ARE ALWAYS INSERTED; JUMPERS W2, W4, AND W6 ARE NEVER INSERTED.



REF: DGC Dwg No. 107 000813



NOVA 4/S MEMORY BOARD SELECT JUMPERS

ADDRESS RANGE	JUMPERS INSERTED* BOARD SIZE 64 KBYTES
0077777-0040000-0037777-0000000-	W7 W9

*NOTE: JUMPERS W1, W3, AND W5 ARE ALWAYS INSERTED; JUMPERS W2, W4, AND W6 ARE NEVER INSERTED.

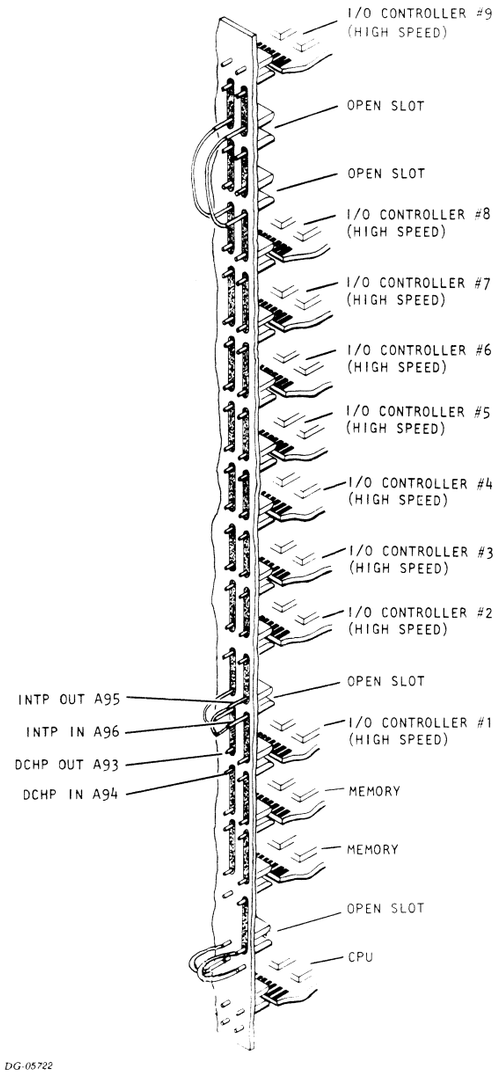
SYSTEMS SHOULD BE CONFIGURED WITH THE LARGER BOARDS OCCUPYING THE LOWER MEMORY ADDRESS RANGES.

MEMORY LOADS

VOLTAGE	DESCRIPTION	CURRENT DRAW
+5V	SYSTEM WITH BATTERY BACKUP	4.4A
+5V MEM		1.2A
+12V MEM	FIRST BOARD IN CHASSIS	2.3A
+12V MEM	EACH ADDITIONAL BOARD	0.3A

TAILORING (CONT)

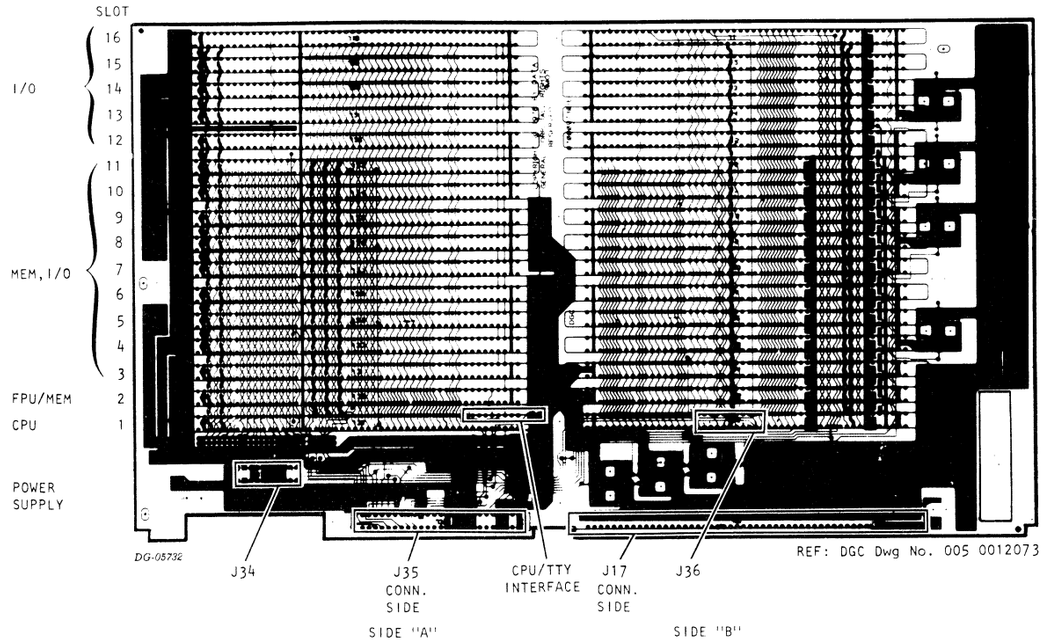
BACKPANEL JUMPERING

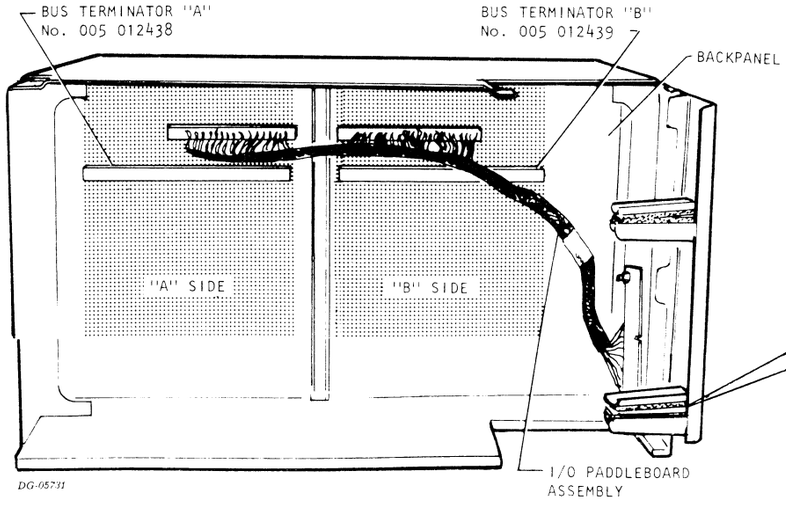


NO JUMPERS NEEDED EXCEPT FOR OPEN SLOTS

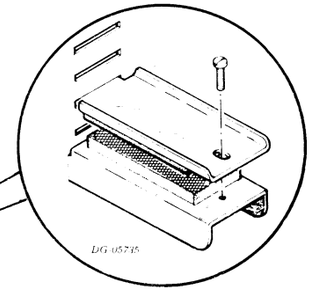
INTERNAL CABLING

BACKPANEL CONNECTORS





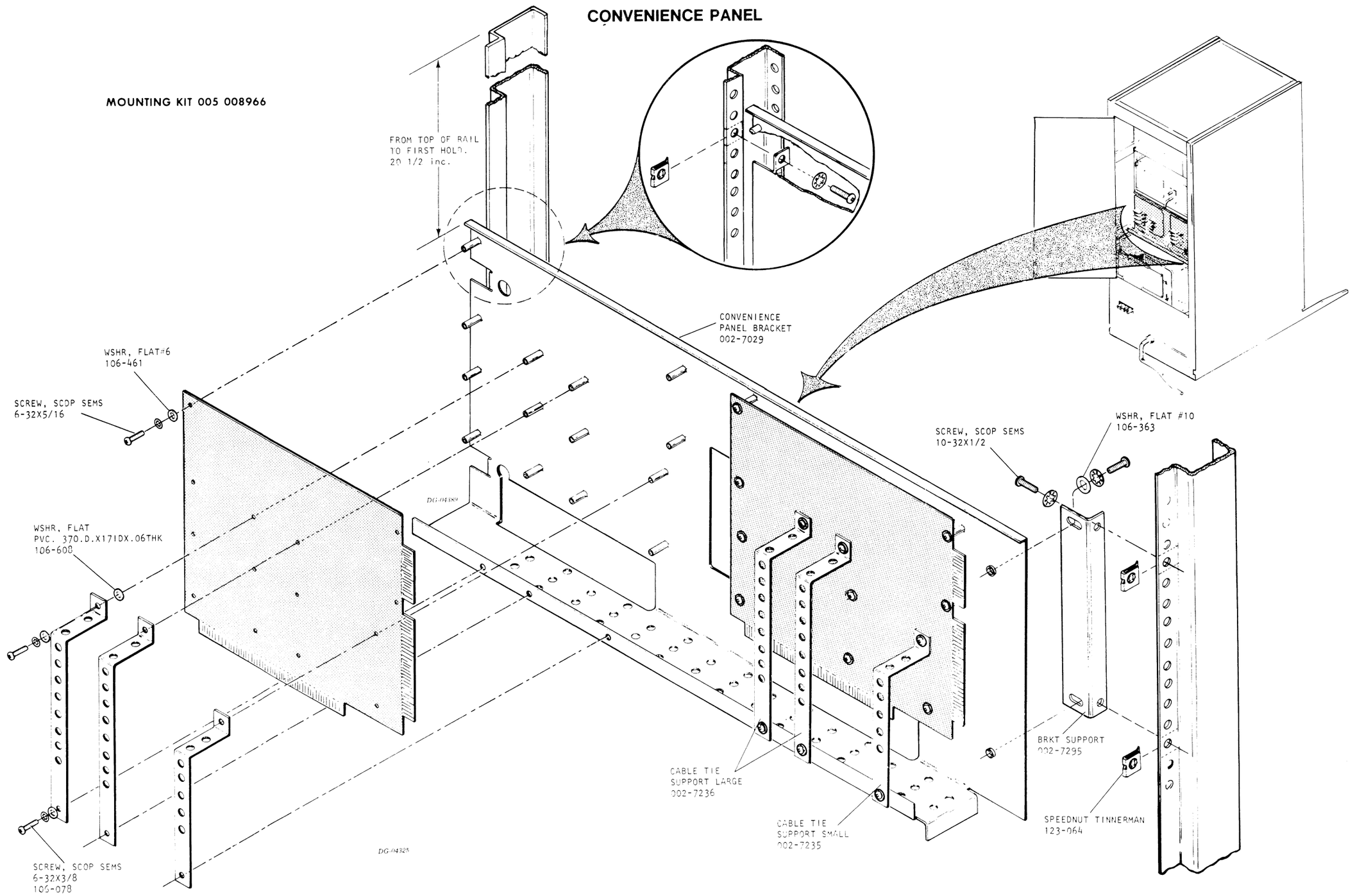
STRAIN RELIEF



INSTALLATION IN A CABINET

CONVENIENCE PANEL

MOUNTING KIT 005 008966

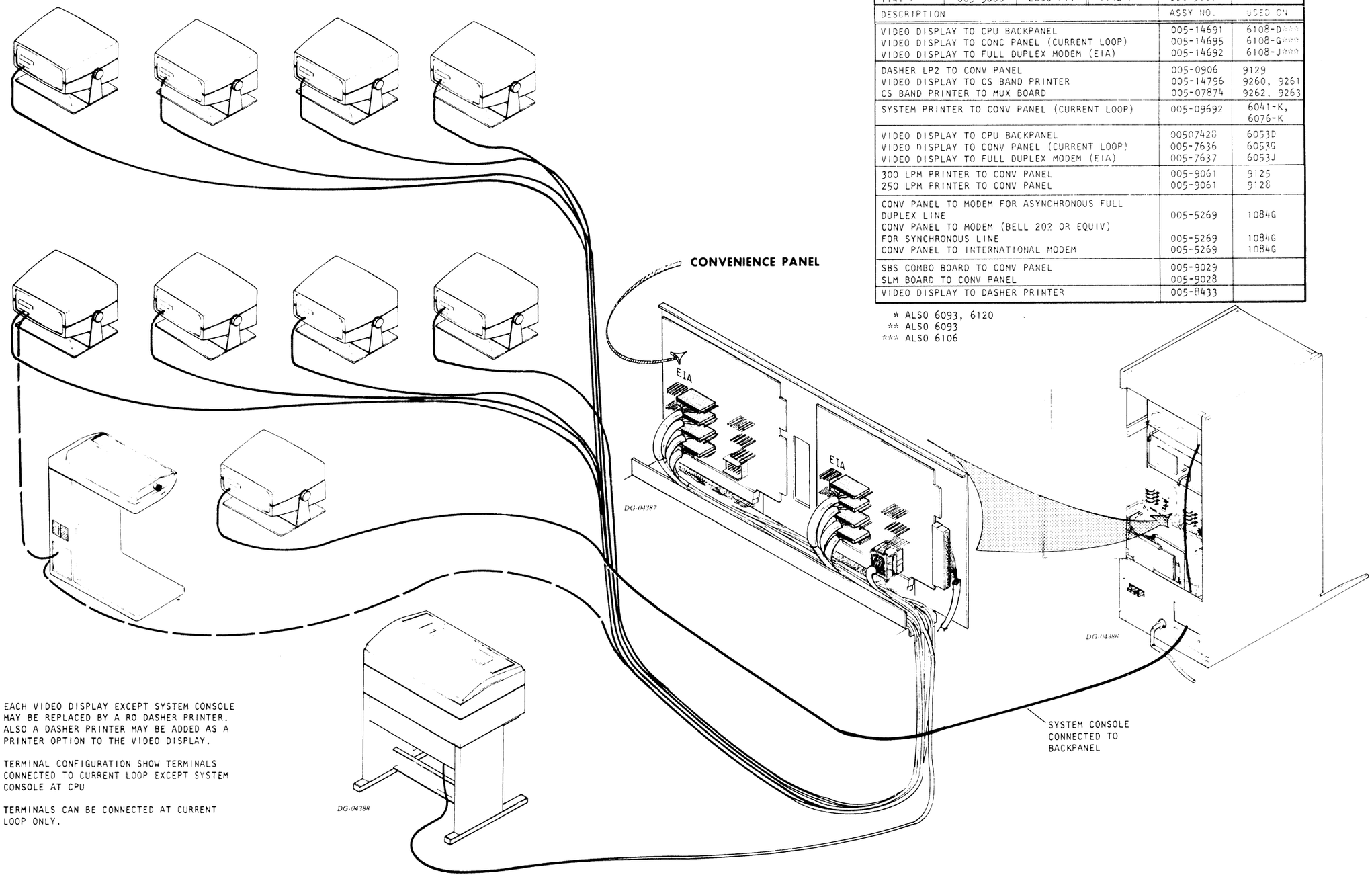


EXTERNAL CABLING

6053G			6041K		
MODEL NO.	CABLE	LENGTH	MODEL NO.	CABLE	LENGTH
1141 A	005-9695	100 FT.	1142 A	005-9801	100 FT.
1141 B	005-9696	250 FT.	1142 B	005-9802	250 FT.
1141 C	005-9697	500 FT.	1142 C	005-9803	500 FT.
1141 D	005-9698	1000 FT.	1142 D	005-9804	1000 FT.
1141 E	005-9699	1500 FT.	1142 E	005-9805	1500 FT.
1141 F	005-9800	2000 FT.	1142 F	005-9806	2000 FT.

DESCRIPTION	ASSY NO.	USED ON
VIDEO DISPLAY TO CPU BACKPANEL	005-14691	6108-D****
VIDEO DISPLAY TO CONC PANEL (CURRENT LOOP)	005-14695	6108-G****
VIDEO DISPLAY TO FULL DUPLEX MODEM (EIA)	005-14692	6108-J****
DASHER LP2 TO CONV PANEL	005-0906	9129
VIDEO DISPLAY TO CS BAND PRINTER	005-14796	9260, 9261
CS BAND PRINTER TO MUX BOARD	005-07874	9262, 9263
SYSTEM PRINTER TO CONV PANEL (CURRENT LOOP)	005-09692	6041-K, 6076-K
VIDEO DISPLAY TO CPU BACKPANEL	00507420	6053D
VIDEO DISPLAY TO CONV PANEL (CURRENT LOOP)	005-7636	6053G
VIDEO DISPLAY TO FULL DUPLEX MODEM (EIA)	005-7637	6053J
300 LPM PRINTER TO CONV PANEL	005-9061	9125
250 LPM PRINTER TO CONV PANEL	005-9061	9128
CONV PANEL TO MODEM FOR ASYNCHRONOUS FULL DUPLEX LINE	005-5269	1084G
CONV PANEL TO MODEM (BELL 202 OR EQUIV) FOR SYNCHRONOUS LINE	005-5269	1084G
CONV PANEL TO INTERNATIONAL MODEM	005-5269	1084G
SBS COMBO BOARD TO CONV PANEL	005-9029	
SLM BOARD TO CONV PANEL	005-9028	
VIDEO DISPLAY TO DASHER PRINTER	005-8433	

* ALSO 6093, 6120
** ALSO 6093
*** ALSO 6106

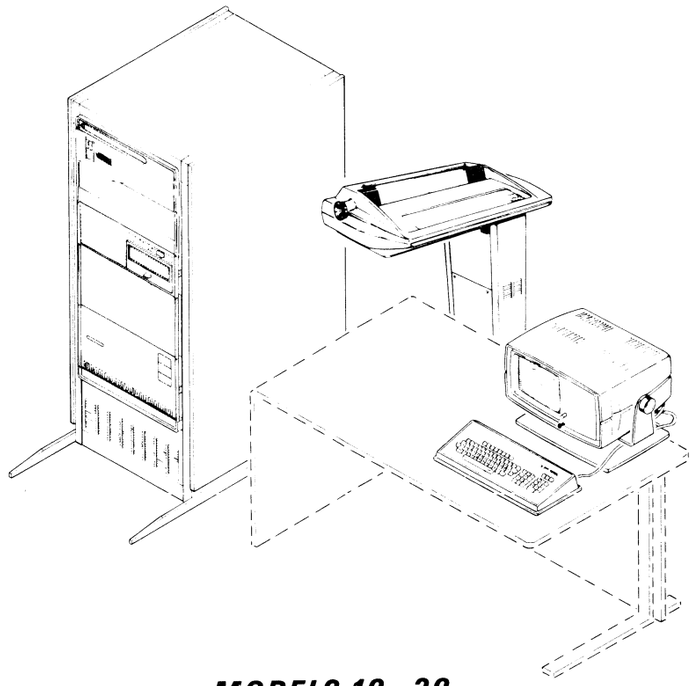


NOTE: EACH VIDEO DISPLAY EXCEPT SYSTEM CONSOLE MAY BE REPLACED BY A RO DASHER PRINTER. ALSO A DASHER PRINTER MAY BE ADDED AS A PRINTER OPTION TO THE VIDEO DISPLAY.

TERMINAL CONFIGURATION SHOW TERMINALS CONNECTED TO CURRENT LOOP EXCEPT SYSTEM CONSOLE AT CPU

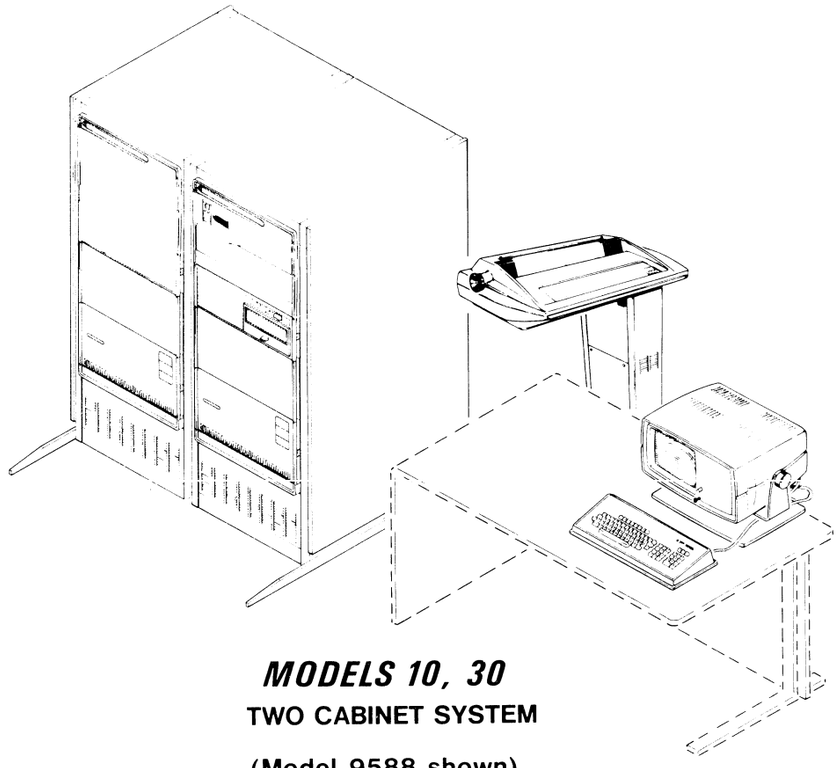
TERMINALS CAN BE CONNECTED AT CURRENT LOOP ONLY.

INSTALLATION SPECIFICATIONS



MODELS 10, 30
ONE CABINET SYSTEM

(Model 9587 shown)



MODELS 10, 30
TWO CABINET SYSTEM

(Model 9588 shown)

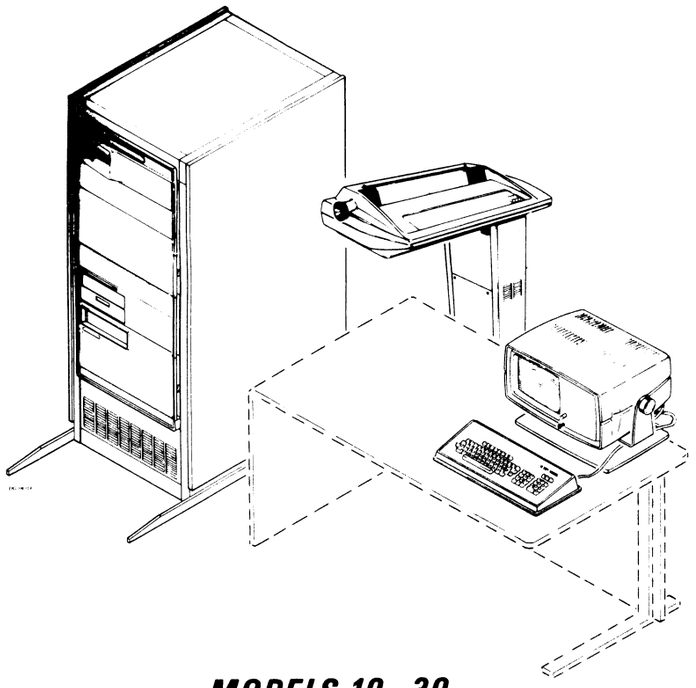
MAJOR COMPONENTS

COMPONENT	MOUNTING LOCATION	NOTES
CABINET 1130-A	FREE STANDING	
MP/100 CPU/CHASSIS	CABINET	SEE 010-217
MICRONOVA EXPANSION CHASSIS	CABINET	NOT AVAIL. MOD 10, OPT. MOD 30
DISKETTE DRIVE 6038 (315KB)	CABINET	OPTIONAL - SEE 010-064
DASHER DISPLAY 6093	FREE STANDING	OPTIONAL - SEE 010-215
DASHER DISPLAY 6053	FREE STANDING	OPTIONAL - SEE 010-098
DASHER PRINTER (RO) 6041 (60CPS)	FREE STANDING	OPTIONAL - SEE 010-094
DASHER TP2 PRINTER (RO) 6076G (180CPS SERIAL)	FREE STANDING	OPTIONAL - SEE 010-195
DASHER LP2 PRINTER 9192 (180CPS)	FREE STANDING	OPTIONAL - SEE 010-195
LINE PRINTER 9193 (240LPM)	FREE STANDING	OPTIONAL - SEE 010-129
LINE PRINTER 9194 (300LPM)	FREE STANDING	OPTIONAL - SEE 010-129
CABINET NO. 2		
CABINET 1130-X	FREE STANDING	
CARTRIDGE DISK DRIVE 6095 (10MB)	CABINET	SEE 010-203

WARNING

THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY ENERGY AND IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTION MANUAL, MAY CAUSE INTERFERENCE TO RADIO COMMUNICATIONS. AS TEMPORARILY PERMITTED BY REGULATION IT HAS NOT BEEN TESTED FOR COMPLIANCE WITH THE LIMITS FOR CLASS A COMPUTING DEVICES PURSUANT TO SUBPART J OF PART 15 OF FCC RULES, WHICH ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST SUCH INTERFERENCE. OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA IS LIKELY TO CAUSE INTERFERENCE IN WHICH CASE THE USER AT HIS OWN EXPENSE WILL BE REQUIRED TO TAKE WHATEVER MEASURES MAY BE REQUIRED TO CORRECT THE INTERFERENCE.

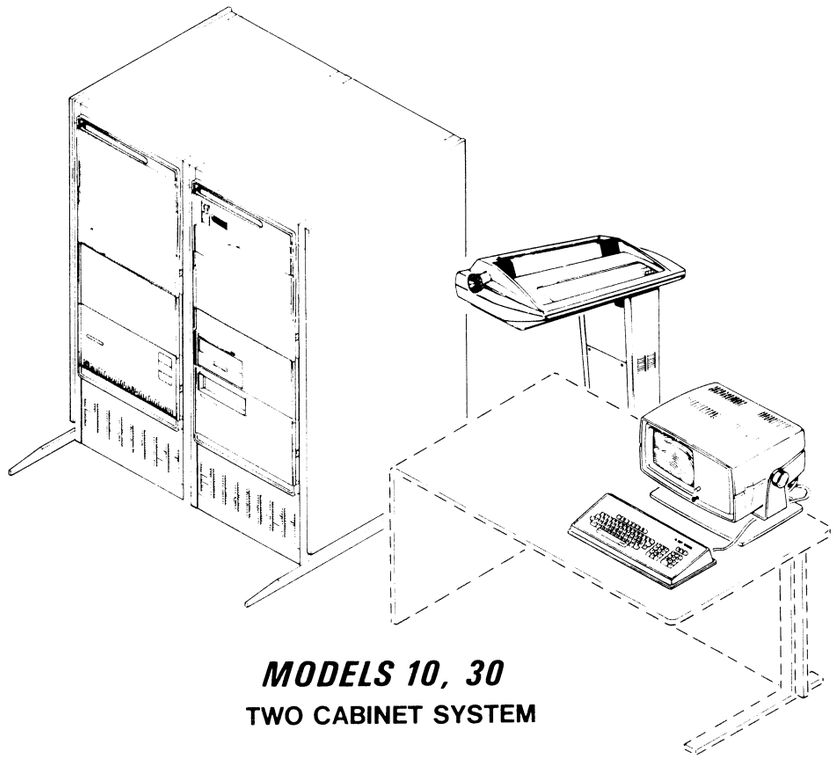
INSTALLATION SPECIFICATIONS



MODELS 10, 30

ONE CABINET SYSTEM

(Model 9550 shown)



MODELS 10, 30

TWO CABINET SYSTEM

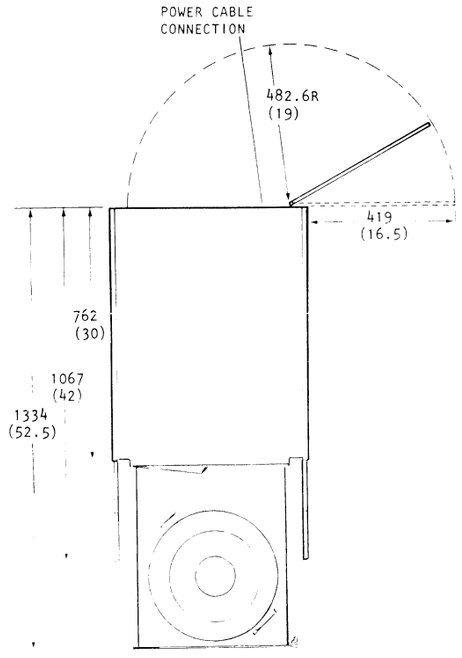
(Model 9552 shown)

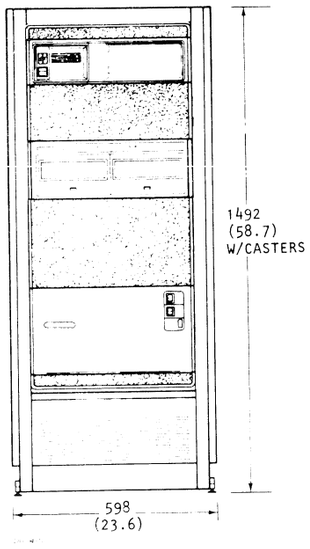
MAJOR COMPONENTS

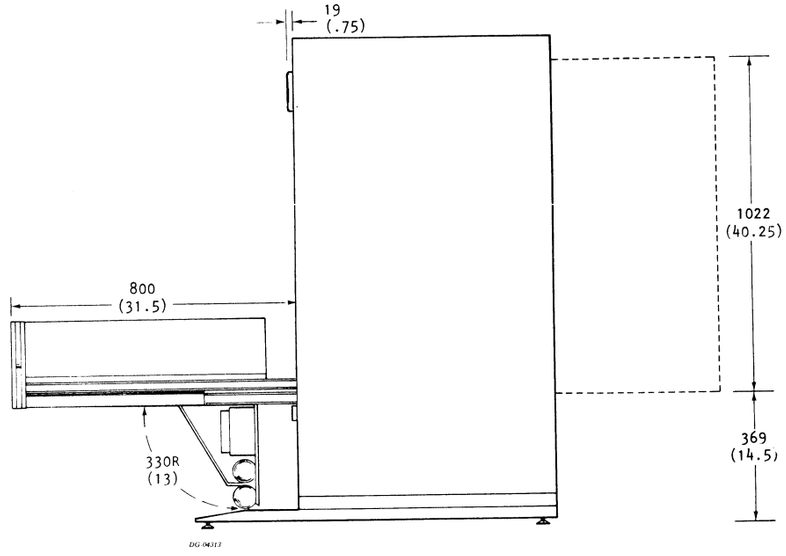
COMPONENT	MOUNTING LOCATION	NOTES
CABINET 1130-A	FREE STANDING	
MP/100 CPU/CHASSIS	CABINET	SEE 010-217
MICRONOVA EXPANSION CHASSIS	CABINET	NOT AVAIL. MOD 10 OPT. MOD 30
DISC W/DISKETTE 6101 (12.5MB & 1.2MB)	CABINET	SEE 010-223
DISC W/DISKETTE 6104 (25MB & 1.2MB)	CABINET	SEE 010-245
DASHER DISPLAY 6093	FREE STANDING	OPTIONAL - SEE 010-215
DASHER DISPLAY 6053	FREE STANDING	OPTIONAL - SEE 010-098
DASHER PRINTER (RO) 6041 (60CPS)	FREE STANDING	OPTIONAL - SEE 010-094
DASHER TP2 PRINTER (RO) 6076G (180CPS SERIAL)	FREE STANDING	OPTIONAL - SEE 010-195
DASHER LP2 PRINTER 9192 (180CPS)	FREE STANDING	OPTIONAL - SEE 010-195
LINE PRINTER 9193 (240LPM)	FREE STANDING	OPTIONAL - SEE 010-129
LINE PRINTER 9194 (300LPM)	FREE STANDING	OPTIONAL - SEE 010-129
CABINET NO. 2		
CABINET 1130-X	FREE STANDING	
12.5MB DISC 6102	CABINET	SEE 010-224
25.0MB DISC 6105	CABINET	SEE 010-243

INSTALLATION SPECIFICATIONS

SINGLE BAY CABINET







DIMENSIONS:	Width	Depth	Height
Millimeters	598.0	762	1492
Inches	23.6	30	58.7

SERVICE CLEARANCES:	Front	Right	Rear
Millimeters	800	419	482.6
Inches	31.5	16.5	19

WEIGHT:	
Kilograms	272
Pounds	600

HEAT OUTPUT:	Watts	BTU/hr
	1760	6000

OPERATING ENVIRONMENT:		
Temperature (max)	32°C	90°F
Relative Humidity (max)	80%	
Altitude	2440m(8000')	

POWER REQUIREMENTS:

Cooling Unit	Domestic	Export
Voltage	120	240
Hz	60	50Hz
Amp per Phase	2.5	1.25
Phase	1	1
Cabinets*		
Voltage	240	240
Hz	60	50
Amp per Phase	40	40
Phase	1	1

CABLES:

Primary Power	Length	Conn	Mating Conn	Wall Conn
Domestic 60Hz	**2.74m(9')**	**14-50P**	**14-50R**	**14-50R**
Export 50Hz	**2.74m(9')**			

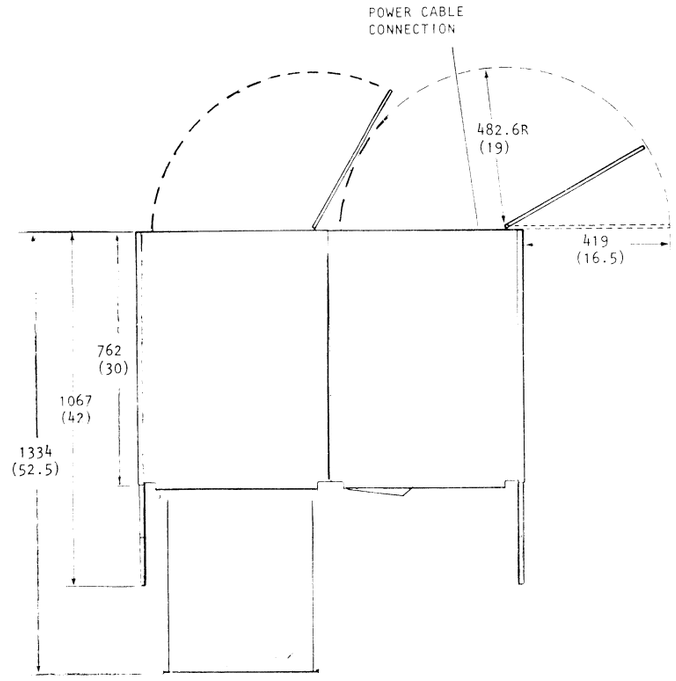
POWER AVAILABLE

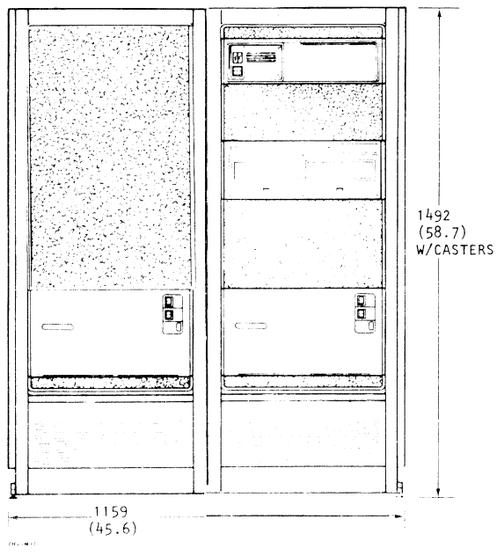
	Domestic	Export
Internal Receptacles	120V 60Hz	240V 50Hz

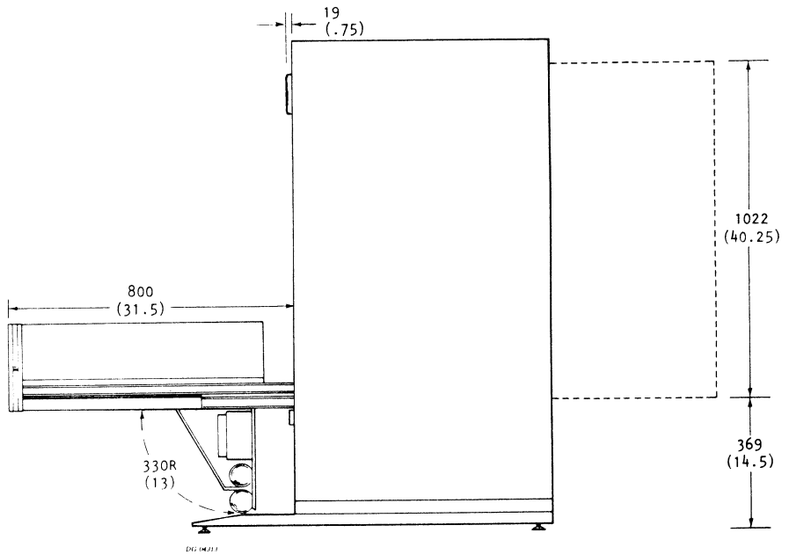
*Can be adapted for 115V with option #9229 SINGLE BAY only.

INSTALLATION SPECIFICATIONS

DOUBLE BAY CABINET







DIMENSIONS:	Width	Depth	Height
Millimeters	1159	762	1492
Inches	45.6	30	58.7

SERVICE CLEARANCES:	Front	Right	Rear
Millimeters	800	419	482.6
Inches	31.5	16.5	19

WEIGHT:	
Kilograms	454
Pounds	1000

HEAT OUTPUT:	Watts	BTU/hr
	1760	6000

OPERATING ENVIRONMENT:		
Temperature (max)	32°C	90°F
Relative Humidity (max)	80%	
Altitude	2440m(8000')	

POWER REQUIREMENTS:

Cooling Unit	Domestic	Export
Voltage	120	240
Hz	60	50
Amp per Phase	2.5	1.25
Phase	1	1
Cabinet*		
Voltage	240	240
Hz	60	50
Amp per Phase	40	40
Phase	1	1

CABLES:

Primary Power	Length	Conn	Mating Conn	Wall Conn
Domestic 60Hz	**2.74m(9')**	**14-50P**	**14-50R**	**14-50R**
Export 50Hz	**2.74m(9')**			

POWER AVAILABLE

	Domestic	Export
Internal Receptacles	120V 60Hz	240V 50Hz

INSTALLATION SPECIFICATIONS

CHASSIS SLOT ASSIGNMENTS

DATA CHANNEL SPEEDS AVAILABLE	STANDARD ☑ HIGH SPEED ☑

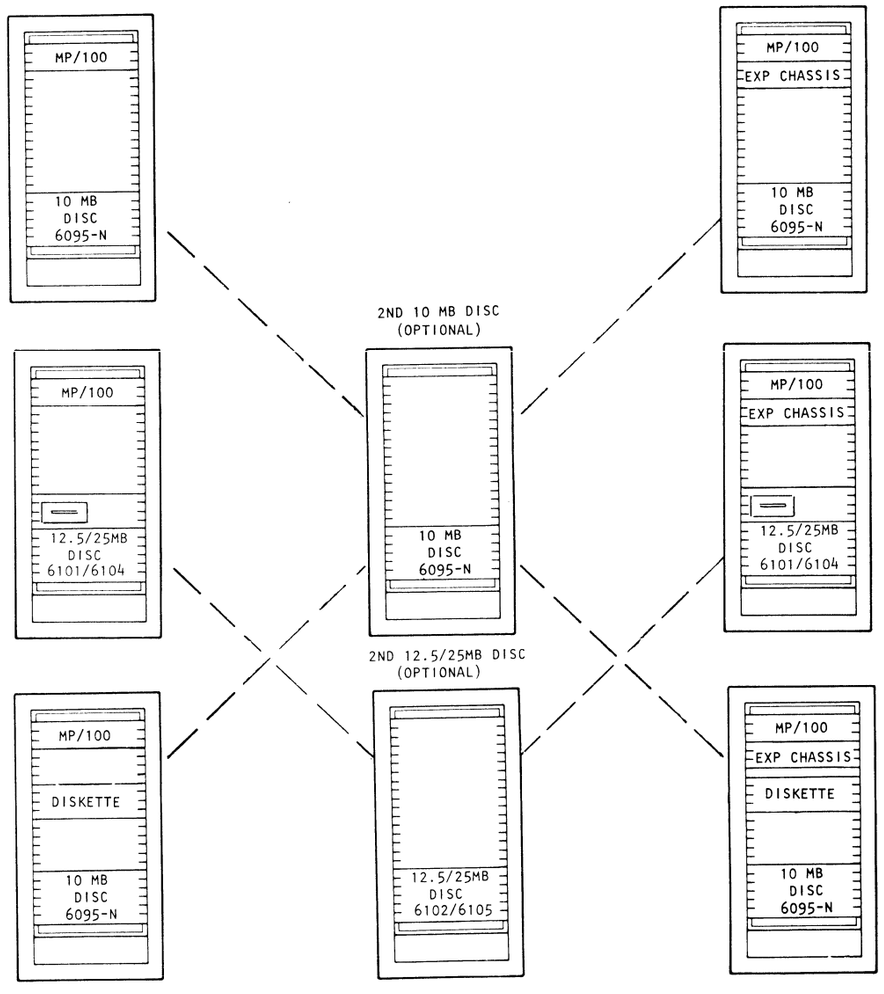
SLOT	MOD 10 (NOTE)	MOD 30	+5	+12	-5	-12
8	4 LINE ASYN/SYNC	4 LINE ASYNC/OPEN	1.70	0.03	0.17	
7	COMM. CONT.	COMM. CONT	1.90	0.09	0.05	
6	SYNC/ASYNC	SYNC/ASYNC	1.70	0.03		
5	COMM CONT	COMM CONT	1.90	0.09	0.05	
4	OPEN/LPT	OPEN/LPT	1.00	0.09	0.03	
3	32K RAM	32K RAM	1.00	0.09	0.03	
2	R.P.D.	R.P.D.	1.00	0.09	0.03	
1	CPU/ASYNC	CPU/ASYNC	2.0	0.1	0.3	0.1

SLOT	EXPANSION CHASSIS				
8					
7					
6	OPEN/4-LINE ASYNC	1.70	0.03	0.17	
5	OPEN/COMM. CONT.	1.00	0.09	0.03	
4	SYNC INFCE	1.50	0.15	0.03	
3	COMM. CONT.	1.90	0.09	0.05	
2	LPT. CONT.	1.00	0.09	0.03	
1					

MOD 10 MAX CURRENT USED	12.20	0.61	0.66	0.10
MOD 30 MAX CURRENT USED	19.30	1.06	0.97	0.10
MOD 30 MAIN CHASSIS	12.20	0.61	0.66	0.10
MOD 30 EXPANSION CHASSIS	7.10	0.45	0.31	—

NOTE: BOARD POWER REQUIREMENTS FOR MOD 10 SYSTEM CAN BE DERIVED FROM DATA GIVEN FOR MOD 30.

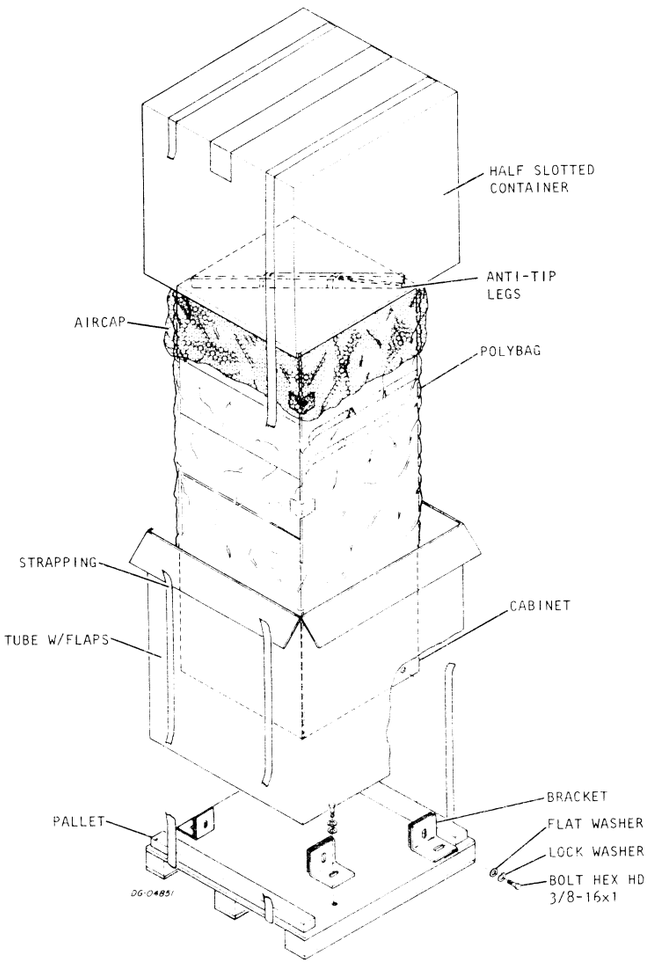
CABINET CONFIGURATIONS



EXPANSION CABINET ALWAYS ATTACHED TO THE LEFT SIDE OF THE MAIN CABINET.

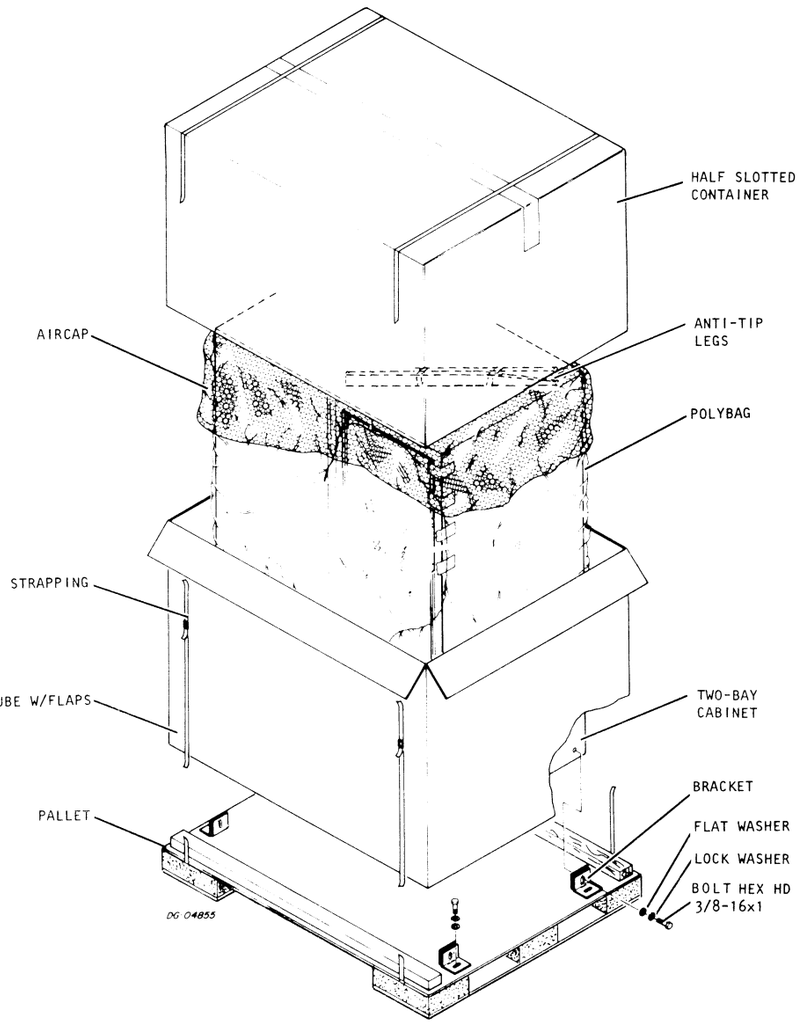
SHIPPING

1 BAY CABINET



SHIPPING AND PACKAGE DATA						
Outside Dimensions			Weight (Gross)	Volume	Density	
Length	Width	Depth				
in. / cm	in. / cm	in. / cm	lbs. / kg	cu ft. / cu m	lbs/cu ft. / kg/cu m	
45 / 114.3	45 / 114.3	66 / 168	960 / 436	77.3 / 2.2	11.13 / 177	
SHIPPING SPECIFICATIONS			STORAGE SPECIFICATIONS			
Temperature Range °F / °C	Relative Humidity (Non-condensing)	Maximum Altitude	Temperature Range °F / °C	Relative Humidity (Non-condensing)	Maximum Period	
-40 to 160 / -40 to 71	0 - 80%	15,200m 50,000ft	-40 to 160 / -40 to 71	0 - 80%	90 DAYS	

2 BAY CABINET



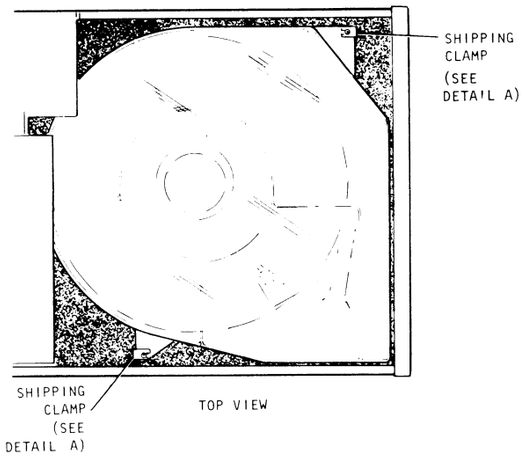
SHIPPING AND PACKAGE DATA					
Outside Dimensions			Weight (Gross)	Volume	Density
Length	Width	Depth			
in. / cm	in. / cm	in. / cm	lbs. / kg	cu ft. / cu m	lbs/cu ft. / kg/cu m
65 / 165	45 / 114.3	66 / 168	1700 / 771	112 / 3.16	15.2 / 244
SHIPPING SPECIFICATIONS			STORAGE SPECIFICATIONS		
Temperature Range °F / °C	Relative Humidity (Non-condensing)	Maximum Altitude	Temperature Range °F / °C	Relative Humidity (Non-condensing)	Maximum Period
-40 to 160 / -40 to 71	0 - 80%	15,200m 50,000ft	-40 to 160 / -40 to 71	0 - 80%	90 DAYS

SHIPPING (CONT)

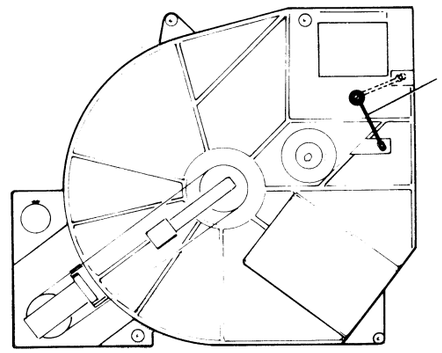
SHIPPING RESTRAINTS

6101, 6102, 6104 , 6105

IMPORTANT: REMOVE 2 SHIPPING CLAMPS AND UNLOCK ARM BEFORE OPERATING.

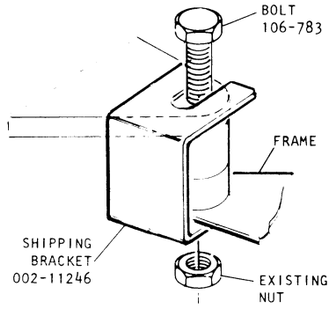


TOP VIEW



BOTTOM VIEW

DG-060034

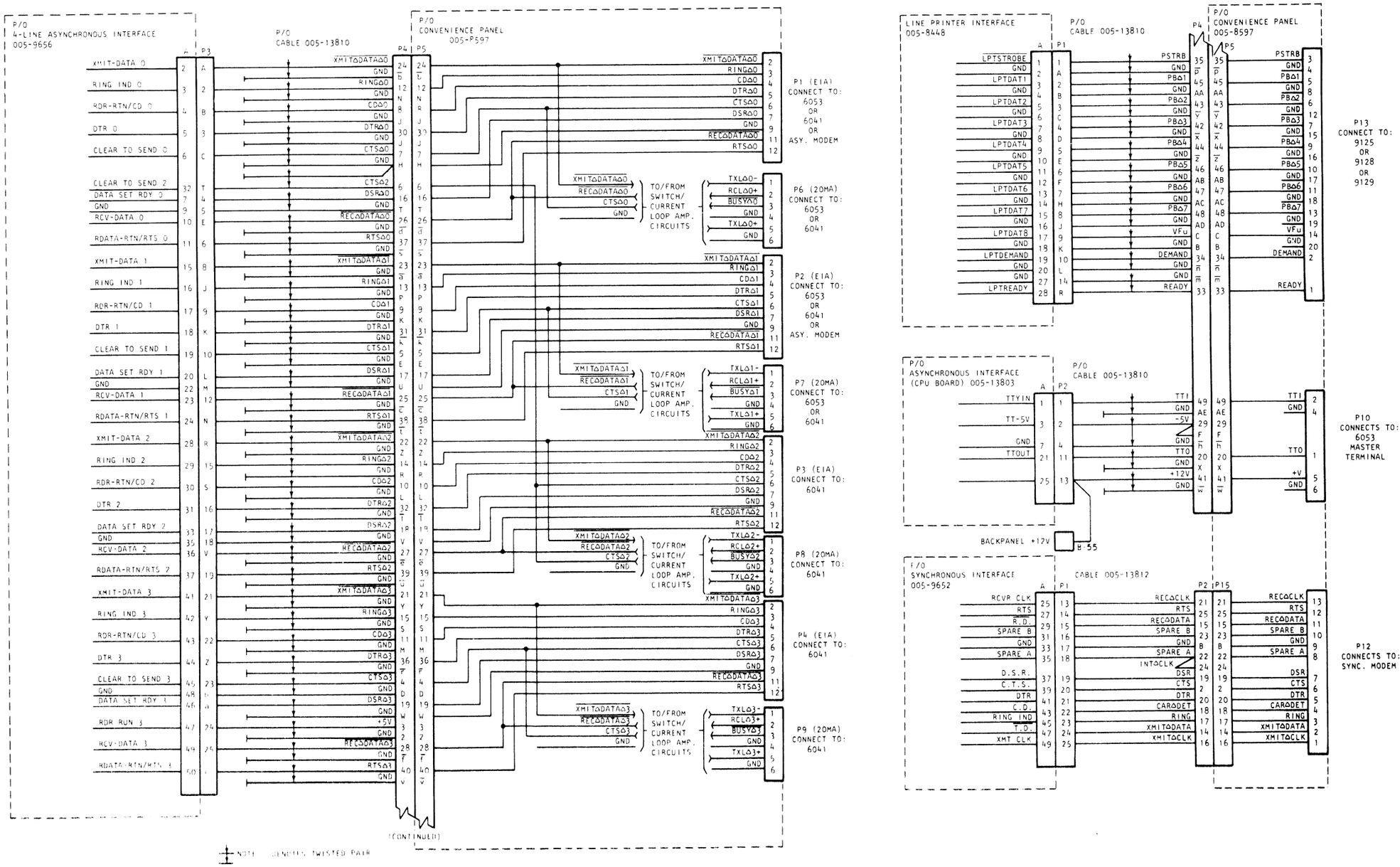


DETAIL A

CLAMP REMOVAL PROCEDURE:

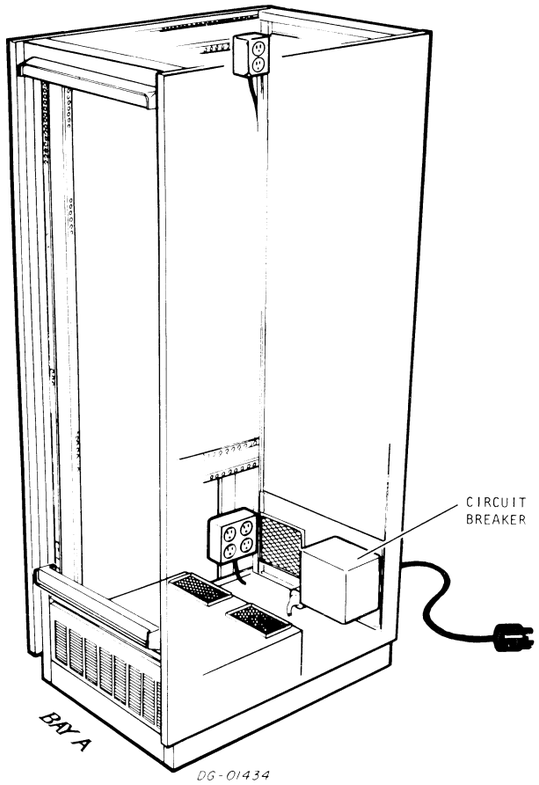
LOOSEN BOLT AND NUT, REMOVE CLAMP, AND RETIGHTEN BOLT AND NUT.

INTERNAL CABLING



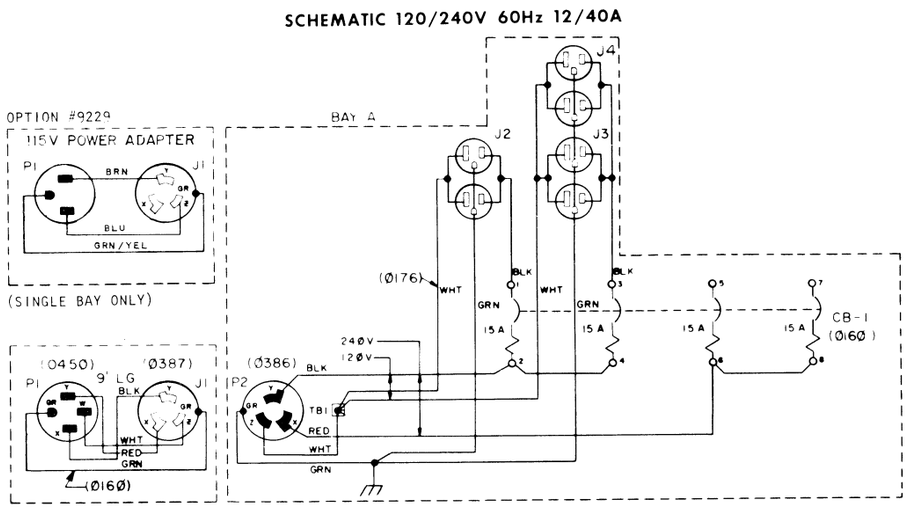
INTERNAL CABLING (CONT)

1-BAY CABINET



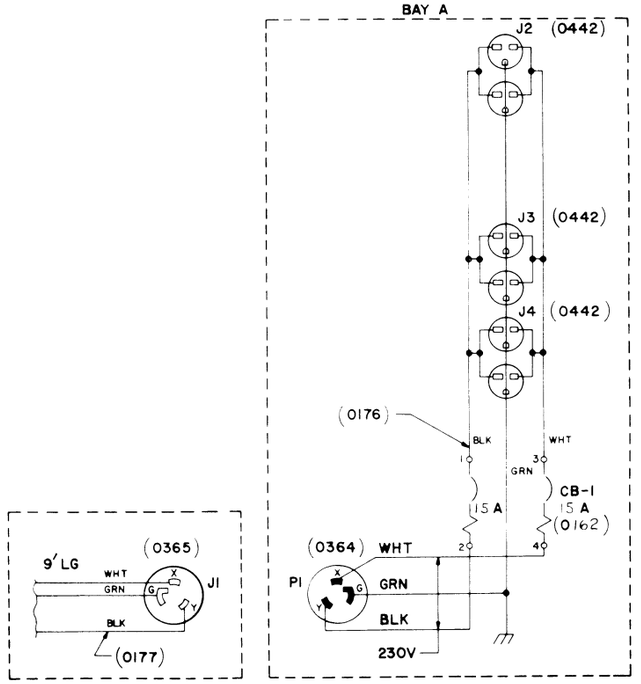
DG-01434

SCHEMATIC 120/240V 60Hz 12/40A



NOTES: 1. J2 THRU J4 ARE DGC No 111-000383.
2. TB1 IS DGC No 111-000378, 111-000379.

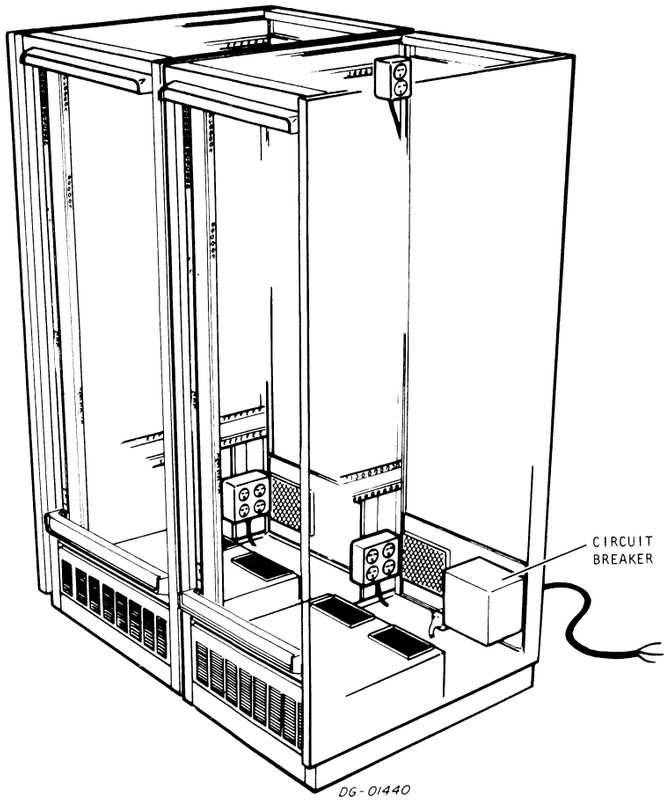
SCHEMATIC 230V 50Hz 15A



DG-04320

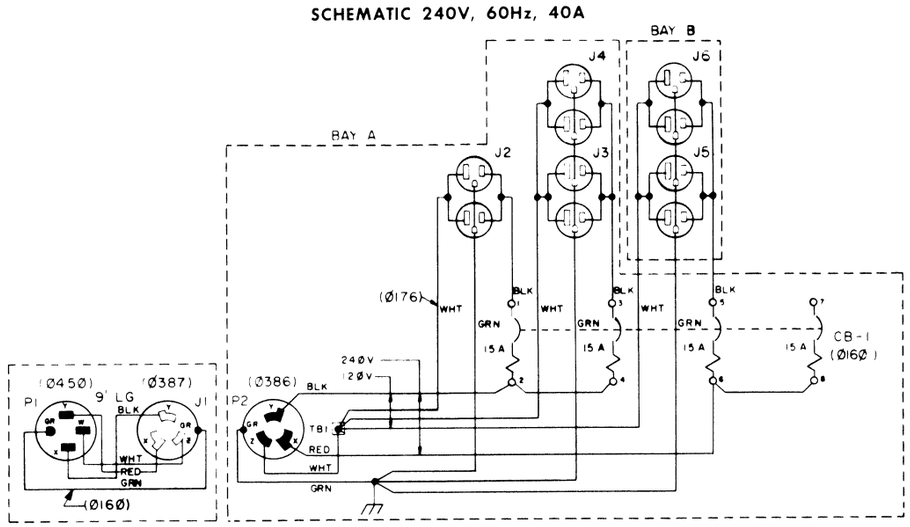
INTERNAL CABLING (CONT)

2-BAY CABINET



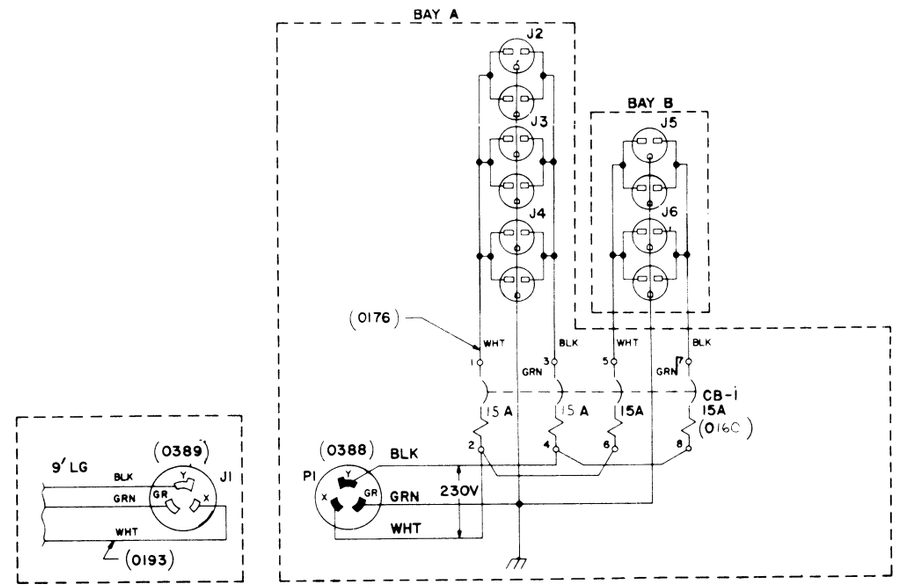
DG-01440

SCHEMATIC 240V, 60Hz, 40A



NOTES: 1. J2 THRU J6 ARE DGC No 111-000383.
2. TB1 IS DGC No 111-000378, 111-000379.
3. BAYS ARE LETTERED RIGHT TO LEFT VIEWED FROM THE FRONT.

SCHEMATIC 230V 50Hz 30A

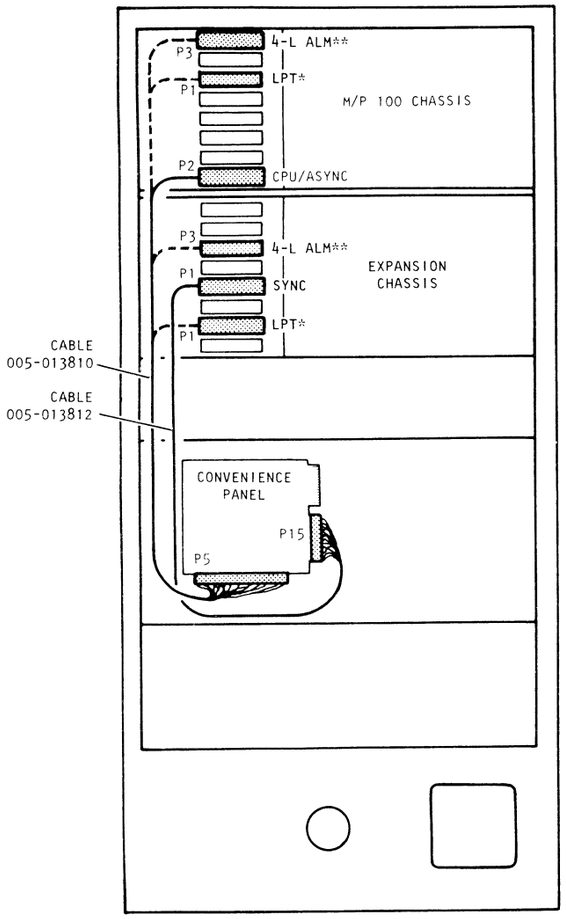


NOTES: 1. J2 THRU J7 ARE DGC No 111-000442.
2. BAYS ARE LETTERED RIGHT TO LEFT VIEWED FROM THE FRONT.

DG-04321

INTERNAL CABLING (CONT)

CONNECTION OF CABLING BETWEEN CONVENIENCE PANEL AND M/P 100 CHASSIS

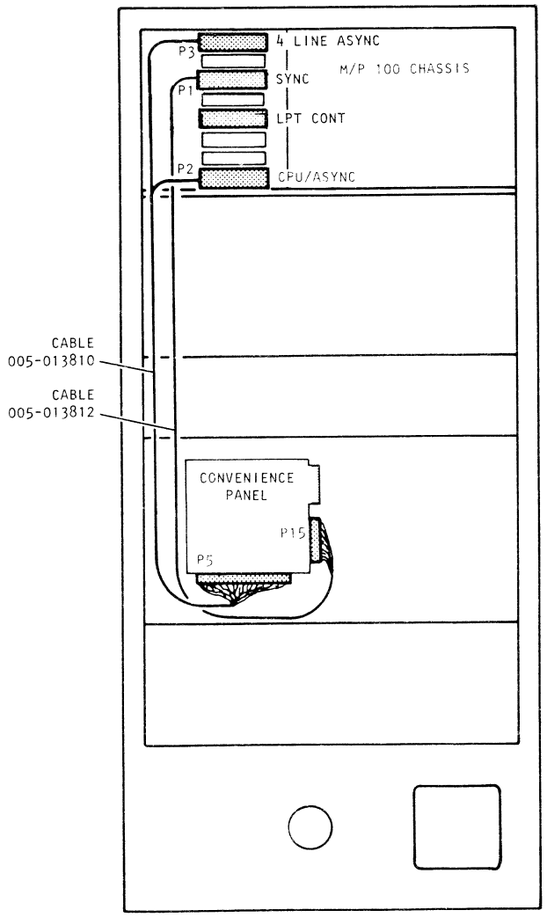


* LPT TO EXP CHASSIS FOR 3 AND 4 TERMINAL SYSTEM
** 4-L ALM TO EXP CHASSIS FOR 4 TERMINAL SYSTEM

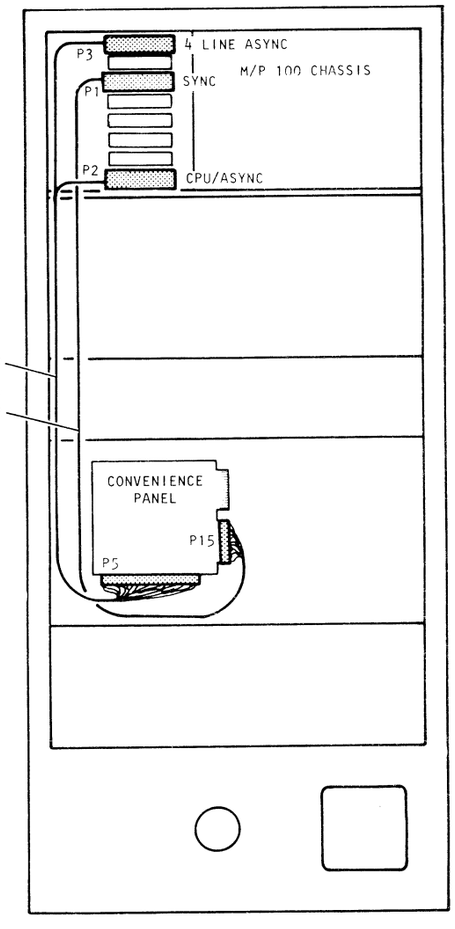
MOD 30

NOTE: THE JUMPER WIRE ON P-2 OF 005-013810 SHOULD BE ATTACHED TO +12V ON THE BACKPANEL (B-55).

IF SUBSEQUENT REMOVAL IS REQUIRED, JUMPER CONNECTOR MUST BE SQUEEZED AS WELL AS PULLED.



MOD 10 WITH PARALLEL PRINTER



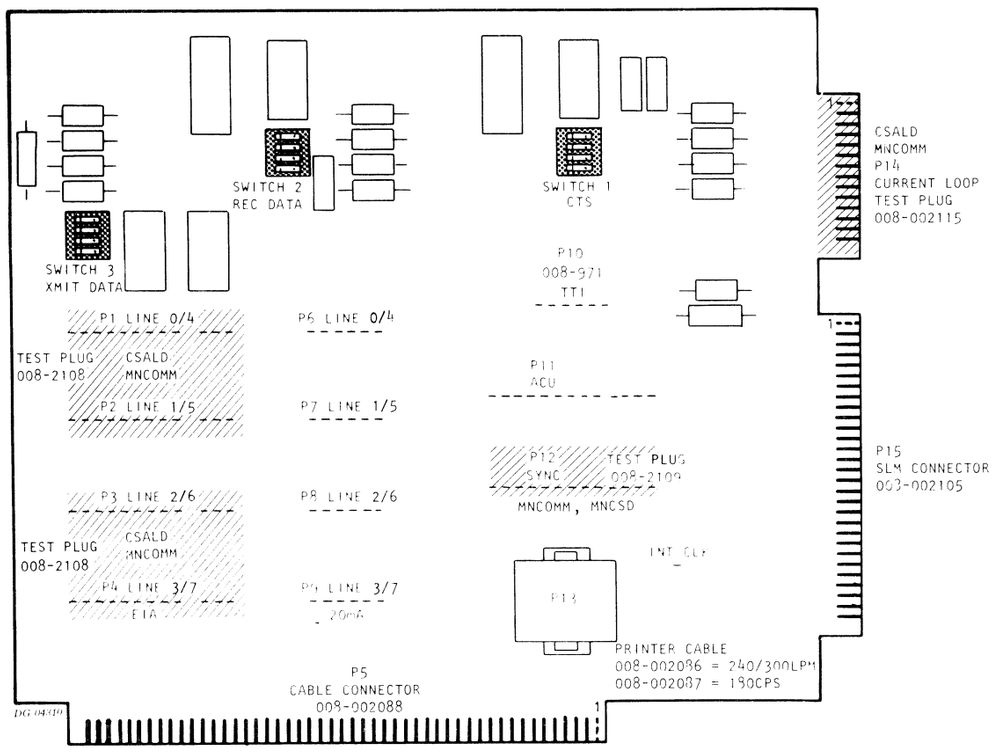
MOD 10 WITH SERIAL PRINTER

NOTE: WHEN USED ON THE MOD 10 ONE CONNECTOR OF CABLE 005-013810 WILL NOT BE ATTACHED TO ANY BOARD. FOR CONVENIENCE, ATTACH IT TO ANY EMPTY SLOT.

TAILORING

SBS CONVENIENCE PANEL PCB

Ref. DGC 107 000825 Rev.01



NOTE:
REMOVE ALL TEST PLUGS FOR NORMAL OPERATION. UNDER NO CIRCUMSTANCES SHOULD AN INDIVIDUAL LINE HAVE MORE THAN ONE CONNECTION.

1. CONNECTIONS TO P1 THRU P4 REQUIRE THE RESPECTIVE LINE NUMBER SWITCHES TO BE IN THE "OFF" POSITION. (EIA)
2. CONNECTIONS TO P6 THRU P9 REQUIRE THE RESPECTIVE LINE NUMBER SWITCHES TO BE IN THE "ON" POSITION. (20mA)
3. CONNECTIONS TO P14 ALSO REQUIRE THE RESPECTIVE LINE NUMBER SWITCHES TO BE IN THE "ON" POSITION.

CABLES	CONNECTIONS	DEVICES
005-008181	P1 THRU P4 (EIA)	DASHER DISPLAYS AND PRINTERS (60CPS)
005-005269	P1 THRU P4 (EIA)	ASYNC MODEMS
005-007637	P1 THRU P4 (EIA)	FULL DUPLEX MODEMS
005-007636	P6 THRU P9 (CUR. LOOP)	DASHER DISPLAYS
005-009692	P6 THRU P9 (CUR. LOOP)	DASHER PRINTERS (60CPS)
005-007636	P10 (CUR. LOOP)	MASTER CONSOLE (DASHER DISPLAY)
005-005269	P12 (EIA)	SYNC MODEMS
005-008181	P13 (PARALLEL)	DASHER LP2 PRINTER (180CPS)
005-007888	P13 (PARALLEL)	LINE PRINTERS (240 and 300LPM)

SWITCH POSITIONS

	CABLE CONNECTION	SIG. NAME	SWITCH ASSY 3	SIG. NAME	SWITCH ASSY 2	SIG. NAME	SWITCH ASSY 1
EIA	P1	$\overline{\text{XDATA0}}$	OFF	$\overline{\text{REC DATA0}}$	OFF	CTS0	OFF
	P2	$\overline{\text{XDATA1}}$	OFF	$\overline{\text{REC DATA1}}$	OFF	CTS1	OFF
	P3	$\overline{\text{XDATA2}}$	OFF	$\overline{\text{REC DATA2}}$	OFF	CTS2	OFF
	P4	$\overline{\text{XDATA3}}$	OFF	$\overline{\text{REC DATA3}}$	OFF	CTS3	OFF
20mA	P6	$\overline{\text{XDATA0}}$	ON	$\overline{\text{REC DATA0}}$	ON	CTS0	ON
	P7	$\overline{\text{XDATA1}}$	ON	$\overline{\text{REC DATA1}}$	ON	CTS1	ON
	P8	$\overline{\text{XDATA2}}$	ON	$\overline{\text{REC DATA2}}$	ON	CTS2	ON
	P9	$\overline{\text{XDATA3}}$	ON	$\overline{\text{REC DATA3}}$	ON	CTS3	ON

TEST PLUGS

TEST PLUGS ARE REQUIRED TO RUN THE FOLLOWING DIAGNOSTICS; MNCSD, MNCOMM, AND CSALD. IN THE SYSTEMS ENVIRONMENT THESE TEST PLUGS ARE INSTALLED ON THE CONVENIENCE PANEL. THIS PROVIDES EASY INSTALLATION AND ENSURES THE TESTING OF THE CONVENIENCE PANEL AND ITS ASSOCIATED CABLING.

TEST PLUG SUMMARY

1. SBS TEST PLUG (008-002108) 005-009346)

THIS TEST PLUG IS REQUIRED TO RUN CSALD AND MNCOMM.

NOTE: A QUANTITY OF 2 PLUGS ARE REQUIRED PER BOARD.

FROM	SIGN. NAME	TO
12, 3	RTS N, RING N, DSR N+1	7
7	DSR N, RTS N+1, RING N+1	12, 3
5,6	DTR N, CTS N, CD N+1	4
4	CD N, DTR N+1, CTS N+1	5, 6
N = ANY EVEN LINE NUMBER		

2. SBS CURRENT LOOP TEST PLUG (008-002115) (005-009348)

THIS TEST PLUG IS ALSO REQUIRED TO RUN CSALD AND MNCOMM. IT REQUIRES THAT CONVENIENCE PANEL SWITCHES SW2 AND SW3 ARE IN THE "ON" POSITION AND THAT SW1 MUST BE IN THE "OFF" POSITION.

FROM	SIGN. NAME	TO
2,6	RCL0, BUSY0, TXL1-	M
3,7	RCL1, BUSY1, TXL0-	L
4,8	RCL2, BUSY2, TXL3-	P
5,9	RCL3, BUSY3, TXL2-	N

3. SLM TEST PLUG (008-002109) (005-009349)

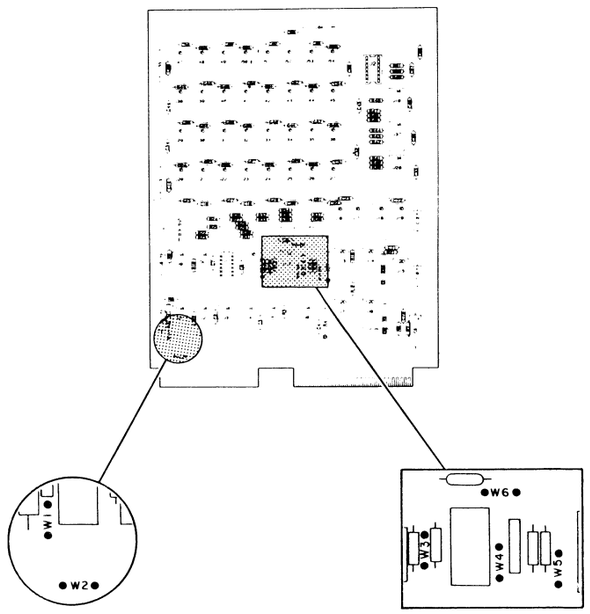
THIS TEST PLUG IS REQUIRED TO RUN MNCOMM AND MNCSD.

FROM	SIGN. NAME	TO
INT-CLK (pin)	INT CLK, XMIT CLK, REC CLK	1, 13
2	XMIT DATA, REC DATA	11
3	RING, DTR	5
4	CAR DET, SPARE A	8
SPARE B (pin) 10	SPARE B, CTS	6
7	DSR, RTS	12

TAILORING

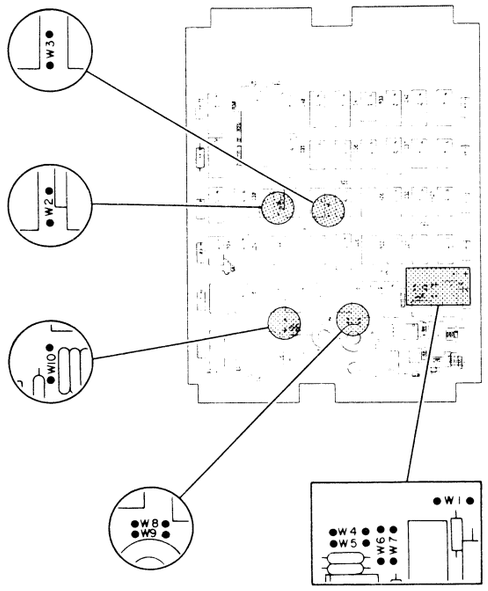
JUMPERING

32K MEMORY BOARD
Ref DGC 005-014310



ASSY # TESTED	ASSY # UNTESTED	JUMPER INSTALLATION						MEMORY INSTALLATION	
		W1	W2	W3	W4	W5	W6	U20-27 U38-45	U47-54 U29-36
005-014310	005-014311	OUT	OUT	OUT	OUT	OUT	OUT	YES	YES

SYNC. INTERFACE BOARD
Ref DGC 005-014487



LINE ADDRESS SELECT

SELECT ADDRESS	W2	W3
'00'8	IN	IN
'04'8	OUT	IN
'10'8	IN	OUT
'14'8	OUT	OUT

INTERNAL CLOCK FREQUENCY SELECT

BAUD RATE	W4	W5	W6	W7	W8	W9
300	OUT	IN	OUT	OUT	OUT	IN
600	IN	OUT	OUT	IN	OUT	IN
1200	OUT	OUT	IN	OUT	OUT	IN
2400	OUT	OUT	OUT	IN	OUT	IN
4800	OUT	IN	IN	OUT	OUT	IN
9600	IN	IN	IN	OUT	OUT	IN
19.2K	OUT	OUT	IN	OUT	IN	OUT

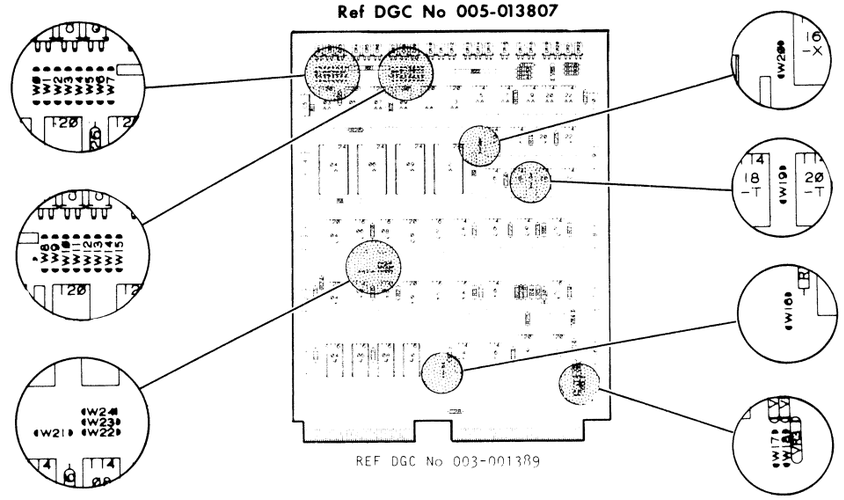
NOTE:
1. FOR APPLICATIONS WHERE NO MODEM IS USED, THE MODEM SIGNAL CLEAR TO SEND (CTS) MUST BE FORCED ON BY INSERTING JUMPER W1. IF A MODEM IS USED, JUMPER W1 SHOULD BE REMOVED IF IT WAS PREVIOUSLY INSTALLED.
2. FOR APPLICATIONS WHERE NO MODEM CLOCKS ARE AVAILABLE THE INTERNAL CLOCK MAY BE SELECTED BY INSERTING JUMPER W10.
3. THE INTERNAL CLOCK FREQUENCY (BAUD RATE) MAY BE SELECTED WITH JUMPERS W4 THROUGH W9 (SEE TABLE).

TAILORING (CONT)

JUMPERING

RPD BOARD

Ref DGC No 005-013807



JUMPER REGISTER

	W0	W1	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	W14	W15
JUMPER	DC	DC	DC	DC	DC	DC	I/O	I/O	-	-	ODT	-	RDF	BDS	ERS	LDS
FUNC	OUT	IN	OUT	IN	IN	IN	OUT	IN	OUT	OUT	OUT	OUT	OUT	IN	OUT	OUT

DC - BOOTSTRAP DEVICE CODE
I/O - INPUT OUTPUT TYPE - 00 = CS20, 01 = M2000
RDF - DATA FORMAT FOR BOOTSTRAP ROMS - 0 = PACKED, 1 = UNPACKED
ODT - LOAD AND EXECUTE ODT
ERS - CONTINUE ON ERROR
LDS - DISPLAY STATUS REGISTER ONLY
BDS - STATE OF RPD BOARD AT TERMINATION ON/OFF

JUMPERS

	W21	W22	W23	W24	W20	W16	W19
RPD ENABLED	OUT	IN	OUT	IN	OUT	IN	IN
TEST RPD*	OUT	IN	OUT	IN	IN	IN	OUT

	W18	W17
+12V	OUT	IN
+15V	IN	OUT

	W25	W26
M2000	IN	OUT

*CONFIGURE CPU JUMPERS FOR SOFT CONSOLE ENABLED

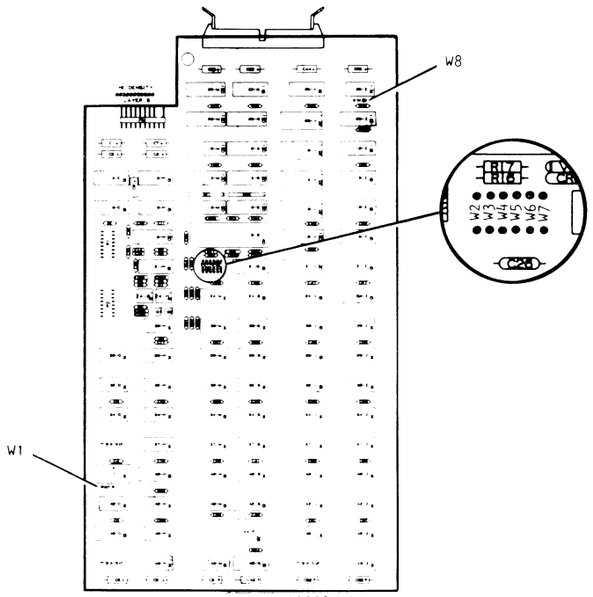
W21-24 - ROM SIZE
W20 - MAP EXISTS
W16 - MAPPED RPD
W19 - M2000

TAILORING (CONT)

JUMPERING

DISC DRIVE 6095N

Ref DGC No 005-010053



DG-04981 REF. DGC 107-000939

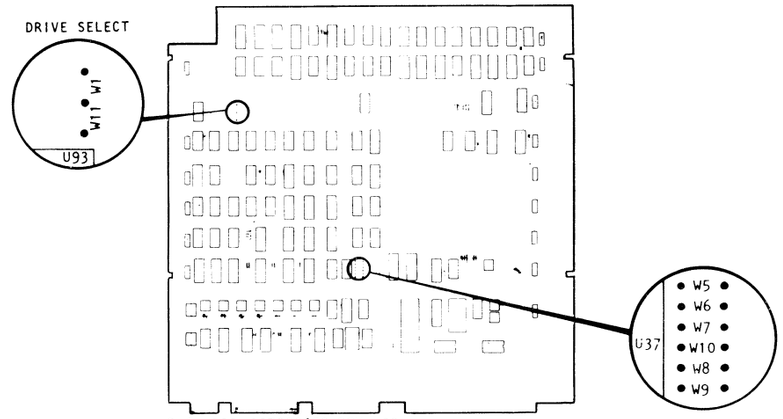
JUMPER POSITION
W1 IN W8 IN
DEVICE CODE SELECT
W2-DS5 W3-DS4 W4-DS3 W5-DS2 W6-DS1 W7-DS0
TYPICAL DEVICE CODE 27, 67

DEVICE CODE	W2 DS5	W3 DS4	W4 DS3	W5 DS2	W6 DS1	W7 DS0
27	OUT	IN	OUT	IN	IN	IN
67	IN	IN	OUT	IN	IN	IN

NOTE: THIS PCB INTERNAL TO 6095N

DISKETTE DRIVE 6038

Ref DGC No 005-007109



Ref. DGC 107000650 REV. 02

JUMPER MEMORY INSERTED
FOR DEVICE CODE 33

W10	W9	W8	W7	W6	W5
OUT	IN	IN	OUT	IN	IN

DRIVE 0 IF SELECTED BY INSTALLING JUMPER W1 OR W11. IF ONLY ONE DRIVE IN SYSTEM, JUMPER W11 SELECTS DRIVE 0.

	DRIVE 0 =	
	LEFT	RIGHT
W1 W11	IN OUT	OUT IN

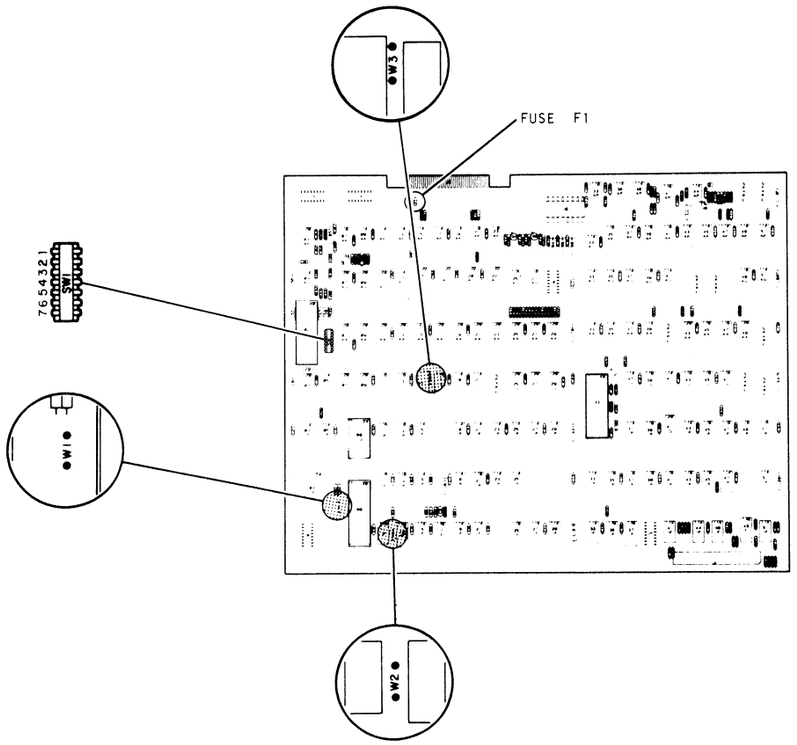
TAILORING (CONT)

JUMPERING

6101, 6102, 6104, 6105 Disc Drives

CONTROLLER BOARD

(Integral to Disc Drive)



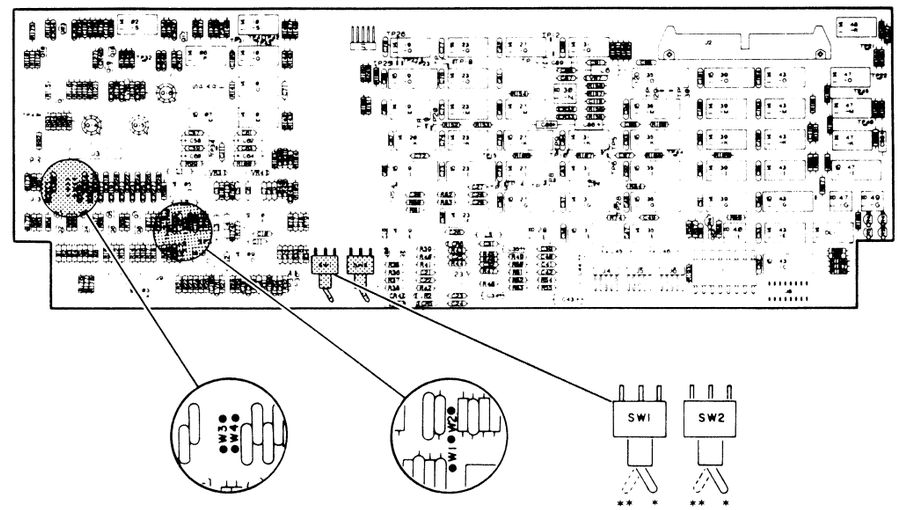
CONTROLLER DEVICE CODE SELECT		
SWITCH NUMBER	DEVICE CODE 26	DEVICE CODE 66
1	OFF *	OFF *
2	OFF	ON
3	ON	ON
4	OFF	OFF
5	ON	ON
6	ON	ON
7	OFF	OFF

*THIS SWITCH NOT USED

CONTROLLER JUMPER SELECTION	
JUMPER	
W-1	JUMPER REMOVED
W-2	JUMPER INSERTED
W-3	JUMPER INSERTED

R/W LOGIC BOARD

(Integral to Disc Drive)



R/W LOGIC JUMPER SELECTION	
JUMPER	
W-1	JUMPER INSERTED
W-2*	JUMPER REMOVED
W-3	JUMPER REMOVED
W-4	JUMPER REMOVED

* INSERTED FOR FACTORY USE ONLY

SWITCH SETTINGS	
SWITCH	*RIGHT
SW-1	RIGID DISC NOT WRITE PROTECTED
SW-2	RIGID DISC = UNIT 0 FLEXIBLE DISC = UNIT 1
	**LEFT
SW-1	RIGID DISC WRITE PROTECTED
SW-2	RIGID DISC = UNIT 1 FLEXIBLE DISC = UNIT 0

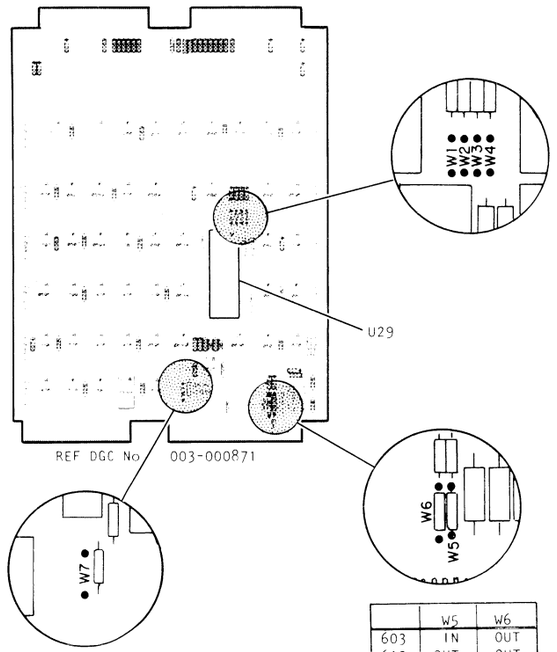
REFERENCE 010-000224

TAILORING (CONT)

JUMPERING

COMM CONTROLLER BOARD

Ref DGC No 005-013983



	W5	W6
603	IN	OUT
613	OUT	OUT

JUMPERS W5 AND W6 ARE
IN WHEN U29 IS 100-000613
OUT WHEN U29 IS 100-000603.

	DEVICE CODE	W7
ALM	34_8	OUT
SLM	44_8	IN

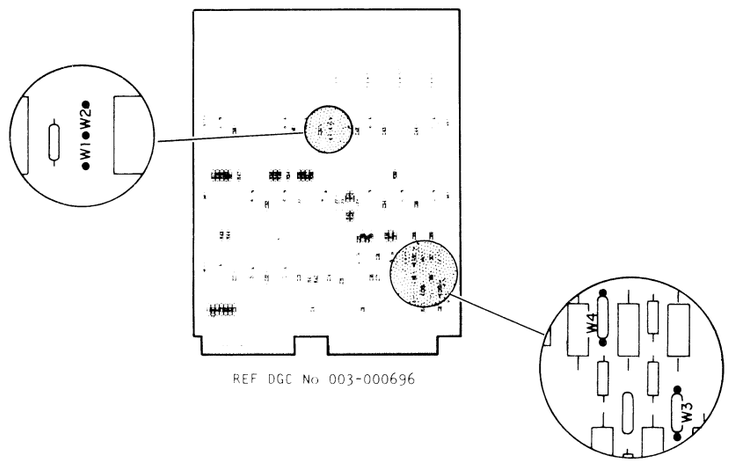
	W1	W2	W3	W4
M2000	OUT	IN	IN	IN

JUMPERS W1 THRU W4 CONTROL THE BAUD RATE BY AN INTERNAL CLOCK. THIS CLOCK IS ONLY NECESSARY WHEN THE BOARD IS USED WITH ASYNC INTERFACE.

RATE = 9600 BAUD

LPT CONTROLLER BOARD

Ref DGC No 005-013981



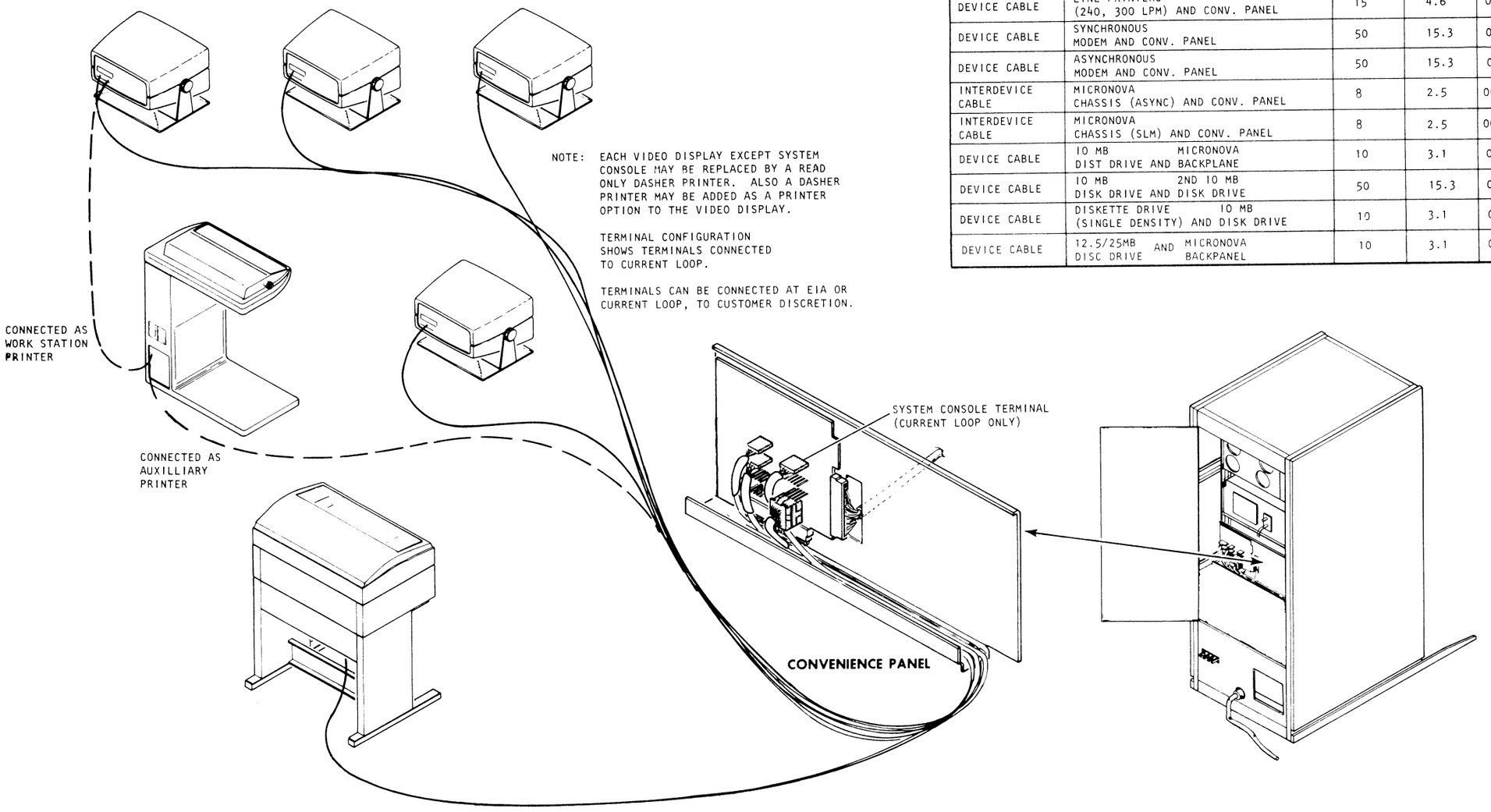
		W1	W2
DASHER LP 2	9192	IN	OUT
LINE PRINTER	9193	OUT	IN
LINE PRINTER	9194	OUT	IN

		W3	W4
M2000	005-008448	OUT	OUT
	005-013981	IN	IN

EXTERNAL CABLING

OPTIONAL CABLES

6053G/6093G			6041K		
MODEL NO.	CABLE	LENGTH	MODEL NO.	CABLE	LENGTH
1141 A	005-9695	100 FT.	1142 A	005-9801	100 FT.
1141 B	005-9696	250 FT.	1142 B	005-9802	250 FT.
1141 C	005-9697	400 FT.	1142 C	005-9803	500 FT.
1141 D	005-9698	1000 FT.	1142 D	005-9804	1000 FT.
1141 E	005-9699	1500 FT.	1142 E	005-9805	1500 FT.
1141 F	005-9800	2000 FT.	1142 F	005-9806	2000 FT.



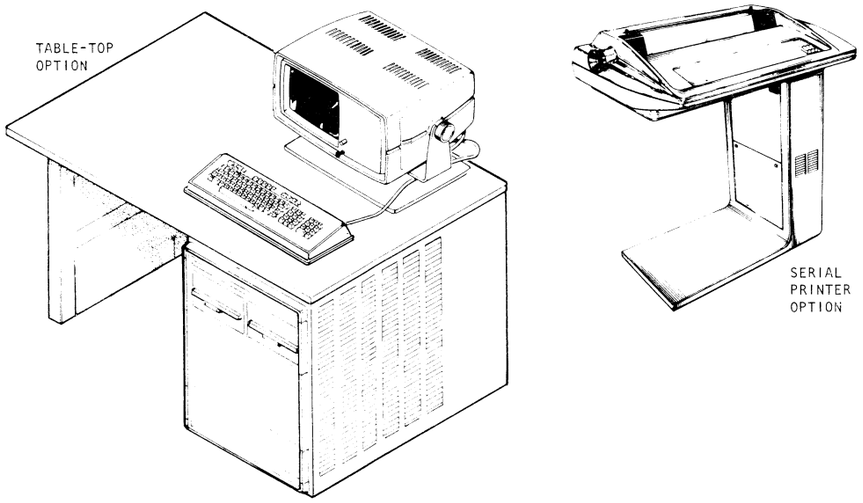
NOTE: EACH VIDEO DISPLAY EXCEPT SYSTEM CONSOLE MAY BE REPLACED BY A READ ONLY DASHER PRINTER. ALSO A DASHER PRINTER MAY BE ADDED AS A PRINTER OPTION TO THE VIDEO DISPLAY.

TERMINAL CONFIGURATION SHOWS TERMINALS CONNECTED TO CURRENT LOOP.

TERMINALS CAN BE CONNECTED AT EIA OR CURRENT LOOP, TO CUSTOMER DISCRETION.

CABLE	CONNECTING	MAX ALLOWED LENGTH FEET	MAX ALLOWED LENGTH METERS	ASSY NO.	USED ON
DEVICE CABLE (EIA)	DASHER DISPLAY AND CONV. PANEL	50	15.3	005-8181	6053-F
DEVICE CABLE (CURRENT LOOP)	DASHER DISPLAY AND CONV. PANEL	2000	600	005-7636	6053-G
DEVICE CABLE	DASHER DISPLAY AND FULL DUPLEX MODEM	50	15.3	005-7637	6053-J
DEVICE CABLE (EIA)	DASHER PRINTER (60 CPS) AND CONV. PANEL	50	15.3	005-8181	6041-F
DEVICE CABLE (CURRENT LOOP)	DASHER PRINTER (60 CPS) AND CONV. PANEL	2000	600	005-9692	6041-K
DEVICE CABLE (EIA)	DASHER PRINTER LP2 (180 CPS) AND CONV. PANEL	50	15.3	005-8181	9192
DEVICE CABLE	LINE PRINTERS (240, 300 LPM) AND CONV. PANEL	15	4.6	005-7888	9194,9193
DEVICE CABLE	SYNCHRONOUS MODEM AND CONV. PANEL	50	15.3	005-5269	1084-G
DEVICE CABLE	ASYNCHRONOUS MODEM AND CONV. PANEL	50	15.3	005-5269	1084-G
INTERDEVICE CABLE	MICRONOVA CHASSIS (ASYNC) AND CONV. PANEL	8	2.5	005-13810	
INTERDEVICE CABLE	MICRONOVA CHASSIS (SLM) AND CONV. PANEL	8	2.5	005-13812	
DEVICE CABLE	10 MB MICRONOVA DIST DRIVE AND BACKPLANE	10	3.1	005-7507	6095
DEVICE CABLE	10 MB 2ND 10 MB DISK DRIVE AND DISK DRIVE	50	15.3	005-7507	6095
DEVICE CABLE	DISKETTE DRIVE 10 MB (SINGLE DENSITY) AND DISK DRIVE	10	3.1	005-7507	6038-B
DEVICE CABLE	12.5/25MB DISC DRIVE AND MICRONOVA BACKPANEL	10	3.1	005-7507	6101,6102, 6104,6105

M1000 SUBSYSTEM COMPONENT BREAKDOWN



DISKETTE-BASED MOD 10 CONFIGURATION
MODEL 9520

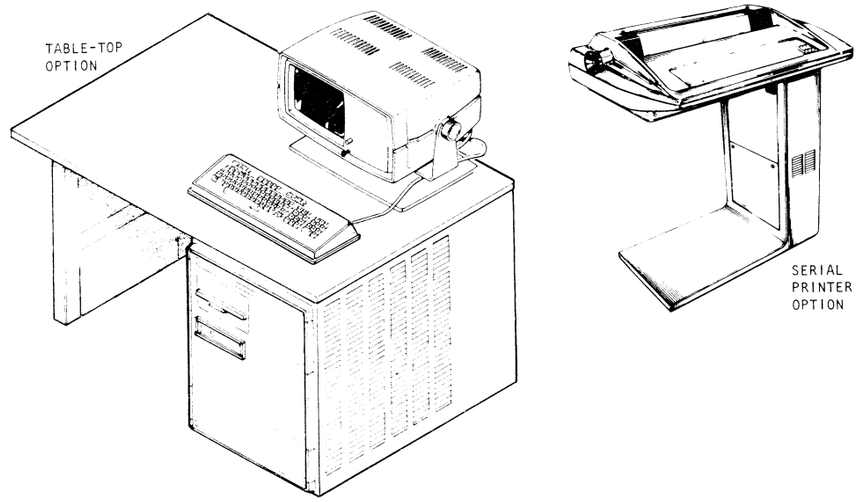
MAJOR COMPONENTS

COMPONENT	MOUNTING LOCATION	NOTES
LOW-BOY CABINET 1148-CS	FREE STANDING	
LOW-BOY CABINET/TABLE 1148-BS	FREE STANDING	OPTION
CPU/TERMINAL 005-016081 (120 VAC)	FREE STANDING	
TABLE-TOP ADD-ON 1249	1148-CS CABINET	UPGRADE OPTION
KEYBOARD 005-015872	FREE STANDING	
DISKETTE DRIVES 6096-SB (SEE NOTE)	CABINET	
TP1 SERIAL PRINTER 6041-S (SEE NOTE)	FREE STANDING	OPTION, SEE 010-000094
TP2 SERIAL PRINTER 6076-S (SEE NOTE)	FREE STANDING	OPTION, SEE 010-000214
LETTER QUALITY PRINTER 4320-S (SEE NOTE)	FREE STANDING	OPTION, SEE 010-000248
LETTER QUALITY PRINTER/SHEET FEED 4322-S (SEE NOTE)	FREE STANDING	OPTION, SEE 010-000248

BTU'S/HR

COMPONENT	BTU'S
CPU/TERMINAL	329
DUAL DISKETTE DRIVES	491

NOTE: THIS PRINTER REQUIRES A 9599 ASYNCHRONOUS INTERFACE PCB, MOUNTED IN THE CPU/TERMINAL.



DISK-BASED MOD 15 CONFIGURATION
MODELS 9521, 9522, 9521-W, 9522-W, 9518

MAJOR COMPONENTS

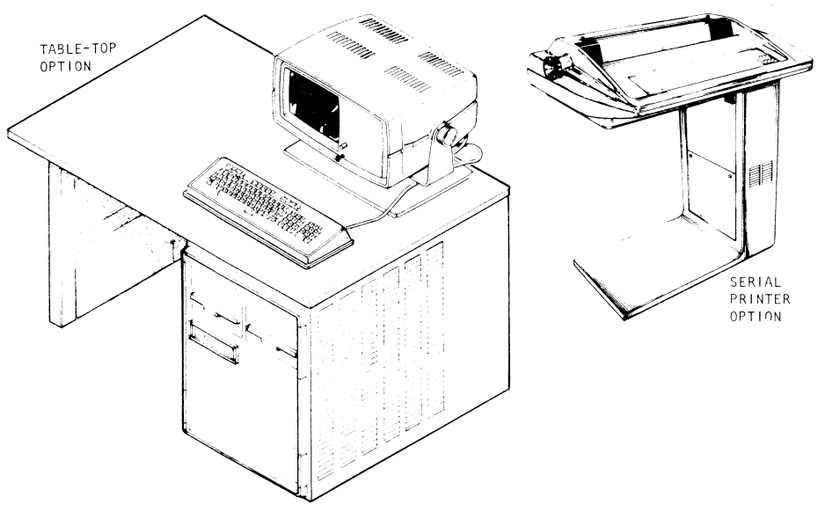
COMPONENT	MOUNTING LOCATION	NOTES
LOW-BOY CABINET 1148-CS	FREE STANDING	
LOW-BOY CABINET/TABLE 1148-BS	FREE STANDING	OPTION
CPU/TERMINAL 005-016081 (120 VAC)	FREE STANDING	
TABLE-TOP ADD-ON, 1249	1148-CS CABINET	UPGRADE OPTION
KEYBOARD (SEE VERSIONS LISTING)	FREE STANDING	
DISK/DISKETTE DRIVES (12.5 +1.2 MB) 6101-S	CABINET	MODEL 9521
DISK/DISKETTE DRIVES (25 +1.2 MB) 6104-S	CABINET	MODEL 9522
TP1 SERIAL PRINTER 6041-S (SEE NOTE)	FREE STANDING	OPTION, SEE 010-000094
TP2 SERIAL PRINTER 6076-S (SEE NOTE)	FREE STANDING	OPTION, SEE 010-000214
LETTER QUALITY PRINTER 4320-S (SEE NOTE)	FREE STANDING	OPTION, SEE 010-000248
LETTER QUALITY PRINTER W/SHEET FEED 4322-S (SEE NOTE)	FREE STANDING	OPTION, SEE 010-000248
LINE PRINTER, LP2 (180 CPS) 9179-S	FREE STANDING	OPTION, SEE 010-000195
LINE PRINTER, 9260-S (300 LPM, BAND-TYPE)	FREE STANDING	OPTION, SEE 010-000233
LINE PRINTER, 9261-S (240 LPM, BAND-TYPE)	FREE STANDING	OPTION, SEE 010-000233
LINE PRINTER CONTROLLER PCB	CPU/TERMINAL	P/O LINE PRINTER OPTION
DUAL DISKETTE DRIVES (2.4 MB) 6096-D	CABINET	MODELS 9521-W, 9522-W
DISK 6102-SD (12.5 MB)	CABINET	MODEL 9521-W
DISK 6105-SD (25 MB)	CABINET	MODEL 9522-W
DISK 6102-S (12.5 MB)	EXPANSION CABINET	EXPANSION OPTION
DISK 6095-SN	CABINET	MODEL 9518
DISK 6095-S	EXPANSION CABINET	EXPANSION OPTION
DISK 6105-S (25MB)	EXPANSION CABINET	EXPANSION OPTION
LOW-BOY CABINET 1148-CS (FOR EXPANSION DISK)	FREE STANDING	OPTION

BTU'S/HR

COMPONENT	BTU'S
CPU/TERMINAL	329
DUAL DISKETTE DRIVES	491
DISK (6102-S, 6105-S)	1159
DISK/SINGLE DISKETTE DRIVE	1500

M1000 SUBSYSTEM COMPONENT BREAKDOWN (CONT)

DISK-BASED MOD 30 CONFIGURATION
MODELS 9519, 9523, 9524, 9523-W, 9524-W



MAJOR COMPONENTS

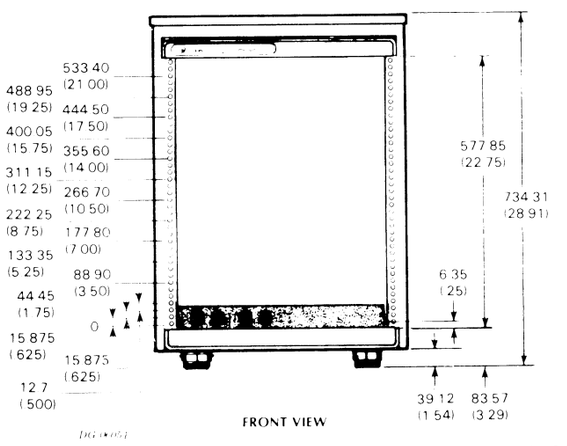
COMPONENT	MOUNTING LOCATION	NOTES
LOW-BOY CABINET 1148-CS	FREE STANDING	
LOW-BOY CABINET/TABLE 1148-BS	FREE STANDING	OPTION
CPU/TERMINAL 005-016081 (120 VAC)	FREE STANDING	
TABLE-TOP ADD-ON	1148-CS CABINET	UPGRADE OPTION
KEYBOARD 005-015872	FREE STANDING	
DISK/DISKETTE DRIVES (12.5 + 1.2 MB) 6101-S	CABINET	MODEL 9523
DISK/DISKETTE DRIVES (25 + 1.2MB) 6104-S	CABINET	MODEL 9524
DUAL DISKETTE DRIVES (2.4 MB) 6096-SD	CABINET	MODELS 9523-W, 9524-W
ASYNC/MUX/CONV PANEL PCB 005-015626	CABINET	
SYSTEM TERMINALS, D2, 6053-M,J (RS232)	FREE STANDING	OPTION, SEE 010-000098
SYSTEM TERMINALS, D200, 6108-M,N,J (RS232/20mA)	FREE STANDING	OPTION, SEE 010-000241
SYSTEM TERMINALS, D3, 6093-M,J	FREE STANDING	OPTION, SEE 010-000215
SYSTEM TERMINALS, D4, 6120-M	FREE STANDING	OPTION, SEE 010-000235
TP1 SERIAL PRINTER 6041-S,M,J	FREE STANDING	OPTION, SEE 010-000094
TP2 SERIAL PRINTER 6076-S,M,J	FREE STANDING	OPTION, SEE 010-000214
LETTER QUALITY PRINTER 4320-S	FREE STANDING	OPTION, SEE 010-000248
LETTER QUALITY PRINTER/SHEET FEED 4322-S,M,J	FREE STANDING	OPTION, SEE 010-000248
LINE PRINTER, LP2, (180 CPS) 9179-T,S	FREE STANDING	OPTION, SEE 010-000195
LINE PRINTER, (300 LPM, BAND-TYPE) 9260-T,S	FREE STANDING	OPTION, SEE 010-000233
LINE PRINTER, (240 LPM, U/LC, BAND-TYPE) 9261-T,S	FREE STANDING	OPTION, SEE 010-000233
DISK, 6102-SD (12.5 MB)	CABINET	MODEL 9523-W
DISK, 6105-SD (25 MB)	CABINET	MODEL 9524-W
DISK, 6102-S (12.5MB)	EXPAN CABINET	EXPANSION OPTION
DISK, 6105-S (25 MB)	EXPAN CABINET	EXPANSION OPTION
DISK, 6095-SN (10 MB)	CABINET	MODEL 9519
DISK, 6095-S	EXPAN CABINET	EXPANSION OPTION
LOW-BOY CABINET 1148-CS (FOR EXPANSION DISK)	FREE STANDING	OPTION

BTU'S/HR

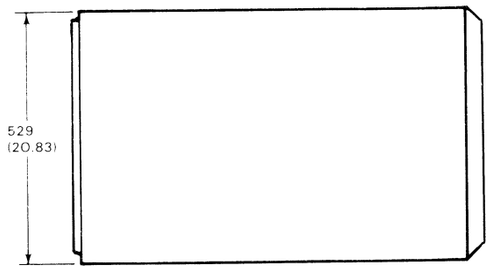
COMPONENT	BTU'S
CPU/TERMINAL/ASYNC PCB	375
DUAL DISKETTE DRIVES	491
DISK (6102-S, 6105-S)	1159
DISK/SINGLE DISKETTE DRIVE	1500

INSTALLATION SPECIFICATIONS

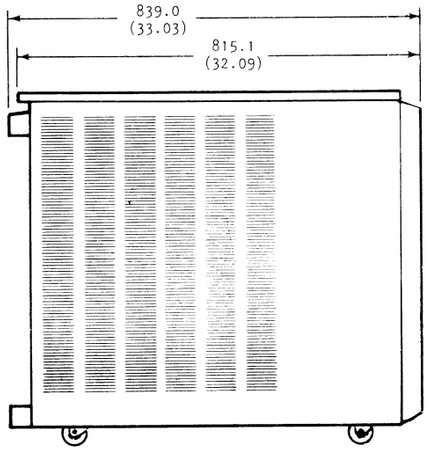
CABINET



FRONT VIEW



TOP VIEW



SIDE VIEW

1148-CS

CABINET WITH "BENCH" TOP

DIMENSIONS:	Width	Depth	Height
Millimeters	529	805	734.3
Inches	(20.8)	31.7	28.9

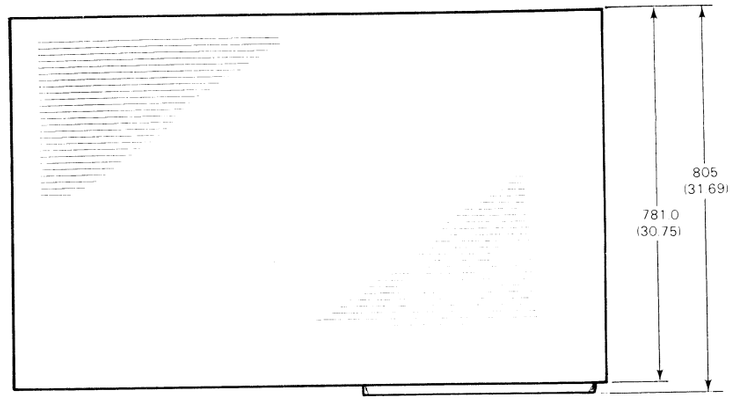
SERVICE CLEARANCES:	Front	Right	Left	Rear
Millimeters	800	152.4	152.4	609.6
Inches	31.5	6	6	24

WEIGHT:	Cabinet	Cab. Top	Anti-Tip Legs
Kilograms	30.8	6.35	4.54
Pounds	68	14	10

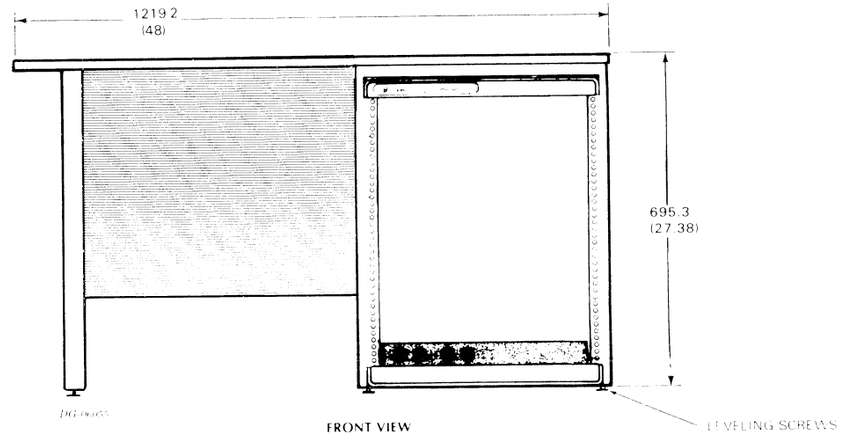
CABLES:
Primary Power

	Length	Conn	Mating Conn
Domestic 60Hz	1.8m(6')	5-15P	5-15R

POWER AVAILABLE
Internal Receptacles 12A (Limited by cable)



TOP VIEW



FRONT VIEW

1148-BS

CABINET WITH "DESK" TOP

DIMENSIONS:	Width	Depth	Height
Millimeters	1219.2	805	695.3
Inches	48	31.7	(27.38)

SERVICE CLEARANCES:	Front	Right	Rear
Millimeters	800	152.4	609.6
Inches	31.5	6	24

WEIGHT:	Cabinet	Cab. Top
Kilograms	30.8	19.5
Pounds	68	43

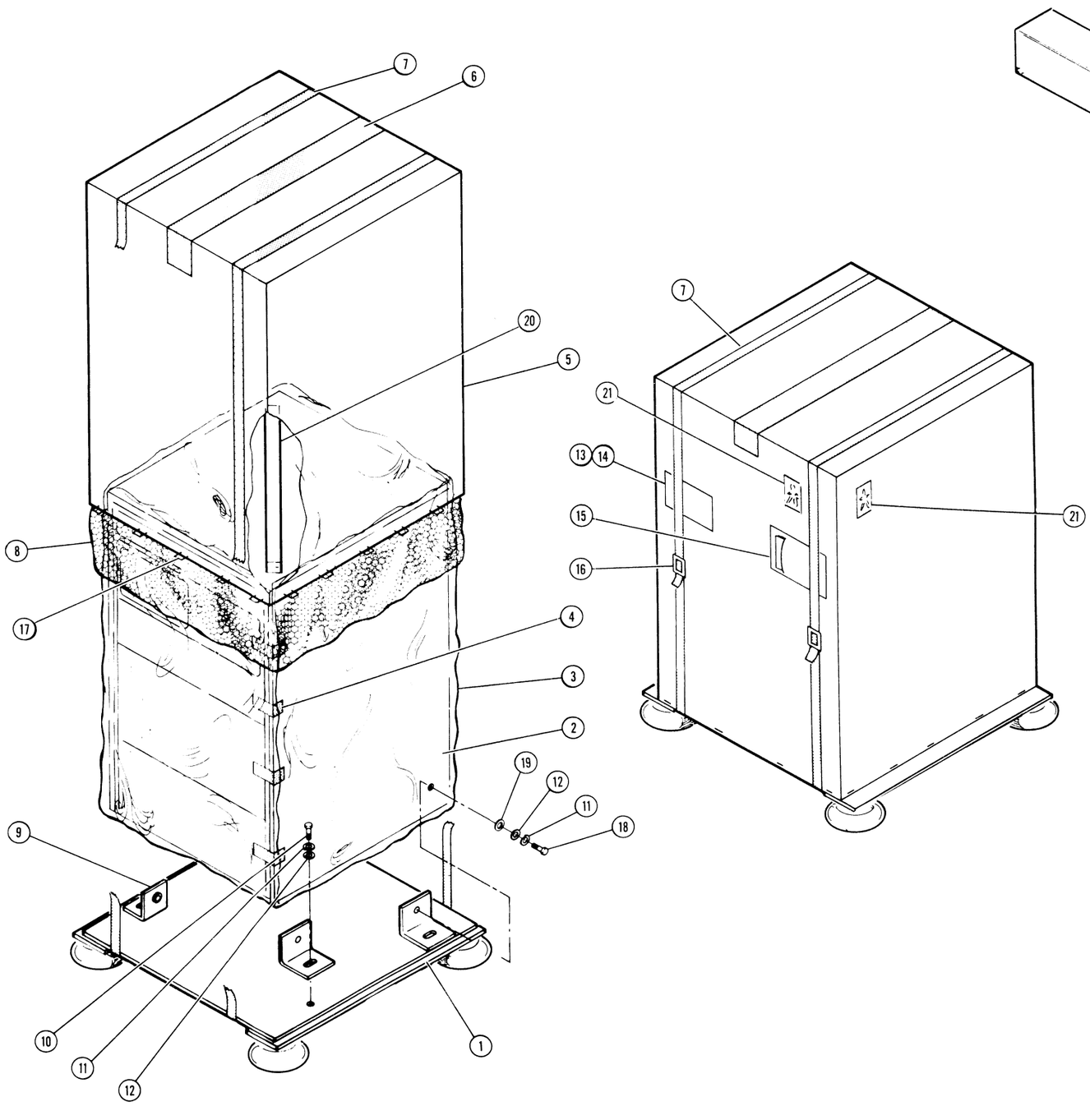
CABLES:
Primary Power

	Length	Conn	Mating Conn
Domestic 60Hz	1.8m(6')	5-15P	5-15R

POWER AVAILABLE
Internal Receptacles 12A (Limited by cable)

SHIPPING

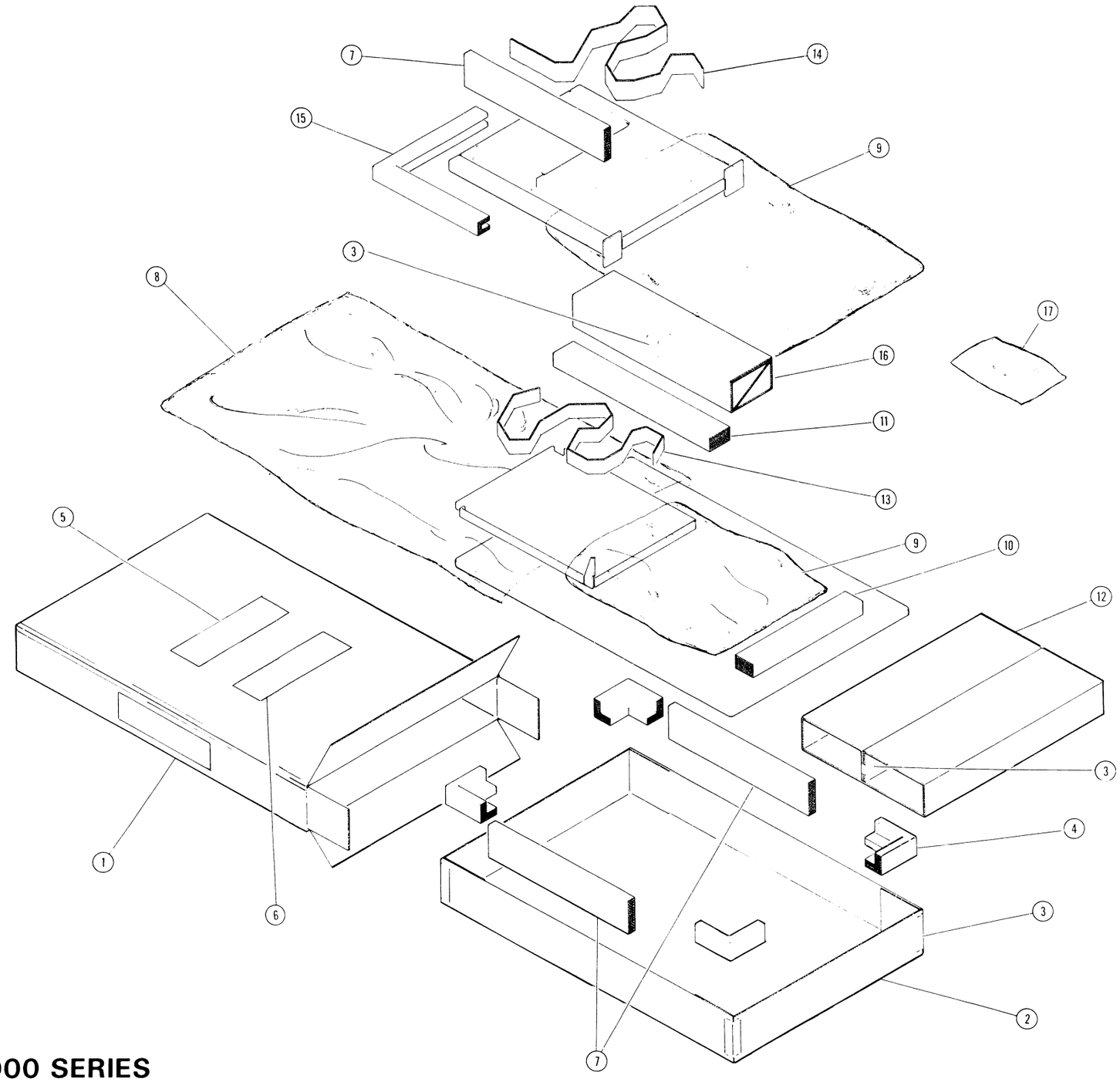
CABINET



ITEM	QTY	DESCRIPTION	PART NO.
21	2	TIP-N-TELL INDICATOR	129-000469
20	1	ANTI-TIP LEG ASSEMBLY	005-014148
	4	END CAP	123 001490
	1	BOX	129-000442
	1	"Z" DIVIDER	129-000443
	1	ANTI-TIP LEG, LEFT-HAND	002-011159
	1	ANTI-TIP LEG, RIGHT-HAND	002-011156
	4	SCREW, SOCKET HEAD, 5/16 - 18 x 0.75	106-001567
	A/R	TAPE, FILAMENT, 2"	129-000370
	1	POLYBAG	129-000045
19	4	WASHER, NYLON, .375 ID x .750	106-000975
18	4	SCREW, HEX HEAD, 5/16 - 18 x 1"	106-001592
17	A/R	STAPLE, 1" CROWN, 1" LEG	129-000165
16	2	BUCKLE, AVB - 4	129-00002,
15	1	ENVELOPE, PACKING LIST, 6 3/4 x 5"	129-000042
14	A/R	WATER GLASS	
13	1	SHIPPING LABEL	129-000030
12	8	WASHER, FLAT, 3/8"	106-000621
11	8	WASHER, LOCK, SPLIT, 3/8"	106-000622
10	4	SCREW, HEX HEAD, 3/8 - 16 x 1"	106-000618
9	4	BRACKET, SHIPPING	002-011328
8	6ft	AIRCAP	129-000035
7	45ft	STRAPPING, POYPROPYLENE	129-000123
6	54in	TAPE. CLOSURE	129-000027
5	1	HALF SLOTTED CONTAINER	129-000146
4	A/R	TAPE, FILAMENT, 2"	129-000370
3	1	POLYBAG	129-000448
2	1	CABINET, 28"	
1	1	PALLET	129-000447

SHIPPING (CONT)

DESK TOP
(OPTIONAL)



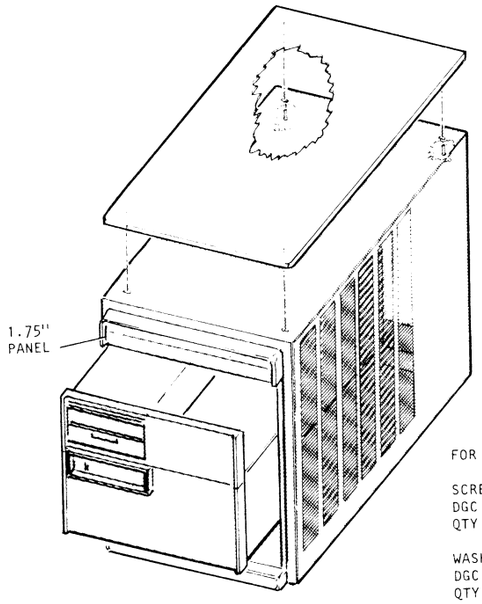
ITEM	QTY.	DESCRIPTION	PART NO.
17	1	HARDWARE KIT	305 015437
16	1	CORRUGATED RAT TRAP	129 000463
15	1	CORRUGATED CORNER CHANNEL	129 000451
14	1	CORRUGATED PAD 70 x 1524 (2.75" x 60")	129 000465
13	1	CORRUGATED PAD 51 x 1524 (2" x 60")	129 000466
12	1	CORRUGATED RAT TRAP	129 000462
11	1	CORRUGATED PAD, PERFORATED	129 000450
10	1	CORRUGATED PAD, PERFORATED	129 000467
9	2	POLY BAG, GUSSETTED	129 000456
8	1	POLY BAG, FLAT	129 000454
7	3	CORRUGATED PAD 127 x 610 (5" x 24")	129 000468
6	1	PACKING LIST ENVELOPE	129 000042
5	1	DGC SHIPPING LABEL	129 000030
4	4	CORRUGATED PAD, CORNER	129 000452
3	15ft	REINFORCED SEALING TAPE	129 000027
2	1	CORRUGATED TRAY	129 000464
1	1	FOL OVERLAPPING CONTAINER	129 000453

MOUNTING CABINET TOPS

CAUTION

BEFORE PLACING DISK UNIT IN SERVICE POSITION (UNIT WITHDRAWN FROM THE CABINET), MAKE CERTAIN THAT THE ANTI-TIP BARS (EITHER FIXED OR RETRACTABLE) ARE INSTALLED AND IN FUNCTIONING POSITION.

"BENCH" TOP

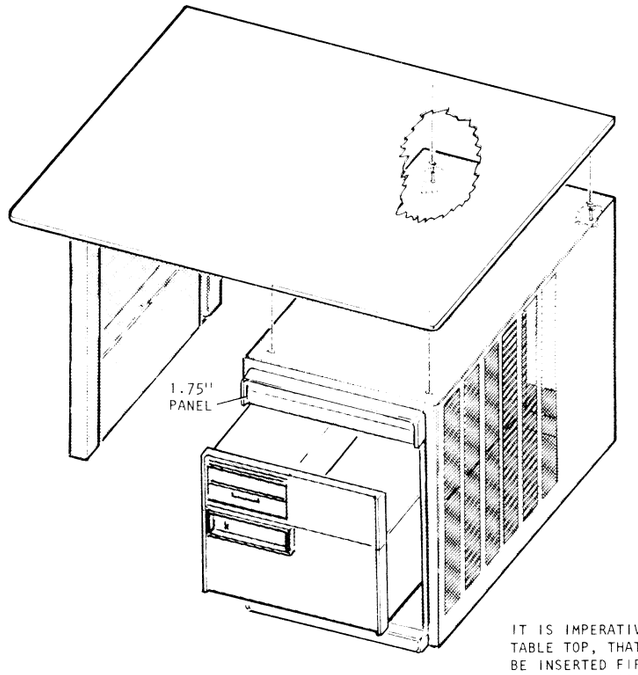


FOR MOUNTING TOP:

SCREW, 10-32×$\frac{1}{2}$
DGC 106-000353
QTY 4

WASHER, FLAT, #10
DGC 106-000263
QTY 4

"DESK" or LARGE TABLE TOP (OPTIONAL)



FOR ASSEMBLING AND MOUNTING TOP:

SCREW, 10-32×$\frac{1}{2}$
DGC 106-000353
QTY 10

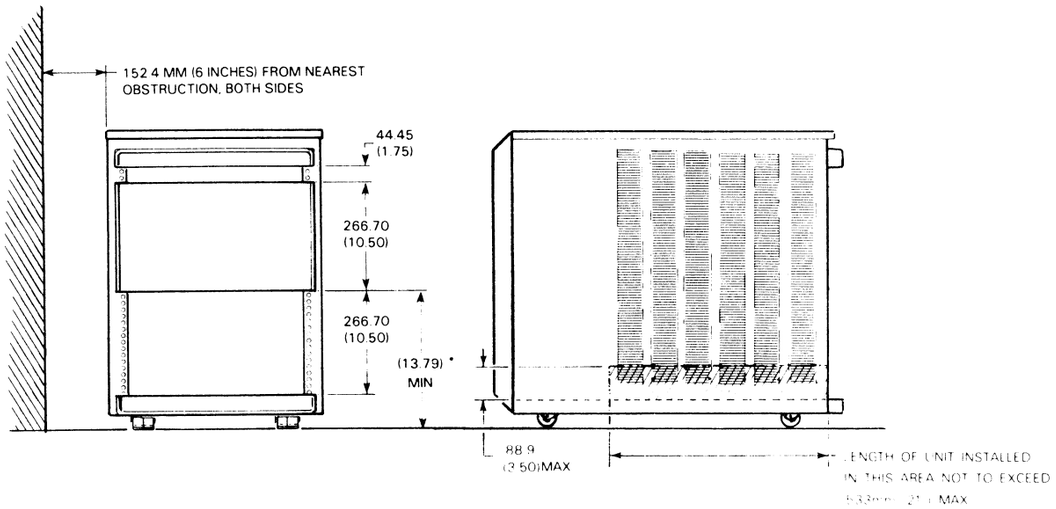
WASHER, FLAT, #10
DGC 106-000263
QTY 10

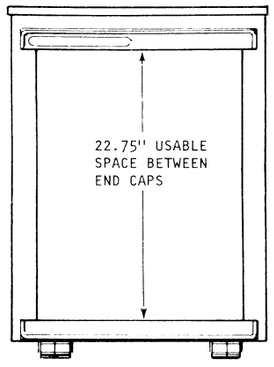
IT IS IMPERATIVE, WHEN MOUNTING THE LARGE TABLE TOP, THAT THE TWO REAR MOUNTING SCREWS BE INSERTED FIRST AND TIGHTENED. THEN SLIDE THE TOP CHASSIS OUT FULLY TO ACCESS THE FRONT MOUNTING LOCATIONS. INSERT TWO SCREWS AND TIGHTEN.

WITH DUAL DISKETTE DRIVES, ACCESS TO THE TWO TOP SCREWS IS OBTAINED BY REMOVING THE 1.75" FILLER PANEL (TOP FRONT).

RACK MOUNTING

SOME CONFIGURATION CONSTRAINTS

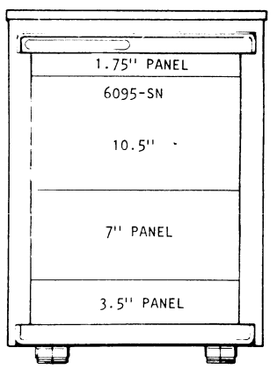




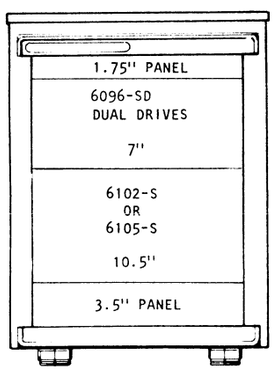
* 13.79" FALLS BETWEEN THE HALF INCH SPACING REQUIRED BY NEMA STANDARDS. HOWEVER, DUE TO TOLERANCES THIS NUMBER IS ONLY AN APPROXIMATION

DIMENSIONS ARE IN MILLIMETERS. DIMENSIONS IN PARENTHESES ARE INCHES FOR REFERENCE

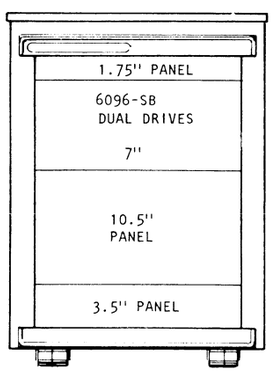
CABINET CONFIGURATIONS



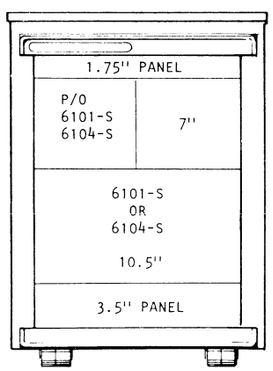
MOD 15, 30 CARTRIDGE DISK



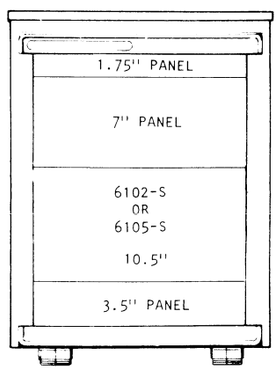
MOD 15, 30 FIXED DISK/DUAL DISKETTE ("W" SUFFIX MODELS)



MOD 10 DISKETTE



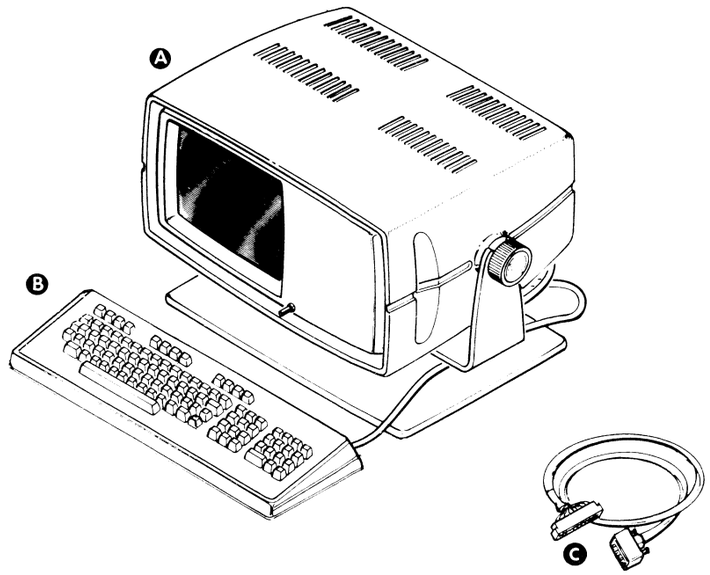
MOD 15, 30 FIXED DISK/DISKETTE

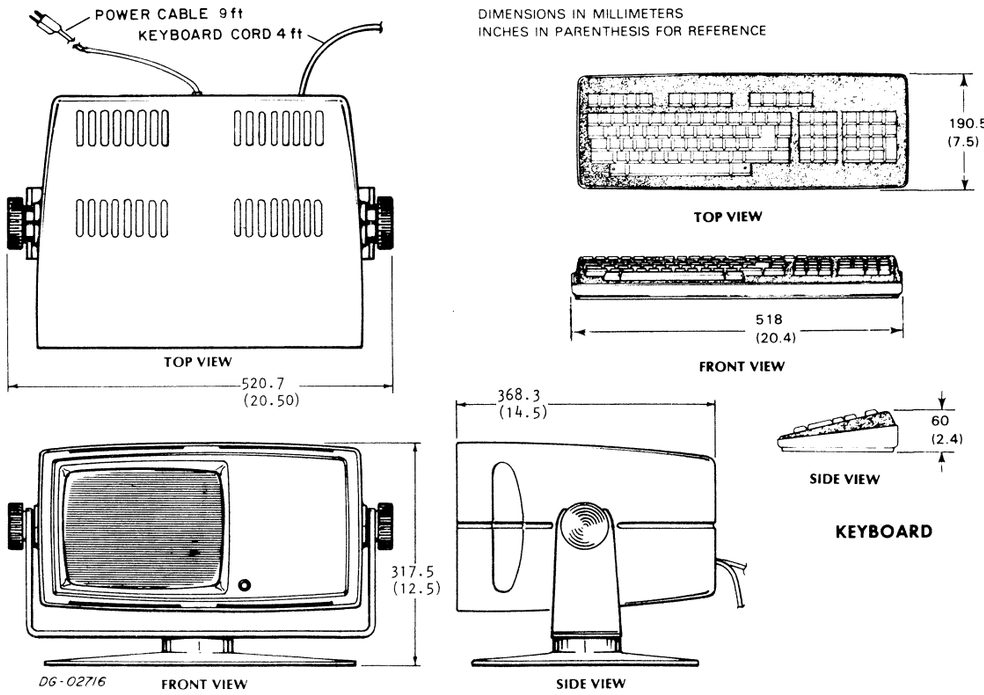


EXPANSION DISC

ALL LOWBOY CABINET CONFIGURATIONS REQUIRE ANTI-TIP LEGS.

INSTALLATION SPECIFICATIONS
CPU/TERMINAL





MAJOR COMPONENT

ITEM	COMPONENT	MOUNTING LOCATION	NOTES
A	DISPLAY	FREE-STANDING	
B	KEYBOARD	FREE-STANDING	CONNECTED TO DISPLAY BY INTEGRAL CABLE

CABLE

ITEM	CABLE	CONNECTING	MAX LGTH FT / M	NOTES
C	005-15746	TERMINAL, DISKETTE DRIVES	15 / 4.6	MODEL 9520
	005-15745	TERMINAL, FIXED DISK	15 / 4.6	MODELS 9521, 9522 (W)
	005-15737	TERMINAL, ASYN. MUX PCB	10 / 3.0	MODELS 9523, 9524 (W)

DIMENSIONS: DISPLAY	Width	Depth	Height
Millimeters	52.1	36.8	31.8
Inches	20.5	14.5	12.5

DIMENSIONS: KEYBOARD	Width	Depth	Height
Millimeters	518	190.5	60
Inches	20.4	7.5	2.4

WEIGHT:	Display	Keyboard
Kilograms	17	1.6
Pounds	45	3.5

OPERATING ENVIRONMENT:

Temperature (max)	10°to 38°C (50°to 100°F)
Relative Humidity (max)	20-80% non-condensing

POWER REQUIREMENTS:

(Domestic)	
Voltage	120
Hz	60 ± 1
Amp per Phase	3.0
Phase	1

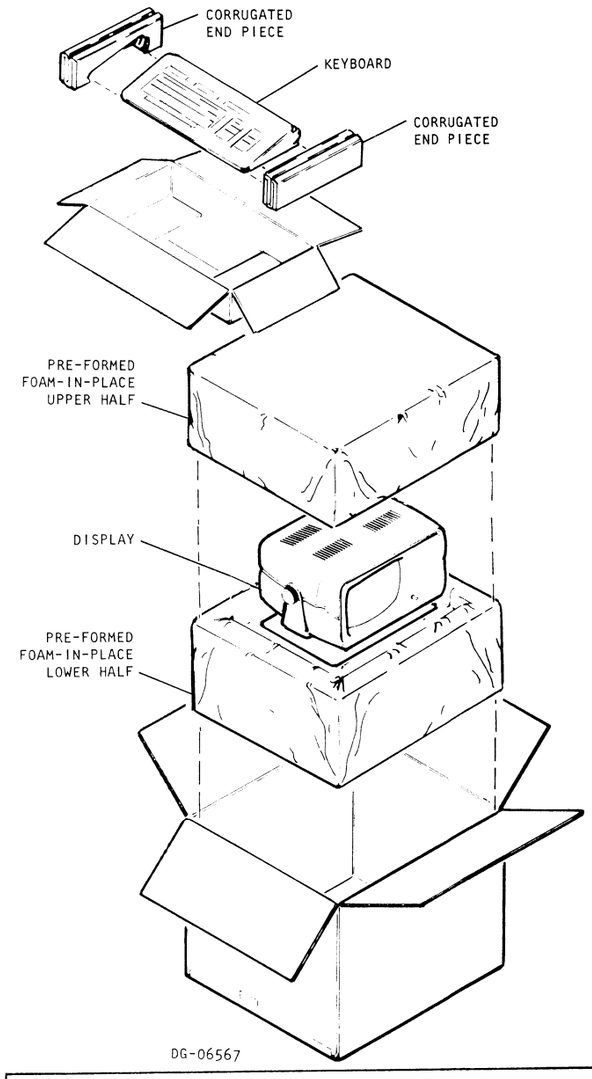
CABLES:

	Length
Primary Power	2.74m(9')

POWER AVAILABLE:

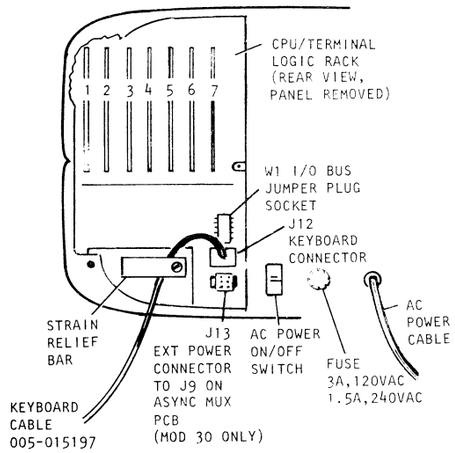
Internal Receptacles	120V
Domestic (NEMA)	5-15R

SHIPPING



SHIPPING AND PACKAGE DATA					
Outside Dimensions			Weight (Gross)	Volume	Density
Length	Width	Depth			
in. / cm	in. / cm	in. / cm	lbs. / kg	cu ft. / cu m	lbs/cu ft / kg/cu m
19.5 / 50	25.5 / 65	25 / 64	59 / 26.8	7.2 / 0.2	8.2 / 134
SHIPPING SPECIFICATIONS			STORAGE SPECIFICATIONS		
Temperature Range °F / °C	Relative Humidity (Non-condensing)	Maximum Altitude	Temperature Range °F / °C	Relative Humidity (Non-condensing)	Maximum Period
-40 to 150 / -40 to +65	0 - 80%	15,240m 50,000ft	-40 to 150 / -40 to +65	0 - 80%	90 DAYS

INSTALLATION SPECIFICATIONS
CPU/TERMINAL

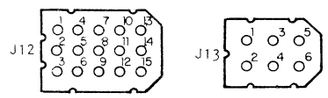


REAR CONNECTIONS

J12 KEYBOARD CONNECTOR

PIN NO.	SIGNAL	PIN NO.	SIGNAL	PIN NO.	SIGNAL
1	GND	6	KBD 6	11	KBD 0
2	KBD STB*	7	KBD 3	12	HOLD*
3	KBD 5	8	KBD 4	13	KBD ENAB
4	GND, CHASSIS	9	KBD 2	14	KRPT CLK
5	KBD 7	10	KBD 1	15	+5 VDC

* NEGATED SIGNAL



J13 EXTERNAL POWER CONNECTOR

PIN NO.	SIGNAL	PIN NO.	SIGNAL	PIN NO.	SIGNAL
1	-12 VDC	3	GND	5	+5 VDC
2	-5 VDC	4	GND	6	+12 VDC

CHASSIS SLOT ASSIGNMENTS

SLOT	MOD 10 - 9520	MOD 15 - 9518, 9521(W), 9522(W)	MOD 30 - 9519, 9523(W), 9324(W)
1	DISKETTE CONTROLLER (P/O 6096-SB)	ASYNC INTERFACE/PIO INTERFACE (NOTE 3)	ASYNC INTERFACE
2	PROCESSOR/MEMORY (1PM-1, 64KB)	PROCESSOR/MEMORY (1PM-1, 64KB)	PROCESSOR/MEMORY (1PM-1, 64KB)
3	ASYNC INTERFACE	ASYNC INTERFACE (NOTE 3)	
4	ASYNC INTERFACE (NOTE 4)	ASYNC INTERFACE (NOTE3)	
5			
6	PROCESSOR/RAM/ROM (1PM-1, 4KB)	PROCESSOR/RAM/ROM (1PM-1, 4KB)	PROCESSOR/RAM/ROM (1PM-1, 4KB)
7	VIDEO INTERFACE (1PM-2A)	VIDEO INTERFACE (1PM-2A)	VIDEO INTERFACE (1PM-2A)

NOTES:
1. MOD 10, 15 REQUIRE I/O BUS JUMPER PLUG (111-001353) BE REMOVED FROM SOCKET 1.
2. MOD 30 REQUIRES BUS JUMPER PLUG (111-001353) BE REMOVED FROM SOCKET W1.
3. PRIMARY ASYNC INTERFACE (DEVICE CODE 10, 11) GOES IN SLOT 3 IF PARALLEL PRINTERS ARE CONFIGURED. OPTIONAL SECONDARY ASYNC INTERFACE (DEVICE CODE 50, 51) GOES IN SLOT 3 IF THERE IS NO PARALLEL PRINTER; OTHERWISE IT GOES IN SLOT 4.
4. PRIMARY INTERFACE (DEVICE CODE 10, 11) GOES IN SLOT 3. OPTIONAL SECONDARY ASYNC INTERFACE (DEVICE CODE 50, 51) GOES IN SLOT 4.

COMPONENT POWER REQUIREMENTS (Amps)

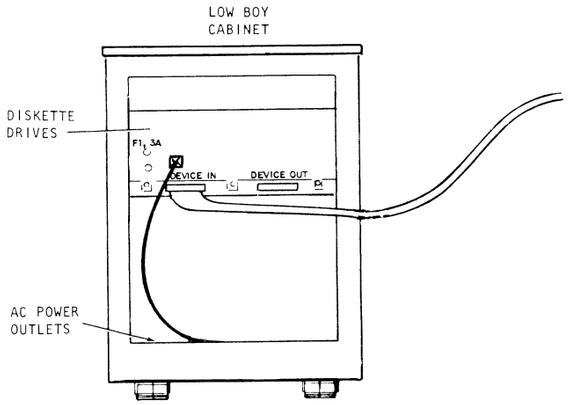
COMPONENT	+5V	+12V	-5V	-12V
PROCESSOR/MEMORY	1.30	.30	.01	—
PROCESSOR/RAM/ROM	1.10	.04	.01	—
VIDEO INTERFACE	1.30	.02	—	.05
DISKETTE CONTROLLER	1.25	.02	.02	—
ASYNC MUX (EXT POWER CONN.)(MOD 30 ONLY)	1.90	.08	.03	.09
LINE PRINTER CONTROLLER	.50	.12	.03	-
KEYBOARD	.35	—	—	—
VIDEO MONITOR	—	1.20	—	—
ASYNC INTERFACE	.53	.08	.02	—
MAXIMUM POWER AVAILABLE (PS) (NOTE 1)	12	1 - LOGIC 1.5 - VM NOTE 2	.12	.10

NOTES:
1. THE MAXIMUM POWER AVAILABLE RATINGS ARE BASED ON CONTINUOUS OPERATION WITHOUT FAN COOLING.
2. THE +12VDC SOURCE HAS TWO BRANCHES: ONE FOR LOGIC, AND ONE FOR VIDEO MONITOR.

UNIT INTERCONNECTION DIAGRAM

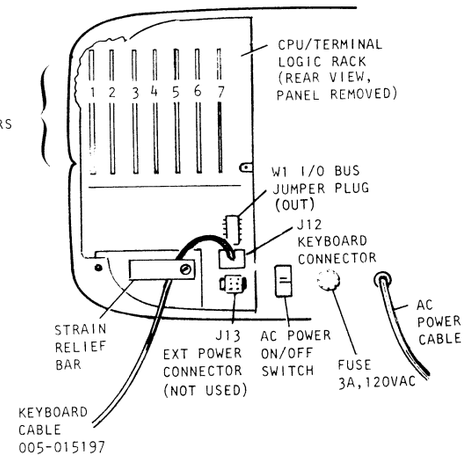
MOD 10 SYSTEMS

MODEL 9520

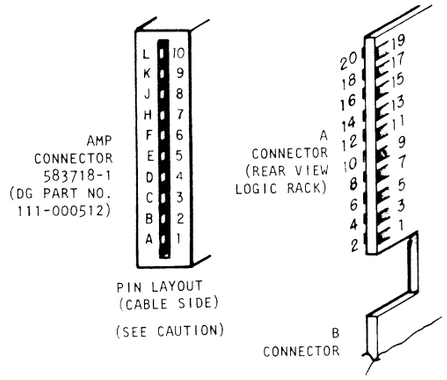


DESTINATION	CABLE NO.	TERMINAL CONNECTOR
DISKETTE DRIVE	005-015746	SLOT 1
TP1 OR TP2 PRINTER	005-014757	SLOT 4
LETTER QUAL. PRINTER	005-014756	SLOT 4

"A" CONNECTORS



ASYNC INTERFACE



PIN ASSIGNMENTS (NOTE)

PIN	SIGNAL
1	GROUND
4	RCV DATA
5	XMIT DATA

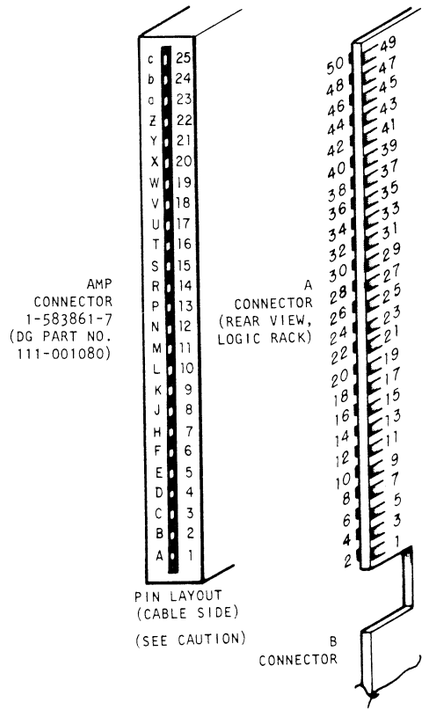
NOTE: PIN NUMBERS REFERENCED TO CONNECTOR A, ASYNC INTERFACE

SERIAL PRINTER CONNECTIONS (MOD 10, 15)

CAUTION

TAKE CARE THAT THE CABLE CONNECTOR IS INSTALLED WITH ITS KEY FITTING INTO THE MATCHING SLOT OF THE PCB's "A" CONNECTOR (PIN 1 OF THE CABLE CONNECTOR MUST MATE WITH PIN 1 OF THE PCB CONNECTOR).

LINE PRINTER
CONTROLLER PCB
(SLOT 1)



PIN ASSIGNMENTS (NOTE)

PIN	SIGNAL
1	PSTRB
2	GND
3	PB1
4	GND
5	PB2
6	GND
7	PB3
8	GND
9	PB4
10	GND
11	PB5
12	GND
13	PB6
14	GND
15	PB7
16	GND
17	VFU
18	GND
19	DEMAND
20	GND
27	READY
28	GND

NOTE: PIN NUMBERS REFERENCED TO CONNECTOR A OF CONTROLLER PCB.

LINE PRINTER CONNECTIONS (MOD 15)

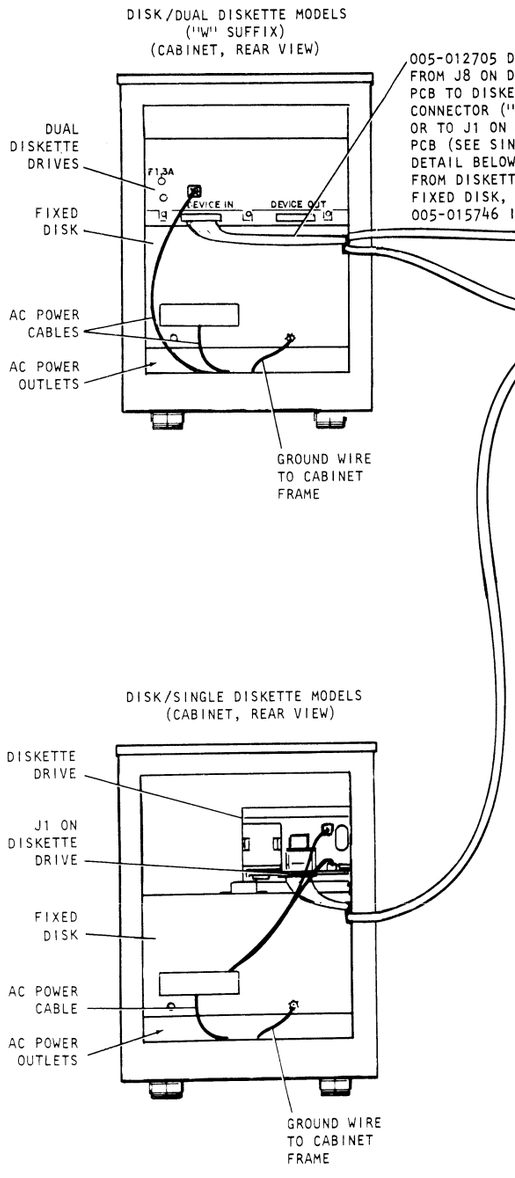
UNIT INTERCONNECTION DIAGRAM

MOD 15 SYSTEMS

MODELS 9521, 9521-W, 9522, 9522-W

CAUTION

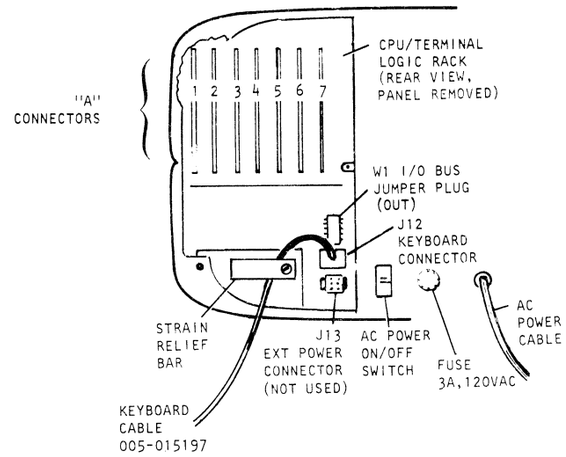
WHEN MAKING CONNECTION TO THE IPM1 "A", CONNECTOR, TAKE CARE THAT THE CONNECTOR IS INSTALLED WITH THE KEY FITTING INTO THE MATCHING SLOT OF THE "A" CONNECTOR. IF FOR SOME REASON THE KEY IS MISSING, ORIENT THE CONNECTOR SO THAT PIN 1 OF THE CONNECTOR MATCHES PIN 1 ON THE PCB. (PIN 1 IS AT THE BOTTOM OF THE "A" CONNECTOR). IF THE CONNECTOR IS INSTALLED THE OPPOSITE WAY, CIRCUIT IC's CAN BE DAMAGED WHEN POWER IS APPLIED.

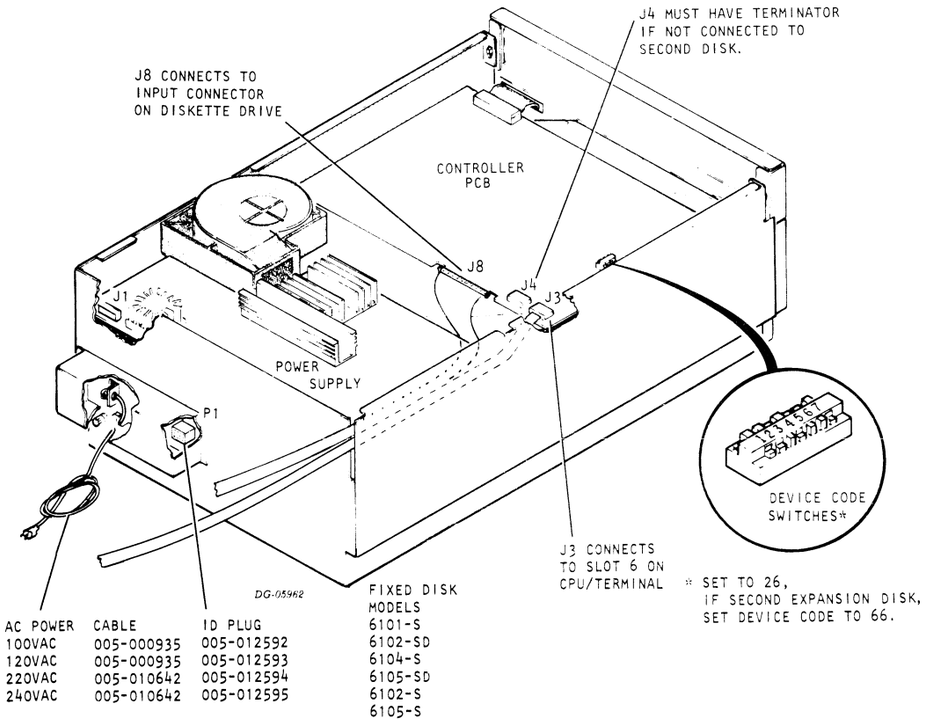


CABLE 005-015742 FROM J4 ON FIRST DISK CONTROLLER PCB TO J3 ON SECOND DISK CONTROLLER (OPTIONAL).

DESTINATION	CABLE NO.	TERMINAL CONNECTOR
TP1 OR TP2 PRINTER	005-014757	SLOT 4 (NOTE)
OR LETTER QUALITY PRINTER	005-014756	SLOT 4 (NOTE)
LINE PRINTER	005-014769	SLOT 1
OR LP2 PRINTER	005-014770	SLOT 1
J3 DISC CONTROLLER	005-015745	SLOT 2 (SEE CAUTION)

NOTE: IF NO LINE PRINTER, PRIMARY ASYNC INTERFACE IS IN SLOT 1 AND SECONDARY ASYNC INTERFACE IS IN SLOT 3.

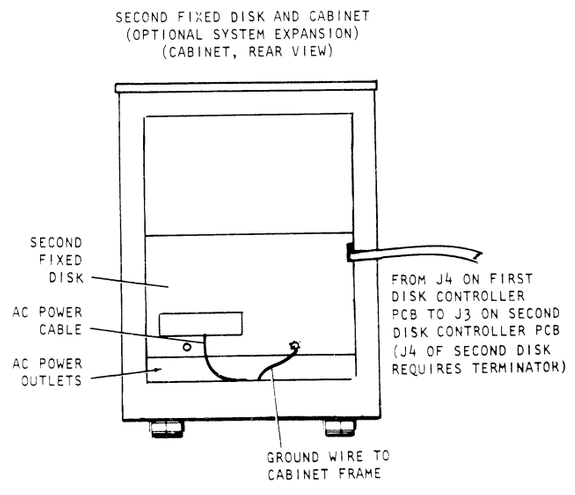




* SET TO 26, IF SECOND EXPANSION DISK, SET DEVICE CODE TO 66.

AC POWER	CABLE	ID PLUG
100VAC	005-000935	005-012592
120VAC	005-000935	005-012593
220VAC	005-010642	005-012594
240VAC	005-010642	005-012595

FIXED DISK MODELS
6101-S
6102-SD
6104-S
6105-SD
6102-S
6105-S



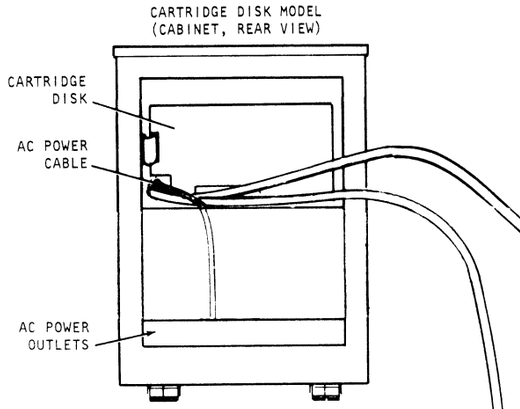
UNIT INTERCONNECTION DIAGRAM

MOD 15, 30 CARTRIDGE DISK SYSTEMS

MODELS 9518, 9519

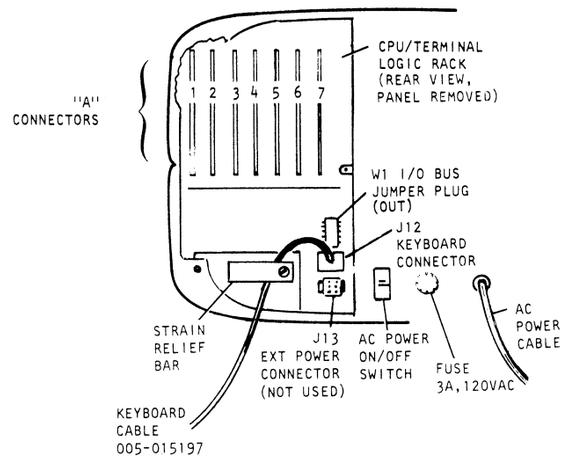
CAUTION

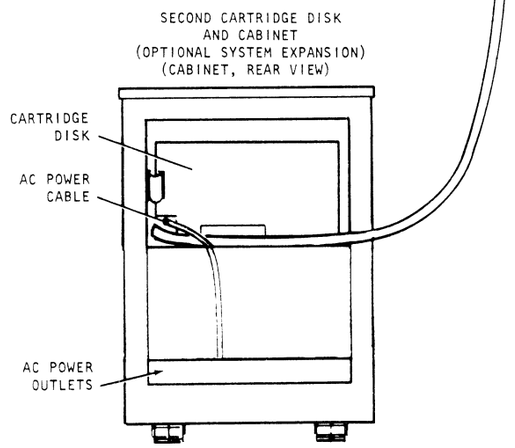
WHEN MAKING CONNECTION TO THE IPM1 "A", CONNECTOR, TAKE CARE THAT THE CONNECTOR IS INSTALLED WITH THE KEY FITTING INTO THE MATCHING SLOT OF THE "A" CONNECTOR. IF FOR SOME REASON THE KEY IS MISSING, ORIENT THE CONNECTOR SO THAT PIN 1 OF THE CONNECTOR MATCHES PIN 1 ON THE PCB. (PIN 1 IS AT THE BOTTOM OF THE "A" CONNECTOR). IF THE CONNECTOR IS INSTALLED THE OPPOSITE WAY, CIRCUIT IC's CAN BE DAMAGED WHEN POWER IS APPLIED.

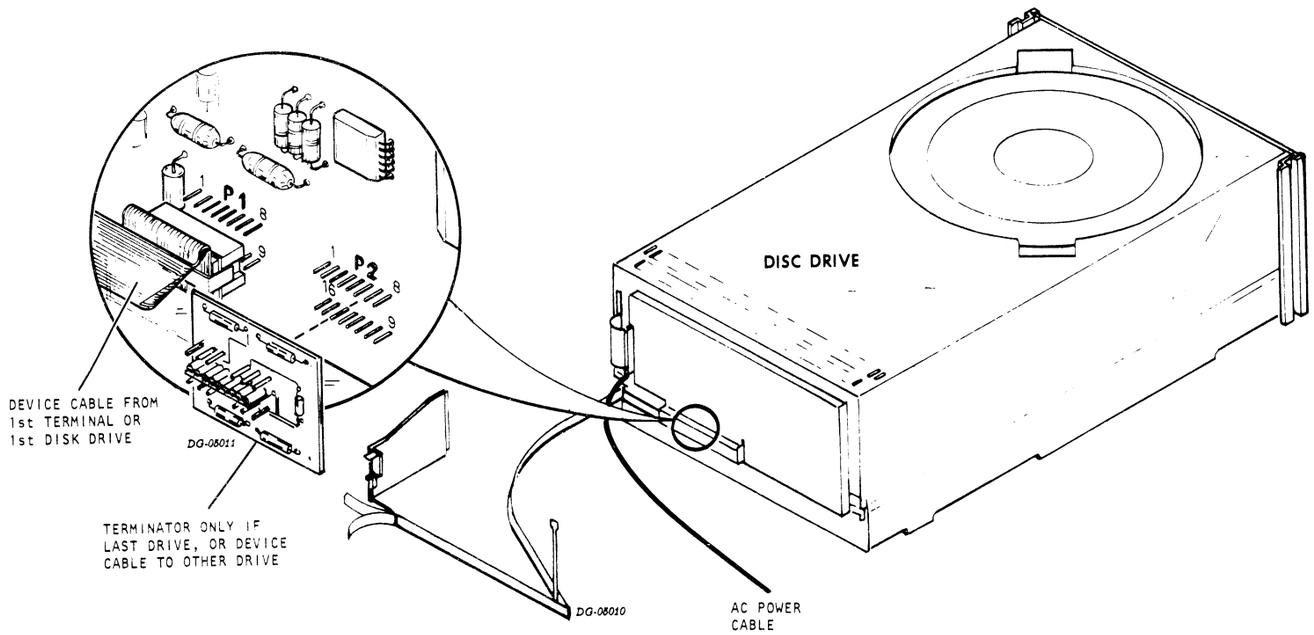


DESTINATION	CABLE NO.	TERMINAL CONNECTOR
TP1 OR TP2 PRINTER	005-014757	SLOT 4 (NOTE)
OR LETTER QUALITY PRINTER	005-014756	SLOT 4 (NOTE)
LINE PRINTER	005-014769	SLOT 1
OR LP2 PRINTER	005-014770	SLOT 1
P1 DISK DRIVE	005-015742	SLOT 2 (SEE CAUTION)

NOTE: IF NO LINE PRINTER, PRIMARY ASYNC INTERFACE IS IN SLOT 1, AND SECONDARY ASYNC INTERFACE IS IN SLOT 3.



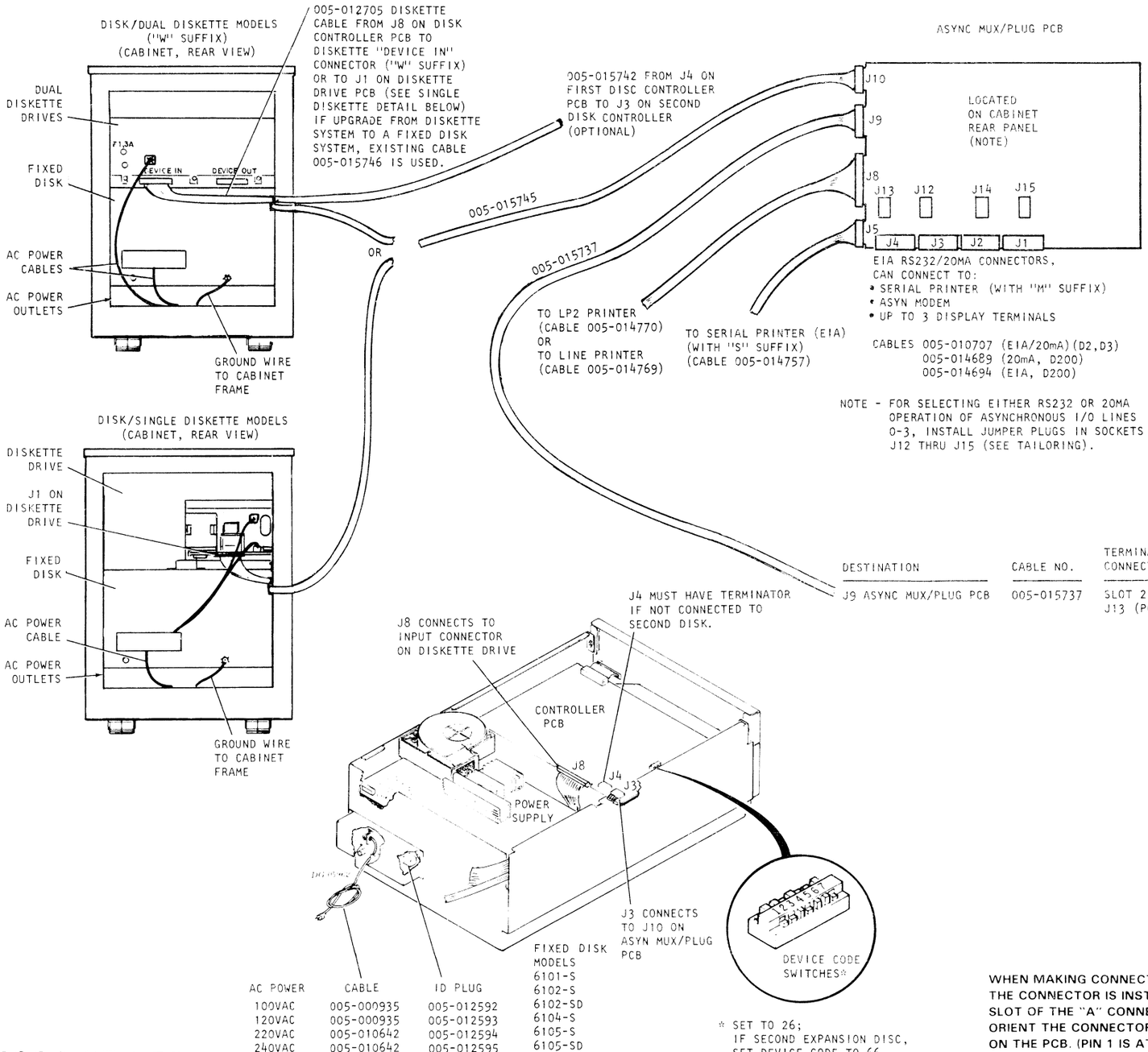




UNIT INTERCONNECTION DIAGRAM

MOD 30 SYSTEMS

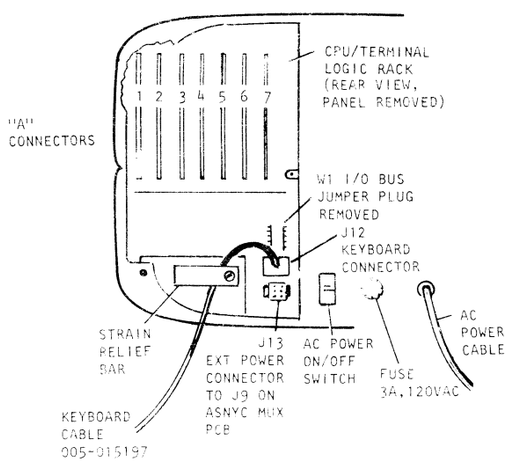
MODELS 9523, 9523-W, 9524, 9524-W



DESTINATION	CABLE NO.	TERMINAL CONNECTOR(S)
J9 ASYNC MUX/PLUG PCB	005-015737	SLOT 2 (SEE CAUTION) J13 (POWER)

AC POWER	CABLE	ID PLUG
100VAC	005-000935	005-012592
120VAC	005-000935	005-012593
220VAC	005-010642	005-012594
240VAC	005-010642	005-012595

* SET TO 26;
IF SECOND EXPANSION DISC, SET DEVICE CODE TO 66.



CAUTION

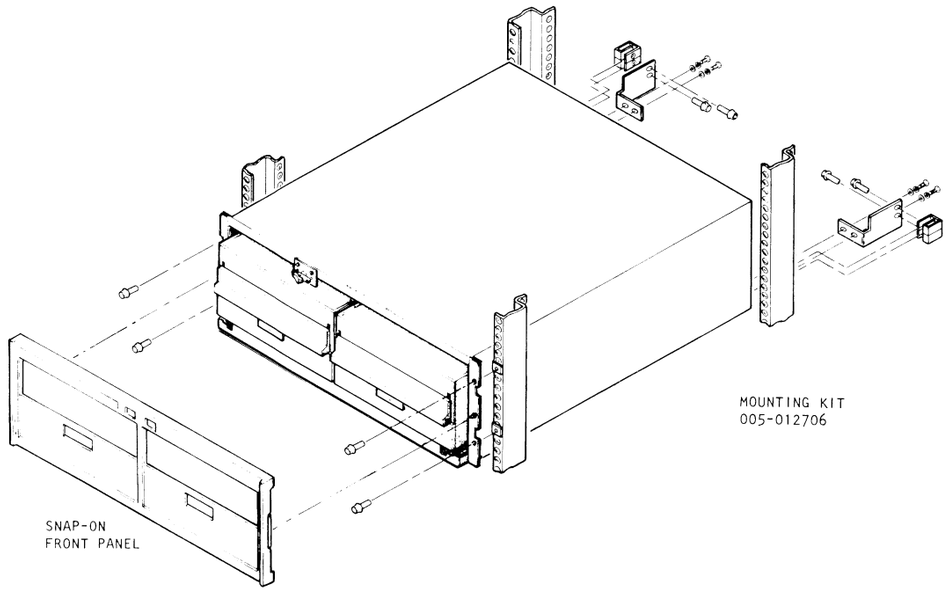
WHEN MAKING CONNECTION TO THE IPM1 "A", CONNECTOR, TAKE CARE THAT THE CONNECTOR IS INSTALLED WITH THE KEY FITTING INTO THE MATCHING SLOT OF THE "A" CONNECTOR. IF FOR SOME REASON THE KEY IS MISSING, ORIENT THE CONNECTOR SO THAT PIN 1 OF THE CONNECTOR MATCHES PIN 1 ON THE PCB. (PIN 1 IS AT THE BOTTOM OF THE "A" CONNECTOR). IF THE CONNECTOR IS INSTALLED THE OPPOSITE WAY, CIRCUIT IC's CAN BE DAMAGED WHEN POWER IS APPLIED.

SYSTEM UPGRADES

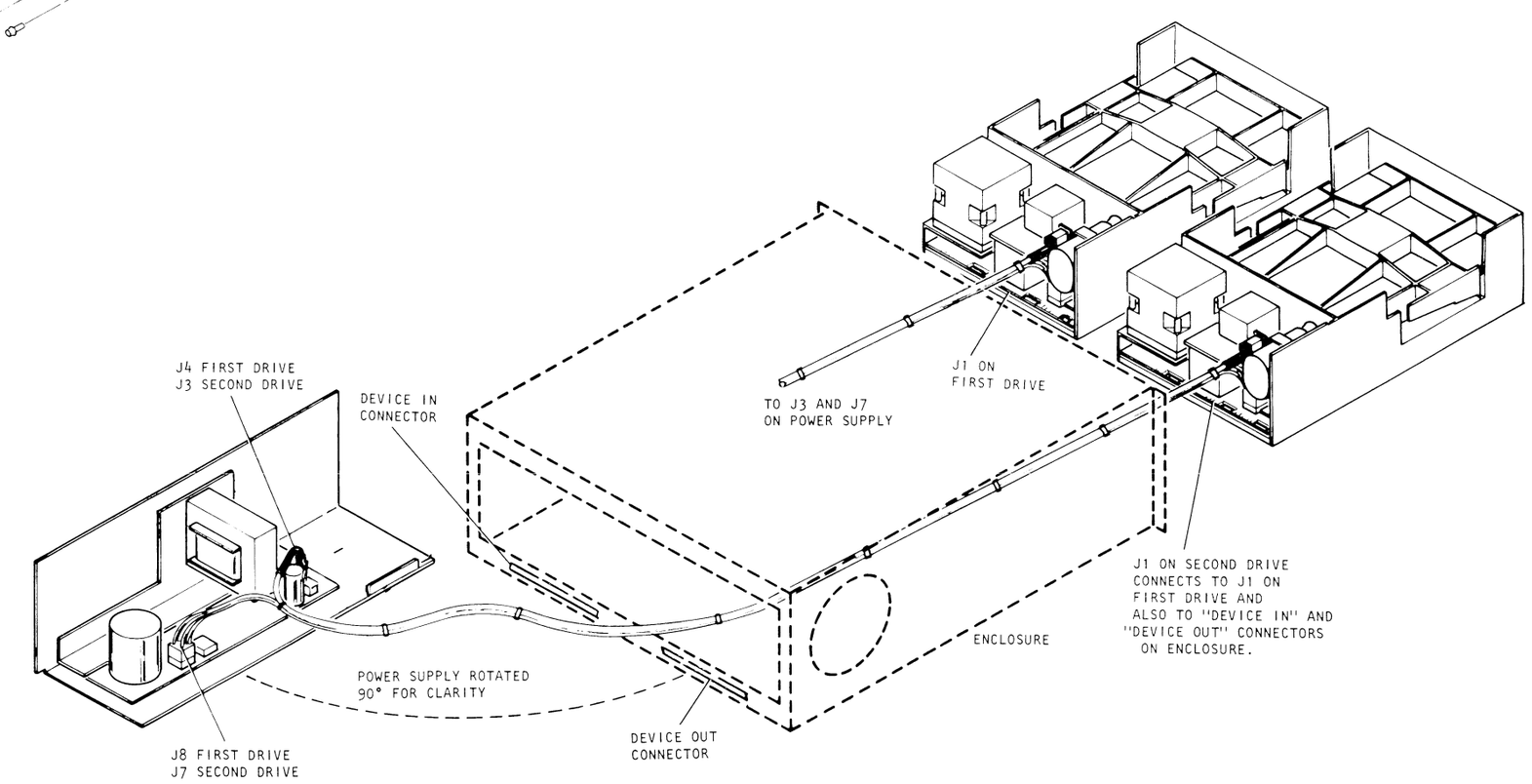
KIT MODEL	UPGRADE	INSTALLATION PROCEDURE
9325	9520 DISKETTE TO 9521-W (12.5MB)	1. REMOVE CABLE 005-15746 BETWEEN CPU/TERMINAL SLOT 1 AND DISKETTE DRIVE INPUT CONNECTOR (SEE UNIT INTERCONNECTION DIAGRAM FOR MOD 10 DISKETTE SYSTEMS. 2. REMOVE DISKETTE CONTROLLER PCB FROM SLOT 1 OF CPU/TERMINAL. 3. INSTALL DISK UNIT IN CABINET (SEE DISK INSTALLATION DETAIL). 4. IF ALSO INSTALLING A LINE PRINTER, INSTALL THE LINE PRINTER CONTROLLER PCB IN SLOT 1 OF THE CPU/TERMINAL (SEE MOD 5 DISK CHASSIS SLOT ASSIGNMENTS, CPU/TERMINAL INSTALLATION SPECIFICATION). 5. INSTALL CABLING BETWEEN UNITS ACCORDING TO UNIT INTERCONNECTION DIAGRAM FOR MOD 15 DISK SYSTEMS. USE CABLE 005-15746 (REMOVED IN STEP 1) TO CONNECT DISKETTE DRIVES TO DISK CONTROLLER PCB. 6. MOVE ASYNC INTERFACE TO SLOT 1, COMPUTER CPU/TERMINAL. 7. PERFORM A SYSGEN OF SYSTEM SOFTWARE TO INCLUDE THE ADDED SYSTEM COMPONENTS.
9326	9520 DISKETTE TO 9522-W DISK (25MB)	
9327	MOD 15 TO MOD 30 MULTITERMINAL SYSTEM	1. REMOVE LINE PRINTER CONTROLLER PCB, IF PRESENT, FROM CPU/TERMINAL, SLOT 1. 2. REMOVE W7 JUMPER ON VIDEO INTERFACE PCB. 3. REMOVE I/O JUMPER PLUG FROM SOCKET W1 ON CPU/TERMINAL LOGIC BACKPANEL. 4. INSTALL ASYNC MUX PCB ON REAR PANEL OF CABINET (SEE ASYNC MUX PCB INSTALLATION DETAIL). 5. INSTALL CABLING BETWEEN UNITS ACCORDING TO UNIT INTERCONNECTION DIAGRAM FOR MOD 30 SYSTEMS. 6. MOVE ASYNC INTERFACE TO SLOT 1 IF IN SLOT 3, CPU/TERMINAL 7. PERFORM A SYSGEN OF SYSTEM SOFTWARE TO INCLUDE THE ADDED COMPONENTS.

DUAL DISKETTE DRIVE INSTALLATION

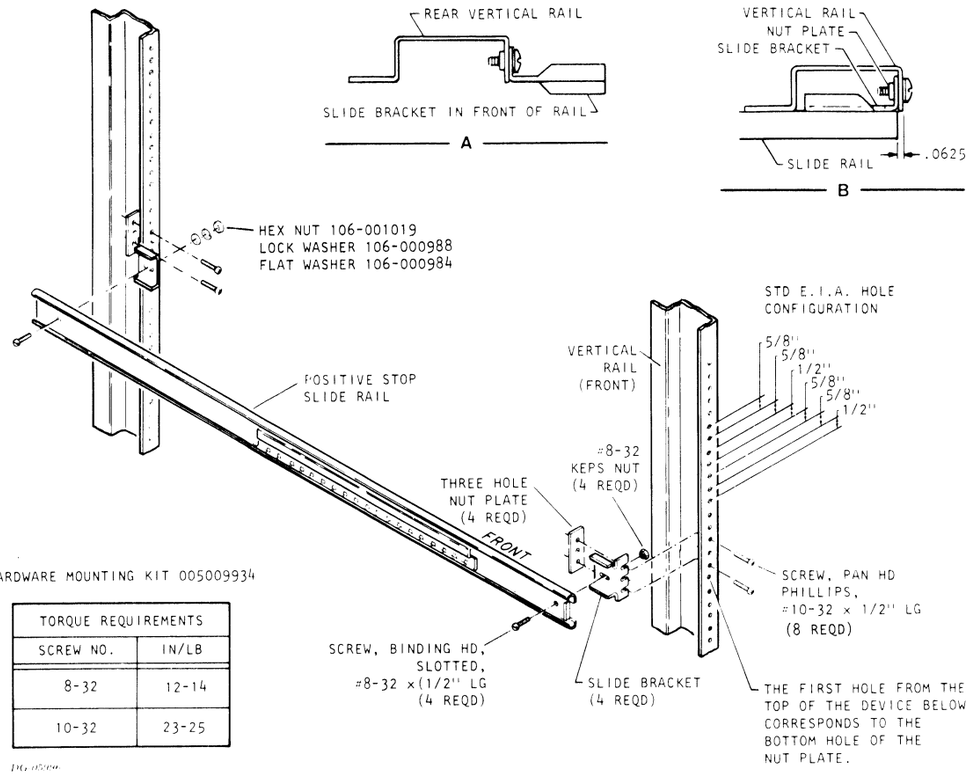
CABINET MOUNTING



INTERNAL CONNECTIONS



FIXED DISK DRIVE CABINET MOUNTING



HARDWARE MOUNTING KIT 005009934

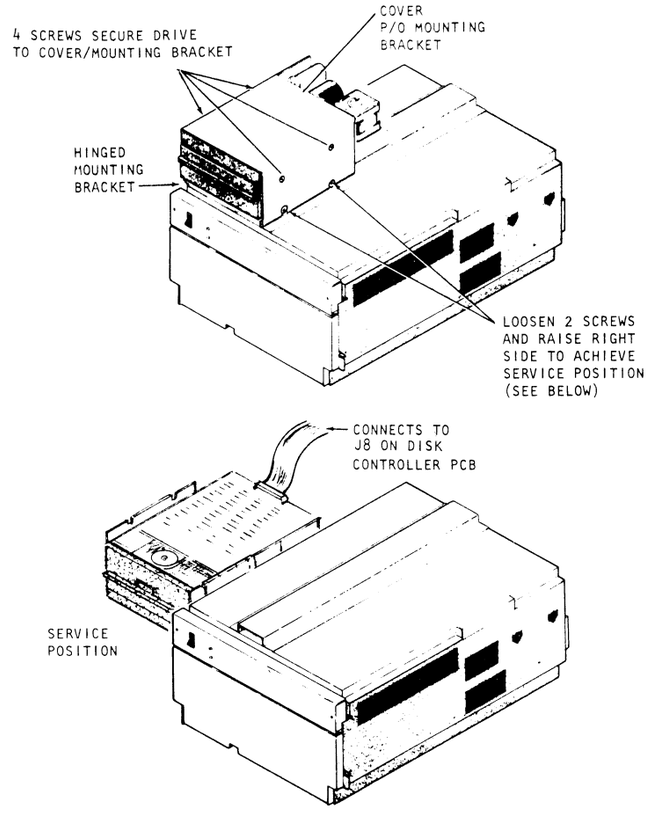
TORQUE REQUIREMENTS	
SCREW NO.	IN/LB
8-32	12-14
10-32	23-25

DG-06034

CAUTION

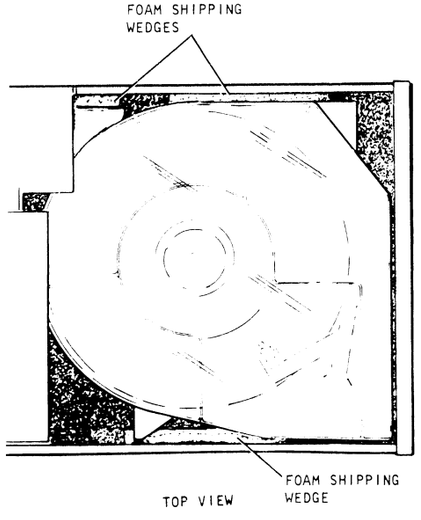
BEFORE PLACING DISK UNIT IN SERVICE POSITION (UNIT WITHDRAWN FROM THE CABINET), MAKE CERTAIN THAT THE ANTI-TIP BARS (EITHER FIXED OR RETRACTABLE) ARE INSTALLED AND IN FUNCTIONING POSITION.

DISKETTE DRIVE MOUNTING (SINGLE DRIVE)

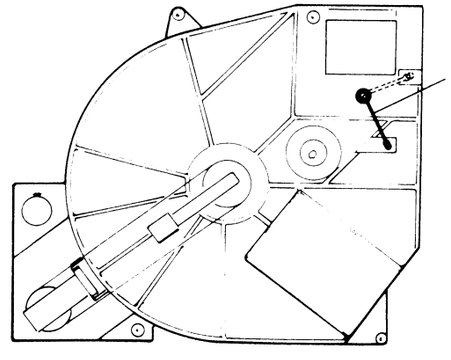


SHIPPING RESTRAINTS

IMPORTANT: REMOVE 3 FOAM WEDGES AND UNLOCK ARM BEFORE OPERATING.



TOP VIEW

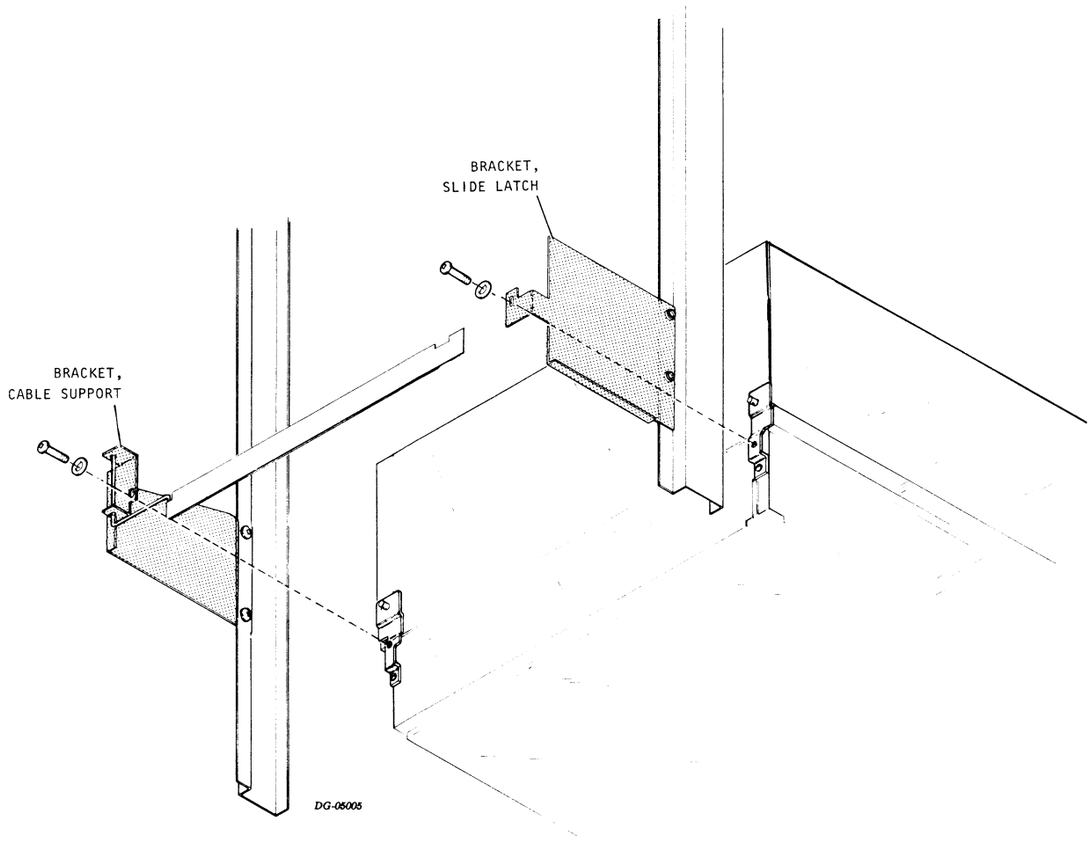


BOTTOM VIEW

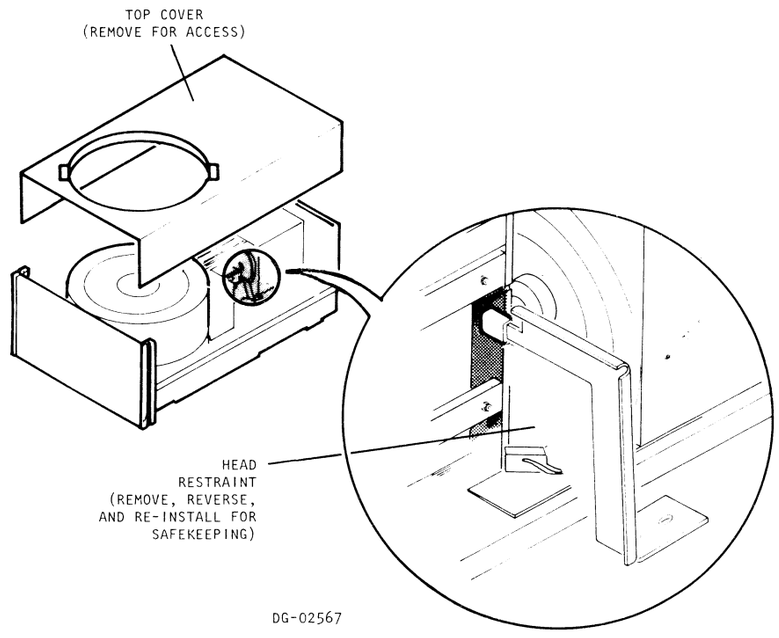
DG-06034

CARTRIDGE DISK DRIVE SHIPPING RESTRAINTS

SHIPPING BRACKETS

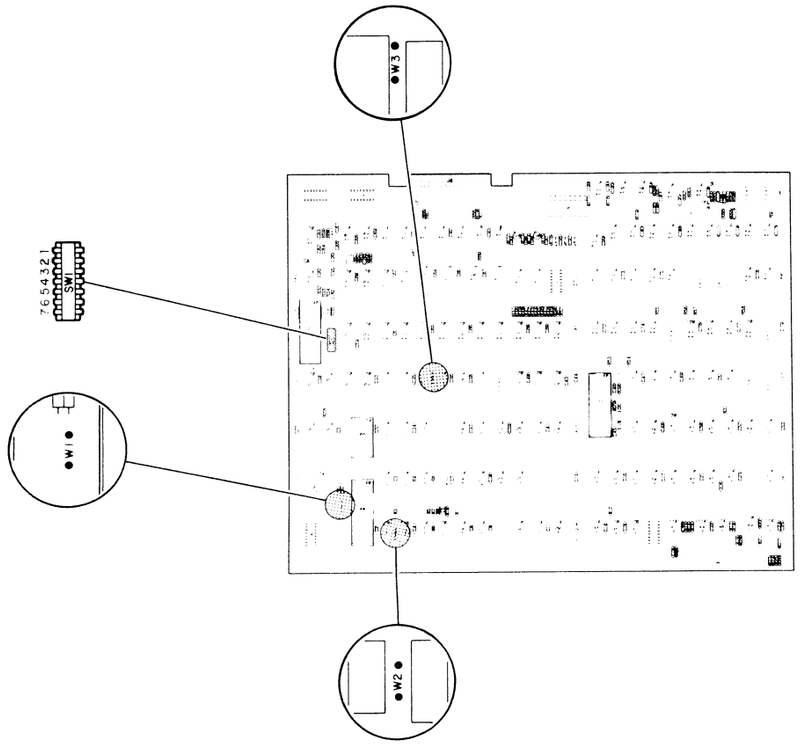


REMOVING HEAD RESTRAINT



FIXED DISK DRIVE

CONTROLLER BOARD

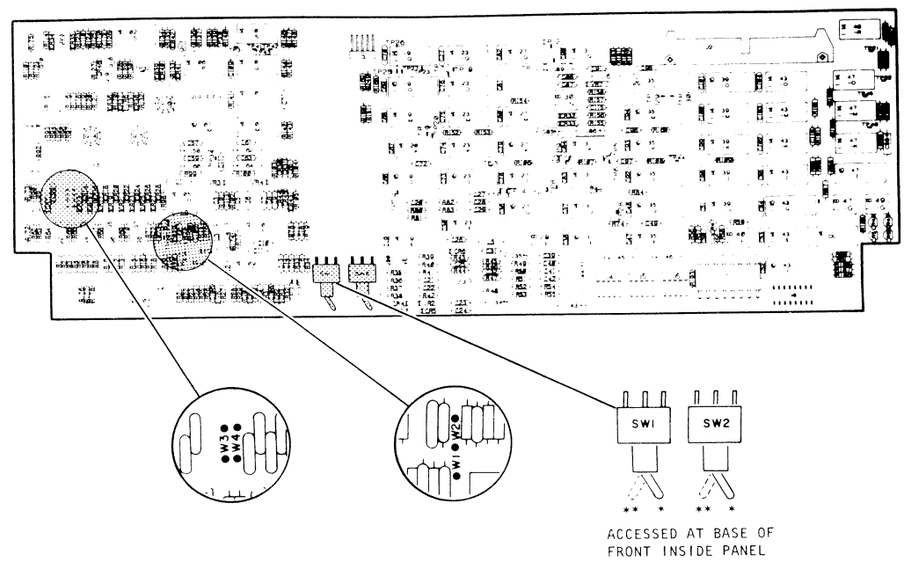


CONTROLLER DEVICE CODE SELECT		
SWITCH NUMBER	DEVICE CODE 26 (1st DISC)	DEVICE CODE 66 (2nd DISC)
1	OFF *	OFF *
2	OFF	ON
3	ON	ON
4	OFF	OFF
5	ON	ON
6	ON	ON
7	OFF	OFF

*THIS SWITCH NOT USED

CONTROLLER JUMPER SELECTION			
12.5 MB		25 MB	
JUMPER		JUMPER	
W1	OUT	W1	OUT
W2	IN	W2	OUT
W3	IN	W3	IN

R/W LOGIC BOARD



ACCESSED AT BASE OF FRONT INSIDE PANEL

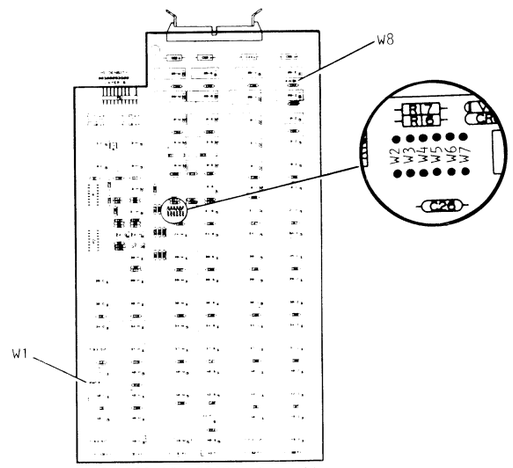
R/W JUMPER SELECTION			
12.5 MB		25 MB	
JUMPER		JUMPER	
W1	IN	W1	IN
W2*	OUT	W2*	OUT
W3	OUT	W3	IN
W4	OUT	W4	IN

* INSERTED FOR FACTORY USE ONLY

SWITCH SETTINGS	
SWITCH	*RIGHT
SW-1 SW-2	FIXED DISK NOT WRITE PROTECTED FIXED DISK = UNIT 0 DISKETTE = UNIT 1
	**LEFT
SW-1 SW-2	FIXED DISK WRITE PROTECTED FIXED DISK = UNIT 1 DISKETTE = UNIT 0

CARTRIDGE DISK DRIVE TAILORING

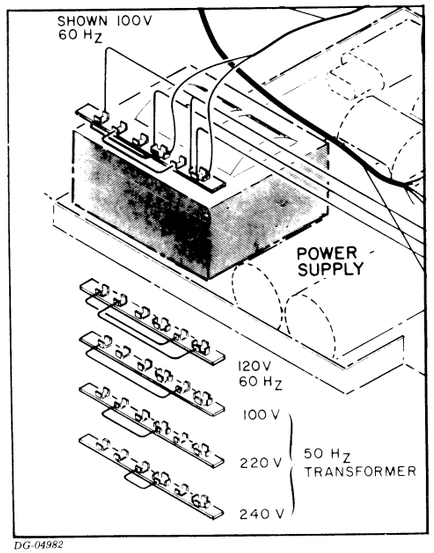
JUMPERING



DG-04981 Ref. DGC 107-000939 Rev. 01

JUMPER POSITION
W1 IN W8 IN
DEVICE CODE SELECT
W2 - DS5 W3 - DS4 W4 - DS3 W5 - DS2 W6 - DS1 W7 - DS0
TYPICAL DEVICE CODE
27, 67

INPUT VOLTAGE SELECTION

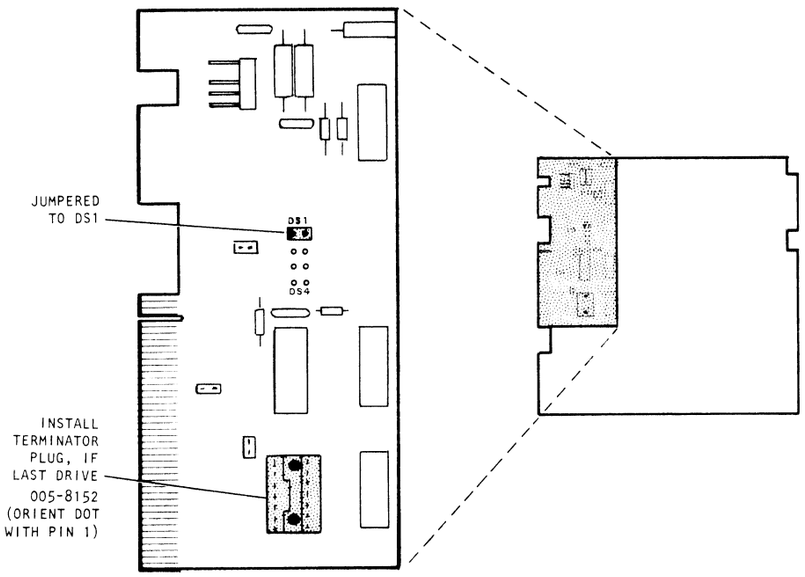


DG-04982

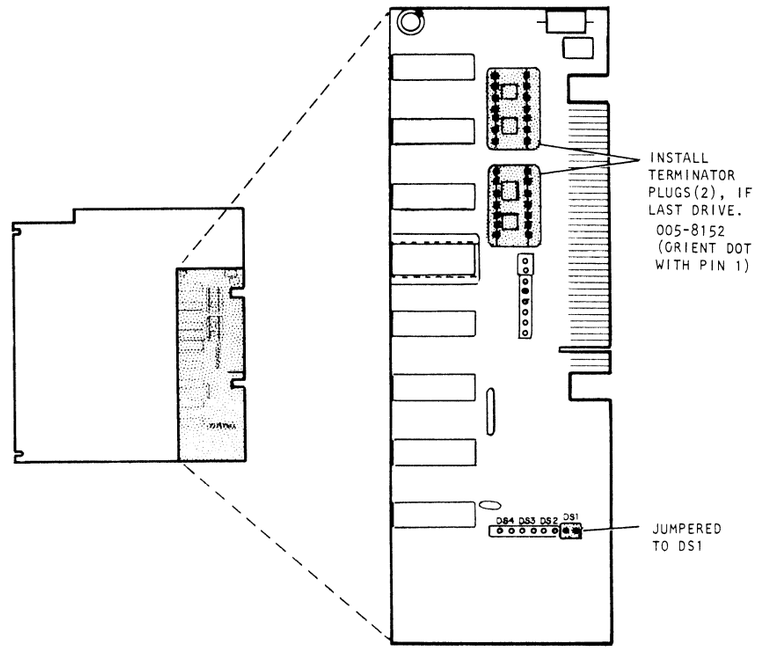
TAILORING

SINGLE/DUAL DISKETTE DRIVES

SHUGART DRIVE
(NOTE 3)



QUME® DRIVE
(NOTE 3)



JUMPER OPTIONS (NOTE 1)

DS1	SELECTS DRIVE AS UNIT 0
DS2	SELECTS DRIVE AS UNIT 1
DS3	SELECTS DRIVE AS UNIT 2
DS4	SELECTS DRIVE AS UNIT 3

NOTE 1. MOD 10 DISKETTE SYSTEMS - SET THE RIGHT DRIVE AS UNIT 0; LEFT DRIVE AS UNIT 1.

MOD 15, 30 DISK SYSTEMS (SINGLE DISKETTE) - SET DISKETTE DRIVE AS UNIT 1 (NOTE 2).

MOD 15, 30 DISK SYSTEMS (DUAL DISKETTES) - SET RIGHT DRIVE AS UNIT 1; LEFT DRIVE AS UNIT 2 (NOTE 2).

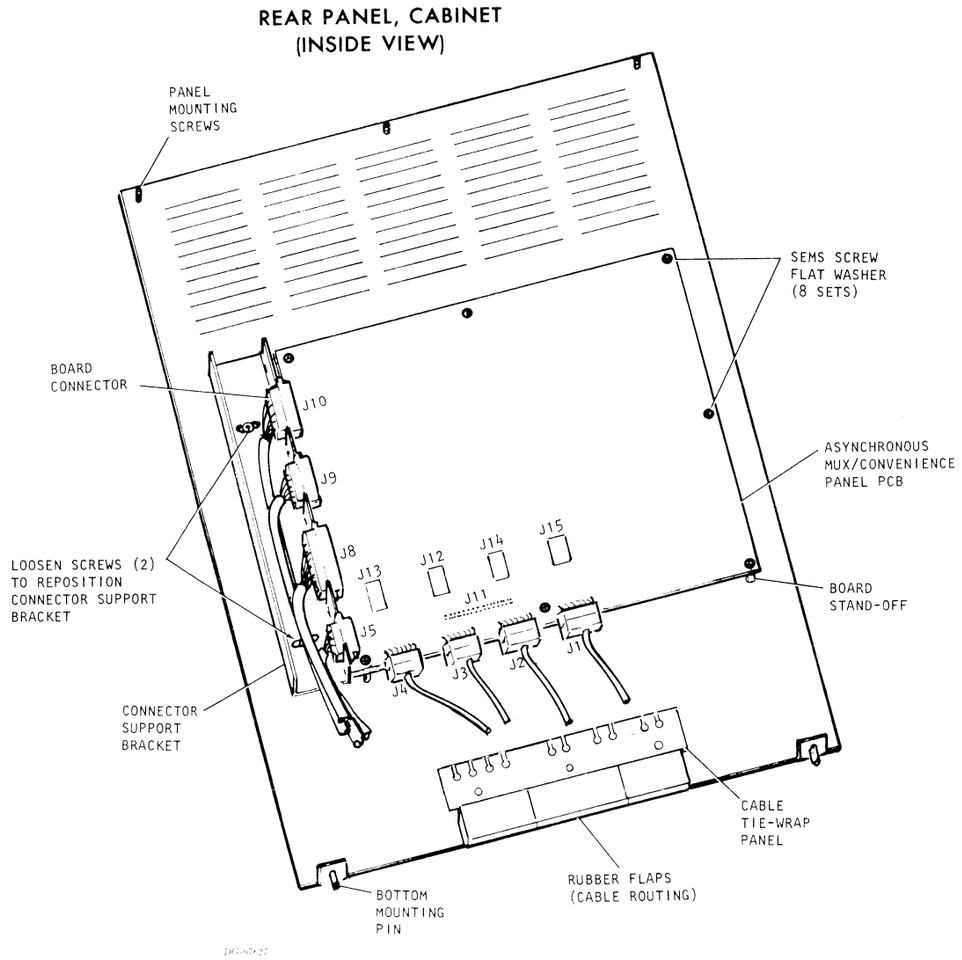
NOTE 2. SET DEVICE 0 SELECT SWITCH (SW2) ON DISK UNIT AS FOLLOWS:

LEFT POSITION (DSK1 FPY0) SELECTS RIGHT DISKETTE AS BOOTING DEVICE: RIGHT POSITION (DSK0 FPY1) SELECTS DISK AS BOOTING DEVICE.

NOTE 3. THE SHUGART AND QUME DRIVES ARE INTERCHANGEABLE.

INSTALLATION

ASYNCHRONOUS MULTIPLEXOR / CONVENIENCE PANEL PCB



CONNECTOR SUMMARY

CONN	FUNCTION
J1	LINE 0 EIA/20mA, ASYNC I/O
J2	LINE 1 EIA/20mA, ASYNC I/O
J3	LINE 2 EIA/20mA, ASYNC I/O
J4	LINE 3 EIA/20mA, ASYNC I/O (OR SERIAL PRINTER SUFFIX "A-A")
J5	SERIAL PRINTER LINE (SUFFIX "S", EIA)
J8	PARALLEL PRINTER LINE
J9	I/O INPUT/DC POWER FROM CPU/TERMINAL
J10	I/O OUTPUT TO J3, DISC CONTROLLER PCB
J11	EIA/20mA TEST PLUG (REMOVE IF ALM LINES J1 THRU J5 ARE USED)
J12	LINE 2 JUMPER PLUG, EIA/20mA SELECT (NOTE)
J13	LINE 3 JUMPER PLUG, EIA/20mA SELECT (NOTE)
J14	LINE 1 JUMPER PLUG, EIA/20mA SELECT (NOTE)
J15	LINE 0 JUMPER PLUG, EIA/20mA SELECT (NOTE)

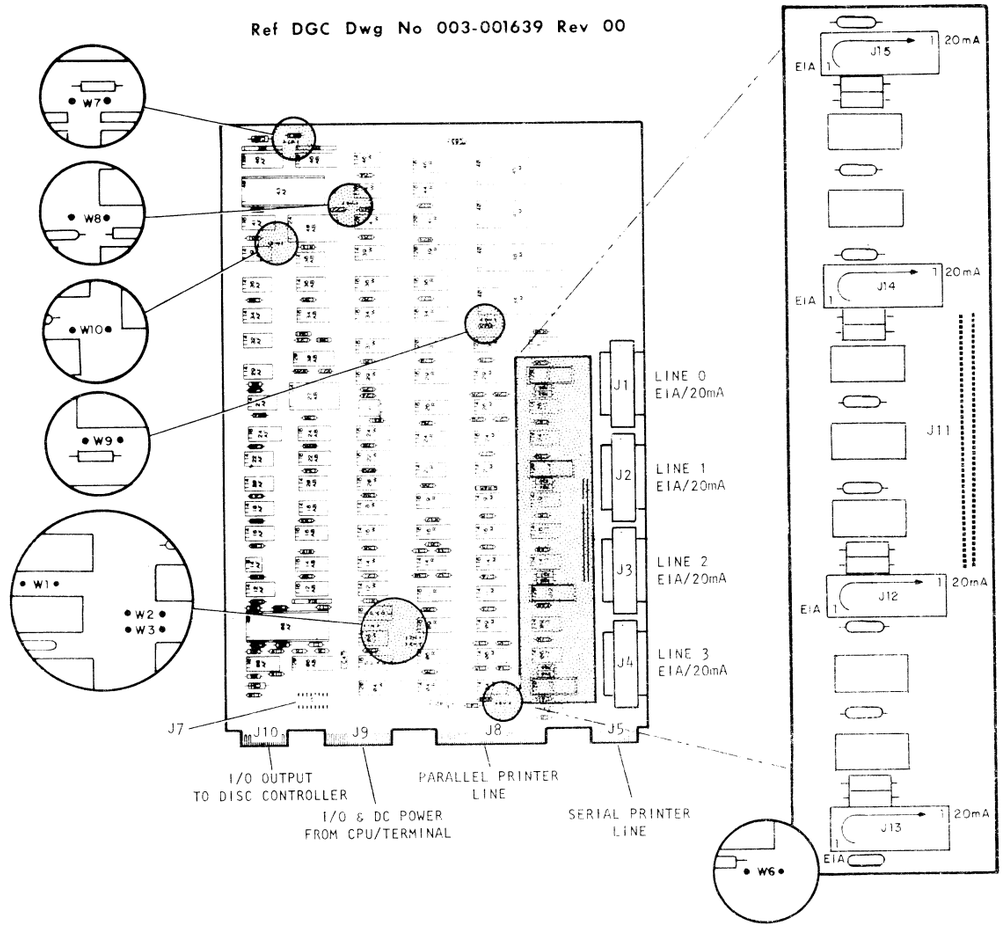
NOTE: FOR EIA OPERATION OF THE LINE (J1, J2, J3, OR J4), JUMPER PLUG 111-000887 MUST BE INSTALLED WITH PIN 1 OF THE PLUG INSERTED IN PIN 1 OF THE SOCKET (J15, J14, J12, J13, RESPECTIVELY). FOR 20mA OPERATION OF THE LINE, JUMPER PLUG 111-000887 MUST BE INSERTED WITH PIN 1 OF THE PLUG INSERTED IN PIN 11 OF THE SOCKET.

TAILORING (CONT)

JUMPERING

ASYNC MUX / CONV PANEL

Ref DGC Dwg No 003-001639 Rev 00



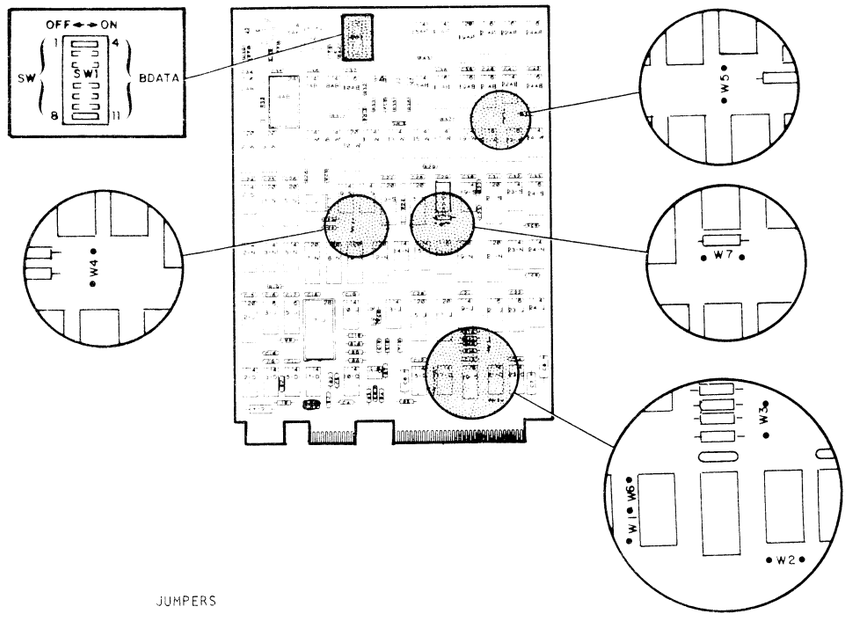
W1	LPT DEVICE CODE: PRIMARY (OUT) = 17 (M1000 SYSTEMS) SECONDARY (IN) = 57
W2	IN FOR LP2 OUT FOR DATA PRODUCTS PRINTERS
W3	IN FOR DATA PRODUCTS PRINTERS OUT FOR LP2
W4	NOT USED
W5	NOT USED
W6	ALM DEVICE CODE: PRIMARY (OUT) = 34 (M1000 SYSTEMS) SECONDARY (IN) = 44
W7	NORMALLY IN: OUT FOR TEST ONLY
W8	NORMALLY IN: OUT FOR TEST ONLY
W9	NORMALLY IN: OUT FOR TEST ONLY
W10	NORMALLY IN: OUT FOR TEST ONLY
J11	JUMPER PLUG 005-008152: OUT FOR NORMAL OPERATION; IN FOR DIAGNOSTIC TESTING
J7	TERMINATOR PLUG 005-007110 INSTALLED FOR TEST WHEN J10 IS NOT CONNECTED TO DISK CONTROLLER

CONN	LINE SELECTION
J12	LINE 2 JUMPER PLUG, EIA/20MA SELECT (NOTE)
J13	LINE 3 JUMPER PLUG, EIA/20MA SELECT (NOTE)
J14	LINE 1 JUMPER PLUG, EIA/20MA SELECT (NOTE)
J15	LINE 0 JUMPER PLUG, EIA/20MA SELECT (NOTE)

NOTE - FOR EIA OPERATION OF THE LINE, JUMPER PLUG 111-000887 MUST BE INSTALLED WITH PIN 1 OF THE PLUG INSERTED IN PIN 1 OF THE SOCKET. FOR 20MA OPERATION OF THE LINE, JUMPER PLUG 111-000887 MUST BE INSTALLED WITH PIN 1 OF THE PLUG INSERTED IN PIN 11 OF THE SOCKET.

VIDEO INTERFACE (IPM-2A)

Ref DGC No 107-001507



JUMPERS

W1 - IN = VIDEO ADDRESS RANGE 57774 - 57777
(2K IPM-1 PCB ALL M1000 SYSTEMS)
W2 - IN = BAUD RATE CLOCK (OUT FOR TEST ONLY)
W3 - KEYBOARD TYPE - OUT FOR M1000 SYSTEMS WITH EITHER THE STANDARD KEYBOARD OR THE OPTIONAL D2 KEYBOARD; IN IS NOT USED.
W4 - IN = VIDEO CLOCK (OUT FOR TEST ONLY)
W5 - IN = 60HZ OPERATION OUT = 50HZ OPERATION
W6 - IN = VIDEO ADDRESS RANGE 77774 - 77777
OUT = (ALL M1000 SYSTEMS)
W7 - IN = VIDEO ADDRESS RANGE IS IN NORMAL MEMORY
OUT = VIDEO ADDRESS RANGE IS IN NORMAL AND MAPPED MEMORY (D2/D200 EMULATOR: ALL SYSTEMS)

CONFIGURATION SWITCHES (BDATA 4-11) 0 = OFF 1 = ON

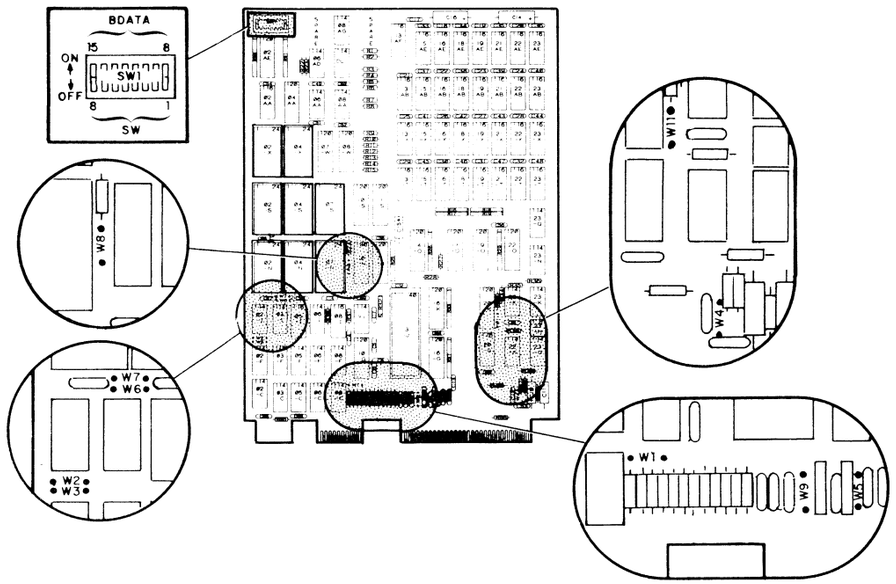
SWITCH	BDATA				
1	4 --	OFF			
2	5 --	OFF = ENABLES CTS TO SYNC WITH STOP BITS (TP2 PRINTERS)(ALL M1000 SYSTEMS) ON = DISABLE (TP1 PRINTER)			
3	6 --	00 = LOCAL MODE		01 = MARK PARITY (ALL M1000 SYSTEMS)	
4	7 --	10 = EVEN PARITY		11 = ODD PARITY	
5	8 --	BAUD RATE	0000 = 50	0101 = 300	1010 = 2400
6	9 --		0001 = 75	0110 = 600	1011 = 3600
7	10 --		0010 = 110	0111 = 1200	1100 = 4800
8	11 --		0011 = 134.5	1000 = 1800	1101 = 7200
			0100 = 150	1001 = 2000	1110 = 9600 (FOR ALL SYSTEMS)
					1111 = 2400/150

TAILORING (CONT)

JUMPERING

PROCESSOR/MEMORY (IPM-1, 64kB)

Ref DGC No 107-001506



JUMPERS

W1 - IN = OSCILLATOR (OUT FOR TEST ONLY)
W2 & W3 - ROM ADDRESS JUMPERS:

---------- IF 2K x 8 ROM's ARE USED IN ------		
LOCATION 02x & 04x	28K TO 30K	NO JUMPERS
LOCATION 02s & 02n	30K TO 32K	W2 - IN
---------- IF 4k x 8 ROM's ARE USED IN ------		
LOCATION 02x & 04x	28K TO 32K	NO JUMPERS
LOCATION 02s & 02n	24K TO 28K	W3 - IN
LOCATION 02s & 02n	26K TO 28K	W3 - IN

NOTE: IF 4K BY 8 ROM's ARE INSTALLED IN 02s AND 02n, THE LOWER 2K OF ROM IS ADDRESSED WHEN ADDRESS BIT 4 IS A "1".

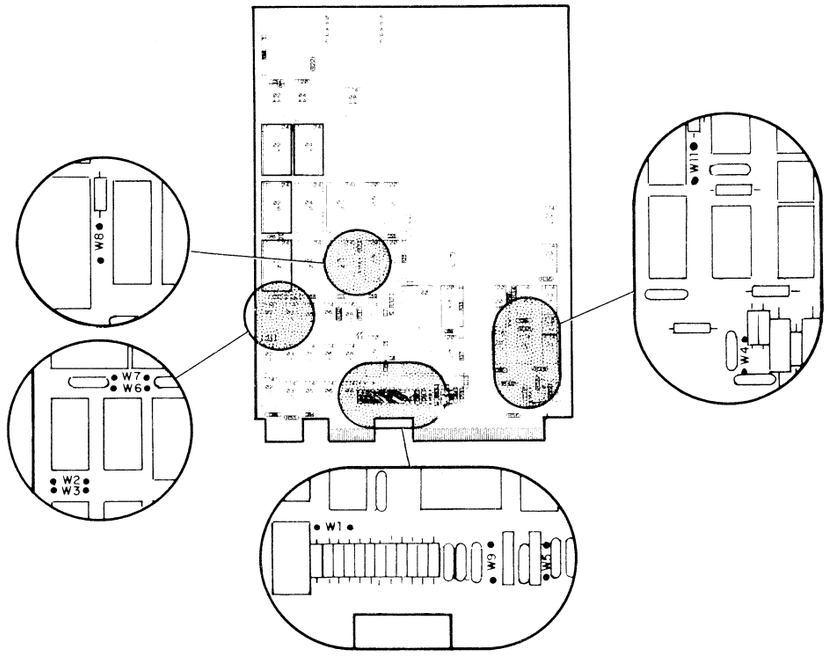
W4 - OUT
W5 - IN - NON-MASKABLE REQUEST ENABLE
W6 - IN - IF 1K x 8 RAM's INSTALLED
W7 - IN - IF 2K x 8 RAM's INSTALLED
W8 - IN - IF 2K x 8 RAM's INSTALLED,
OUT - IF 1K x 8 RAM's INSTALLED
W9 - IN - EXTERNAL I/O BUS,
OUT - NO EXTERNAL I/O BUS (M1000 SYSTEMS; CABLE DOES JUMPERING)
W11 - OUT

CONFIGURATION SWITCHES (BDATA 8 - 15)

SWITCH	BDATA	
1	8 - CLOSE	
2	9 - CLOSE	
3	10 - CLOSE	DEVICE CODE 26 SELECTS BOOTING DEVICE AFTER COMPLETION OF POWER UP DIAGNOSTICS. TO SELECT ODT (FOR SERVICE), SET SWITCHES 3 - 8 ALL OFF.
4	11 - OPEN	
5	12 - CLOSE	
6	13 - OPEN	
7	14 - OPEN	
8	15 - CLOSE	

PROCESSOR/RAM/ROM (IPM-1, 4kB)

Ref DGC No 107-001645



JUMPERS

W1 - IN = OSCILLATOR (OUT FOR TEST ONLY)
W2 & W3 - ROM ADDRESS JUMPERS:

---------- IF 2K x 8 ROM's ARE USED IN ------		
LOCATION 02x & 04x	28K TO 30K	NO JUMPERS
LOCATION 02s & 02n	30K TO 32K	W2 - IN
---------- IF 4k x 8 ROM's ARE USED IN ------		
LOCATION 02x & 04x	28K TO 32K	NO JUMPERS
LOCATION 02s & 02n	24K TO 28K	W3 - IN
LOCATION 02s & 02n	26K TO 28K	W3 - IN

NOTE: IF 4K BY 8 ROM's ARE INSTALLED IN 02s AND 02n, THE LOWER 2K OF ROM IS ADDRESSED WHEN ADDRESS BIT 4 IS A "1".

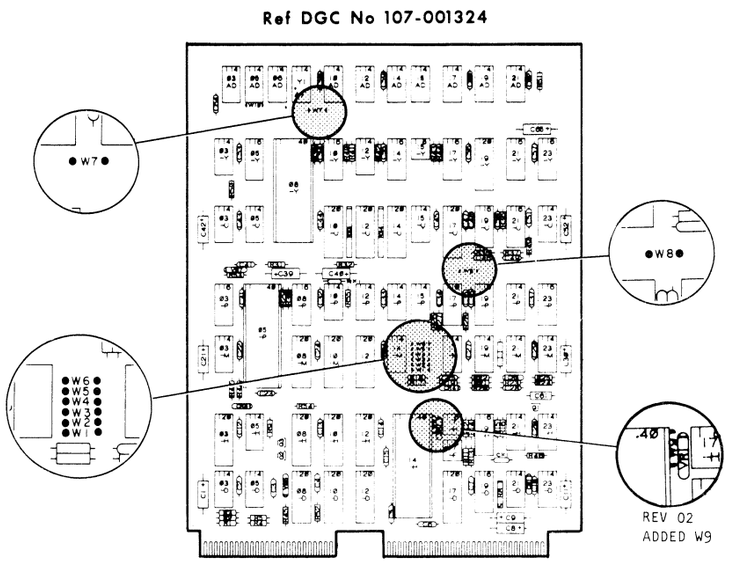
W4 - OUT
W5 - IN - NON-MASKABLE REQUEST ENABLE
W6 - IN - IF 1K x 8 RAM's INSTALLED
W7 - IN - IF 2K x 8 RAM's INSTALLED
OUT - IF 1K x 8 RAM's INSTALLED
W8 - IN - IF 2K x 8 RAM's INSTALLED,
OUT - IF 1K x 8 RAM's INSTALLED
W9 - IN - EXTERNAL I/O BUS
OUT - NO EXTERNAL I/O BUS (M1000 SYSTEMS; CABLE DOES JUMPERING)
W11 - OUT

TAILORING (CONT)

JUMPERING

DISKETTE CONTROLLER

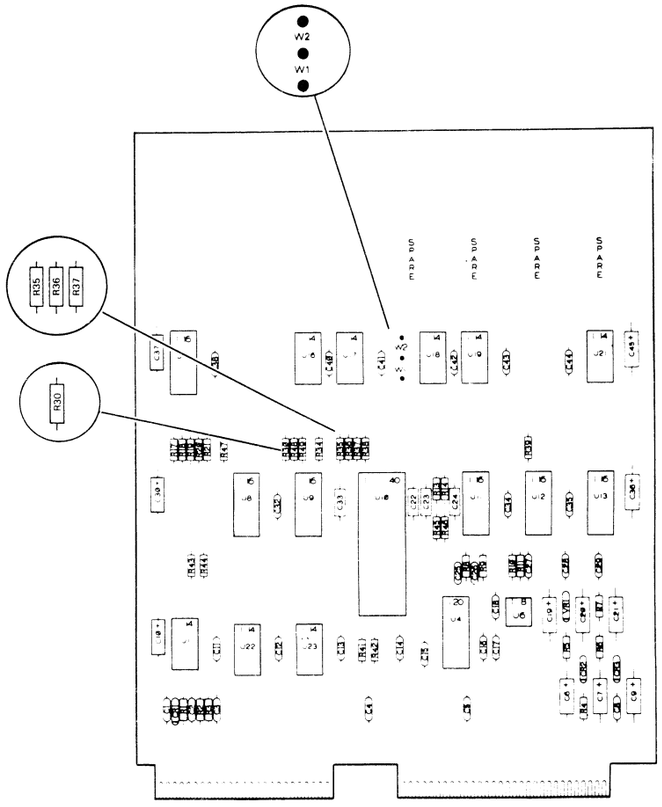
Ref DGC No 107-001324



JUMPER	DEVICE CODE 26	66
DS0 — W6	OUT	IN
DS1 — W5	IN	IN
DS2 — W4	OUT	OUT
DS3 — W3	IN	IN
DS4 — W2	IN	IN
DS5 — W1	OUT	OUT

NOTE: W7, W8, AND W9 MUST ALWAYS BE INSTALLED. IN ALL M1000 SYSTEMS, SET DEVICE CODE TO 26.

LINE PRINTER CONTROLLER

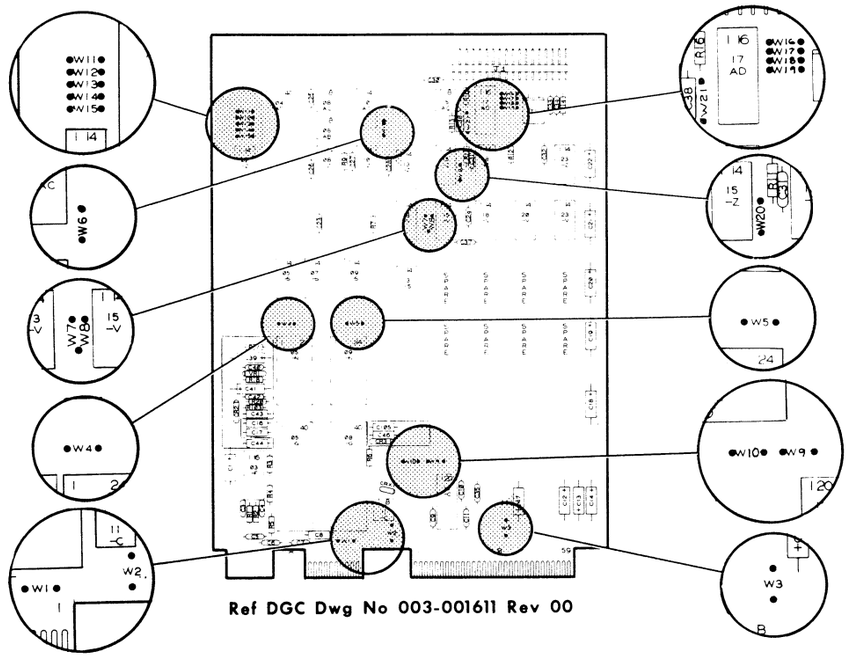


JUMPER NAME	JUMPER NUMBER	POSITION	
DS0	-	ALWAYS 0	ALL M1000 SYSTEMS, SET DEVICE CODE FOR 17 (DS2 THRU DS5 IN)
DS1	-	ALWAYS 0	
DS2 SELECT	R30	IN FOR 0; OUT FOR 1	
DS3 SELECT	R37	IN FOR 0; OUT FOR 1	
DS4 SELECT	R36	IN FOR 0; OUT FOR 1	
DS5 SELECT	R35	IN FOR 0; OUT FOR 1	
DEMAND POLARITY	R43	IN FOR POSITIVE; OUT FOR NEGATIVE	
STROBE POLARITY -	W2	IN FOR POSITIVE; OUT FOR NEGATIVE	
STROBE POLARITY +	W1	OUT FOR POSITIVE; IN FOR NEGATIVE	

TAILORING (CONT)

JUMPERING

ASYNCHRONOUS (TTY) INTERFACE



Ref DGC Dwg No 003-001611 Rev 00

PRIORITY

JUMPERS	SLOT 3	SLOT 4
W9	IN	OUT
W10	OUT	IN

JUMPERS	
W20	IN
W21	IN

DEVICE CODE

JUMPERS	PRIMARY DEVICE (10, 11)	SECONDARY DEVICE (50, 51)
W1	IN	OUT
W2	IN	OUT
W3	IN	OUT
W4	OUT	IN
W5	OUT	IN

ASYNCH INTERFACE BOARD WILL ONLY HAVE A SECONDARY DEVICE CODE WHEN IT IS BEING USED AS A PRINTER INTERFACE.

MODE OF OPERATION

JUMPERS	20ma CURRENT LOOP	EIA RS232-C
W6	IN	OUT
W7	IN	OUT
W8	OUT	IN

PRIMARY ASYNC INTERFACE BOARD SHOULD BE JUMPERED FOR EIA.

CHARACTER LENGTH

JUMPERS	5 BITS	6 BITS	7 BITS	8 BITS
W12	IN	OUT	IN	OUT
W13	IN	IN	OUT	OUT

PRIMARY ASYNC INTERFACE BOARD SHOULD BE JUMPERED FOR 8 BIT WORD.

STOP BIT

JUMPER	STOP BIT = 1	STOP BIT = 2
W14	IN	OUT

PRIMARY INTERFACE BOARD SHOULD BE JUMPERED FOR STOP BIT = 1.

PARITY

JUMPERS	ODD	EVEN	NONE
W11	IN	OUT	OUT
W15	IN	IN	OUT

PRIMARY ASYNC INTERFACE BOARD SHOULD HAVE PARITY SET TO NONE.

BAUD RATE

BAUD RATE	W16	W17	W18	W19
50	IN	OUT	IN	IN
75	OUT	OUT	IN	IN
110	OUT	OUT	OUT	OUT
134.5	IN	IN	OUT	IN
150	IN	OUT	OUT	OUT
200	OUT	IN	OUT	IN
300	OUT	IN	OUT	OUT
600	IN	OUT	OUT	IN
1200	OUT	OUT	IN	OUT
2400	IN	IN	OUT	OUT
4800	OUT	IN	IN	OUT
9600	IN	IN	IN	OUT
19200	OUT	IN	IN	IN

PRIMARY ASYNC INTERFACE BOARDS SHOULD HAVE HAVE BAUD RATE SET TO 9600.

SUMMARY OF M1000 JUMPERS AND SWITCHES

PROCESSOR/MEMORY PCB (IPM-1)

JUMPERS	MOD 10, 15 SYSTEMS	MOD 30 SYSTEMS
W1	IN	IN
W2	IN	IN
W3	OUT	OUT
W4	OUT	OUT
W5	IN	IN
W6	IN	IN
W7	OUT	OUT
W8	OUT	OUT
W9	OUT	OUT
W11	OUT	OUT

SWITCHES	MOD 10, 15 SYSTEMS	MOD 30 SYSTEMS
SW1	CLOSE	CLOSE
SW2	CLOSE	CLOSE
SW3	CLOSE	CLOSE
SW4	OPEN	OPEN
SW5	CLOSE	CLOSE
SW6	OPEN	OPEN
SW7	OPEN	OPEN
SW8	CLOSE	CLOSE

PROCESSOR/RAM/ROM PCB (IPM-1, 4KB)

JUMPERS	MOD 30 SYSTEMS ONLY
W1	IN
W2	IN
W3	OUT
W4	OUT
W5	IN
W6	IN
W7	OUT
W8	OUT
W9	OUT
W11	OUT

VIDEO INTERFACE PCB (IPM-2/IPM-2A)

JUMPERS	ALL SYSTEMS
W1	IN
W2	IN
W3	OUT
W4	IN
W5	IN (60 HZ), OUT (50 HZ)
W6	OUT
W7	OUT

SWITCHES	(BOTH MOD 10,15 AND MOD 30 SYSTEMS)
	CODE: 0 = OFF; 1 = ON
SW1	0
SW2	0

SW3	SW4	FUNCTION
0	1	MARK PARITY

SW5	SW6	SW7	SW8	BAUD RATE
1	1	1	0	9600 (ALL SYSTEMS)

ASYNC/MUX/CONV PANEL PCB

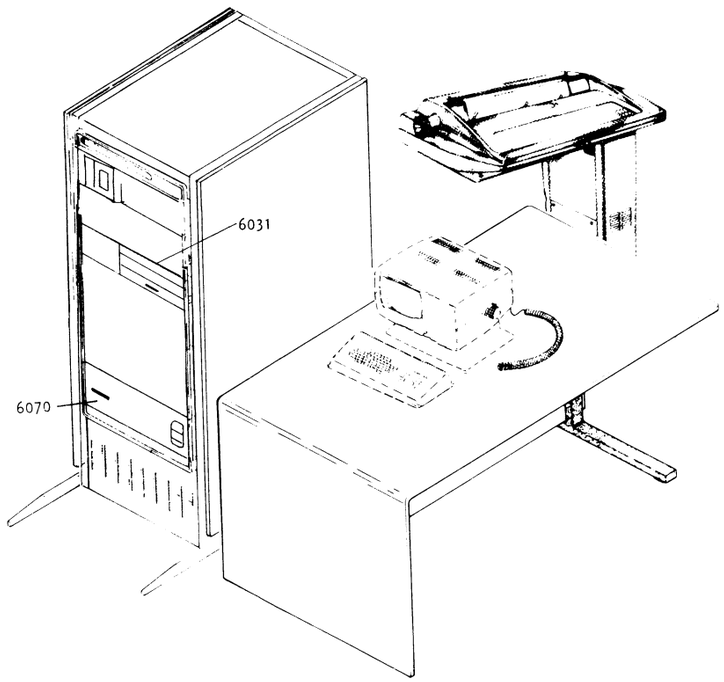
JUMPERS	MOD 30 SYSTEMS ONLY
W1	OUT
W2	IN FOR LP2 PRINTER OUT FOR DATA PRODUCTS PRINTER
W3	IN FOR DATA PRODUCTS PRINTER OUT FOR LP2 PRINTER
W4	NOT USED
W5	NOT USED
W6	OUT
W7	IN
W8	IN
W9	IN
W10	IN

ASYNC INTERFACE PCB

JUMPERS	PRIMARY ASYNC INTERFACE ONLY
W1	IN
W2	IN
W3	IN
W4	OUT
W5	OUT
W6	OUT
W7	OUT
W8	IN
W9	IN
W10	OUT
W11	OUT
W12	OUT
W13	OUT
W14	IN
W15	OUT
W16	IN
W17	IN
W18	IN
W19	OUT
W20	IN
W21	IN

SUBSYSTEM COMPONENT BREAKDOWN

MOD C5
MODEL 9600
(ONE BAY SYSTEM SHOWN)



MAJOR COMPONENT

Component	Mounting Location	Notes
CS/70	FREE STANDING	
S/140	CABINET	
MAGTAPE 6021 or 6026	CABINET	SEE 010-000113 or 010-000197 (OPTIONS)
TABLE	FREE STANDING	OPTIONAL
DASHER DISPLAY	FREE STANDING	SEE 010-000098, 010-000241, 010-000215 or 010-000235
DASHER PRINTER	FREE STANDING	SEE 010-000094, 010-000116, 010000248 or 010-001023
DASHER G300 6150 & 6151	FREE STANDING	SEE 010-1013
GRAPHICS PRINTER 6156	FREE STANDING	SEE 010-1036
DISK 6070, 6045	CABINET	SEE 010-000192, 010-000110
DISKETTE, 6031	CABINET	SEE 010-000064
DISK UNIT 6100, 6103	CABINET	SEE 010-000246, 010-000242 (OPTIONS)
DISKETTE 6097	CABINET	SEE 010-000255
SERIAL PRINTER 4422	FREE STANDING	OPTION; SEE 010-301
DCH PRINTER 9755	FREE STANDING	OPTION; 436 LPM; SEE 010-001035
DCH PRINTER 9756	FREE STANDING	OPTION; 600 LPM; SEE-010-001035

CABLE

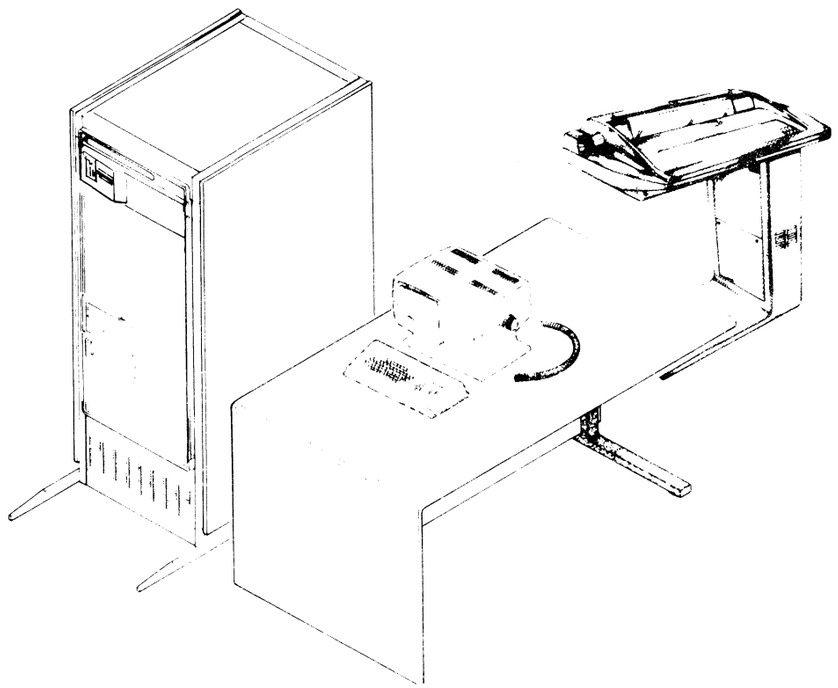
Cable	Connecting			Max Allowed Lg ft / m	Notes
DEVICE CABLE	VIDEO DISPLAY	and	CPU	2000 / 610	USED ON 6053-D* 005-007428
DEVICE CABLE (CURRENT LOOP)	VIDEO DISPLAY	"	CONV. PANEL	2000 / 610	USED ON 6053-G* 005-007636
DEVICE CABLE (EIA)	VIDEO DISPLAY	"	FULL DUPLEX MODEM	50 / 15.2	USED ON 6053-J** 005-007637
DEVICE CABLE	VIDEO DISPLAY	"	CPU	2000 / 610	USED ON 6108-D**** 005-014691
DEVICE CABLE (CURRENT LOOP)	VIDEO DISPLAY	"	CONV. PANEL	2000 / 610	USED ON 6108-G**** 005-014695
DEVICE CABLE (EIA)	VIDEO DISPLAY	"	FULL DUPLEX MODEM	50 / 15.2	USED ON 6108-J**** 005-014692
DEVICE CABLE (CURRENT LOOP)	DASHER PRINTER	"	CONV. PANEL	2000 / 610	USED ON 6041-G*** 005-007636
DEVICE CABLE (EIA)	DASHER PRINTER	"	FULL DUPLEX MODEM	50 / 15.2	USED ON 6041-J*** 005-007637
DEVICE CABLE	300 LPM PRINTER	"	CONV. PANEL	15 / 4.6	USED ON 9125 005-009061
DEVICE CABLE	240 LPM PRINTER	"	CONV. PANEL	15 / 4.6	USED ON 9128 005-009061
DEVICE CABLE	MATRIX PRINTER	"	CONV. PANEL	25 / 7.6	USED ON 9123
DEVICE CABLE (EIA)	MATRIX PRINTER	"	CONV. PANEL	50 / 15.2	USED ON 4354-F 005-014695
DEVICE CABLE	436/600 LPM DCH PRINTERS AND BACKPANEL			49.2 / 15	USED ON 9755,9756 005-007874
DEVICE CABLE (CURRENT LOOP)	MATRIX PRINTER	"	CONV. PANEL	2000 / 610	USED ON 4354-G 005-014695
DEVICE CABLE	MATRIX PRINTER	"	CONV. PANEL	25 / 7.6	USED ON 9199 005-012928
DEVICE CABLE	MATRIX PRINTER	"	SBS COMBO MUX BOARD	25 / 7.6	USED ON 9198 005-012933
DEVICE CABLE	SYNCHRONOUS MODEM	"	CONV. PANEL	50 / 15.2	1084G 005-005269
INTERDEVICE CABLE	SBS COMBO BOARD	"	CONV. PANEL	8 / 2.4	
INTERDEVICE CABLE	SLM BOARD	"	CONV. PANEL	8 / 2.4	
DEVICE CABLE	ASYNCHRONOUS MODEM	"	CONV. PANEL	50 / 15.2	1084G 005-005269
DEVICE CABLE	INTERNATIONAL MODEM	"	CONV. PANEL	50 / 15.2	1084G 005-005269

*ALSO 6093 & 6120
**ALSO 6093
***ALSO 6193
****ALSO 6106 & 6150

SUBSYSTEM COMPONENT BREAKDOWN (CONT)

MOD C5
MODEL 9601

(ONE BAY SYSTEM SHOWN)



MAJOR COMPONENT

Component	Mounting Location	Notes
CS/70	FREE STANDING	
S/140	CABINET	
MAGTAPE 6021 or 6026	CABINET	SEE 010-000113 or 010000197 OPTIONAL
CARTRIDGE DISK 6045,6070	CABINET	SEE 010-000116, 010-000192 OPTIONAL
DCH PRINTER 9755	FREE STANDING	OPTION; 436 LPM; SEE 010-001035
DCH PRINTER 9756	FREE STANDING	OPTION; 600 LPM; SEE 010-001035
DISKETTE 6031	CABINET	SEE 010-000064 OPTIONAL
DISK UNIT 6100, 6103	CABINET	SEE 010-000223, 010-000243
STREAMING MAG TAPE 6125	CABINET	SEE 010-000270
TABLE	FREE STANDING	OPTIONAL
DASHER DISPLAY	FREE STANDING	SEE 010-000098 or 010-000215 or 010-000235 or 010-000241
DASHER PRINTER	FREE STANDING	SEE 010-000094 or 010-000214 or 010-001023 or 010-000116
DASHER G300 6150 & 6151	FREE STANDING	SEE 010-1013
GRAPHICS PRINTER 6156	FREE STANDING	SEE 010-1036
SERIAL PRINTER 4422	FREE STANDING	OPTION; SEE 010-301

CABLE

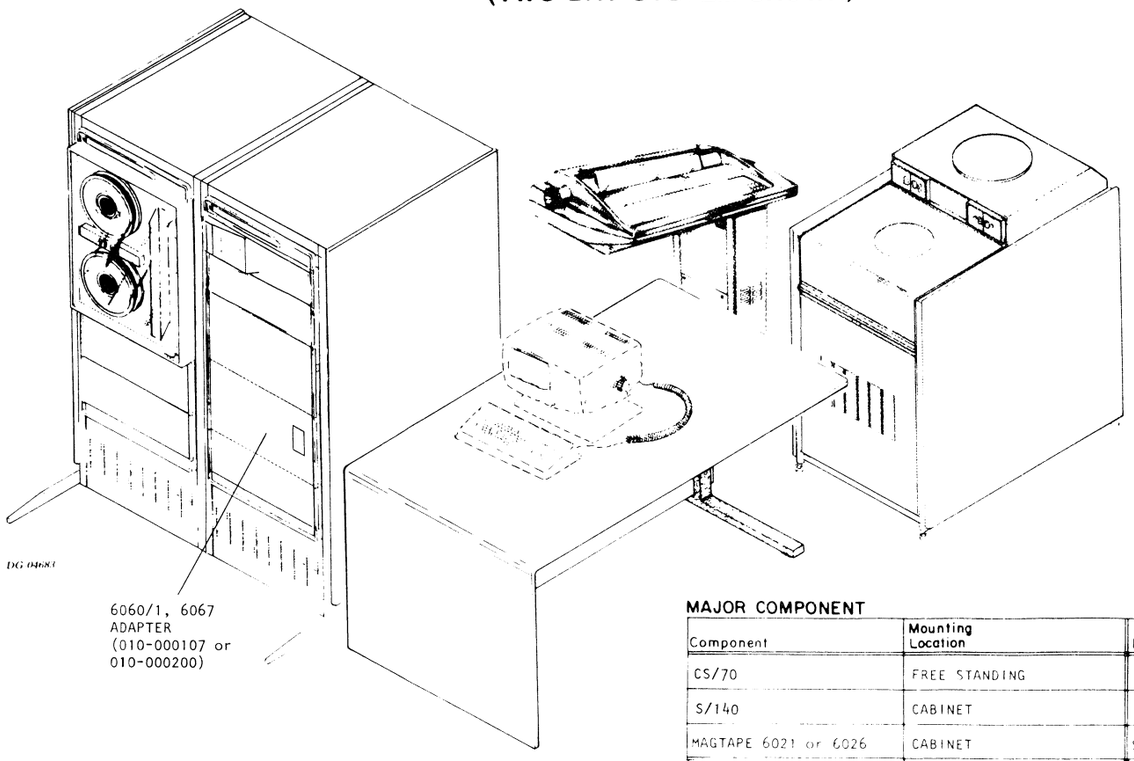
Cable	Connecting			Max Allowed Lg ft / m	Notes
DEVICE CABLE	VIDEO DISPLAY	and	CPU	2000 / 610	USED ON 6053-D* 005-007428
DEVICE CABLE (CURRENT LOOP)	VIDEO DISPLAY	"	CONV. PANEL	2000 / 610	USED ON 6053-G* 005-007636
DEVICE CABLE (EIA)	VIDEO DISPLAY	"	FULL DUPLEX MODEM	50 / 15.2	USED ON 6053-J** 005-007637
DEVICE CABLE	VIDEO DISPLAY		CPU	2000 / 610	USED ON 6108-D**** 005-014691
DEVICE CABLE (CURRENT LOOP)	VIDEO DISPLAY		CONV. PANEL	2000 / 610	USED ON 6108-G**** 005-014695
DEVICE CABLE (EIA)	VIDEO DISPLAY		FULL DUPLEX MODEM	50 / 15.2	USED ON 6108-J**** 005-014692
DEVICE CABLE (CURRENT LOOP)	DASHER PRINTER	"	CONV. PANEL	2000 / 610	USED ON 6041-G** 005-007636
DEVICE CABLE (EIA)	DASHER PRINTER	"	FULL DUPLEX MODEM	50 / 15.2	USED ON 6041-J** 005-007637
DEVICE CABLE	300 LPM PRINTER	"	CONV. PANEL	15 / 4.6	USED ON 9125 005-009061
DEVICE CABLE	240 LPM PRINTER	"	CONV. PANEL	15 / 4.6	USED ON 9128 005-009061
DEVICE CABLE	MATRIX PRINTER	"	CONV. PANEL	25 / 7.6	USED ON 9123
DEVICE CABLE (EIA)	MATRIX PRINTER	"	CONV. PANEL	50 / 15.2	USED ON 4354-F 005-015117
DEVICE CABLE (CURRENT LOOP)	MATRIX PRINTER	"	CONV. PANEL	2000 / 610	USED ON 4354-G 005-014695
DEVICE CABLE	MATRIX PRINTER	"	CONV. PANEL	25 / 7.6	USED ON 9199 005-012928
DEVICE CABLE	436/600 LPM DCH PRINTERS AND BACKPANEL			49.2 / 15	USED ON 9755,9756 005-007874
DEVICE CABLE	MATRIX PRINTER	"	SBS COMBO MUX BOARD	25 / 7.6	USED ON 9198 005-012933
DEVICE CABLE	SYNCHRONOUS MODEM	"	CONV. PANEL	50 / 15.2	1084G 005-005269
INTERDEVICE CABLE	SBS COMBO BOARD	"	CONV. PANEL	8 / 2.4	
INTERDEVICE CABLE	SLM BOARD	"	CONV. PANEL	8 / 2.4	
DEVICE CABLE	ASYNCHRONOUS MODEM	"	CONV. PANEL	50 / 15.2	1084G 005-005269
DEVICE CABLE	INTERNATIONAL MODEM	"	CONV. PANEL	50 / 15.2	1084G 005-005269

*ALSO 6093 & 6120
**ALSO 6093
***ALSO 6193
****ALSO 6106 & 6150

SUBSYSTEM COMPONENT BREAKDOWN (CONT)

MOD C6
MODELS 9602, 9603, 9604

(TWO BAY SYSTEM SHOWN)



MAJOR COMPONENT

Component	Mounting Location	Notes
CS/70	FREE STANDING	
S/140	CABINET	
MAGTAPE 6021 or 6026	CABINET	SEE 010-000113 or 010-000197
STREAMING MAG TAPE 6125	CABINET	SEE 010-000270
CARTRIDGE DISK 6045,6070	CABINET	SEE 010-000116, 010-000192 OPTIONAL
DISKETTE 6031	CABINET	SEE 010-000064 OPTIONAL
DISK UNIT 6100, 6103	CABINET	SEE 010-000223, 010-000243
TABLE	FREE STANDING	OPTIONAL
DASHER DISPLAY	FREE STANDING	SEE 010-000098 or 010-000215 or 010-000235 or 010-000241
DASHER PRINTER	FREE STANDING	SEE 010-000094 or 010-000214 or 010-000195
DASHER G300 6150 & 6151	FREE STANDING	SEE 010-1013
GRAPHICS PRINTER 6156	FREE STANDING	SEE 010-1036
50/96/190 MB DISC DRIVE	FREE STANDING	SEE 010-000107 or 010-000200
SERIAL PRINTER 4422	FREE STANDING	OPTION; SEE 010-301
FIXED DISK, 73MB	CABINET	OPTION; SEE 010-289
FIXED DISK, 147MB	CABINET	OPTION; SEE 010-289
DCH PRINTER 9755	FREE STANDING	OPTION; 436 LPM; SEE 010-001035
DCH PRINTER 9756	FREE STANDING	OPTION; 600 LPM; SEE 010-001035

CABLE

Cable	Connecting			Max Allowed Lg ft / m	Notes
DEVICE CABLE	VIDEO DISPLAY	and	CPU	2000 / 610	USED ON 6053-D* 005-007428
DEVICE CABLE (CURRENT LOOP)	VIDEO DISPLAY	"	CONV. PANEL	2000 / 610	USED ON 6053-C* 005-007636
DEVICE CABLE (EIA)	VIDEO DISPLAY	"	FULL DUPLEX MODEM	50 / 15.2	USED ON 6053-J** 005-007637
DEVICE CABLE	VIDEO DISPLAY		CPU	2000 / 610	USED ON 6108-D**** 005-014691
DEVICE CABLE (CURRENT LOOP)	VIDEO DISPLAY		CONV. PANEL	2000 / 610	USED ON 6108-G**** 005-014695
DEVICE CABLE (EIA)	VIDEO DISPLAY		FULL DUPLEX MODEM	50 / 15.2	USED ON 6108-J**** 005-014692
DEVICE CABLE (CURRENT LOOP)	DASHER PRINTER	"	CONV. PANEL	2000 / 610	USED ON 6041-G** 005-007636
DEVICE CABLE (EIA)	DASHER PRINTER	"	FULL DUPLEX MODEM	50 / 15.2	USED ON 6041-J** 005-007637
DEVICE CABLE	300 LPM PRINTER	"	CONV. PANEL	15 / 4.6	USED ON 9125 005-009061
DEVICE CABLE	240 LPM PPINTER	"	CONV. PANEL	15 / 4.6	USED ON 9128 005-009061
DEVICE CABLE	MATRIX PRINTER	"	CONV. PANEL	25 / 7.6	USED ON 9123
DEVICE CABLE (EIA)	MATRIX PRINTER		CONV. PANEL	50 / 15.2	USED ON 4354-F 005-015117
DEVICE CABLE (CURRENT LOOP)	MATRIX PRINTER		CONV. PANEL	2000 / 610	USED ON 4354-G 005-014695
DEVICE CABLE	MATRIX PRINTER		CONV. PANEL	25 / 7.6	USED ON 9199 005-012928
DEVICE CABLE	436/600 LPM DCH PRINTERS AND BACKPANEL			49.2 / 15	USED ON 9755,9756 005-007874
DEVICE CABLE	MATRIX PRINTER		SBS COMBO MUX BOARD	25 / 7.6	USED ON 9198 005-012933
DEVICE CABLE	SYNCHRONOUS MODEM	"	CONV. PANEL	50 / 15.2	1084G 005-005269
INTERDEVICE CABLE	SBS COMBO BOARD	"	CONV. PANEL	8 / 2.4	
INTERDEVICE CABLE	SLM BOARD	"	CONV. PANEL	8 / 2.4	
DEVICE CABLE	ASYNCHRONOUS MODEM	"	CONV. PANEL	50 / 15.2	1084G 005-005269
DEVICE CABLE	INTERNATIONAL MODEM	"	CONV. PANEL	50 / 15.2	1084G 005-005269
CURRENT LOOP	D100/D200			20 / 6.1	005-014695

*ALSO 6093 & 6120
**ALSO 6093
***ALSO 6193
****ALSO 6106 & 6150

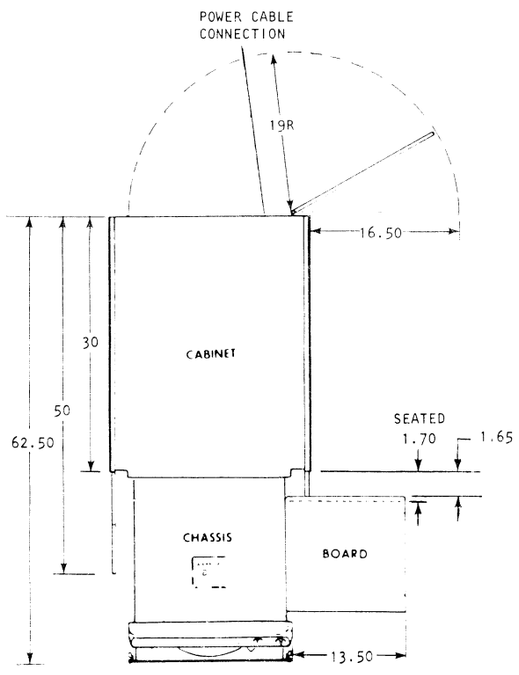
SPECIFICATIONS OF FREE-STANDING COMPONENTS

	PRIMARY POWER REQUIRED FOR CABINET									BTU/Hr	WEIGHT		COOLING UNIT				
	POWER					CORD SUPPLIED		MATING RECEPTACLE REQ'D			GROSS, FULLY LOADED			POWER			
No. Bays	Volts	Hz	Phase	Conductors	Amps	Cable Length ft/in	Cable Connector Nema	Power Drop Nema	Wall Receptacle Nema		Total lb/kg	Per Bay lb/kg	No Units	Volt	Hz	Amp	Watts
1	240 Vac	60	1	3 W/G	40	9/2.74	14-50P	14-50R	14-50R	6,000	565/254	565/254	1	120	60	1.5	140
2	240 Vac	60	1	3 W/G	40	9/2.74	14-50P	14-50R	14-50R	10,600	1090/492	525/238	2	120	60	1.5	140
3	240 Vac	60	1	3 W/G	40	9/2.74	14-50P	14-50R	14-50R	16,500	1615/730	525/238	3	120	60	1.5	140
1	230Vac	50	1	2 W/G	40	9/2.74				6,000	565/254	565/254	1	230	50	0.75	140
2	230Vac	50	1	2 W/G	40	9/2.74				10,600	1090/492	525/238	2	230	50	0.75	140
3	230Vac	50	1	2 W/G	40	9/2.74				16,500	1615/730	525/238	3	230	50	0.75	140

MAXIMUM OPERATING TEMPERATURE: COMPONENT 100°F (38°C)
MEDIA 100°F (38°C)

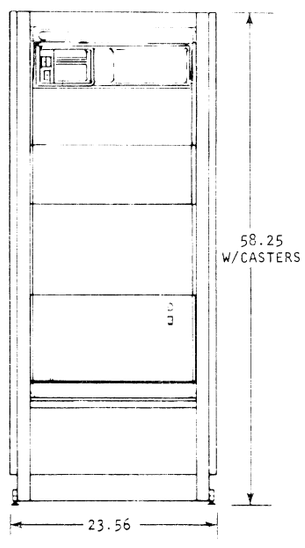
SINGLE BAY CABINET

MODEL 9600

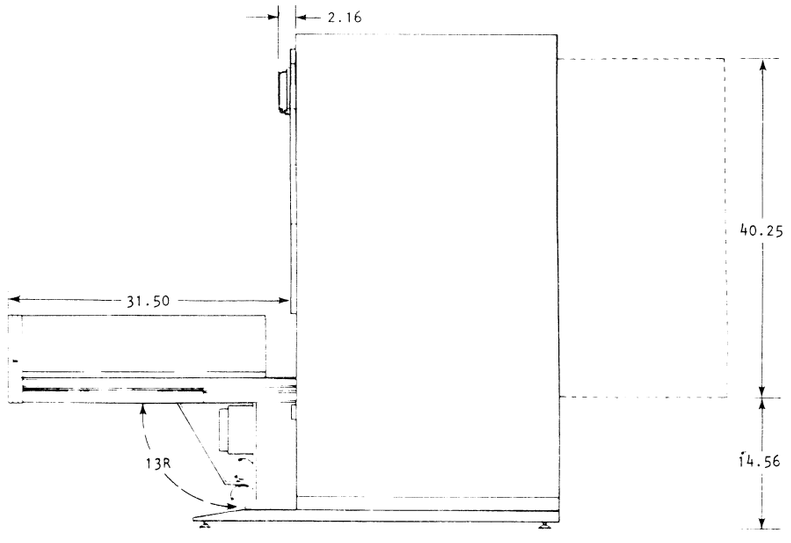


TOP VIEW

SERVICE DIMENSIONS .



FRONT VIEW



SIDE VIEW

ALL DIMENSIONS IN INCHES

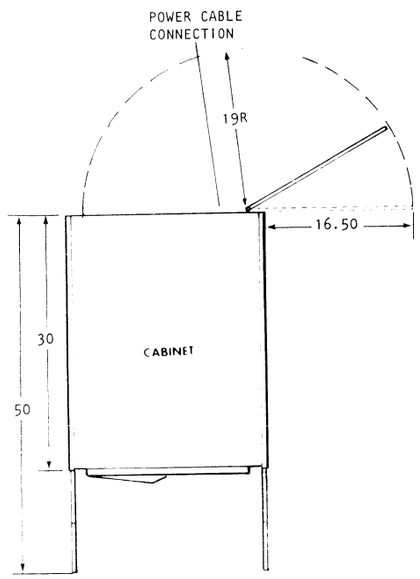
SPECIFICATIONS OF FREE-STANDING COMPONENTS

	PRIMARY POWER REQUIRED FOR CABINET									BTU/Hr.	WEIGHT			COOLING UNIT				
	POWER					CORD SUPPLIED		MATING RECEPTACLE REQ'D				GROSS, FULLY LOADED			POWER			
No Bays	Volts	Hz	Phase	Conductors	Amps	Cable Length ft/in	Cable Connector Nema	Power Drop Nema	Wall Receptacle Nema			Total lb/kg	Per Bay lb/kg	No Units	Volt	Hz	Amp	Watts
1	240 Vac	60	1	3 W/G	40	9/2.74	14-50P	14-50R	14-50R	6,000		565/254	565/254	1	120	60	1.5	140
2	240 Vac	60	1	3 W/G	40	9/2.74	14-50P	14-50R	14-50R	10,500		1090/492	525/238	2	120	60	1.5	140
3	240 Vac	60	1	3 W/G	40	9/2.74	14-50P	14-50R	14-50R	16,500		1615/730	525/238	3	120	60	1.5	140
1	230Vac	50	1	2 W/G	40	9/2.74				6,000		565/254	565/254	1	230	50	0.75	140
2	230Vac	50	1	2 W/G	40	9/2.74				10,500		1090/492	525/238	2	230	50	0.75	140
3	230Vac	50	1	2 W/G	40	9/2.74				16,500		1615/730	525/238	3	230	50	0.75	140

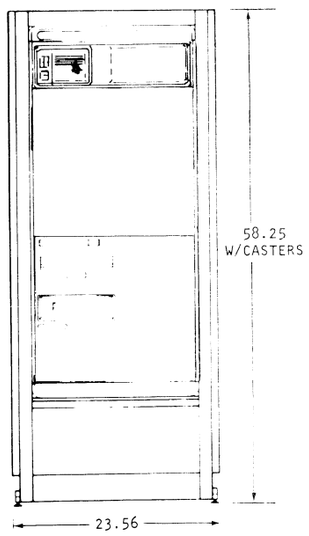
MAXIMUM OPERATING TEMPERATURE: COMPONENT 100°F (38°C)
MEDIA 100°F (38°C)

SINGLE BAY CABINET

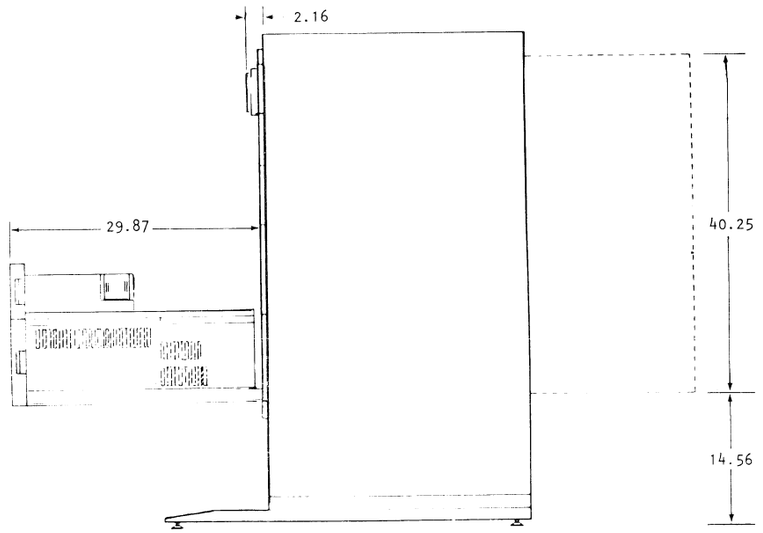
MODEL 9601



TOP VIEW



FRONT VIEW

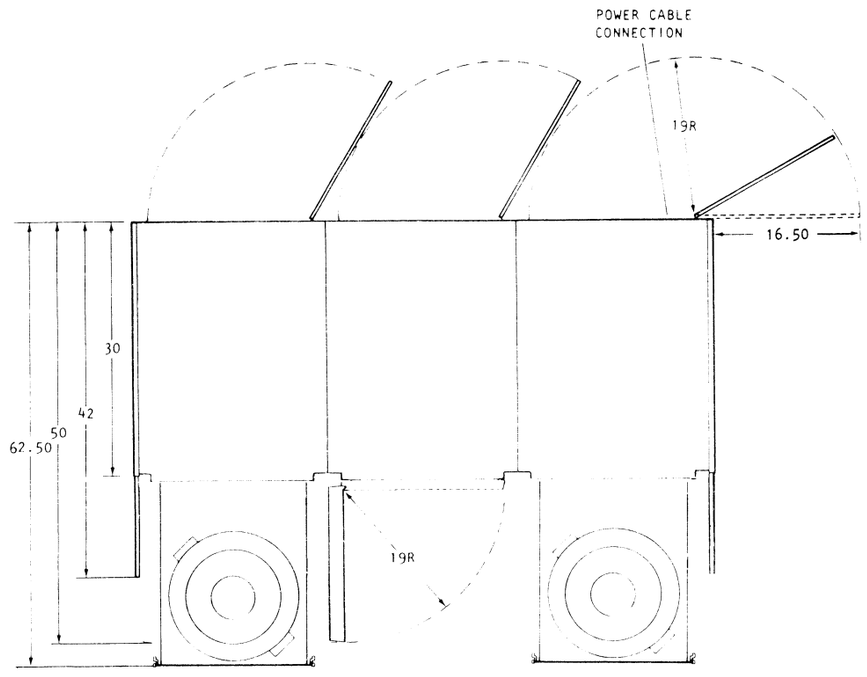


SIDE VIEW

SPECIFICATIONS OF FREE-STANDING COMPONENTS (Cont)

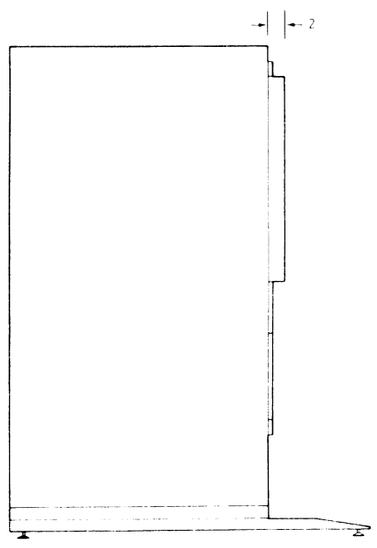
MODEL 9600

THREE BAY CABINET

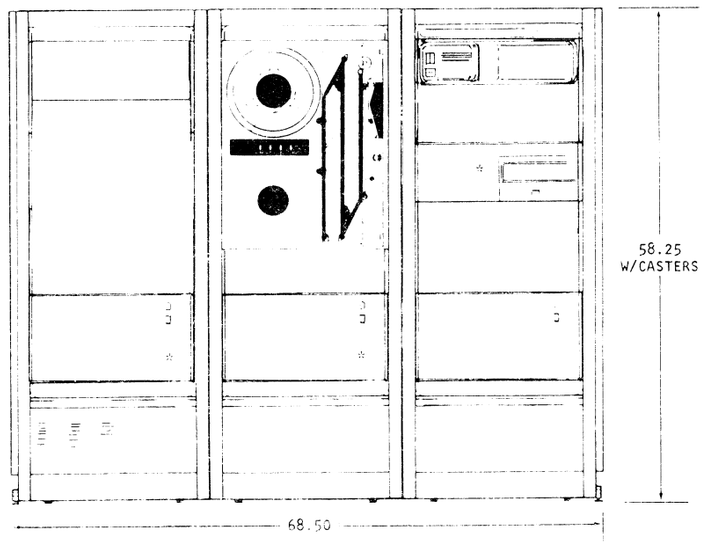


TOP VIEW

SERVICE DIMENSIONS



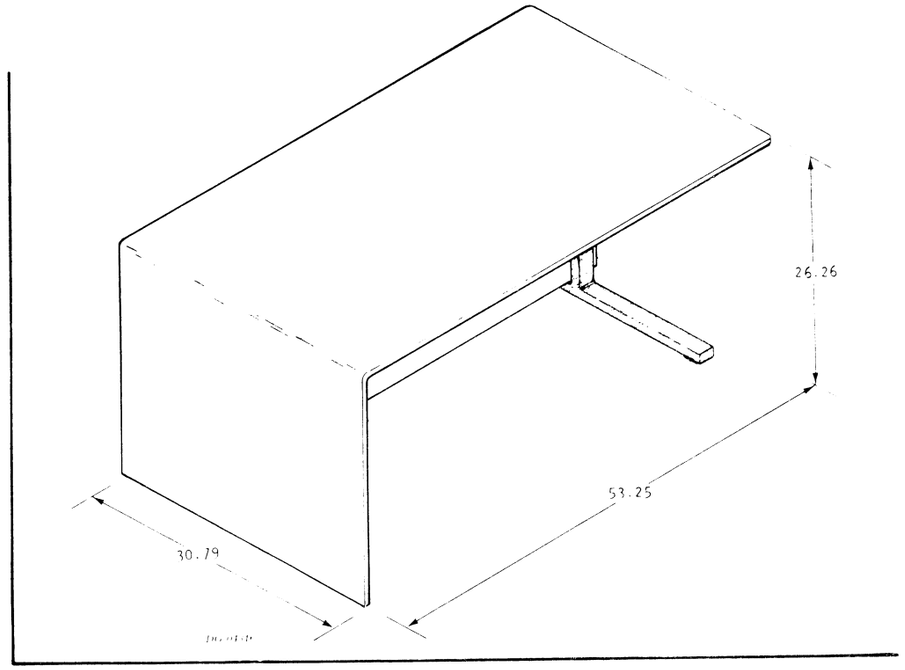
SIDE VIEW

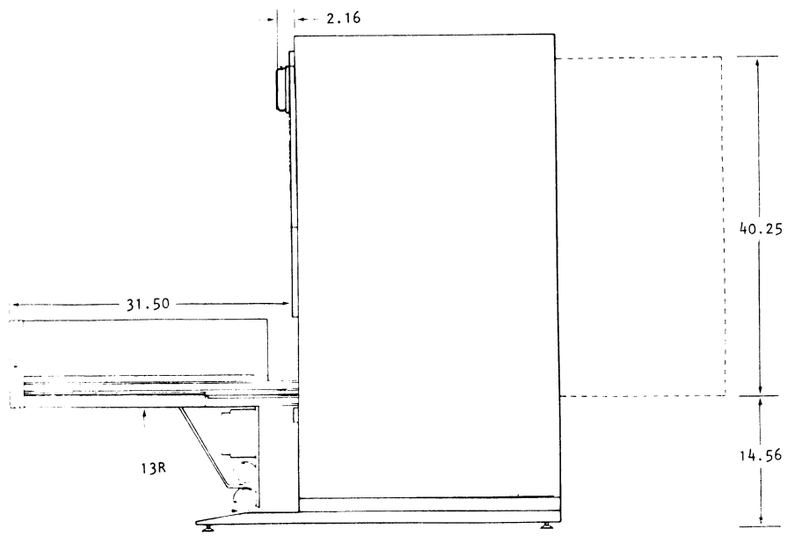


FRONT VIEW

* OPTIONAL

WORKTABLE





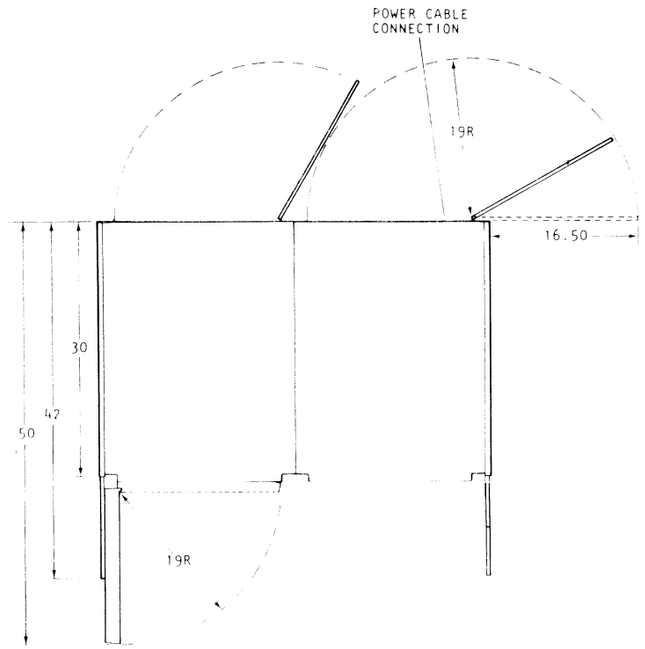
SIDE VIEW

ALL DIMENSION'S IN INCHES

SPECIFICATIONS OF FREE-STANDING COMPONENTS (Cont)

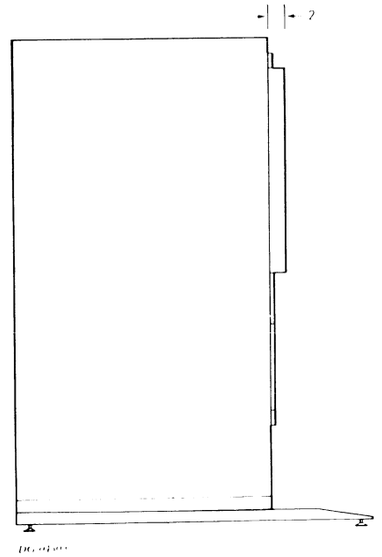
TWO BAY CABINET

MODELS 9602, 9603, 9604

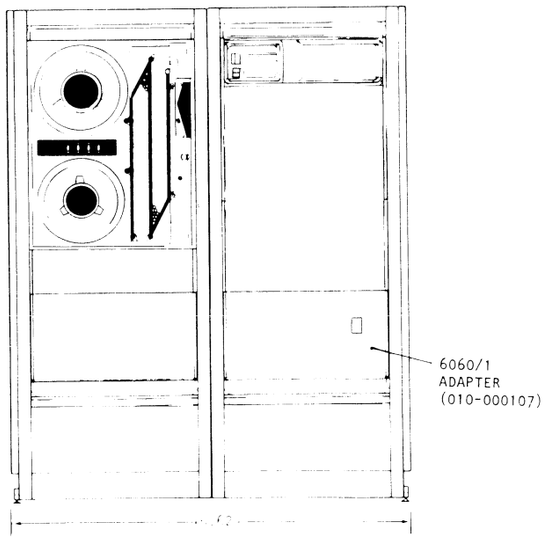


TOP VIEW

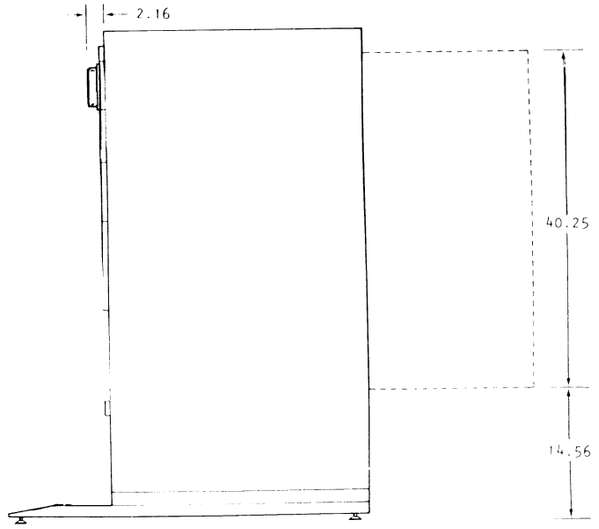
SERVICE DIMENSIONS



SIDE VIEW



FRONT VIEW



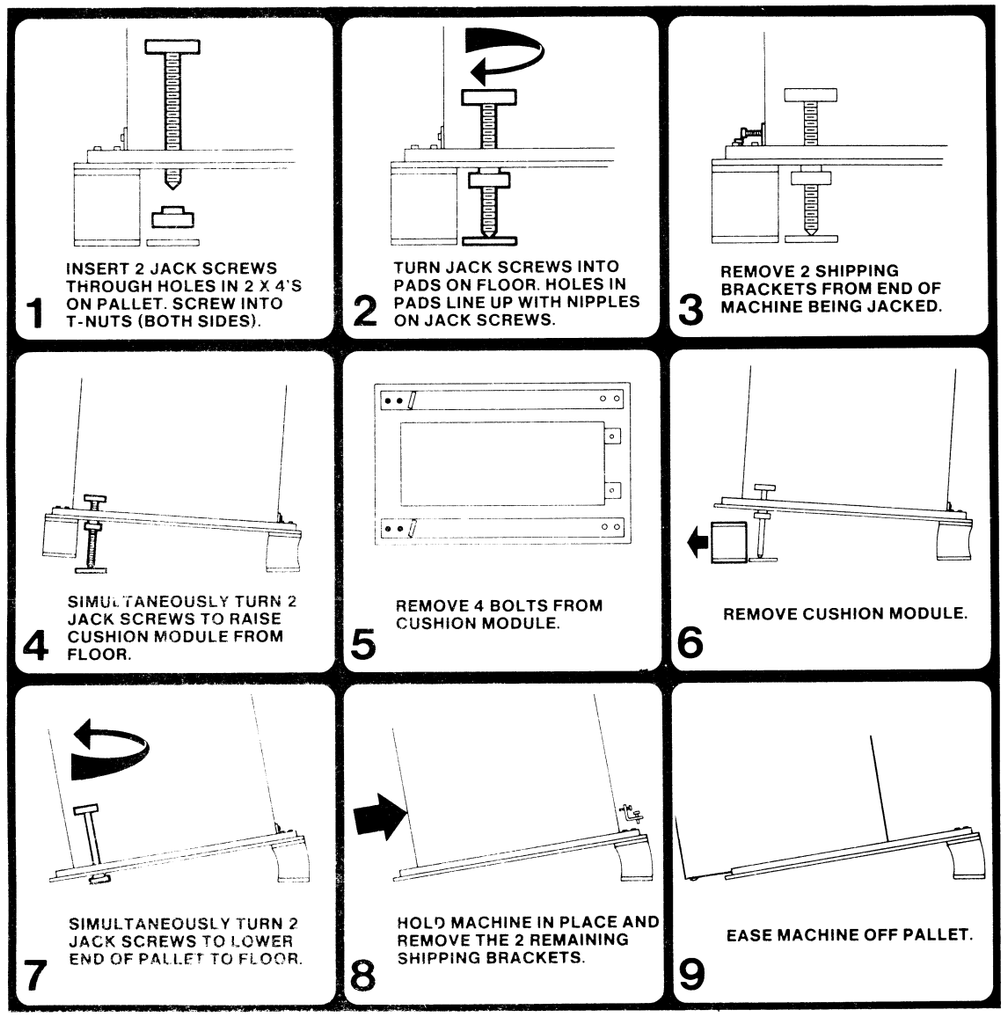
SIDE VIEW

ALL DIMENSIONS IN INCHES

SHIPPING

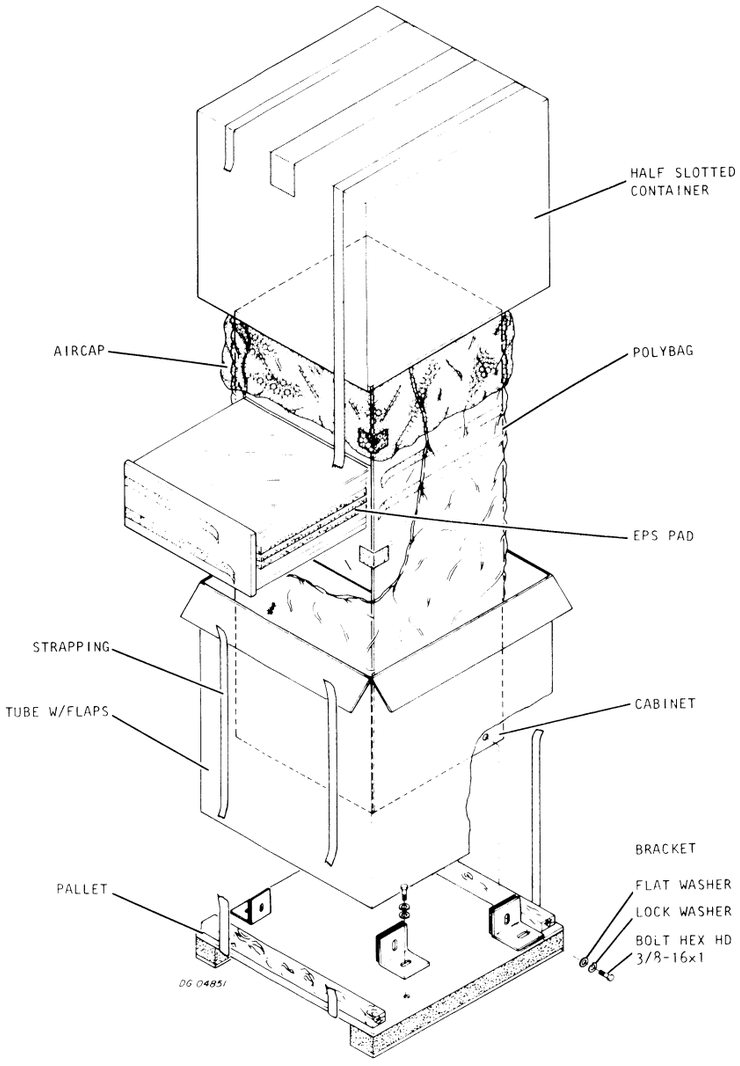
SHIPPING AND PACKAGE DATA					
SHIPPING SPECIFICATIONS			STORAGE SPECIFICATIONS		
Temperature Range °F / °C	Relative Humidity (Non-condensing)	Maximum Altitude	Temperature Range °F / °C	Relative Humidity (Non-condensing)	Maximum Period
-29.2 to 150.8 / -34 to +66	0 - 85%	50,000 FT 15,240 M	-29.2 to 150.8 / -34 to +66	0 - 85%	90 DAYS

UNLOADING INSTRUCTIONS - A 2-MAN OPERATION



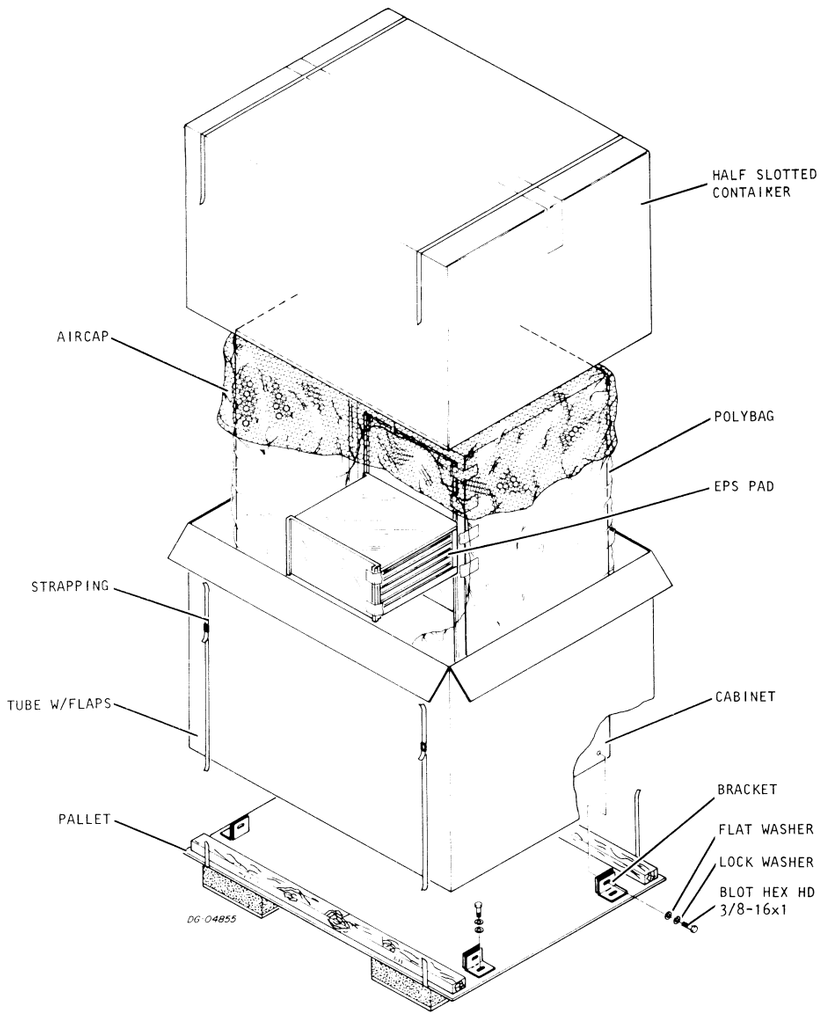
SHIPPING

1 BAY CABINET



SHIPPING AND PACKAGE DATA						
Outside Dimensions			Weight (Gross)	Volume	Density	
Length	Width	Depth				
in / cm	in / cm	in / cm	lbs / kg	cu ft / cu m	lbs/cu ft / kg/cu m	
32 / 81.3	45 / 115	66 / 168	255 / 116	55 / 1.57	4.7 / 75	
SHIPPING SPECIFICATIONS			STORAGE SPECIFICATIONS			
Temperature Range °F / °C	Relative Humidity (Non-condensing)	Maximum Altitude	Temperature Range °F / °C	Relative Humidity (Non-condensing)	Maximum Period	
-40to+160 / -40 to+71	0 /80	50,000ft. 15,200m	-40to+160 / -40 to+71	0 /80	90 days	

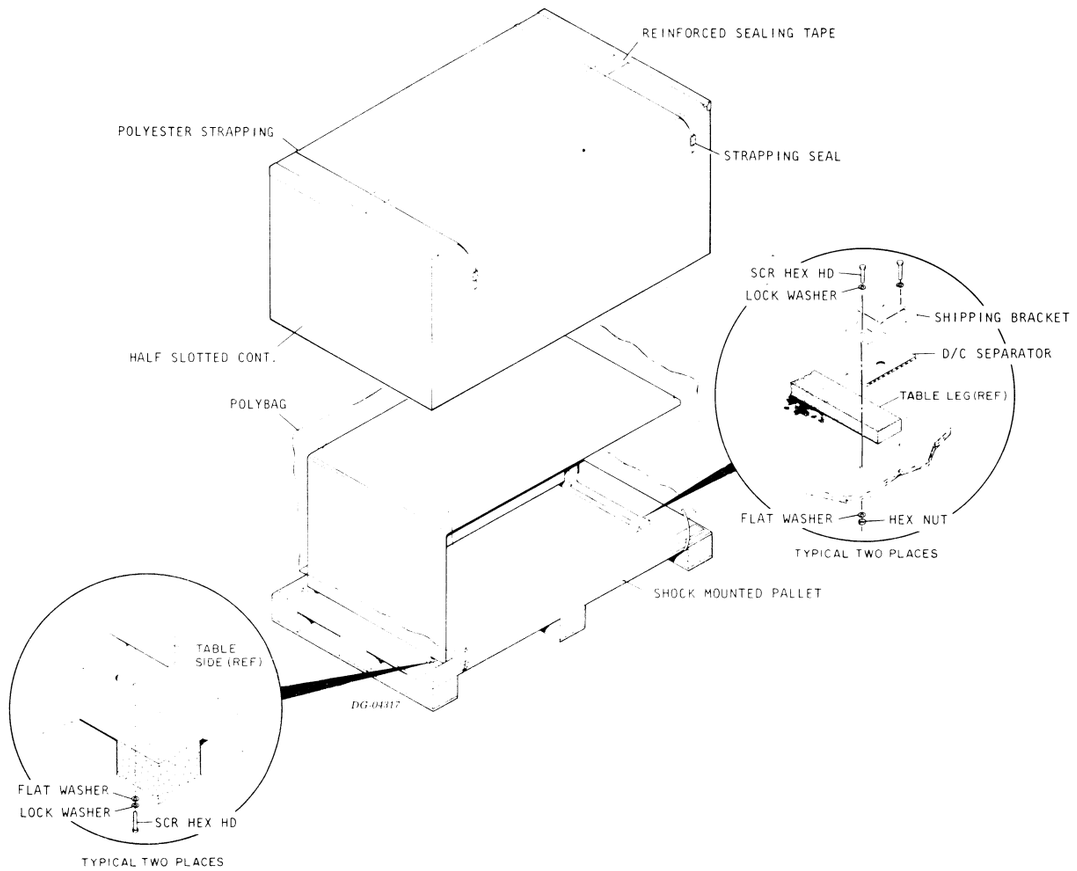
2 BAY CABINET



SHIPPING AND PACKAGE DATA						
Outside Dimensions			Weight (Gross)	Volume	Density	
Length	Width	Depth				
in / cm	in / cm	in / cm	lbs / kg	cu ft / cu m	lbs/cu ft / kg/cu m	
54 / 137	45 / 115	66 / 168	460 / 209	93 / 2.6	4.9 / 80	
SHIPPING SPECIFICATIONS			STORAGE SPECIFICATIONS			
Temperature Range °F / °C	Relative Humidity (Non-condensing)	Maximum Altitude	Temperature Range °F / °C	Relative Humidity (Non-condensing)	Maximum Period	
-40to+160 / -40 to+71	0 /80	50,000ft. 15,200m	-40to+160 / -40 to+71	0 /80	90 days	

SHIPPING (Cont)

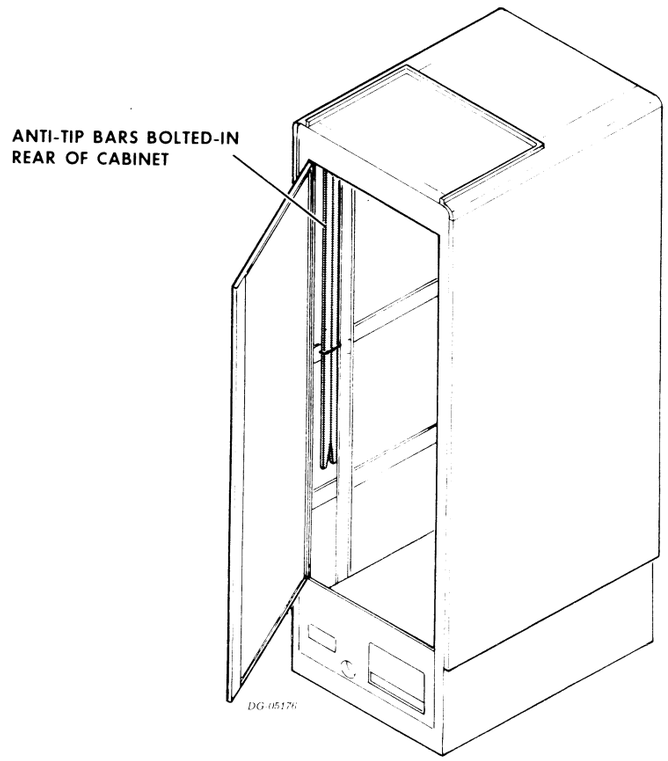
WORKTABLE



SHIPPING AND PACKAGE DATA						
Outside Dimensions			Weight (Gross)		Volume	Density
Length	Width	Depth				
in / cm	in / cm	in / cm	lbs / kg		cu ft / cu m	lbs/cu ft / kg/cu m
62 / 157.48	36.75 / 93.34	30 / 76.20	170 / 76.5		39.5 / 1.18	4.3 / 64.8

SHIPPING SPECIFICATIONS			STORAGE SPECIFICATIONS		
Temperature Range °F / °C	Relative Humidity (Non-condensing)	Maximum Altitude	Temperature Range °F / °C	Relative Humidity (Non-condensing)	Maximum Period
-40 to +160 / -40 to +71	0% / 80%	50,000 ft. 15,200m	-40 to +160 / -40 to +71	0% / 30%	90 days

ANTI-TIP BARS



CHASSIS SLOT ASSIGNMENTS

ECLIPSE S/140

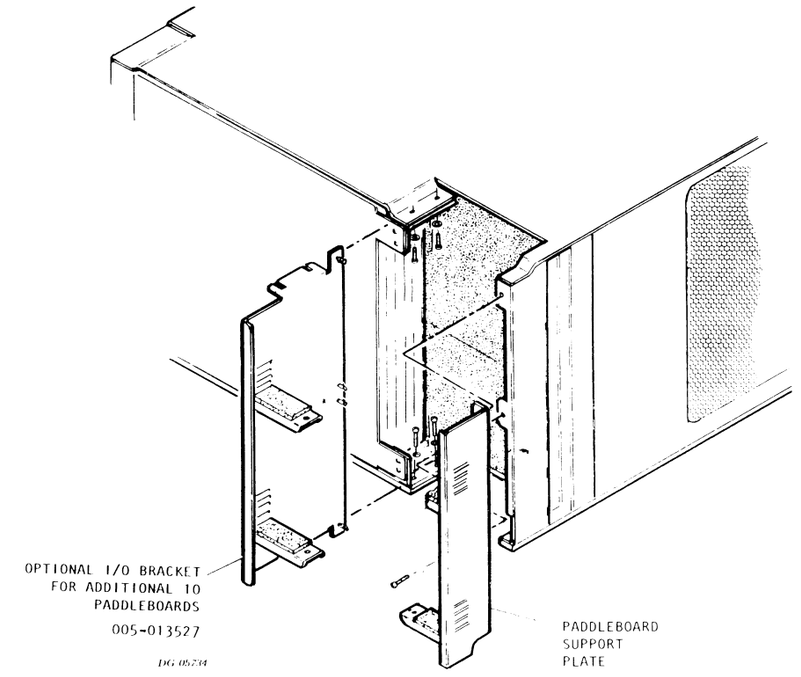
Data Channel Speeds Available: Standard ☐ High Speed ☒

Slot	Allowed (Slot Chart)	Assigned	+5V Current Draw	DCH Latency
16	(SLM)		4.0	
15	(COMBO 4)			
14	(COMBO 3)		3.5	
13	(COMBO 2)		3.5	
12	(COMBO 1)		2.5	
11	(DCH PTR CNT)		4.0	N/A
10	6070 or 2ND 6100 CONT		2.6	1.08ms
9	6098/6100 DISC CONTR		4.0	50us
8	DISC PACK CONTR 2		3.4	19.8us
7	DISC PACK CONTR 1*		2.9	19.8us
6	MAG TAPE CONT		4.0	250us
5	6031 CONT/10MB		2.6	128us
4	(256 KB MEM (ERCC))		4.4	N/A
3	256 KB MEM (ERCC)		4.4	N/A
2	ERCC MEM CONTR		4.4	N/A
1	CPU		17	

Total +5V Current draw	64.6
Max +5V Current Available	100
+5V Current Surplus	35.4

* OR 6099 OR 6103 CONTR (OPTION) (DCH LATENCY, 1.2ms)

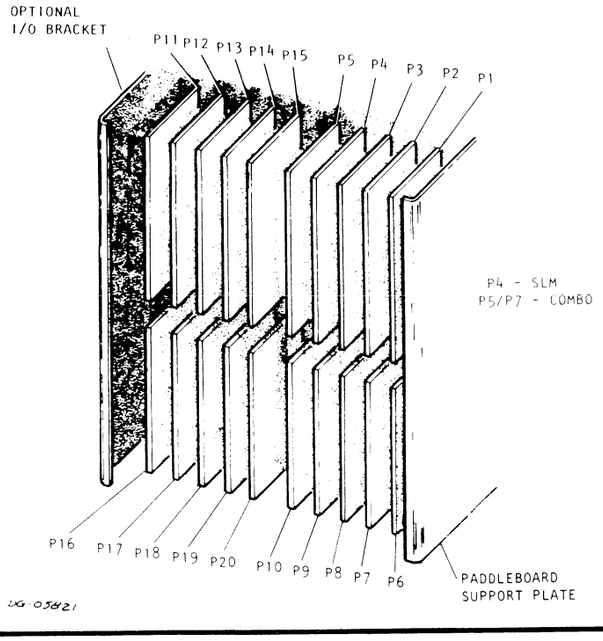
INTERNAL CABLING



ECLIPSE S/140 PADDLEBOARDS

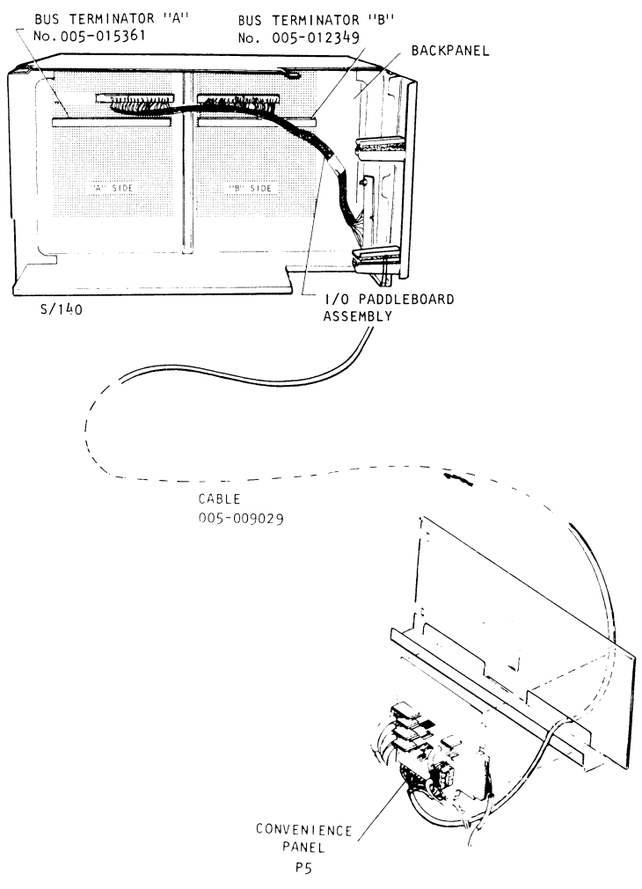
ASSEMBLY No.	TYPE
005-012472	GENERAL PURPOSE I/O
005-012476	I/O BUS REPEATER
005-012585	MCA
005-012590	DCU
005-012751	EXTERNAL I/OBUS* (DG/DAC ONLY)

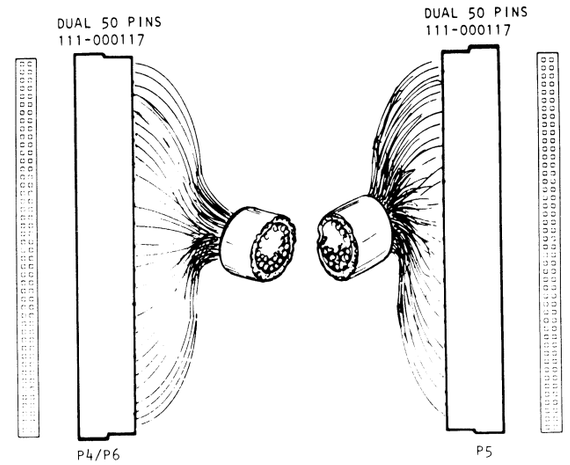
* REQUIRES TWO PADDLEBOARD LOCATIONS



INTERNAL CABLING (Cont)

COMBO PCB

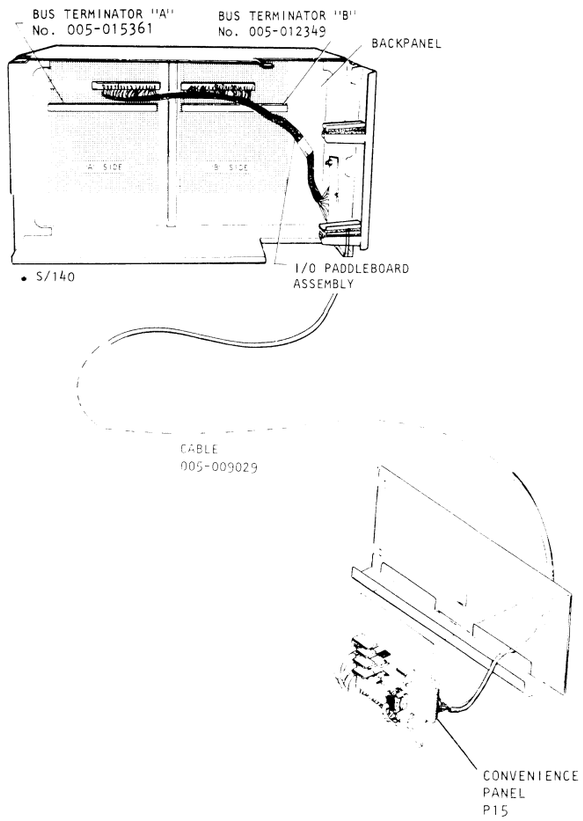


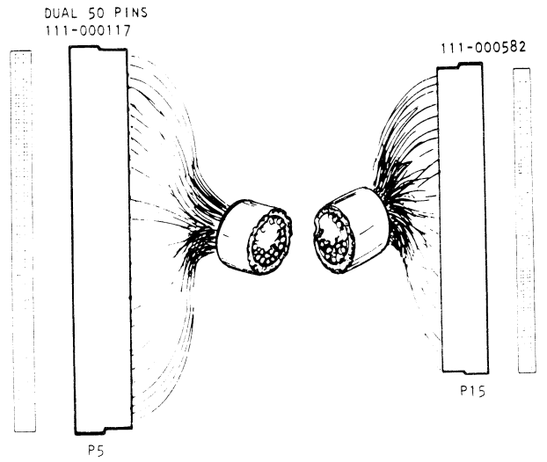


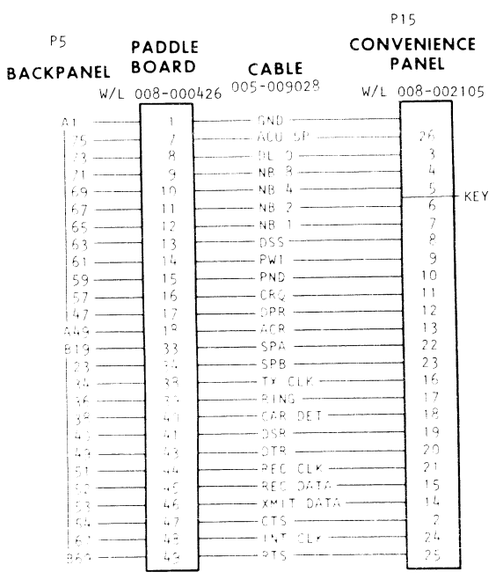
BACKPANEL		PADDLE BOARD W/L 008-000426	CABLE 005-009029		CONVENIENCE PANEL W/L 008-002088
A	1 (GRD)	1	GND		2
	78	4	CTS	3	4
	77	5	CTS	1	5
	76	6	CTS	2	6
	75	7	CTS	0	7
	73	8	CD	0	8
	71	9	CD	1	9
	69	10	CD	2	10
	67	11	CD	3	11
	65	12	RING	0	12
	63	13	RING	1	13
	61	14	RING	2	14
	59	15	RING	3	15
	57	16	DSR	0	16
	47	17	DSR	1	17
	49	18	DSR	2	18
	79	19	DSR	3	19
	81	20	KEY		
	84	21	TTO		20
	83	22	XMIT DATA	3	21
	86	23	XMIT DATA	2	22
	85	24	XMIT DATA	1	23
	88	25	XMIT DATA	0	24
	87	26	REC DATA	1	25
	89	27	REC DATA	0	26
A	90	28	REC DATA	2	27
B	6	29	REC DATA	3	28
	11	30	-12V		29
	13	31	DTR	0	30
	15	32	DTR	1	31
	19	33	DTR	2	32
	23	34	READY		33
	25	35	DEMAND		34
	27	36	PSTRB		35
	31	37	DTR	3	36
	34	38	RTS	0	37
	36	39	RTS	1	38
	38	40	RTS	2	39
	40	41	RTS	3	40
	48	42	+15V		41
	49	43	PB	3	42
	51	44	PB	2	43
	52	45	PB	4	44
	53	46	PB	1	45
	54	47	PB	5	46
	67	48	PB	6	47
B	69	49	TTI	7	48
		50	+5		49
					3
					KEY

INTERNAL CABLING (Cont)

SYNC LINE MUX PCB







TAILORING

CPU JUMPERING
ECLIPSE S/140

BAUD RATE JUMPERS

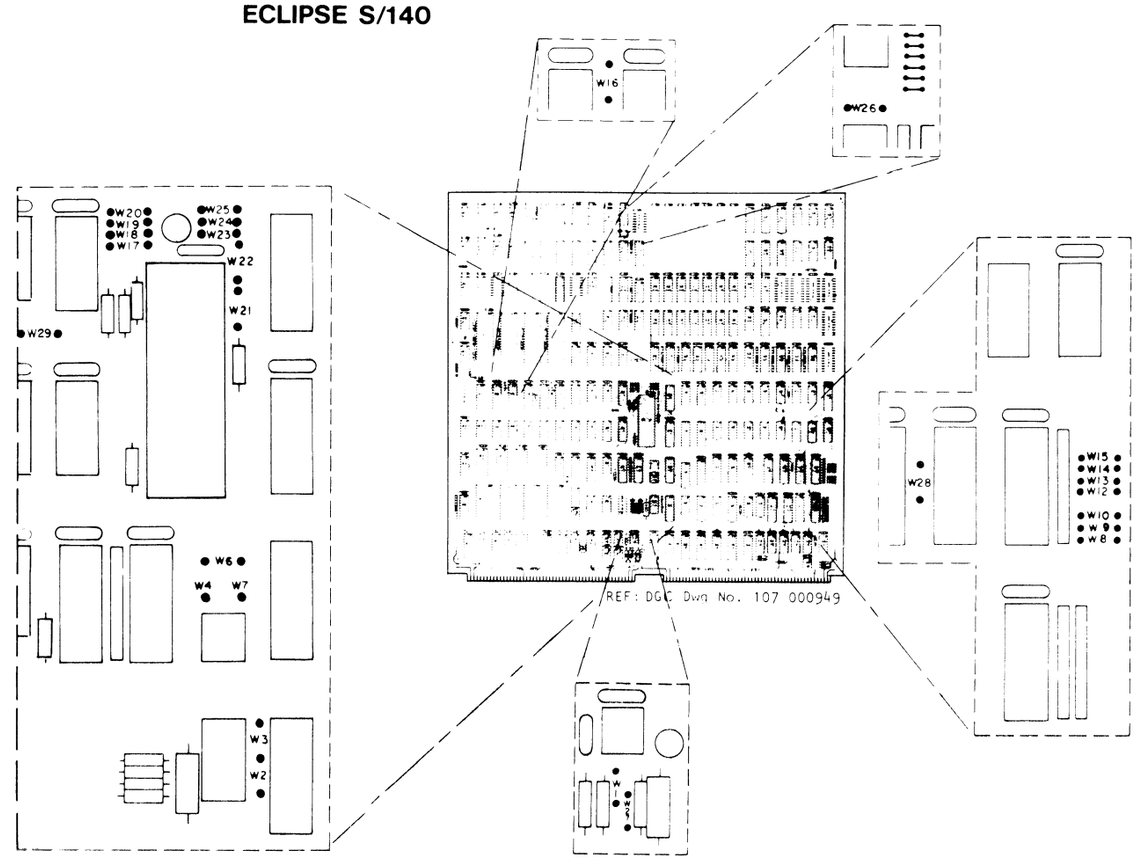
BAUD RATE	JUMPER POSITION W17	W18	W19	W20	W27
50	IN	IN	OUT	IN	OUT
75	IN	IN	OUT	OUT	OUT
110	OUT	OUT	OUT	OUT	IN
134.5	IN	OUT	IN	IN	OUT
150	OUT	OUT	OUT	IN	OUT
200	IN	OUT	IN	OUT	OUT
300	OUT	OUT	IN	OUT	OUT
600	IN	OUT	OUT	IN	OUT
1200	OUT	IN	OUT	OUT	OUT
1600	OUT	IN	OUT	IN	OUT
2400	OUT	OUT	IN	IN	OUT
4800	OUT	IN	IN	OUT	OUT
9600	OUT	IN	IN	IN	OUT
19200	IN	IN	IN	OUT	OUT

PARITY JUMPERS

TYPE OF PARITY	JUMPER POSITION W22	W21
EVEN	OUT	IN
ODD	IN	IN
NONE	OUT	OUT

CHARACTER LENGTH JUMPERS

CHARACTER LENGTH	JUMPER POSITION W25	W24
5 BITS	IN	IN
6 BITS	OUT	IN
7 BITS	IN	OUT
8 BITS	OUT	OUT



TYPE OF TRANSMISSION JUMPERS

TYPE OF TRANSMISSION	JUMPERS INSERTED
20MA CURRENT LOOP	W4, W7, W2, W1
EIA RS232-C	W6, W3

STOP BIT JUMPERS

NUMBER OF STOP BITS	W23 JUMPER POSITION
1	IN
2	OUT

REAL TIME CLOCK JUMPER

	W29
RTC ENABLED	IN
RTC DISABLED	OUT

DEVICE CODE JUMPERS FOR FRONT PANEL AUTOMATIC PROGRAM LOAD

SELECT THE PROGRAM LOAD DEVICE CODE BY INSTALLING JUMPERS W13, W15, W14, W12, W10, W8 AS FOLLOWS:

JUMPER IN = 1 JUMPER OUT = 0

EXAMPLE JUMPERING FOR DEVICE CODE 27 :
8

W13	W15	W14	W12	W10	W8
OUT	IN	OUT	IN	IN	IN

W9 IS INSERTED IF THE PROGRAM LOAD DEVICE IS A HIGH SPEED DEVICE, OTHERWISE, IT IS REMOVED.

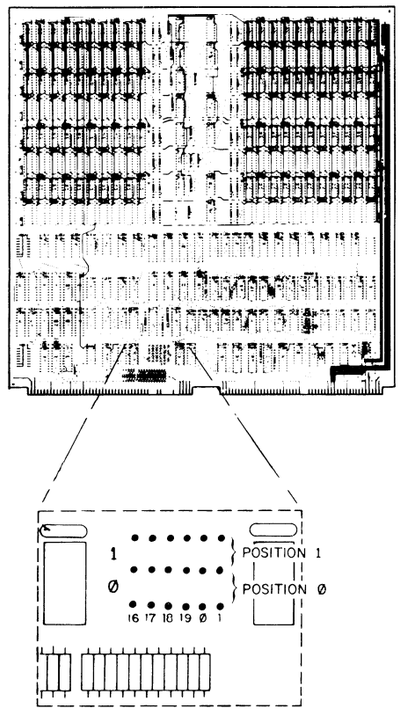
NOTE: JUMPERS W16, W26 AND W29 ARE ALWAYS INSERTED. JUMPERS W5 AND W11 DO NOT EXIST ON ANY BOARDS AND JUMPER W29 DOES NOT EXIST ON BOARDS WITH ARTWORK No. 107-000949 Rev. 00.

TAILORING (CONT)

JUMPERING

MEMORY ECLIPSE S/140

Ref DGC Dwg No 107-000813 Rev 00



ECLIPSE S/140 MEMORY BOARD SELECT JUMPERS

PHYSICAL ADDRESS RANGE	JUMPERS INSERTED NUMBER (POSITION)* BOARD SIZE 256K BYTES	128K BYTES
1777777-1600000-	17(1) 18(1)	17(1) 18(1) 19(1)
1577777-1400000-		17(1) 18(1) 19(0)
1377777-1200000-	17(1) 18(0)	17(1) 18(0) 19(1)
1177777-1000000-		17(1) 18(0) 19(0)
0777777-0600000-	17(0) 18(1)	17(0) 18(1) 19(1)
0577777-0400000-		17(0) 18(1) 19(0)
0377777-0200000-	17(0) 18(0)	17(0) 18(0) 19(1)
0177777-0000000-		17(0) 18(0) 19(0)

* THE JUMPERS LISTED SHOULD BE INSERTED IN THE POSITION (0 OR 1) GIVEN IN PARENTHESES. JUMPER 16 IS ALWAYS INSERTED IN POSITION 0: NONE OF THE OTHER UNLISTED JUMPERS IS INSERTED. NOTE THAT THE 001 DRAWINGS AND THE 016 DRAWINGS USE NUMBERS W1 THRU W12 TO REFER TO JUMPER POSITIONS. THE TABLE BELOW SHOWS WHICH "W" NUMBERS CORRESPOND WITH WHICH JUMPER POSITIONS.

ETCHED JUMPER NUMBER (POSITION)	010 AND 016 JUMPER NUMBER
16(0)	W1
16(1)	W2
17(0)	W3
17(1)	W4
18(0)	W5
18(1)	W6
19(0)	W7
19(1)	W8
1(0)	W9
1(1)	W10
0(0)	W11
0(1)	W12

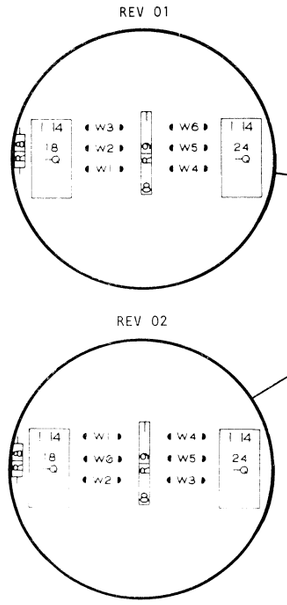
SYSTEMS SHOULD BE CONFIGURED WITH THE LARGER BOARDS OCCUPYING THE LOWER MEMORY ADDRESS RANGES.

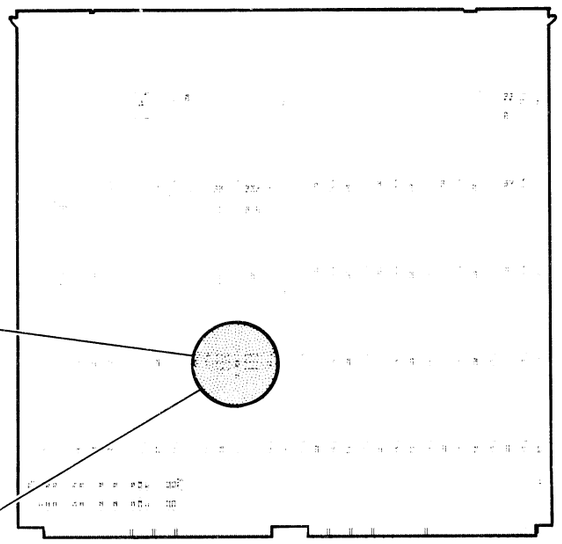
MEMORY LOADS

VOLTAGE	DESCRIPTION	CURRENT DRAW
+5V	SYSTEM WITH BATTERY BACKUP	5.1A
+5V	SYSTEM WITHOUT BATTERY BACKUP	6.3A
+12V MEM	FIRST BOARD IN CHASSIS	3.0A
+12V MEM	EACH ADDITIONAL BOARD	0.39A

6125 STREAMING MAG TAPE INTERFACE

Ref DGC Dwg 003-001564 Rev 02





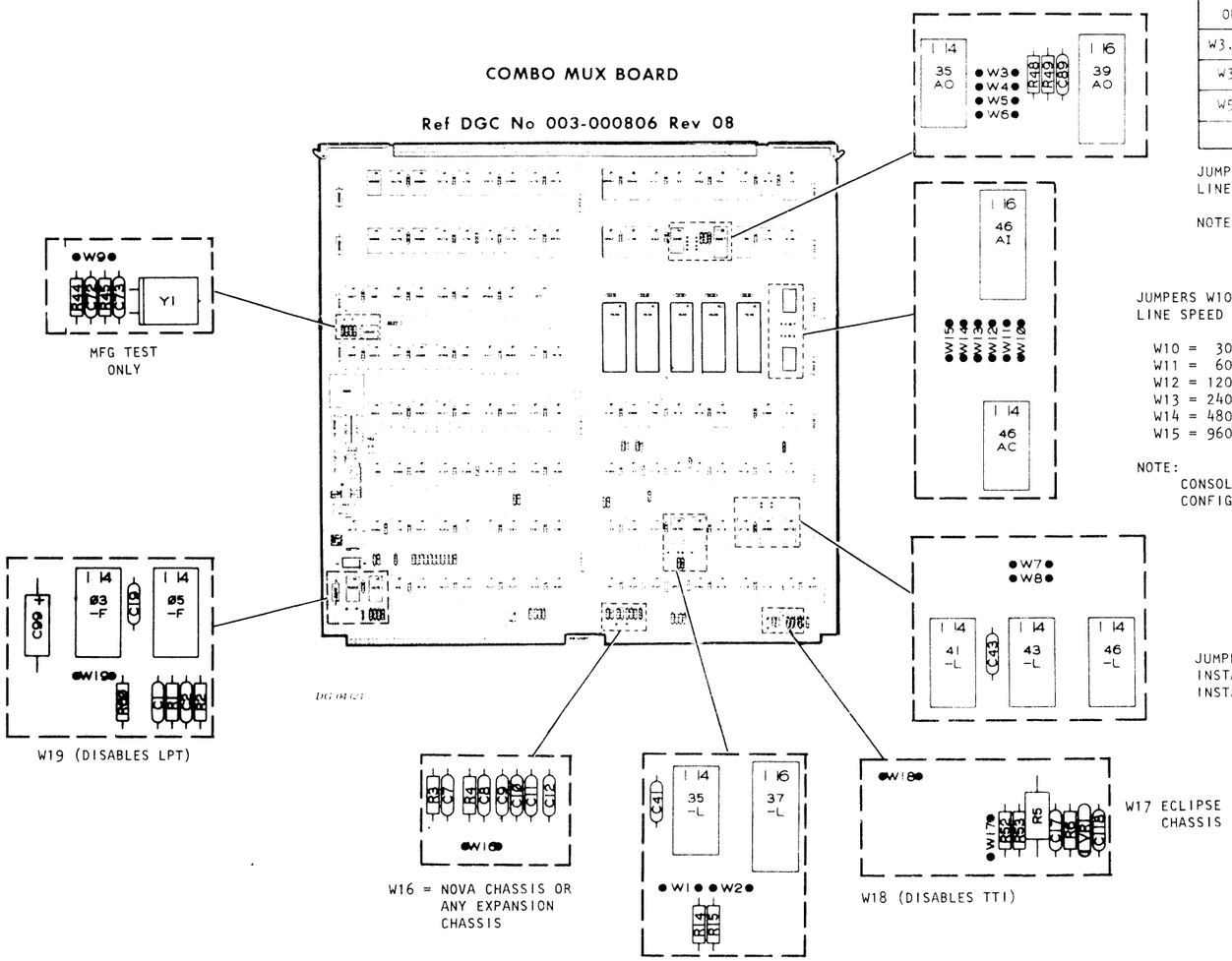
DEVICE SELECT JUMPERS		
REV 01	REV 02	(OF BOARD ARTWORK)
W2	W0	MSB
W3	W1	
W1	W2	
W4	W3	
W6	W4	
W5	W5	LSB

TAILORING

COMBO JUMPERING

COMBO MUX BOARD

Ref DGC No 003-000806 Rev 08



JUMPERS		
OUT	IN	BAUD
W3,W5		1200
W3	W5	1800
W5	W3	4800
	W3,W5	NOT USED

JUMPERS W3, W5 DETERMINE LINE SPEED FOR CLK2.

JUMPERS		
OUT	IN	BAUD
W4,W6		110
W6	W4	150
W4	W6	300
	W4,W6	2400

JUMPERS W4, W6 DETERMINE LINE SPEED FOR CLK3.

NOTE: CLK0 IS FIXED AT 9600 BAUD
CLK1 IS FIXED AT 600 BAUD

JUMPERS W10 THRU W15 DETERMINE LINE SPEED FOR CONSOLE INTERFACE

W10 = 300 BAUD
W11 = 600 BAUD
W12 = 1200 BAUD
W13 = 2400 BAUD
W14 = 4800 BAUD
W15 = 9600 BAUD

NOTE:
CONSOLE INTERFACE IS NORMALLY CONFIGURED FOR 9600 BAUD.

JUMPERS W7 AND W8 DETERMINE POLARITY OF PRINTER STROBE.
INSTALL W8 FOR 300 LPM, 240 LPM
INSTALL W7 FOR 180 CPS.

POWER +5 +15

3.5A 400mA

NOTE:

POWER REQUIREMENTS INCLUDE CONVENIENCE PANEL.

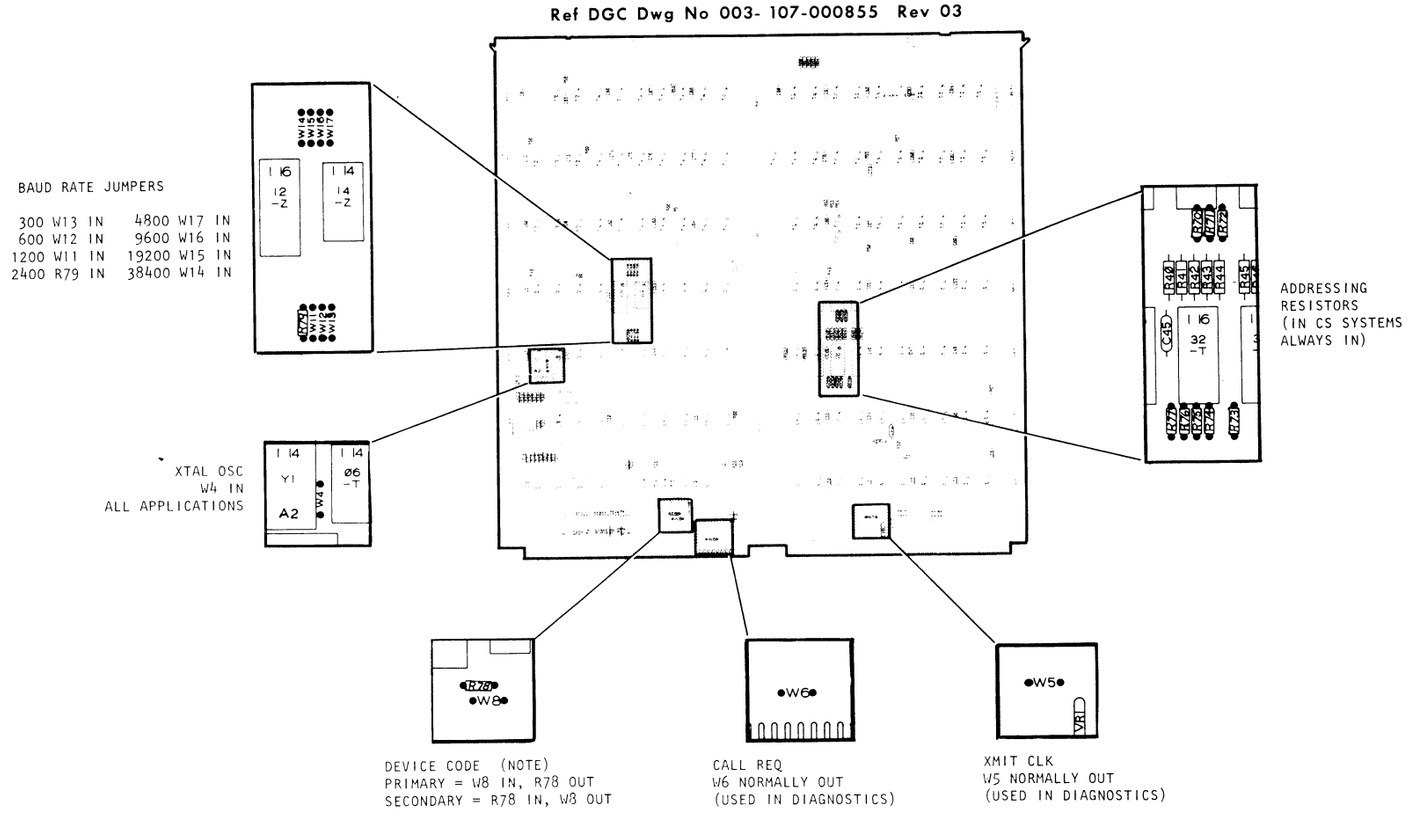
JUMPERS			
OUT	IN	ALM LINES	DEVICE CODES
W1,W2		0-3	TTI=10,TTO=11,RTC=14,,LPT=17
W1	W2	4-7	TTI=50,TTO=51,RTC=54,LPT=57
W2	W1	8-11	TTO,TTI,RTC,LPT ARE DISABLED
	W1,W2	12-15	TTO,TTI,RTC,LPT ARE DISABLED

JUMPERS W1 AND W2 DETERMINE LINE NUMBERS AND DEVICE CODES FOR TTI,TTO,RTC AND LPT.

TAILORING (CONT)

SYNC LINE MUX

Ref DGC Dwg No 003- 107-000855 Rev 03



BAUD RATE JUMPERS

300 W13 IN	4800 W17 IN
600 W12 IN	9600 W16 IN
1200 W11 IN	19200 W15 IN
2400 R79 IN	38400 W14 IN

XTAL OSC
W4 IN
ALL APPLICATIONS

ADDRESSING
RESISTORS
(IN CS SYSTEMS
ALWAYS IN)

DEVICE CODE (NOTE)
PRIMARY = W8 IN, R78 OUT
SECONDARY = R78 IN, W8 OUT

NOTE:
CS SYSTEMS ARE ALWAYS CONFIGURED TO SECONDARY DEVICE CODE.

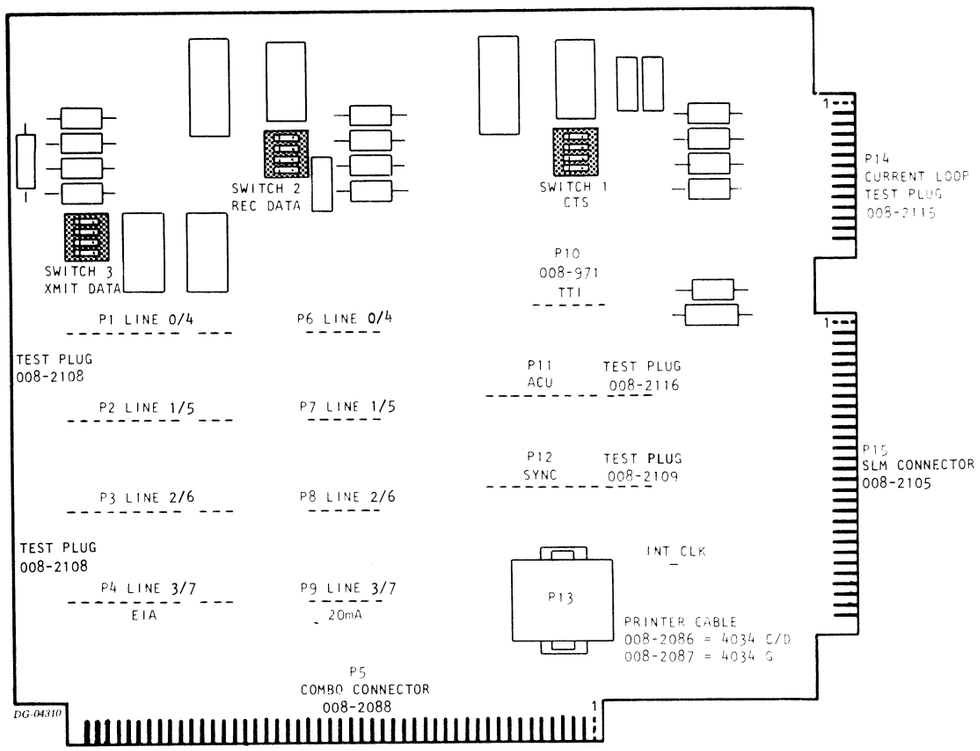
CALL REQ
W6 NORMALLY OUT
(USED IN DIAGNOSTICS)

XMIT CLK
W5 NORMALLY OUT
(USED IN DIAGNOSTICS)

TAILORING (Cont)

CONVENIENCE PANEL PCB

Ref. DGC 107 000825 Rev.01



NOTES:

REMOVE ALL TEST PLUGS FOR NORMAL OPERATION. UNDER NO CIRCUMSTANCES SHOULD AN INDIVIDUAL LINE HAVE MORE THAN ONE CONNECTION.

1. CONNECTIONS TO P1 THRU P4 REQUIRE THE RESPECTIVE LINE NUMBER SWITCHES TO BE IN THE OFF POSITION.
2. CONNECTIONS TO P6 THRU P9 REQUIRE THE RESPECTIVE LINE NUMBER SWITCHES TO BE IN THE ON POSITION.
3. CONNECTIONS TO P14 ALSO REQUIRE THE RESPECTIVE LINE NUMBER SWITCHES TO BE IN THE ON POSITION.

SBS2 DIAGNOSTIC OPERATION
INSERT TEST PLUGS BETWEEN P1 AND P2, P3 AND P4, ALSO P14 SET SWITCHES S1 OFF, S2 AND S3 ON.

CABLES	CONNECTIONS	
005-008181	P1 THRU P4	IF LOCAL EIA
005-005269	P1 THRU P4	MODEM
005-007636	P6 THRU P9	DISPLAY LOCAL CURRENT LOOP
005-009692	P6 THRU P9	DASHER PRINTER CURRENT LOOP
005-005269	P12	SYNCHRONOUS LINE TO MODEM
(FUTURE OPTION)	P11	AUTO CALL UNIT
005-009061	P13	300 LPM PRINTER
005-009060	P13	165 CPS PRINTER

SWITCH POSITIONS:						
CABLE CONNECTION	SIG. NAME	SWITCH ASSY 3	SIG. NAME	SWITCH ASSY 2	SIG. NAME	SWITCH ASSY 1
P1	$\overline{\text{XDATA0}}$	OFF	$\overline{\text{REC DATA0}}$	OFF	CTS0	OFF
P2	$\overline{\text{XDATA1}}$	OFF	$\overline{\text{REC DATA1}}$	OFF	CTS1	OFF
P3	$\overline{\text{XDATA2}}$	OFF	$\overline{\text{REC DATA2}}$	OFF	CTS2	OFF
P4	$\overline{\text{XDATA3}}$	OFF	$\overline{\text{REC DATA3}}$	OFF	CTS3	OFF
P6	$\overline{\text{XDATA0}}$	ON	$\overline{\text{REC DATA0}}$	ON	CTS0	ON
P7	$\overline{\text{XDATA1}}$	ON	$\overline{\text{REC DATA1}}$	ON	CTS1	ON
P8	$\overline{\text{XDATA2}}$	ON	$\overline{\text{REC DATA2}}$	ON	CTS2	ON
P9	$\overline{\text{XDATA3}}$	ON	$\overline{\text{REC DATA3}}$	ON	CTS3	ON

*TO RUN ACU DIAGNOSTIC WITH REV 00 PLUG PANEL, CRQ AND ACU SPARE MUST BE JUMPERED ON SLM BOARD.

CS40 TEST PLUGS

Test Plugs are required to operate the following diagnostics; SBS2, SLM, ACU, and the Modem Control section of the ALM-SLM reliability. In the Systems Environment these test plugs will be installed on the plug panel. This provides easy installation and insures the testing of the plug panel and its associated cabling.

TEST PLUG SUMMARY:

1. SBS COMBO BOARD TEST PLUG (008-2108) (005-9346)

This test plug is required to run SBS2 Diag, & the Modem Control section of ALM reliability.

NOTE: A quantity of 2 plugs are required per combo board.

FROM	SIGN. NAME	TO
12, 3	RTS N, RING N, DSR N+1	7
7	DSR N, RTS N+1, RING N+1	12, 3
5,6	DTR N, CTS N, CD N+1	4
4	CD N, DTR N+1, CTS N+1	5, 6
N = ANY EVEN LINE NUMBER		

2. SBS CURRENT LOOP TEST PLUG (008-2115) (005-9348)

This test plug is also required to run SBS2, it requires that plug panel switches SW2 & SW3 are in the on position, and SW1 must be in the off position. If CTS portion of SBS2 is run, then SW1 must be on.

NOTE: CTS portion of SBS2 is used to test BUSY circuitry on plug panel. This is accomplished by wrapping XMIT DATA line N to CTS line N-1 & XMIT DATA Line N-1 to CTS Line N.

FROM	SIGN. NAME	TO
2,6	RCL0, BUSY0, TXL1-	M
3,7	RCL1, BUSY1, TXL0-	L
4,8	RCL2, BUSY2, TXL3-	P
5,9	RCL3, BUSY3, TXL2-	N

3. SLM TEST PLUG (008-2109) (005-9349)

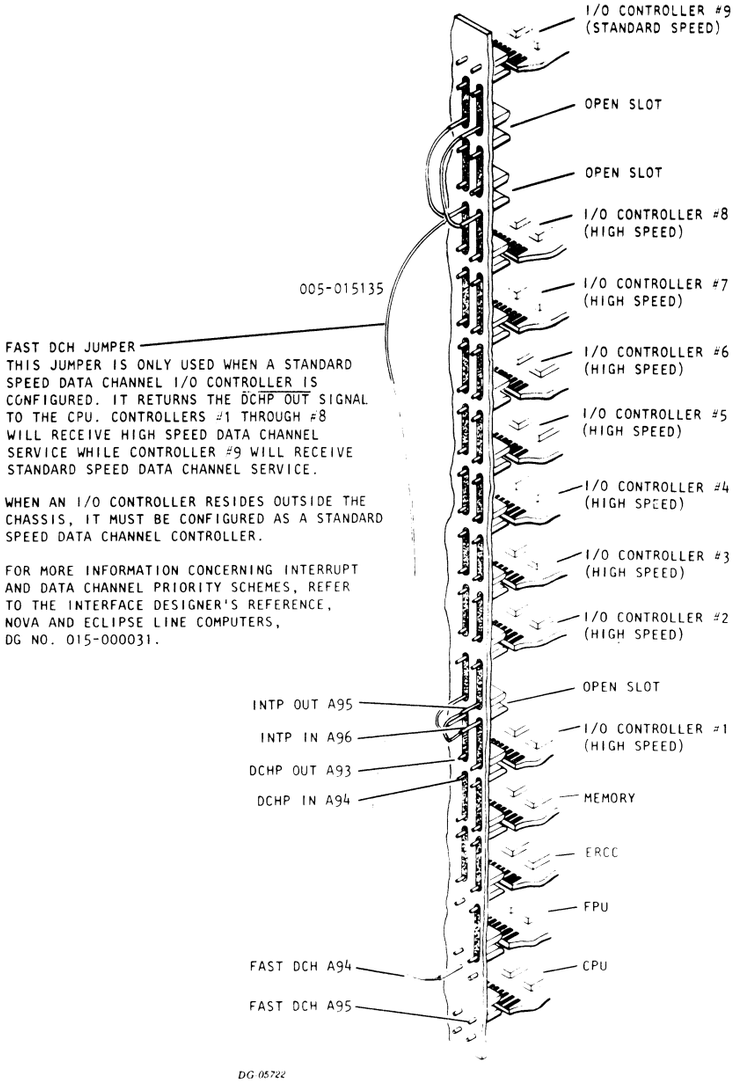
FROM	SIGN. NAME	TO
INT-CLK (pin)	INT CLK, XMIT CLK, REC CLK	1, 13
2	XMIT DATA, REC DATA	11
3	RING, DTR	5
4	CAR DET, SPARE A	8
SPARE B (pin) 10	SPARE B, CTS	6
7	DSR, RTS	12

4. ACU TEST PLUG (008-2116) (005-9347)

FROM	SIGN. NAME	TO
2	DLO, NB2	5
3	NB8, ACR	13
4	NB4, DSS	7
6	NB1, PND	9
8	PWI, DPR	12
11	*CRQ, ACU SPARE	10

TAILORING (CONT)

BACKPANEL JUMPERING



FAST DCH JUMPER
THIS JUMPER IS ONLY USED WHEN A STANDARD SPEED DATA CHANNEL I/O CONTROLLER IS CONFIGURED. IT RETURNS THE $\overline{\text{DCHP OUT}}$ SIGNAL TO THE CPU. CONTROLLERS #1 THROUGH #8 WILL RECEIVE HIGH SPEED DATA CHANNEL SERVICE WHILE CONTROLLER #9 WILL RECEIVE STANDARD SPEED DATA CHANNEL SERVICE.

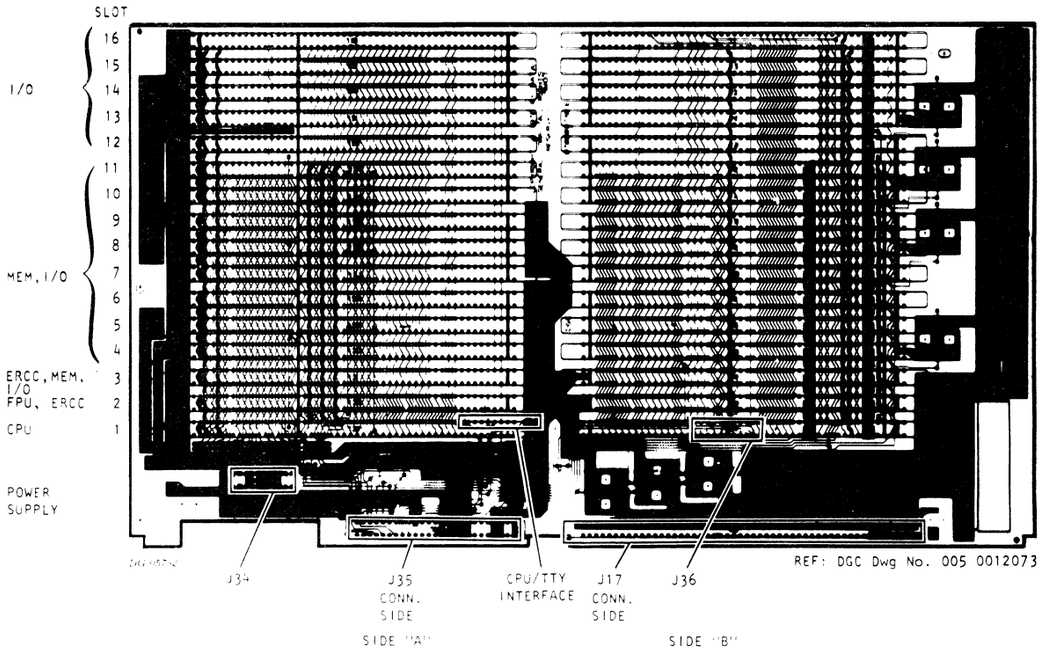
WHEN AN I/O CONTROLLER RESIDES OUTSIDE THE CHASSIS, IT MUST BE CONFIGURED AS A STANDARD SPEED DATA CHANNEL CONTROLLER.

FOR MORE INFORMATION CONCERNING INTERRUPT AND DATA CHANNEL PRIORITY SCHEMES, REFER TO THE INTERFACE DESIGNER'S REFERENCE, NOVA AND ECLIPSE LINE COMPUTERS, DG NO. 015-000031.

NO JUMPERS NEEDED EXCEPT FOR OPEN SLOTS AND STANDARD SPEED DATA CHANNEL I/O CONTROLLERS.

INTERNAL CABLING

BACKPANEL CONNECTORS



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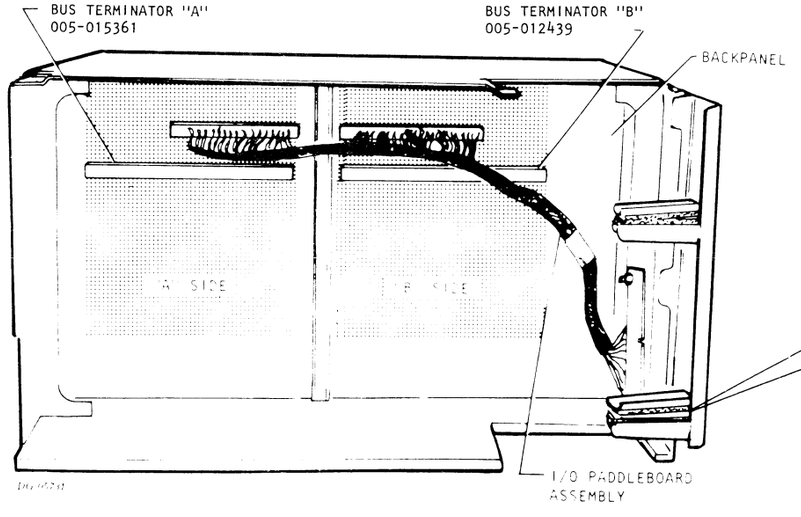
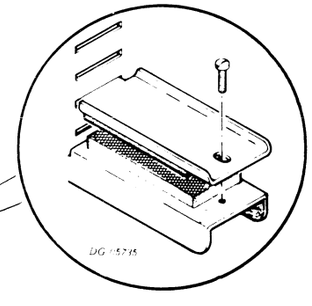
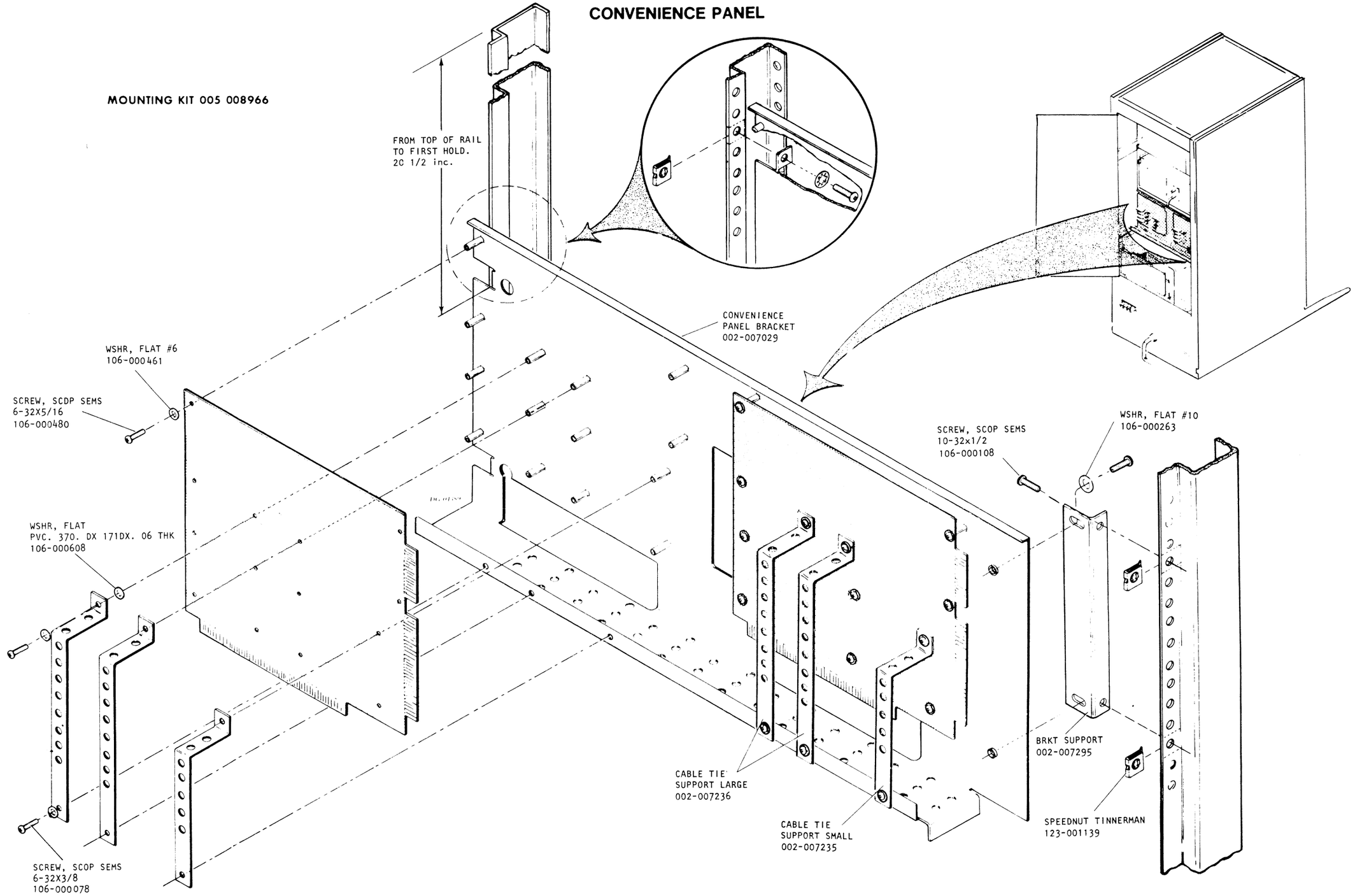


STRAIN RELIEF

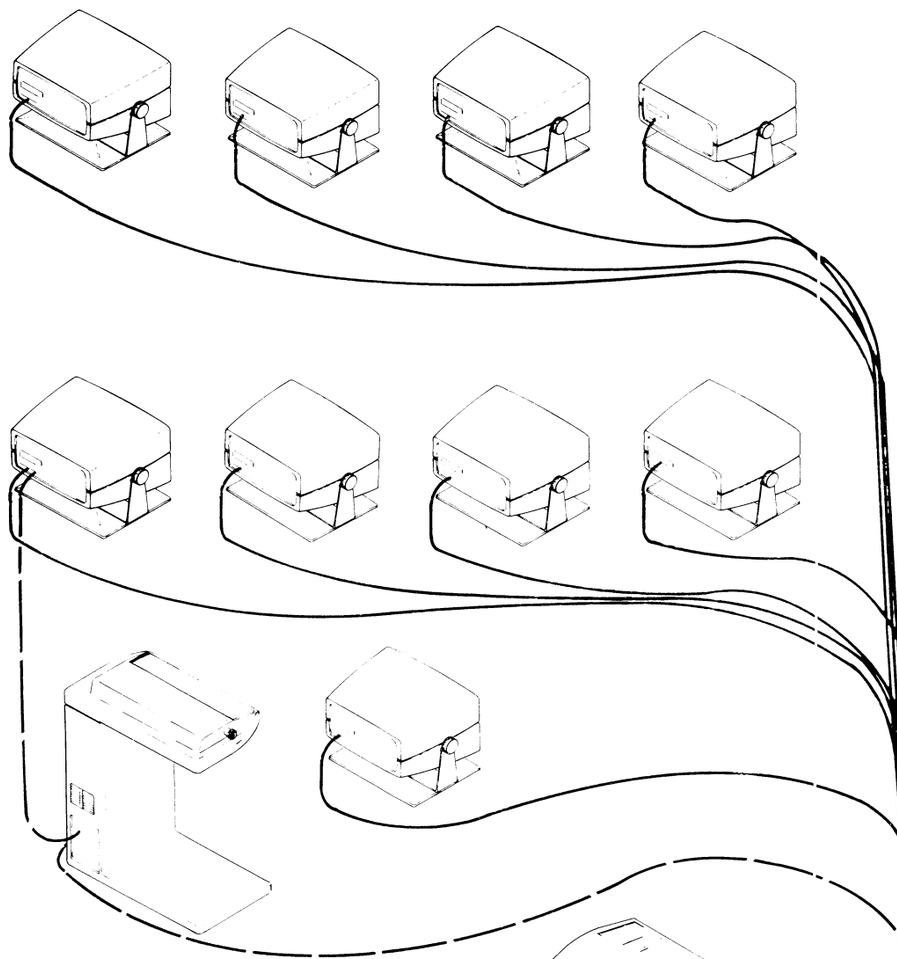


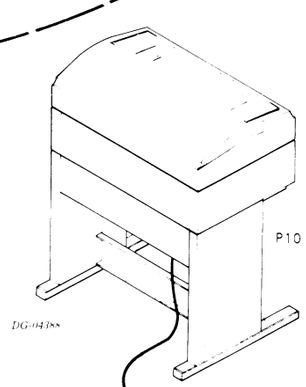
INSTALLATION IN A CABINET

CONVENIENCE PANEL



EXTERNAL CABLING



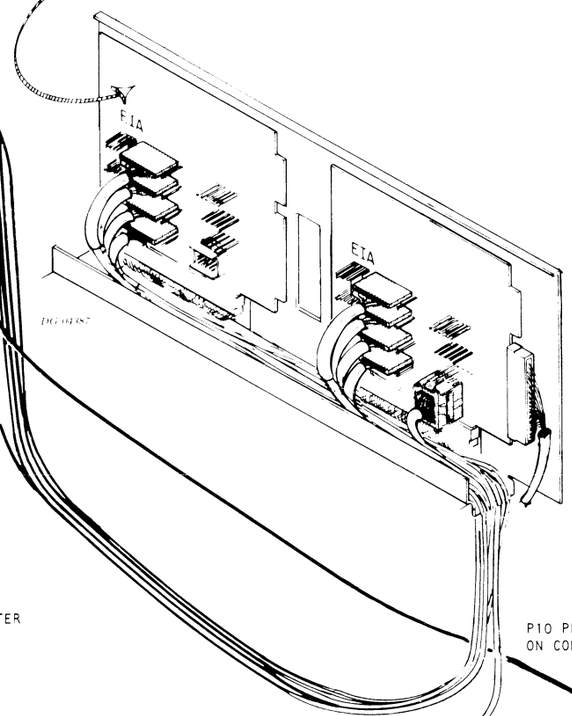


CONNECTOR PIN ASSIGNMENT

DATA CHANNEL CONTROLLER

SIGNAL NAMES	Destination Pins on Backpanel (NOVA & ECLIPSE Line Computers)	Socket Connector Pin Numbers
READY	B-19	1
DEMAND	B-23	3
STROBE	B-25	5
DATA 1	B-27	7
DATA 2	B-31	9
DATA 3	B-34	11
DATA 4	B-36	13
DATA 5	B-38	15
DATA 6	B-40	17
DATA 7	B-48	19
ON LINE	B-15	21
PAPER INST.	B-43	23

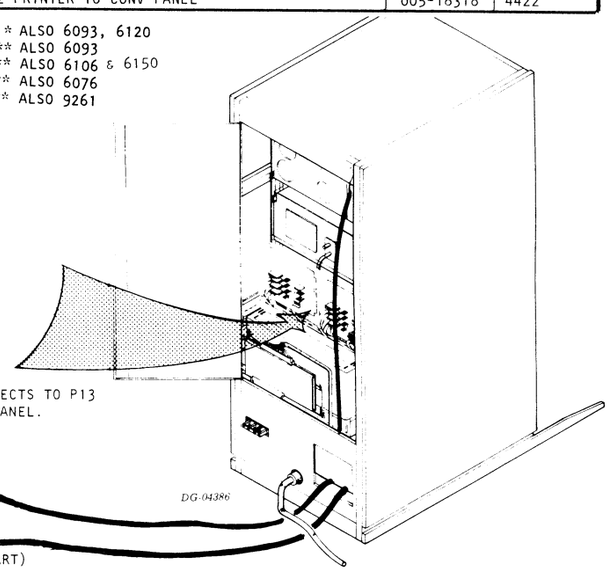
CONVENIENCE PANEL



6053G			6041K		
MODEL NO.	CABLE	LENGTH	MODEL NO.	CABLE	LENGTH
1141 A	005-9695	100 FT.	1142 A	005-9801	100 FT.
1141 B	005-9696	250 FT.	1142 B	005-9802	250 FT.
1141 C	005-9697	500 FT.	1142 C	005-9803	500 FT.
1141 D	005-9698	1000 FT.	1142 D	005-9804	1000 FT.
1141 E	005-9699	1500 FT.	1142 E	005-9805	1500 FT.
1141 F	005-9800	2000 FT.	1142 F	005-9806	2000 FT.

DESCRIPTION	ASSY NO.	USED ON
VIDEO DISPLAY TO CPU BACKPANEL	00507428	6053D*
VIDEO DISPLAY TO CONV PANEL (CURRENT LOOP)	005-7636	6053G*
VIDEO DISPLAY TO FULL DUPLEX MODEM (EIA)	005-7637	6053J*
VIDEO DISPLAY TO CPU BACKPANEL	005-14691	6108-D
VIDEO DISPLAY TO CONV. PANEL (CURRENT LOOP)	005-14695	6108-G
VIDEO DISPLAY TO FULL DUPLEX MODEM (EIA)	005-14692	6108-J
DASHER PRINTER TO MODEM (EIA)	005-7637	6041J
MATRIX PRINTER TO CONV. PANEL (EIA)	005-15117	4354-F
MATRIX PRINTER TO CONV. PANEL (CURRENT LOOP)	005-14695	4354-G
MATRIX PRINTER TO CONV. PANEL	005-12933	9199
MATRIX PRINTER TO COMBO MUX BOARD	005-12928	9198
300 LPM PRINTER TO CONV PANEL	005-9061	9125
250 LPM PRINTER TO CONV PANEL	005-9061	9128
436 LPM DCH PRINTER TO BACKPANEL	005-007874	9755
600 LPM DCH PRINTER TO BACKPANEL	005-007874	9756
CONV PANEL TO MODEM FOR ASYNCHRONOUS FULL DUPLEX LINE	005-5269	1084G
CONV PANEL TO MODEM (BELL 202 OR EQUIV) FOR SYNCHRONOUS LINE	005-5269	1084G
CONV PANEL TO INTERNATIONAL MODEM	005-5269	1084G
MATRIX PRINTER TO CONV. PANEL (EIA)	005-015117	4354-F
MATRIX PRINTER TO CONV, PANEL (CURRENT LOOP)	005-014695	4354-G
MATRIX PRINTER TO CONV. PANEL	005-012933	9198
MATRIX PRINTER TO COMBO MUX BOARD	005-012928	9199
VIDEO DISPLAY TO CPU BACKPANEL	005-014691	6108-D***
VIDEO DISPLAY TO CONV. PANEL (CURRENT LOOP)	005-014695	6108-G***
VIDEO DISPLAY TO FULL DUPLEX MODEM (EIA)	005-014692	6108-J***
DASHER PRINTER TO CONV. PANEL (CURRENT LOOP)	005-009692	6193-K****
DASHER PRINTER TO FULL DUPLEX MODEM (EIA)	005-009692	6193-J****
DASHER LP2 CONV. PANEL	005-009060	9613
300 LPM BAND PRINTER TO CONV. PANEL	005-014769	9260*****
SBS COMBO BOARD TO CONV PANEL	005-9029	
SLM BOARD TO CONV PANEL	005-9028	
VIDEO DISPLAY TO DASHER PRINTER	005-8433	
D100/D200 VIDEO DISPLAY TO 4422 PRINTER	005-18317	4422
4422 PRINTER TO CONV PANEL	005-18318	4422

* ALSO 6093, 6120
** ALSO 6093
*** ALSO 6106 & 6150
**** ALSO 6076
***** ALSO 9261



P10 PRINTER CONNECTS TO P13 ON CONVENIENCE PANEL.

P10 OR DCH — DCH PRINTER CONNECTS TO BACKPANEL SLOT LOCATION OF DCH CONTROLLER BOARD (SEE CONNECTOR PIN ASSIGNMENT CHART)

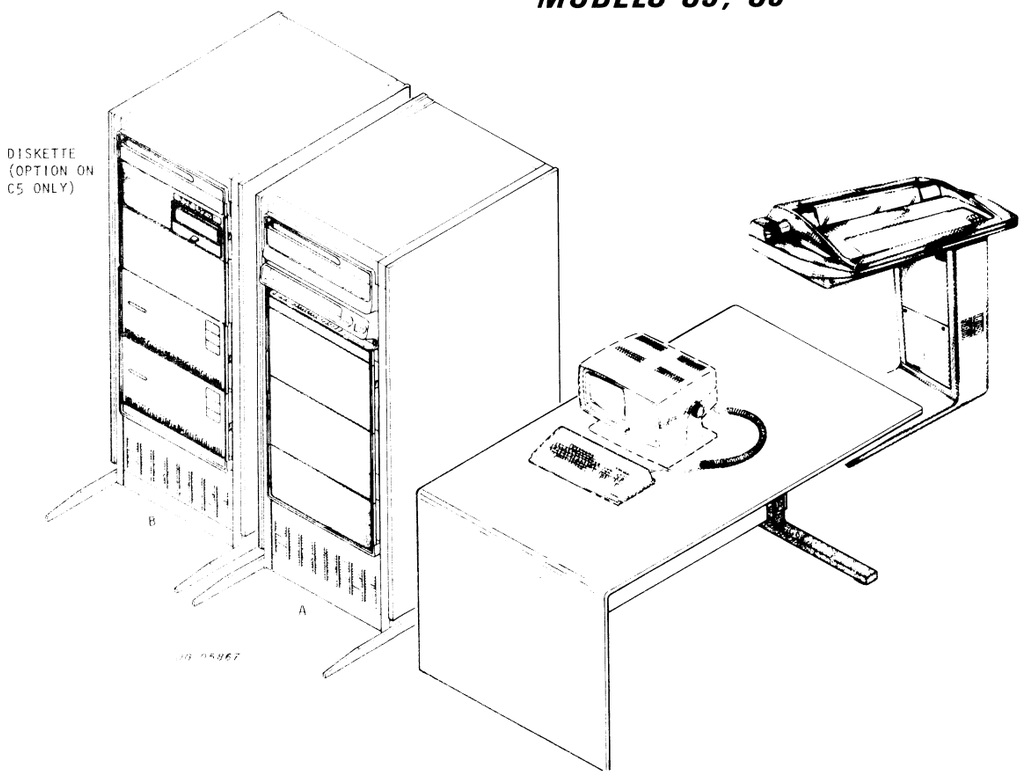
NOTE: EACH VIDEO DISPLAY EXCEPT SYSTEM CONSOLE MAY BE REPLACED BY A RO DASHER PRINTER. ALSO A DASHER PRINTER MAY BE ADDED AS A PRINTER OPTION TO THE VIDEO DISPLAY.

TERMINAL CONFIGURATION SHOWS TERMINALS CONNECTED TO CURRENT LOOP EXCEPT SYSTEM CONSOLE AT CPU.

TERMINALS CAN BE CONNECTED AT CURRENT LOOP ONLY.

SUBSYSTEM COMPONENT BREAKDOWN

MODELS C3, C5



MAJOR COMPONENT

Component	Mounting Location	Notes
CS/60 MODELS C3 & C5	FREE STANDING	
ECLIPSE	CABINET A	
CARTRIDGE DISC 6070	CABINET B	SEE 010-192
DISKETTE 6031 OR 6097	CABINET B	SEE 010-064 OR 010-255 C5 ONLY
TABLE	FREE STANDING	OPTIONAL
DASHER DISPLAY	FREE STANDING	SEE 010-098
DASHER PRINTER LP2	FREE STANDING	SEE 010-195

CABLE

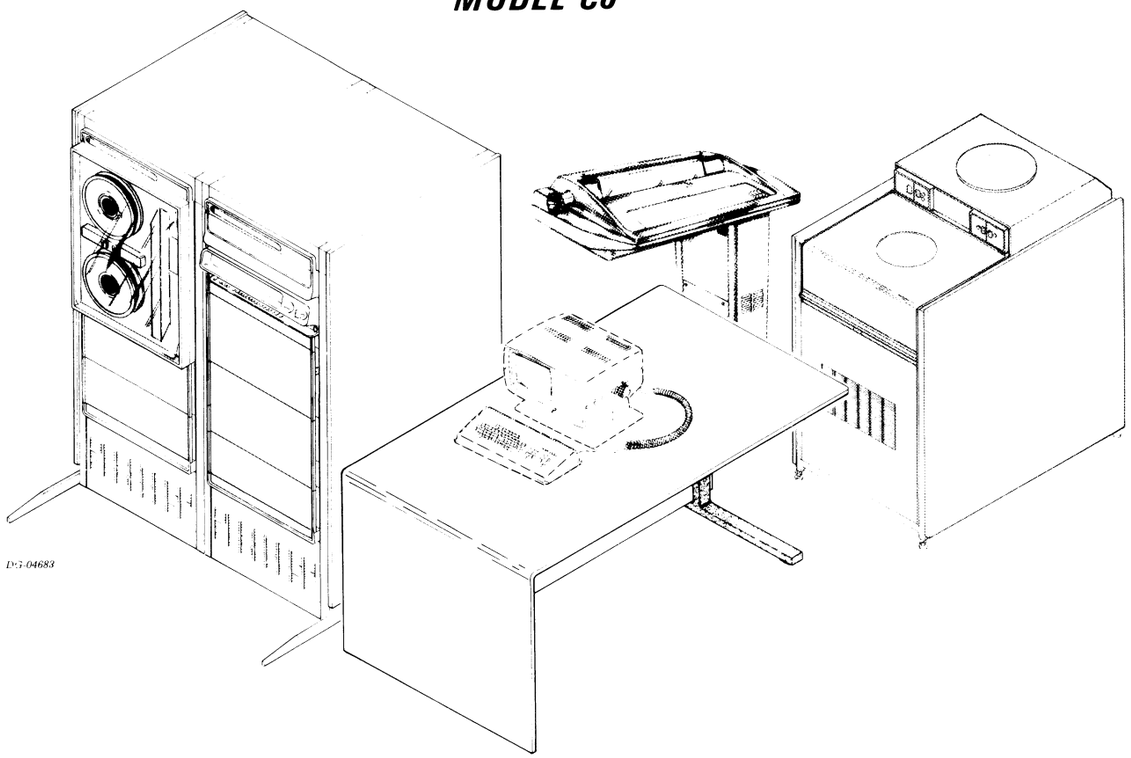
Cable	Connecting		Max Allowed Lg ft / m	Notes
DEVICE CABLE (EIA)	VIDEO DISPLAY	and CONV. PANEL	50 / 15.3	USED ON 6053-F
DEVICE CABLE (CURRENT LOOP)	VIDEO DISPLAY	" CONV. PANEL	2000 / 70	USED ON 6053-G
DEVICE CABLE (EIA)	VIDEO DISPLAY	" FULL DUPLEX MODEM	50 / 15.3	USED ON 6053-J
DEVICE CABLE (EIA)	DASHER PRINTER	" CONV. PANEL	50 / 15.3	USED ON 6041-F
DEVICE CABLE (CURRENT LOOP)	DASHER PRINTER	" CONV. PANEL	2000 / 70	USED ON 6041-K
DEVICE CABLE	300 LPM PRINTER	" CONV. PANEL	15 / 4.6	USED ON 9125
DEVICE CABLE	180 CPS PRINTER	" CONV. PANEL	15 / 4.6	USED ON 9129
DEVICE CABLE	SYNCHRONOUS MODEM	" CONV. PANEL	50 / 15.3	1084G
INTERDEVICE CABLE	SBS COMBO BOARD	" CONV. PANEL	8 / 2.5	
INTERDEVICE CABLE	SLM BOARD	" CONV. PANEL	8 / 2.5	
DEVICE CABLE	ASYNCHRONOUS MODEM	CONV. PANEL	50 / 15.3	1084G

WARNING

THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY ENERGY AND IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTION MANUAL, MAY CAUSE INTERFERENCE TO RADIO COMMUNICATIONS. AS TEMPORARILY PERMITTED BY REGULATION IT HAS NOT BEEN TESTED FOR COMPLIANCE WITH THE LIMITS FOR CLASS A COMPUTING DEVICES PURSUANT TO SUBPART J OF PART 15 OF FCC RULES, WHICH ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST SUCH INTERFERENCE. OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA IS LIKELY TO CAUSE INTERFERENCE IN WHICH CASE THE USER AT HIS OWN EXPENSE WILL BE REQUIRED TO TAKE WHATEVER MEASURES MAY BE REQUIRED TO CORRECT THE INTERFERENCE.

SUBSYSTEM COMPONENT BREAKDOWN (Cont.)

MODEL C6



DG-04683

NOTE:
IF MAG TAPE IS DELETED, A DISKETTE MAY BE INSTALLED IN MAG TAPE'S CABINET POSITION ONLY IF 2 DISC-PACK DRIVES ARE PART OF THE CONFIGURATION. (MODEL C6 ONLY)

MAJOR COMPONENT

Component	Mounting Location	Notes
CS/60 MODEL C6	FREE STANDING	
ECLIPSE	CABINET	
ECLIPSE EXPANSION CHASSIS	CABINET	
MAGTAPE 6021 OR 6026	CABINET	
TABLE	FREE STANDING	
DASHER DISPLAY	FREE STANDING	SEE 010-098
DASHER PRINTER LP2	FREE STANDING	SEE 010-
50/96/190MB DISC DRIVE	FREE STANDING	SEE 010-107

CABLE

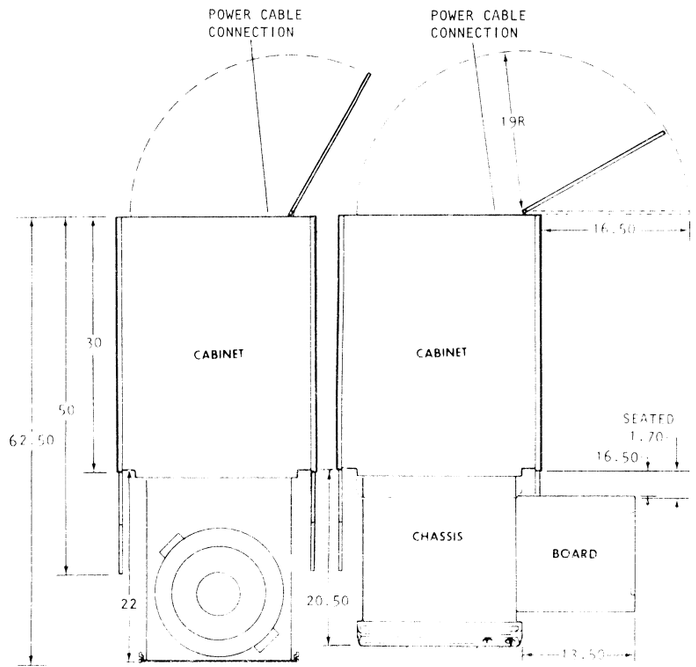
Cable	Connecting			Max Allowed Lg ft / m	Notes
DEVICE CABLE (EIA)	VIDEO DISPLAY	and	CONV. PANEL	50 / 15.3	USED ON 6053-F
DEVICE CABLE (CURRENT LOOP)	VIDEO DISPLAY	"	CONV. PANEL	2000 / 70	USED ON 6053-G
DEVICE CABLE	VIDEO DISPLAY	"	FULL DUPLEX MODEM	50 / 15.3	USED ON 6053-J
DEVICE CABLE (EIA)	DASHER PRINTER	"	CONV. PANEL	50 / 15.3	USED ON 6041-F
DEVICE CABLE (CURRENT LOOP)	DASHER PRINTER	"	CONV. PANEL	2000 / 70	USED ON 6041-K
DEVICE CABLE	300 LPM PRINTER	"	CONV. PANEL	15 / 4.6	USED ON 9125
DEVICE CABLE	180 CPS PRINTER	"	CONV. PANEL	15 / 4.6	USED ON 9129
DEVICE CABLE	SYNCHRONOUS MODEM	"	CONV. PANEL	50 / 15.3	1084G
DEVICE CABLE	96/190 MB DISC DRIVE	"	ADAPTER	50 / 15.3	
INTERDEVICE CABLE	SBS COMBO BOARD	"	CONV. PANEL	8 / 2.5	
INTERDEVICE CABLE	SLM BOARD	and	CONV. PANEL	8 / 2.5	
INTERDEVICE CABLE	ASYNCHRONOUS MODEM	"	CONV. PANEL	8 / 2.5	1084G

SPECIFICATIONS OF FREE-STANDING COMPONENTS

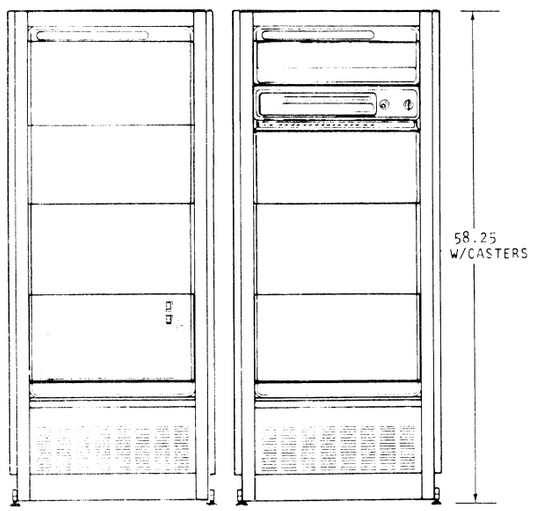
Item	PRIMARY POWER REQUIRED FOR CABINET									WEIGHT			COOLING UNIT				
	POWER					CORD SUPPLIED		MATING RECEPTACLE REQ'D				GROSS, FULLY LOADED			POWER			
No Bays	Volts	Hz	Phase	Conductors	Amps	Cable Length ft/in	Cable Connector Nema	Power Drop Nema/Hubbel	Wall Receptacle Nema/Hubbel	BTU/Hr.		Total lb/kg	Per Bay lb/kg	No Units	Volt	Hz	Amp	Watts
1	240 Vac	60	1	3 W/G	40	9/2.74	14-50P	14-50R	14-50R	6,000		565/254	565/254	1	120	60	1.5	140
2	240 Vac	60	1	3 W/G	40	9/2.74	14-50P	14-50R	14-50R	10,600		1090/492	525/238	2	120	60	1.5	140
1	230Vac	50	1	2 W/G	40	9/2.74				6,000		565/254	565/254	1	230	50	0.75	140
2	230Vac	50	1	2 W/G	40	9/2.74				10,600		1090/492	525/238	2	230	50	0.75	140

MODELS C3, C5

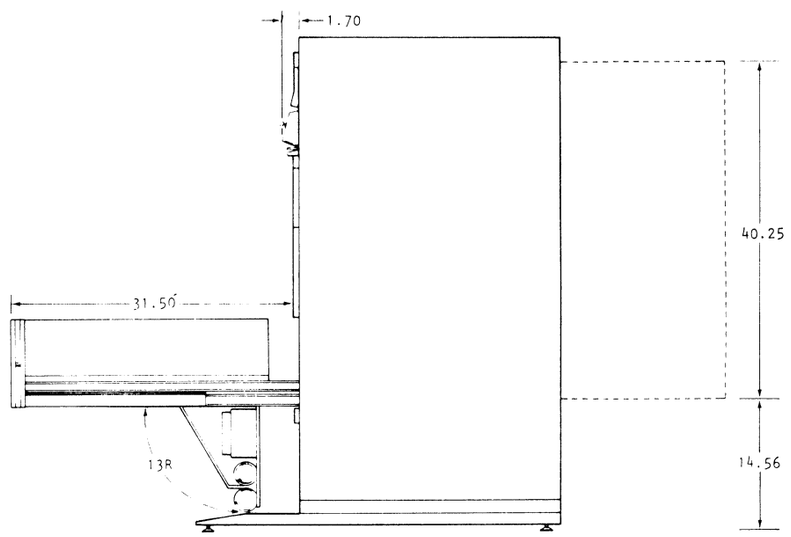
TWO SINGLE BAY CABINETS



TOP VIEW
SERVICE DIMENSIONS



FRONT VIEW



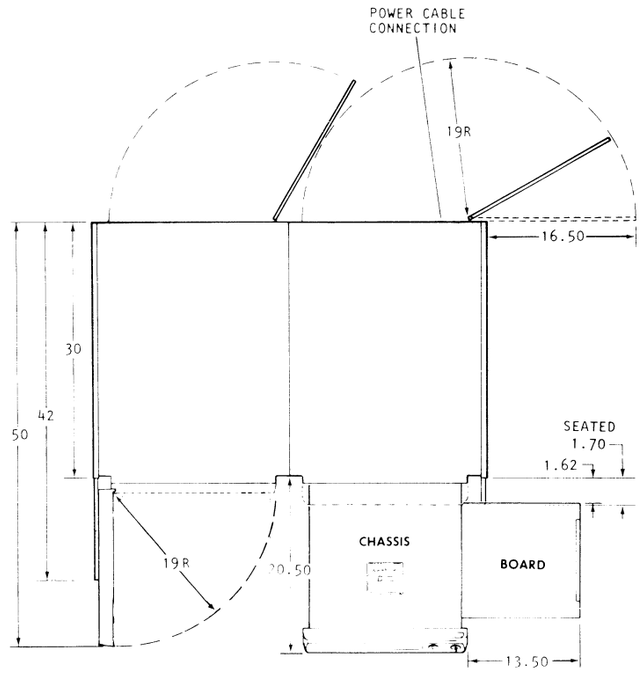
SIDE VIEW

ALL DIMENSIONS IN INCHES

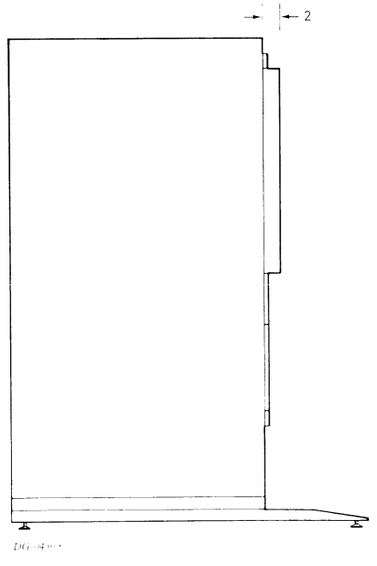
SPECIFICATIONS OF FREE-STANDING COMPONENTS (Cont)

TWO BAY CABINET

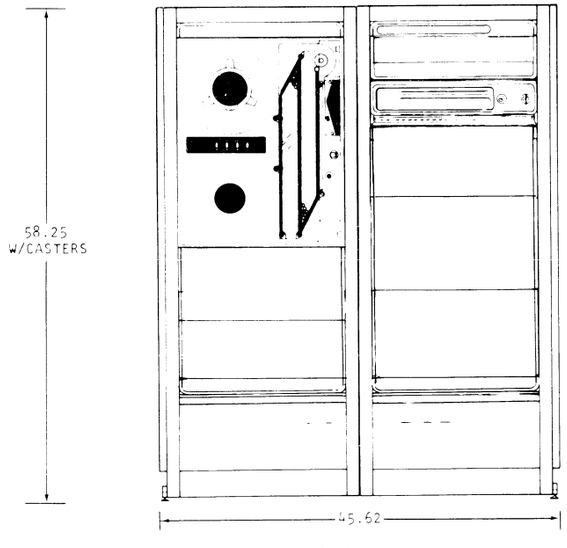
MODEL C6



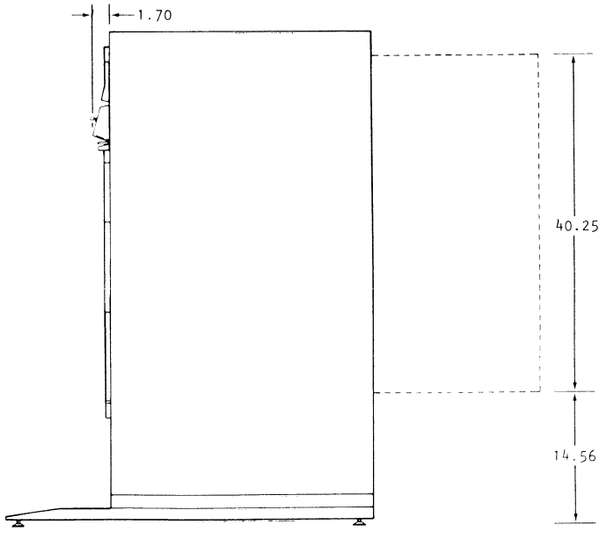
TOP VIEW
SERVICE DIMENSIONS



SIDE VIEW



FRONT VIEW

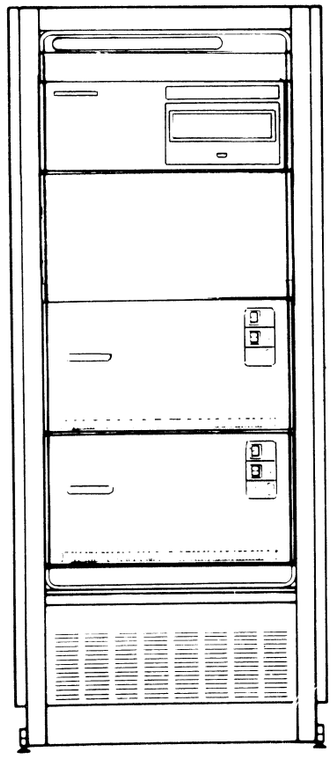


SIDE VIEW

ALL DIMENSIONS IN INCHES

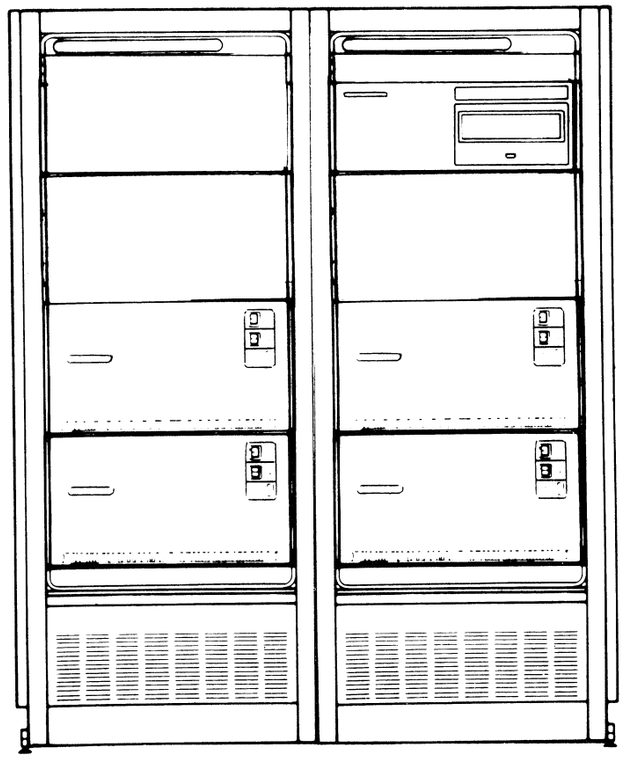
DISC CABINET OPTIONS

ALL MODELS



MAY BE CONFIGURED AS FOLLOWS:

1. ONE 20MB DRIVE
2. ONE 20MB DRIVE AND ONE 6031 OR 6097 DISKETTE
3. TWO 20MB DRIVES
4. TWO 20MB DRIVES AND ONE 6031 DISKETTE
5. ONE 6031 OR 6097 DISKETTE

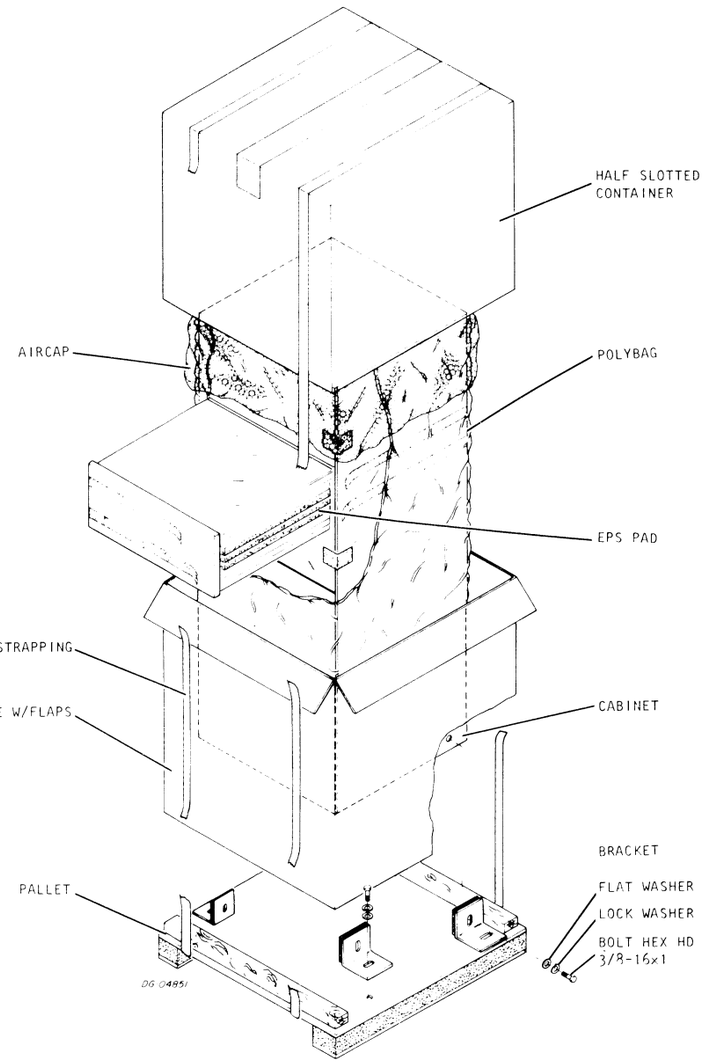


MAY BE CONFIGURED AS FOLLOWS:

1. THREE 20MB DRIVES
2. THREE 20MB DRIVES AND ONE 6030 OR 6097 DISKETTE
3. FOUR 20MB DRIVES
4. FOUR 20MB DRIVES AND ONE 6030 OR 6097 DISKETTE

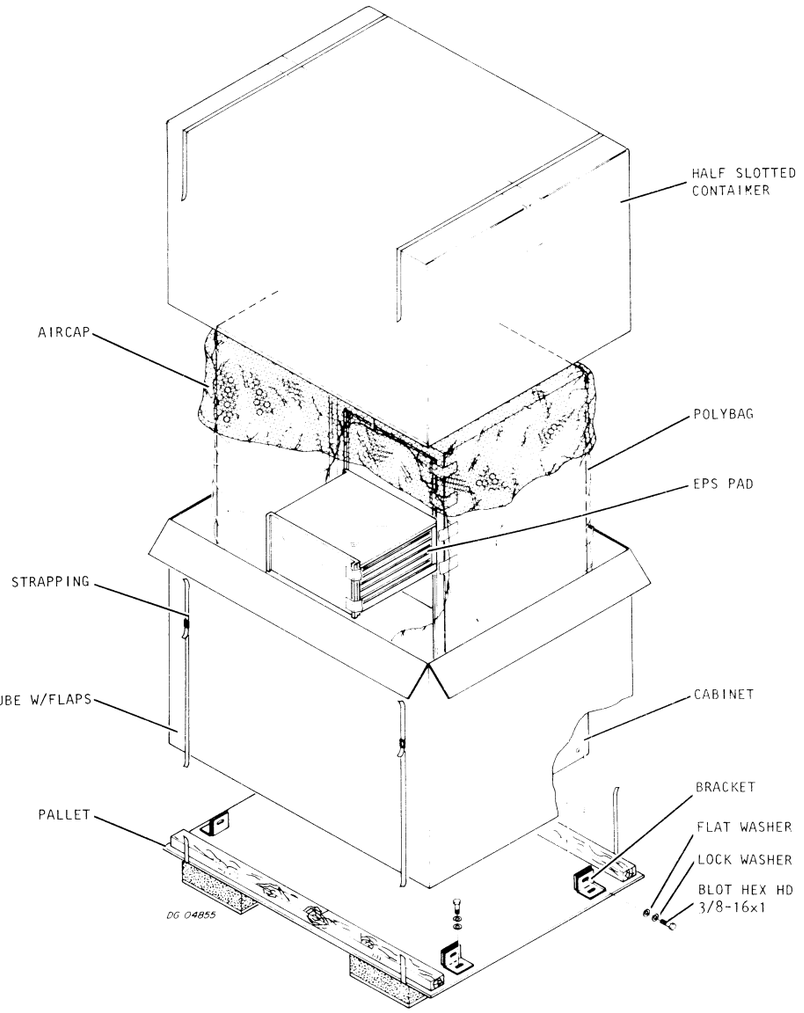
SHIPPING

1 BAY CABINET



SHIPPING AND PACKAGE DATA						
Outside Dimensions				Weight (Gross)	Volume	Density
Length	Width	Depth				
in / cm	in / cm	in / cm		lbs / kg	cu ft / cu m	lbs/cu ft / kg/cu m
32 / [illegible]	45 / [illegible]	66 / 168		255 / [illegible]	22 / 1.57	4.7 / [illegible]
SHIPPING SPECIFICATIONS			STORAGE SPECIFICATIONS			
Temperature Range °F / °C	Relative Humidity (Non-condensing)	Maximum Altitude	Temperature Range °F / °C	Relative Humidity (Non-condensing)	Maximum Period	
-40 to +160 / -40 to +71	5% 95%	50,000 ft. 15,200m	-40 to +160 / -40 to +71	5% 95%	90 days	

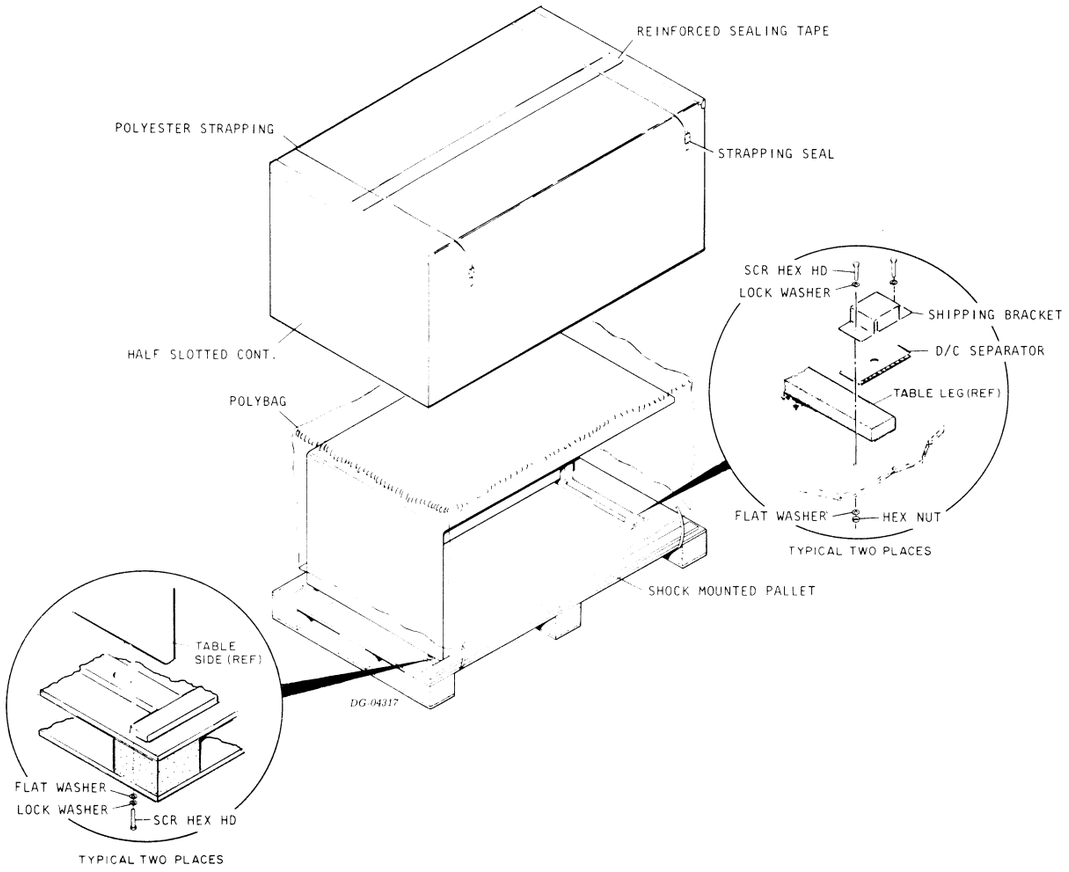
2 BAY CABINET



SHIPPING AND PACKAGE DATA						
Outside Dimensions				Weight (Gross)	Volume	Density
Length	Width	Depth				
in. / cm	in / cm	in / cm		lbs. / kg	cu ft / cu m	lbs/cu ft / kg/cu m
54 / 137	45 / 115	66 / 168		460 / 209	93 / 2.6	4.9 / 80
SHIPPING SPECIFICATIONS			STORAGE SPECIFICATIONS			
Temperature Range °F / °C	Relative Humidity (Non-condensing)	Maximum Altitude	Temperature Range °F / °C	Relative Humidity (Non-condensing)	Maximum Period	
-40 to +160 / -40 to +71	0 /80	50,000 ft. 15,200m	-40 to +160 / -40 to +71	0 /80	90 days	

SHIPPING (Cont)

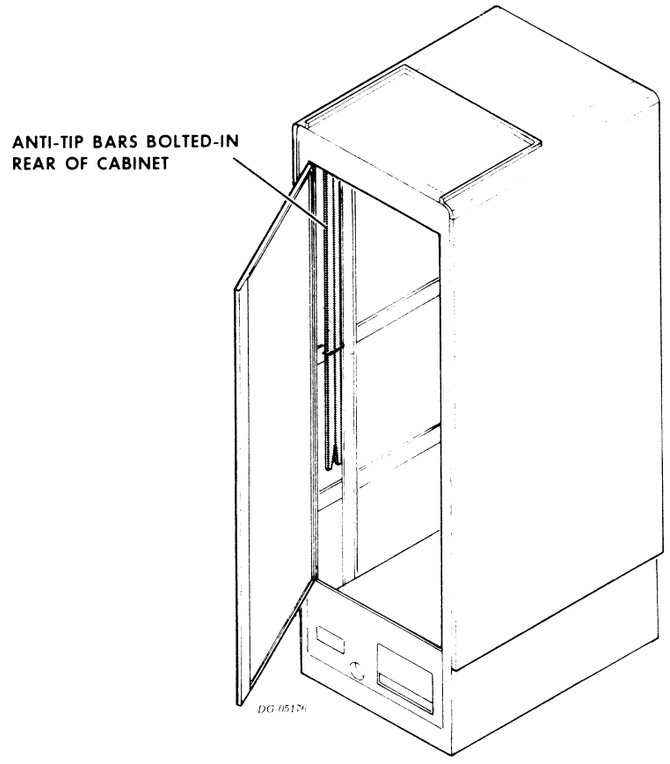
WORKTABLE



SHIPPING AND PACKAGE DATA					
Outside Dimensions			Weight (Gross)	Volume	Density
Length	Width	Depth			
in / cm	in / cm	in / cm	lbs / kg	cu ft / cu m	lbs/cu ft / kg/cu m
62 / 157.48	36.75 / 93.34	30 / 76.20	170 / 76.5	39.5 / 1.18	4.3 / 64.8

SHIPPING SPECIFICATIONS			STORAGE SPECIFICATIONS		
Temperature Range °F / °C	Relative Humidity (Non-condensing)	Maximum Altitude	Temperature Range °F / °C	Relative Humidity (Non-condensing)	Maximum Period
-40 to +160 / -40 to +71	0% / 80%	50,000 ft. 15,200m	-40 to +160 / -40 to +71	0% / 80%	90 days

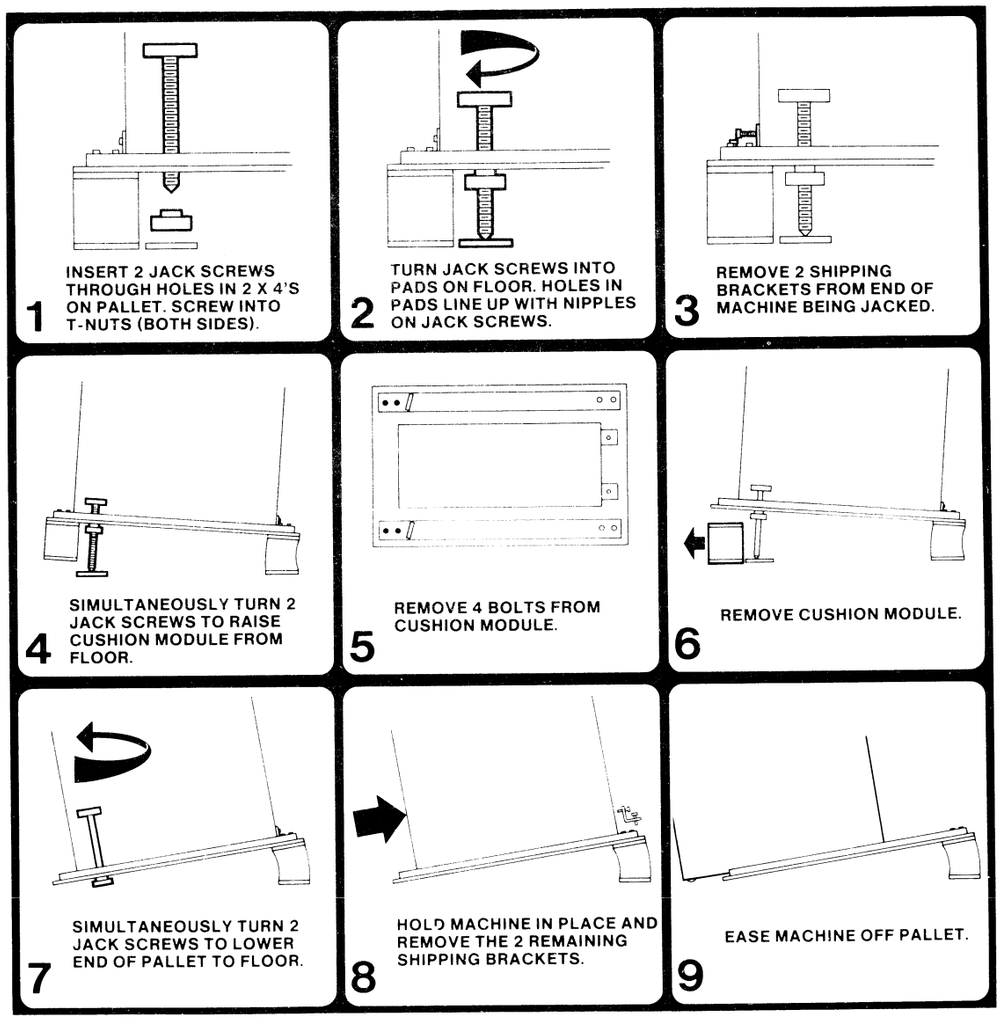
ANTI-TIP BARS



SHIPPING (Cont)

SHIPPING AND PACKAGE DATA					
Outside Dimensions			Weight (Gross)	Volume	Density
Length	Width	Depth			
in. / cm	in. / cm	in. / cm	lbs. / kg	cu ft. / cu m	lbs/cu ft. / kg/cu m
32.25 / 82	5.25 / 13	50.75 / 129	50 / 22.5	4.77 / .1431	10.48 / 157

UNLOADING INSTRUCTIONS - A 2-MAN OPERATION



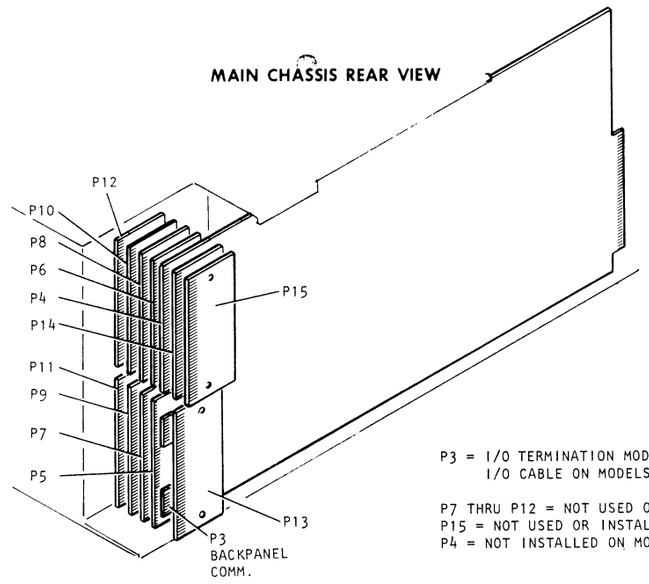
SLOT AND PADDLE BOARD ASSIGNMENTS

PADDLE BD NO	SLOT	C3	C5	+5PWR	C6
	12	32KMEM	64 OR 128KMEM	4.5	64K OR 128KMEM
P14	11	SLM (OPT)	SLM/DCH PTR (OPT)	4.0	* OPT. DISK
P4	10	-OPEN-	COMBO(4-7) (OPT)	3.5	DISK PACK CONTR
P6	9	COMBO 0-3	COMBO (0-3)	3.5	DCH INTRF
P13	8	MAG TAPE CONTR (OPT)	MAG TAPE CONTR (OPT)	7.0	MAG TAPE CONTR
P7	7	* OPT. DISK	* OPT. DISK	4.0	* OPT. DISK
P5	6	** 6070 CONTR	* 6070 OR OPT. DISK	4.0	-OPEN-
(P9)	5	-OPEN-	** OPEN/SLM	4.0	-OPEN-
	4	-OPEN-	-OPEN-	4.5	64K OR 128KMEM (OPT)
	3	-OPEN-	MAP	5.0	MAP
	2	CPU-2	CPU-2	7.4	CPU-2
	1	CPU-1	CPU-1	8.0	CPU-1
		*OPT DISK=6098, 6099, 6100, 6103	*OPT DISK=6031,6097, 6045, 6093,6099, 6100,6103		*OPT DISK= 6031, 6099, 6093, 6099,6100, 6103
		** OR OPT 6099, 6103	**SLM HERE IF DCHPTR & SLM ORDERED		

SLOT IN EXP CHASSIS	
X12	
X11	
X10	
X9	-OPEN-
X8	
X7	
X6	DCH LPT (OPT.)
X5	SLM (OPT)
X4	COMBO (12-15) (OPT.)
X3	COMBO (8-11) (OPT.)
X2	COMBO (4-7) (OPT.)
X1	COMBO (0-3)

INTERNAL CABLING

PADDLE BOARD POSITIONS



P3 = I/O TERMINATION MODELS C3 & C5
I/O CABLE ON MODELS C6

P7 THRU P12 = NOT USED OR INSTALLED
P15 = NOT USED OR INSTALLED
P4 = NOT INSTALLED ON MODEL C6

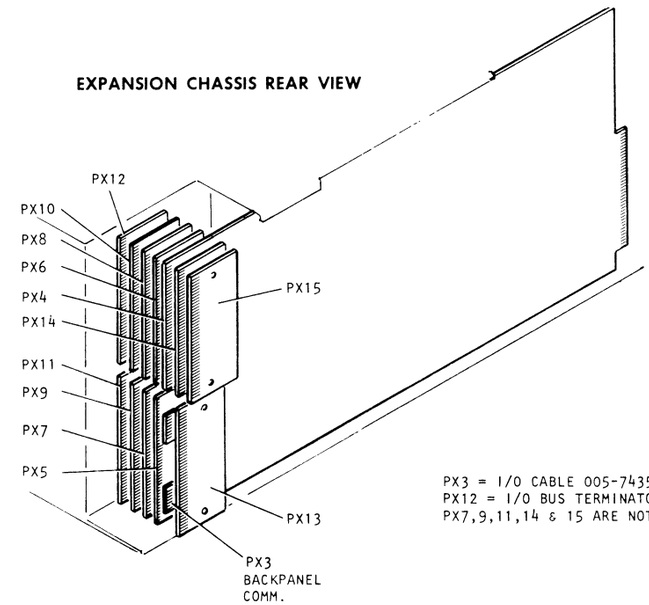
MAIN CHASSIS BACK PANEL JUMPERS FOR ALL MODELS

FROM	SIG. NAME	TO	NOTES
2-A95	INTP PRI	5-A95	
6-A96	INTP PRI	6-A95	DELETE IF SLM OR FLPY/10 MB DISC CONT. ADDED
7-A96	INTP PRI	7-A95	
8-A96	INTP PRI	8-A95	DELETE IF MAG TAPE ADDED
10-A96	INTP PRI	10-A95	DELETE IF COMBO 4/7 ADDED C3 & C5 ONLY
11-A96	INTP PRI	11-A95	DELETE IF 20 MB DISC CONT. ADDED
4-A94	DCH PRI	6-A94	
8-A94	DCH PRI	8-A93	DELETE IF MAG TAPE ADDED
10-A94	DCH PRI	10-A93	C3 & C5 ONLY
11-A94	DCH PRI	11-A93	DELETE IF 20 MB DISC CONT. ADDED
9-A91	MUX PRI	10-A92	C3 & C5 ONLY
7-B6	50/60 HZ	9-B77	C3 & C5 ONLY
6-A94	DCH PRI	7-A94	DELETE IF FLOPPY/10MB ADDED
7-A94	DCH PRI	8-A94	

FOR ALL SYSTEMS		
FROM	SIG. NAME	TO
4-B70	PMC-1	5-B70
4-B78	PMC3	5-B78
4-B80	PMC4	5-B80
1-B8	MSINA	2-B69
2-B69	MSINA	2-B76
2-A49	MSI	2-B7
REF - 008-002096 008-002095		

FOR SYSTEM W/MAP		
FROM	SIG. NAME	TO
3-A57	EMPAIN/GND	3-A33
1-B71	MEM MUX DIS	
	EXT BUSY	3-B76
WIRES MUST BE INSTALLED WHEN MAP IS INSTALLED REF - 008-002096		

**FOR SYSTEMS W/OUT MAP		
FROM	SIG. NAME	TO
2-B16	R1/LA1	3-B16
2-B18	R2/LA2	3-B18
2-B20	R3/LA3	3-B20
2-B22	R4/LA4	3-B22
2-B24	R5/LA5	3-B24
2-B26	R6/LA6	3-B26
2-B28	R7/LA7	3-B28
2-B30	R8/LA8	3-B30
2-B32	R9/LA9	3-B32
2-B39	R10/LA10	3-B39
2-B42	R11/LA11	3-B42
2-B44	R12/LA12	3-B44
2-B43	R13/LA13	3-B43
2-B45	R14/LA14	3-B45
2-B47	R15/LA15	3-B47
3-B70	LO1/PMC1	3-B69
3-B78	LO3/PMC3	3-B77
3-B80	LO4/PMC4	3-B79
** WIRES MUST BE REMOVED WHEN MAP IS INSTALLED. REF. 008-002095		

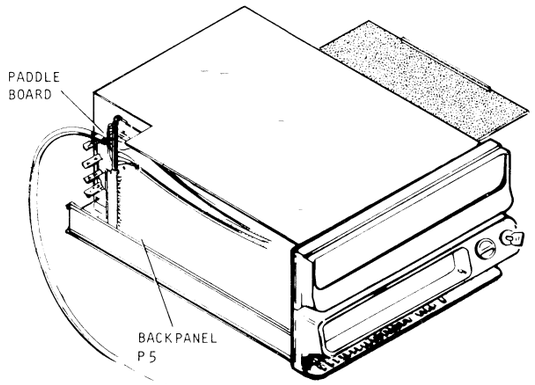


PX3 = I/O CABLE 005-7435
PX12 = I/O BUS TERMINATOR
PX7,9,11,14 & 15 ARE NOT USED OR INSTALLED

EXPANSION CHASSIS			
FROM	SIG. NAME	TO	NOTES
1-A94	DCH PRI	6-A94	
3-A96	INTP PRI	3-A95	DELETE IF COMBO 8/11 ADDED
4-A96	INTP PRI	4-A95	DELETE IF COMBO 12/15 ADDED
5-A96	INTP PRI	5-A95	DELETE IF SLM ADDED
1-A91	MUX PRI	2-A92	
2-A91	MUX PRI	3-A92	
3-A91	MUX PRI	4-A92	
3-B69	TTI/GND	3-B99	
4-B69	TTI/GND	4-B99	
E4	50/60 HZ	1-B10	

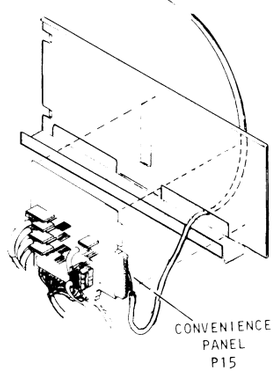
INTERNAL CABLING (Cont)

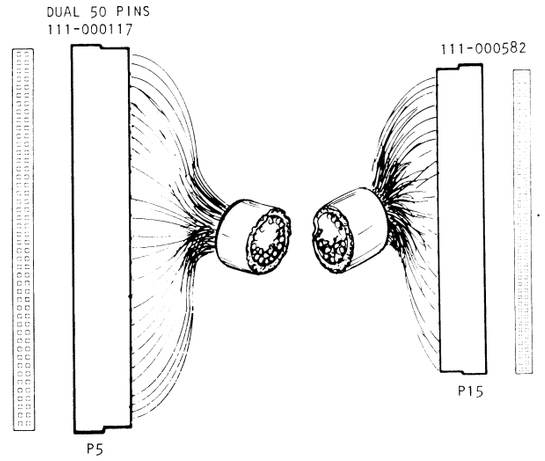
SYNC LINE MUX PCB



MODELS C3, C5

CABLE
005-009028

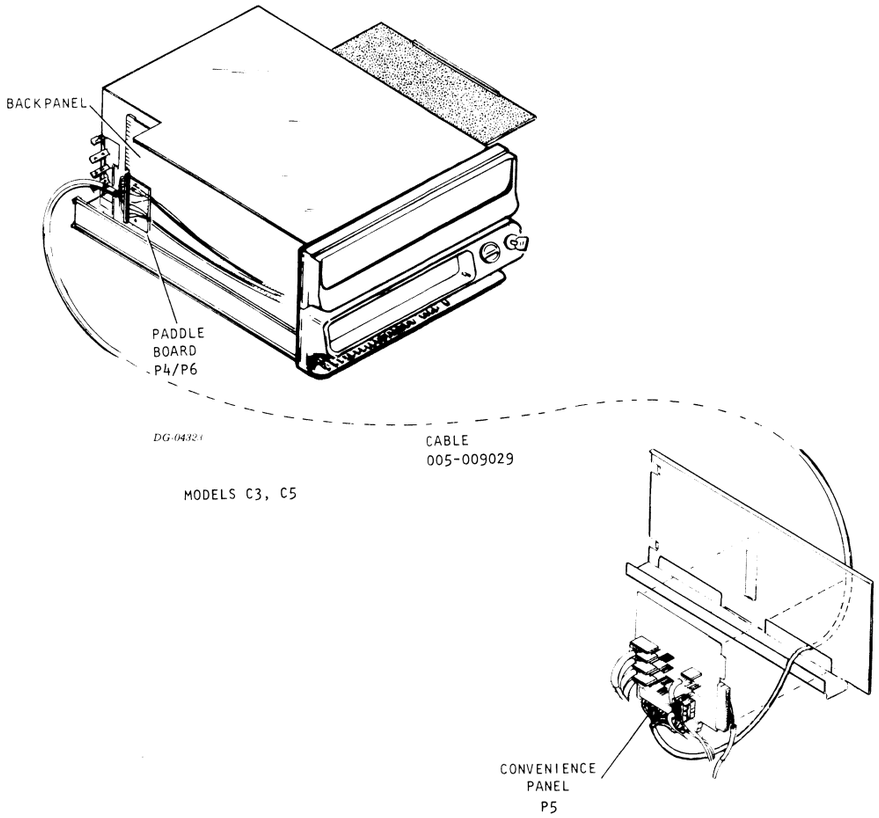




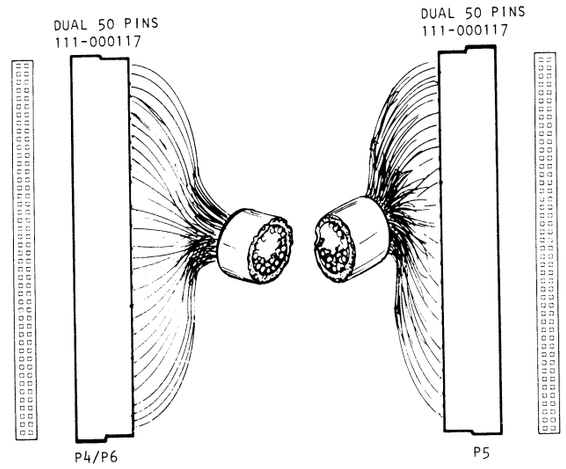
P5 BACKPANEL		PADDLE BOARD	CABLE 005-009028		P15 CONVENIENCE PANEL	
A1	—	1	—	GND	26	
75	—	7	—	ACU SP	3	
73	—	8	—	DL 0	4	
71	—	9	—	NB 8	5	
69	—	10	—	NB 4	6	KEY
67	—	11	—	NB 2	7	
65	—	12	—	NB 1	8	
63	—	13	—	DSS	9	
61	—	14	—	PW1	10	
59	—	15	—	PND	11	
57	—	16	—	CRQ	12	
47	—	17	—	DPR	13	
A49	—	18	—	ACR	22	
B19	—	33	—	SPA	23	
23	—	34	—	SPB	16	
34	—	38	—	TX CLK	17	
36	—	39	—	RING	18	
38	—	40	—	CAR DET	19	
40	—	41	—	DSR	20	
49	—	43	—	DTR	21	
51	—	44	—	REC CLK	15	
52	—	45	—	REC DATA	14	
53	—	46	—	XMIT DATA	2	
54	—	47	—	CTS	24	
67	—	48	—	INT CLK	25	
B69	—	49	—	RTS		

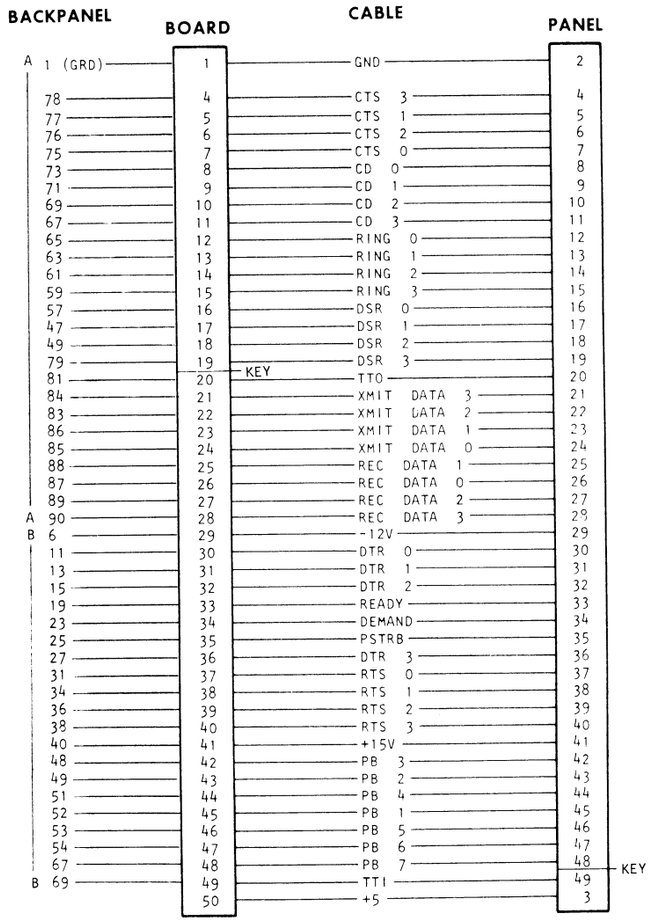
INTERNAL CABLING (Cont)

COMBO PCB



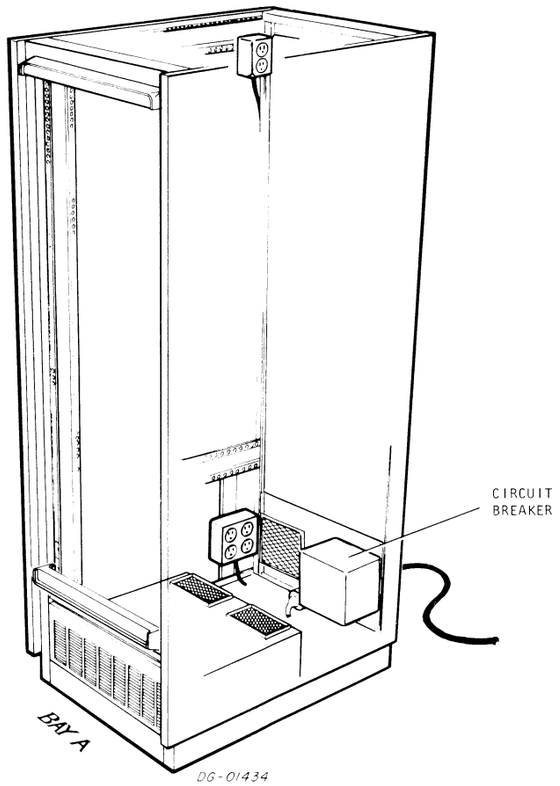
MODELS C3, C5





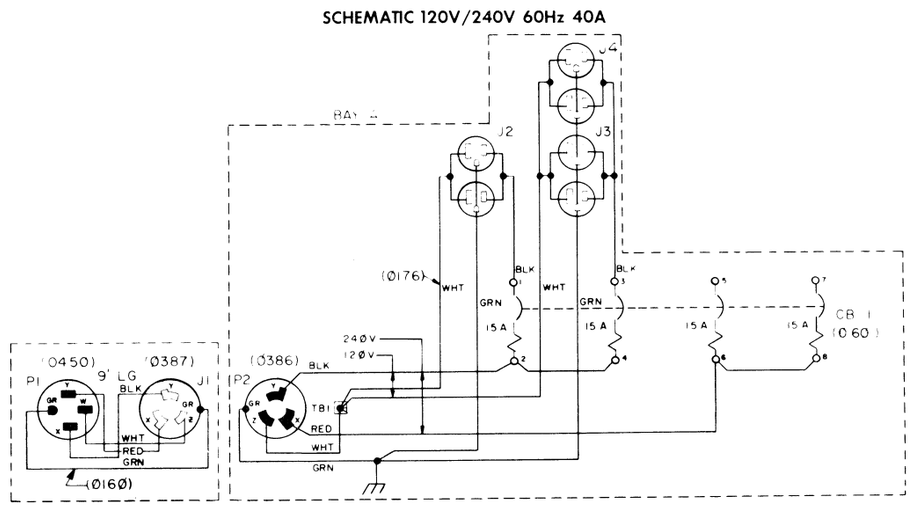
INTERNAL CABLING (Cont)

SINGLE BAY CABINET



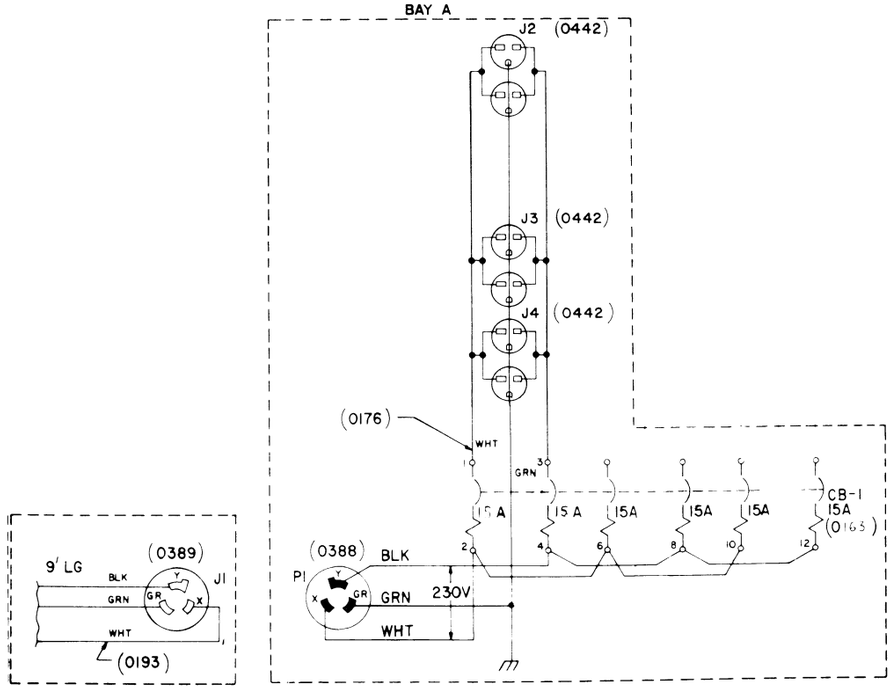
DG-01434

SCHEMATIC 120V/240V 60Hz 40A



NOTES:
1. J2 THRU J4 ARE D.G.C. 111-000383
2. TB1 IS D.G.C. 111-000378, 111-000379
3. 120/208 SINGLE PHASE INPUT ACCEPTABLE

SCHEMATIC 230V 50Hz 40A

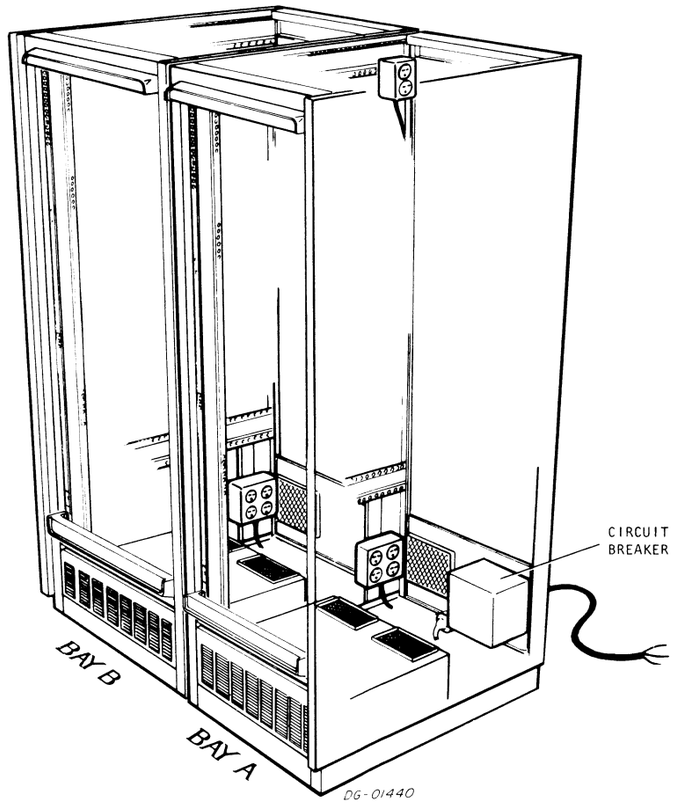


NOTE:
1. BAYS ARE LETTERED RIGHT TO LEFT VIEWED FROM THE FRONT.

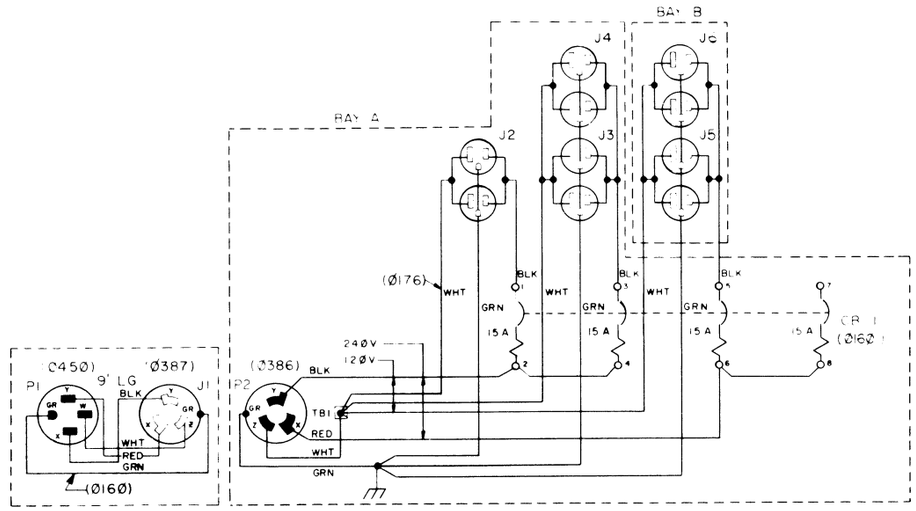
DG-04320

INTERNAL CABLING (Cont)

TWO BAY CABINET

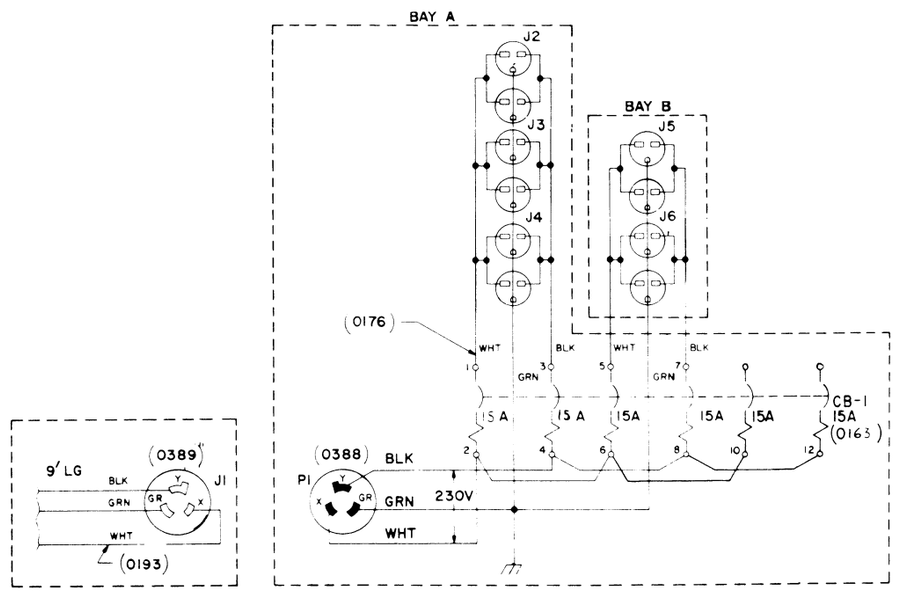


SCHEMATIC 120V/240V 60Hz 40A



NOTES:
1. J2 THRU J6 ARE D.G.C.111-000383
2. TB1 IS D.G.C. 111-000378, 111-000379
3. BAYS ARE LETTERED RIGHT TO LEFT VIEWED FROM THE FRONT.
4. 120/208V SINGLE PHASE ACCEPTABLE

SCHEMATIC 230V 50Hz 40A



NOTES:
1. J2 THRU J7 ARE D.G.C. 111-000442
2. BAYS ARE LETTERED RIGHT TO LEFT VIEWED FROM THE FRONT.

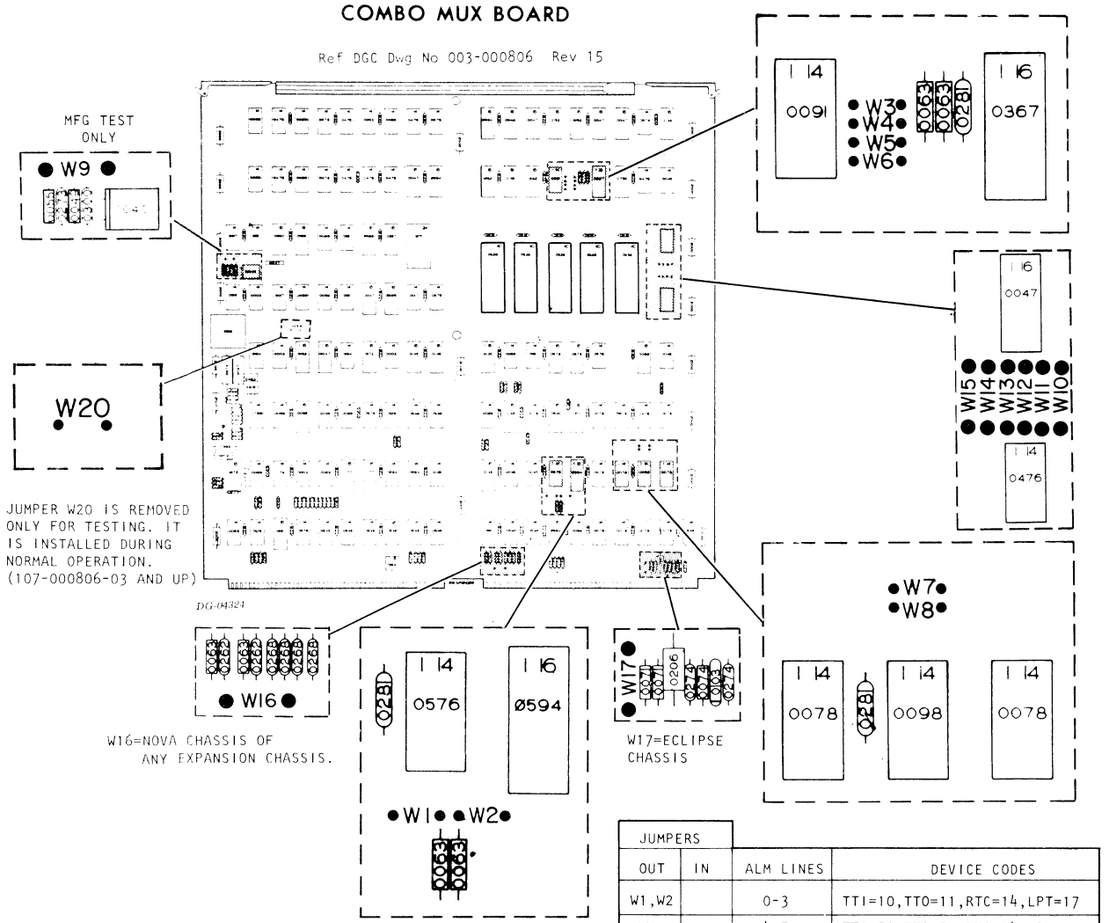
DG-04321

TAILORING

JUMPERING

COMBO MUX BOARD

Ref DGC Dwg No 003-000806 Rev 15



JUMPERS			
OUT	IN	ALM LINES	DEVICE CODES
W1,W2		0-3	TTI=10,TTO=11,RTC=14,LPT=17
W1	W2	4-7	TTI=50,TTO=51,RTC=54,LPT=57
W2	W1	8-11	TTO,TTI,RTC,LPT ARE DISABLED
	W1,W2	12-15	TTO,TTI,RTC,LPT ARE DISABLED

JUMPERS W1 AND W2 DETERMINE LINE NUMBERS AND DEVICE CODES FOR TTI,TTO,RTC AND LPT.

JUMPERS		
OUT	IN	BAUD
W3,W5		1200
W3	W5	1800
W5	W3	4800
	W3,W5	NOT USED

JUMPERS W3, W5 DETERMINE LINE SPEED FOR CLK2.

JUMPERS		
OUT	IN	BAUD
W4,W6		110
W6	W4	150
W4	W6	300
	W4,W6	2400

JUMPERS W4, W6 DETERMINE LINE SPEED FOR CLK3.

NOTE:
CLK 0 IS FIXED AT 9600 BAUD
CLK 1 IS FIXED AT 600 BUAD

JUMPERS W10 THRU W15 DETERMINE LINE SPEED FOR CONSOLE INTERFACE.

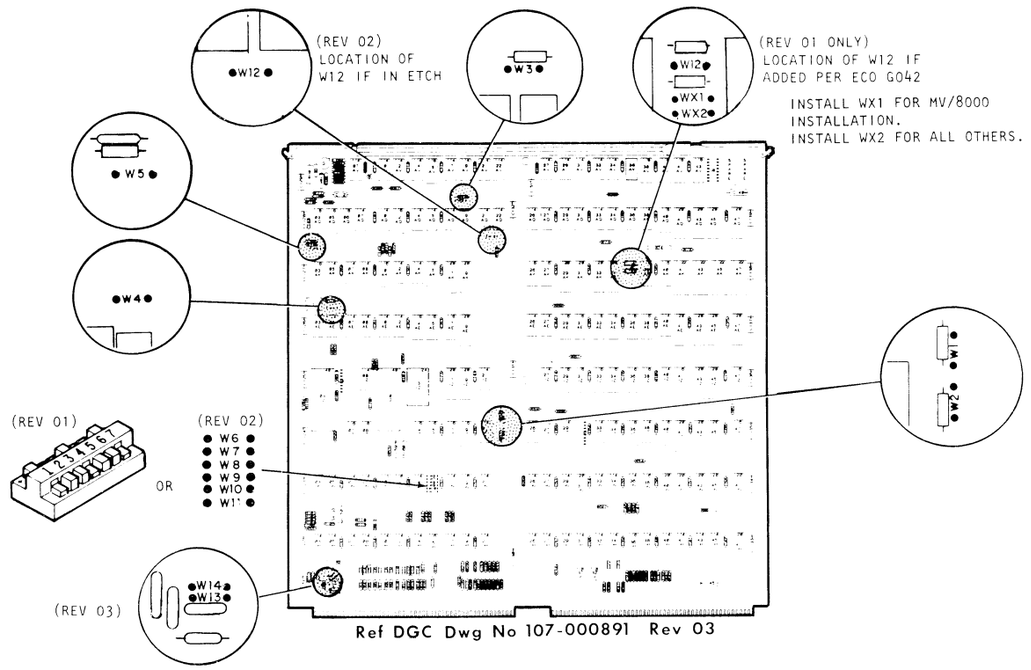
W10 = 300 BAUD
W11 = 600 BAUD
W12 = 1200 BAUD
W13 = 2400 BAUD
W14 = 4800 BAUD
W15 = 9600 BAUD

NOTE:
CONSOLE INTERFACE IS NORMALLY CONFIGURED FOR 9600 BAUD.

JUMPERS W7 AND W8 DETERMINE POLARITY OF PRINTER STROBE
INSTALL W8 FOR 300LPM, 240 LPM
INSTALL W7 FOR 180CPS

POWER +5 +15
3.5A 400ma
NOTE:
POWER REQUIREMENTS INCLUDE CONVENIENCE PANEL.

CONTROLLER BOARD



FOR CONTROLLERS WITH SWITCH MODULE (REV 01 ONLY)

CONTROLLER DEVICE CODE SELECT		
SWITCH NUMBER	DEVICE CODE 33	DEVICE CODE 73
1	OFF	ON
2	ON	ON
3	ON	ON
4	OFF	OFF
5	ON	ON
6	ON	ON
7	OFF ☆	OFF ☆

☆ THIS SWITCH NOT USED

FOR CONTROLLERS WITH JUMPERS (REV 02)

CONTROLLER DEVICE CODE SELECT		
JUMPER NUMBER	DEVICE CODE 33	DEVICE CODE 73
W6	OUT	IN
W7	IN	IN
W8	IN	IN
W9	OUT	OUT
W10	IN	IN
W11	IN	IN

CONTROLLER JUMPER SELECTION	
JUMPER	
W1	JUMPER REMOVED
W3	JUMPER REMOVED
W4	JUMPER INSERTED
W5☆	JUMPER INSERTED

☆ NOT IN FIRST VERSION OF CONTROLLER

W2 SELECTS RIGID DISK CAPACITY AS FOLLOWS:

W2 JUMPER	CAPACITY
INSERTED	12.5MB
REMOVED	25MB

CPU SELECTION JUMPER

CPU TYPE	W12
NOVA 4/C	IN
ALL OTHERS	OUT

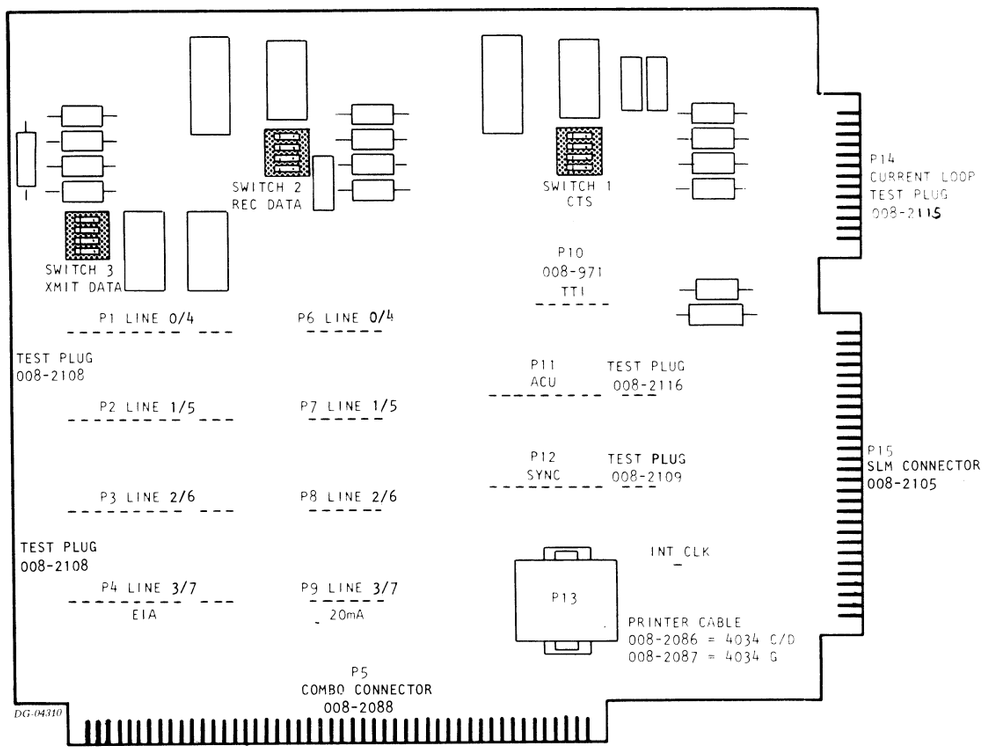
W13 IN FOR MV/8000 SYSTEMS
OUT FOR ALL OTHERS

W14 OUT FOR MV/8000 SYSTEMS
IN FOR ALL OTHERS

TAILORING (Cont)

PLUG PANEL PCB

Ref. DGC 107 000825 Rev.00



NOTES:

REMOVE ALL TEST PLUGS FOR NORMAL OPERATION. UNDER NO CIRCUMSTANCES SHOULD AN INDIVIDUAL LINE HAVE MORE THAN ONE CONNECTION.

1. CONNECTIONS TO P1 THRU P4 REQUIRE THE RESPECTIVE LINE NUMBER SWITCHES TO BE IN THE OFF POSITION.
2. CONNECTIONS TO P6 THRU P9 REQUIRE THE RESPECTIVE LINE NUMBER SWITCHES TO BE IN THE ON POSITION.
3. CONNECTIONS TO P14 ALSO REQUIRE THE RESPECTIVE LINE NUMBER SWITCHES TO BE IN THE ON POSITION.

SBS2 DIAGNOSTIC OPERATION
INSERT TEST PLUGS BETWEEN P1 AND P2, P3 and P4, ALSO P14 SET SWITCHES S1 OFF, S2 AND S3 ON.

CABLES	CONNECTIONS	
005-008181	P1 THRU P4	IF LOCAL EIA
005-005269	P1 THRU P4	MODEM
005-007636	P6 THRU P9	DISPLAY LOCAL CURRENT LOOP
005-009692	P6 THRU P9	DASHER PRINTER CURRENT LOOP
005-007636	P12	SYNCHRONOUS LINE TO MODEM
005-	P11	AUTO CALL UNIT
005-009061	P13	300 LPM PRINTER
005-009060	P13	165 CPS PRINTER

SWITCH POSITIONS:						
CABLE CONNECTION	SIG. NAME	SWITCH ASSY 3	SIG. NAME	SWITCH ASSY 2	SIG. NAME	SWITCH ASSY 1
P1	XDATA0	OFF	REC DATA0	OFF	CTS0	OFF
P2	XDATA1	OFF	REC DATA1	OFF	CTS1	OFF
P3	XDATA2	OFF	REC DATA2	OFF	CTS2	OFF
P4	XDATA3	OFF	REC DATA3	OFF	CTS3	OFF
P6	XDATA0	ON	REC DATA0	ON	CTS0	ON
P7	XDATA1	ON	REC DATA1	ON	CTS1	ON
P8	XDATA2	ON	REC DATA2	ON	CTS2	ON
P9	XDATA3	ON	REC DATA3	ON	CTS3	ON

TEST PLUGS

Test Plugs are required to operate the following diagnostics; SBS2, SLM, ACU, and the Modem Control section of the ALM-SLM reliability. In the Systems Environment these test plugs will be installed on the plug panel. This provides easy installation and insures the testing of the plug panel and its associated cabling.

TEST PLUG SUMMARY:

1. SBS COMBO BOARD TEST PLUG (008-2108) (005-9346)

This test plug is required to run SBS2 Diag, & the Modem Control section of ALM reliability.

NOTE: A quantity of 2 plugs are required per combo board.

FROM	SIGN. NAME	TO
12, 3	RTS N, RING N, DSR N+1	7
7	DSR N, RTS N+1, RING N+1	12, 3
5,6	DTR N, CTS N, CD N+1	4
4	CD N, DTR N+1, CTS N+1	5, 6
N = ANY EVEN LINE NUMBER		

2. SBS CURRENT LOOP TEST PLUG (008-2115) (005-9348)

This test plug is also required to run SBS2, it requires that plug panel switches SW2 & SW3 are in the on position, and SW1 must be in the off position. If CTS portion of SBS2 is run, then SW1 must be on.

NOTE: CTS portion of SBS2 is used to test BUSY circuitry on plug panel. This is accomplished by wrapping XMIT DATA line N to CTS line N-1 & XMIT DATA Line N-1 to CTS Line N.

FROM	SIGN. NAME	TO
2,6	RCL0, BUSY0, TXL1-	M
3,7	RCL1, BUSY1, TXL0-	L
4,8	RCL2, BUSY2, TXL3-	P
5,9	RCL3, BUSY3, TXL2-	N

3. SLM TEST PLUG (003-2109) (005-9349)

FROM	SIGN. NAME	TO
INT-CLK (pin)	INT CLK, XMIT CLK, REC CLK	1, 13
2	XMIT DATA, REC DATA	11
3	RING, DTR	5
4	CAR DET, SPARE A	8
SPARE B (pin)	SPARE B, CTS	6
7	DSR, RTS	12

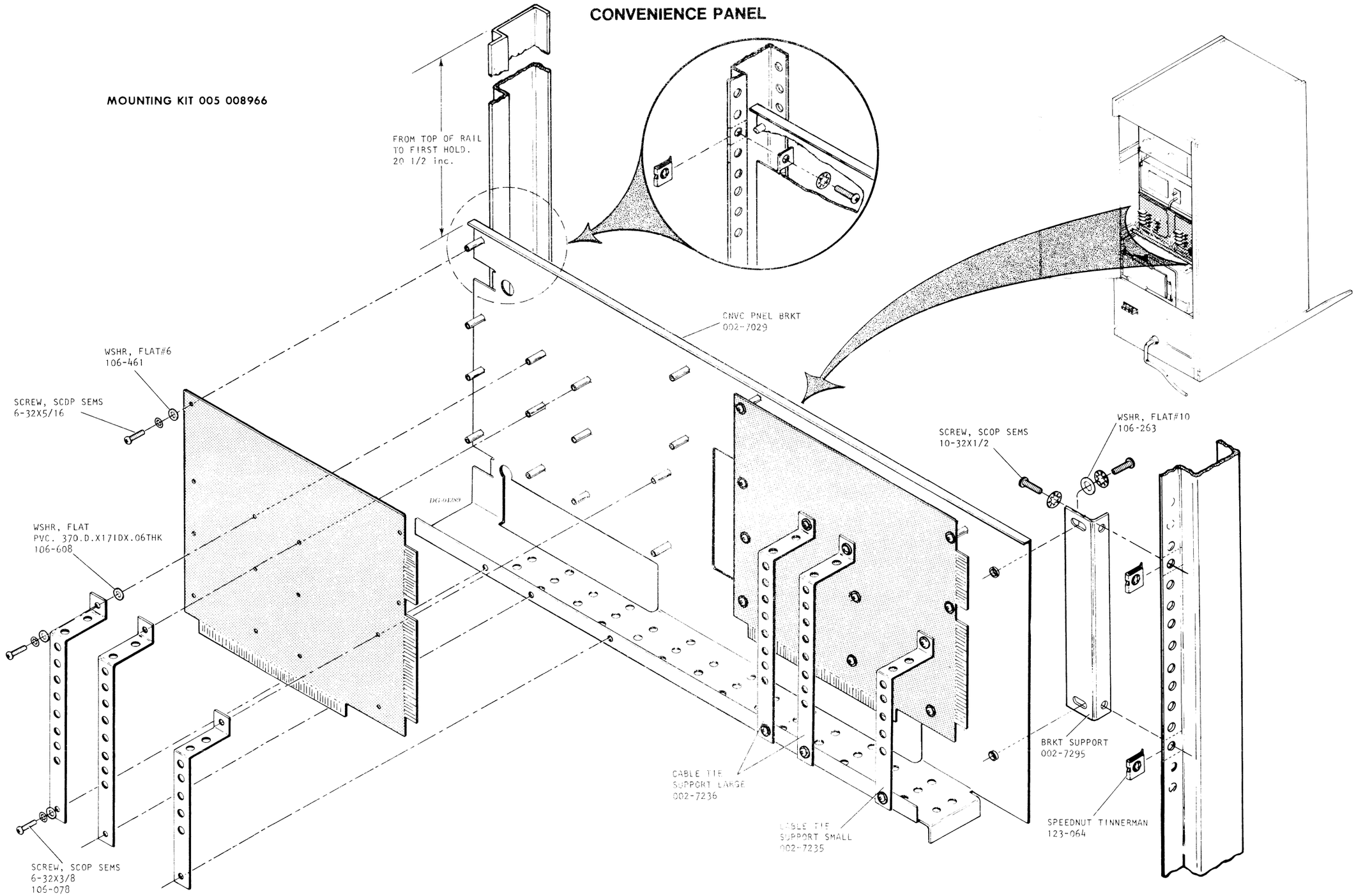
4. ACU TEST PLUG (008-2116) (005-9347)

FROM	SIGN. NAME	TO
2	DLO, NB2	5
3	NB8, ACR	13
4	NB4, DSS	7
6	NB1, PND	9
8	PWI, DPR	12
11	CRQ, ACU SPARE	10

INSTALLATION IN A CABINET

CONVENIENCE PANEL

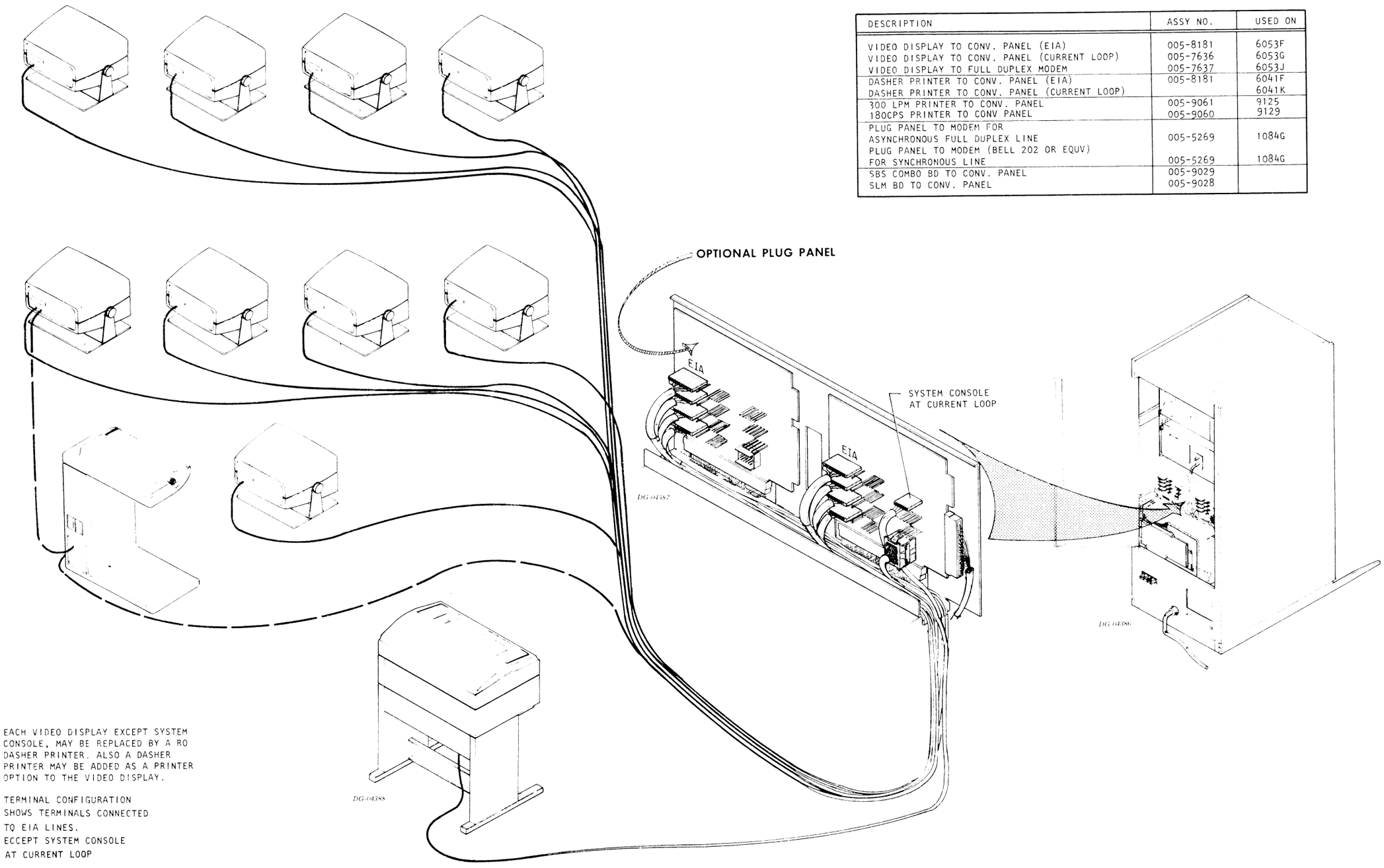
MOUNTING KIT 005 008966



DG-04325

EXTERNAL CABLING

DESCRIPTION	ASSY NO.	USED ON
VIDEO DISPLAY TO CONV. PANEL (EIA)	005-8181	6053F
VIDEO DISPLAY TO CONV. PANEL (CURRENT LOOP)	005-7636	6053G
VIDEO DISPLAY TO FULL DUPLEX MODEM	005-7637	6053J
DASHER PRINTER TO CONV. PANEL (EIA)	005-8181	6041F
DASHER PRINTER TO CONV. PANEL (CURRENT LOOP)		6041K
300 LPM PRINTER TO CONV. PANEL	005-9061	9125
180CPS PRINTER TO CONV PANEL	005-9060	9129
PLUG PANEL TO MODEM FOR ASYNCHRONOUS FULL DUPLEX LINE	005-5269	1084G
PLUG PANEL TO MODEM (BELL 202 OR EQUV) FOR SYNCHRONOUS LINE	005-5269	1084G
SBS COMBO BD TO CONV. PANEL	005-9029	
SLM BD TO CONV. PANEL	005-9028	



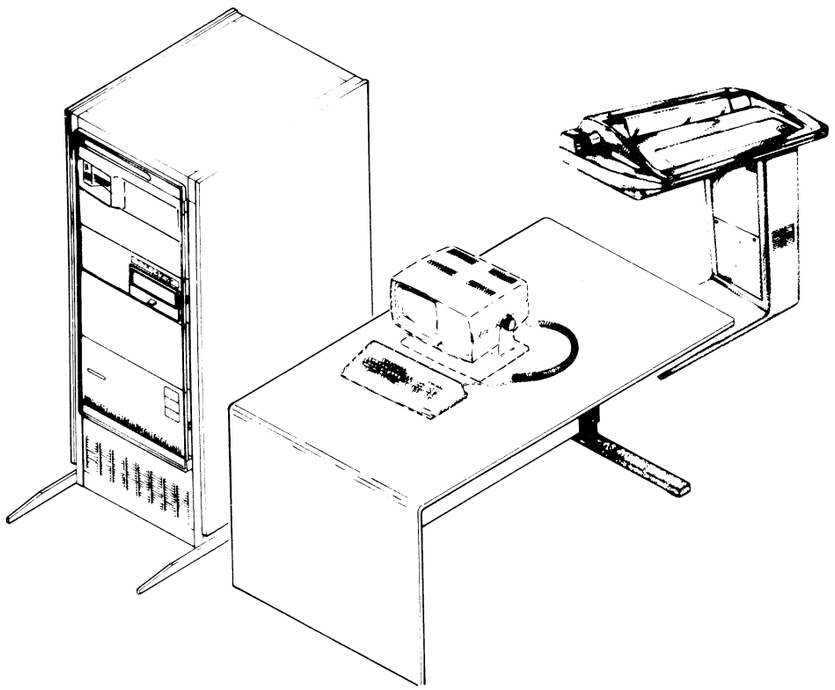
NOTE: EACH VIDEO DISPLAY EXCEPT SYSTEM CONSOLE, MAY BE REPLACED BY A RO DASHER PRINTER. ALSO A DASHER PRINTER MAY BE ADDED AS A PRINTER OPTION TO THE VIDEO DISPLAY.

TERMINAL CONFIGURATION
SHOWS TERMINALS CONNECTED
TO EIA LINES.
ECCEPT SYSTEM CONSOLE
AT CURRENT LOOP

SUBSYSTEM COMPONENT BREAKDOWN

MODELS C5, 9231

(ONE BAY SYSTEM SHOWN)



WARNING

THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY ENERGY AND IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTION MANUAL, MAY CAUSE INTERFERENCE TO RADIO COMMUNICATIONS. AS TEMPORARILY PERMITTED BY REGULATION IT HAS NOT BEEN TESTED FOR COMPLIANCE WITH THE LIMITS FOR CLASS A COMPUTING DEVICES PURSUANT TO SUBPART J OF PART 15 OF FCC RULES, WHICH ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST SUCH INTERFERENCE. OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA IS LIKELY TO CAUSE INTERFERENCE IN WHICH CASE THE USER AT HIS OWN EXPENSE WILL BE REQUIRED TO TAKE WHATEVER MEASURES MAY BE REQUIRED TO CORRECT THE INTERFERENCE.

MAJOR COMPONENT

Component	Mounting Location	Notes
CS/50	FREE STANDING	
NOVA 4/X	CABINET	
CARTRIDGE DISK 6070	CABINET	SEE 010-000192
DISKETTE 6031 or 6097	CABINET	SEE 010-000064 or 010-00255 (OPTION)
TABLE	FREE STANDING	OPTIONAL
DASHER DISPLAY	FREE STANDING	SEE 010-000098 or 010-000215 or 010-000235 or 010-000241
DASHER PRINTER	FREE STANDING	SEE 010-000094 or 010-001016 or 010-001023
DASHER G300 6150 & 6151	FREE STANDING	SEE 010-1013
GRAPHICS PRINTER 6156	FREE STANDING	SEE 010-1036
SERIAL PRINTER 4422	FREE STANDING	OPTION; SEE 010-301
DCH PRINTER 9755	FREE STANDING	OPTION; 436 LPM; SEE 010-001035
DCH PRINTER 9756	FREE STANDING	OPTION; 600 LPM; SEE 010-001035

CABLE

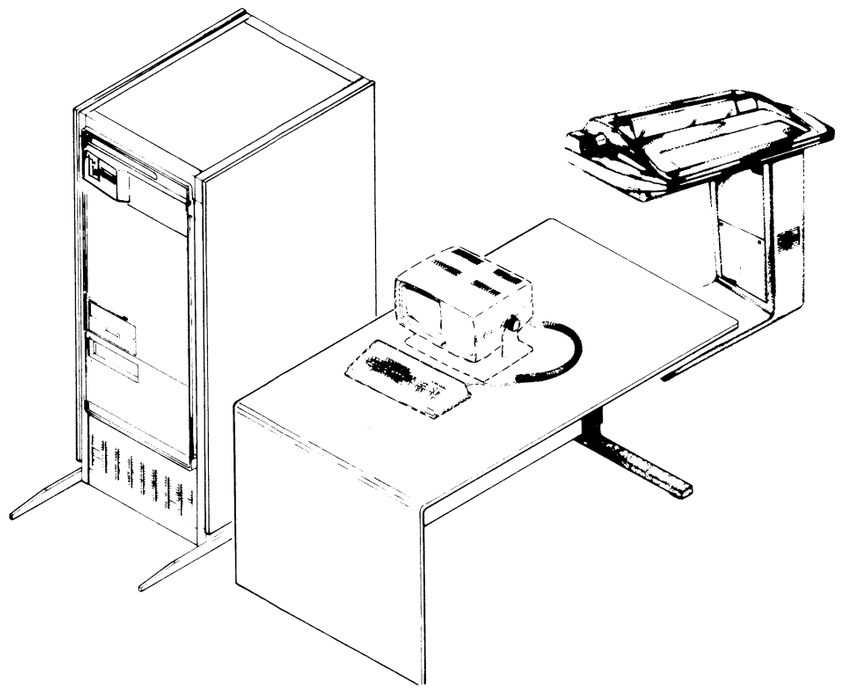
Cable	Connecting			Max Allowed Lg ft / m	Notes
DEVICE CABLE	VIDEO DISPLAY	and	CPU	2000 / 70	USED ON 6053-D*
DEVICE CABLE (CURRENT LOOP)	VIDEO DISPLAY	"	CONV. PANEL	2000 / 70	USED ON 6053-G*
DEVICE CABLE (EIA)	VIDEO DISPLAY	"	FULL DUPLEX MODEM	50 / 15.3	USED ON 6053-J*
DEVICE CABLE	VIDEO DISPLAY	and	CPU	2000 / 70	USED ON 6108-D & 6150
DEVICE CABLE (CURRENT LOOP)	VIDEO DISPLAY	"	CONV. PANEL	2000 / 70	USED ON 6108-G & 6150
DEVICE CABLE (EIA)	VIDEO DISPLAY	"	FULL DUPLEX MODEM	50 / 15.3	USED ON 6108-J & 6150
DEVICE CABLE (CURRENT LOOP)	DASHER PRINTER	"	CONV. PANEL	2000 / 70	USED ON 6041-G**
DEVICE CABLE (EIA)	DASHER PRINTER	"	FULL DUPLEX MODEM	50 / 15.3	USED ON 6041-J**
DEVICE CABLE	300 LPM PRINTER	"	CONV. PANEL	15 / 4.6	USED ON 9125
DEVICE CABLE	240 LPM PRINTER	"	CONV. PANEL	15 / 4.6	USED ON 9128
DEVICE CABLE	MATRIX PRINTER	"	CONV. PANEL	25 / 7.4	9613
DEVICE CABLE (EIA)	MATRIX PRINTER	"	CONV. PANEL	50 / 15.3	USED ON 4354-F
DEVICE CABLE (CURRENT LOOP)	MATRIX PRINTER	"	CONV. PANEL	2000 / 70	USED ON 4354-G
DEVICE CABLE	MATRIX PRINTER	"	CONV. PANEL	25 / 7.5	USED ON 9199
DEVICE CABLE	MATRIX PRINTER	"	SBS COMBO MUX BOARD	25 / 7.5	USED ON 9198
DEVICE CABLE	SYNCHRONOUS MODEM	"	CONV. PANEL	50 / 15.3	1084G
INTERDEVICE CABLE	SBS COMBO BOARD	"	CONV. PANEL	8 / 2.5	
INTERDEVICE CABLE	SLM BOARD	"	CONV. PANEL	8 / 2.5	
DEVICE CABLE	ASYNCHRONOUS MODEM	"	CONV. PANEL	50 / 15.3	1084G
DEVICE CABLE	INTERNATIONAL MODEM	"	CONV. PANEL	50 / 15.3	1084G
DEVICE CABLE	436/600 LPM DCH PRINTERS AND BACKPANEL			49.2 / 15	USED ON 9755,9756 005-007874

*ALSO 6093 & 6120
**ALSO 6193

SUBSYSTEM COMPONENT BREAKDOWN (CONT)

MODELS C5, 9233, 9234

(ONE BAY SYSTEM SHOWN)



MAJOR COMPONENT

Component	Mounting Location	Notes
CS/50	FREE STANDING	
NOVA 4/X	CABINET	
6098 or 6100 DISK UNIT	CABINET	SEE 010-000221 or 010-000223
STREAMING MAG TAPE 6125	CABINET	SEE 010-000270
TABLE	FREE STANDING	OPTIONAL
DASHER DISPLAY	FREE STANDING	SEE 010-000098 or 010-000215 or 010-000235 or 010-000241
DASHER DISPLAY	FREE STANDING	SEE 010-000094 or 010-001016 or 010-001023
DASHER G300 6150 & 6151	FREE STANDING	SEE 010-1013
GRAPHICS PRINTER 6156	FREE STANDING	SEE 010-1036
SERIAL PRINTER 4422	FREE STANDING	OPTION; SEE 010-301
DCH PRINTER 9755	FREE STANDING	OPTION; 436 LPM; SEE 010-001035
DCH PRINTER 9756	FREE STANDING	OPTION; 600 LPM; SEE 010-001035

CABLE

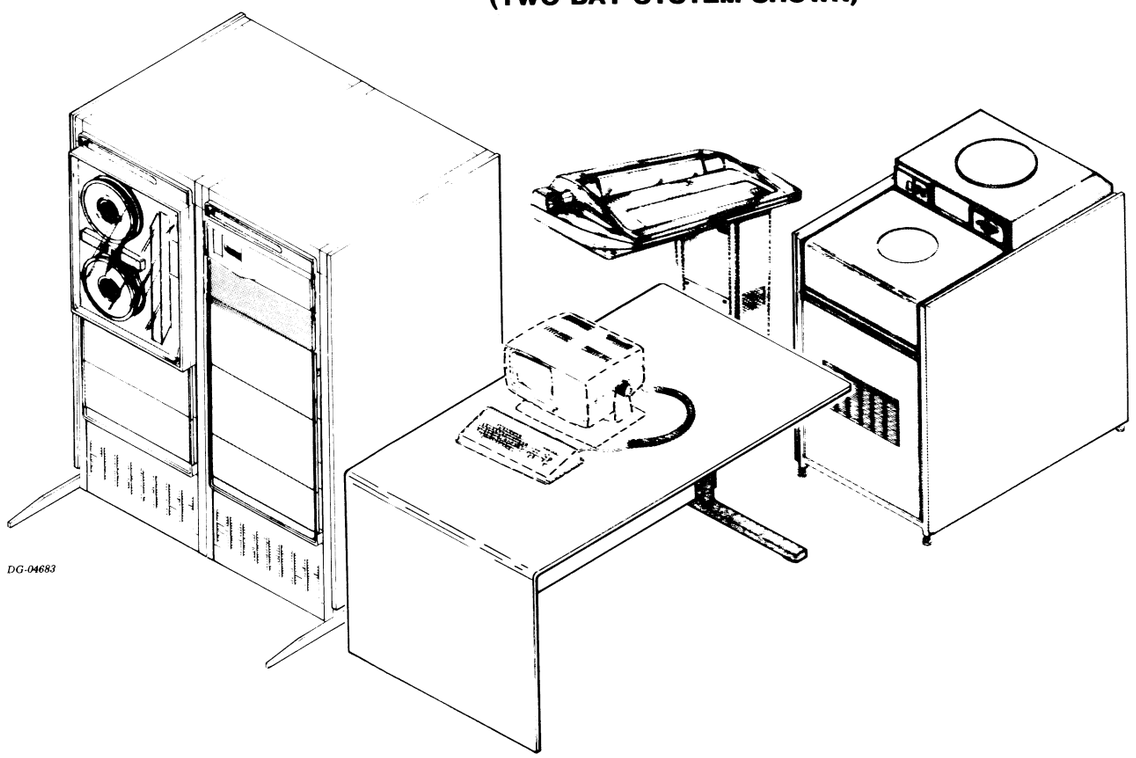
Cable	Connecting			Max Allowed Lg ft / m	Notes
DEVICE CABLE	VIDEO DISPLAY	and	CPU	2000 / 70	USED ON 6053-D*
DEVICE CABLE (CURRENT LOOP)	VIDEO DISPLAY	"	CONV. PANEL	2000 / 70	USED ON 6053-G*
DEVICE CABLE (EIA)	VIDEO DISPLAY	"	FULL DUPLEX MODEM	50 / 15.3	USED ON 6053-J*
DEVICE CABLE	VIDEO DISPLAY	and	CPU	2000 / 70	USED ON 6108-D & 6150
DEVICE CABLE (CURRENT LOOP)	VIDEO DISPLAY	"	CONV. PANEL	2000 / 70	USED ON 6108-G & 6150
DEVICE CABLE (EIA)	VIDEO DISPLAY	"	FULL DUPLEX MODEM	50 / 15.3	USED ON 6108-J & 6150
DEVICE CABLE (CURRENT LOOP)	DASHER PRINTER	"	CONV. PANEL	2000 / 70	USED ON 6041-G**
DEVICE CABLE (EIA)	DASHER PRINTER	"	FULL DUPLEX MODEM	50 / 15.3	USED ON 6041-J**
DEVICE CABLE	300 LPM PRINTER	"	CONV. PANEL	15 / 4.6	USED ON 9125
DEVICE CABLE	240 LPM PRINTER	"	CONV. PANEL	15 / 4.6	USED ON 9128
DEVICE CABLE	MATRIX PRINTER	"	CONV. PANEL	25 / 7.4	USED ON 9123
DEVICE CABLE (EIA)	MATRIX PRINTER	"	CONV. PANEL	50 / 15.3	USED ON 4354-F
DEVICE CABLE (CURRENT LOOP)	MATRIX PRINTER	"	CONV. PANEL	2000 / 70	USED ON 4354-G
DEVICE CABLE	MATRIX PRINTER	"	CONV. PANEL	25 / 7.5	USED ON 9199
DEVICE CABLE	MATRIX PRINTER	"	SBS COMBO MUX BOARD	25 / 7.5	USED ON 9198
DEVICE CABLE	SYNCHRONOUS MODEM	"	CONV. PANEL	50 / 15.3	1084G
INTERDEVICE CABLE	SBS COMBO BOARD	"	CONV. PANEL	8 / 2.5	
INTERDEVICE CABLE	SLM BOARD	"	CONV. PANEL	8 / 2.5	
DEVICE CABLE	ASYNCHRONOUS MODEM	"	CONV. PANEL	50 / 15.3	1084G
DEVICE CABLE	INTERNATIONAL MODEM	"	CONV. PANEL	50 / 15.3	1084G
DEVICE CABLE	436/600 LPM DCH PRINTERS AND BACKPANEL			49.2 / 15	USED ON 9755,9756 005-007874

*ALSO 6093 & 6120
**ALSO 6193

SUBSYSTEM COMPONENT BREAKDOWN (CONT)

MODELS C6, 9235, 9236, 9237

(TWO BAY SYSTEM SHOWN)



DG-04683

MAJOR COMPONENT

Component	Mounting Location	Notes
CS/50	FREE STANDING	
NOVA 4/X	CABINET	
MAGTAPE 6021 or 6026	CABINET	SEE 010-000113 or 010-000197
STREAMING MAG TAPE 6125	CABINET	SEE 010-000270
TABLE	FREE STANDING	OPTIONAL
DASHER DISPLAY	FREE STANDING	SEE 010-000098 or 010-000215 or 010-000235 or 010-000241
DASHER PRINTER	FREE STANDING	SEE 010-000094 or 010-001016 or 010-001023
DASHER G300 6150 & 6151	FREE STANDING	SEE 010-1013
GRAPHICS PRINTER 6156	FREE STANDING	SEE 010-1036
50/96/190 MB DISK DRIVE	FREE STANDING	SEE 010-000107 or 010-000200
SERIAL PRINTER 4422	FREE STANDING	OPTION; SEE 010-301
FIXED DISK, 73MB	CABINET	OPTION; SEE 010-289
FIXED DISK, 147MB	CABINET	OPTION; SEE 010-289
DCH PRINTER 9755	FREE STANDING	OPTION; 436 LPM; SEE 010-001035
DCH PRINTER 9756	FREE STANDING	OPTION; 600 LPM; SEE 010-001035

CABLE

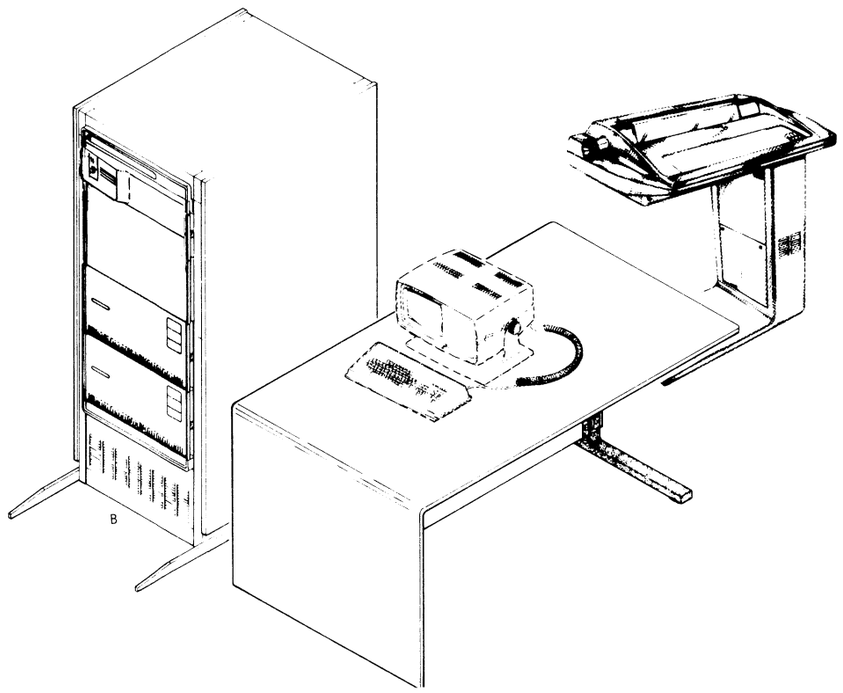
Cable	Connecting			Max Allowed Lg ft / m	Notes
DEVICE CABLE	VIDEO DISPLAY	and	CPU	2000 / 70	USED ON 6053-D*
DEVICE CABLE (CURRENT LOOP)	VIDEO DISPLAY	"	CONV. PANEL	2000 / 70	USED ON 6053-G*
DEVICE CABLE	VIDEO DISPLAY	"	FULL DUPLEX MODEM	50 / 15.3	USED ON 6053-J*
DEVICE CABLE	VIDEO DISPLAY	and	CPU	2000 / 70	USED ON 6108-D
DEVICE CABLE (CURRENT LOOP)	VIDEO DISPLAY	"	CONV. PANEL	2000 / 70	USED ON 6108-G
DEVICE CABLE (EIA)	VIDEO DISPLAY	"	FULL DUPLEX MODEM	50 / 15.3	USED ON 6108-J
DEVICE CABLE (CURRENT LOOP)	DASHER PRINTER	"	CONV. PANEL	2000 / 70	USED ON 6041-G**
DEVICE CABLE (EIA)	DASHER PRINTER	"	CONV. PANEL	50 / 15.3	USED ON 6041-J**
DEVICE CABLE	300 LPM PRINTER	"	CONV. PANEL	15 / 4.6	USED ON 9125
DEVICE CABLE	240 LPM PRINTER	"	CONV. PANEL	15 / 4.6	USED ON 9128
DEVICE CABLE	MATRIX PRINTER	"	CONV. PANEL	25 / 7.4	9126
DEVICE CABLE (EIA)	MATRIX PRINTER	"	CONV. PANEL	50 / 15.3	USED ON 4354-F
DEVICE CABLE (CURRENT LOOP)	MATRIX PRINTER	"	CONV. PANEL	2000 / 70	USED ON 4354-G
DEVICE CABLE	MATRIX PRINTER	"	CONV. PANEL	25 / 7.5	USED ON 9199
DEVICE CABLE	MATRIX PRINTER	"	SBS COMBO MUX BOARD	25 / 7.5	USED ON 9198
DEVICE CABLE	SYNCHRONOUS MODEM	"	CONV. PANEL	50 / 15.3	1084G
DEVICE CABLE	INTERNATIONAL MODEM	"	CONV. PANEL	50 / 15.3	1084G
DEVICE CABLE	50/96/190 MB DISC DRIVE	"	ADAPTER	50 / 15.3	
INTERDEVICE CABLE	SBS COMBO BOARD	"	CONV. PANEL	8 / 2.5	
INTERDEVICE CABLE	SLM BOARD	"	CONV. PANEL	8 / 2.5	
INTERDEVICE CABLE	ASYNCHRONOUS MODEM	"	CONV. PANEL	8 / 2.5	1084G
DEVICE CABLE	436/600 LPM DCH PRINTERS AND BACKPANEL			49.2 / 15	USED ON 9755,9756 005-007874

*ALSO 6093 & 6120 **ALSO 6193

SUBSYSTEM COMPONENT BREAKDOWN (CONT)

MODELS C3, 9238

(ONE BAY SYSTEM SHOWN)



MAJOR COMPONENT

Component	Mounting Location	Notes
CS/50	FREE STANDING	
NOVA 4/S	CABINET	
6070 DISK	CABINET	SEE 010-000192
TABLE	FREE STANDING	OPTIONAL
DASHER DISPLAY	FREE STANDING	SEE 010-000098 or 010-000215 or 010-000235 or 010-000241
DASHER PRINTER	FREE STANDING	SEE 010-000094 or 010-001016 or 010-001023
DASHER G300 6150 & 6151	FREE STANDING	SEE 010-1013
GRAPHICS PRINTER 6156	FREE STANDING	SEE 010-1036
SERIAL PRINTER 4422	FREE STANDING	OPTION; SEE 010-301
DCH PRINTER 9755	FREE STANDING	OPTION; 436 LPM; SEE 010-001035
DCH PRINTER 9756	FREE STANDING	OPTION; 600 LPM; SEE 010-001035

CABLE

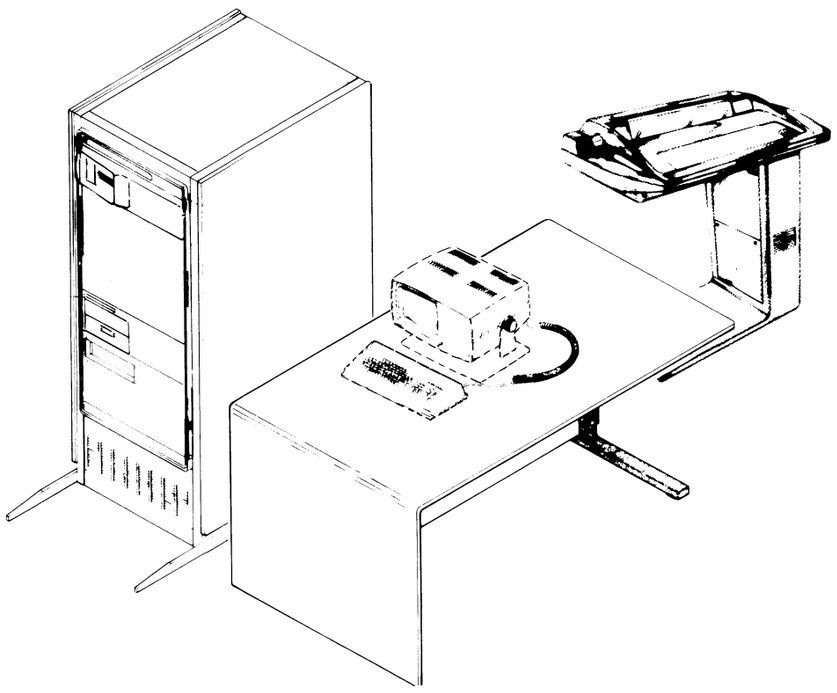
Cable	Connecting			Max Allowed Lg ft / m	Notes
DEVICE CABLE	VIDEO DISPLAY	and	CPU	2000 / 70	USED ON 6053-D*
DEVICE CABLE (CURRENT LOOP)	VIDEO DISPLAY	"	CONV. PANEL	2000 / 70	USED ON 6053-G*
DEVICE CABLE (EIA)	VIDEO DISPLAY	"	FULL DUPLEX MODEM	50 / 15.3	USED ON 6053-J**
DEVICE CABLE	VIDEO DISPLAY	and	CPU	2000 / 70	USED ON 6108-D & 6150
DEVICE CABLE (CURRENT LOOP)	VIDEO DISPLAY	"	CONV. PANEL	2000 / 70	USED ON 6108-G & 6150
DEVICE CABLE (EIA)	VIDEO DISPLAY	"	FULL DUPLEX MODEM	50 / 15.3	USED ON 6108-J & 6150
DEVICE CABLE (CURRENT LOOP)	DASHER PRINTER	"	CONV. PANEL	2000 / 70	USED ON 6041-G**
DEVICE CABLE (EIA)	DASHER PRINTER	"	FULL DUPLEX MODEM	50 / 15.3	USED ON 6041-J**
DEVICE CABLE	300 LPM PRINTER	"	CONV. PANEL	15 / 4.6	USED ON 9125
DEVICE CABLE	240 LPM PRINTER	"	CONV. PANEL	15 / 4.6	USED ON 9128
DEVICE CABLE	MATRIX PRINTER	"	CONV. PANEL	25 / 7.4	9613
DEVICE CABLE (EIA)	MATRIX PRINTER	"	CONV. PANEL	50 / 15.3	USED ON 4354-F
DEVICE CABLE (CURRENT LOOP)	MATRIX PRINTER	"	CONV. PANEL	2000 / 70	USED ON 4354-G
DEVICE CABLE	MATRIX PRINTER	"	CONV. PANEL	25 / 7.5	USED ON 9199
DEVICE CABLE	MATRIX PRINTER	"	SBS COMBO MUX BOARD	25 / 7.5	USED ON 9198
DEVICE CABLE	MATRIX PRINTER	"	CONV. PANEL	25 / 7.4	9129
DEVICE CABLE	SYNCHRONOUS MODEM	"	CONV. PANEL	50 / 15.3	1084G
INTERDEVICE CABLE	SBS COMBO BOARD	"	CONV. PANEL	8 / 2.5	
INTERDEVICE CABLE	SLM BOARD	"	CONV. PANEL	8 / 2.5	
DEVICE CABLE	ASYNCHRONOUS MODEM	"	CONV. PANEL	50 / 15.3	1084G
DEVICE CABLE	INTERNATIONAL MODEM	"	CONV. PANEL	50 / 15.3	1084G
DEVICE CABLE	436/600 LPM DCH PRINTERS AND BACKPANEL			49.2 / 15	USED ON 9755,9756 005-007874

*ALSO 6093 & 6120
**ALSO 6193

SUBSYSTEM COMPONENT BREAKDOWN (CONT)

MODELS C3, 9240 ,9241

(ONE BAY SYSTEM SHOWN)



MAJOR COMPONENT

Component	Mounting Location	Notes
CS/50	FREE STANDING	
NOVA 4/S	CABINET	
6098 OR 6100 DISK UNIT	CABINET	SEE 010-000221
STREAMING MAG TAPE 6125	CABINET	SEE 010-000270
TABLE	FREE STANDING	OPTIONAL
DASHER DISPLAY	FREE STANDING	SEE 010-000098 or 010-000215 or 010-000235 or 010-000241
DASHER PRINTER	FREE STANDING	SEE 010-000094 or 010-001016 or 010-001023
DASHER G300 6150 & 6151	FREE STANDING	SEE 010-1013
GRAPHICS PRINTER 6156	FREE STANDING	SEE 010-1036
SERIAL PRINTER 4422	FREE STANDING	OPTION; SEE 010-301
DCH PRINTER 9755	FREE STANDING	OPTION; 436 LPM; SEE 010-001035
DCH PRINTER 9756	FREE STANDING	OPTION; 600 LPM; SEE 010-001035

CABLE

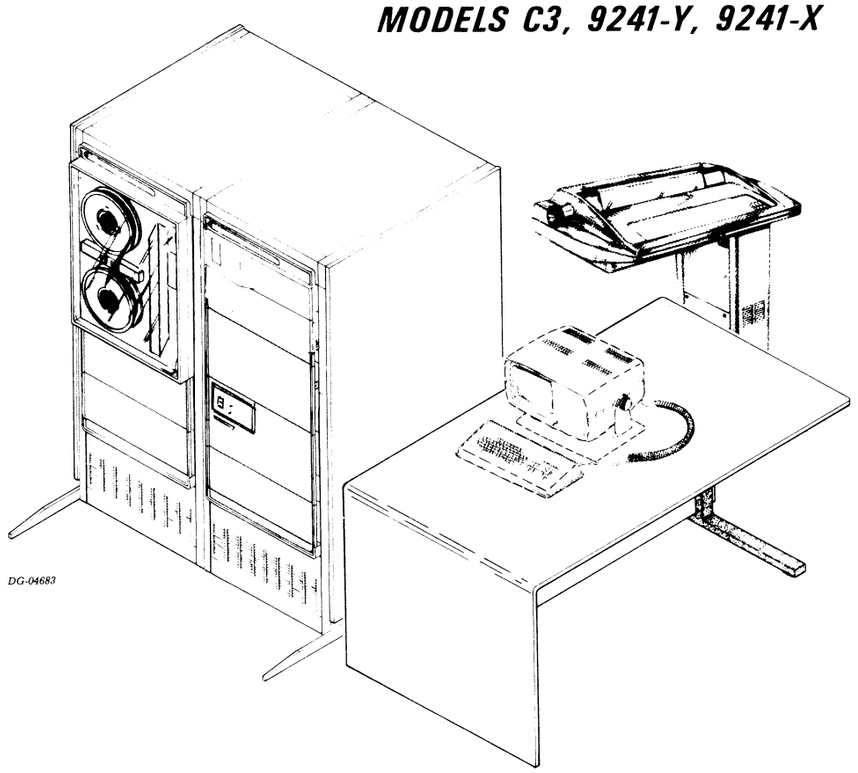
Cable	Connecting		Max Allowed Lg ft / m	Notes
DEVICE CABLE	VIDEO DISPLAY	and CPU	2000 / 70	USED ON 6053-D*
DEVICE CABLE (CURRENT LOOP)	VIDEO DISPLAY	" CONV. PANEL	2000 / 70	USED ON 6053-G*
DEVICE CABLE (EIA)	VIDEO DISPLAY	" FULL DUPLEX MODEM	50 / 15.3	USED ON 6053-J**
DEVICE CABLE	VIDEO DISPLAY	and CPU	2000 / 70	USED ON 6108-D & 6150
DEVICE CABLE (CURRENT LOOP)	VIDEO DISPLAY	" CONV. PANEL	2000 / 70	USED ON 6108-G & 6150
DEVICE CABLE (EIA)	VIDEO DISPLAY	" FULL DUPLEX MODEM	50 / 15.3	USED ON 6108-J & 6150
DEVICE CABLE (CURRENT LOOP)	DASHER PRINTER	" CONV. PANEL	2000 / 70	USED ON 6041-G**
DEVICE CABLE (EIA)	DASHER PRINTER	" FULL DUPLEX MODEM	50 / 15.3	USED ON 6041-J**
DEVICE CABLE	300 LPM PRINTER	" CONV. PANEL	15 / 4.6	USED ON 9125
DEVICE CABLE	240 LPM PRINTER	" CONV. PANEL	15 / 4.6	USED ON 9128
DEVICE CABLE	MATRIX PRINTER	" CONV. PANEL	25 / 7.4	9613
DEVICE CABLE (EIA)	MATRIX PRINTER	" CONV. PANEL	50 / 15.3	USED ON 4354-F
DEVICE CABLE (CURRENT LOOP)	MATRIX PRINTER	" CONV. PANEL	2000 / 70	USED ON 4354-G
DEVICE CABLE	MATRIX PRINTER	" CONV. PANEL	25 / 7.5	USED ON 9199
DEVICE CABLE	MATRIX PRINTER	" SBS COMBO MUX BOARD	25 / 7.5	USED ON 9198
DEVICE CABLE	SYNCHRONOUS MODEM	" CONV. PANEL	50 / 15.3	1084G
INTERDEVICE CABLE	SBS COMBO BOARD	" CONV. PANEL	8 / 2.5	
INTERDEVICE CABLE	SLM BOARD	" CONV. PANEL	8 / 2.5	
DEVICE CABLE	ASYNCHRONOUS MODEM	" CONV. PANEL	50 / 15.3	1084G
DEVICE CABLE	INTERNATIONAL MODEM	" CONV. PANEL	50 / 15.3	1084G
DEVICE CABLE	436/600 LPM DCH PRINTERS AND BACKPANEL		49.2 / 15	USED ON 9755,9756 005-007874

*ALSO 6093 & 6120
**ALSO 6193

SUBSYSTEM COMPONENT BREAKDOWN (CONT)

(TWO BAY SYSTEM SHOWN)

MODELS C3, 9241-Y, 9241-X



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MAJOR COMPONENT

Component	Mounting Location	Notes
CS/50	FREE STANDING	
NOVA 4/S	CABINET	
MAGTAPE 6021 or 6026	CABINET	SEE 010-000113 or 010000197
TABLE	FREE STANDING	OPTIONAL
DASHER DISPLAY	FREE STANDING	SEE 010-000098 or 010-000241
DASHER PRINTER	FREE STANDING	SEE 010-000094
DASHER G300 6150 & 6151	FREE STANDING	SEE 010-1013
GRAPHICS PRINTER 6156	FREE STANDING	SEE 010-1036
DISC 6103	CABINET	SEE 010-000225
SERIAL PRINTER 4422	FREE STANDING	OPTION; SEE 010-301
DCH PRINTER 9755	FREE STANDING	OPTION; 436 LPM; SEE 010-001035
DCH PRINTER 9756	FREE STANDING	OPTION; 600 LPM; SEE 010-001035

CABLE

Cable	Connecting			Max Allowed Lg ft / m	Notes
DEVICE CABLE	VIDEO DISPLAY	and	CONV. PANEL	2000 / 70	USED ON 6053-D*
DEVICE CABLE (CURRENT LOOP)	VIDEO DISPLAY	"	CONV. PANEL	2000 / 70	USED ON 6053-G*
DEVICE CABLE	VIDEO DISPLAY	"	FULL DUPLEX MODEM	50 / 15.3	USED ON 6053-J**
DEVICE CABLE	VIDEO DISPLAY	and	CPU	2000 / 70	USED ON 6108-D & 6150
DEVICE CABLE (CURRENT LOOP)	VIDEO DISPLAY	"	CONV. PANEL	2000 / 70	USED ON 6108-G & 6150
DEVICE CABLE (EIA)	VIDEO DISPLAY	"	FULL DUPLEX MODEM	50 / 15.3	USED ON 6108-J & 6150
DEVICE CABLE (CURRENT LOOP)	DASHER PRINTER	"	CONV. PANEL	2000 / 70	USED ON 6041-G**
DEVICE CABLE (EIA)	DASHER PRINTER	"	FULL DUPLEX MODEM	50 / 15.3	USED ON 6041-J**
DEVICE CABLE	300 LPM PRINTER	"	CONV. PANEL	15 / 4.6	USED ON 9125
DEVICE CABLE	240 LPM PRINTER	"	CONV. PANEL	15 / 4.6	USED ON 9128
DEVICE CABLE	MATRIX PRINTER	"	CONV. PANEL	25 / 7.4	9613
DEVICE CABLE (EIA)	MATRIX PRINTER	"	CONV. PANEL	50 / 15.3	USED ON 4354-F
DEVICE CABLE (CURRENT LOOP)	MATRIX PRINTER	"	CONV. PANEL	2000 / 70	USED ON 4354-G
DEVICE CABLE	MATRIX PRINTER	"	CONV. PANEL	25 / 7.5	USED ON 9199
DEVICE CABLE	MATRIX PRINTER	"	SBS COMBO MUX BOARD	25 / 7.5	USED ON 9198
DEVICE CABLE	SYNCHRONOUS MODEM	"	CONV. PANEL	50 / 15.3	1084G
INTERDEVICE CABLE	SBS COMBO BOARD	"	CONV. PANEL	8 / 2.5	
INTERDEVICE CABLE	SLM BOARD	"	CONV. PANEL	8 / 2.5	
INTERDEVICE CABLE	ASYNCHRONOUS MODEM	"	CONV. PANEL	8 / 2.5	1084G
DEVICE CABLE	INTERNATIONAL MODEM	"	CONV. PANEL	50 / 2.5	1084G
DEVICE CABLE	436/600 LPM DCH PRINTERS AND BACKPANEL			49.2 / 15	USED ON 9755,9756 005-007874

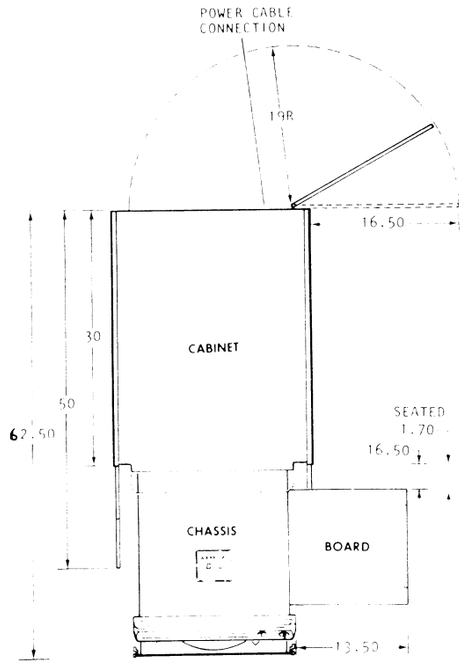
*ALSO 6093 & 6120
**ALSO 6193

SPECIFICATIONS OF FREE-STANDING COMPONENTS

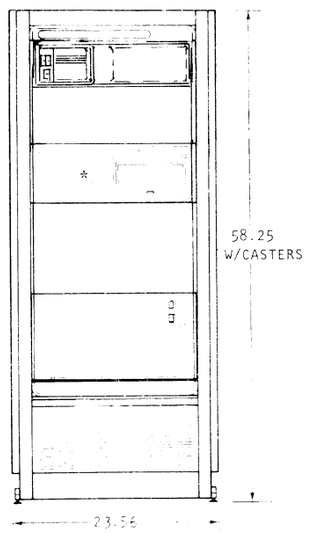
	PRIMARY POWER REQUIRED FOR CABINET									BTU/Hr.	WEIGHT			COOLING UNIT				
	POWER					CORD SUPPLIED		MATING RECEPTACLE REQ'D				GROSS, FULLY LOADED			POWER			
No Bays	Volts	Hz	Phase	Conductors	Amps	Cable Length ft/in	Cable Connector Nema	Power Drop Nema	Wall Receptacle Nema			Total lb/kg	Per Bay lb/kg	No Units	Volt	Hz	Amp	Watts
1	240 Vac	60	1	3 W/G	40	9/2.74	14-50P	14-50R	14-50R	6,000		565/254	565/254	1	120	60	1.5	140
2	240 Vac	60	1	3 W/G	40	9/2.74	14-50P	14-50R	14-50R	10,600		1090/492	525/238	2	120	60	1.5	140
3	240 Vac	60	1	3 W/G	40	9/2.74	14-50P	14-50R	14-50R	16,500		1615/730	525/238	3	120	60	1.5	140
1	230Vac	50	1	2 W/G	40	9/2.74				6,000		565/254	565/254	1	230	50	0.75	140
2	230Vac	50	1	2 W/G	40	9/2.74				10,600		1090/492	525/238	2	230	50	0.75	140
3	230Vac	50	1	2 W/G	40	9/2.74				16,500		1615/730	525/238	3	230	50	0.75	140

SINGLE BAY CABINET

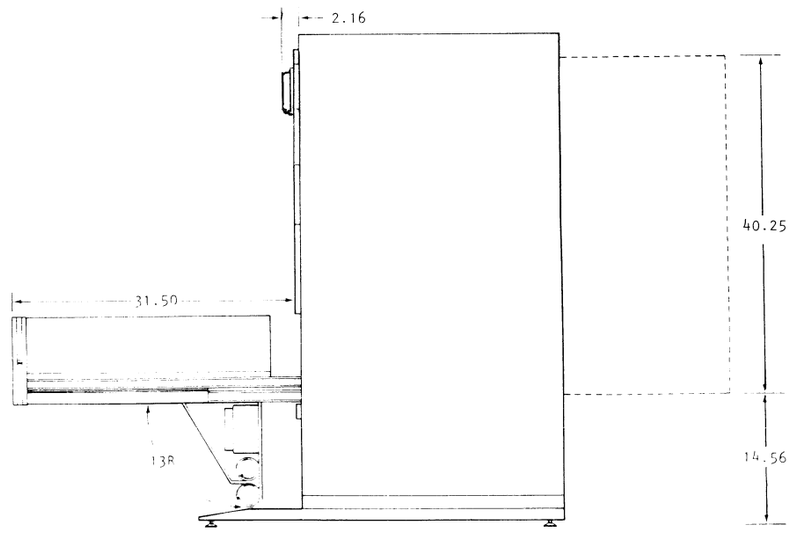
MODELS C5, 9231



TOP VIEW
SERVICE DIMENSIONS



FRONT VIEW
* OPTION



SIDE VIEW

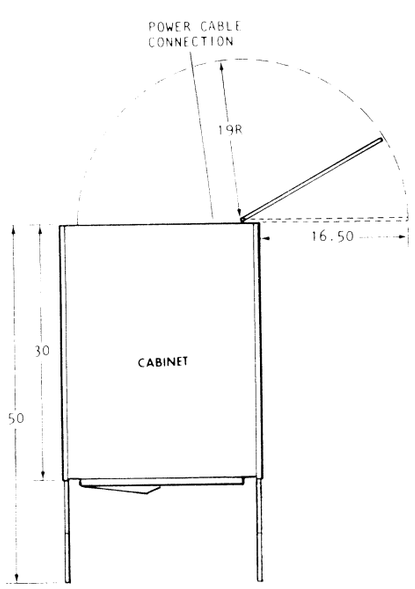
ALL DIMENSIONS IN INCHES

SPECIFICATIONS OF FREE-STANDING COMPONENTS

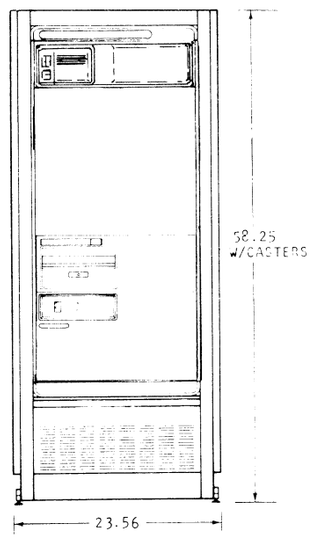
	PRIMARY POWER REQUIRED FOR CABINET									BTU/Hr.	WEIGHT			COOLING UNIT				
	POWER					CORD SUPPLIED		MATING RECEPTACLE REQ'D				GROSS, FULLY LOADED			POWER			
No Bays	Volts	Hz	Phase	Conductors	Amps	Cable Length ft/in	Cable Connector Nema	Power Drop Nema	Wall Receptacle Nema			Total lb/kg	Per Bay lb/kg	No Units	Volt	Hz	Amp	Watts
1	240 Vac	60	1	3 W/G	40	9/2.74	14-50P	14-50R	14-50R	6,000		565/254	565/254	1	120	60	1.5	140
2	240 Vac	60	1	3 W/G	40	9/2.74	14-50P	14-50R	14-50R	10,600		1090/492	525/238	2	120	60	1.5	140
3	240 Vac	60	1	3 W/G	40	9/2.74	14-50P	14-50R	14-50R	16,500		1615/730	525/238	3	120	60	1.5	140
1	230Vac	50	1	2 W/G	40	9/2.74				6,000		565/254	565/254	1	230	50	0.75	140
2	230Vac	50	1	2 W/G	40	9/2.74				10,600		1090/492	525/238	2	230	50	0.75	140
3	230Vac	50	1	2 W/G	40	9/2.74				16,500		1615/730	525/238	3	230	50	0.75	140

SINGLE BAY CABINET

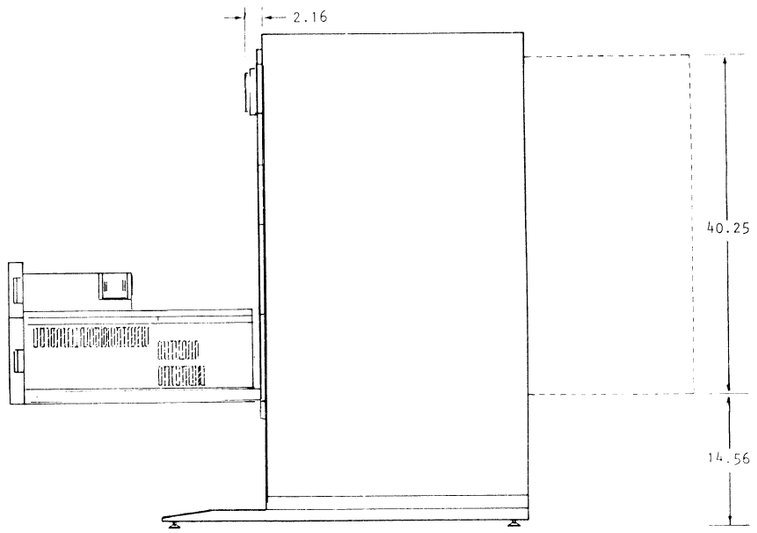
MODELS C5, 9233, 9234



TOP VIEW



FRONT VIEW

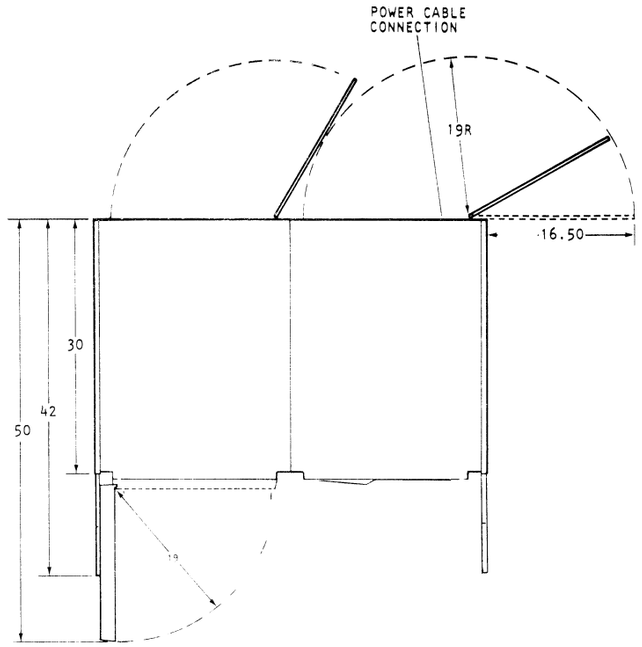


SIDE VIEW

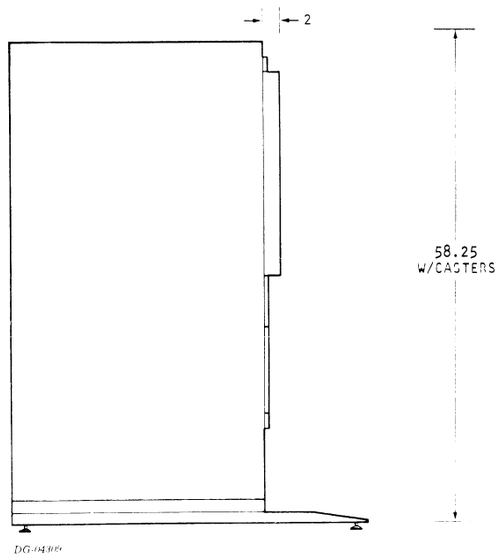
SPECIFICATIONS OF FREE-STANDING COMPONENTS (CONT)

TWO BAY CABINET

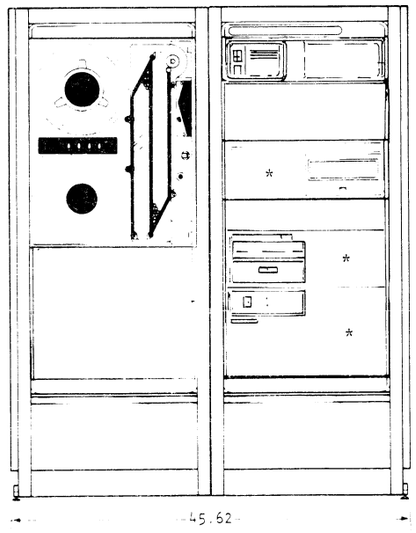
MODELS C6, 9235, 9236, 9237



TOP VIEW
SERVICE DIMENSIONS

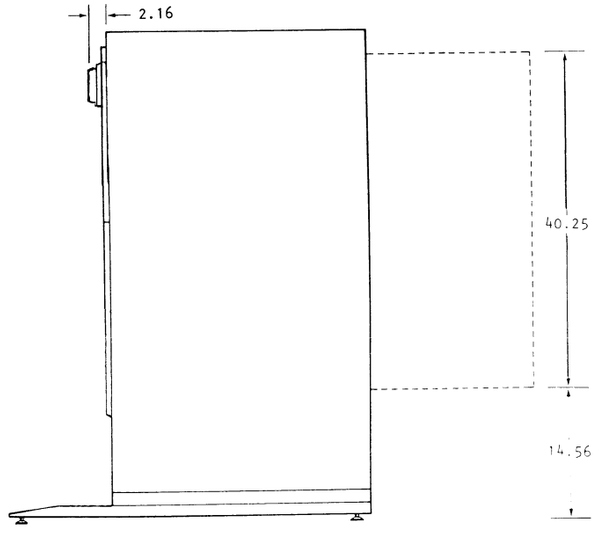


SIDE VIEW



FRONT VIEW

* OPTION



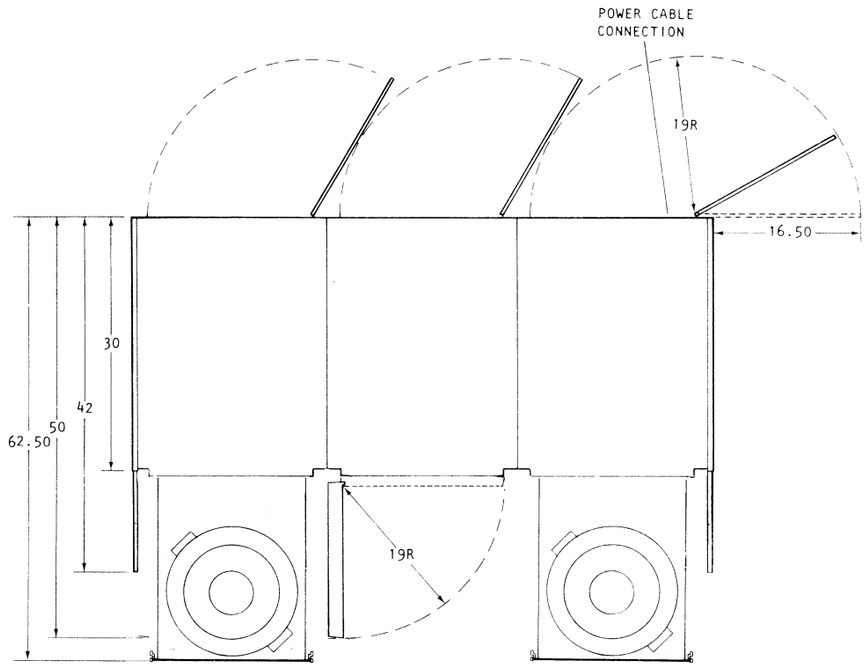
SIDE VIEW

ALL DIMENSIONS IN INCHES

SPECIFICATIONS OF FREE-STANDING COMPONENTS (Cont)

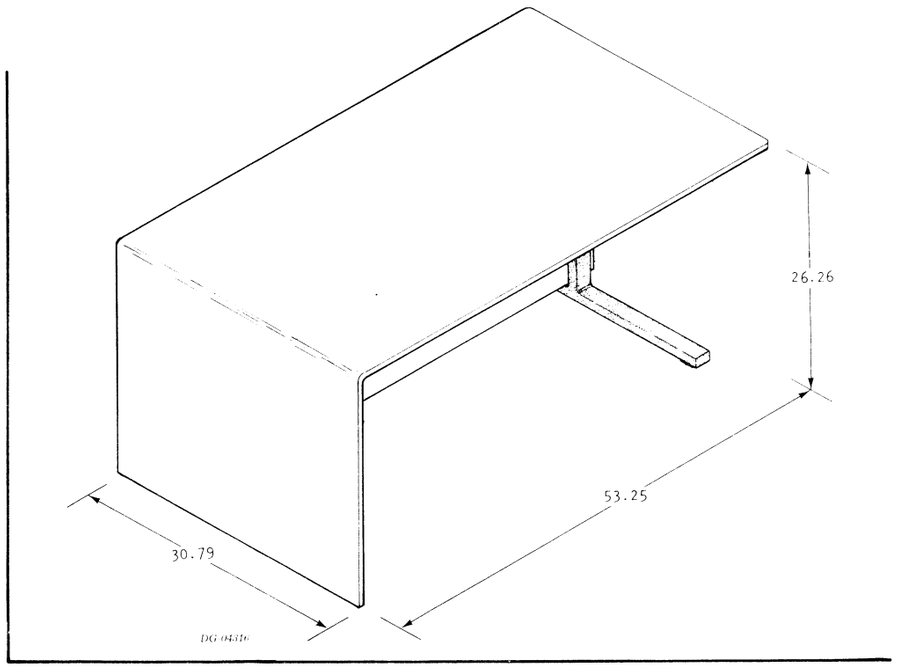
MODELS C5, 9231

THREE BAY CABINET

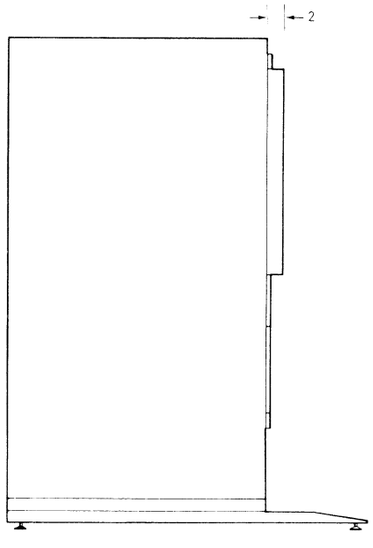


TOP VIEW

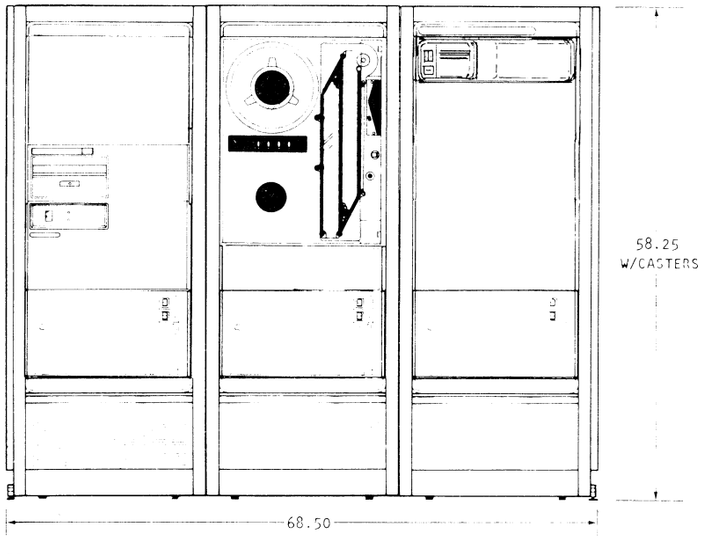
WORKTABLE



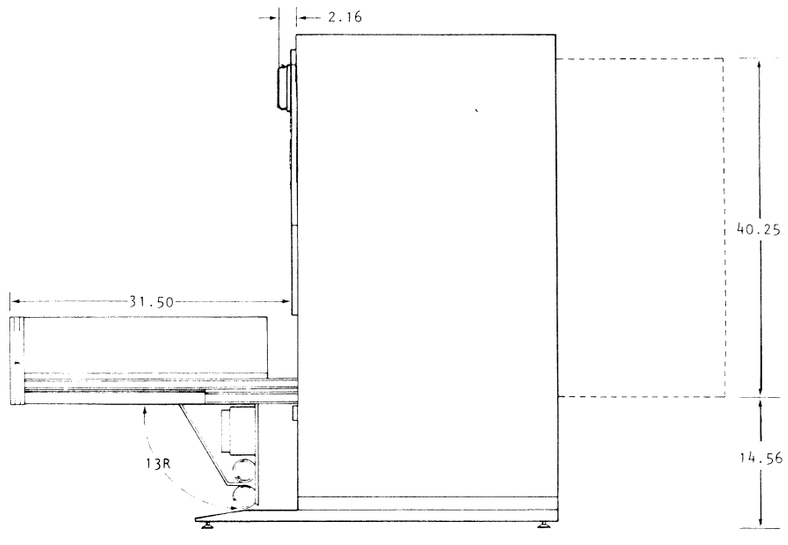
SERVICE DIMENSIONS



SIDE VIEW



FRONT VIEW



SIDE VIEW

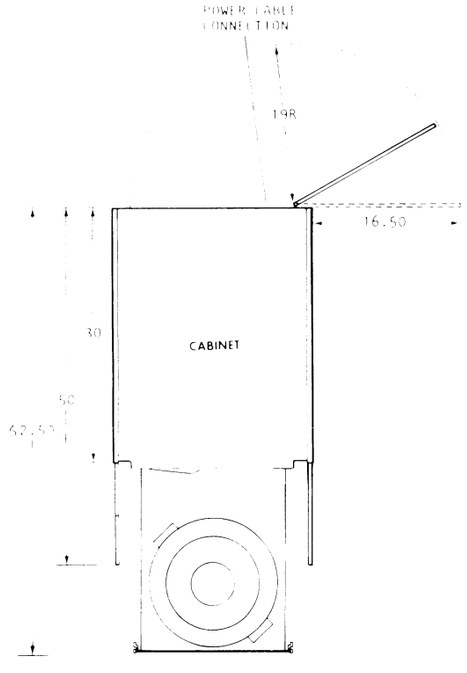
ALL DIMENSIONS IN INCHES

SPECIFICATIONS OF FREE-STANDING COMPONENTS

	PRIMARY POWER REQUIRED FOR CABINET									BTU/Hr.	WEIGHT			COOLING UNIT				
	POWER					CORD SUPPLIED		MATING RECEPTACLE REQ'D				GROSS, FULLY LOADED			POWER			
No Bays	Volts	Hz	Phase	Conductors	Amps	Cable Length ft/in	Cable Connector Nema	Power Drop Nema	Wall Receptacle Nema			Total lb/kg	Per Bay lb/kg	No Units	Volt	Hz	Amp	Watts
1	240 Vac	60	1	3 W/G	40	9/2.74	14-50P	14-50R	14-50R	6,000		565/254	565/254	1	120	60	1.5	140
2	240 Vac	60	1	3 W/G	40	9/2.74	14-50P	14-50R	14-50R	10,600		1090/492	525/238	2	120	60	1.5	140
3	240 Vac	60	1	3 W/G	40	9/2.74	14-50P	14-50R	14-50R	16,500		1615/730	525/238	3	120	60	1.5	140
1	230Vac	50	1	2 W/G	40	9/2.74				6,000		565/254	565/254	1	230	50	0.75	140
2	230Vac	50	1	2 W/G	40	9/2.74				10,600		1090/492	525/238	2	230	50	0.75	140
3	230Vac	50	1	2 W/G	40	9/2.74				16,500		1615/730	525/238	3	230	50	0.75	140

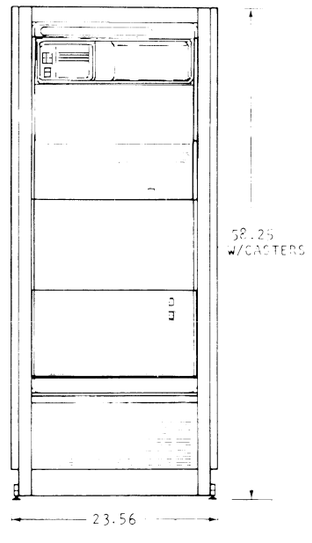
SINGLE BAY CABINET

MODELS C3, 9238

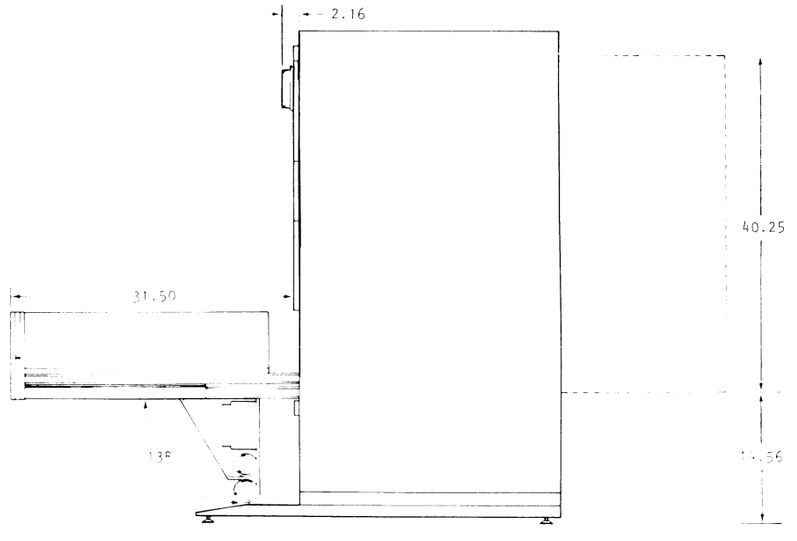


TOP VIEW

SERVICE DIMENSIONS



FRONT VIEW



SIDE VIEW

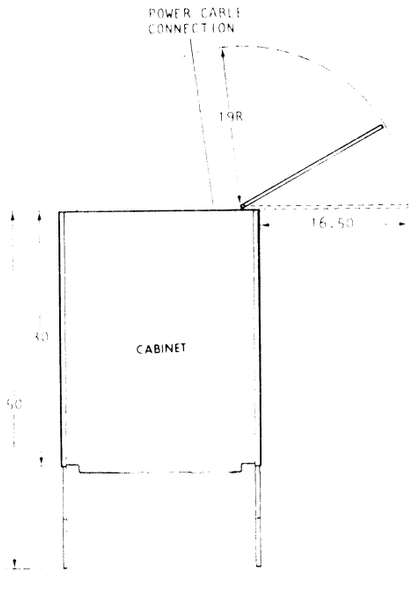
DIMENSIONS IN INCHES

SPECIFICATIONS OF FREE-STANDING COMPONENTS

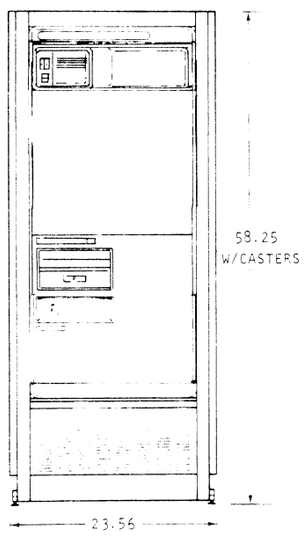
	PRIMARY POWER REQUIRED FOR CABINET									BTU/Hr.	WEIGHT			COOLING UNIT				
	POWER					CORD SUPPLIED		MATING RECEPTACLE REQ'D				GROSS, FULLY LOADED			POWER			
No Bays	Volts	Hz	Phase	Conductors	Amps	Cable Length ft/in	Cable Connector Nema	Power Drop Nema	Wall Receptacle Nema			Total lb/kg	Per Bay lb/kg	No Units	Volt	Hz	Amp	Watts
1	240 Vac	60	1	3 W/G	40	9/2.74	14-50P	14-50R	14-50R	6,000		565/254	565/254	1	120	60	1.5	140
2	240 Vac	60	1	3 W/G	40	9/2.74	14-50P	14-50R	14-50R	10,600		1090/492	525/238	2	120	60	1.5	140
3	240 Vac	60	1	3 W/G	40	9/2.74	14-50P	14-50R	14-50R	16,500		1615/730	525/238	3	120	60	1.5	140
1	230Vac	50	1	2 W/G	40	9/2.74				6,000		565/254	565/254	1	230	50	0.75	140
2	230Vac	50	1	2 W/G	40	9/2.74				10,600		1090/492	525/238	2	230	50	0.75	140
3	230Vac	50	1	2 W/G	40	9/2.74				16,500		1615/730	525/238	3	230	50	0.75	140

SINGLE BAY CABINET

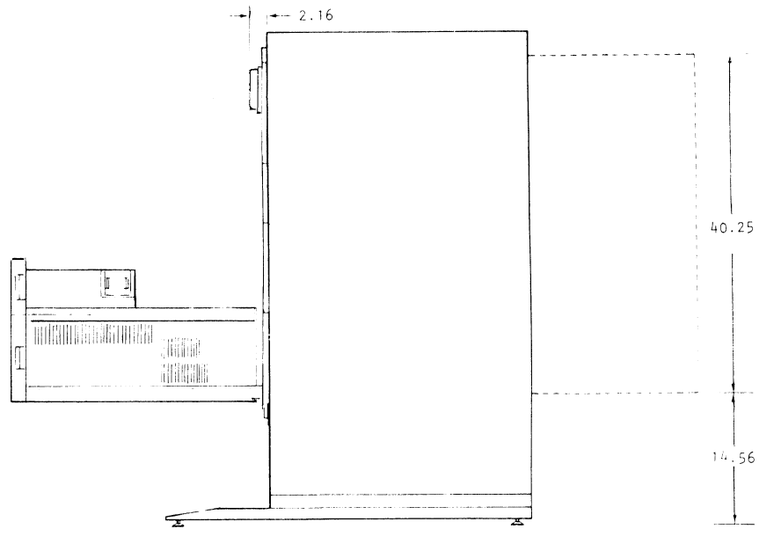
MODELS C3, 9240, 9241



TOP VIEW



FRONT VIEW



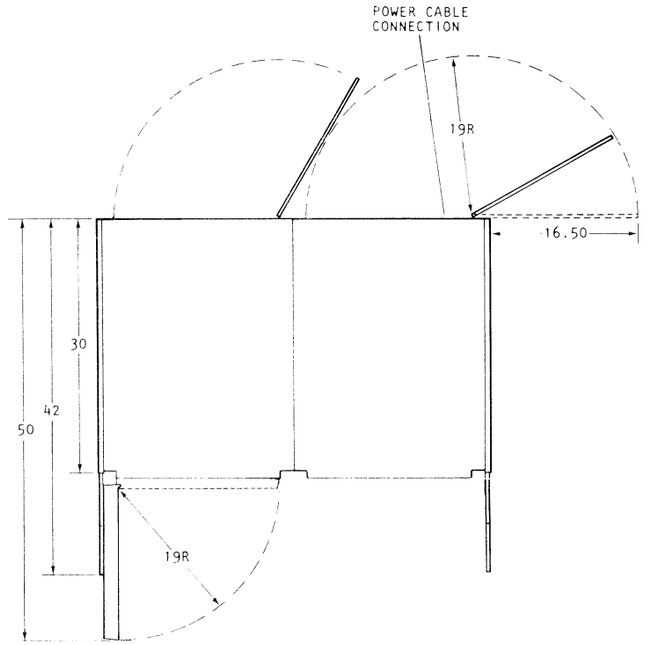
SIDE VIEW

DIMENSIONS IN INCHES

SPECIFICATIONS OF FREE-STANDING COMPONENTS (Cont)

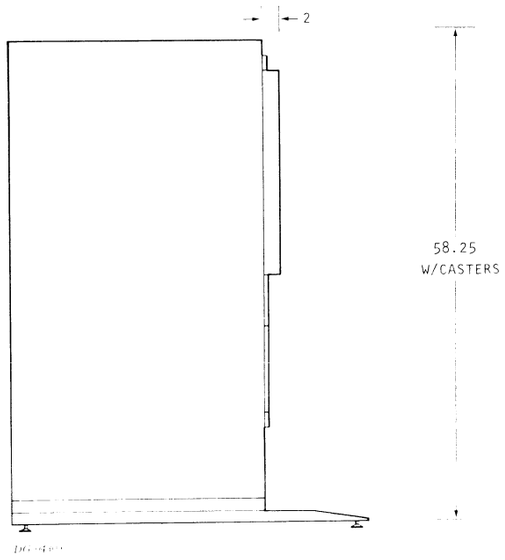
TWO BAY CABINET

MODELS C3, 9241-Y, 9241-X

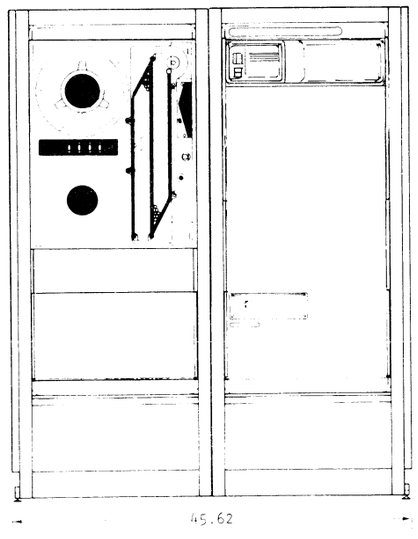


TOP VIEW

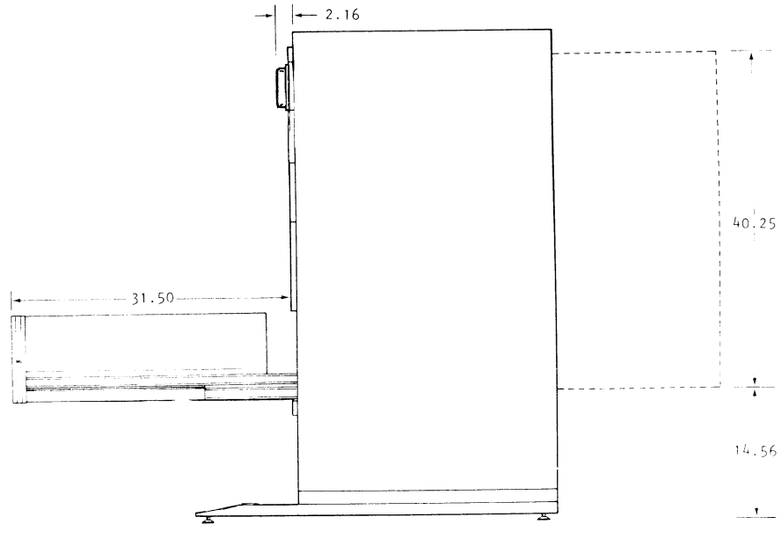
SERVICE DIMENSIONS



SIDE VIEW



FRONT VIEW

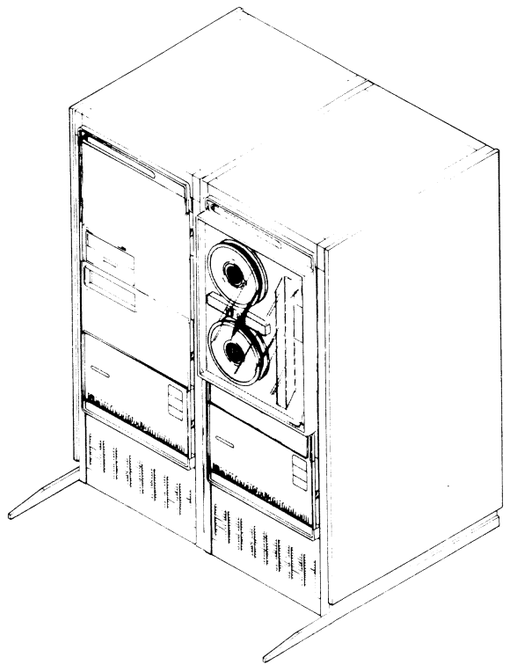


SIDE VIEW

ALL DIMENSIONS IN INCHES

OPTIONS FOR MODELS C5, 9231

SUBSYSTEM COMPONENT BREAKDOWN



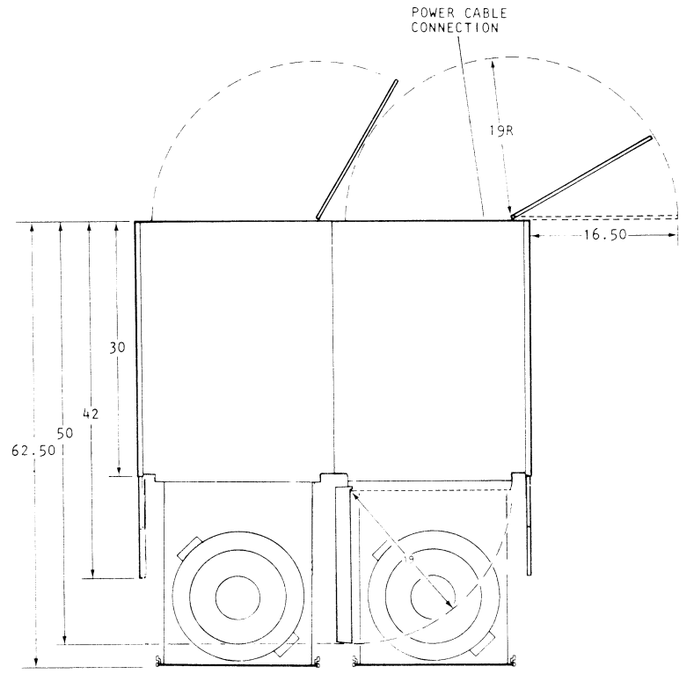
MAJOR COMPONENT

Component	Mounting Location	Notes
CABINET	FREE STANDING	
DISKETTE 6031	CABINET	SEE 010-000064
CARTRIDGE DISK 6070	CABINET	SEE 010-000192
MAG TAPE 6021 OR 6026	CABINET	SEE 010-000213 OR 010-000147
6098, 6099, 6100, 6103 DISK UNIT	CABINET	SEE 010-221, 010-222, 010-246, 010-242

CABLE

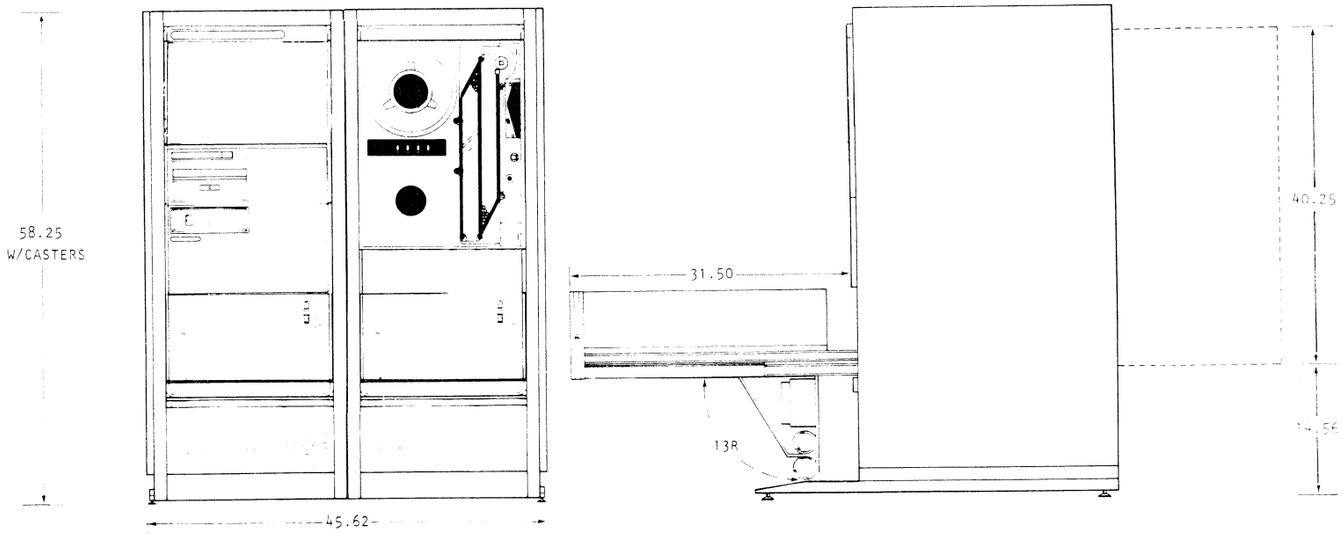
Cable	Connecting	Max Allowed Lg ft / m	Notes
INTERDEVICE CABLE	CARTRIDGE DISK and ETCHED PADDLEBOARD	25 / 7.6	

SPECIFICATIONS OF FREE-STANDING COMPONENTS



TOP VIEW

SERVICE DIMENSIONS



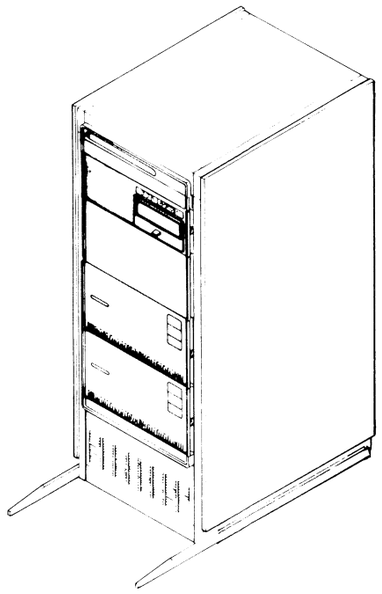
FRONT VIEW

SIDE VIEW

DIMENSIONS IN INCHES

OPTIONS FOR MODELS C5, 9233, 9234

SUBSYSTEM COMPONENT BREAKDOWN



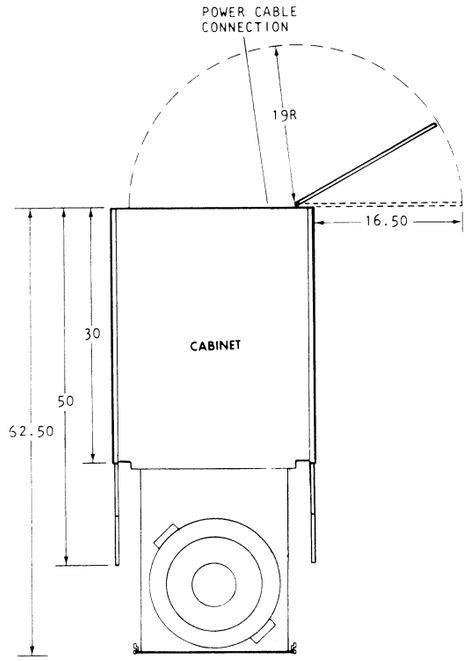
MAJOR COMPONENT

Component	Mounting Location	Notes
SINGLE BAY CABINET	FREE STANDING	
DISKETTE 6031 Or 6097	CABINET	SEE 010-000064 or 010-000255
CARTRIDGE DISK 6070	CABINET	SEE 010-000192
CARTRIDGE DISK 6099 or 6103	CABINET	SEE 010-000222

CABLE

Cable	Connecting			Max Allowed Lg ft / m	Notes
INTERFACE CABLE	CARTRIDGE DISK 6070	"	ETCHED PADDLEBOARD	25 / 7.6	
INTERDEVICE CABLE	CARTRIDGE DISK 6099	and	ETCHED PADDLEBOARD	25 / 7.6	

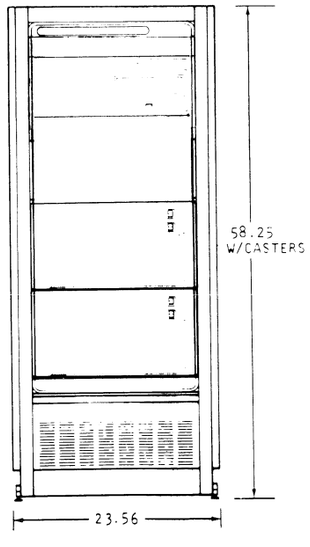
SPECIFICATIONS OF FREE-STANDING COMPONENTS



DG-04811

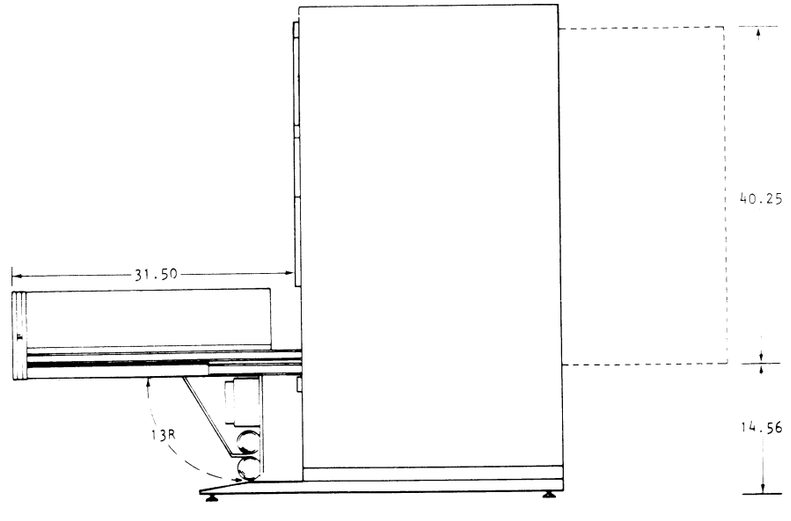
TOP VIEW

SERVICE DIMENSIONS



DG-04813

FRONT VIEW



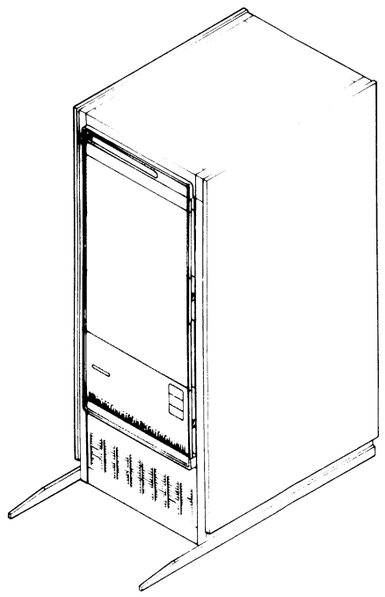
DG-04814

SIDE VIEW

ALL DIMENSIONS IN INCHES

OPTIONS FOR MODELS C6, 9235, 9236, 9237

SUBSYSTEM COMPONENT BREAKDOWN



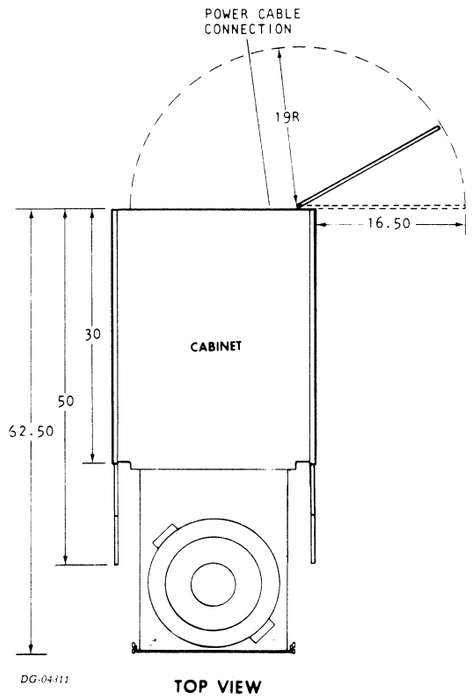
MAJOR COMPONENT

Component	Mounting Location	Notes
SINGLE BAY CABINET	FREE STANDING	
CARTRIDGE DISK 6070, 6045	CABINET	SEE 010-000192
6098, 6100 DISK UNIT	CABINET	SEE 010-221 OR 010-246

CABLE

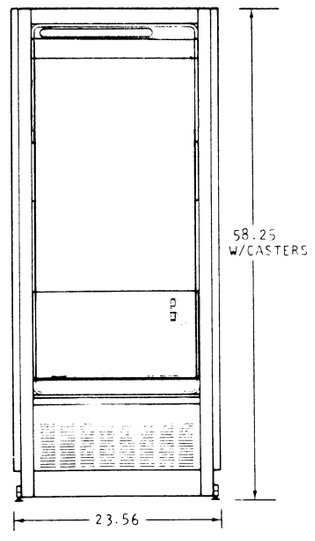
Cable	Connecting	Max Allowed Lg ft / m	Notes
INTERDEVICE CABLE	CARTRIDGE DISK 6070 and ETCHED PADDLEBOARD	25 / 7.6	

SPECIFICATIONS OF FREE-STANDING COMPONENTS

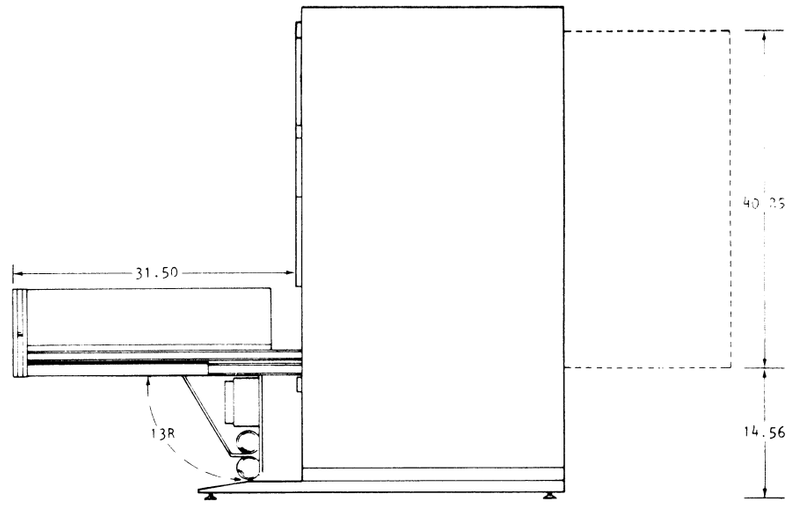


TOP VIEW

SERVICE DIMENSIONS



FRONT VIEW

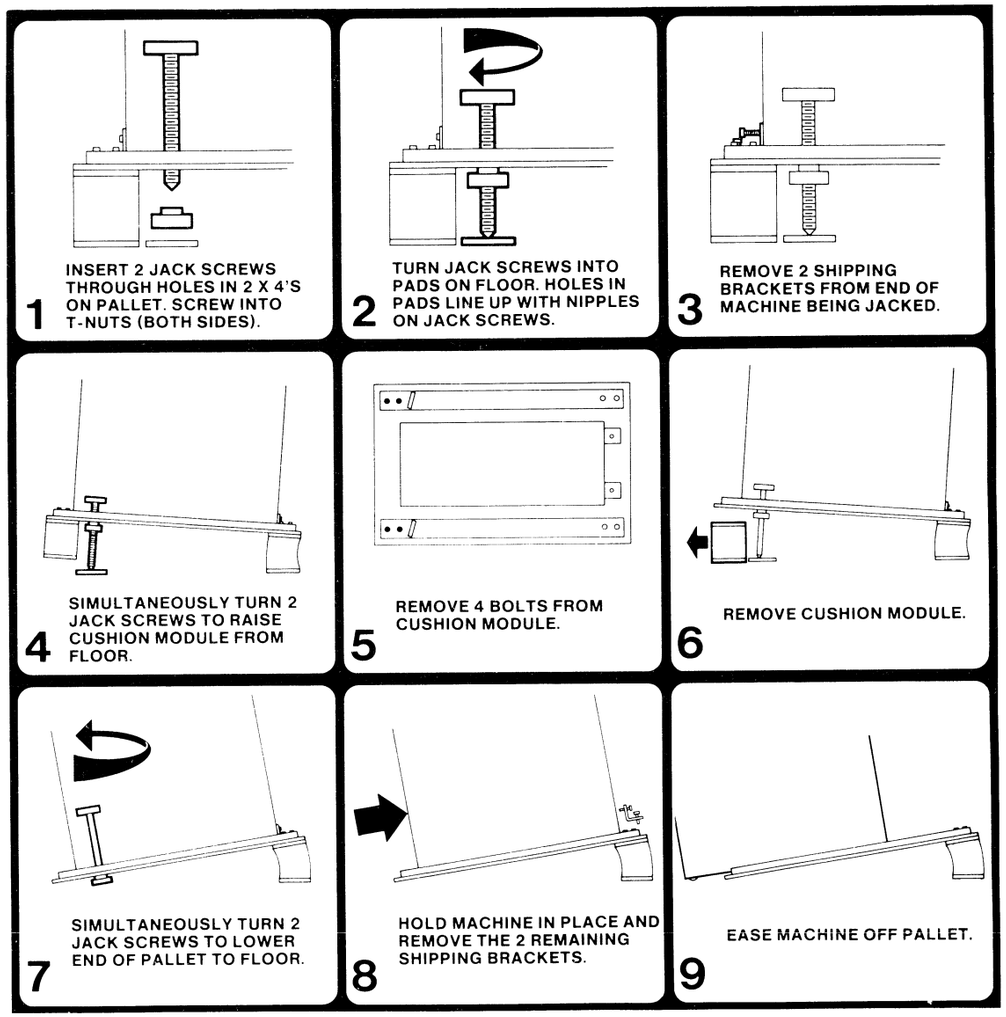


SIDE VIEW

DIMENSIONS IN INCHES

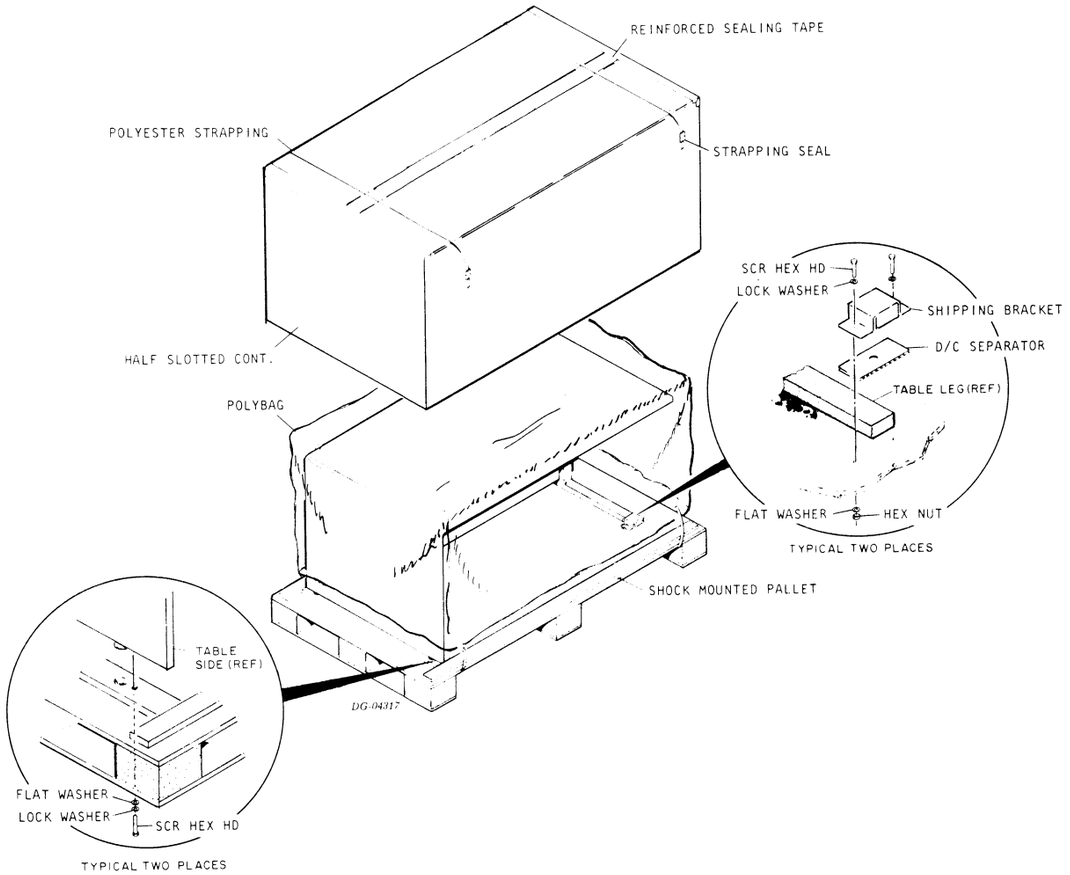
SHIPPING

UNLOADING INSTRUCTIONS - A 2-MAN OPERATION



SHIPPING (Cont)

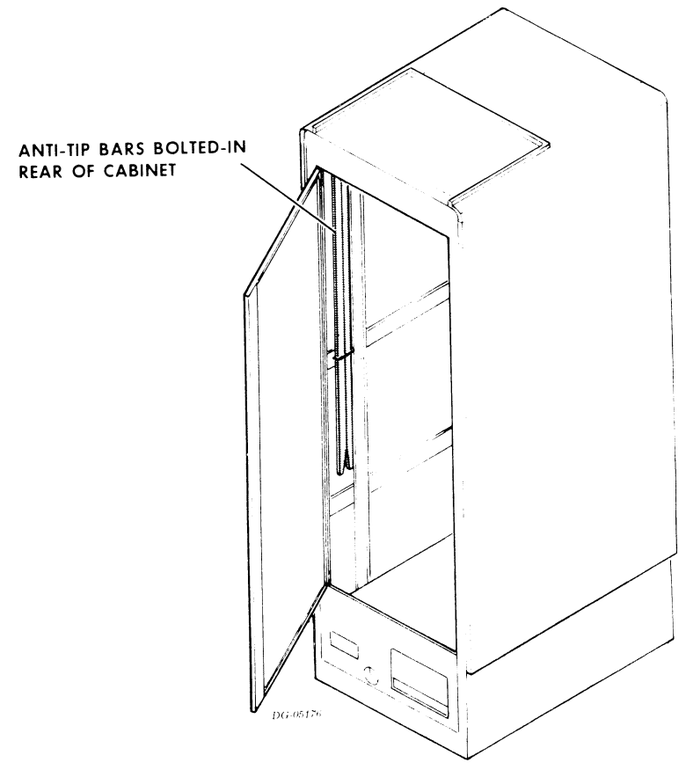
WORKTABLE



SHIPPING AND PACKAGE DATA						
Outside Dimensions				Weight (Gross)	Volume	Density
Length	Width	Depth				
in / cm	in / cm	in / cm		lbs / kg	cu ft / cu m	lbs/cu ft / kg/cu m
62 / 157.48	36.75 / 93.34	30 / 76.20		170 / 76.5	39.5 / 1.18	4.3 / 64.8

SHIPPING SPECIFICATIONS			STORAGE SPECIFICATIONS		
Temperature Range °F / °C	Relative Humidity (Non-condensing)	Maximum Altitude	Temperature Range °F / °C	Relative Humidity (Non-condensing)	Maximum Period
-40 to +160 / -40 to +71	0%/80%	50,000ft. 15,200m	-40 to +160 / -40 to +71	0%/30%	90 days

ANTI-TIP BARS



CHASSIS SLOT ASSIGNMENTS

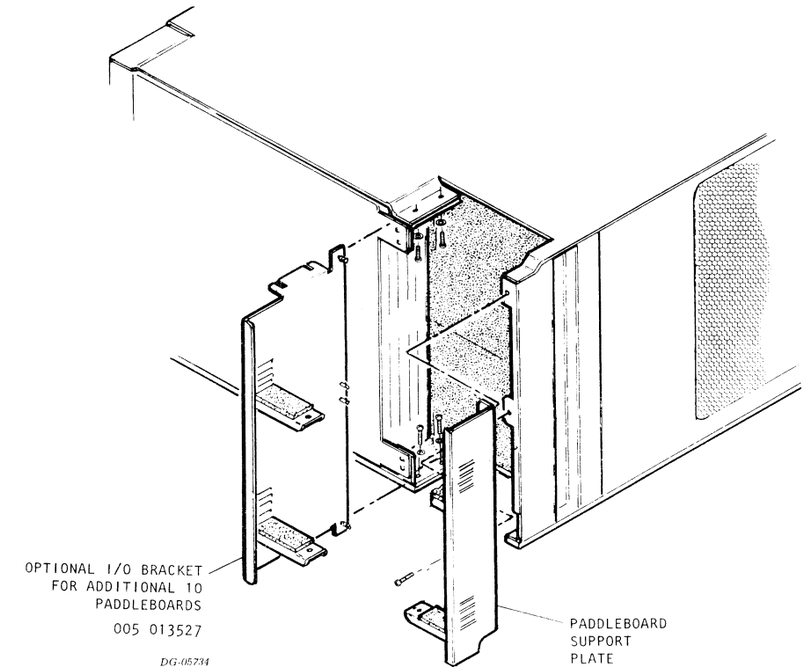
NOVA 4/X or 4/S

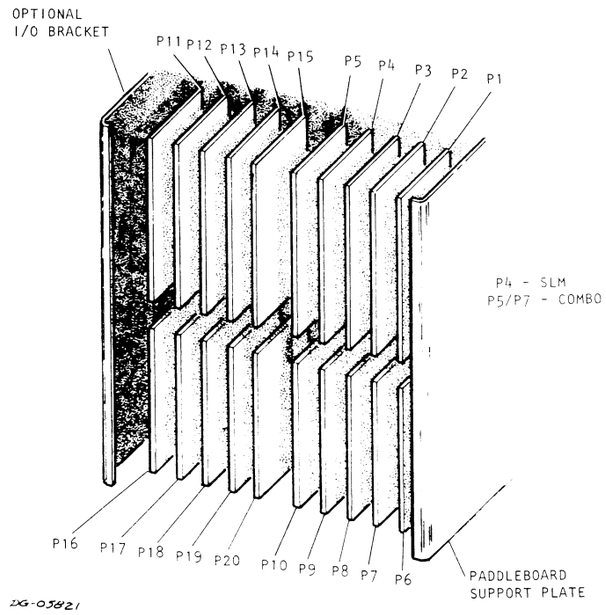
Data Channel Speeds Available: Standard ☐ High Speed ☒

Slot	Allowed (Slot Chart)	Assigned	+5V Current Draw
16	(SLM)		4.0
15	RESERVED		
14	(COMBO 2)		3.5
13	COMBO 1		3.5
12	(DCH PRINTER CONT)		2.5
11	6070 DISK CONT*		4.0
10	6026 CONT		2.6
9	6098/6100 DISK CONTR or 6097 CONTR		4.0
8	DISK PAK CONTR 2		3.4
7	DISK PAK CONTR 1 *		2.9
6	6031/6045 CONT		4.0
5	6021 CONT		2.6
4	(128 kB MEM) (ADD ON)		4.4
3	(32, 64, 128 kB MEM) (ADD ON)		4.4
2	64, 128 kB MEM		4.4
1	CPU		17
		Total +5V Current draw	64.6
		Max +5V Current Available	100
		+5V Current Surplus	35.4

* OR 6099 OR 6103 CONTR (OPTION)

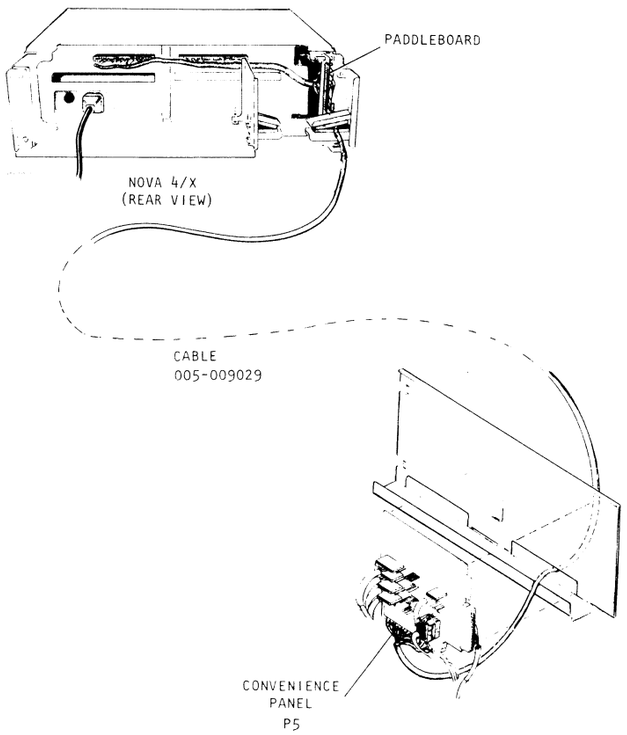
INTERNAL CABLING

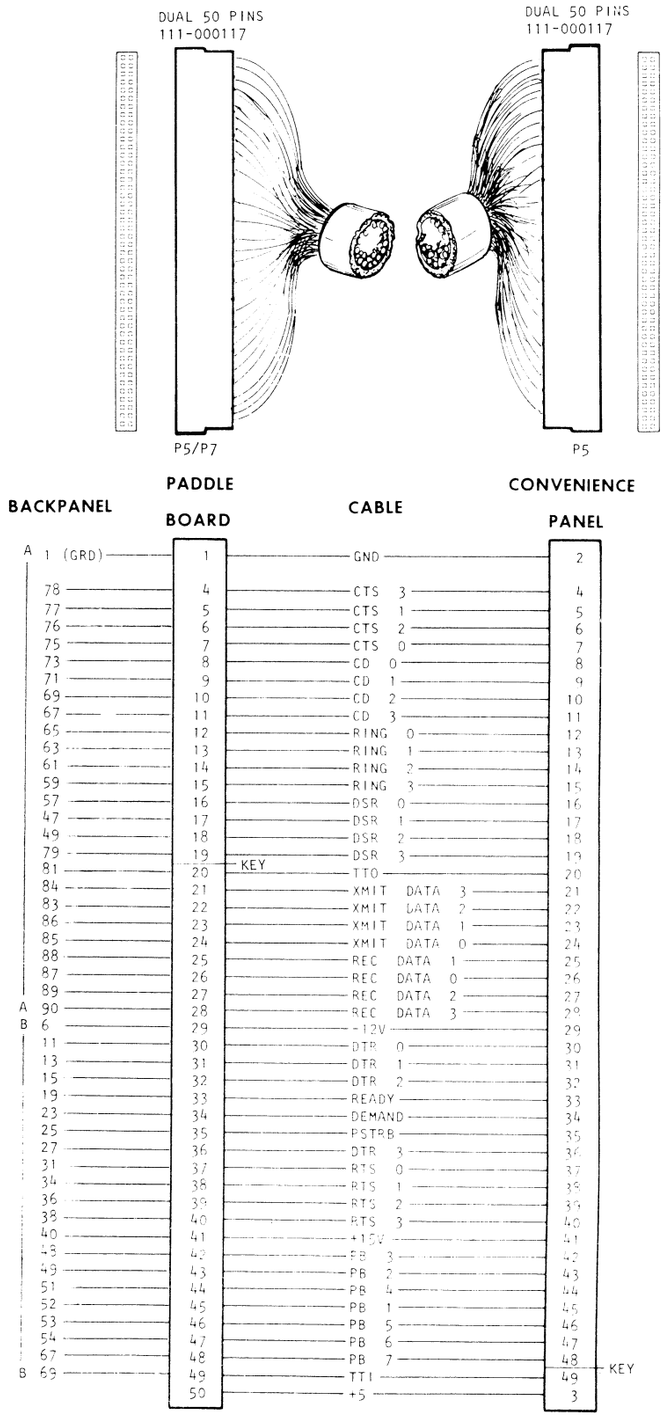




INTERNAL CABLING (Cont)

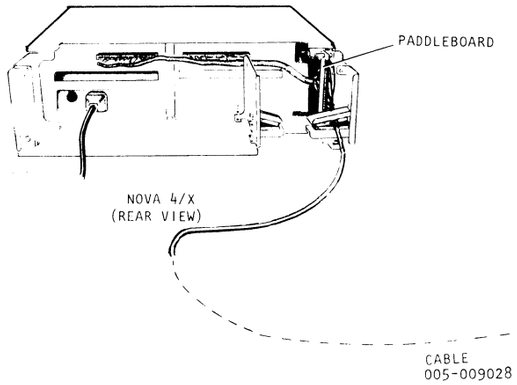
COMBO PCB

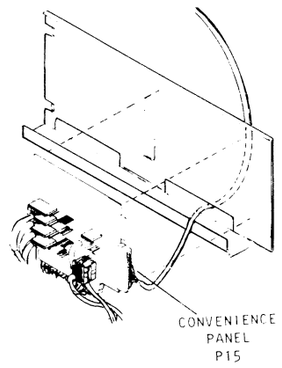


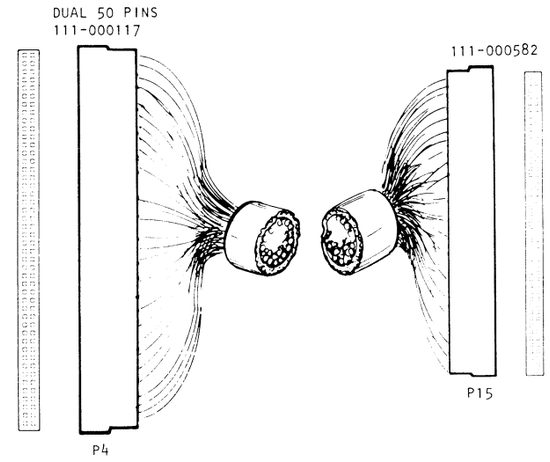


INTERNAL CABLING (Cont)

SYNC LINE MUX PCB





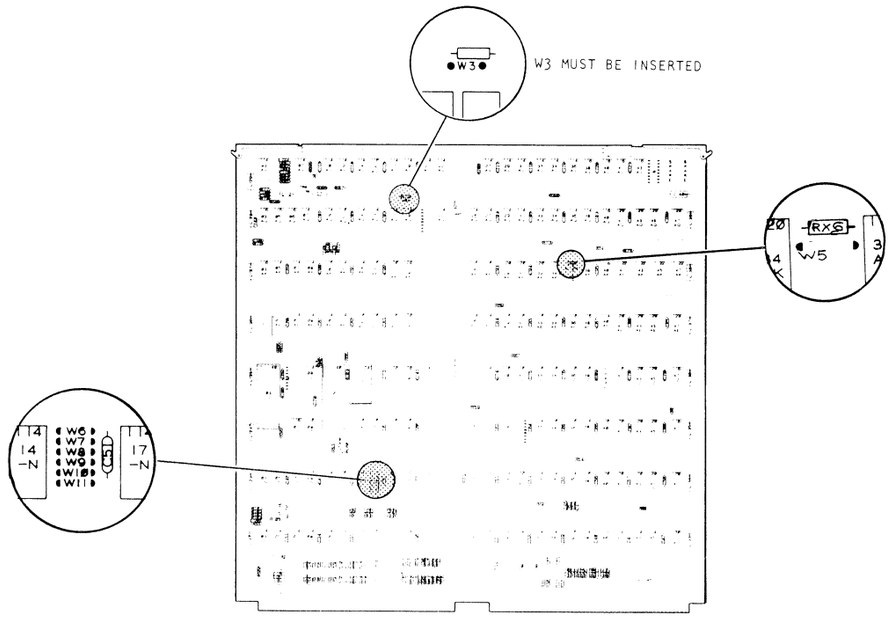


P5 BACKPANEL	PADDLE BOARD	CABLE 005-009028	P15 CONVENIENCE PANEL	
A1	1	GND		
75	7	ACU SP	26	
73	8	DL 0	3	
71	9	NB 8	4	
69	10	NB 4	5	KEY
67	11	NB 2	6	
65	12	NB 1	7	
63	13	DSS	8	
61	14	PW1	9	
59	15	PND	10	
57	16	CRQ	11	
47	17	DPR	12	
A49	18	ACR	13	
B19	33	SPA	22	
23	34	SPB	23	
34	38	TX CLK	16	
36	39	RING	17	
38	40	CAR DET	18	
40	41	DSR	19	
49	43	DTR	20	
51	44	REC CLK	21	
52	45	REC DATA	15	
53	46	XMIT DATA	14	
54	47	CTS	2	
67	48	INT CLK	24	
B69	49	RTS	25	

TAILORING

JUMPERING

6097 CONTROLLER BOARD

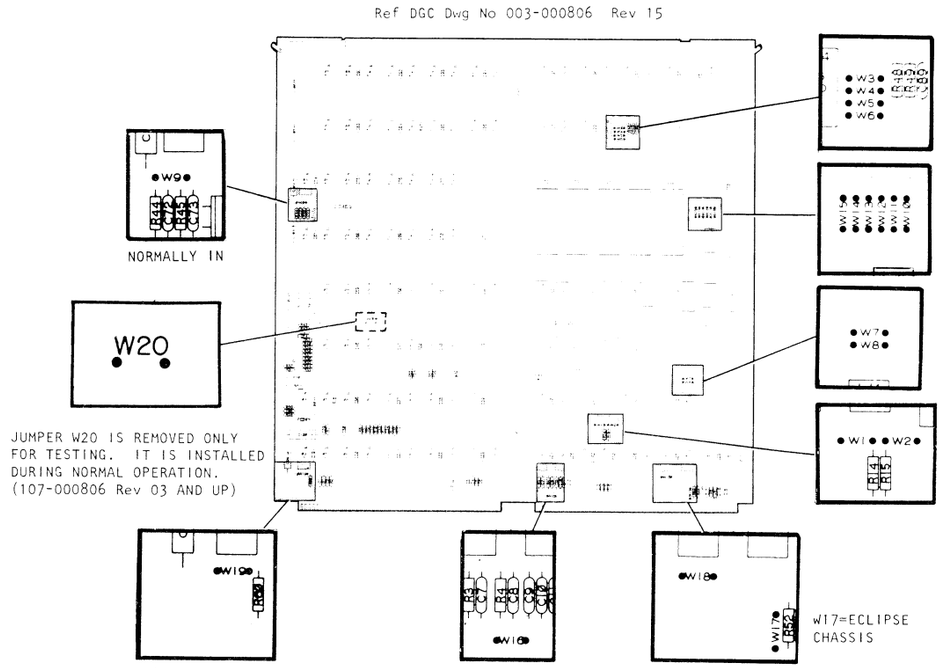


Ref DGC No. 107-000891, Rev 01

CONTROLLER DEVICE CODE SELECT		
JUMPER NUMBER	DEVICE CODE 33	DEVICE CODE 73
W6	OFF	ON
W7	ON	ON
W8	ON	ON
W9	OFF	OFF
W10	ON	ON
W11	ON	ON

DATA CHANNEL LOGIC SELECT	
CPU TYPE	W5
NOVA 4C	IN
ALL OTHERS	OUT

COMBO MUX BOARD



W19 (WX9 ON SOME REVS) DISABLES LPT

W16=NOVA CHASSIS OF ANY EXPANSION CHASSIS.

W18 (W16 ON SOME REVS) DISABLES TTI

JUMPERS			
OUT	IN	ALM LINES	DEVICE CODES
W1,W2		0-3	TTI=10,TTO=11,RTC=14,LPT=17
W1	W2	4-7	TTI=50,TTO=51,RTC=54,LPT=57
W2	W1	8-11	TTO,TTI,RTC,LPT ARE DISABLED
	W1,W2	12-15	TTO,TTI,RTC,LPT ARE DISABLED

JUMPERS W1 AND W2 DETERMINE LINE NUMBERS AND DEVICE CODES FOR TTI,TTO,RTC AND LPT.

JUMPERS		
OUT	IN	BAUD
W3,W5		1200
W3	W5	1800
W5	W3	4800
	W3,W5	NOT USED

JUMPERS W3, W5 DETERMINE LINE SPEED FOR CLK2.

NOTE:
CLK 0 IS FIXED AT 9600 BAUD
CLK 1 IS FIXED AT 600 BAUD

JUMPERS		
OUT	IN	BAUD
W4,W6		110
W6	W4	150
W4	W6	300
	W4,W6	2400

JUMPERS W4, W6 DETERMINE LINE SPEED FOR CLK3.

JUMPERS W7 AND W8 DETERMINE POLARITY OF PRINTER STROBE
INSTALL W8 FOR 300LPM, 240 LPM
INSTALL W7 FOR 180CPS

JUMPERS W10 THRU W15 DETERMINE LINE SPEED FOR CONSOLE INTERFACE.

W10 = 300 BAUD
W11 = 600 BAUD
W12 = 1200 BAUD
W13 = 2400 BAUD
W14 = 4800 BAUD
W15 = 9600 BAUD

NOTE:
CONSOLE INTERFACE IS NORMALLY CONFIGURED FOR 9600 BAUD.

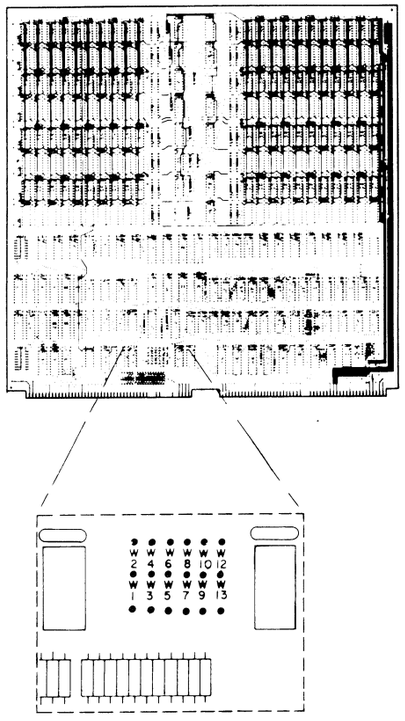
POWER +5 +15
3.5A 400ma
NOTE:
POWER REQUIREMENTS INCLUDE CONVENIENCE PANEL.

TAILORING (CONT)

JUMPERING

MEMORY NOVA 4/S AND 4/X

Ref DGC Dwg No 107-000813 Rev 00



NOVA 4/S MEMORY BOARD SELECT JUMPERS

ADDRESS RANGE	JUMPERS INSERTED* BOARD SIZE 64 KBYTES
0077777-0040000- 0037777-0000000-	W7 W9

*NOTE: JUMPERS W1, W3, AND W5 ARE ALWAYS INSERTED; JUMPERS W2, W4, AND W6 ARE NEVER INSERTED.

NOVA 4/X MEMORY BOARD SELECT JUMPERS

ADDRESS RANGE	JUMPERS INSERTED* BOARD SIZE 128KBYTES
0377777-0300000- 0277777-0200000-	W8
0177777-0100000- 0077777-0000000-	W7

*NOTE: JUMPERS W1, W3, AND W5 ARE ALWAYS INSERTED; JUMPERS W2, W4, AND W6 ARE NEVER INSERTED.

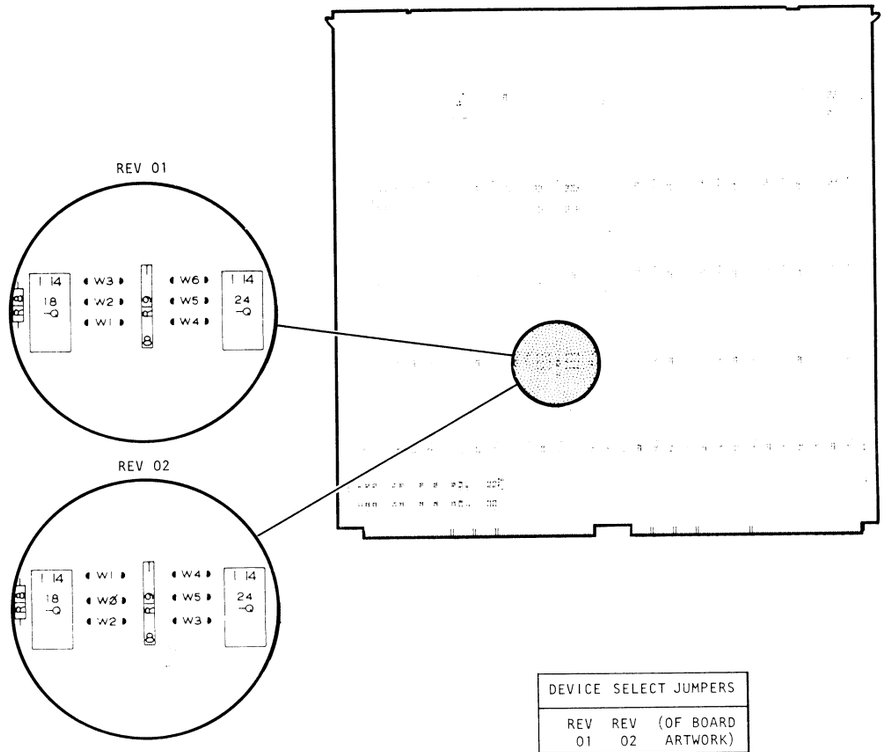
SYSTEMS SHOULD BE CONFIGURED WITH THE LARGER BOARDS OCCUPYING THE LOWER MEMORY ADDRESS RANGES.

MEMORY LOADS

VOLTAGE	DESCRIPTION	CURRENT DRAW
+5V	SYSTEM WITH BATTERY BACKUP	4.4A
+5V MEM		1.2A
+12V MEM	FIRST BOARD IN CHASSIS	2.3A
+12V MEM	EACH ADDITIONAL BOARD	0.3A

6125 STREAMING MAG TAPE INTERFACE

Ref DGC Dwg 003-001564 Rev 02

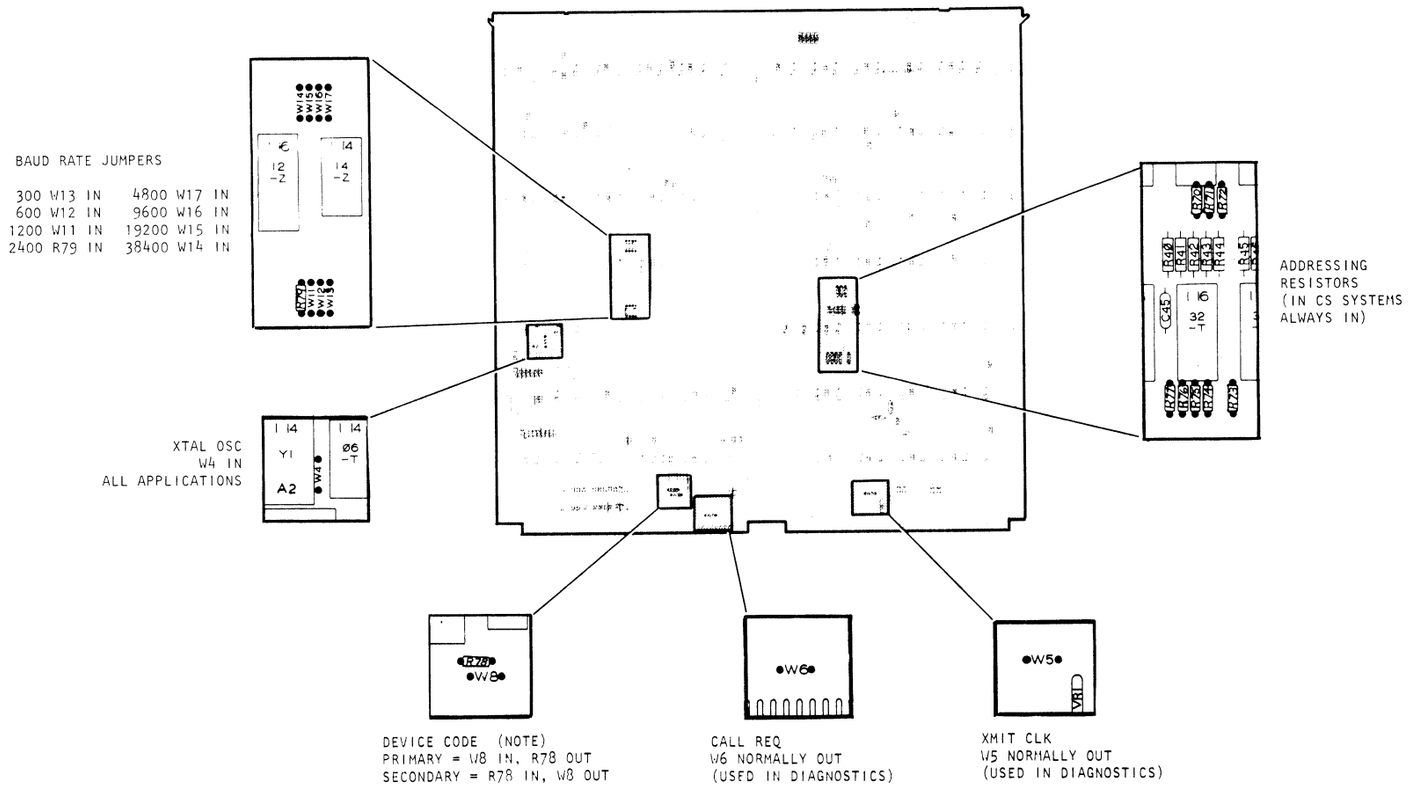


DEVICE SELECT JUMPERS		
REV 01	REV 02	(OF BOARD ARTWORK)
W2	W0	MSB
W3	W1	
W1	W2	
W4	W3	
W6	W4	
W5	W5	LSB

TAILORING (CONT)

SYNC LINE MUX

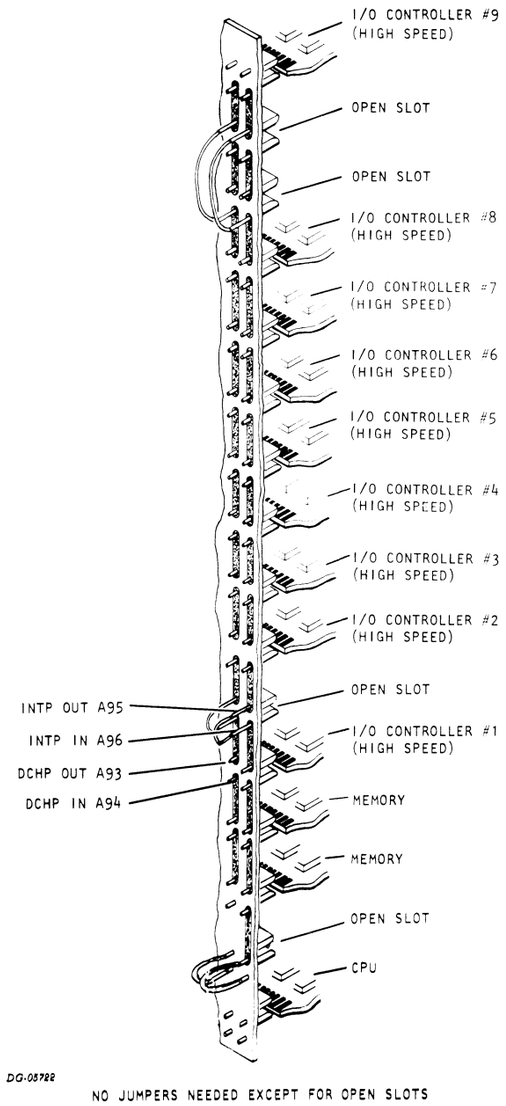
Ref DGC Dwg No 003- 107-000855 Rev 03



NOTE:
CS SYSTEMS ARE ALWAYS CONFIGURED TO SECONDARY DEVICE CODE.

TAILORING (CONT)

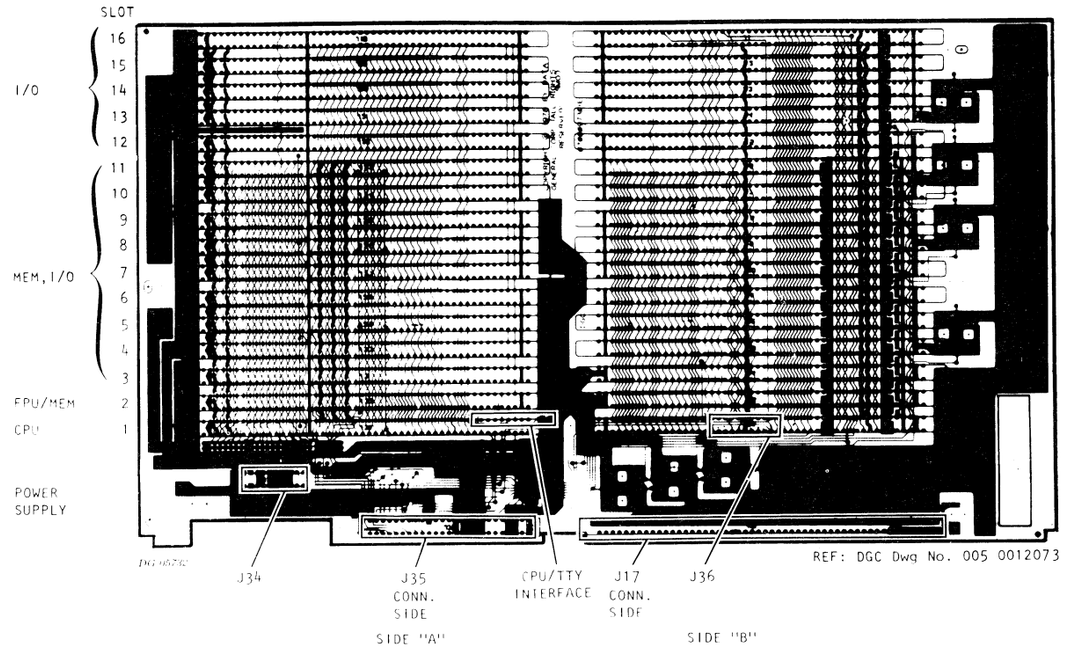
BACKPANEL JUMPERING

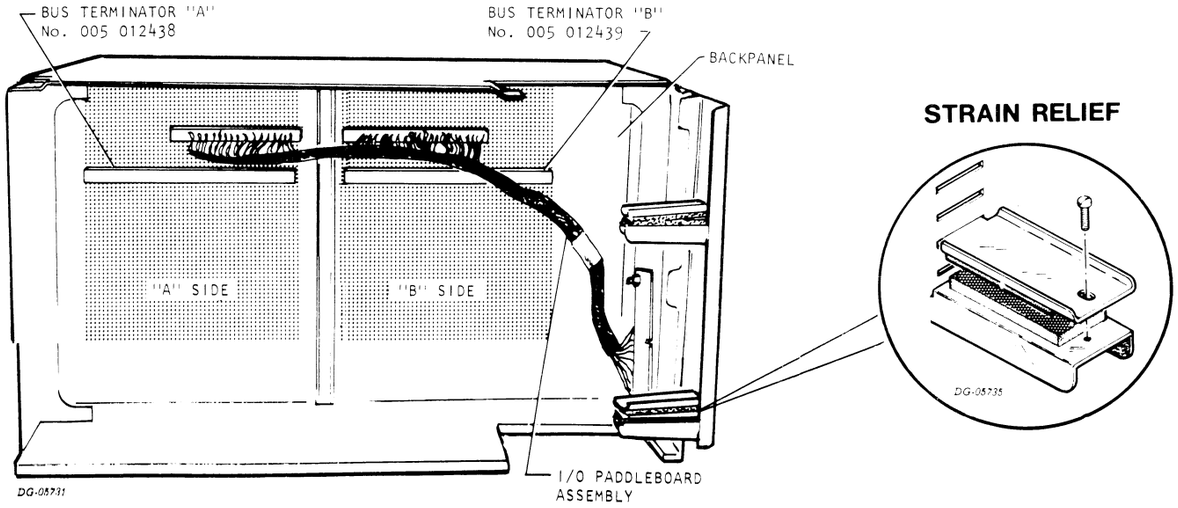


NO JUMPERS NEEDED EXCEPT FOR OPEN SLOTS

INTERNAL CABLING

BACKPANEL CONNECTORS



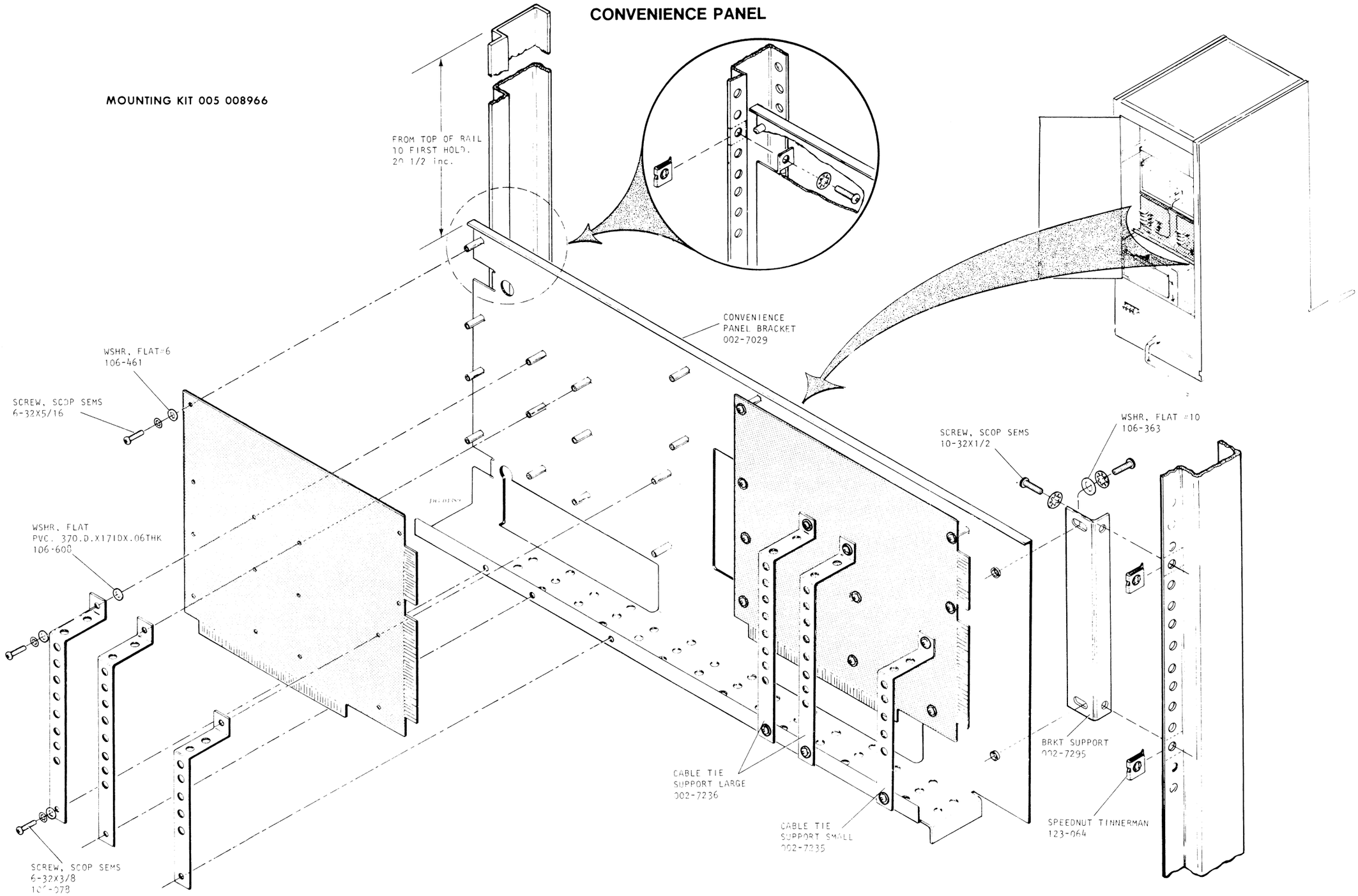


STRAIN RELIEF

INSTALLATION IN A CABINET

CONVENIENCE PANEL

MOUNTING KIT 005 008966



EXTERNAL CABLING

CONNECTOR PIN ASSIGNMENT

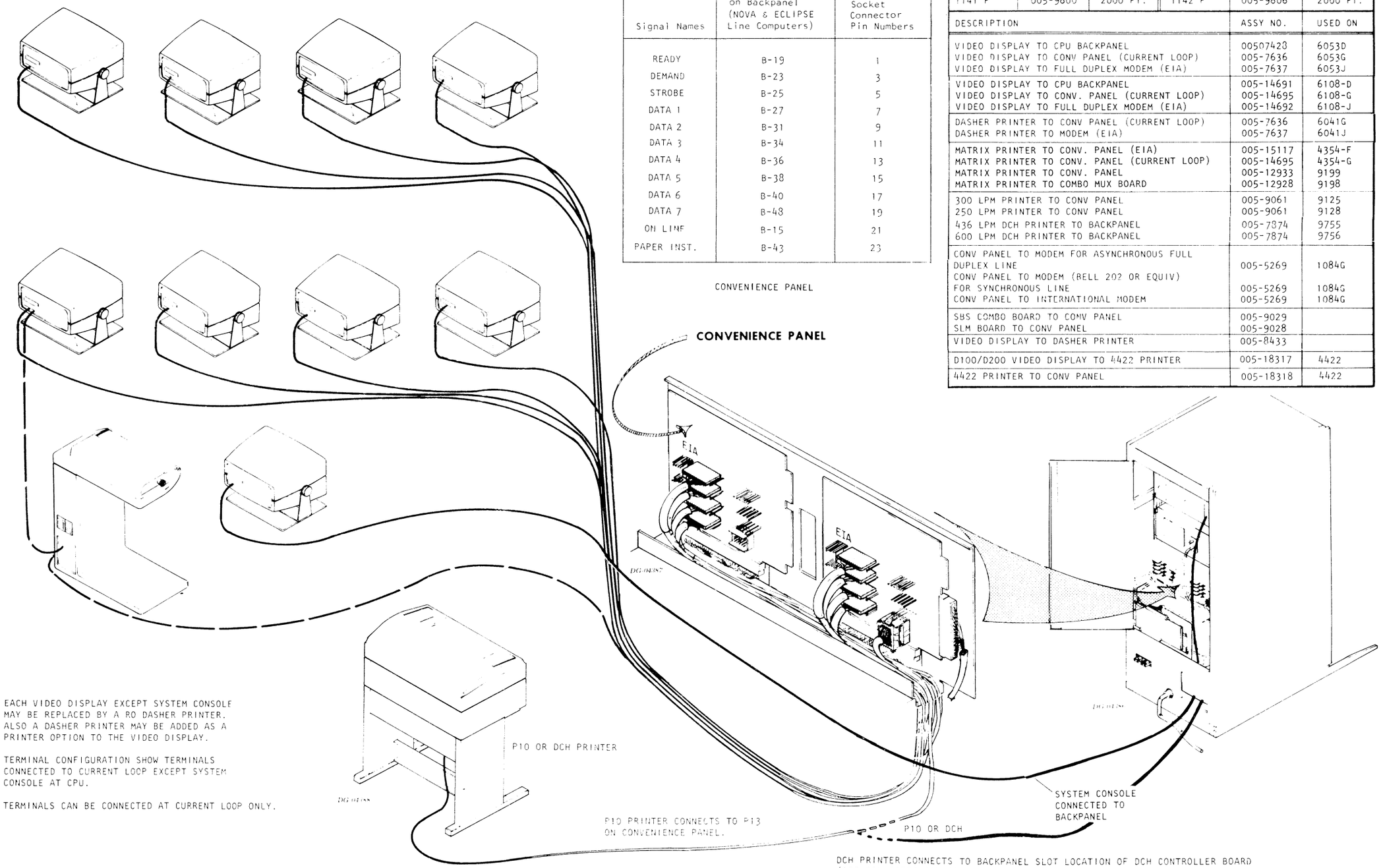
DATA CHANNEL CONTROLLER

Signal Names	Destination Pins on Backpanel (NOVA & ECLIPSE Line Computers)	Socket Connector Pin Numbers
READY	B-19	1
DEMAND	B-23	3
STROBE	B-25	5
DATA 1	B-27	7
DATA 2	B-31	9
DATA 3	B-34	11
DATA 4	B-36	13
DATA 5	B-38	15
DATA 6	B-40	17
DATA 7	B-48	19
ON LINE	B-15	21
PAPER INST.	B-43	23

CONVENIENCE PANEL

6053G			6041K		
MODEL NO.	CABLE	LENGTH	MODEL NO.	CABLE	LENGTH
1141 A	005-9695	100 FT.	1142 A	005-9801	100 FT.
1141 B	005-9696	250 FT.	1142 B	005-9802	250 FT.
1141 C	005-9697	500 FT.	1142 C	005-9803	500 FT.
1141 D	005-9698	1000 FT.	1142 D	005-9804	1000 FT.
1141 E	005-9699	1500 FT.	1142 E	005-9805	1500 FT.
1141 F	005-9800	2000 FT.	1142 F	005-9806	2000 FT.

DESCRIPTION	ASSY NO.	USED ON
VIDEO DISPLAY TO CPU BACKPANEL	00507423	6053D
VIDEO DISPLAY TO CONV PANEL (CURRENT LOOP)	005-7636	6053G
VIDEO DISPLAY TO FULL DUPLEX MODEM (EIA)	005-7637	6053J
VIDEO DISPLAY TO CPU BACKPANEL	005-14691	6108-D
VIDEO DISPLAY TO CONV. PANEL (CURRENT LOOP)	005-14695	6108-G
VIDEO DISPLAY TO FULL DUPLEX MODEM (EIA)	005-14692	6108-J
DASHER PRINTER TO CONV PANEL (CURRENT LOOP)	005-7636	6041G
DASHER PRINTER TO MODEM (EIA)	005-7637	6041J
MATRIX PRINTER TO CONV. PANEL (EIA)	005-15117	4354-F
MATRIX PRINTER TO CONV. PANEL (CURRENT LOOP)	005-14695	4354-G
MATRIX PRINTER TO CONV. PANEL	005-12933	9199
MATRIX PRINTER TO COMBO MUX BOARD	005-12928	9198
300 LPM PRINTER TO CONV PANEL	005-9061	9125
250 LPM PRINTER TO CONV PANEL	005-9061	9128
436 LPM DCH PRINTER TO BACKPANEL	005-7874	9755
600 LPM DCH PRINTER TO BACKPANEL	005-7874	9756
CONV PANEL TO MODEM FOR ASYNCHRONOUS FULL DUPLEX LINE	005-5269	1084G
CONV PANEL TO MODEM (BELL 202 OR EQUIV) FOR SYNCHRONOUS LINE	005-5269	1084G
CONV PANEL TO INTERNATIONAL MODEM	005-5269	1084G
SBS COMBO BOARD TO CONV PANEL	005-9029	
SLM BOARD TO CONV PANEL	005-9028	
VIDEO DISPLAY TO DASHER PRINTER	005-8433	
D100/D200 VIDEO DISPLAY TO 4422 PRINTER	005-18317	4422
4422 PRINTER TO CONV PANEL	005-18318	4422



NOTE: EACH VIDEO DISPLAY EXCEPT SYSTEM CONSOLE MAY BE REPLACED BY A RO DASHER PRINTER. ALSO A DASHER PRINTER MAY BE ADDED AS A PRINTER OPTION TO THE VIDEO DISPLAY.

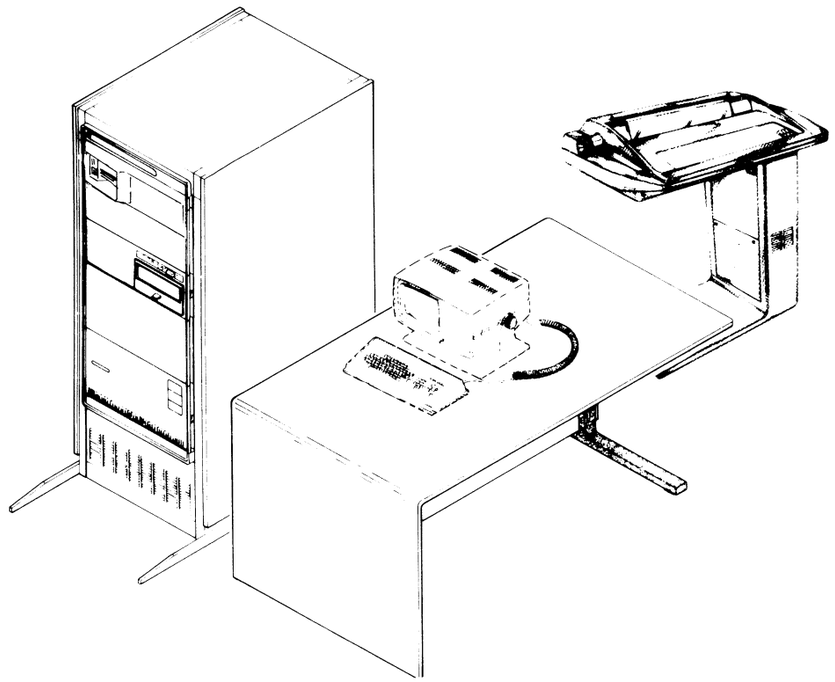
TERMINAL CONFIGURATION SHOW TERMINALS CONNECTED TO CURRENT LOOP EXCEPT SYSTEM CONSOLE AT CPU.

TERMINALS CAN BE CONNECTED AT CURRENT LOOP ONLY.

SUBSYSTEM COMPONENT BREAKDOWN

MODELS 9431

(ONE BAY SYSTEM SHOWN)



MAJOR COMPONENT

Component	Mounting Location	Notes
CB/50	FREE STANDING	
NOVA 4/X	CABINET	
CARTRIDGE DISC 6070	CABINET	SEE 010-000192
DISKETTE 6031	CABINET	SEE 010-000064
TABLE	FREE STANDING	OPTIONAL
DASHER DISPLAY	FREE STANDING	SEE 010-000098 or 010-000215 or 010-000235 or 010-000241
DASHER PRINTER	FREE STANDING	SEE 010-000094 or 010-000214 or 010-000195

CABLE

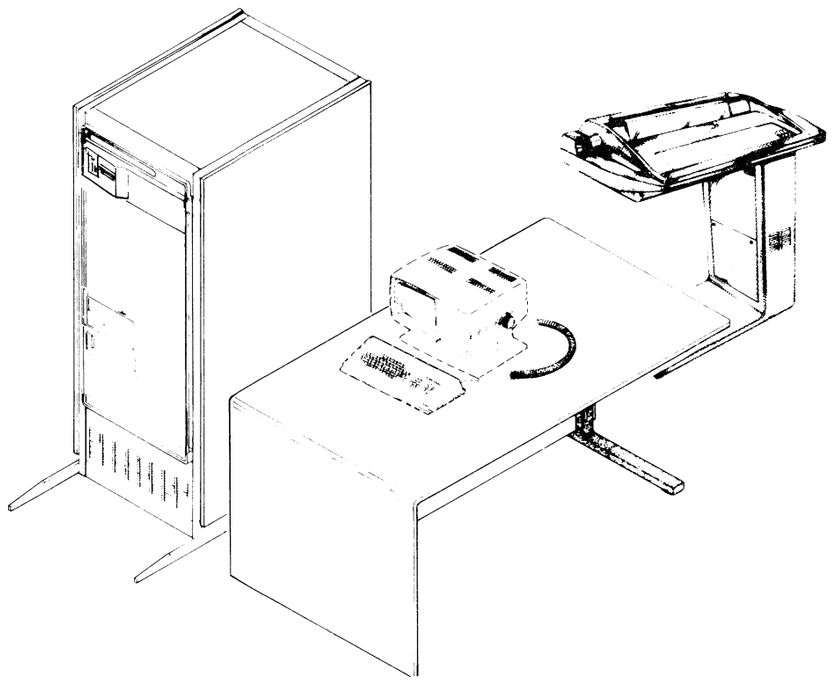
Cable	Connecting			Max Allowed Lg ft / m	Notes
DEVICE CABLE	VIDEO DISPLAY	and	CPU	2000 / 70	USED ON 6053-D*
DEVICE CABLE (CURRENT LOOP)	VIDEO DISPLAY	"	CONV. PANEL	2000 / 70	USED ON 6053-G*
DEVICE CABLE (EIA)	VIDEO DISPLAY	"	FULL DUPLEX MODEM	50 / 15.3	USED ON 6053-J*
DEVICE CABLE (CURRENT LOOP)	DASHER PRINTER	"	CONV. PANEL	2000 / 70	USED ON 6041-G**
DEVICE CABLE (EIA)	DASHER PRINTER	"	FULL DUPLEX MODEM	50 / 15.3	USED ON 6041-J**
DEVICE CABLE	300 LPM PRINTER	"	CONV. PANEL	15 / 4.6	USED ON 9125
DEVICE CABLE	240 LPM PRINTER	"	CONV. PANEL	15 / 4.6	USED ON 9128
DEVICE CABLE	MATRIX PRINTER	"	CONV. PANEL	25 / 7.4	9129
DEVICE CABLE	SYNCHRONOUS MODEM	"	CONV. PANEL	50 / 15.3	1084G
INTERDEVICE CABLE	SBS COMBO BOARD	"	CONV. PANEL	8 / 2.5	
INTERDEVICE CABLE	SLM BOARD	"	CONV. PANEL	8 / 2.5	
DEVICE CABLE	ASYNCHRONOUS MODEM	"	CONV. PANEL	50 / 15.3	1084G
DEVICE CABLE	INTERNATIONAL MODEM	"	CONV. PANEL	50 / 15.3	1084G

*ALSO 6093 & 6120
**ALSO 6076

SUBSYSTEM COMPONENT BREAKDOWN

MODELS 9433, 9434

(ONE BAY SYSTEM SHOWN)



MAJOR COMPONENT

Component	Mounting Location	Notes
CB/50	FREE STANDING	
NOVA 4/X	CABINET	
6098 or 6100 DISC UNIT	CABINET	SEE 010-000221 or 010-000223
TABLE	FREE STANDING	OPTIONAL
DASHER DISPLAY	FREE STANDING	SEE 010-000098 or 010-000215 or 010-000235 or 010-000241
DASHER PRINTER	FREE STANDING	SEE 010-000094 or 010-000214 or 010-000195

CABLE

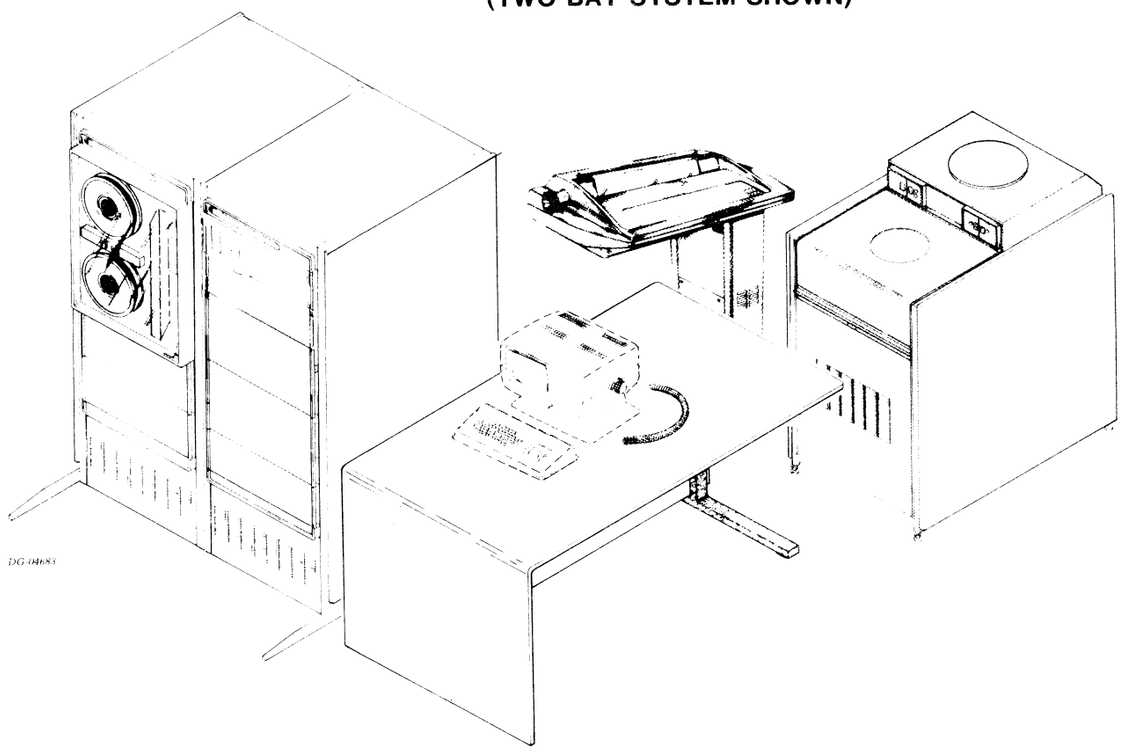
Cable	Connecting			Max Allowed Lg ft / m	Notes
DEVICE CABLE	VIDEO DISPLAY	and	CPU	2000 / 70	USED ON 6053-D*
DEVICE CABLE (CURRENT LOOP)	VIDEO DISPLAY	"	CONV. PANEL	2000 / 70	USED ON 6053-G*
DEVICE CABLE (EIA)	VIDEO DISPLAY	"	FULL DUPLEX MODEM	50 / 15.3	USED ON 6053-J*
DEVICE CABLE (CURRENT LOOP)	DASHER PRINTER	"	CONV. PANEL	2000 / 70	USED ON 6041-G**
DEVICE CABLE (EIA)	DASHER PRINTER	"	FULL DUPLEX MODEM	50 / 15.3	USED ON 6041-J**
DEVICE CABLE	300 LPM PRINTER	"	CONV. PANEL	15 / 4.6	USED ON 9125
DEVICE CABLE	240 LPM PRINTER	"	CONV. PANEL	15 / 4.6	USED ON 9128
DEVICE CABLE	MATRIX PRINTER	"	CONV. PANEL	25 / 7.4	USED ON 9123
DEVICE CABLE	SYNCHRONOUS MODEM	"	CONV. PANEL	50 / 15.3	1084G
INTERDEVICE CABLE	SBS COMBO BOARD	"	CONV. PANEL	8 / 2.5	
INTERDEVICE CABLE	SLM BOARD	"	CONV. PANEL	8 / 2.5	
DEVICE CABLE	ASYNCHRONOUS MODEM	"	CONV. PANEL	50 / 15.3	1084G
DEVICE CABLE	INTERNATIONAL MODEM	"	CONV. PANEL	50 / 15.3	1084G

*ALSO 6093 & 6120
**ALSO 6076

SUBSYSTEM COMPONENT BREAKDOWN (CONT)

MODELS 9435, 9436, 9437

(TWO BAY SYSTEM SHOWN)



DG 04683

MAJOR COMPONENT

Component	Mounting Location	Notes
CB/50	FREE STANDING	
NOVA 4/X	CABINET	
MAGTAPE 6021 or 6026	CABINET	SEE 010-000113 or 010-000197
TABLE	FREE STANDING	OPTIONAL
DASHER DISPLAY	FREE STANDING	SEE 010-000098 or 010-000215 or 010-000235 or 010-000241
DASHER PRINTER	FREE STANDING	SEE 010-000094 or 010-000214 or 010-000195
50/96/190 MB DISC DRIVE	FREE STANDING	SEE 010-000107 or 010-000200

CABLE

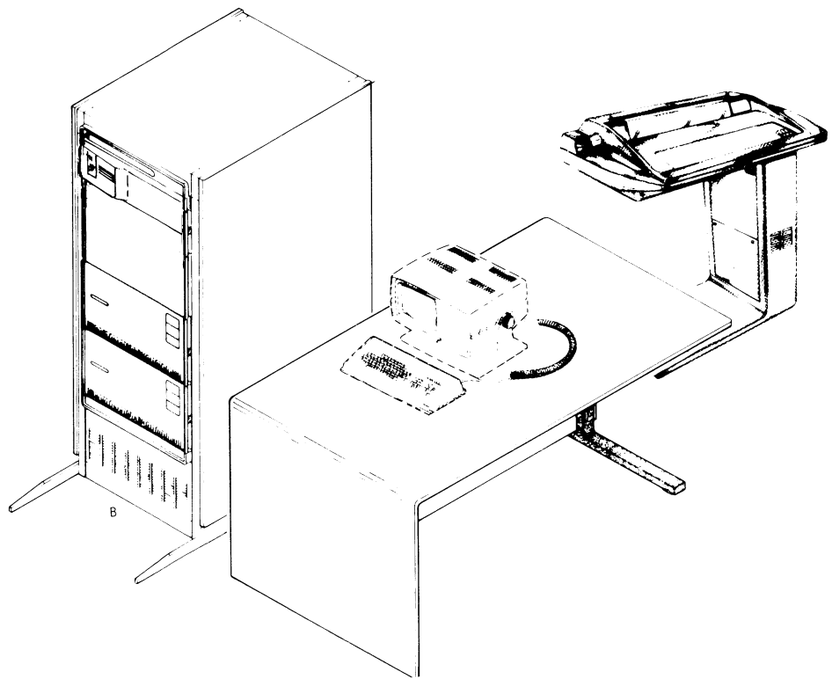
Cable	Connecting			Max Allowed Lg ft / m	Notes
DEVICE CABLE	VIDEO DISPLAY	and	CPU	2000 / 70	USED ON 6053-D*
DEVICE CABLE (CURRENT LOOP)	VIDEO DISPLAY	"	CONV. PANEL	2000 / 70	USED ON 6053-G*
DEVICE CABLE	VIDEO DISPLAY	"	FULL DUPLEX MODEM	50 / 15.3	USED ON 6053-J*
DEVICE CABLE (CURRENT LOOP)	DASHER PRINTER	"	CONV. PANEL	2000 / 70	USED ON 6041-G**
DEVICE CABLE (EIA)	DASHER PRINTER	"	CONV. PANEL	50 / 15.3	USED ON 6041-J**
DEVICE CABLE	300 LPM PRINTER	"	CONV. PANEL	15 / 4.6	USED ON 9125
DEVICE CABLE	240 LPM PRINTER	"	CONV. PANEL	15 / 4.6	USED ON 9128
DEVICE CABLE	MATRIX PRINTER	"	CONV. PANEL	25 / 7.4	9126
DEVICE CABLE	SYNCHRONOUS MODEM	"	CONV. PANEL	50 / 15.3	1084G
DEVICE CABLE	INTERNATIONAL MODEM	"	CONV. PANEL	50 / 15.3	1084G
DEVICE CABLE	50/96/190 MB DISC DRIVE	"	ADAPTER	50 / 15.3	
INTERDEVICE CABLE	SBS COMBO BOARD	"	CONV. PANEL	8 / 2.5	
INTERDEVICE CABLE	SLM BOARD	"	CONV. PANEL	8 / 2.5	
INTERDEVICE CABLE	ASYNCHRONOUS MODEM	"	CONV. PANEL	8 / 2.5	1084G

* ALSO 6093 & 6120
** ALSO 6076

SUBSYSTEM COMPONENT BREAKDOWN

MODEL 9438

(ONE BAY SYSTEM SHOWN)



MAJOR COMPONENT

Component	Mounting Location	Notes
CB/50	FREE STANDING	
NOVA 4/S	CABINET	
6070 DISC	CABINET	SEE 010-000192
TABLE	FREE STANDING	OPTIONAL
DASHER DISPLAY	FREE STANDING	SEE 010-000098 or 010-000215 or 010-000235 or 010-000241
DASHER PRINTER	FREE STANDING	SEE 010-000094 or 010-000214 or 010-000195

CABLE

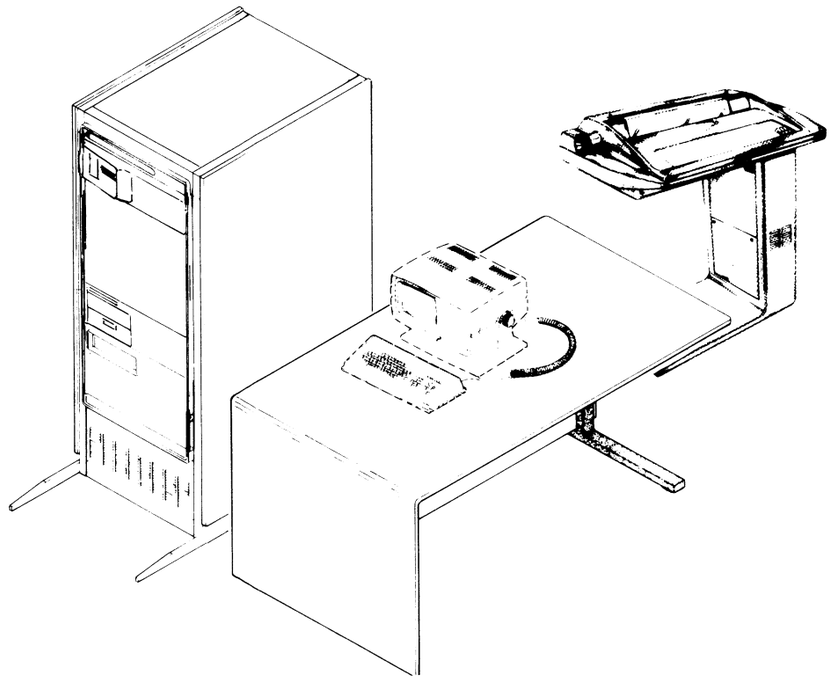
Cable	Connecting			Max Allowed Lg ft / m	Notes
DEVICE CABLE	VIDEO DISPLAY	and	CPU	2000 / 70	USED ON 6053-D*
DEVICE CABLE (CURRENT LOOP)	VIDEO DISPLAY	"	CONV. PANEL	2000 / 70	USED ON 6053-G*
DEVICE CABLE (EIA)	VIDEO DISPLAY	"	FULL DUPLEX MODEM	50 / 15.3	USED ON 6053-J**
DEVICE CABLE (CURRENT LOOP)	DASHER PRINTER	"	CONV. PANEL	2000 / 70	USED ON 6041-G**
DEVICE CABLE (EIA)	DASHER PRINTER	"	FULL DUPLEX MODEM	50 / 15.3	USED ON 6041-J**
DEVICE CABLE	300 LPM PRINTER	"	CONV. PANEL	15 / 4.6	USED ON 9125
DEVICE CABLE	240 LPM PRINTER	"	CONV. PANEL	15 / 4.6	USED ON 9128
DEVICE CABLE	MATRIX PRINTER	"	CONV. PANEL	25 / 7.4	9129
DEVICE CABLE	SYNCHRONOUS MODEM	"	CONV. PANEL	50 / 15.3	1084G
INTERDEVICE CABLE	SBS COMBO BOARD	"	CONV. PANEL	8 / 2.5	
INTERDEVICE CABLE	SLM BOARD	"	CONV. PANEL	8 / 2.5	
DEVICE CABLE	ASYNCHRONOUS MODEM	"	CONV. PANEL	50 / 15.3	1084G
DEVICE CABLE	INTERNATIONAL MODEM	"	CONV. PANEL	50 / 15.3	1084G

* ALSO 6093 & 6120
** ALSO 6076

SUBSYSTEM COMPONENT BREAKDOWN

MODELS 9440, 9441

(ONE BAY SYSTEM SHOWN)



MAJOR COMPONENT

Component	Mounting Location	Notes
CB/50	FREE STANDING	
NOVA 4/S	CABINET	
6098 OR 6100 DISC UNIT	CABINET	SEE 010-000221
TABLE	FREE STANDING	OPTIONAL
DASHER DISPLAY	FREE STANDING	SEE 010-000098 or 010-000215 or 010-000235 or 010-000241
DASHER PRINTER	FREE STANDING	SEE 010-000094 or 010-000214 or 010-000195

CABLE

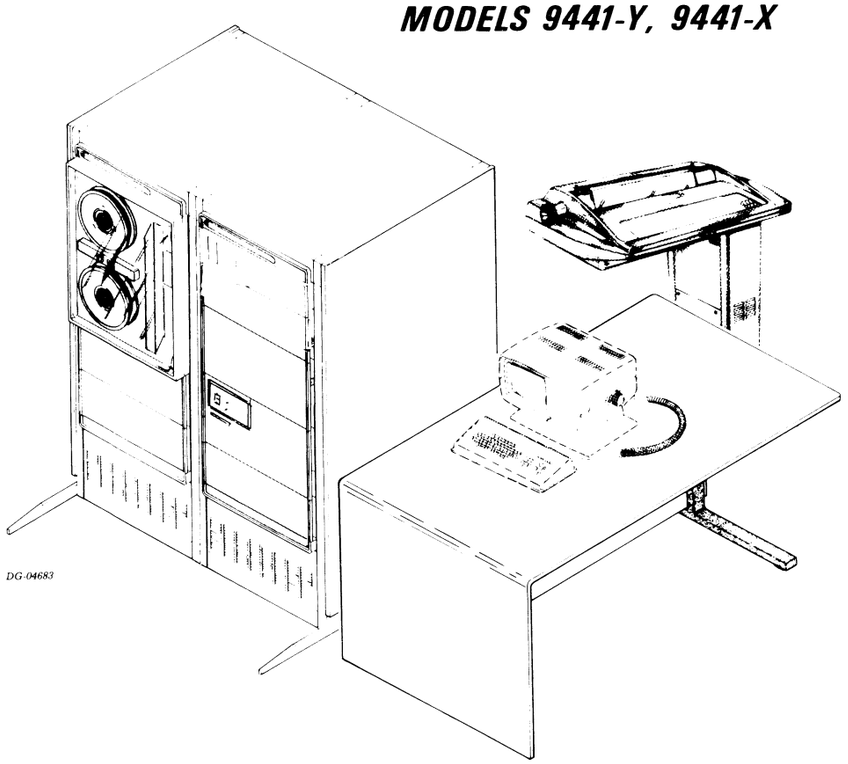
Cable	Connecting			Max Allowed Lg ft / m	Notes
DEVICE CABLE	VIDEO DISPLAY	and	CPU	2000 / 70	USED ON 6053-D*
DEVICE CABLE (CURRENT LOOP)	VIDEO DISPLAY	"	CONV. PANEL	2000 / 70	USED ON 6053-G*
DEVICE CABLE (EIA)	VIDEO DISPLAY	"	FULL DUPLEX MODEM	50 / 15.3	USED ON 6053-J**
DEVICE CABLE (CURRENT LOOP)	DASHER PRINTER	"	CONV. PANEL	2000 / 70	USED ON 6041-G**
DEVICE CABLE (EIA)	DASHER PRINTER	"	FULL DUPLEX MODEM	50 / 15.3	USED ON 6041-J**
DEVICE CABLE	300 LPM PRINTER	"	CONV. PANEL	15 / 4.6	USED ON 9125
DEVICE CABLE	240 LPM PRINTER	"	CONV. PANEL	15 / 4.6	USED ON 9128
DEVICE CABLE	MATRIX PRINTER	"	CONV. PANEL	25 / 7.4	9129
DEVICE CABLE	SYNCHRONOUS MODEM	"	CONV. PANEL	50 / 15.3	1084G
INTERDEVICE CABLE	SBS COMBO BOARD	"	CONV. PANEL	8 / 2.5	
INTERDEVICE CABLE	SLM BOARD	"	CONV. PANEL	8 / 2.5	
DEVICE CABLE	ASYNCHRONOUS MODEM	"	CONV. PANEL	50 / 15.3	1084G
DEVICE CABLE	INTERNATIONAL MODEM	"	CONV. PANEL	50 / 15.3	1084G

* ALSO 6093 & 6120
** ALSO 6076

SUBSYSTEM COMPONENT BREAKDOWN (CONT)

(TWO BAY SYSTEM SHOWN)

MODELS 9441-Y, 9441-X



DG-04683

MAJOR COMPONENT

Component	Mounting Location	Notes
CB/50	FREE STANDING	
NOVA 4/S	CABINET	
MAGTAPE 6021 or 6026	CABINET	SEE 010-000113 or 010-000197
TABLE	FREE STANDING	OPTIONAL
DASHER DISPLAY	FREE STANDING	SEE 010-000098 or 010-0002411
DASHER PRINTER	FREE STANDING	SEE 010-000094
DISC 6103	CABINET	SEE 010-000225

CABLE

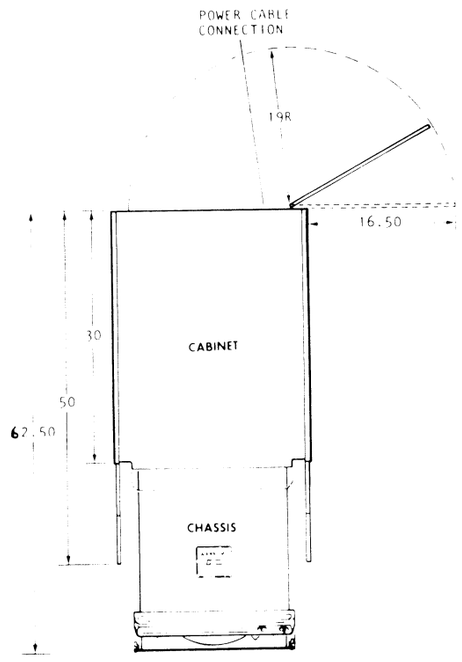
Cable	Connecting			Max Allowed Lg ft / m	Notes
DEVICE CABLE	VIDEO DISPLAY	and	CONV. PANEL	2000 / 70	USED ON 6053-D*
DEVICE CABLE (CURRENT LOOP)	VIDEO DISPLAY	"	CONV. PANEL	2000 / 70	USED ON 6053-G*
DEVICE CABLE	VIDEO DISPLAY	"	FULL DUPLEX MODEM	50 / 15.3	USED ON 6053-J**
DEVICE CABLE (CURRENT LOOP)	DASHER PRINTER	"	CONV. PANEL	2000 / 70	USED ON 6041-G**
DEVICE CABLE (EIA)	DASHER PRINTER	"	FULL DUPLEX MODEM	50 / 15.3	USED ON 6041-J**
DEVICE CABLE	300 LPM PRINTER	"	CONV. PANEL	15 / 4.6	USED ON 9125
DEVICE CABLE	240 LPM PRINTER	"	CONV. PANEL	15 / 4.6	USED ON 9128
DEVICE CABLE	MATRIX PRINTER	"	CONV. PANEL	25 / 7.4	9129
DEVICE CABLE	SYNCHRONOUS MODEM	"	CONV. PANEL	50 / 15.3	1084G
INTERDEVICE CABLE	SBS COMBO BOARD	"	CONV. PANEL	8 / 2.5	
INTERDEVICE CABLE	SLM BOARD	"	CONV. PANEL	8 / 2.5	
INTERDEVICE CABLE	ASYNCHRONOUS MODEM	"	CONV. PANEL	8 / 2.5	1084G
DEVICE CABLE	INTERNATIONAL MODEM	"	CONV. PANEL	50 / 2.5	1084G

*ALSO 6093 & 6120
**ALSO 6076

	PRIMARY POWER REQUIRED FOR CABINET									BTU/Hr.	WEIGHT			COOLING UNIT				
	POWER					CORD SUPPLIED		MATING RECEPTACLE REQ'D				GROSS, FULLY LOADED			POWER			
No Bays	Volts	Hz	Phase	Conductors	Amps	Cable Length ft/in	Cable Connector Nema	Power Drop Nema	Wall Receptacle Nema			Total lb/kg	Per Bay lb/kg	No Units	Volt	Hz	Amp	Watts
1	240 Vac	60	1	3 W/G	40	9/2.74	14-50P	14-50R	14-50R	6,000		565/254	565/254	1	120	60	1.5	140
2	240 Vac	60	1	3 W/G	40	9/2.74	14-50P	14-50R	14-50R	10,600		1090/492	525/238	2	120	60	1.5	140
3	240 Vac	60	1	3 W/G	40	9/2.74	14-50P	14-50R	14-50R	16,500		1615/730	525/238	3	120	60	1.5	140
1	230Vac	50	1	2 W/G	40	9/2.74				6,000		565/254	565/254	1	230	50	0.75	140
2	230Vac	50	1	2 W/G	40	9/2.74				10,600		1090/492	525/238	2	230	50	0.75	140
3	230Vac	50	1	2 W/G	40	9/2.74				16,500		1615/730	525/238	3	230	50	0.75	140

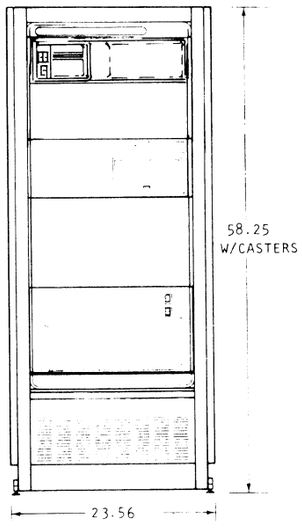
SINGLE BAY CABINET

MODEL 9431

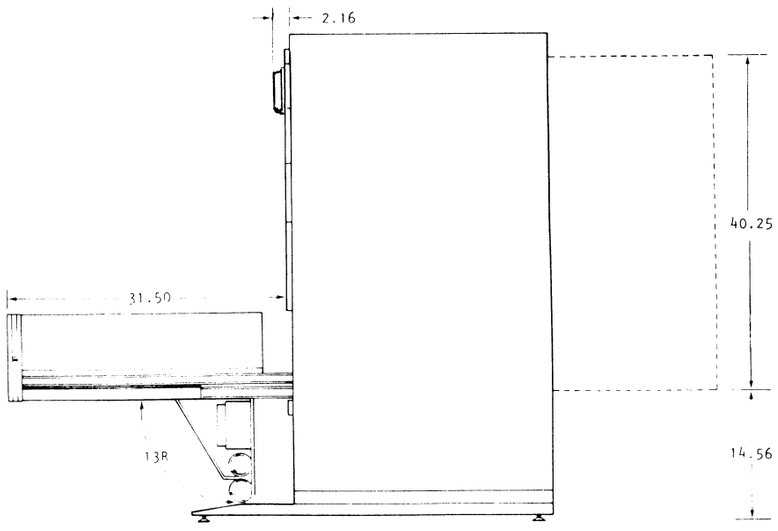


TOP VIEW

SERVICE DIMENSIONS



FRONT VIEW



SIDE VIEW

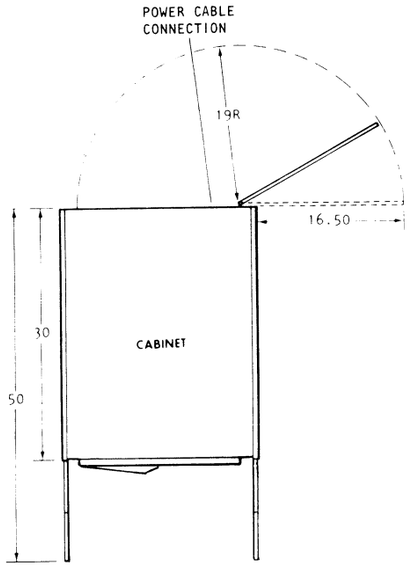
ALL DIMENSIONS IN INCHES

SPECIFICATIONS OF FREE-STANDING COMPONENTS

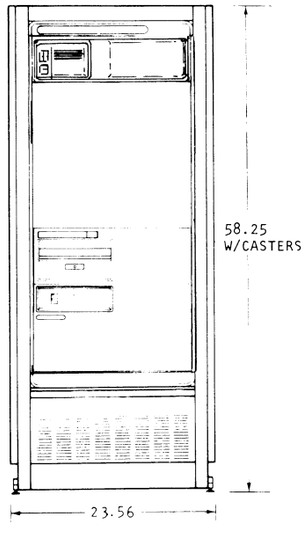
	PRIMARY POWER REQUIRED FOR CABINET									BTU/Hr.	WEIGHT			COOLING UNIT				
	POWER					CORD SUPPLIED		MATING RECEPTACLE REQ'D				GROSS, FULLY LOADED			POWER			
No Bays	Volts	Hz	Phase	Conductors	Amps	Cable Length ft/in	Cable Connector Nema	Power Drop Nema	Wall Receptacle Nema			Total lb/kg	Per Bay lb/kg	No Units	Volt	Hz	Amp	Watts
1	240 Vac	60	1	3 W/G	40	9/2.74	14-50P	14-50R	14-50R	6,000		565/254	565/254	1	120	60	1.5	140
2	240 Vac	60	1	3 W/G	40	9/2.74	14-50P	14-50R	14-50R	10,600		1090/492	525/238	2	120	60	1.5	140
3	240 Vac	60	1	3 W/G	40	9/2.74	14-50P	14-50R	14-50R	16,500		1615/730	525/238	3	120	60	1.5	140
1	230Vac	50	1	2 W/G	40	9/2.74				6,000		565/254	565/254	1	230	50	0.75	140
2	230Vac	50	1	2 W/G	40	9/2.74				10,600		1090/492	525/238	2	230	50	0.75	140
3	230Vac	50	1	2 W/G	40	9/2.74				16,500		1615/730	525/238	3	230	50	0.75	140

SINGLE BAY CABINET

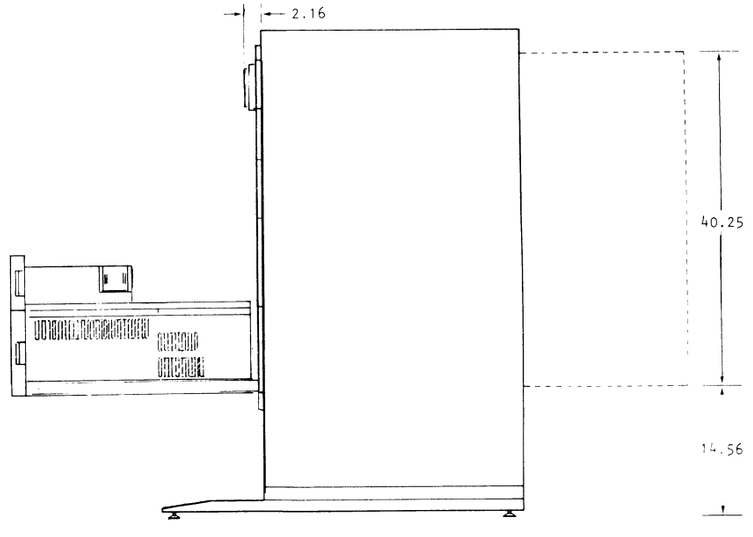
MODELS 9433, 9434



TOP VIEW



FRONT VIEW

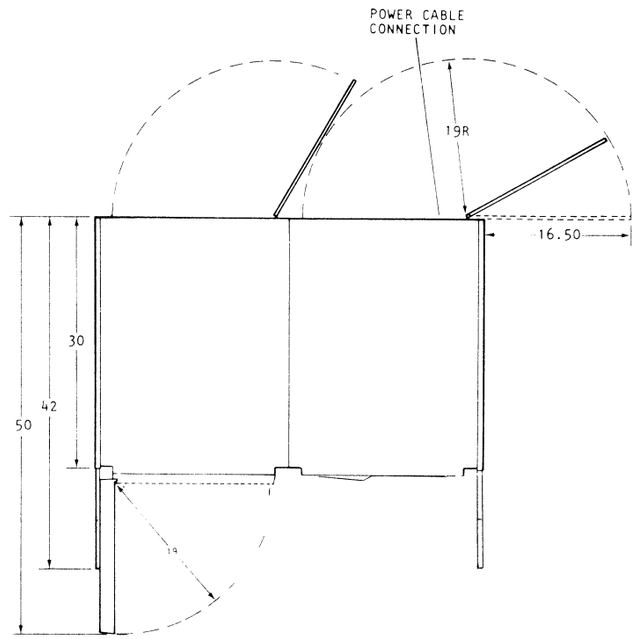


SIDE VIEW

SPECIFICATIONS OF FREE-STANDING COMPONENTS (CONT)

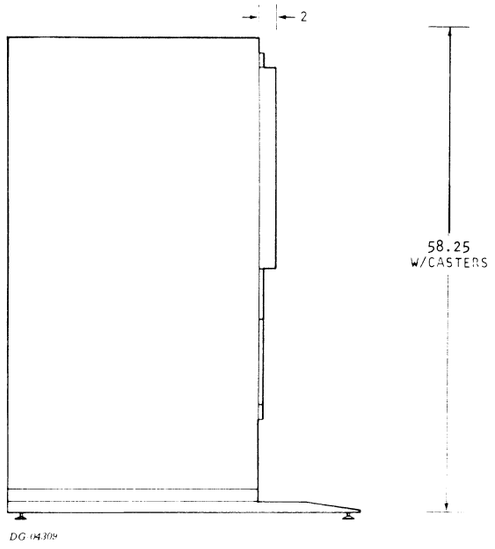
TWO BAY CABINET

MODELS 9435, 9436, 9437

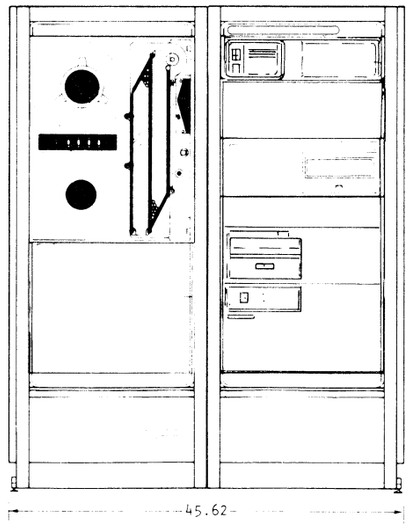


TOP VIEW

SERVICE DIMENSIONS

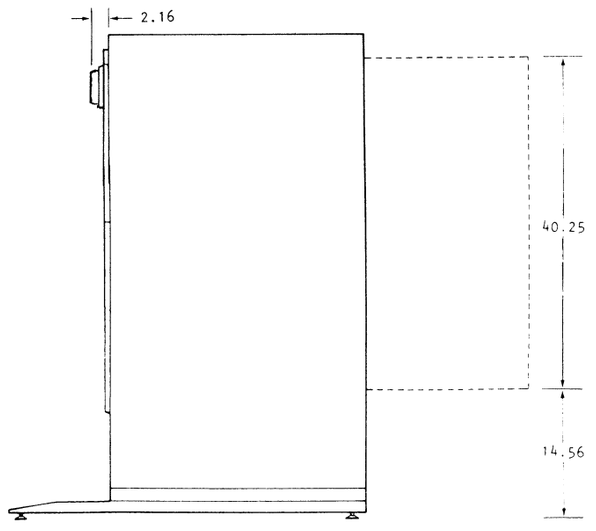


SIDE VIEW



FRONT VIEW

* OPTIONAL



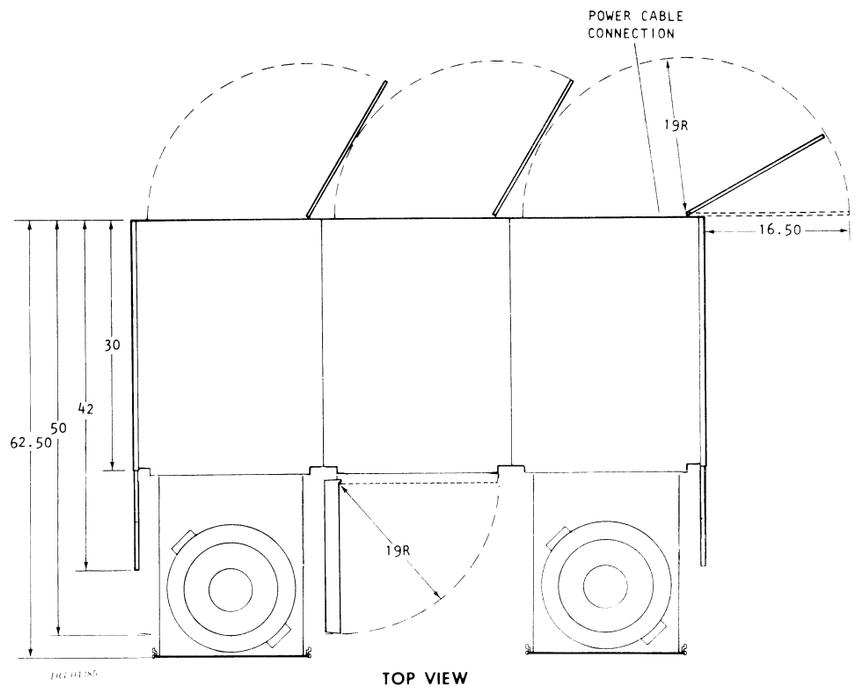
SIDE VIEW

ALL DIMENSIONS IN INCHES

SPECIFICATIONS OF FREE-STANDING COMPONENTS (Cont)

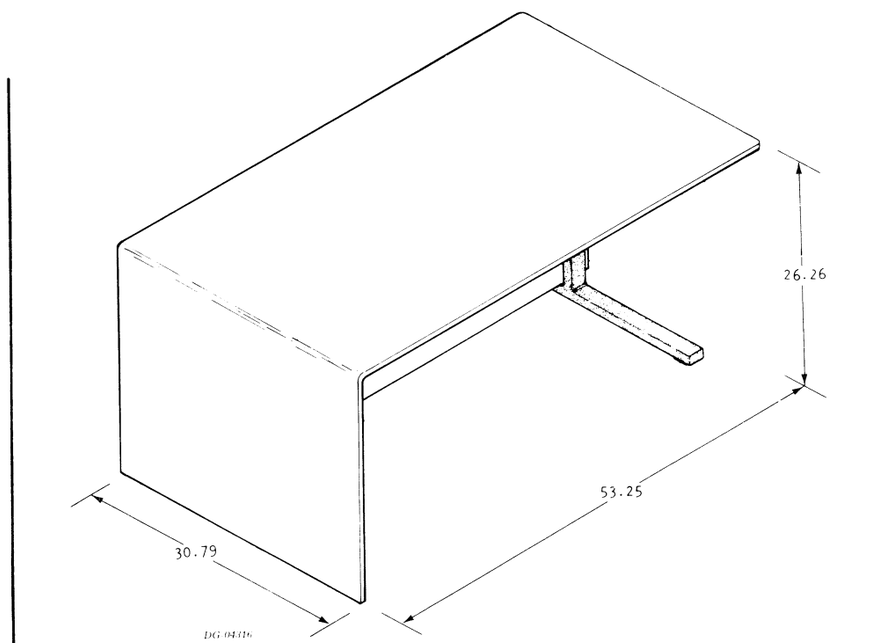
MODELS 9431

THREE BAY CABINET

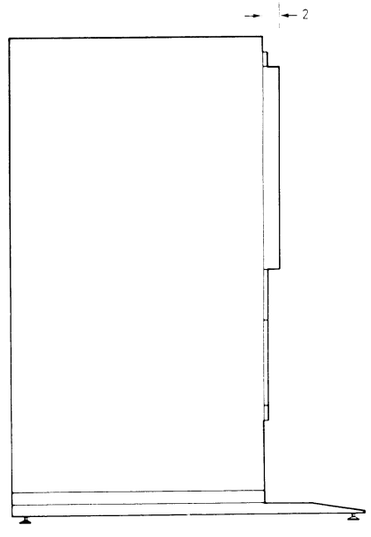


TOP VIEW

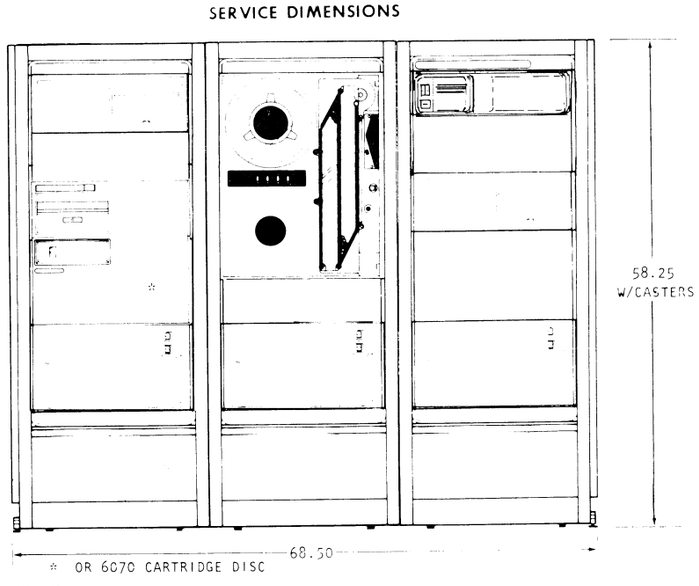
WORKTABLE



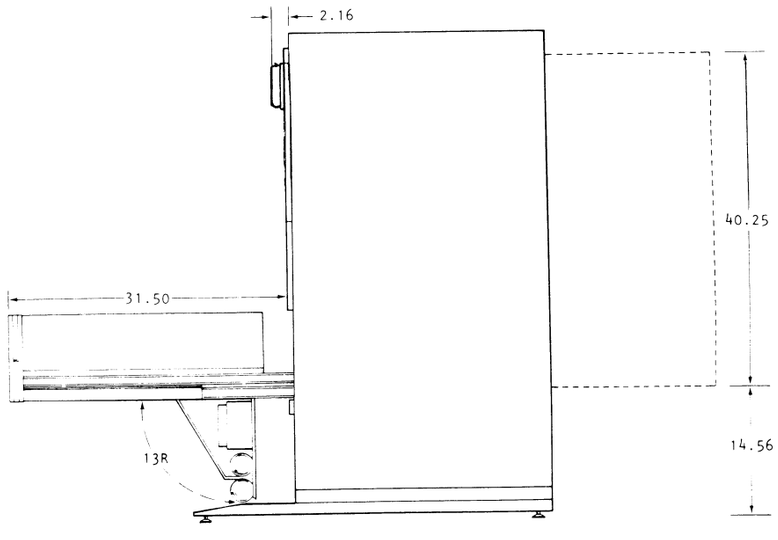
SERVICE DIMENSIONS



SIDE VIEW



FRONT VIEW



SIDE VIEW

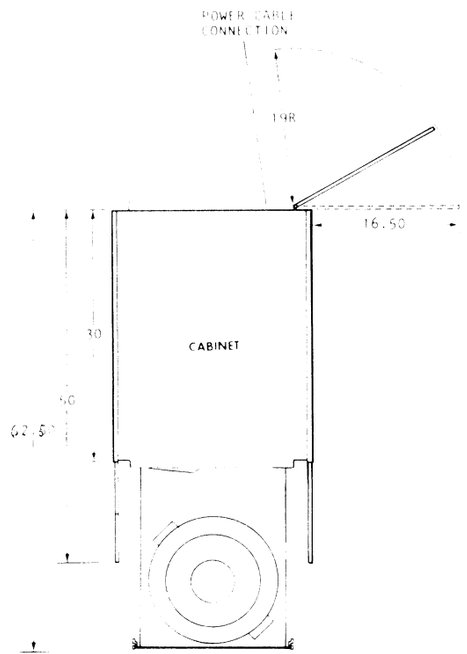
ALL DIMENSIONS IN INCHES

SPECIFICATIONS OF FREE-STANDING COMPONENTS

	PRIMARY POWER REQUIRED FOR CABINET									BTU/Hr.	WEIGHT			COOLING UNIT				
	POWER					CORD SUPPLIED	MATING RECEPTACLE REQ'D				GROSS, FULLY LOADED			POWER				
No Bays	Volts	Hz	Phase	Conductors	Amps	Cable Length ft/in	Cable Connector Nema	Power Drop Nema	Wall Receptacle Nema			Total lb/kg	Per Bay lb/kg	No Units	Volt	Hz	Amp	Watts
1	240 Vac	60	1	3 W/G	40	9/2.74	14-50P	14-50R	14-50R	6,000		565/254	565/254	1	120	60	1.5	140
2	240 Vac	60	1	3 W/G	40	9/2.74	14-50P	14-50R	14-50R	10,600		1090/492	525/238	2	120	60	1.5	140
3	240 Vac	60	1	3 W/G	40	9/2.74	14-50P	14-50R	14-50R	16,500		1615/730	525/238	3	120	60	1.5	140
1	230Vac	50	1	2 W/G	40	9/2.74				6,000		565/254	565/254	1	230	50	0.75	140
2	230Vac	50	1	2 W/G	40	9/2.74				10,600		1090/492	525/238	2	230	50	0.75	140
3	230Vac	50	1	2 W/G	40	9/2.74				16,500		1615/730	525/238	3	230	50	0.75	140

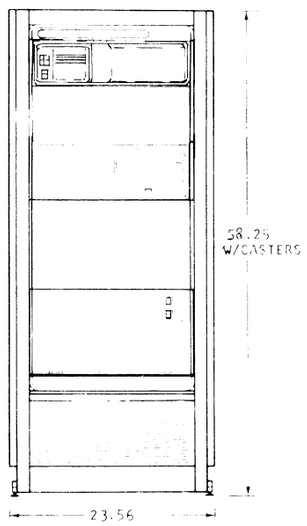
SINGLE BAY CABINET

MODEL 9438

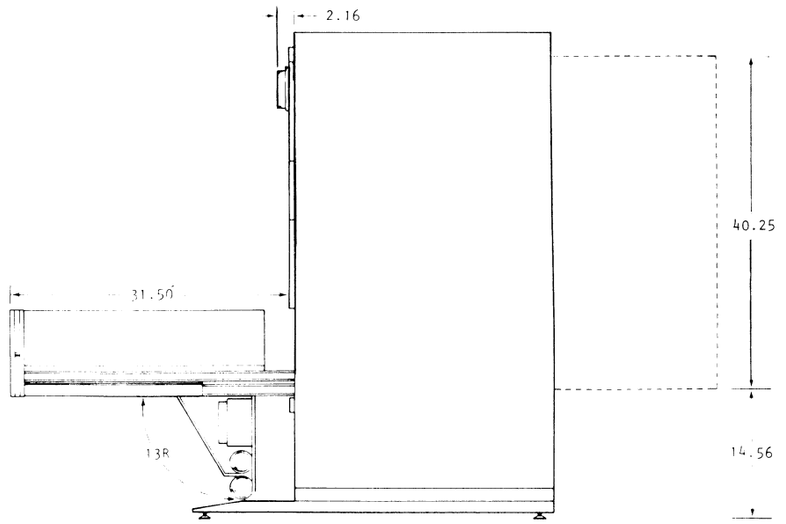


TOP VIEW

SERVICE DIMENSIONS



FRONT VIEW



SIDE VIEW

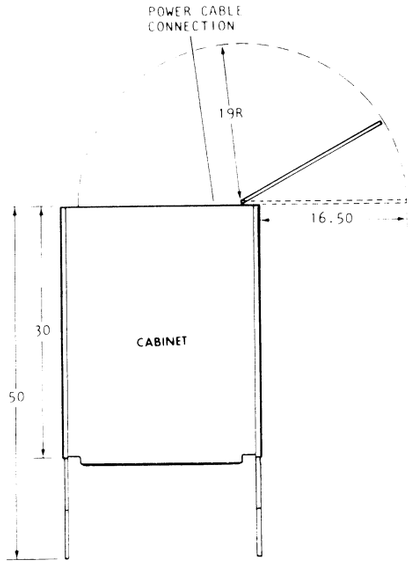
DIMENSIONS IN INCHES

SPECIFICATIONS OF FREE-STANDING COMPONENTS

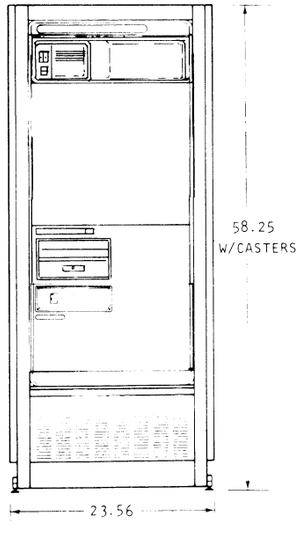
	PRIMARY POWER REQUIRED FOR CABINET									BTU/Hr.	WEIGHT			COOLING UNIT				
	POWER					CORD SUPPLIED		MATING RECEPTACLE REQ'D				GROSS, FULLY LOADED			POWER			
No Bays	Volts	Hz	Phase	Conductors	Amps	Cable Length ft/in	Cable Connector Nema	Power Drop Nema	Wall Receptacle Nema			Total lb/kg	Per Bay lb/kg	No Units	Volt	Hz	Amp	Watts
1	240 Vac	60	1	3 W/G	40	9/2.74	14-50P	14-50R	14-50R	6,000		565/254	565/254	1	120	60	1.5	140
2	240 Vac	60	1	3 W/G	40	9/2.74	14-50P	14-50R	14-50R	10,600		1090/492	525/238	2	120	60	1.5	140
3	240 Vac	60	1	3 W/G	40	9/2.74	14-50P	14-50R	14-50R	16,500		1615/730	525/238	3	120	60	1.5	140
1	230Vac	50	1	2 W/G	40	9/2.74				6,000		565/254	565/254	1	230	50	0.75	140
2	230Vac	50	1	2 W/G	40	9/2.74				10,600		1090/492	525/238	2	230	50	0.75	140
3	230Vac	50	1	2 W/G	40	9/2.74				16,500		1615/730	525/238	3	230	50	0.75	140

SINGLE BAY CABINET

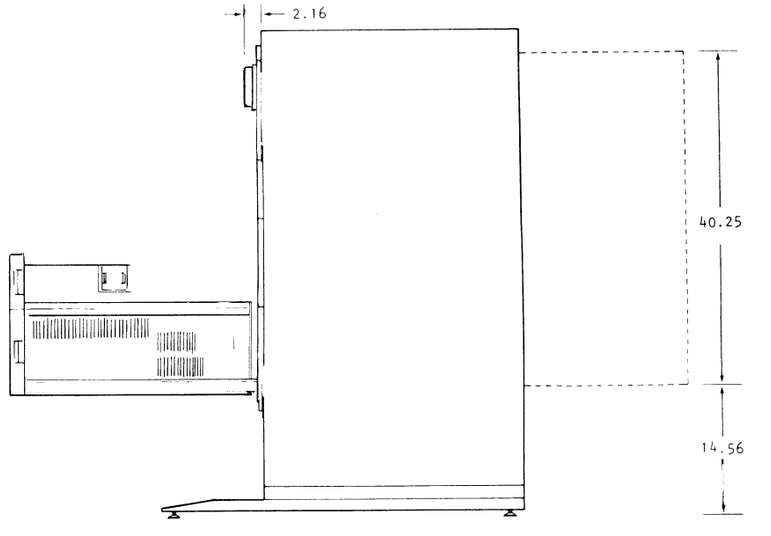
MODELS 9440, 9441



TOP VIEW



FRONT VIEW



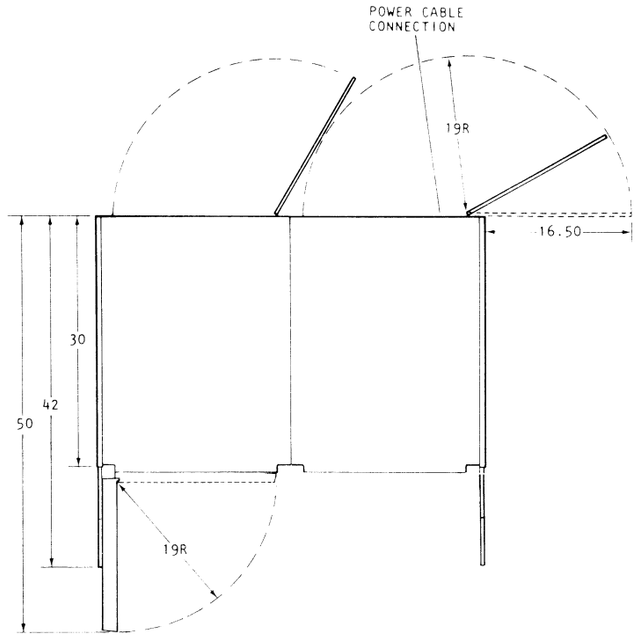
SIDE VIEW

DIMENSIONS IN INCHES

SPECIFICATIONS OF FREE-STANDING COMPONENTS (Cont)

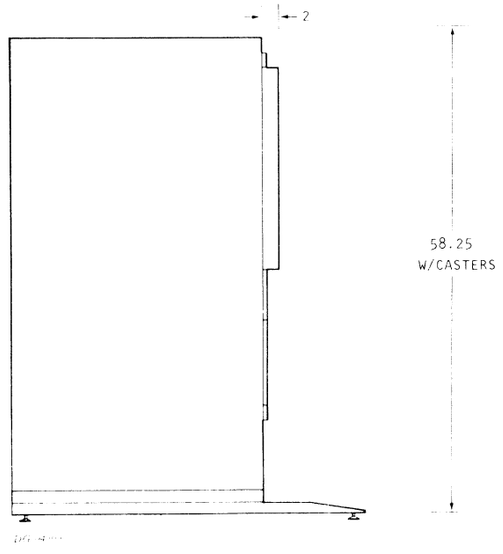
TWO BAY CABINET

MODELS C3, 9441-Y, 9441-X

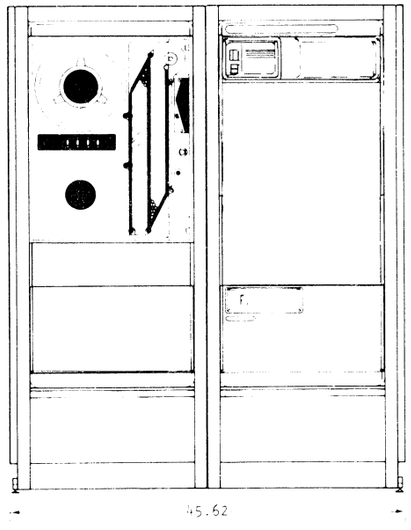


TOP VIEW

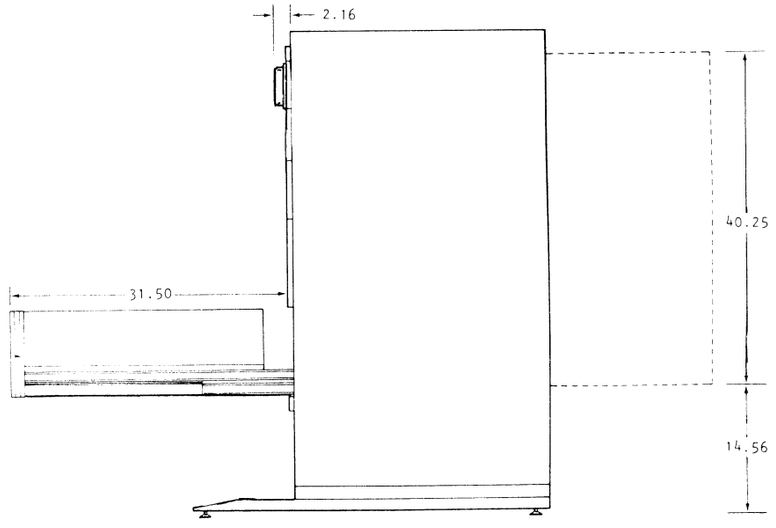
SERVICE DIMENSIONS



SIDE VIEW



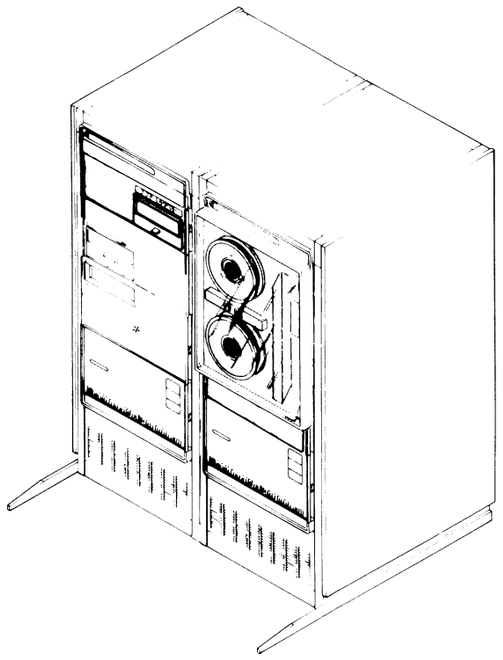
FRONT VIEW



SIDE VIEW

ALL DIMENSIONS IN INCHES

SUBSYSTEM COMPONENT BREAKDOWN



MAJOR COMPONENT

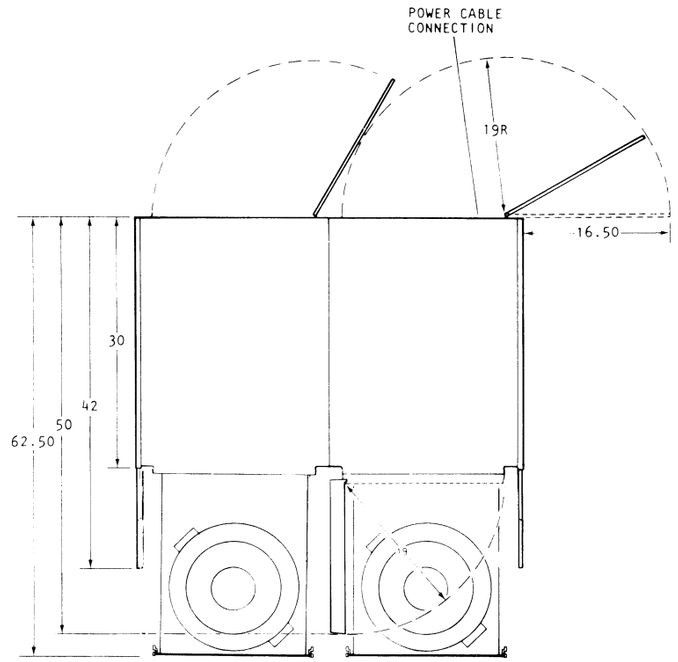
Component	Mounting Location	Notes
CABINET	FREE STANDING	
DISKETTE 6031	CABINET	SEE 010-000064
CARTRIDGE DISC 6070	CABINET	SEE 010-000192
MAG TAPE 6021 OR 6026	CABINET	SEE 010-000213 OR 010-000147

CABLE

Cable	Connecting	Max Allowed Lg ft / m	Notes
INTERDEVICE CABLE	CARTRIDGE DISC and ETCHED PADDLEBOARD	25 / 7.6	

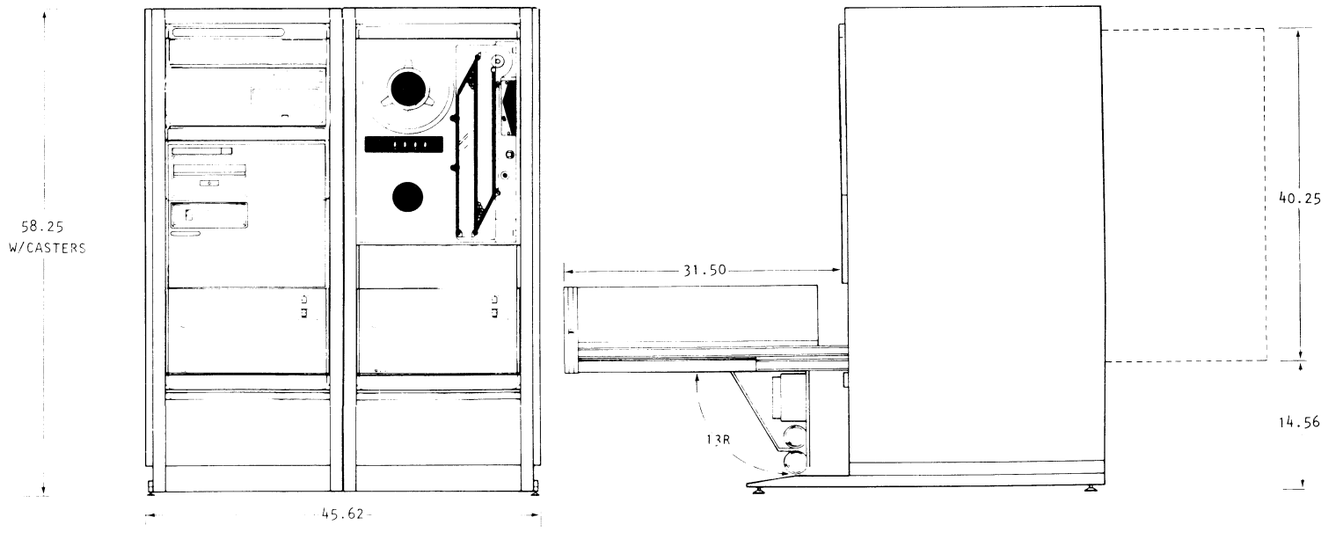
* OR 6070 CARTRIDGE DISC

SPECIFICATIONS OF FREE-STANDING COMPONENTS



TOP VIEW

SERVICE DIMENSIONS



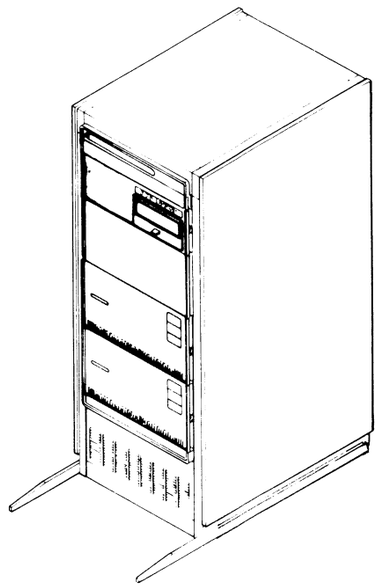
FRONT VIEW

SIDE VIEW

DIMENSIONS IN INCHE

OPTIONS FOR *MODELS 9433, 9434*

SUBSYSTEM COMPONENT BREAKDOWN



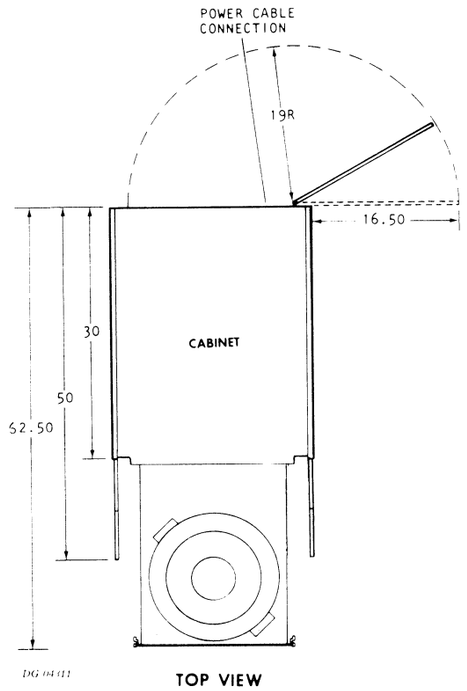
MAJOR COMPONENT

Component	Mounting Location	Notes
SINGLE BAY CABINET	FREE STANDING	
DISKETTE 6031	CABINET	SEE 010-000064 or 010
CARTRIDGE DISC 6070	CABINET	SEE 010-000192
CARTRIDGE DISC 6099 or 6103	CABINET	SEE 010-000222

CABLE

Cable	Connecting			Max Allowed Lg ft / m	Notes
INTERFACE CABLE	CARTRIDGE DISC 6070	"	ETCHED PADDLEBOARD	25 / 7.6	
INTERDEVICE CABLE	CARTRIDGE DISC 6099	and	ETCHED PADDLEBOARD	25 / 7.6	

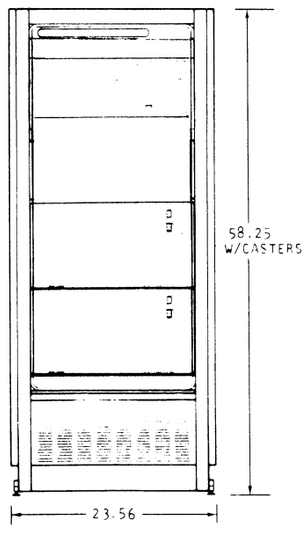
SPECIFICATIONS OF FREE-STANDING COMPONENTS



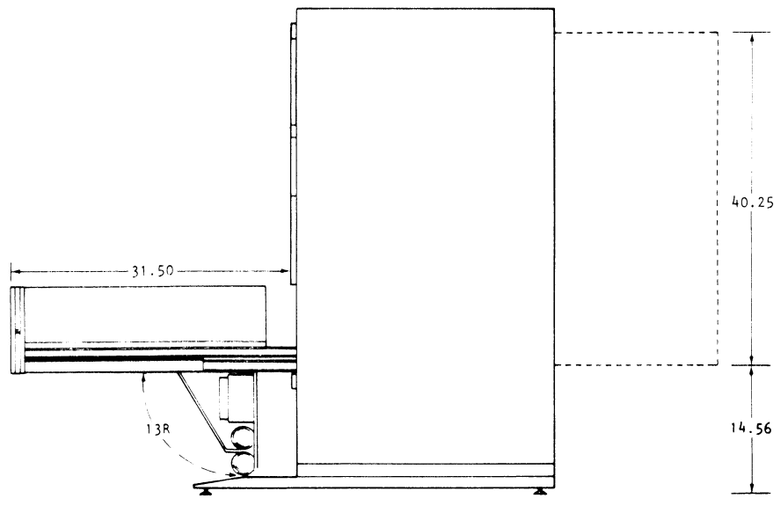
DG 04411

TOP VIEW

SERVICE DIMENSIONS



FRONT VIEW

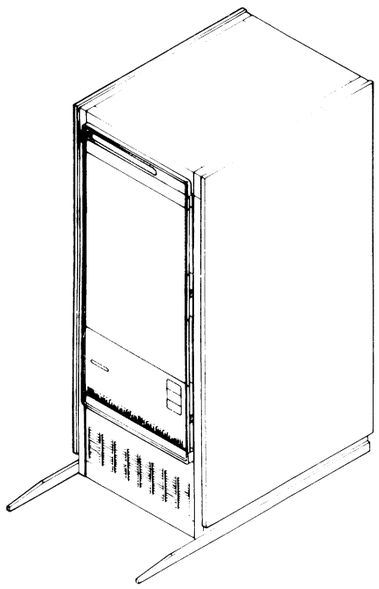


DG 04311

SIDE VIEW

OPTIONS FOR *MODELS 9435, 9436, 9437*

SUBSYSTEM COMPONENT BREAKDOWN



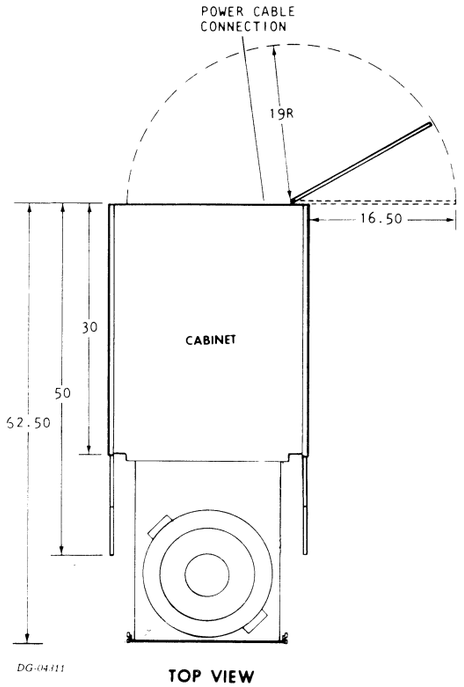
MAJOR COMPONENT

Component	Mounting Location	Notes
SINGLE BAY CABINET	FREE STANDING	
CARTRIDGE DISC 6070	CABINET	SEE 010-000192

CABLE

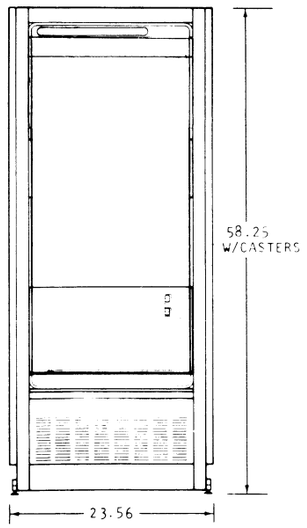
Cable	Connecting	Max Allowed Lg ft / m	Notes
INTERDEVICE CABLE	CARTRIDGE DISC 6070 and ETCHED PADDLEBOARD	25 / 7.6	

SPECIFICATIONS OF FREE-STANDING COMPONENTS

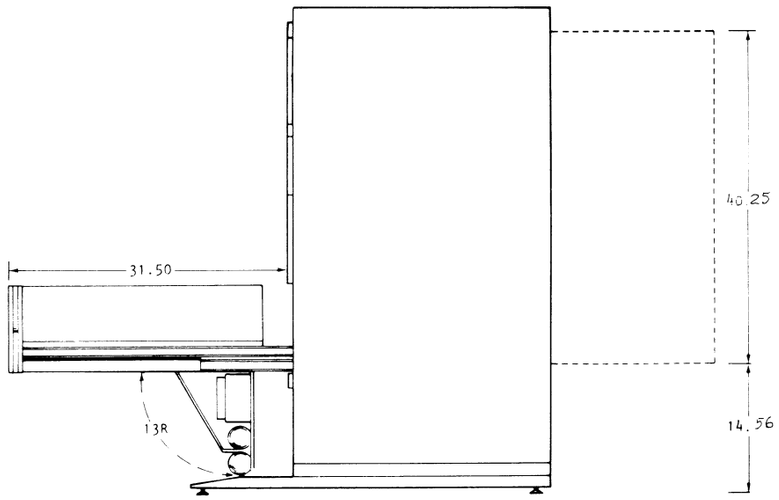


TOP VIEW

SERVICE DIMENSIONS



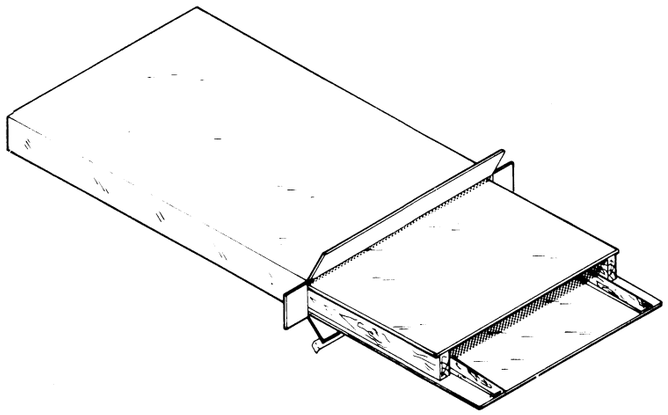
FRONT VIEW



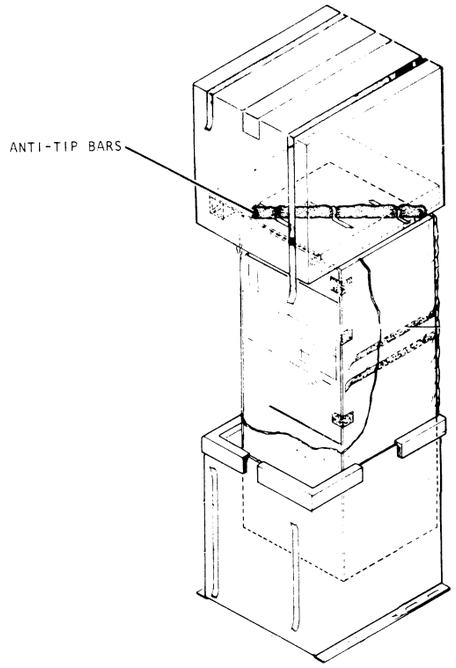
SIDE VIEW

SHIPPING

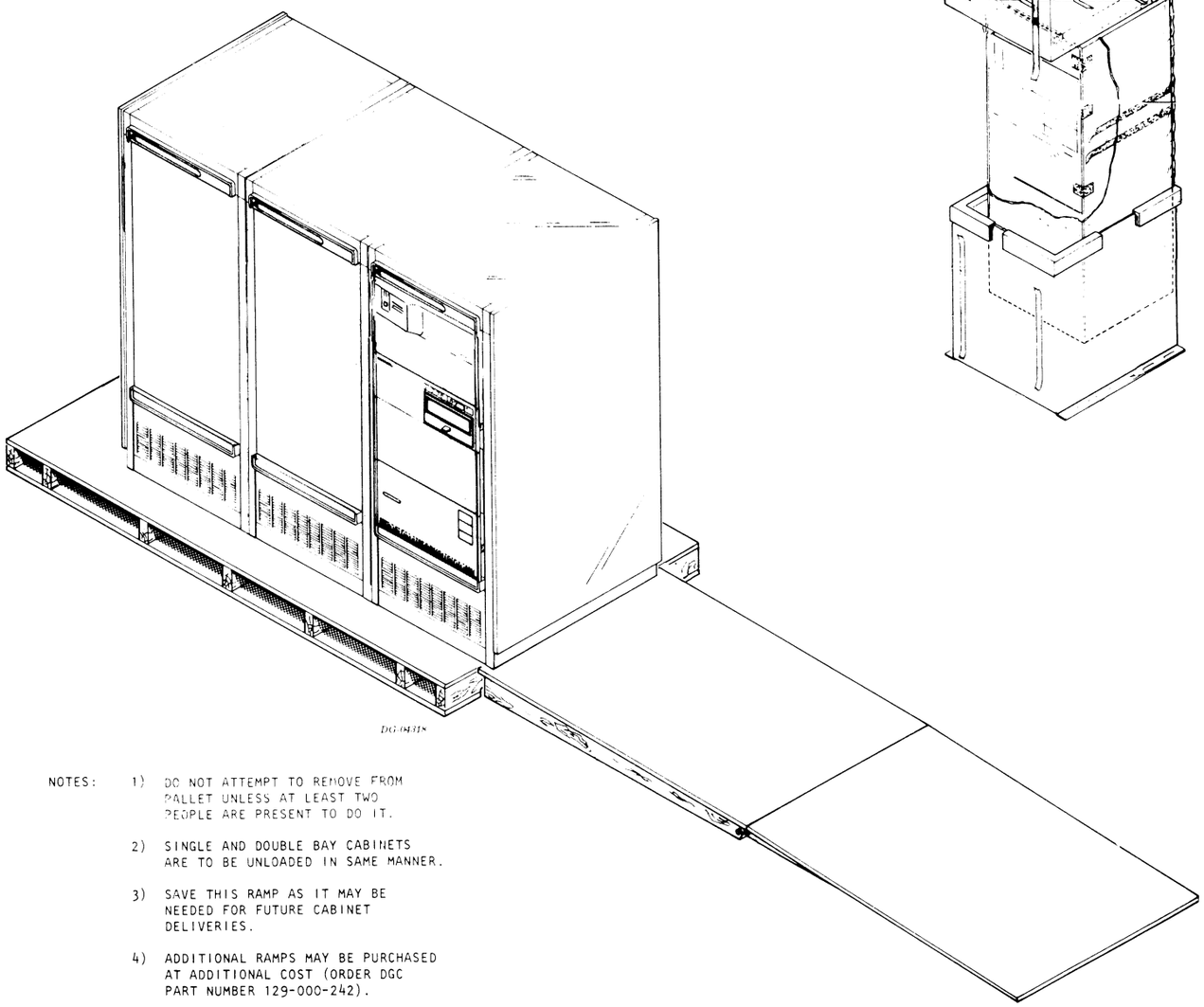
RAMP PACKAGE



ANTI-TIP BARS



SHIPPING AND PACKAGE DATA					
Outside Dimensions			Weight (Gross)	Volume	Density
Length	Width	Depth			
in. / cm	in. / cm	in. / cm	lbs. / kg	cu ft. / cu m	lbs/cu ft / kg/cu m
32.25 / 82	5.25 / 13	50.75 / 129	50 / 22.5	4.77 / .1431	10.48 / 157



NOTES:

1) DO NOT ATTEMPT TO REMOVE FROM PALLET UNLESS AT LEAST TWO PEOPLE ARE PRESENT TO DO IT.

2) SINGLE AND DOUBLE BAY CABINETS ARE TO BE UNLOADED IN SAME MANNER.

3) SAVE THIS RAMP AS IT MAY BE NEEDED FOR FUTURE CABINET DELIVERIES.

4) ADDITIONAL RAMPS MAY BE PURCHASED AT ADDITIONAL COST (ORDER DGC PART NUMBER 129-000-242).

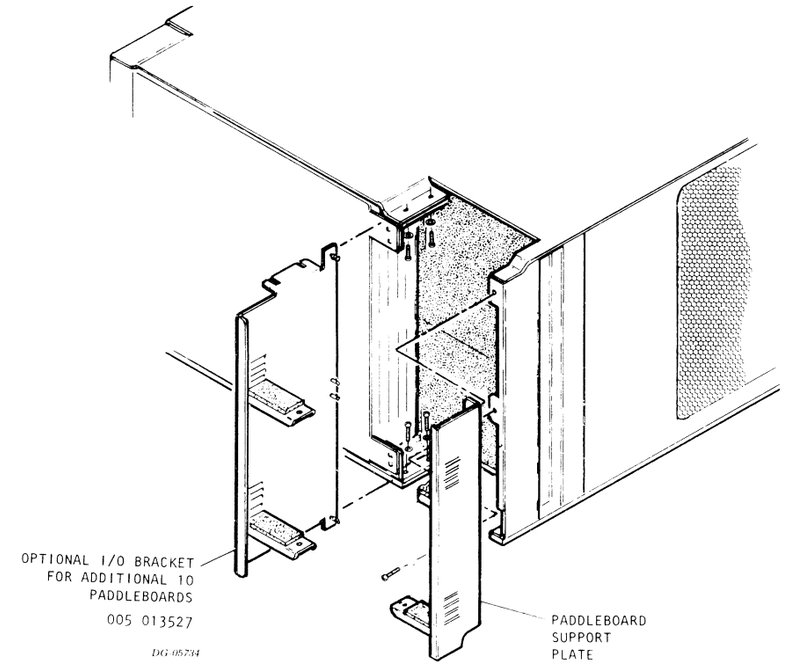
CHASSIS SLOT ASSIGNMENTS

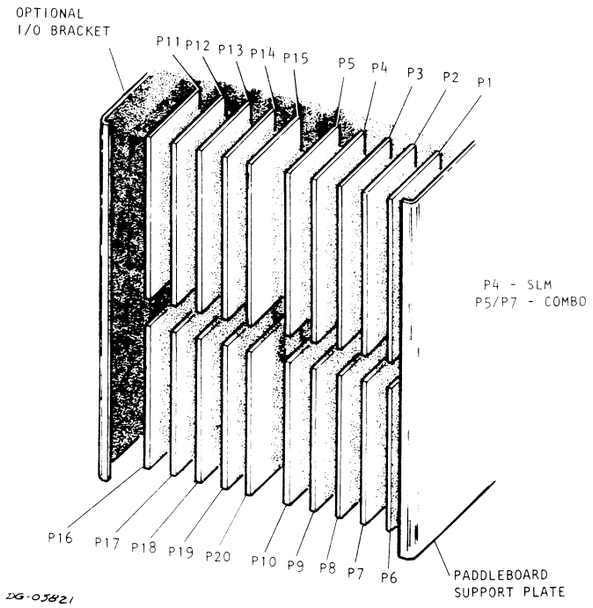
NOVA 4/X or 4/S

Data Channel Speeds Available:		Standard ☐ High Speed ☒	
Slot	Allowed (Slot Chart)	Assigned	+5V Current Draw
16	(SLM)		4.0
15	RESERVED		
14	(COMBO 2)		3.5
13	COMBO 1		3.5
12	(DCH PRINTER CONT)		2.5
11	6070 DISC CONT*		4.0
10	6026 CONT		2.6
9	6098/6100 DISC CONTR		4.0
8	DISC PAK CONTROLLER 2		3.4
7	DISC PAK CONTROLLER 1 *		2.9
6	6031/6045 CONT		4.0
5	6021 CONT		2.6
4	(128 kB MEM) (ADD ON)		4.4
3	(32, 64, 128 kB MEM) (ADD ON)		4.4
2	64, 128 kB MEM		4.4
1	CPU		17
		Total +5V Current draw	64.6
		Max +5V Current Available	100
		+5V Current Surplus	35.4

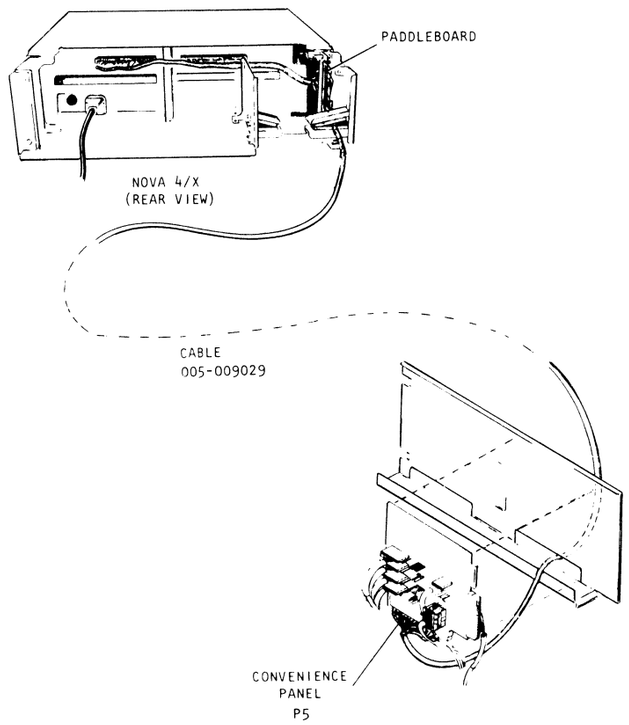
* OR 6099 OR 6103 CONTR (OPTION)

INTERNAL CABLING

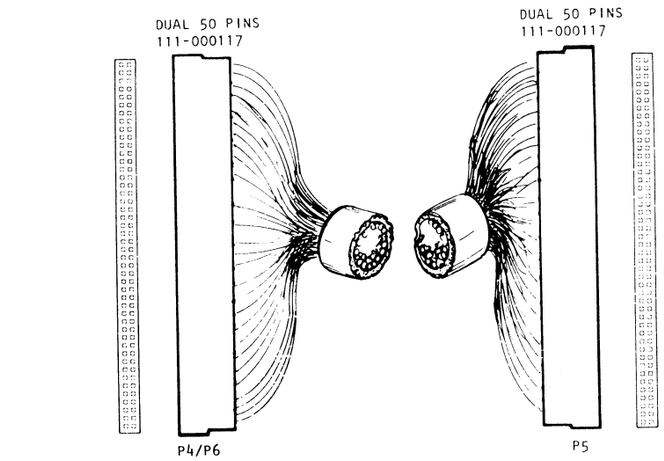




INTERNAL CABLING (Cont)

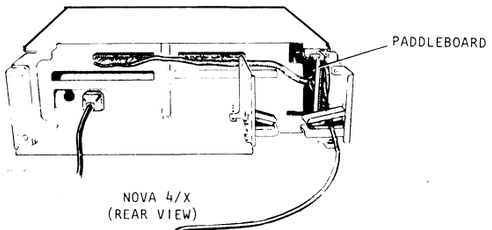


COMBO PCB

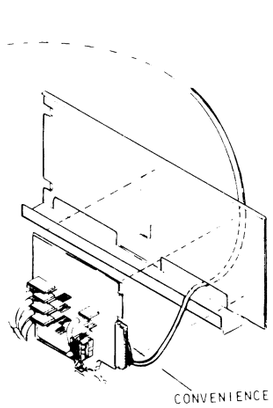


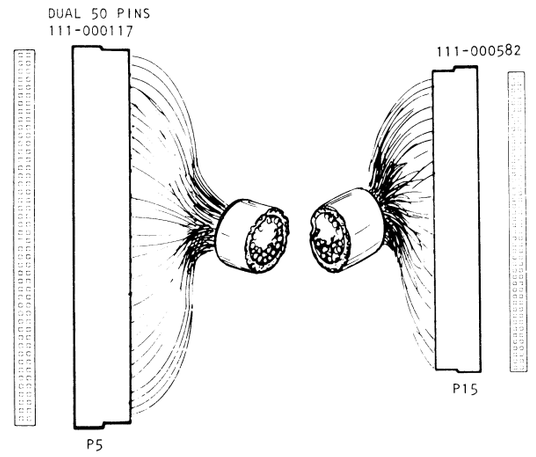
INTERNAL CABLING (Cont)

SYNC LINE MUX PCB



CABLE
005-009028



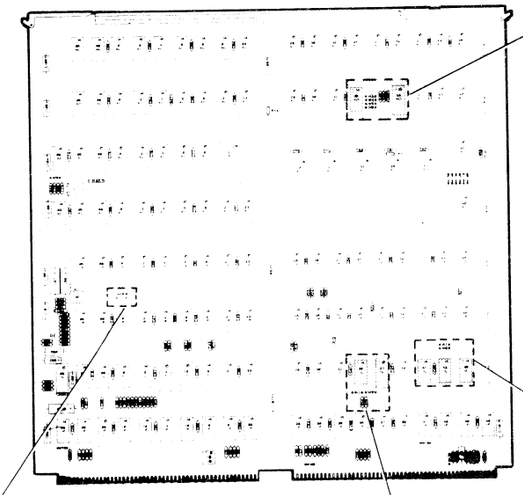


P5 BACKPANEL	PADDLE BOARD	CABLE 005-009028	P15 CONVENIENCE PANEL
A1	1	GND	
75	7	ACU SP	26
73	8	DL 0	3
71	9	NB 8	4
69	10	NB 4	5
67	11	NB 2	6 (KEY)
65	12	NB 1	7
63	13	DSS	8
61	14	PW1	9
59	15	PND	10
57	16	CRQ	11
47	17	DPR	12
A49	18	ACR	13
B19	33	SPA	22
23	34	SPB	23
34	38	TX CLK	16
36	39	RING	17
38	40	CAR DET	18
40	41	DSR	19
49	43	DTR	20
51	44	REC CLK	21
52	45	REC DATA	15
53	46	XMIT DATA	14
54	47	CTS	2
67	48	INT CLK	24
B69	49	RTS	25

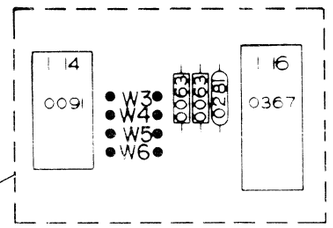
TAILORING

COMBO JUMPERING

COMBO MUX BOARD



Ref DGC Dwg No 003-000806 Rev 15



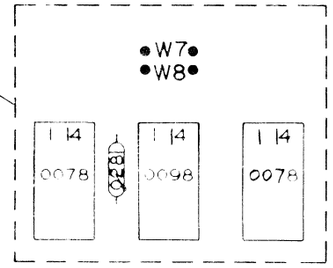
JUMPERS		
OUT	IN	BAUD
W3,W5		1200
W3	W5	1800
W5	W3	4800
	W3,W5	NOT USED

JUMPERS W3, W5 DETERMINE LINE SPEED FOR CLK2.

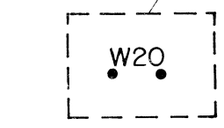
JUMPERS		
OUT	IN	BAUD
W4,W6		110
W6	W4	150
W4	W6	300
	W4,W6	2400

JUMPERS W4, W6 DETERMINE LINE SPEED FOR CLK3.

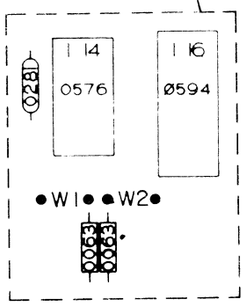
NOTE:
CLK 0 IS FIXED AT 9600 BAUD
CLK 1 IS FIXED AT 600 BAUD



JUMPERS W7 AND W8 DETERMINE POLARITY OF PRINTER STROBE
INSTALL W8 FOR 300 LPM, 240 LPM
INSTALL W7 FOR 180CPS



JUMPER W20 IS REMOVED ONLY FOR TESTING. IT IS INSTALLED DURING NORMAL OPERATION. (107-000806 Rev 03 AND UP)



JUMPERS			
OUT	IN	ALM LINES	DEVICE CODES
W1,W2		3-8	TTI=10,TTO=11,RTC=14,LPT=15
W1	W2	4-7	TTI=10,TTO=11,RTC=14,LPT=15
W2	W1	8-11	TTO,TTI,RTC,LPT ARE DISABLED
	W1,W2	12-15	TTO,TTI,RTC,LPT ARE DISABLED

JUMPERS W1 AND W2 DETERMINE LINE NUMBERS AND DEVICE CODES FOR TTI,TTO,RTC AND LPT.

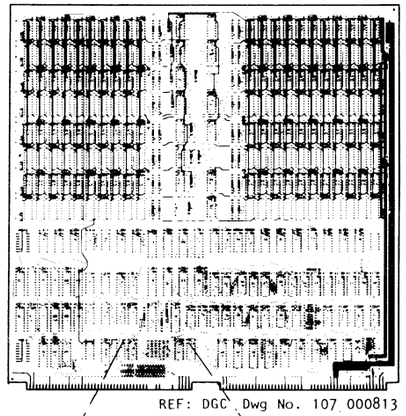
TAILORING (CONT)

MEMORY JUMPERING
NOVA 4/S AND 4/X

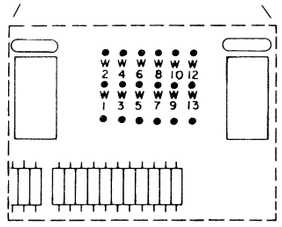
NOVA 4/X MEMORY BOARD SELECT JUMPERS

ADDRESS RANGE	JUMPERS INSERTED* BOARD SIZE 128KBYTES
0377777-0300000-0277777-0200000-	W8
0177777-0100000-0077777-0000000-	W7

*NOTE: JUMPERS W1, W3, AND W5 ARE ALWAYS INSERTED; JUMPERS W2, W4, AND W6 ARE NEVER INSERTED.



REF: DGC Dwg No. 107 000813



NOVA 4/S MEMORY BOARD SELECT JUMPERS

ADDRESS RANGE	JUMPERS INSERTED* BOARD SIZE 64 KBYTES
0077777-0040000-0037777-0000000-	W7 W9

*NOTE: JUMPERS W1, W3, AND W5 ARE ALWAYS INSERTED; JUMPERS W2, W4, AND W6 ARE NEVER INSERTED.

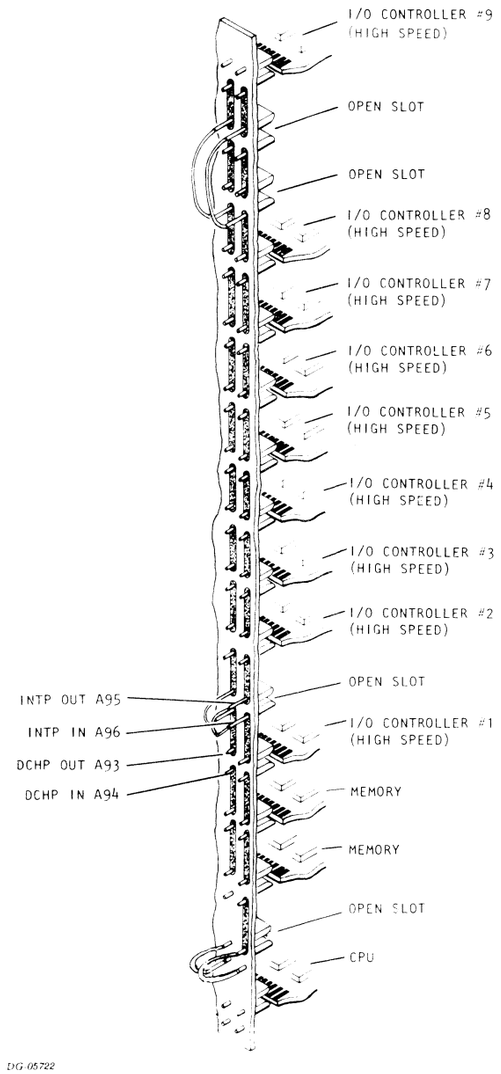
SYSTEMS SHOULD BE CONFIGURED WITH THE LARGER BOARDS OCCUPYING THE LOWER MEMORY ADDRESS RANGES.

MEMORY LOADS

VOLTAGE	DESCRIPTION	CURRENT DRAW
+5V	SYSTEM WITH BATTERY BACKUP	4.4A
+5V MEM		1.2A
+12V MEM	FIRST BOARD IN CHASSIS	2.3A
+12V MEM	EACH ADDITIONAL BOARD	0.3A

TAILORING (CONT)

BACKPANEL JUMPERING

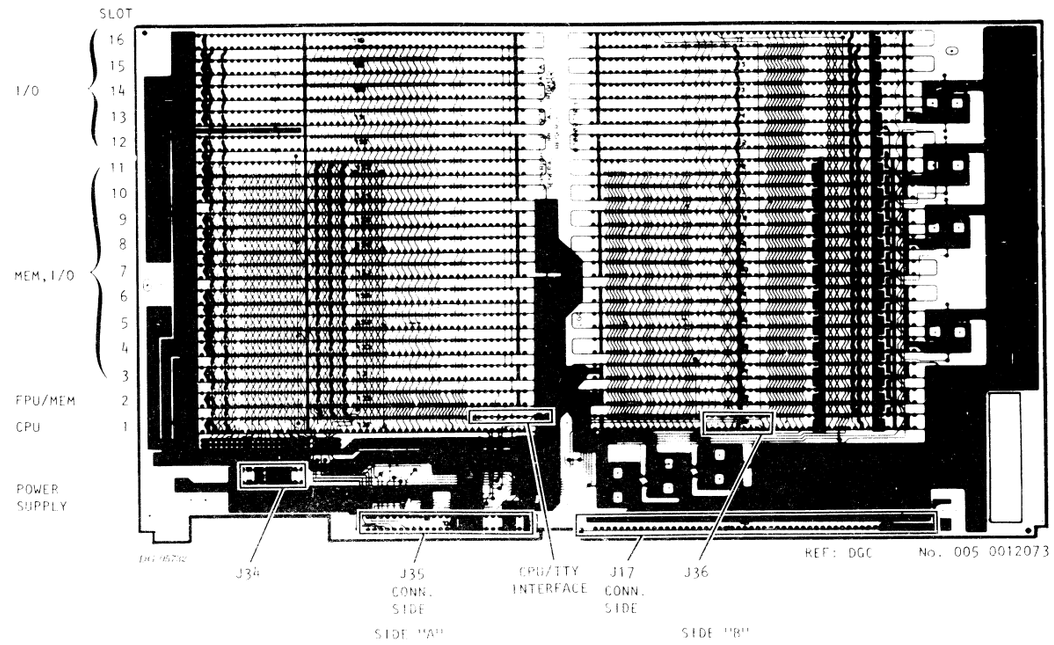


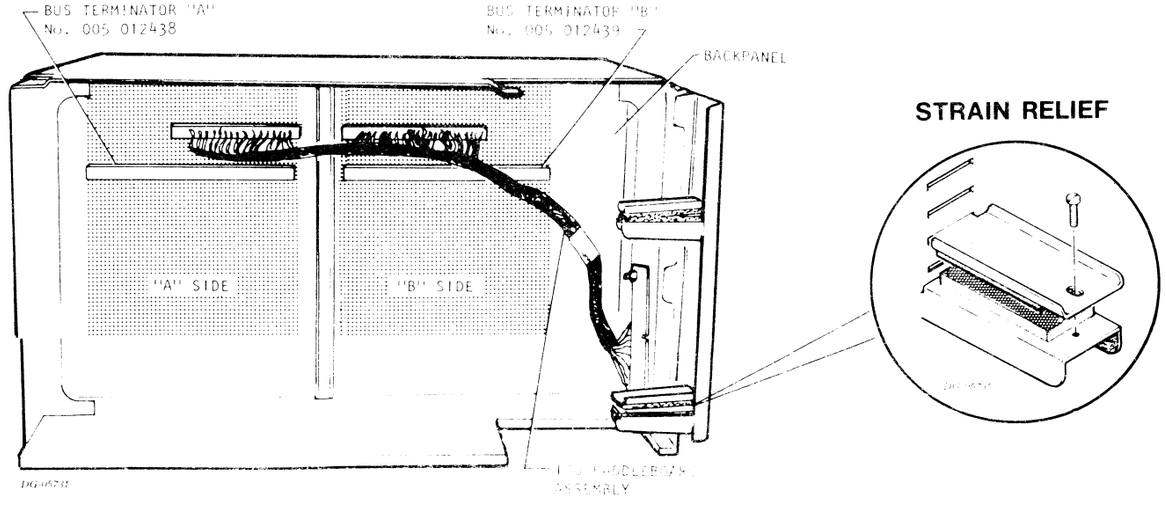
NO JUMPERS NEEDED EXCEPT FOR OPEN SLOTS

NOTE: IF COMBO-2 (LINE 4-7) IS USED, ADD JUMPER FROM A91 (COMBO-1) TO A92 (COMBO-2).

INTERNAL CABLING

BACKPANEL CONNECTORS



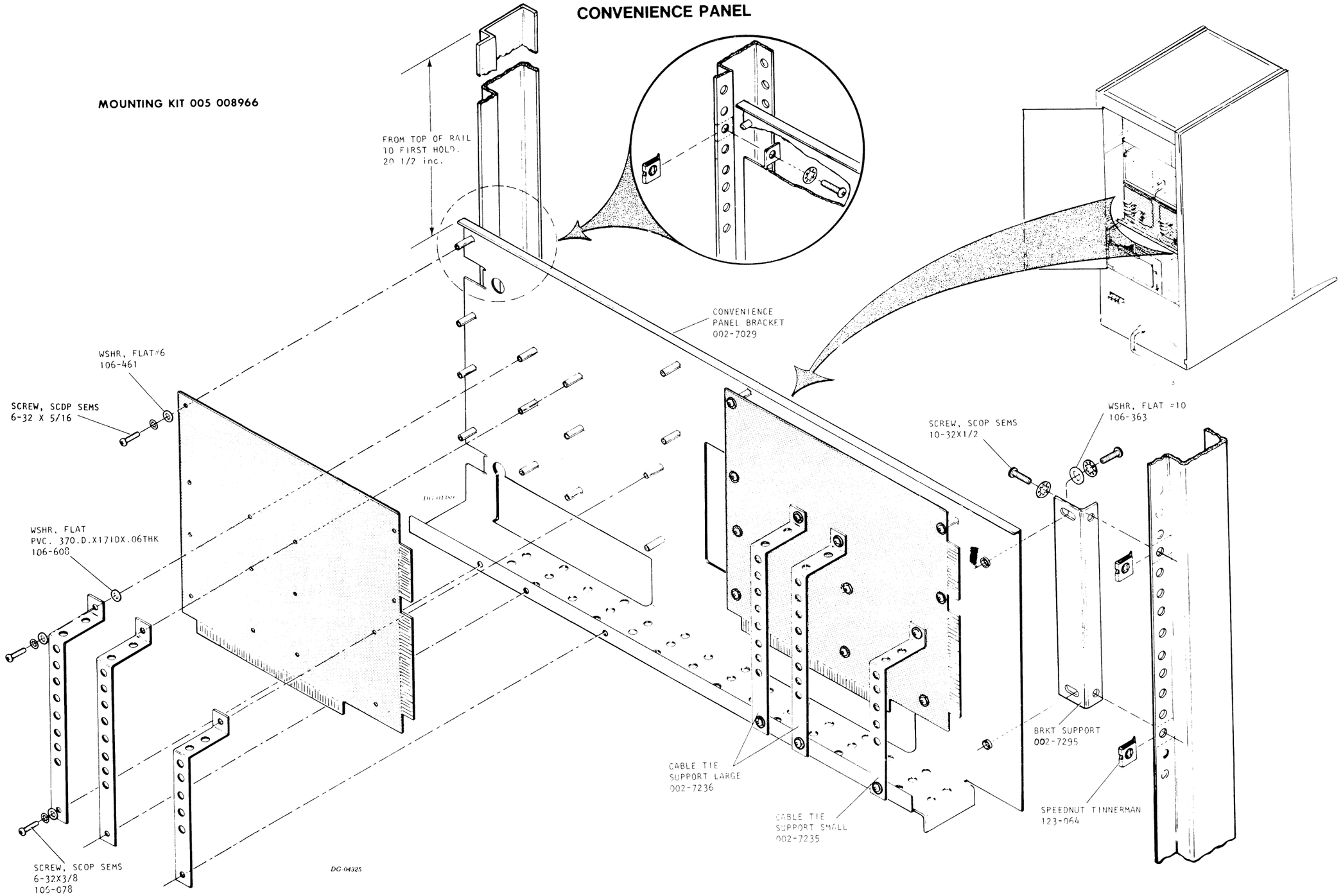


STRAIN RELIEF

INSTALLATION IN A CABINET

CONVENIENCE PANEL

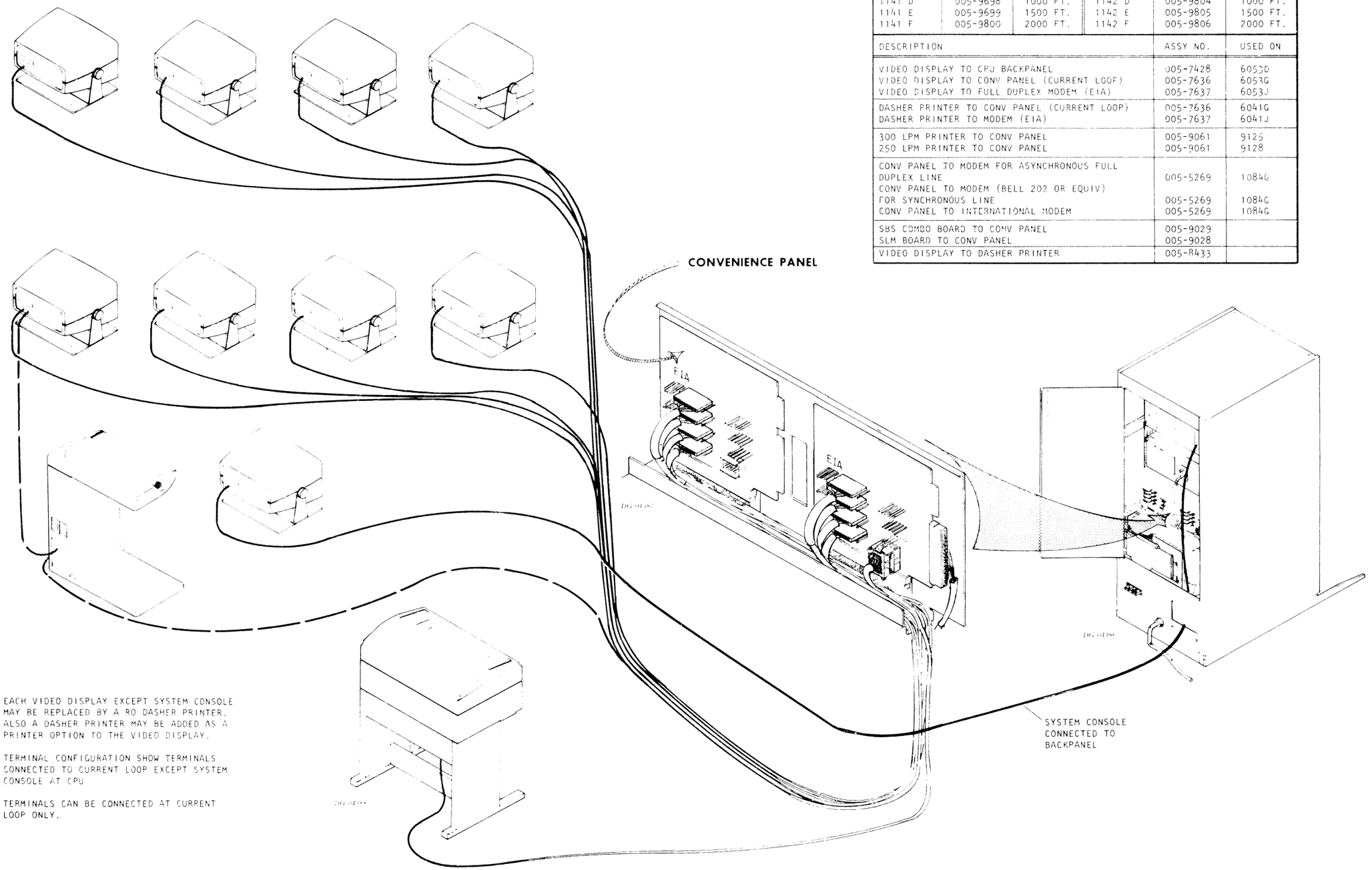
MOUNTING KIT 005 008966



EXTERNAL CABLING

6053G			6041K		
MODEL NO.	CABLE	LENGTH	MODEL NO.	CABLE	LENGTH
1141 A	005-9695	100 FT.	1142 A	005-9801	100 FT.
1141 B	005-9696	250 FT.	1142 B	005-9802	250 FT.
1141 C	005-9697	500 FT.	1142 C	005-9803	500 FT.
1141 D	005-9698	1000 FT.	1142 D	005-9804	1000 FT.
1141 E	005-9699	1500 FT.	1142 E	005-9805	1500 FT.
1141 F	005-9800	2000 FT.	1142 F	005-9806	2000 FT.

DESCRIPTION	ASSY NO.	USED ON
VIDEO DISPLAY TO CPU BACKPANEL	005-7428	6053D
VIDEO DISPLAY TO CONV PANEL (CURRENT LOOP)	005-7636	6053G
VIDEO DISPLAY TO FULL DUPLEX MODEM (EIA)	005-7637	6053J
DASHER PRINTER TO CONV PANEL (CURRENT LOOP)	005-7636	6041G
DASHER PRINTER TO MODEM (EIA)	005-7637	6041J
300 LPM PRINTER TO CONV PANEL	005-9061	9125
250 LPM PRINTER TO CONV PANEL	005-9061	9128
CONV PANEL TO MODEM FOR ASYNCHRONOUS FULL DUPLEX LINE	005-5269	1084G
CONV PANEL TO MODEM (BELL 202 OR EQUIV) FOR SYNCHRONOUS LINE	005-5269	1084G
CONV PANEL TO INTERNATIONAL MODEM	005-5269	1084G
SBS COMBO BOARD TO CONV PANEL	005-9029	
SLM BOARD TO CONV PANEL	005-9028	
VIDEO DISPLAY TO DASHER PRINTER	005-8433	



NOTE: EACH VIDEO DISPLAY EXCEPT SYSTEM CONSOLE MAY BE REPLACED BY A RO DASHER PRINTER. ALSO A DASHER PRINTER MAY BE ADDED AS A PRINTER OPTION TO THE VIDEO DISPLAY.

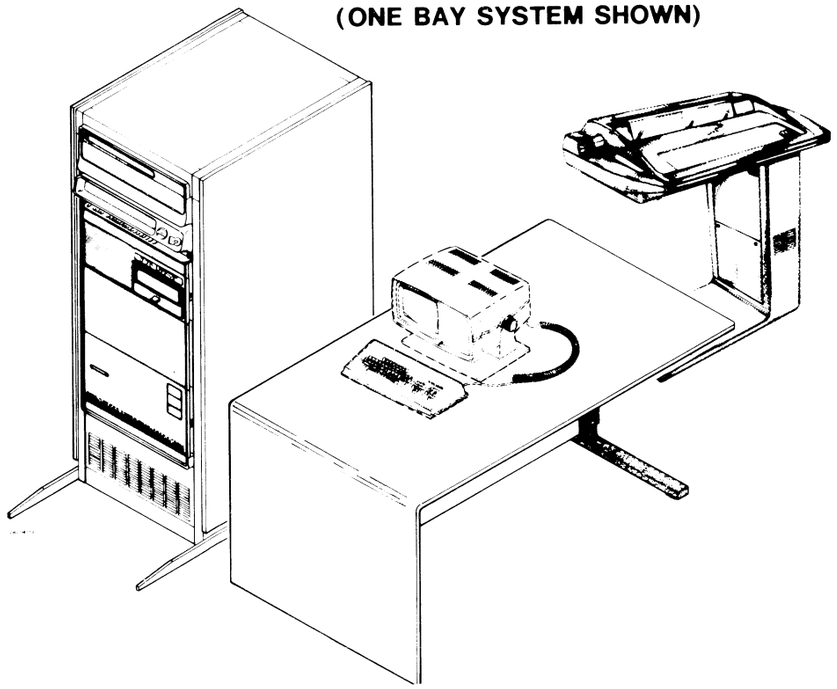
TERMINAL CONFIGURATION SHOW TERMINALS CONNECTED TO CURRENT LOOP EXCEPT SYSTEM CONSOLE AT CPU

TERMINALS CAN BE CONNECTED AT CURRENT LOOP ONLY.

SUBSYSTEM COMPONENT BREAKDOWN

MODELS C1, C3, C5

(ONE BAY SYSTEM SHOWN)



MAJOR COMPONENT

Component	Mounting Location	Notes
CS/40 MODLES	FREE STANDING	
NOVA 3/12	CABINET	
CARTRIDGE DISC 6045	CABINET	SEE 010-110
DISKETTE 6030	CABINET	SEE 010-064
TABLE	FREE STANDING	
DASHER DISPLAY	FREE STANDING	SEE 010-098
DASHER PRINTER	FREE STANDING	SEE 010-094

CABLE

Cable	Connecting		Max Allowed Lg ft / m	Notes
DEVICE CABLE (EIA)	VIDEO DISPLAY	and CONV. PANEL	50 / 15.3	USED ON 6053-F
DEVICE CABLE (CURRENT LOOP)	VIDEO DISPLAY	" CONV. PANEL	2000 / 70	USED ON 6053-G
DEVICE CABLE (EIA)	VIDEO DISPLAY	" FULL DUPLEX MODEM	50 / 15.3	USED ON 6053-J
DEVICE CABLE (EIA)	DASHER PRINTER	" CONV. PANEL	50 / 15.3	USED ON 6041-F
DEVICE CABLE (CURRENT LOOP)	DASHER PRINTER	" CONV. PANEL	2000 / 70	USED ON 6041-K
DEVICE CABLE	300 LPM PRINTER	" CONV. PANEL	15 / 4.6	USED ON 9125
DEVICE CABLE	165 LPM PRINTER	" CONV. PANEL	15 / 4.6	USED ON 9126
DEVICE CABLE	SYNCHRONOUS MODEM	" CONV. PANEL	50 / 15.3	1084G
INTERDEVICE CABLE	SBS COMBO BOARD	" CONV. PANEL	8 / 2.5	
INTERDEVICE CABLE	SLM BOARD	" CONV. PANEL	8 / 2.5	
DEVICE CABLE	ASYNCHRONOUS MODEM	CONV. PANEL	50 / 15.3	1084G

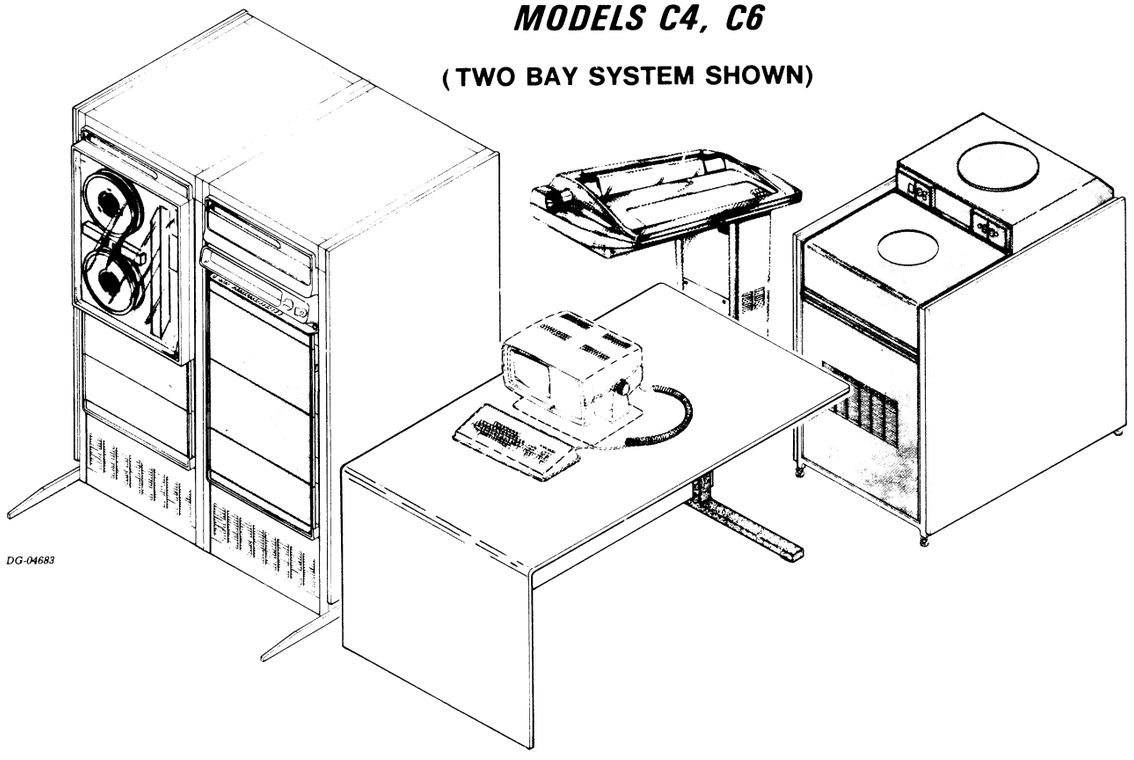
WARNING

THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY ENERGY AND IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTION MANUAL, MAY CAUSE INTERFERENCE TO RADIO COMMUNICATIONS. AS TEMPORARILY PERMITTED BY REGULATION IT HAS NOT BEEN TESTED FOR COMPLIANCE WITH THE LIMITS FOR CLASS A COMPUTING DEVICES PURSUANT TO SUBPART J OF PART 15 OF FCC RULES, WHICH ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST SUCH INTERFERENCE. OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA IS LIKELY TO CAUSE INTERFERENCE IN WHICH CASE THE USER AT HIS OWN EXPENSE WILL BE REQUIRED TO TAKE WHATEVER MEASURES MAY BE REQUIRED TO CORRECT THE INTERFERENCE.

SUBSYSTEM COMPONENT BREAKDOWN (Cont.)

MODELS C4, C6

(TWO BAY SYSTEM SHOWN)



DG-04683

MAJOR COMPONENT

Component	Mounting Location	Notes
CS/40 MODLES C4+C6	FREE STANDING	
NOVA 3/12	CABINET	
NOVA 3/12 EXPANSION	CABINET	
MAGTAPE 6021	CABINET	
TABLE	FREE STANDING	
DASHER DISPLAY	FREE STANDING	SEE 010-098
DASHER PRINTER	FREE STANDING	SEE 010-094
96/190 MB DISK DRIVE	FREE STANDING	SEE 010-107

CABLE

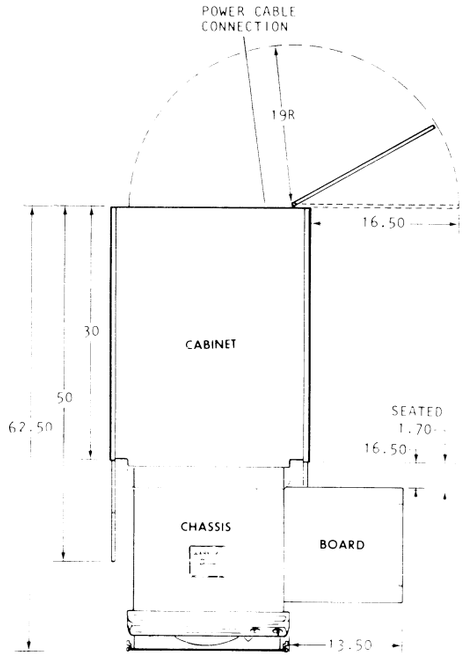
Cable	Connecting			Max Allowed Lg ft / m	Notes
DEVICE CABLE (EIA)	VIDEO DISPLAY	and	CONV. PANEL	50 / 15.3	USED ON 6053-F
DEVICE CABLE (CURRENT LOOP)	VIDEO DISPLAY	"	CONV. PANEL	2000 / 70	USED ON 6053-G
DEVICE CABLE	VIDEO DISPLAY	"	FULL DUPLEX MODEM	50 / 15.3	USED ON 6053-J
DEVICE CABLE (EIA)	DASHER PRINTER	"	CONV. PANEL	50 / 15.3	USED ON 6041-F
DEVICE CABLE (CURRENT LOOP)	DASHER PRINTER	"	CONV. PANEL	2000 / 70	USED ON 6041-K
DEVICE CABLE	300 LPM PRINTER	"	CONV. PANEL	15 / 4.6	USED ON 9125
DEVICE CABLE	165 LPM PRINTER	"	CONV. PANEL	15 / 4.6	USED ON 9126
DEVICE CABLE	SYNCHRONOUS MODEM	"	CONV. PANEL	50 / 15.3	1084G
DEVICE CABLE	96/190 MB DISK DRIVE	"	ADAPTER	50 / 15.3	
INTERDEVICE CABLE	SBS COMBO BOARD	"	CONV. PANEL	8 / 2.5	
INTERDEVICE CABLE	SLM BOARD	and	CONV. PANEL	8 / 2.5	
INTERDEVICE CABLE	ASYNCHRONOUS MODEM	"	CONV. PANEL	8 / 2.5	1084G

SPECIFICATIONS OF FREE-STANDING COMPONENTS

	PRIMARY POWER REQUIRED FOR CABINET									BTU/Hr.	WEIGHT			COOLING UNIT				
	POWER					CORD SUPPLIED		MATING RECEPTACLE REQ'D				GROSS, FULLY LOADED			POWER			
No Bays	Volts	Hz	Phase	Conductors	Amps	Cable Length ft/in	Cable Connector Nema	Power Drop Nema	Wall Receptacle Nema			Total lb/kg	Per Bay lb/kg	No Units	Volt	Hz	Amp	Watts
1	240 Vac	60	1	3 W/G	40	9/2.74	14-50P	14-50R	14-50R	6,000		565/254	565/254	1	120	60	1.5	140
2	240 Vac	60	1	3 W/G	40	9/2.74	14-50P	14-50R	14-50R	10,600		1090/492	525/238	2	120	60	1.5	140
3	240 Vac	60	1	3 W/G	40	9/2.74	14-50P	14-50R	14-50R	16,500		1615/730	525/238	3	120	60	1.5	140
1	230Vac	50	1	2 W/G	40	9/2.74				6,000		565/254	565/254	1	230	50	0.75	140
2	230Vac	50	1	2 W/G	40	9/2.74				10,600		1090/492	525/238	2	230	50	0.75	140
3	230Vac	50	1	2 W/G	40	9/2.74				16,500		1615/730	525/238	3	230	50	0.75	140

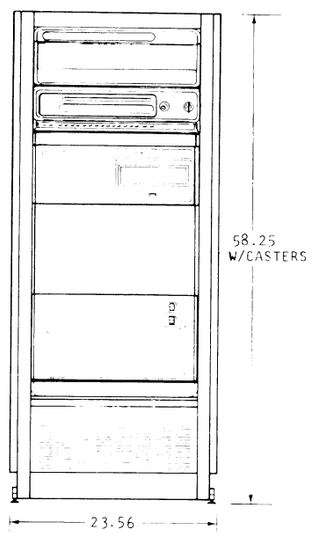
SINGLE BAY CABINET

MODELS C1, C3, C5

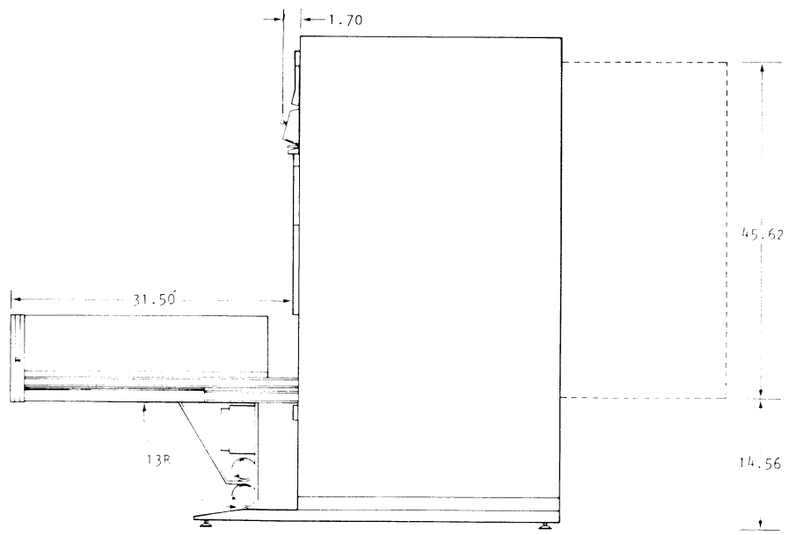


TOP VIEW

SERVICE DIMENSIONS



FRONT VIEW

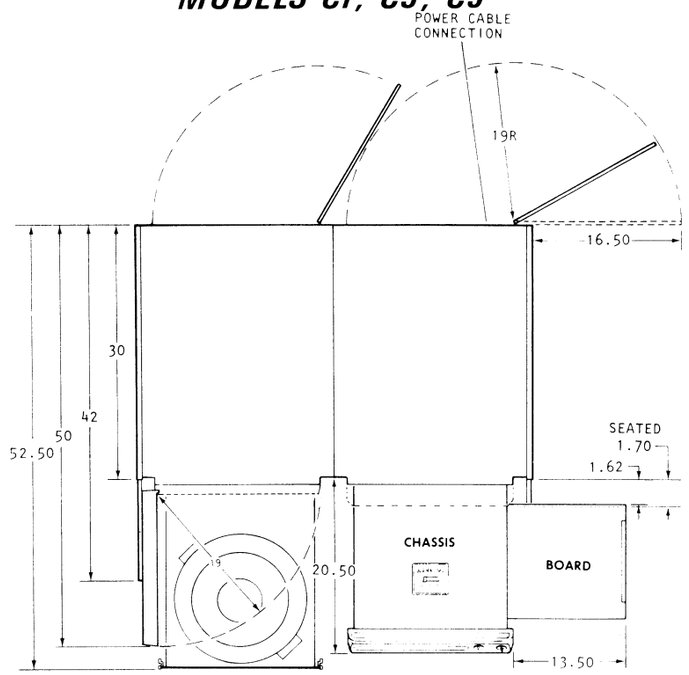


SIDE VIEW

ALL DIMENSIONS IN INCHES

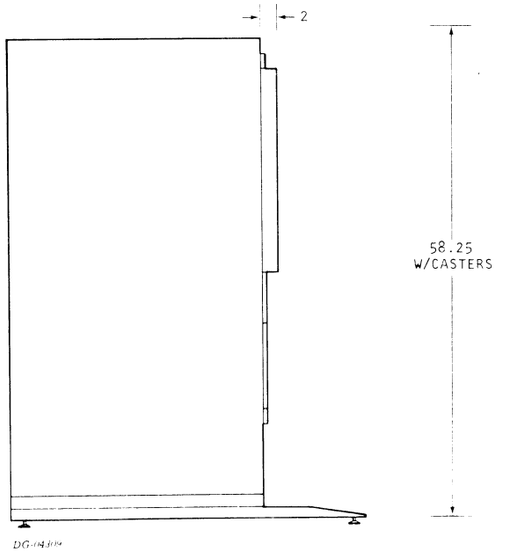
SPECIFICATIONS OF FREE-STANDING COMPONENTS (Cont)

TWO BAY CABINET
MODELS C1, C3, C5

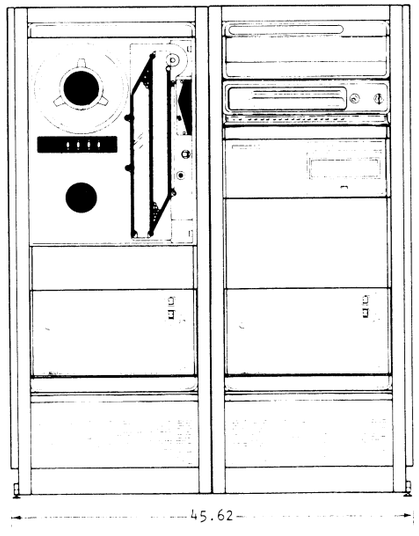


TOP VIEW

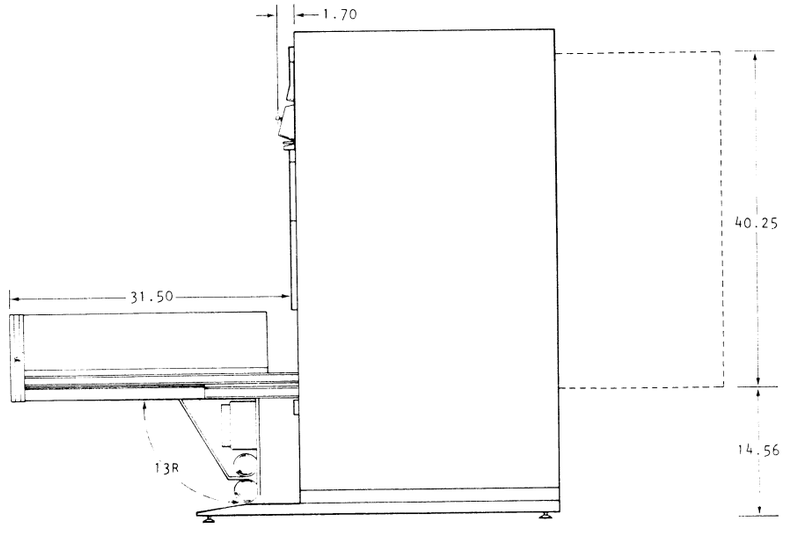
SERVICE DIMENSIONS



SIDE VIEW



FRONT VIEW



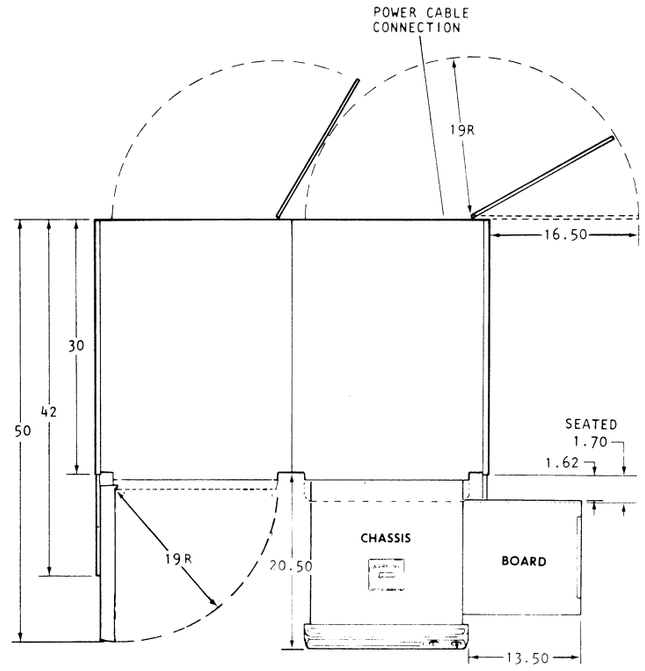
SIDE VIEW

ALL DIMENSIONS IN INCHES

SPECIFICATIONS OF FREE-STANDING COMPONENTS (Cont)

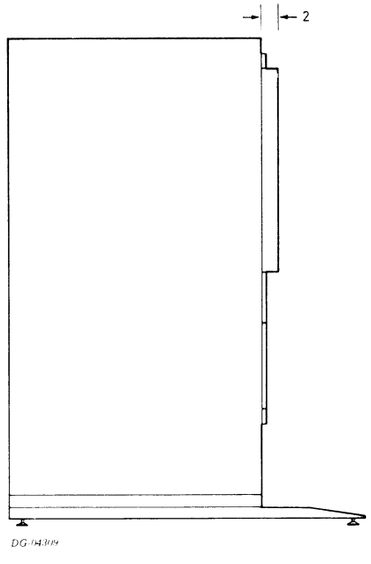
TWO BAY CABINET

MODELS C4, C6

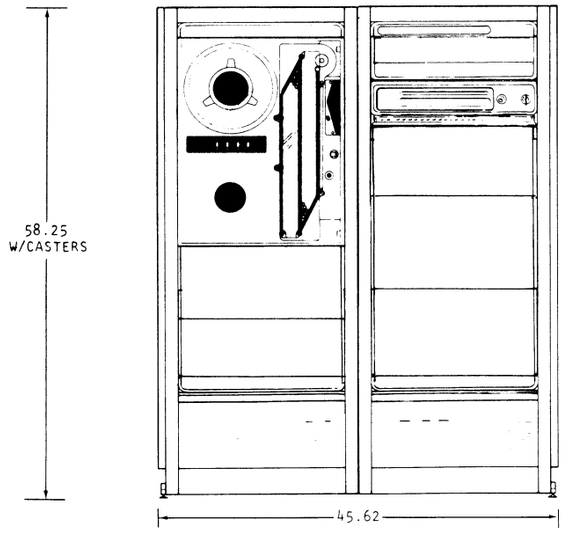


TOP VIEW

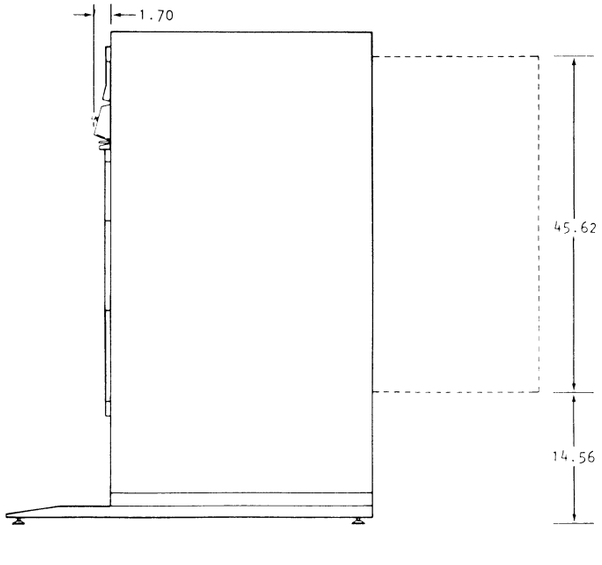
SERVICE DIMENSIONS



SIDE VIEW



FRONT VIEW

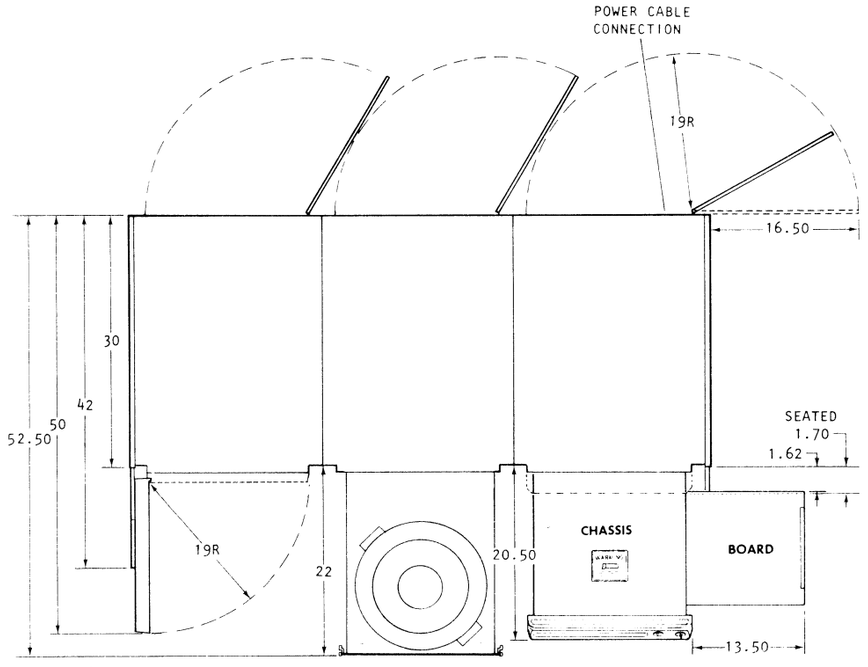


SIDE VIEW

ALL DIMENSIONS IN INCHES

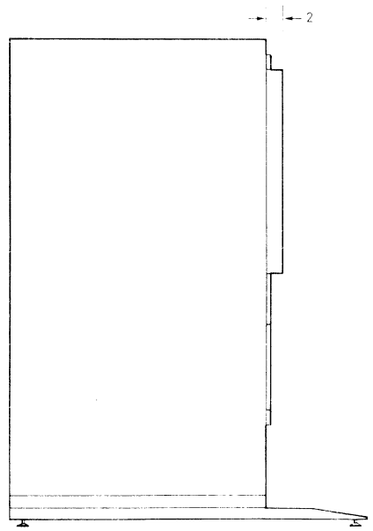
SPECIFICATIONS OF FREE-STANDING COMPONENTS (Cont)

THREE BAY CABINET *MODELS C1, C3, C5*

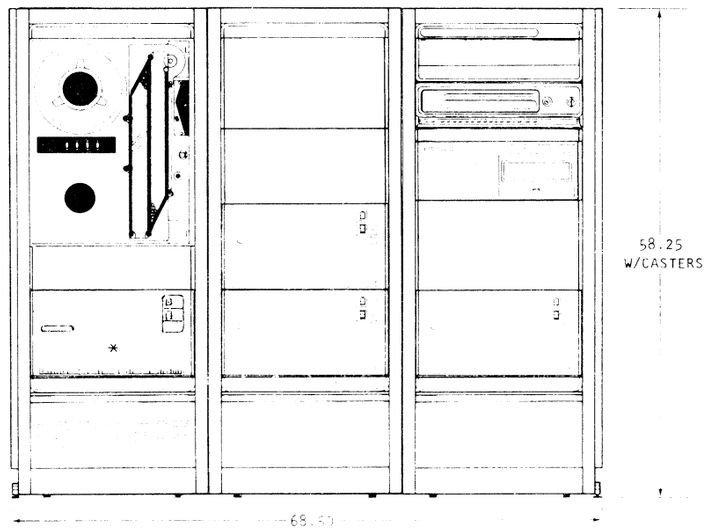


TOP VIEW

SERVICE DIMENSIONS



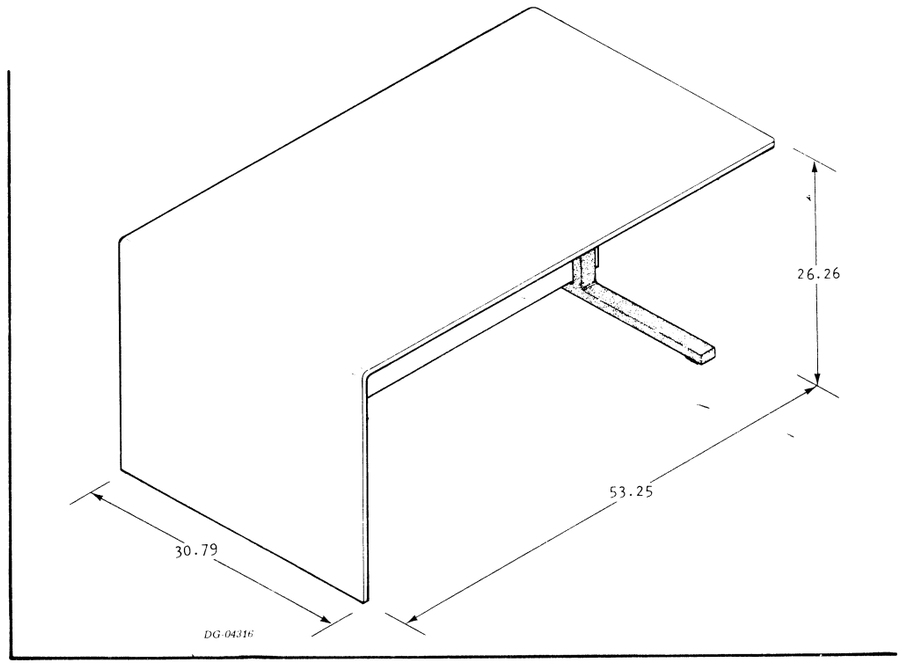
SIDE VIEW

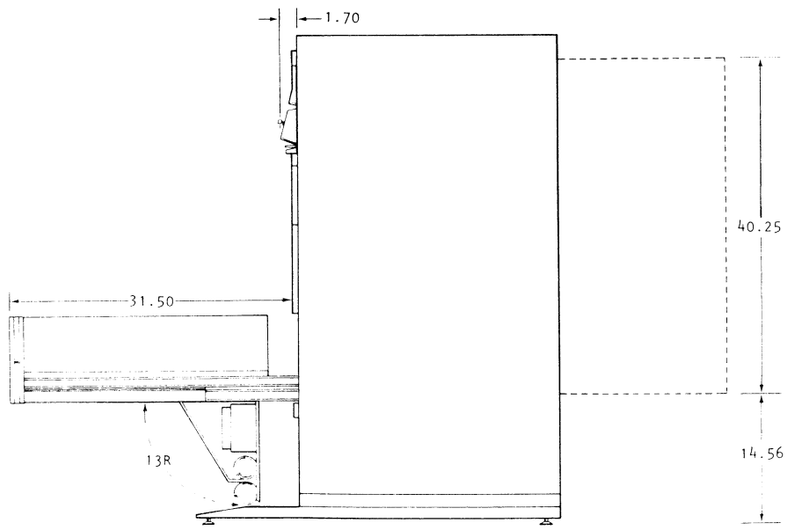


FRONT VIEW

* MOUNTED IF DISKETTE MODEL NO. 6030 NOT USED.

WORKTABLE



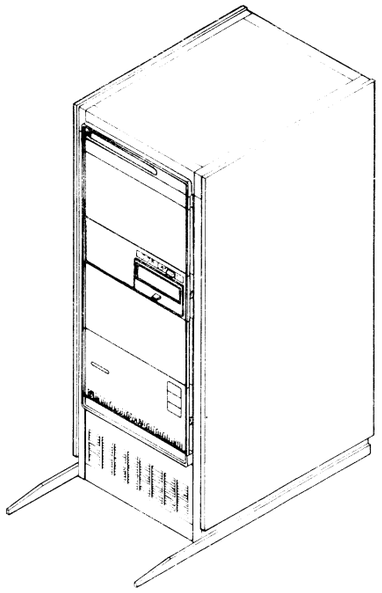


SIDE VIEW

ALL DIMENSIONS IN INCHES

OPTIONS FOR *MODELS C4, C6*

SUBSYSTEM COMPONENT BREAKDOWN



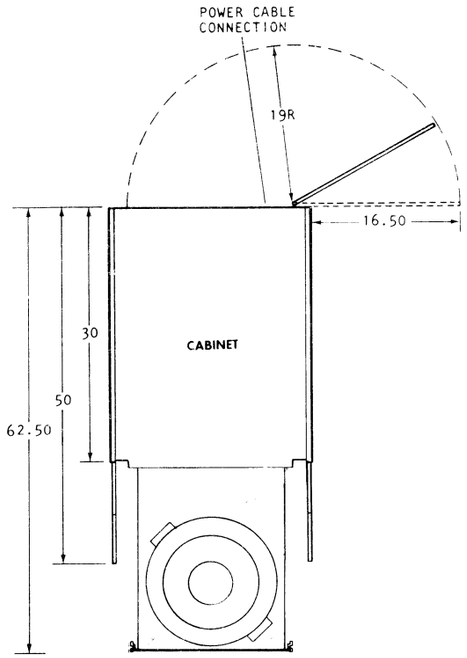
MAJOR COMPONENT

Component	Mounting Location	Notes
SINGLE BAY CABINET	FREE STANDING	
DISKETTE 6030	CABINET	SEE 010-064
CARTRIDGE DISC 6045	CABINET	SEE 010-110

CABLE

Cable	Connecting		Max Allowed Lg ft / m	Notes
INTERDEVICE CABLE	CARTRIDGE DISC 6045	and P4 ETCHED PADDLE BOARD	25 / 7.6	

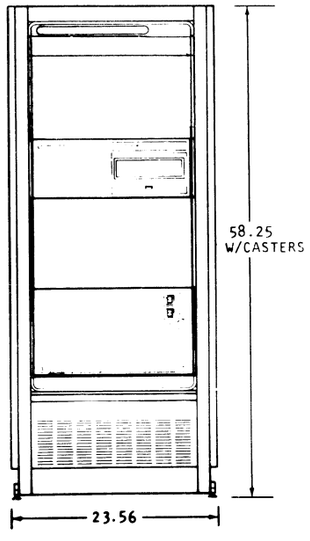
SPECIFICATIONS OF FREE-STANDING COMPONENTS



DG-04311

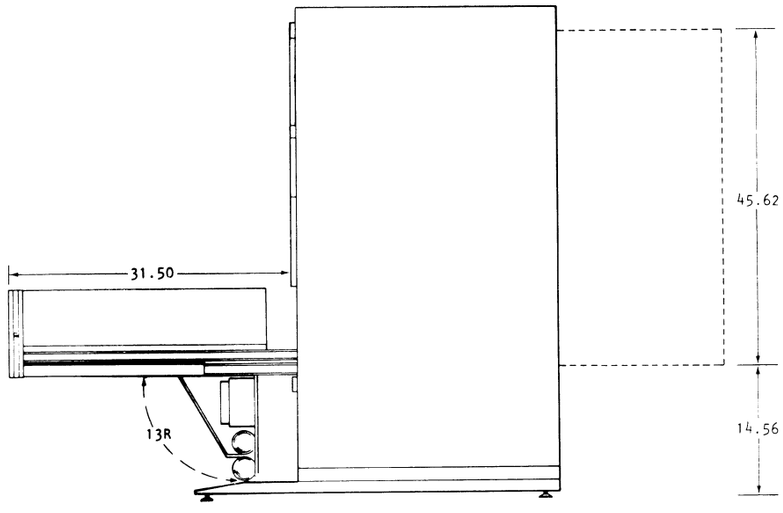
TOP VIEW

SERVICE DIMENSIONS



DG-04312

FRONT VIEW



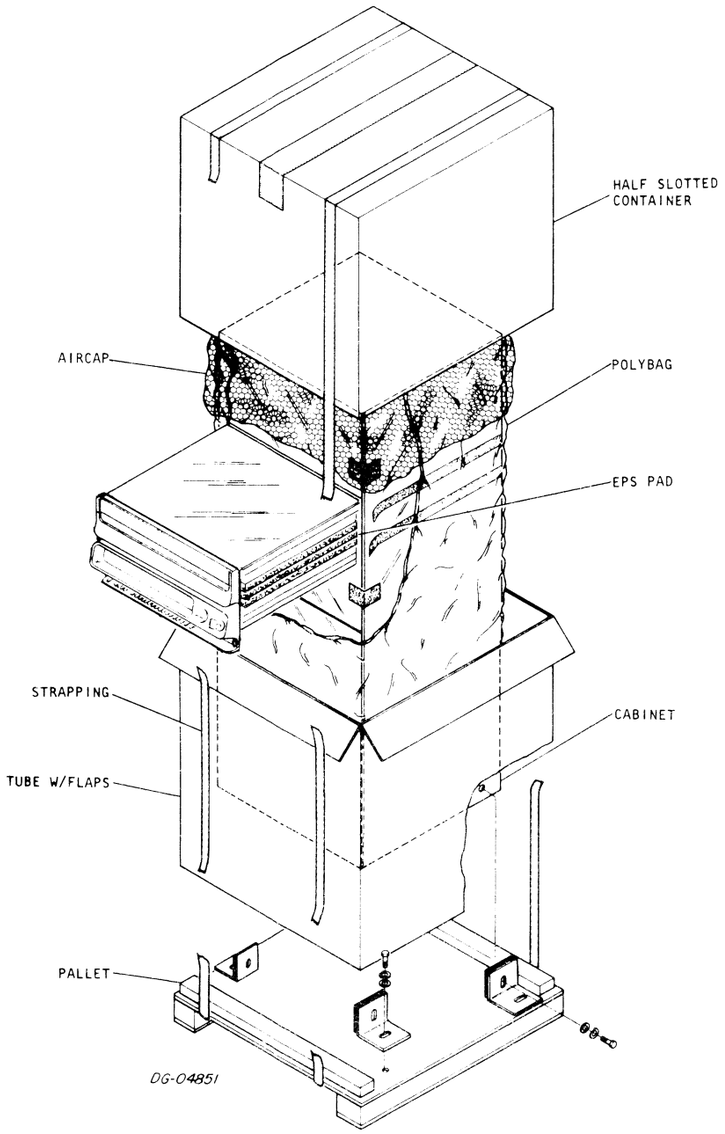
DG-04313

SIDE VIEW

ALL DIMENSIONS IN INCHES

SHIPPING

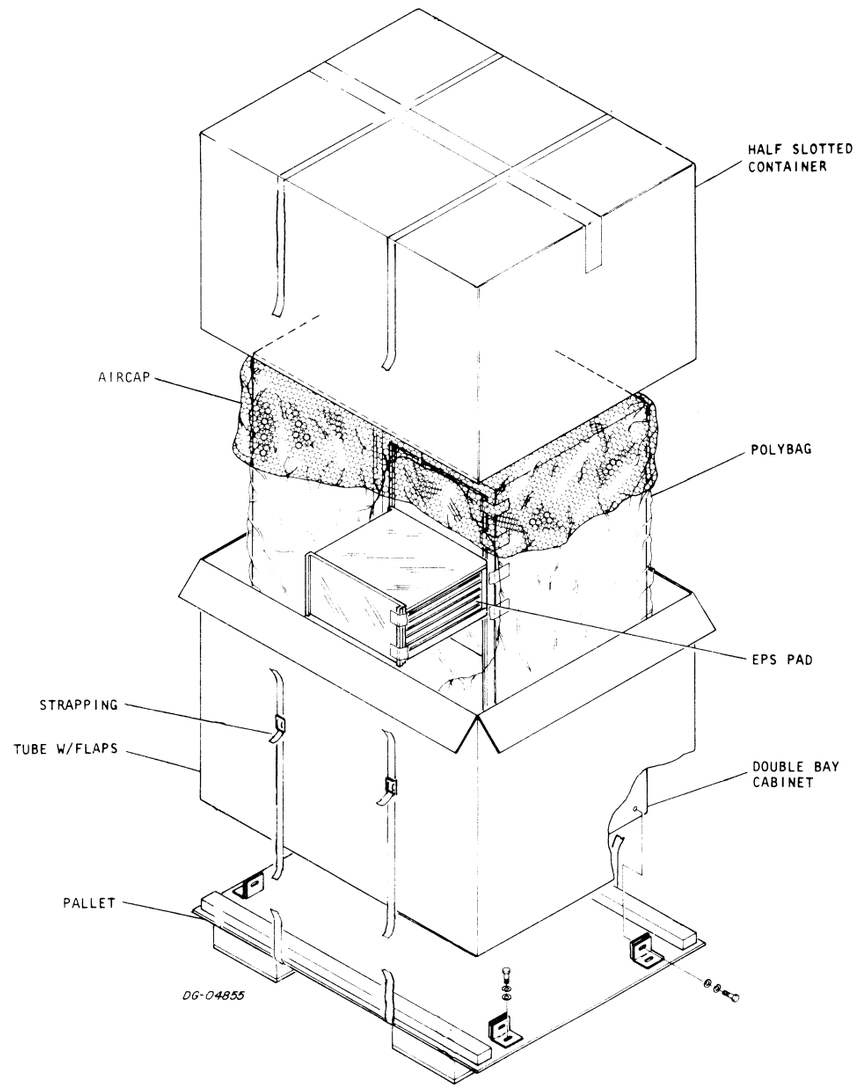
SINGLE BAY CABINET



SHIPPING AND PACKAGE DATA						
Outside Dimensions			Weight (Gross)	Volume	Density	
Length	Width	Depth				
in / cm	in / cm	in / cm	lbs / kg	cu ft / cu m	lbs/cu ft / kg/cu m	
36 / 91.44	44.5 / 113.03	57 / 144.78	355 / 159.75	53 / 1.59	6.7 / 100.5	

SHIPPING SPECIFICATIONS			STORAGE SPECIFICATIONS		
Temperature Range	Relative Humidity (Non-condensing)	Maximum Altitude	Temperature Range	Relative Humidity (Non-condensing)	Maximum Period
°F / °C			°F / °C		
-40 to +160 / -40 to +71	5 - 80	50,000 ft. 15,200m	-40 to +160 / -40 to +71	5 - 80%	3 years

TWO BAY CABINET

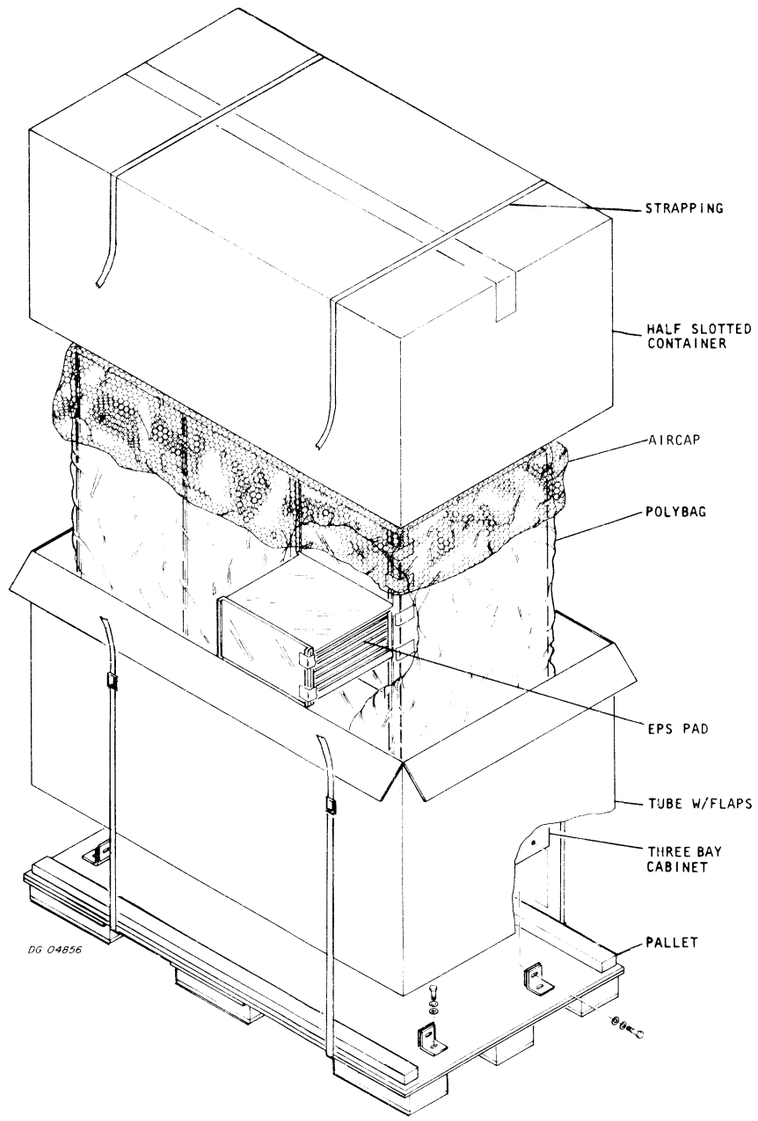


SHIPPING AND PACKAGE DATA						
Outside Dimensions			Weight (Gross)	Volume	Density	
Length	Width	Depth				
in / cm	in / cm	in / cm	lbs / kg	cu ft / cu m	lbs/cu ft / kg/cu m	
56 / 142.24	44.5 / 113.03	57 / 144.78	655 / 294.75	82.20 / 2.76	8 / 119.8	

SHIPPING SPECIFICATIONS			STORAGE SPECIFICATIONS		
Temperature Range	Relative Humidity (Non-condensing)	Maximum Altitude	Temperature Range	Relative Humidity (Non-condensing)	Maximum Period
°F / °C			°F / °C		
-40 to +160 / -40 to +71	0% / 80%	50,000 ft. 15,200m	-40 to +160 / -40 to +71	0% / 80%	90 days

SHIPPING (Cont)

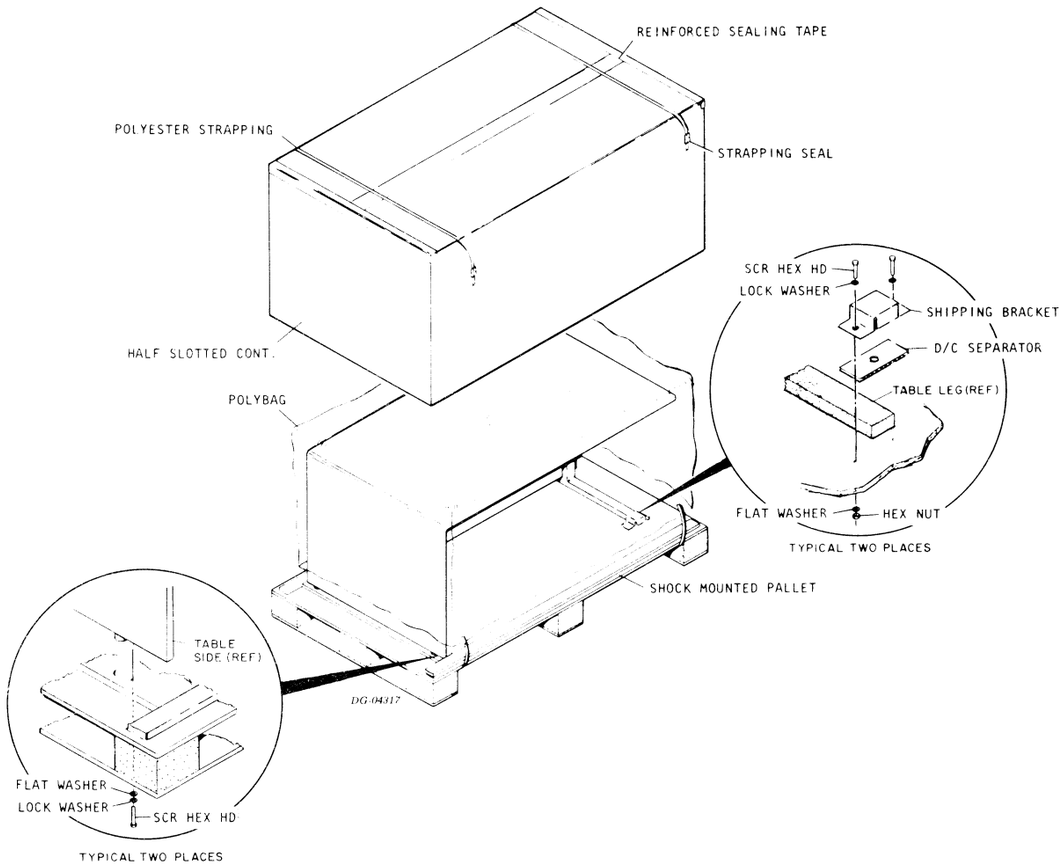
THREE BAY CABINET



SHIPPING AND PACKAGE DATA					
Outside Dimensions			Weight (Gross)	Volume	Density
Length	Width	Depth			
in. / cm	in. / cm	in. / cm	lbs. / kg	cu ft / cu m	lbs/cu ft / kg/cu m
78 / 198.12	44.5 / 113.03	57 / 144.78	885 / 398.25	114.50 / 3.43	7.72 / 116.10

SHIPPING SPECIFICATIONS			STORAGE SPECIFICATIONS		
Temperature Range °F / °C	Relative Humidity (Non-condensing)	Maximum Altitude	Temperature Range °F / °C	Relative Humidity (Non-condensing)	Maximum Period
-40 to +160 / -40 to +71	0% / 80%	50,000 ft. / 15,200m	-40 to +160 / -40 to +71	0% / 80%	90 days

WORKTABLE

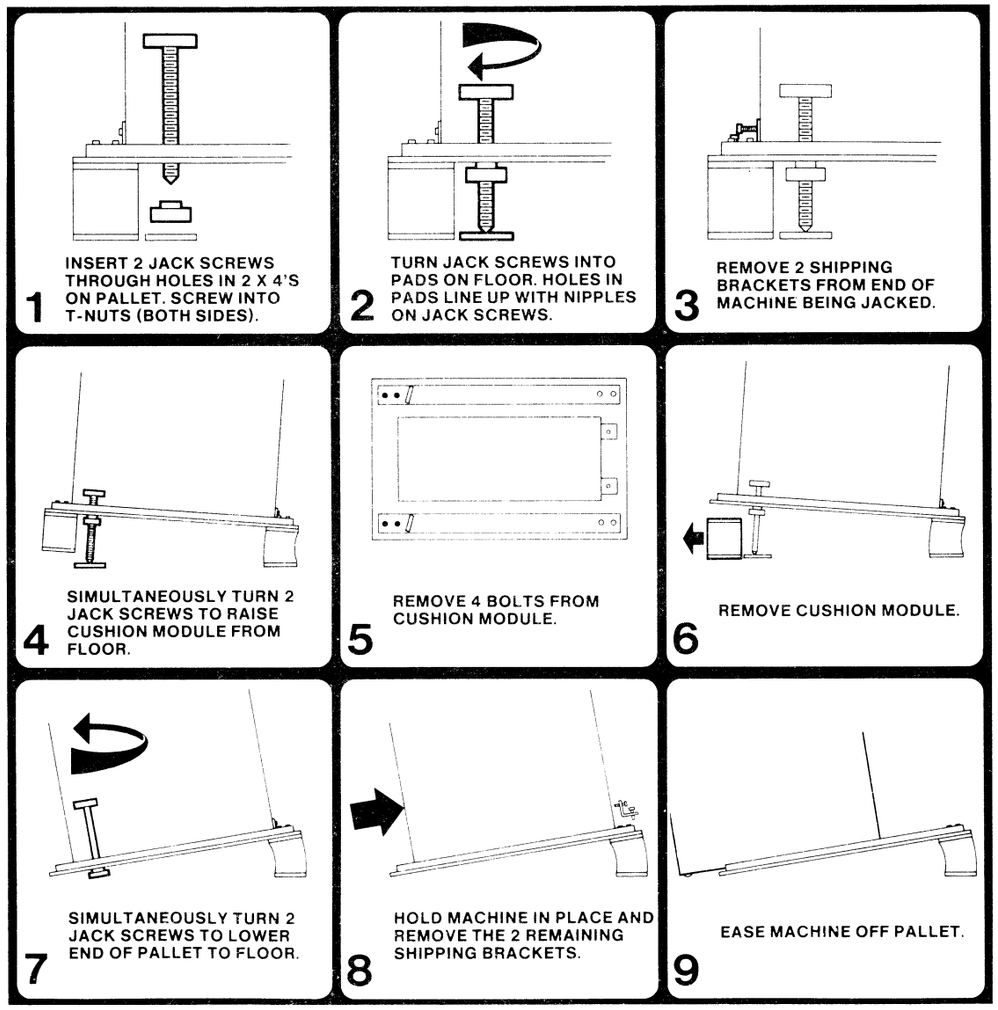


SHIPPING AND PACKAGE DATA					
Outside Dimensions			Weight (Gross)	Volume	Density
Length	Width	Depth			
in / cm	in / cm	in / cm	lbs / kg	cu ft / cu m	lbs/cu ft / kg/cu m
62 / 157.48	36.75 / 93.34	30 / 76.20	170 / 76.5	39.5 / 1.18	4.3 / 64.8

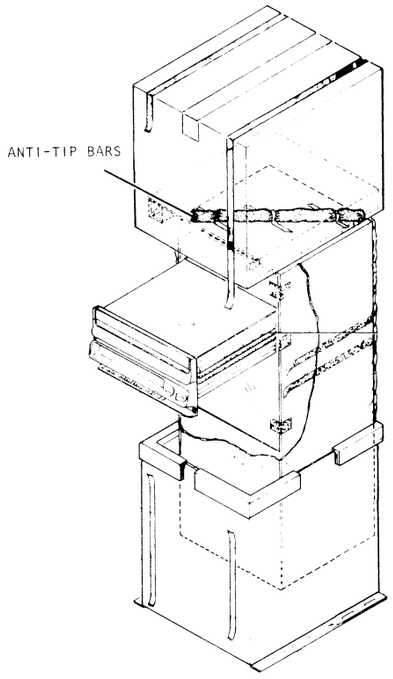
SHIPPING SPECIFICATIONS			STORAGE SPECIFICATIONS		
Temperature Range °F / °C	Relative Humidity (Non-condensing)	Maximum Altitude	Temperature Range °F / °C	Relative Humidity (Non-condensing)	Maximum Period
-40 to +160 / -40 to +71	0% / 80%	50,000 ft. / 15,200m	-40 to +160 / -40 to +71	0% / 80%	90 days

SHIPPING (Cont)

UNLOADING INSTRUCTIONS - A 2-MAN OPERATION



ANTI-TIP BARS



SHIPPING AND PACKAGE DATA					
Outside Dimensions			Weight (Gross)	Volume	Density
Length	Width	Depth			
in. / cm	in. / cm	in. / cm	lbs. / kg	cu ft. / cu m	lbs/cu ft / kg/cu m
32.25 / 82	5.25 / 13	50.75 / 129	50 / 22.5	4.77 / .1431	10.48 / 157

MODELS C1, C3, C5

CHASSIS SLOT ASSIGNMENTS

NOVA 3/12

Data Channel Speeds Available: Standard ☐ High Speed ☑

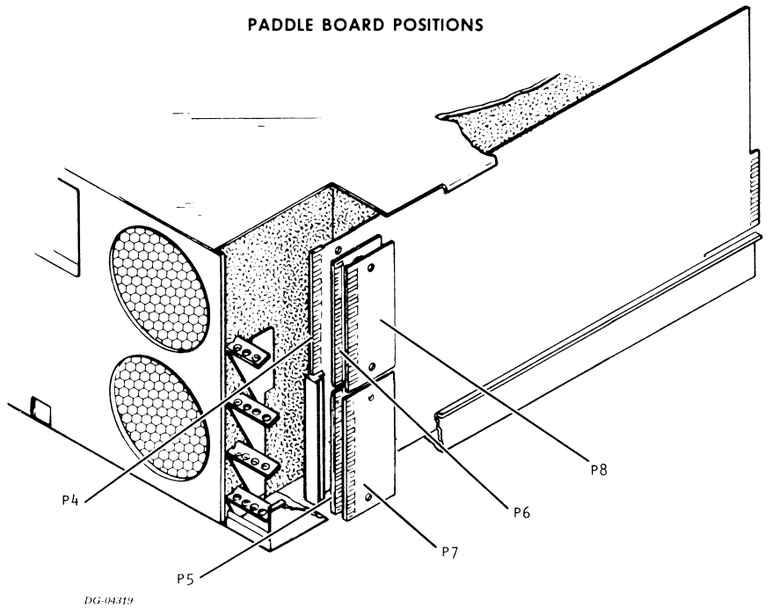
Slot	Allowed (Slot Chart)	Assigned	+5V Current Draw
12	MAG TAPE CONTROLLER		3.0
11	DISK CONTROLLER		4.0
10	SLM		4.0
9	COMBO 4-7		3.5
8	COMBO 0-3		3.5
7	32K MEM		2.0
6	32K MEM		2.0
5	32K MEM		2.0
4			
3			
2	TRIPLE OPTION		4.0
1	CPU		10.5

Total +5V Current draw	38.5
Max +5V Current Available	40
+5V Current Surplus	1.5

INTERNAL CABLING

NOVA 3/12

PADDLE BOARD POSITIONS



DG-04319

NOTE: P4 = ETCHED PADDLE BOARD

P4 = SLM
P6 = DISK CONTROL
P8 = MAG TAPE CONTROL
P5 = COMBO 0-3
P7 = COMBO 4-7

MODEL C4, C6

NOVA 3/12

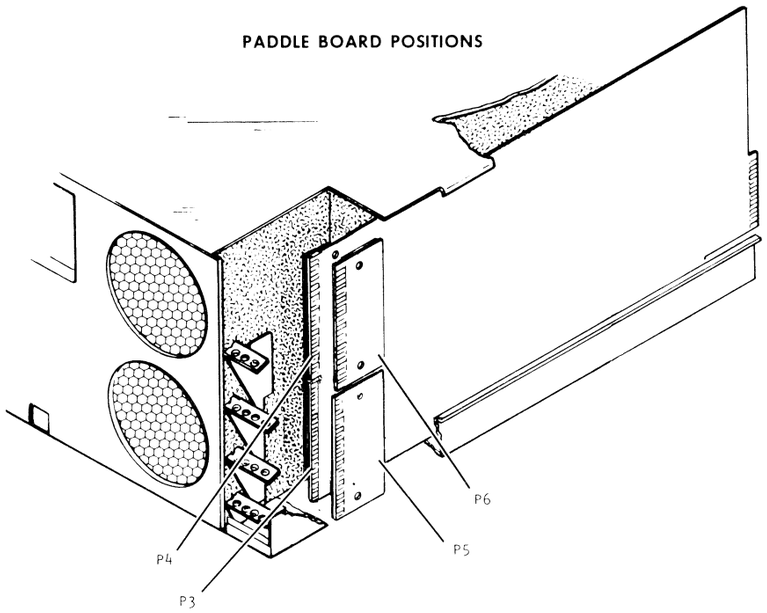
CHASSIS SLOT ASSIGNMENTS

Data Channel Speeds Available:		Standard ☐ High Speed ☑	
Slot	Allowed (Slot Chart)	Assigned	+5V Current Draw
12	DISK CONTROL 2		
11	DISK CONTROL 1		6.3
10	DISK CONTROL (OPTION)		4.0
9	MAG TAPE CONTROLLER		3.0
8			
7	32K MEM		2.0
6	32K MEM		2.0
5	32K MEM		2.0
4			
3			
2	TRIPLE OPTION		4.0
1	N3 CPU		10.5
		Total +5V Current draw	33.8
		Max +5V Current Available	40.0
		+5V Current Surplus	6.2

DG-01915

INTERNAL CABLING

PADDLE BOARD POSITIONS



DG-04681

NOTE: P4 = Etched paddle bd. Slot 10
P4 = 6045 Disk (10 MBYTE)
P6 = 6060 Disk (100 + 200 MBYTE)
P3 = I/O Bus
P5 = 6021 Mag Tape

PRIORITY JUMPERS

FROM	SIG. NAME	TO	NOTES:
2A95	INTF PRI	9A96	
10A96		10A95	Delete if 6045 added
2A93	DCHP PRI	9A94	
10A94		10A93	Delete if 6060 added

MODEL C4, C6

NOVA 3/12 EXPANSION CHASSIS

CHASSIS SLOT ASSIGNMENTS

Data Channel Speeds Available: Standard ☐ High Speed ☑

Slot	Allowed (Slot Chart)	Assigned	+5V Current Draw
12	SPARE		
11			
10			
9			
8			
7			
6	SPARE (FOR FUTURE USE)		
5	SLM		4.0
4	COMBO 12-15		3.5
3	COMBO 8-11		3.5
2	COMBO 4-7		3.5
1	COMBO 0-3		3.5

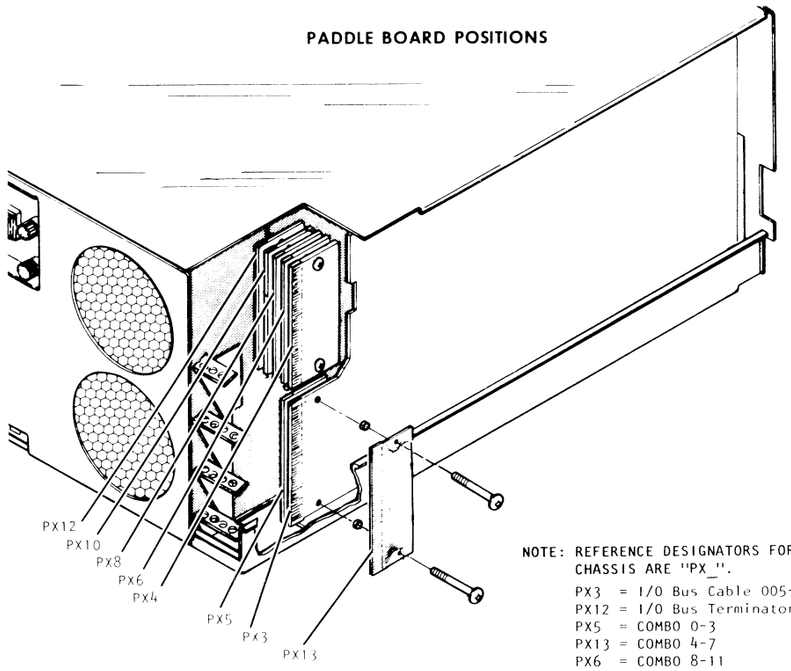
Total +5V Current draw 18.0

Max +5V Current Available 40.0

+5V Current Surplus 22

DG-01915

INTERNAL CABLING



DG-04682

NOTE: REFERENCE DESIGNATORS FOR FIRST EXPANSION CHASSIS ARE "PX_".

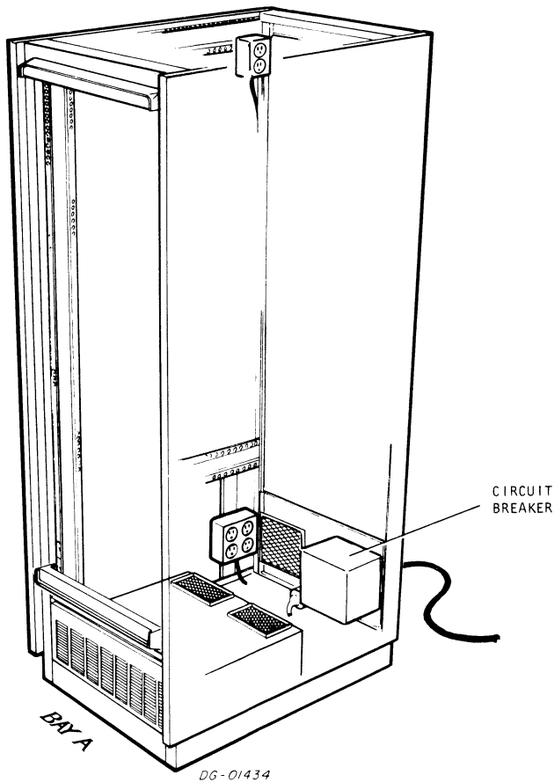
PX3 = I/O Bus Cable 005-7435
PX12 = I/O Bus Terminator
PX5 = COMBO 0-3
PX13 = COMBO 4-7
PX6 = COMBO 8-11
PX4 = COMBO 12-15
PX8 = SLM
PX10 = Spare

PRIORITY JUMPERS

FROM	SIG. NAME	TO	NOTES:
5A96	INTP. PRI	5A95	(Delete if SLM added)
4A96	INTP. PRI	4A95	(Delete if COMBO 12-15 added)
3A96	INTP. PRI	3A95	(Delete if COMBO 8-11 added)
2A96	INTP. PRI	2A95	(Delete if COMBO 4-7 added)
1A94	DCH PRI	6A94	
E4	50/60 HZ	1B10	
1A91	MUX PRI	2A92	
2A91	MUX PRI	3A92	
3A91	MUX PRI	4A92	
3B69	TTI/Gnd	3B99	
4B69	TTI/Gnd	4B99	

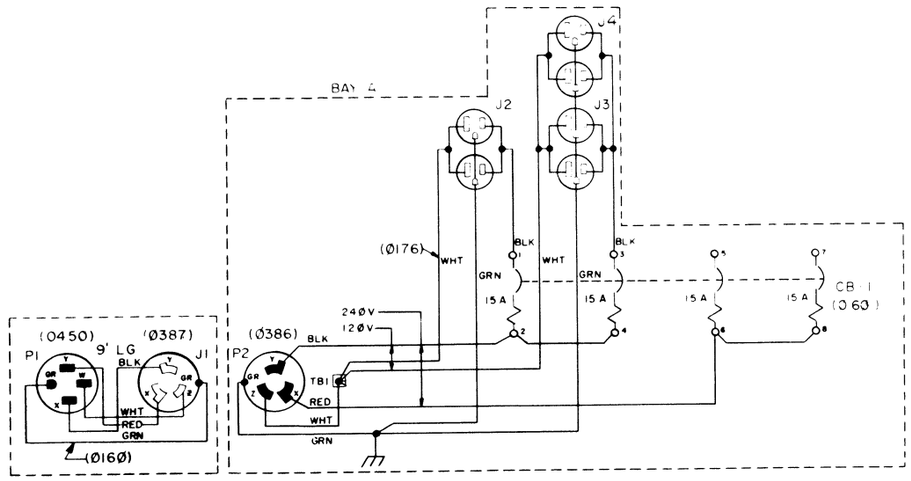
INTERNAL CABLING (Cont)

SINGLE BAY CABINET



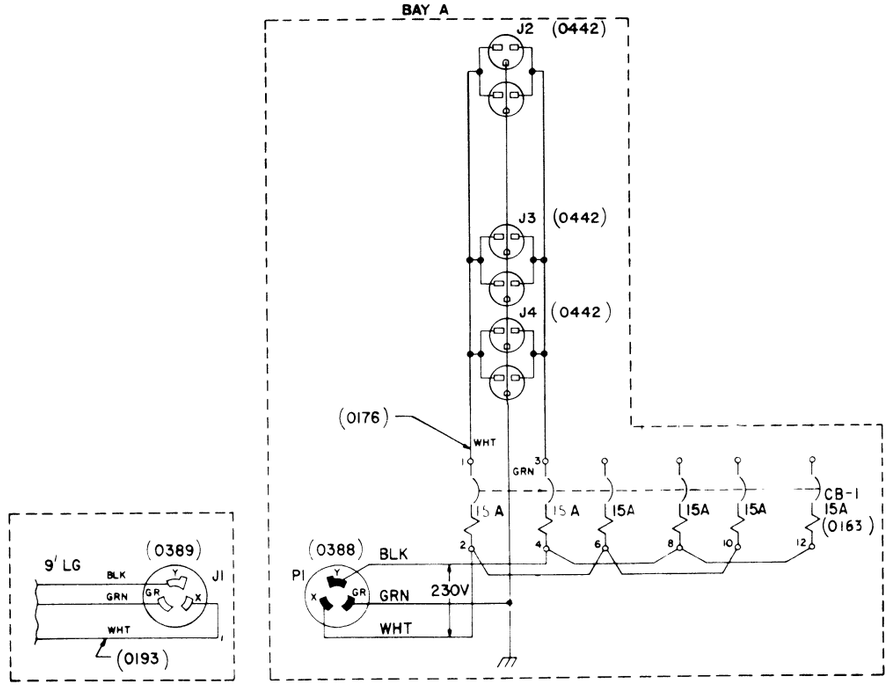
DG-01434

SCHEMATIC 120V/240V 60Hz 40A



NOTES:
1. J2 THRU J4 ARE D.G.C. 111-000383
2. TB1 IS D.G.C. 111-000378, 111-000379
3. 120/208 SINGLE PHASE INPUT ACCEPTABLE

SCHEMATIC 230V 50Hz 40A

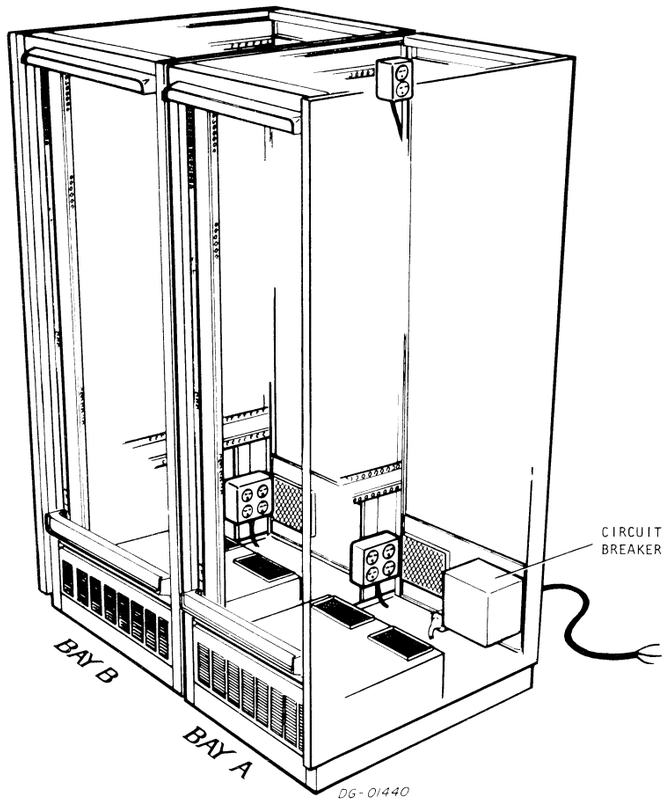


NOTE:
1. BAYS ARE LETTERED RIGHT TO LEFT VIEWED FROM THE FRONT.

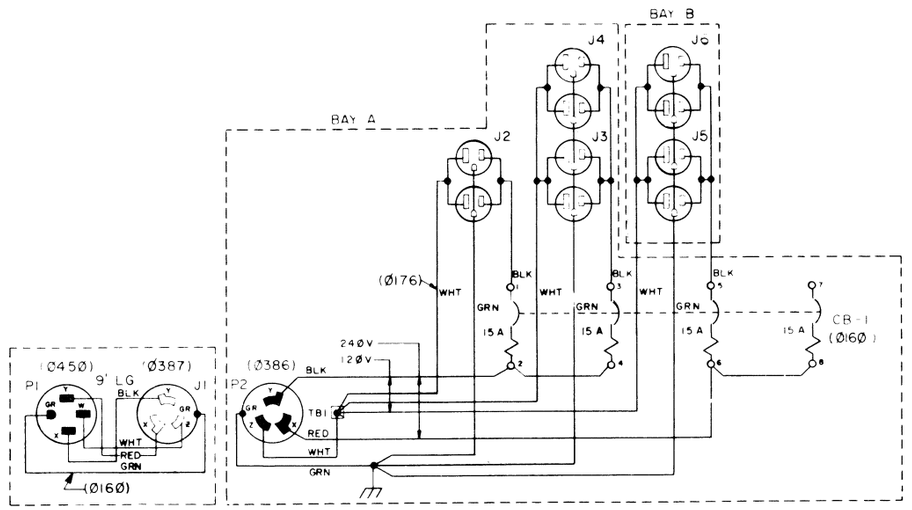
DG-04320

INTERNAL CABLING (Cont)

TWO BAY CABINET

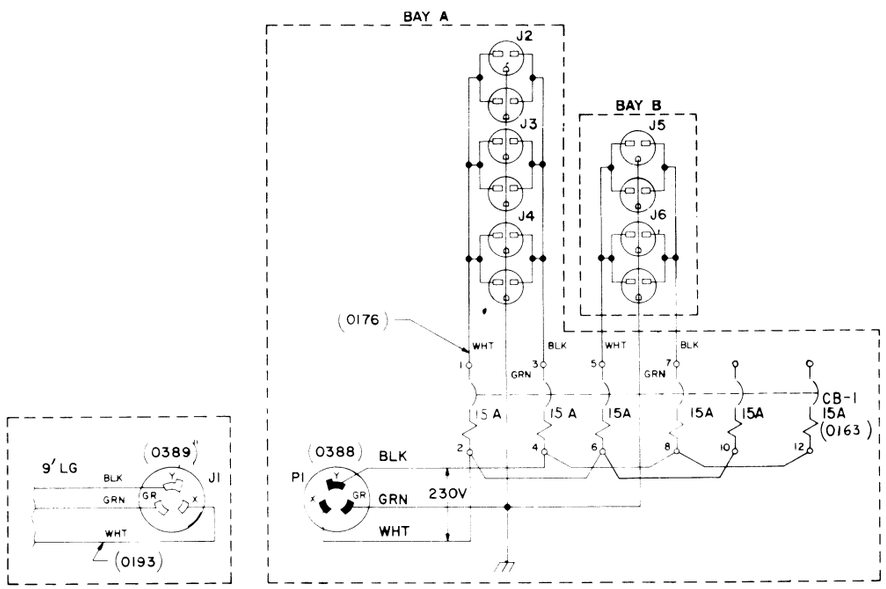


SCHEMATIC 120V/240V 60Hz 40A



NOTES:
1. J2 THRU J6 ARE D.G.C. 111-000383
2. TB1 IS D.G.C. 111-000378, 111-000379
3. BAYS ARE LETTERED RIGHT TO LEFT VIEWED FROM THE FRONT.
4. 120/208V SINGLE PHASE ACCEPTABLE

SCHEMATIC 230V 50Hz 40A

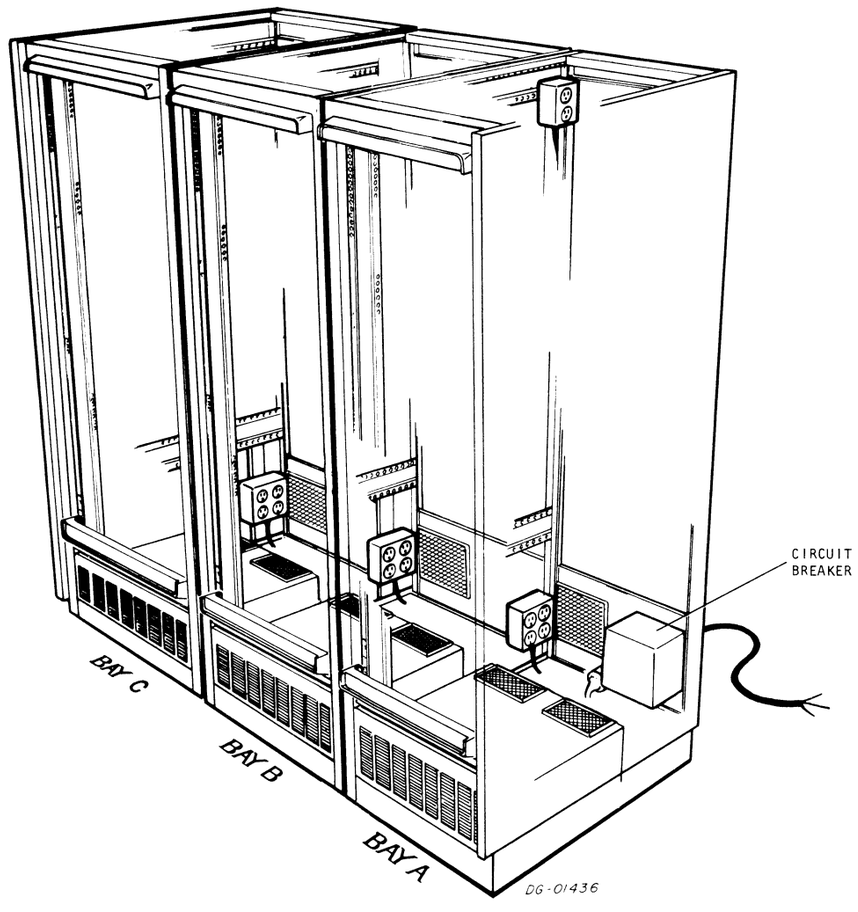


NOTES:
1. J2 THRU J7 ARE D.G.C. 111-000442
2. BAYS ARE LETTERED RIGHT TO LEFT VIEWED FROM THE FRONT.

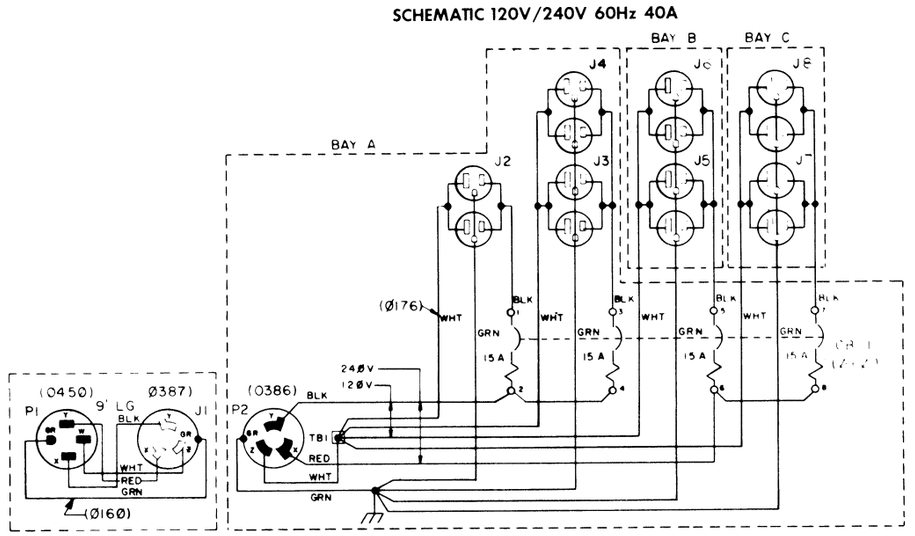
DG-04321

INTERNAL CABLING (Cont)

THREE BAY CABINET

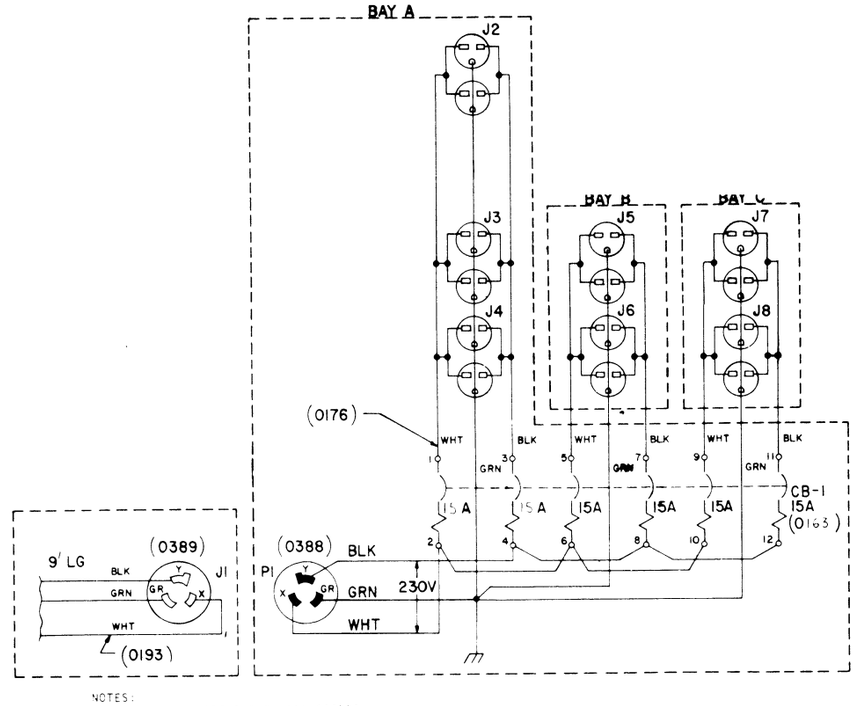


SCHEMATIC 120V/240V 60Hz 40A



NOTES:
1. J2 THRU J8 ARE D.G.C. 111-000383.
2. TB1 IS D.G.C. 111-000378, 111-000379.
3. BAYS ARE LETTERED RIGHT TO LEFT VIEWED FROM THE FRONT.
4. 120/208V SINGLE PHASE ACCEPTABLE

SCHEMATIC 230V 50Hz 40A

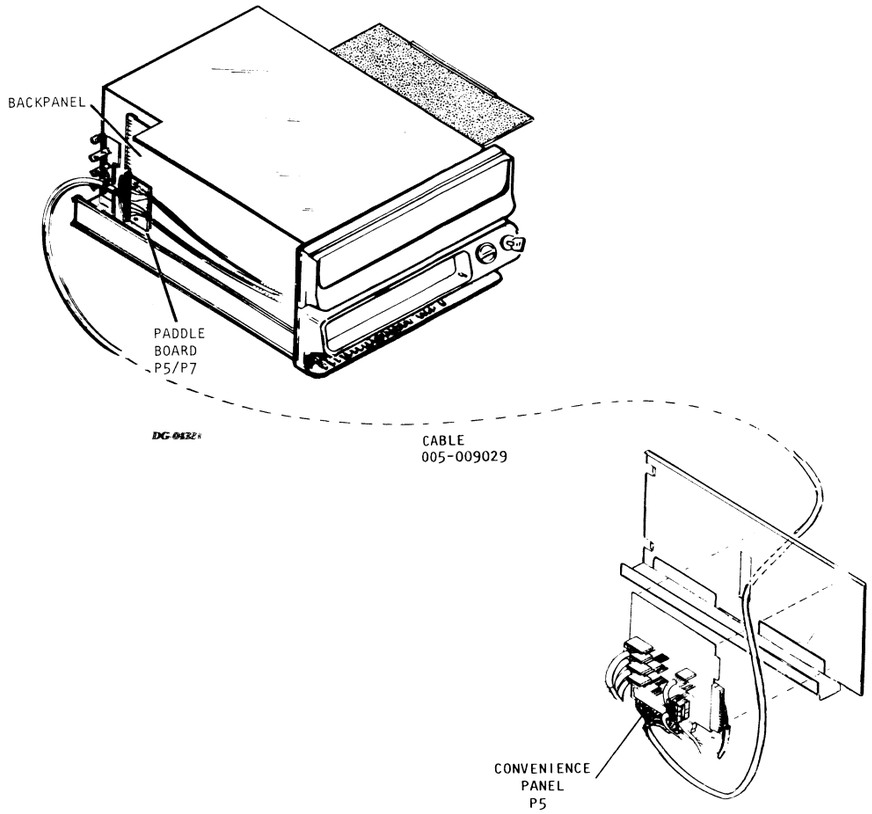


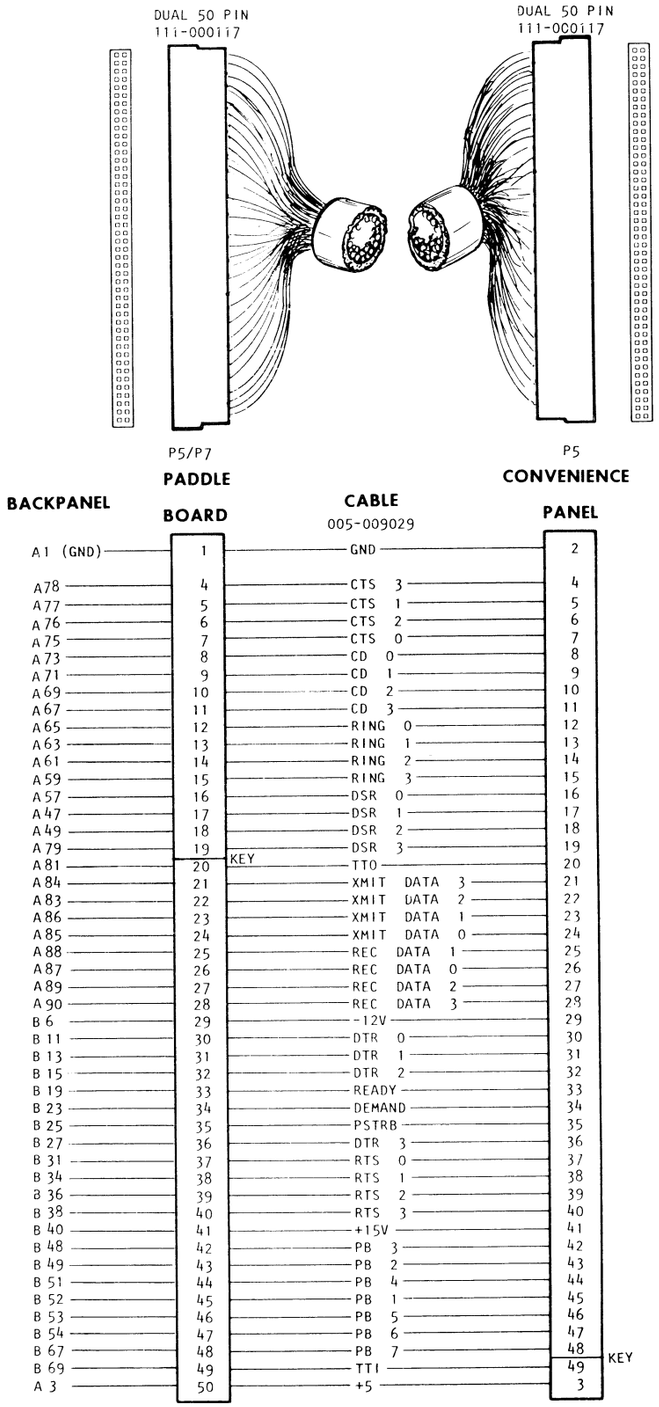
NOTES:
1. J2 THRU J10 ARE D.G.C. 111-000442
2. BAYS ARE LETTERED RIGHT TO LEFT VIEWED FROM THE FRONT.

DG-04322

INTERNAL CABLING (Cont)

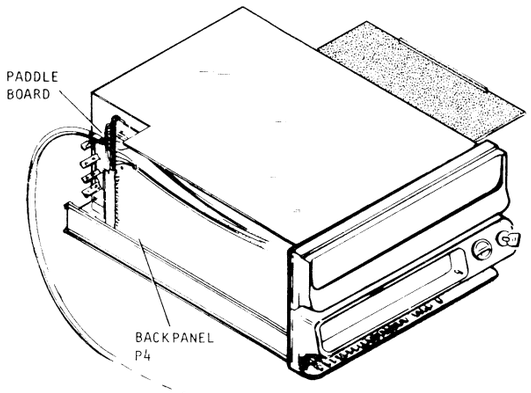
COMBO PCB



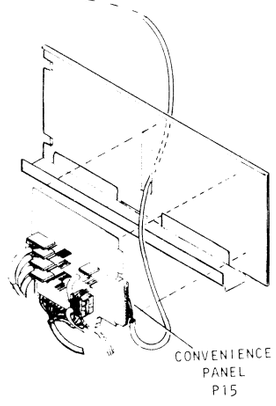


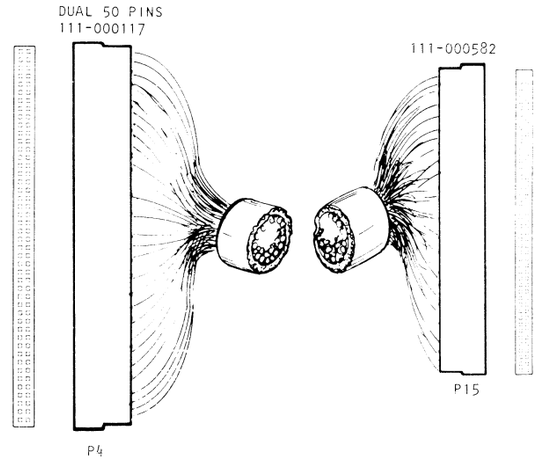
INTERNAL CABLING (Cont)

SYNC LINE MUX PCB



CABLE
005-009028



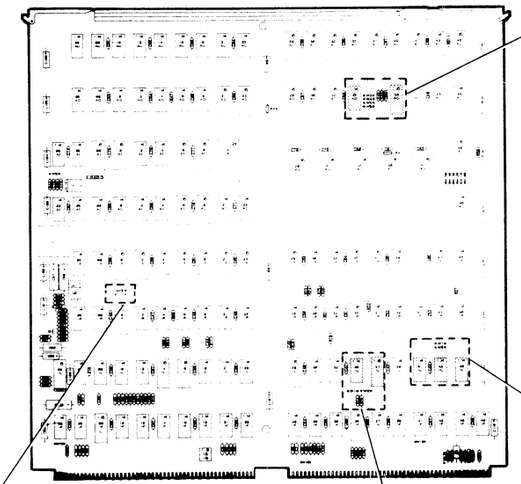


BACKPANEL P4	PADDLE BOARD	CABLE 005-009028	CONVENIENCE PANEL P15	
A1	1	GND		
A75	7	ACC SP	26	
A73	8	DL 0	3	
A71	9	NB 8	4	
A69	10	NB 4	5	KEY
A67	11	NB 2	6	
A65	12	NB 1	7	
A63	13	DSS	8	
A61	14	PWI	9	
A59	15	PND	10	
A57	16	CRQ	11	
A47	17	DPR	12	
A49	18	ACR	13	
B19	33	SPA	22	
B23	34	SPB	23	
B34	38	TX CLK	16	
B36	39	RING	17	
B38	40	CAR DET	18	
B40	41	DSR	19	
B49	43	DTR	20	
B51	44	REC CLK	21	
B52	45	REC DATA	15	
B53	46	XMIT DATA	14	
B54	47	CTS	2	
B67	48	INT CLK	24	
B69	49	RTS	25	

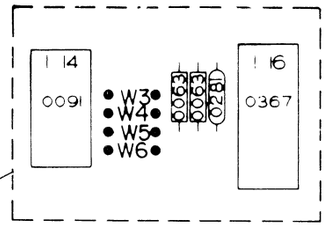
TAILORING

JUMPER

COMBO MUX BOARD



Ref DGC Dwg No 003-000806 Rev 15



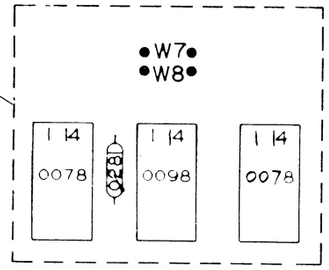
JUMPERS		
OUT	IN	BAUD
W3,W5		1200
W3	W5	1800
W5	W3	4800
	W3,W5	NOT USED

JUMPERS W3, W5 DETERMINE LINE SPEED FOR CLK2.

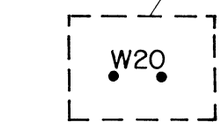
JUMPERS		
OUT	IN	BAUD
W4,W6		110
W6	W4	150
W4	W6	300
	W4,W6	2400

JUMPERS W4, W6 DETERMINE LINE SPEED FOR CLK3.

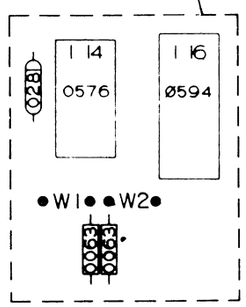
NOTE:
CLK 0 IS FIXED AT 9600 BAUD
CLK 1 IS FIXED AT 600 BUAD



JUMPERS W7 AND W8 DETERMINE POLARITY OF PRINTER STROBE
INSTALL W8 FOR 300 LPM, 240 LPM
INSTALL W7 FOR 180CPS



JUMPER W20 IS REMOVED ONLY FOR TESTING. IT IS INSTALLED DURING NORMAL OPERATION. (107-000806 Rev 03 AND UP)



JUMPERS			
OUT	IN	ALM LINES	DEVICE CODES
W1,W2		0-3	TTI=10,TTO=11,RTC=14,LPT=17
W1	W2	4-7	TTI=50,TTO=51,RTC=54,LPT=57
W2	W1	8-11	TTO,TTI,RTC,LPT ARE DISABLED
	W1,W2	12-15	TTO,TTI,RTC,LPT ARE DISABLED

JUMPERS W1 AND W2 DETERMINE LINE NUMBERS AND DEVICE CODES FOR TTI,TTO,RTC AND LPT.

BACK PANEL JUMPERS

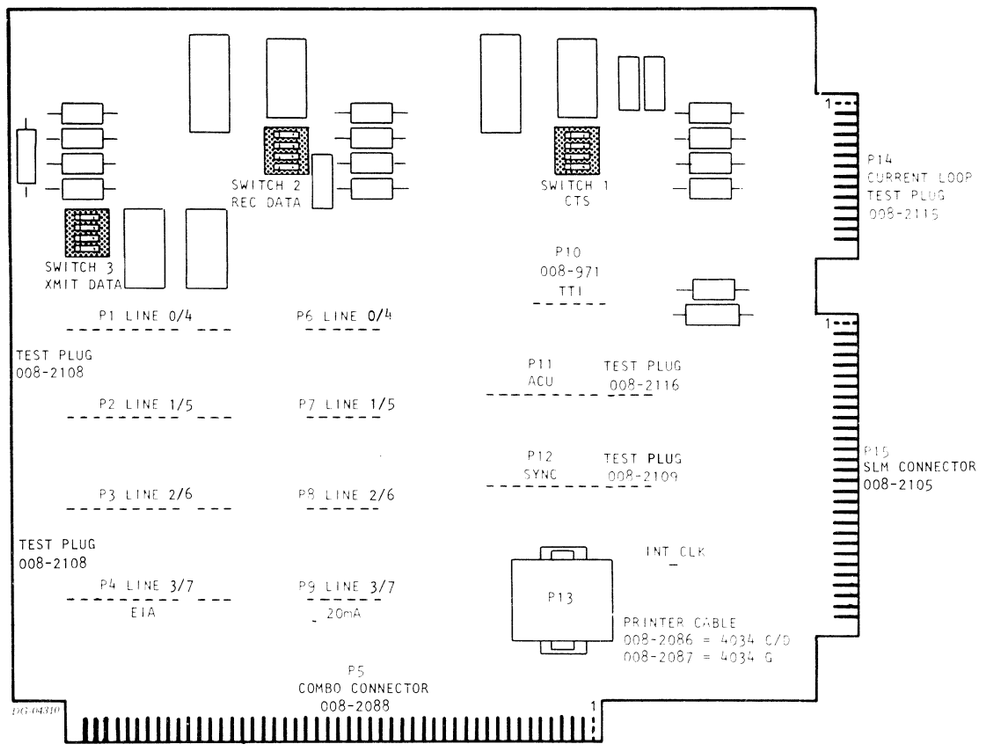
FROM	SIG. NAME	TO
4B6	50/60 Hz	8B10
8A91	MUX PRI.	9A92
2A93	DCH. PRI.	11A94
2A95	INTR. PRI.	8A96
8A95	INTR. PRI.	9A95 (DELETE IF COMBO 4-7 ADDED)
9A95	INTR. PRI.	10A95(DELETE IF SLM ADDED)

— MODELS C1, C3, C5 ONLY

TAILORING (Cont)

CONVENIENCE PANEL PCB

Ref. DGC 107 000825 Rev.01



NOTES:

REMOVE ALL TEST PLUGS FOR NORMAL OPERATION. UNDER NO CIRCUMSTANCES SHOULD AN INDIVIDUAL LINE HAVE MORE THAN ONE CONNECTION.

1. CONNECTIONS TO P1 THRU P4 REQUIRE THE RESPECTIVE LINE NUMBER SWITCHES TO BE IN THE OFF POSITION.
2. CONNECTIONS TO P6 THRU P9 REQUIRE THE RESPECTIVE LINE NUMBER SWITCHES TO BE IN THE ON POSITION.
3. CONNECTIONS TO P14 ALSO REQUIRE THE RESPECTIVE LINE NUMBER SWITCHES TO BE IN THE ON POSITION.

SBS2 DIAGNOSTIC OPERATION
INSERT TEST PLUGS BETWEEN P1 AND P2, P3 and P4, ALSO P14 SET SWITCHES S1 OFF, S2 AND S3 ON.

CABLES	CONNECTIONS	
005-005193	P1 THRU P4	TO EIA/D EIA
005-005248	P1 THRU P4	TO MODEM
005-009692	P1 THRU P4	TO 20mA OR 60mA CURRENT LOOP
005-005269	P11	SYNCHRONOUS LINE TO MODEM
(FUTURE OPTION)	P11	AUTO CALL UNIT
005-009061	P13	300 LPM PRINTER
005-009060	P13	165 CPS PRINTER

SWITCH POSITIONS:						
CABLE CONNECTION	SIG. NAME	SWITCH ASSY 3	SIG. NAME	SWITCH ASSY 2	SIG. NAME	SWITCH ASSY 1
P1	$\overline{\text{XDATA0}}$	OFF	$\overline{\text{REC DATA0}}$	OFF	CTS0	OFF
P2	$\overline{\text{XDATA1}}$	OFF	$\overline{\text{REC DATA1}}$	OFF	CTS1	OFF
P3	$\overline{\text{XDATA2}}$	OFF	$\overline{\text{REC DATA2}}$	OFF	CTS2	OFF
P4	$\overline{\text{XDATA3}}$	OFF	$\overline{\text{REC DATA3}}$	OFF	CTS3	OFF
P6	$\overline{\text{XDATA0}}$	ON	$\overline{\text{REC DATA0}}$	ON	CTS0	ON
P7	$\overline{\text{XDATA1}}$	ON	$\overline{\text{REC DATA1}}$	ON	CTS1	ON
P8	$\overline{\text{XDATA2}}$	ON	$\overline{\text{REC DATA2}}$	ON	CTS2	ON
P9	$\overline{\text{XDATA3}}$	ON	$\overline{\text{REC DATA3}}$	ON	CTS3	ON

*TO RUN ACU DIAGNOSTIC WITH REV 00 PLUG PANEL, CRQ AND ACU SPARE MUST BE JUMPERED ON SLM BOARD.

CS40 TEST PLUGS

Test Plugs are required to operate the following diagnostics; SBS2, SLM, ACU, and the Modem Control section of the ALM-SLM reliability. In the Systems Environment these test plugs will be installed on the plug panel. This provides easy installation and insures the testing of the plug panel and its associated cabling.

TEST PLUG SUMMARY:

1. SBS COMBO BOARD TEST PLUG (008-2108) (005-9346)

This test plug is required to run SBS2 Diag, & the Modem Control section of ALM reliability.

NOTE: A quantity of 2 plugs are required per combo board.

FROM	SIGN. NAME	TO
12, 3	RTS N, RING N, DSR N+1	7
7	DSR N, RTS N+1, RING N+1	12, 3
5,6	DTR N, CTS N, CD N+1	4
4	CD N, DTR N+1, CTS N+1	5, 6
N = ANY EVEN LINE NUMBER		

2. SBS CURRENT LOOP TEST PLUG (008-2115) (005-9348)

This test plug is also required to run SBS2, it requires that plug panel switches SW2 & SW3 are in the on position, and SW1 must be in the off position. If CTS portion of SBS2 is run, then SW1 must be on.

NOTE: CTS portion of SBS2 is used to test BUSY circuitry on plug panel. This is accomplished by wrapping XMIT DATA line N to CTS line N-1 & XMIT DATA Line N-1 to CTS Line N.

FROM	SIGN. NAME	TO
2,6	RCL0, BUSY0, TXL1-	M
3,7	RCL1, BUSY1, TXL0-	L
4,8	RCL2, BUSY2, TXL3-	P
5,9	RCL3, BUSY3, TXL2-	N

3. SLM TEST PLUG (008-2109) (005-9349)

FROM	SIGN. NAME	TO
INT-CLK (pin)	INT CLK, XMIT CLK, REC CLK	1, 13
2	XMIT DATA, REC DATA	11
3	RING, DTR	5
4	CAR DET, SPARE A	8
SPARE B (pin) 10	SPARE B, CTS	6
7	DSR, RTS	12

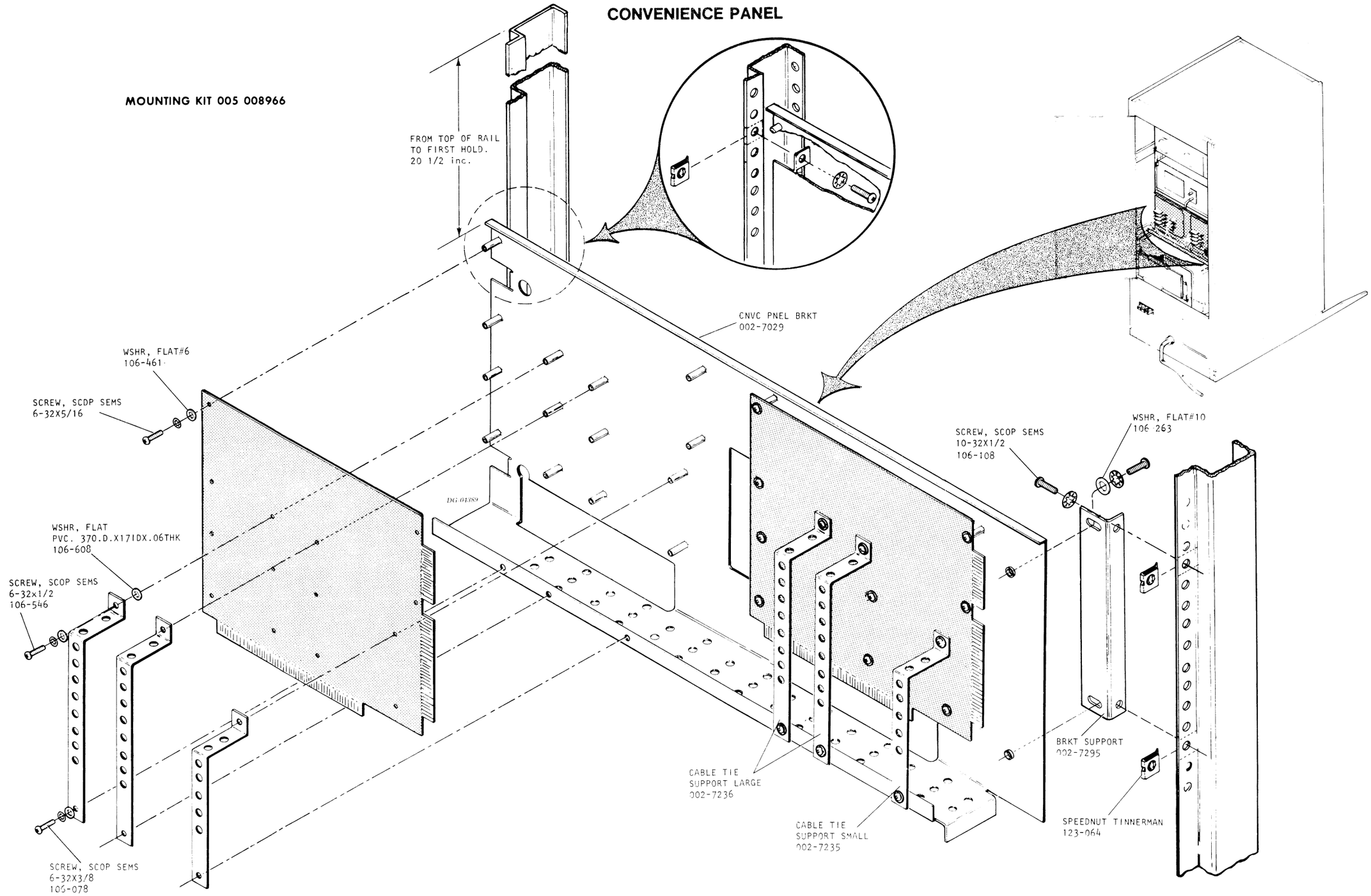
4. ACU TEST PLUG (008-2116) (005-9347)

FROM	SIGN. NAME	TO
2	DLO, NB2	5
3	NB8, [illegible]	10
4	NB4, DSS	7
6	NB1, PND	9
8	PWI, DPR	12
11	CRQ, ACU SPARE	10

INSTALLATION IN A CABINET

CONVENIENCE PANEL

MOUNTING KIT 005 008966

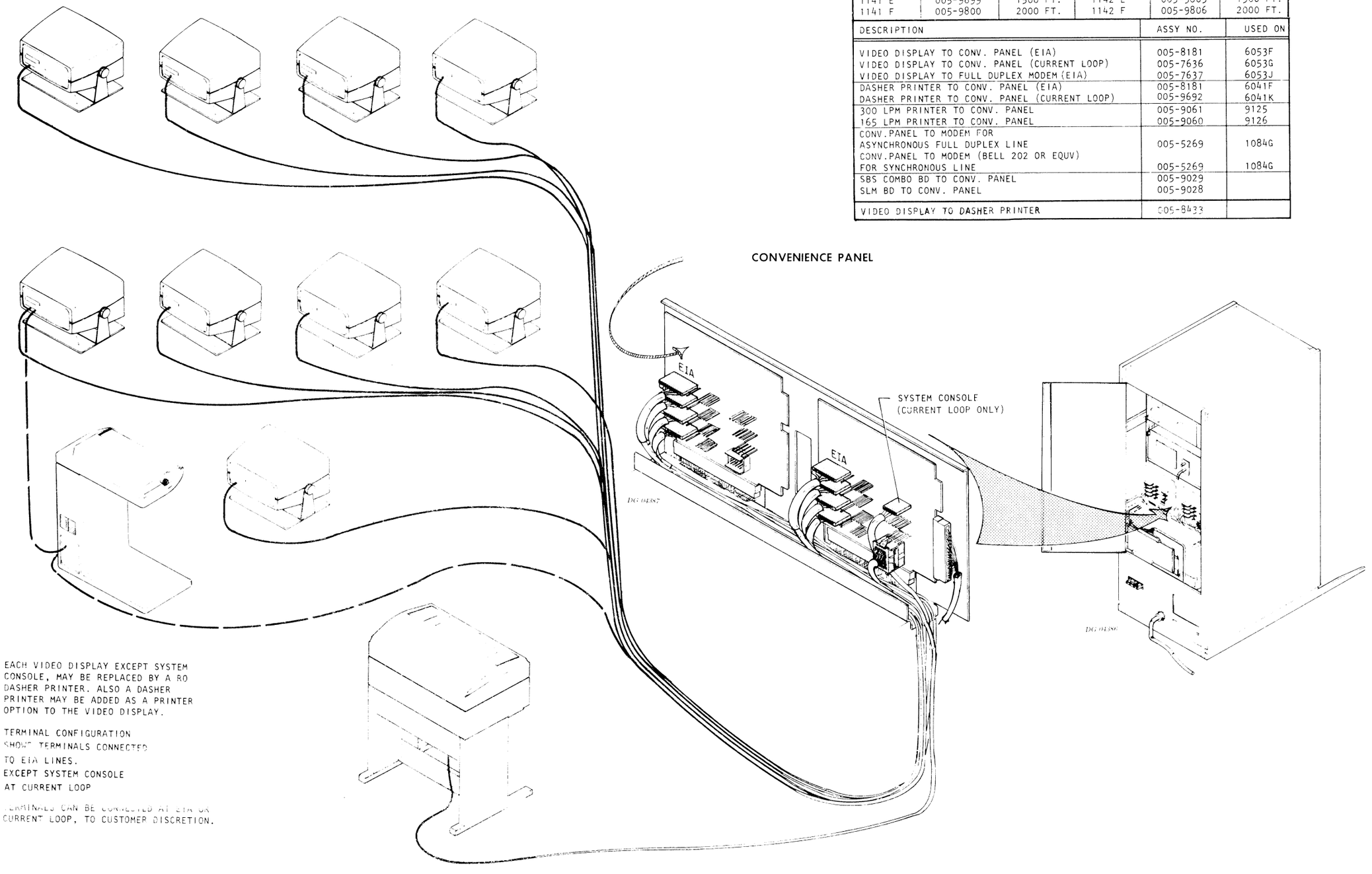


EXTERNAL CABLING

6053G			6041K		
MODEL NO.	CABLE	LENGTH	MODEL NO.	CABLE	LENGTH
1141 A	005-9695	100 FT.	1142 A	005-9801	100 FT.
1141 B	005-9696	250 FT.	1142 B	005-9802	250 FT.
1141 C	005-9697	500 FT.	1142 C	005-9803	500 FT.
1141 D	005-9698	1000 FT.	1142 D	005-9804	1000 FT.
1141 E	005-9699	1500 FT.	1142 E	005-9805	1500 FT.
1141 F	005-9800	2000 FT.	1142 F	005-9806	2000 FT.

DESCRIPTION	ASSY NO.	USED ON
VIDEO DISPLAY TO CONV. PANEL (EIA)	005-8181	6053F
VIDEO DISPLAY TO CONV. PANEL (CURRENT LOOP)	005-7636	6053G
VIDEO DISPLAY TO FULL DUPLEX MODEM (EIA)	005-7637	6053J
DASHER PRINTER TO CONV. PANEL (EIA)	005-8181	6041F
DASHER PRINTER TO CONV. PANEL (CURRENT LOOP)	005-9692	6041K
300 LPM PRINTER TO CONV. PANEL	005-9061	9125
165 LPM PRINTER TO CONV. PANEL	005-9060	9126
CONV.PANEL TO MODEM FOR ASYNCHRONOUS FULL DUPLEX LINE	005-5269	1084G
CONV.PANEL TO MODEM (BELL 202 OR EQUV) FOR SYNCHRONOUS LINE	005-5269	1084G
SBS COMBO BD TO CONV. PANEL	005-9029	
SLM BD TO CONV. PANEL	005-9028	
VIDEO DISPLAY TO DASHER PRINTER	005-8433	

CONVENIENCE PANEL

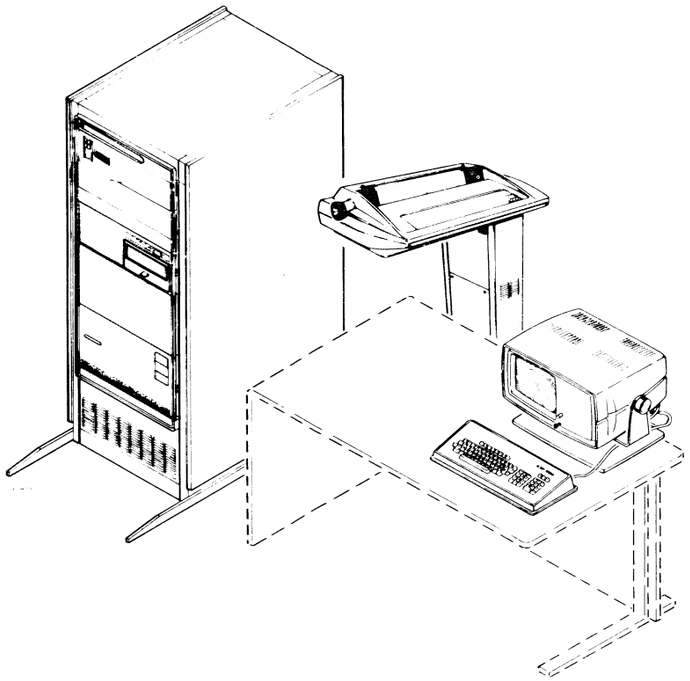


NOTE: EACH VIDEO DISPLAY EXCEPT SYSTEM CONSOLE, MAY BE REPLACED BY A RO DASHER PRINTER. ALSO A DASHER PRINTER MAY BE ADDED AS A PRINTER OPTION TO THE VIDEO DISPLAY.

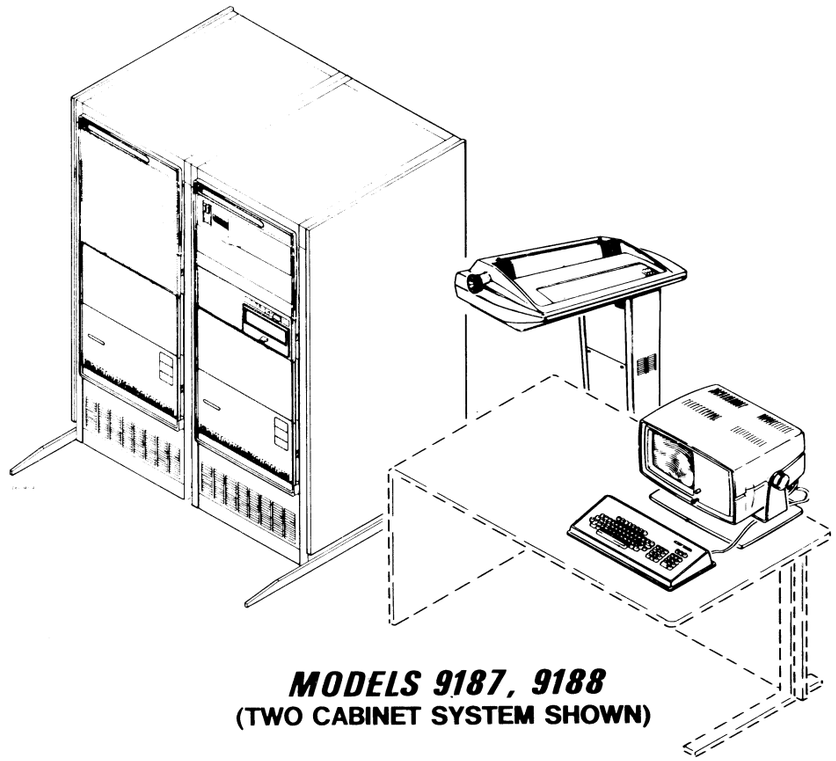
TERMINAL CONFIGURATION
SHOWS TERMINALS CONNECTED
TO EIA LINES.
EXCEPT SYSTEM CONSOLE
AT CURRENT LOOP

TERMINALS CAN BE CONNECTED AT EIA OR CURRENT LOOP, TO CUSTOMER DISCRETION.

INSTALLATION SPECIFICATIONS



MODELS 9187, 9188
(ONE CABINET SYSTEM SHOWN)

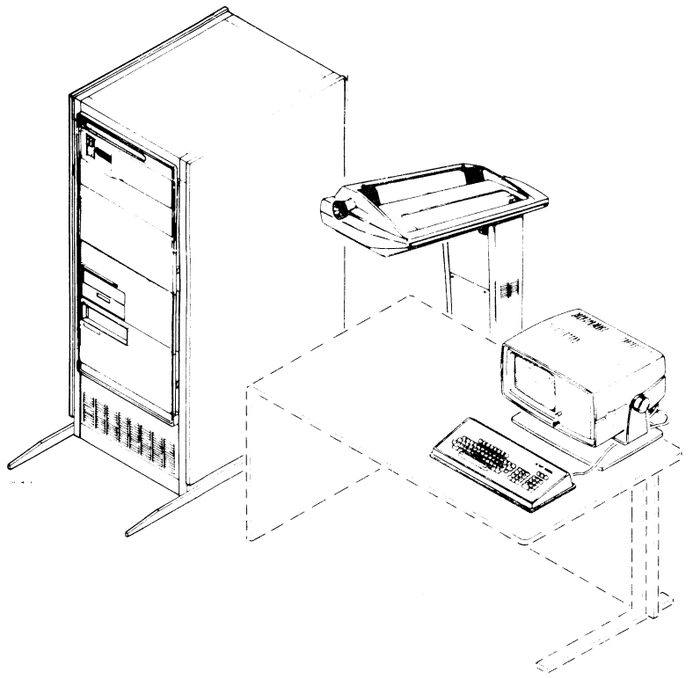


MODELS 9187, 9188
(TWO CABINET SYSTEM SHOWN)

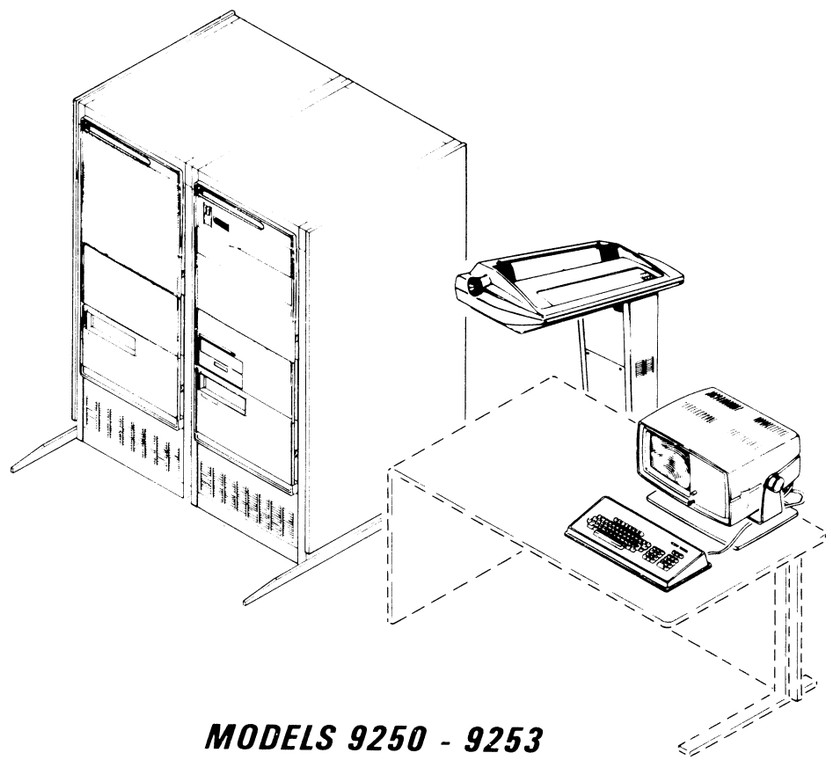
MAJOR COMPONENTS

COMPONENT	MOUNTING LOCATION	NOTES
CS/30 CABINET 1130-A	FREE STANDING	
MP/100 CPU/CHASSIS	CABINET	SEE 010-217
MICRONOVA EXPANSION CHASSIS	CABINET	NOT AVAIL. C1, OPT. C3
CARTRIDGE DISK DRIVE 6095 (10MB)	CABINET	SEE 010-203
DISKETTE DRIVE 6096-A (1.2MB)	CABINET	OPTIONAL - SEE 010-228
DISKETTE DRIVE 6038 (315KB)	CABINET	OPTIONAL - SEE 010-064
DASHER DISPLAY 6093	FREE STANDING	OPTIONAL - SEE 010-215
DASHER DISPLAY 6053	FREE STANDING	OPTIONAL - SEE 010-098
DASHER PRINTER (RO) 6041 (60CPS)	FREE STANDING	OPTIONAL - SEE 010-094
DASHER TP2 PRINTER (RO) 6076G (180CPS SERIAL)	FREE STANDING	OPTIONAL - SEE 010-195
DASHER LP2 PRINTER 9192 (180CPS)	FREE STANDING	OPTIONAL - SEE 010-195
LINE PRINTER 9193 (240LPM)	FREE STANDING	OPTIONAL - SEE 010-129
LINE PRINTER 9194 (300LPM)	FREE STANDING	OPTIONAL - SEE 010-129
CABINET NO. 2		
CS/30 CABINET 1130-X	FREE STANDING	
CARTRIDGE DISK DRIVE 6095 (10MB)	CABINET	SEE 010-203

INSTALLATION SPECIFICATIONS



MODELS 9250 - 9253
(ONE CABINET SYSTEM SHOWN)



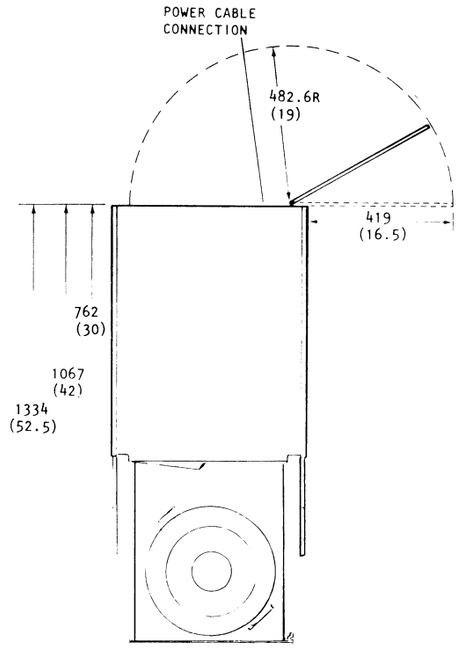
MODELS 9250 - 9253
(TWO CABINET SYSTEM SHOWN)

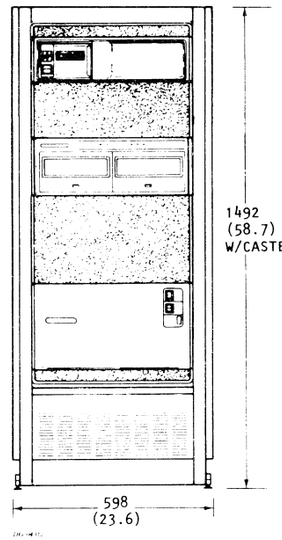
MAJOR COMPONENTS

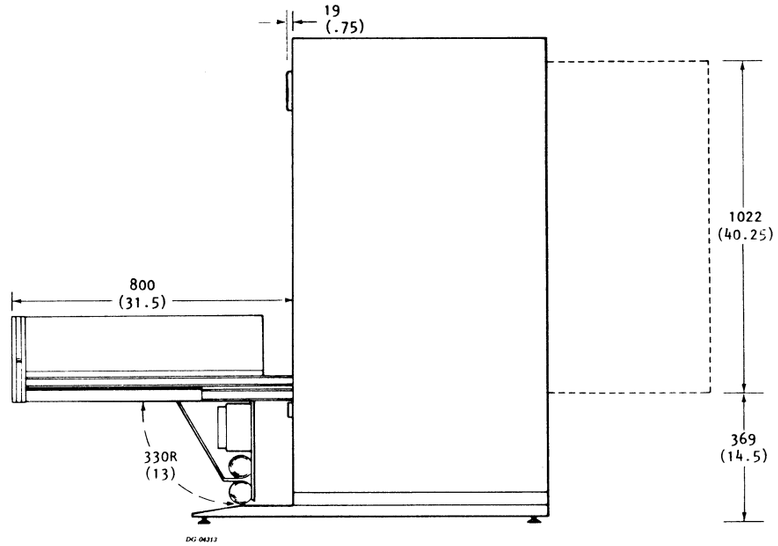
COMPONENT	MOUNTING LOCATION	NOTES
CS/30 CABINET 1130-A	FREE STANDING	
MP/100 CPU/CHASSIS	CABINET	SEE 010-217
MICRONOVA EXPANSION CHASSIS	CABINET	NOT AVAIL. C1, OPT. C3
DISC W DISKETTE 6101 (12.5 + 1.2 MB)	CABINET	SEE-010-223
DISC W DISKETTE 6104 (25 + 1.2 MB)	CABINET	SEE-010-245
DASHER DISPLAY 6093	FREE STANDING	OPTIONAL - SEE 010-215
DASHER DISPLAY 6053	FREE STANDING	OPTIONAL - SEE 010-098
DASHER PRINTER (RO) 6041 (60CPS)	FREE STANDING	OPTIONAL - SEE 010-094
DASHER TP2 PRINTER (RO) 6076G (180CPS SERIAL)	FREE STANDING	OPTIONAL - SEE 010-195
DASHER LP2 PRINTER 9192 (180CPS)	FREE STANDING	OPTIONAL - SEE 010-195
LINE PRINTER 9193 (240LPM)	FREE STANDING	OPTIONAL - SEE 010-129
LINE PRINTER 9194 (300LPM)	FREE STANDING	OPTIONAL - SEE 010-129
CABINET NO. 2		
CS/30 CABINET 1130-X	FREE STANDING	
DISC DRIVE 6102 (12.5 MB)	CABINET	OPTIONAL-SEE-010-243
DISC DRIVE 6105 (25 MB)	CABINET	OPTIONAL-SEE-010-224

INSTALLATION SPECIFICATIONS

SINGLE BAY CABINET







DIMENSIONS:	Width	Depth	Height
Millimeters	598.0	762	1492
Inches	23.6	30	58.7

SERVICE CLEARANCES:	Front	Right	Rear
Millimeters	800	419	482.6
Inches	31.5	16.5	19

WEIGHT:	
Kilograms	272
Pounds	600

HEAT OUTPUT:	Watts	BTU/hr
	1760	6000

OPERATING ENVIRONMENT:		
Temperature (max)	32°C	90°F
Relative Humidity (max)	80%	
Altitude	2440m(8000')	

POWER REQUIREMENTS:

Cooling Unit	Domestic	Export
Voltage	120	240
Hz	60	50Hz
Amp per Phase	2.5	1.25
Phase	1	1
Cabinets*		
Voltage	240	240
Hz	60	50
Amp per Phase	40	40
Phase	1	1

CABLES:

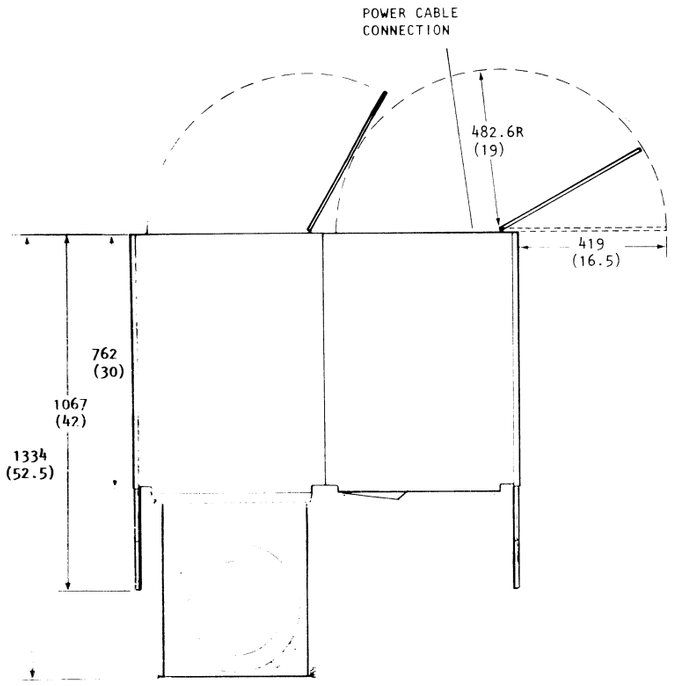
Primary Power	Length	Conn	Mating Conn	Wall Conn
Domestic 60Hz	2.74m(9')	14-50P	14-50R	14-50R
Export 50Hz	2.74m(9')			

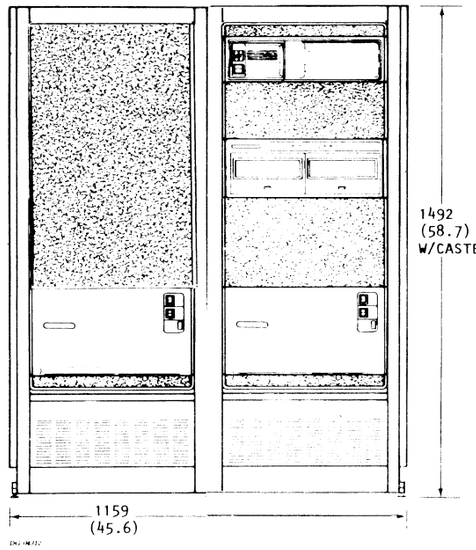
POWER AVAILABLE

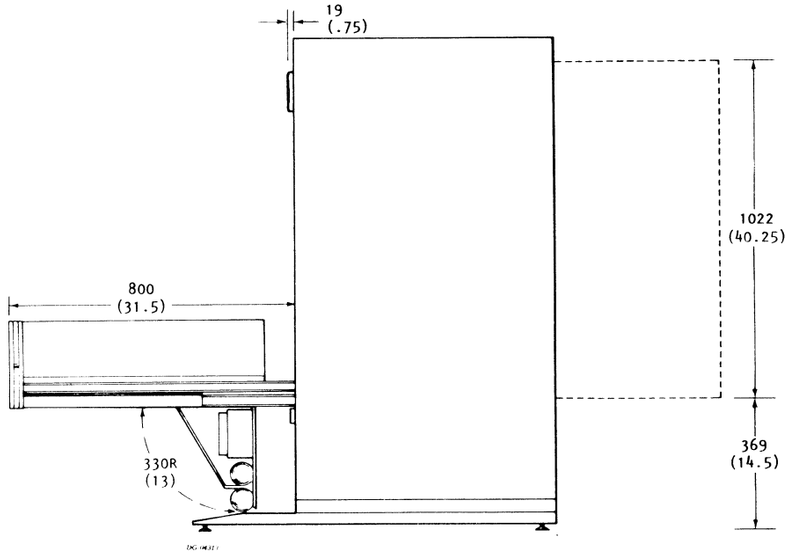
	Domestic	Export
Internal Receptacles	120V 60Hz	240V 50Hz

*CAN BE ADAPTED FOR 115/12A WITH OPTION #9229 SINGLE BAY ONLY.

INSTALLATION SPECIFICATIONS







DIMENSIONS:	Width	Depth	Height
Millimeters	1159	762	1492
Inches	45.6	30	58.7

SERVICE CLEARANCES:	Front	Right	Rear
Millimeters	800	419	482.6
Inches	31.5	16.5	19

WEIGHT:	
Kilograms	454
Pounds	1000

HEAT OUTPUT:	Watts	BTU/hr
	1760	6000

OPERATING ENVIRONMENT:		
Temperature (max)	32°C	90°F
Relative Humidity (max)	80%	
Altitude	2440m(8000')	

POWER REQUIREMENTS:

Cooling Unit	Domestic	Export
Voltage	120	240
Hz	60	50
Amp per Phase	2.5	1.25
Phase	1	1
Cabinet*		
Voltage	240	240
Hz	60	50
Amp per Phase	40	40
Phase	1	1

CABLES:

Primary Power	Length	Conn	Mating Conn	Wall Conn
Domestic 60Hz	2.74m(9')	14-50P	14-50R	14-50R
Export 50Hz	2.74m(9')			

POWER AVAILABLE

	Domestic	Export
Internal Receptacles	120V 60Hz	240V 50Hz

INSTALLATION SPECIFICATIONS

CHASSIS SLOT ASSIGNMENTS

DATA CHANNEL SPEEDS AVAILABLE	STANDARD ☑ HIGH SPEED ☑

SLOT	C-1 (NOTE)	C-3*	+5	+12	-5	-12
8	4 LINE ASYN/SYNC	4 LINE ASYNC/OPEN	1.70	0.03	0.17	
7	COMM. CONT.	COMM. CONT. /8K RAM**	1.90	0.09	0.05	
6	SYNC/ASYNC	8K RAM/LPT	1.90	0.09	0.05	
5**	COMM CONT	8K RAM	1.90	0.09	0.05	
4	LPT/6096-A CONT	32K RAM	1.00	0.09	0.03	
3	32K RAM	BANK SELECTOR	1.00	0.09	0.03	
2	R.P.D.	R.P.D.	1.00	0.09	0.03	
1	CPU/ASYNC	CPU/ASYNC	2.0	0.1	0.3	0.1

SLOT	EXPANSION CHASSIS				
8					
7					
6	OPEN/4-LINE ASYNC	1.70	0.03	0.17	
5	OPEN/COMM. CONT.	1.90	0.09	0.03	
4	SYNC INTCF	1.50	0.15	0.03	
3	COMM. CONT.	1.90	0.09	0.05	
2	LPT. CONT.	1.00	0.09	0.03	
1	6096-A CONT	1.25	0.02	0.02	

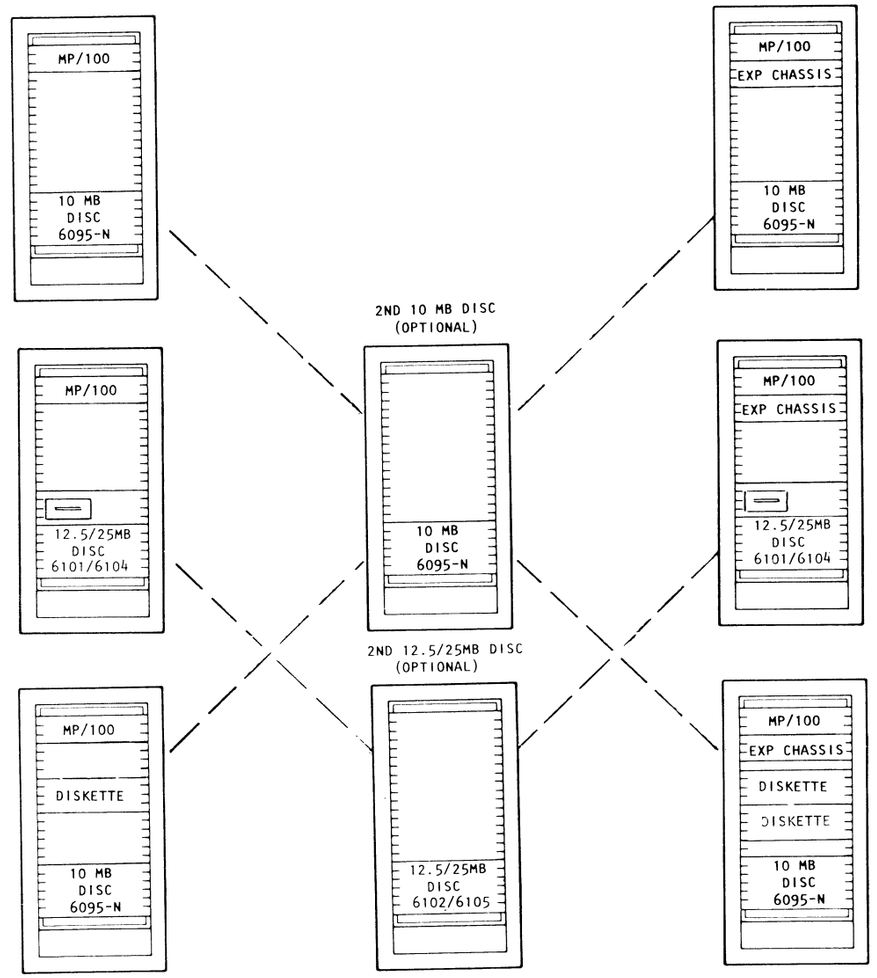
C1 MAX CURRENT USED	12.45	0.85	0.81	0.10
C3 MAX CURRENT USED	21.65	1.14	1.04	0.10
C3 MAIN CHASSIS	12.40	0.67	0.71	0.10
C3 EXPANSION CHASSIS	9.25	0.47	0.33	—

NOTE: BOARD POWER REQUIREMENTS FOR C1 SYSTEM CAN BE DERIVED FROM DATA GIVEN FOR C3.

* 9127 UPGRADE TO C3 IS REQUIRED IF MORE THAN THREE OF THE FOLLOWING ARE ORDERED: PARALLEL LPT, SERIAL PRINTER, SYNCHRONOUS COMM, OR 6096-A DISKETTE DRIVE.

** EXPANSION CHASSIS IS REQUIRED IF EXTRA MEMORY FOR 4 TERMINAL SYSTEM IS USED.

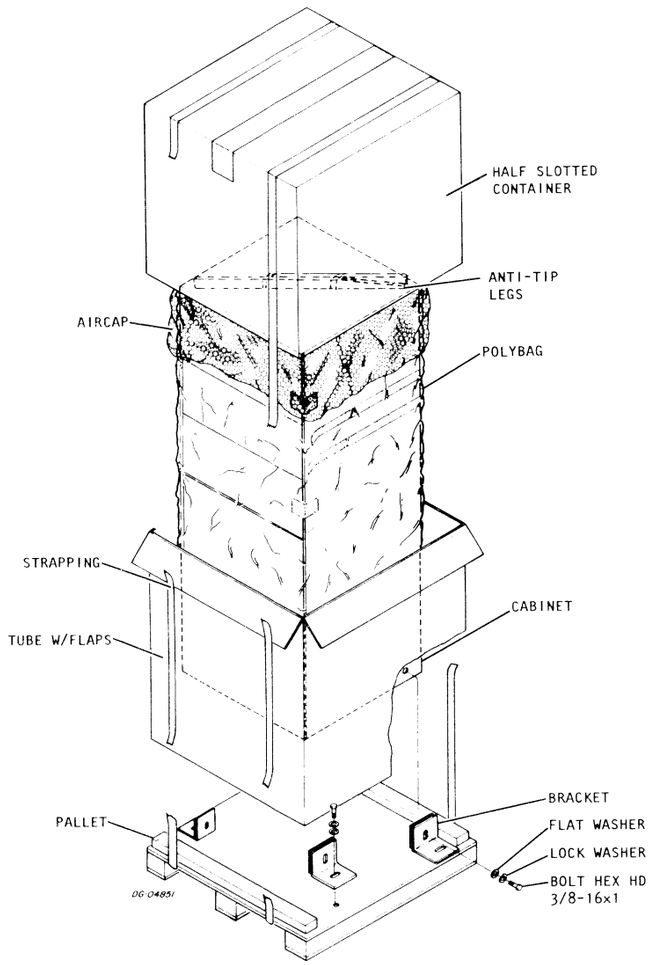
CABINET CONFIGURATIONS



EXPANSION CABINET ALWAYS ATTACHED TO THE LEFT SIDE OF THE MAIN CABINET.

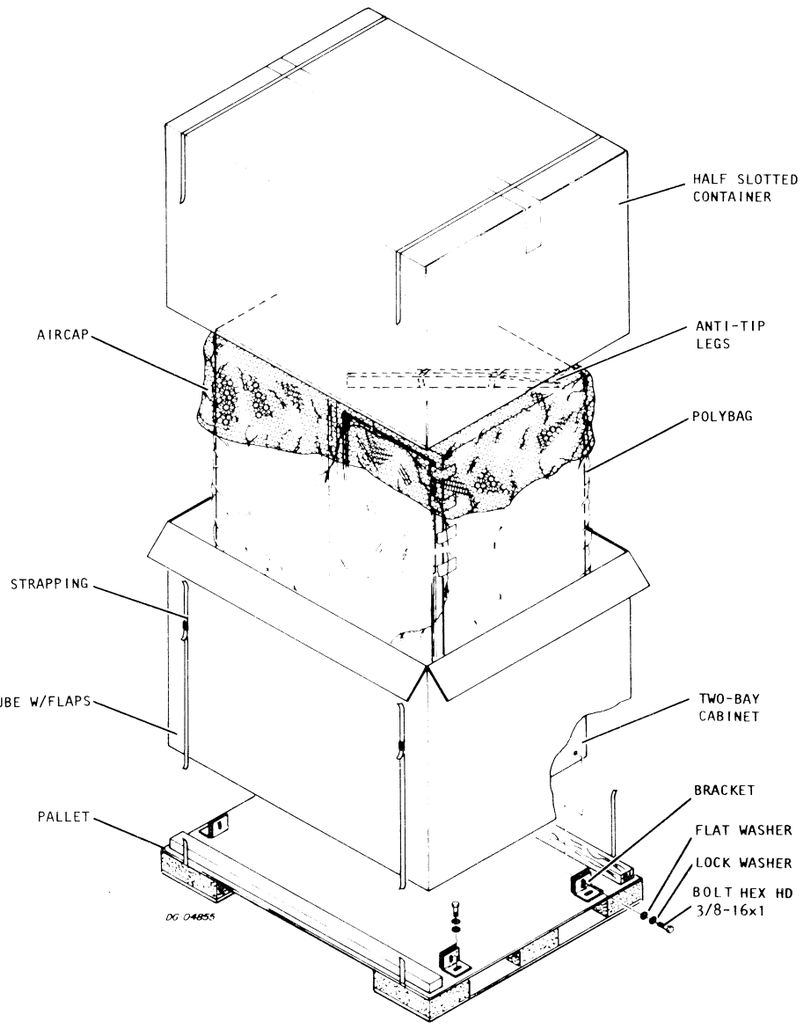
SHIPPING

1 BAY CABINET



SHIPPING AND PACKAGE DATA						
Outside Dimensions			Weight (Gross)	Volume	Density	
Length	Width	Depth				
in. / cm	in. / cm	in. / cm	lbs. / kg	cu ft. / cu m	lbs/cu ft. / kg/cu m	
45 / 114.3	45 / 114.3	66 / 168	860 / 390	77.3 / 2.2	11.13 / 177	
SHIPPING SPECIFICATIONS			STORAGE SPECIFICATIONS			
Temperature Range °F / °C	Relative Humidity (Non-condensing)	Maximum Altitude	Temperature Range °F / °C	Relative Humidity (Non-condensing)	Maximum Period	
-40 to 160 / -40 to 71	0 - 80%	15,200m 50,000ft	-40 to 160 / -40 to 71	0 - 80%	90 DAYS	

2 BAY CABINET



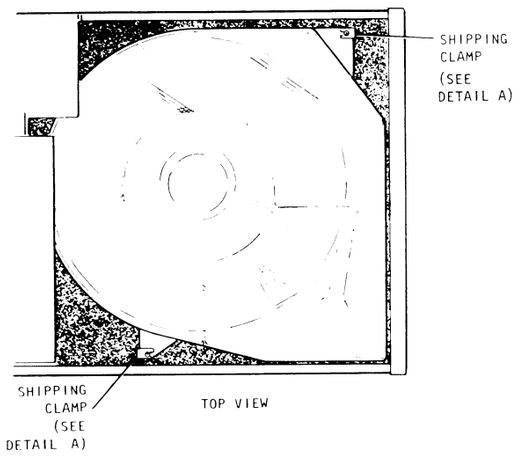
SHIPPING AND PACKAGE DATA						
Outside Dimensions			Weight (Gross)	Volume	Density	
Length	Width	Depth				
in. / cm	in. / cm	in. / cm	lbs. / kg	cu ft. / cu m	lbs/cu ft. / kg/cu m	
65 / 165	45 / 114.3	66 / 168	1700 / 771	112 / 3.16	15.2 / 244	
SHIPPING SPECIFICATIONS			STORAGE SPECIFICATIONS			
Temperature Range °F / °C	Relative Humidity (Non-condensing)	Maximum Altitude	Temperature Range °F / °C	Relative Humidity (Non-condensing)	Maximum Period	
-40 to 160 / -40 to 71	0 - 80%	15,200m 50,000ft	-40 to 160 / -40 to 71	0 - 80%	90 DAYS	

SHIPPING (CONT)

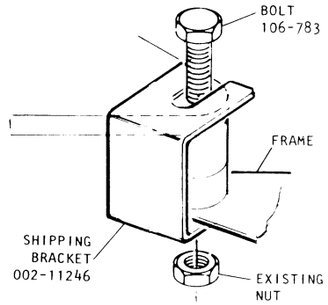
SHIPPING RESTRAINTS

6101, 6102, 6104 , 6105

IMPORTANT: REMOVE 2 SHIPPING CLAMPS AND UNLOCK ARM BEFORE OPERATING.



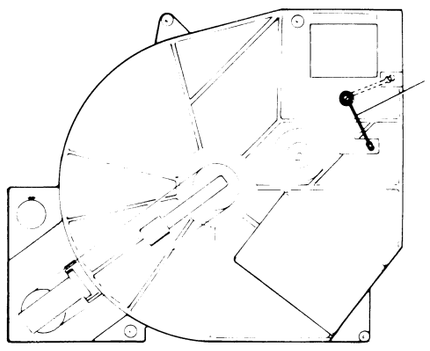
TOP VIEW



DETAIL A

CLAMP REMOVAL PROCEDURE:

LOOSEN BOLT AND NUT, REMOVE CLAMP, AND RETIGHTEN BOLT AND NUT.

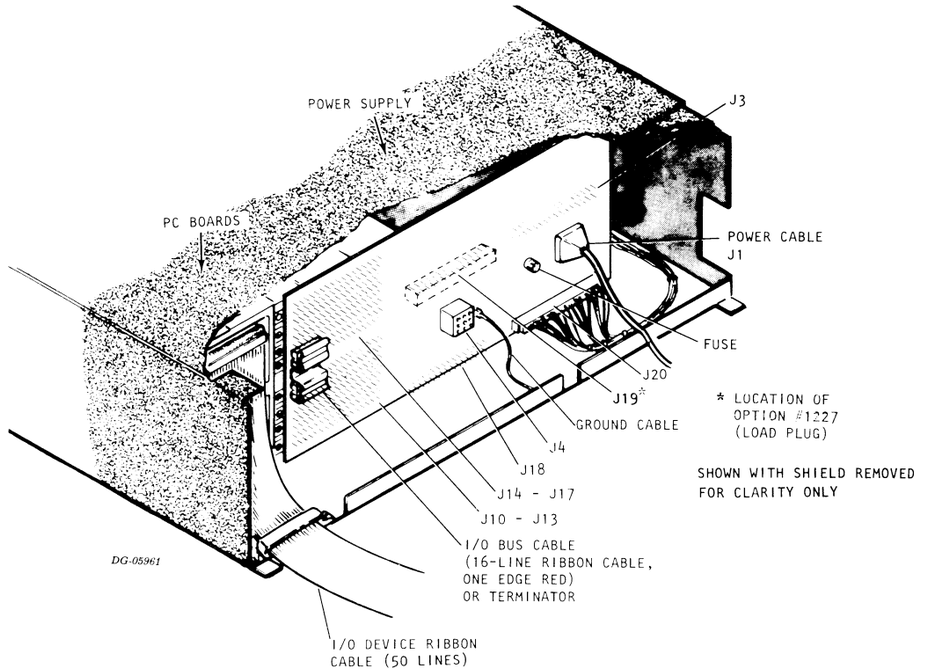


POSITIONER STOP
SOLID BLACK AS SHOWN IS LOCKED POSITION, DASHED LINES INDICATE OPERATING POSITION.
IMPORTANT: ARM MUST BE RELEASED BEFORE OPERATING.

BOTTOM VIEW

EXTERNAL/INTERNAL CABLING

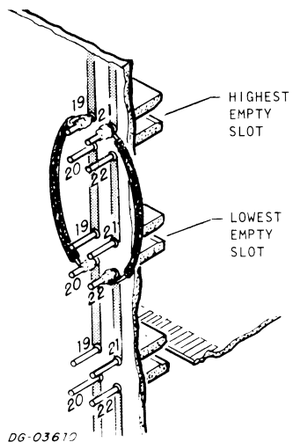
MP/100 CPU CHASSIS



* LOCATION OF OPTION #1227 (LOAD PLUG)

SHOWN WITH SHIELD REMOVED FOR CLARITY ONLY

JUMPERING BACKPANEL



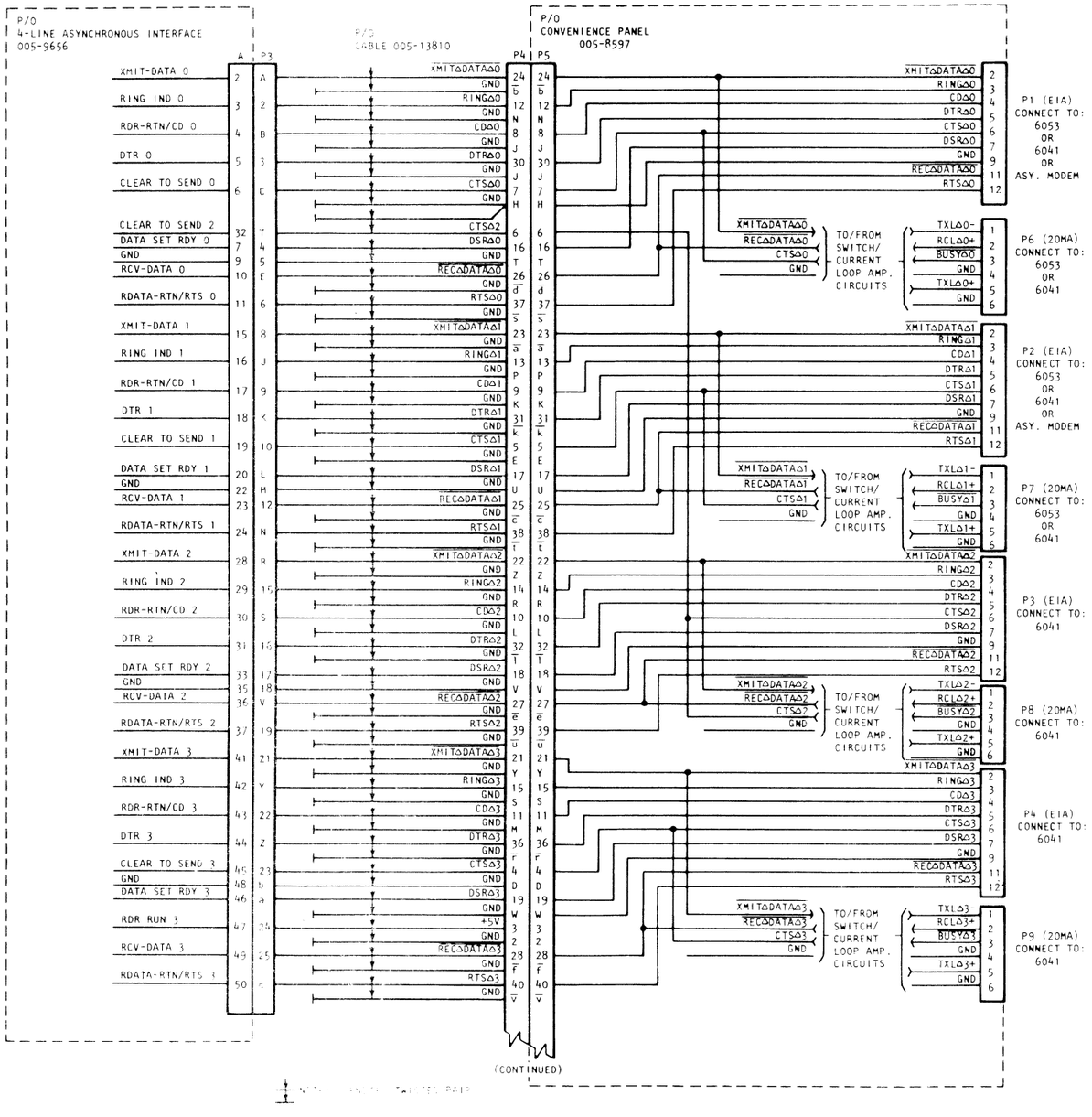
AN 8-SLOT CARDFRAME, HAVING EMPTY SLOTS BETWEEN SYSTEM MODULES, MUST HAVE PRIORITY JUMPERS INSTALLED ACROSS THOSE SLOTS AS FOLLOWS: PINS 20 AND 22 OF THE LOWEST EMPTY SLOT SHOULD BE CONNECTED TO PINS 19 AND 21, RESPECTIVELY, OF THE HIGHEST EMPTY SLOT. THE HIGHEST AND THE LOWEST EMPTY SLOT MAY BE THE SAME. NO JUMPERS ARE REQUIRED IF THE GROUP OF EMPTY SLOTS INCLUDES SLOT 8, UNLESS THE EXTERNAL I/O BUS IS USED. THE HIGHEST LEVEL PRIORITY BOARD IS THE ONE NEAREST THE CPU SLOT.

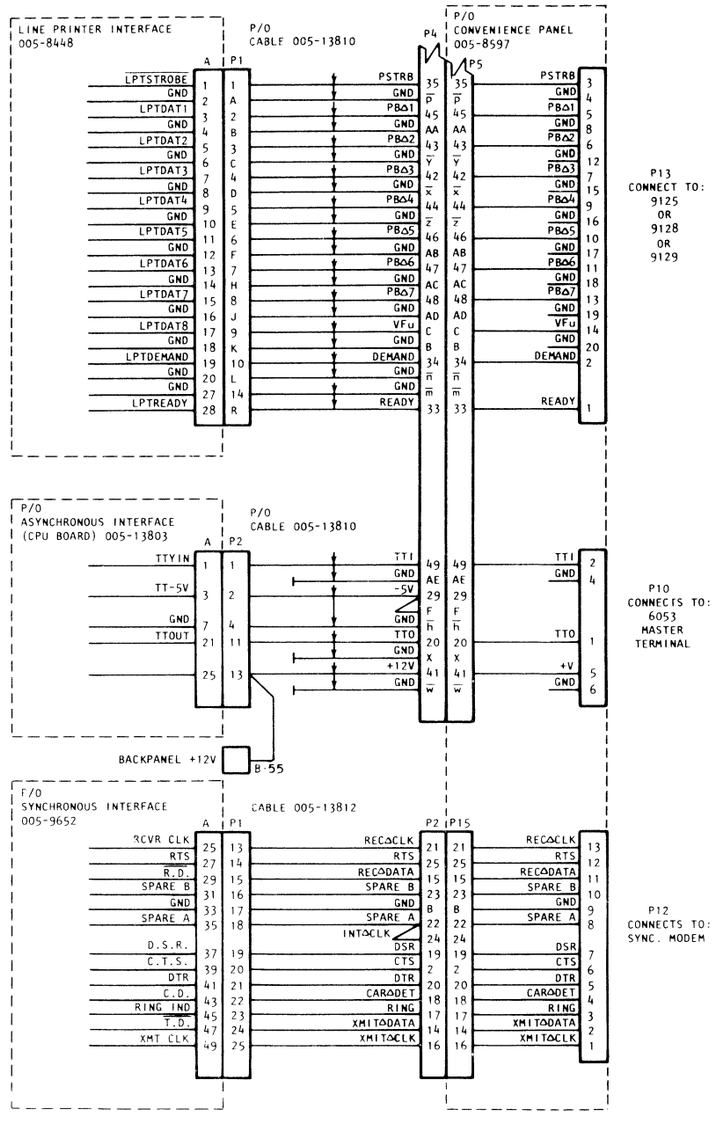
PIN ASSIGNMENTS

SLOT 1

	EVEN	ODD	
2	MCLOCK-L	MCLOCK-L	1
4	BIO1-L	GND	3
6	CLEAR-L	BIO1-L	5
8	BEXTINT-L	PWR-FAIL	7
10	LOCK	BDCINT-L	9
12	BIO2-L	GND	11
14	GND	BIO2-L	13
16	BIOCLOCK-L	BIOCLOCK-L	15
18	SPARE 0	HALT	17
20	PWR-FAIL	INTP→2	19
22	PWR OK	DCHP→2	21
24	BDATA7	BDATA15	23
26	BP	WAIT	25
28	BDATA6	BDATA14	27
30	FDCHR	FDCHE	29
32	BDATA5	BDATA13	31
34	BDATA4	BDATA12	33
36	GND	RTC	35
38	BDATA3	BDATA11	37
40	BMAP	-12V	39
42	BDATA2	BDATA10	41
44	RQENB	BOOT	43
46	BDATA1	BDATA9	45
48	BWE	BSAE	47
50	BDATA0	BDATA8	49
52	PHIL	SPARE2	51
54	GND	GND	53
56	+12V	+12V	55
58	-5V	+5V	57
60	+5V	+5V	59

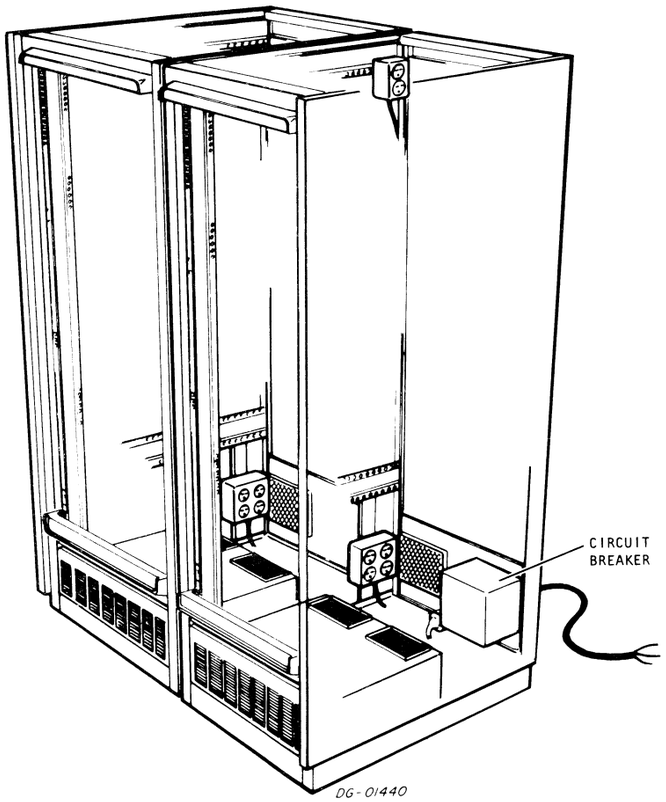
INTERNAL CABLING





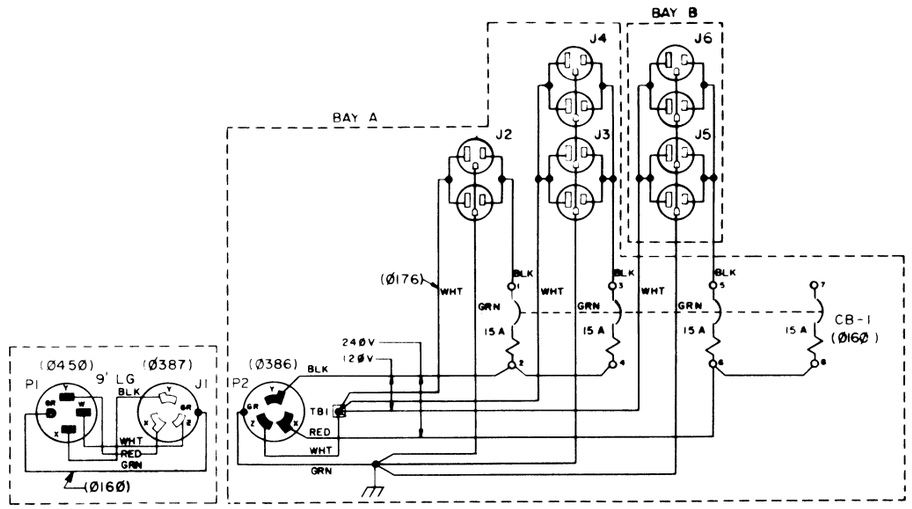
INTERNAL CABLING (CONT)

2-BAY CABINET



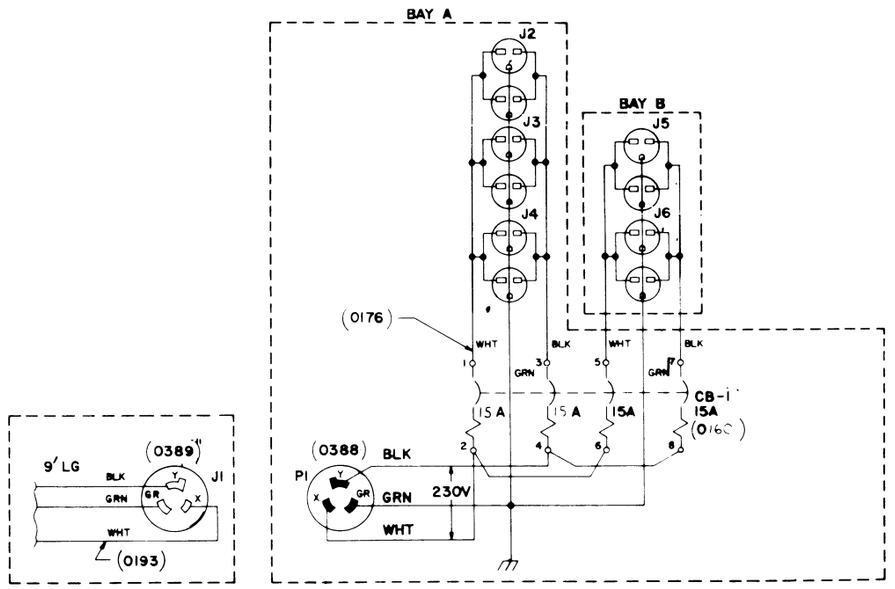
DG-01440

SCHEMATIC 240V 60Hz 40A



NOTES: 1. J2 THRU J6 ARE DGC No 111-000383.
2. TB1 IS DGC No 111-000378, 111-000379.
3. BAYS ARE LETTERED RIGHT TO LEFT VIEWED FROM THE FRONT.

SCHEMATIC 230V 50Hz 30A

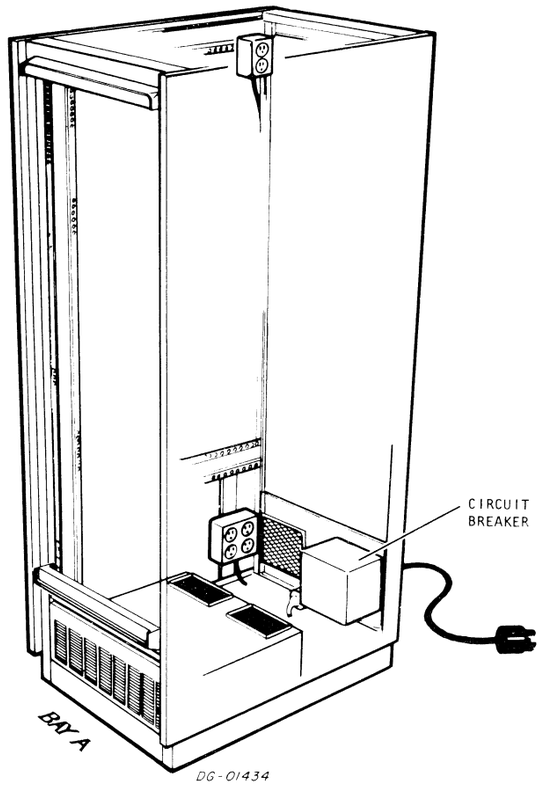


NOTES: 1. J2 THRU J7 ARE DGC No 111-000442.
2. BAYS ARE LETTERED RIGHT TO LEFT VIEWED FROM THE FRONT.

DG-04321

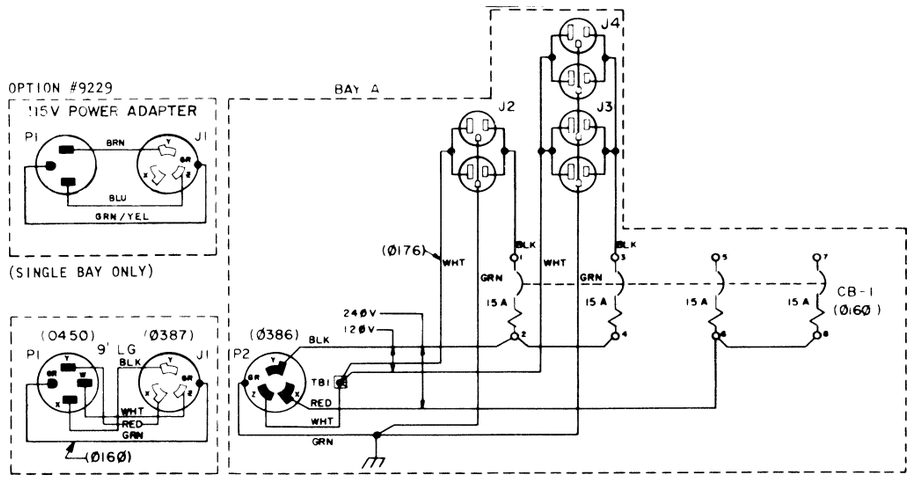
INTERNAL CABLING (CONT)

1-BAY CABINET



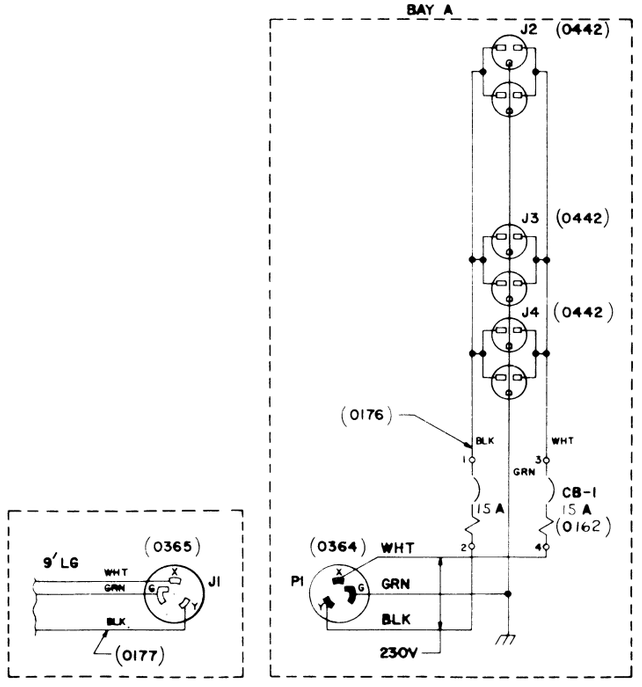
DG-01434

SCHEMATIC 120/240V 60Hz 12/40A



NOTES: 1. J2 THRU J4 ARE DGC No 111-000383.
2. TB1 IS DGC No 111-000378, 111-000379.

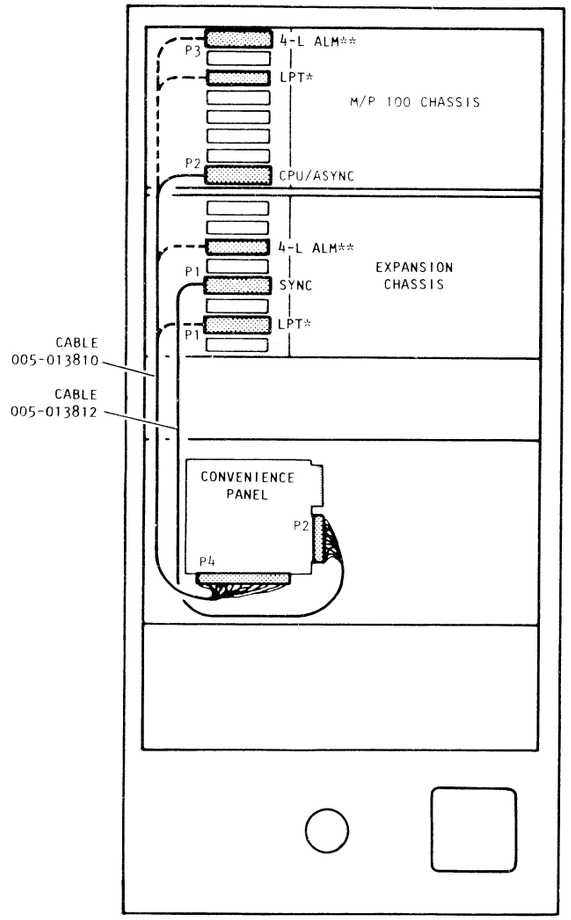
SCHEMATIC 230V 50Hz 15A



DG-04320

INTERNAL CABLING (CONT)

CONNECTION OF CABLING BETWEEN CONVENIENCE PANEL AND MP/100 CHASSIS

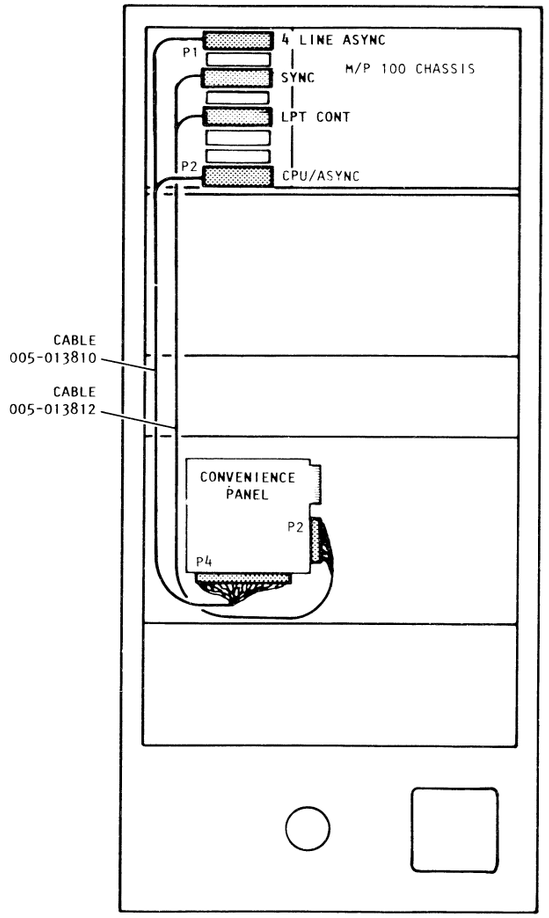


* LPT TO EXP CHASSIS FOR 3 AND 4 TERMINAL SYSTEM
** 4-L ALM TO EXP CHASSIS FOR 4 TERMINAL SYSTEM

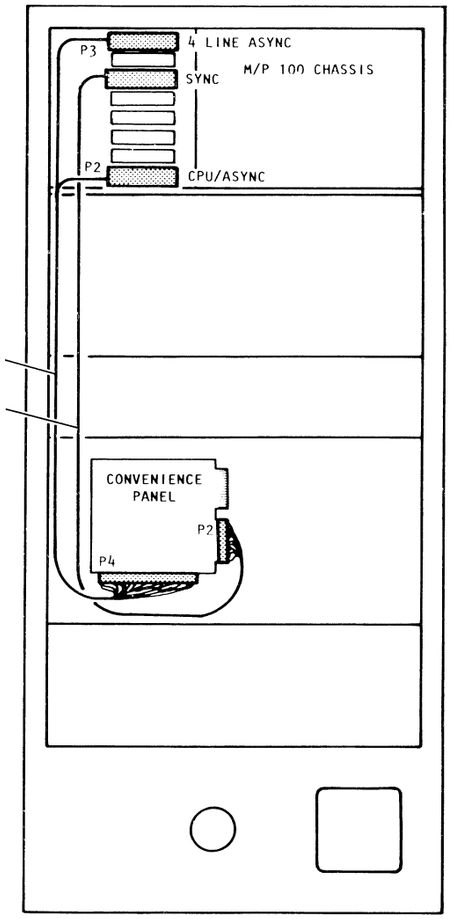
C-3

NOTE: THE JUMPER WIRE ON P-2 OF 005-013810 SHOULD BE ATTACHED TO +12V ON THE BACKPANEL (B-55).

IF SUBSEQUENT REMOVAL IS REQUIRED, JUMPER CONNECTOR MUST BE SQUEEZED AS WELL AS PULLED.



C-1 WITH PARALLEL PRINTER



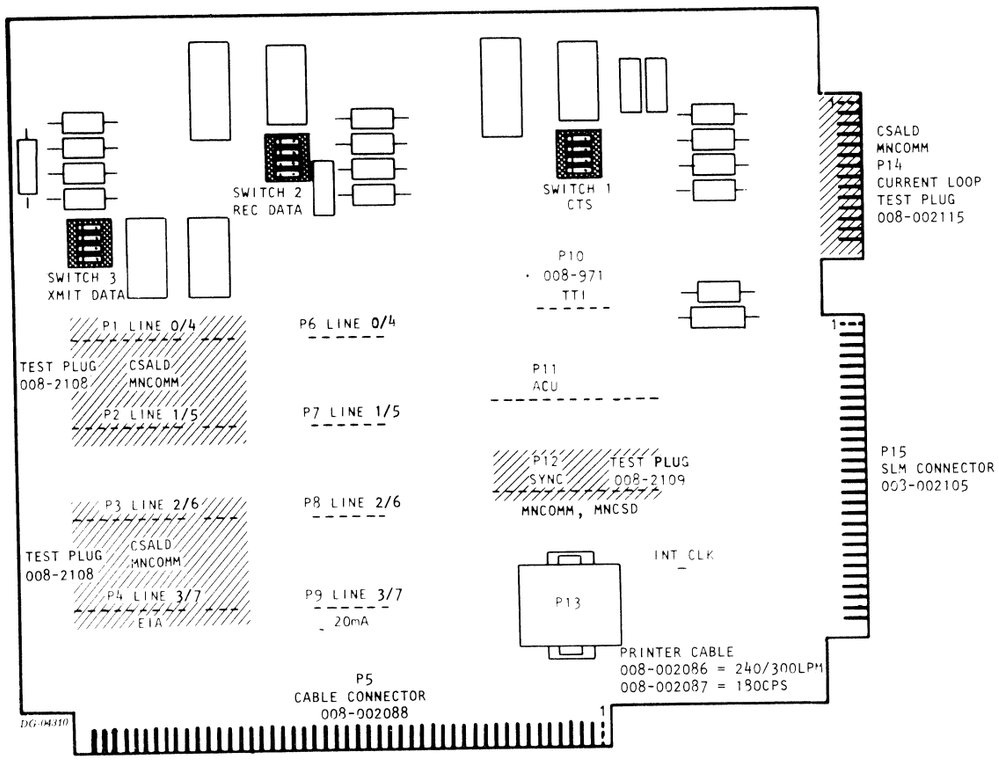
C-1 WITH SERIAL PRINTER

NOTE: WHEN USED ON THE C-1 ONE CONNECTOR OF CABLE 005-13810 WILL NOT BE ATTACHED TO ANY BOARD. FOR CONVENIENCE, ATTACH IT TO ANY EMPTY SLOT.

TAILORING

SBS CONVENIENCE PANEL PCB

Ref. DGC 107 000825 Rev.01



NOTE:
REMOVE ALL TEST PLUGS FOR NORMAL OPERATION. UNDER NO CIRCUMSTANCES SHOULD AN INDIVIDUAL LINE HAVE MORE THAN ONE CONNECTION.

1. CONNECTIONS TO P1 THRU P4 REQUIRE THE RESPECTIVE LINE NUMBER SWITCHES TO BE IN THE "OFF" POSITION.
2. CONNECTIONS TO P4 THRU P9 REQUIRE THE RESPECTIVE LINE NUMBER SWITCHES TO BE IN THE "ON" POSITION.
3. CONNECTIONS TO P14 ALSO REQUIRE THE RESPECTIVE LINE NUMBER SWITCHES TO BE IN THE "ON" POSITION.

CABLES	CONNECTIONS	DEVICES
005-008181	P1 THRU P4 (EIA)	DASHER DISPLAYS AND PRINTERS (60CPS)
005-005269	P1 THRU P4 (EIA)	ASYNC MODEMS
005-007637	P1 THRU P4 (EIA)	FULL DUPLEX MODEMS
005-007636	P6 THRU P9 (CUR. LOOP)	DASHER DISPLAYS
005-009692	P6 THRU P9 (CUR. LOOP)	DASHER PRINTERS (60CPS)
005-007636	P10 (CUR. LOOP)	MASTER CONSOLE (DASHER DISPLAY)
005-005269	P12 (EIA)	SYNC MODEMS
005-008181	P13 (PARALLEL)	DASHER LP2 PRINTER (180CPS)
005-007888	P13 (PARALLEL)	LINE PRINTERS (240 and 300LPM)

SWITCH POSITIONS

	CABLE CONNECTION	SIG. NAME	SWITCH ASSY 3	SIG. NAME	SWITCH ASSY 2	SIG. NAME	SWITCH ASSY 1
EIA	P1	$\overline{\text{XDATA0}}$	OFF	$\overline{\text{REC DATA0}}$	OFF	CTS0	OFF
	P2	$\overline{\text{XDATA1}}$	OFF	$\overline{\text{REC DATA1}}$	OFF	CTS1	OFF
	P3	$\overline{\text{XDATA2}}$	OFF	$\overline{\text{REC DATA2}}$	OFF	CTS2	OFF
	P4	$\overline{\text{XDATA3}}$	OFF	$\overline{\text{REC DATA3}}$	OFF	CTS3	OFF
20mA	P6	$\overline{\text{XDATA0}}$	ON	$\overline{\text{REC DATA0}}$	ON	CTS0	ON
	P7	$\overline{\text{XDATA1}}$	ON	$\overline{\text{REC DATA1}}$	ON	CTS1	ON
	P8	$\overline{\text{XDATA2}}$	ON	$\overline{\text{REC DATA2}}$	ON	CTS2	ON
	P9	$\overline{\text{XDATA3}}$	ON	$\overline{\text{REC DATA3}}$	ON	CTS3	ON

TEST PLUGS

TEST PLUGS ARE REQUIRED TO RUN THE FOLLOWING DIAGNOSTICS; MNCSD, MNCOMM, AND CSALD. IN THE SYSTEMS ENVIRONMENT THESE TEST PLUGS ARE INSTALLED ON THE CONVENIENCE PANEL. THIS PROVIDES EASY INSTALLATION AND ENSURES THE TESTING OF THE CONVENIENCE PANEL AND ITS ASSOCIATED CABLING.

TEST PLUG SUMMARY

1. SBS TEST PLUG (008-002108) 005-009346)

THIS TEST PLUG IS REQUIRED TO RUN CSALD AND MNCOMM.

NOTE: A QUANTITY OF 2 PLUGS ARE REQUIRED PER BOARD.

FROM	SIGN. NAME	TO
12, 3	RTS N, RING N, DSR N+1	7
7	DSR N, RTS N+1, RING N+1	12, 3
5,6	DTR N, CTS N, CD N+1	4
4	CD N, DTR N+1, CTS N+1	5, 6
N = ANY EVEN LINE NUMBER		

2. SBS CURRENT LOOP TEST PLUG (008-002115) (005-009348)

THIS TEST PLUG IS ALSO REQUIRED TO RUN CSALD AND MNCOMM. IT REQUIRES THAT CONVENIENCE PANEL SWITCHES SW2 AND SW3 ARE IN THE "ON" POSITION AND THAT SW1 MUST BE IN THE "OFF" POSITION.

FROM	SIGN. NAME	TO
2,6	RCLO, BUSYO, TXL1-	M
3,7	RCL1, BUSY1, TXLO-	L
4,8	RCL2, BUSY2, TXL3-	P
5,9	RCL3, BUSY3, TXL2-	N

3. SLM TEST PLUG (008-002109) (005-009349)

THIS TEST PLUG IS REQUIRED TO RUN MNCOMM AND MNCSD.

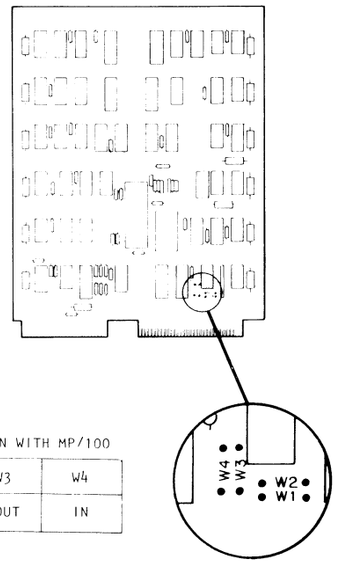
FROM	SIGN. NAME	TO
INT-CLK (pin)	INT CLK, XMIT CLK, REC CLK	1, 13
2	XMIT DATA, REC DATA	11
3	RING, DTR	5
4	CAR DET, SPARE A	8
SPARE B (pin) 10	SPARE B, CTS	6
7	DSR, RTS	12

TAILORING (CONT)

JUMPERING

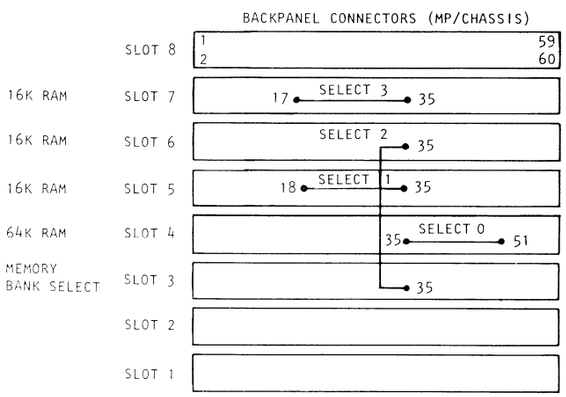
MEMORY BANK SELECT BOARD

Ref DGC 005-013801



JUMPER CONFIGURATION WITH MP/100

	W1	W2	W3	W4
CS/30	OUT	IN	OUT	IN

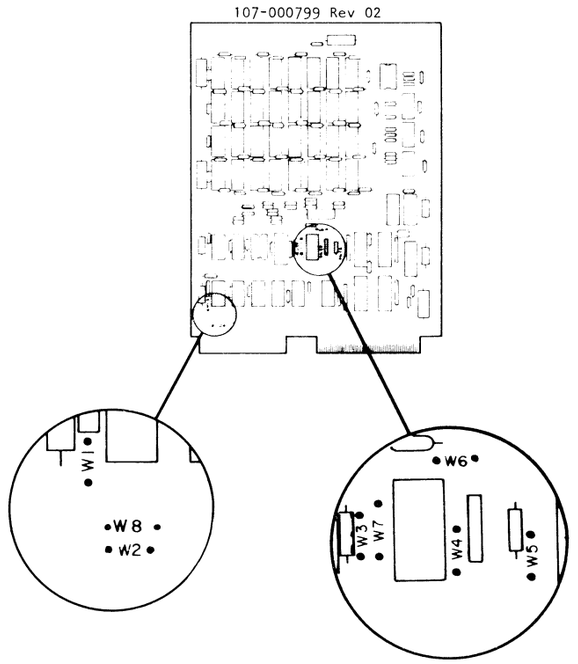


BACKPANEL WIRING FOR MEMORY BANK SELECT OPERATION

THE BACKPANEL ON THE MP/COMPUTER CHASSIS MUST BE WIRED SO THAT THE VARIOUS SELECT OUTPUTS (0-3) ON THE MEMORY BANK SELECT BOARD ARE CONNECTED TO PIN 35 ON THE RESPECTIVE MEMORY BOARDS.

8K MEMORY BOARD

Ref DGC 005-013819



JUMPER CONFIGURATION

	W1	W2	W3	W4	W5	W6	W7	W8
CS/30	OUT	OUT	OUT	OUT	OUT	OUT	OUT	IN

NOTES:

W8 IS ALWAYS INSERTED WHEN USED IN CS/30.
W8 IS REMOVED WHEN USED IN MP/100 SLOT 1 OR SLOT 2.

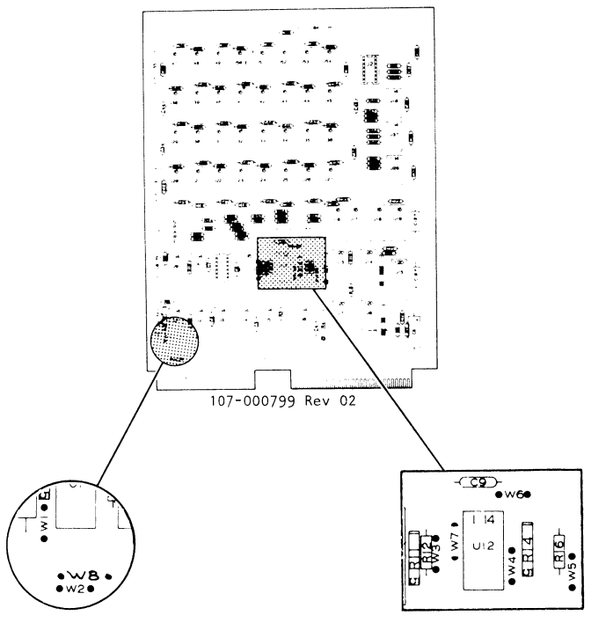
W1, W2 ARE NEVER USED.

TAILORING (CONT)

JUMPERING

32K MEMORY BOARD

Ref DGC 005-013832



ASSY # TESTED UNTESTED	JUMPER INSTALLATION						MEMORY INSTALLATION	
	W1	W2	W3	W4	W5	W6	U20-27 U38-45	U47-54 U29-36
005-013823 005-013822	OUT	OUT	OUT	OUT	OUT	OUT	YES	YES

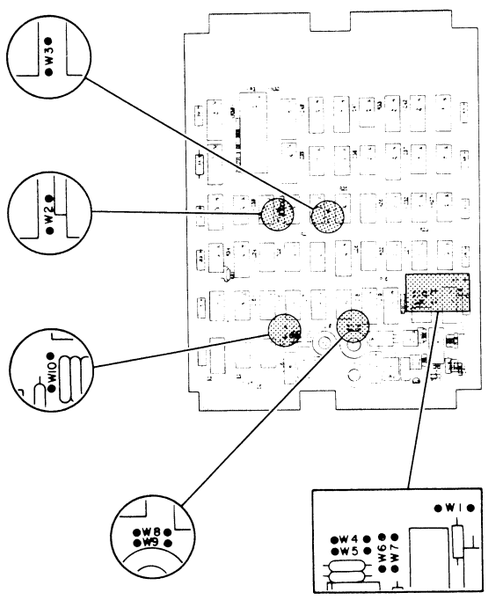
NOTES:

W7 IS ALWAYS INSERTED.

W8 IS NOT INSTALLED IF MEMORY IS TO BE USED ON +15V SYSTEMS. DO NOT INSTALL W8 IF MEMORY IS INSTALLED IN MP/100 SYSTEM, SLOT 1 OR SLOT 2.

SYNC. INTERFACE BOARD

Ref DGC 005-014487



LINE ADDRESS SELECT

SELECT ADDRESS	W2	W3
'00'8	IN	IN
'04'8	OUT	IN
'10'8	IN	OUT
'14'8	OUT	OUT

INTERNAL CLOCK FREQUENCY SELECT

BAUD RATE	W4	W5	W6	W7	W8	W9
300	OUT	IN	OUT	OUT	OUT	IN
600	IN	OUT	OUT	IN	OUT	IN
1200	OUT	OUT	IN	OUT	OUT	IN
2400	OUT	OUT	OUT	IN	OUT	IN
4800	OUT	IN	IN	OUT	OUT	IN
9600	IN	IN	IN	OUT	OUT	IN
19.2K	OUT	OUT	IN	OUT	IN	OUT

NOTE: 1. FOR APPLICATIONS WHERE NO MODEM IS USED, THE MODEM SIGNAL CLEAR TO SEND (CTS) MUST BE FORCED ON BY INSERTING JUMPER W1. IF A MODEM IS USED, JUMPER W1 SHOULD BE REMOVED IF IT WAS PREVIOUSLY INSTALLED.

2. FOR APPLICATIONS WHERE NO MODEM CLOCKS ARE AVAILABLE THE INTERNAL CLOCK MAY BE SELECTED BY INSERTING JUMPER W10.

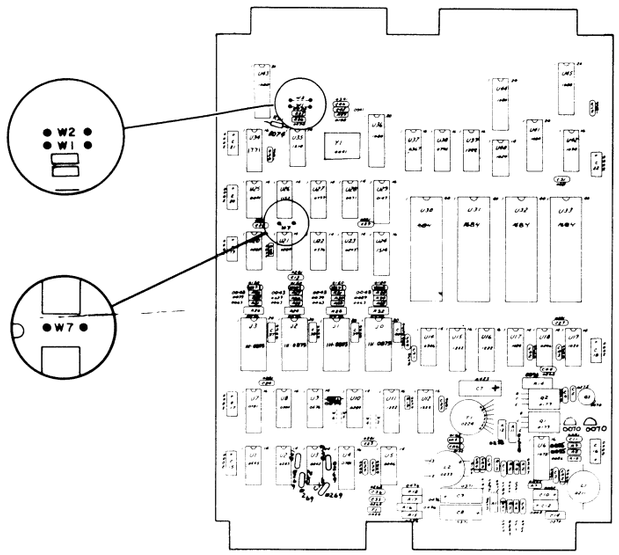
3. THE INTERNAL CLOCK FREQUENCY (BAUD RATE) MAY BE SELECTED WITH JUMPERS W4 THROUGH W9 (SEE TABLE).

TAILORING (CONT)

JUMPERING

4-LINE ASYNC INTERFACE

Ref DGC No 005-014485

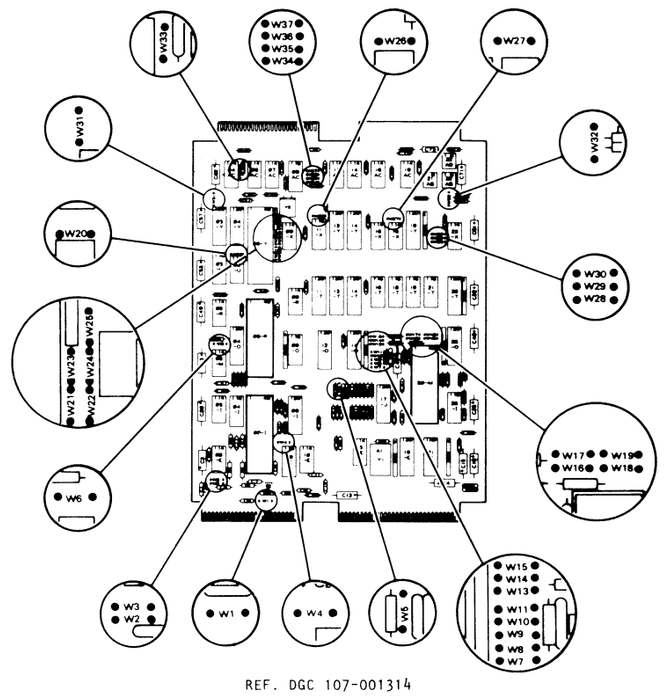


BOARD ADDRESS	W1	W2
0_8	IN	IN
4_8	IN	OUT
10_8	OUT	IN
14_8	OUT	OUT

NOTE: WHEN NO MODEM IS USED, CLEAR TO SEND (CTS) IS FORCED BY INSERTING:
W3 FOR LINE 0, W4 FOR LINE 1,
W5 FOR LINE 2, AND W6 FOR LINE 3.
FOR CS/30, W7 OUT

MP/100

Ref DGC No 005-012568



REF. DGC 107-001314

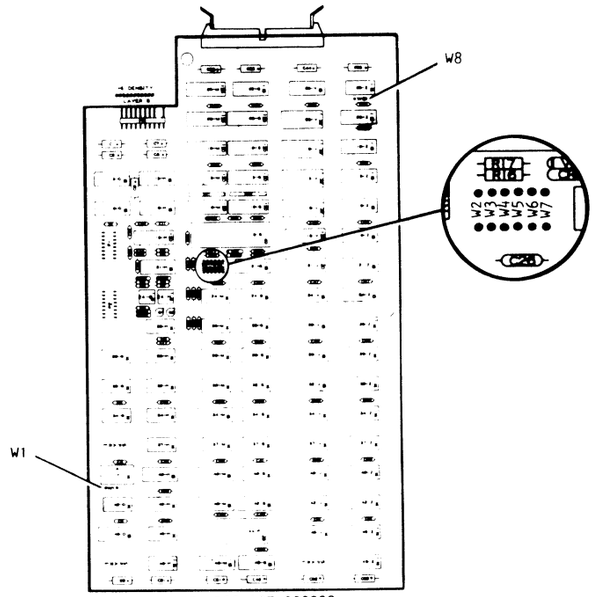
	W1,W3,W5,W6,W7, W8,W11,W13,W14, W15,W16,W17,W27, W33,W35,W36,W37	W2,W4,W9,W18, W20,W21,W22,W23, W24,W25,W29,W30, W31,W34	W10	W19, W26, W28, W32
RPD ENABLED	IN	OUT	IN	OUT
SOFT CONSOLE NO RPD	IN	OUT	OUT	IN

TAILORING (CONT)

JUMPERING

DISC DRIVE 6095N

Ref DGC No 005-010053



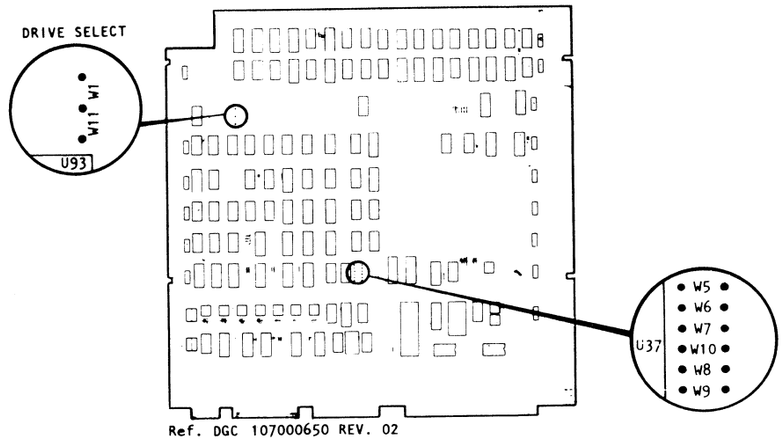
REF. DGC 107-000939

JUMPER POSITION
W1 IN W8 IN
DEVICE CODE SELECT
W2-DS5 W3-DS4 W4-DS3 W5-DS2 W6-DS1 W7-DS0
TYPICAL DEVICE CODE 27, 67

DEVICE CODE	DS5	DS4	DS3	DS2	DS1	DS0
27	OUT	IN	OUT	IN	IN	IN
67	IN	IN	OUT	IN	IN	IN

DISKETTE DRIVE 6038

Ref DGC No 005-007109



Ref. DGC 107000650 REV. 02

JUMPER MEMORY INSERTED
FOR DEVICE CODE 33

W10	W9	W8	W7	W6	W5
OUT	IN	IN	OUT	IN	IN

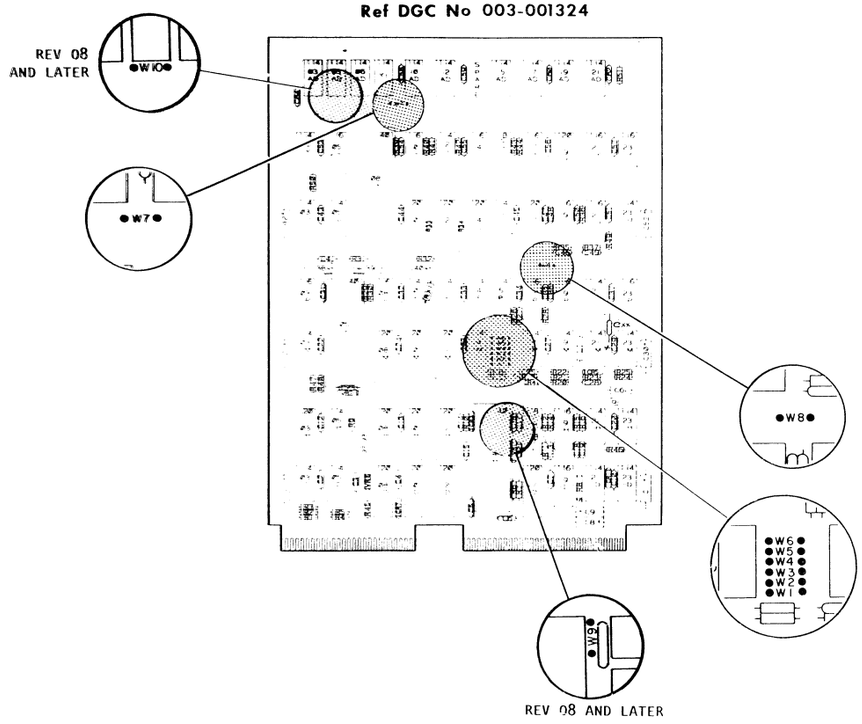
DRIVE 0 IF SELECTED BY INSTALLING JUMPER W1 OR W11. IF ONLY ONE DRIVE IN SYSTEM, JUMPER W11 SELECTS DRIVE 0.

TAILORING (CONT)

JUMPERING

6096-A CONTROLLER PCB

Ref DGC No 003-001324

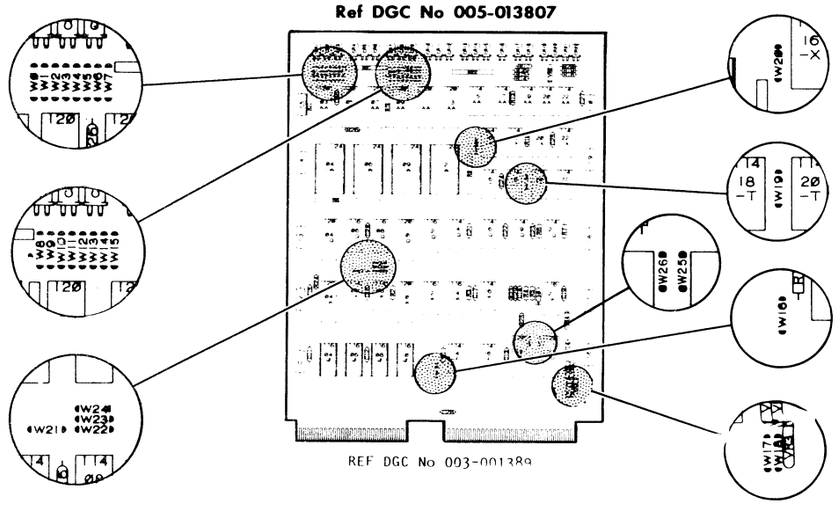


	DEVICE CODE 26	DEVICE CODE 66
DS0 — W6	OUT	IN
DS1 — W5	IN	IN
DS2 — W4	OUT	OUT
DS3 — W3	IN	IN
DS4 — W2	IN	IN
DS5 — W1	OUT	OUT

NOTE: W7, W8 AND W10 MUST ALWAYS BE INSTALLED, W9 IS INSERTED WHEN CONTROLLER IS INSTALLED IN +12V CHASSIS (CS/30)

RPD BOARD

Ref DGC No 005-013807



JUMPER REGISTER

JUMPER FUNC	W0	W1	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	W14	W15
	DC	DC	DC	DC	DC	DC	I/O	I/O			ODT		RDF	BDS	ERS	LDS
	OUT	IN	OUT	IN	IN	IN	OUT	IN	OUT	OUT	OUT	OUT	OUT	IN	OUT	OUT

DC - BOOTSTRAP DEVICE CODE
I/O - INPUT OUTPUT TYPE - 00 = CS20, 01 = CS30
RDF - DATA FORMAT FOR BOOTSTRAP ROMS - 0 = PACKED, 1 = UNPACKED
ODT - LOAD AND EXECUTE ODT
ERS - CONTINUE ON ERROR
LDS - DISPLAY STATUS REGISTER ONLY
BDS - STATE OF RPD BOARD AT TERMINATION ON/OFF

JUMPERS

	W21	W22	W23	W24	W20	W16	W19
RPD ENABLED	OUT	IN	OUT	IN	OUT	IN	IN
TEST RPD*	OUT	IN	OUT	IN	IN	IN	IN

	W18	W17	W25	W26
+12V	OUT	IN	IN	OUT
+15V	IN	OUT	OUT	IN

*CONFIGURE CPU JUMPERS FOR SOFT CONSOLE ENABLED

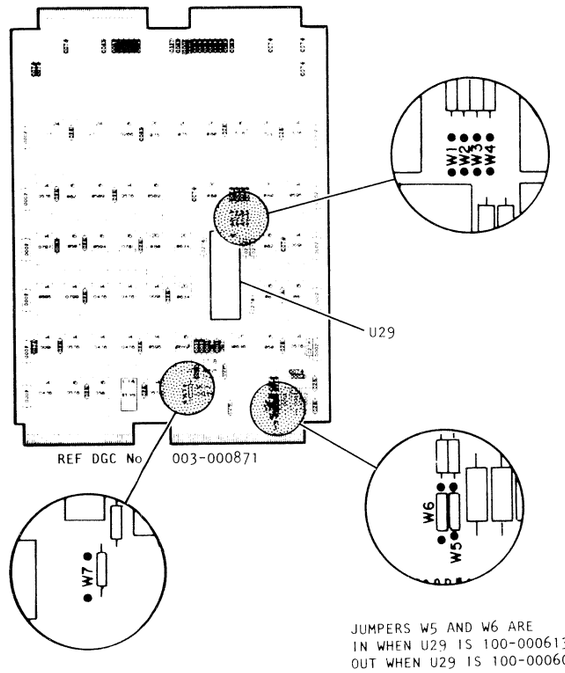
W21-24 - ROM SIZE
W20 - MAP EXISTS
W16 - MAPPED RPD
W19 - CS30

TAILORING (CONT)

JUMPERING

COMM CONTROLLER BOARD

Ref DGC No 005-013983



JUMPERS W5 AND W6 ARE
IN WHEN U29 IS 100-000613
OUT WHEN U29 IS 100-000603.

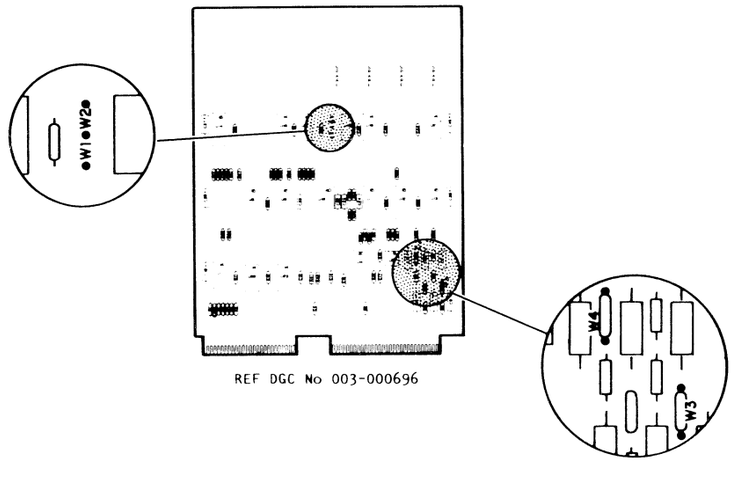
DEVICE CODE	W7
34_8 44_8	OUT IN

	W1	W2	W3	W4
CS/30	IN	IN	OUT	IN

JUMPERS W1 THRU W4 CONTROL THE BAUD RATE BY AN INTERNAL CLOCK. THIS CLOCK IS ONLY NECESSARY WHEN THE BOARD IS USED WITH ASYNC INTERFACE.

LPT CONTROLLER BOARD

Ref DGC No 005-013981



	W1	W2
DASHER LP 2 9192	IN	OUT
LINE PRINTER 9193	OUT	IN
LINE PRINTER 9194	OUT	IN

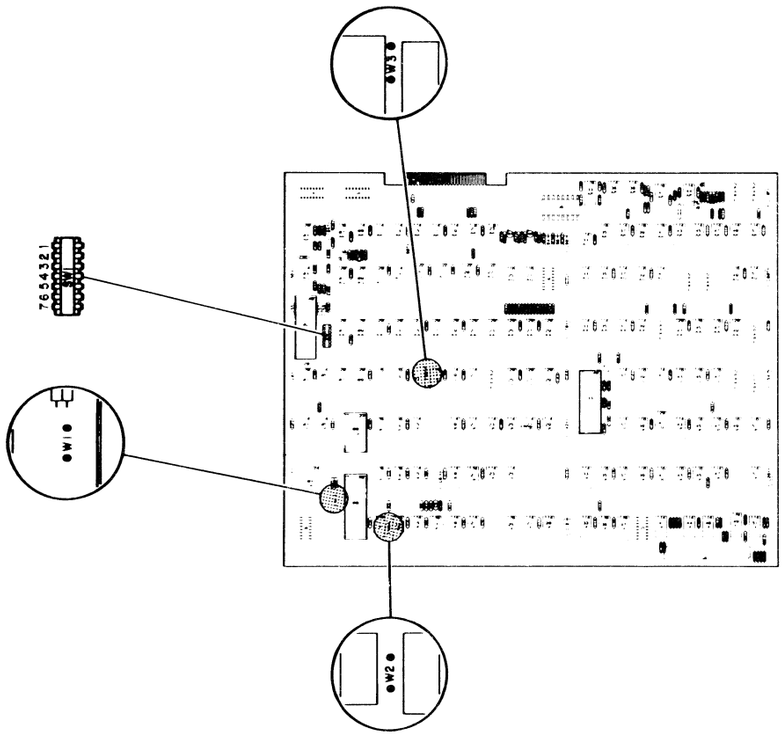
	W3	W4 *
005-008448	OUT	OUT
005-013981	IN	IN

TAILORING (CONT)

JUMPERING

DISC DRIVES 6101, 6102, 6104, 6105

CONTROLLER BOARD

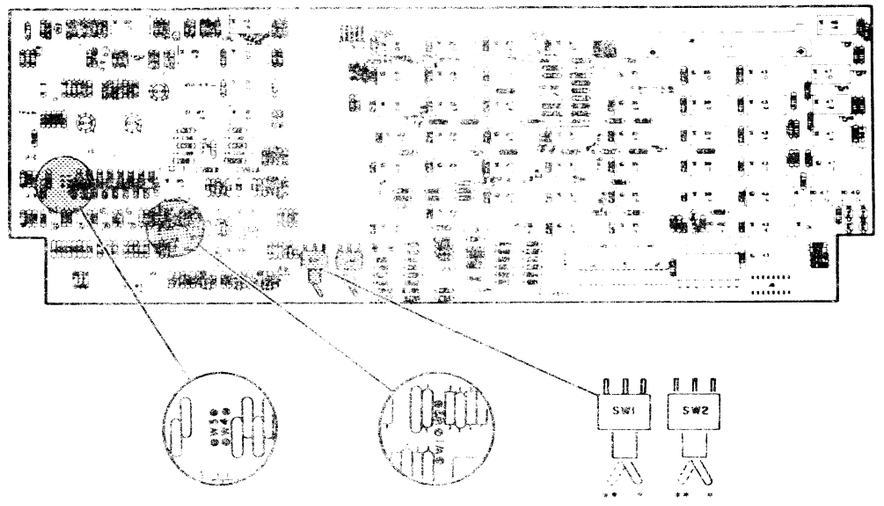


CONTROLLER DEVICE CODE SELECT		
SWITCH NUMBER	DEVICE CODE 26	DEVICE CODE 66
1	OFF *	OFF *
2	OFF	ON
3	ON	ON
4	OFF	OFF
5	ON	ON
6	ON	ON
7	OFF	OFF

*THIS SWITCH NOT USED

CONTROLLER JUMPER SELECTION		
JUMPER	6101/6102	6104/6105
W-1	JUMPER REMOVED	JUMPER REMOVED
W-2	JUMPER INSERTED	JUMPER REMOVED
W-3	JUMPER INSERTED	JUMPER INSERTED

R/W LOGIC BOARD



R/W JUMPER SELECTION			
12.5 MBY		25 MBY	
JUMPER		JUMPER	
W1	IN	W1	IN
W2*	OUT	W2*	OUT
W3	OUT	W3	IN
W4	OUT	W4	IN

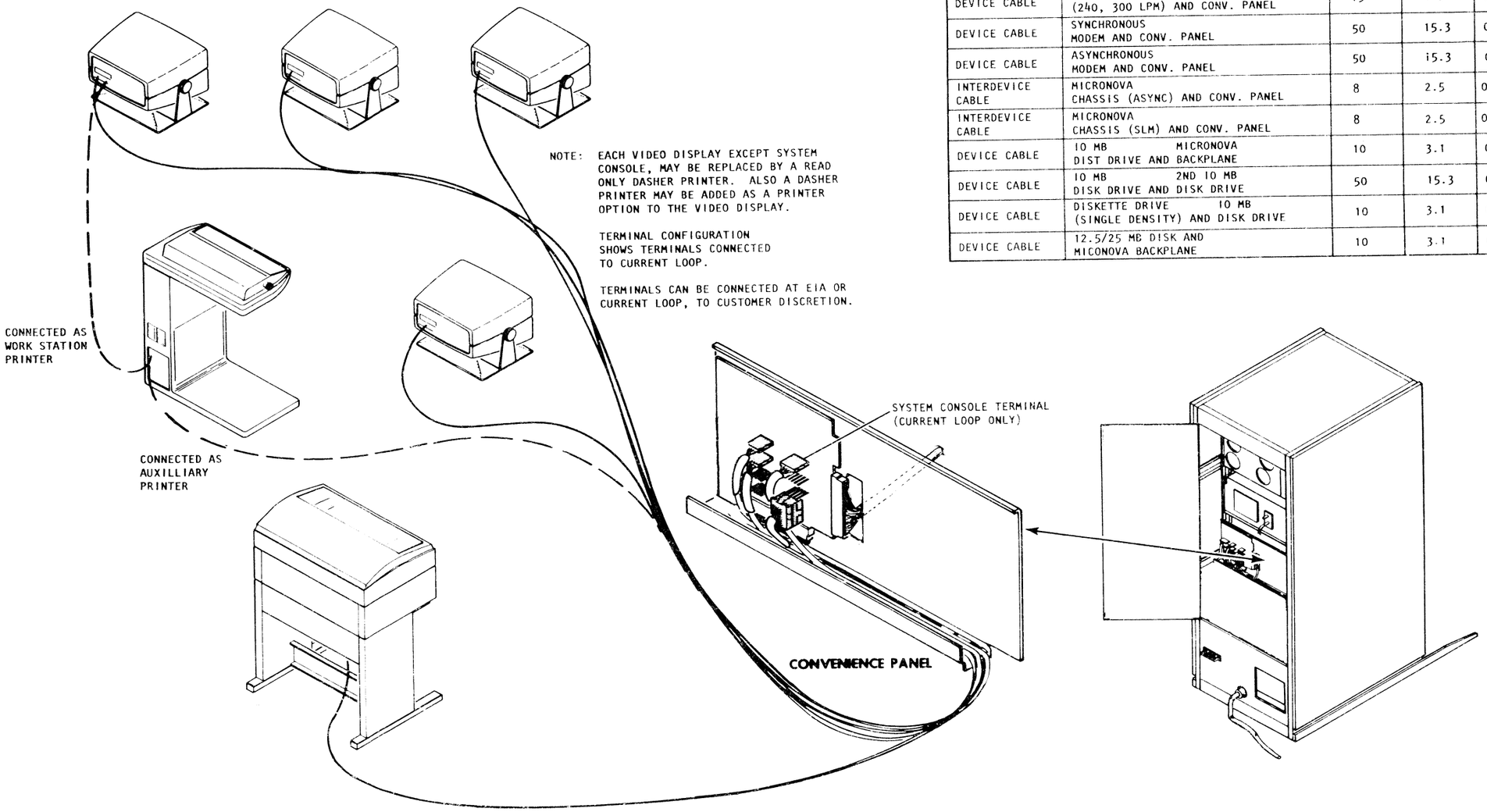
* INSERTED FOR FACTORY USE ONLY

SWITCH SETTINGS	
SWITCH	*RIGHT
SW-1	RIGID DISC NOT WRITE PROTECTED
SW-2	RIGID DISC = UNIT 0 FLEXIBLE DISC = UNIT 1
	**LEFT
SW-1	RIGID DISC WRITE PROTECTED
SW-2	RIGID DISC = UNIT 1 FLEXIBLE DISC = UNIT 0

EXTERNAL CABLING

OPTIONAL CABLES

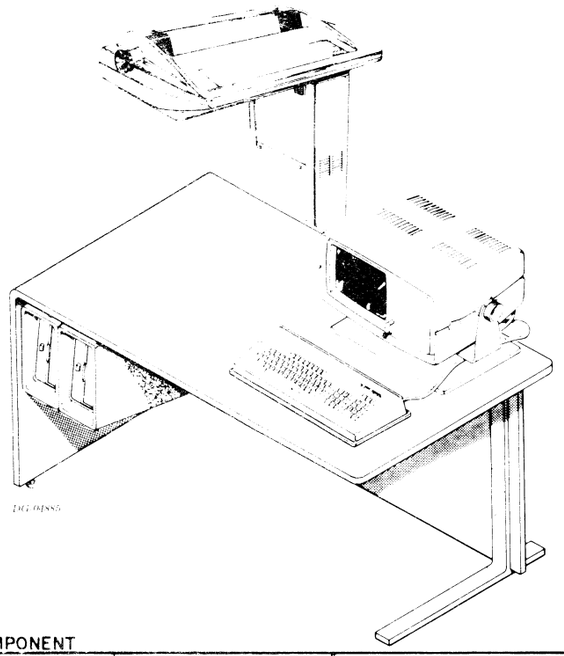
6053G/6093G			6041K		
MODEL NO.	CABLE	LENGTH	MODEL NO.	CABLE	LENGTH
1141 A	005-9695	100 FT.	1142 A	005-9801	100 FT.
1141 B	005-9696	250 FT.	1142 B	005-9802	250 FT.
1141 C	005-9697	400 FT.	1142 C	005-9803	500 FT.
1141 D	005-9698	1000 FT.	1142 D	005-9804	1000 FT.
1141 E	005-9699	1500 FT.	1142 E	005-9805	1500 FT.
1141 F	005-9800	2000 FT.	1142 F	005-9806	2000 FT.



CABLE	CONNECTING	MAX ALLOWED LENGTH		ASSY NO.	USED ON
		FEET	METERS		
DEVICE CABLE (EIA)	DASHER DISPLAY AND CONV. PANEL	50	15.3	005-8181	6053-F
DEVICE CABLE (CURRENT LOOP)	DASHER DISPLAY AND CONV. PANEL	2000	600	005-7636	6053-G
DEVICE CABLE	DASHER DISPLAY AND FULL DUPLEX MODEM	50	15.3	005-7637	6053-J
DEVICE CABLE (EIA)	DASHER PRINTER (60 CPS) AND CONV. PANEL	50	15.3	005-8181	6041-F
DEVICE CABLE (CURRENT LOOP)	DASHER PRINTER (60 CPS) AND CONV. PANEL	2000	600	005-9692	6041-K
DEVICE CABLE (EIA)	DASHER PRINTER LP2 (180 CPS) AND CONV. PANEL	50	15.3	005-8181	9192
DEVICE CABLE	LINE PRINTERS (240, 300 LPM) AND CONV. PANEL	15	4.6	005-7888	9194,9193
DEVICE CABLE	SYNCHRONOUS MODEM AND CONV. PANEL	50	15.3	005-5269	1084-G
DEVICE CABLE	ASYNCHRONOUS MODEM AND CONV. PANEL	50	15.3	005-5269	1084-G
INTERDEVICE CABLE	MICRONOVA CHASSIS (ASYNC) AND CONV. PANEL	8	2.5	005-13810	
INTERDEVICE CABLE	MICRONOVA CHASSIS (SLM) AND CONV. PANEL	8	2.5	005-13812	
DEVICE CABLE	10 MB MICRONOVA DIST DRIVE AND BACKPLANE	10	3.1	005-7507	6095
DEVICE CABLE	10 MB 2ND 10 MB DISK DRIVE AND DISK DRIVE	50	15.3	005-7507	6095
DEVICE CABLE	DISKETTE DRIVE 10 MB (SINGLE DENSITY) AND DISK DRIVE	10	3.1	005-7507	6038-B
DEVICE CABLE	12.5/25 MB DISK AND MICONOVA BACKPLANE	10	3.1	005-7507	6101,6104

SUBSYSTEM COMPONENT BREAKDOWN

(TWO DISKETTE SYSTEM SHOWN)



MAJOR COMPONENT

Component	Mounting Location	Notes
DISPLAY CPU	FREE STANDING ON TABLE	
KEYBOARD	FREE STANDING ON TABLE	
TABLE & TWO DISKETTE	FREE STANDING	
THREE DISKETTE	TABLE MOUNTED	OPTIONAL
FOUR DISKETTE	TABLE MOUNTED	OPTIONAL
DASHER PRINTER R.O.	FREE STANDING	SEE 010-094-02

CABLE

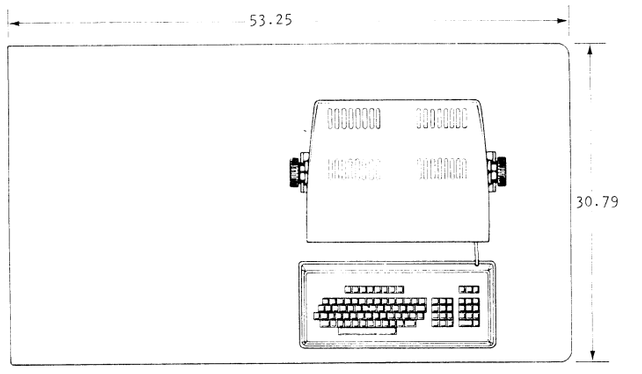
Cable	Connecting			Max Allowed Lg ft / m	Notes
EXT DEVICE	DASHER PRINTER	and	DISPLAY CPU	50 / 15.3	
EXT DEVICE	300LPM PRINTER	"	DISPLAY CPU	15 / 4.57	USED ON 9125
EXT DEVICE	180CPS DASHER LP2	"	DISPLAY CPU	15 / 4.57	
EXT DEVICE	SYNCHRONOUS MODEM	"	DISPLAY CPU	50 / 15.3	

WARNING

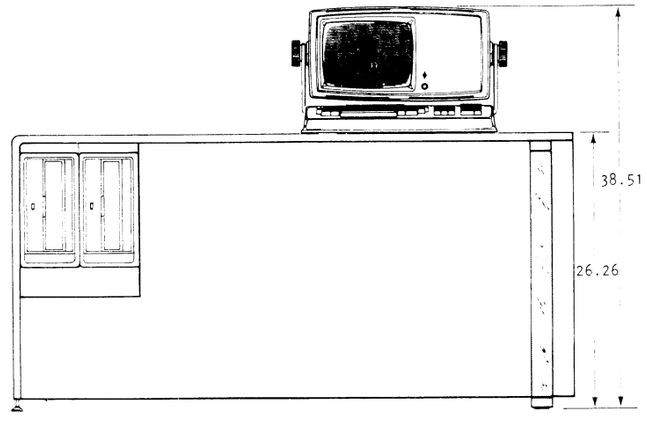
THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY ENERGY AND IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTION MANUAL, MAY CAUSE INTERFERENCE TO RADIO COMMUNICATIONS. AS TEMPORARILY PERMITTED BY REGULATION IT HAS NOT BEEN TESTED FOR COMPLIANCE WITH THE LIMITS FOR CLASS A COMPUTING DEVICES PURSUANT TO SUBPART J OF PART 15 OF FCC RULES, WHICH ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST SUCH INTERFERENCE. OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA IS LIKELY TO CAUSE INTERFERENCE IN WHICH CASE THE USER AT HIS OWN EXPENSE WILL BE REQUIRED TO TAKE WHATEVER MEASURES MAY BE REQUIRED TO CORRECT THE INTERFERENCE.

SPECIFICATIONS OF FREE-STANDING COMPONENTS

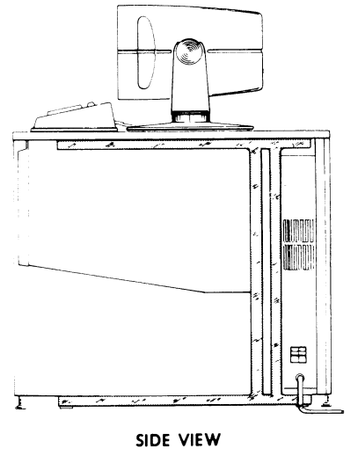
Component	Number in Subsystem	Weight lbs / kg	Operating Humidity (Relative) min / max	Maximum Operating Temperature Component °F / °C	Maximum Operating Temperature Media °F / °C	Power Dissipation (Watts)	BTUs/hr (3.41 x Watts)	Primary Power Volts +10-15	Primary Power Hz ±1	Primary Power Phase	Primary Power Cond	Primary Power Amps	Power Cable Length ft / m	Power Cable Connector NEMA	Power Drop Mating Power Receptacle NEMA	Wall Mating Power Receptacle NEMA
TWO DISKETTE	1		20 / 80	104 / 40	104 / 40	600	1868	120	60	1	3	6.0	10 / 3.06	5-15P	5-15R	5-15R
THREE DISKETTE	1		20 / 80	104 / 40	104 / 40	900	3093	120	60	1	3	8.6	10 / 3.06	5-15P	5-15R	5-15R
FOUR DISKETTE	1		20 / 80	104 / 40	104 / 40	1020	3461	120	60	1	3	9.5	10 / 3.06	5-15P	5-15R	5-15R
TWO DISKETTE	1		20 / 80	104 / 40	104 / 40	575	1947	220	50	1	3	3.2	10 / 3.06	6-15P	6-15R	6-15R
THREE DISKETTE	1		20 / 80	104 / 40	104 / 40	875	2997	220	50	1	3	4.6	10 / 3.06	6-15P	6-15R	6-15R
FOUR DISKETTE	1		20 / 80	104 / 40	104 / 40	975	3297	220	50	1	3	5.0	10 / 3.06	6-15P	6-15R	6-15R
TWO DISKETTE	1		20 / 80	104 / 40	104 / 40	650	2234	240	50	1	3	3.3	10 / 3.06	6-15P	6-15R	6-15R
THREE DISKETTE	1		20 / 80	104 / 40	104 / 40	950	3216	240	50	1	3	4.5	10 / 3.06	6-15P	6-15R	6-15R
FOUR DISKETTE	1		20 / 80	104 / 40	104 / 40	1150	3870	240	50	1	3	5.3	10 / 3.06	6-15P	6-15R	6-15R



TOP VIEW



FRONT VIEW



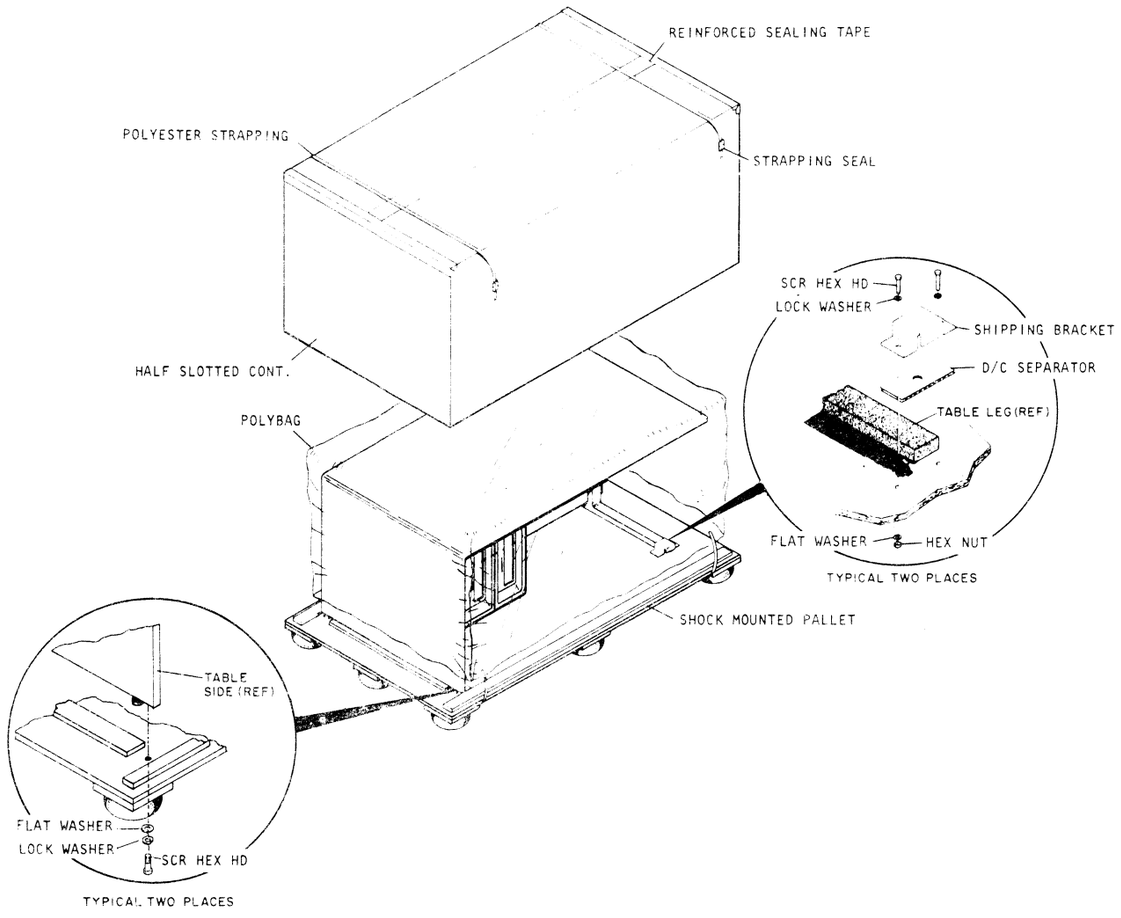
SIDE VIEW

DG-04886

ALL DIMENSIONS IN INCHES

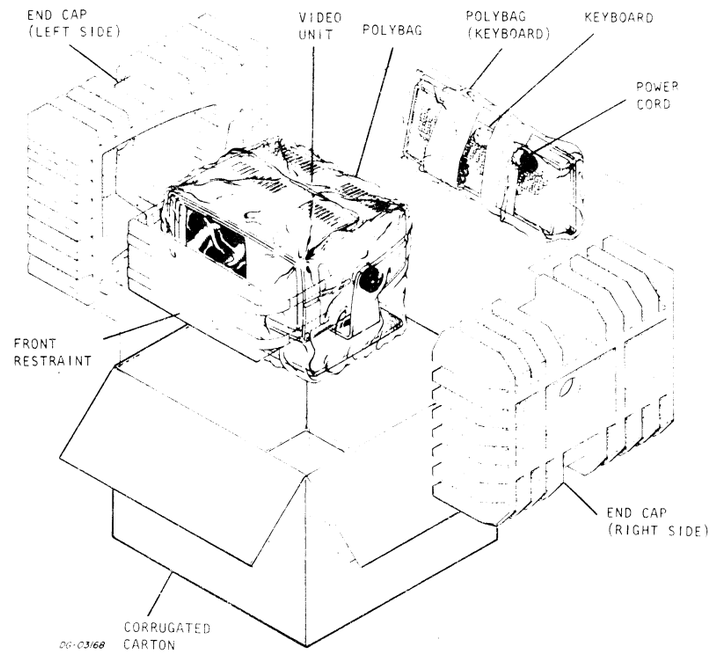
SHIPPING

TABLE AND DUAL DISKETTE



SHIPPING AND PACKAGE DATA								
Outside Dimensions				Weight (Gross)		Volume	Density	
Height		Width		Depth				
in	cm	in	cm	in	cm	lbs.	kg	cu ft	cu m	lbs/cu ft	kg/cu m
62	157.48	36.75	93.34	30	76.20	237	106.9	39.5	1.18	4.3	64.8
SHIPPING SPECIFICATIONS						STORAGE SPECIFICATIONS					
Temperature Range			Relative Humidity (Non-condensing)		Maximum Altitude	Temperature Range			Relative Humidity (Non-condensing)		Maximum Period
°F	°C					°F	°C				
-40 to 104	-40 to +40		0 -95		50,000ft	-40 to 104	-40 to +40		0 -80		90 DAYS

DISPLAY CPU

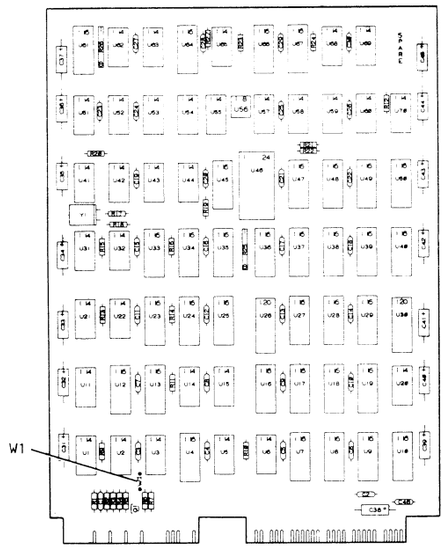


SHIPPING AND PACKAGE DATA								
Outside Dimensions				Weight (Gross)		Volume	Density	
Height		Width		Depth				
in	cm	in	cm	in	cm	lbs	kg	cu ft	cu m	lbs/cu ft	kg/cu m
19 1/2	50	25 1/2	65	25	64	57	26	7.2	0.2	8	130
SHIPPING SPECIFICATIONS						STORAGE SPECIFICATIONS					
Temperature Range			Relative Humidity (Non-condensing)		Maximum Altitude	Temperature Range			Relative Humidity (Non-condensing)		Maximum Period
°F	°C					°F	°C				
-40 to 104	-40 to +40		0 -95		50,000ft	-40 to 104	-40 to +40		0 -80		90 DAYS

TAILORING

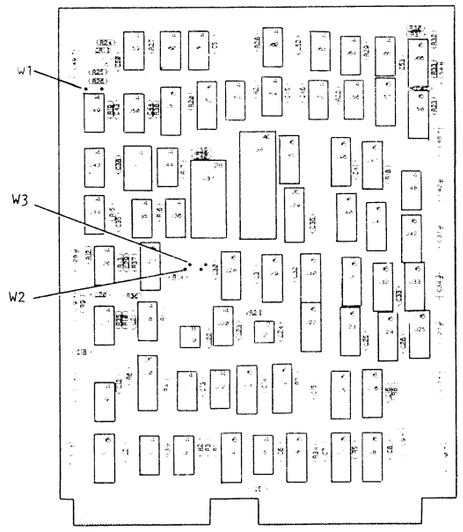
JUMPERS

VIDEO DISPLAY PCB
REF. DGC 005-8649-00



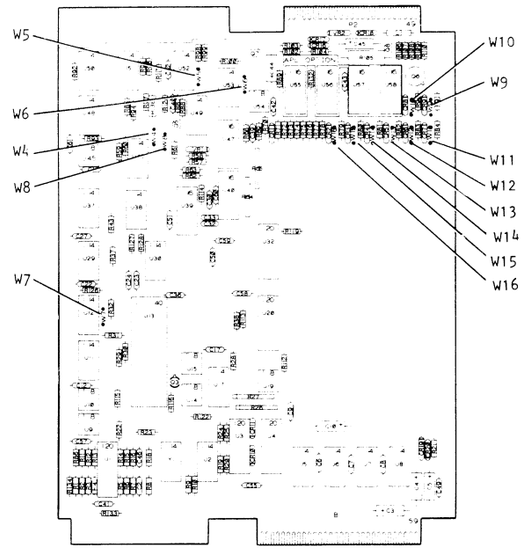
OPERATING POWER	JUMPER
	W1
50Hz	IN
60Hz	OUT

IT SYNCHRONOUS PCB
REF. DGC 005-8815-00



BELL	JUMPERS W1	W2	W3
LOUD	IN		
SOFT	OUT		
PRINTERS			
DATA PRODUCTS		IN	OUT
CENTRONICS		OUT	IN

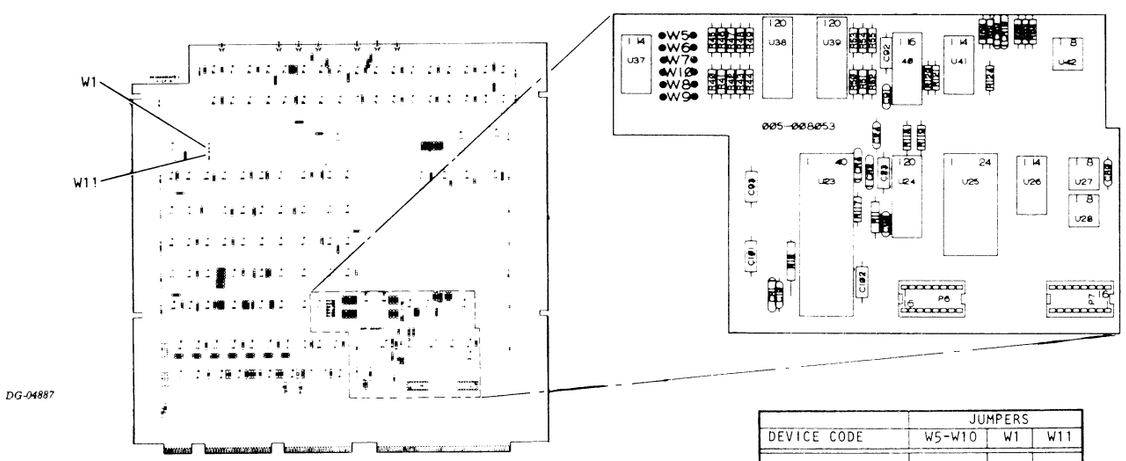
microNOVA ØK CPU PCB
REF. DGC 005-9826-02



JUMPERS	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	W14	W15	W16
APL OPTION	IN	IN	OUT	IN	IN	IN	-	DS0	DS1	DS2	DS3	DS4	DS5
STARTING ADD	IN	OUT	IN	-	OUT	A0	A1	A2	A3	A4	A5	A6	A7

W9 IN FOR DCH DEV
DS0-5 JUMPER MUST BE IN TO SPECIFIY No.1
W1-W3 NOT USED

FLOPPY DISKETTE DRIVE PCB
REF. DGC 005-8053-10



DEVICE CODE	JUMPERS W5-W10	W1	W11
DRIVE 0 IS LEFT	—	IN	
DRIVE 1 IS LEFT	—		IN

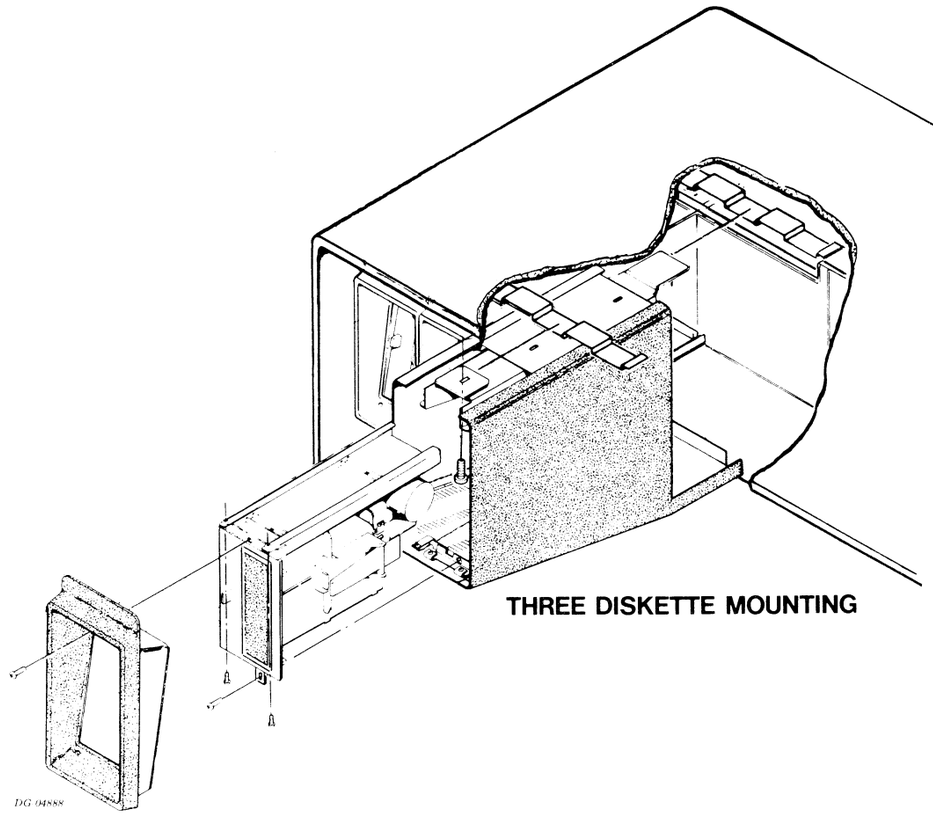
SLOT ASSIGNMENTS

	SLOT	PC BOARD
FRONT OF TERMINAL	1	VIDEO DISPLAY
	2	microNOVA CPU
	3	
	4	32K MEMORY BOARD
	5	RPD BOARD
	6	
	7	I/O CONTROLLER

32K MEMORY BOARD

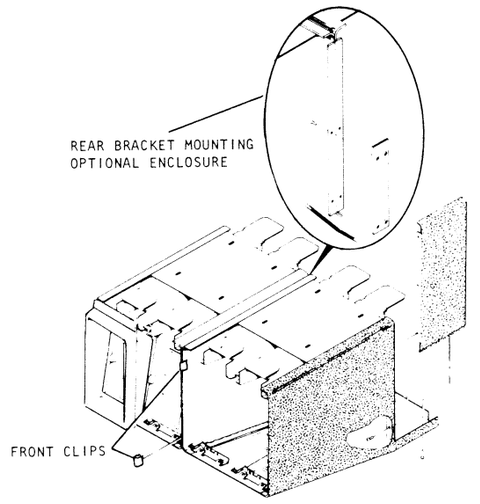
NOTE:
JUMPERS W1-W6 NOT USED, MFG TEST ONLY.

OPTIONS



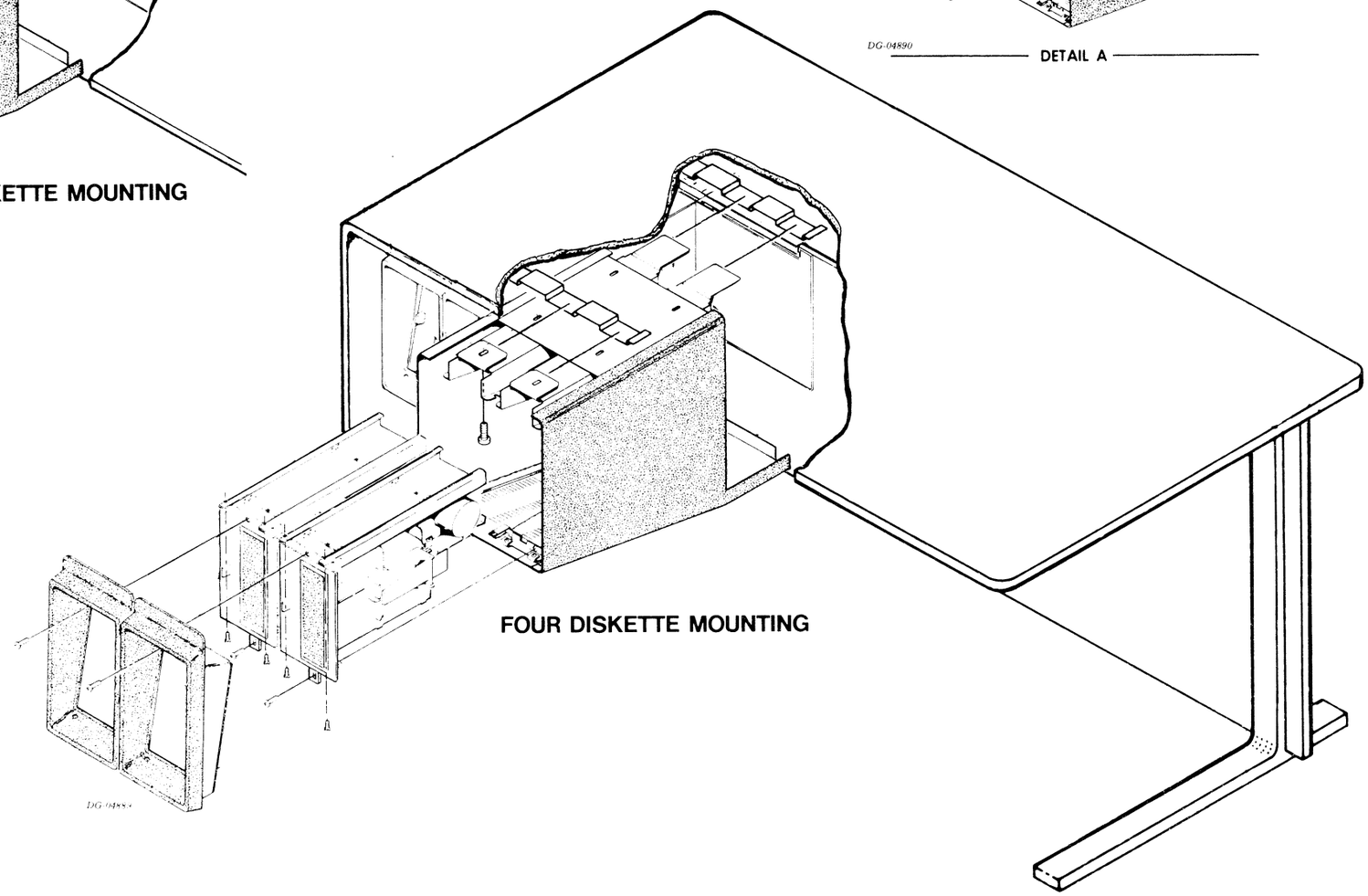
DG-04888

THREE DISKETTE MOUNTING



DG-04890

DETAIL A

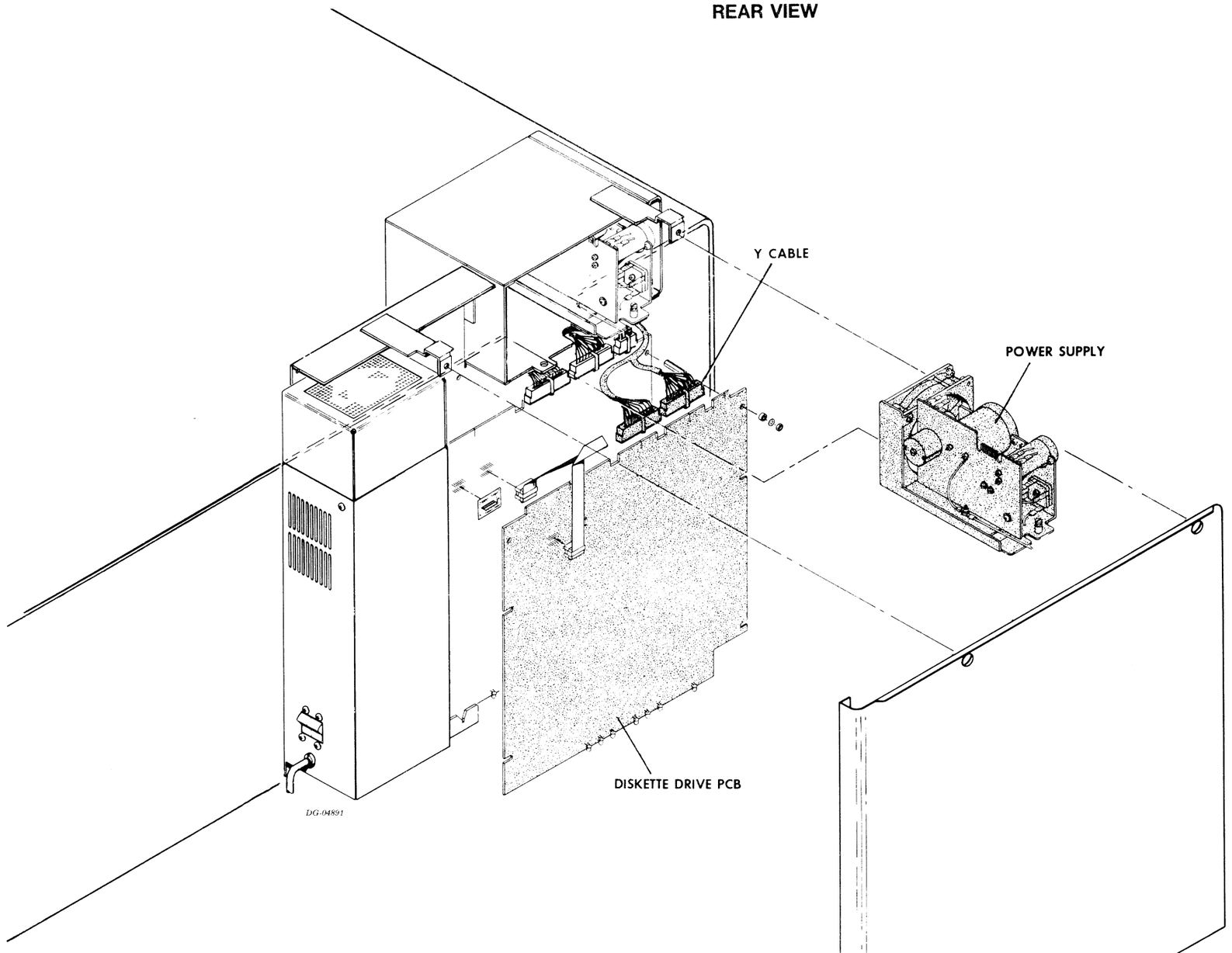


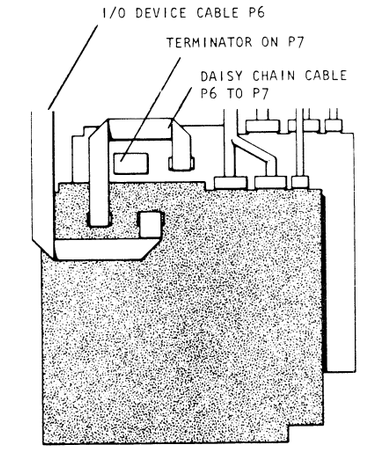
DG-04885

FOUR DISKETTE MOUNTING

OPTION (Cont)

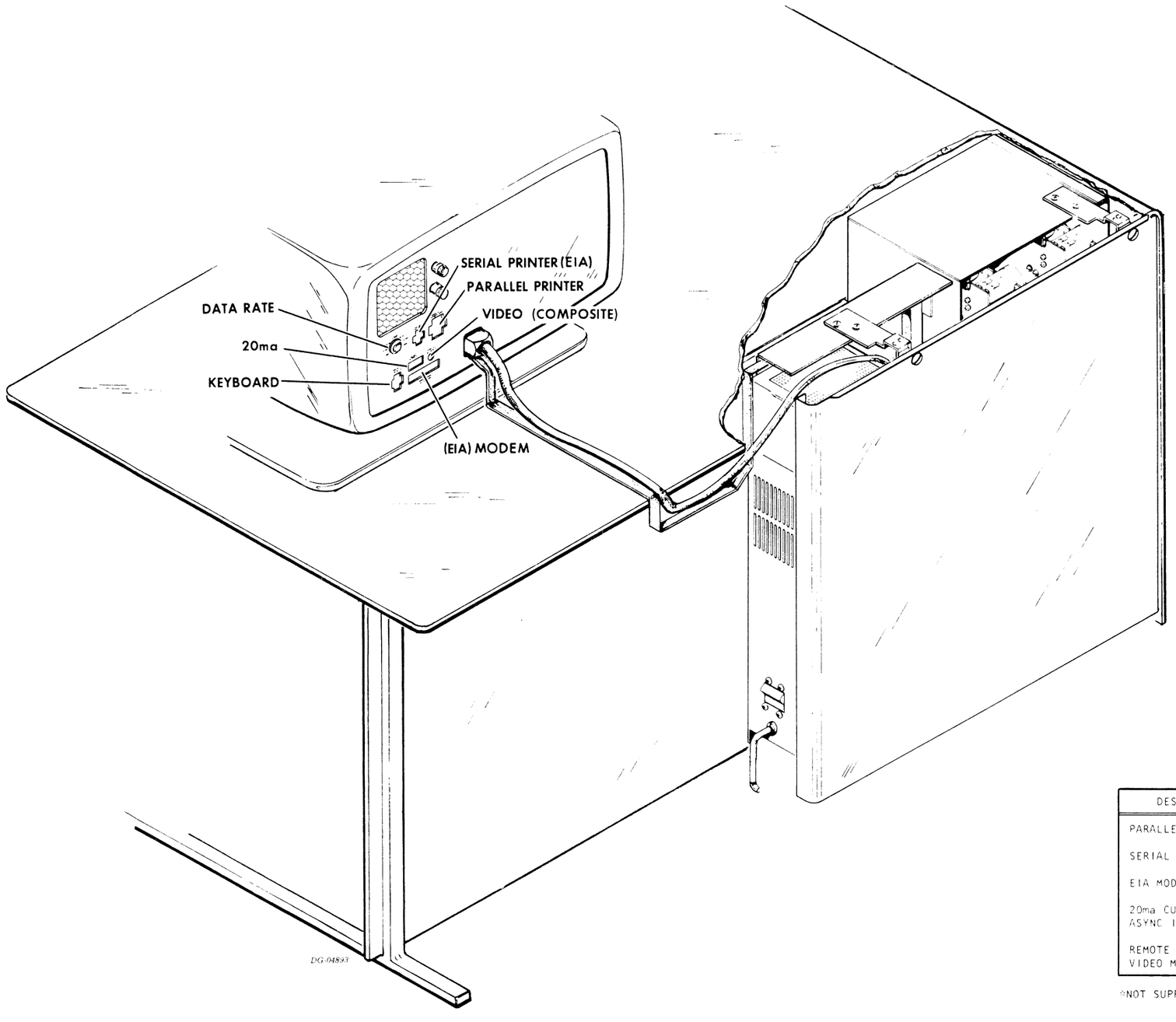
REAR VIEW





DETAIL A

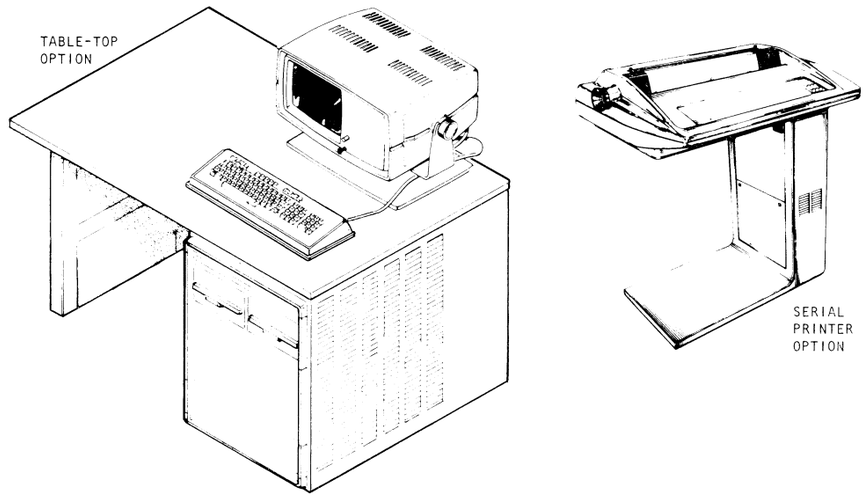
EXTERNAL CABLING



DESCRIPTION	CABLE ASSY No.
PARALLEL PRINTER	005-9060 005-8844
SERIAL PRINTER	005-8833
EIA MODEM	005-8834
20ma CURRENT LOOP ASYNC I/O COM. LINE	005-7636
REMOTE COMPOSITE VIDEO MONITOR	*H.H. SMITH PLUG TYPE 1202

*NOT SUPPLIED BY DGC

CS/10 SUBSYSTEM COMPONENT BREAKDOWN



DISKETTE-BASED C1 CONFIGURATION
MODEL 9320

MAJOR COMPONENTS

COMPONENT	MOUNTING LOCATION	NOTES
LOW-BOY CABINET 1148-AS	FREE STANDING	
LOW-BOY CABINET/TABLE 1148-BS	FREE STANDING	OPTION
CPU/TERMINAL 005-015749 (120 VAC)	FREE STANDING	
CPU/TERMINAL 005-016701 (240 VAC)	FREE STANDING	
TABLE-TOP ADD-ON 1249	1148-AS CABINET	UPGRADE OPTION
KEYBOARD (SEE VERSIONS LISTING)	FREE STANDING	
DISKETTE DRIVES 6096-SB	CABINET	
DOT MATRIX SERIAL PRINTER 4422	FREE STANDING	OPTION, SEE 010-000301
TP1 SERIAL PRINTER 6041-S	FREE STANDING	OPTION, SEE 010-000094
TP2 SERIAL PRINTER 6193	FREE STANDING	OPTION, SEE 010-001016
LETTER QUALITY PRINTER 4320-S	FREE STANDING	OPTION, SEE 010-000248
LETTER QUALITY PRINTER/SHEET FEED 4322-S	FREE STANDING	OPTION, SEE 010-000248
SYNC COMMUNICATIONS KIT 9329, 9330	CPU/TERMINAL	OPTION
P10 PRINTER 9283	FREE STANDING	OPTION, SEE 010-001004
P10 PRINTER 9198	FREE STANDING	OPTION, SEE 010-001004
M200 MATRIX PRINTER 4354-S, M	FREE STANDING	OPTION, SEE 010-001005

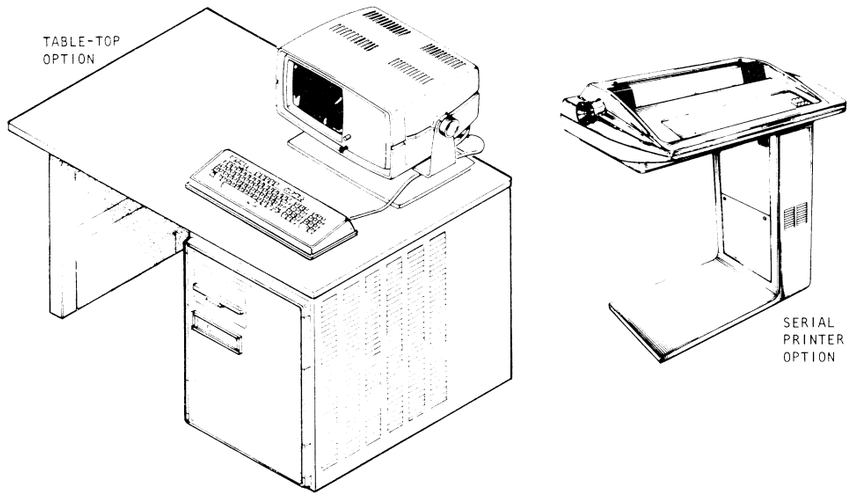
BTU'S/HR

COMPONENT	BTU'S
CPU/TERMINAL	329
DUAL DISKETTE DRIVES	491

KEYBOARD VERSIONS

COUNTRY	MODEL SUFFIX	STANDARD KEYBOARD	CHARACTER GENERATOR*
FRANCE	C	005-015866	005-015852
UNITED KINGDOM	B	005-015867	005-015853
SWEDEN	F	005-015868	005-015854
GERMANY	D	005-015869	005-015855
DENMARK	H	005-015870	005-015856
SPAIN	G	005-015871	005-015857
UNITED STATES	A	005-015872	STANDARD IPM-2A

* THE CHARACTER GENERATOR ROM'S ARE LANGUAGE CONVERSION KITS FOR THE IPM-2A PCB.



DISK-BASED C1 CONFIGURATION
MODELS 9321, 9322, 9321-W, 9322-W

MAJOR COMPONENTS

COMPONENT	MOUNTING LOCATION	NOTES
LOW-BOY CABINET 1148-AS	FREE STANDING	
LOW-BOY CABINET/TABLE 1148-BS	FREE STANDING	OPTION
CPU/TERMINAL 005-015749 (120 VAC)	FREE STANDING	
CPU/TERMINAL 005-016701 (240 VAC)	FREE STANDING	
TABLE-TOP ADD-ON, 1249	1148-AS CABINET	UPGRADE OPTION
KEYBOARD (SEE VERSIONS LISTING)	FREE STANDING	
DISK/DISKETTE DRIVES (12.5 +1.2 MB) 6101-S	CABINET	MODEL 9321
DISK/DISKETTE DRIVES (25 +1.2 MB) 6104-S	CABINET	MODEL 9322
MAG TAPE DRIVE 6123	EXPANSION CABINET	MODELS 9321,9322, 9321-W, 9322-W
TP1 SERIAL PRINTER 6041-S	FREE STANDING	OPTION, SEE 010-000094
TP2 SERIAL PRINTER 6193	FREE STANDING	OPTION, SEE 010-001016
DOT MATRIX PRINTER	FREE STANDING	OPTION, SEE 010-000301
LETTER QUALITY PRINTER 4320-S	FREE STANDING	OPTION, SEE 010-000248
LETTER QUALITY PRINTER W/SHEET FEED 4322-S	FREE STANDING	OPTION, SEE 010-000248
LINE PRINTER, LP2 (180 CPS) 9610-S	FREE STANDING	OPTION, SEE 010-001023
LINE PRINTER, 9260-S (300 LPM, BAND TYPE)	FREE STANDING	OPTION, SEE 010-000233
LINE PRINTER, 9261-S (240 LPM, BAND TYPE)	FREE STANDING	OPTION, SEE 010-000233
LINE PRINTER CONTROLLER PCB	CPU/TERMINAL	P/O LINE PRINTER OPTION
P10 PRINTER 9293	FREE STANDING	OPTION, SEE 010-001004
P10 PRINTER 9193	FREE STANDING	OPTION, SEE 010-001004
M200 MATRIX PRINTER 4354-S, M	FREE STANDING	OPTION, SEE 010-001005
DUAL DISKETTE DRIVES (2.4 MB) 6096-SD	CABINET	MODELS 9321-W, 9322-W
DISK 6102-SD (12.5 MB)	CABINET	MODEL 9321-W
DISK 6105-SD (25 MB)	CABINET	MODEL 9322-W
DISK 6102-S (12.5 MB)	EXPANSION CABINET	EXPANSION OPTION
DISK 6105-S (25 MB)	EXPANSION CABINET	EXPANSION OPTION
LOW-BOY CABINET 1148-AS (FOR EXPANSION DISK)	FREE STANDING	OPTION
SYNC COMMUNICATIONS KIT 9329, 9330	CPU/TERMINAL	OPTION

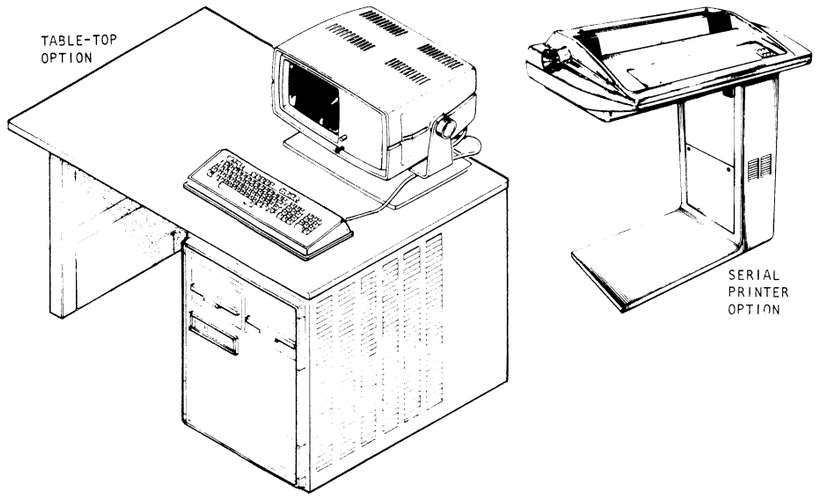
BTU'S/HR

COMPONENT	BTU's
CPU/TERMINAL	329
DUAL DISKETTE DRIVES	491
DISK (6102-S, 6105-S)	1159
DISK/SINGLE DISKETTE DRIVE	1500
MAG TAPE DRIVE 6123	750

CS/10 SUBSYSTEM COMPONENT BREAKDOWN (CONT)

DISK-BASED C3 CONFIGURATION

MODELS 9323, 9324, 9323-S, 9324-S, 9323-W, 9324-W



MAJOR COMPONENTS

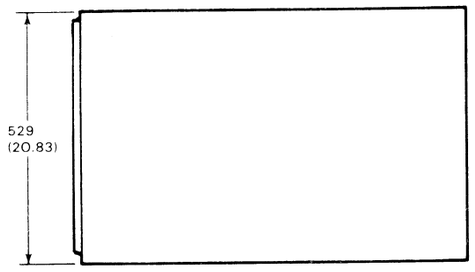
COMPONENT	MOUNTING LOCATION	NOTES
LOW-BOY CABINET 1148-AS	FREE STANDING	
LOW-BOY CABINET/TABLE 1148-BS	FREE STANDING	OPTION
CPU/TERMINAL 005-015800 (120VAC)	FREE STANDING	
CPU/TERMINAL 005-016700 (240 VAC)	FREE STANDING	
TABLE-TOP ADD-ON 1249	1148-AS CABINET	UPGRADE OPTION
KEYBOARD (SEE VERSION LISTING)	FREE STANDING	
DISK/DISKETTE DRIVES (12.5 + 1.2MB) 6101-S	CABINET	MODEL 9323
DISK/DISKETTE DRIVES (25 + 1.2 MB) 6104-S	CABINET	MODEL 9324
DUAL DISKETTE DRIVES (2.4 MB) 6096-SD	CABINET	MODELS 9323-W, 9324-W
MAG TAPE DRIVE 6123	EXPAN CABINET	MODELS 9323-S, 9324-S, 9323,-9324, 9323-W,-9324-W
ASYNC/MUX/CONV PANEL PCB 005-015626-SD	CABINET	
SYSTEM TERMINALS, D2, 6053-M (RS232)	FREE STANDING	OPTION, SEE 010-000098
SYSTEM TERMINALS, D200, 6108-M,N,J (RS232/20mA)	FREE STANDING	OPTION, SEE 010-000241
TP1 SERIAL PRINTER 6041-S, M, J	FREE STANDING	OPTION, SEE 010-000094
TP2 SERIAL PRINTER 6193	FREE STANDING	OPTION, SEE 010-000214
DOT MATRIX SERIAL PRINTER 4422	FREE STANDING	OPTION, SEE 010-000301
LETTER QUALITY PRINTER 4320- S, M, J	FREE STANDING	OPTION, SEE 010-000248
LETTER QUALITY PRINTER/SHEET FEED 4322-S, M, J	FREE STANDING	OPTION, SEE 010-000248
LINE PRINTER,LP2, (180 CPS) 9610	FREE STANDING	OPTION, SEE 010-001023
LINE PRINTER,(300 LPM, BAND TYPE) 9260-T, S	FREE STANDING	OPTION, SEE 010-000233
LINE PRINTER,(240 LPM, U/LC, BAND-TYPE) 9261-T,S	FREE STANDING	OPTION, SEE 010-000233
M200 MATRIX PRINTER 4354-S, M	FREE STANDING	OPTION, SEE 010-001005
SYSTEM TERMINAL, D3, 6093	FREE STANDING	OPTION, SEE 010-000215
P10 PRINTER 9293	FREE STANDING	OPTION, SEE 010-001004
P10 PRINTER 9198	FREE STANDING	OPTION, SEE 010-001004
LOW-BOY CABINET 1148-AS (FOR EXPANSION DISK)	FREE STANDING	OPTION
DISK, 6102-SD (12.5 MB)	CABINET	MODEL 9323-W
DISK, 6105-SD (25 MB)	CABINET	MODEL 9324-W
DISK, 6102-S (12.5 MB)	EXPAN CABINET	EXPANSION OPTION
DISK, 6105-S (25 MB)	EXPAN CABINET	EXPANSION OPTION
SYNC COMMUNICATIONS KIT 9329, 9330	CPU/TERMINAL	OPTION

BTU'S/HR

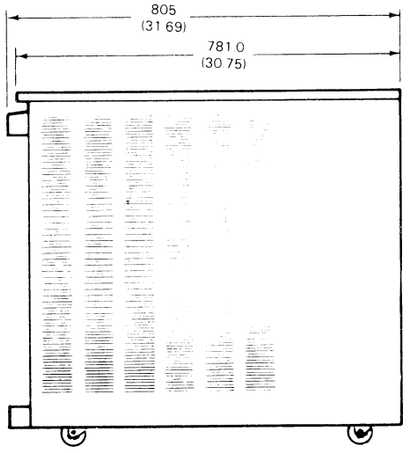
COMPONENT	BTU'S
CPU/TERMINAL/ASYNC PCB	375
DUAL DISKETTE DRIVES	491
DISK (6102-S, 6105-S)	1159
DISK/SINGLE DISKETTE DRIVE	1500
MAG TAPE DRIVE 6123	

INSTALLATION SPECIFICATIONS

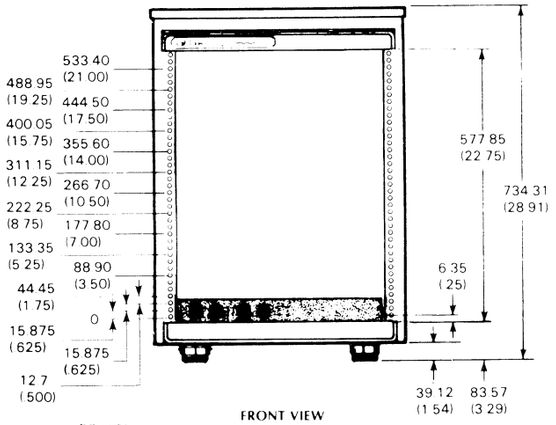
CABINET



TOP VIEW



SIDE VIEW



DG 06054

FRONT VIEW

1148-AS

CABINET WITH "BENCH" TOP

DIMENSIONS:	Width	Depth	Height
Millimeters	529	805	734.3
Inches	(20.8)	31.7	28.9

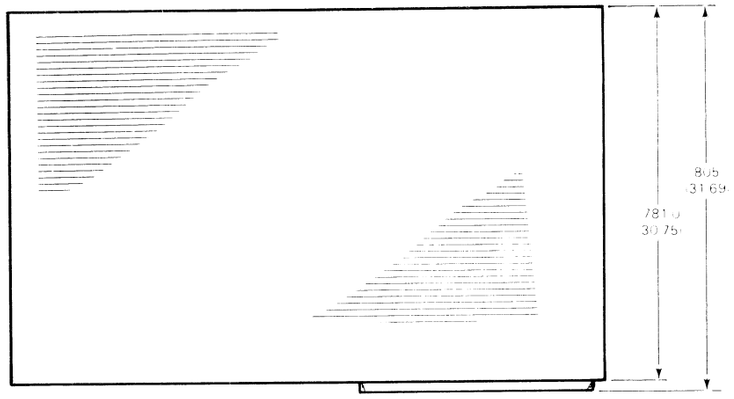
SERVICE CLEARANCES:	Front	Right	Left	Rear
Millimeters	800	152.4	152.4	609.6
Inches	31.5	6	6	24

WEIGHT:	Cabinet	Cab. Top	Anti-Tip Legs
Kilograms	30.8	6.35	4.54
Pounds	68	14	10

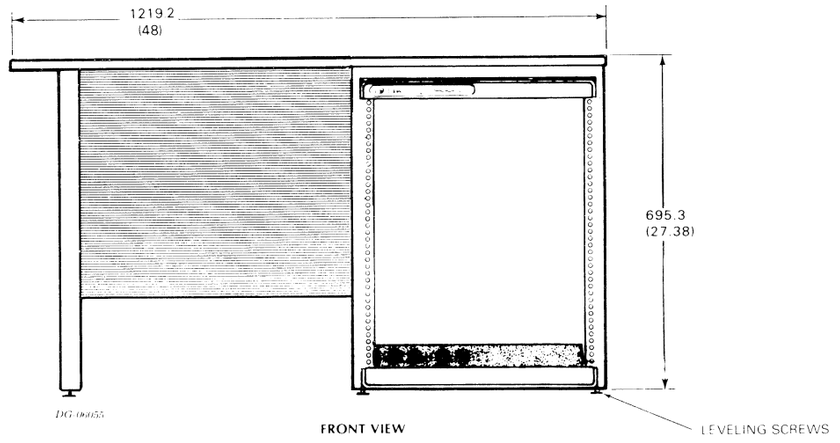
CABLES:
Primary Power

	Length	Conn	Mating Conn
Domestic 60Hz	1.8m(6')	5-15P	5-15R
Export 50Hz	1.8m(6')	6-15P	6-15R

POWER AVAILABLE
Internal Receptacles 12A (Limited by cable)



TOP VIEW



DG 06055

FRONT VIEW

1148-BS

CABINET WITH "DESK" TOP

DIMENSIONS:	Width	Depth	Height
Millimeters	1219.2	805	695.3 (27.38)
Inches	48	31.7	

SERVICE CLEARANCES:	Front	Right	Rear
Millimeters	800	152.4	609.6
Inches	31.5	6	24

WEIGHT:	Cabinet	Cab. Top
Kilograms	30.8	19.5
Pounds	68	43

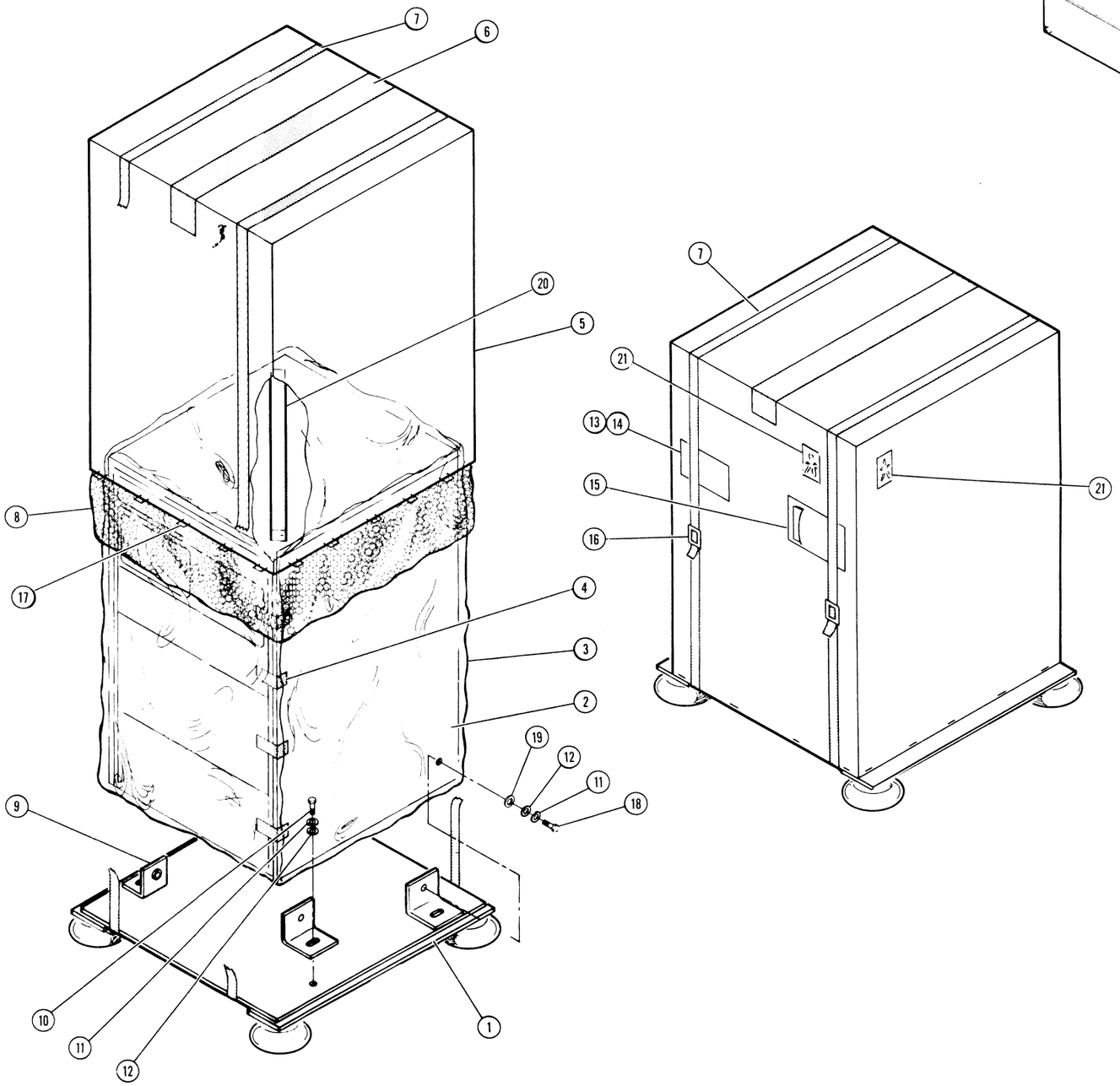
CABLES:
Primary Power

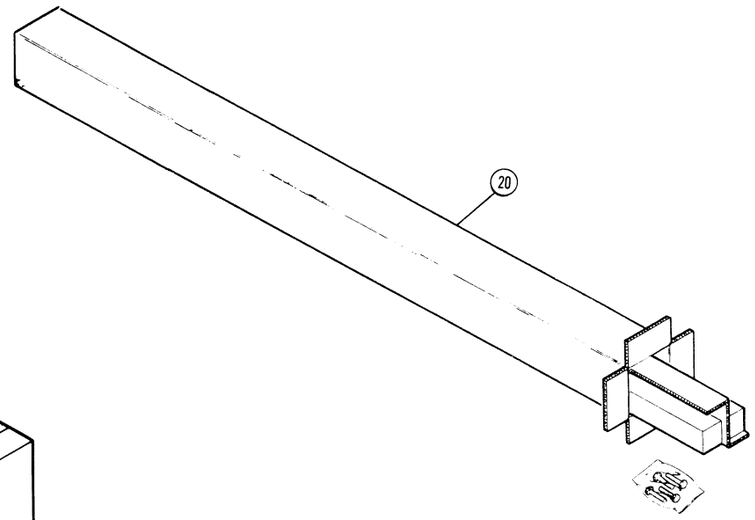
	Length	Conn	Mating Conn
Domestic 60Hz	1.8m(6')	5-15P	5-15R
Export 50Hz	1.8m(6')	6-15P	6-15R

POWER AVAILABLE
Internal Receptacles 12A (Limited by cable)

SHIPPING

CABINET

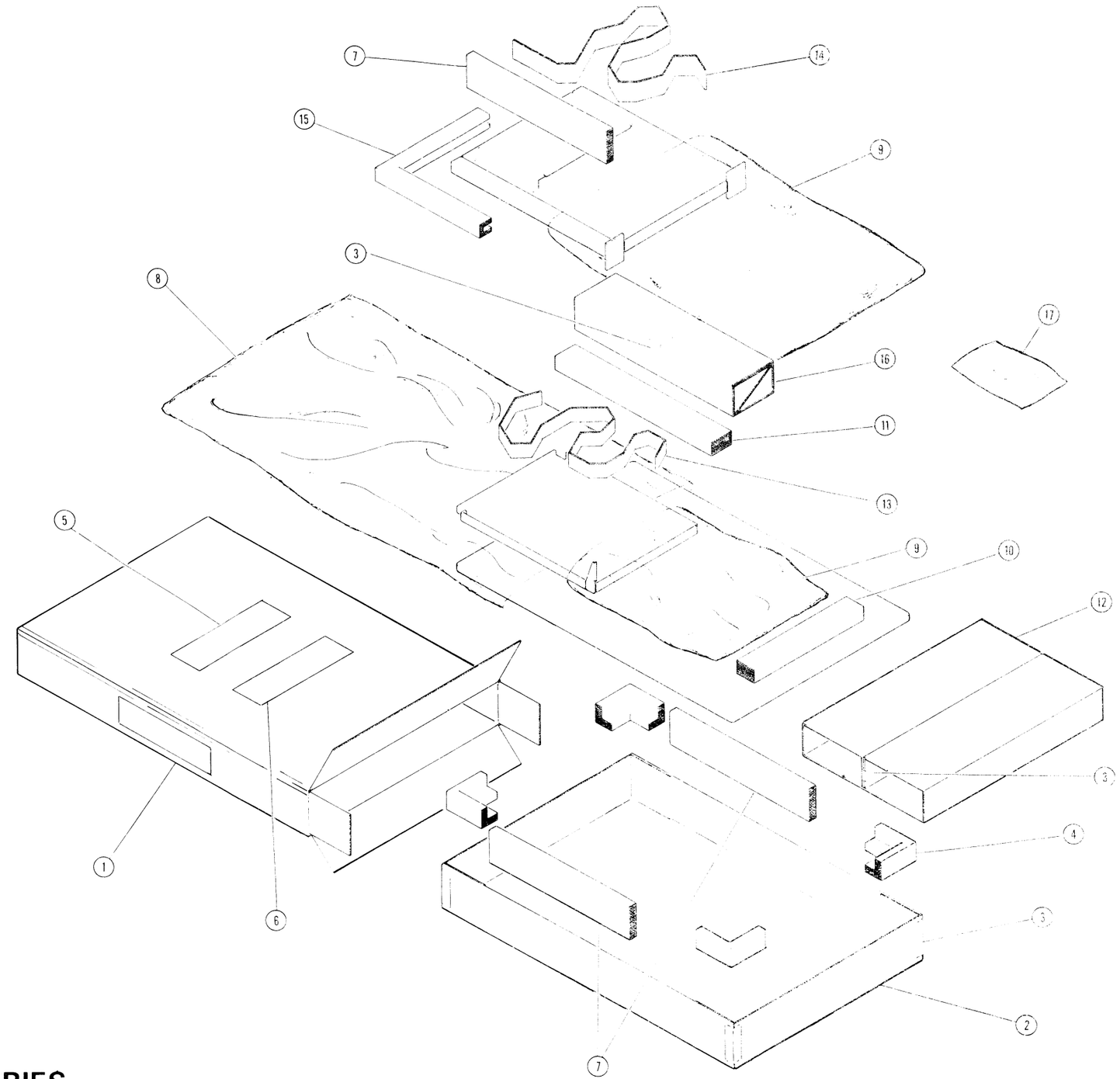




ITEM	QTY	DESCRIPTION	PART NO.
21	2	TIP-N-TELL INDICATOR	129-000469
20	1	ANTI-TIP LEG ASSEMBLY	005-016918
	4	END CAP	123 001490
	1	BOX	129-000616
	1	"Z" DIVIDER	129-000443
	1	ANTI-TIP LEG, LEFT-HAND	005-016917
	1	ANTI-TIP LEG, RIGHT-HAND	005-016919
	4	SCREW, SOCKET HEAD, 5/16 - 18 x 0.75	106-001567
	A/R	TAPE, FILAMENT, 2"	129-000370
	1	POLYBAG	129-000045
19	4	WASHER, NYLON, .375 ID x .750	106-000975
18	4	SCREW, HEX HEAD, 5/16 - 18 x 1"	106-001592
17	A/R	STAPLE, 1" CROWN, 1" LEG	129-000165
16	2	BUCKLE, AVB - 4	129-000025
15	1	ENVELOPE, PACKING LIST, 6 3/4 x 5"	129-000042
14	A/R	WATER GLASS	
13	1	SHIPPING LABEL	129-000030
12	8	WASHER, FLAT, 3/8"	106-000621
11	8	WASHER, LOCK, SPLIT, 3/8"	106-000622
10	4	SCREW, HEX HEAD, 3/8 - 16 x 1"	106-000618
9	4	BRACKET, SHIPPING	002-011328
8	6ft	AIRCAP	129-000035
7	45ft	STRAPPING, POYPROPYLENE	129-000123
6	54in	TAPE. CLOSURE	129-000027
5	1	HALF SLOTTED CONTAINER	129-000046
4	A/R	TAPE, FILAMENT, 2"	129-000370
3	1	POLYBAG	129-000448
2	1	CABINET, 28"	
1	1	PALLET	129-000447

SHIPPING (CONT)

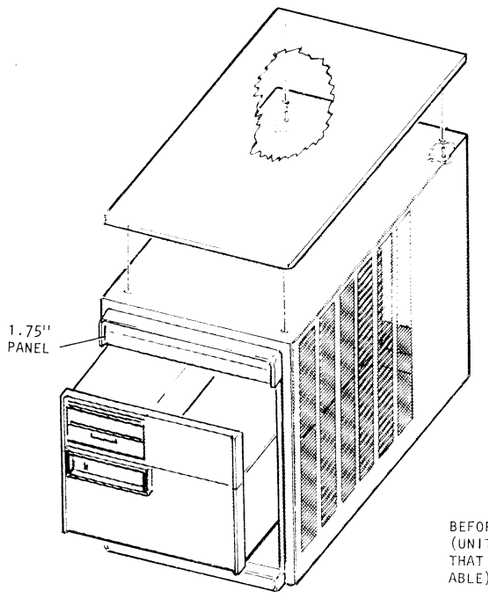
DESK TOP
(OPTIONAL)



ITEM	QTY	DESCRIPTION	PART NO
1	1	[illegible]	129 000457
2	1	[illegible]	129 000463
3	1	[illegible]	129 000451
4	1	[illegible]	129 000465
5	1	[illegible]	129 000466
6	1	[illegible]	129 000462
7	1	[illegible]	129 000455
8	1	[illegible]	129 000467
9	1	[illegible]	129 000456
10	1	[illegible]	129 000454
11	1	[illegible]	129 000468
12	1	[illegible]	129 000042
13	1	[illegible]	129 000030
14	4	CORRUGATED PAD, CORNER	129 000452
15	1 LOT	REINFORCED SEALING TAPE	129 000027
16	1	CORRUGATED TRAY	129 000464
17	1	POLY OVERLAPPING CONTAINER	129 000453

MOUNTING CABINET TOPS AND ANTI-TIP LEGS

"BENCH" TOP



FOR MOUNTING TOP:

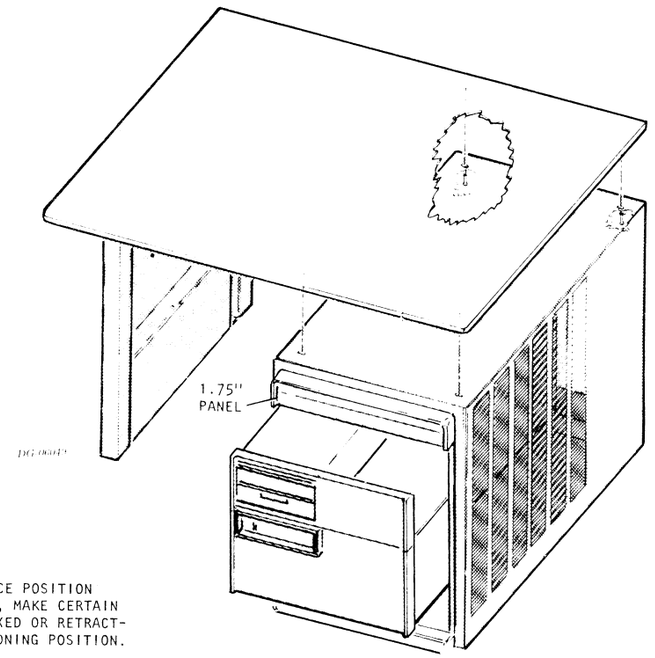
SCREW, 10-32x$\frac{3}{4}$
DGC 106-000353
QTY 4

WASHER, FLAT, #10
DGC 106-000263
QTY 4

CAUTION

BEFORE PLACING DISK UNIT IN SERVICE POSITION (UNIT WITHDRAWN FROM THE CABINET), MAKE CERTAIN THAT THE ANTI-TIP BARS (EITHER FIXED OR RETRACTABLE) ARE INSTALLED AND IN FUNCTIONING POSITION.

"DESK" or LARGE TABLE TOP (OPTIONAL)



FOR ASSEMBLING AND MOUNTING TOP:

SCREW, 10-32x$\frac{3}{4}$
DGC 106-000353
QTY 10

WASHER, FLAT, #10
DGC 106-000263
QTY 10

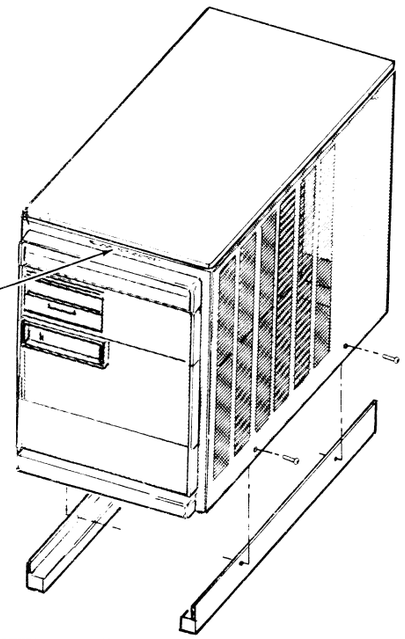
IT IS IMPERATIVE, WHEN MOUNTING THE LARGE TABLE TOP, THAT THE TWO REAR MOUNTING SCREWS BE INSERTED FIRST AND TIGHTENED. THEN SLIDE THE TOP CHASSIS OUT FULLY TO ACCESS THE FRONT MOUNTING LOCATIONS. INSERT TWO SCREWS AND TIGHTEN.

WITH DUAL DISKETTE DRIVES, ACCESS TO THE TWO TOP SCREWS IS OBTAINED BY REMOVING THE 1.75" FILLER PANEL (TOP FRONT).

INSTALLING RETRACTABLE ANTI-TIP LEGS

CAUTION TO REDUCE THE RISK OF POSSIBLE INJURY DUE TO UNSTABLE UNIT, ACTUATE STABILIZER BEFORE EQUIPMENT IN CABINET IS EXTENDED.

APPLY CAUTION LABEL
(002-014076) TO
FRONT OF CABINET

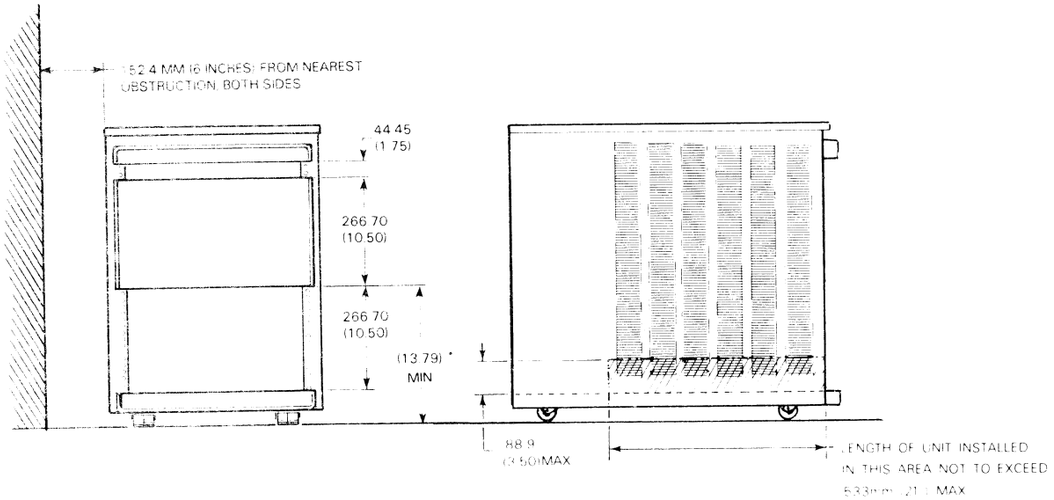


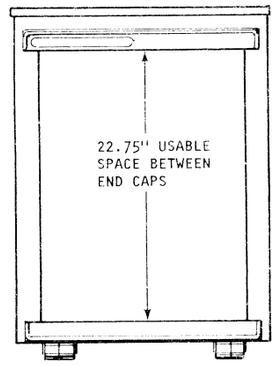
FOR INSTALLING ANTI-TIP LEGS:

SCREW, 5/16 x .75
(DGC 106-001567)
QTY 4

RACK MOUNTING

SOME CONFIGURATION CONSTRAINTS

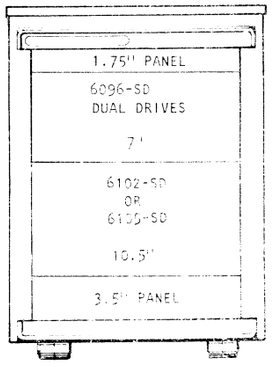




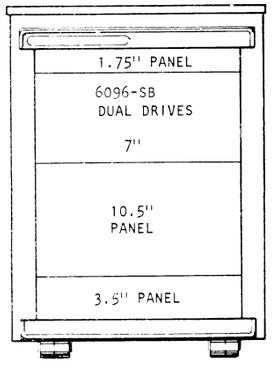
* 13.75" FALLS BETWEEN THE HALF INCH SPACING REQUIRED BY NEMA STANDARDS. HOWEVER, DUE TO TOLERANCES THIS NUMBER IS ONLY AN APPROXIMATION.

DIMENSIONS ARE IN MILLIMETERS. DIMENSIONS IN PARENTHESES ARE INCHES FOR REFERENCE.

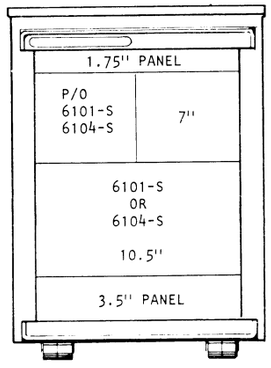
CABINET CONFIGURATIONS



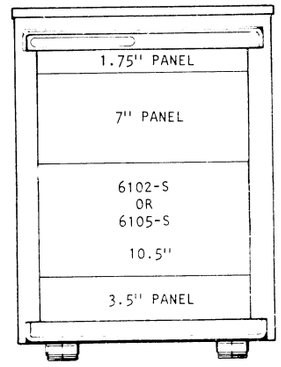
C1, C3 DISC/DUAL DISKETTE ("W" SUFFIX MODELS)



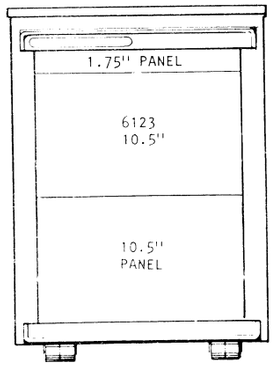
C1 DISKETTE



C1, C3 DISC/DISKETTE



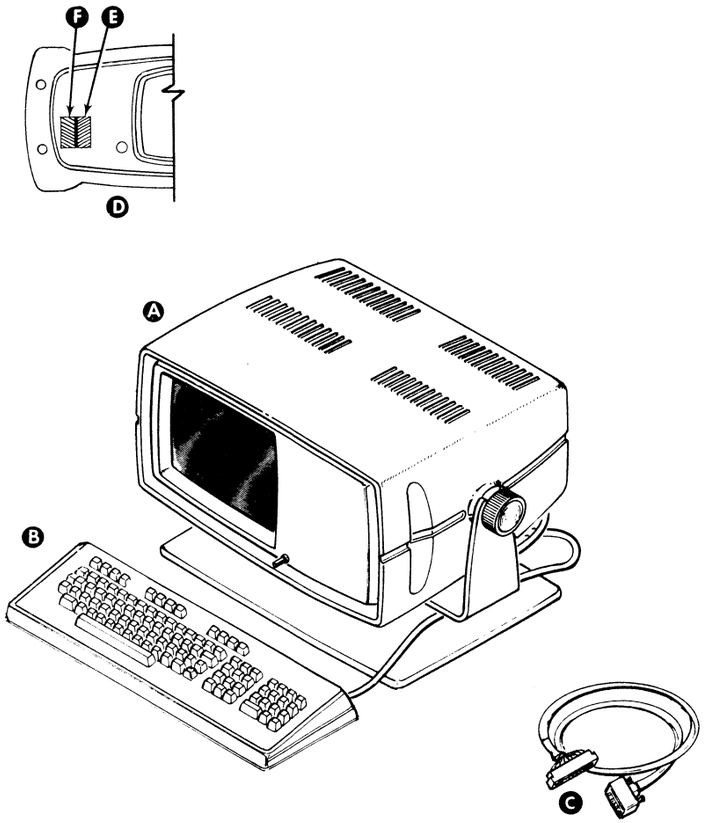
EXPANSION DISC



MAG TAPE EXPANSION CABINET

ALL 1148-A/1148-BS LOWBOY CABINET CONFIGURATIONS REQUIRE ANTI-TIP LEGS.

INSTALLATION SPECIFICATIONS
CPU/TERMINAL



MAJOR COMPONENT

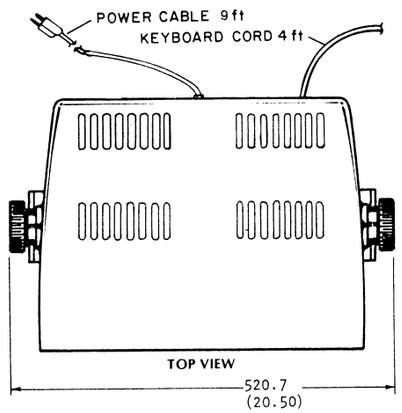
ITEM	COMPONENT	MOUNTING LOCATION	NOTES
A	DISPLAY	FREE-STANDING	
B	KEYBOARD	FREE-STANDING	CONNECTED TO DISPLAY BY INTEGRAL CABLE

CABLE

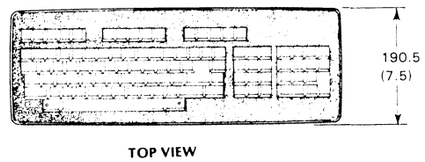
ITEM	CABLE	CONNECTING	MAX LGTH FT / M	NOTES
C	005-15746	TERMINAL, DISKETTE DRIVES	15 / 4.6	MODEL 9320
	005-15745	TERMINAL, FIXED DISK	15 / 4.6	MODELS 9321, 9322 (W)
	005-15737	TERMINAL, ASYN. MUX PCB	10 / 3.0	MODELS 9323, 9324 (W)

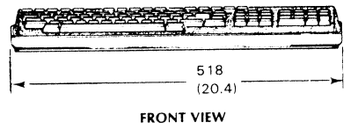
FRONT BEZEL

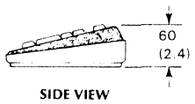
ITEM	COMPONENT	PART NO.	NOTES
D	FRONT BEZEL	002-007792	EXISTING TERMINAL BEZEL
E	FOAM PAD	002-010005	EXISTING FOAM PAD
F	FOAM PAD	002-021396	USE ONLY WITH 005-013981 CONTROLLER PCB (SLOT 1)



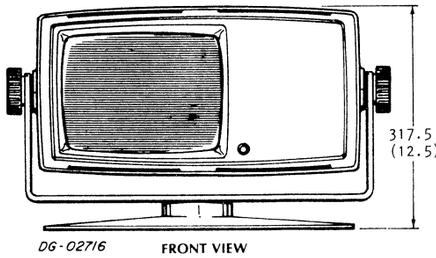
DIMENSIONS IN MILLIMETERS
INCHES IN PARENTHESIS FOR REFERENCE

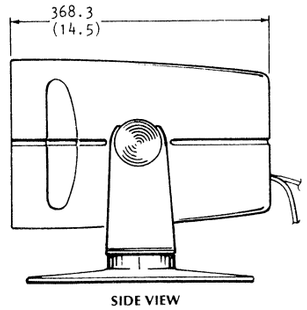






KEYBOARD





DISPLAY

DIMENSIONS: DISPLAY	Width	Depth	Height
Millimeters	52.1	36.8	31.8
Inches	20.5	14.5	12.5
DIMENSIONS: KEYBOARD	**Width**	**Depth**	**Height**
Millimeters	518	190.5	60
Inches	20.4	7.5	2.4

WEIGHT:	Display	Keyboard
Kilograms	17	1.6
Pounds	45	3.5

OPERATING ENVIRONMENT:

Temperature (max)	10°to 38°C	(50°to 100°F)
Relative Humidity (max)	20-80%	non-condensing

POWER REQUIREMENTS:

(Domestic)			
Voltage	120		
Hz	60 ± 1		
Amp per Phase	3.0		
Phase	1		
(Export)			
Voltage	100	220	240
Hz	50 ± 2	50 ± 2	50 ± 2
Amp per Phase	3.0	1.5	1.5
Phase	1	1	1

CABLES:

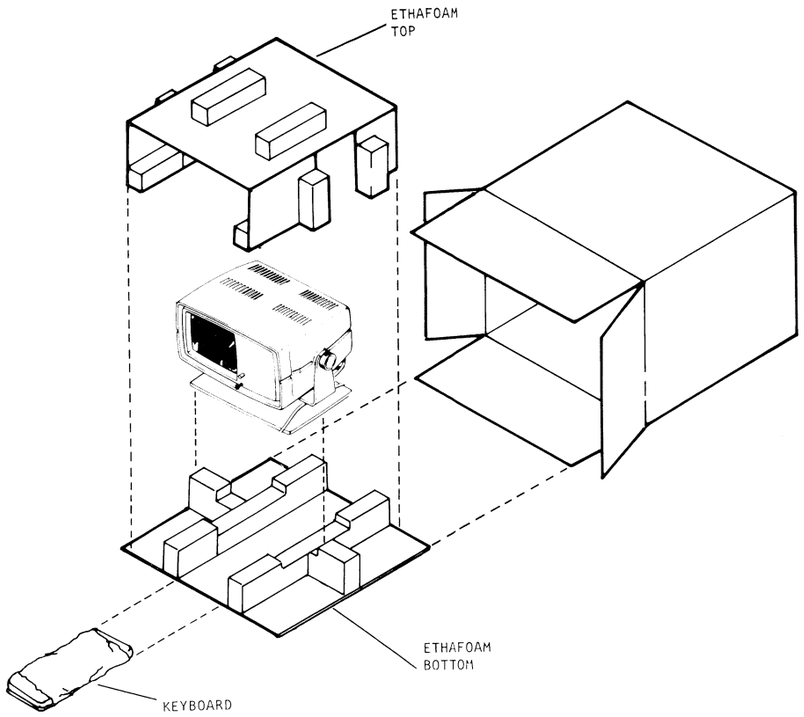
	Length
Primary Power	2.74m(9')

POWER AVAILABLE:

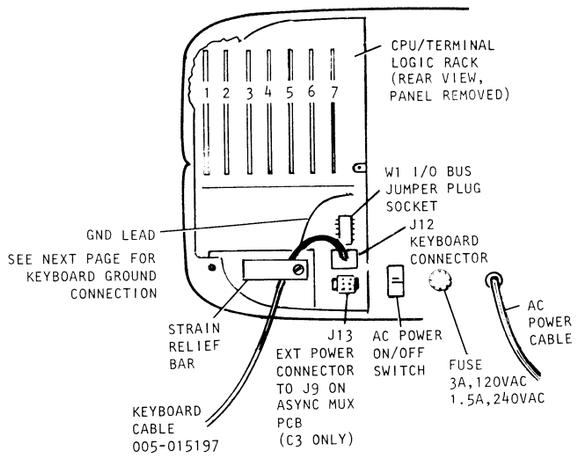
Internal Receptacles	100V	120V	220V	240V
Domestic (NEMA)		5-15R		
Export (NEMA)	5-15R		6-15R	6-15R

INSTALLATION SPECIFICATIONS
CPU/TERMINAL

SHIPPING



SHIPPING SPECIFICATIONS			STORAGE SPECIFICATIONS		
Temperature Range °F / °C	Relative Humidity (Non-condensing)	Maximum Altitude	Temperature Range °F / °C	Relative Humidity (Non-condensing)	Maximum Period
-40 to 150 / -40 to +65	0 - 80%	15,240m 50,000ft	-40 to 150 / -40 to +65	0 - 80%	90 DAYS

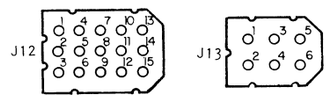


REAR CONNECTIONS

J12 KEYBOARD CONNECTOR

PIN NO.	SIGNAL	PIN NO.	SIGNAL	PIN NO.	SIGNAL
1	GND	6	KBD 6	11	KBD 0
2	KBD STB*	7	KBD 3	12	HOLD*
3	KBD 5	8	KBD 4	13	KBD ENAB
4	GND, CHASSIS	9	KBD 2	14	KRPT CLK
5	KBD 7	10	KBD 1	15	+5 VDC

* NEGATED SIGNAL



J13 EXTERNAL POWER CONNECTOR

PIN NO.	SIGNAL	PIN NO.	SIGNAL	PIN NO.	SIGNAL
1	-12 VDC	3	GND	5	+5 VDC
2	-5 VDC	4	GND	6	+12 VDC

CHASSIS SLOT ASSIGNMENTS

SLOT	C1 DISKETTE - 9320	C1 FIXED DISK - 9321(W), 9322(W)	C3 FIXED DISK - 9323(W), 9324(W)
1	DISKETTE CONTROLLER (P/O 6096-SB)	LINE PRINTER CONTROLLER (4221-S)	BANK SELECT / MEMORY
2			PROCESSOR/MEMORY (IPM-1,64KB)
3	SYNC COMMUNICATIONS	SYNC COMMUNICATIONS (NOTE 3)	SYNC COMMUNICATIONS
4			
5		SYNC COMMUNICATIONS (NOTE 3)	
6	PROCESSOR/MEMORY (IPM-1, 64KB)	PROCESSOR/MEMORY (IPM-1, 64KB)	PROCESSOR/RAM/ROM (IPM-1, 4KB)
7	VIDEO INTERFACE (IPM-2A)	VIDEO INTERFACE (IPM-2A)	VIDEO INTERFACE (IPM-2A)

NOTE: C1 MODELS REQUIRE I/O BUS JUMPER PLUG (111-001353) BE INSTALLED IN SOCKET W1.
C3 MODELS REQUIRE I/O BUS JUMPER PLUG (111-001353) BE REMOVED FROM SOCKET W1.

COMPONENT POWER REQUIREMENTS (Amps)

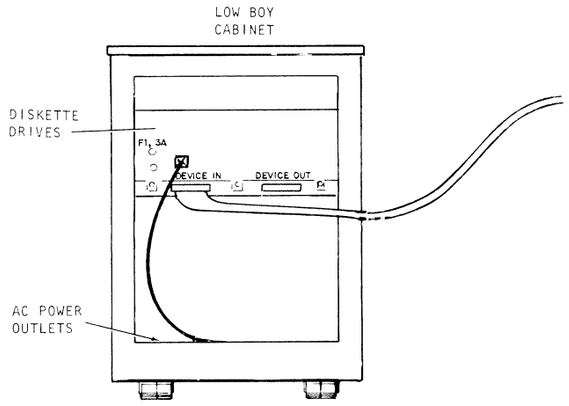
COMPONENT	+5V	+12V	-5V	-12V
PROCESSOR/MEMORY	1.30	.30	.01	—
PROCESSOR/RAM/ROM	1.10	.04	.01	—
VIDEO INTERFACE	1.30	.02	—	.05
BANK SELECT / MEMORY	1.20	.17	.02	.02
SYNC COMMUNICATIONS	1.30	.04	.02	.04
DISKETTE CONTROLLER	1.25	.02	.02	—
ASYNC MUX (EXT POWER CONN.) (C3 ONLY)	1.90	.08	.03	.09
LINE PRINTER CONTROLLER	.50	.12	.03	—
KEYBOARD	.35	—	—	—
VIDEO MONITOR	—	1.20	—	—
MAXIMUM POWER AVAILABLE (PS) (NOTE 1)	12	1 - LOGIC 1.5 - VM NOTE 2	.12	.10

NOTES:
1. THE MAXIMUM POWER AVAILABLE RATINGS ARE BASED ON CONTINUOUS OPERATION WITHOUT FAN COOLING.
2. THE +12VDC SOURCE HAS TWO BRANCHES: ONE FOR LOGIC, AND ONE FOR VIDEO MONITOR.
3. SLOT 5 ONLY IF LINE PRINTER CONTROLLER IS NOT USED.

UNIT INTERCONNECTION DIAGRAM

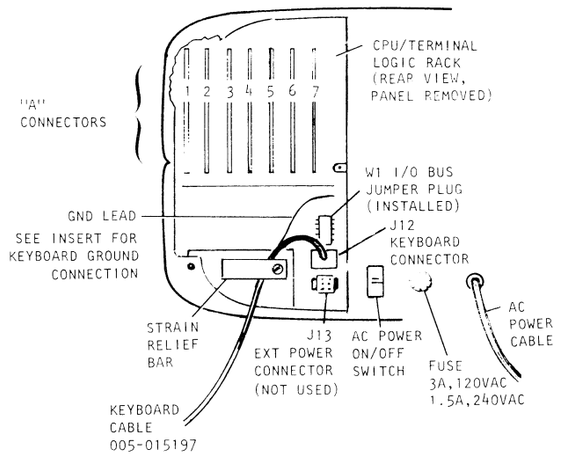
C1 DISKETTE SYSTEMS

MODEL 9320

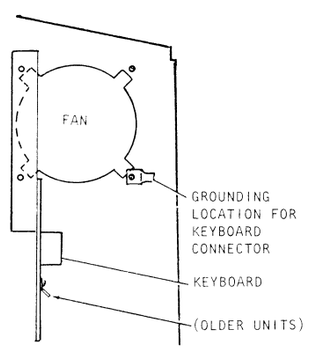


DESTINATION	CABLE NO.	TERMINAL CONNECTOR
DISKETTE DRIVE	005-015746	SLOT 1
TP1 OR TP2 PRINTER	005-014757	SLOT 7
LETTER QUAL. PRINTER	005-014756	SLOT 7
SYNC COMMUNICATIONS	005-014768	SLOT 3
4422 SERIAL PRINTER	005-018271	SLOT 7

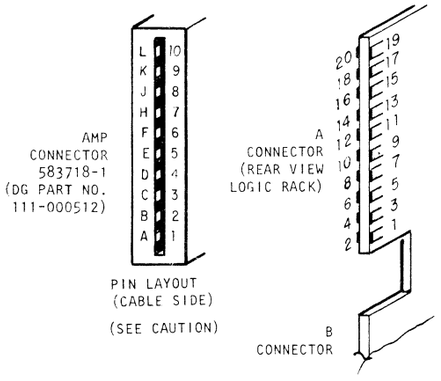
"A" CONNECTORS



GROUNDING LOCATION



IPM-2A PCB
(SLOT 7)



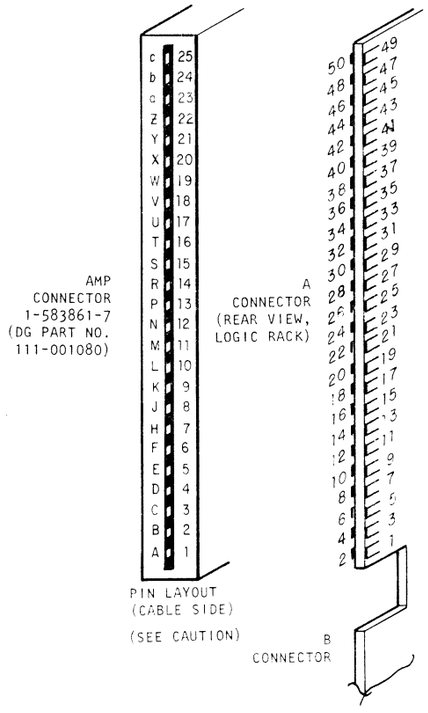
PIN ASSIGNMENTS (NOTE)

PIN	SIGNAL
1	GROUND
2	CLEAR TO SEND
7	RCV DATA
9	XMIT DATA

NOTE: PIN NUMBERS
REFERENCED TO
CONNECTOR A, IPM-2A

SERIAL PRINTER CONNECTIONS (C1 MODELS)

LINE PRINTER
CONTROLLER PCB
(SLOT 1)



PIN ASSIGNMENTS (NOTE)

PIN	SIGNAL
1	PSTRB
2	GND
3	PB1
4	GND
5	PB2
6	GND
7	PB3
8	GND
9	PB4
10	GND
11	PB5
12	GND
13	PB6
14	GND
15	PB7
16	GND
17	VFU
18	GND
19	DEMAND
20	GND
27	READY
28	GND

NOTE: PIN NUMBERS
REFERENCED TO
CONNECTOR A OF
CONTROLLER PCB.

LINE PRINTER CONNECTIONS (C1 MODELS)

CAUTION

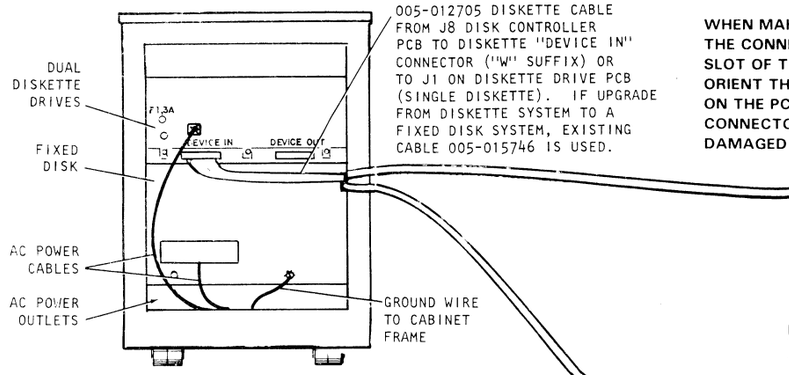
TAKE CARE THAT THE CABLE CONNECTOR IS INSTALLED WITH ITS KEY FITTING INTO THE MATCHING SLOT OF THE PCB's "A" CONNECTOR (PIN 1 OF THE CABLE CONNECTOR MUST MATE WITH PIN 1 OF THE PCB CONNECTOR).

UNIT INTERCONNECTION DIAGRAM

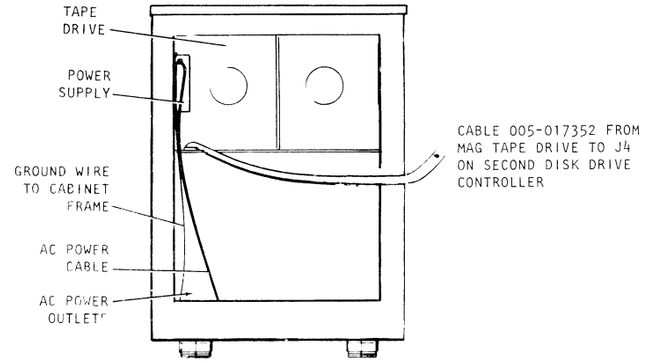
C1 DISK SYSTEMS

MODELS 9321, 9321W, 9322, 9322W

DISK/DUAL DISKETTE MODELS
("W" SUFFIX)
(CABINET, REAR VIEW)

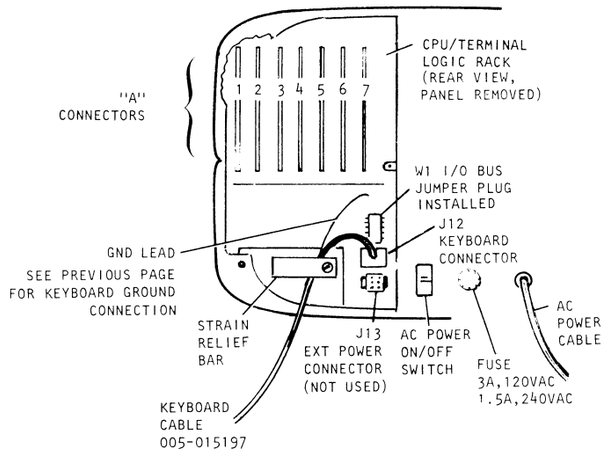


MAG TAPE DRIVE
("S" SUFFIX)
(CABINET, REAR VIEW)



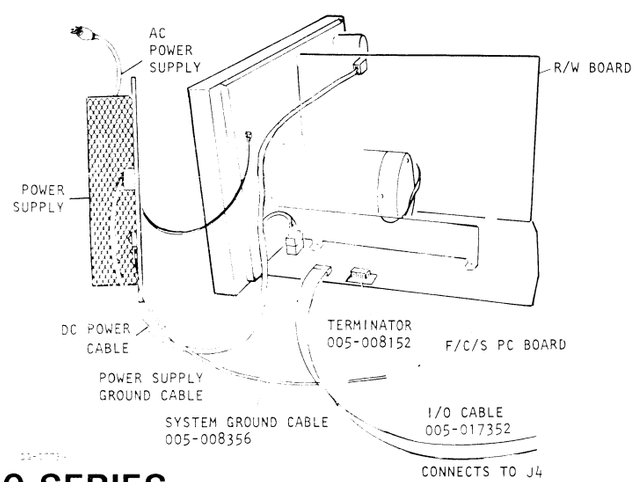
CAUTION

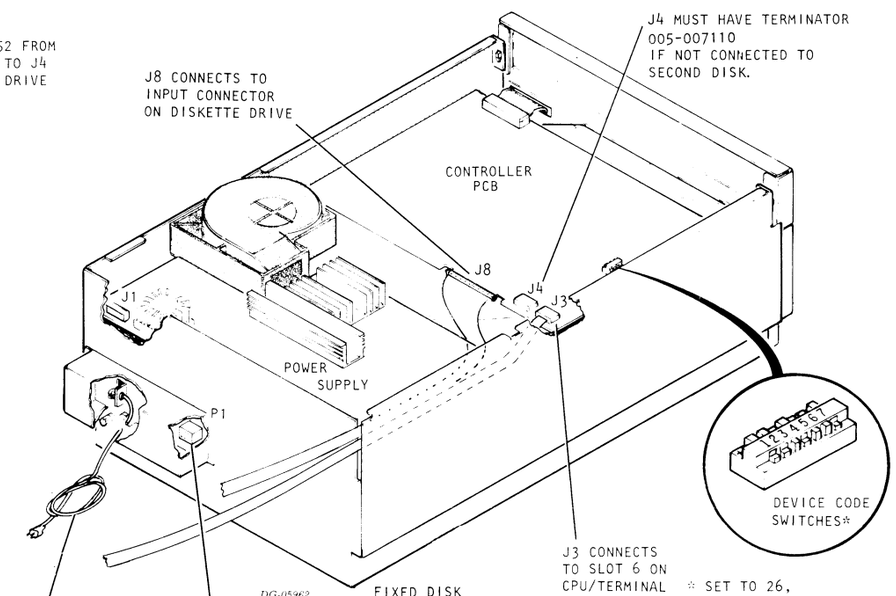
WHEN MAKING CONNECTION TO THE IPM1 "A", CONNECTOR, TAKE CARE THAT THE CONNECTOR IS INSTALLED WITH THE KEY FITTING INTO THE MATCHING SLOT OF THE "A" CONNECTOR. IF FOR SOME REASON THE KEY IS MISSING, ORIENT THE CONNECTOR SO THAT PIN 1 OF THE CONNECTOR MATCHES PIN 1 ON THE PCB. (PIN 1 IS AT THE BOTTOM OF THE "A" CONNECTOR). IF THE CONNECTOR IS INSTALLED THE OPPOSITE WAY, CIRCUIT IC's CAN BE DAMAGED WHEN POWER IS APPLIED.



DESTINATION	CABLE NO.	TERMINAL CONNECTOR
TP1 OR TP2 PRINTER	005-014757	SLOT 7
OR LETTER QUALITY PRINTER	005-014756	SLOT 7
LINE PRINTER	005-014769	SLOT 1
OR LP2 PRINTER	005-014770	SLOT 1
J3 DISC CONTROLLER	005-015745	SLOT 6 (SEE CAUTION)
SYNC COMM DEVICE	005-14768	SLOT 3 (NOTE)
MAG TAPE DRIVE	005-015745	SLOT 6 (SEE CAUTION)
4422 SERIAL PRINTER	005-018271	SLOT 7

NOTE: IF NO LINE PRINTER, SYNC COMM IS IN SLOT 5.

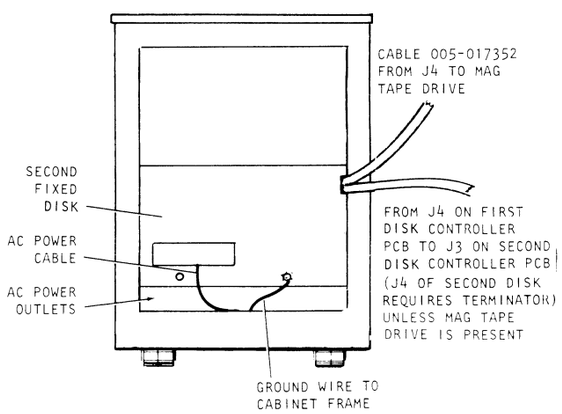




* SET TO 26, IF SECOND EXPANSION DISK, SET DEVICE CODE TO 66.

AC POWER	CABLE	ID PLUG	FIXED DISK MODELS
100VAC	005-000935	005-012592	6101-S
120VAC	005-000935	005-012593	6102-SD
220VAC	005-010642	005-012594	6104-S
240VAC	005-010642	005-012595	6105-SD
			6102-S
			6105-S

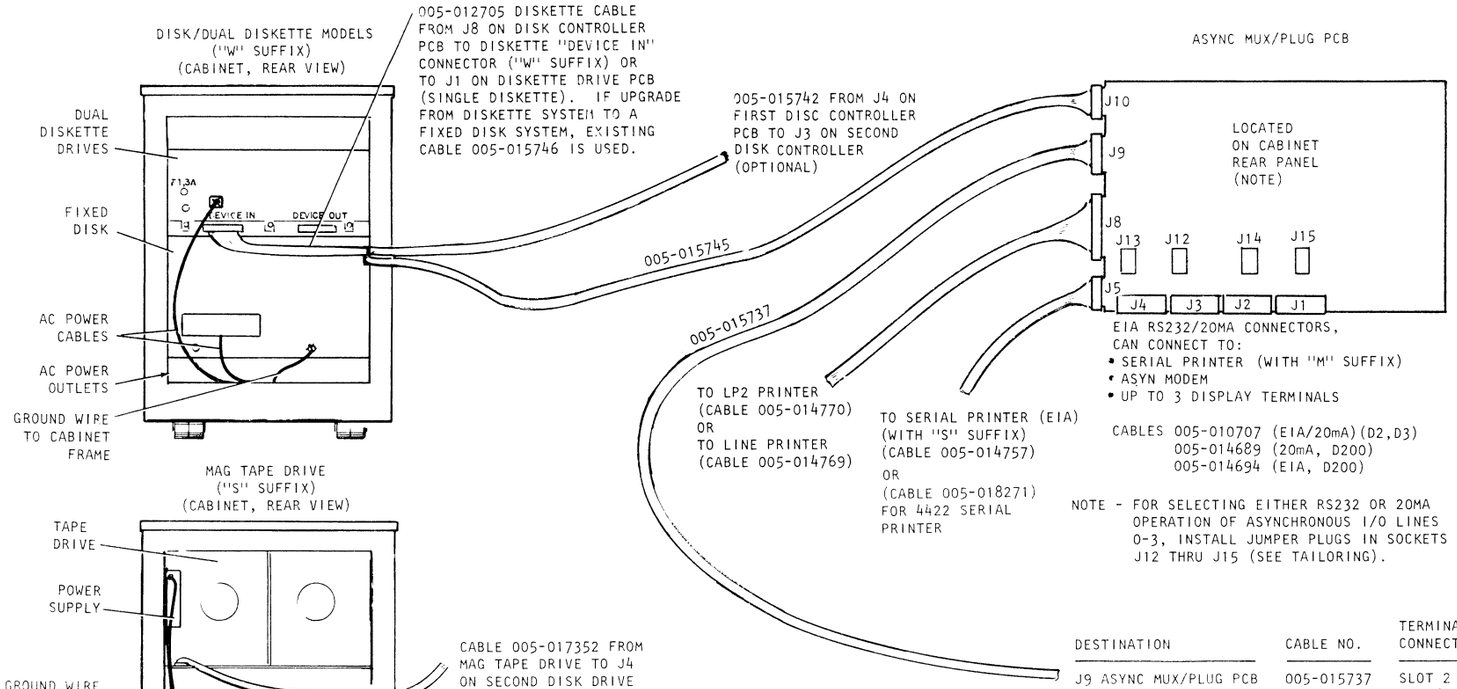
SECOND FIXED DISK AND CABINET
(OPTIONAL SYSTEM EXPANSION)
(CABINET, REAR VIEW)

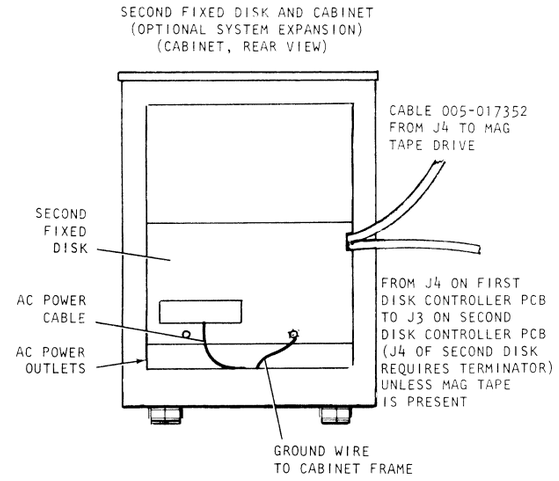


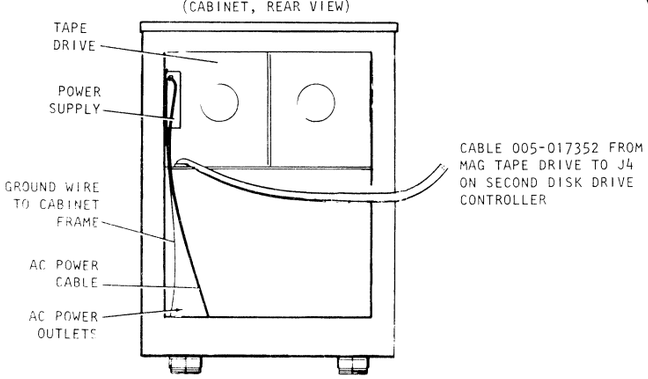
UNIT INTERCONNECTION DIAGRAM

C3 SYSTEMS

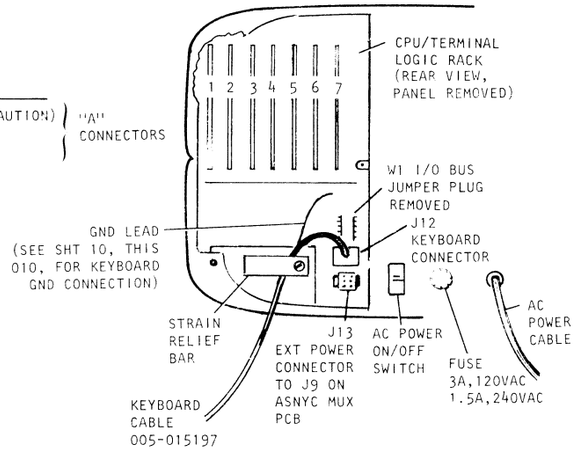
MODELS 9323, 9323W, 9324, 9324W

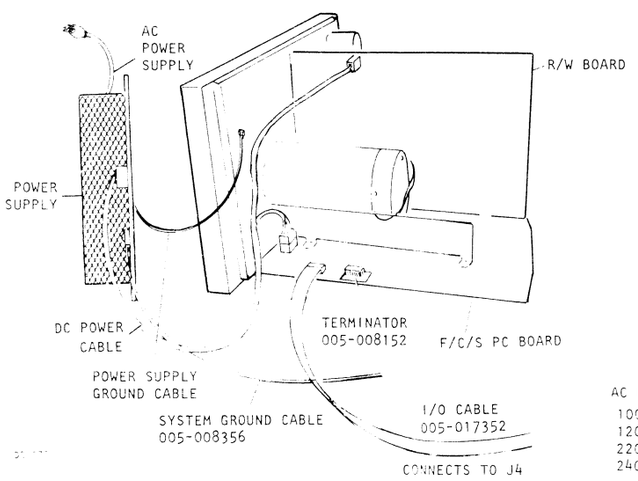


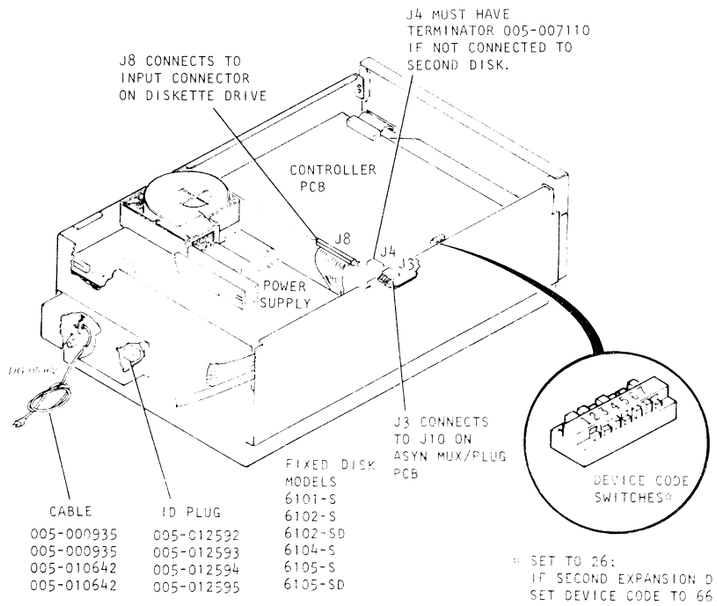




DESTINATION	CABLE NO.	TERMINAL CONNECTOR(S)	
J9 ASYNC MUX/PLUG PCB	005-015737	SLOT 2 (SEE CAUTION)	"A" CONNECTORS
		J13 (POWER)	
SYNC COMM DEVICE	005-014768	SLOT 3	







AC POWER	CABLE	ID PLUG	FIXED DISK MODELS
100VAC	005-000935	005-012592	6101-S
120VAC	005-000935	005-012593	6102-S
220VAC	005-010642	005-012594	6102-SD
240VAC	005-010642	005-012595	6104-S
			6105-S
			6105-SD

* SET TO 26;
IF SECOND EXPANSION DISC, SET DEVICE CODE TO 66.

CAUTION

WHEN MAKING CONNECTION TO THE IPM1 "A", CONNECTOR, TAKE CARE THAT THE CONNECTOR IS INSTALLED WITH THE KEY FITTING INTO THE MATCHING SLOT OF THE "A" CONNECTOR. IF FOR SOME REASON THE KEY IS MISSING, ORIENT THE CONNECTOR SO THAT PIN 1 OF THE CONNECTOR MATCHES PIN 1 ON THE PCB. (PIN 1 IS AT THE BOTTOM OF THE "A" CONNECTOR). IF THE CONNECTOR IS INSTALLED THE OPPOSITE WAY, CIRCUIT IC's CAN BE DAMAGED WHEN POWER IS APPLIED.

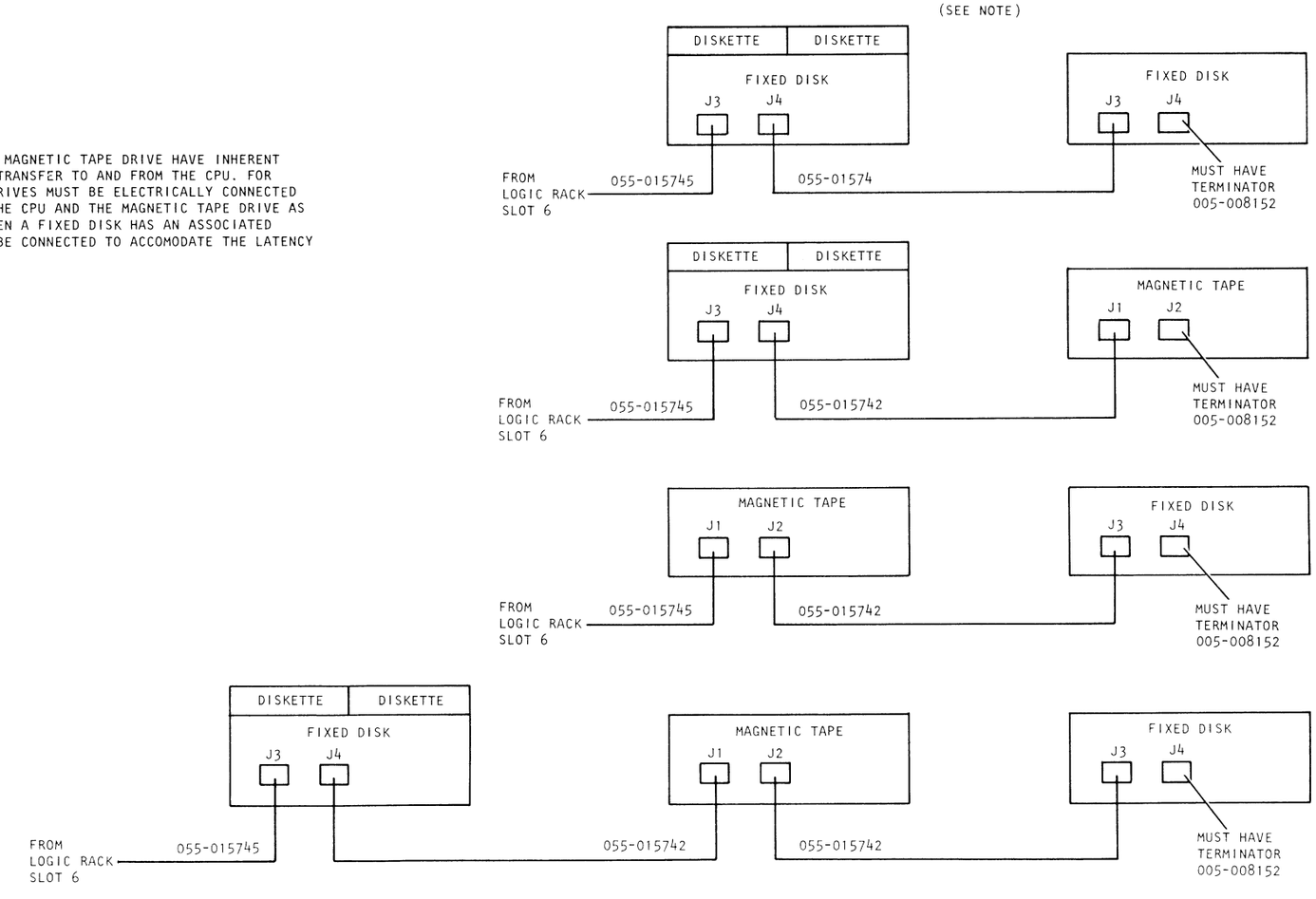
UNIT INTERCONNECTION DIAGRAM

C1 DISK SYSTEMS

MODELS 9321, 9321W, 9322, 9322W

NOTE
THE DISKETTE DRIVES AND THE MAGNETIC TAPE DRIVE HAVE INHERENT MAXIMUM LATENCIES FOR DATA TRANSFER TO AND FROM THE CPU. FOR THIS REASON, THE DISKETTE DRIVES MUST BE ELECTRICALLY CONNECTED AS THE CLOSEST DEVICE TO THE CPU AND THE MAGNETIC TAPE DRIVE AS THE NEXT CLOSEST DEVICE. WHEN A FIXED DISK HAS AN ASSOCIATED DISKETTE DRIVE(S), IT MUST BE CONNECTED TO ACCOMODATE THE LATENCY OF THE DISKETTE DRIVE(S).

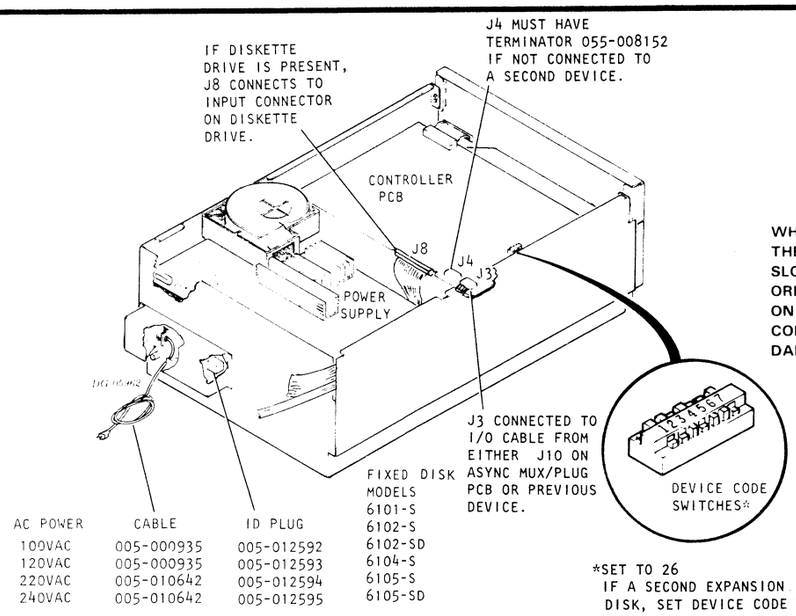
TYPICAL DISK CONFIGURATION
(SEE NOTE)



UNIT INTERCONNECTION DIAGRAM (CONT)

C3 SYSTEMS

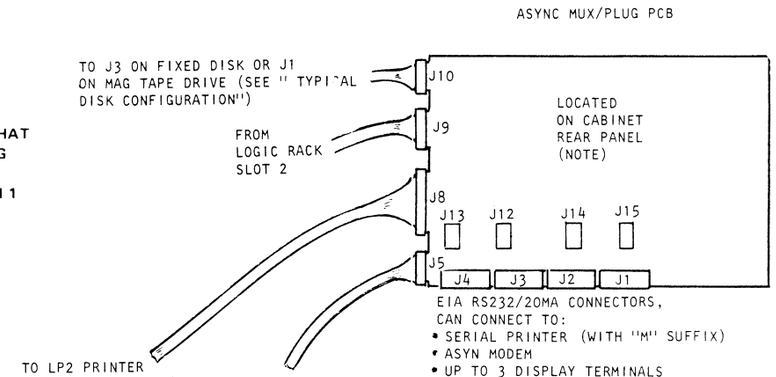
MODELS 9323, 9323W, 9324, 9324W



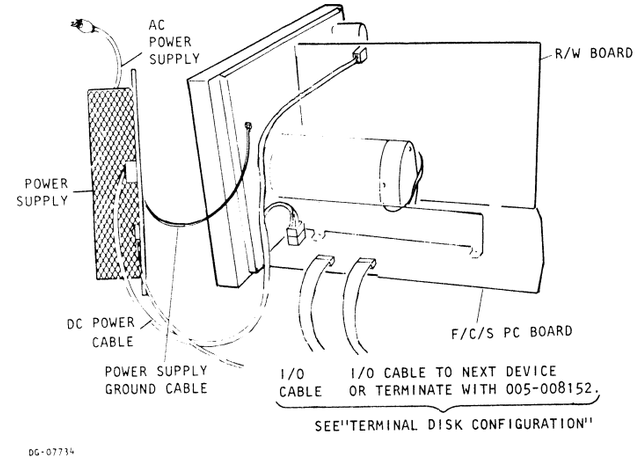
*SET TO 26
IF A SECOND EXPANSION DISK, SET DEVICE CODE TO 66.

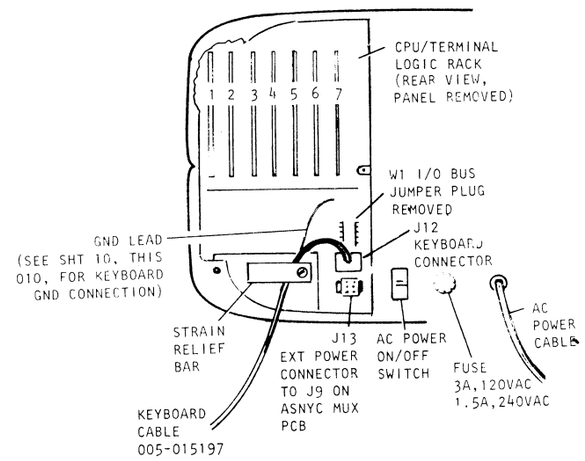
CAUTION

WHEN MAKING CONNECTION TO THE IPM1 "A", CONNECTOR, TAKE CARE THAT THE CONNECTOR IS INSTALLED WITH THE KEY FITTING INTO THE MATCHING SLOT OF THE "A" CONNECTOR. IF FOR SOME REASON THE KEY IS MISSING, ORIENT THE CONNECTOR SO THAT PIN 1 OF THE CONNECTOR MATCHES PIN 1 ON THE PCB. (PIN 1 IS AT THE BOTTOM OF THE "A" CONNECTOR). IF THE CONNECTOR IS INSTALLED THE OPPOSITE WAY, CIRCUIT IC's CAN BE DAMAGED WHEN POWER IS APPLIED.

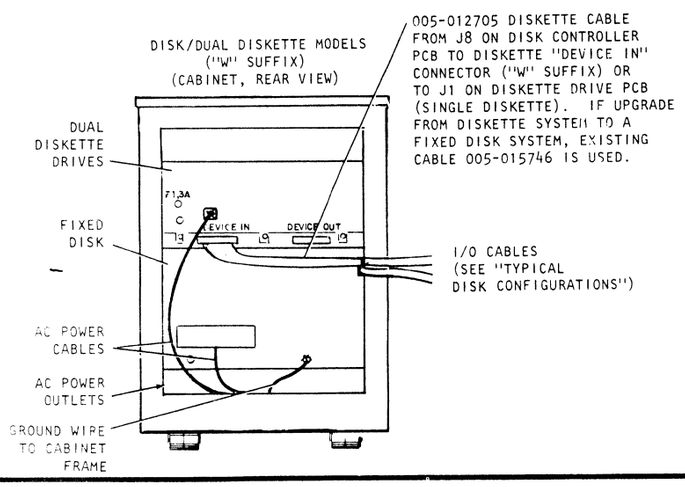


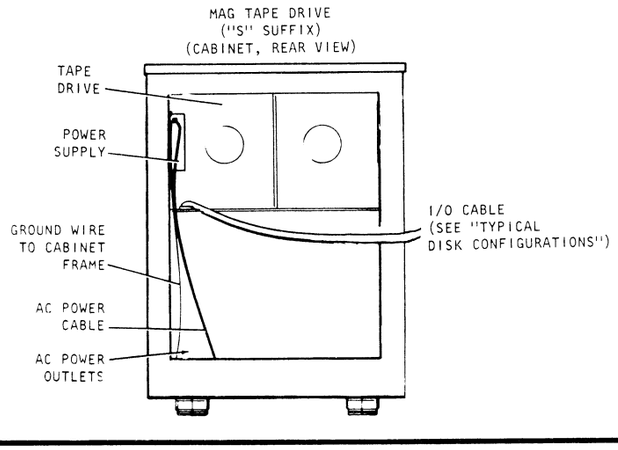
NOTE - FOR SELECTING EITHER RS232 OR 20MA OPERATION OF ASYNCHRONOUS I/O LINES 0-3, INSTALL JUMPER PLUGS IN SOCKETS J12 THRU J15 (SEE TAILORING).

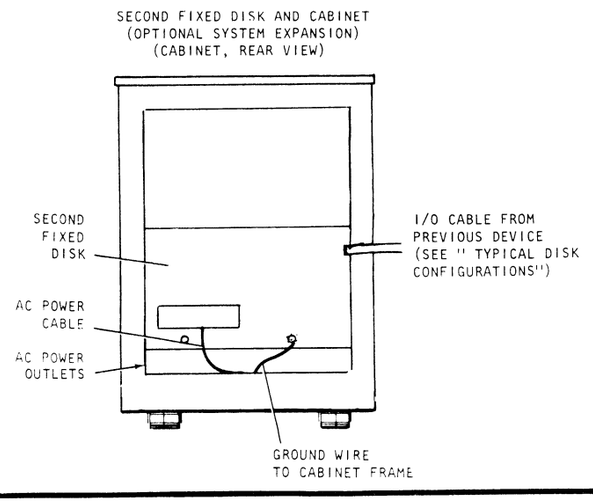




DESTINATION	CABLE NO.	TERMINAL CONNECTOR(S)
J9 ASYNC MUX/PLUG PCB	005-015737	SLOT 2 (SEE CAUTION) J13 (POWER)
SYNC COMM DEVICE	005-014768	SLOT 3







SYSTEM UPGRADES

KIT MODEL	UPGRADE	INSTALLATION PROCEDURE
9325	C1 DISKETTE TO C1 DISK (12.5 MB)	1. REMOVE CABLE 005-15746 BETWEEN CPU/TERMINAL SLOT 1 AND DISKETTE DRIVE INPUT CONNECTOR (SEE UNIT INTERCONNECTION DIAGRAM FOR C1 DISKETTE SYSTEMS. 2. REMOVE DISKETTE CONTROLLER PCB FROM SLOT 1 OF CPU/TERMINAL. 3. INSTALL DISK UNIT IN CABINET (SEE DISK INSTALLATION DETAIL). 4. IF ALSO INSTALLING A LINE PRINTER, INSTALL THE LINE PRINTER CONTROLLER PCB IN SLOT 1 OF THE CPU/TERMINAL (SEE C1 DISK CHASSIS SLOT ASSIGNMENTS, CPU/TERMINAL INSTALLATION SPECIFICATION). 5. INSTALL CABLING BETWEEN UNITS ACCORDING TO UNIT INTERCONNECTION DIAGRAM FOR C1 DISK SYSTEMS. USE CABLE 005-15746 (REMOVED IN STEP 1) TO CONNECT DISKETTE DRIVES TO DISK CONTROLLER PCB. 6. PERFORM A SYSGEN OF SYSTEM SOFTWARE TO INCLUDE THE ADDED SYSTEM COMPONENTS.
9326	C1 DISKETTE TO C1 DISK (25 MB)	
9327	C1 DISK TO C3 MULTITERMINAL SYSTEM	1. REMOVE LINE PRINTER CONTROLLER PCB, IF PRESENT, FROM CPU/TERMINAL, SLOT 1. 2. ADD PROCESSOR/RAM/ROM PCB AND BANK SELECT/MEMORY PCB TO CPU/TERMINAL (SEE C3 CHASSIS SLOT ASSIGNMENTS ON CPU/TERMINAL INSTALLATION SPECIFICATION). 3. REMOVE W7 JUMPER ON VIDEO INTERFACE PCB. 4. REMOVE I/O JUMPER PLUG FROM SOCKET W1 ON CPU/TERMINAL LOGIC BACKPANEL. 5. INSTALL ASYNC MUX/PLUG PCB ON REAR PANEL OF CABINET (SEE ASYNC MUX/PLUG PCB INSTALLATION DETAIL). 6. INSTALL CABLING BETWEEN UNITS ACCORDING TO UNIT INTERCONNECTION DIAGRAM FOR C3 SYSTEMS. 7. PERFORM A SYSGEN OF SYSTEM SOFTWARE TO INCLUDE THE ADDED SYSTEM COMPONENTS.
9329	ADD SYNCHRONOUS COMMUNICATIONS EQUIPMENT (HASP II SOFTWARE)	1. INSTALL THE SYNC LINE CONTROLLER PCB IN CPU/TERMINAL, SLOT 3 (IF A C1 DISK SYSTEM WITHOUT A LINE PRINTER CONTROLLER PCB, INSTALL IN SLOT 5). 2. INSTALL CABLING BETWEEN UNITS ACCORDING TO APPROPRIATE UNIT INTERCONNECTION DIAGRAM FOR SYSTEM. 3. INSTALL THE SOFTWARE UPGRADE DISKETTE AND POWER-UP THE SYSTEM. 4. PERFORM A SYSGEN OF SYSTEM SOFTWARE TO INCLUDE THE ADDED SYSTEM COMPONENTS.
9330	ADD SYNCHRONOUS COMMUNICATIONS EQUIPMENT (IC/RJE80 SOFTWARE)	

KIT MODEL	UPGRADE	INSTALLATION PROCEDURE
9336	C1 DISKETTE TO C3 DISK (12.5 MB) MULTITERMINAL SYSTEM	1. REMOVE CABLE 005-15746 BETWEEN CPU/TERMINAL SLOT 1 AND DISKETTE DRIVE INPUT CONNECTOR (SEE UNIT INTERCONNECTION DIAGRAM FOR C1 DISKETTE SYSTEMS. 2. REMOVE DISKETTE CONTROLLER PCB FROM SLOT 1 OF CPU/TERMINAL. 3. ADD PROCESSOR/RAM/ROM PCB AND BANK SELECT/MEMORY PCB TO CPU/TERMINAL (SEE C3 CHASSIS SLOT ASSIGNMENTS ON CPU/TERMINAL INSTALLATION SPECIFICATION). 4. REMOVE W7 JUMPER ON VIDEO INTERFACE PCB. 5. REMOVE I/O JUMPER PLUG FROM SOCKET W1 ON CPU/TERMINAL LOGIC BACKPANEL. 6. INSTALL DISK UNIT IN CABINET (SEE DISK INSTALLATION DETAIL). 7. INSTALL ASYNC MUX/PLUG PCB ON REAR PANEL OF CABINET (SEE ASYNC MUX/PLUG PCB INSTALLATION DETAIL). 8. INSTALL CABLING BETWEEN UNITS ACCORDING TO UNIT INTERCONNECTION DIAGRAM FOR C3 DISK SYSTEMS. USE CABLE 005-15746 (REMOVED IN STEP 1) TO CONNECT DISKETTE DRIVES TO DISK CONTROLLER PCB. 9. PERFORM A SYSGEN OF SYSTEM SOFTWARE TO INCLUDE THE ADDED SYSTEM COMPONENTS.
9337	C1 DISKETTE TO C3 DISK (25 MB) MULTITERMINAL SYSTEM	
6102-S, 1148-AS	ADD 12.5 MB DISK IN CABINET TO C1/C3 DISK SYSTEMS	1. INSTALL DISK IN CABINET (SEE DISK INSTALLATION DETAIL). 2. INSTALL CABLING BETWEEN UNITS AS SHOWN IN UNIT INTERCONNECTION DIAGRAM FOR C1 OR C3 DISK SYSTEMS. 3. TRANSFER TERMINATOR ON J4 OF FIRST DISK UNIT TO J4 ON SECOND DISK UNIT. 4. PERFORM A SYSGEN OF SYSTEM SOFTWARE TO INCLUDE THE ADDED SYSTEM COMPONENTS.
6105-S, 1148-AS	ADD 25 MB DISK IN CABINET TO C1/C3 DISK SYSTEMS	
6096-SB	REPLACE THE SINGLE 1.2 MB DISKETTE DRIVE WITH A DUAL 1.2 MB DISKETTE DRIVE (C1/C3 DISK SYSTEMS).	1. REMOVE SINGLE DISKETTE DRIVE FROM TOP PLATE ON DISK. 2. INSTALL DUAL DISKETTE DRIVE AS SHOWN IN DISKETTE DRIVE INSTALLATION DETAIL. 3. INSTALL CABLE 005-012705 FROM "DEVICE IN" CONNECTOR ON DISKETTE DRIVES TO J8 ON DISK CONTROLLER PCB. 3. PERFORM A SYSGEN OF SYSTEM SOFTWARE TO INCLUDE THE ADDED SYSTEM COMPONENTS.

MAG TAPE DRIVE INSTALLATION

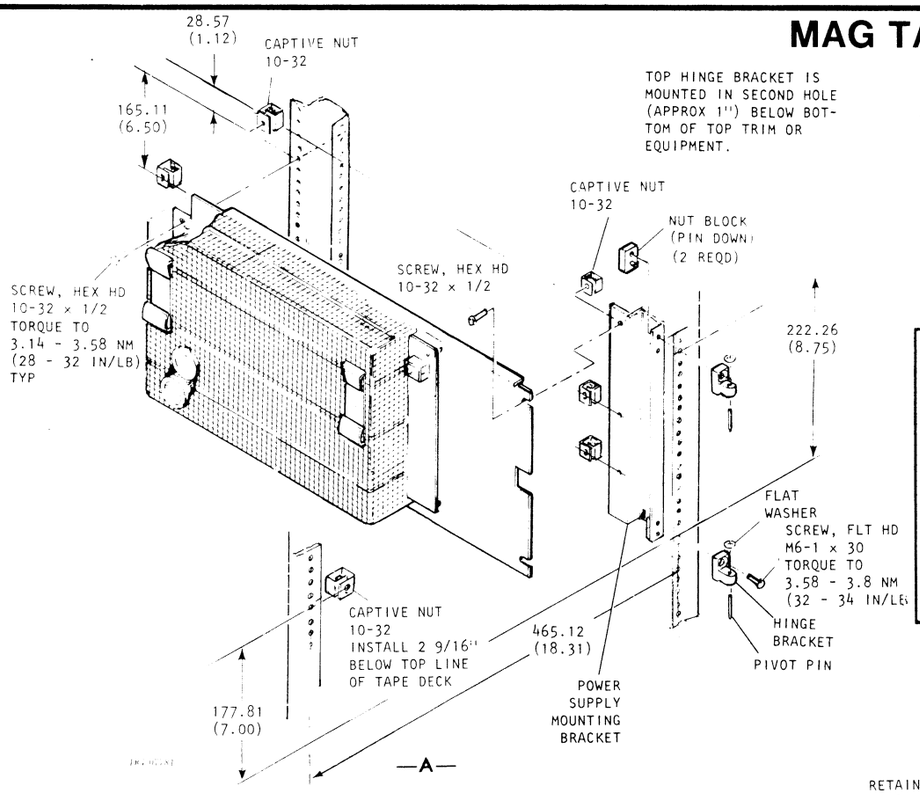
6123 MAG TAPE DRIVE
1148 HALF-BAY CABINET

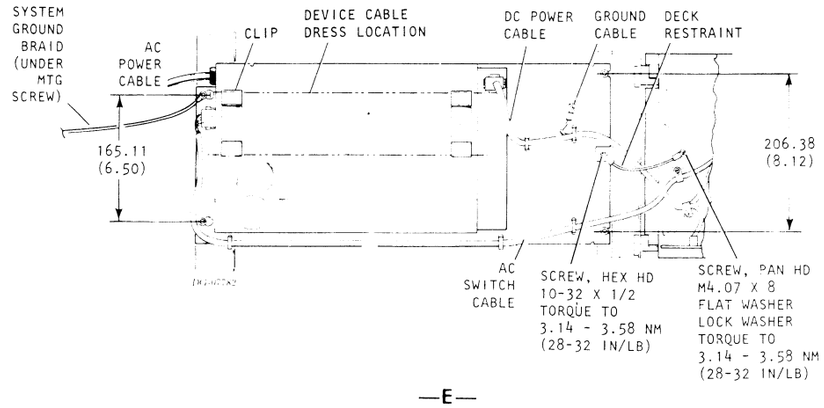
CAUTION

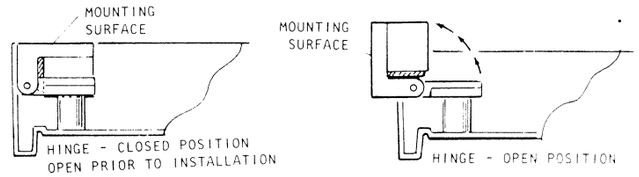
DO NOT HANDLE TAPE DECK BY OR NEAR THE RECORDING HEAD AREA WHEN INSTALLING TAPE DECK ONTO PIVOT PINS.

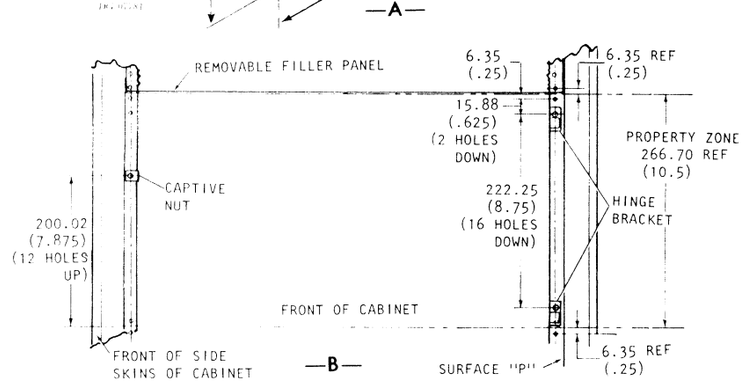
TOOLS REQUIRED

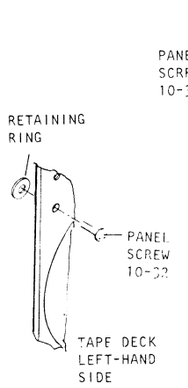
1. 12" SCALE
2. HEX DRIVER, BALL TYPE, 3mm
3. DYKES
4. PLIERS
5. HEX DRIVER, 4mm
6. FLAT BLADE SCREW DRIVER
7. 5/16 SOCKET
8. TORQUE WRENCH

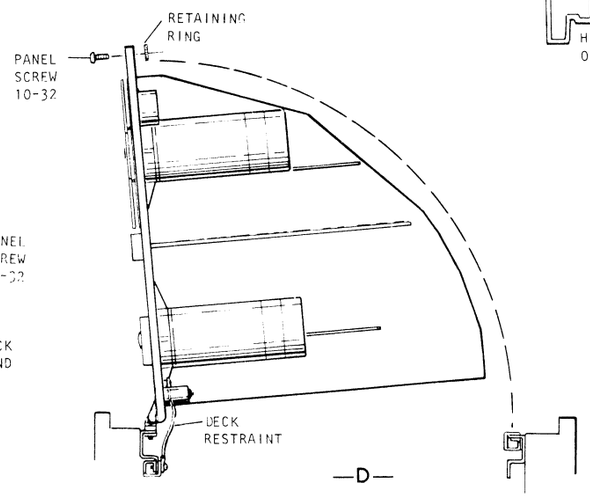


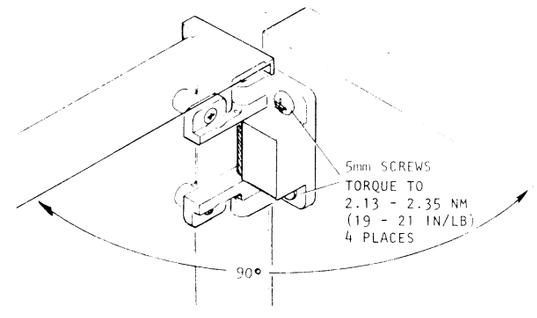










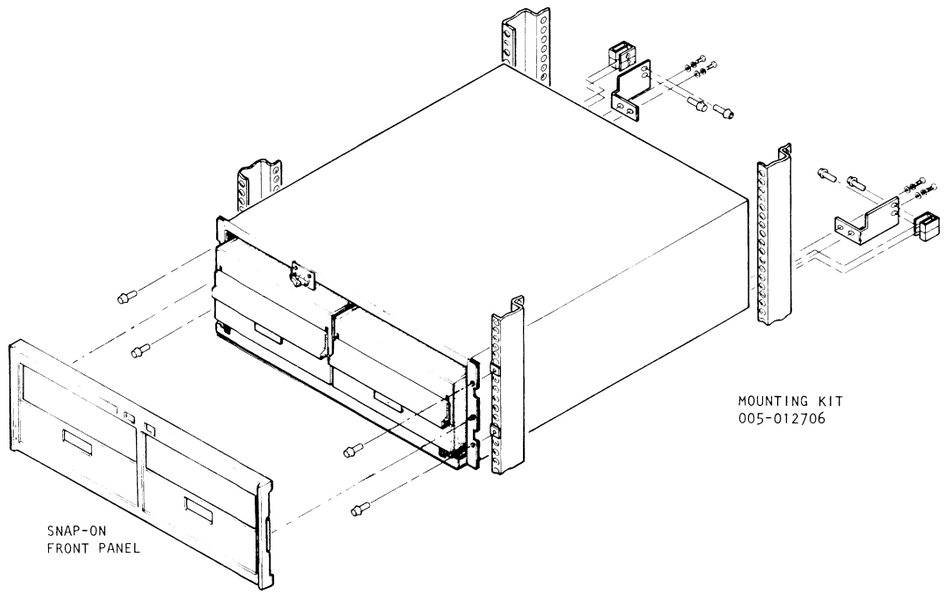


PROCEDURE

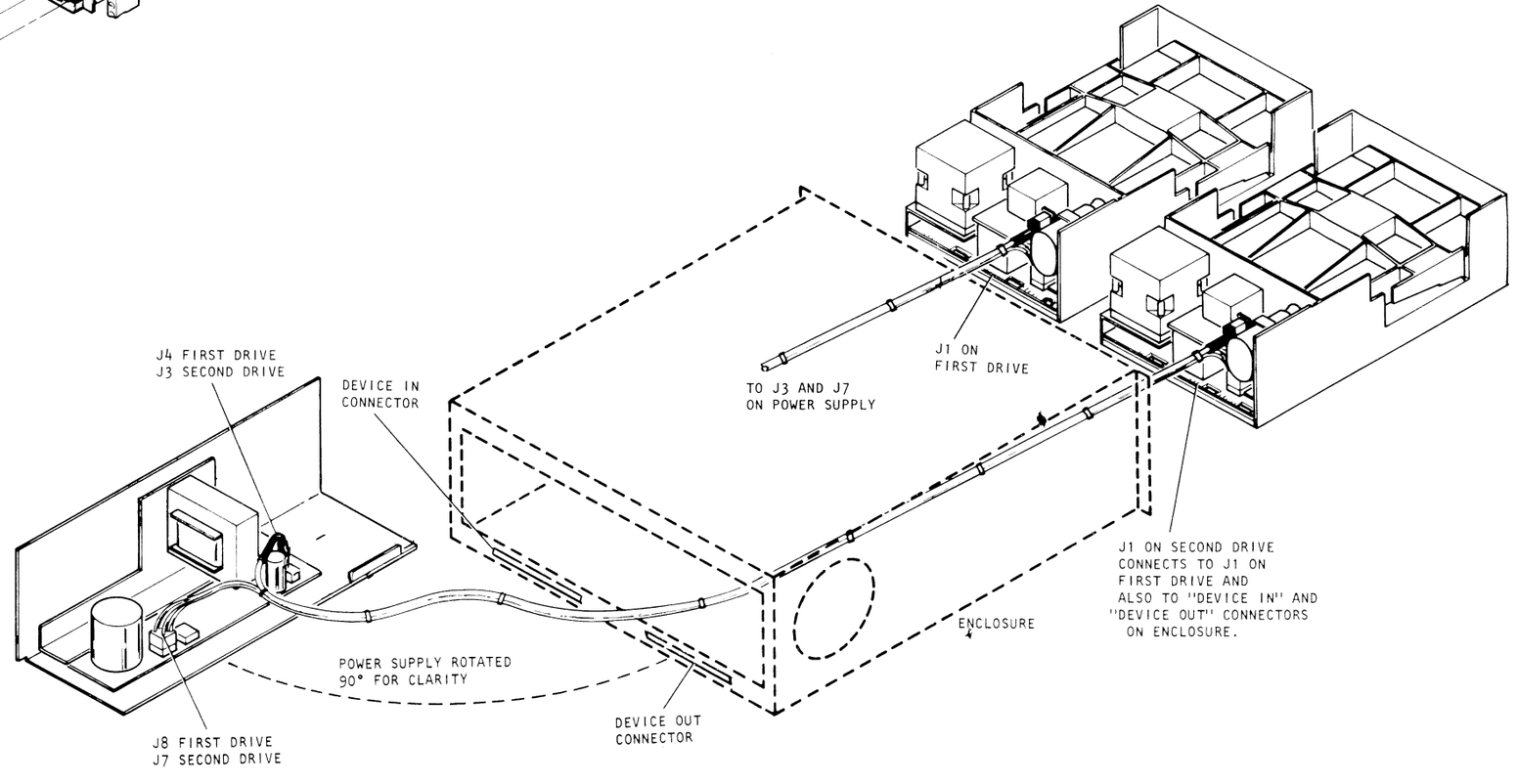
1. REMOVE HARDWARE MOUNTING KIT FROM SHIPPING CONTAINER.
2. MEASURE DOWN FROM TOP TRIM APPROXIMATELY 1 INCH TO SECOND HOLE. USING THIS HOLE, MOUNT TOP HINGE BRACKET AND RELATED NUT BLOCK AND POWER SUPPLY MOUNTING BRACKET.
3. INSTALL CAPTIVE NUTS WHERE INDICATED (DETAIL A). INSTALL 4 10-32 HEX HEAD SCREW INTO CAPTIVE NUTS USED FOR MOUNTING POWER SUPPLY BRACKET, LEAVING 1/4" SPACE UNDER HEAD OF SCREW. INSERT HEADS OF SCREWS THRU HOLES IN REAR OF POWER SUPPLY PLATE AND SLIDE POWER SUPPLY ASSY FORWARD. TIGHTEN SCREWS USING 5/16 SOCKET.
4. INSTALL HINGE BRACKET TO CABINET AS SHOWN USING SCREW, M6-1 X 30 (TOOL: HEX DRIVER, 4mm). RIGHT SIDE EDGE OF HINGE BRACKET MUST BE PARALLEL TO SURFACE 'P' (DETAIL B).
5. INSTALL PIVOT PIN INTO HINGE BRACKET USING HEX DRIVE BALL TYPE 3mm. INSTALL FLAT WASHERS ONTO PIVOT PIN. WHEN INSTALLING THE PIVOT PINS, ADJUST THE UPPER PIVOT PIN SO THAT IT IS SLIGHTLY HIGHER THAN THE LOWER PIVOT PIN. THIS WILL AID IN THE ASSEMBLY OF CASTING TAPE DECK ONTO PINS. THE TAPE DECK MUST BE ORIENTED AS SHOWN IN DETAIL D.
6. WHEN ASSEMBLING TAPE DECK CASTING ASSY, (DETAIL C) INSERT PANEL SCREW THRU HOLE IN CASTING WITH RETAINING RING.
7. ATTACH RESTRAINT CABLE, USING M4mm SCREW, LOCK AND FLAT WASHER TO CASTING AND 10-32 SCREW, LOCK AND FLAT WASHER TO CAPTIVE NUT IN RAIL. (DETAIL D)
8. CONNECT DC POWER CABLE TO POWER SUPPLY & SECURE CABLE TO POWER SUPPLY PAN USING TIE WRAPS. SECURE GROUND CABLE TO POWER SUPPLY PAN USING M4 THREAD FORMING SCREW. (DETAIL E)
9. CONNECT AC SWITCH CABLE TO POWER SUPPLY & FASTEN CABLE USING TIE WRAPS AS SHOWN.
10. ON MICRONOVA & NOVA-ECLIPSE, INSTALL CABLES AS SHOWN & DRESS ACCORDINGLY SO FORMATTER/CONTROLLER/SERVO PCB WILL SWING FREELY AND NOT CATCH OR BIND WHEN TAPE DECK IS SWUNG OPEN.
11. SYSTEMS GROUND MUST BE INSTALLED PRIOR TO STARTING UP OF TAPE DECK UNIT. (DETAIL E).
12. REPLACE FILLER PANEL ABOVE TAPE DECK. ADJUST PIVOT PINS USING 3mm BALL POINT DRIVER SO THERE IS MINIMUM CLEARANCE BETWEEN TOP OF TAPE DECK & BOTTOM OF FILLER PANEL (APPROX 1/8").
13. REPLACE BOTTOM FILLER PANEL.
14. INSTALL FRONT DOOR ONTO TAPE DECK.
    a. OPEN HINGE ASSY BY FIRMLY GRASPING SPRING HOUSING OPEN 90° PRIOR TO INSTALLING ONTO TAPE DECK. (DETAIL F)
    b. USING QTY 4 5mm SCREWS, LIGHTLY FASTEN SPRING HOUSING TO TAPE DECK. (DETAIL F)
    c. CLOSING & OPENING OF DOOR MUST NOT SHOW ANY SIGNS OF RUBBING OR INTERFERENCE WITH FILLER PANELS ABOVE OR BELOW TAPE DECK.
    d. IF ANY INTERFERENCE EXISTS, READJUST DOOR ACCORDINGLY.
    e. IF NO INTERFERENCE IS PRESENT, **TIGHTEN THE 5mm SCREWS** SECURELY.

DUAL DISKETTE DRIVE INSTALLATION

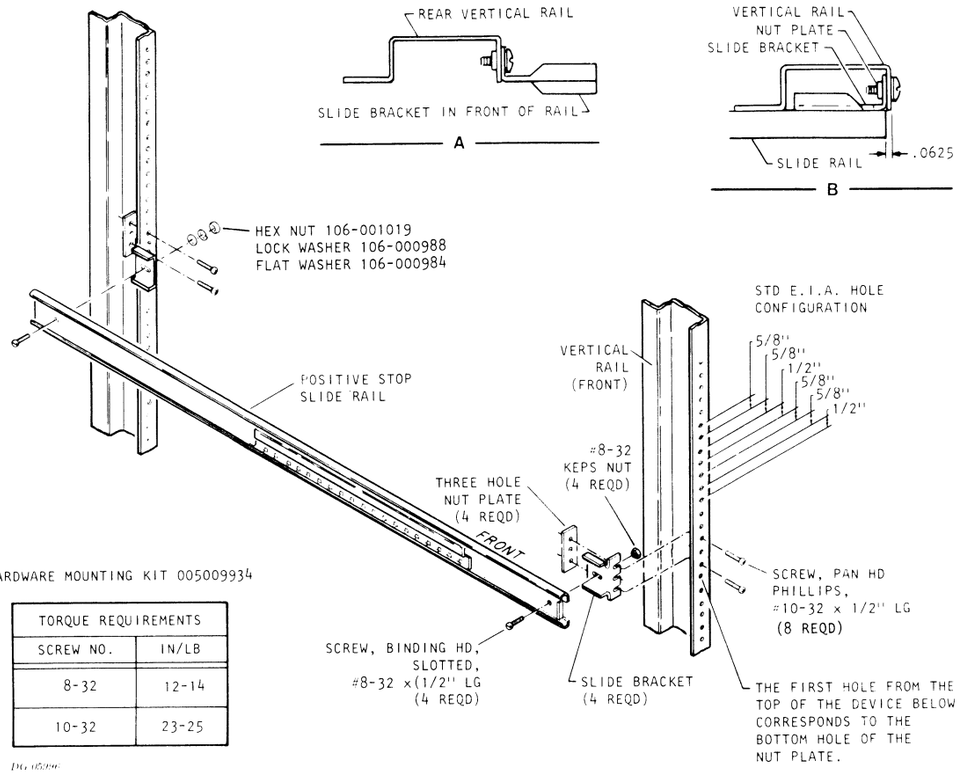
CABINET MOUNTING



INTERNAL CONNECTIONS



DISK DRIVE CABINET MOUNTING



HARDWARE MOUNTING KIT 005009934

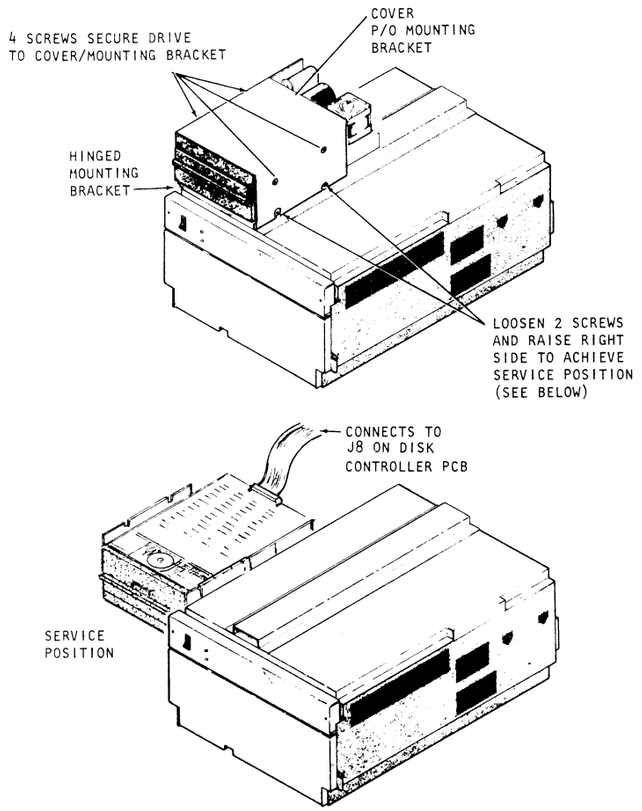
TORQUE REQUIREMENTS	
SCREW NO.	IN/LB
8-32	12-14
10-32	23-25

DG-06034

CAUTION

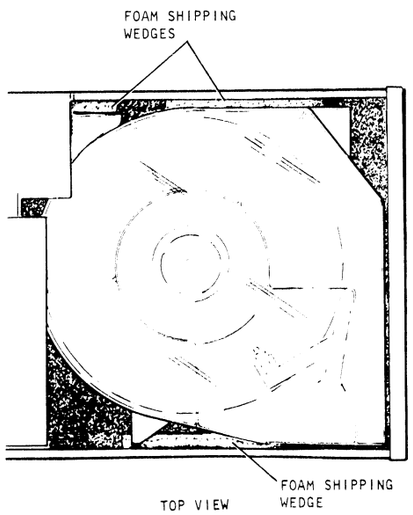
BEFORE PLACING DISK UNIT IN SERVICE POSITION (UNIT WITHDRAWN FROM THE CABINET), MAKE CERTAIN THAT THE ANTI-TIP BARS (EITHER FIXED OR RETRACTABLE) ARE INSTALLED AND IN FUNCTIONING POSITION.

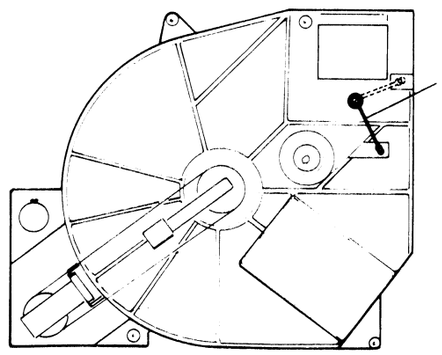
DISKETTE DRIVE MOUNTING (SINGLE DRIVE)



SHIPPING RESTRAINTS

IMPORTANT: REMOVE 3 FOAM WEDGES AND UNLOCK ARM BEFORE OPERATING.

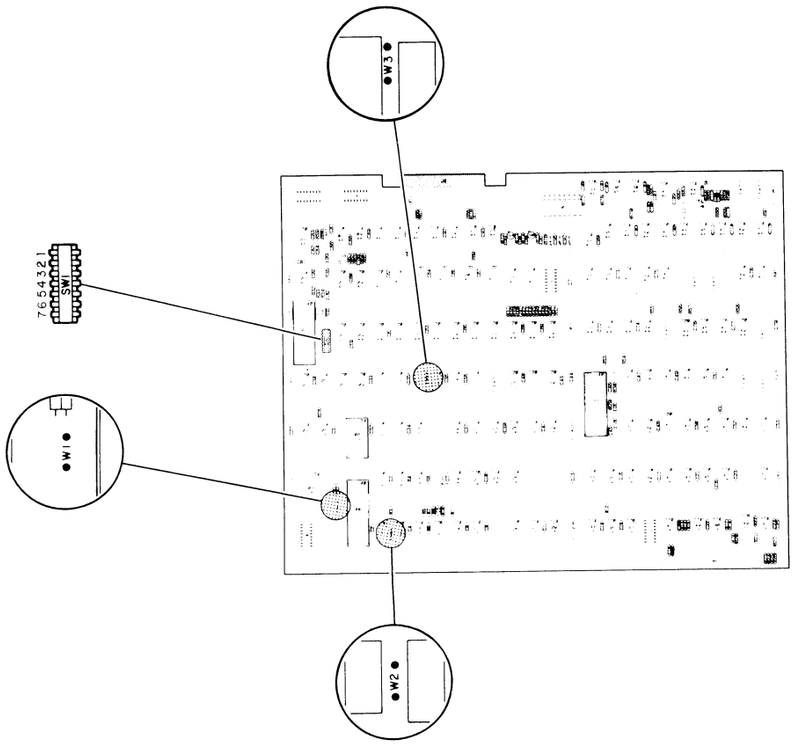




DG-06034

DISK DRIVE TAILORING

CONTROLLER BOARD

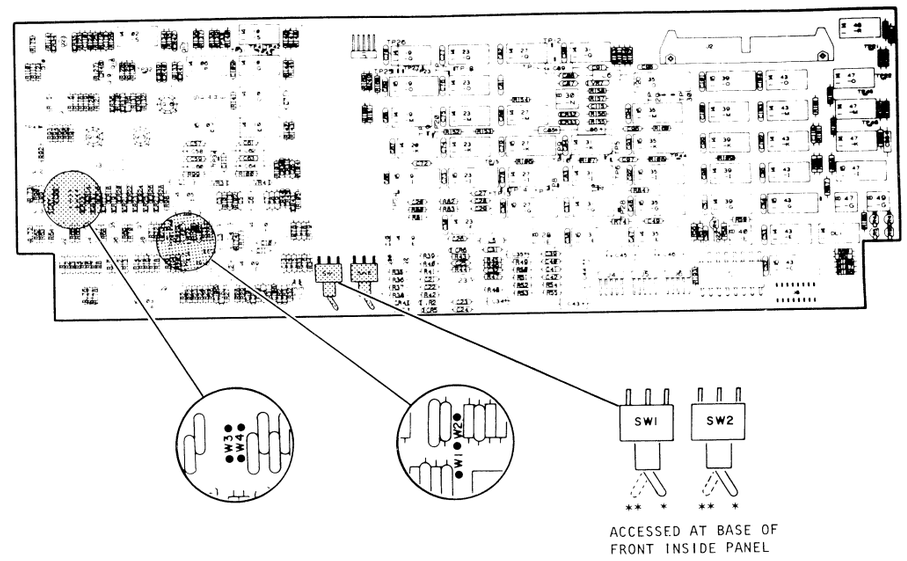


CONTROLLER DEVICE CODE SELECT		
SWITCH NUMBER	DEVICE CODE 26 (1st DISC)	DEVICE CODE 66 (2nd DISC)
1	OFF *	OFF *
2	OFF	ON
3	ON	ON
4	OFF	OFF
5	ON	ON
6	ON	ON
7	OFF	OFF

*THIS SWITCH NOT USED

CONTROLLER JUMPER SELECTION			
12.5 MB		25 MB	
JUMPER		JUMPER	
W1	OUT	W1	OUT
W2	IN	W2	OUT
W3	IN	W3	IN

R/W LOGIC BOARD



R/W JUMPER SELECTION			
12.5 MB		25 MB	
JUMPER		JUMPER	
W1	IN	W1	IN
W2*	OUT	W2*	OUT
W3	OUT	W3	IN
W4	OUT	W4	IN

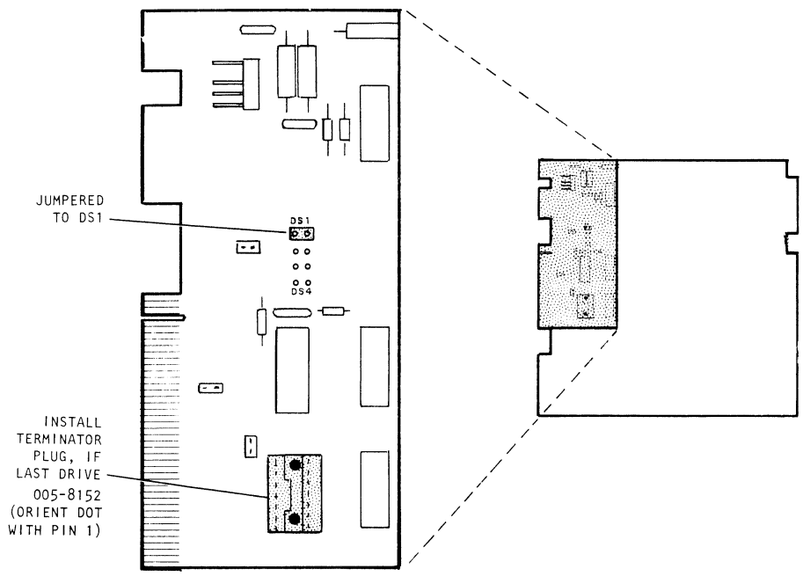
* INSERTED FOR FACTORY USE ONLY

SWITCH SETTINGS	
SWITCH	*RIGHT
SW-1 SW-2	FIXED DISK NOT WRITE PROTECTED FIXED DISK = UNIT 0 DISKETTE = UNIT 1
	**LEFT
SW-1 SW-2	FIXED DISK WRITE PROTECTED FIXED DISK = UNIT 1 DISKETTE = UNIT 0

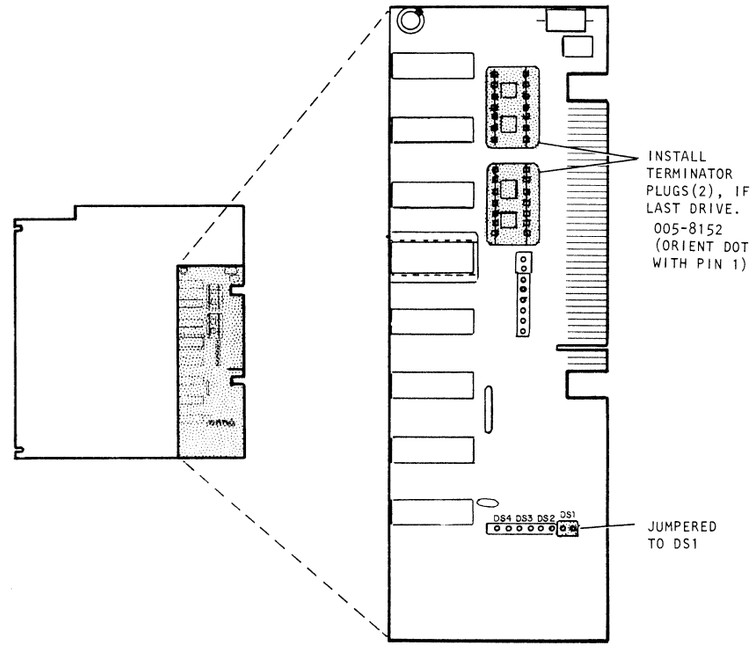
TAILORING

SINGLE/DUAL DISKETTE DRIVES

SHUGART DRIVE
(NOTE 3)



QUME® DRIVE
(NOTE 3)



JUMPER OPTIONS (NOTE 1)

DS1	SELECTS DRIVE AS UNIT 0
DS2	SELECTS DRIVE AS UNIT 1
DS3	SELECTS DRIVE AS UNIT 2
DS4	SELECTS DRIVE AS UNIT 3

NOTE 1. C1 DISKETTE SYSTEMS - SET THE RIGHT DRIVE AS UNIT 0; LEFT DRIVE AS UNIT 1.

C1/C3 DISK SYSTEMS (SINGLE DISKETTE) - SET DISKETTE DRIVE AS UNIT 1 (NOTE 2)

C1/C3 DISK SYSTEMS (DUAL DISKETTES) - SET RIGHT DRIVE AS UNIT 1; LEFT DRIVE AS UNIT 2 (NOTE 2)

NOTE 2. SET DEVICE 0 SELECT SWITCH (SW2) ON DISK UNIT AS FOLLOWS:

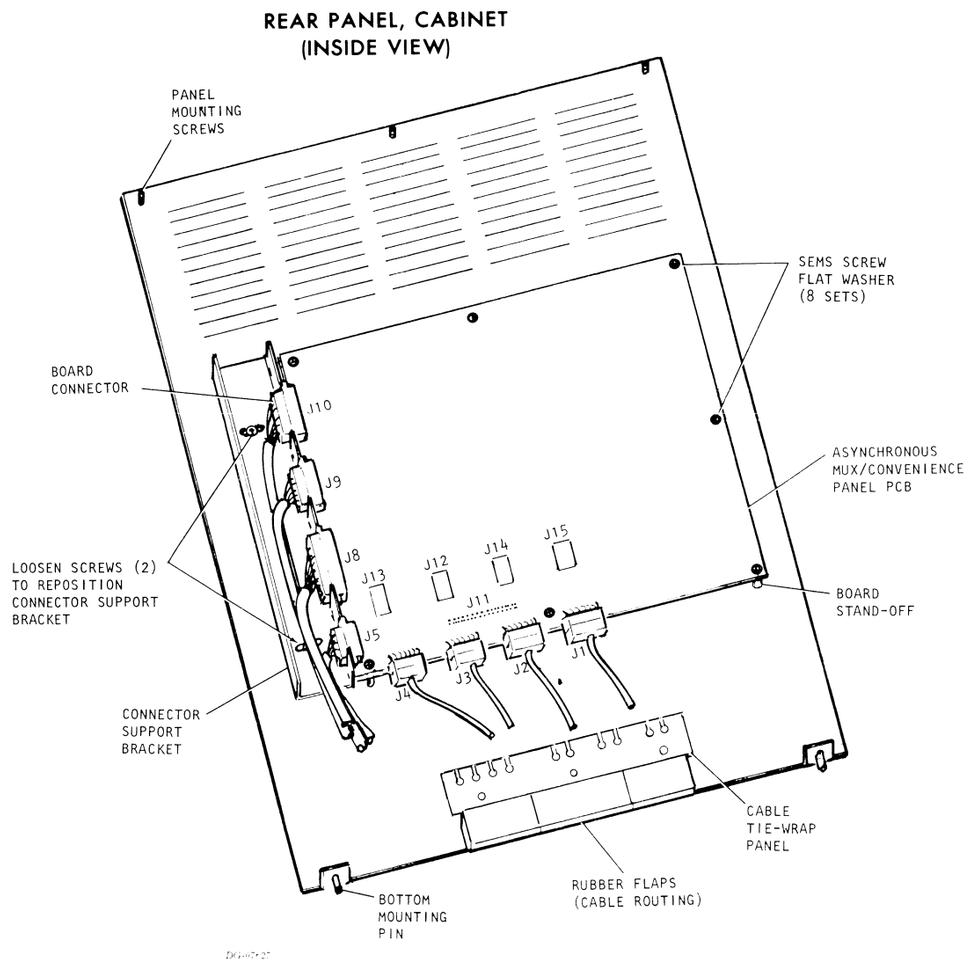
LEFT POSITION (DSK1 FPY0) SELECTS RIGHT DISKETTE AS BOOTING DEVICE: RIGHT POSITION (DSK0 FPY1) SELECTS DISK AS BOOTING DEVICE.

NOTE 3. THE SHUGART AND QUME DRIVES ARE INTERCHANGEABLE.

INSTALLATION

ASYNCHRONOUS MULTIPLEXOR / CONVENIENCE PANEL PCB

REAR PANEL, CABINET
(INSIDE VIEW)



CONNECTOR SUMMARY

CONN	FUNCTION
J1	LINE 0 EIA/20mA, ASYNC I/O
J2	LINE 1 EIA/20mA, ASYNC I/O
J3	LINE 2 EIA/20mA, ASYNC I/O
J4	LINE 3 EIA/20mA, ASYNC I/O (OR SERIAL PRINTER SUFFIX "A-A")
J5	SERIAL PRINTER LINE (SUFFIX "S", EIA)
J8	PARALLEL PRINTER LINE
J9	I/O INPUT/DC POWER FROM CPU/TERMINAL
J10	I/O OUTPUT TO J3, DISC CONTROLLER PCB
J11	EIA/20mA TEST PLUG (REMOVE IF ALM LINES J1 THRU J5 ARE USED)
J12	LINE 2 JUMPER PLUG, EIA/20mA SELECT (NOTE)
J13	LINE 3 JUMPER PLUG, EIA/20mA SELECT (NOTE)
J14	LINE 1 JUMPER PLUG, EIA/20mA SELECT (NOTE)
J15	LINE 0 JUMPER PLUG, EIA/20mA SELECT (NOTE)

NOTE: FOR EIA OPERATION OF THE LINE (J1, J2, J3, OR J4), JUMPER PLUG 111-000887 MUST BE INSTALLED WITH PIN 1 OF THE PLUG INSERTED IN PIN 1 OF THE SOCKET (J15, J14, J12, J13, RESPECTIVELY). FOR 20mA OPERATION OF THE LINE, JUMPER PLUG 111-000887 MUST BE INSERTED WITH PIN 1 OF THE PLUG INSERTED IN PIN 11 OF THE SOCKET.

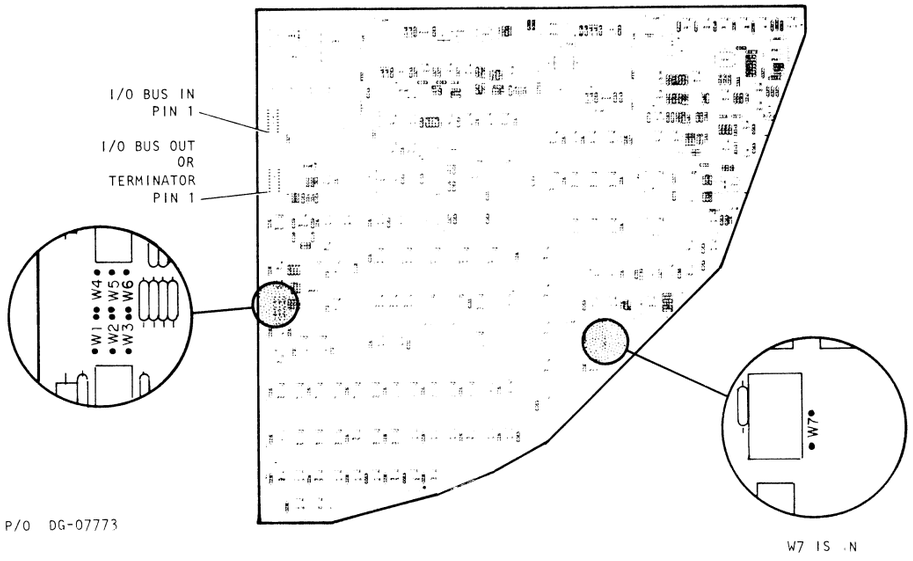
MAG TAPE TAILORING

JUMPERING

6123 MAG TAPE DRIVE

FORMATTER/CONTROLLER/SERVO PCB

Ref DGC Dwg No 003-001621 Rev 00



DEVICE SELECT JUMPERS		DEVICE CODE 22	DEVICE CODE 62
W4	MSB	OUT	IN
W5		IN	IN
W6		OUT	OUT
W1		OUT	OUT
W2		IN	IN
W3	LSB	OUT	OUT

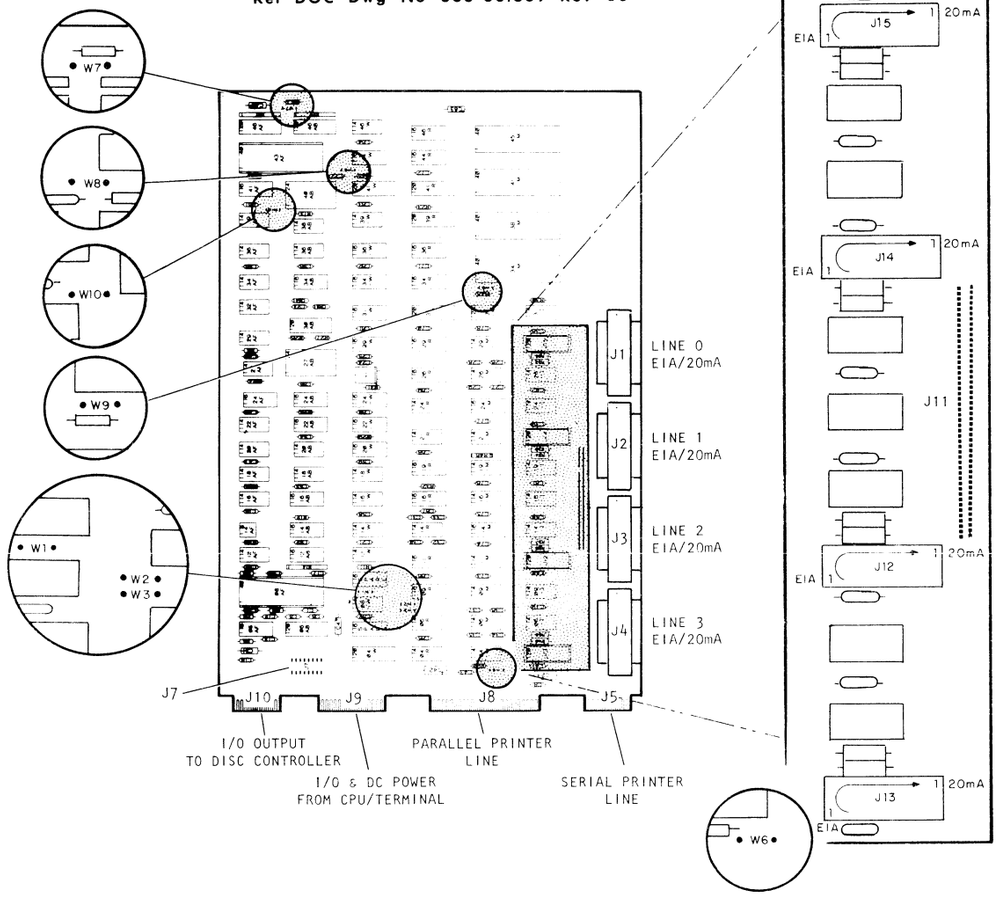
TAILORING

JUMPERING

NOTE: The information on this page is also summarized on Sheet 23 of this IDS.

ASYNC COMBO MUX PCB

Ref DGC Dwg No 003-001639 Rev 00



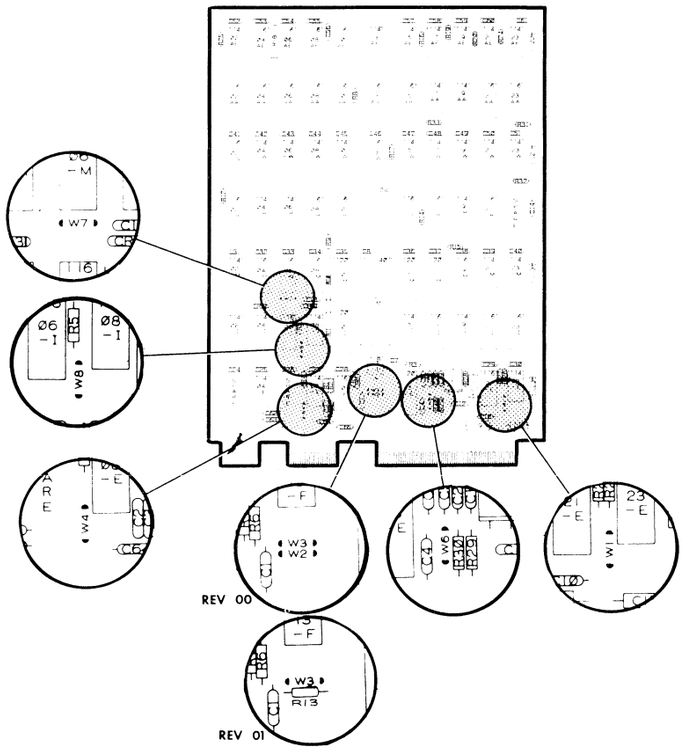
W1	LPT DEVICE CODE: PRIMARY (OUT) = 17 (CS/10 SYSTEMS) SECONDARY (IN) = 57
W2	IN FOR LP2
	OUT FOR DATA PRODUCTS PRINTERS
W3	IN FOR DATA PRODUCTS PRINTERS
	OUT FOR LP2
W4	NOT USED
W5	NOT USED
W6	ALM DEVICE CODE: PRIMARY (OUT) = 34 (CS/10 SYSTEMS) SECONDARY (IN) = 44
W7	NORMALLY IN: OUT FOR TEST ONLY
W8	NORMALLY IN: OUT FOR TEST ONLY
W9	NORMALLY IN: OUT FOR TEST ONLY
W10	NORMALLY IN: OUT FOR TEST ONLY
J11	JUMPER PLUG 005-015736: OUT FOR NORMAL OPERATION; IN FOR DIAGNOSTIC TESTING
J7	TERMINATOR PLUG 005-007110 INSTALLED FOR TEST WHEN J10 IS NOT CONNECTED TO DISK CONTROLLER

CONN	LINE SELECTION
J12	LINE 2 JUMPER PLUG, EIA/20MA SELECT (NOTE)
J13	LINE 3 JUMPER PLUG, EIA/20MA SELECT (NOTE)
J14	LINE 1 JUMPER PLUG, EIA/20MA SELECT (NOTE)
J15	LINE 0 JUMPER PLUG, EIA/20MA SELECT (NOTE)

NOTE - FOR EIA OPERATION OF THE LINE, JUMPER PLUG 111-875 MUST BE INSTALLED WITH PIN 1 OF THE PLUG INSERTED IN PIN 1 OF THE SOCKET. FOR 20MA OPERATION OF THE LINE, JUMPER PLUG 111-875 MUST BE INSTALLED WITH PIN 1 OF THE PLUG INSERTED IN PIN 11 OF THE SOCKET.

SYNC COMMUNICATIONS PCB

Ref DGC Dwg No 003-001650 Rev 01



JUMPERS	
W1	BAUD RATE: OUT = 2400, IN = 9600
R13	BEXTINT* TO BACKPANEL PIN B8 (CS/10 SYSTEMS)
W3	OUT - IN FOR BEXTINT* TO BACKPANEL PIN B7
W4	OUT - IN FOR TEST PURPOSES ONLY
W5	NOT USED
W6	NOT USED
W7	IN - OUT FOR TEST PURPOSES ONLY
W8	DEVICE CODE: IN = PRIMARY 34, OUT = SECONDARY 44 (CS/10 SYSTEMS)
R5	DEVICE CODE: OUT = PRIMARY 34 IN = SECONDARY 44 (CS/10 SYSTEMS)
W9	NOT USED

NOTE: FOR CS/10 SYSTEMS, ALL WIRE JUMPERS ARE OUT EXCEPT W7.

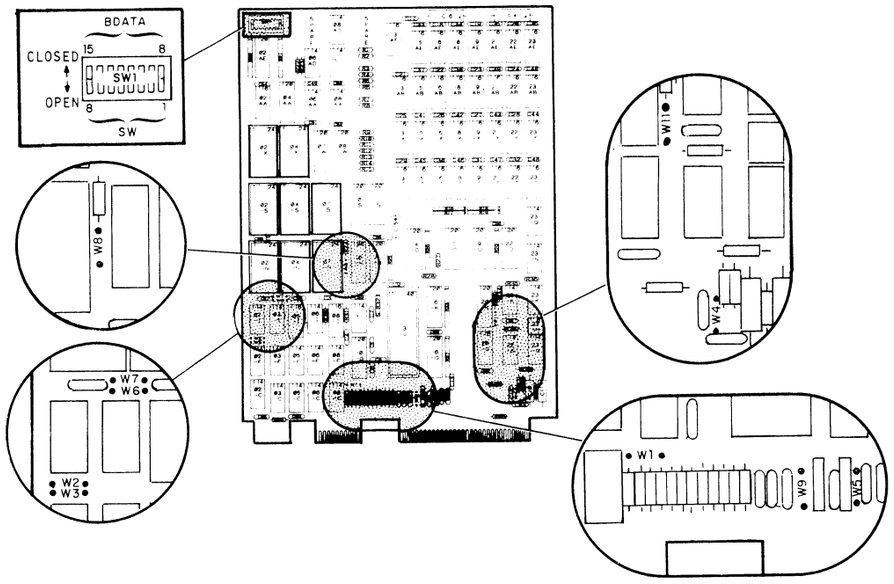
TAILORING

JUMPERING

PROCESSOR/MEMORY (IPM-1, 64kB)

Ref DGC No 107-001506

NOTE: The information on this sheet is also summarized on sheet 27 of this IDS



JUMPERS

W1 - IN = OSCILLATOR (OUT FOR TEST ONLY)
W2 & W3 - ROM ADDRESS JUMPERS:

---------- IF 2K x 8 ROM's ARE USED IN ------		
LOCATION 02x & 04x	28K TO 30K	NO JUMPERS
LOCATION 02s & 02n	30K TO 32K	W2 - IN
		W3 - OUT
---------- IF 4k x 8 ROM's ARE USED IN ------		
LOCATION 02x & 04x	28K TO 32K	NO JUMPERS
LOCATION 02s & 02n	24K TO 28K	W3 - IN; W2 - OUT
LOCATION 02s & 02n	26K TO 28K	W3 - IN; W2 - OUT

NOTE: IF 4K BY 8 ROM's ARE INSTALLED IN 02s AND 02n, THE LOWER 2K OF ROM IS ADDRESSED WHEN ADDRESS BIT 4 IS A "1".

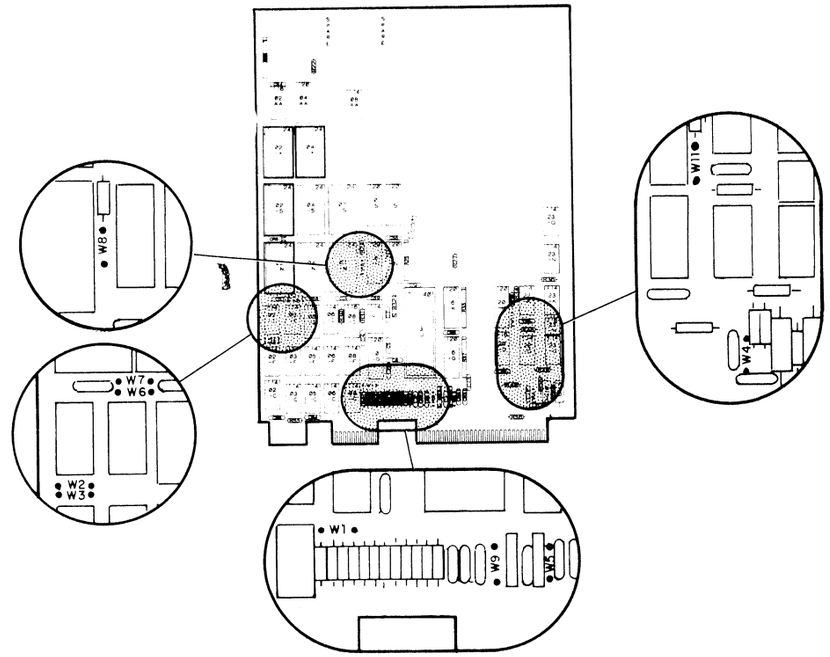
W4 - OUT
W5 - IN - NON-MASKABLE REQUEST ENABLE
W6 - IN - IF 1K x 8 RAM's INSTALLED (CS/10 SYSTEMS)
OUT - IF 2K x 8 RAM's INSTALLED
W7 - IN - IF 2K x 8 RAM's INSTALLED
OUT - IF 1K x 8 RAM's INSTALLED (CS/10 SYSTEMS)
W8 - IN - IF 2K x 8 RAM's INSTALLED
OUT - IF 1K x 8 RAM's INSTALLED (CS/10 SYSTEMS)
W9 - IN - EXTERNAL I/O BUS,
OUT - NO EXTERNAL I/O BUS (CS/10 SYSTEMS; CABLE DOES JUMPERING)
W11 - NOT USED (MUST BE OUT)

CONFIGURATION SWITCHES (BDATA 8 - 15)

SWITCH	BDATA	
1	8 - OPEN	SCREEN I/O MEMORY MAPPED (C1 SYSTEMS)
	CLOSE	SCREEN I/O PROGRAMMED (C3 SYSTEMS)
2	9 - CLOSE	(ALL CS/10 SYSTEMS)
3	10 - CLOSE	DEVICE CODE 26 SELECT
4	11 - OPEN	BOOTING DEVICE AFTER
5	12 - CLOSE	COMPLETION OF POWER UP
6	13 - OPEN	DIAGNOSTICS TO SELECT
7	14 - OPEN	ODT (FOR SERVICE), SET
8	15 - CLOSE	SWITCHES 3 - 8 ALL OFF.

PROCESSOR/RAM/ROM (IPM-1, 4kB)

Ref DGC No 107-001645



JUMPERS

W1 - IN = OSCILLATOR (OUT FOR TEST ONLY)
W2 & W3 - ROM ADDRESS JUMPERS:

---------- IF 2K x 8 ROM's ARE USED IN ------		
LOCATION 02x & 04x	28K TO 30K	NO JUMPERS
LOCATION 02s & 02n	30K TO 32K	W2 - IN
		W3 - OUT
---------- IF 4k x 8 ROM's ARE USED IN ------		
LOCATION 02x & 04x	28K TO 32K	NO JUMPERS
LOCATION 02s & 02n	24K TO 28K	W3 - IN; W2 - OUT
LOCATION 02s & 02n	26K TO 28K	W3 - IN; W2 - OUT

NOTE: IF 4K BY 8 ROM's ARE INSTALLED IN 02s AND 02n, THE LOWER 2K OF ROM IS ADDRESSED WHEN ADDRESS BIT 4 IS A "1".

W4 - OUT
W5 - IN - NON-MASKABLE REQUEST ENABLE
W6 - IN - IF 1K x 8 RAM's INSTALLED (CS/10 SYSTEMS)
OUT - IF 2K x 8 RAM's INSTALLED
W7 - IN - IF 2K x 8 RAM's INSTALLED
OUT - IF 1K x 8 RAM's INSTALLED (CS/10 SYSTEMS)
W8 - IN - IF 2K x 8 RAM's INSTALLED
OUT - IF 1K x 8 RAM's INSTALLED (CS/10 SYSTEMS)
W9 - IN - EXTERNAL I/O BUS
OUT - NO EXTERNAL I/O BUS (CS/10 SYSTEMS; CABLE DOES JUMPERING)
W11 - NOT USED (MUST BE OUT)

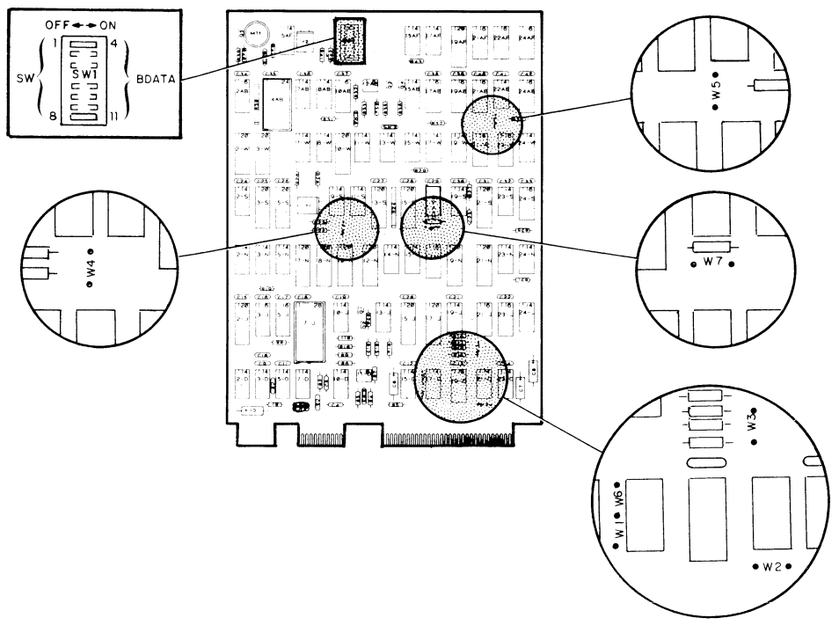
TAILORING

JUMPERING

VIDEO INTERFACE (IPM-2A)

Ref DGC No 107-001507

NOTE: The information this sheet is also summarized on sheet 27 of this IDS.



JUMPERS

W1 - IN = VIDEO ADDRESS RANGE 57774 - 57777
(2K IPM-1 PCB CS/10 MODEL C3 ONLY)
W2 - IN = BAUD RATE CLOCK (OUT FOR TEST ONLY)
W3 - OUT NOT USED.
W4 - IN = VIDEO CLOCK (OUT FOR TEST ONLY)
W5 - IN = 60HZ OPERATION; OUT = 50HZ OPERATION
W6 - IN = VIDEO ADDRESS RANGE 77774 - 77777 (C1 SYSTEMS); OUT = C3 SYSTEMS
W7 - IN = VIDEO ADDRESS RANGE IS IN NORMAL MEMORY (C1 SYSTEMS)
OUT = VIDEO ADDRESS RANGE IS IN NORMAL AND MAPPED MEMORY (D2/D200 EMULATOR; C3 SYSTEMS)

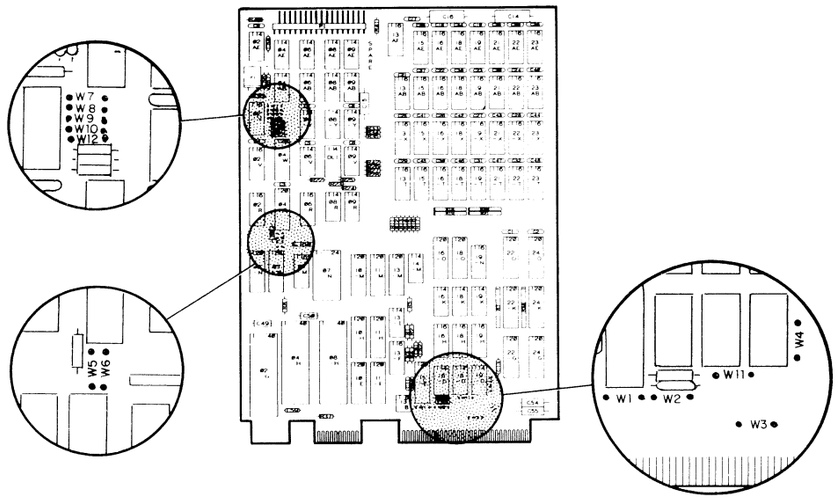
CONFIGURATION SWITCHES (BDATA 4-11) 0 = OFF 1 = ON

SWITCH	BDATA	
1	4 --	NOT USED (OFF)
2	5 --	OFF = ENABLES CTS TO SYNC WITH STOP BITS (TP2 PRINTERS) ON = DISABLE (TP1 PRINTERS)
3	6 --	00 = LOCAL MODE 01 = MARK PARITY (ALL CS/10 SYSTEMS)
4	7 --	10 = EVEN PARITY 11 = ODD PARITY
5	8 --	BAUD RATE 0000 = 50, 0001 = 75, 0010 = 110, 0011 = 134.5, 0100 = 150, 0101 = 300, 0110 = 600, 0111 = 1200, 1000 = 1800, 1001 = 2000, 1010 = 2400, 1011 = 3600, 1100 = 4800, 1101 = 7200, 1110 = 9600 (MANDATORY ON C3 SYSTEMS), 1111 = 2400/150
6	9 --	
7	10 --	
8	11 --	

NOTE: IN CS/10 SYSTEMS THE BAUD RATE SET ON THESE SWITCHES MUST BE THE SAME AS THE BAUD RATE SET ON THE ASSOCIATED PRINTER

BANK SELECT PCB

Ref DGC No 107-001629



JUMPERS

W1 - IN WHEN BACKPANEL CONNECTION OF TTY IN TO VIDEO/INTERFACE PCB COMMUNICATIONS INTERFACE IS REQUIRED (CS/10 MODEL C3).

W2 - IN ENABLES NON-MASKABLE REQUEST (NMR).

W3 & W4 - IN WHEN BACKPANEL CONNECTION OF CLEAR TO SEND AND XMIT DATA TO VIDEO/INTERFACE PCB COMMUNICATIONS INTERFACE IS REQUIRED (CS/10 MODEL C3).

W5 & W6 - DEVICE CODE PRIMARY=OUT (FOR CS/10 SYSTEMS) SECONDARY= IN

10 - TTY RECEIVE/BANK SELECT - 50
11 - TTY TRANSMIT/BANK SELECT - 51

W7 TO W10 - TTY INTERFACE BAUD RATE =

	W7	W8	W9	W10	
50	IN	OUT	IN	IN	
75	OUT	OUT	IN	IN	
110	OUT	OUT	OUT	OUT	
1345.5	IN	IN	OUT	IN	
150	IN	OUT	OUT	OUT	
200	OUT	IN	OUT	IN	
300	OUT	IN	OUT	OUT	
600	IN	OUT	OUT	IN	
1200	OUT	OUT	IN	OUT	
1600	IN	OUT	IN	OUT	
2400	IN	IN	OUT	OUT	
4800	OUT	IN	IN	OUT	
9600	IN	IN	IN	OUT	(MANDATORY ON C3 SYSTEMS)
19,200	OUT	IN	IN	IN	

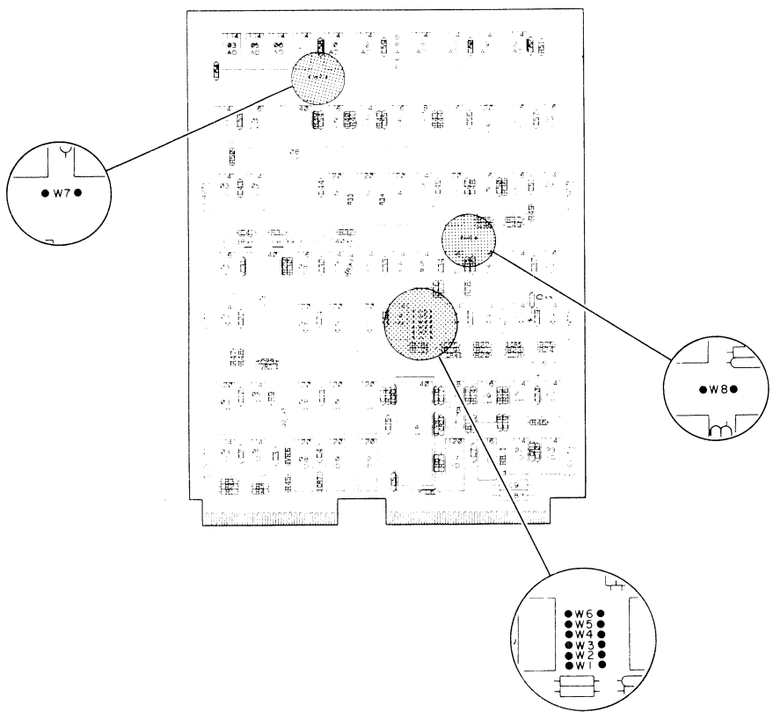
W11 - OUT - (IN FOR TEST PURPOSES ONLY; HARDWARE ENABLE OF 32K BANK)

W12 - IN - (ENABLES BAUD RATE GENERATOR CLOCK; OUT FOR TEST PURPOSES ONLY)

TAILORING
JUMPERING

DISKETTE CONTROLLER

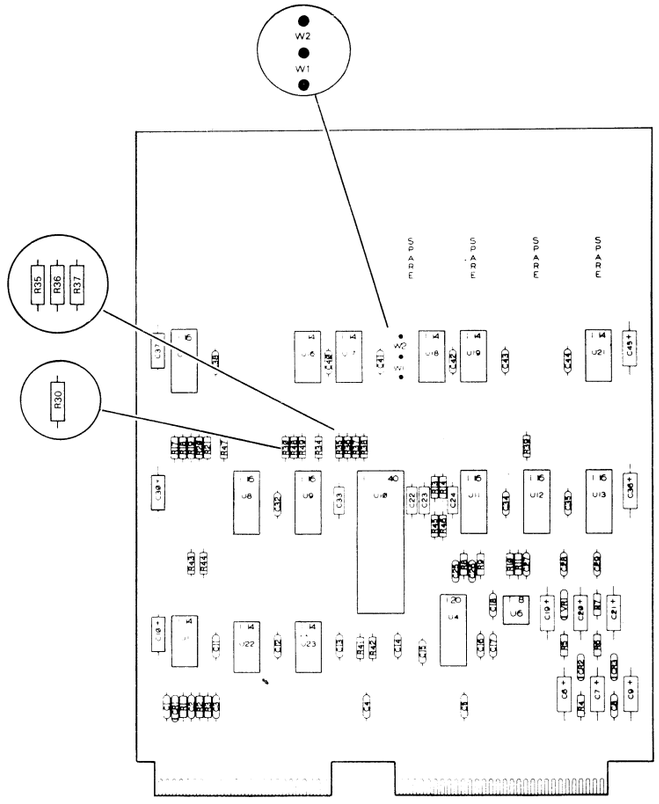
Ref DGC No 107-001324



JUMPER	DEVICE CODE 26	66
DS0 — W6	OUT	IN
DS1 — W5	IN	IN
DS2 — W4	OUT	OUT
DS3 — W3	IN	IN
DS4 — W2	IN	IN
DS5 — W1	OUT	OUT

NOTE: W7 AND W8 MUST ALWAYS BE INSTALLED. IN ALL CS/10 SYSTEMS, SET DEVICE CODE TO 26.

LINE PRINTER CONTROLLER



JUMPER NAME	JUMPER NUMBER	POSITION	
DS0	-	ALWAYS 0	ALL CS/10 SYSTEMS, SET DEVICE CODE FOR 17 (DS2 THRU DS5 IN)
DS1	-	ALWAYS 0	
DS2 SELECT	R30	IN FOR 0; OUT FOR 1	
DS3 SELECT	R37	IN FOR 0; OUT FOR 1	
DS4 SELECT	R36	IN FOR 0; OUT FOR 1	
DS5 SELECT	R35	IN FOR 0; OUT FOR 1	
DEMAND POLARITY	R43	IN FOR POSITIVE; OUT FOR NEGATIVE	
STROBE POLARITY +	W1	IN FOR POSITIVE; OUT FOR NEGATIVE	
STROBE POLARITY -	W2	OUT FOR POSITIVE; IN FOR NEGATIVE	

SUMMARY OF CS/10 TERMINAL JUMPERS AND SWITCHES

(See also Sheets 16 and 17 for Disk/Diskette Drive configuring.)

PROCESSOR/MEMORY PCB (IPM-1)

JUMPERS	C1 SYSTEMS	C3 SYSTEMS
W1	IN	IN
W2 - 2k ROMs	IN	IN
- 4k ROMs	OUT	OUT
W3	OUT	OUT
W4	OUT	OUT
W5	IN	IN
W6	IN	IN
W7	OUT	OUT
W8	OUT	OUT
W9	OUT	OUT
W11	OUT	OUT

SWITCHES	C1 SYSTEMS	C3 SYSTEMS
SW1	OPEN	CLOSE
SW2	CLOSE	CLOSE
SW3	CLOSE	CLOSE
SW4	OPEN	OPEN
SW5	CLOSE	CLOSE
SW6	OPEN	OPEN
SW7	OPEN	OPEN
SW8	CLOSE	CLOSE

PROCESSOR/RAM/ROM PCB (IPM-1, 4KB)

JUMPERS	C3 SYSTEMS ONLY
W1	IN
W2 - 2k ROMs	IN
- 4k ROMs	OUT
W3	OUT
W4	OUT
W5	IN
W6	IN
W7	OUT
W8	OUT
W9	OUT
W11	OUT

VIDEO INTERFACE PCB (IPM-2/IPM-2A)

JUMPERS	C1 SYSTEMS	C3 SYSTEMS
W1	OUT	IN
W2	IN	IN
W3	OUT	OUT
W4	IN	IN
W5	IN (60 HZ)	OUT (50 HZ)
W6	IN	OUT
W7	IN	OUT

SWITCHES (BOTH C1 AND C3 SYSTEMS)

CODE: 0 = OFF; 1 = ON

SW1 NOT USED
SW2 0 FOR TP2 PRINTER
1 FOR ALL OTHER PRINTERS

SW3	SW4	FUNCTION
0	0	LOCAL MODE
0	1	MARK PARITY
1	0	EVEN PARITY
1	1	ODD PARITY

SW5	SW6	SW7	SW8	BAUD RATE	
0	0	0	0	50	
0	0	0	1	75	
0	0	1	0	110	
0	0	1	1	134.5	
0	1	0	0	150	
0	1	0	1	300	
0	1	1	0	600	
0	1	1	1	1200	
1	0	0	0	1800	
1	0	0	1	2000	
1	0	1	0	2400	
1	0	1	1	3600	
1	1	0	0	4800	
1	1	0	1	7200	
1	1	1	0	9600	(MANDATORY ON C3 SYSTEMS)
1	1	1	1	2400	RECEIVE; 150 TRANSMIT (D5 SIMULATION)

ASYNC COMBO MUX PCB

JUMPERS	(C3 SYSTEMS ONLY)	
W1	OUT	
W2	IN	FOR LP2 PRINTER
	OUT	FOR DATA PRODUCTS PRINTER
W3	IN	FOR DATA PRODUCTS PRINTER
	OUT	FOR LP2 PRINTER
W4	NOT USED	
W5	NOT USED	
W6	OUT	
W7	IN	
W8	IN	
W9	IN	
W10	IN	

BANK SELECT/MEMORY PCB

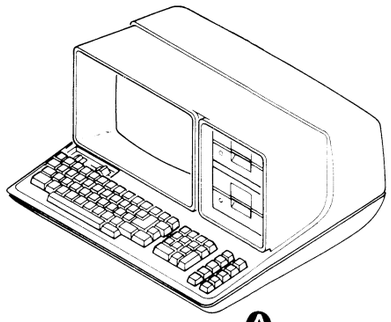
JUMPERS	(C3 SYSTEMS ONLY)
W1	IN
W2	IN
W3	IN
W4	IN
W5	OUT
W6	OUT
W7	IN
W8	IN
W9	IN
W10	OUT
W11	OUT
W12	IN

SYNC COMMUNICATIONS PCB

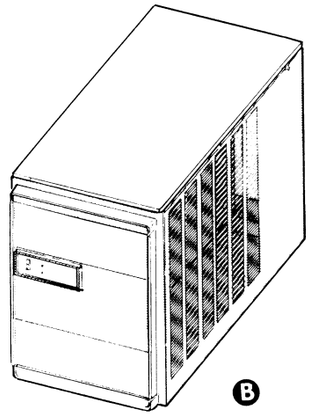
JUMPERS	(BOTH C1 AND C3 SYSTEMS)
W7	IN
R5 (0 OHM)	IN
R13 (0 OHM)	IN

ALL OTHER JUMPERS ARE OUT.

SYSTEM COMPONENT BREAKDOWN



Ⓐ



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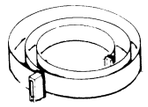
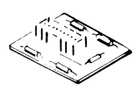
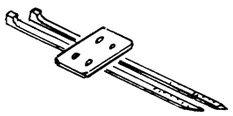


Ⓒ





Ⓓ

Ⓐ MAJOR COMPONENTS

COMPONENT	MOUNTING LOCATION	NOTES
CS/5 COMPUTER SYSTEM	FREE STANDING	MODEL 9480

Ⓑ SUBSYSTEM OPTIONS

COMPONENT	MOUNTING LOCATION	NOTES
LOW-BOY CABINET, 1148-A	FREE STANDING	
LOW-BOY CABINET W/TABLE-TOP, 1148-B	FREE STANDING	
TABLE-TOP ADD-ON, 1249	1148-A CABINET	UPGRADE OPTION
DISK/DISKETTE (12.5 +1.2MB), 6101-T	CABINET	SEE 010-000223
DISK (12.5MB), 6102-T	CABINET	SEE 010-000224
DISK/DISKETTE (25 +1.2MB), 6104-T	CABINET	SEE 010-000243
DISK (25MB), 6105-T	CABINET	SEE 010-000245
DISK (5MB) TABLE-TOP, 6220-TT	FREE STANDING	SEE 010-000303
DISK (15MB) TABLE-TOP, 6222-TT	FREE STANDING	SEE 010-000303
MAG TAPE DRIVE 1600 BPI,	CABINET	SEE 010-000269
" " " " " , 6123-C		PREREQ 6220-TT OR 6222-TT
" " " " " , 6123-E		PREREQ 6101-T, 6102-T, 6104-T OR 6105OT
150 CPS MATRIX PRINTER, 4422-T	FREE STANDING	SEE 010-000301

Ⓒ COMMUNICATION INTERFACE CABLE OPTIONS

ALPHA SUFFIX	CONNECTING CS/5 AND:	NOTES
F	ASYNC MODEM	005-014692
G	SYNC MODEM	005-016719
E	M600/MV6000 (ASYNC)	005-014694
H	M600/MV6000 (SYNC)	005-016717
A	ALM-8	005-015117
B	ALM-16	005-015118
J	SLM	005-016716
L	CS/5 SYNC	005-016718
K	CS/5 ASYNC	005-016720

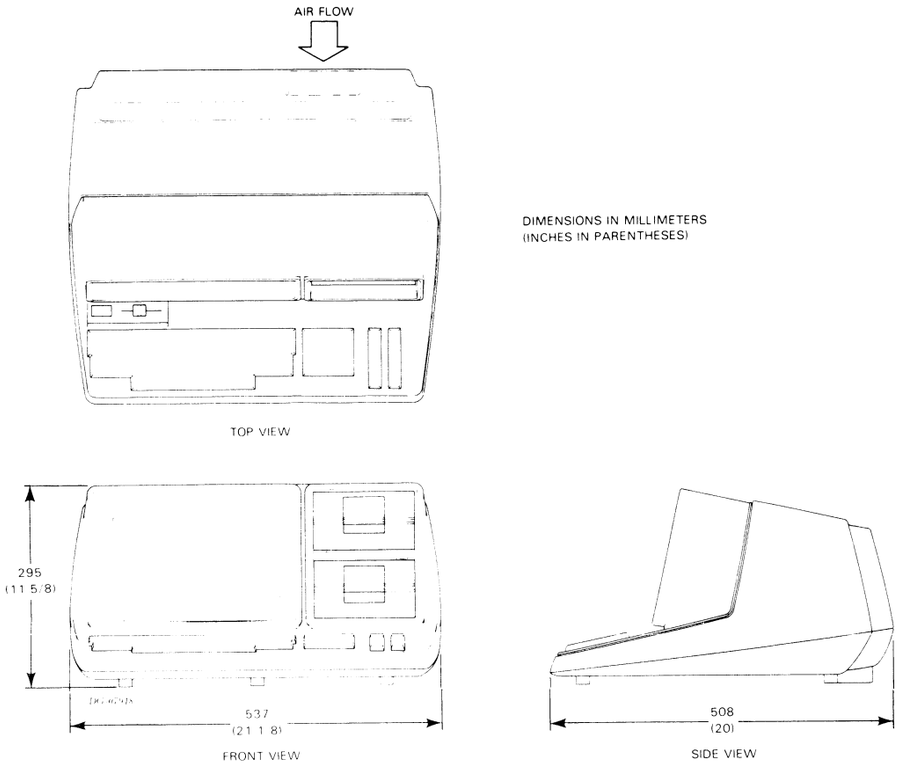
Ⓓ MISCELLANEOUS

COMPONENT	MOUNTING LOCATION	NOTES
I/O BUS TERMINATOR STRAIN RELIEF KIT	RIGID DISK OR MAG TAPE CONTROLLER I/O BUS CABLE	005-008152
I/O BUS TERMINATOR	RIGID DISK 6220 & 6222	005-018508

NOTE: COMPUTER UNIT MUST BE AT LEAST SIX INCHES AWAY FROM ANY RADIO FREQUENCY SOURCE.

INSTALLATION SPECIFICATIONS

CS/5 SYSTEM



DIMENSIONS:	Width	Depth	Height
Millimeters	537	508	295
Inches	21.1/8	20	11.5/8

WEIGHT:	Kilograms	Pounds
	14.8	32.5

HEAT OUTPUT:	Watts	BTU/hr
	85	290

OPERATING ENVIRONMENT:	
Temperature	10°C - 37.8°C (50°F - 100°F)
Relative Humidity (max)	80%
Altitude	2438 m (8,000')

STORAGE ENVIRONMENT:	
Temperature	-40°C - 65.6°C (-40°F - 150°F)
Relative Humidity (max)	90%
Altitude	15,240 m (50,000')

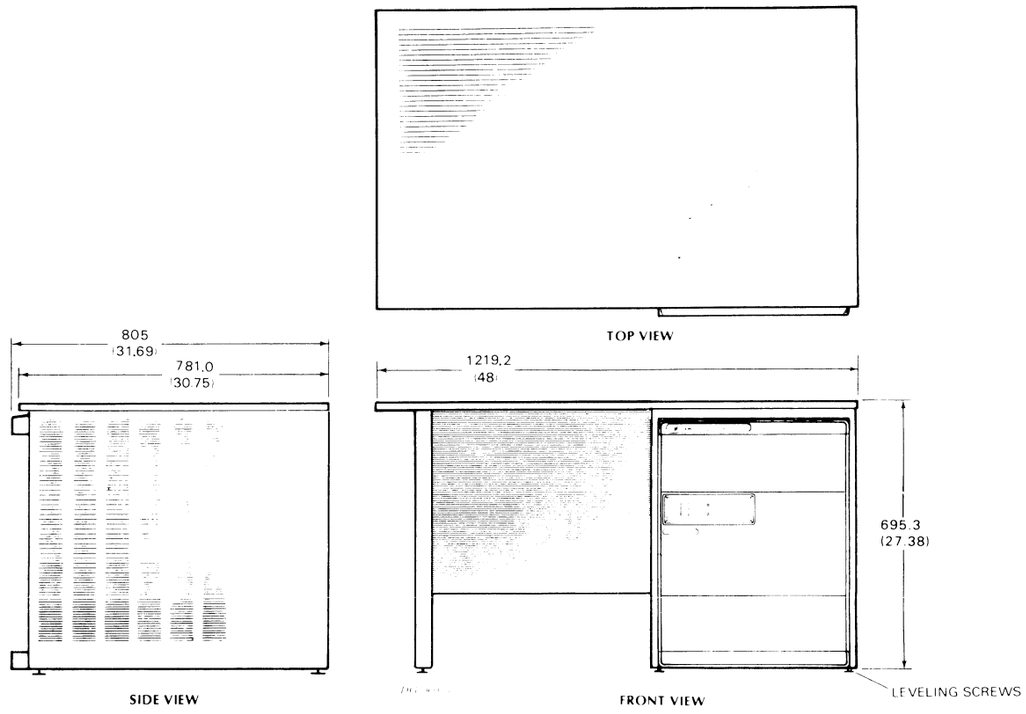
POWER REQUIREMENTS:

(Domestic)	
Voltage	120 V (+ 10%, -15%)
Hz	47 - 63
Amp per Phase	3 max
Phase	1
Startup Surge per Phase	50 Amp
(Export)	
Voltage	100 V ± 10
Hz	47 - 63
Amp per Phase	3 max
Phase	1
Startup Surge per Phase	50 Amp
Voltage	220-240 V (+ 10%, -15%)
Hz	47 - 63
Amp per Phase	1.5 max
Phase	1
Startup Surge per Phase	50 Amp

CABLES:
Primary Power

	Length	Conn	Mating Conn
Domestic 60Hz	2.4 m (8')	5-15 P	5-15 S
Export 50Hz		IEC53	IEC53

1148 CABINET W/TABLE TOP (OPTION) FOR RIGID DISKS (RACK MOUNT) & MAG TAPE UNITS



DIMENSIONS:	Width	Depth	Height
Millimeters	1219.2	805	695.3
Inches	48	31.7	27.4

SERVICE CLEARANCES:	Front	Rear	Right
Millimeters	800	609.6	152.4
Inches	31.5	24	6

WEIGHT:	Disk drive	Cabinet	Desktop
Kilograms	34	30.8	19.5
Pounds	75	68	43

HEAT OUTPUT:	Watts	BTU/hr
	340	1160

OPERATING ENVIRONMENT:	
Temperature (max)	
Room	10°- 32°C (50°- 90°F)
Cabinet	43°C 109°F
Relative Humidity (max)	80% non-condensing
Altitude	3048 m (10,000')

STORAGE ENVIRONMENT:	
Temperature	-40°C - 65.6°C (-40°F - 150°F)
Relative Humidity (max)	80% non-condensing
Altitude	18,000 m (59,000')

POWER REQUIREMENTS:

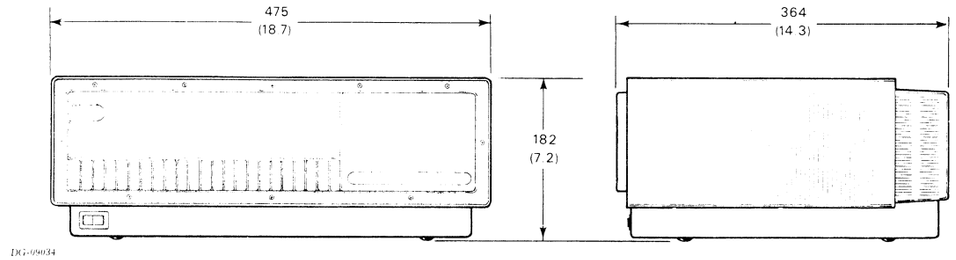
(Domestic)			
Voltage	120 (+ 10%, -15%)		
Hz	60 ± 1%		
Amp per Phase	2.8		
Phase	1		
Startup Surge per Phase	10 A for 10 seconds		
(Export)			
Voltage	100 ± 10	220 +10% -15%	240 +10% -15%
Hz	50 ± 1%	50 ± 1%	50 ± 1%
Amp per Phase	3.4	1.5	1.4
Phase	1	1	1
Startup Surge per Phase	12 A for 10 seconds	5.5 A	5 A

CABLES:
Primary Power

	Length	Conn	Mating Conn
Domestic 60Hz	**1.8 m(6')**	**5-15 P**	**5-15 R**
Export 50Hz	**1.8 m(6')**	**6-15 P**	**6-15 R**

INSTALLATION SPECIFICATIONS (CONT)

6220, 6222 TABLE-TOP RIGID DISKS (OPTION)



NOTE: VENTILATION CLEARANCE MUST BE 3 INCHES MINIMUM EACH SIDE.

FIXED DISKS 6220 AND 6222 REQUIRE AT LEAST A 14" CLEARANCE FROM BOTTOM OF DRIVE TO THE FLOOR.

DIMENSIONS:	Width	Depth	Height
Millimeters	475	364	182
Inches	18.7	14.3	7.2

WEIGHT:	
Kilograms	17.5
Pounds	38.5

HEAT OUTPUT:	Watts	BTU/hr
100V	181	618
120V	173	590
220V	176	600
240V	173	590

OPERATING ENVIRONMENT:

Temperature:	
Room	10° - 32°C (50° - 90°F)
Relative Humidity, max	80% non-condensing
Altitude	3048 m (10,000 ft)

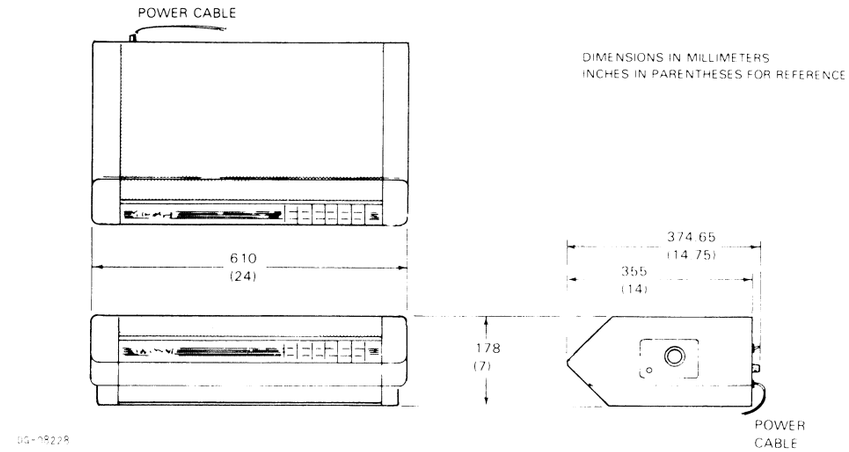
STORAGE ENVIRONMENT:

Temperature	-40 to 65°C (-40 to 149°F)
Relative Humidity	20-80% non-condensing
Altitude	18,000 m - 59,000 ft

POWER REQUIREMENTS:			
(Domestic)			
Voltage	120 (+ 10%, -15%)		
Hz	60 ± 1%		
Amp per Phase	1.52		
Phase			
Startup Surge per Phase	9. A		
Surge is .10 sec max			
(Export)			
Voltage	100±10%	220 +10% -15%	240 +10% -15%
Hz	50 ± 1%	50 ± 1%	50 ± 1%
Amp per Phase	1.9	.84	.76
Phase			
Startup Surge per Phase	11.	5.3	4.8
Surge is .10 sec max			

CABLES:			Mating
Primary Power	Length	Conn	Conn
Domestic 60Hz	1.8 m (6')	5-15P	5-15R

4422 PRINTER (OPTION)



DIMENSIONS:	Width	Depth	Height
Millimeters	610	355	178
Inches	24	14	7

WEIGHT:	
Kilograms	15.9
Pounds	35

HEAT OUTPUT (MAX)	Watts	BTU/hr
	216.2	737.3

OPERATING ENVIRONMENT:

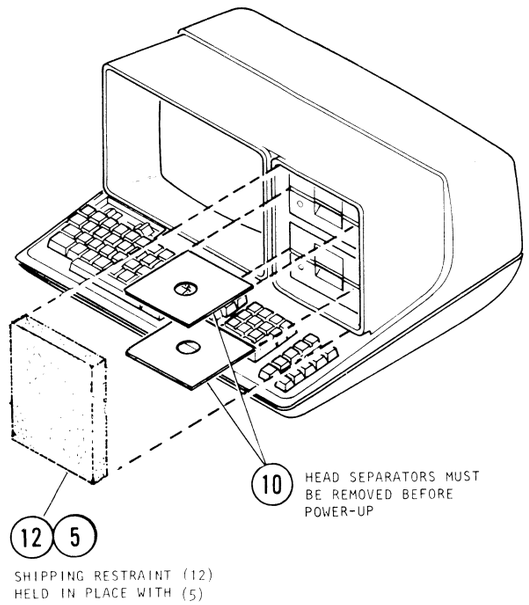
Temperature	10-38°C (50-100°F)
Relative Humidity	20-80% non-condensing

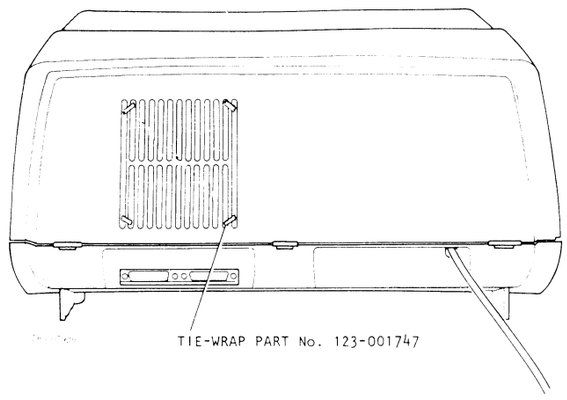
POWER REQUIREMENTS:			
(Domestic)			
Voltage	120V (+ 10%, -15%)		
Hz	60 ± 1%		
Amp per Phase	1.8		
Phase	1		
Startup Surge per Phase	13 amps peak for 2 cycles		
(Export)			
Voltage	100 ± 10%	220V +10% -15%	240V +10% -15%
Hz	50 ± 1%	50 ± 1%	50 ± 1%
Amp per Phase	1.8	9	9
Phase	1	1	1
Startup Surge per Phase	13 amps peak for 2 cycles (115V)		
	7 amps peak for 2 cycles (220V)		
	7 amps peak for 2 cycles (240V)		

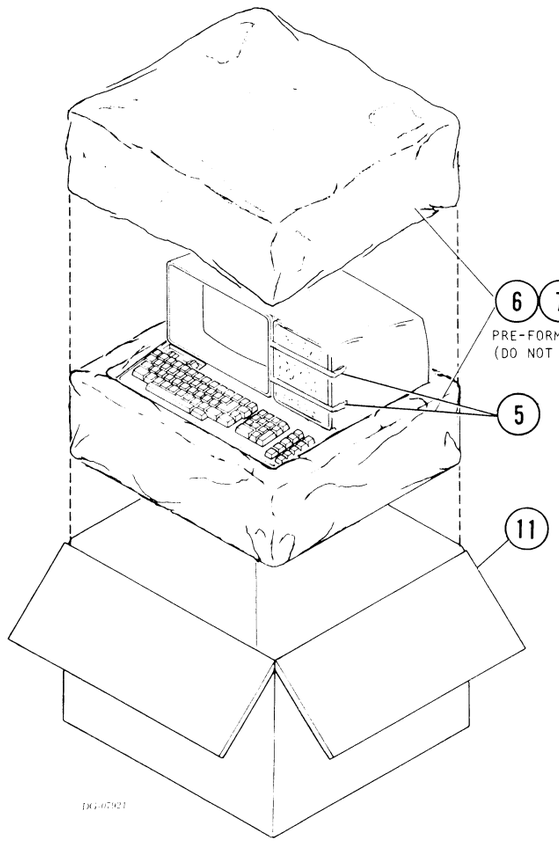
CABLES:			Mating
Primary Power	Length	Conn	Conn
Domestic 60Hz	6ft(1.8m)	5-15P	5-15R
Export 50Hz	6ft(1.8m)	TBD	TBD

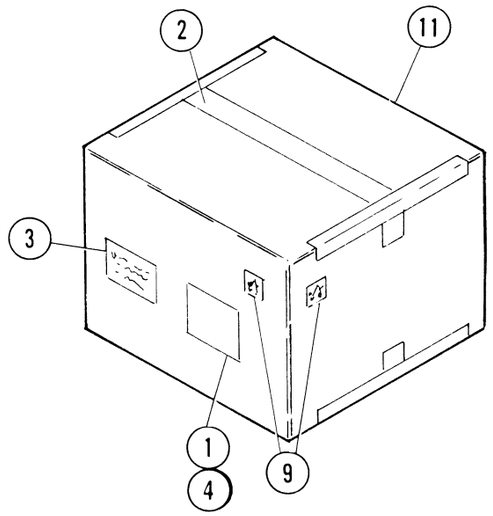
SHIPPING

CS/5 COMPUTER SYSTEM





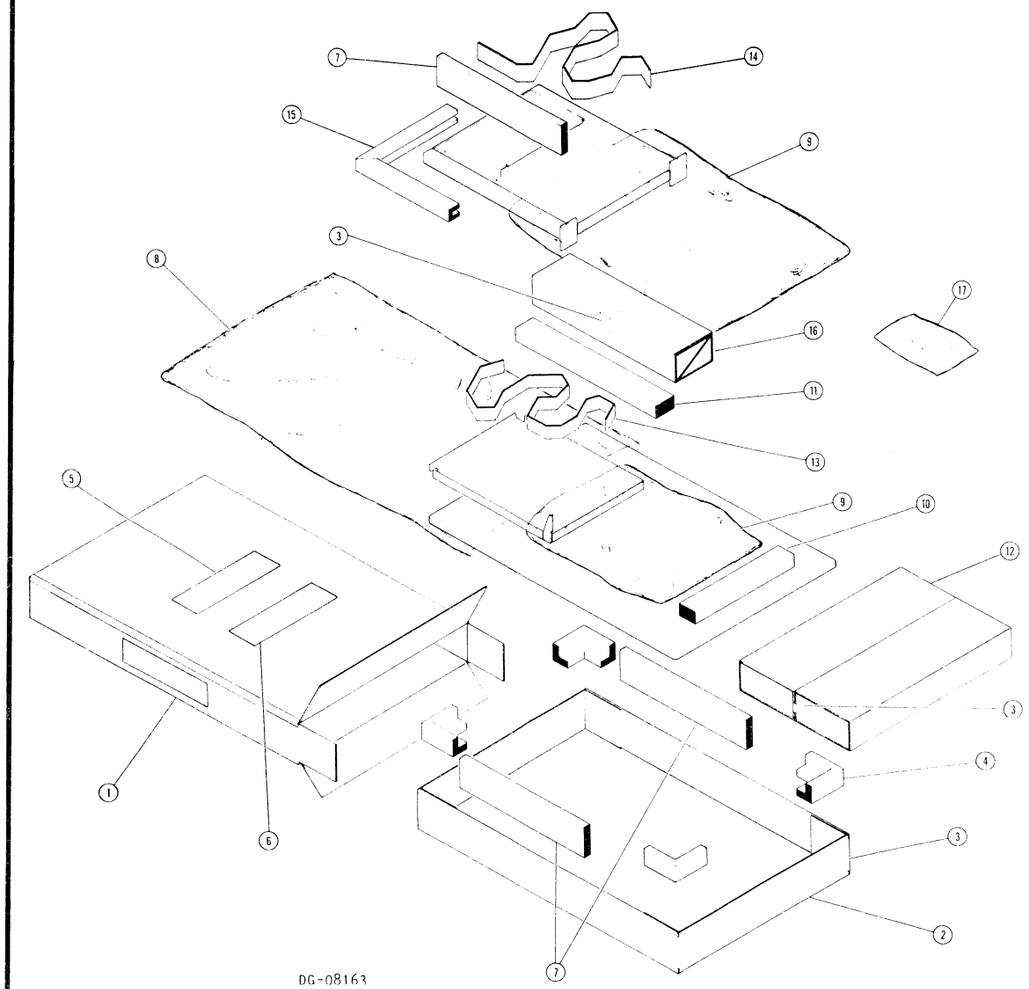




ITEM	QTY	DESCRIPTION	PART NUMBER
12	1	FLOPPY DISK SHIPPING RESTRAINT	129-000571
11	1	RSC 26.5 x 24.75 x 16	129-000558
10	2	D/C HEAD SEPARATOR 5 1/4" DRIVES	129-000528
9	2	TIP-N-TELL INDICATOR	129-000469
8	2.5lb	PART A FOAM-IN-PLACE SYSTEM	129-000320
7	2.5lb	PART B FOAM-IN-PLACE SYSTEM	129-000319
6	16ft	POLYFILM 72RW FLD TO 36W	129-000317
5	2ft	2" CL SCOTCH TAPE	129-000051
4	1	PACKING ENVELOPE C-16 5 1/2 x 10"	129-000043
3	1	DGC SHIPPING LABEL	129-000030
2	5ft	REINFORCED SEALING TAPE 3"	129-000027
1	2ft	PERMACEL GLASS TAPE	129-000026

SHIPPING (OPTIONS)

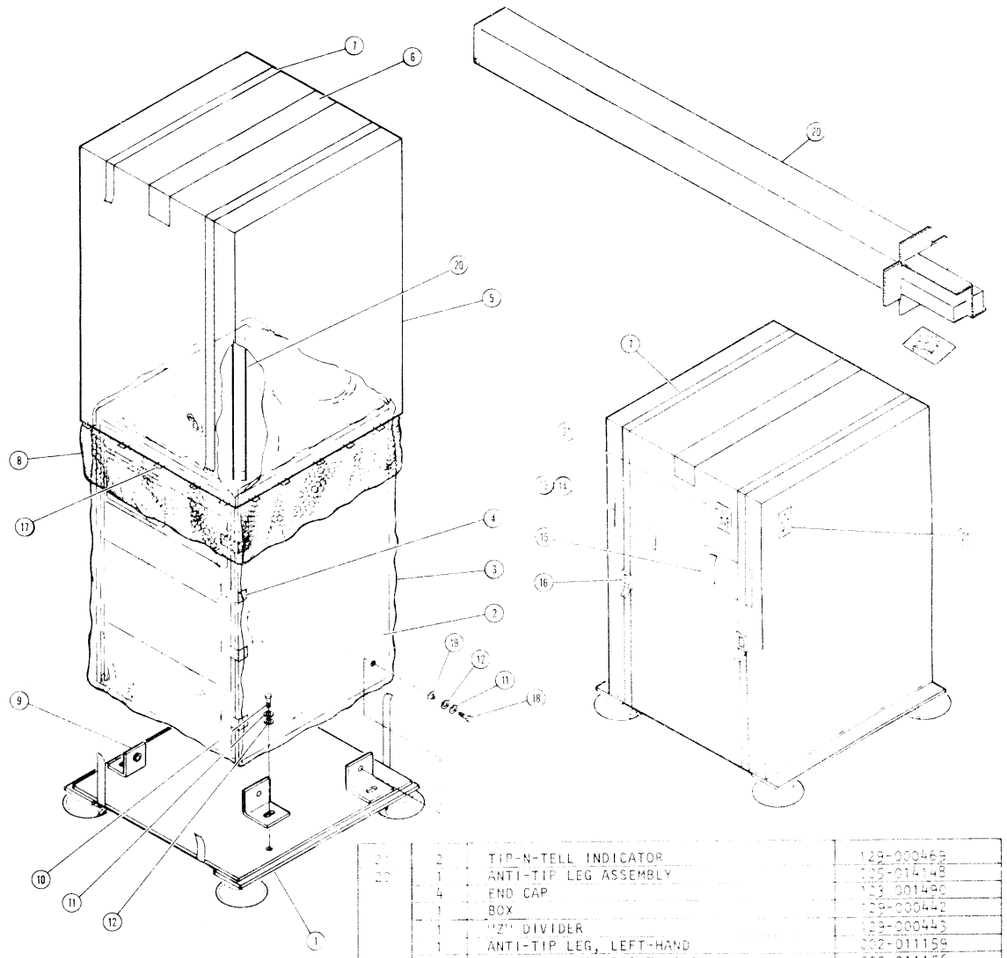
TABLE TOP



DG-08163

ITEM	QTY.	DESCRIPTION	PART NO.
17	1	HARDWARE KIT	005 015437
16	1	CORRUGATED RAT TRAP	129 000463
15	1	CORRUGATED CORNER CHANNEL	129 000451
14	1	CORRUGATED PAD 70 X 1524 (2.75" X 60")	129 000465
13	1	CORRUGATED PAD 51 X 1524 (2" X 60")	129 000466
12	1	CORRUGATED RAT TRAP	129 000462
11	1	CORRUGATED PAD, PERFORATED	129 000450
10	1	CORRUGATED PAD, PERFORATED	129 000467
9	2	POLY BAG, GUSSETTED	129 000456
8	1	POLY BAG, FLAT	129 000454
7	3	CORRUGATED PAD 127 X 610 (5" X 24")	129 000468
6	1	PACKING LIST ENVELOPE	129 000042
5	1	DGC SHIPPING LABEL	129 000030
4	4	CORRUGATED PAD, CORNER	129 000452
3	15ft	REINFORCED SEALING TAPE	129 000027
2	1	CORRUGATED TRAY	129 000464
1	1	FOL OVERLAPPING CONTAINER	129 000453

CABINETS W/RIGID DISKS AND/OR MAG TAPE

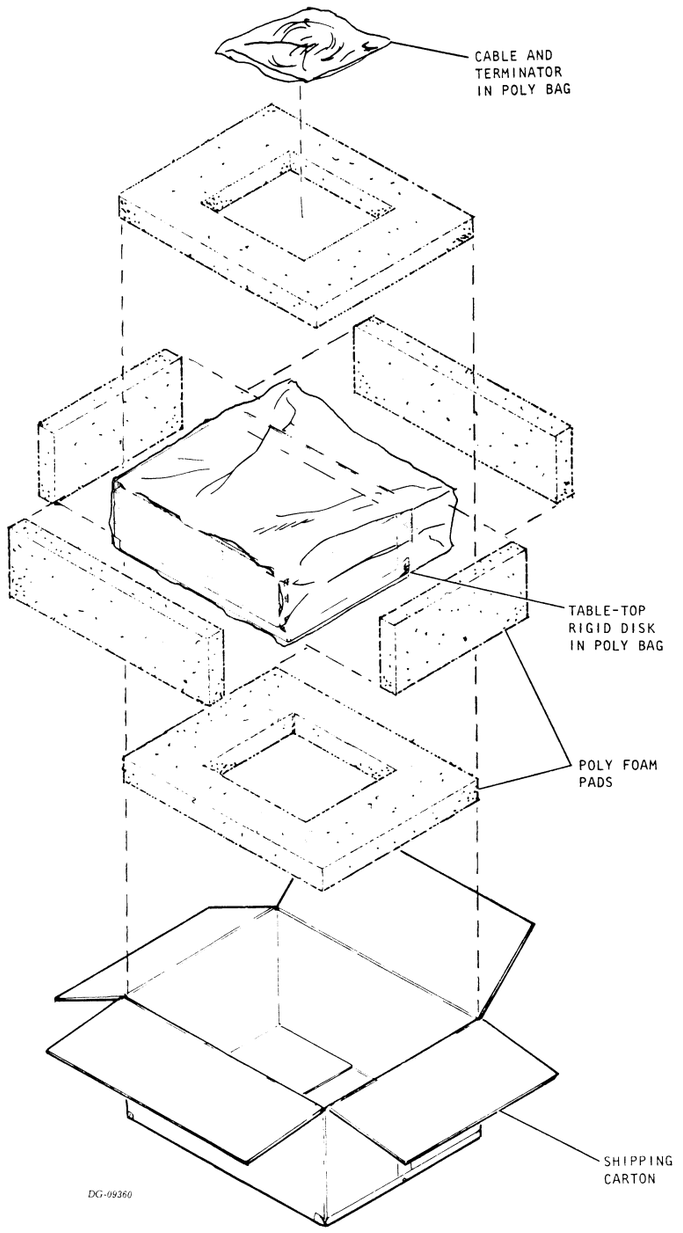


DG-08162

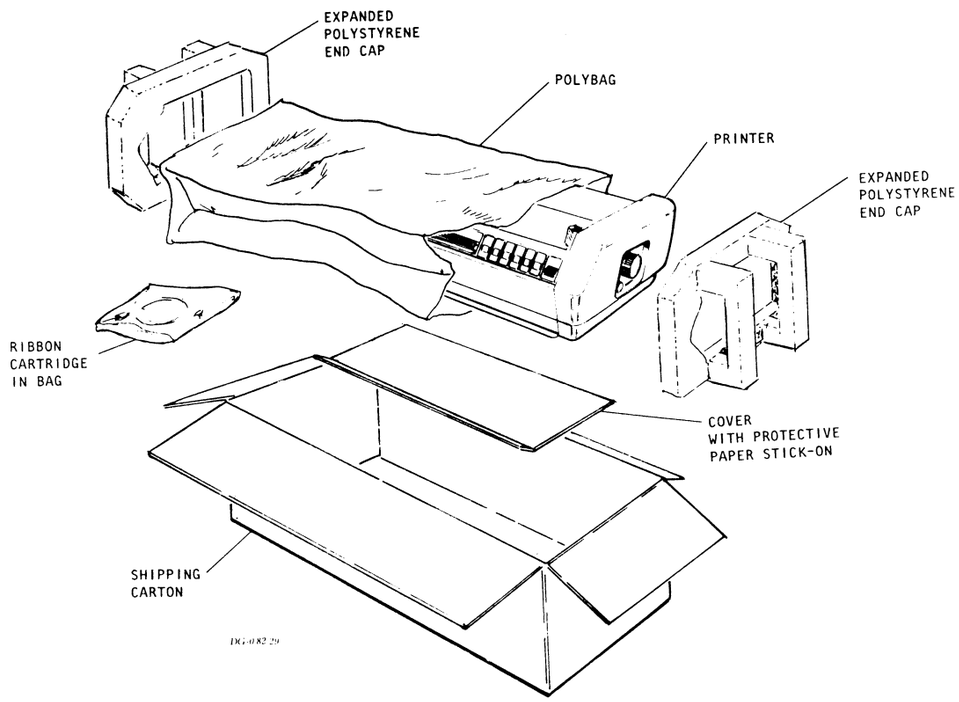
ITEM	QTY	DESCRIPTION	PART NO.
21	2	TIP-N-TELL INDICATOR	129-000469
20	1	ANTI-TIP LEG ASSEMBLY	005-011148
	4	END CAP	102-001490
	1	BOX	129-000442
	1	"Z" DIVIDER	129-000443
	1	ANTI-TIP LEG, LEFT-HAND	002-011159
	1	ANTI-TIP LEG, RIGHT-HAND	002-011156
	4	SCREW, SOCKET HEAD, 5/16 - 18 x 2.75	106-001567
	A/R	TAPE, FILAMENT, 2"	129-000370
	1	POLYBAG	129-000045
19	4	WASHER, NYLON, .375 ID x .750	106-000975
18	4	SCREW, HEX HEAD, 5/16 - 18 x 1	106-001592
17	A/R	STAPLE, 1" CROWN, 1" LEG	129-000165
16	2	BUCKLE, AVB - 4	129-000023
15	1	ENVELOPE, PACKING LIST, 6 3/4 x 5"	129-000042
14	A/R	WATER GLASS	
13	1	SHIPPING LABEL	129-000030
12	8	WASHER, FLAT, 3/8"	106-000621
11	8	WASHER, LOCK, SPLIT, 3/8"	106-000622
10	4	SCREW, HEX HEAD, 3/8 - 16 x 1"	106-000680
9	4	BRACKET, SHIPPING	002-011328
8	6ft	AIRCAP	129-000035
7	45ft	STRAPPING, POYPROPYLENE	129-000123
6	54in	TAPE, CLOSURE	129-000027
5	1	HALF SLOTTED CONTAINER	129-000515
4	A/R	TAPE, FILAMENT, 2"	129-000370
3	1	POLYBAG	129-000448
2	1	CABINET, 28"	
1	1	PALLET	129-000513

SHIPPING (OPTIONS)

TABLE-TOP RIGID DISKS - 6220 & 6222



4422 PRINTER

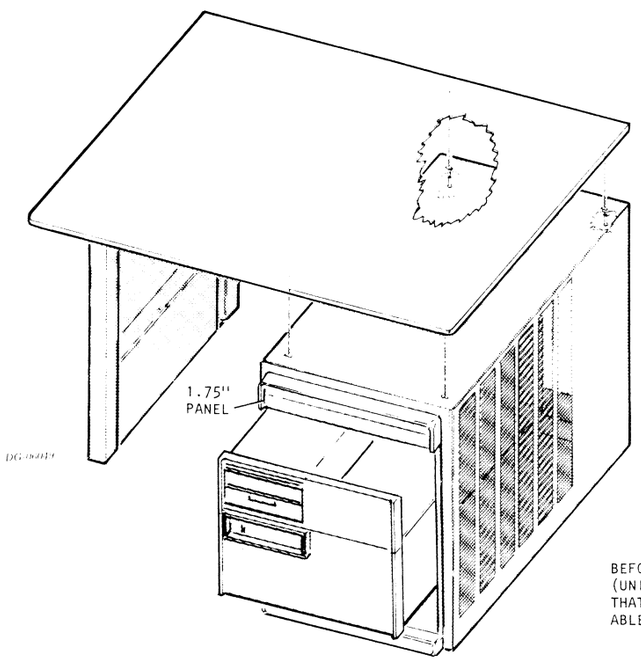


NOTE:
CABLE IS SHIPPED IN SEPARATE PACKAGE.

MOUNTING (OPTIONS)

1148-A, 1148-B CABINETS & 1249 TABLE-TOP

1148-B & 1249 TABLE-TOP



FOR ASSEMBLING AND MOUNTING TOP:

SCREW, 10-32x½
DGC 106-000353
QTY 10

WASHER, FLAT, #10
DGC 106-000263
QTY 10

1. MOUNT CABINET ON TWO ANTI-TIP LEGS.
2. ASSEMBLE DESKTOP (SEE DETAIL).
3. MOUNT DESKTOP ON CABINET AS FOLLOWS:

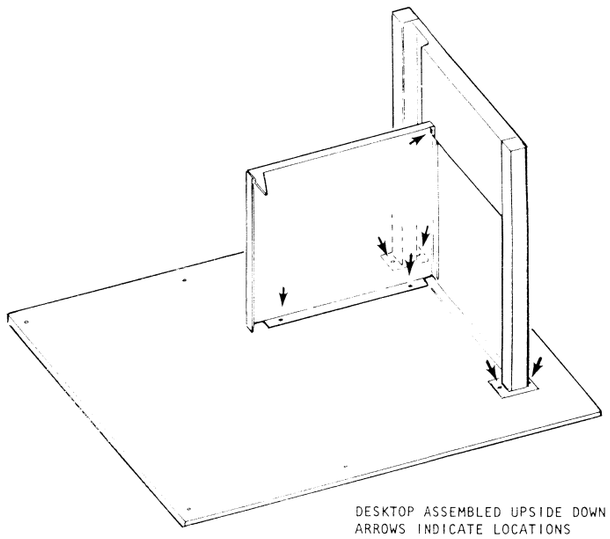
   UNSCREW AND REMOVE BACK PANEL FROM CABINET.

   SNAP OUT AND REMOVE TOP PANEL FROM FRONT OF CABINET.

   POSITION DESKTOP ON CABINET.

   INSERT SCREWS THRU TWO REAR SLOTS IN CABINET TOP AND TIGHTEN.

   INSERT SCREWS THRU TWO FRONT SLOTS IN CABINET TOP AND TIGHTEN.

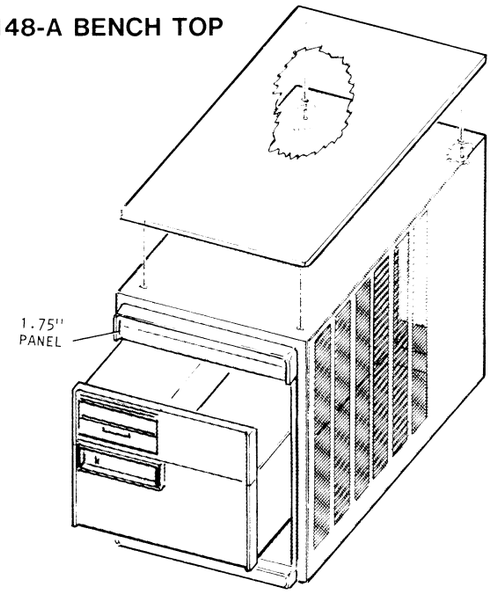


DESKTOP ASSEMBLED UPSIDE DOWN
ARROWS INDICATE LOCATIONS
OF 7 SCREWS AND WASHERS.

IT IS IMPERATIVE, WHEN MOUNTING THE LARGE TABLE TOP, THAT THE TWO REAR MOUNTING SCREWS BE INSERTED FIRST AND TIGHTENED. THEN SLIDE THE TOP CHASSIS OUT FULLY TO ACCESS THE FRONT MOUNTING LOCATIONS. INSERT TWO SCREWS AND TIGHTEN.

WITH DUAL DISKETTE DRIVES, ACCESS TO THE TWO TOP SCREWS IS OBTAINED BY REMOVING THE 1.75" FILLER PANEL (TOP FRONT).

1148-A BENCH TOP



FOR MOUNTING TOP:

SCREW, 10-32x½
DGC 106-000353
QTY 4

WASHER, FLAT, #10
DGC 106-000263
QTY 4

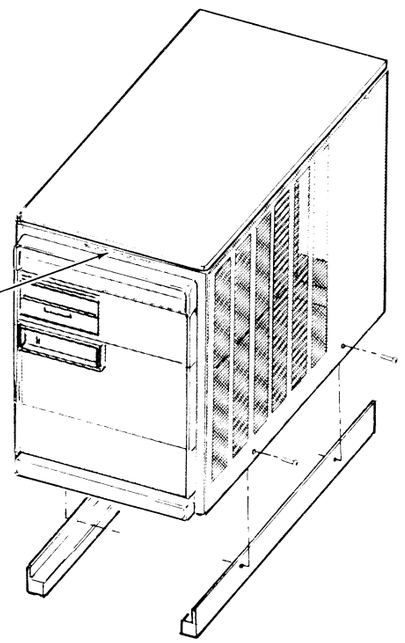
CAUTION

BEFORE PLACING DISK UNIT IN SERVICE POSITION (UNIT WITHDRAWN FROM THE CABINET), MAKE CERTAIN THAT THE ANTI-TIP BARS (EITHER FIXED OR RETRACTABLE) ARE INSTALLED AND IN FUNCTIONING POSITION.

INSTALLING RETRACTABLE ANTI-TIP LEGS

CAUTION TO REDUCE THE RISK OF POSSIBLE INJURY DUE TO UNSTABLE UNIT. ACTUATE STABILIZER BEFORE EQUIPMENT IN CABINET IS EXTENDED.

APPLY CAUTION LABEL
(002-014076) TO
FRONT OF CABINET



FOR INSTALLING ANTI-TIP LEGS:

SCREW, 5/16 x .75
(DGC 106-001567)
QTY 4

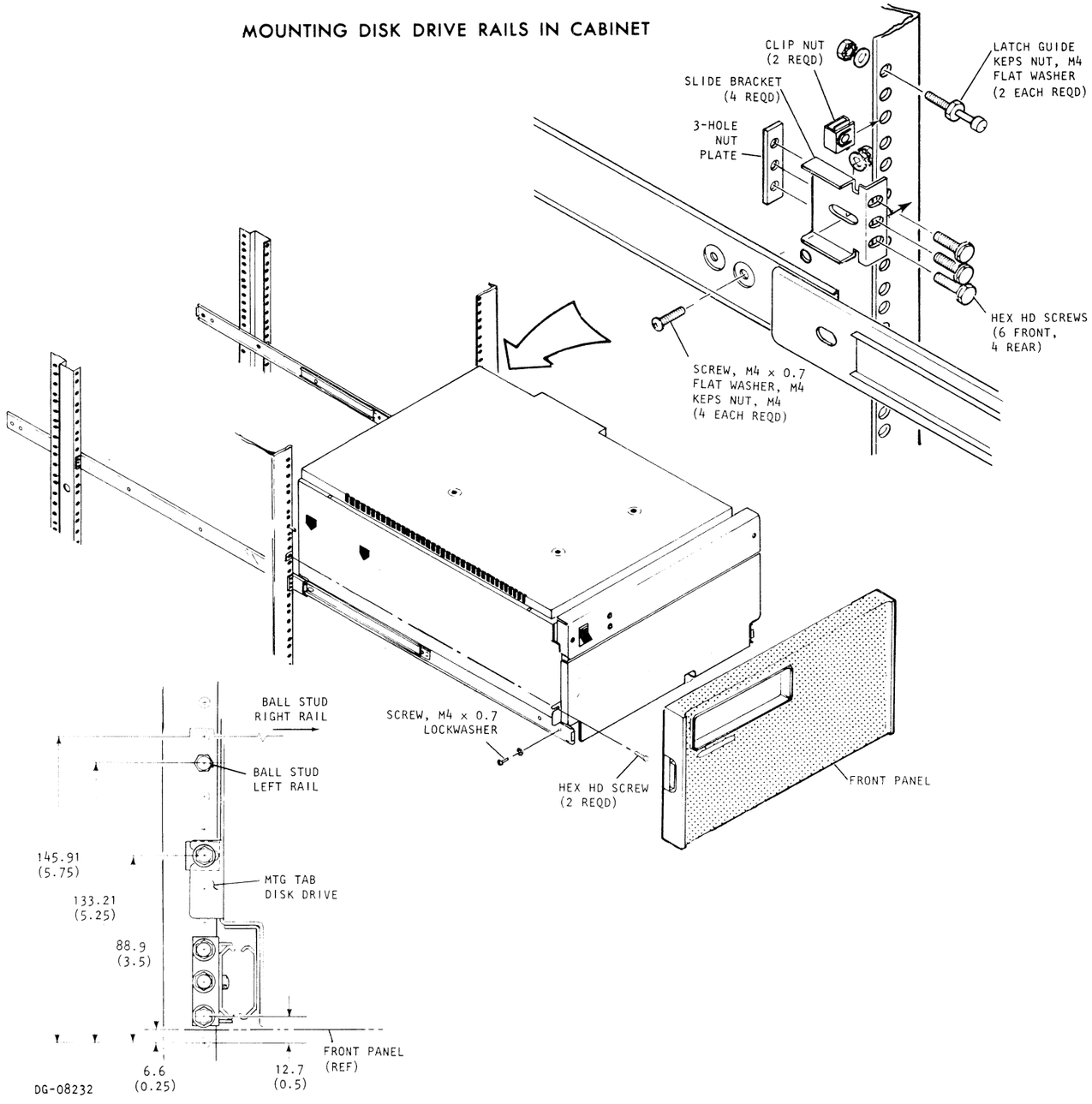
MOUNTING (OPTIONS) (CONT)

RACK MOUNT RIGID DISKS

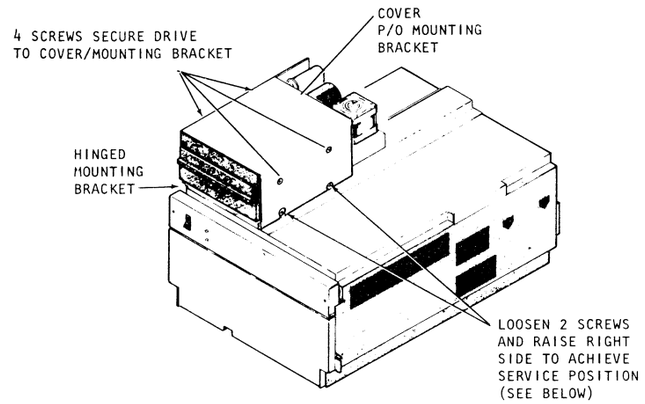
CAUTION

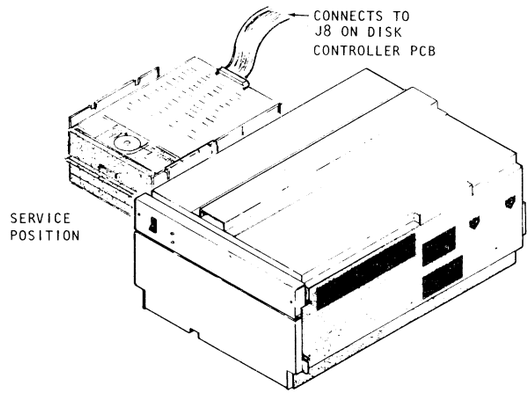
BEFORE PLACING DISK UNIT IN SERVICE POSITION (UNIT WITHDRAWN FROM THE CABINET), MAKE CERTAIN THAT THE ANTI-TIP BARS (EITHER FIXED OR RETRACTABLE) ARE INSTALLED AND IN FUNCTIONING POSITION.

MOUNTING DISK DRIVE RAILS IN CABINET



DISKETTE DRIVE MOUNTING





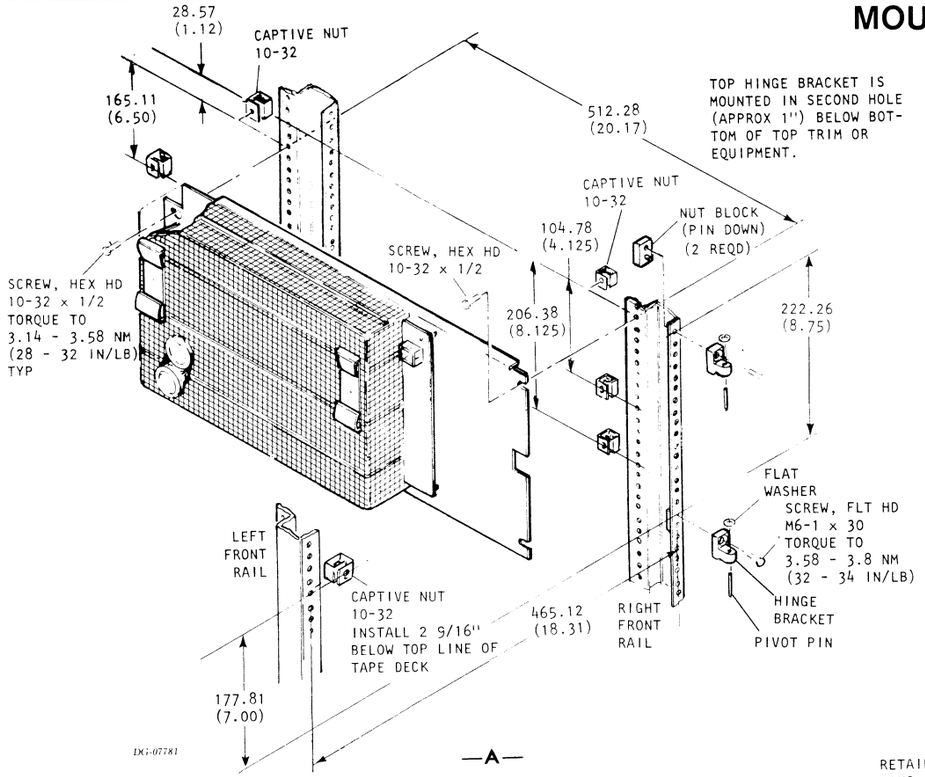
SHIPPING RESTRAINTS

IMPORTANT:

REMOVE 3 FOAM WEDGES AND UNLOCK ARM BEFORE OPERATING.

MOUNTING (OPTIONS) (CONT)

6123 MAG TAPE DRIVE

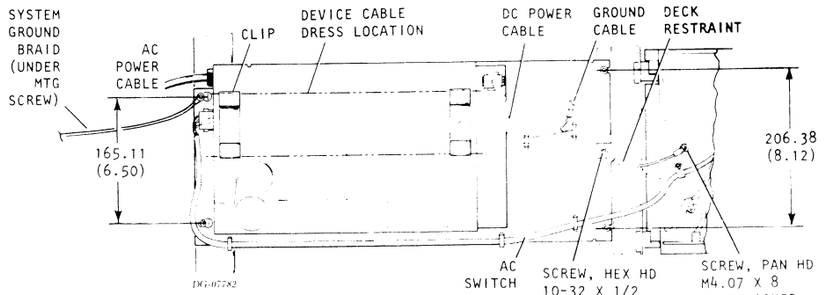


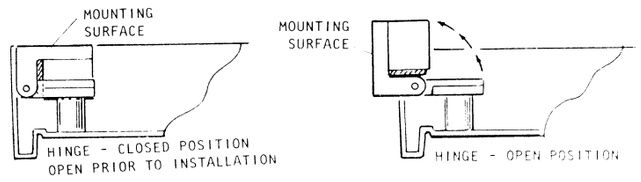
CAUTION

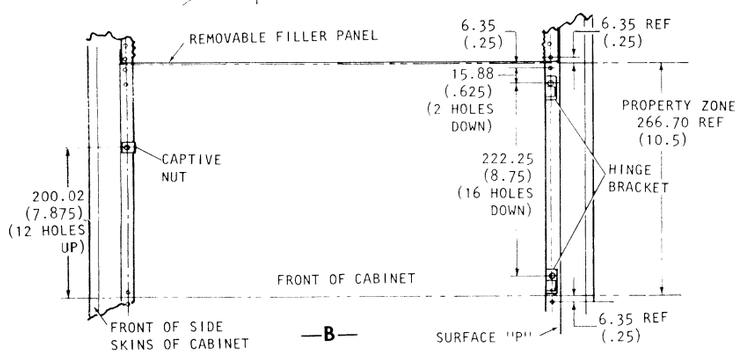
DO NOT HANDLE TAPE DECK BY OR NEAR THE RECORDING HEAD AREA WHEN INSTALLING TAPE DECK ONTO PIVOT PINS.

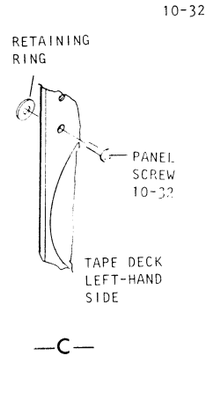
TOOLS REQUIRED

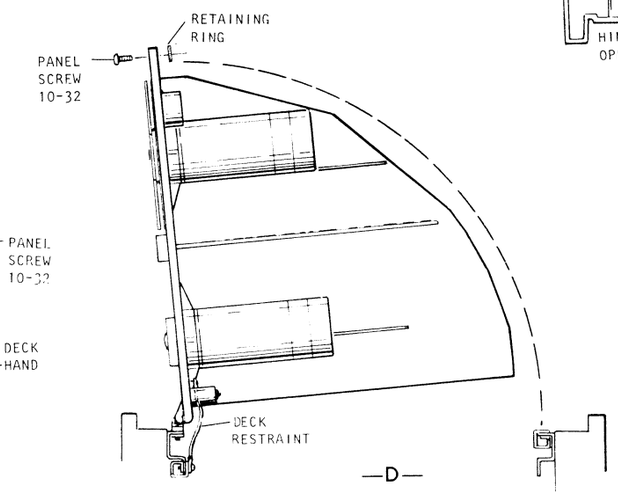
1. 12" SCALE
2. HEX DRIVER, BALL TYPE, 3mm
3. DYKES
4. PLIERS
5. HEX DRIVER, 4mm
6. FLAT BLADE SCREW DRIVER
7. 5/16 SOCKET
8. TORQUE WRENCH

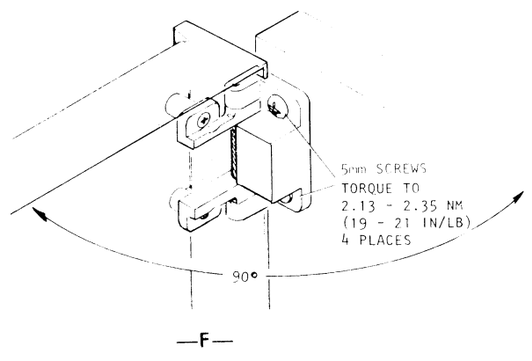












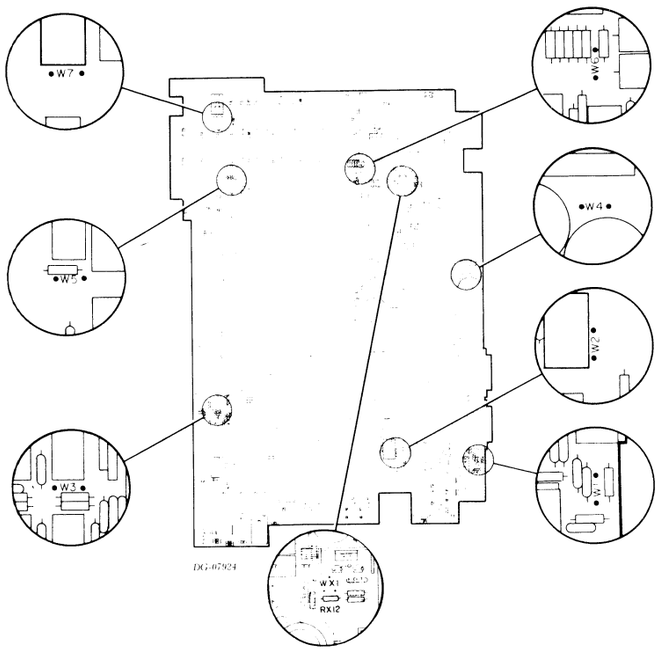
PROCEDURE

1. REMOVE HARDWARE MOUNTING KIT FROM SHIPPING CONTAINER. IF NOT INSTALLING TAPE DECK INTO A LOW CABINET, DISCARD BRACKET-POWER SUPPLY.
2. REMOVE THE FILLER PANEL FROM ABOVE AND BELOW TAPE DECK SPACE REQUIREMENT OR IF TOP POSITION, MEASURE DOWN 1 INCH (2ND HOLE).
3. INSTALL CAPTIVE NUTS WHERE INDICATED (DETAIL A). INSTALL 4 10-32 HEX HEAD SCREW INTO CAPTIVE NUTS USED FOR MOUNTING POWER SUPPLY BRACKET, LEAVING 1/4" SPACE UNDER HEAD OF SCREW. INSERT HEADS OF SCREWS THRU HOLES IN REAR OF POWER SUPPLY PLATE AND SLIDE POWER SUPPLY ASSY FORWARD. TIGHTEN SCREWS USING 5/16 SOCKET.
4. INSTALL HINGE BRACKET TO CABINET AS SHOWN USING SCREW, M6-1 X 30 (TOOL; HEX DRIVER, 4mm). RIGHT SIDE EDGE OF HINGE BRACKET MUST BE PARALLEL TO SURFACE 'P' (DETAIL B).
5. INSTALL PIVOT PIN INTO HINGE BRACKET USING HEX DRIVE BALL TYPE 3mm. INSTALL FLAT WASHERS ONTO PIVOT PIN. WHEN INSTALLING THE PIVOT PINS, ADJUST THE UPPER PIVOT PIN SO THAT IT IS SLIGHTLY HIGHER THAN THE LOWER PIVOT PIN. THIS WILL AID IN THE ASSEMBLY OF CASTING TAPE DECK ONTO PINS. THE TAPE DECK MUST BE ORIENTED AS SHOWN IN DETAIL D.
6. WHEN ASSEMBLING TAPE DECK CASTING ASSY, (DETAIL C) INSERT PANEL SCREW THRU HOLE IN CASTING WITH RETAINING RING.
7. ATTACH RESTRAINT CABLE, USING M4mm SCREW, LOCK AND FLAT WASHER TO CASTING AND 10-32 SCREW, LOCK AND FLAT WASHER TO CAPTIVE NUT IN RAIL. (DETAIL D)
8. CONNECT DC POWER CABLE TO POWER SUPPLY & SECURE CABLE TO POWER SUPPLY PAN USING TIE WRAPS. SECURE GROUND CABLE TO POWER SUPPLY PAN USING M4 THREAD FORMING SCREW. (DETAIL E)
9. CONNECT AC SWITCH CABLE TO POWER SUPPLY & FASTEN CABLE USING TIE WRAPS AS SHOWN.
10. ON MICRONOVA & NOVA-ECLIPSE, INSTALL CABLES AS SHOWN & DRESS ACCORDINGLY SO FORMATTER/CONTROLLER/SERVO PCB WILL SWING FREELY AND NOT CATCH OR BIND WHEN TAPE DECK IS SWUNG OPEN.
11. SYSTEMS GROUND MUST BE INSTALLED PRIOR TO STARTING UP OF TAPE DECK UNIT. (DETAIL E)
12. REPLACE FILLER PANEL ABOVE TAPE DECK. ADJUST PIVOT PINS USING 3mm BALL POINT DRIVER SO THERE IS MINIMUM CLEARANCE BETWEEN TOP OF TAPE DECK & BOTTOM OF FILLER PANEL (APPROX 1/8").
13. REPLACE BOTTOM FILLER PANEL.
14. INSTALL FRONT DOOR ONTO TAPE DECK.
    a. OPEN HINGE ASSY BY FIRMLY GRASPING SPRING HOUSING OPEN 90° PRIOR TO INSTALLING ONTO TAPE DECK. (DETAIL F)
    b. USING QTY 4 5mm SCREWS, LIGHTLY FASTEN SPRING HOUSING TO TAPE DECK. (DETAIL F)
    c. CLOSING & OPENING OF DOOR MUST NOT SHOW ANY SIGNS OF RUBBING OR INTERFERENCE WITH FILLER PANELS ABOVE OR BELOW TAPE DECK.
    d. IF ANY INTERFERENCE EXISTS, READJUST DOOR ACCORDINGLY.
    e. IF NO INTERFERENCE IS PRESENT, TIGHTEN THE 4mm SCREWS SECURELY.

TAILORING
CS/5 COMPUTER SYSTEM

JUMPERING THE MAIN BOARD

Ref DGC Dwg No 107-001697 Rev 00



FREQUENCY SELECT JUMPERS

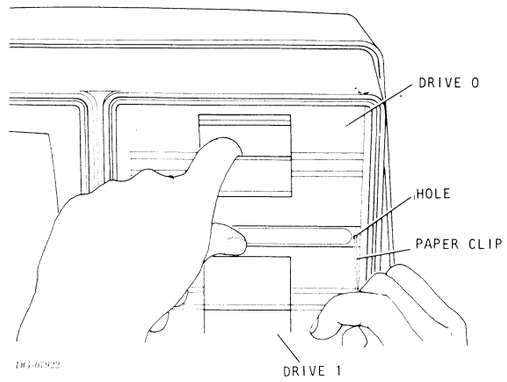
FREQUENCY	JUMPER	
	W5,WX1	W6
60Hz	OUT	IN
50Hz	IN	OUT

VOLTAGE SELECT JUMPER

VOLTAGE	JUMPER W4
120V	IN
220V	OUT

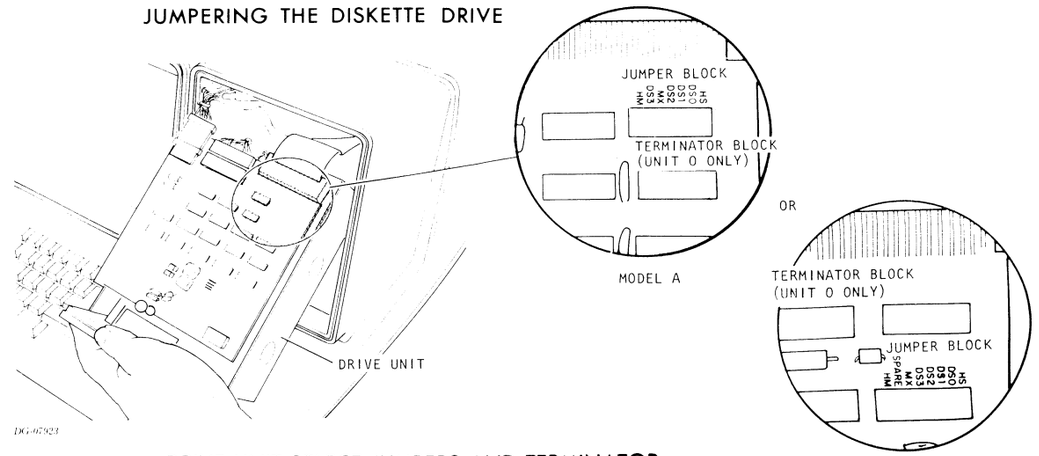
NOTE: JUMPERS W1,W2,W3, AND W7 ARE ALWAYS IN.

ACCESSING A DISKETTE DRIVE



1. OPEN DOOR AND HOOK FINGER OVER BOTTOM PART OF CHASSIS.
2. GENTLY INSERT PAPER CLIP IN HOLE AND PULL DRIVE OUT UNTIL IT CLEARS MAIN CHASSIS.

JUMPERING THE DISKETTE DRIVE

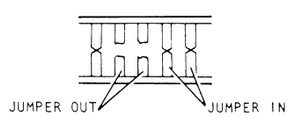


DRIVE UNIT SELECT JUMPERS AND TERMINATOR

FUNCTION*	JUMPERS DRIVE 0	JUMPERS DRIVE 1	PINS CONNECTED MODEL A	PINS CONNECTED MODEL B
HS	OUT	OUT	1, 14	1, 16
DS0	IN	OUT	2, 13	2, 15
DS1	OUT	IN	3, 12	3, 14
DS2	OUT	OUT	4, 11	4, 13
DS3	OUT	OUT	6, 9	5, 12
MX	OUT	OUT	5, 10	6, 11
SPARE (MODEL B ONLY)	OUT	OUT	N/A	7, 10
HM	IN	IN	7, 8	8, 9

* JUMPER FUNCTIONS ARE NOT MARKED ON MODEL B DRIVE PC BOARDS. THEY ARE INDICATED IN THE CALLOUT FOR EASY IDENTIFICATION.

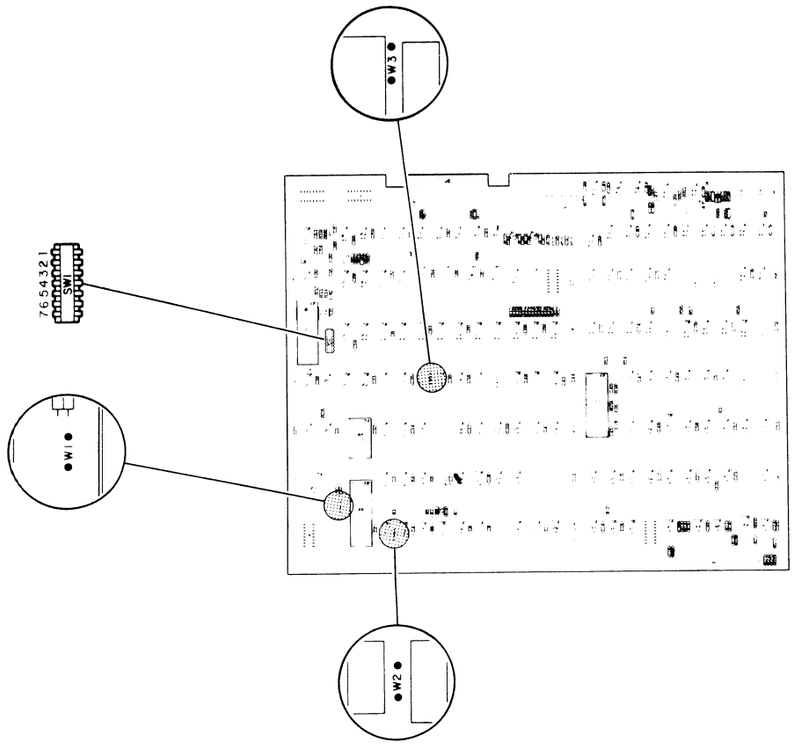
A JUMPER IN THE BLOCK IS "OUT" IF IT IS CUT IN HALF IN THE MIDDLE OF THE BLOCK. OTHERWISE IT IS "IN". (SEE BELOW)



TAILORING (OPTIONS) (CONT)

RIGID DISK SUBSYSTEMS
6101, 6102, 6104 & 6105 RACK MOUNTED DISK

CONTROLLER BOARD



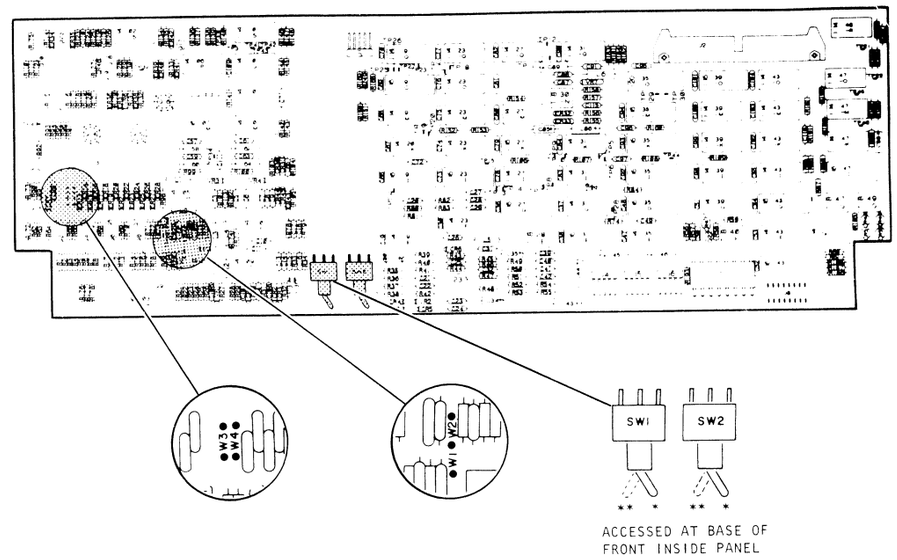
CONTROLLER DEVICE CODE SELECT		
SWITCH NUMBER	DEVICE CODE 26 (1st DISC)	DEVICE CODE 66 (2nd DISC)
1	OFF *	OFF *
2	OFF	ON
3	ON	ON
4	OFF	OFF
5	ON	ON
6	ON	ON
7	OFF	OFF

*THIS SWITCH NOT USED

NOTE:
TO SET A SWITCH "ON", DEPRESS IT ON THE SIDE MARKED WITH THE PLUS(+) SIGN.

CONTROLLER JUMPER SELECTION			
12.5 MB		25 MB	
JUMPER		JUMPER	
W1	OUT	W1	OUT
W2	IN	W2	OUT
W3	IN	W3	IN

READ/WRITE LOGIC BOARD



ACCESSED AT BASE OF FRONT INSIDE PANEL

R/W JUMPER SELECTION			
12.5 MB		25 MB	
JUMPER		JUMPER	
W1	IN	W1	IN
W2*	OUT	W2*	OUT
W3	OUT	W3	IN
W4	OUT	W4	IN

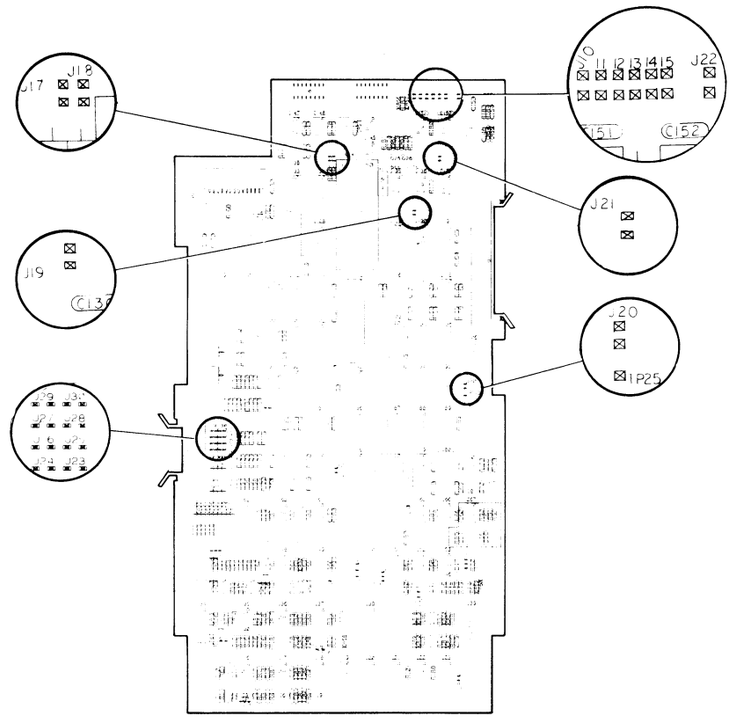
* INSERTED FOR FACTORY USE ONLY

SWITCH SETTINGS	
SWITCH	*RIGHT
SW-1	FIXED DISK NOT WRITE PROTECTED
SW-2	FIXED DISK = UNIT 0 DISKETTE = UNIT 1
	**LEFT
SW-1	FIXED DISK WRITE PROTECTED
SW-2	FIXED DISK = UNIT 1 DISKETTE = UNIT 0

TAILORING (OPTIONS) (CONT)

RIGID DISK SUBSYSTEMS (CONT)

6220 & 6222 TABLE-TOP DISKS READ/WRITE CONTROLLER BOARD



Ref DGC Dwg No 107-001668 Rev 01

DEVICE CODE SELECTION

JUMPERS J10 THRU J15 ARE DEVICE CODE SELECTION JUMPERS CORRESPONDING TO DS0 TO DS5.

INSERT FOR 1.

DS0	J10
DS1	J11
DS2	J12
DS3	J13
DS4	J14
DS5	J15

DEVICE CODE SELECT

	DEVICE CODE 26	DEVICE CODE 66
J10	OUT	IN
J11	IN	IN
J12	OUT	OUT
J13	IN	IN
J14	IN	IN
J15	OUT	OUT

DISK CAPACITY	J17	J18	J23	J24	J25	J26	J27	J28	J29	J30
5 MB	OUT	OUT	IN	IN	IN	IN	IN	IN	IN	IN
15 MB	IN	OUT	OUT	OUT	OUT	OUT	OUT	OUT	OUT	OUT

J19	
OUT	2 IN FLOPPY
IN	RESERVED

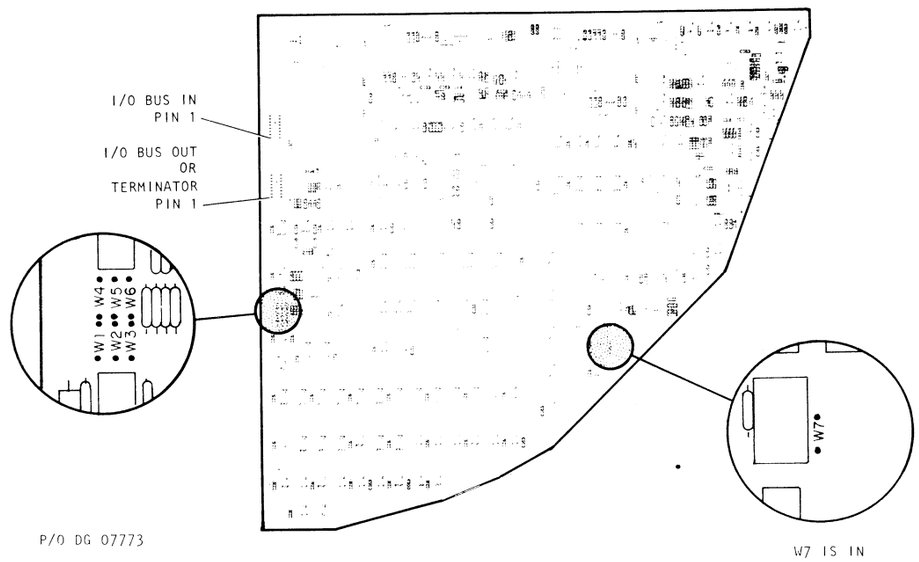
J20	IN
J21	IN
J22	OUT

J22 MAY BE INSERTED TO WRITE PROTECT HARD DISK IF CABLE FROM FRONT PANEL PCB IS DISCONNECTED.

6123 MAG TAPE DRIVE

FORMATTER/CONTROLLER/SERVO PCB

Ref DGC Dwg No 107-001516 Rev 02



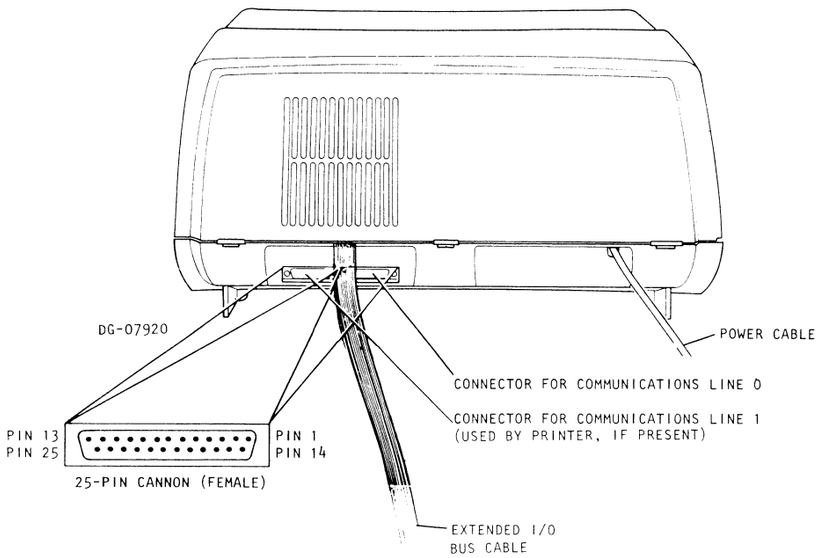
P/O DG 07773

W7 IS IN

DEVICE SELECT JUMPERS		DEVICE CODE 22	DEVICE CODE 62
W4	MSB	OUT	IN
W5		IN	IN
W6		OUT	OUT
W1		OUT	OUT
W2		IN	IN
W3	LSB	OUT	OUT

EXTERNAL CABLING (OPTIONS)

COMMUNICATION INTERFACE



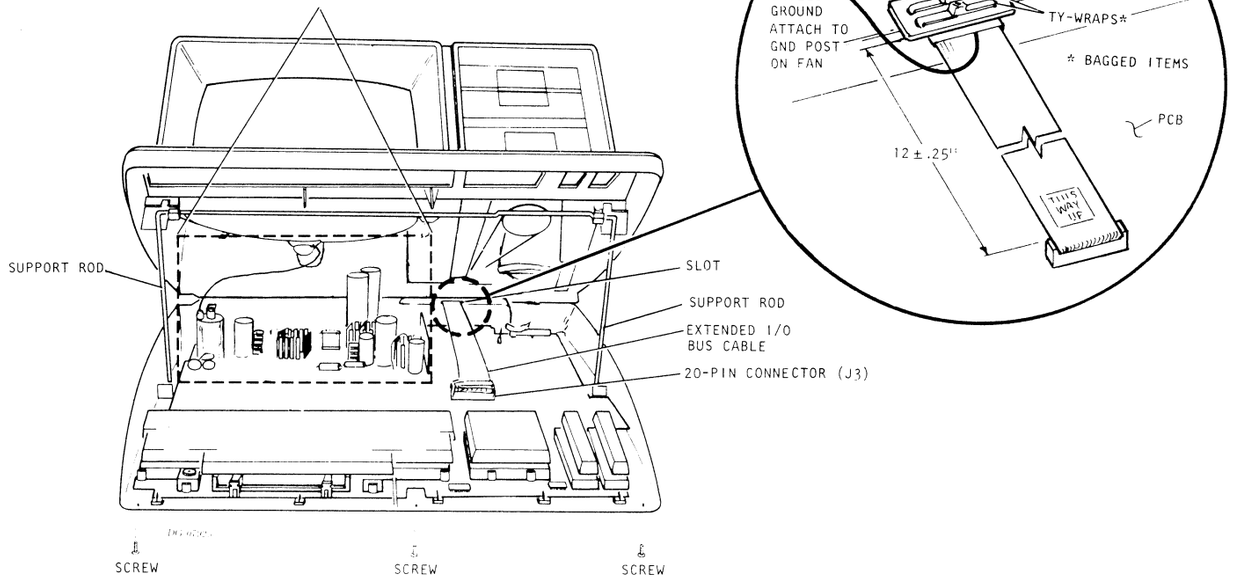
PIN ASSIGNMENTS

2	TxD (DATA TRANSMITTED BY TERMINAL)
3	RxD (DATA RECEIVED BY TERMINAL)
7	SIGNAL GROUND
4	RTS (REQUEST TO SEND)
5	CTS (CLEAR TO SEND)
6	DSR (DATA SET READY)
8	DCD (DATA CARRIER DETECT)
15	TxC (TRANSMIT CLOCK IN)
17	RxC (RECEIVE CLOCK IN)
20	DTR (DATA TERMINAL READY)
24	TxC (TRANSMIT CLOCK OUT)

I/O BUS RIGID DISKS

WARNING:

THE CRT AND THE POWER SUPPLY AREA ON THE MAIN BOARD CARRY **HIGH VOLTAGES EVEN WITH THE POWER OFF.**

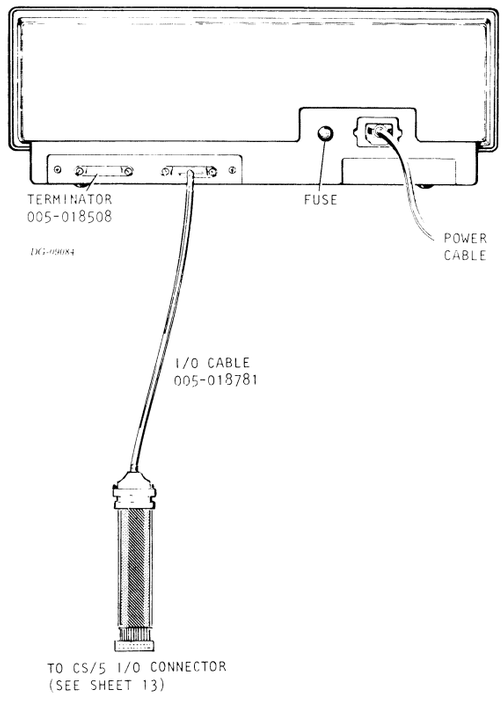


1. LOOSEN THREE SCREWS UNDERNEATH FRONT OF UNIT.
2. LIFT TOP OF UNIT UNTIL SUPPORT RODS LATCH IN PLACE ON BOTH SIDES.
3. INSERT THE EXTENDED I/O BUS CABLE AND GROUND STRAP THRU SLOT IN REAR OF UNIT. PLUG I/O CABLE ONTO 20-PIN CONNECTOR (J3) AND CONNECT I/O BUS SHIELD GROUND TO GROUND POST ON FAN.

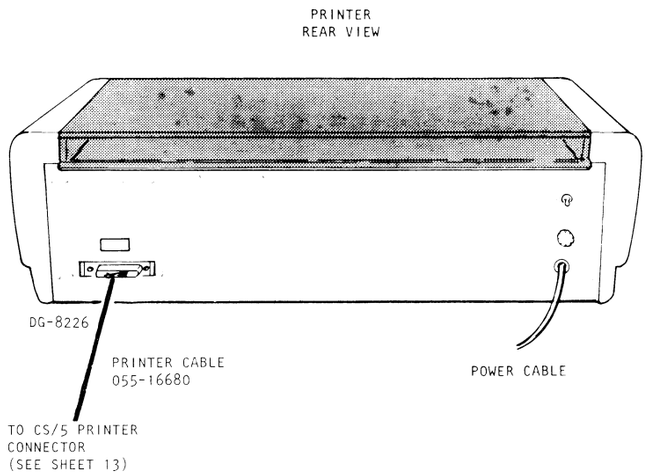
   CAUTION:
   THE I/O CABLE MUST BE CONNECTED PIN 1 TO PIN 1 TO PREVENT DAMAGE TO SYSTEM WHEN POWERED UP.
4. ATTACH TY-WRAPS AND STRAIN RELIEF AS SHOWN.
5. LIFT TOP OF UNIT SLIGHTLY TO UNLATCH SUPPORT RODS. THEN LOWER IT GRADUALLY TO CLOSE UNIT. TIGHTEN THREE SCREWS.

EXTERNAL CABLING (OPTIONS)

6220 & 6222 TABLE-TOP DISKS

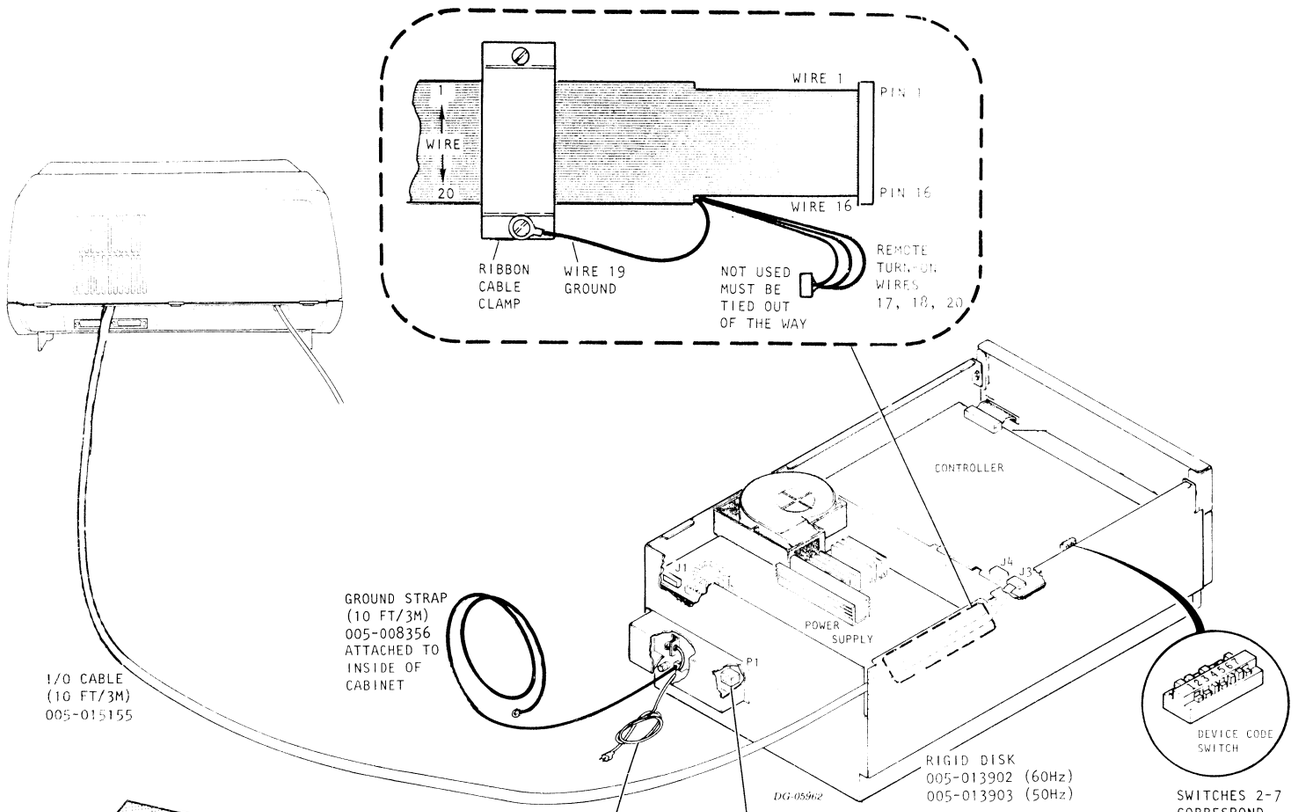


4422 PRINTER

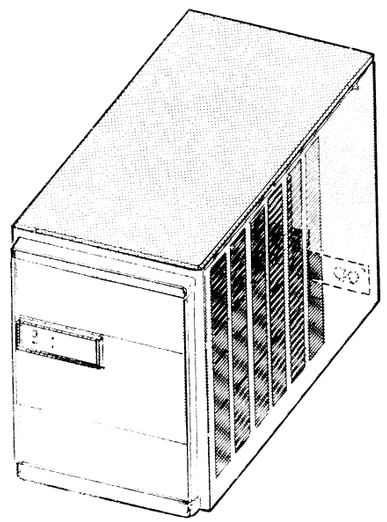


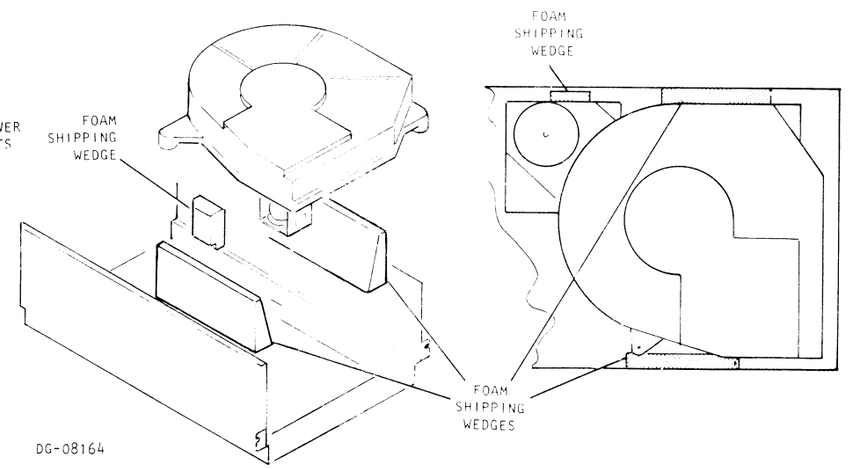
EXTERNAL CABLING (OPTIONS) (CONT)

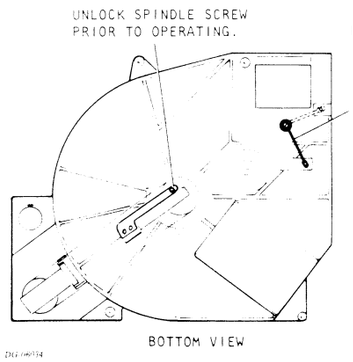
RACK MOUNT RIGID DISKS



AC POWER		ID PLUG	
100VAC	005-00935	100Vac	005-012592
120VAC	005-00935	120Vac	005-012593
220VAC	005-10642	220Vac	005-012594
240VAC	005-10642	240Vac	005-012595







POSITIONER STOP
SOLID BLACK AS SHOWN IS LOCKED POSITION, DASHED LINES INDICATE OPERATING POSITION. IMPORTANT: ARM MUST BE RELEASED BEFORE OPERATING.

NOTE TO FIELD ENGINEERING:

WHEN RETURNING A MODULE TO THE MANUFACTURING FACILITY, PERFORM THE FOLLOWING TASKS.

1. MOVE POSITIONER STOP TO LOCK POSITION.
2. LOCK SPINDLE BY ENGAGING CAPTIVE SCREW.

MODULES RETURNED TO THE MANUFACTURING FACILITY WITHOUT BEING PROPERLY SECURED CAN VOID THE WARRANTY.

CONNECTING THE DISK SUBSYSTEM TO THE COMPUTER

1. REMOVE MIDDLE PANEL ON FRONT OF CABINET AS FOLLOWS: INSERT SCREWDRIVER BLADES IN SLOTS ON TWO SIDES OF PANEL AND PUSH RETAINING PINS SIDEWAYS, ONE TOWARD THE OTHER, WHILE PULLING PANEL OUT.
2. LOOSEN AND REMOVE TWO FRONT SCREWS FASTENING DRIVE TO CABINET FRAME. PULL DISK DRIVE ABOUT HALF-WAY OUT OF THE CABINET.
3. LOOSEN FOUR SCREWS ON TOP COVER OF DISK AND REMOVE COVER.
4. REMOVE ONE FOAM BLOCK AND TWO FOAM WEDGES USED AS SHIPPING RESTRAINTS HOLDING THE RIGID DISK FAST IN THE DRIVE CHASSIS (SEE DETAIL BELOW).
5. REVERSE SHIPPING BRACKET AS SHOWN IN DETAIL BELOW.
6. RELEASE POSITIONER STOP (SEE DETAIL BELOW) TO UNLOCK READ/WRITE HEADS.
7. PLUG TERMINATOR ONTO J4 ON CONTROLLER BOARD IF DISK DRIVE IS ONLY PERIPHERAL ON EXTENDED I/O BUS.

   NOTE:
   THE DISK DRIVE IS EITHER THE ONLY OR THE FIRST PERIPHERAL ON THE EXTENDED I/O BUS. ANY OTHER PERIPHERAL IS DAISY-CHAINED VIA J4. THE LAST PERIPHERAL ON THE BUS MUST HAVE ITS TERMINATOR PLUGGED IN.
8. PLUG I/O CABLE ONTO J3 ON CONTROLLER, PIN 1 TO PIN 1, AND PASS IT THRU GAP BETWEEN BACK AND SIDE PANELS OF DISK DRIVE CHASSIS.
9. REINSTALL DRIVE TOP COVER.
10. PUSH DRIVE INSIDE CABINET AND FASTEN TO CABINET FRAME WITH TWO FRONT SCREWS.
11. OPEN COMPUTER UNIT AS FOLLOWS: LOOSEN THREE SCREWS UNDERNEATH FRONT OF UNIT. LIFT TOP OF UNIT UNTIL SUPPORT RODS LATCH IN PLACE ON BOTH SIDES.
12. INSERT EXTENDED I/O BUS CABLE THRU SLOT IN REAR OF UNIT. PLUG I/O ONTO 20-PIN CONNECTOR (J3) AND CONNECT I/O BUS SHIELD GROUND TO GROUND POST ON FAN.

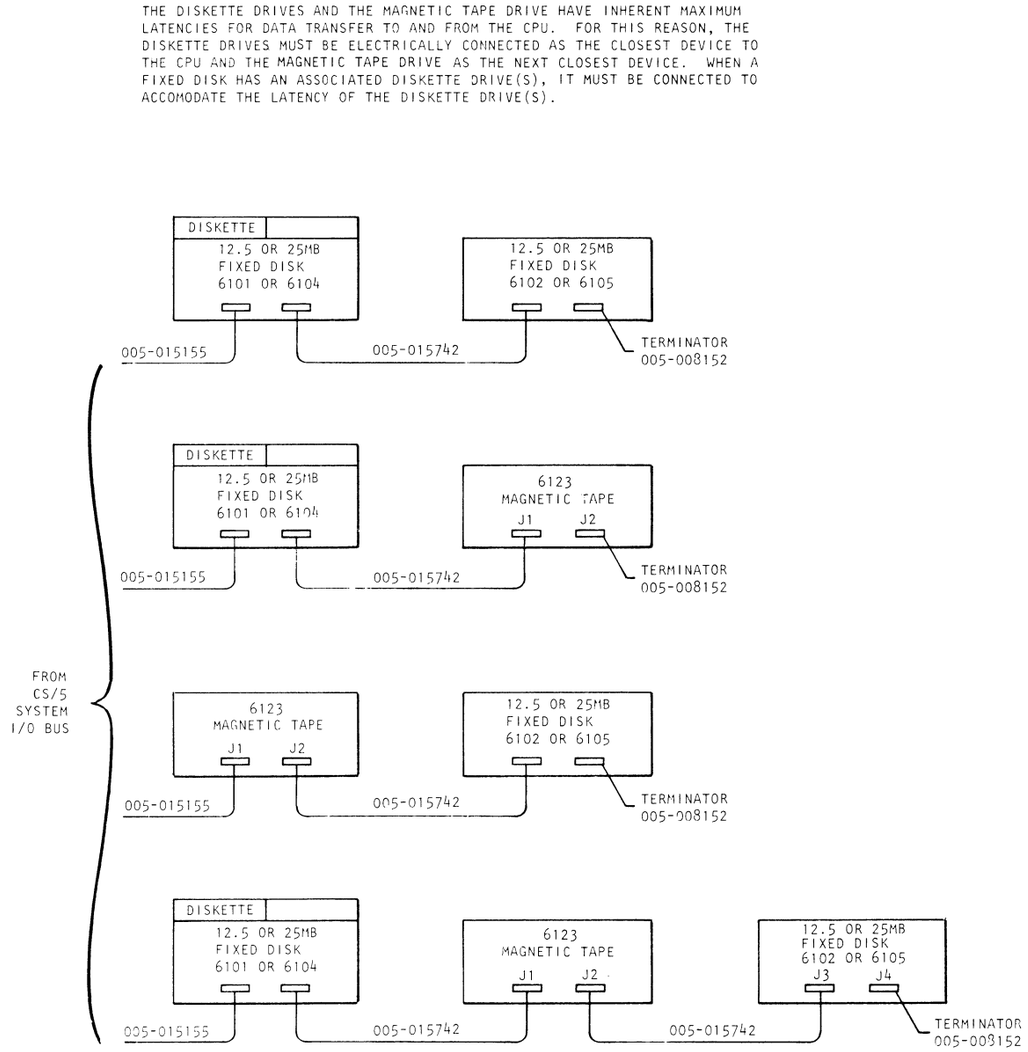
    CAUTION:
    THE I/O CABLE MUST BE CONNECTED PIN 1 TO PIN 1 TO PREVENT DAMAGE TO SYSTEM WHEN POWERED UP.
13. ATTACH TY-WRAPS AND STRAIN RELIEF (SEE SHEET 13 THIS I.D.S.).
14. CLOSE COMPUTER UNIT AS FOLLOWS: LIFT TOP OF UNIT SLIGHTLY TO UNLATCH SUPPORT RODS, THEN LOWER IT GRADUALLY TO CLOSE UNIT. TIGHTEN THREE SCREWS.
15. PLUG POWER CABLE OF DISK DRIVE INTO ONE OF AC LINE OUTLETS IN BOTTOM REAR SECTION OF CABINET.
16. REINSTALL CABINET BACK PANEL AND SUBSYSTEM FRONT PANELS.
17. PLUG COMPUTER UNIT POWER CABLE INTO AC LINE SOURCE OR INTO ONE OF AC LINE OUTLETS IN BOTTOM REAR SECTION OF CABINET.
18. PLUG POWER CABLE OF DISK SUBSYSTEM CABINET INTO AC LINE SOURCE.

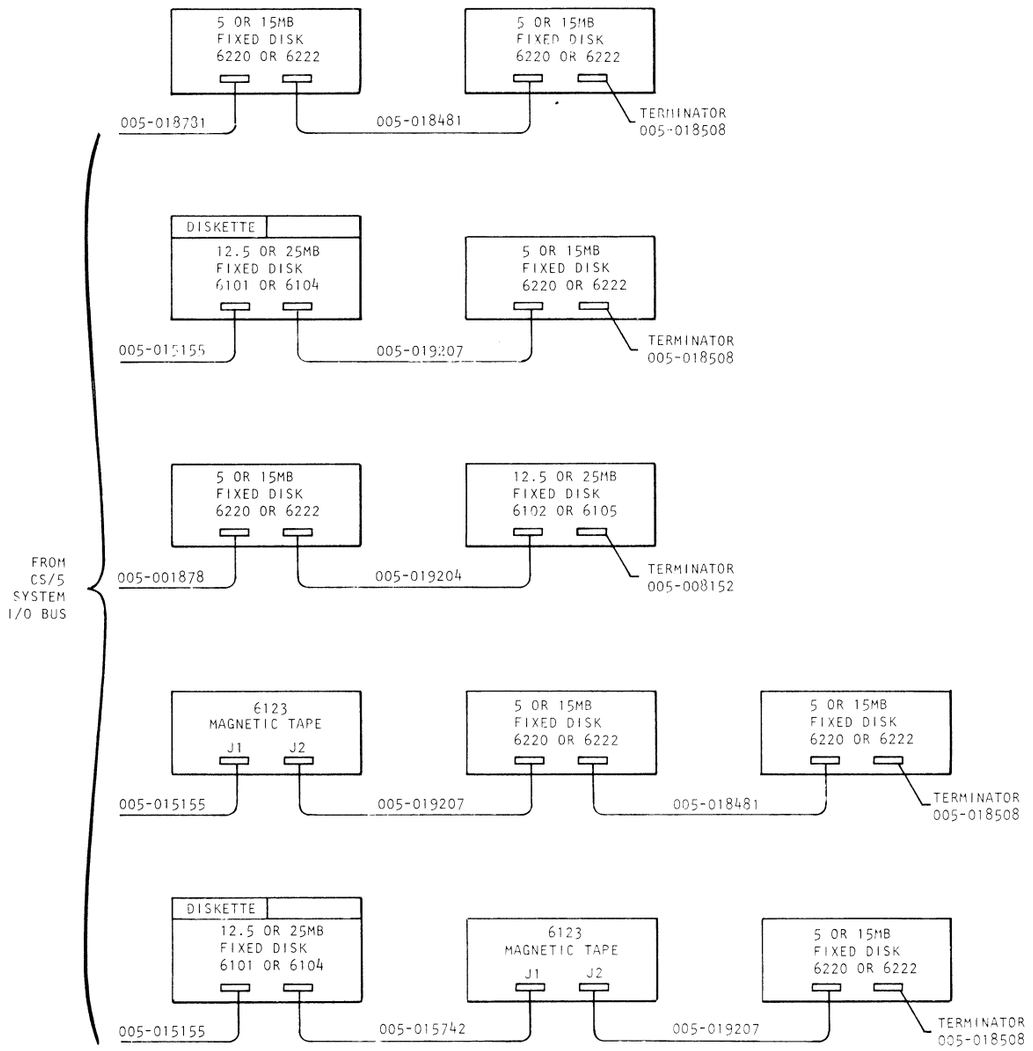
EXTERNAL CABLING (OPTIONS)

TYPICAL CONFIGURATIONS

NOTE

THE DISKETTE DRIVES AND THE MAGNETIC TAPE DRIVE HAVE INHERENT MAXIMUM LATENCIES FOR DATA TRANSFER TO AND FROM THE CPU. FOR THIS REASON, THE DISKETTE DRIVES MUST BE ELECTRICALLY CONNECTED AS THE CLOSEST DEVICE TO THE CPU AND THE MAGNETIC TAPE DRIVE AS THE NEXT CLOSEST DEVICE. WHEN A FIXED DISK HAS AN ASSOCIATED DISKETTE DRIVE(S), IT MUST BE CONNECTED TO ACCOMODATE THE LATENCY OF THE DISKETTE DRIVE(S).





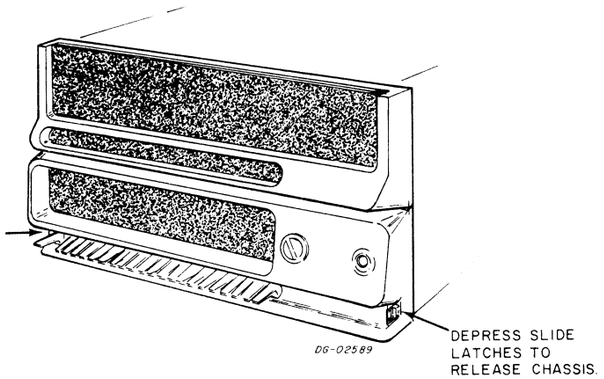
I/O BUS CABLE

005-018431	"D" CONNECTOR	TO "D" CONNECTOR
005-018781	"DIP" CONNECTOR	TO "D" CONNECTOR
005-019207	"DIP" CONNECTOR	TO "D" CONNECTOR (FEMALE)
005-019204	"D" CONNECTOR (MALE)	TO "D" CONNECTOR
005-015155	"DIP" CONNECTOR	TO "DIP" CONNECTOR
005-015742	"DIP" CONNECTOR	TO "DIP" CONNECTOR

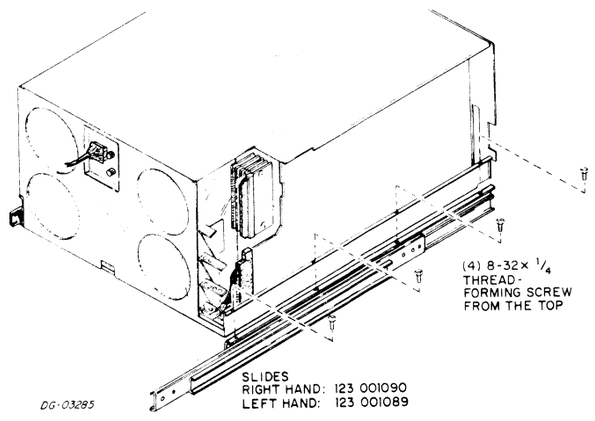
CS/40 TO CS/50 UPGRADE

NOVA 3

LATCH RELEASE



REMOVING SLIDES FROM CHASSIS



MODEL 9244-K, N

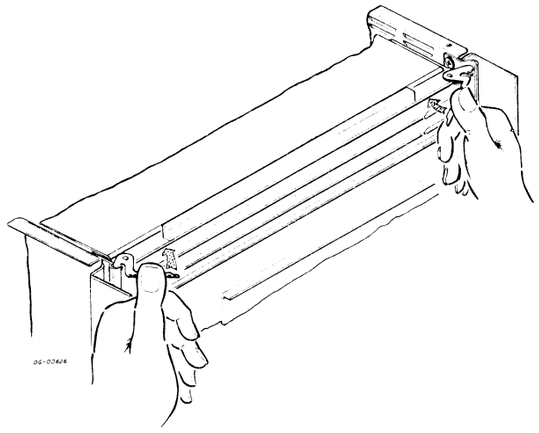
1. **CAUTION** REMOVE ALL POWER PLUGS FROM WALL OUTLETS.
2. REMOVE DEVICE CABLES FROM PADDLEBOARDS.
3. REMOVE NOVA 3 CHASSIS.
4. REMOVE SLIDERAILS FROM CABINET.
5. INSTALL SLIDERAILS FROM KIT.
6. MOUNT NOVA 4 CHASSIS.
7. INSERT MEMORY PCBS & CPU (9244-K : 128KB, 9244-N : 256KB).
8. MOVE CONTROLLER BOARDS FROM OLD TO NEW CHASSIS.
9. ORDER SUFFICIENT I/O PADDLEBOARD CONNECTORS FOR ALL I/O CONTROLLER - TO - DEVICE CABLES (PART # 005-12472).

CONFIGURE AS SHOWN.

NOTE: CHASSIS WILL BE PRE-WIRED FOR CS/50 USE EXCEPT FOR PRIORITY JUMPERS.

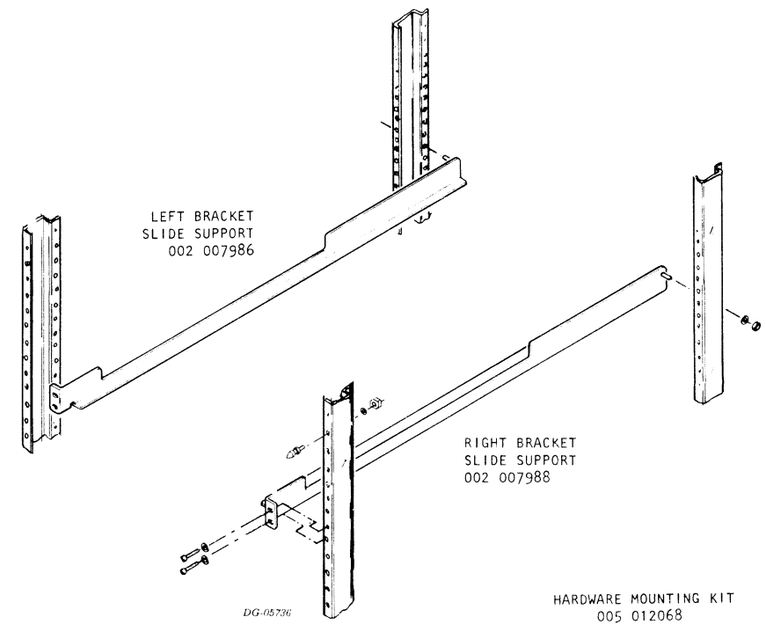
REF:
PIP 043-3500 NOVA 4
PIP 043-3753 CS/50

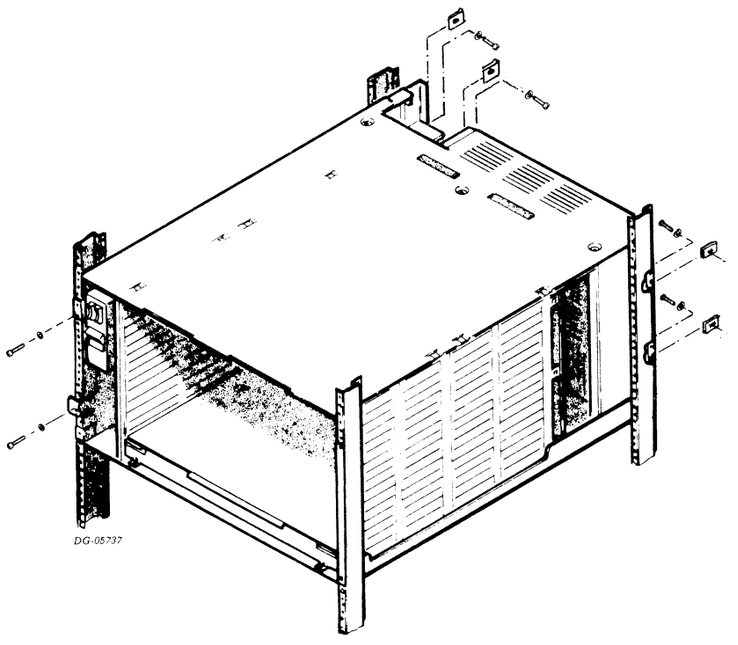
INSERTING MEMORY PC BOARD



NOVA 4

CABINET MOUNTING





CHASSIS SLOT ASSIGNMENTS

CS/50

DATA CHANNEL SPEEDS AVAILABLE		STANDARD ☐ HIGH SPEED ☒	
SLOT	ALLOWED (SLOT CHART)	ASSIGNED	+5V CURRENT DRAW
16	(SLM)		4.0
15	RESERVED		
14	RESERVED (COMBO 2)		3.5
13	COMBO 1		3.5
12	(DCH PRINTER CONTROLLER)		2.5
11	6070 CONTROLLER		4.0
10	6026 CONTROLLER		7.0
9	6098/6100 DISC CONTROLLER**		4.0
8	ZEBRA CONTROLLER 2		3.4
7	ZEBRA CONTROLLER 1*		2.9
6	6031/6045 CONTROLLER		4.0
5	6021 CONTROLLER		2.6
4	(128 KB MEM)		4.4
3	(64-128 KB MEM)		4.4
2	(64-128-256 KB MEM)		4.4
1	CPU		17.0
		TOTAL +5V CURRENT DRAW	71.6
		MAX +5V CURRENT AVAILABLE	100
		+5V CURRENT SURPLUS	28.4

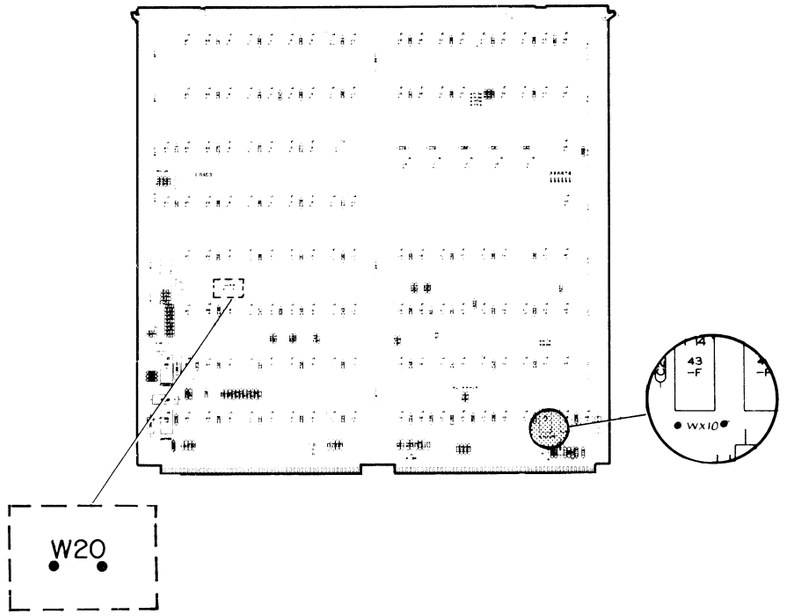
* OR 6099 OR 6103 CONTROLLER (OPTION)
** OR 6096-A (OPTION)

TAILORING

JUMPERING

COMBO MUX BOARD

Ref DGC Dwg No 003-000806 Rev 15

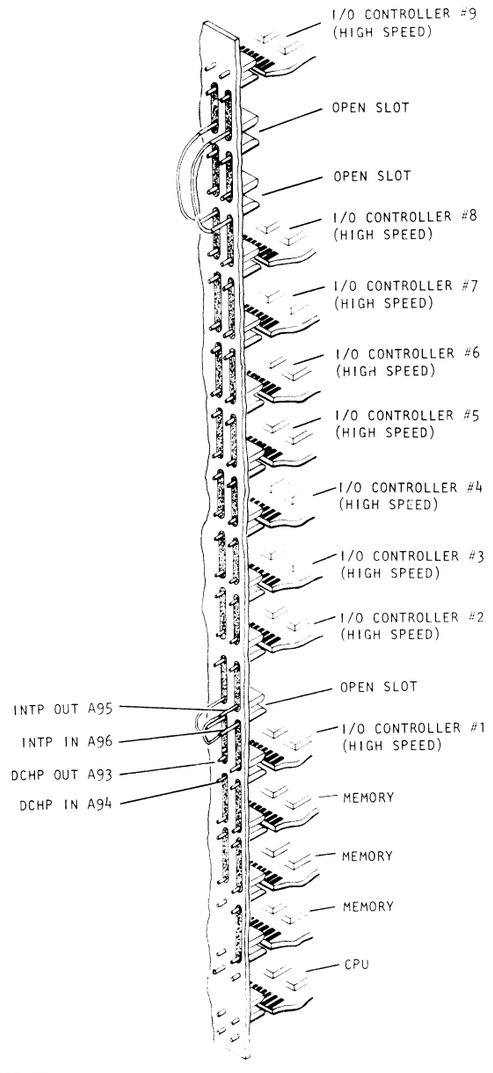


JUMPER W20 IS REMOVED ONLY FOR TESTING. IT IS INSTALLED DURING NORMAL OPERATION. (107-000806 Rev 03 AND UP)

NOTE:
WHEN CHANGING COMBO 1 FROM CS/40 TO CS/50, TTI ON THE COMBO BOARD MUST BE DISABLED BY INSERTING JUMPER WX10. THIS ALLOWS SYSTEM CONSOLE TO RE RUN FROM THE CPU INSTEAD OF COMBO 1.

TAILORING (CONT)

BACKPANEL JUMPERING

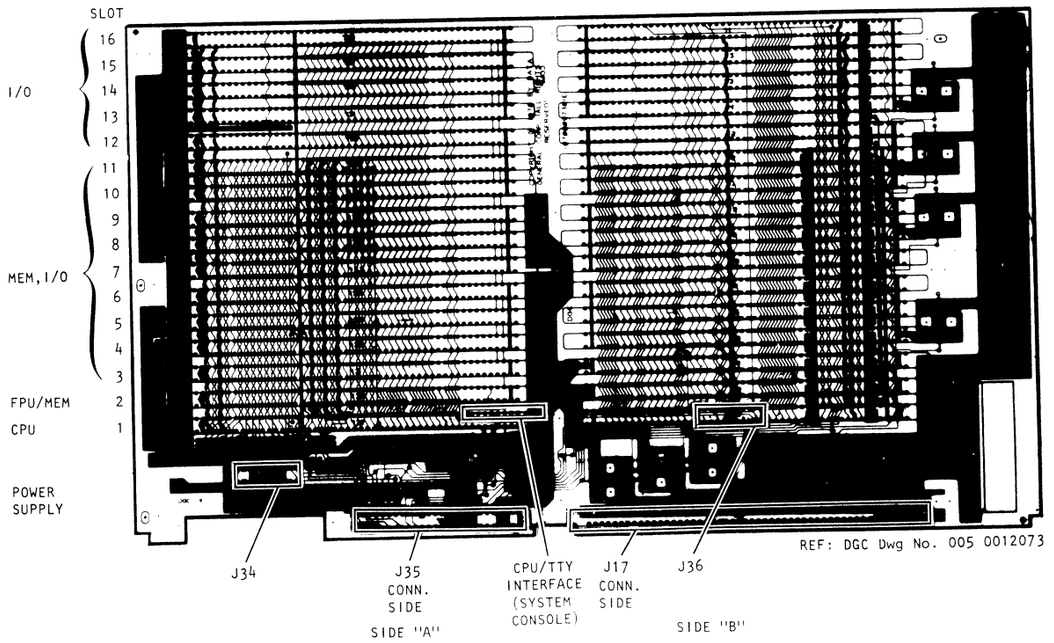


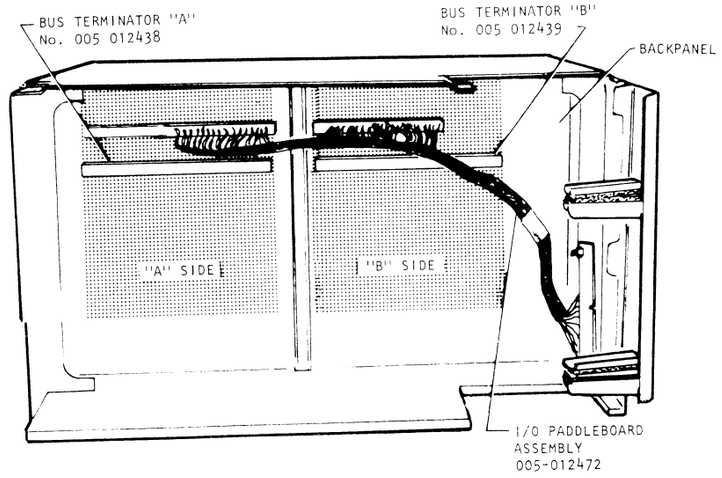
NO JUMPERS NEEDED EXCEPT FOR OPEN SLOTS

NOTE: IF COMBO-2 (LINE 4-7) IS USED, ADD JUMPER FROM A91 (COMBO-1) TO A92 (COMBO-2).

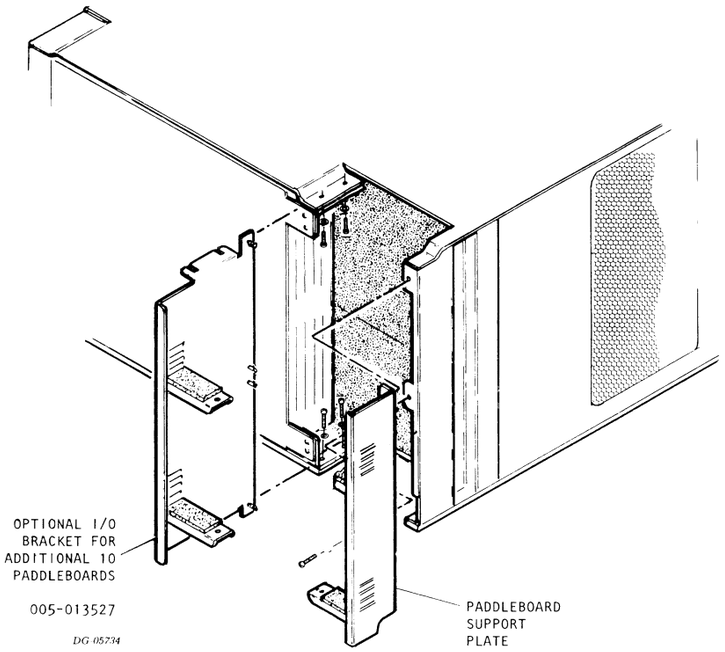
INTERNAL CABLING

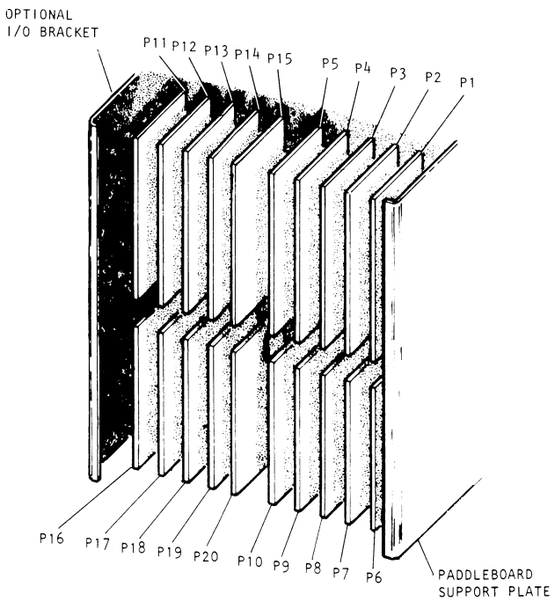
BACKPANEL CONNECTORS



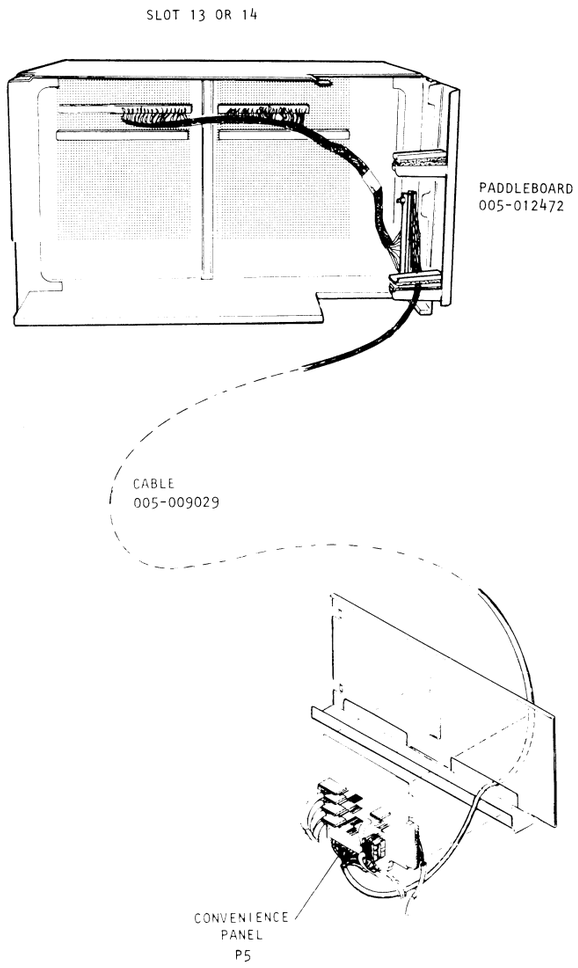


INTERNAL CABLING (CONT)

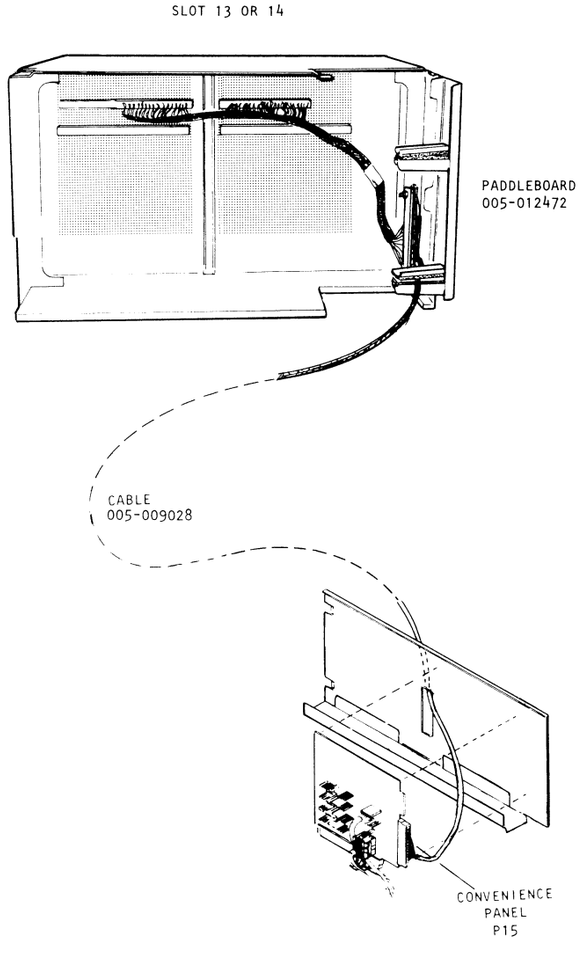




COMBO PCB



SYNC LINE MUX PCB



CS/40 TO CS/50 UPGRADE

CABINET MOUNTING

50, 50/96/190 MB DISC ADAPTER

9242-K, N

1. REMOVE UNMAPPED NOVA 4 CPU BOARD FROM CHASSIS.
2. INSTALL MAPPED NOVA 4 CPU BOARD IN CHASSIS.
3. INSTALL ADDITIONAL BOARDS (9242-K: 64KB: 9242-N: 64KB AND 128KB).

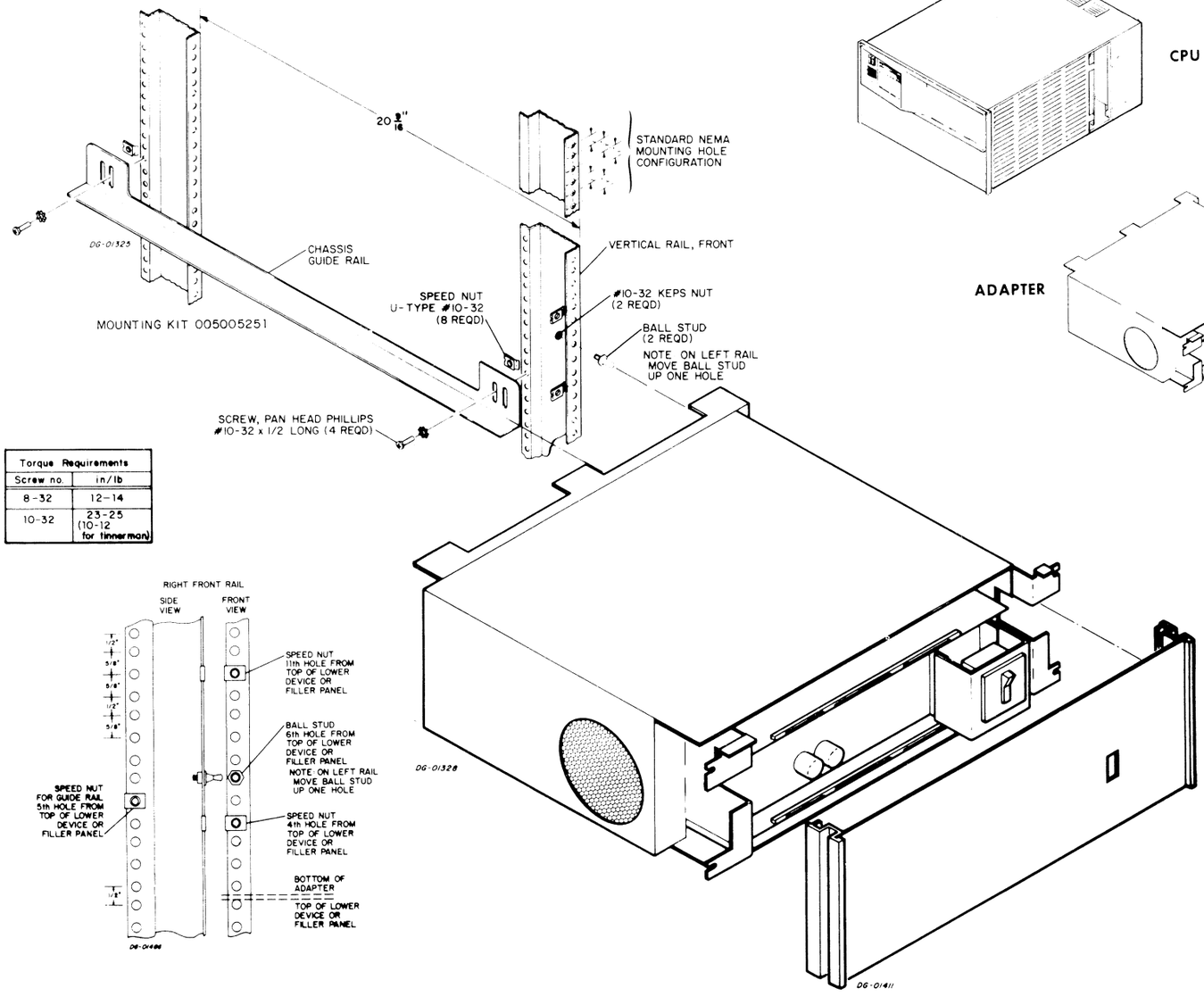
REF: PIP 043-3500 NOVA 4

9246, 9247, 9248

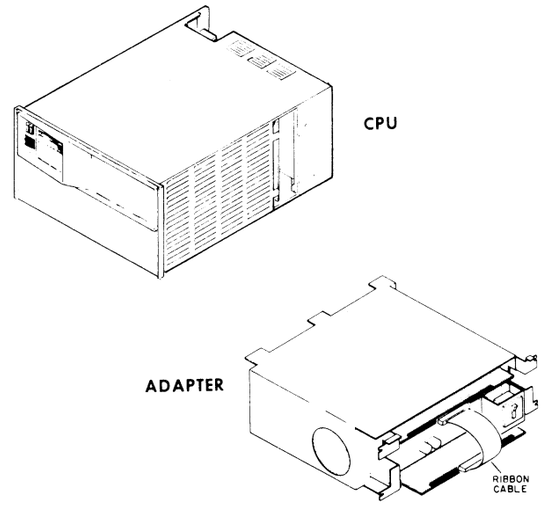
1. MOUNT ADAPTER.
2. INSTALL CONTROLLER BOARDS IN CHASSIS. CONNECT WITH RIBBON CABLE.
3. CONFIGURE EXTERNAL CABLES AS SHOWN.

NOTE: MAG TAPE OR SECOND IDENTICAL DISC DRIVE MUST BE ORDERED IF EXISTING SYSTEM DOES NOT INCLUDE MAG TAPE.

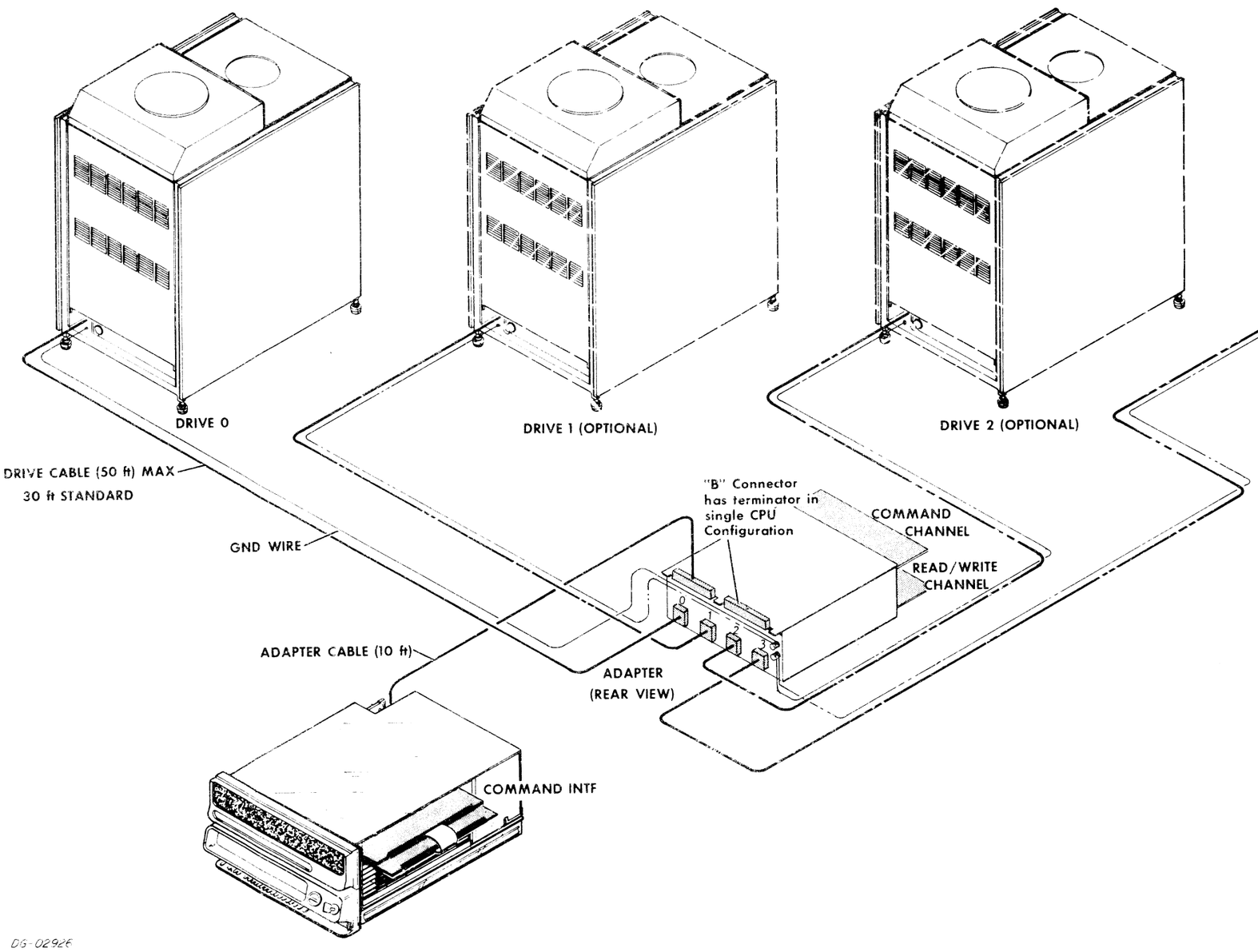
REF: PIP 043-2700 ZEBRA



Torque Requirements	
Screw no.	in/lb
8-32	12-14
10-32	23-25 (10-12 for tinnerman)



EXTERNAL CABLING

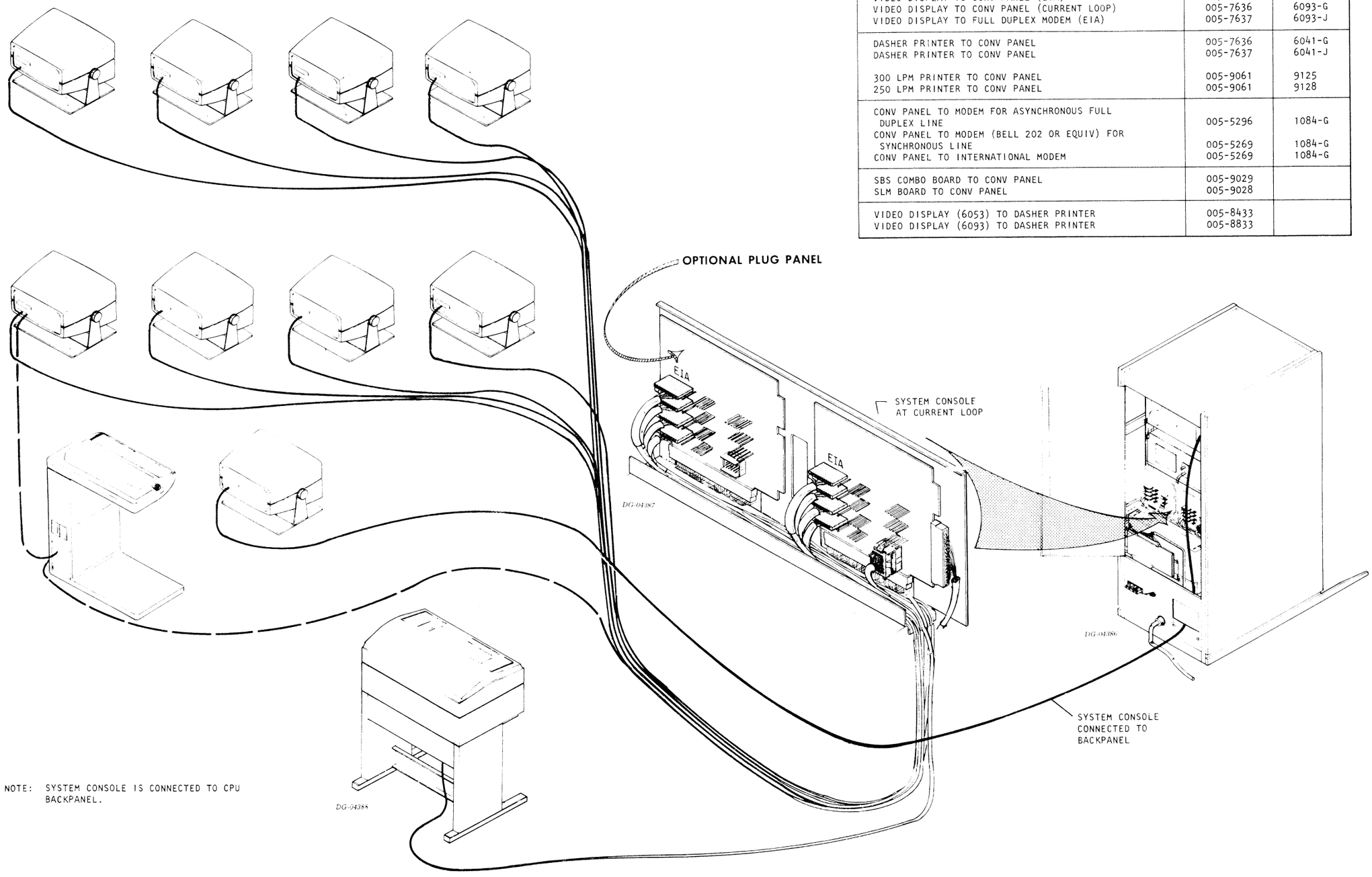


NOVA OR ECLIPSE LINE PROCESSOR

EXTERNAL CABLING

6053-G			6041-K		
MODEL NO.	CABLE	LENGTH	MODEL NO.	CABLE	LENGTH
1141-A	005-9695	100 FT	1142-A	005-9801	100 FT
1141-B	005-9696	250 FT	1142-B	005-9802	250 FT
1141-C	005-9697	500 FT	1142-C	005-9803	500 FT
1141-D	005-9698	1000 FT	1142-D	005-9804	1000 FT
1141-E	005-9699	1500 FT	1142-E	005-9805	1500 FT
1141-F	005-9800	2000 FT	1142-F	005-9806	2000 FT

DESCRIPTION	ASSY NO.	USED ON
VIDEO DISPLAY TO CPU BACKPANEL	005-7420	6053-D
VIDEO DISPLAY TO CONV PANEL (EIA)	005-8181	6053-F
VIDEO DISPLAY TO CONV PANEL (CURRENT LOOP)	005-7636	6053-G
VIDEO DISPLAY TO FULL DUPLEX MODEM (EIA)	005-7637	6053-J
VIDEO DISPLAY TO CPU BACKPANEL	005-7428	6093-D
VIDEO DISPLAY TO CONV PANEL (EIA)	005-8181	6093-F
VIDEO DISPLAY TO CONV PANEL (CURRENT LOOP)	005-7636	6093-G
VIDEO DISPLAY TO FULL DUPLEX MODEM (EIA)	005-7637	6093-J
DASHER PRINTER TO CONV PANEL	005-7636	6041-G
DASHER PRINTER TO CONV PANEL	005-7637	6041-J
300 LPM PRINTER TO CONV PANEL	005-9061	9125
250 LPM PRINTER TO CONV PANEL	005-9061	9128
CONV PANEL TO MODEM FOR ASYNCHRONOUS FULL DUPLEX LINE	005-5296	1084-G
CONV PANEL TO MODEM (BELL 202 OR EQUIV) FOR SYNCHRONOUS LINE	005-5269	1084-G
CONV PANEL TO INTERNATIONAL MODEM	005-5269	1084-G
SBS COMBO BOARD TO CONV PANEL	005-9029	
SLM BOARD TO CONV PANEL	005-9028	
VIDEO DISPLAY (6053) TO DASHER PRINTER	005-8433	
VIDEO DISPLAY (6093) TO DASHER PRINTER	005-8833	

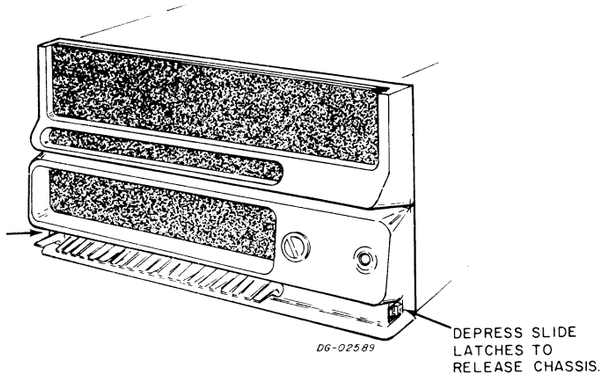


NOTE: SYSTEM CONSOLE IS CONNECTED TO CPU BACKPANEL.

CS/40, CS/50 TO CS/60 UPGRADE

CS/40 - NOVA 3

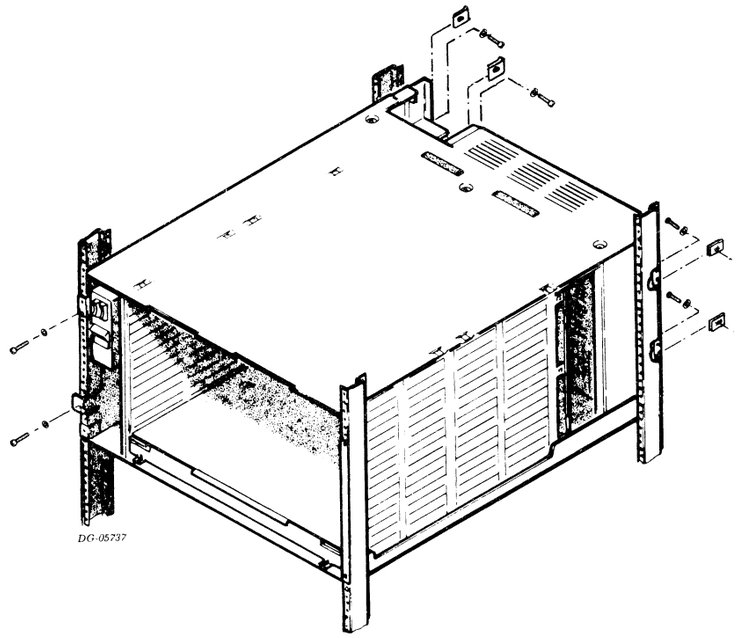
LATCH RELEASE



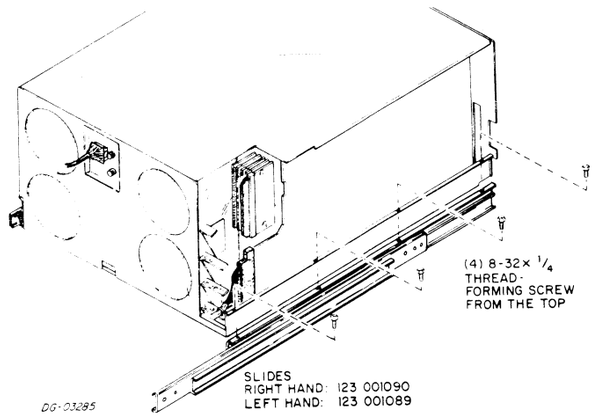
MODELS 9243-K, N, P, R 9245-K, N, P, R

1. **CAUTION** REMOVE ALL POWER PLUGS FROM WALL OUTLETS.
2. REMOVE DEVICE CABLES FROM PADDLEBOARDS.
3. REMOVE CHASSIS.
4. REMOVE SLIDERAILS.

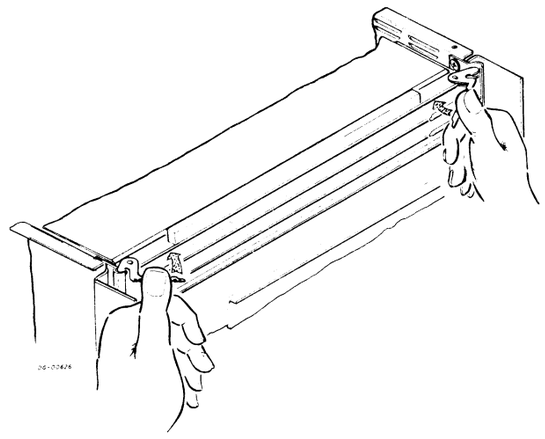
CS/50 - NOVA 4

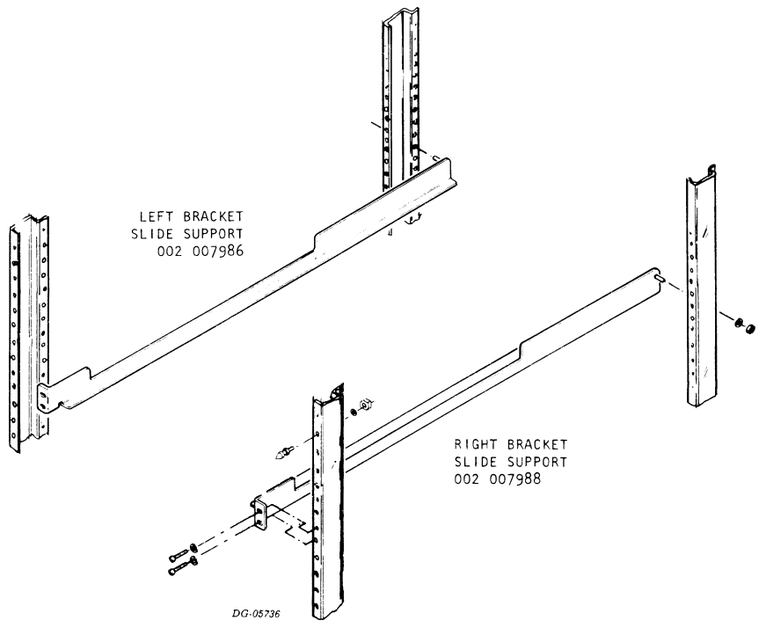


REMOVING SLIDES FROM CHASSIS



INSERTING MEMORY PC BOARD

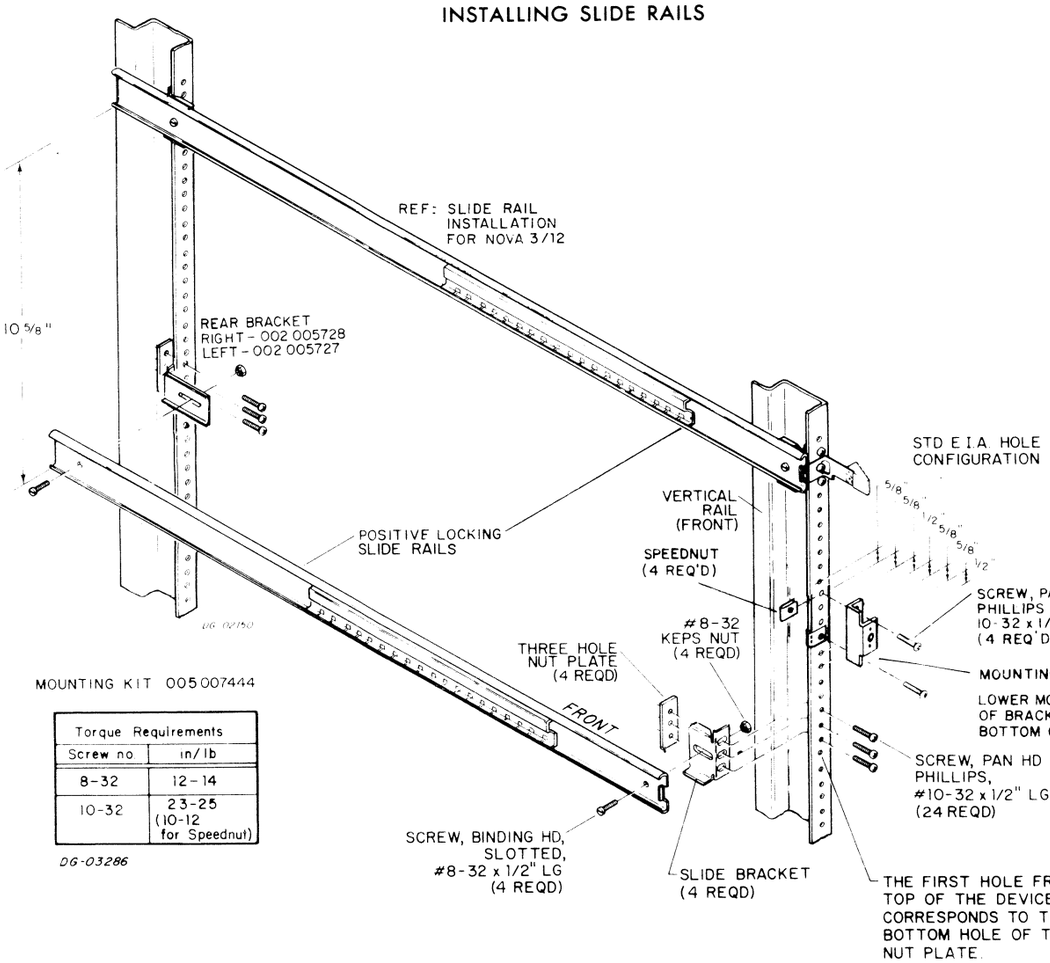




INSTALLING THE ECLIPSE CHASSIS

MODELS 9243, 9245 (includes EXPANSION CHASSIS)

INSTALLING SLIDE RAILS



MOUNTING KIT 005007444

Torque Requirements	
Screw no.	in/lb
8-32	12-14
10-32	23-25 (10-12 for Speednut)

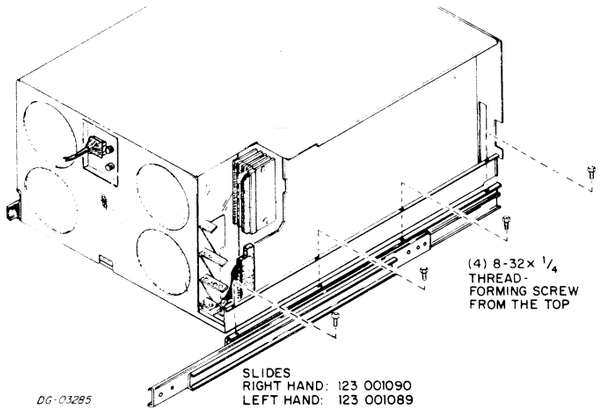
DG-03286

5. INSTALL SLIDE RAILS FOR S/130 AND EXPANSION CHASSIS.
6. MOUNT S/130 CHASSIS (AND EXPANSION CHASSIS IF NECESSARY).
7. MOVE CONTROLLER BOARDS FROM OLD TO NEW CHASSIS. CONFIGURE CABLING AS SHOWN.
8. REMOVE JUMPER WX10 FROM COMBO MUX BOARD IF INSTALLED TO ENABLE TT1.

NOTE:
CHASSIS WILL BE PRE-WIRED FOR CS/60 USE EXCEPT PRIORITY JUMPERS. THIS INCLUDES 7 PRE-WIRED PADDLEBOARDS.

REF. PIP 043-206 S/130
010-205 CS/60 INSTALLATION DATA SHEET

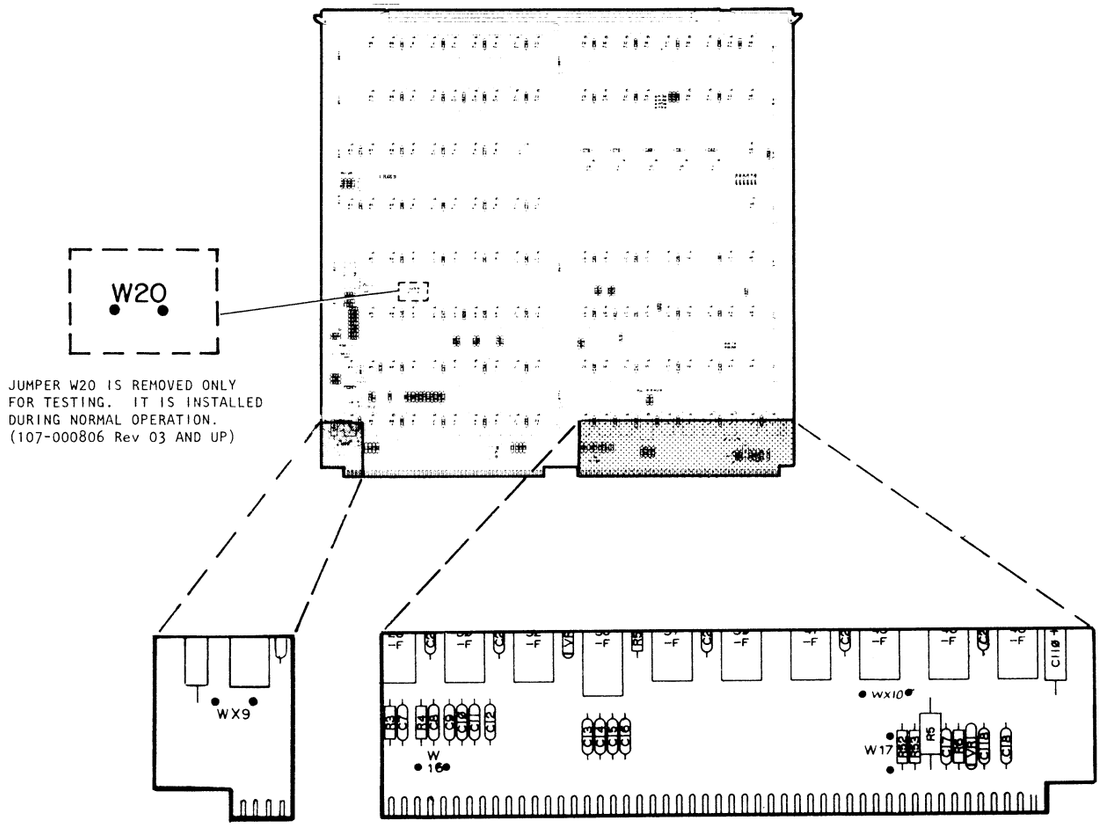
MOUNTING SLIDES ON CHASSIS



TAILORING
JUMPERING

COMBO MULTIPLEXOR

Ref DGC Dwg No 003-000806 Rev 15



JUMPER W20 IS REMOVED ONLY FOR TESTING. IT IS INSTALLED DURING NORMAL OPERATION. (107-000806 Rev 03 AND UP)

NOTES:

REMOVE JUMPER W16 (NOVA SYSTEM 60 Hz).

INSERT JUMPER W17 (ECLIPSE SYSTEM 60 Hz).

REMOVE JUMPER WX10 TO ENABLE SYSTEM CONSOLE FROM COMBO 1.

INSTALL JUMPER WX9 ONLY IF THE DCH LPT CONTROLLER OPTION PCB IS INSTALLED IN SYSTEM.

SLOT AND PADDLEBOARD ASSIGNMENTS

PADDLE BD No.	SLOT	MODEL C-3	MODEL C-5	MODEL C-6
	12	32 KB MEM	64 OR 128 KB MEM	64 OR 128 KB MEM
P-14	11	* SLM	* SLM/DCH LPT	* OPTIONAL DISC CONT
P-04	10	OPEN	* COMBO (4-7)	ZEBRA CONT
P-06	9	COMBO 0-3	COMBO (0-3)	ZEBRA CONT
P-13	8	* MAG TAPE CONT	MAG TAPE CONT	MAG TAPE CONT
P-07	7	* SECOND DISC CONT	SECOND DISC CONT	* OPTIONAL DISC CONT
P-05	6	FIRST DISC CONT	FIRST DISC CONT	OPEN
P-09	5	OPEN	OPEN/SLM	OPEN
	4	OPEN	OPEN	* 64 OR 128 KB MEM
	3	OPEN	MAP	MAP
	2	CPU-2	CPU-2	CPU-2
	1	CPU-1	CPU-1	CPU-1

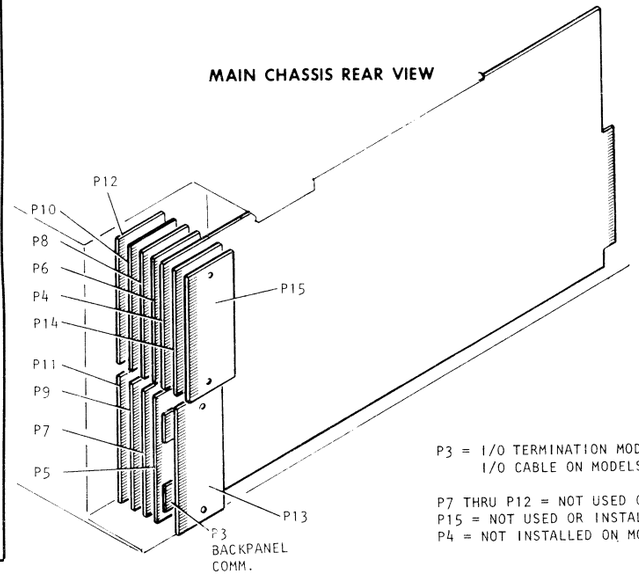
PADDLE BD No.	SLOT	EXPANSION CHASSIS REQ'D FOR MODEL C-6
	12	
	11	
	10	
	9	
	8	
	7	
PX10	6	* DCH LPT
PX08	5	* SLM
PX04	4	* COMBO (12-15)
PX06	3	* COMBO (8-11)
PX13	2	* COMBO (4-7)
PX15	1	* COMBO (0-3)

* = OPTIONAL

INTERNAL CABLING

PADDLE BOARD POSITIONS

MAIN CHASSIS REAR VIEW



MAIN CHASSIS BACK PANEL JUMPERS FOR ALL MODELS			
FROM	SIG. NAME	TO	NOTES
2-A95	INTP PRI	5-A95	
6-A96	INTP PRI	6-A95	DELETE IF SLM OR FLPY/10 MB DISC CONT. ADDED
7-A96	INTP PRI	7-A95	
8-A96	INTP PRI	8-A95	DELETE IF MAG TAPE ADDED
10-A96	INTP PRI	10-A95	DELETE IF COMBO 4/7 ADDED C3 & C5 ONLY
11-A96	INTP PRI	11-A95	DELETE IF 20 MB DISC CONT. ADDED
4-A94	DCH PRI	6-A94	
8-A94	DCH PRI	8-A93	DELETE IF MAG TAPE ADDED
10-A94	DCH PRI	10-A93	C3 & C5 ONLY
11-A94	DCH PRI	11-A93	DELETE IF 20 MB DISC CONT. ADDED
9-A91	MUX PRI	10-A92	C3 & C5 ONLY
7-B6	50/60 HZ	9-B77	C3 & C5 ONLY
6-A94	DCH PRI	7-A94	DELETE IF FLOPPY/10MB ADDED
7-A94	DCH PRI	8-A94	

P3 = I/O TERMINATION MODELS C3 & C5
I/O CABLE ON MODELS C6

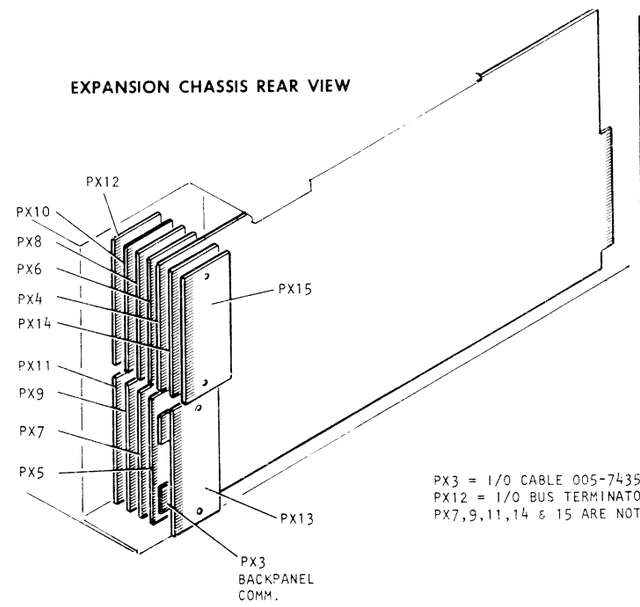
P7 THRU P12 = NOT USED OR INSTALLED
P15 = NOT USED OR INSTALLED
P4 = NOT INSTALLED ON MODEL C6

FOR ALL SYSTEMS		
FROM	SIG. NAME	TO
4-B70	PMC-1	5-B70
4-B78	PMC3	5-B78
4-B80	PMC4	5-B80
1-B8	MSINA	2-B69
2-B69	MSINA	2-B76
2-A49	MSI	2-B7
REF - 008-002096 008-002095		

FOR SYSTEM W/MAP		
FROM	SIG. NAME	TO
3-A57	EMPAIN/GND	3-A33
1-B71	MEM MUX DIS EXT BUSY	3-B76
WIRES MUST BE INSTALLED WHEN MAP IS INSTALLED REF - 008-002096		

**FOR SYSTEMS W/OUT MAP		
FROM	SIG. NAME	TO
2-B16	R1/LA1	3-B16
2-B18	R2/LA2	3-B18
2-B20	R3/LA3	3-B20
2-B22	R4/LA4	3-B22
2-B24	R5/LA5	3-B24
2-B26	R6/LA6	3-B26
2-B28	R7/LA7	3-B28
2-B30	R8/LA8	3-B30
2-B32	R9/LA9	3-B32
2-B39	R10/LA10	3-B39
2-B42	R11/LA11	3-B42
2-B44	R12/LA12	3-B44
2-B43	R13/LA13	3-B43
2-B45	R14/LA14	3-B45
2-B47	R15/LA15	3-B47
3-B70	L01/PMC1	3-B69
3-B78	L03/PMC3	3-B77
3-B80	L04/PMC4	3-B79
** WIRES MUST BE REMOVED WHEN MAP IS INSTALLED. REF. 008-002095		

EXPANSION CHASSIS REAR VIEW

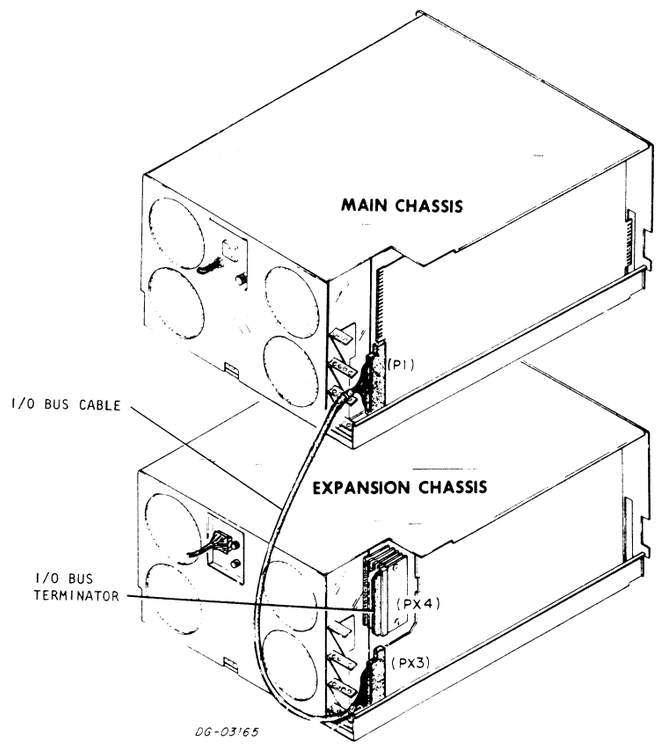


EXPANSION CHASSIS			
FROM	SIG. NAME	TO	NOTES
1-A94	DCH PRI	6-A94	
3-A96	INTP PRI	3-A95	DELETE IF COMBO 8/11 ADDED
4-A96	INTP PRI	4-A95	DELETE IF COMBO 12/15 ADDED
5-A96	INTP PRI	5-A95	DELETE IF SLM ADDED
1-A91	MUX PRI	2-A92	
2-A91	MUX PRI	3-A92	
3-A91	MUX PRI	4-A92	
3-B69	TTI/GND	3-B99	
4-B69	TTI/GND	4-B99	
E4	50/60 HZ	1-B10	

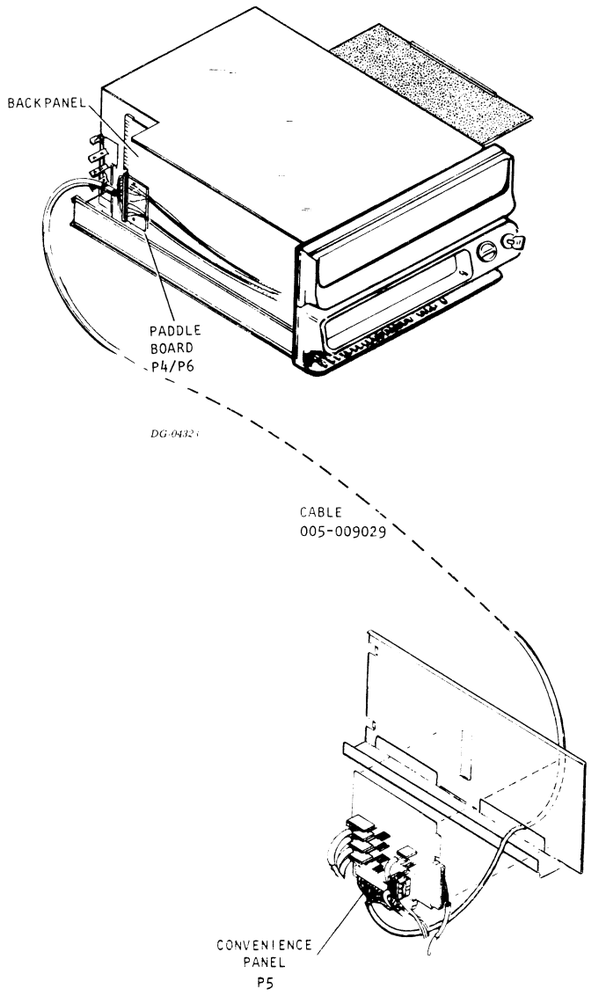
PX3 = I/O CABLE 005-7435
PX12 = I/O BUS TERMINATOR
PX7,9,11,14 & 15 ARE NOT USED OR INSTALLED

INTERNAL CABLING

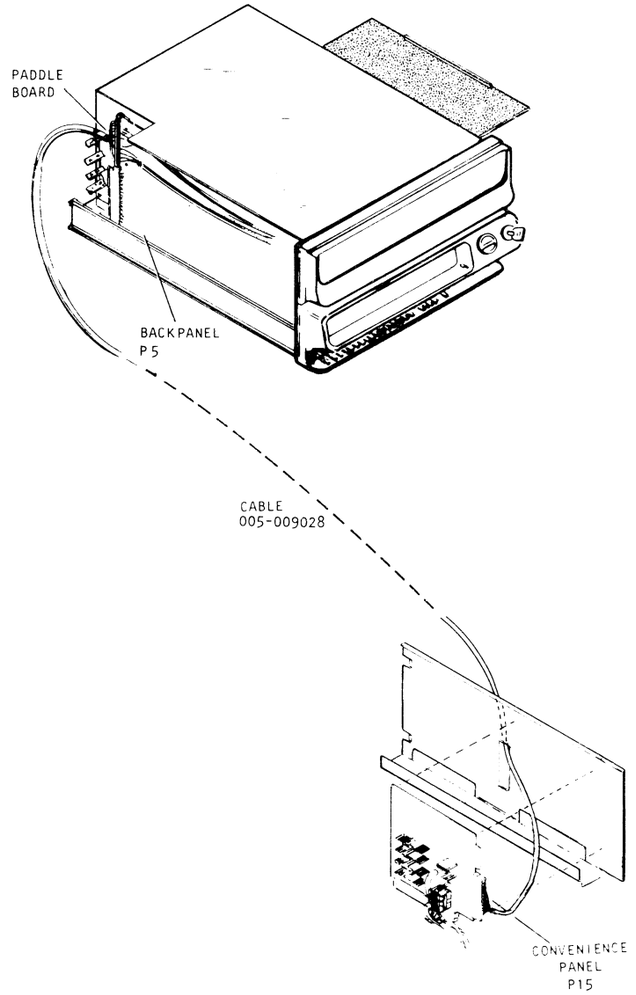
EXPANSION CHASSIS



COMBO MUX PCB

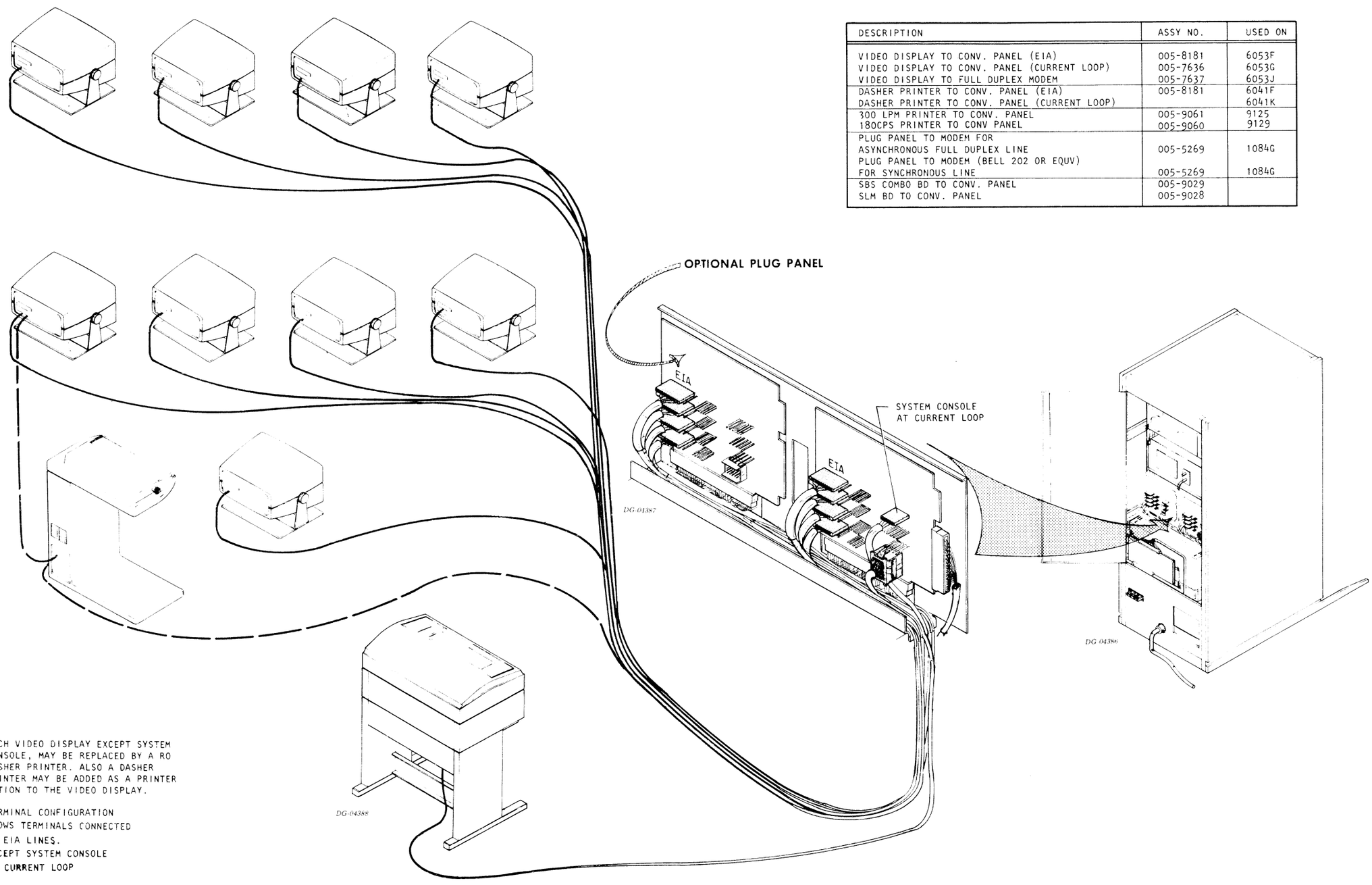


SYNC LINE MUX PCB



EXTERNAL CABLING

DESCRIPTION	ASSY NO.	USED ON
VIDEO DISPLAY TO CONV. PANEL (EIA)	005-8181	6053F
VIDEO DISPLAY TO CONV. PANEL (CURRENT LOOP)	005-7636	6053G
VIDEO DISPLAY TO FULL DUPLEX MODEM	005-7637	6053J
DASHER PRINTER TO CONV. PANEL (EIA)	005-8181	6041F
DASHER PRINTER TO CONV. PANEL (CURRENT LOOP)		6041K
300 LPM PRINTER TO CONV. PANEL	005-9061	9125
180CPS PRINTER TO CONV PANEL	005-9060	9129
PLUG PANEL TO MODEM FOR ASYNCHRONOUS FULL DUPLEX LINE	005-5269	1084G
PLUG PANEL TO MODEM (BELL 202 OR EQUV) FOR SYNCHRONOUS LINE	005-5269	1084G
SBS COMBO BD TO CONV. PANEL	005-9029	
SLM BD TO CONV. PANEL	005-9028	

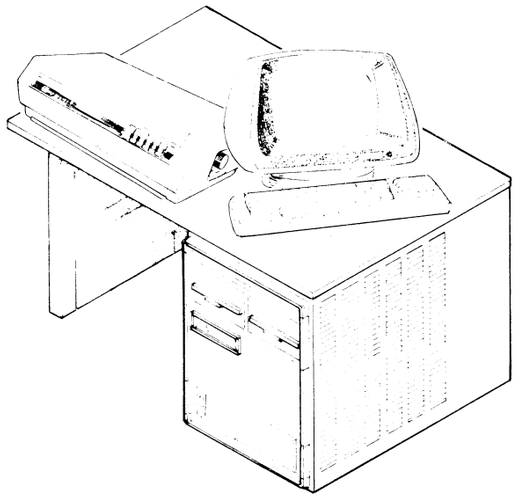


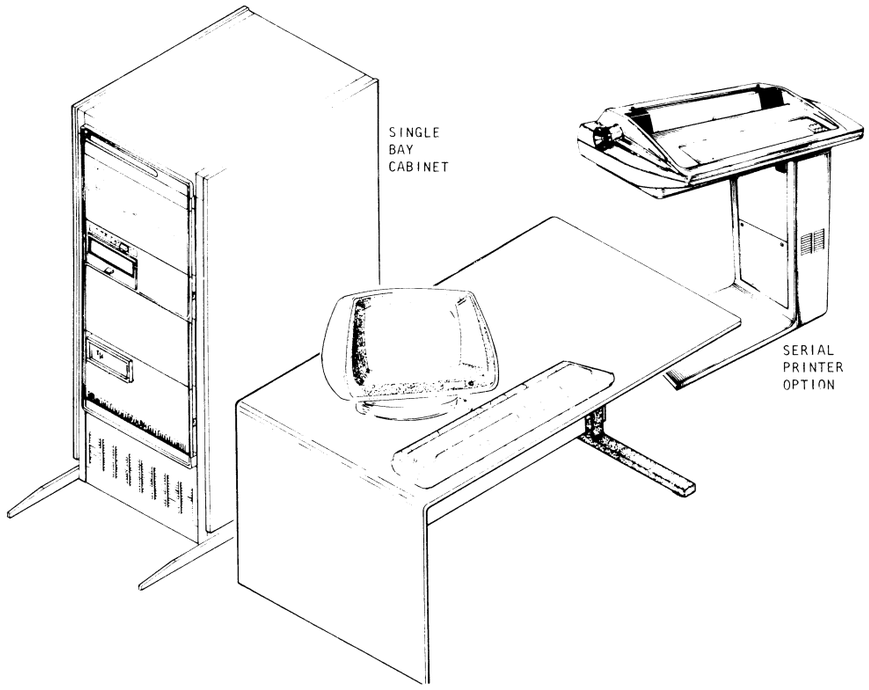
NOTE: EACH VIDEO DISPLAY EXCEPT SYSTEM CONSOLE, MAY BE REPLACED BY A RO DASHER PRINTER. ALSO A DASHER PRINTER MAY BE ADDED AS A PRINTER OPTION TO THE VIDEO DISPLAY.

TERMINAL CONFIGURATION SHOWS TERMINALS CONNECTED TO EIA LINES. ECCEPT SYSTEM CONSOLE AT CURRENT LOOP

SERIES 100 SUBSYSTEM COMPONENT BREAKDOWN

MODELS 9810 THRU 9816, 9820 THRU 9827, 90149 THRU 90153
90170 & 90171





MAJOR COMPONENT

COMPONENT	MOUNTING LOCATION	NOTES	REFERENCE
S/20 CPU - 128 KB 8733-K	CABINET	USED ON 9820, 9821, 9810, 9811, 9812, 9814	010-000297
S/20 CPU - 256 KB 8733-NA	CABINET	USED ON 90149, 90150, 90151, 9815, 9816	010-000297
S/20 CPU - 256 KB 8733-N	CABINET	USED ON 9822, 9823, 9813	010-000297
S/20 CPU - 512 KB 8733-RA	CABINET	USED ON 90152, 90153	010-000297
S/20 CPU - 512 KB 8733-R	CABINET	USED ON 9824, 9825	010-000297
S/20 CPU - 1024 KB 8733-V	CABINET	USED ON 9826, 9827	010-000297
S/20 EXPANSION CHASSIS 4314-S	CABINET	REQUIRED WITH 10-17 TERMINAL SYSTEMS	010-000238
S/20 BATTERY BACKUP 4315, 4316	S/20 CHASSIS	STANDARD	010-000239
FULL BAY CABINET 1144-F	FREE STANDING	USED ON 9821, 9823, 9825, 9827	010-000204
FULL BAY CABINET 1144-FX	1144-F CABINET	1144-FX ADD-ON EXPANDS A 1144-F TO A 1144-G CABINET	010-000204
LOW-BOY CABINET 1148-A	FREE STANDING	USED ON 9820, 9822, 9824, 9826	010-000219
LOW-BOY CABINET/DESK TOP 1148-B	FREE STANDING	OPTION IN PLACE OF 1148-A	010-000219
TABLE-TOP ADD-ON 1249	LOW-BOY CABINET	ADD-ON OPTION TO 1148-A	010-000219
DISPLAY TERMINALS	FREE STANDING	MAXIMUM OF 17 (18 WITH CONCURRENCY) SEE DISPLAY TERMINAL OPTIONS	
PARALLEL INTERFACE PRINTERS	FREE STANDING	SEE PARALLEL PRINTER OPTIONS	
SERIAL INTERFACE PRINTERS	FREE STANDING	MAXIMUM OF 17 (18 WITH CONCURRENCY) SEE SERIAL PRINTER OPTIONS	
DISK/DISKETTE DRIVES	CABINET	UP TO 2 DEVICES (CODES 26, 66) EACH WITH AN ADD-ON DEVICE SEE DISK/DISKETTE/CARTRIDGE TAPE OPTIONS	
DISK/CARTRIDGE TAPE DRIVES	CABINET	CARTRIDGE TAPE DEVICE CODE 22 DISK DEVICE CODE 26, 66	
CARTRIDGE TAPE UNIT 6230	CABINET	6400 BPI DEVICE CODE 22	010-000332
MAGNETIC TAPE UNIT 6123	CABINET	1600 BPI DEVICE CODE 22	010-000269

OPTIONAL COMPONENTS

COMPONENT	MOUNTING LOCATION	NOTES	REFERENCE
ADD-ON MEMORY MODULES	S/20 CHASSIS	8736-K 128 KB 8736-N 256 KB 8736-R 512 KB	010-000297
LINE PRINTER CONTROLLER	S/20 CHASSIS	4221-S - PROGRAMED I/O	010-000227
COMMUNICATIONS SUBSYSTEM	S/20 CHASSIS	4225-S, 4227-S, 4227-P 4226-S, 4223-S, 4226-P	010-000190
SINGLE LINE ASYNC CONTROLLER	S/20 CHASSIS	4207-S - DEVICE CODE 50, 51	010-000225
S/20 BMC	S/20 CHASSIS	8734-A	010-000297

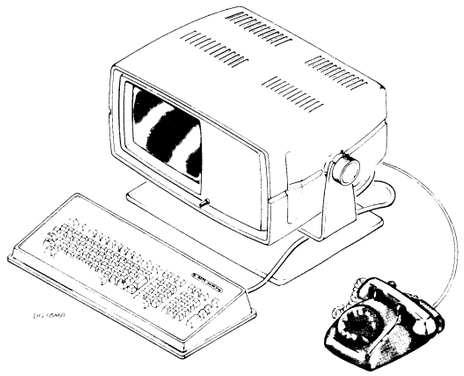
CABLES

CABLE	CONNECTING	MAX LENGTH FT / M	NOTES
005-014690	TERMINAL AND BACKPANEL	20 / 6	EIA FOR D100, D200 D400, D450, G300
005-014691	TERMINAL AND BAKCPANEL	1000 / 305	20ma FOR D100, D200, D400, D450, G300
005-008181	PRINTER AND INTERFACE PCB	25 / 7.6	EIA FOR 6041, 6193
005-015274	PRINTER AND INTERFACE PCB	25 / 7.6	EIA FOR 4320, 4322
005-015266	PRINTER AND INTERFACE PCB	1000 / 305	20ma FOR 4320, 4322
005-014690	PRINTER AND INTERFACE PCB	25 / 7.6	EIA FOR 4354 ALSO 005-012935 ADAPTER
005-014691	PRINTER AND INTERFACE PCB	1000 / 305	20ma FOR 4354 ALSO 005-012935 ADAPTER
005-018318	PRINTER AND INTERFACE PCB	25 / 7.6	EIA FOR 4422
005-009452	PRINTER AND INTERFACE PCB	25 / 7.6	PIO FOR 6190
005-012932	PRINTER AND INTERFACE PCB	25 / 7.6	PIO FOR 4353
005-014579	PRINTER AND INTERFACE PCB	25 / 7.6	PIO FOR 4323, 4324
005-013258	PRINTER AND INTERFACE PCB	25 / 7.6	EIA FOR 4518, 4433 ALSO 005-013270 ADAPTER
005-013260	PRINTER AND INTERFACE PCB	1000 / 305	20ma FOR 4433 ALSO 005-013272 ADAPTER
005-007506	TERMINAL AND BACKPANEL	1.0 / .30	ADAPTER CABLE FOR SYSTEM CONSOLE
005-009564	TERMINAL/PRINTER AND BACKPANEL	1.5 / .46	4 LINE EIA / 20ma ADAPTER CABLE FOR 4227
005-009671	SYNCHRONOUS DEVICE AND BACKPANEL	1.0 / .30	ADAPTER CABLE FOR 4226
005-005269	MODEM AND 4226 ADAPTER	20 / 6.1	1084-G
005-005270	MODEM AND 4226 ADAPTER	20 / 6.1	1085-G
005-014758	CABINET AND AC OUTLET	12 / 3.66	120 VAC ADAPTER CABLE

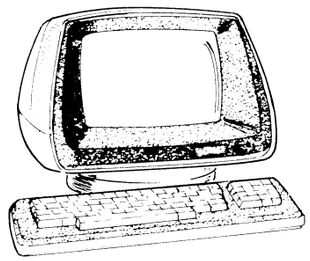
SERIES 100 SUBSYSTEM COMPONENT BREAKDOWN (CONT)

MODELS 9810 THRU 9816, 9820 THRU 9827, 90149 THRU 90153 90170 & 90171

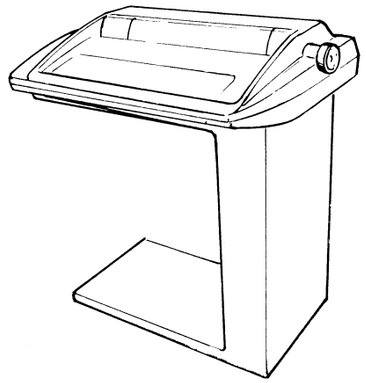
DASHER D4 DIAGNOSTIC TERMINAL



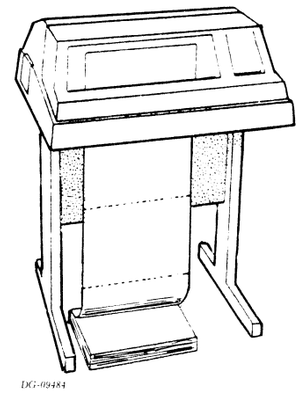
CONFIGURATION FOR OTHER DASHER TERMINALS



SERIAL INTERFACE PRINTER (DOT-MATRIX TYPE)



PARALLEL INTERFACE PRINTER (BAND TYPE)



DG-09484

DISPLAY TERMINAL OPTIONS

DASHER TYPE	MODEL	DESCRIPTION	REFERENCES
D100	6106	STANDARD	010-000241
D100/PRINT OPTION	6107	STANDARD/PRINTER INTERFACE	010-000241
D200	6108	STANCARD	010-000241
D200/PRINT OPTION	6109	STANDARD/PRINTER INTERFACE	010-000241
D400	6130	"SMART" TERMINAL	010-001015
D450	6134	"SMART" TERMINAL/CHARACTER GRAPHICS	010-001015
D400/D450 KEYBOARD	6131	KEYBOARD FOR D400/D450 TERMINALS	010-001015
D4	6120	REMOTE DIAGNOSTIC TERMINAL	010-000235
G300	6150	GRAPHICS DISPLAY TERMINAL	010-001013
G300 KEYBOARD	6151	KEYBOARD FOR G300 TERMINAL	010-001013

SERIAL INTERFACE PRINTER OPTIONS

TYPE	MODEL	COMMENTS	REFERENCE
TP1	6041	REQUIRES 1129 TOF OPTION	010-000094
TP2	6193		010-001016
35 CPS LETTER QUALITY	4510	OPTIONAL 4526, 4523, 4522	010-000655
55 CPS LETTER QUALITY	4220		010-000248
55 CPS LETTER QUALITY/ SHEET FEED	4222		010-000248
150 CPS DOT MATRIX	4422		010-000301
150 CPS DOT MATRIX	4733		010-001005
340 CPS DOT MATRIX	4354		010-001005

DISK/DISKETTE/CARTRIDGE TAPE OPTIONS

STORAGE DEVICE	MODEL	DESCRIPTION	ADD-ON DISKETTE(s)	REFERENCE
SINGLE 1.2 MB	6096-A	DISKETTE DRIVE	6096-C	010-000228
DUAL 1.2 MB	6096-B	DUAL DISKETTE DRIVES	6096-C	010-000228
5 MB	6220	FIXED DISK	6096-EZ	010-000303
5 MB / 1.2 MB	6220-D	FIXED DISK/DISKETTE DRIVE	NONE	010-000303
5 MB / 15 MB	6220-C	FIXED DISK/CARTRIDGE TAPE	NONE	010-000303
15 MB	6222	FIXED DISK	6096-EZ	010-000303
15 MB / 1.2 MB	6222-D	FIXED DISK/DISKETTE DRIVE	NONE	010-000303
15 MB / 15 MB	6222-C	FIXED DISK/CARTRIDGE TAPE	NONE	010-000303
12.5 MB	6102	FIXED DISK	6096-CZ OR 6096-CZ & 6096-C	010-000224
12.5 MB / 1.2 MB	6101	FIXED DISK/DISKETTE DRIVE	6096-CY	010-000223
25 MB	6105	FIXED DISK	6096-CZ OR 6096-CZ & 6096-C	010-000224
25 MB / 1.2 MB	6104	FIXED DISK/DISKETTE DRIVE	6096-CY	010-000223
15 MB*	6224	FIXED DISK	NONE	010-000303
15 MB*	6224-C	FIXED DISK/CART.TAPE	NONE	010-000303
15 MB*	6224-D	FIXED DISK/DISKETTE DRIVE	NONE	010-000303
50 MB*	6280	FIXED DISK	NONE	010-000303

* BMC 8734-A REQUIRED

PARALLEL INTERFACE PRINTER OPTIONS

TYPE	MODEL	COMMENTS	REFERENCE
LP2, 100 CPS	6190	ALL PARALLEL PRINTERS	010-001023
340 CPS DOT MATRIX	4353	REQUIRE THE 4221-S LINE	010-001004
230 LPM BAND	4324	PRINTER CONTROLLER	010-000233
300 LPM BAND	4323		010-000233
GRAPHICS PRINTER	6156	CONNECTS TO G300 TERMINAL	010-001036

SERIES 100

CHASSIS SLOT ASSIGNMENTS

SLOT ASSIGNMENTS
1 - 5 TERMINAL
(NOTE 1.)

	SLOT	NON-CONCURRENT (NOTE 2.)	CONCURRENT (NOTE 3.)
	8	6096/ * 4221-S *	4207-S/ 4221-S/6906 *
	7	4207-S * 4221-S *	4207-S/ 4221-S/4228-S*
	6	4228-S/ * 4207-S *	4226-S
	5	4228-S/ * 4227-S NOTE 4.	4225-S
	4	4226-S/ * 4227-S/ NOTE 5.	4227-S
	3	4225-S	4225-S
	2	128/256 KB MEM	128/256 KB MEM
	1	S/20 CPU	S/20 CPU
EXPANSION CHASSIS	8	OPEN	OPEN
	7	OPEN	4228-S *
	6	4228-S *	4226-S
	5	4228-S * 4227-S NOTE 4.	4225-S
	4	4226-S * 4227-S NOTE 5.	4227-S
	3	4225-S	4225-S
	2	OPEN	OPEN
	1	OPEN	OPEN

*-OPTIONAL
/-OR

1. FOR SINGLE USER SYSTEM, 4225-S/4227-S IS OPTIONAL FOR AUX. RO PRINTERS.
2. EXPANSION CHASSIS REQUIRED FOR COMMUNICATION BOARDS IF MORE THAN FIVE OF THE FOLLOWING OPTIONS ARE IN THE SYSTEM: 4207-S, 4221-S, 4226-S, 4227-S, AND 6096.
3. EXPANSION CHASSIS REQUIRED FOR COMMUNICATION BOARDS IF MORE THAN FIVE OF THE FOLLOWING OPTIONS ARE IN THE SYSTEM: 4207-S,4221-S,4226-S,4228-S AND 6096.
4. LOCATION OF 4227-S IF 4226-S IS IN THE SYSTEM.
5. ALTERNATE LOCATION OF 4227-S IF NO 4226-S IN SYSTEM.

SLOT ASSIGNMENTS
6 - 9 TERMINAL

	SLOT	NON-CONCURRENT (NOTE 1.)	CONCURRENT (NOTE 2.)
	8	4221-S/4207-S/* 6096 *	4207/ 6096 *
	7	4228-S/ * 4221-S *	4226-S/ 4221-S *
	6	4207-S/ 4227-S	4225-S/ 4207-S
	5	4227-S NOTE 3.	4227-S
	4	4227-S/ NOTE 4. 4226-S *	4227-S 4227-S
	3	4225-S	4225-S
	2	512 KB MEM	512 KB MEM
	1	S/20 CPU	S/20 CPU
EXPANSION CHASSIS	8	OPEN	4228-S *
	7	4228-S *	4226-S
	6	4227-S	4227-S
	5	4227-S NOTE 3.	4227-S
	4	4227-S NOTE 4. 4226-S *	4227-S
	3	4225-S	4225-S
	2	OPEN	OPEN
	3	OPEN	OPEN

*-OPTIONAL
/-OR

1. EXPANSION CHASSIS REQUIRED FOR COMMUNICTION BOARDS IF MORE THAN THREE OF THE FOLLOWING OPTIONS ARE IN THE THE SYSTEM: 4226-S, 4228-S, 4207-S, 4221-S & 6096.
2. EXPANSION CHASSIS REQUIRED FOR COMMUNICATION BOARDS IF ANY OF THE FOLLOWING OPTIONS ARE IN THE SYSTEM:4428-S, 4221-S, 6096.
3. LOCATION OF FIRST 4227-S IF 4226-S IS IN SYSTEM.
4. ALTERNATE LOCATION OF FIRST 4227-S IF NO 4226-S IN SYSTEM.

SLOT ASSIGNMENTS
10 - 17 TERMINAL
NOTE 1.

	SLOT	NON-CONCURRENT NOTE 2.	CONCURRENT
	8	6096 *	6096 *
	7	4221-S *	4221-S *
	6	4207-S *	4207-S
	5	512KB MEM	512KB MEM
	4	512KB MEM	512KB MEM
	3	512 KB MEM	512KB MEM
	2	512KB MEM	512KB MEM
	1	S/20 CPU	S/20 CPU
EXPANSION CHASSIS	3	OPEN	4228-S *
	7	OPEN	4226-S
	6	4228-S *	4225-S
	5	4227-S	4227-S *
	4	4227-S	4227-S
	3	4227-S	4227-S
	2	4227-S/ * 4226-S	4227-S
	1	4225-S	4225-S

* - OPTIONAL
/ - OR

1. FOR ALL 10 - 17 TERMINAL SYSTEMS AN EXPANSION CHASSIS IS REQUIRED.
2. IF 4226-S IS REQUIRED, 13 TERMINALS OR THREE 4227-S BOARDS IS THE SYSTEM MAXIMUM.

SLOT ASSIGNMENTS
ONE BMC DISK SYSTEMS
NOTE 1.

	SLOT	NON-CONCURRENT	CONCURRENT	NO SYNC COM
	8	6237 BMC1	6237 BMC1	6237 BMC1
	7	OPEN	OPEN	OPEN
	6	OPEN	OPEN	OPEN
	5	OPEN	OPEN	OPEN
	4	512KB MEM*	512KB MEM*	512KB MEM*
	3	256/512KB MEM	256/512KB MEM	256/512 KB MEM
	2	8734BMC	8734BMC	8734BMC
	1	S/20 CPU	S/20 CPU	S/20 CPU
EXPANSION CHASSIS (4314-S)	8	4221-S*	4221-S*	4221-S*
	7	4207-S*	4207-S	4207-S*
	6	6096/4228-S*	6096/4228-S*	6096*
	5	4226-S	4226-S	4227-S
	4	4227-S	4227-S	4227-S
	3	4227-S	4227-S	4227-S
	2	4227-S	4227-S	4227-S
	1	4225-S	4225-S	4225-S

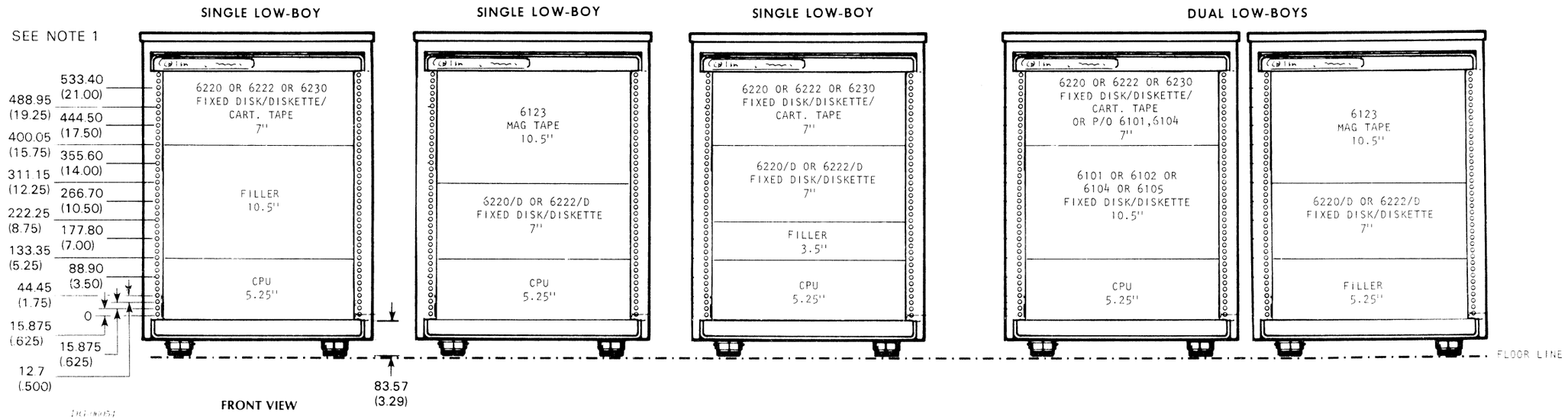
*- OPTIONAL
/- OR

1. EXPANSION CHASSIS REQUIRED FOR ALL BMC SYSTEMS.
2. 4227-P IS A TWO PCB SET. BOARD #1 IS 4227-S: BOARD #2 IS 4225-S.
3. 4226-P IS A TWO PCB SET. BOARD #1A IS 4226-S: BOARD #2A IS 4228-S.

SERIES 100

TYPICAL CABINET CONFIGURATIONS

1148 LOW-BOY CABINETS



NOTES:

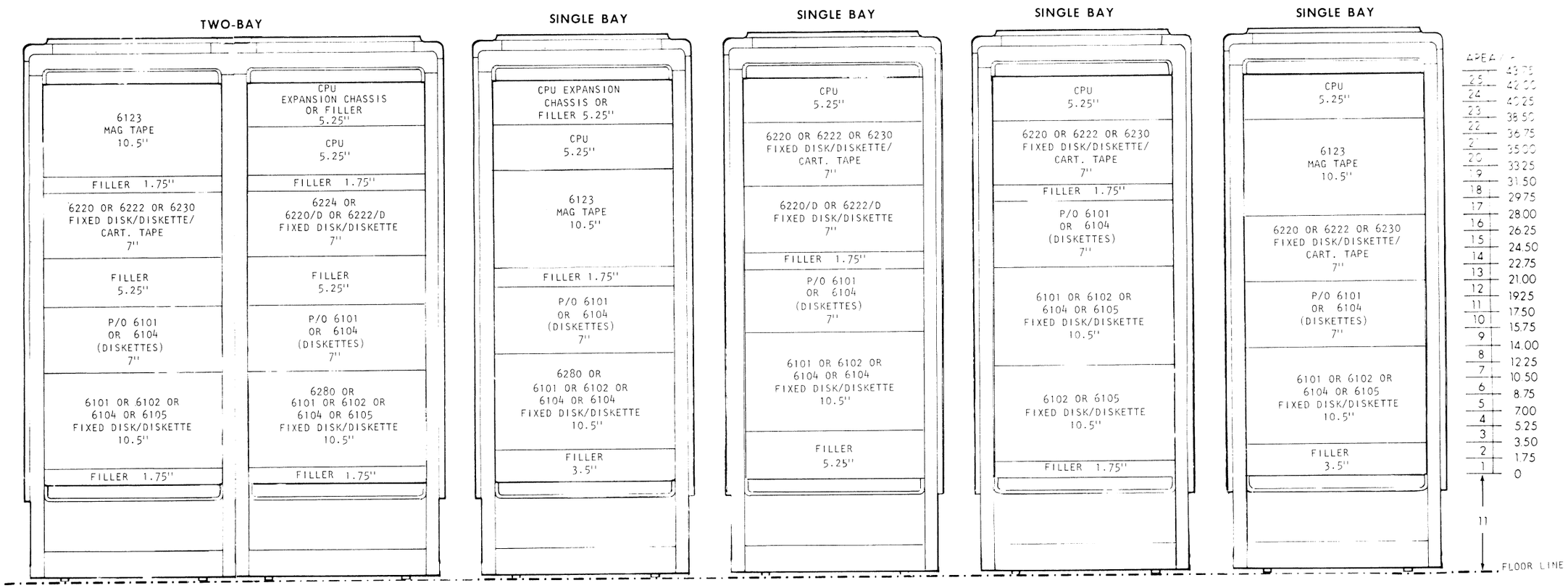
1. DIMENSIONS ARE IN MILLIMETERS, INCHES SHOWN IN PARENTHESES FOR REFERENCE.
2. FIXED DISKS SHOULD NOT BE INSTALLED LOWER THAN 133.35mm (5.25") FROM BOTTOM OF USABLE WORK SPACE.

ALL 1148-A/1148-BS LOWBOY CABINET CONFIGURATIONS REQUIRE ANTI-TIP LEGS.

SERIES 100

TYPICAL CABINET CONFIGURATIONS

1144 FULL BAY CABINETS

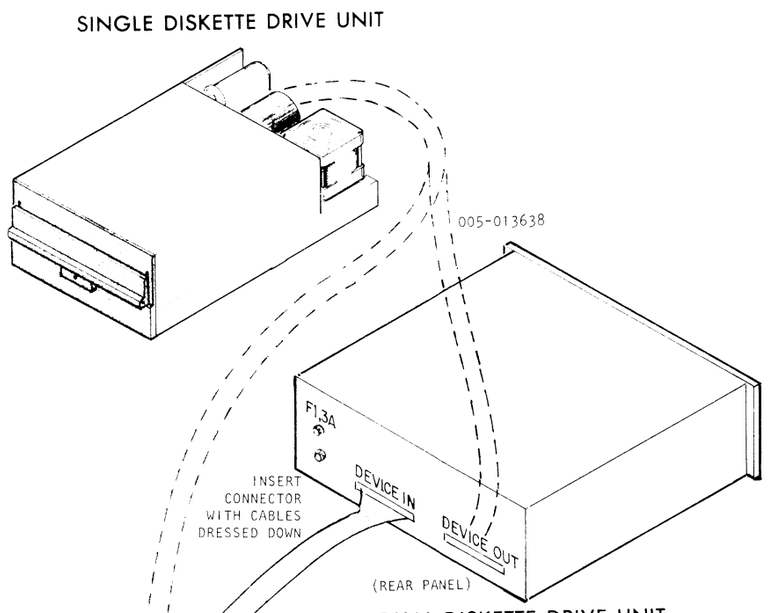


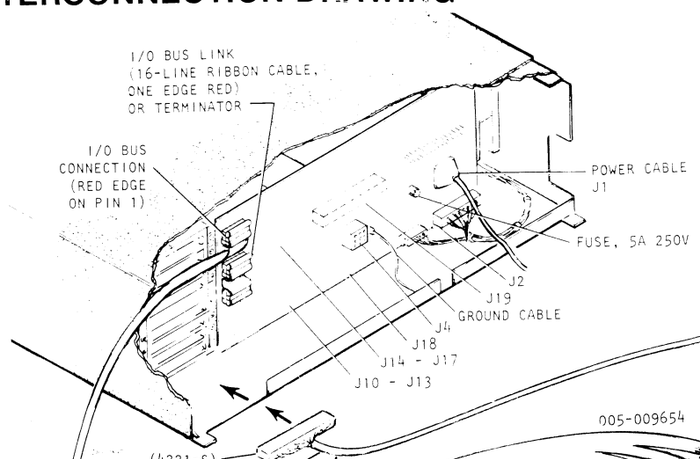
NOTES:

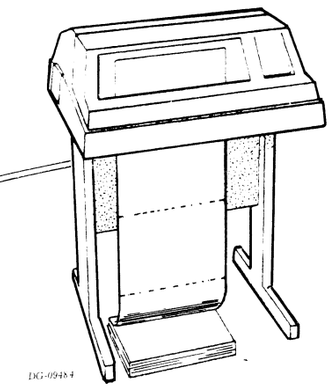
1. ONLY ONE OF THE FOLLOWING OPTIONS CAN BE CONFIGURED PER SYSTEM: 6230, 6220-C, 6222-C, OR 6123.

2. MAXIMUM OF TWO DISK STORAGE DEVICES ALLOWED PER SYSTEM (PLUS ADD-ON DISKETTE). LOCATIONS SHOWN ARE THE PREFERRED POSITIONS DEPENDING ON THE COMBINATION OF STORAGE DEVICES USED.

UNIT INTERCONNECTION DRAWING



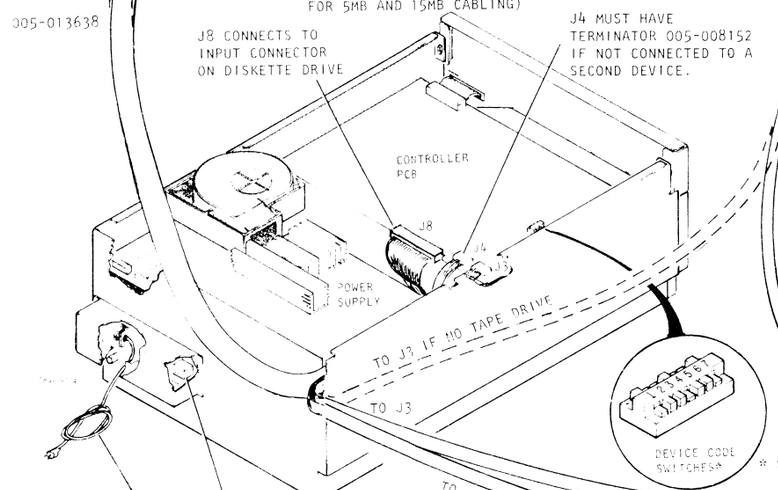




NOTES:

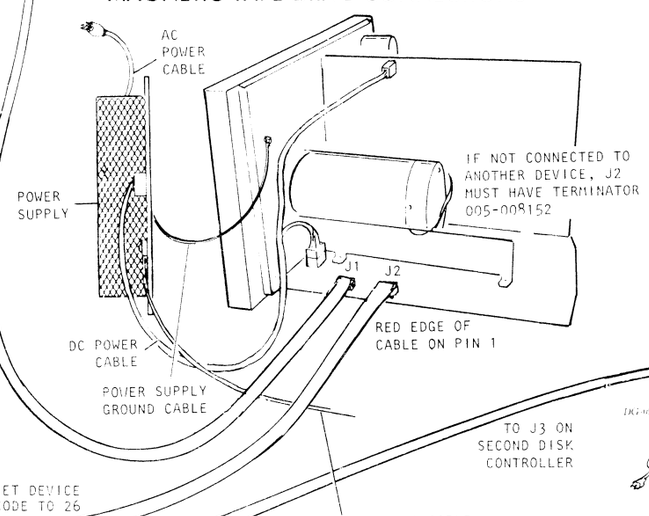
1. IF 4-LINE ASYNC INTERFACE 4227-S IS NOT USED, A SERIAL PRINTER OR A SECOND TERMINAL CAN CONNECT DIRECTLY TO A SINGLE-LINE ASYNC INTERFACE BOARD 4207-S.
2. CABLE 005-007506 IS ALSO USED WITH SINGLE-LINE ASYNC INTERFACE 4207-S

FIRST FIXED-DISK CONNECTIONS
(12.5MB, 25MB)
(SEE SHEET 22 THIS IDS FOR 5MB AND 15MB CABLING)

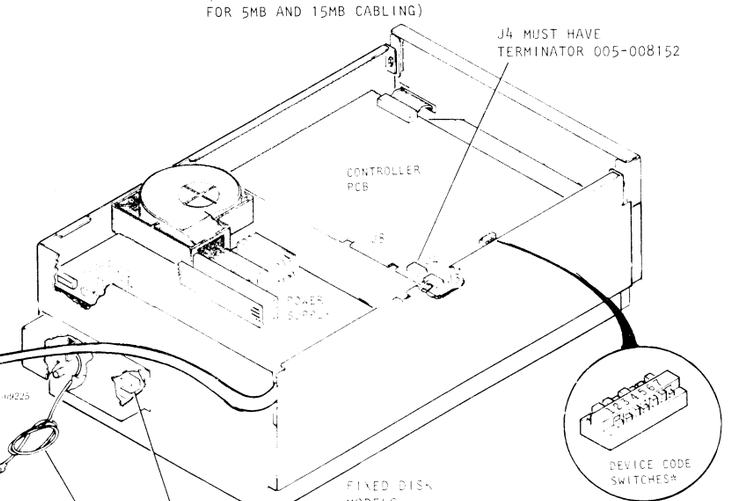


AC POWER	CABLE	ID PLUG	FIXED DISK MODELS
100VAC	005-000935	005-012592	6101
120VAC	005-000935	005-012593	6102
220VAC	005-010642	005-012594	6104
240VAC	005-010642	005-012595	6105

MAGNETIC TAPE DRIVE CONNECTIONS



SECOND FIXED-DISK CONNECTIONS
(12.5MB, 25MB)
(SEE SHEET 22 THIS IDS FOR 5MB AND 15MB CABLING)



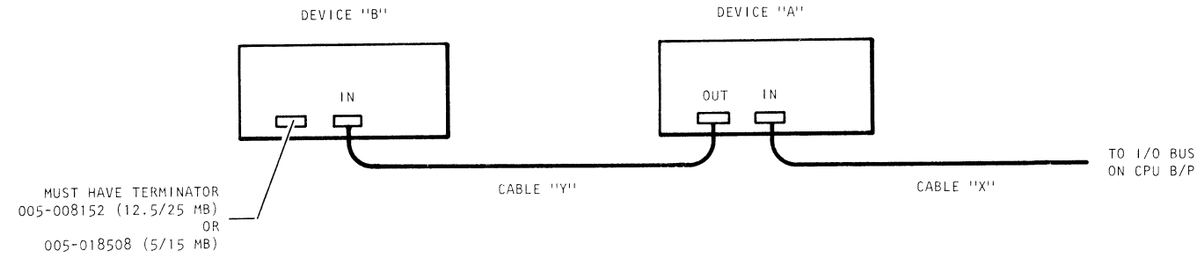
AC POWER	CABLE	ID PLUG	FIXED DISK MODELS
100VAC	005-000935	005-012592	6101
120VAC	005-000935	005-012593	6102
220VAC	005-010642	005-012594	6104
240VAC	005-010642	005-012595	6105

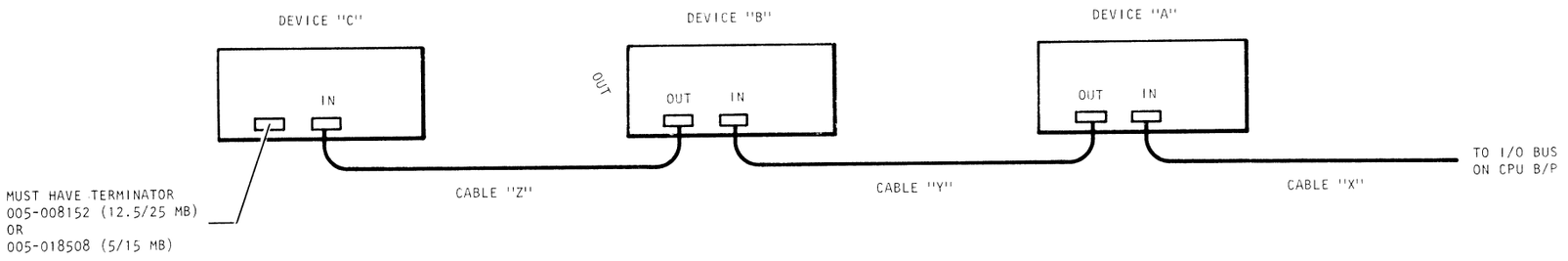
* SET DEVICE CODE TO 66

TYPICAL DISK CONFIGURATIONS

THE DISKETTE DRIVES AND THE MAGNETIC TAPE DRIVE HAVE INHERENT MAXIMUM LATENCIES FOR DATA TRANSFER TO AND FROM THE CPU. FOR THIS REASON, THE DISKETTE DRIVES MUST BE ELECTRICALLY CONNECTED AS THE CLOSEST DEVICE TO THE CPU AND THE MAGNETIC TAPE DRIVE AS THE NEXT CLOSEST DEVICE. WHEN A FIXED DISK HAS AN ASSOCIATED DISKETTE DRIVE(S), IT MUST BE CONNECTED TO ACCOMODATE THE LATENCY OF THE DISKETTE DRIVE(S).

DEVICE "A" - MOST CRITICAL LATENCY REQUIREMENT
DEVICE "B" - INTERMEDIATE LATENCY REQUIREMENT
DEVICE "C" - LEAST CRITICAL LATENCY REQUIREMENT





CABLE "X" FROM I/O BUS ON CPU B/P TO STORAGE DEVICE WITH MOST CRITICAL LATENCY (DEVICE "A")

WHEN DEVICE "A" IS:	CABLE NO.	LENGTH
MAG TAPE 6123	005-007507 005-007753	10 FEET 25 FEET
FIXED DISK 6101/6104 OR 6102/6105	005-007507 005-007753	10 FEET 25 FEET
CART. TAPE 6230 OR FIXED DISK 6220 OR 6222	005-018235 005-019645 005-019644	10 FEET 20 FEET 30 FEET

CABLE "Y" FROM DEVICE "A" TO DEVICE "B"

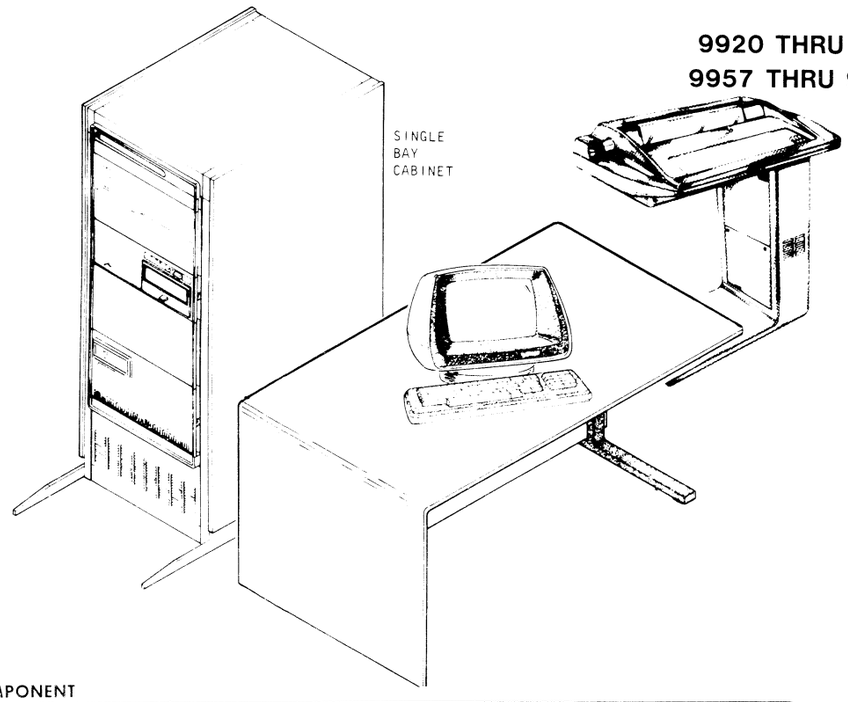
WHEN DEVICE "A" IS:	WHEN DEVICE "B" IS:	CABLE NO.	LENGTH
MAG TAPE 6123	CART. TAPE 6230 OR FIXED DISK 6220 OR 6222	005-018235 005-019645 005-019644	10 FEET 20 FEET 30 FEET
MAG TAPE 6123	FIXED DISK 6101/6104 OR 6102/6105	005-007507 005-007753	10 FEET 25 FEET
CART. TAPE 6230 OR FIXED DISK 6220 OR 6222	CART. TAPE 6230 OR FIXED DISK 6220 OR 6222	005-019678 005-019677 005-019676	10 FEET 20 FEET 30 FEET
CART. TAPE 6230 OR FIXED DISK 6220 OR 6222	FIXED DISK 6101/6104 OR 6102/6105	005-019643 005-019642 005-019641	10 FEET 20 FEET 30 FEET
FIXED DISK 6101/6104	CART. TAPE 6230 OR FIXED DISK 6220 OR 6222	005-018235 005-019645 005-019644	10 FEET 20 FEET 30 FEET
FIXED DISK 6101/6104	FIXED DISK 6101/6104 OR 6102/6105	005-007507 005-007753	10 FEET 25 FEET

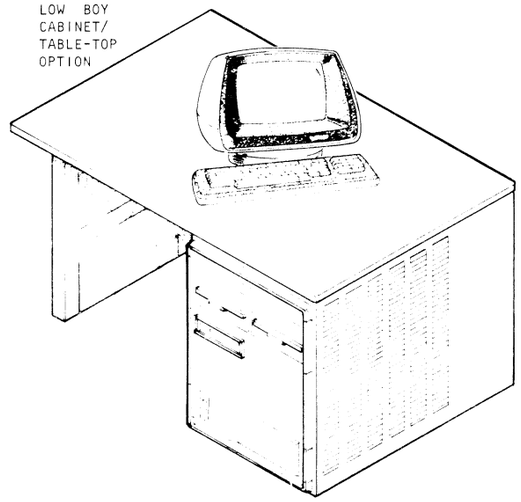
CABLE "Z" FROM DEVICE "B" TO DEVICE "C"

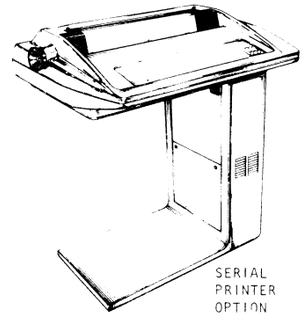
WHEN DEVICE "A" IS:	WHEN DEVICE "B" IS:	CABLE NO.	LENGTH
CART. TAPE 6230 OR FIXED DISK 6220 OR 6222	CART. TAPE 6230 OR FIXED DISK 6220 OR 6222	005-019678 005-019677 005-019676	10 FEET 20 FEET 30 FEET
CART. TAPE 6230 OR FIXED DISK 6220 OR 6222	FIXED DISK 6101/6104 OR 6102/6105	005-019643 005-019642 005-019641	10 FEET 20 FEET 30 FEET
FIXED DISK 6101/6104 OR 6102/6105	CART. TAPE 6230 OR FIXED DISK 6220 OR 6222	005-018235 005-019645 005-019644	10 FEET 20 FEET 30 FEET
FIXED DISK 6101/6104 OR 6102/6105	FIXED DISK 6101/6104 OR 6102/6105	005-007507 005-007753	10 FEET 25 FEET

SERIES 200 SUBSYSTEM COMPONENT BREAKDOWN

MODELS
9920 THRU 9948, 9950 THRU 9954,
9957 THRU 9962, 90154 THRU 90163







MAJOR COMPONENT

COMPONENT	MOUNTING LOCATION	NOTES	REFERENCE
S/120 CPU - 256 KB 8731-N	CABINET	USED ON 9920, 9921	010-000298
S/120 CPU - 512 KB 8731-R	CABINET	USED ON 9922, 9923, 9926	010-000298
S/120 CPU - 256 KB 8732-N	CABINET	USED ON 9924	010-000308
S/120 CPU - 512 KB 8732-R	CABINET	USED ON 9925, 9927	010-000308
S/140 CPU - 256 KB 8678-N	CABINET	USED ON 9940	010-000232
S/140 CPU - 512 KB 8678-R	CABINET	USED ON 9941, 9944	010-000232
S/140 CPU - 512 KB 8678-RA	CABINET	USED ON 90158, 90161	010-000232
S/140 CPU - 768 KB 8678-T	CABINET	USED ON 9942, 9945	010-000232
S/140 CPU - 768 KB 8678-TA	CABINET	USED ON 90159, 90162	010-000232
S/140 CPU - 1024 KB 8678-V	CABINET	USED ON 9943, 9946	010-000232
S/140 CPU - 1024 KB 8678-VA	CABINET	USED ON 90160, 90163	010-000232
S/140 CPU - 1536 KB 8678-XA	CABINET	USED ON 9947	010-000232
S/140 CPU - 2048 KB 8678-ZA	CABINET	USED ON 9948	010-000232
FULL BAY CABINET 1144-F	FREE STANDING	ALL MODELS EXCEPT 9920, 9922	010-000204
FULL BAY CABINET 1144-FX	1144-F CABINET	1144-FX ADD-ON EXPANDS A 1144-F TO A 1144-G CABINET	010-000204
LOW-BOY CABINET 1148-A	FREE STANDING	USED ON 9920, 9922	010-000219
LOW-BOY CABINET/DESK TOP 1148-B	FREE STANDING	OPTION IN PLACE OF 1148-A	010-000219
TABLE-TOP ADD-ON 1249	LOW-BOY CABINET	ADD-ON OPTION TO 1148-A	010-000219
DISPLAY TERMINALS	FREE STANDING	MAXIMUM OF 25, DEPENDING ON OPERATING SYSTEM, CPU, AND MEMORY SEE DISPLAY TERMINAL OPTIONS	
PARALLEL INTERFACE PRINTERS	FREE STANDING	SEE PARALLEL PRINTER OPTIONS	
SERIAL INTERFACE PRINTERS	FREE STANDING	SAME AS TERMINALS SEE SERIAL PRINTER OPTIONS	
DISK/DISKETTE DRIVES	CABINET	UP TO 4 SUBSYSTEMS (CODES 33, 73, 27, 67) EACH WITH ADD-ON DEVICES SEE DISK/DISKETTE/CARTRIDGE TAPE OPTIONS	
DISK/CARTRIDGE TAPE DRIVES	CABINET	CARTRIDGE TAPE DEVICE CODES 22, 62 DISK DEVICE CODE 33, 73 SEE DISK/DISKETTE/CARTRIDGE TAPE OPTIONS	
CARTRIDGE TAPE UNIT 6231	CABINET	6400 BPI STREAMING	010-000332
MAGNETIC TAPE UNIT 6125	CABINET	1600 BPI STREAMING	010-000270
MAGNETIC TAPE UNIT 4026	CABINET	800/1600 BPI VACUUM COLUMN	010-000137

DISK/DISKETTE/CARTRIDGE TAPE OPTIONS

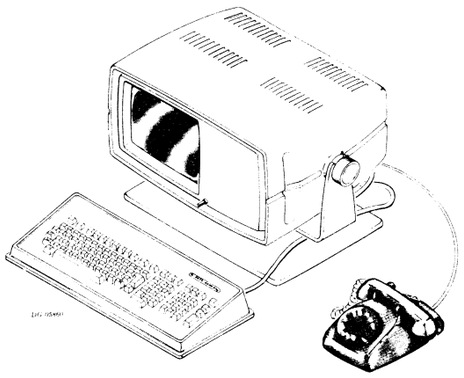
STORAGE DEVICE	MODEL	DESCRIPTION	ADD-ON DEVICE(S)	DEVICE CODES	REFERENCE
SINGLE 1.2 MB	6097-A	DISKETTE DRIVE	6096-C, 6099-A, 6103-A	33/73	010-000255
DUAL 1,2 MB	6097-B	DUAL DISKETTE DRIVES	6096-C, 6099-A, 6103-A	33/73	010-000255
5 MB	6225	FIXED DISK	6096-EX	33/73	010-000303
5 MB / 1.2 MB	6225-D	FIXED DISK/DISKETTE DRIVE	NONE	33/73	010-000303
5 MB / 15 MB	6225-C	FIXED DISK/CARTRIDGE TAPE	NONE	33/73	010-000303
15 MB	6227	FIXED DISK	6096-EX	33/73	010-000303
15 MB / 1.2 MB	6227-D	FIXED DISK/DISKETTE DRIVE	NONE	33/73	010-000303
15 MB / 15 MB	6227-C	FIXED DISK/CARTRIDGE TAPE	NONE	33/73	010-000303
12.5 MB	6099	FIXED DISK	6096-CX OR 6096-CX & 6096-C	33/73	010-000222
12.5 MB / 1.2 MB	6098	FIXED DISK/DISKETTE DRIVE	6096-CW	33/73	010-000221
25 MB	6103	FIXED DISK	6096-CX OR 6096-CX & 6096-C	33/73	010-000222
25 MB / 1.2 MB	6100	FIXED DISK/DISKETTE DRIVE	6096-CW	33/73	010-000221
50 MB	6234	FIXED DISK	6096-CV, 6096-DV	33/73	010-000300
73 MB	6160	FIXED DISK	6160-A, 6161-A	27/67	010-000289
147 MB	6161	FIXED DISK	6160-A, 6161-A	27/67	010-000289
277 MB	6122	DISK PACK (REQUIRES 8699 BMC OPTION)	6122-A, 6067-A 6060-A, 6061-A	27/67	010-000231

OPTIONAL COMPONENTS

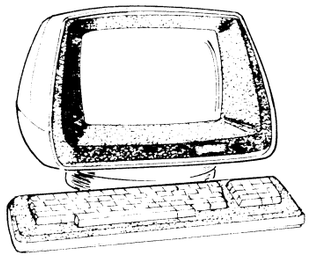
COMPONENT	MOUNTING LOCATION	NOTES	REFERENCE
SINGLE LINE ASYNC CONTROLLER	CPU CHASSIS	4078-P DEVICE CODE 50/51	010-000115
INTEGRATED COMMUNICATIONS MULTIPLEXORS	CPU CHASSIS	4340, 4342, 4344, 4345, 4346, 4261	010-000257
BIT SYNCHRONOUS INTERFACE	CPU CHASSIS	4348	010-000286
UNIVERSAL LINE MULTIPLEXOR	CPU CHASSIS	4241, 4242, 4243	010-000194
DATA CONTROL UNIT (DCU-200)	CPU CHASSIS	4254	010-000209
SYNCHRONOUS LINE MULTIPLEXOR	COMM CHASSIS	4264, 4266	010-000104
BIT LINE MULTIPLEXOR	COMM CHASSIS	4248	010-000285
COMM CHASSIS	CABINET	4251	010-000105
PIO PARALLEL PRINTER CONTROL	CPU CHASSIS	USED WITH 6191, 4325, 4326, 4355	010-000199
DCH PARALLEL PRINTER CONTROL	CPU CHASSIS	USED WITH 6192, 4356, 4327, 4328, 4363, 4364	010-000199
NETWORK BUS SYSTEM	CPU CHASSIS	4460	010-000302
PROGRAMMABLE INTERVAL TIMER	CPU CHASSIS	4065/4068	SHEET 7

SERIES 200 SUBSYSTEM COMPONENT BREAKDOWN (CONT)

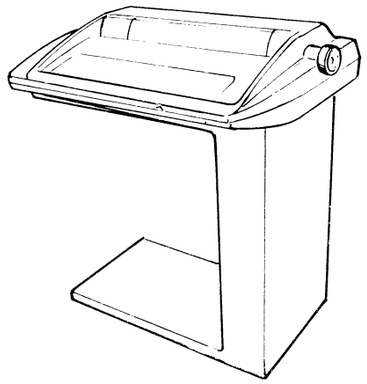
DASHER D4
DIAGNOSTIC TERMINALS



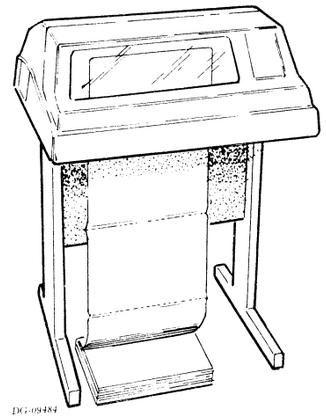
CONFIGURATION FOR
OTHER DASHER TERMINALS



SERIAL
INTERFACE
PRINTER



PARALLEL
INTERFACE
PRINTER



PARALLEL INTERFACE PRINTER OPTIONS

TYPE	MODEL	COMMENTS	REFERENCE
LP2, 180 CPS	6191	PIO	010-001023
LP2, 180 CPS	6192	DCH	010-001023
340 CPS DOT MATRIX	4355	PIO	010-001004
340 CPS DOT MATRIX	4356	DCH	010-001004
230 LPM BAND	4326	PIO	010-000233
230 LPM BAND	4328	DCH	010-000233
300 LPM BAND	4325	PIO	010-000233
300 LPM BAND	4327	DCH	010-000233
436 LPM BAND	4363	DCH	010-001035
600 LPM BAND	4364	DCH	010-001035
GRAPHICS PRINTER	6156	CONNECT TO G300 TERMINAL	010-001036

SERIAL PRINTER OPTIONS

TYPE	MODEL	COMMENTS	REFERENCE
TP1	6041	REQUIRES 1129 TOF OPTION	010-000094
TP2	6193		010-001016
35 CPS LETTER QUALITY	4518	OPTIONAL 4526, 4523, 4522	010-000655
55 CPS LETTER QUALITY	4320		010-000240
55 CPS LETTER QUALITY/ SHEET FEED	4322		010-000248
150 CPS DOT MATRIX	4422		010-000301
150 CPS DOT MATRIX	4433		010-001045
340 CPS DOT MATRIX	4354		010-001005

DISPLAY TERMINAL OPTIONS

DASHER TYPE	MODEL	DESCRIPTION	REFERENCES
D100	6106	STANDARD	010-0241
D100/PRINT OPTION	6107	STANDARD/PRINTER INTERFACE	010-0241
D200	6108	STANDARD	010-0241
D200/PRINT OPTION	6109	STANDARD/PRINTER INTERFACE	010-0241
D400	6130	"SMART" TERMINAL	010-1015
D450	6134	"SMART" TERMINAL/CHARACTER GRAPHICS	010-1015
D400/D450 KEYBOARD	6131	KEYBOARD FOR D400/D450 TERMINALS	
D4	6120	REMOTE DIAGNOSTIC TERMINAL	010-0235
G300	6150	GRAPHICS DISPLAY TERMINAL	010-1013
G300 KYBD.	6151	KEYBOARD FOR G300 TERMINAL	010-1013

CABLES

CABLE	CONNECTING	MAX LENGTH FT / M	NOTES
005-018249	TERMINAL AND EIA PANEL	20 / 6	EIA FOR D100, D200, D400, D450, G300
005-014689	TERMINAL AND EIA PANEL	1000 / 305	20ma FOR D100, D200, D400, D450, G300
005-010707	PRINTER AND INTERFACE PCB	25 / 7.6	EIA FOR 6041
005-018250	PRINTER AND INTERFACE PCB	25 / 7.6	EIA FOR 6193
005-015275	PRINTER AND INTERFACE PCB	25 / 7.6	EIA FOR 4320, 4322
005-015268	PRINTER AND INTERFACE PCB	1000 / 305	20ma FOR 4320, 4322
005-018249	PRINTER AND EIA PANEL	20 / 6.0	EIA FOR 4354 ALSO 005-012934 ADAPTER
005-014689	PRINTER AND EIA PANEL	1000 / 305	20ma FOR 4354 ALSO 005-012935 ADAPTER
005-018249	PRINTER & EIA PANEL	20 / 6.0	EIA FOR 4422 ALSO 005-013249 ADAPTER
005-012928	PRINTER & INTERFACE PCB	25 / 7.6	DCH FOR 4356
005-012099	PRINTER & INTERFACE PCB	30 / 9.1	DCH FOR 6192
005-007874	PRINTER & INTERFACE PCB	30 / 9.1	DCH FOR 4327, 4328, 4363, 4364
005-001356	PRINTER & INTERFACE PCB	25 / 7.6	PIO FOR 6191
005-012929	PRINTER & INTERFACE PCB	25 / 7.6	PIO FOR 4355
005-000900	PRINTER & INTERFACE PCB	25 / 7.6	PIO FOR 4325, 4326
005-013258	PRINTER & EIA PANEL	25 / 7.6	EIA FOR 4510, 4433
005-013260	PRINTER & EIA PANEL	1000 / 305	20ma FOR 4433
005-007428	DASHER D4 & INTERFACE PCB	25 / 7.6	FOR 6120 MASTER CONSOLE
005-015136	INTERFACE PCB & EIA PANEL	4 / 1.22	MASTER CONSOLE 200A
005-016638	INTERFACE PCB & EIA PANEL	4 / 1.22	FOR 4078-P EIA ONLY
005-014115	INTERFACE PCB & EIA PANEL	4 / 1.22	FOR 4340
005-014111	INTERFACE PCB & EIA PANEL	4 / 1.22	FOR 4342
005-014105	INTERFACE PCB & EIA PANEL	4 / 1.22	FOR 4345, 4346
005-016638	INTERFACE PCB & EIA PANEL	4 / 1.22	FOR 4348
005-013524	INTERFACE PCB & EIA PANEL	4 / 1.22	FOR 4241
005-013702	INTERFACE PCB & EIA PANEL	4 / 1.22	FOR 4242
005-013529	INTERFACE PCB & EIA PANEL	4 / 1.22	FOR 4243
005-010711	MODEM & EIA PANEL	20 / 6.1	1084-M
005-014999	MODEM & EIA PANEL	20 / 6.1	1085-M
005-014748	WALL BOX & INTERFACE PCB	25 / 7.6	FOR 4460 ALSO 005-018797 INT CABLE

CHASSIS SLOT ASSIGNMENTS
SERIES 200 A/B

5 SLOT SERIES 200A

I/O ONLY

SLOT	DESCRIPTION	+5V CURRENT DRAW
5	DCH/PIO PRINTER	3.0
4	DISK (PRI)	6.0 (6160, 6161)
3	OPTION - PRI (NOTE 1)	3.4 (ATI 16)
2	OPTION (NOTE 2)	7.0 (MAG TAPE)
1	S/120 SPU	8.0 ESTIMATE
		27.4A

MAX +5V AVAILABLE = 35A

NOTE 1
4340	AMI-8
4342	ATI-16
4342-PCA	ATI-16
4078	ALC-1

NOTE 2 DISK (SEC) (EXCEPT 6160, 6161)
6125	STREAMING TAPE CONTROLLER CONTROLLER
6026	DUAL MODE TAPE CONTROLLER CONTROLLER
4241	ULM-5 (ALM)
4242	ULM-5 (SLM)
4243	ULM-5 (SLM/ALM)

NOTE 3
4340	AMI-8
4241	ULM-5 (ALM)
4342	ATI-16
4342-PCA	ATI-16
4078-P	ALC-1
4243	ULM-5 (SLM/ALM)
4345	CSI-2
4346	CSI-1
4348	BSI-1
6099	DISK
6103	DISK

NOTE 4
4345	CSI-2
4346	CSI-1
4348	BSI-1
6103	DISK
6160	DISK
6161	DISK
6099	DISK
6225	DISK
6227	DISK
4078-P	ALC-1
6234	DISK

NOTE 5
6097	DISKETTE
6098	DISK/DISKETTE
6100	DISK/DISKETTE
6225-D	DISK/DISKETTE
6227-D	DISK/DISKETTE
6225-C	CARTRIDGE TAPE CONTROLLER
6227-C	CARTRIDGE TAPE CONTROLLER
6231	CARTRIDGE TAPE CONTROLLER

NOTE 6
6097	DISKETTE
6098	DISK/DISKETTE
6100	DISK/DISKETTE
6225-D	DISK/DISKETTE
6227-D	DISK/DISKETTE
6225-C	DISK CONTROLLER
6227-C	DISK CONTROLLER

16 SLOT SERIES 200A

I/O ONLY SLOTS

SLOT	DESCRIPTION	+5V CURRENT DRAW
16	DCH/PIO PRINTER (PRI)	3.0
15	DCH/PIO PRINTER (SEC) (NOTE 3)	3.4/4.0
14	NOTE 3 (PRI)	3.4/4.0
13	NOTE 4 (SEC)	6.0/4.0
12	NOTE 4 (PRI)	6.0/4.0
11	4242 ULM-5 (SLM)/4254 DCU-200 4460	5.2/8.0
10	6026, 6125 MAG TAPE	7.0
9	NOTE 5 (SEC)	4.0/4.5
8	NOTE 6 (PRI)	4.0/4.5
7	OPEN	1.0
6	OPEN	4.0
5	OPEN	
4	OPEN	
3	OPEN	
2	N/A (BUS TERMINATOR)	
1	S/120 SPU	8.0
		55.0

MAX +5 AVAILABLE = 100A

PRIMARY AND SECONDARY DISKS COULD BE 6097, 6089/99, 6100/03, 6225/27, 6234.

OPEN SLOTS COULD BE USED FOR ANY OPTIONS EXCEPT 6160/6161, 4078-P 4340/42/45/46/48 WHICH REQUIRE I/O ONLY SLOTS.

LOCATION OF PRIMARY AND SECONDARY DISK CONTROLLERS DEPENDS ON SYSTEM CONFIGURATION AND WORST CASE DATA CHANNEL LATENCY. SEE 010-256 FOR PRIORITY CONFIGURATION RULES.

16 SLOT SERIES 200B

I/O ONLY SLOTS

SLOT	DESCRIPTION	+5V CURRENT DRAW
16	DCH/PIO PRINTER (PRI)	3.0
15	DCH/PIO PRINTER (SEC)/4065 PIT (NOTE 3)	3.4/4.0
14	NOTE 3 (PRI)	3.4/4.0
13	NOTE 4 (SEC)	6.0/4.0
12	NOTE 4 (PRI)	6.0/4.0
11	4242 ULM-5 (SLM)/4254 DCU-200 4460	5.2/8.0
10	6026, 6125 MAG TAPE	7.0
9	NOTE 5 (SEC)/6122 DISK (SEC)	4.0(4.5)
8	NOTE 6 (PRI)/6122 DISK (PRI)	4.0/5.3
7	4065 PIT	1.0
6	MEMORY 8687 8754	4.4
5	MEMORY 8687 8754	4.4
4	MEMORY 8687 8754 8755	4.4
3	MEMORY 8687 8754 8755	4.4
* 2	ERCC/BMC-8699	2.7(10.0)
1	S/140 CPU	18.0
		94.4

PRIMARY AND SECONDARY DISKS COULD BE 6097, 6098/99, 6100/03, 6225/27, 6234.

LOCATION OF PRIMARY AND SECONDARY DISK CONTROLLERS DEPENDS ON SYSTEM CONFIGURATION AND WORST CASE DATA CHANNEL LATENCY. SEE 010-256.

* MODEL 8699 (ERCC PLUS BMC) MUST BE ORDERED IF 6122 DISK IS USED, OPTIONAL FOR 6160/6161 DISK.

S/140 ADD-ON MEMORY:

8687 256KB ERCC MEMORY
8754 512KB ERCC MEMORY
8755 1024KB ERCC MEMORY

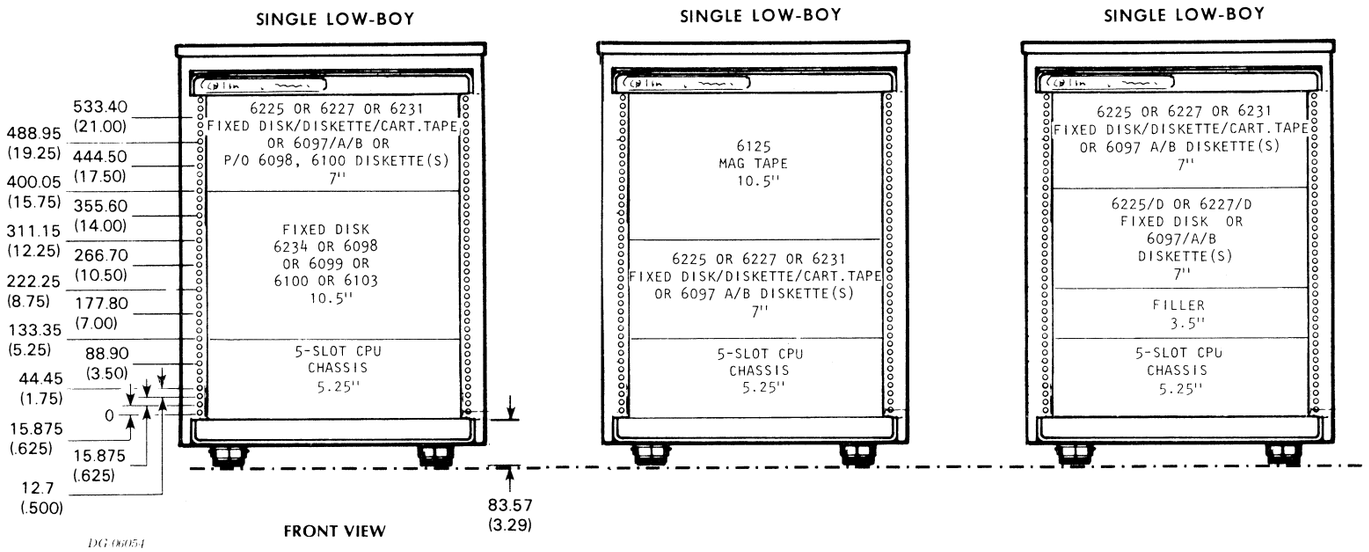
S/140 CPU OPTIONS:

8662 FLOATING POINT INSTRUCTION SET

8664 CHARACTER INSTRUCTION SET

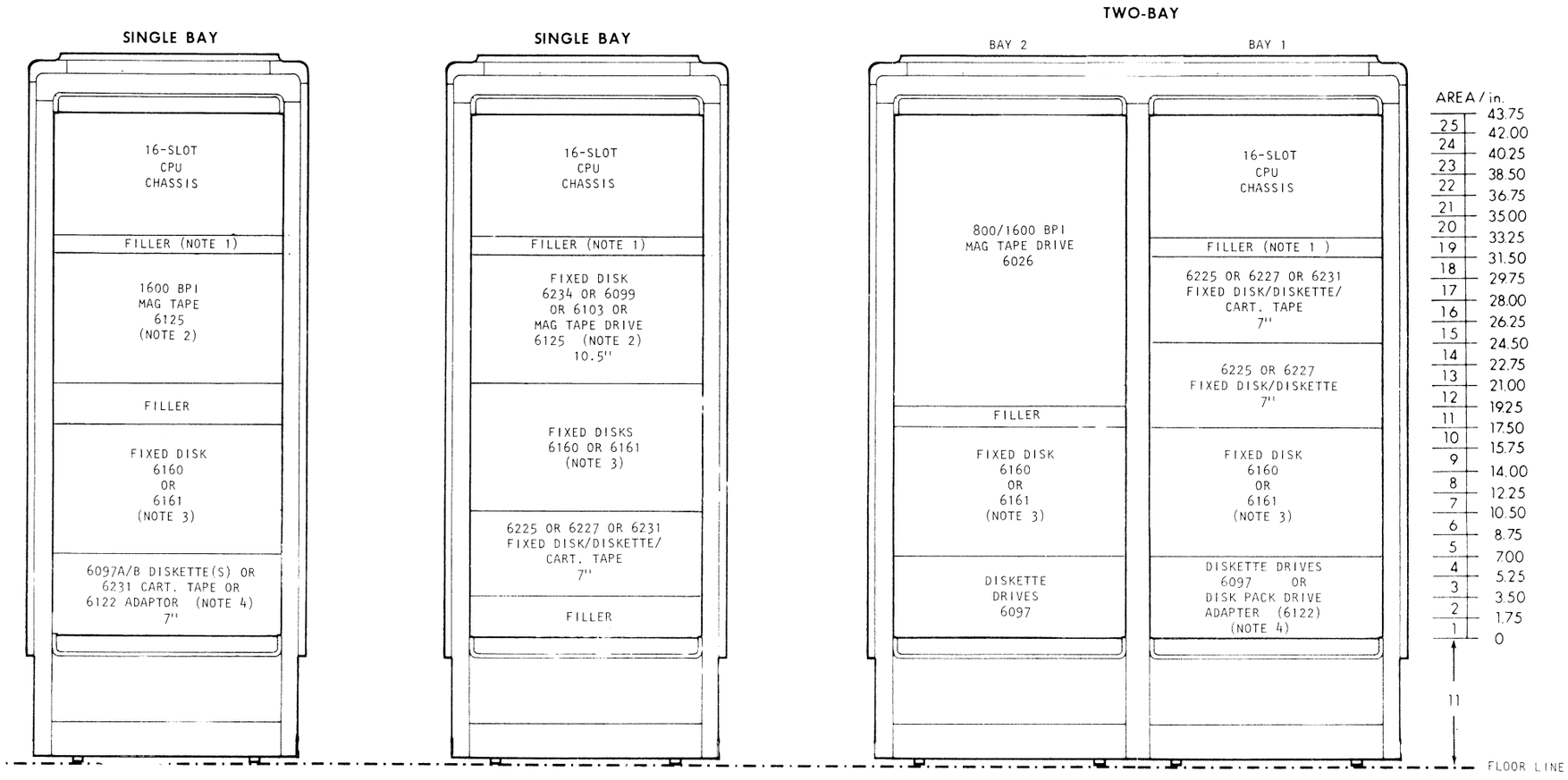
TYPICAL CABINET CONFIGURATIONS

MODEL 1148



TYPICAL CABINET CONFIGURATIONS (CONT)

MODEL 1144



1. FILLER SPACE REQUIRED FOR PROPER COOLING OF LOGIC CHASSIS. (ALSO SEE NOTE 2.)

2. MAG TAPE DRIVE 6125 REQUIRES AT LEAST A 1" CLEARANCE AT THE TOP OF THE DRIVE FOR INSTALLATION AND REMOVAL.

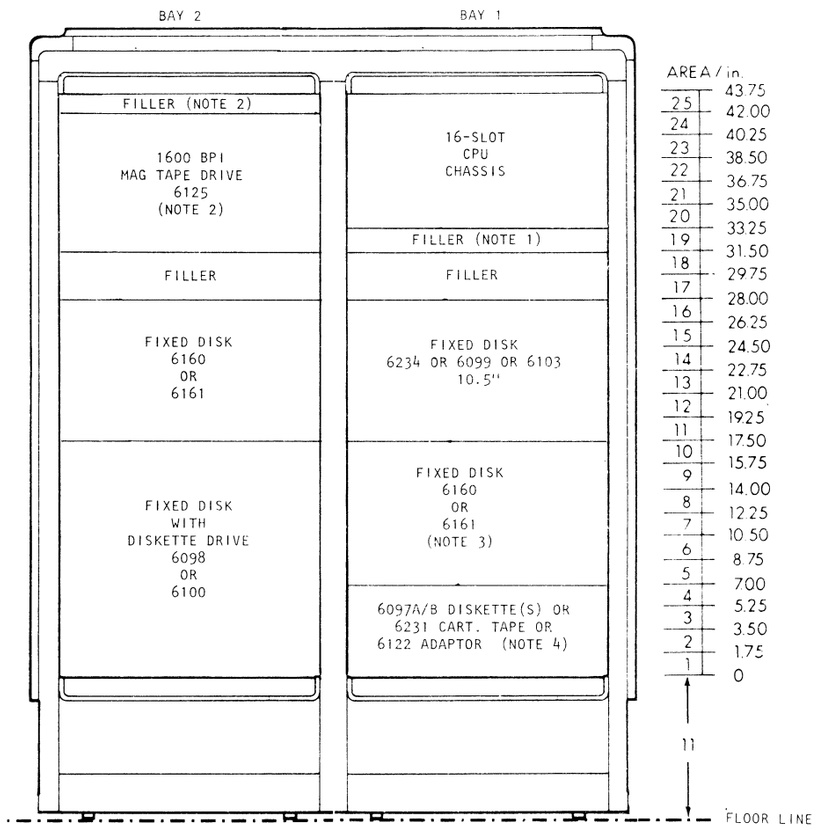
3. CABINET COOLING REQUIREMENTS LIMIT THE NUMBER OF DRIVES THAT CAN BE MOUNTED PER CABINET BAY. ONLY ONE 6160 OR 6161 CAN BE CONFIGURED IN THE SAME BAY WITH AN S/140 CPU. TWO DRIVES ARE ALLOWED IN BAYS WITHOUT ANY CPU CHASSIS OR WITH AN S/120 CPU.

4. THE ADAPTER ASSEMBLY FOR THE 6122 DISK PACK DRIVE MUST BE MOUNTED AT THE LOWEST LOCATION IN THE CABINET.

TYPICAL CABINET CONFIGURATIONS (CONT)

MODEL 1144

TWO-BAY



1. FILLER SPACE REQUIRED FOR PROPER COOLING OF LOGIC CHASSIS. (ALSO SEE NOTE 2.)

2. MAG TAPE DRIVE 6125 REQUIRES AT LEAST A 1" CLEARANCE AT THE TOP OF THE DRIVE FOR INSTALLATION AND REMOVAL.

3. CABINET COOLING REQUIREMENTS LIMIT THE NUMBER OF DRIVES THAT CAN BE MOUNTED PER CABINET BAY. ONLY ONE 6160 OR 6161 CAN BE CONFIGURED IN THE SAME BAY WITH AN S/140 CPU. TWO DRIVES ARE ALLOWED IN BAYS WITHOUT ANY CPU CHASSIS OR AN S/120 CPU.

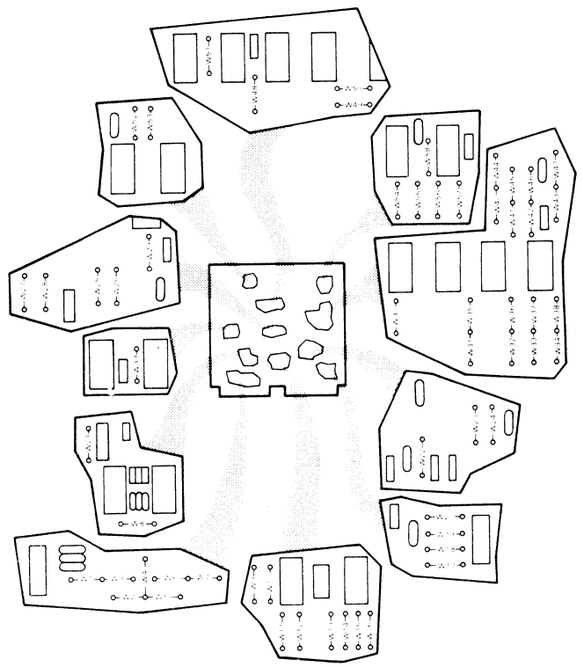
4. THE ADAPTER ASSEMBLY FOR THE 6122 DISK PACK DRIVE MUST BE MOUNTED AT THE LOWEST LOCATION IN THE CABINET.

PROGRAMMABLE INTERVAL TIMER

DIGITAL I/O 4065 WITH

PROGRAMMABLE INTERVAL TIMER (PIT) 4068

4065 JUMPER LOCATIONS



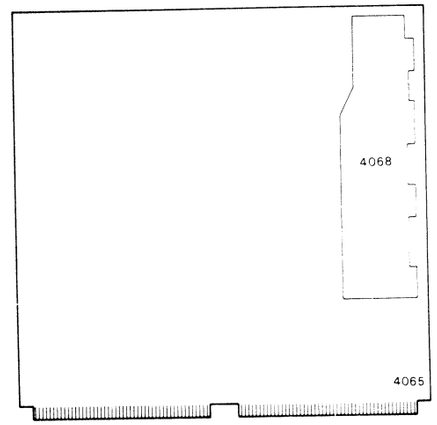
FS-01343

4065 DIGITAL I/O JUMPERS

JUMPER	FUNCTION
W16	DS0 IN=0, OUT=1
W12	DS1 IN=0, OUT=1
W11	DS2 IN=0, OU
W10	DS3 IN=0, OUT=1
W9	DS4 IN=0, OUT=1
W14	DIO INTERRUPT TRANSITION SELECT IN=NEGATIVE, OUT=POSITIVE
W15	OUT (NOT USED)
W23	OUT (NOT USED)
W24	IN FOR 4068 OPTIO, OTHERWISE OUT
W20	DIO INTRPT INPUT PULL-UP VOLTAGE IN=+5V, OUT=NO CONNECTION
W19	DIO INPUT PULL-UP VOLTAGE IN=EXT VOLTAGE VT, OUT=NO CONNECTION
W18	X10 INPUT PULL-UP VOLTAGE IN=+5V, OUT=NO CONNECTION
W17	X10 INPUT PULL-UP VOLTAGE IN=EXT VOLTAGE VT, OUT=NO CONNECTION
W37	DIO INTRPT MASK BIT IN DATA 2, OUT=NO CONNECTION
W31	DIO INTRPT MASK BIT IN=DATA 1, OUT=NO CONNECTION
W36	DIO INTRPT MASK BIT IN=DATA 2, OUT=NO CONNECTION
W35	DIO INTRPT MASK BIT IN=DATA 3, OUT=NO CONNECTION
W34	DIO INTRPT MASK BIT IN=DATA 4, OUT=NO CONNECTION
W32	DIO INTRPT MASK BIT IN=DATA 5, OUT=NO CONNECTION
W38	DIO INTRPT MASK BIT IN=DATA 6, OUT=NO CONNECTION
W33	DIO INTRPT MASK BIT IN=DATA 7, OUT=NO CONNECTION
W42	4067, 4068 INTRPT MASK BIT IN DATA 0, OUT=NO CONNECTION
W44	4067, 4068 INTRPT MASK BIT IN=DATA 1, OUT=NO CONNECTION
W41	4067, 4068 INTRPT MASK BIT IN=DATA 2, OUT=NO CONNECTION
W40	4067, 4068 INTRPT MASK BIT IN=DATA 3, OUT=NO CONNECTION
W47	4067, 4068 INTRPT MASK BIT IN=DATA 4, OUT=NO CONNECTION
W45	4067, 4068 INTRPT MASK BIT IN=DATA 5, OUT=NO CONNECTION

JUMPER	FUNCTION
W43	4067, 4068 INTRPT MASK BIT IN=DATA 6, OUT=NO CONNECTION
W46	4067, 4068 INTRPT MASK BIT IN=DATA 7, OUT=NO CONNECTION
W51	I6 OUTPUT POLARITY IN=0=LOW, OUT=0=HIGH
W52	CLEAR OUTPUTS 8-16 IN
W53	OUT (NOT USED)
W2	IN FOR OUTPUT PULL UP TO +5V
W4	IN FOR OUTPUT PULL UP TIED TO VI
W5	IN FOR OUTPUT PULL UP TIED TO PIN A47
W27	DATA OUT STROBE IN=START
W28	DATA OUT STROBE IN=START
W8	DATA OUT STROBE IN=START DELAY
W21	DATA OUT STROBE IN=START DELAY
W26	DATA OUT STROBE IN=BUSY (1)
W25	DATA OUT STROBE IN=BUSY (0)
W22	CLR OR OUT=CLR OUTPUT REG, END OF STRT DELAY
W39	16 INPUT POLARITY IN=0=HIGH
W50	LOAD INPUT REG STROBE SELECT IN=DIA
W49	LOAD INPUT REG STROBE SELECT IN=DOA DONE STROBE
W1	Vth SELECT IN=+5V
W3	Vth SELECT IN=-5V
W6	Vth SELECT IN=+5V, OUT=NO CONNECTION
W7	SELECT Vth IN=PIN A49 EXT VOLTAGE OUT=NO CONNECTION
W30	X10-3 INTRPT TRANSITION SELECT IN=NEGATIVE, OUT=POSITIVE
W29	X14-7 INTRPT TRANSITION SELECT IN=NEGATIVE, OUT=POSITIVE
W54	4068 IN=SELECT EXTERNAL CLOCK
W55	4068 IN SELECT 160kHz
W58	4068 IN=SELECT 80kHz
W56	4068 IN=SELECT 40kHz
W57	4068 IN=SELECT 10 kHz (STANDARD)
W13	4068 EXT CLK PHASE SELECT IN=NEGATIVE, OUT=POSITIVE (TRANSITION)

LOCATION OF 4068 PIT ON 4065 BOARD



FS-01342

CS/10 SYSTEM UPGRADES TO CS SERIES 100

IMPORTANT

PRIOR TO ORDER PLACEMENT, IT IS RECOMMENDED THAT A SITE SURVEY BE PERFORMED BY DATA GENERAL SERVICE PERSONNEL. THIS SURVEY IS TO DETERMINE WHAT CABLES AND OTHER COMPONENTS SHOULD BE ORDERED IN ADDITION TO THE BASIC UPGRADE KIT. FOR INSTALLATIONS WHERE REMOTE DEVICES ON THE SYSTEM HAVE THEIR CABLING ENCLOSED WITHIN THE CONSTRUCTION (E.G. CONDUIT OR OTHER RELATIVELY INACCESSIBLE ROUTING), CONSIDERATION SHOULD BE GIVEN FOR MODIFICATION OF THE CABLE INTERFACE, EITHER BY CHANGING THE CABLE CONNECTOR OR BY ADDITION OF AN ADAPTER CABLE.

UPGRADE COMPONENTS

C1 DISKETTE SYSTEM (KIT MODEL 9791-Y)*

COMPONENT	MODEL/PART #	NOTES
S/20 CPU/CHASSIS	8733-K	INCLUDES 128 KB MEMORY
IPM-1 4 KB PCB	005-015693	
DISKETTE DRIVE CABLE	005-012705	REPLACES 005-015746
6629 TERMINAL CABLE	005-014752	
I/O BUS ADAPTER, INTERNAL	005-019434	REPLACES 005-015746
I/O BUS CABLE, EXTERNAL	005-019437	
EIA INTERFACE CABLE	005-013258	TO MODEL 6629 TERMINAL
CPU TO TERM. ADAPTER CA	005-021269	
MODEL LABEL	002-008327	APPLY TO 6629 TERMINAL
CABINET LABEL	002-021791	"DATA GENERAL CS SERIES 100"
PROCESSOR PANEL LABEL	002-012261	"DATA GENERAL"
DOCUMENTATION PACKAGE	005-019429	FOR SERIES 100 SYSTEMS
LICENSE TO USE RDOS	3818-10N	

C1 DISK SYSTEM (KIT MODEL 9792-Y)*

COMPONENT	MODEL/PART #	NOTES
S/20 CPU/CHASSIS	8733-K	INCLUDES 128 KB MEMORY
IPM/1 4 KB PCB	005-015693	
I/O BUS CABLE (DISK)	005-007507	REPLACES 005-015745
I/O BUS CABLE (DISK)	005-019643	REPLACES 005-015745
EIA INTERFACE CABLE	005-013258	TO MODEL 6629 TERMINAL
CPU TO TERM. ADAPTER CA	005-021269	
MODEL LABEL	002-008327	APPLY TO 6629 TERMINAL
6629 TERMINAL CABLE	005-014752	
CABINET LABEL	002-021791	"DATA GENERAL CS SERIES 100"
PROCESSOR PANEL LABEL	002-012261	"DATA GENERAL"
DOCUMENTATION PACKAGE	005-019429	FOR SERIES 100 SYSTEMS
LICENSE TO USE RDOS	3818-10N	

C3 DISK SYSTEM(KIT MODEL 90164-Y)*

COMPONENT	MODEL/PART #	NOTES
S/20 CPU/CHASSIS	8733-NA	INCLUDES 256 KB MEMORY
I/O BUS CABLE (DISK)	005-007507	REPLACES 005-015745
I/O BUS CABLE (DISK	005-019643	REPLACES 005-015745
EIA INTERFACE CABLE	005-013258	TO MODEL 6629 TERMINAL
CPU TO TERM. ADAPTER CA	005-021269	
MODEL LABEL	002-008327	APPLY TO 6629 TERMINAL
6629 TERMINAL CABLE	005-014752	
CABINET LABEL	002-021791	"DATA GENERAL CS SERIES 100"
PROCESSOR PANEL LABEL	002-012261	"DATA GENERAL"
DOCUMENTATION PACKAGE	005-019429	FOR SERIES 100 SYSTEMS
LICENSE TO USE RDOS	3818-10N	

SEPARATELY ORDERED COMPONENTS

COMPONENT	MODEL/PART #	NOTES
DISK DRIVE UNIT (5 MB OR LARGER)	CUSTOMER SELECTED	REQUIRED, IF NOT ALREADY PRESENT IN CS/10 SYSTEM.
4-LINE ASYNC MUX PCB	4227-P (INCLUDES 4225-S, 4227-S)	REQUIRED FOR MULTIPLE TERMINAL/SERIAL PRINTER.
SINGLE LINE ASYNC PCB	4207-S	OPTION - FOR TERMINAL OR SERIAL PRINTER.
LINE PRINTER CONTROLLER	4221-S	OPTION - FOR PIO PRINTER.

* **SYSTEM POWER SUFFIXES (Y)**

Y =	DESCRIPTION
BLANK	120 VAC
2	220 VAC
4	240 VAC

CABLE CHANGES FOR UPGRADE WITH FCC NON-COMPLIANT CPU - CPU DESIGNATOR 40-41

SERIAL PRINTERS	DELETE OLD CABLE	ADD NEW CABLE
6041/6193	005-014757	005-008181
4320/4322	005-014756	005-015274
4422	005-018271	005-018318
4354	005-016839	005-015117 (EIA)
4354	005-014689	005-014691 (20mA)
PIO PRINTERS		
9610/9611	005-014770	005-008452
9260/9261	005-014769	005-014579
9293/9198	005-012932	005-017313
DISPLAY TERMINALS		
6053/6093	005-007637	005-007428 (EIA)
6053/6093	005-013250	005-007428 (20mA)
6103	005-014694	005-014690 (EIA)
6108	005-014689	005-014691 (20mA)

CABLE CHANGES FOR UPGRADE WITH FCC COMPLIANT CPU — CPU DESIGNATOR 50-69

SERIAL PRINTERS	DELETE OLD CABLE	ADD NEW CABLE
6041/6193	005-014757	005-013258 & 005-013280
4320/4322	005-014756	005-015275 (EIA)
4422	005-018271	005-013253 & 005-013259
4354	005-016839	005-013258 & 005-013264 (EIA)
4354	005-014689	005-013260 & 005-013263 (mA)
PIO PRINTERS		
9610/9611	005-014770	005-013265 & 005-013281
9260/9261	005-014769	005-013265 & 005-013267
9293/9198	005-012932	005-013265
DISPLAY TERMINALS		
6053/6093	005-007637	005-013258 & 005-013280 (EIA)
6053/6093	005-013250	005-013260 & 005-013280 (20 mA)
6103	005-014694	005-013258 (EIA)
6108	005-014689	005-013260 (20mA)

THE SERIES 100 SYSTEM DOES NOT SUPPORT USE OF THE RD-1 REMOTE DIAGNOSTIC MODEM.

THE CS SERIES 100 SYSTEM DOES NOT SUPPORT USE OF THE 20mA BUSY SIGNAL. THEREFORE, THE REMOTE 20mA TP1 AND TP2 PRINTERS ARE LIMITED TO A MAXIMUM BAUD RATE OF 300 AND 1200 RESPECTIVELY.

IF THE MODEL 6629 TERMINAL IS CONNECTED TO EITHER THE MODEL 4207 OR THE MODEL 4227 ASYNC INTERFACE PBC, THE CORRESPONDING CLEAR-TO-SEND JUMPERS MUST BE REMOVED. FOR ALL OTHER TERMINALS, THESE JUMPERS MUST BE IN.

C1 DISKETTE/DISK SYSTEMS (Models 9320, 9321, 9322) UPGRADE PROCEDURE (UPGRADE WITH FCC NONCOMPLIANT CPU)

FOR THESE SYSTEMS THE UPGRADE IS TO A MODEL 9820 CS SERIES 100 WITH 128 KB OF MEMORY. FOR THE MODEL 9320, THE UPGRADE WILL INCLUDE THE ADDITION OF A DISK DRIVE (5 MB OR LARGER). IN THE FOLLOWING PROCEDURE, REFERENCE IS MADE TO THE CS SERIES 100 INSTALLATION DATA SHEETS 010-00309 WHICH IS INCLUDED IN THE NEW DOCUMENTATION PACKAGE 005-019429. ALSO SEE SHEET 6 OF THIS IDS FOR CPU/TERMINAL CONNECTIONS.

CAUTION

IF UPGRADING A MODEL 9321 OR 9322, IT IS ESSENTIAL THAT THE DISK BE COMPLETELY BACKED-UP ON OTHER MEDIA, EITHER DISKETTE OR MAGNETIC TAPE. THIS IS REQUIRED BECAUSE, IN RELOCATING THE DISK DRIVE WITHIN THE CABINET, THE DISK MODULE CAN BE DISTORTED TO THE EXTENT THAT EXISTING DATA ON THE DISK CANNOT BE READ RELIABLY. THUS, AFTER INSTALLING OR RELOCATING A DISK DRIVE, THE DISK MODULE MUST BE GIVEN SUFFICIENT TIME TO "SETTLE" BACK INTO ITS ORIGINAL SHAPE BEFORE WRITING DATA ONTO IT. (SEE FIELD ALERT BULLETIN S1118)

CONVERT CS/10 CPU/TERMINAL TO MODEL 6629 TERMINAL

NOTE THAT WITH COMPLETION OF THIS PROCEDURE, THE RESULTING MODEL 6629 TERMINAL EMULATES THE FUNCTION OF A DASHER 6053 DISPLAY TERMINAL AND WILL BE USED AS THE MASTER CONSOLE TERMINAL.

1. ON THE CPU/TERMINAL, REMOVE THE FRONT AND REAR ACCESS PANELS TO THE LOGIC CHASSIS.
2. IF PRESENT, REMOVE I/O BUS JUMPER PLUG 111-001353 FROM W1 (SEE SHEET 6 OF THIS IDS).
3. DISCONNECT ALL CABLES CONNECTED TO THE "A" CONNECTORS ON THE REAR LOGIC BACKPANEL.
4. REMOVE ALL LOGIC PCB'S FROM THE LOGIC CHASSIS. EXCEPT FOR THE IPM-1 64 KB PCB AND THE SYNC LINE CONTROLLER PCB, THESE PCBs WILL BE USED IN THE NEW CONFIGURATION.
5. RECONFIGURE JUMPERING ON THE VIDEO INTERFACE PCB (IPM-2A) SO THAT JUMPER W1 IS IN AND JUMPERS W6 AND W7 ARE OUT. SET CONFIGURATION SWITCHES AS INDICATED ON SHEET 7 OF THIS IDS. RE-INSTALL THE PCB INTO SLOT 7.
6. CONFIGURE JUMPERS ON THE NEW IPM-1 4-KB PCB (005-015693) PER SHEET 7 OF THIS IDS AND INSTALL THE PCB INTO SLOT 6 OF THE LOGIC CHASSIS.
7. CONNECT NEW CABLE 005-014752 TO THE IPM-2A PCB CONNECTOR (SLOT 7) AT REAR OF THE LOGIC BACKPANEL.
8. INSTALL MODEL LABEL 002-008327 WITH "6629" MARKING OVER THE EXISTING MODEL LABEL ON THE REAR OF THE CONSOLE TERMINAL.

RELOCATE/INSTALL DISK/DISKETTE DRIVES

1. IF A MODEL 9320, REMOVE THE 005-015746 CABLE THAT CONNECTS TO THE DISKETTE DRIVE. THIS CABLE WILL NOT BE USED IN THE NEW CONFIGURATION.
2. IF A MODEL 9321 OR 9322, REMOVE THE 005-015745 CABLE THAT CONNECTS TO THE DISK DRIVE UNIT. THIS CABLE WILL NOT BE USED IN THE NEW CONFIGURATION.
3. REMOVE THE TOP 1.75-INCH PANEL FROM THE CABINET AND REPOSITION THE DISK/DISKETTE DRIVE UNIT(S) UPWARD BY 1.75-INCHES SO THAT THE DISKETTE DRIVE IS LOCATED AT TOP OF THE CABINET (SEE CS SERIES 100 INSTALLATION DATA SHEETS 010-00309). IF A NEW DISK DRIVE UNIT IS BEING ADDED, REFER TO THE INSTALLATION DATA SHEETS ACCOMPANYING THE DRIVE UNIT. THE DEVICE CODE FOR THE DISK UNIT MUST BE SET FOR 26
4. CONNECT NEW CABLE 005-007507 TO J3 ON THE DISK DRIVE CONTROLLER PCB.

INSTALL S/20 CPU/CHASSIS

IN THIS PROCEDURE, BEFORE INSTALLATION OF CHASSIS INTO THE CABINET, THE CPU CHASSIS IS TO BE COMPLETELY ASSEMBLED, INCLUDING INSERTION OF THE PCBs AND CONNECTION OF CABLES. REFER TO THE S/20 INSTALLATION DATA SHEETS (010-000297) AND THE CS SERIES 100 INSTALLATION DATA SHEETS (010-000309) FOR ASSEMBLY DETAILS.

1. ASSEMBLE THE S/20 CHASSIS WITH THE SPU PCB, THE 128 KB MEMORY PCB, AND THE BATTERY BACKUP PCB. IN CONFIGURING THE SPU, CLEAR-TO-SEND JUMPER W3 MUST BE REMOVED. SET THE BAUD RATE FOR 9600 HZ.
2. CONNECT ADAPTER CABLE 005-007506 TO SPU CONNECTOR AT REAR OF LOGIC CHASSIS (SEE CS SERIES 100 INSTALLATION DATA SHEETS).
3. INSTALL THE FOLLOWING PCBs INTO THE INDICATED SLOT LOCATIONS AND CONNECT THE REFERENCED CABLE.

PCB	SLOT	CABLE NO.
COMMUNICATIONS CONTROLLER (4225-S)	3	NONE
4-LINE ASYNCHRONOUS INTERFACE (4227-S)	4	005-009654
ASYNCHRONOUS LINE INTERFACE (4207-S) - OPTIONAL	6	005-007506
DISKETTE CONTROLLER - OPTIONAL	8	005-012705
LINE PRINTER CONTROLLER (4221-S) - OPTIONAL	7	SEE PIO CABLES (SHEET 1, THIS IDS)

4. INSTALL PRIORITY JUMPERS ON THE LOGIC BACKPANEL AS INSTRUCTED BY THE S/20 INSTALLATION DATA SHEET 010-000297.
5. INSTALL THE COMPLETED LOGIC CHASSIS INTO THE BOTTOM LOCATION OF THE CABINET (REFER TO THE INSTALLATION DATA SHEETS ACCOMPANYING THE S/20 UNIT).
6. INSTALL THE BATTERY ASSEMBLY INTO THE CABINET. CONNECT BATTERY CABLE 005-012580 TO J4 AT REAR OF THE LOGIC CHASSIS.

SYSTEM CONFIGURATION

1. INTERCONNECT UNITS ACCORDING TO THE CS SERIES 100 INSTALLATION DATA SHEETS 010-00309. USE THE 005-012705 CABLE FOR CONNECTING THE DISKETTE DRIVE AND THE 005-007507 CABLE FOR CONNECTING THE DISK DRIVE. CABLES FOR THE PRINTERS AND TERMINALS ARE RECONFIGURED AS DEFINED UNDER HEADING "CABLE CHANGES".
2. INSTALL PANELS TO FRONT AND REAR OF CABINET AND 6629 TERMINAL.
3. INSTALL LABEL 002-012261 (DATA GENERAL) OVER THE S/20 LABEL ON THE PROCESSOR FRONT PANEL AND THE 002-021791 LABEL (DATA GENERAL CS SERIES 100) OVER EXISTING LABEL AT TOP OF CABINET.
4. ALLOW "SETTLING" TIME FOR THE DISK DRIVE UNIT PER FIELD ALERT BULLETIN S1118. RUN SYSTEM DIAGNOSTICS TO VERIFY CORRECT SYSTEM OPERATION. RE-INITIALIZE THE DISK AND LOAD THE OPERATING SOFTWARE AS DESCRIBED IN THE DOCUMENTATION ACCOMPANYING THE SOFTWARE PACKAGE. THEN RELOAD THE BACK-UP DATA FILES.

C1 DISKETTE/DISK SYSTEMS (Models 9320, 9321, 9322) UPGRADE PROCEDURE (UPGRADE WITH FCC COMPLIANT CPU)

FOR THESE SYSTEMS THE UPGRADE IS TO A MODEL 9820 CS SERIES 100 WITH 128 KB OF MEMORY. FOR THE MODEL 9320, THE UPGRADE WILL INCLUDE THE ADDITION OF A DISK DRIVE (5 MB OR LARGER). IN THE FOLLOWING PROCEDURE, REFERENCE IS MADE TO THE CS SERIES 100 INSTALLATION DATA SHEETS 010-000378 WHICH IS INCLUDED IN THE NEW DOCUMENTATION PACKAGE 005-019429. ALSO SEE SHEET 6 OF THIS IDS FOR CPU/TERMINAL CONNECTIONS.

CAUTION

IF UPGRADING A MODEL 9321 OR 9322, IT IS ESSENTIAL THAT THE DISK BE COMPLETELY BACKED-UP ON OTHER MEDIA, EITHER DISKETTE OR MAGNETIC TAPE. THIS IS REQUIRED BECAUSE, IN RELOCATING THE DISK DRIVE WITHIN THE CABINET, THE DISK MODULE CAN BE DISTORTED TO THE EXTENT THAT EXISTING DATA ON THE DISK CANNOT BE READ RELIABLY. THUS, AFTER INSTALLING OR RELOCATING A DISK DRIVE, THE DISK MODULE MUST BE GIVEN SUFFICIENT TIME TO "SETTLE" BACK INTO ITS ORIGINAL SHAPE BEFORE WRITING DATA ONTO IT. (SEE FIELD ALERT BULLETIN S1118)

CONVERT CS/10 CPU/TERMINAL TO MODEL 6629 TERMINAL

NOTE THAT WITH COMPLETION OF THIS PROCEDURE, THE RESULTING MODEL 6629 TERMINAL EMULATES THE FUNCTION OF A DASHER 6053 DISPLAY TERMINAL AND WILL BE USED AS THE MASTER CONSOLE TERMINAL.

1. ON THE CPU/TERMINAL, REMOVE THE FRONT AND REAR ACCESS PANELS TO THE LOGIC CHASSIS.
2. IF PRESENT, REMOVE I/O BUS JUMPER PLUG 111-001353 FROM W1 (SEE SHEET 6 OF THIS IDS).
3. DISCONNECT ALL CABLES CONNECTED TO THE "A" CONNECTORS ON THE REAR LOGIC BACKPANEL.
4. REMOVE ALL LOGIC PCB'S FROM THE LOGIC CHASSIS, EXCEPT FOR THE IPM-1 64 KB PCB AND THE SYNC LINE CONTROLLER PCB. THESE PCBs WILL BE USED IN THE NEW CONFIGURATION.
5. RECONFIGURE JUMPERING ON THE VIDEO INTERFACE PCB (IPM-2A) SO THAT JUMPER W1 IS IN AND JUMPERS W6 AND W7 ARE OUT. SET CONFIGURATION SWITCHES AS INDICATED ON SHEET 7 OF THIS IDS. RE-INSTALL THE PCB INTO SLOT 7.
6. CONFIGURE JUMPERS ON THE NEW IPM-1 4-KB PCB (005-015693) PER SHEET 7 OF THIS IDS AND INSTALL THE PCB INTO SLOT 6 OF THE LOGIC CHASSIS.
7. CONNECT NEW CABLE 005-021269 TO THE IPM-2A PCB CONNECTOR (SLOT 7) AT REAR OF THE LOGIC BACKPANEL.
8. INSTALL MODEL LABEL, 002-008327, WITH "6629" MARKING OVER THE EXISTING MODEL LABEL ON THE REAR OF THE CONSOLE TERMINAL.

RELOCATE/INSTALL DISK/DISKETTE DRIVES

1. IF A MODEL 9320, REMOVE THE 005-015746 CABLE THAT CONNECTS TO THE DISKETTE DRIVE. THIS CABLE WILL NOT BE USED IN THE NEW CONFIGURATION.
2. IF A MODEL 9321 OR 9322, REMOVE THE 005-015745 CABLE THAT CONNECTS TO THE DISK DRIVE UNIT. THIS CABLE WILL NOT BE USED IN THE NEW CONFIGURATION.
3. REMOVE THE TOP 1.75-INCH PANEL FROM THE CABINET AND REPOSITION THE DISK/DISKETTE DRIVE UNIT(S) UPWARD BY 1.75-INCHES SO THAT THE DISKETTE DRIVE IS LOCATED AT TOP OF THE CABINET (SEE CS SERIES 100 INSTALLATION DATA SHEETS 010-00378). IF A NEW DISK DRIVE UNIT IS BEING ADDED, REFER TO THE INSTALLATION DATA SHEETS ACCOMPANYING THE DRIVE UNIT. THE DEVICE CODE FOR THE DISK UNIT MUST BE SET FOR 26
4. CONNECT NEW CABLE 005-019643 TO J3 ON THE DISK DRIVE CONTROLLER PCB.

INSTALL S/20 CPU/CHASSIS

IN THIS PROCEDURE, BEFORE INSTALLATION OF CHASSIS INTO THE CABINET, THE CPU CHASSIS IS TO BE COMPLETELY ASSEMBLED, INCLUDING INSERTION OF THE PCBs AND CONNECTION OF CABLES. REFER TO THE S/20 INSTALLATION DATA SHEET (010-000350) AND THE CS SERIES 100 INSTALLATION DATA SHEET (010-000378) FOR ASSEMBLY DETAILS.

1. ASSEMBLE THE S/20 CHASSIS WITH THE SPU PCB, THE 128 KB MEMORY PCB, AND THE BATTERY BACKUP PCB. IN CONFIGURING THE SPU, CLEAR-TO-SEND JUMPER W3 MUST BE REMOVED. SET THE BAUD RATE FOR 9600 HZ.
2. INSTALL THE FOLLOWING PCBs INTO THE INDICATED SLOT LOCATIONS AND CONNECT THE REFERENCED CABLE.

PCB	SLOT	CABLE NO.
COMMUNICATIONS CONTROLLER (4225-S)	3	NONE
4-LINE ASYNCHRONOUS INTERFACE (4227-S)	4	005-019984
ASYNCHRONOUS LINE INTERFACE (4207-S) - OPTIONAL	6	005-019971
DISKETTE CONTROLLER - OPTIONAL	8	005-019434
LINE PRINTER CONTROLLER (4221-S) - OPTIONAL	7	005-019973 SEE PIO CABLES (SHEET 1, THIS IDS)

3. INSTALL PRIORITY JUMPERS ON THE LOGIC BACKPANEL AS INSTRUCTED BY THE S/20 INSTALLATION DATA SHEET 010-000350. ATTACH EIA INTERFACE CABLE 005-013258 TO THE CPU CONNECTOR BULKHEAD CONNECTOR.
4. INSTALL THE COMPLETED LOGIC CHASSIS INTO THE BOTTOM LOCATION OF THE CABINET (REFER TO THE INSTALLATION DATA SHEETS ACCOMPANYING THE S/20 UNIT).

SYSTEM CONFIGURATION

1. INTERCONNECT UNITS ACCORDING TO THE CS SERIES 100 INSTALLATION DATA SHEETS 010-00378. ATTACH EIA INTERFACE CABLE 005-013258 TO TERMINAL ADAPTER CABLE 005-021269. USE THE 005-019437 CABLE FOR CONNECTING THE DISKETTE DRIVE AND THE 005-019643 CABLE FOR CONNECTING THE DISK DRIVE. CABLES FOR THE PRINTERS AND TERMINALS ARE RECONFIGURED AS DEFINED UNDER HEADING "CABLE CHANGES".
2. INSTALL PANELS TO FRONT AND REAR OF CABINET AND 6629 TERMINAL.
3. INSTALL LABEL 002-012261 (DATA GENERAL) OVER THE S/20 LABEL ON THE PROCESSOR FRONT PANEL AND THE 002-021791 LABEL (DATA GENERAL CS SERIES 100) OVER EXISTING LABEL AT TOP OF CABINET.
4. ALLOW "SETTLING" TIME FOR THE DISK DRIVE UNIT PER FIELD ALERT BULLETIN S1118. RUN SYSTEM DIAGNOSTICS TO VERIFY CORRECT SYSTEM OPERATION. RE-INITIALIZE THE DISK AND LOAD THE OPERATING SOFTWARE AS DESCRIBED IN THE DOCUMENTATION ACCOMPANYING THE SOFTWARE PACKAGE. THEN RELOAD THE BACK-UP DATA FILES.

C3 DISK SYSTEMS (Models 9323, 9324) UPGRADE PROCEDURE (UPGRADE WITH FCC. NON-COMPLIANT CPU)

FOR THESE SYSTEMS, THE UPGRADE IS TO A MODEL 90150 CS SERIES 100 WITH 256 KB OF MEMORY. IN THE FOLLOWING PROCEDURES, REFERENCE IS MADE TO THE CS SERIES 100 INSTALLATION DATA SHEETS 010-00309 WHICH IS INCLUDED IN THE NEW DOCUMENTATION PACKAGE 005-019429. ALSO SEE SHEET 6 OF THIS IDS FOR CPU/TERMINAL AND ASYNC MUX/PLUG PANEL CONNECTIONS.

CAUTION

PRIOR TO UPGRADING THESE SYSTEMS, IT IS ESSENTIAL THAT THE DISK BE COMPLETELY BACKED-UP ON OTHER MEDIA, EITHER DISKETTE OR MAGNETIC TAPE. THIS IS REQUIRED BECAUSE IN RELOCATING THE DISK DRIVE WITHIN THE CABINET, THE DISK MODULE CAN BE DISTORTED TO THE EXTENT THAT EXISTING DATA ON THE DISK CANNOT BE READ RELIABLY. THUS, AFTER INSTALLING OR RELOCATING A DISK DRIVE, THE DISK MODULE MUST BE GIVEN SUFFICIENT TIME TO "SETTLE" BACK INTO ITS ORIGINAL SHAPE BEFORE WRITING DATA ONTO IT (SEE FIELD ALERT BULLETIN S1118).

CONVERT CS/10 CPU/TERMINAL TO MODEL 6629 TERMINAL

NOTE THAT WITH COMPLETION OF THIS PROCEDURE, THE RESULTING MODEL 6629 TERMINAL EMULATES THE FUNCTION OF A DASHER 6053 DISPLAY TERMINAL AND WILL BE USED AS THE MASTER CONSOLE TERMINAL.

1. ON THE CPU/TERMINAL, REMOVE THE FRONT AND REAR ACCESS PANELS TO THE LOGIC CHASSIS.
2. DISCONNECT ALL CABLES CONNECTED TO THE "A" CONNECTORS ON THE REAR LOGIC BACKPANEL. ALSO DISCONNECT THE CABLE CONNECTION TO J13 EXTERNAL POWER CONNECTOR.
3. REMOVE ALL LOGIC PCBs FROM THE LOGIC CHASSIS EXCEPT FOR THE IPM-1 4KB PCB (SLOT 6) AND THE IPM-2A PCB (SLOT 7). WITH EXCEPTION OF THE IPM-1 64 KB PCB, THE BANK SELECT/MEMORY PCB, AND THE SYNC LINE CONTROLLER PCB, THESE PCBs WILL BE USED IN THE NEW CONFIGURATION.
4. CONNECT NEW CABLE 005-014752 TO THE IPM-2A PCB CONNECTOR (SLOT 7) AT REAR OF THE LOGIC BACKPANEL. NOTE THAT THE JUMPER AND SWITCH SETTINGS FOR THE IPM-2A PCB ARE THE SAME AS WAS CONFIGURED FOR CS/10 (SEE SHEET 7 OF THIS IDS).
5. INSTALL MODEL LABEL 002-008327 WITH "6629" MARKING OVER EXISTING MODEL LABEL ON THE REAR OF THE CONSOLE TERMINAL.

RELOCATE/INSTALL DISK/DISKETTE DRIVES

1. REMOVE THE 005-015737 CABLE CONNECTED TO J9 ON THE ASYNC MUX/PLUG PCB 005-015626 (LOCATED INSIDE REAR PANEL OF CABINET). THIS CABLE WILL NOT BE USED IN THE NEW CONFIGURATION.
2. REMOVE THE 005-015745 CABLE CONNECTED BETWEEN J10 ON THE ASYNC MUX/PLUG PCB AND THE DISK DRIVE UNIT. THIS CABLE WILL NOT BE USED IN THE NEW CONFIGURATION.
3. REMOVE THE ASYNC MUX/PLUG PCB FROM INSIDE THE REAR PANEL OF THE CABINET. THIS PCB WILL NOT BE USED IN THE NEW CONFIGURATION.
4. REMOVE THE TOP 1.75-INCH PANEL FROM THE CABINET AND REPOSITION THE DISK/DISKETTE DRIVE UNIT(S) UPWARD BY 1.75-INCHES SO THAT THE DISKETTE DRIVE IS LOCATED AT TOP OF THE CABINET (SEE CS SERIES 100 INSTALLATION DATA SHEETS 010-00309). THE DEVICE CODE FOR THE DISK DRIVE UNIT MUST BE SET FOR 26.

INSTALL S/20 CPU/CHASSIS

IN THIS PROCEDURE, BEFORE INSTALLATION OF CHASSIS INTO THE CABINET, THE CPU CHASSIS IS TO BE COMPLETELY ASSEMBLED, INCLUDING INSERTION OF THE PCBs AND CONNECTION OF CABLES. REFER TO THE S/20 INSTALLATION DATA SHEETS (010-000297) AND THE CS SERIES 100 INSTALLATION DATA SHEETS (010-000309) FOR ASSEMBLY DETAILS.

1. ASSEMBLE THE S/20 CHASSIS WITH THE SPU PCB, THE 256 KB MEMORY PCB, AND THE BATTERY BACKUP PCB. IN CONFIGURING THE SPU, CLEAR-TO-SEND JUMPER W3 MUST BE OUT.
2. CONNECT ADAPTER CABLE 005-007506 TO THE SPU CONNECTOR AT REAR OF LOGIC CHASSIS (SEE CS SERIES 100 INSTALLATION DATA SHEETS).
3. INSTALL THE FOLLOWING PCBs INTO THE INDICATED SLOT LOCATIONS AND CONNECT THE REFERENCE CABLE.

PCB	SLOT	CABLE NO.
COMMUNICATIONS CONTROLLER (4225-S)	4	NONE
4-LINE ASYNCHRONOUS INTERFACE (4227-S)	5	005-009654
ASYNCHRONOUS LINE INTERFACE (4207-S) - OPTIONAL	6	005-007506
LINE PRINTER CONTROLLER (4221-S) - OPTIONAL	7	SEE PIO CABLES (SHEET 1, THIS IDS)

4. INSTALL PRIORITY JUMPERS ON THE LOGIC BACKPANEL AS INSTRUCTED BY THE S/20 INSTALLATION DATA SHEET 010-000297.
5. INSTALL THE COMPLETED LOGIC CHASSIS INTO THE BOTTOM LOCATION OF THE CABINET (REFER TO THE INSTALLATION DATA SHEETS ACCOMPANYING THE S/20 UNIT).
6. INSTALL THE BATTERY ASSEMBLY INTO THE CABINET. CONNECT BATTERY CABLE 005-012580 TO J4 AT REAR OF THE LOGIC CHASSIS.

SYSTEM CONFIGURATION

1. INTERCONNECT UNITS ACCORDING TO CS SERIES 100 INSTALLATION DATA SHEET 010-000309. USE THE 005-007507 CABLE FOR CONNECTING THE DISK DRIVE. CABLES FOR THE PRINTERS AND TERMINALS ARE RECONFIGURED UNDER HEADING "CABLE CHANGES".
2. INSTALL PANELS TO FRONT AND REAR OF CABINET AND 6629 TERMINAL.
3. INSTALL LABEL 002-012261 (DATA GENERAL) OVER THE S/20 LABEL ON THE PROCESSOR FRONT PANEL AND THE 002-021791 LABEL (DATA GENERAL CS SERIES 100) OVER EXISTING LABEL AT TOP OF CABINET.
4. ALLOW "SETTLING" TIME FOR THE DISK DRIVE UNIT PER FIELD ALERT BULLETIN S1118. RUN SYSTEM DIAGNOSTICS TO VERIFY CORRECT SYSTEM OPERATION. RE-INITIALIZE THE DISK AND LOAD THE OPERATING SOFTWARE AS DESCRIBED IN THE DOCUMENTATION ACCOMPANYING THE SOFTWARE PACKAGE. THEN RELOAD THE BACK-UP DATA FILES.

C3 DISK SYSTEMS (Models 9323, 9324) UPGRADE PROCEDURE (UPGRADE WITH FCC COMPLIANT CPU)

FOR THESE SYSTEMS, THE UPGRADE IS TO A MODEL 90150 CS SERIES 100 WITH 256 KB OF MEMORY. IN THE FOLLOWING PROCEDURES, REFERENCE IS MADE TO THE CS SERIES 100 INSTALLATION DATA SHEETS 010-000378 WHICH IS INCLUDED IN THE NEW DOCUMENTATION PACKAGE 005-019429. ALSO SEE SHEET 6 OF THIS IDS FOR CPU/TERMINAL AND ASYNC MUX/PLUG PANEL CONNECTIONS.

CAUTION

PRIOR TO UPGRADING THESE SYSTEMS, IT IS ESSENTIAL THAT THE DISK BE COMPLETELY BACKED-UP ON OTHER MEDIA, EITHER DISKETTE OR MAGNETIC TAPE. THIS IS REQUIRED BECAUSE IN RELOCATING THE DISK DRIVE WITHIN THE CABINET, THE DISK MODULE CAN BE DISTORTED TO THE EXTENT THAT EXISTING DATA ON THE DISK CANNOT BE READ RELIABLY. THUS, AFTER INSTALLING OR RELOCATING A DISK DRIVE, THE DISK MODULE MUST BE GIVEN SUFFICIENT TIME TO "SETTLE" BACK INTO ITS ORIGINAL SHAPE BEFORE WRITING DATA ONTO IT (SEE FIELD ALERT BULLETIN S1118).

CONVERT CS/10 CPU/TERMINAL TO MODEL 6629 TERMINAL

NOTE THAT WITH COMPLETION OF THIS PROCEDURE, THE RESULTING MODEL 6629 TERMINAL EMULATES THE FUNCTION OF A DASHER 6053 DISPLAY TERMINAL AND WILL BE USED AS THE MASTER CONSOLE TERMINAL.

1. ON THE CPU/TERMINAL, REMOVE THE FRONT AND REAR ACCESS PANELS TO THE LOGIC CHASSIS.
2. DISCONNECT ALL CABLES CONNECTED TO THE "A" CONNECTORS ON THE REAR LOGIC BACKPANEL. ALSO DISCONNECT THE CABLE CONNECTION TO J13 EXTERNAL POWER CONNECTOR.
3. REMOVE ALL LOGIC PCBs FROM THE LOGIC CHASSIS EXCEPT FOR THE IPM-1 4KB PCB (SLOT 6) AND THE IPM-2A PCB (SLOT 7). WITH EXCEPTION OF THE IPM-1 64 KB PCB, THE BANK SELECT/MEMORY PCB, AND THE SYNC LINE CONTROLLER PCB, THESE PCBs WILL BE USED IN THE NEW CONFIGURATION.
4. CONNECT NEW CABLE 005-021269 TO THE IPM-2A PCB CONNECTOR (SLOT 7) AT REAR OF THE LOGIC BACKPANEL. NOTE THAT THE JUMPER AND SWITCH SETTINGS FOR THE IPM-2A PCB ARE THE SAME AS WAS CONFIGURED FOR CS/10 (SEE SHEET 7 OF THIS IDS).
5. INSTALL MODEL LABEL, 002-008327, WITH "6629" MARKING OVER THE EXISTING MODEL LABEL ON THE REAR OF THE CONSOLE TERMINAL.

RELOCATE/INSTALL DISK/DISKETTE DRIVES

1. REMOVE THE 005-015737 CABLE CONNECTED TO J9 ON THE ASYNC MUX/PLUG PCB 005-015626 (LOCATED INSIDE REAR PANEL OF CABINET). THIS CABLE WILL NOT BE USED IN THE NEW CONFIGURATION.
2. REMOVE THE 005-015745 CABLE CONNECTED BETWEEN J10 ON THE ASYNC MUX/PLUG PCB AND THE DISK DRIVE UNIT. THIS CABLE WILL NOT BE USED IN THE NEW CONFIGURATION.
3. REMOVE THE ASYNC MUX/PLUG PCB FROM INSIDE THE REAR PANEL OF THE CABINET. THIS PCB WILL NOT BE USED IN THE NEW CONFIGURATION.
4. REMOVE THE TOP 1.75-INCH PANEL FROM THE CABINET AND REPOSITION THE DISK/DISKETTE DRIVE UNIT(S) UPWARD BY 1.75-INCHES SO THAT THE DISKETTE DRIVE IS LOCATED AT TOP OF THE CABINET (SEE CS SERIES 100 INSTALLATION DATA SHEETS 010-00309). THE DEVICE CODE FOR THE DISK DRIVE UNIT MUST BE SET FOR 26.

INSTALL S/20 CPU/CHASSIS

IN THIS PROCEDURE, BEFORE INSTALLATION OF CHASSIS INTO THE CABINET, THE CPU CHASSIS IS TO BE COMPLETELY ASSEMBLED, INCLUDING INSERTION OF THE PCBs AND CONNECTION OF CABLES. REFER TO THE S/20 INSTALLATION DATA SHEETS (010-000350) AND THE CS SERIES 100 INSTALLATION DATA SHEETS (010-000378) FOR ASSEMBLY DETAILS.

1. ASSEMBLE THE S/20 CHASSIS WITH THE SPU PCB, THE 256 KB MEMORY PCB, AND THE BATTERY BACKUP PCB. IN CONFIGURING THE SPU, CLEAR-TO-SEND JUMPER W3 MUST BE OUT.
2. INSTALL THE FOLLOWING PCBs INTO THE INDICATED SLOT LOCATIONS AND CONNECT THE REFERENCE CABLE.

PCB	SLOT	CABLE NO.
COMMUNICATIONS CONTROLLER (4225-S)	4	NONE
4-LINE ASYNCHRONOUS INTERFACE (4227-S)	5	005-019984
ASYNCHRONOUS LINE INTERFACE (4207-S) - OPTIONAL	6	005-019971
LINE PRINTER CONTROLLER (4221-S) - OPTIONAL	7	005-019973 SEE PIO CABLES (SHEET 1, THIS IDS)

3. INSTALL PRIORITY JUMPERS ON THE LOGIC BACKPANEL AS INSTRUCTED BY THE S/20 INSTALLATION DATA SHEET 010-000350. ATTACH EIA INTERFACE CABLE 005-013258 TO THE CPU BULKHEAD CONNECTOR.
4. CABINET (REFER TO THE INSTALLATION DATA SHEETS ACCOMPANYING THE S/20 UNIT).

SYSTEM CONFIGURATION

1. INTERCONNECT UNITS ACCORDING TO THE CS SERIES 100 INSTALLATION DATA SHEET 010-000378. ATTACH EIA INTERFACE CABLE 005-013258 TO TERMINAL ADAPTER CABLE 005-021269. USE THE 005-019643 CABLE FOR CONNECTING THE DISK DRIVE. CABLES FOR THE PRINTERS AND TERMINALS ARE RECONFIGURED UNDER THE HEADING "CABLE CHANGES".
2. INSTALL PANELS TO FRONT AND REAR OF CABINET AND 6629 TERMINAL.
3. INSTALL LABEL 002-012261 (DATA GENERAL) OVER THE S/20 LABEL ON THE PROCESSOR FRONT PANEL AND THE 002-021791 LABEL (DATA GENERAL CS SERIES 100) OVER EXISTING LABEL AT TOP OF CABINET.
4. ALLOW "SETTLING" TIME FOR THE DISK DRIVE UNIT PER FIELD ALERT BULLETIN S1113. RUN SYSTEM DIAGNOSTICS TO VERIFY CORRECT SYSTEM OPERATION. RE-INITIALIZE THE DISK AND LOAD THE OPERATING SOFTWARE AS DESCRIBED IN THE DOCUMENTATION ACCOMPANYING THE SOFTWARE PACKAGE. THEN RELOAD THE BACK-UP DATA FILES.

ORIGINAL CS/10 INTERCONNECTION

CAUTION

WHEN MAKING CONNECTION TO THE IPM1 "A", CONNECTOR, TAKE CARE THAT THE CONNECTOR IS INSTALLED WITH THE KEY FITTING INTO THE MATCHING SLOT OF THE "A" CONNECTOR. IF FOR SOME REASON THE KEY IS MISSING, ORIENT THE CONNECTOR SO THAT PIN 1 OF THE CONNECTOR MATCHES PIN 1 ON THE PCB. (PIN 1 IS AT THE BOTTOM OF THE "A" CONNECTOR). IF THE CONNECTOR IS INSTALLED THE OPPOSITE WAY, CIRCUIT IC's CAN BE DAMAGED WHEN POWER IS APPLIED.

C1 DISKETTE SYSTEMS

MODEL 9320

DESTINATION	CABLE NO.	TERMINAL CONNECTOR	
DISKETTE DRIVE	005-015746	SLOT 1	"A" CONNECTORS
TP1 OR TP2 PRINTER	005-014757	SLOT 7	
LETTER QUAL. PRINTER	005-014756	SLOT 7	
SYNC COMMUNICATIONS	005-014768	SLOT 3	
4422 SERIAL PRINTER	005-018271	SLOT 7	

C1 DISK SYSTEMS

MODELS 9321, 9321W, 9322, 9322W

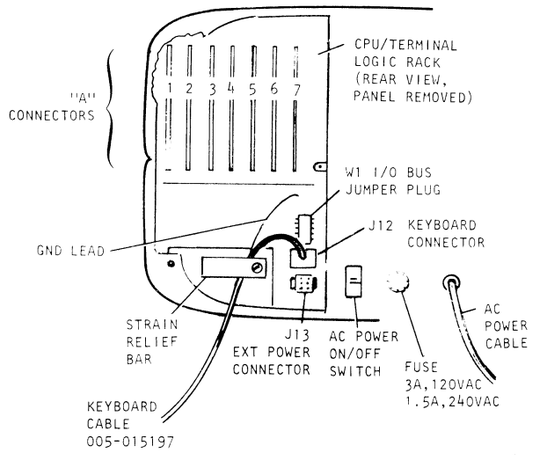
DESTINATION	CABLE NO.	TERMINAL CONNECTOR	
TP1 OR TP2 PRINTER OR	005-014757	SLOT 7	"A" CONNECTORS
LETTER QUALITY PRINTER	005-014756	SLOT 7	
LINE PRINTER	005-014769	SLOT 1	
OR LP2 PRINTER	005-014770	SLOT 1	
J3 DISC CONTROLLER	005-015745	SLOT 6 (SEE CAUTION)	
SYNC COMM DEVICE	005-14768	SLOT 3 (NOTE)	
MAG TAPE DRIVE	005-015745	SLOT 6 (SEE CAUTION)	
4422 SERIAL PRINTER	005-018271	SLOT 7	

NOTE: IF NO LINE PRINTER, SYNC COMM IS IN SLOT 5.

C3 SYSTEMS

MODELS 9323, 9323W, 9324, 9324W

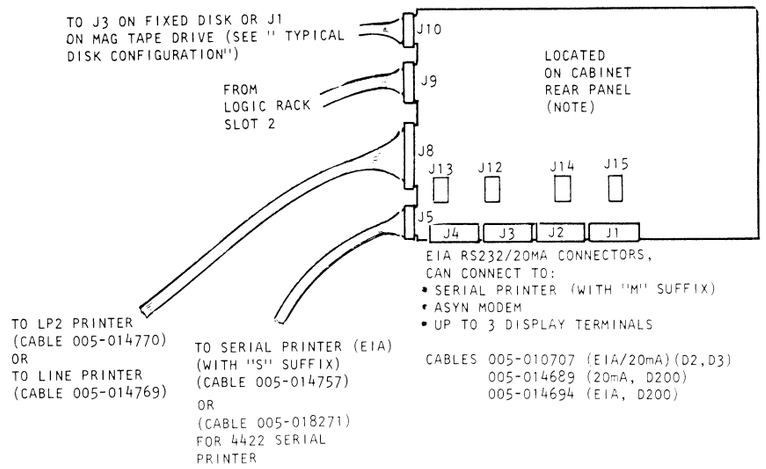
DESTINATION	CABLE NO.	TERMINAL CONNECTOR(S)	
J9 ASYNC MUX/PLUG PCB	005-015737	SLOT 2 (SEE CAUTION) J13 (POWER)	"A" CONNECTORS
SYNC COMM DEVICE	005-014768	SLOT 3	



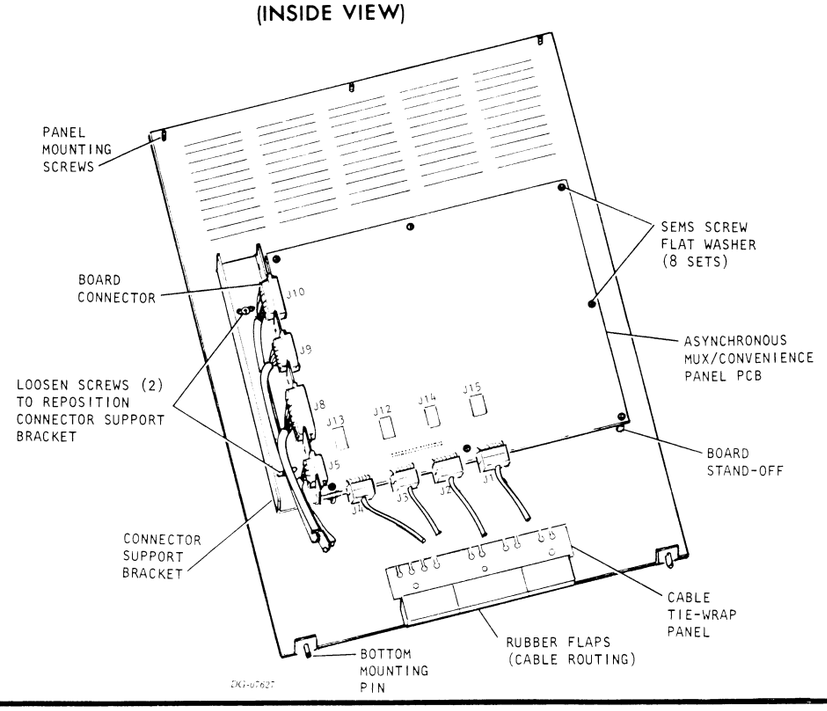
CHASSIS SLOT ASSIGNMENTS

SLOT	C1 DISKETTE - 9320	C1 FIXED DISK - 9321(W), 9322(W)	C3 FIXED DISK - 9323(W), 9324(W)	NEW 6629 TERMINAL
1	DISKETTE CONTROLLER (P/O 6096-SB)	LINE PRINTER CONTROLLER (4221-S)	BANK SELECT / MEMORY	
2			PROCESSOR/MEMORY (IPM-1,64KB)	
3	SYNC COMMUNICATIONS	SYNC COMMUNICATIONS (NOTE 3)	SYNC COMMUNICATIONS	
4				
5		SYNC COMMUNICATIONS (NOTE 3)		
6	PROCESSOR/MEMORY (IPM-1, 64KB)	PROCESSOR/MEMORY (IPM-1, 64KB)	PROCESSOR/RAM/ROM (IPM-1, 4KB)	PROCESSOR/RAM/ROM (IPM-1, 4KB)
7	VIDEO INTERFACE (IPM-2A)	VIDEO INTERFACE (IPM-2A)	VIDEO INTERFACE (IPM-2A)	VIDEO INTERFACE (IPM-2A)

ASYNCHRONOUS MULTIPLEXOR/PLUG PANEL PCB



REAR PANEL, CABINET (INSIDE VIEW)

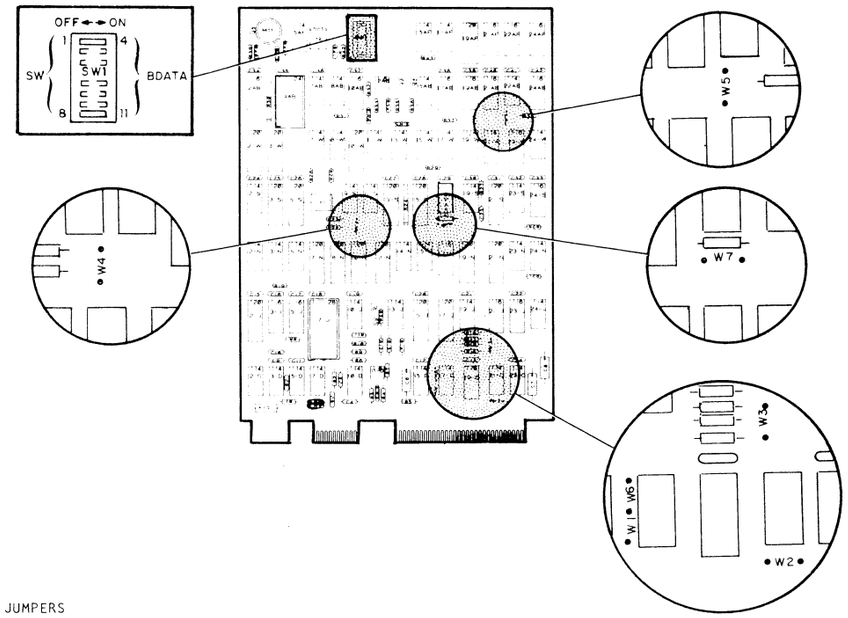


CS/10 PCB JUMPERING

(For CS Series 100 PCB's, see 010-000309)

VIDEO INTERFACE (IPM-2A)

Ref DGC No 107-001507



JUMPERS

W1 - IN = VIDEO ADDRESS RANGE 57774 - 57777
(2K IPM -1 PCB; SERIES 100)
W2 - IN = BAUD RATE CLOCK (OUT FOR TEST ONLY)
W3 - OUT NOT USED.
W4 - IN = VIDEO CLOCK (OUT FOR TEST ONLY)
W5 - IN = 60HZ OPERATION; OUT = 50HZ OPERATION
W6 - IN = VIDEO ADDRESS RANGE 77774 - 77777 OUT = SERIES 100
W7 - IN = VIDEO ADDRESS RANGE IS IN NORMAL MEMORY
OUT = VIDEO ADDRESS RANGE IS IN NORMAL AND MAPPED MEMORY (D2/D200 EMULATOR; SERIES 100)

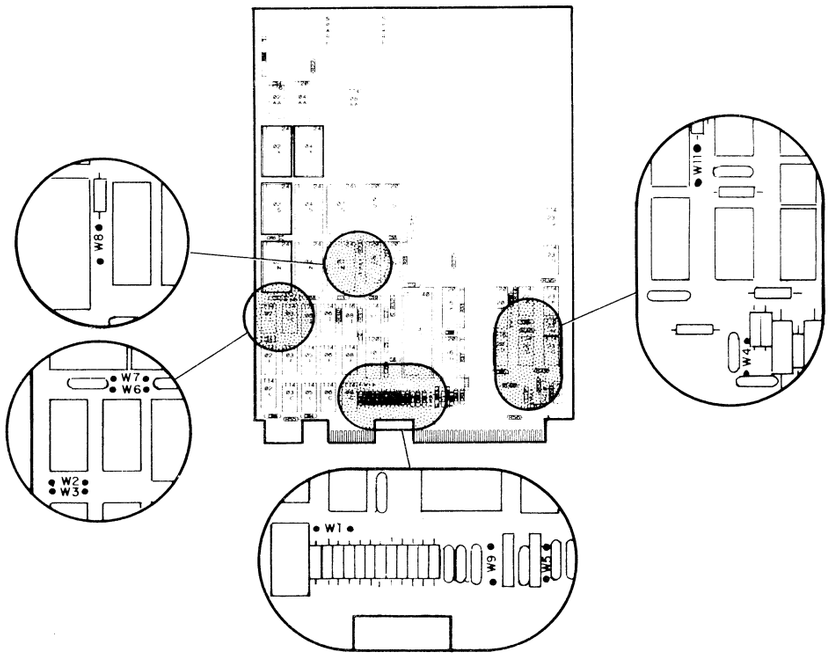
CONFIGURATION SWITCHES (BDATA 4-11) 0 = OFF 1 = ON

SWITCH	SERIES 100	BDATA	FUNCTION
1	OFF	4 --	NOT USED (OFF)
2	OFF	5 --	OFF = ENABLES CTS TO SYNC WITH STOP BITS ON = DISABLE (TP1 PRINTERS)
3	OFF	6 --	00 = LOCAL MODE 01 = MARK PARITY 10 = EVEN PARITY 11 = ODD PARITY
4	ON	7 --	
5	ON	8 --	BAUD RATE (NOTE): 0000 = 50, 0001 = 75, 0010 = 110, 0011 = 134.5, 0100 = 150, 0101 = 300, 0110 = 600, 0111 = 1200, 1000 = 1800, 1001 = 2000, 1010 = 2400, 1011 = 3600, 1100 = 4800, 1101 = 7200, 1110 = 9600, 1111 = 2400/150
6	ON	9 --	
7	ON	10 --	
8	OFF	11 --	

NOTE: FOR THE 6623 TERMINAL, THE BAUD RATE SET ON THESE SWITCHES MUST BE THE SAME AS THE BAUD RATE SET ON THE ASSOCIATED SPU OR ALM.

PROCESSOR/RAM/ROM (IPM-1, 4kB)

Ref DGC No 107-001645



JUMPERS

W1 - IN = OSCILLATOR (OUT FOR TEST ONLY)
W2 & W3 - ROM ADDRESS JUMPERS:

---------- IF 2K x 8 ROM's ARE USED IN ------		
LOCATION 02x & 04x	28K TO 30K	NO JUMPERS
LOCATION 02s & 02n	30K TO 32K	W2 - IN W3 - OUT
---------- IF 4k x 8 ROM's ARE USED IN ------		
LOCATION 02x & 04x	28K TO 32K	NO JUMPERS
LOCATION 02s & 02n	24K TO 28K	W3 - IN; W2 - OUT
LOCATION 02s & 02n	26K TO 28K	W3 - IN; W2 - OUT

NOTE: IF 4K BY 8 ROM's ARE INSTALLED IN 02s AND 02n, THE LOWER 2K OF ROM IS ADDRESSED WHEN ADDRESS BIT 4 IS A "1".

W4 - OUT
W5 - IN - NON-MASKABLE REQUEST ENABLE
W6 - IN - IF 1K x 8 RAM's INSTALLED (CS/10 SYSTEMS/SERIES 100)
OUT - IF 2K x 8 RAM's INSTALLED
W7 - IN - IF 2K x 8 RAM's INSTALLED
OUT - IF 1K x 8 RAM's INSTALLED (CS/10 SYSTEMS/SERIES 100)
W8 - IN - IF 2K x 8 RAM's INSTALLED
OUT - IF 1K x 8 RAM's INSTALLED (CS/10 SYSTEMS/SERIES 100)
W9 - IN - EXTERNAL I/O BUS
OUT - NO EXTERNAL I/O BUS (CS/10/SERIES 100 SYSTEMS; CABLE DOES JUMPERING)
W11 - NOT USED (MUST BE OUT)

CS/30 SYSTEM UPGRADES TO CS SERIES 100

IMPORTANT

PRIOR TO ORDER PLACEMENT, IT IS RECOMMENDED THAT A SITE SURVEY BE PERFORMED BY DATA GENERAL SERVICE PERSONNEL. THIS SURVEY IS TO DETERMINE WHAT CABLES AND OTHER COMPONENTS SHOULD BE ORDERED IN ADDITION TO THE BASIC UPGRADE KIT. FOR INSTALLATIONS WHERE REMOTE DEVICES ON THE SYSTEM HAVE THEIR CABLING ENCLOSED WITHIN THE CONSTRUCTION (E.G. CONDUIT OR OTHER RELATIVELY INACCESSIBLE ROUTING), CONSIDERATION SHOULD BE GIVEN FOR MODIFICATION OF THE CABLE INTERFACE, EITHER BY CHANGING THE CABLE CONNECTOR OR BY ADDITION OF AN ADAPTER CABLE.

UPGRADE COMPONENTS

C1 SYSTEM (KIT MODEL 9794-Y)*

COMPONENT	MODEL/PART *	NOTES
S/20 CPU PCB	005-017609	REPLACES microNOVA CPU
128 KB MEMORY PCB	005-018375	REPLACES 64KB MEMORY PCB
POWER SUPPLY PCB	005-016896	REPLACES microNOVA POWER SUPPLY
BATTERY BACK-UP PCB	4315	
BATTERY PACK WITH CABLE	4316	
POWER & FAN CABLE	005-018207	
TERMINAL ADAPTER CABLE	005-007506	
CABINET LABEL	002-021791	"DATA GENERAL CS SERIES 100"
PROCESSOR PANEL LABEL	002-012261	"DATA GENERAL"
DOCUMENTATION PACKAGE	005-019430	FOR SERIES 100 SYSTEMS
LICENSE TO USE RDOS	3618-10N	

C3 SYSTEM (KIT MODEL 90165-Y)*

COMPONENT	MODEL/PART *	NOTES
S/20 CPU PCB	005-017609	REPLACES microNOVA CPU
256 KB MEMORY PCB	005-019538	REPLACES 16KB AND 64 KB MEMORY PCBS
POWER SUPPLY PCB	005-016896	REPLACES microNOVA POWER SUPPLY
BATTERY BACK-UP PCB	4315	
BATTERY PACK WITH CABLE	4316	
POWER & FAN CABLE	005-018207	
TERMINAL ADAPTER CABLE-EXTERNAL	005-009654	FOR ASYNC MUX
TERMINAL ADAPTER CABLE	005-007506	FOR CPU
CABINET LABEL	002-021791	"DATA GENERAL CS SERIES 100"
PROCESSOR PANEL LABEL	002-012261	"DATA GENERAL"
DOCUMENTATION PACKAGE	005-019430	FOR SERIES 100 SYSTEMS
LICENSE TO USE RDOS	3618-10N	

SEPARATE COMPONENTS

COMPONENT	MODEL/PART *	NOTES
4-LINE ASYNC MUX PCB	4227-P	REQUIRED, IF NOT PRESENT, FOR ASYNC PORTS.
TERMINAL ADAPTER CABLE-EXTERNAL	005-009654	REQUIRED FOR CS/30 C1 SYSTEM IF ASYNC COMM INTERFACE 9196 IS PRESENT.
SYNC LINE ADAPTER CABLE	005-009671	OPTION- REQUIRED IF SYNC LINE INTERFACE 4226 IS PRESENT.

*** SYSTEM POWER SUFFIXES (Y)**

Y=	DESCRIPTION
BLANK	120 VAC
2	220 VAC
4	240 VAC

CABLE CHANGES

SERIAL PRINTERS (20mA)*	DELETE OLD CABLE	ADD NEW CABLE
6041/6043/ 6075/6076	005-009692	005-008181

PIO PRINTERS	DELETE OLD CABLE	ADD NEW CABLE
9192	005-009060	005-008452
9193/9194	005-009061	005-014579
9260/9261	005-009061	005-014579

DISPLAY TERMINALS (20 mA)*	DELETE OLD CABLE	ADD NEW CABLE
6103	005-014695	005-014691
6053/6093	005-007636	005-007428

* SEE NOTE #1

1. EIA CABLES FOR SERIAL PRINTERS AND DISPLAY TERMINALS CAN BE CARRIED OVER FROM THE CS/30 TO THE CS SERIES 100 CONFIGURATION WITHOUT CHANGE.

2. THE CS SERIES 100 SYSTEM DOES NOT SUPPORT USE OF THE 20-mA BUSY SIGNAL. THEREFORE, THE REMOTE 20mA TP1 AND TP2 PRINTERS ARE LIMITED TO A MAXIMUM BAUD RATE OF 300 AND 1200.

C1/C3 SYSTEMS UPGRADE PROCEDURE

FOR C1 SYSTEMS THE UPGRADE IS TO A MODEL 9821 CS SERIES 100 WITH 128 KB OF MEMORY. FOR C3 SYSTEMS THE UPGRADE IS TO A MODEL 9823 CS SERIES 100 WITH 256 KB OF MEMORY. IN THE FOLLOWING PROCEDURE, REFERENCE IS MADE TO THE CS SERIES 100 INSTALLATION DATA SHEETS 010-00309 WHICH IS INCLUDED IN THE NEW DOCUMENTATION PACKAGE 005-013430.

CAUTION

BACK-UP ALL DISK FILES BEFORE BEGINNING THE UPGRADE PROCEDURE.

DISASSEMBLE CS/30

IN THIS PROCEDURE, THE CHASSIS IS REMOVED COMPLETELY TO ENABLE CHANGING THE FAN CABLE, THEN THE CHASSIS IS REINSTALLED IN THE CABINET. REFER TO THE S/20 INSTALLATION DATA SHEETS (010-000297) AND THE CS SERIES 100 INSTALLATION DATA SHEETS (010-000309).

1. DISCONNECT ALL CABLES TO THE CONVENIENCE PANEL PCB. REMOVE THE CONVENIENCE PANEL PCB AND ITS MOUNTING HARDWARE (SEE SHEET 3 OF THIS ID3).

2. REMOVE CABLE 005-013310 AND CABLE 005-013812 (IF PRESENT), THESE CABLES WILL NOT BE USED IN THE NEW CONFIGURATION.

3. DISCONNECT ALL CABLES TO THE CPU CHASSIS.

4. REMOVE THE CPU CHASSIS FROM THE CABINET TO A SUITABLE WORK AREA.

5. REMOVE THE MP/100 CPU PCB, THE MEMORY PCB(S), THE RPD PCB, THE MICRONOVA POWER SUPPLY PCB (SEE WARNING), AND THE MEMORY BANK SELECT PCB (IF PRESENT). THESE BOARDS WILL NOT BE USED IN THE NEW CONFIGURATION.

> WARNING
> TO AVOID SHOCK FROM A RESIDUAL CHARGE ON THE POWER SUPPLY, REMOVE POWER FROM THE SYSTEM FOR AT LEAST 15 MINUTES BEFORE REMOVING THE POWER SUPPLY PCB.

6. REMOVE THE REMAINING PCBS, WHICH WILL BE USED WHEN ASSEMBLING THE CS SERIES 100 SYSTEM.

7. REMOVE TOP OF CHASSIS AND THEN REMOVE THE COOLING FANS LOCATED ON THE SIDE OF THE CHASSIS. REPLACE THE EXISTING CONTROLLER AND FAN CABLE (005-12559) WITH THE POWER AND FAN CABLE (005-018207) (SEE SHEET 4 THIS IDS).

8. CONNECT THE NEW CABLE TO THE BACK OF THE LOGIC CHASSIS AS SHOWN IN THE S/20, (010-000297) INSTALLATION DATA SHEETS. NOTE THAT, WITH THE BATTERY BACK-UP OPTION INSTALLED, THE CONNECTOR SHOWN AT J3 MUST BE MOVED TO J2.

9. RE-INSTALL THE FANS AND THE TOP OF THE CHASSIS.

ASSEMBLE CS SERIES 100

1. CONNECT ADAPTER CABLE 005-007506 TO THE SPU CONNECTOR (SLOT 1) AT THE REAR END OF THE LOGIC CHASSIS. CONNECT THE TERMINAL ADAPTER CABLE (005-009654) TO THE CONNECTOR ON THE 4-LINE ASYNCHRONOUS MUX PCB, AND IF THE 4226 INTERFACE IS PRESENT, CONNECT THE SYNC LINE ADAPTER CABLE (005-009671) TO THE INTERFACE PCB (SEE CS SERIES INSTALLATION DATA SHEETS TO DETERMINE THE APPROPRIATE SLOT ASSIGNMENTS FOR EACH PCB).

2. INSTALL THE UPGRADE PCBS; THE SPU PCB, THE 128 KB MEMORY PCB(S), THE POWER SUPPLY PCB, THE BATTERY BACK-UP PCB, AND THE 4-LINE ASYNCHRONOUS MUX PCB (SEE SERIES 100 INSTALLATION DATA SHEETS TO DETERMINE THE APPROPRIATE SLOT ASSIGNMENTS AND TAILORING FOR EACH PCB).

3. INSTALL REMAINING PCBS ACCORDING TO THE SLOT CONFIGURATIONS FOR THE CS SERIES 100 (SEE CS SERIES 100 INSTALLATION DATA SHEETS)

4. RE-INSTALL THE CPU CHASSIS IN THE CABINET, AND RECONNECT REMOTE START CABLE OF THE EXPANSION CHASSIS (IF IT EXISTS) TO PIN B59 (SEE SHEET 5 THIS IDS).

5. INSTALL THE BATTERY PACK ON THE VERTICAL RAIL OF THE CABINET AND ATTACH THE CABLE TO THE BACK OF THE LOGIC CHASSIS (SEE 010000239) BATTERY BACK-UP INSTALLATION DATA SHEETS.

6. RECONFIGURE THE EXTERNAL SERIAL PRINTER AND TERMINAL CABLES AS DEFINED UNDER HEADING "CABLE CHANGES" AND THEN INTERCONNECT THE EXTERNAL DEVICES ACCORDING TO THE CS SERIES 100 INSTALLATION DATA SHEETS.

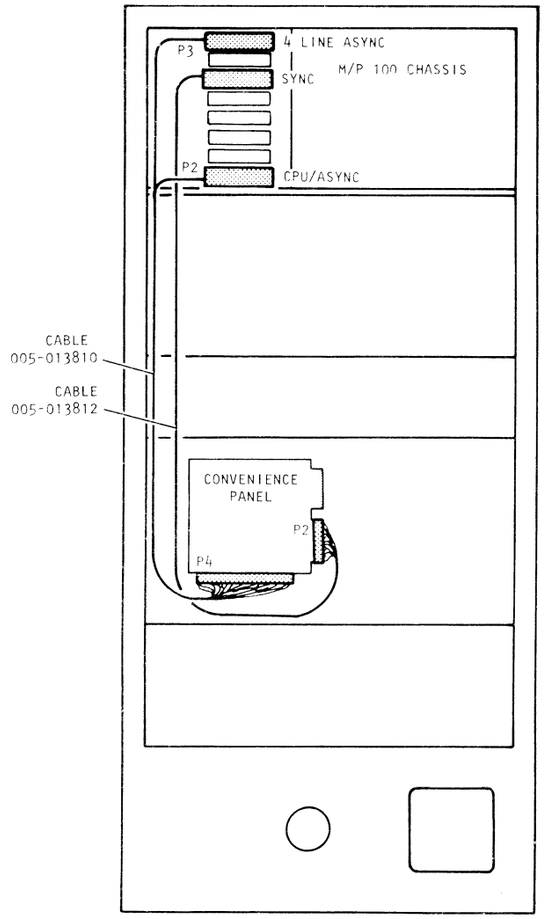
7. INSTALL LABEL 002-012261 OVER THE S/20 LABEL ON THE PROCESSOR FRONT PANEL AND THE 002-021791 LABEL (DATA GENERAL SERIES 100) OVER EXISTING LABEL AT TOP OF CABINET.

8. VERIFY CORRECT SYSTEM OPERATION USING SYSTEM DIAGNOSTICS.

9. LOAD THE OPERATING SOFTWARE AS DESCRIBED IN THE DOCUMENTATION ACCOMPANYING THE SOFTWARE PACKAGE. RELOAD THE BACKED-UP DISK FILES.

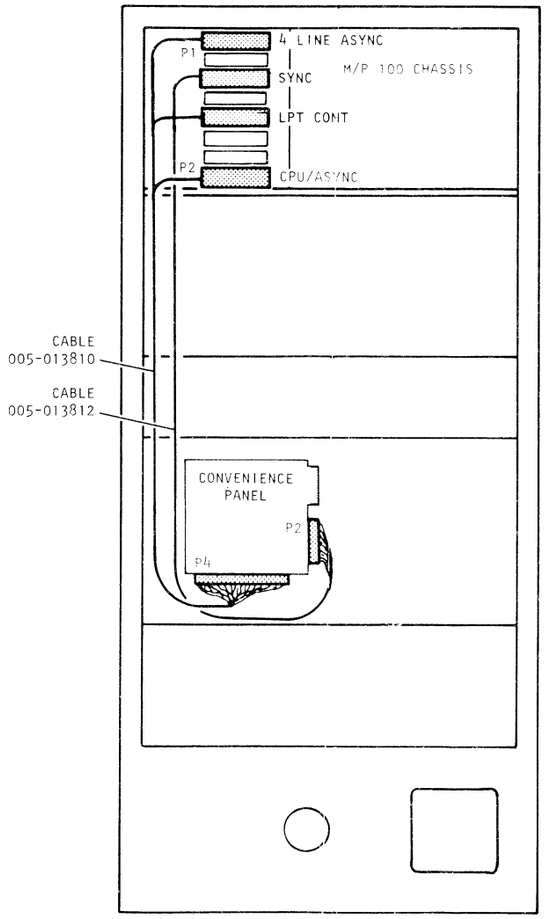
CS/30 UPGRADE TO CS SERIES 100

CONNECTION OF CABLING BETWEEN CONVENIENCE PANEL AND M/P 100 CHASSIS

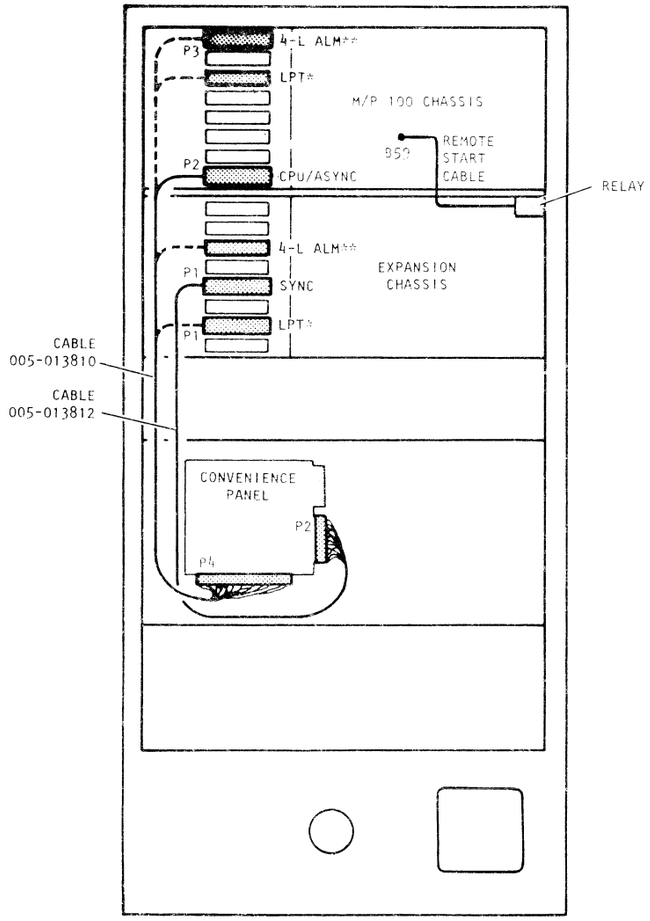


C-1 WITH SERIAL PRINTER

NOTE: WHEN USED ON THE C-1 ONE CONNECTOR OF CABLE 005-13810 WILL NOT BE ATTACHED TO ANY BOARD. FOR CONVENIENCE, ATTACH IT TO ANY EMPTY SLOT.



C-1 WITH PARALLEL PRINTER



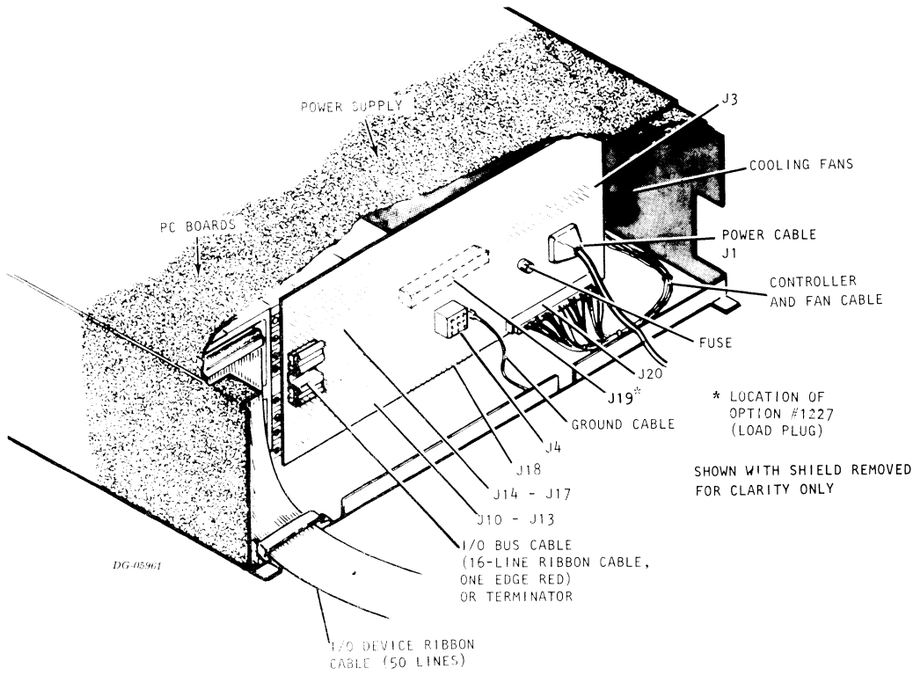
* LPT TO EXP CHASSIS FOR 3 AND 4 TERMINAL SYSTEM
** 4-L ALM TO EXP CHASSIS FOR 4 TERMINAL SYSTEM

C-3

NOTE: THE JUMPER WIRE ON P-2 OF 005-013810 SHOULD BE ATTACHED TO +12V ON THE BACKPANEL (B-55).

IF SUBSEQUENT REMOVAL IS REQUIRED, JUMPER CONNECTOR MUST BE SQUEEZED AS WELL AS PULLED.

MP/100 CPU CHASSIS



* LOCATION OF OPTION #1227 (LOAD PLUG)

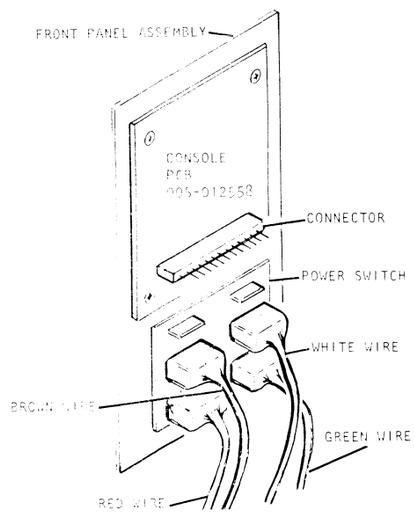
SHOWN WITH SHIELD REMOVED FOR CLARITY ONLY

CHASSIS SLOT ASSIGNMENTS CS/30

SLOT	C1	C3
8	4 LINE ASYN/SYNC	4 LINE ASYNC/OPEN
7	COMM. CONT.	COMM. CONT /8K RAM
6	SYNC/ASYNC	8K RAM/LPT
5	COMM CONT	8 K RAM
4	LPT/6096-CONT	32K RAM
3	32K RAM	BANK SELECTOR
2	R. P. D.	R. P. D.
1	CPU/ASYNC	CPU/ASYNC

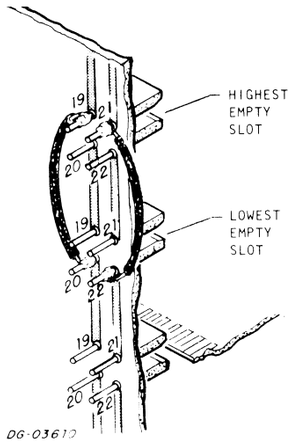
SLOT	EXPANSION CHASSIS
8	
7	
6	OPEN/4-LINE ASYNC
5	OPEN/COMM. CONT.
4	SYNC INTCF
3	COMM. CONT.
2	LPT. CONT.
1	6096-A CONT

SERIES 100 FRONT PANEL ASSEMBLY CABLE CONNECTIONS FOR 005-018207

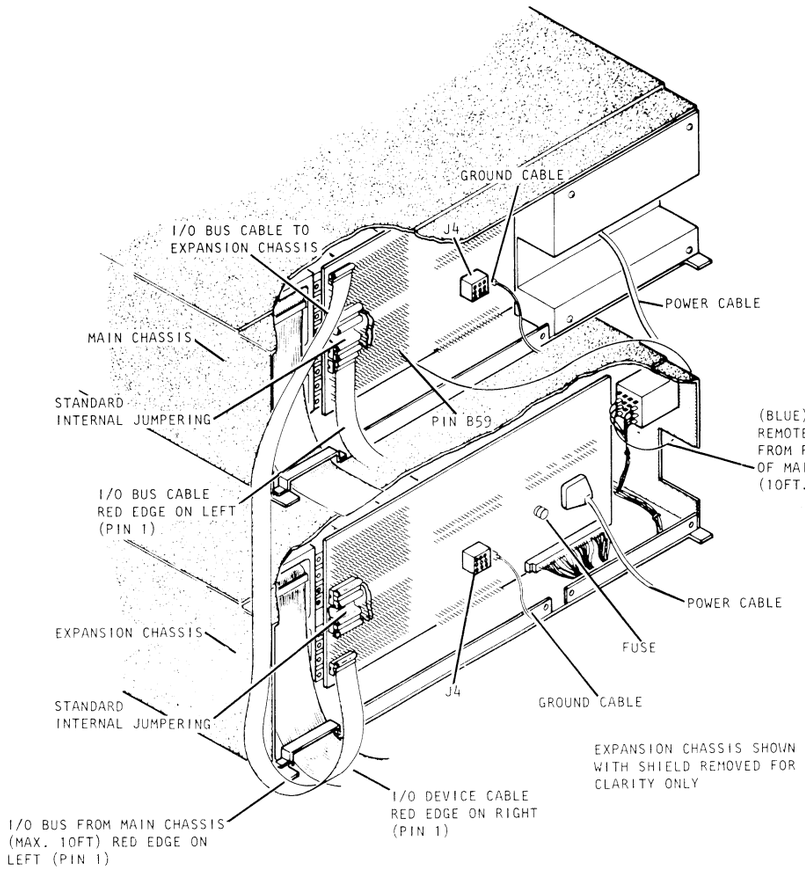


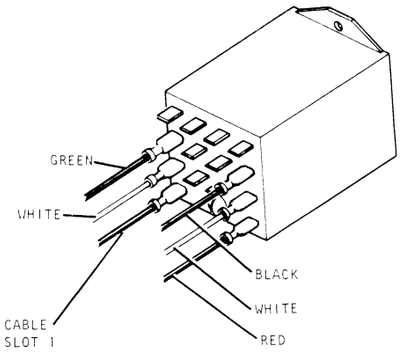
MP100/MP200 EXPANSION CHASSIS

JUMPERING BACKPANEL



AN 8-SLOT CARDFRAME, HAVING EMPTY SLOTS BETWEEN SYSTEM MODULES, MUST HAVE PRIORITY JUMPERS INSTALLED ACROSS THOSE SLOTS AS FOLLOWS: PINS 20 AND 22 OF THE LOWEST EMPTY SLOT SHOULD BE CONNECTED TO PINS 19 AND 21, RESPECTIVELY, OF THE HIGHEST EMPTY SLOT. THE HIGHEST AND THE LOWEST EMPTY SLOT MAY BE THE SAME. NO JUMPERS ARE REQUIRED IF THE GROUP OF EMPTY SLOTS INCLUDES SLOT 8, UNLESS THE EXTERNAL I/O BUS IS USED. THE HIGHEST LEVEL PRIORITY BOARD IS THE ONE NEAREST THE CPU SLOT.





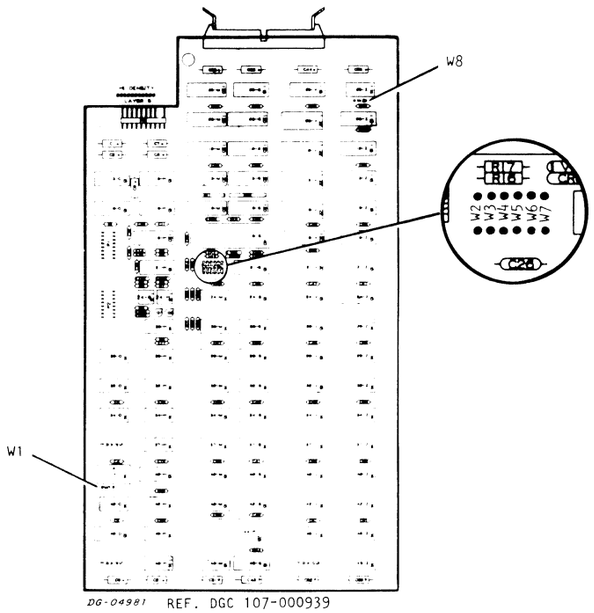
B CONNECTOR PIN ASSIGNMENTS SLOTS 1-8

	EVEN	ODD	
2	MCLOCK-L	MCLOCK-L	1
4	BIO1-L	GND	3
6	CLEAR-L	BIO1-L	5
8	BEXTINT-L		7
10		BDCINT-L	9
12	BIO2-L	GND	11
14	GND	BIO2-L	13
16	BIOCLOCK-L	BIOCLOCK-L	15
18			17
20		INTP→2	19
22		DCHP→2	21
24			23
26			25
28			27
30			29
32			31
34			33
36	GND		35
38			37
40		-12V	39
42			41
44			43
46			45
48			47
50			49
52			51
54	GND	GND	53
56	+12V	+12V	55
58	-5V	+5V	57
60	+5V	+5V	59

6095/6038 DISK/DISKETTE TAILORING

DISK DRIVE 6095N

Ref DGC No 005-010053



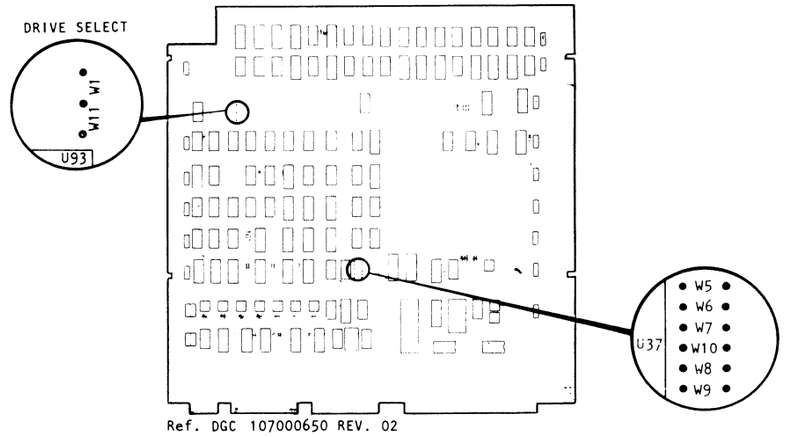
DG-04981 REF. DGC 107-000939

JUMPER POSITION
W1 IN W8 IN
DEVICE CODE SELECT
W2-DS5 W3-DS4 W4-DS3 W5-DS2 W6-DS1 W7-DS0
TYPICAL DEVICE CODE 27, 67

DEVICE CODE	DS5	DS4	DS3	DS2	DS1	DS0
27	OUT	IN	OUT	IN	IN	IN
67	IN	IN	OUT	IN	IN	IN

DISKETTE DRIVE 6038

Ref DGC No 005-007109



Ref. DGC 107000650 REV. 02

JUMPER MEMORY INSERTED
FOR DEVICE CODE 33

W10	W9	W8	W7	W6	W5
OUT	IN	IN	OUT	IN	IN

DRIVE 0 IS SELECTED BY INSTALLING JUMPER W1 OR W11. IF ONLY ONE DRIVE IN SYSTEM, JUMPER W11 SELECTS DRIVE 0.

TYPICAL DISK CONFIGURATIONS

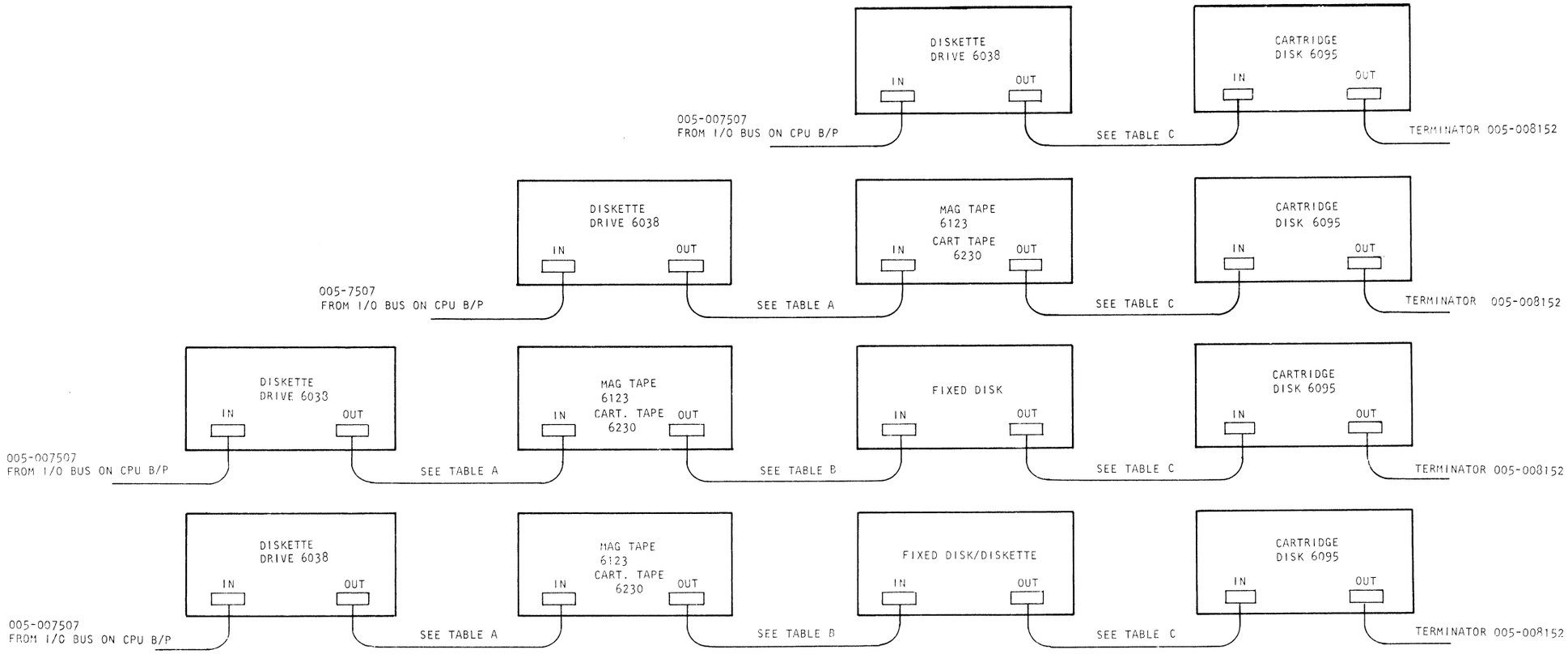


TABLE A

CABLE FROM 6038 TO TAPE

WHEN TAPE IS	CABLE NO.	CABLE LENGTH
6123	005-007507	10 ft. 3.1 m
	005-007753	25 ft. 7.6 m
6230	005-018335	10 ft. 3.1 m
	005-019645	20 ft. 6.1 m
	005-019644	30 ft. 9.1 m

TABLE B

CABLE FROM TAPE TO FIXED DISK

WHEN TAPE IS	WHEN FIXED DISK IS	CABLE NO	CABLE LENGTH
6123	6220 OR 6222	005-018235	10 ft. 3.1 m
		005-019645	20 ft. 6.1 m
		005-019644	30 ft. 9.1 m
6123	6101/6104 OR 6102/6105	005-007507	10 ft. 3.1 m
		005-005553	25 ft. 7.6 m
6230	6220 OR 6222	005-019678	10 ft. 3.1 m
		005-019677	20 ft. 6.1 m
		005-019676	30 ft. 9.1 m
6230	6101/6104 OR 6102/6105	005-019643	10 ft. 3.1 m
		005-019642	20 ft. 6.1 m
		005-019641	30 ft. 9.1 m

TABLE C

CABLE TO CARTRIDGE DISK

WHEN PRECEEDING DEVICE IS	CABLE NO.	CABLE LENGTH
6220 OR 6220 OR 6230	005-019643	10 ft. 3.1 m
	005-019642	20 ft. 6.1.m
	005-019641	30 ft. 9.1 m
6101/6104 OR 6038 6102/6105 OR 6123	005-007507	10 ft. 3.1 m
	005-007753	25 ft. 7.6 m

CS/50 SYSTEM UPGRADES TO CS SERIES 200

IMPORTANT

PRIOR TO ORDER PLACEMENT, IT IS RECOMMENDED THAT A SITE SURVEY BE PERFORMED BY DATA GENERAL SERVICE PERSONNEL. THIS SURVEY IS TO DETERMINE WHAT CABLES AND OTHER COMPONENTS SHOULD BE ORDERED IN ADDITION TO THE BASIC UPGRADE KIT. FOR INSTALLATIONS WHERE REMOTE DEVICES ON THE SYSTEM HAVE THEIR CABLING ENCLOSED WITHIN THE CONSTRUCTION (E.G. CONDUIT OR OTHER RELATIVELY INACCESSIBLE ROUTING), CONSIDERATION SHOULD BE GIVEN FOR MODIFICATION OF THE CABLE INTERFACE, EITHER BY CHANGING THE CABLE CONNECTOR OR BY ADDITION OF AN ADAPTER CABLE.

UPGRADE COMPONENTS

C3 64 KB SYSTEM (KIT MODEL 90168-Y) *
C5/C6 128 KB SYSTEM (KIT MODEL 90166-Y)*
C5/C6 256 KB SYSTEM (KIT MODEL 90167-Y)*

COMPONENT	MODEL/PART #	NOTES
S/140 CPU	005-014498	
512 KB MEMORY PCB	005-019013	
ERCC MEMORY CONTROL PCB	005-014270	
CABINET LABEL	002-021792	"DATA GENERAL CS SERIES 200"
DOCUMENTATION PACKAGE	005-019431	FOR SERIES 200 SYSTEMS
LICENSE TO USE RDOS	3359-10N	
MTG KIT ULM/5	005-015512	

SEPARATE COMPONENTS

COMPONENT	MODEL/PART #	NOTES
LINE PRINTER CONTROLLER	005-03564	OPTION - FOR PIO PRINTER
ULM-5 PCB'S	4241	OPTION - FOR ASYNC
	4242	OPTION - FOR SYNC
	4243	OPTION - FOR SYNC/ASYNC.
CSI-2/1 PCB	4345/4346	OPTION - FOR 2-LINE/1-LINE CHARACTER SYNC INTERFACE.
BSI-1 PCB	4348	OPTION - FOR BIT-SYNC INTERFACE.
AMI-8	4340	ASYNC MODEM INTERFACE WITH MODEM CONTROL.
ATI-16	4342	ASYNC TERMINAL INTERFACE WITHOUT MODEM CONTROL.
ASYNC LINE CONTROLLER PCB	4078-P	OPTION - FOR CONCURRENCY.
POWER SUPPLY	005018877	REPLACES 005012064

* SYSTEM POWER SUFFIXES (Y)

Y =	DESCRIPTION
BLANK	120 VAC
2	220 VAC
4	240 VAC

CABLE CHANGES

	DELETE OLD CABLE	ADD NEW CABLE
SERIAL PRINTERS		
6041/6193	005-009692	005-018250
4320/4322	005-015277	005-015275
4422	005-018318	005-013249 + 005-018249
4354	005-015117	005-018249 (EIA)
4354	005-014695	005-014689 (20mA)
PIO PRINTERS		
9125/9128	005-009061	005-000900
9260/9261	005-009061	005-000900
9613	005-009060	005-001356
9198	005-012933	005-012929
DISPLAY TERMINALS		
6053/6093	005-007636	005-018250
6108	005-014690	005-014694 (EIA)
6108	005-014695	005-014689 (20mA)

NOTES

1, DATA CHANNEL PRINTERS CAN BE CARRIED OVER TO THE SERIES 200.

2. FOR THE SERIES 200, AN EXTERNAL CABLE IS REQUIRED FOR SYNCHRONOUS COMMUNICATIONS. TWO CABLES WHICH CAN BE USED ARE AS FOLLOWS: 1084M, A 25 FOOT MODEM CABLE FOR CONNECTING CS/200 TO BELL 201,203,208,209 SYNCHRONOUS DATA SETS OR 103, 202, 133 ASYNCHRONOUS DATA SETS OR EQUIVALENT; 1085M, A MODEM CABLE USED WITH BELL 303 SERIES DATA SETS.

3. IF POWER SUPPLY 005-012064 IS PRESENT IN CS/50 SYSTEMS, IT MUST BE REPLACED WITH POWER SUPPLY 005-018877 TO SUPPORT EXPANDED MEMORY CONFIGURATIONS.

UPGRADE PROCEDURE

C3 64 KB SYSTEMS (MODELS 9238, 9240, 9241)
C5/C6 128 KB SYSTEMS (MODELS 9231-K, 9233-K THRU 9237-K, 9770-K, 9771-K)
C5/C6 256 KB SYSTEMS (MODELS 9231-N, 9233-N THRU 9237-N, 9770-N, 9771-N)

FOR THESE SYSTEMS, THE UPGRADE IS TO A MODEL 90158 CS SERIES 200 WITH 512 KB OF MEMORY. IN THE FOLLOWING PROCEDURE, REFERENCE IS MADE TO THE CS SERIES 200 INSTALLATION DATA SHEETS 010-00310 WHICH ARE INCLUDED IN THE NEW DOCUMENTATION PACKAGE 005-019431.

CAUTION

BACK-UP ALL DISK FILES BEFORE BEGINNING THE UPGRADE PROCEDURES.

DISASSEMBLE CS/50 SYSTEM

1. REMOVE THE NOVA 4 CPU, THE MEMORY PCBs, THE COMBO MUX PCB AND CABLE, THE SYNC LINE MUX PCB (005-009349) AND CABLES 005-005269 AND 005-9028. THESE BOARDS AND CABLES, WITH THE EXCEPTION OF THE SBS MUX INTERNAL CABLE, WILL NOT BE USED IN THE NEW CONFIGURATION.
2. DISCONNECT ALL CABLES TO THE CONVENIENCE PANEL PCB. REMOVE THE CONVENIENCE PANEL PCB AND ITS MOUNTING HARDWARE. THESE CABLES, THE MOUNTING HARDWARE AND THE CONVENIENCE PANEL WILL NOT BE USED IN THE NEW CONFIGURATION.
3. IF PRESENT, REMOVE POWER SUPPLY 005-012064.

ASSEMBLE CS SERIES 200

1. INSTALL THE UPGRADE PCBs: THE S/140 SPU PCB, THE 256 MEMORY PCB(s), THE POWER SUPPLY 005-018877 IF REQUIRED, THE ERCC PCB, AND THE PIO PCB (IF PRESENT), AND EITHER THE AMI, ATI OR ULM PCB. NOTE THAT PCB's AND THEIR CABLES WHICH ARE CARRIED OVER FROM THE CS/50 SHOULD BE RECONFIGURED ACCORDING TO THE SLOT ASSIGNMENTS FOR THE CS SERIES 200 B (SEE CS SERIES 200 B INSTALLATION DATA SHEETS TO DETERMINE THE APPROPRIATE SLOT ASSIGNMENTS). MAKE SURE THAT THE MEMORY TERMINATORS ARE INSTALLED IN THE LAST MEMORY SLOT (BELOW SLOT 13).
2. INSTALL THE EIA CONNECTOR PANEL (SEE S/140 INSTALLATION DATA SHEETS (010-000232).
3. CONNECT THE INTERNAL CABLE (PROVIDED IN ATI, AMI OR ULM KIT) TO THE CPU CHASSIS AND THE EIA CONNECTOR PANEL (SEE COMMUNICATIONS INTERFACES INSTALLATION DATA SHEETS; LISTED IN CS SERIES 200A/B INSTALLATION DATA SHEETS.
4. RECONFIGURE CABLES THAT ATTACH SERIAL PRINTERS AND TERMINALS TO THE CONVENIENCE PANEL AS DEFINED UNDER HEADING "CABLE CHANGES". CONNECT CABLES FROM THE SERIAL PRINTER(S) AND TERMINALS TO THE EIA CONNECTOR PANEL(S) (SEE S/140 INSTALLATION DATA SHEETS (010-000232).
5. IF A PIO PRINTER IS PRESENT IN THE NEW CONFIGURATION, RECONNECT THE INTERNAL CABLE THAT PREVIOUSLY ATTACHED TO THE SBS MUX BOARD TO THE NEW PRINTER BOARD, AND CONNECT THE NEW EXTERNAL PRINTER CABLE (FOUND UNDER HEADING "CABLE CHANGES") TO THE PADDLE BOARD (SEE PRINTER CONTROLLER INSTALLATION DATA SHEETS (010-000199).
6. IF SYNCHRONOUS COMMUNICATIONS ARE TO BE USED, ADD THE APPROPRIATE SYNC BOARD FOR YOUR CONFIGURATION(SEE COMMUNICATIONS INTERFACES INSTALLATION DATA SHEETS, LISTED IN CS SERIES 200A/B INSTALLATION DATA SHEETS).
7. INSTALL LABEL 002-021792 OVER THE EXISTING LABEL AT THE TOP OF THE CABINET.
8. VERIFY CORRECT SYSTEM OPERATION USING SYSTEM DIAGNOSTICS.
9. LOAD THE OPERATING SOFTWARE AS DESCRIBED IN THE DOCUMENTATION ACCOMPANYING THE SOFTWARE PACKAGE. RELOAD THE BACKED-UP DISK FILES.

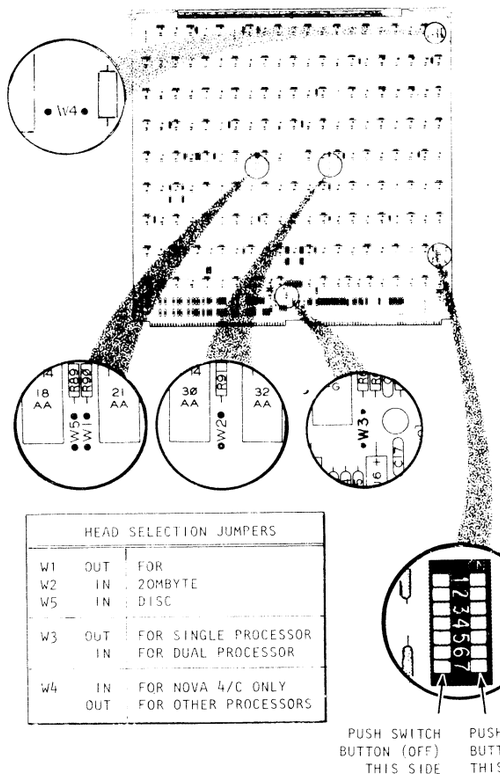
TAILORING

JUMPERING

(For CS Series 200 PCB's, see 010-000310)

6070 CARTRIDGE DISK

Ref DGC Dwg No 107-000839 Rev 05



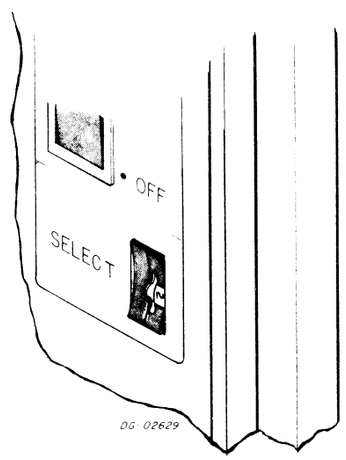
HEAD SELECTION JUMPERS		
W1	OUT	FOR
W2	IN	20MBYTE
W5	IN	DISC
W3	OUT	FOR SINGLE PROCESSOR
	IN	FOR DUAL PROCESSOR
W4	IN	FOR NOVA 4/C ONLY
	OUT	FOR OTHER PROCESSORS

PUSH SWITCH BUTTON (OFF) THIS SIDE

PUSH SWITCH BUTTON (ON) THIS SIDE

DG-04549

UNIT SELECT SWITCH

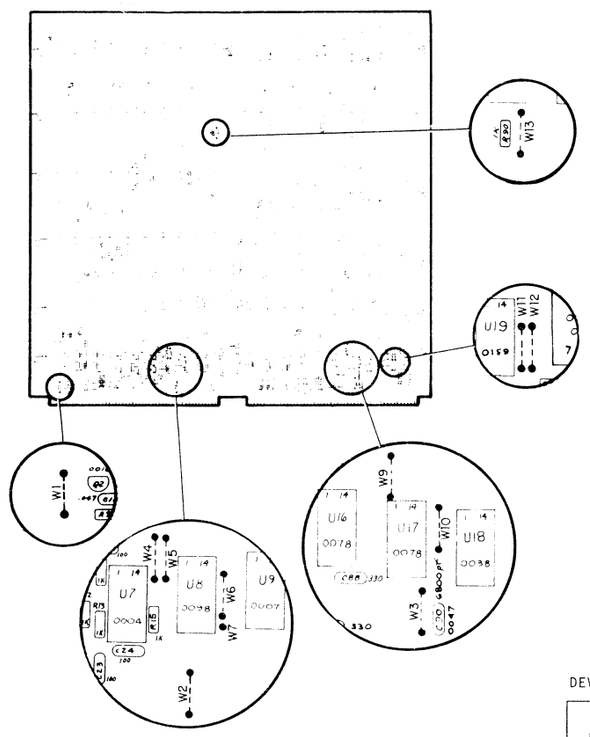


DG-02629

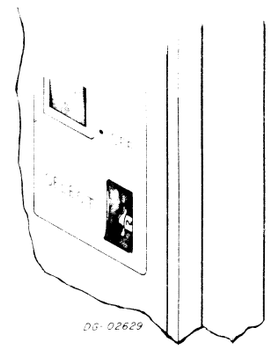
CONTROLLER DEVICE SELECT		
SWITCH NUMBER	DEVICE CODE 33$_8$	DEVICE CODE 73$_8$
1	OFF	ON
2	ON	ON
3	ON	ON
4	OFF	OFF
5	ON	ON
6	ON	ON
7	OFF	OFF

6045 CARTRIDGE DISK

Ref DGC Dwg No 003-000187 Rev 38



UNIT SELECT SWITCH



DG-02629

CONFIGURATION JUMPERS

W1	IN	- FACTORY TEST
	OUT	- NORMAL OPERATION
W2	IN	- FUTURE USE
	OUT	- NORMAL OPERATION
W3	IN	- SINGLE PROCESSOR
	OUT	- DUAL PROCESSOR
W11	IN	- NORMAL OPERATION
	OUT	- FACTORY TEST ONLY
W12	IN	- FACTORY TEST ONLY
	OUT	- NORMAL OPERATION
W13	IN	- NORMAL OPERATION
	OUT	- FUTURE USE

DEVICE CODE SELECTION

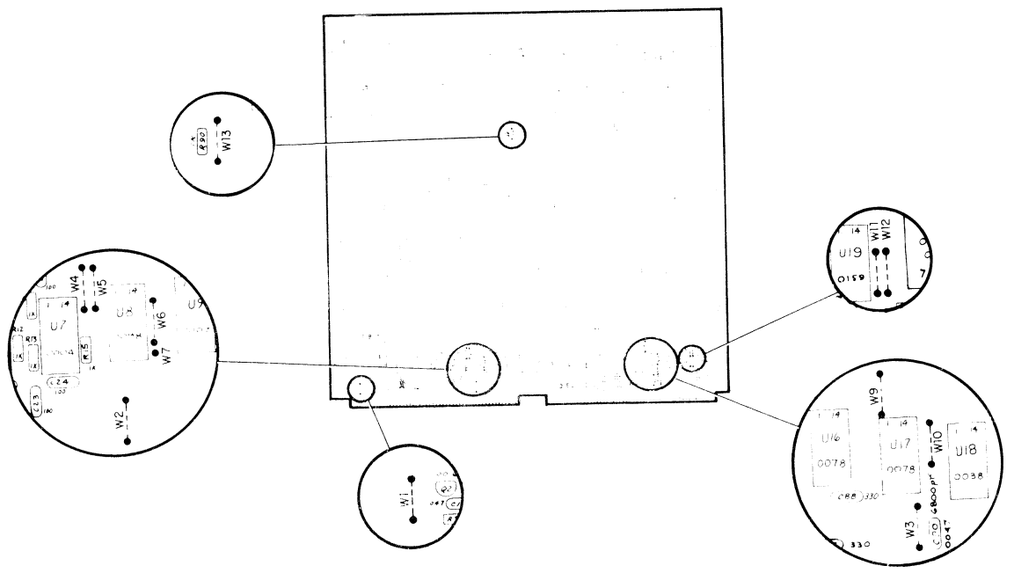
JUMPER POSITION	DEVICE CODE 33	DEVICE CODE 73	DEVICE CODE 32	DEVICE CODE 72
W4	IN	IN	OUT	OUT
W5	OUT	OUT	IN	IN
W6	IN	OUT	IN	OUT
W7	OUT	IN	OUT	IN
W9	OUT	IN	OUT	IN
W10	IN	IN	OUT	OUT

TAILORING
JUMPERING

(For CS Series 200 PCB's, see 010-000310)

6031 DISKETTE DRIVE

Ref DGC Dwg 003-000187 Rev 38



DEVICE CODE SELECTION

JUMPER POSITION	DEVICE CODE 33	DEVICE CODE 73	DEVICE CODE 32	DEVICE CODE 72
W4	IN	IN	OUT	OUT
W5	OUT	OUT	IN	IN
W6	IN	OUT	IN	OUT
W7	OUT	IN	OUT	IN
W9	OUT	IN	OUT	IN
W10	IN	IN	OUT	OUT

CONFIGURATION JUMPERS

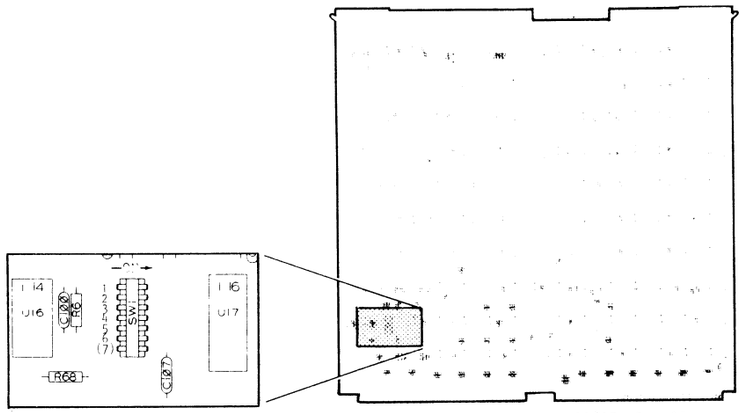
W1	IN - FACTORY TEST
	OUT - NORMAL OPERATION
W2	IN - FUTURE USE
	OUT - NORMAL OPERATION
W3	IN - SINGLE PROCESSOR
	OUT - DUAL PROCESSOR
W11	IN - NORMAL OPERATION
	OUT - FACTORY TEST ONLY
W12	IN - FACTORY TEST ONLY
	OUT - NORMAL OPERATION
W13	IN - NORMAL OPERATION
	OUT - FUTURE USE

TAILORING

JUMPERING

6060, 6061, 6067 DISK PACK DISKS

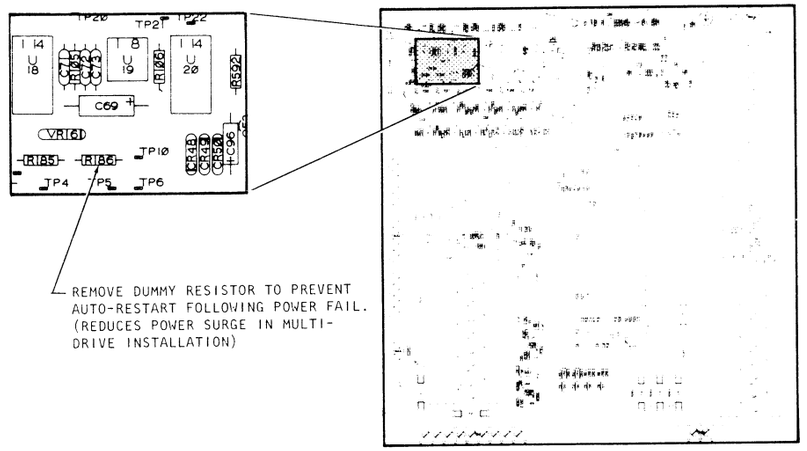
CONTROLLER BOARD SWITCH



Ref DGC Dwg No 107-000605 Rev 07

DEVICE CODE	"ON"
27	2, 4, 5, 6
67	1, 2, 4, 5, 6
SINGLE PROCESSOR	7

DC POWER CONTROL BOARD



Ref DGC Dwg No 107-000519 Rev 05

CS/70 SYSTEM UPGRADES TO CS SERIES 200

IMPORTANT

PRIOR TO ORDER PLACEMENT, IT IS RECOMMENDED THAT A SITE SURVEY BE PERFORMED BY DATA GENERAL SERVICE PERSONNEL. THIS SURVEY IS TO DETERMINE WHAT CABLES AND OTHER COMPONENTS SHOULD BE ORDERED IN ADDITION TO THE BASIC UPGRADE KIT. FOR INSTALLATIONS WHERE REMOTE DEVICES ON THE SYSTEM HAVE THEIR CABLING ENCLOSED WITHIN THE CONSTRUCTION (E.G. CONDUIT OR OTHER RELATIVELY INACCESSIBLE ROUTING), CONSIDERATION SHOULD BE GIVEN FOR MODIFICATION OF THE CABLE INTERFACE, EITHER BY CHANGING THE CABLE CONNECTOR OR BY ADDITION OF AN ADAPTER CABLE.

UPGRADE COMPONENTS

C5/C6 256 KB SYSTEM (KIT MODEL 9799-Y)*

COMPONENT	MODEL/PART #	DESCRIPTION
S/140 CPU	005-014498	
CABINET LABEL	002-021792	"DATA GENERAL CS SERIES 200"
LICENSE TO USE RDOS	3359-10N	
DOCUMENTATION PACKAGE	005-019432	
MTG KIT ULM/5	005-015512	

SEPARATE COMPONENTS

COMPONENT	MODEL/PART #	NOTES
LINE PRINTER CONTROLLER	005-003564	OPTION - FOR PIO PRINTER
ULM-5 PCB'S	4241	OPTION - FOR ASYNC
	4242	OPTION - FOR SYNC
	4243	OPTION - FOR SYNC/ASYNC
CSI-2/1 PCB	4345/4346	OPTION - FOR 2-LINE/1-LINE CHARACTER SYNC INTERFACE
BSI-1 PCB	4348	OPTION - FOR BIT-SYNC INTERFACE
AMI-8	4340	ASYNC MODEM INTERFACE WITH MODEM CONTROL
ATI-16	4342	ASYNC TERMINAL INTERFACE WITHOUT MODEM CONTROL
ASYNC LINE CONTROLLER PCB	4078-P	OPTION - FOR CONCURRENCY
POWER SUPPLY	005-018877	REPLACES 005-012064

* SYSTEM POWER SUFFIXES (Y)

Y =	DESCRIPTION
BLANK	120 VAC
2	220 VAC
4	240 VAC

CABLE CHANGES

SERIAL PRINTERS	DELETE OLD CABLE	ADD NEW CABLE
6041/6193	005-009692	005-018250
4320/4322	005-015277	005-015275
4422	005-018318	005-013249 + 005-018249
4354	005-015117	005-018249 (EIA)
4354	005-014695	005-014683 (20mA)
PIO PRINTERS		
9125/9128	005-009061	005-000900
9260/9261	005-009061	005-000900
9613	005-009060	005-001356
9198	005-012933	005-012929
DISPLAY TERMINALS		
6053/6093	005-007636	005-018250
6108/6106	005-014690	005-014694 (EIA)
6108/6106	005-014695	005-014689 (20 mA)

1. DATA CHANNEL PRINTERS CAN BE CARRIED OVER TO THE SERIES 200.
2. FOR THE SERIES 200, AN EXTERNAL CABLE IS REQUIRED FOR SYNCHRONOUS COMMUNICATIONS. TWO CABLES WHICH CAN BE USED ARE AS FOLLOWS: 1084M, A 25 FOOT MODEM CABLE FOR CONNECTING CS/200 TO BELL 201,203,208,209 SYNCHRONOUS DATA SETS OR 103, 202, 133 ASYNCHRONOUS DATA SET OR EQUIVALENT; 1085M, A MODEM CABLE USED WITH BELL 303 SERIES DATA SETS.
3. THE S/140 ERCC MEMORY CAN BE CARRIED OVER TO THE CS SERIES 200B.
4. IF POWER SUPPLY 005-012064 IS PRESENT IN CS/50 SYSTEM, IT MUST BE REPLACED WITH POWER SUPPLY 005-018877 TO SUPPORT EXPANDED MEMORY CONFIGURATION.

UPGRADE PROCEDURE

C5/C6 256 KB SYSTEMS (MODELS 9600 THRU 9604)

FOR THESE SYSTEMS, THE UPGRADE IS TO A MODEL 9940 CS SERIES 200 WITH 512 KB OF MEMORY. IN THE FOLLOWING PROCEDURE, REFERENCE IS MADE TO THE CS SERIES 200 INSTALLATION DATA SHEETS 010-00310 WHICH IS INCLUDED IN THE NEW DOCUMENTATION PACKAGE 005-019432.

CAUTION

BACK-UP ALL DISK FILES BEFORE BEGINNING THE UPGRADE PROCEDURES

DISASSEMBLE CS/70 SYSTEM

1. REMOVE THE S/140 CPU, AND COMBINATION MUX PCB AND CABLE, AND THE SYNC LINE MUX PCB (005-009349) AND CABLES 005-005269 AND 005-009028. THESE BOARDS AND CABLES, WITH THE EXCEPTION OF THE SBS MUX INTERNAL CABLE, WILL NOT BE USED IN THE NEW CONFIGURATION.

2. DISCONNECT ALL CABLES TO THE CONVENIENCE PANEL PCB. REMOVE THE CONVENIENCE PANEL PCB AND ITS MOUNTING HARDWARE. THESE CABLES, THE MOUNTING HARDWARE AND THE CONVENIENCE PANEL WILL NOT BE USED IN THE NEW CONFIGURATION.

ASSEMBLE CS SERIES 200

1. INSTALL THE UPGRADE S/140 CPU PCB AND EITHER THE AMI, ATI, OR THE ULM PCB. NOTE THAT PCB'S AND THEIR CABLES WHICH ARE CARRIED OVER FROM THE CS/70 SHOULD BE RECONFIGURED ACCORDING TO THE SLOT ASSIGNMENTS FOR THE CS SERIES 200 (SEE SHEETS 12-16, 24-31 AND 51-52 OF CS SERIES 200 INSTALLATION DATA SHEETS TO DETERMINE THE APPROPRIATE SLOT ASSIGNMENTS AND TAILORING FOR EACH PCB). MAKE SURE THAT THE MEMORY TERMINATORS ARE INSTALLED IN THE LAST MEMORY SLOT (BELOW SLOT 12).

2. INSTALL THE EIA CONNECTOR PANEL (SEE SHEET 17 OF CS SERIES 200 INSTALLATION DATA SHEETS).

3. CONNECT INTERNAL CABLE (PROVIDED IN ATI, AMI, OR ULM KIT) TO THE CPU CHASSIS AND THE EIA CONNECTOR PANEL (SEE SHEETS 17 AND 24-31 OF CS SERIES 200 INSTALLATION DATA SHEETS).

4. RECONFIGURE CABLES THAT ATTACH SERIAL PRINTERS AND TERMINALS TO THE CONVENIENCE PANEL AS DEFINED UNDER HEADING "CABLE CHANGES". CONNECT CALBES FROM THE SERIAL PRINTER(S) AND TERMINALS TO THE EIA CONNECTOR PANEL(S) (SEE SHEET 17 OF CS SERIES INSTALLATION DATA SHEETS).

5. IF A PIO PRINTER IS PRESENT IN THE NEW CONFIGURATION, RECONNECT THE INTERNAL CABLE THAT PREVIOUSLY ATTACHED TO THE SBS MUX BOARD TO THE NEW PRINTER BOARD, AND CONNECT THE NEW EXTERNAL PRINTER CABLE (FOUND UNDER HEADING "CABLE CHANGES") TO THE PADDLEBOARD (SEE SHEET 51 OF THE CS SERIES 200 INSTALLATION DATA SHEET, 010-000310).

6. IF SYNCHRONOUS COMMUNICATIONS ARE TO BE USED, ADD THE APPROPRIATE SYNC BOARD FOR YOUR CONFIGURATION (SEE SHEETS 24 OF CS SERIES 200 INSTALLATION DATA SHEETS).

7. INSTALL LABEL 002-021792 OVER THE EXISTING LABEL AT THE TOP OF THE CABINET.

8. VERIFY CORRECT SYSTEM OPERATION USING SYSTEM DIAGNOSTICS.

9. LOAD THE OPERATING SOFTWARE AS DESCRIBED IN THE DOCUMENTATION ACCOMPANYING THE SOFTWARE PACKAGE. RELOAD THE BACKED-UP DISK FILES.

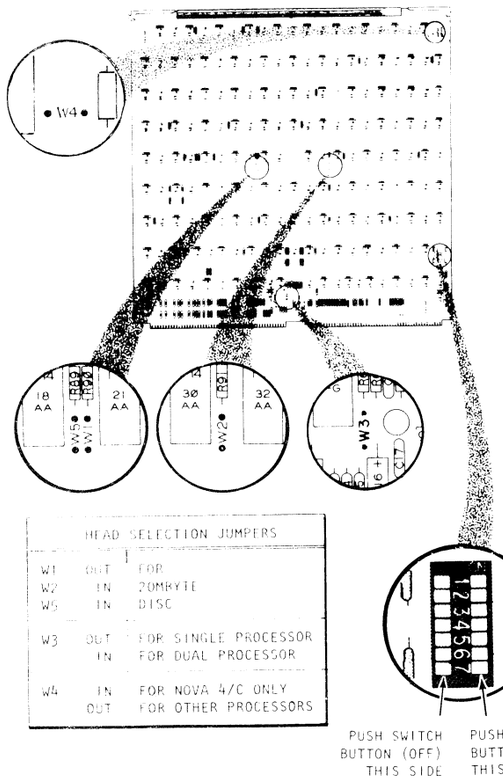
TAILORING

JUMPERING

(For CS Series 200 PCB's, see 010-000310)

6070 CARTRIDGE DISK

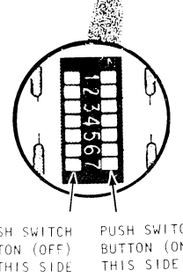
Ref DGC Dwg No 107-000839 Rev 05



HEAD SELECTION JUMPERS		
W1	OUT	FOR 10MBYTE
W2	IN	20MBYTE DISC
W5	IN	
W3	OUT	FOR SINGLE PROCESSOR
	IN	FOR DUAL PROCESSOR
W4	IN	FOR NOVA 4/C ONLY
	OUT	FOR OTHER PROCESSORS

UNIT SELECT SWITCH

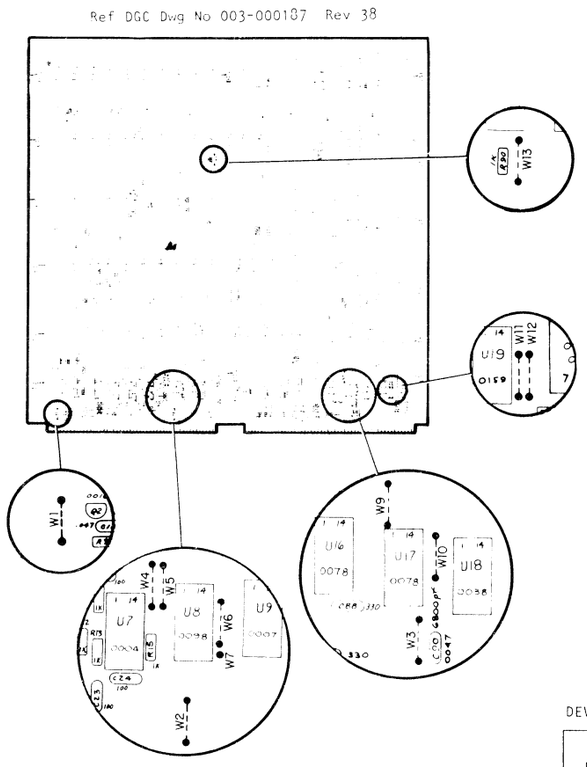
CONTROLLER DEVICE SELECT		
SWITCH NUMBER	DEVICE CODE 33_8	DEVICE CODE 73_8
1	OFF	ON
2	ON	ON
3	ON	ON
4	OFF	OFF
5	ON	ON
6	ON	ON
7	OFF	OFF



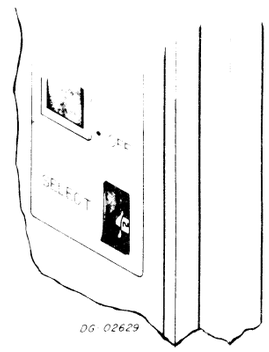
DG-04549

6045 CARTRIDGE DISK

Ref DGC Dwg No 003-000187 Rev 38



UNIT SELECT SWITCH



CONFIGURATION JUMPERS

W1	IN	- FACTORY TEST
	OUT	- NORMAL OPERATION
W2	IN	- FUTURE USE
	OUT	- NORMAL OPERATION
W3	IN	- SINGLE PROCESSOR
	OUT	- DUAL PROCESSOR
W11	IN	- NORMAL OPERATION
	OUT	- FACTORY TEST ONLY
W12	IN	- FACTORY TEST ONLY
	OUT	- NORMAL OPERATION
W13	IN	- NORMAL OPERATION
	OUT	- FUTURE USE

DEVICE CODE SELECTION

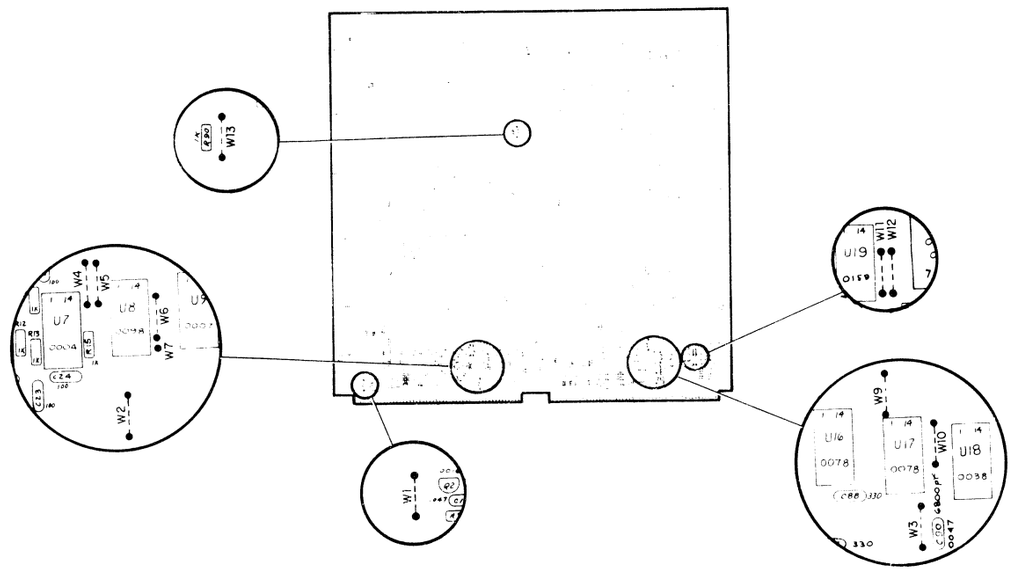
JUMPER POSITION	DEVICE CODE 33	DEVICE CODE 73	DEVICE CODE 32	DEVICE CODE 72
W4	IN	IN	OUT	OUT
W5	OUT	OUT	IN	IN
W6	IN	OUT	IN	OUT
W7	OUT	IN	OUT	IN
W9	OUT	IN	OUT	IN
W10	IN	IN	OUT	OUT

TAILORING
JUMPERING

(For CS Series 200 PCB's, see 010-000310)

6031 DISKETTE DRIVE

Ref DGC Dwg 003-000187 Rev 38



DEVICE CODE SELECTION

JUMPER POSITION	DEVICE CODE 33	DEVICE CODE 73	DEVICE CODE 32	DEVICE CODE 72
W4	IN	IN	OUT	OUT
W5	OUT	OUT	IN	IN
W6	IN	OUT	IN	OUT
W7	OUT	IN	OUT	IN
W9	OUT	IN	OUT	IN
W10	IN	IN	OUT	OUT

CONFIGURATION JUMPERS

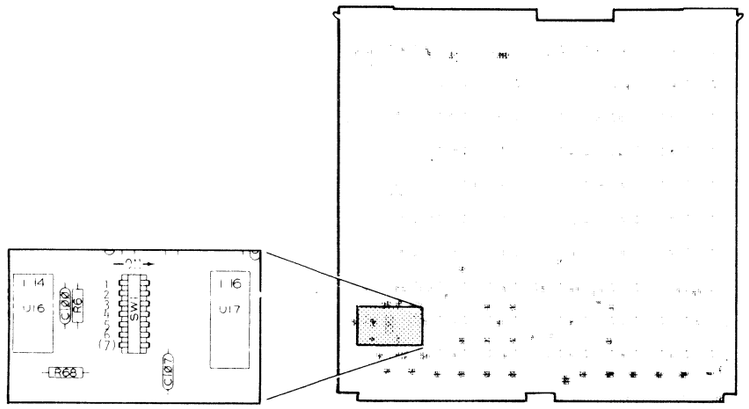
W1	IN - FACTORY TEST
	OUT - NORMAL OPERATION
W2	IN - FUTURE USE
	OUT - NORMAL OPERATION
W3	IN - SINGLE PROCESSOR
	OUT - DUAL PROCESSOR
W11	IN - NORMAL OPERATION
	OUT - FACTORY TEST ONLY
W12	IN - FACTORY TEST ONLY
	OUT - NORMAL OPERATION
W13	IN - NORMAL OPERATION
	OUT - FUTURE USE

TAILORING

JUMPERING

6060, 6061, 6067 DISK PACK DISKS

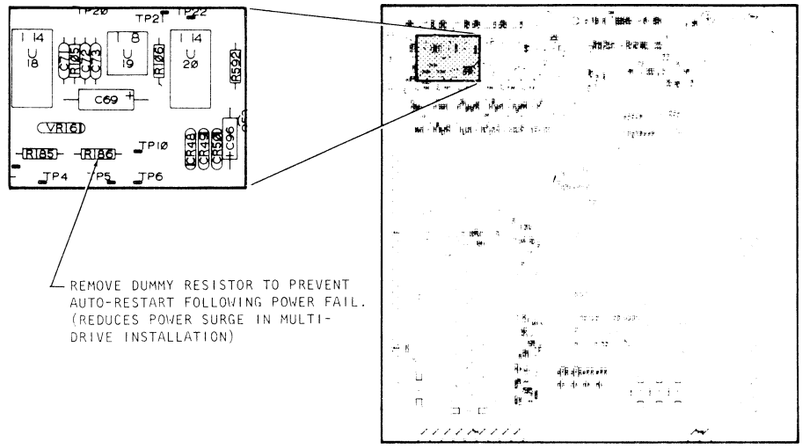
CONTROLLER BOARD SWITCH



Ref DGC Dwg No 107-000605 Rev 07

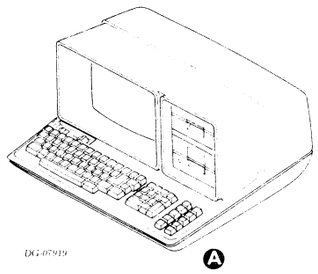
DEVICE CODE	"ON"
27	2, 4, 5, 6
57	1, 2, 4, 5, 6
SINGLE PROCESSOR	7

DC POWER CONTROL BOARD



Ref DGC Dwg No 107-000519 Rev 05

SYSTEM COMPONENT BREAKDOWN



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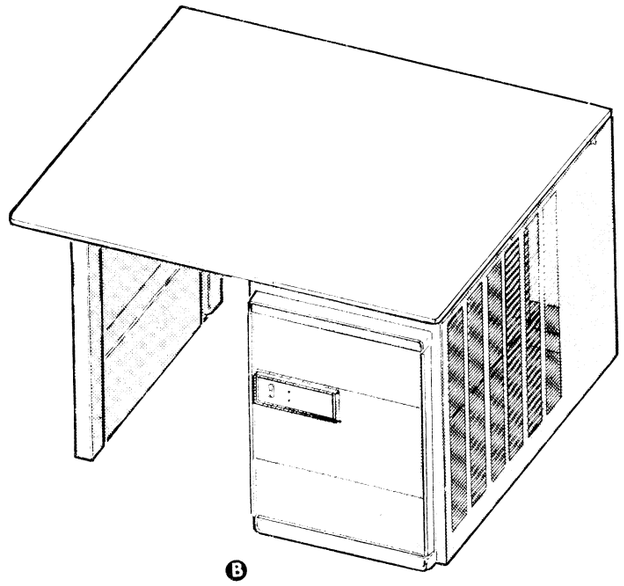

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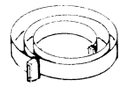

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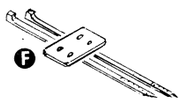

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WARNING

THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY ENERGY AND IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTION MANUAL, MAY CAUSE INTERFERENCE TO RADIO COMMUNICATIONS. AS TEMPORARILY PERMITTED BY REGULATION IT HAS NOT BEEN TESTED FOR COMPLIANCE WITH THE LIMITS FOR CLASS A COMPUTING DEVICES PURSUANT TO SUBPART J OF PART 15 OF FCC RULES, WHICH ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST SUCH INTERFERENCE. OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA IS LIKELY TO CAUSE INTERFERENCE IN WHICH CASE THE USER AT HIS OWN EXPENSE WILL BE REQUIRED TO TAKE WHATEVER MEASURES MAY BE REQUIRED TO CORRECT THE INTERFERENCE.

NOTE: COMPUTER UNIT MUST BE AT LEAST SIX INCHES AWAY FROM ANY RADIO FREQUENCY SOURCE.

MAJOR COMPONENT

Item	Component	Mounting Location	Notes
A	COMPUTER (INCLUDES KEYBOARD/DISPLAY, TWO DISKETTE DRIVES)	DESKTOP	MODEL 8690
B	RIGID DISK SUBSYSTEM (INCLUDES DISK DRIVE, CABINET, DESKTOP)	FREE-STANDING	MODEL 9268

CABLES

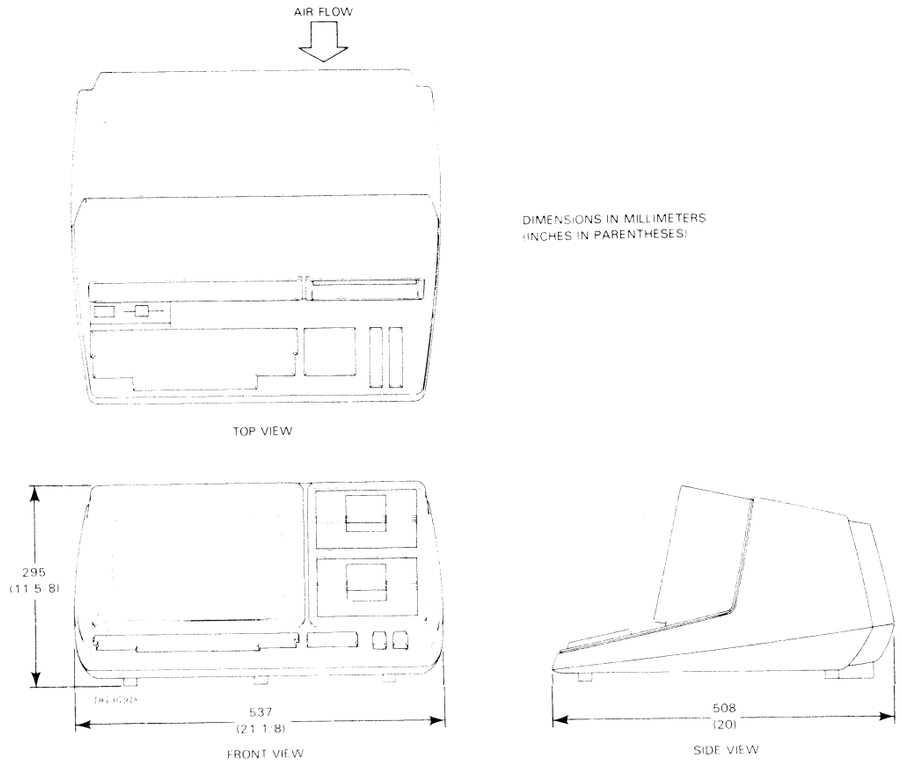
Item	Cable	Connecting			Max Length Ft / M	Notes
C	EXTENDED I/O CABLE	RIGID DISK DRIVE	AND	COMPUTER MAIN BOARD	10 / 3	MODEL 9268
D	GROUND STRAP	RIGID DISK DRIVE	AND	COMPUTER MAIN BOARD	10 / 3	MODEL 9268

TERMINATOR

Item	Terminator	Location	Notes
E	TERMINATOR	RIGID DISK CONTROLLER J4	
F	STRAIN RELIEF KIT	I/O CABLE	MODEL 9268

INSTALLATION SPECIFICATIONS

COMPUTER UNIT



DIMENSIONS:	Width	Depth	Height
Millimeters	537	508	295
Inches	21 1/8	20	11 5/8

WEIGHT:	Kilograms	Pounds
	14.8	32.5

HEAT OUTPUT:	Watts	BTU/hr
	85	290

OPERATING ENVIRONMENT:

Temperature	10°C - 37.8°C (50°F - 100°F)
Relative Humidity (max)	80%
Altitude	2438 m (8,000')

STORAGE ENVIRONMENT:

Temperature	-40°C - 65.6°C (-40°F - 150°F)
Relative Humidity (max)	90%
Altitude	15,240 m (50,000')

POWER REQUIREMENTS:

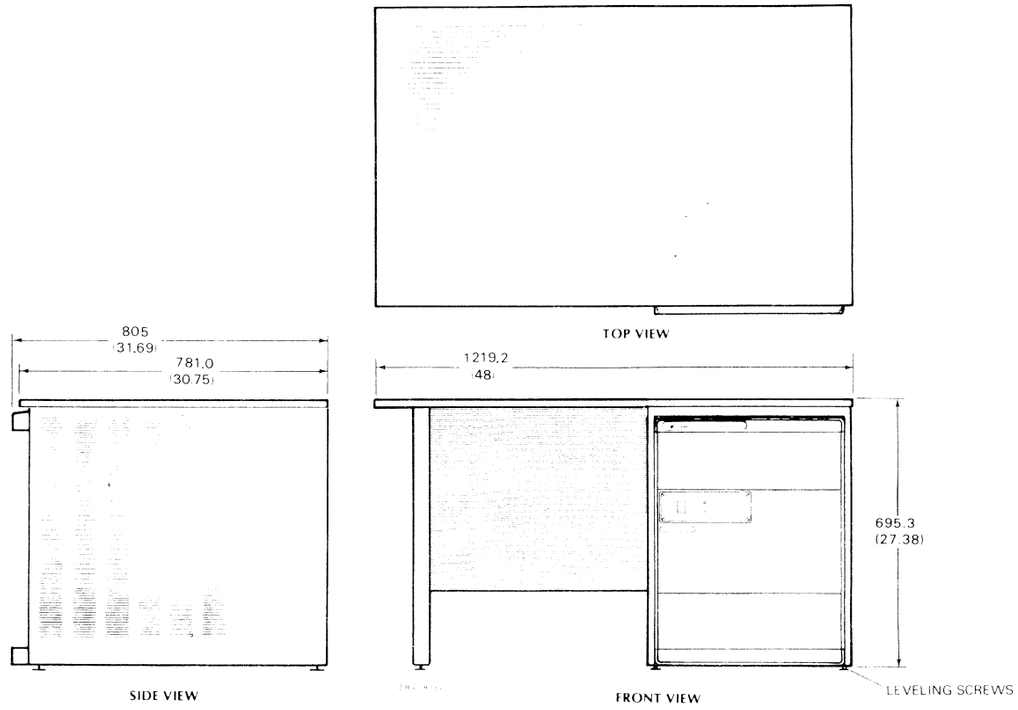
(Domestic)	
Voltage	120 V (+ 10%, -15%)
Hz	47 - 63
Amp per Phase	3 max
Phase	1
Startup Surge per Phase	50 Amp
(Export)	
Voltage	100 V (+ 10%, -15%)
Hz	47 - 63
Amp per Phase	3 max
Phase	1
Startup Surge per Phase	50 Amp
Voltage	220/240 V (+ 10%, -15%)
Hz	47 - 63
Amp per Phase	1.5 max
Phase	1
Startup Surge per Phase	50 Amp

CABLES:

Primary Power

	Length	Conn	Mating Conn
Domestic 60Hz	2.4 m (8')	5-15 P	5-15 S
Export 50Hz		IEC53	IEC53

RIGID DISK SUBSYSTEM
(Includes cabinet with desktop)



DIMENSIONS:	Width	Depth	Height
Millimeters	1219.2	805	695.3
Inches	48	31.7	27.4

SERVICE CLEARANCES:	Front	Rear	Right
Millimeters	800	609.6	152.4
Inches	31.5	24	6

WEIGHT:	Disk drive	Cabinet	Desktop
Kilograms	34	30.8	19.5
Pounds	75	68	43

HEAT OUTPUT:	Watts	BTU/hr
	340	1160

OPERATING ENVIRONMENT:

Temperature (max)	
Room	32°C 90°F
Cabinet	43°C 109°F
Relative Humidity (max)	80% non-condensing
Altitude	3048 m (10,000')

STORAGE ENVIRONMENT:

Temperature	-40°C - 65.6°C (-40°F - 150°F)
Relative Humidity (max)	80% non-condensing
Altitude	18,000 m (59,000')

POWER REQUIREMENTS:

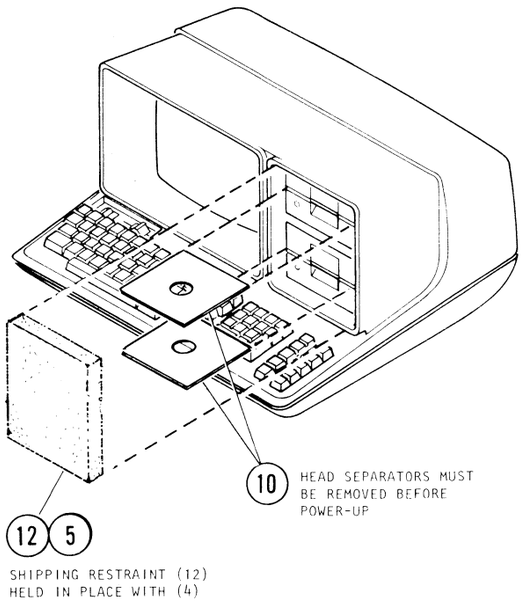
(Domestic)				
Voltage	120V			
Hz	60			
Amp per Phase	2.8			
Phase	1			
Startup Surge per Phase	10 A for 10 seconds			
(Export)				
Voltage	100	100	220	240
Hz	50	60	50	50
Amp per Phase	3.4	3.4	1.5	1.4
Phase	1	1	1	1
Startup Surge per Phase	12 A for 10 seconds	12 A	5.5 A	5 A

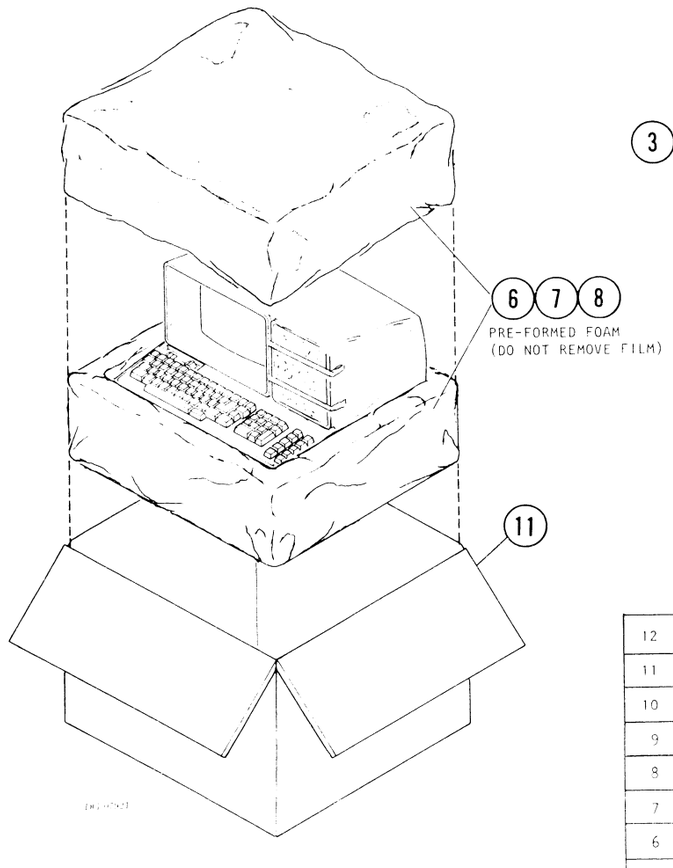
CABLES:

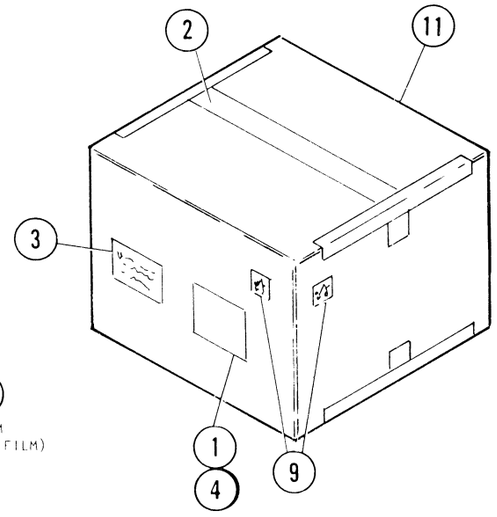
Primary Power

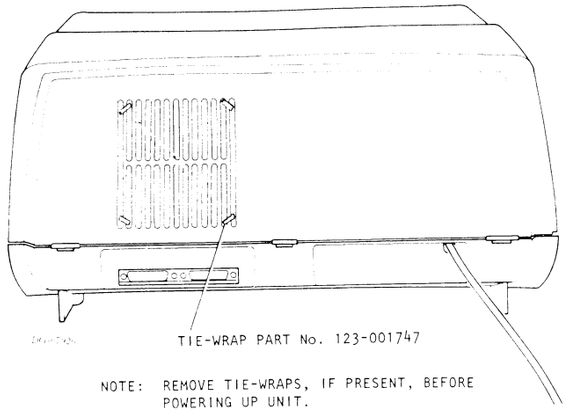
	Length	Conn	Mating Conn
Domestic 60Hz	**1.8 m(6')**	**5-15 P**	**5-15 R**
Export 50Hz	**1.8 m(6')**	**6-15 P**	**6-15 R**

SHIPPING









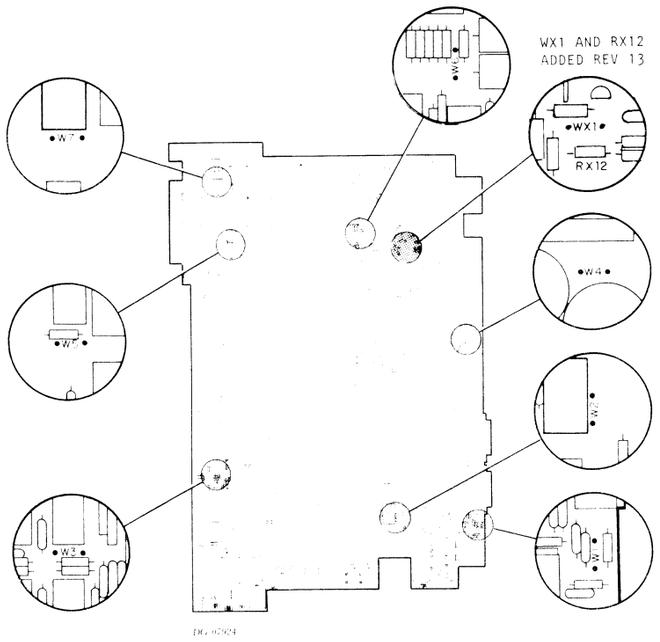
NOTE: REMOVE TIE-WRAPS, IF PRESENT, BEFORE POWERING UP UNIT.

ITEM	QTY	DESCRIPTION	PART NUMBER
12	1	FLOPPY DISK SHIPPING RESTRAINT	129-000571
11	1	RSC 26.5 x 24.75 x 16	129-000558
10	2	D/C HEAD SEPARATOR 5 1/4" DRIVES	129-000528
9	2	TIP-N-TELL INDICATOR	129-000469
8	2.5lb	PART A FOAM-IN-PLACE SYSTEM	129-000320
7	2.5lb	PART B FOAM-IN-PLACE SYSTEM	129-000319
6	16ft	POLYFILM 72RW FLD TO 36W	129-000317
5	2ft	2" CL SCOTCH TAPE	129-000051
4	1	PACKING ENVELOPE C-16 5 1/2 x 10"	129-000043
3	1	DGC SHIPPING LABEL	129-000030
2	5ft	REINFORCED SEALING TAPE 3"	129-000027
1	2ft	PERMACEL GLASS TAPE	129-000026

TAILORING

COMPUTER UNIT

JUMPERING THE MAIN BOARD



Ref DGC Dwg No 003-001697 Rev 13

FREQUENCY SELECT JUMPERS

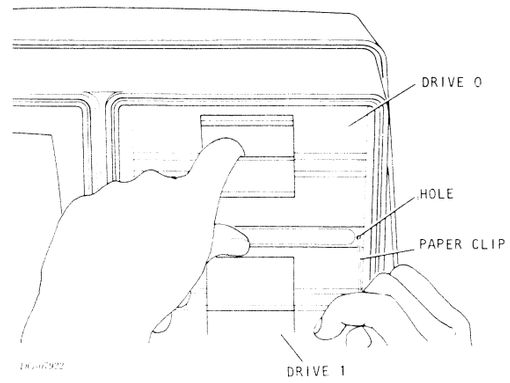
FREQUENCY	JUMPER W5, WX1	JUMPER W6
60Hz	OUT	IN
50Hz	IN	OUT

VOLTAGE SELECT JUMPER

VOLTAGE	JUMPER W4
120V	IN
220V	OUT

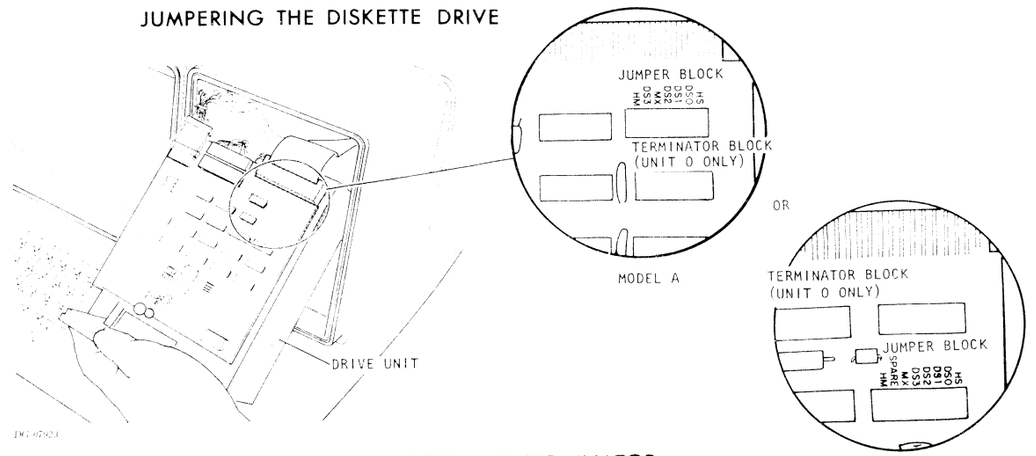
NOTE: JUMPERS W1, W2, W3, AND W7 ARE ALWAYS IN

ACCESSING A DISKETTE DRIVE



1. OPEN DOOR AND HOOK FINGER OVER BOTTOM PART OF CHASSIS.
2. GENTLY INSERT PAPER CLIP IN HOLE AND PULL DRIVE OUT UNTIL IT CLEARS MAIN CHASSIS.

JUMPERING THE DISKETTE DRIVE

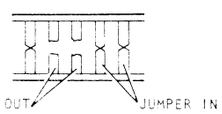


DRIVE UNIT SELECT JUMPERS AND TERMINATOR

FUNCTION*	JUMPERS DRIVE 0	JUMPERS DRIVE 1	PINS CONNECTED MODEL A	PINS CONNECTED MODEL B
HS	OUT	OUT	1, 14	1, 16
DS0	IN	OUT	2, 13	2, 15
DS1	OUT	IN	3, 12	3, 14
DS2	OUT	OUT	4, 11	4, 13
DS3	OUT	OUT	6, 9	5, 12
MX	OUT	OUT	5, 10	6, 11
SPARE (MODEL B ONLY)	OUT	OUT	N/A	7, 10
HM	IN	IN	7, 8	8, 9

* JUMPER FUNCTIONS ARE NOT MARKED ON MODEL B DRIVE PC BOARDS. THEY ARE INDICATED IN THE CALLOUT FOR EASY IDENTIFICATION.

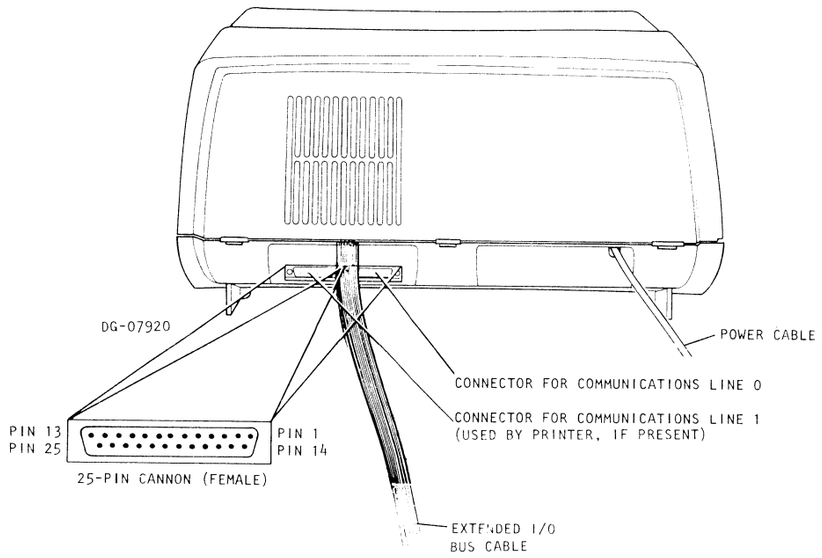
A JUMPER IN THE BLOCK IS "OUT" IF IT IS CUT IN HALF IN THE MIDDLE OF THE BLOCK. OTHERWISE IT IS "IN". (SEE BELOW)



EXTERNAL CABLING

COMPUTER UNIT

COMMUNICATIONS LINES



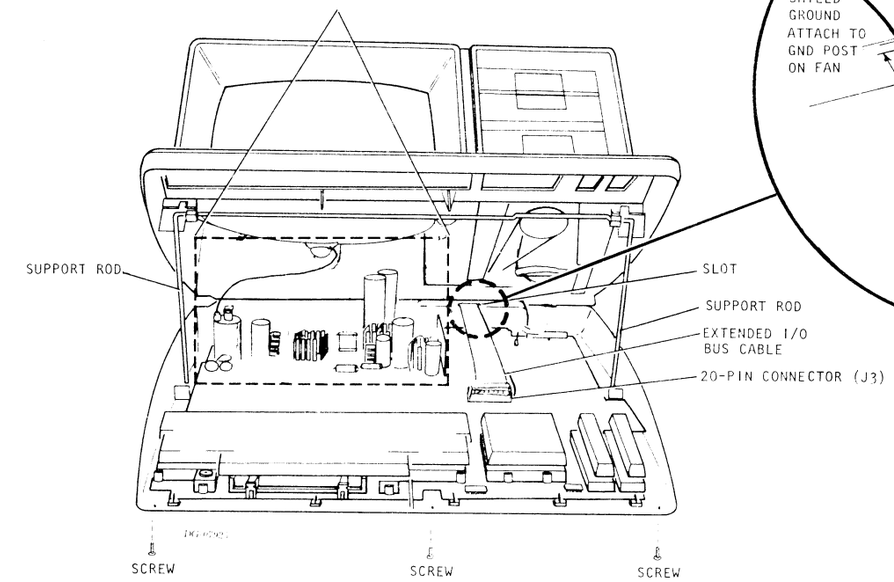
PIN ASSIGNMENTS

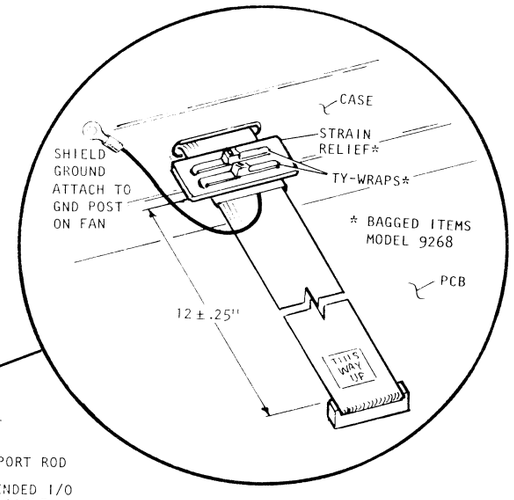
2	TxD (DATA TRANSMITTED BY TERMINAL)
3	RxD (DATA RECEIVED BY TERMINAL)
7	SIGNAL GROUND
4	RTS (REQUEST TO SEND)
5	CTS (CLEAR TO SEND)
6	DSR (DATA SET READY)
8	DCD (DATA CARRIER DETECT)
15	TxC (TRANSMIT CLOCK IN)
17	RxC (RECEIVE CLOCK IN)
20	DTR (DATA TERMINAL READY)
24	TxC (TRANSMIT CLOCK OUT)

I/O BUS

WARNING:

THE CRT AND THE POWER SUPPLY AREA ON THE MAIN BOARD CARRY
HIGH VOLTAGES
EVEN WITH THE POWER OFF.





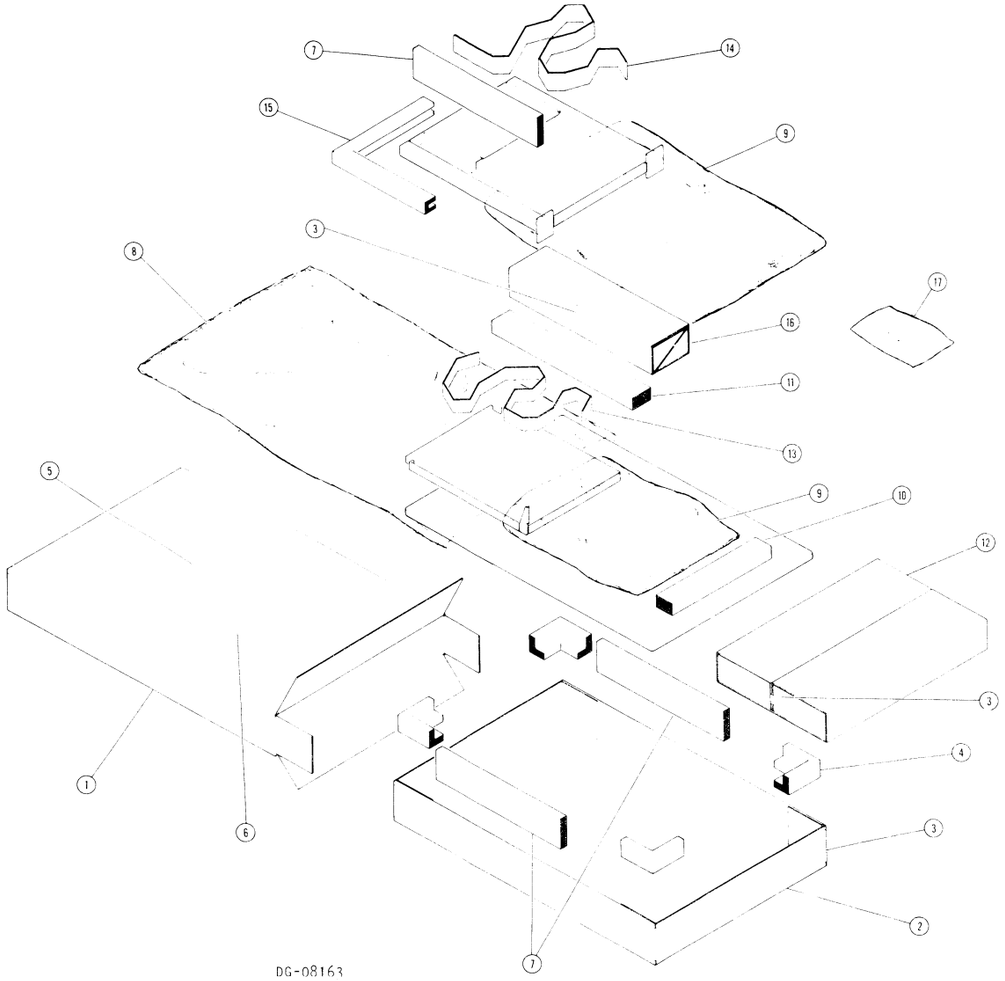
1. LOOSEN THREE SCREWS UNDERNEATH FRONT OF UNIT.
2. LIFT TOP OF UNIT UNTIL SUPPORT RODS LATCH IN PLACE ON BOTH SIDES.
3. INSERT THE EXTENDED I/O BUS CABLE AND GROUND STRAP THRU SLOT IN REAR OF UNIT. PLUG I/O CABLE ONTO 20-PIN CONNECTOR (J3) AND CONNECT I/O BUS SHIELD GROUND TO GROUND POST ON FAN.

   CAUTION:
   THE I/O CABLE MUST BE CONNECTED PIN 1 TO PIN 1 TO PREVENT DAMAGE TO SYSTEM WHEN POWERED UP.
4. ATTACH TY-WRAPS AND STRAIN RELIEF AS SHOWN.
5. LIFT TOP OF UNIT SLIGHTLY TO UNLATCH SUPPORT RODS, THEN LOWER IT GRADUALLY TO CLOSE UNIT. TIGHTEN THREE SCREWS.

SHIPPING

RIGID DISK SUBSYSTEM AND 9268 UPGRADE

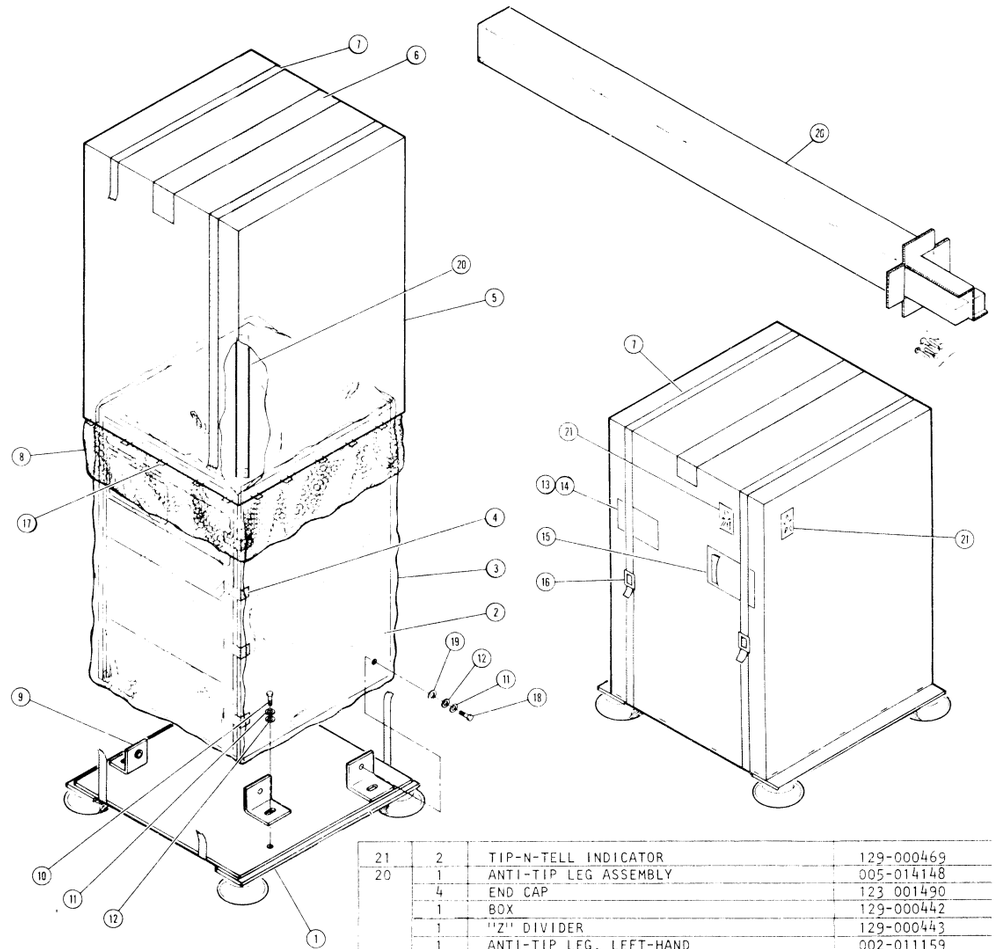
DESK TOP



DG-08163

ITEM	QTY	DESCRIPTION	PART NO.
17	1	HARDWARE KIT	005 015437
16	1	CORRUGATED RAT TRAP	129 000463
15	1	CORRUGATED CORNER CHANNEL	129 000451
14	1	CORRUGATED PAD 70 X 1524 (2.75" X 60")	129 000465
13	1	CORRUGATED PAD 51 X 1524 (2" X 60")	129 000466
12	1	CORRUGATED RAT TRAP	129 000462
11	1	CORRUGATED PAD, PERFORATED	129 000450
10	1	CORRUGATED PAD, PERFORATED	129 000467
9	2	POLY BAG, GUSSETTED	129 000456
8	1	POLY BAG, FLAT	129 000454
7	3	CORRUGATED PAD 127 X 610 (5" X 24")	129 000468
6	1	PACKING LIST ENVELOPE	129 000042
5	1	DGC SHIPPING LABEL	129 000030
4	4	CORRUGATED PAD, CORNER	129 000452
3	15ft	REINFORCED SEALING TAPE	129 000027
2	1	CORRUGATED TRAY	129 000464
1	1	FOL OVERLAPPING CONTAINER	129 000453

CABINET



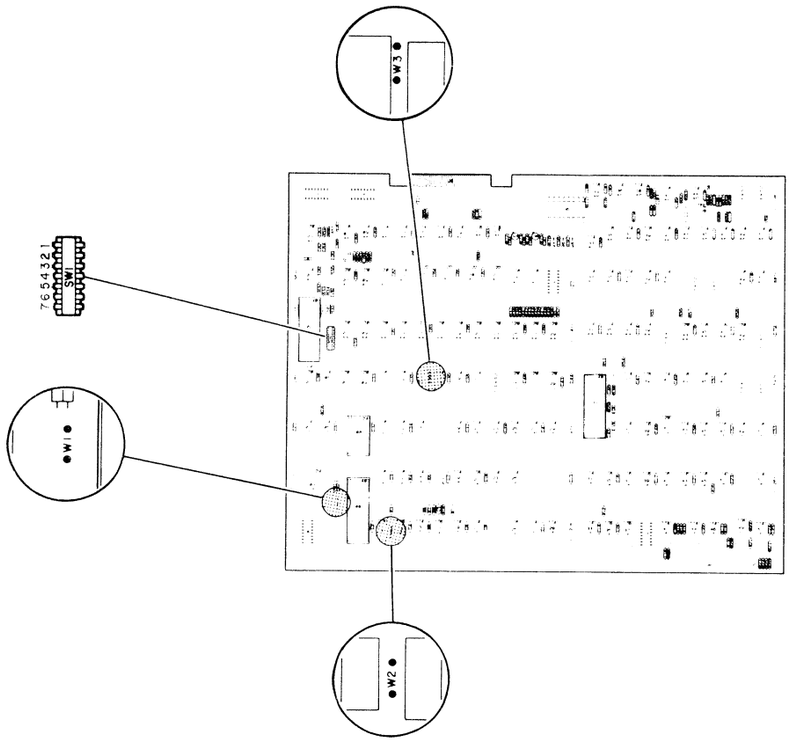
DG-08162

ITEM	QTY	DESCRIPTION	PART NO.
21	2	TIP-N-TELL INDICATOR	129-000469
20	1	ANTI-TIP LEG ASSEMBLY	005-014148
	4	END CAP	123 001490
	1	BOX	129-000442
	1	"Z" DIVIDER	129-000443
	1	ANTI-TIP LEG, LEFT-HAND	002-011159
	1	ANTI-TIP LEG, RIGHT-HAND	002-011156
	4	SCREW, SOCKET HEAD, 5/16 - 18 x 0.75	106-001567
	A/R	TAPE, FILAMENT, 2"	129-000370
	1	POLYBAG	129-000045
19	4	WASHER, NYLON, .375 ID x .750	106-000975
18	4	SCREW, HEX HEAD, 5/16 - 18 x 1"	106-001592
17	A/R	STAPLE, 1" CROWN, 1" LEG	129-000165
16	2	BUCKLE, AVB - 4	129-000025
15	1	ENVELOPE, PACKING LIST, 6 3/4 x 5"	129-000042
14	A/R	WATER GLASS	
13	1	SHIPPING LABEL	129-000030
12	8	WASHER, FLAT, 3/8"	106-000621
11	8	WASHER, LOCK, SPLIT, 3/8"	106-000622
10	4	SCREW, HEX HEAD, 3/8 - 16 x 1"	106-000680
9	4	BRACKET, SHIPPING	002-011328
8	6ft	AIRCAP	129-000035
7	45ft	STRAPPING, POYPROPYLENE	129-000123
6	54in	TAPE, CLOSURE	129-000027
5	1	HALF SLOTTED CONTAINER	129-000515
4	A/R	TAPE, FILAMENT, 2"	129-000370
3	1	POLYBAG	129-000448
2	1	CABINET, 28"	
1	1	PALLET	129-000513

TAILORING

RIGID DISK SUBSYSTEM

CONTROLLER BOARD



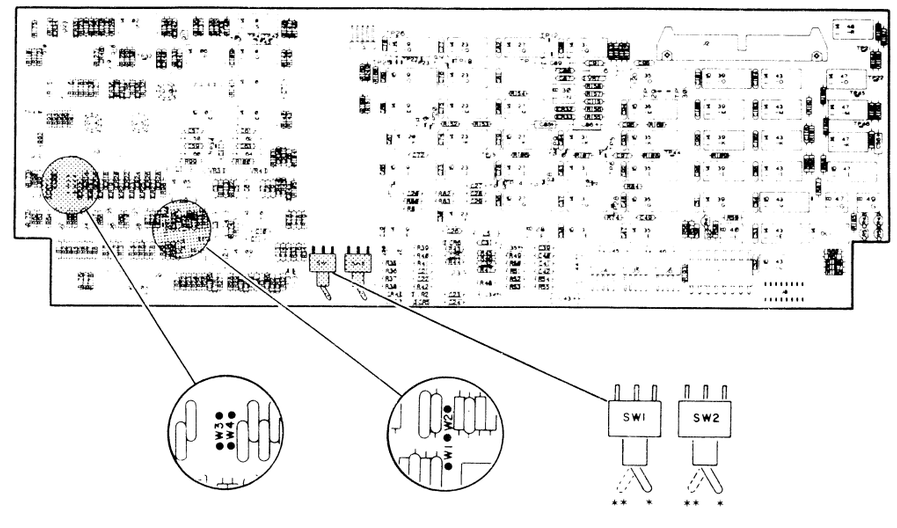
CONTROLLER DEVICE CODE SELECT	
SWITCH NUMBER	DEVICE CODE 26
1	OFF *
2	OFF
3	ON
4	OFF
5	ON
6	ON
7	OFF

* THIS SWITCH NOT USED

NOTE:
TO SET A SWITCH "ON", DEPRESS IT ON THE SIDE MARKED WITH THE PLUS (+) SIGN.

CONTROLLER JUMPER SELECTION	
JUMPER	
W1	OUT
W2	IN
W3	IN

R/W LOGIC BOARD



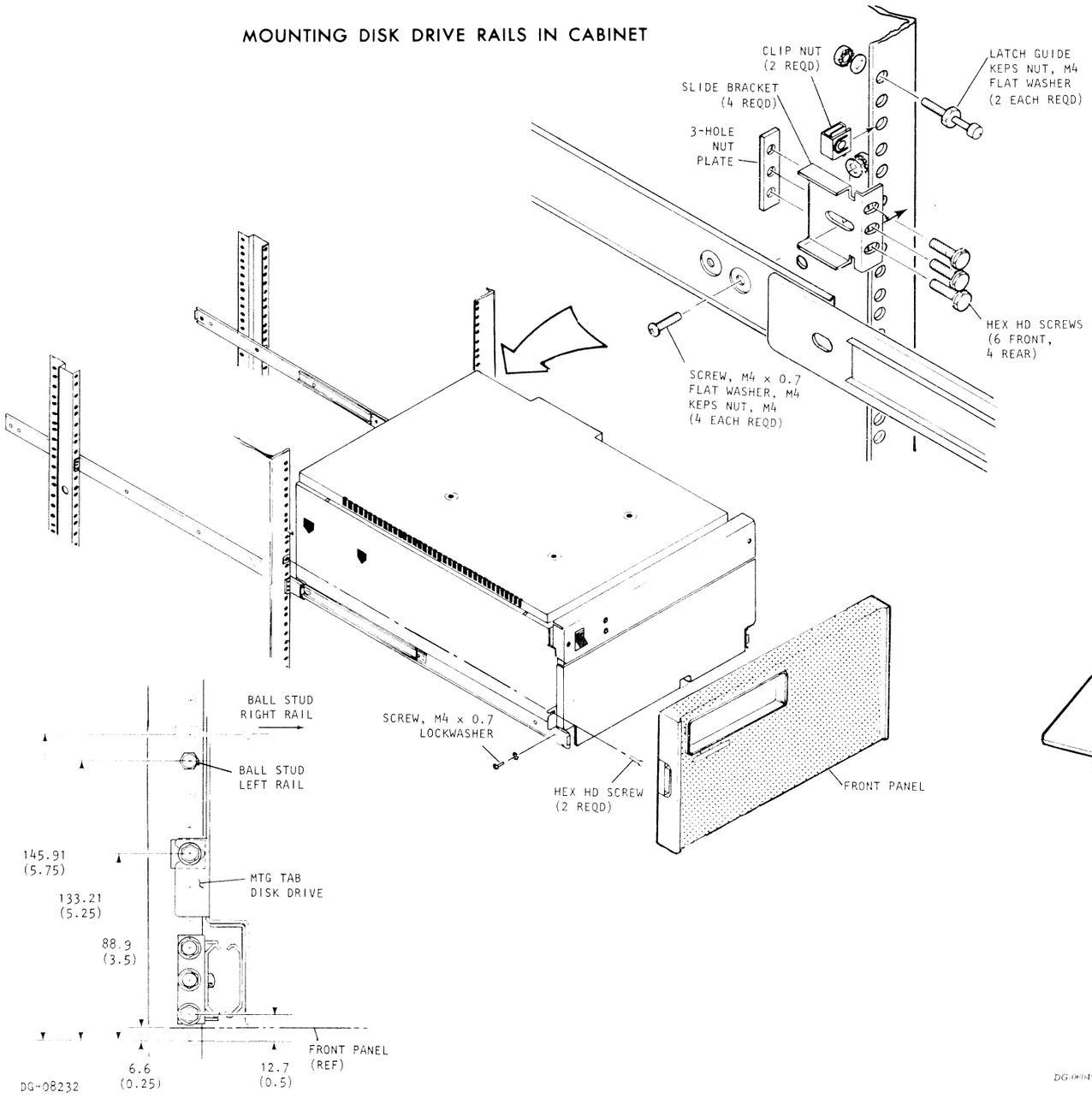
R/W JUMPER SELECTION	
JUMPER	
W1	IN
W2	OUT
W3	OUT
W4	OUT

SWITCH SETTINGS	
SWITCH	*RIGHT
SW-1	RIGID DISK NOT WRITE PROTECTED
SW-2	RIGID DISK = UNIT 0
	**LEFT
SW-1	RIGID DISK WRITE PROTECTED
SW-2	RIGID DISK = UNIT 1

MOUNTING

RIGID DISK SUBSYSTEM AND 9268 UPGRADE

MOUNTING DISK DRIVE RAILS IN CABINET



MOUNTING DESKTOP

1. MOUNT CABINET ON TWO ANTI-TIP LEGS.
2. ASSEMBLE DESKTOP (SEE DETAIL).
3. MOUNT DESKTOP ON CABINET AS FOLLOWS:

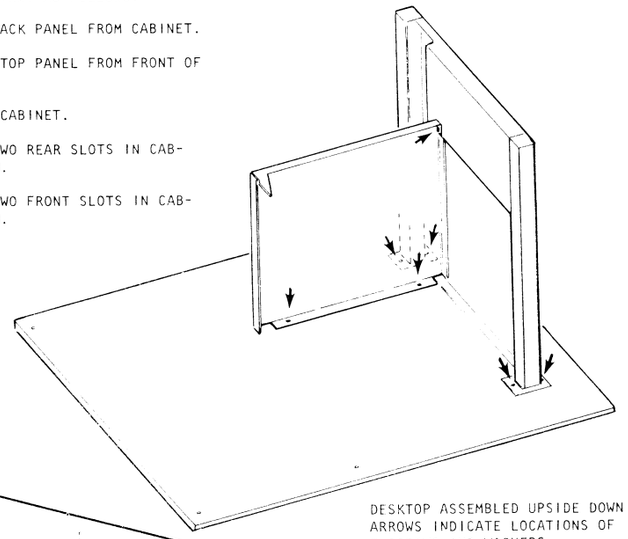
   UNSCREW AND REMOVE BACK PANEL FROM CABINET.

   SNAP OUT AND REMOVE TOP PANEL FROM FRONT OF CABINET.

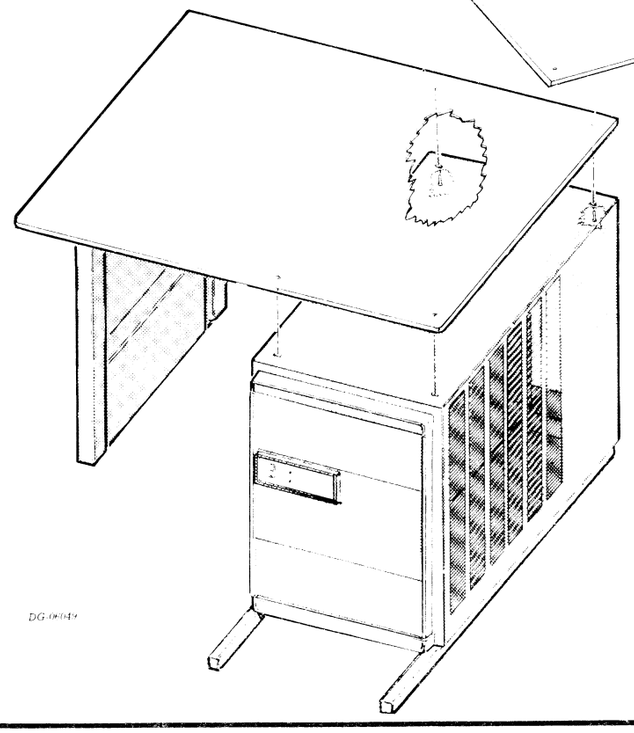
   POSITION DESKTOP ON CABINET.

   INSERT SCREWS THRU TWO REAR SLOTS IN CABINET TOP AND TIGHTEN.

   INSERT SCREWS THRU TWO FRONT SLOTS IN CABINET TOP AND TIGHTEN.



DESKTOP ASSEMBLED UPSIDE DOWN
ARROWS INDICATE LOCATIONS OF
7 SCREWS AND WASHERS.



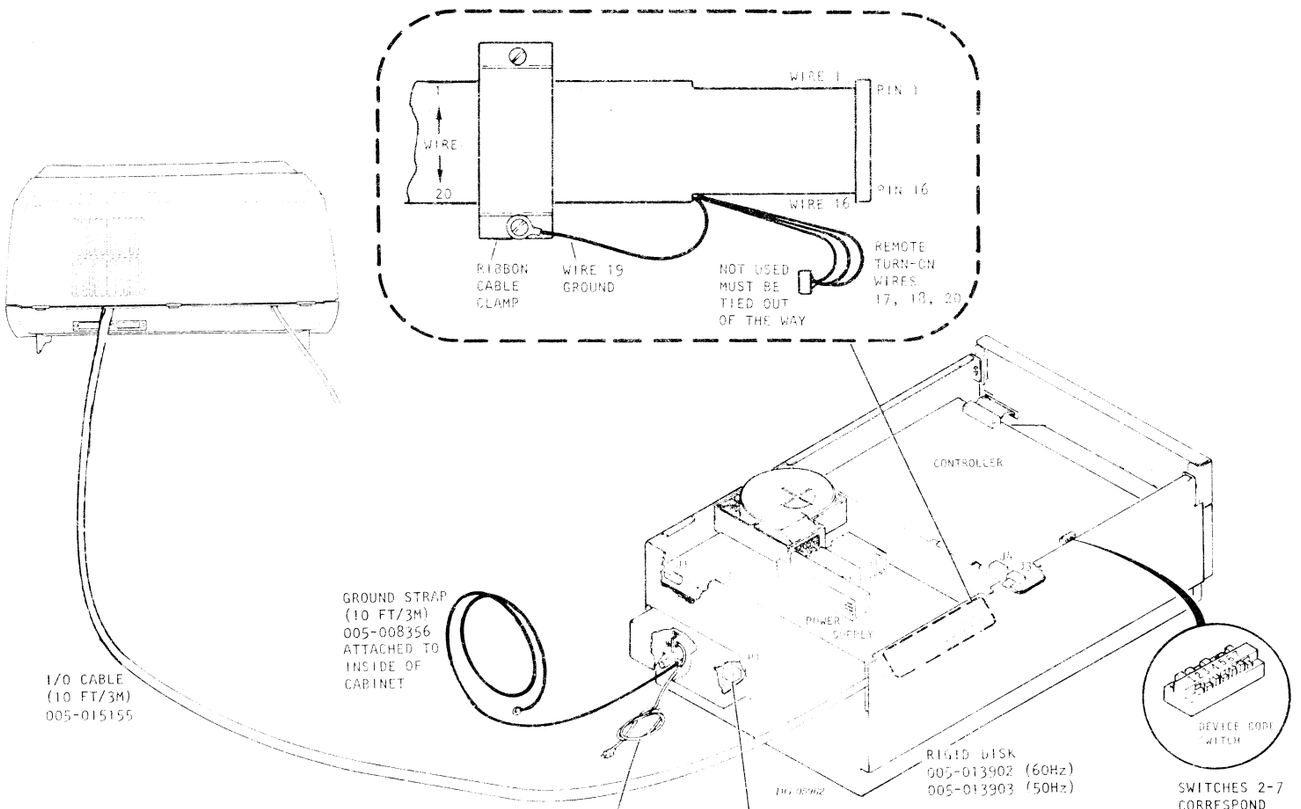
FOR ASSEMBLING AND
MOUNTING TOP:

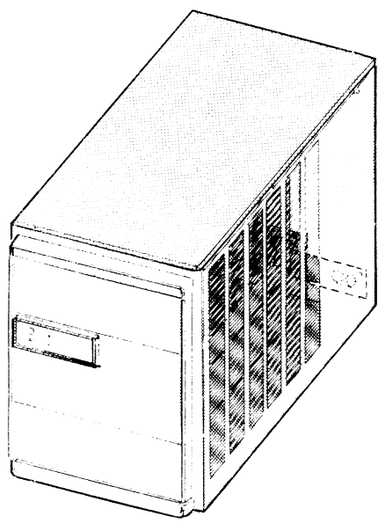
SCREWS, 10 - 32 X ½
DGC 106-000353
QTY 11

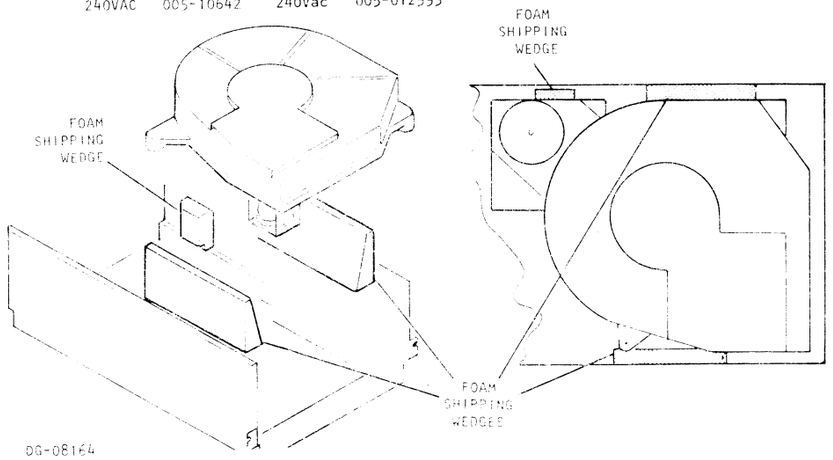
WASHERS, FLAT, #10
DGC 106-000263
QTY 11

EXTERNAL CABLING

RIGID DISK SUBSYSTEM AND 9268 UPGRADE





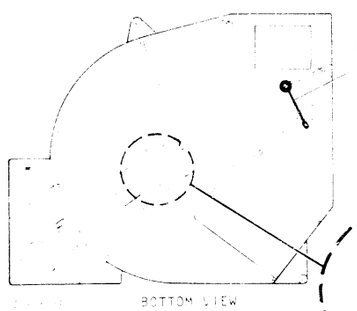


CONNECTING THE DISK SUBSYSTEM TO THE COMPUTER

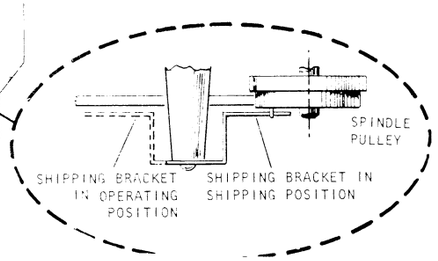
1. REMOVE MIDDLE PANEL ON FRONT OF CABINET AS FOLLOWS: INSERT SCREWDRIVER BLADES IN SLOTS ON TWO SIDES OF PANEL AND PUSH RETAINING PINS SIDEWAYS, ONE TOWARD THE OTHER, WHILE PULLING PANEL OUT.
2. LOOSEN AND REMOVE TWO FRONT SCREWS FASTENING DRIVE TO CABINET FRAME. PULL DISK DRIVE ABOUT HALF-WAY OUT OF THE CABINET.
3. LOOSEN FOUR SCREWS ON TOP COVER OF DISK AND REMOVE COVER.
4. REMOVE ONE FOAM BLOCK AND TWO FOAM WEDGES USED AS SHIPPING RESTRAINTS HOLDING THE RIGID DISK FAST IN THE DRIVE CHASSIS (SEE DETAIL BELOW).
5. REVERSE SHIPPING BRACKET AS SHOWN IN DETAIL BELOW.
6. RELEASE POSITIONER STOP (SEE DETAIL BELOW) TO UNLOCK READ/WRITE HEADS.
7. PLUG TERMINATOR ONTO J4 ON CONTROLLER BOARD IF DISK DRIVE IS ONLY PERIPHERAL ON EXTENDED I/O BUS.

   NOTE:
   THE DISK DRIVE IS EITHER THE ONLY OR THE FIRST PERIPHERAL ON THE EXTENDED I/O BUS. ANY OTHER PERIPHERAL IS DAISY-CHAINED VIA J4. THE LAST PERIPHERAL ON THE BUS MUST HAVE ITS TERMINATOR PLUGGED IN.
8. PLUG I/O CABLE ONTO J3 ON CONTROLLER, PIN 1 TO PIN 1, AND PASS IT THRU GAP BETWEEN BACK AND SIDE PANELS OF DISK DRIVE CHASSIS.
9. REINSTALL DRIVE TOP COVER.
10. PUSH DRIVE INSIDE CABINET AND FASTEN TO CABINET FRAME WITH TWO FRONT SCREWS.
11. OPEN COMPUTER UNIT AS FOLLOWS: LOOSEN THREE SCREWS UNDERNEATH FRONT OF UNIT. LIFT TOP OF UNIT UNTIL SUPPORT RODS LATCH IN PLACE ON BOTH SIDES.
12. INSERT EXTENDED I/O BUS CABLE THRU SLOT IN REAR OF UNIT. PLUG I/O ONTO 20-PIN CONNECTOR (J3) AND CONNECT I/O BUS SHIELD GROUND TO GROUND POST ON FAN.

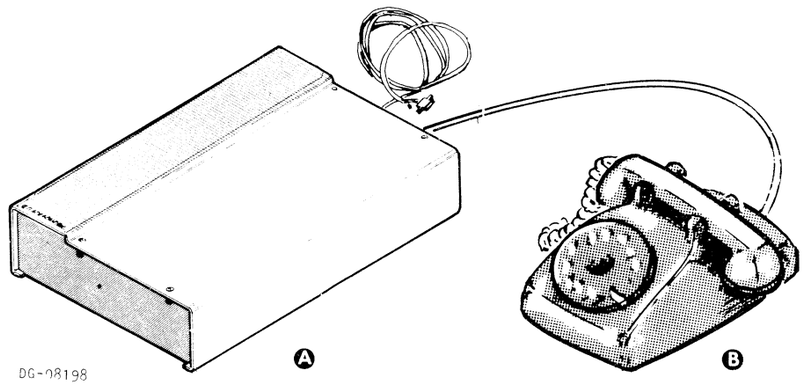
    CAUTION:
    THE I/O CABLE MUST BE CONNECTED PIN 1 TO PIN 1 TO PREVENT DAMAGE TO SYSTEM WHEN POWERED UP.
13. ATTACH TY-WRAPS AND STRAIN RELIEF (SEE SHEET 5 THIS I.D.S.).
14. CLOSE COMPUTER UNIT AS FOLLOWS: LIFT TOP OF UNIT SLIGHTLY TO UNLATCH SUPPORT RODS, THEN LOWER IT GRADUALLY TO CLOSE UNIT. TIGHTEN THREE SCREWS.
15. PLUG POWER CABLE OF DISK DRIVE INTO ONE OF AC LINE OUTLETS IN BOTTOM REAR SECTION OF CABINET.
16. REINSTALL CABINET BACK PANEL AND SUBSYSTEM FRONT PANELS.
17. PLUG COMPUTER UNIT POWER CABLE INTO AC LINE SOURCE OR INTO ONE OF AC LINE OUTLETS IN BOTTOM REAR SECTION OF CABINET.
18. PLUG POWER CABLE OF DISK SUBSYSTEM CABINET INTO AC LINE SOURCE.



POSITIONER STOP
SOLID BLACK AS SHOWN IS LOCKED POSITION. DASHED LINES INDICATE OPERATING POSITION.
IMPORTANT: ARM MUST BE RELEASED BEFORE OPERATING.



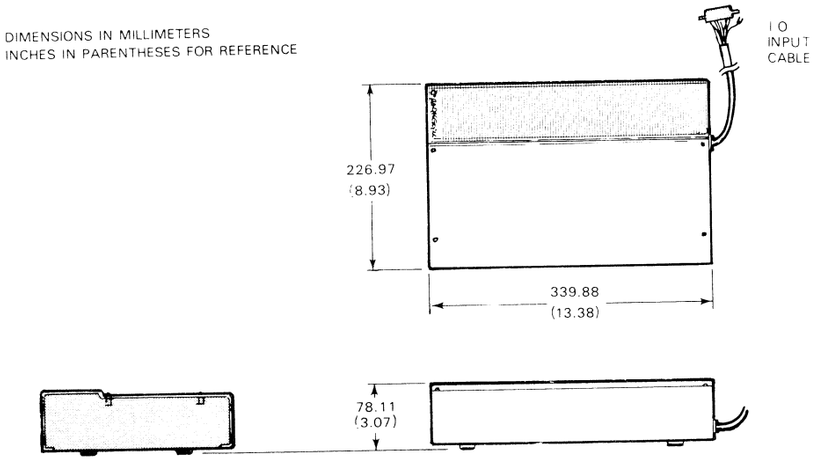
INSTALLATION SPECIFICATIONS



DG-08198

MAJOR COMPONENT

Item	Component	Mounting Location	Notes
A	RD1 MODEM	FREE-STANDING	CONNECTED TO CS/10 BY EXTERNAL CABLE
B	TELEPHONE	FREE-STANDING	CONNECTED TO MODEM BY EXTERNAL CABLE



DG-08199

DIMENSIONS:

	Width	Depth	Height
Millimeters	226.97	339.88	78.11
Inches	8.93	13.38	3.07

WEIGHT:

	Modem	Telephone
Kilograms	2.38	2.0
Pounds	5.25	4.5

HEAT OUTPUT:

Watts	BTU/hr
10	34

OPERATING ENVIRONMENT:

Temperature (max) 10°C - 37.8°C (50°F - 100°F)
Relative Humidity (max) 20-80% (Non-condensing)

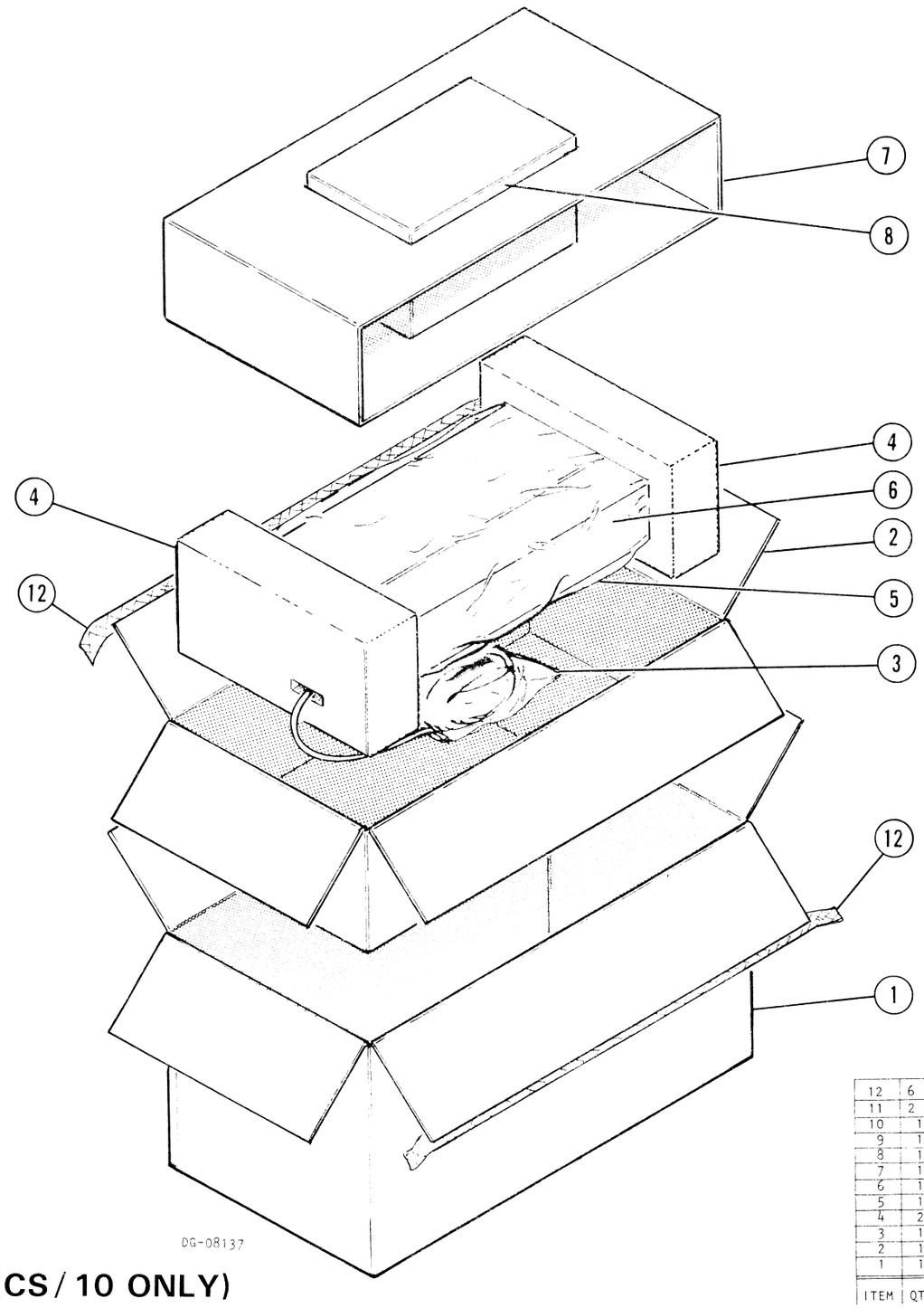
POWER REQUIREMENTS:

Supplied by Terminal

CABLES:

I/O Input Cable	2.4m (10 ft)
Retractile Handset Cord	1.83m (6 ft)
Phone Line Cable	7.62m (25 ft)

SHIPPING



NOTE:

1. ITEM 9. 10 and 11 ARE APPLIED TO THE END PANEL OF ITEM 1.
2. ITEM 8 TO BE PACKED IN THE VENDOR CONTAINER.
3. HEIGHT VARIATION OF ITEM 8 MAY REQUIRE A 1 INCH TOP FILLER.

ITEM	QTY	DESCRIPTION	PART NUMBER
12	6 FT	REINFORCED SEALING TAPE, 3"	129-000027
11	2 FT	2" CLEAR SCOTCH TAPE	129-000059
10	1	DGC SHIPPING LABEL	129-000030
9	1	ENVELOPE, PACKING LIST, C-16	129-000043
8	1	TELEPHONE (SEE NOTE 3)	REF
7	1	SCORED DIE-CUT SHEET	129-000581
6	1	RD-1 MODEM, MODEL 9283	REF
5	1	POLYETHYLENE BAG, 23.5 x 14.0	136-000134
4	2	END CAP (POLYURETHANE)	129-000582
3	1	POLYETHYLENE BAG, 8 x 10.5	136-000061
2	1	SHIPPING CONTAINER, 17.4 x 12.5 x 6.5	129-000584
1	1	SHIPPING CONTAINER, 17.75 x 12.75 x 13.87	129-000583

RD-1 MODEM, MODEL 9283 (CS/10 ONLY)

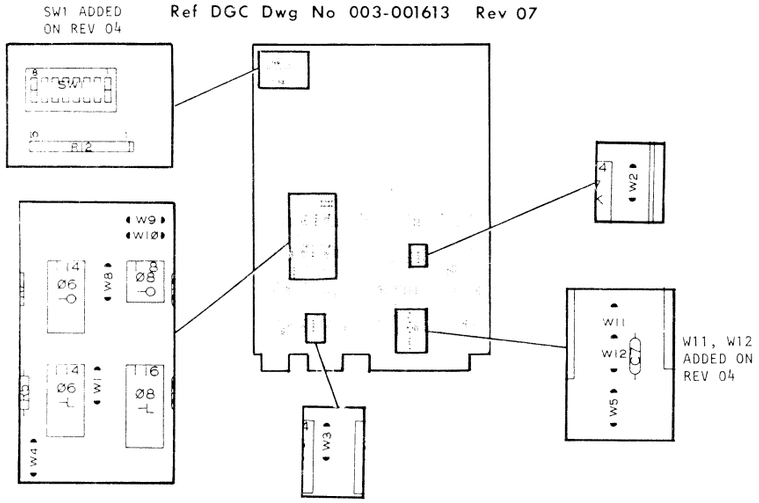
TAILORING

JUMPERING

MODEM ADAPTER

SW1 ADDED ON REV 04

Ref DGC Dwg No 003-001613 Rev 07



INTERNAL JUMPERS (TOP BOARD)

W1, W3, W4	-	ALWAYS IN
W2	-	OUT, DEVICE CODE 30 (ALWAYS OUT FOR CS/10) IN, DEVICE CODE 70
W5, W8, W10	-	ALWAYS IN
W9	-	ALWAYS OUT
W11	-	IN FOR NORMAL USE; OUT IF W12 IS USED
W12	-	IN FOR USE IN CS/10 CARD CAGE; OUT IF W11 IS USED

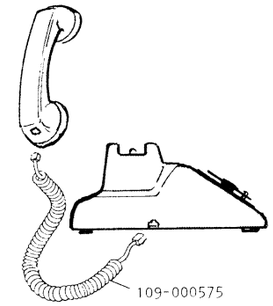
NOTE: THERE ARE NO USER JUMPERS ON MODEM BOARD (BOTTOM).

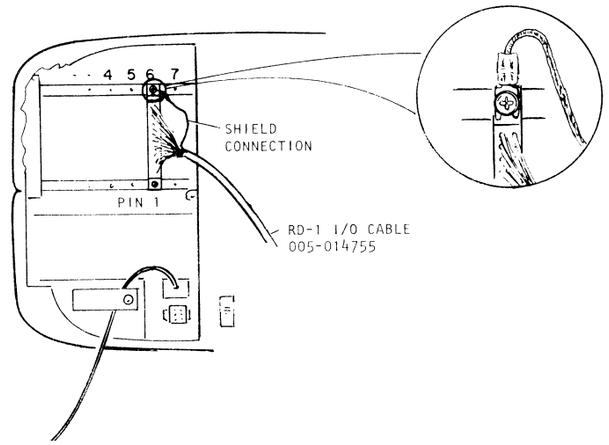
SWITCH SW1 0=ON X=OFF

BAUD RATE	RECEIVE				TRANSMIT			
SW1-	7	8	6	5	1	4	2	3
50	0	0	0	0	0	0	0	0
75	0	0	0	X	0	0	0	X
110	0	0	X	0	0	0	X	0
134.5	0	0	X	X	0	0	X	X
150	0	X	0	0	0	X	0	0
300	0	X	0	X	0	X	0	X
600	0	X	X	0	0	X	X	0
1200	0	X	X	X	0	X	X	X
1800	X	0	0	0	X	0	0	0
2000	X	0	0	X	X	0	0	X
2400	X	0	X	0	X	0	X	0
3600	X	0	X	X	X	0	X	X
4800	X	X	0	0	X	X	0	0
7200	X	X	0	X	X	X	0	X
9600	X	X	X	0	X	X	X	0
19200	X	X	X	X	X	X	X	X

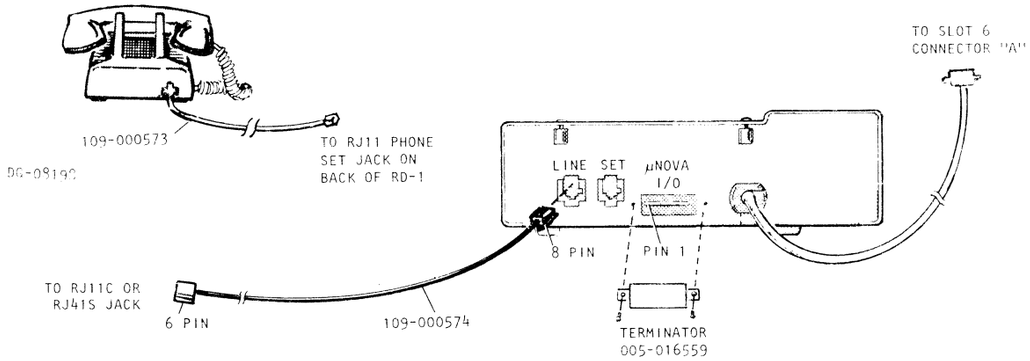
EXTERNAL CABLING

HANDSET INSTALLATION





PHONE CORD INSTALLATION



P/O BG - 08198

CS/10
C1 - DISKETTE
C3 - DISK*

RD-1 CONNECTS TO SLOT 6, CONNECTOR "A"

TERMINATOR REMAINS ON RD-1 μNOVA I/O CONNECTOR

* ON C3 DISK, DISK DRIVE CONNECTS TO SLOT 2.

CS/10
C1 - DISK

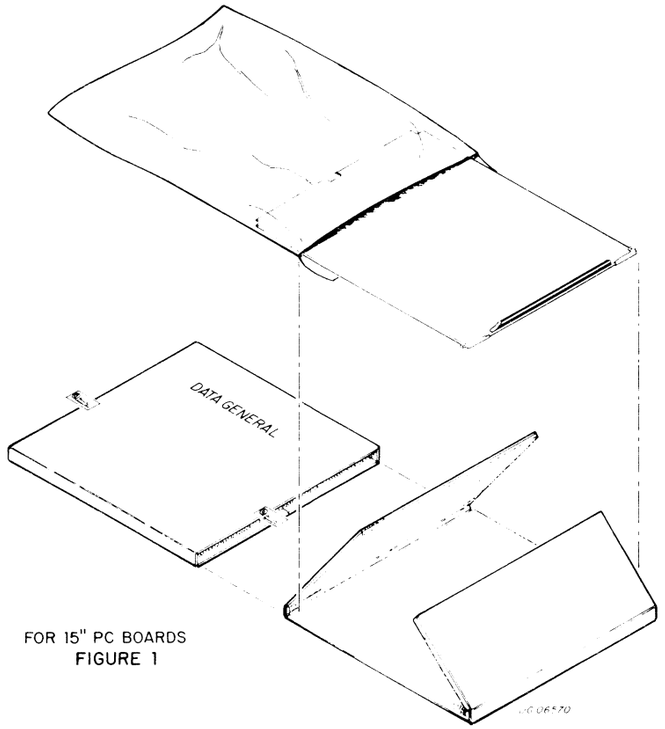
RD-1 CONNECTS TO SLOT 6, CONNECTOR "A"

DISK CONNECTS TO RD-1 μNOVA I/O CONNECTOR

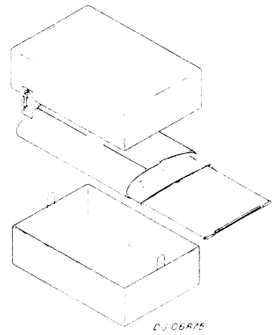
TERMINATOR NOT USED

PACKAGING

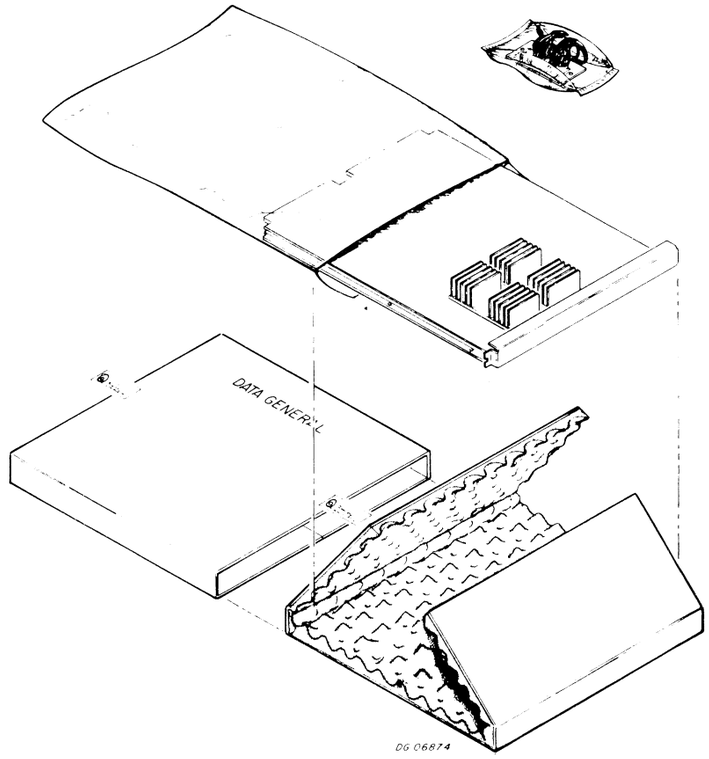
CHAPTER VI



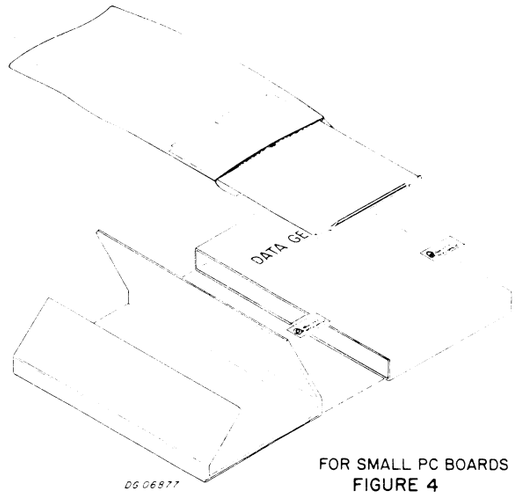
FOR 15" PC BOARDS
FIGURE 1



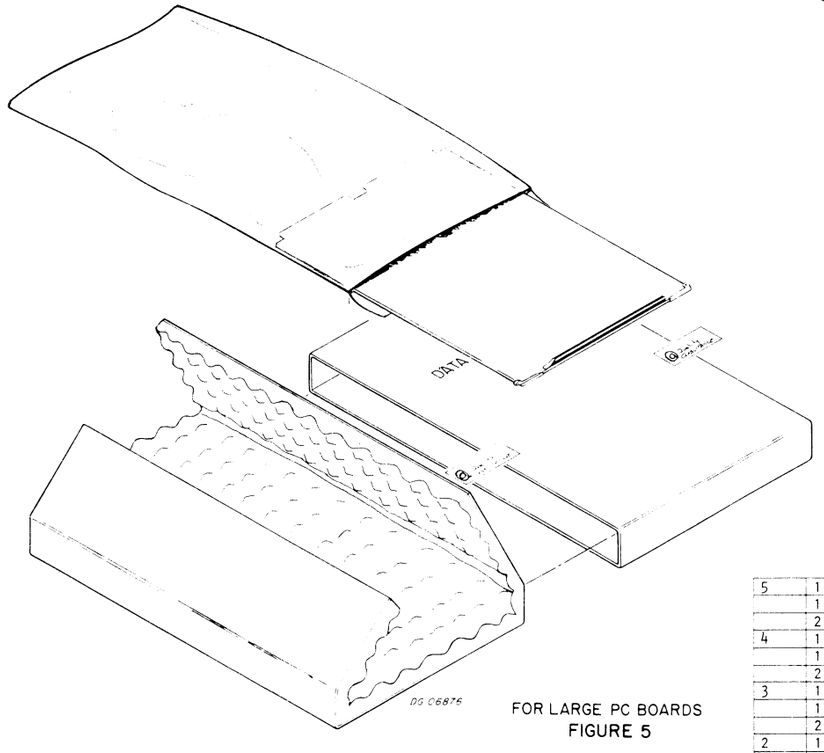
FOR SMALL PC BOARDS
FIGURE 2



FOR 16" PC BOARDS
FIGURE 3



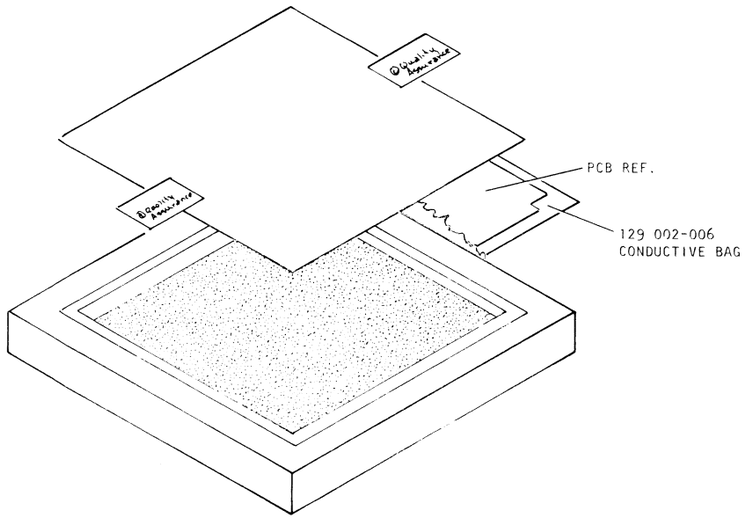
FOR SMALL PC BOARDS
FIGURE 4



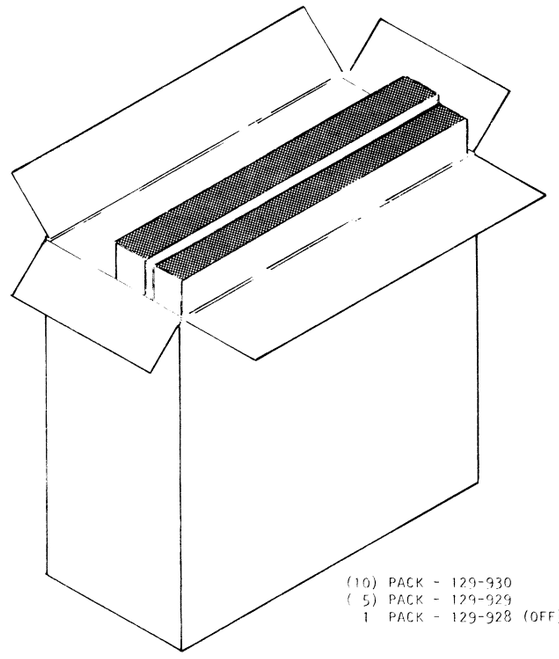
FOR LARGE PC BOARDS
FIGURE 5

ITEM	QTY	DESCRIPTION	PART NO.
5	1	TWO PIECE FOLDER	136-000231
	1	PLASTIC BAG OR FILM	129-000315
	2	QUALITY ASSURANCE LABEL	119-000136
4	1	TWO PIECE FOLDER	136-000258
	1	PLASTIC BAG 6 X 12	129-000034
	2	QUALITY ASSURANCE LABEL	119-000136
3	1	TWO PIECE FOLDER	136-000259
	1	PLASTIC BAG 16 X 21	136-000315
	2	QUALITY ASSURANCE LABEL	119-000136
2	1	MASON MAILER P94	136-000233
	1	PLASTIC BAG 6 X 12	129-000034
	1	QUALITY ASSURANCE LABEL	119-000136
1	1	TWO PIECE FOLDER	129-000805
	1	PLASTIC BAG 16 X 21	136-000315
	2	QUALITY ASSURANCE LABEL	119-000136

PRINTED CIRCUIT PACKAGING

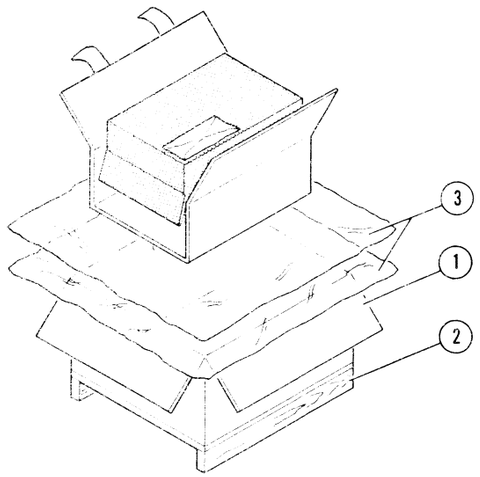


15" EPA TRAY & COVER
WITH QUALITY LABEL

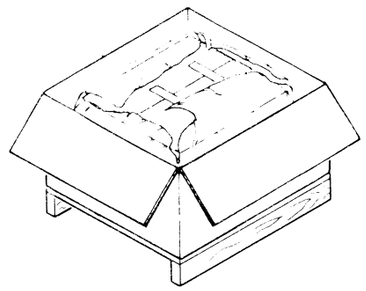


(10) PACK - 129-930
(5) PACK - 129-929
1 PACK - 129-928 (OFF)

REF	129	000	929	RSC (HOLDS 5 TRAYS)		A/R
7	129	000	136	QUALITY ASSURANCE LABEL		2
6	129	000	930	RSC (HOLDS 10 TRAYS)		1
5	129	000	927	COVER		1
4	129	000	839	15" EPA		A/R
3	129	000	930	LABEL		1
2	129	000	927	SEALING TAPE		24"
1	129	002	006	CONDUCTIVE BAG 18"x18"	RELEASED ON ECO 15150	A/R
ITEM	CODE	DWG	NO.	DESCRIPTION	CIRCUIT REFERENCE	TOTAL QTY



A



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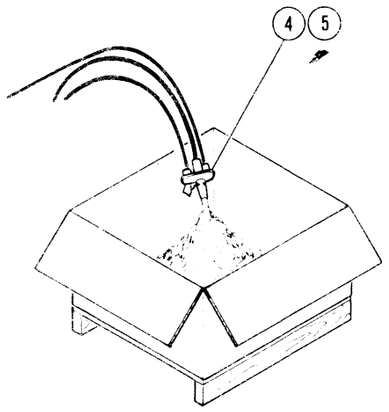

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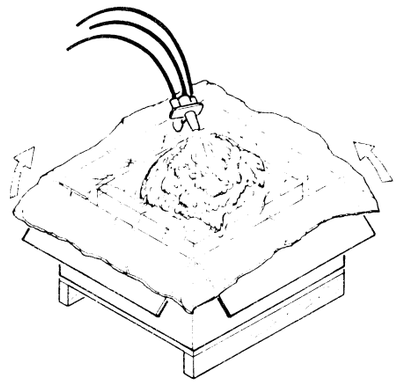

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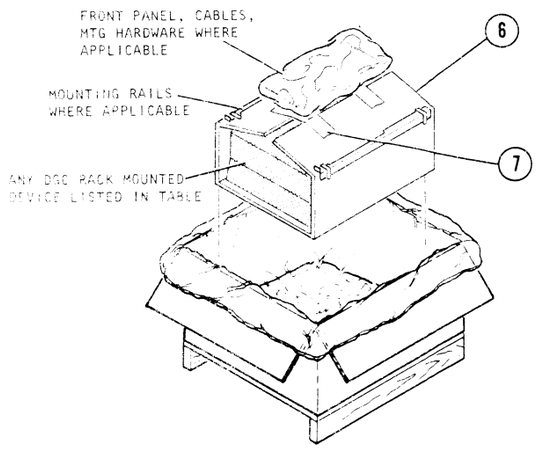

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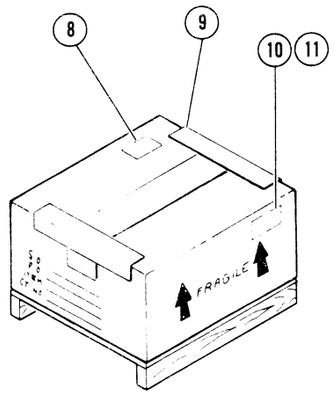
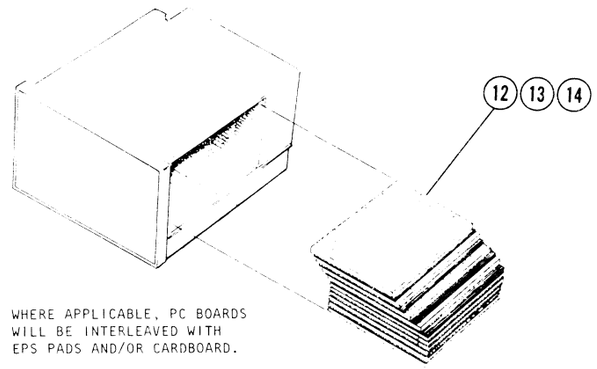


F

—DETAIL A—



WHERE APPLICABLE, PC BOARDS WILL BE INTERLEAVED WITH EPS PADS AND/OR CARDBOARD.

GENERAL PROCEDURE FOR FOAM-IN-PLACE PACKAGING

A. SET UP CARTON.
CUT 2 SHEETS OF POLYTHYLENE FILM 6 FEET LONG.
WRAP PRODUCT IN SLEEVE AND CLOSE WITH PERMACEL TAPE.

B. SPRAY FOAM INTO BOTTOM OF CARTON TO FORM 4-INCH THICK CUSHION.

C. AS FOAM RISES, PLACE ONE SHEET OF POLYFILM OVER FOAM, AND PRODUCT OVER FILM.

D. WRAP EXCESS FILM AROUND PRODUCT.

E. PLACE THE SECOND SHEET OF FILM OVER THE PRODUCT.
MAKE CERTAIN THAT THE FILM CONFORMS TO SPACES AROUND THE PRODUCT.
SPRAY FOAM AROUND AND OVER THE PRODUCT. AS THE FOAM EXPANDS, FOLD THE FILM AND CARTON FLAPS OVER IT, FORMING A MOLDED CAP.
OPEN AND INSPECT FOR VOIDS. FILL ANY VOIDS.

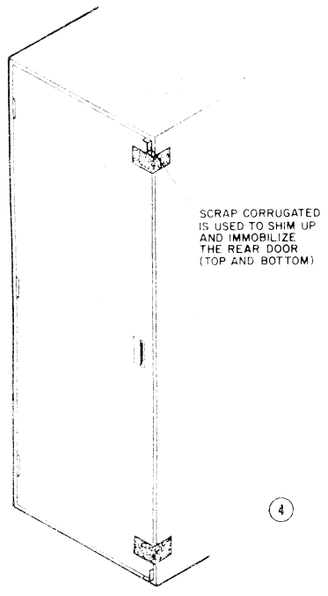
F. CLOSE AND SEAL CARTON. APPLY LABEL AND COVER WITH CLEAR SCOTCH TAPE.

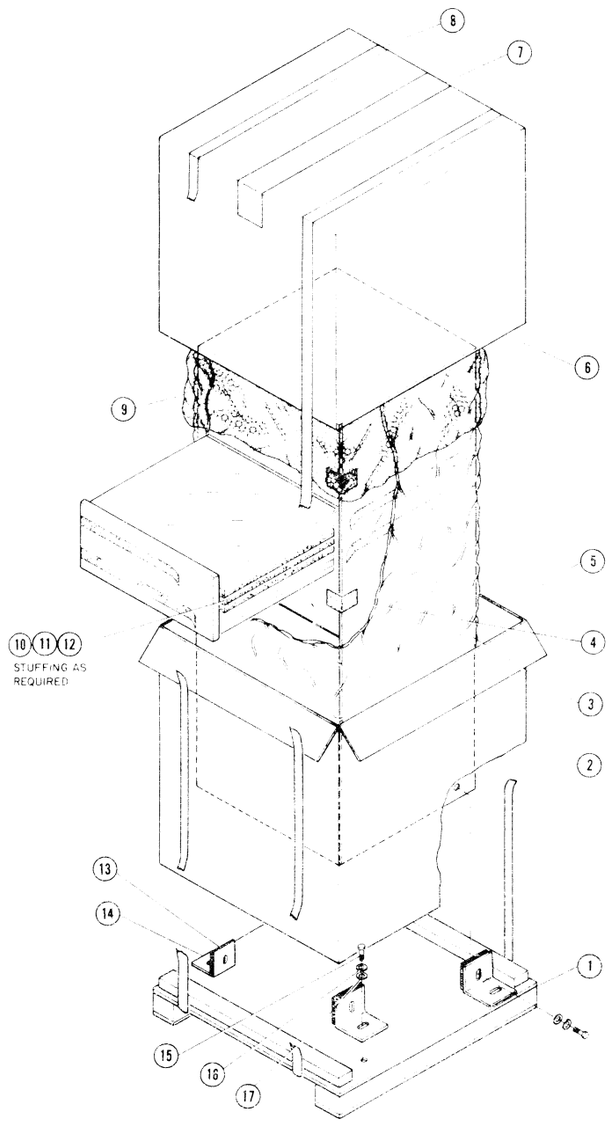
NOTE	RACK MOUNTED DEVICE	B.O.M.
SEE DETAIL A	2" RACK MOUNTS	044-000052
	5.25" RACK MOUNTS	044-000053
	10.5" RACK MOUNTS	044-000054
	14" RACK MOUNTS	044-000055
	8.75" RACK MOUNTS	044-000056
	7" RACK MOUNTS	044-000057

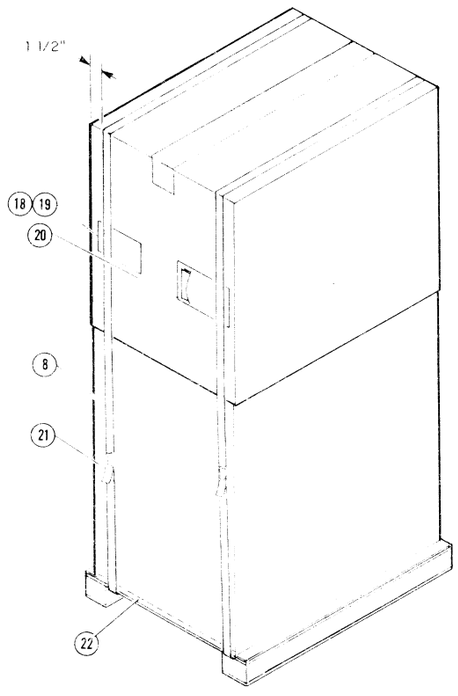
ELEMENTS OF SHIPPING PACKAGE
(044)

ITEM	DESCRIPTION	PART NO.						
1	BSC 36 x 27 x 30	129-000325			1			1
	BSC 36 x 27 x 19.25	129-000318	1	1		1	1	
2	PALLET 36 x 27	129-000316	1	1	1	1	1	1
3	POLYFILM 100'	129-000315	A/R	A/R	A/R	A/R	A/R	A/R
4	PART 'A' FOAM IN PLACE (LB.)	129-000319	1.7	1.8	2.25	2	1.6	2.75
5	PART 'B' FOAM IN PLACE (LB.)	129-000320	1.7	1.8	2.25	2	1.6	2.75
6	SLEEVE	129-000326			1			1
	SLEEVE	129-000321	1	1		1	1	
7	PERMACEL TAPE	129-000026	1FT	1FT	1FT	1FT	1FT	1FT
8	PKG LIST ENVELOPE	129-000042	1	1	1	1	1	1
9	TAPE	129-000027	A/R	A/R	A/R	A/R	A/R	A/R
10	DGC SHIPPING LABEL	129-000030	1	1	1	1	1	1
11	CLEAR SCOTCH TAPE	129-000051	2FT	2FT	2FT	2FT	2FT	2FT
12	CARDBOARD 14 1/2 x 14 1/2	129-000044	A/R	A/R	A/R	A/R	A/R	A/R
13	EPS PAD 1/2"	129-000052	A/R	A/R	A/R	A/R	A/R	A/R
14	EPS PAD 1"	129-000053	A/R	A/R	A/R	A/R	A/R	A/R

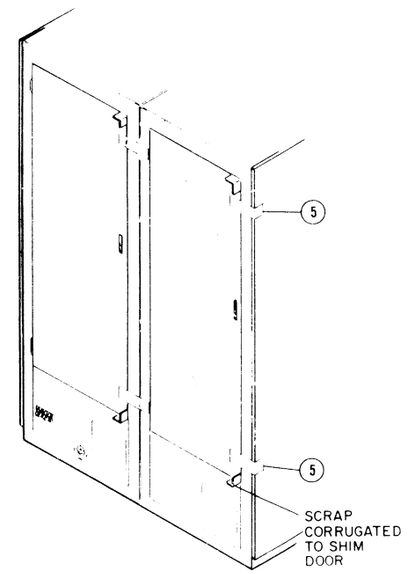
FOAM-IN-PLACE PROCEDURE

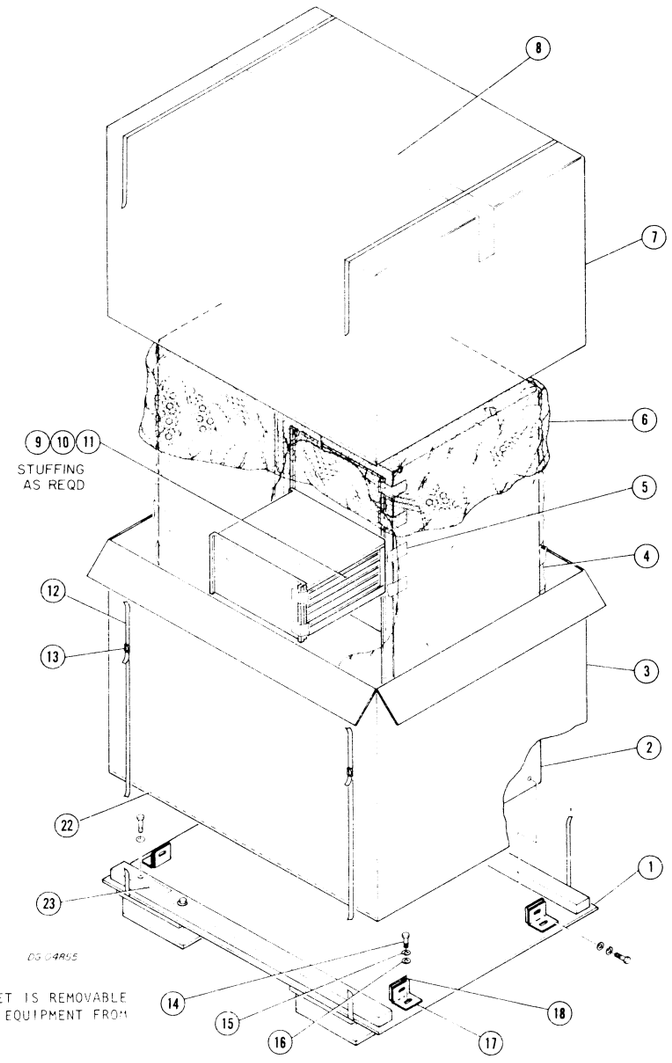


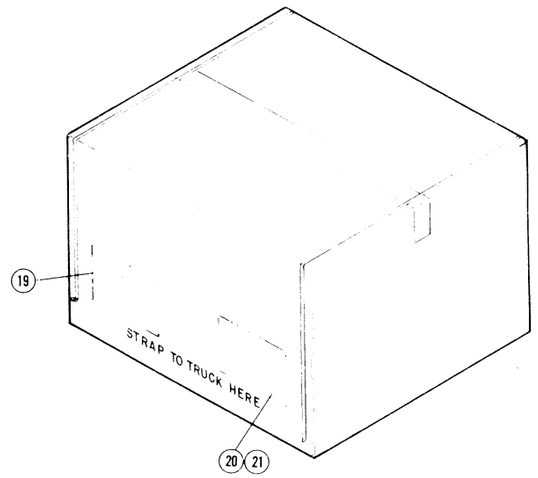




ITEM	QTY	DESCRIPTION	PART NO.
22	A/R	1" CROWN, 1" LEG STAPLE	129-000360
21	2	BUCKLE, AVB-4	129-000029
20	1	ENVELOPE, PACKING LIST 6 3/4 x 5	129-000042
19	A/R	WATER GLASS	
18	1	LABEL, SHIPPING	129-000030
17	8	WASHER, FLAT 3/8	106-000621
16	8	LOCK WASHER, SPLIT, 3/8	106-000625
15	8	BOLT, HEX.HD. 3/8-16 x 1	106-000619
14	4	BRACKET, SHIPPING	282-000284
13	4	D/C SEPARATOR	129-000206
12	A/R	14 1/2 x 14 1/2 "C" FLUTE CORR. PAD	129-000044
11	A/R	14 1/2 x 14 1/2 x 1 EPS PAD 1"	129-000053
10	A/R	14 1/2 x 14 1/2 x 1/2 EPS PAD 1"	129-000052
9	6 FT	AIRCAP	129-000035
8	45 FT	STRAPPING, POLYPROPYLENE	129-000033
7	54"	TAPE, CLOSURE	129-000027
6	1	HALF SLOTTED CONTAINER	129-000367
5	1	TUBE	129-000366
4	A/R	TAPE, FILAMENT, 2	129-000370
3	1	POLYBAG	129-000133
2	1	CABINET, SINGLE BAY	
1	1	PALLET	129-000324



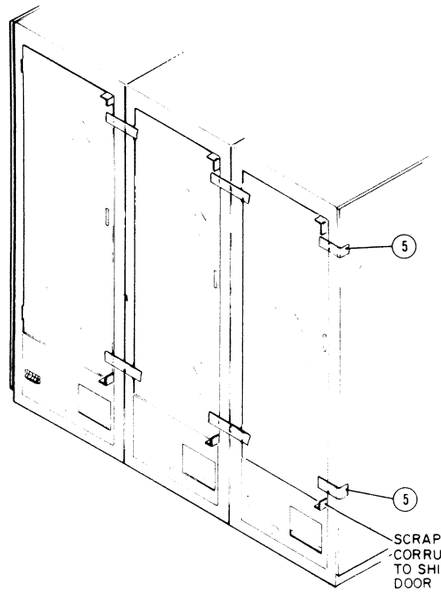


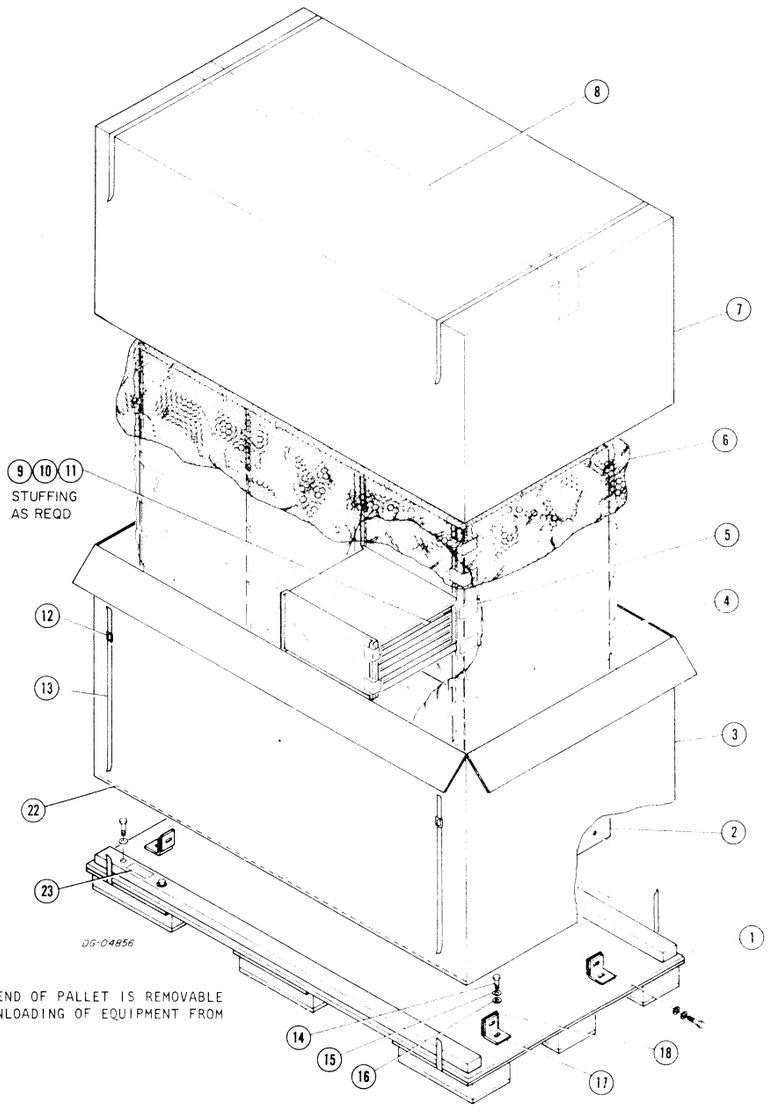


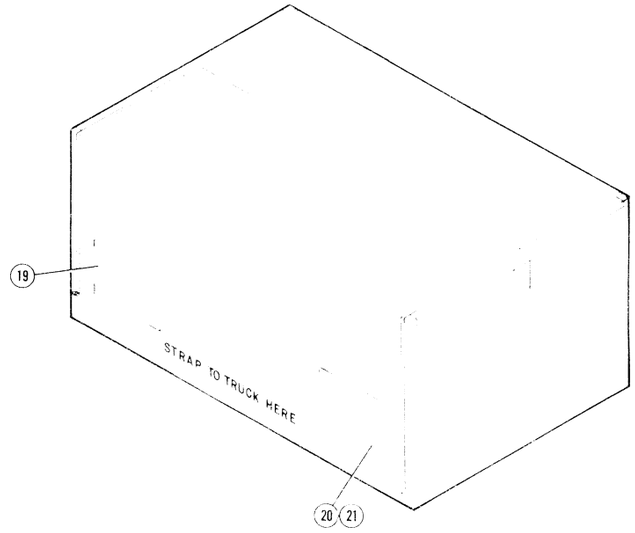
NOTE: CUSHION AT ONE END OF PALLET IS REMOVABLE TO FACILITATE UNLOADING OF EQUIPMENT FROM PALLET.

ITEM	QTY.	DESCRIPTION	PART NO.
23	2	LABEL, UNLOADING INSTRUCTIONS	129-000380
22	A/R	1" CROWN, 1" LEG STAPLE	129-000165
21	2 FT	2" CLEAR SCOTCH TAPE	129-000051
20	1	PACKING LIST ENV. 6 3/4 x 5	129-000042
19	1	DGC SHIPPING LABEL	129-000030
18	4	D/C SEPARATOR	129-000206
17	4	BRACKET, SHIPPING	002-005294
16	8	WASHER, FLAT, 3/8	106-000621
15	8	LOCK WASHER, SPLIT, 3/8	106-000622
14	8	BOLT, HEX. HD. 3/8-16 x 1	106-000618
13	2	BUCKLE, AVB-4	129-000025
12	50 FT	POLYPROPYLENE STRAPPING	129-000123
11	A/R	14 1/2 x 14 1/2 x 1" EPS PAD	129-000053
10	A/R	14 1/2 x 14 1/2 x 1/2 EPS PAD	129-000052
9	A/R	14 1/2 x 14 1/2 "C" FLUTE CORE	129-000044
8	12 FT	CLOSURE TAPE	129-000027
7	1	HALF SLOTTED CONTAINER	129-000336
6	8 FT	AIRCAP	129-000035
5	A/R	2" FILAMENT TAPE	129-000370
4	1	POLYBAG 48 x 34 x 71 x 0.003	129-000170
3	1	TUBE	129-000334
2	1	CABINET, DOUBLE BAY	
1	1	PALLET	129-000323

TWO-BAY PACKAGING







NOTE: CUSHION AT ONE END OF PALLET IS REMOVABLE TO FACILITATE UNLOADING OF EQUIPMENT FROM PALLET.

ITEM	QTY	DESCRIPTION	PART NO.
23	2	LABEL, UNLOADING INSTRUCTIONS	129-000380
22	A/R	1" CROWN, 1" LEG STAPLE	129-000165
21	2 FT	2" CLEAR SCOTCH TAPE	129-000051
20	1	PACKING LIST ENV. 6 3/4 x 5	129-000042
19	1	DGC SHIPPING LABEL	129-000030
18	4	D/C SEPARATOR	129-000206
17	4	BRACKET, SHIPPING	002-005294
16	8	WASHER, FLAT, 3/8	106-000621
15	8	LOCK WASHER, SPLIT, 3/8	106-000622
14	8	BOLT, HEX, HD 3/8-16 x 1	106-000618
13	50 FT	POLYPROPYLENE STRAPPING	129-000123
12	2	BUCKLE, AVB-4	129-000025
11	A/R	14 1/2 x 14 1/2 x 1 EPS PAD	129-000053
10	A/R	14 1/2 x 14 1/2 x 1/2 EPS PAD	129-000052
9	A/R	14 1/2 x 14 1/2 "C" FLUTE CORE	129-000044
8	14 FT	REINFORCED SEALING TAPE 3"	129-000027
7	1	HALF SLOTTED CONTAINER	129-000335
6	12 FT	AIRCAP	129-000035
5	A/R	2" FILAMENT TAPE	129-000370
4	1	POLYBAG 80 x 34 X 71	129-000368
3	1	TUBE	129-000333
2	1	CABINET, THREE BAY	
1	1	PALLET	129-000322

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