

**Installation and Packaging
for Earlier Model
Data General Corporation Peripherals**

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PREFACE

THIS MANUAL REPRESENTS A COMPILATION OF INSTALLATION DATA SHEETS FOR EARLIER MODEL DATA GENERAL CORPORATION PERIPHERALS. 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 PROCESSORS AND PACKAGED SYSTEMS, SEE "INSTALLATION AND PACKAGING FOR EARLIER MODEL DATA GENERAL CORPORATION PROCESSORS AND PACKAGED SYSTEMS" (014-000731).

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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CONFIGURATION RULES

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 μ s	1	Y
010	4196	P.E. TAPE DRIVE (45 IPS)	X		10 μ s	1	Y
020	4030 6020,6021	MAG TAPE DRIVE (75 IPS)	X		12.5 μ s	1	Y
030	4046	MOVING HEAD DISK (2.5 MBYTES)	X		12.8 μ s	1	Y
040	6045/6051 6046 6047 6048	DIABLO 44 OR 10MB DISC 20MB 30MB 40MB	X		12.8 μ s	1	Y
050	4055	ANALOG/DIGITAL (ANALOG CO)	X		13.3 μ s	1	Y
060	6063,-64,-65,-66 *** 6063H,-64H,-65H,-66H	FIXED HEAD DISK	X, BMC SEE NOTE 4		18 μ s	2	Y
070	4231 6060,-61/6067 *** 6060H,-61H	50, 100, 200 MB MHD CONTROLLER	X, BMC SEE NOTE 4		19.8 μ s	2	Y
080	6098 6100	12.5MB CONTROLLER (WITH QUAD DISKETTE) 25MB CONTROLLER WITH QUAD	X		50 μ s	1	Y
087	6231, 6225C, 6227C	1/4- INCH CARTRIDGE DRIVE	X		57 μ s	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		96 μ s	1	Y
100	6030,6031	FLOPPY DISK	X		128 μ s	1	Y
102	6125	MAG TAPE	X		160 μ s	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 μ s	1	N

*** RUNS WITH BMC (also)

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.

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		125 μ s	1	Y
128	4357, 4358	IAC/8, IAC/16	X		10/R (R=HIGHEST) BAUD RATE (5) NOTE 6. 200 μ s	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

3. BMC1 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.

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	CASSETTE 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).
 - 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. BMC1 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.

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 JUMPERING 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.

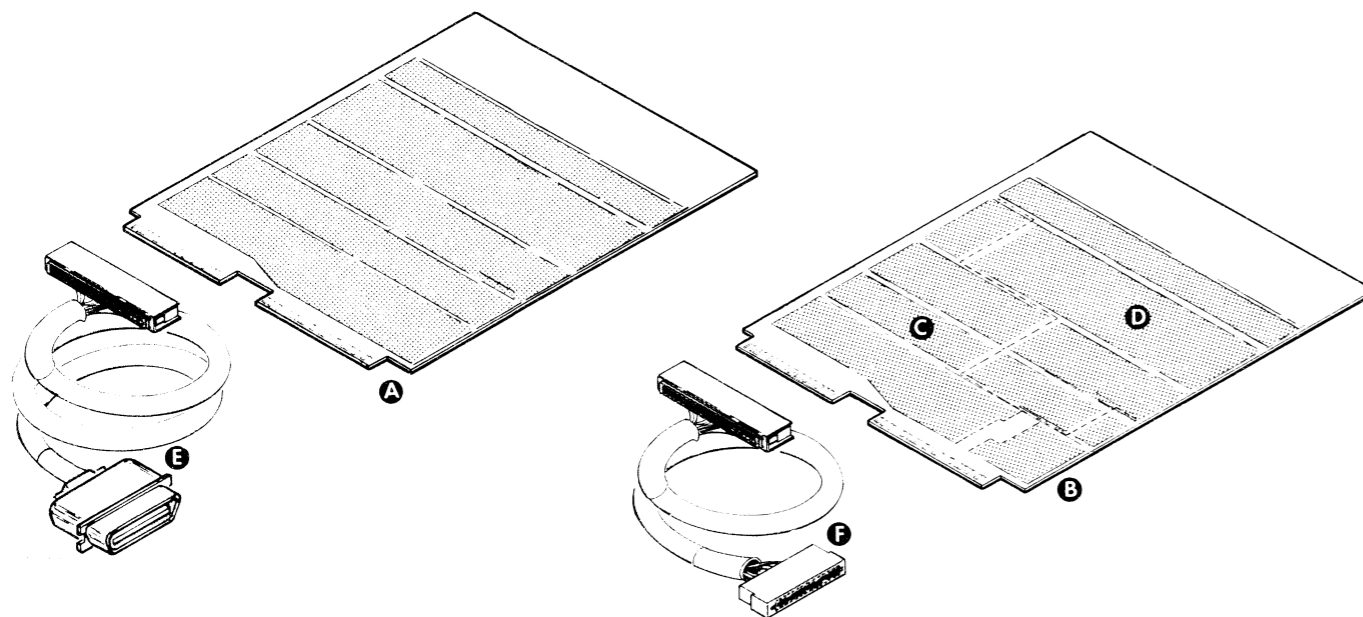
ORDER OF PRIORITY	PRIORITY FACTOR	MODEL NO.	DESCRIPTION	MAX ALLOWABLE LATENCY	WORD RATE / BUFFER SIZE	MEM I/O SLOT	I/O ONLY SLOT	BUS LOADING	NOTES
100	13.2	6122	MHD 277 MB	13.2 us	1.6us/ 16	YES	YES	?	1, 3, 5
200	18	6063H-64H	FHD 1, 2 MB	18 us	2.3us/ 16	YES	YES	2	2, 3
300	19.8	6060H-61H 67H	MHD 50, 96, 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

microPRODUCTS LINE

SUBSYSTEM COMPONENT BREAKDOWN



MAJOR COMPONENT

ITEM	COMPONENT	MOUNTING LOCATION	NOTES
A	LINE PRINTER CONTROLLER	ANY SLOT RESERVED FOR I/O	SERIES 4221
B	PTR/RTC CONT	ANY SLOT RESERVED FOR I/O	SERIES 4220
C	PAPER TAPE READER CONT	ANY SLOT RESERVED FOR I/O	SERIES 4220-A
D	REAL-TIME CLOCK	ANY SLOT RESERVED FOR I/O	SERIES 4220-B

CABLE

ITEM	CABLE	CONNECTING	MAX LGTH		NOTES
			FT	M	
E	DEVICE	LINE PRINTER CONTROLLER AND LINE PRINTER	50	15	(TYPICALLY 25 FT.) EC 4221
F	DEVICE	PTR CONTROLLER AND PTR	10	3	EC 4220

SPECIFICATIONS OF CHASSIS-MOUNTED COMPONENTS

ITEM	COMPONENT	CHASSIS	SLOTS REQUIRED	MAX ALLOWABLE PROGRAMMED I/O LATENCY +	CONTROLLER'S +5 VOLT CURRENT DRAW (AMPS)	NOTES
A	LPT CONTROLLER	CPU	1	100 μ SEC	0.5	-5V -0.03 +15V - 0.09 MODEL 4221 +12V - 0.12 MODEL 4221-S
B	PTR/RTC	CPU	1	100 μ SEC	1.0	-5V -0.06 +15V - 0.18 MODEL 4220 +12V - 0.24 MODEL 4220-S
C	PTR	CPU	1	100 μ SEC	0.5	-5V -0.03 +15V - 0.09 MODEL 4220-A +12V - 0.12 MODEL 4220-AS
D	RTC	CPU	1	1M-SEC	0.5	-5V -0.03 +15V - 0.09 MODEL 4220-B +12V - 0.12 MODEL 4220-BS

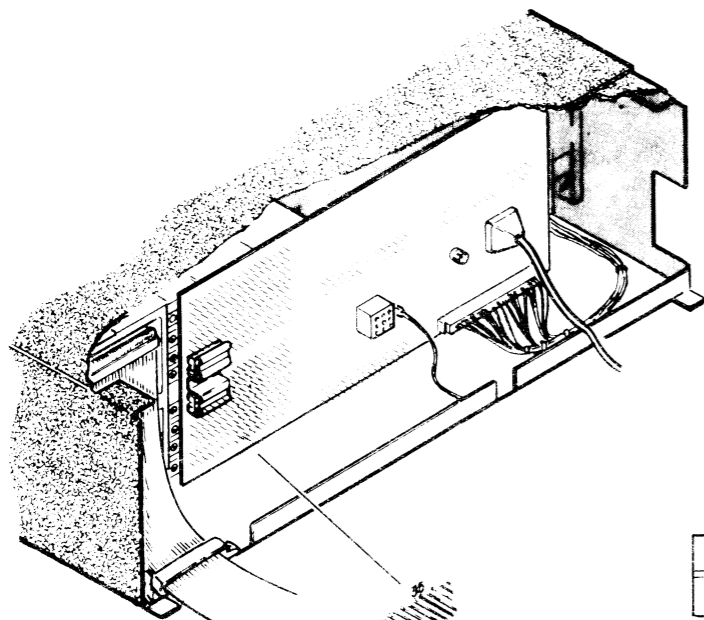
SHIPPING

FOR PACKING PROCEDURE,
SEE 010-000262

SHIPPING SPECIFICATIONS			STORAGE SPECIFICATIONS		
Temperature Range	Relative Humidity	Maximum Altitude	Temperature Range	Relative Humidity	Maximum Period
$^{\circ}$ F	(Non-condensing)		$^{\circ}$ F	(Non-condensing)	
$^{\circ}$ C			$^{\circ}$ C		
-40to+160	0%/80%	50,000ft. 15,200m	-40to+160	0%/80%	90 days
-40to+71			-40to+71		

TAILORING AND EXTERNAL CABLING

PTR/RTC CONTROLLER



I/O DEVICE CABLE

JUMPERS

PTR DEVICE CODE SELECTION

DS0	DS1	DS2	DS3	DS4	DS5	TEST
0	0	R41	R43	R45	R47	1*

* TEST NORMALLY IN

RTC DEVICE CODE SELECTION

DS0	DS1	DS2	DS3	DS4	DS5
R28	R29	R30	R31	R32	R33

NOTE: INSERT RESISTORS FOR 1. REMOVE FOR 0



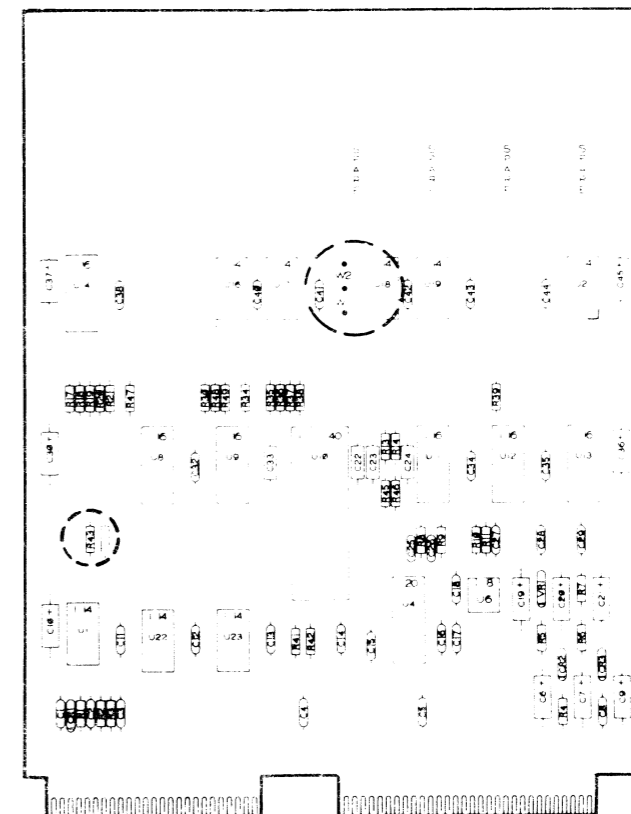
THE SLOT INTO WHICH THE REAL TIME CLOCK IS INSERTED MUST HAVE A BACK-PANEL JUMPER INSTALLED, FROM PIN 35 TO THE 60HZ PIN (BELOW SLOT 1).

PAPER TAPE READER CABLE EC-4221

SIGNAL NAME	PRINTED CIRCUIT BOARD PIN #	CABLE - TO - PIN #	CABLE - TO - PIN #	CONNECTOR ON CABLE (USER END)
CH8	A3	2	2	DG 111-000119
CH7	A7	4	4	
CH6	A8	3	3	20-PIN CARD EDGE CONNECTOR
CH5	A9	5	5	
CH4	A11	6	6	
CH3	A14	H	H	
CH2	A13	7	7	
CH1	A16	J	J	
STOP	A15	8	8	
RDRNDY	A17	9	9	
GND	A19	10	10	
SPKT	A20	L	L	

LINE PRINTER CONTROLLER

JUMPERS



Ref. DGC 107-000696 Rev. 01

LPT DEVICE CODE SELECTION

DS0	DS1	DS2	DS3	DS4	DS5
0	0	R30	R37	R36	R35

NOTE: INSERT RESISTORS FOR 0, OUT FOR 1.

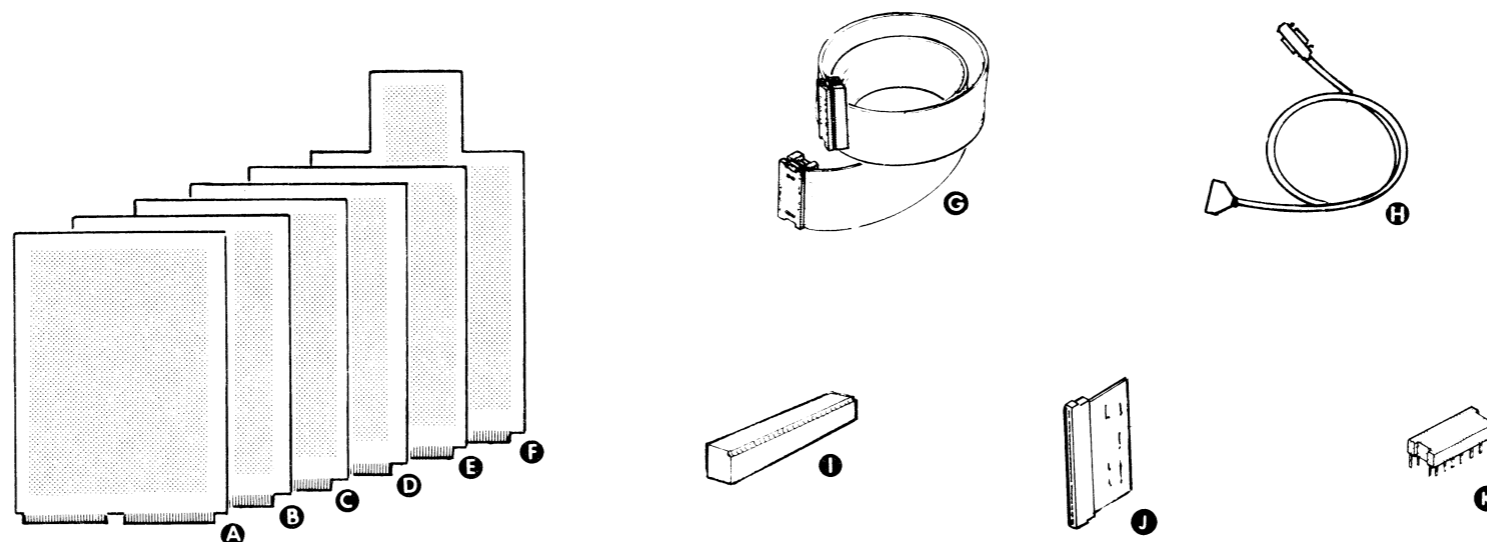
DEMAND POLARITY

POLARITY	R43	W1	W2
POSITIVE	IN	IN	OUT
NEGATIVE	OUT	OUT	IN

LINE PRINTER CABLE EC-4221

SIGNAL NAME	PRINTED CIRCUIT BOARD PIN #	CABLE - TO - PIN #	CABLE - TO - PIN #	CONNECTOR ON CABLE (USER END)
LPT STROBE	A1	1	1	DG 111-000152
GND	A2	A	19	
LPT DAT 1	A3	2	2	
GND	A4	B	20	
LPT DAT 2	A5	3	3	
GND	A6	C	21	
LPT DAT 3	A7	4	4	
GND	A8	D	22	
LPT DAT 4	A9	5	5	
GND	A10	E	23	
LPT DAT 5	A11	6	6	
GND	A12	F	24	
LPT DAT 6	A13	7	7	
GND	A14	H	25	
LPT DAT 7	A15	8	8	
GND	A16	J	26	
LPT DAT 8	A17	9	9	
GND	A18	K	27	
LPT DEMAND	A19	10	10	
GND	A20	L	28	
GND	A27	14	14	
LPT READY	A28	R	32	

INSTALLATION SPECIFICATIONS



MAJOR COMPONENTS

ITEM	COMPONENT	MOUNTING LOCATION
A	A/D CONVERTER	ANY I/O SLOT
B	D/A CONVERTER	ANY I/O SLOT
C	DIGITAL I/O INTERFACE	ANY I/O SLOT
D	MICROPRODUCTS ANALOG SUBSYSTEM	ANY I/O SLOT (MP/100 AND MP/200 ONLY)
E	I.E.E.E. 488 BUS INTERFACE	ANY I/O SLOT
F	DG/DAC	DG/DAC CHASSIS

ITEM	COMPONENT	CHASSIS	SLOTS REQUIRED	DC CURRENT DRAW (AMPS)				
				5V	-5V	12V	15V	-12V
A	A/D CONVERTER	9-18 SLOT ONLY	1	1.90	0.03	—	0.07	—
		8 SLOT ONLY	1	1.90	0.03	0.07	—	—
B	D/A CONVERTER	9-18 SLOT ONLY	1	2.00	0.03	—	0.07	—
		8 SLOT ONLY	1	2.00	0.03	0.07	—	—
C	DIGITAL I/O INTERFACE	9-18 SLOT ONLY	1	0.80	0.02	—	0.08	—
		8 SLOT ONLY	1	0.80	0.02	0.08	—	—
D	MICROPRODUCTS ANALOG SUBSYSTEM	8 SLOT ONLY	1	1.80	0.03	0.05	—	0.075
E	I.E.E.E. 488 BUS INTERFACE	9-18 SLOT ONLY	1	2.40	0.276	0.15	—	—
		8 SLOT ONLY	1	2.40	0.276	0.15	—	—

CABLES

ITEM	COMPONENT	CONNECTING	MAX. LENGTH		NOTES
			FT	M	
G	EXTERNAL I/O BUS CABLE	DG/DAC AND COMPUTER	100	30	100 FT. MAXIMUM I/O BUS LENGTH
H	I.E.E.E. 488 BUS CABLE	INTERFACE BOARD "A" CONNECTOR TO IEEE 488 BUS	6.5	2	005-015189
I	CABLE CONNECTOR	I/O BOARD "A" CONNECTOR AND DEVICE			50 PIN (A) EDGE CONNECTOR
J	MICROPRODUCTS ANALOG SUBSYSTEM LOOP-BACK CONNECTOR	DIGITAL OUTPUT PINS TO DIGITAL INPUT AND ANALOG OUTPUT TO ANALOG INPUT CHANNEL			005-014910

TERMINATOR

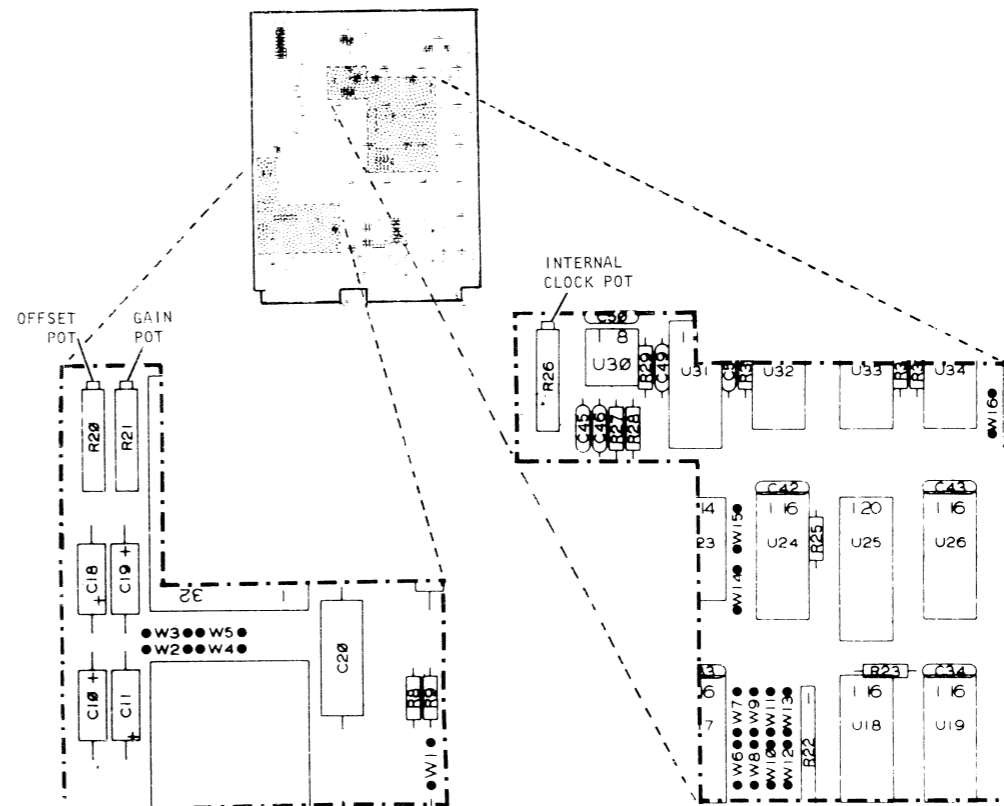
ITEM	TERMINATOR	LOCATION
K	EXTERNAL I/O BUS	LAST CONTROLLER ON THE I/O BUS IF IT IS EXTERNAL TO THE CHASSIS

SHIPPING

FOR PACKING PROCEDURE,
SEE 010-000262

TAILORING
JUMPERING

A/D CONVERTER
Ref DGC No 107-000847-02

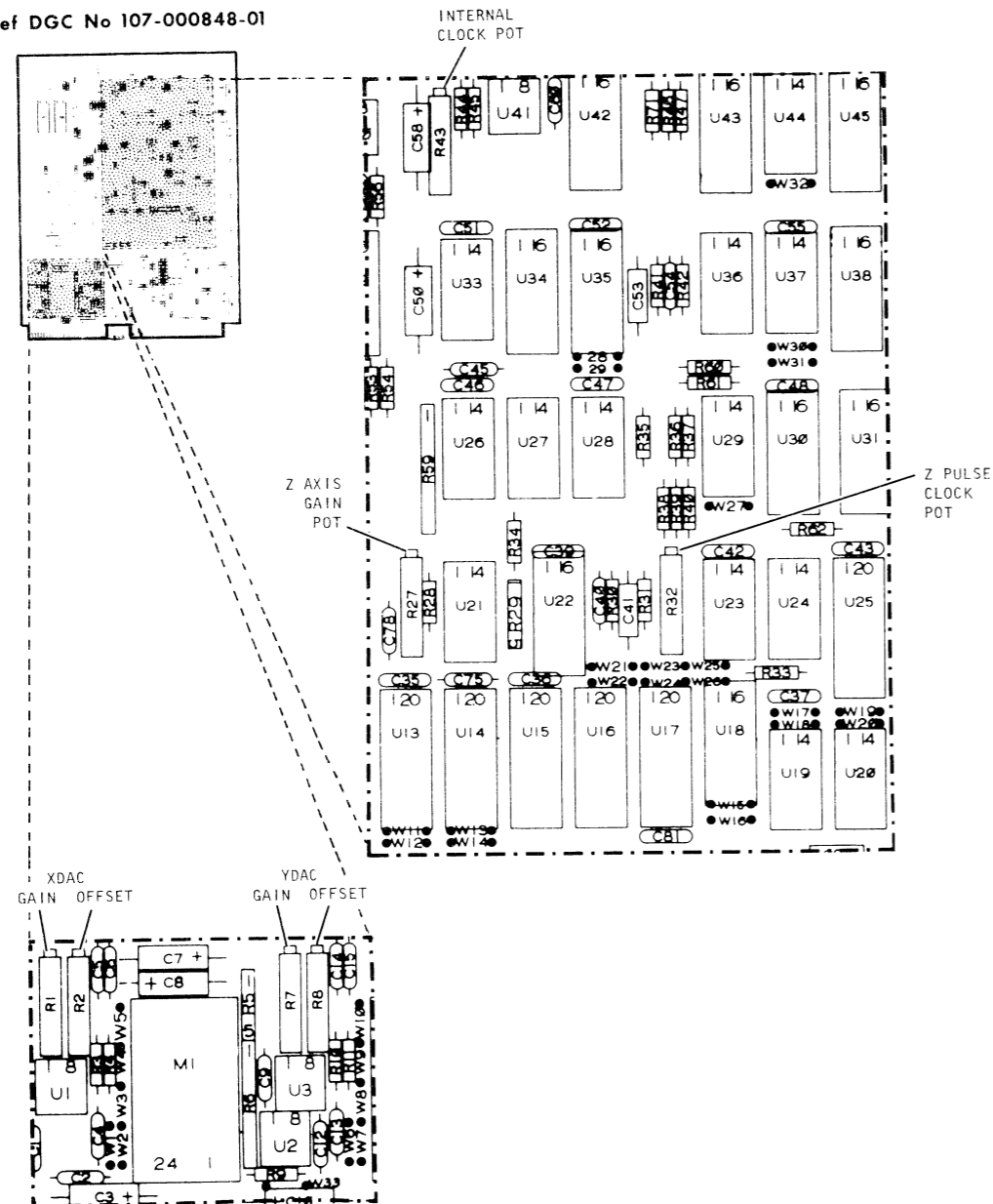


VOLTAGE RANGE SELECTION JUMPERS					CODE SELECTION JUMPERS		
JUMPER SELECT	W2	W3	W4	W5	JUMPER SELECT	W6	W7
+10V	OUT	IN	IN	OUT	2'S COMPLEMENT	IN	OUT
±5V	IN	OUT	IN	OUT	OFFSET BINARY	OUT	IN
0-5V	IN	OUT	OUT	IN			
0-10V	IN	OUT	OUT	OUT			
DEVICE CODE JUMPERS							
BIT POSITION OF DEVICE CODE	0	1	2	3	4	5	
INSERT JUMPER TO SPECIFY 1	W10	W11	W9	W12	W13	W8	
POLARITY SELECT A/D CONVERTER READY				CLOCK OVERRUN SIGNAL SELECT			
JUMPER SELECT	W14	W15		JUMPER SET DONE	W16		
TRUE WHEN HIGH	OUT	IN		YES	IN		
TRUE WHEN LOW	IN	OUT		NO	OUT		

W1 IS IN ONLY FOR CALIBRATION CROSS PLOT TEST
W7 AND W8 ARE IN FOR +15Vdc, AND OUT FOR +12Vdc.
STANDARD DEVICE CODE IS 21_g.

TAILORING (Cont) JUMPERING

D/A CONVERTER
Ref DGC No 107-000848-01

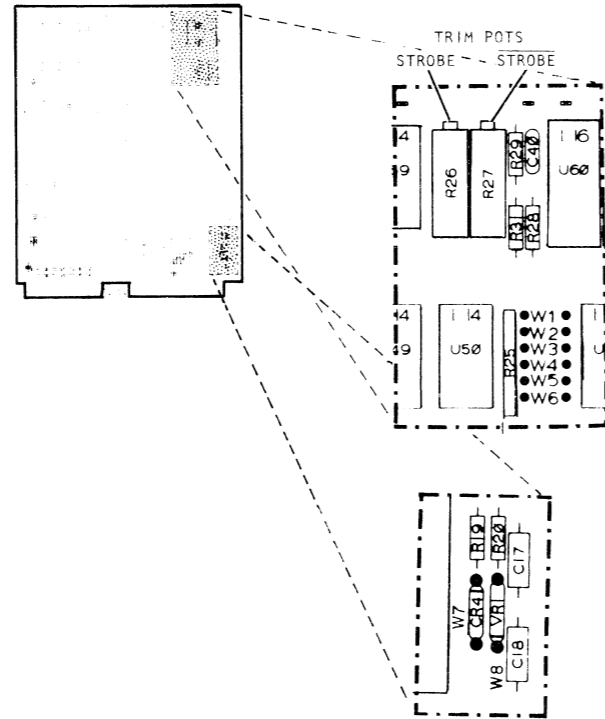


DEVICE CODE JUMPERS							
BIT POSITIONS OF DEVICE CODE		0-9	10	11	12	13	14 15
INSERT JUMPER TO SPECIFY 1		0	W19	W20	W15	W16	W17 W18
VOLTAGE RANGE SELECTION JUMPERS							
JUMPER RANGE	X DAC						
	W1	W2	W3	W4	W5		
+10V	OUT	IN	OUT	IN	OUT		
+5V	OUT	IN	OUT	OUT	IN		
0-5V	IN	OUT	IN	OUT	IN		
0-10V	IN	OUT	OUT	OUT	IN		
JUMPER RANGE	Y DAC						
	W6	W7	W8	W9	W10		
+10V	OUT	IN	OUT	IN	OUT		
+5V	OUT	IN	OUT	OUT	IN		
0-5V	IN	OUT	IN	OUT	IN		
0-10V	IN	OUT	OUT	OUT	IN		
CODE SELECTION JUMPERS							
JUMPER CODE	X DAC		Y DAC				
	W11	W12	W13	W14			
OFFSET BINARY	IN	OUT	IN	OUT			
2'S COMPLEMENT	OUT	IN	OUT	IN			
Z AXIS PULSE JUMPERS							
CAUSE PULSE WHEN LOADING DATA				COUPLING			
JUMPER SELECT	W21	W22			JUMPER SELECT	W33	
						DC COUPLING	IN
Y DAC	IN	OUT			AC COUPLING	OUT	
X DAC	OUT	IN					
PULSE BRIGHTNESS SOURCE							
JUMPER SOURCE	W23	W24	W25	W26			
X DAC	IN	IN	OUT	OUT			
Y DAC	OUT	OUT	IN	IN			
MAXIMUM	OUT	OUT	OUT	OUT			
Z-AXIS TRANSITION							
JUMPER SELECT	W27						
POSITIVE GOING	IN						
NEGATIVE GOING	OUT						
POLARITY SELECTION JUMPERS				LATE CONVERSION SIGNAL SELECT			
JUMPER SELECT	DAC DATA VALID		DAC DATA READY		JUMPER SET DONE	W32	
	W28	W29	W30	W31		YES	IN
TRUE HIGH	IN	OUT	TRUE HIGH	IN	NO	OUT	
TRUE LOW	OUT	IN	TRUE LOW	OUT			

INSERT JUMPERS W34 AND W35 FOR +15Vdc.
REMOVE JUMPERS W34 AND W35 FOR +12VDC.
STANDARD DEVICE CODE IS 23₈.

TAILORING (Cont)
JUMPERING

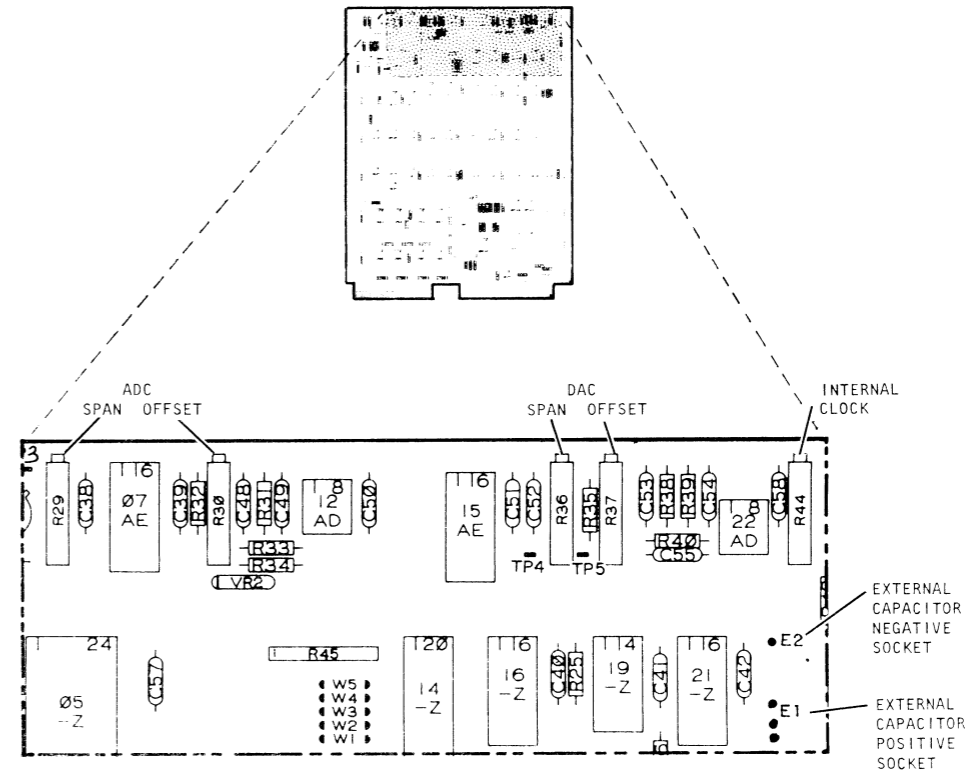
DIGITAL I/O INTERFACE
Ref DGC No 107-000874-02



DEVICE CODE JUMPERS							
BIT POSITIONS OF DEVICE CODE	0-9	10	11	12	13	14	15
INSERT JUMPER TO SPECIFY 1	0	W0	W1	W2	W3	W4	W5

INSERT JUMPERS W7 AND W8 FOR +15Vdc.
REMOVE JUMPERS W7 AND W8 FOR +12Vdc.
STANDARD DEVICE CODE IS 42₈.

MICROPRODUCTS ANALOG SUBSYSTEM
Ref DGC No 107-001375-00



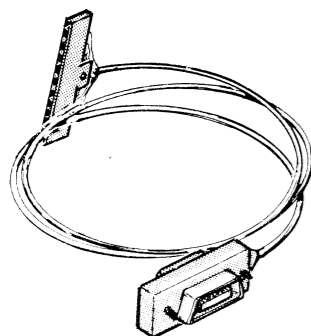
DEVICE CODE							
BIT POSITION	0-9	10	11	12	13	14	15
INSERT JUMPER TO SPECIFY	0	W5	W4	W3	W2	W1	0
0. LEAVE JUMPER OUT TO SPECIFY 1.							

NOTE: ONLY EVEN NUMBER DEVICE CODE ALLOWED.
STANDARD DEVICE CODE IS 40₈.

TAILORING (Cont) JUMPERING

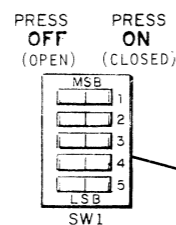
microNOVA IEEE-488 DATA CHANNEL INTERFACE

INSTALL IN ANY I/O SLOT



CABLE: A-CONNECTOR TO IEEE-488 BUS
(005-015189)

2 METER (6.56 FT)



IEEE 488 BUS DEVICE CODE SWITCHES

SWITCH POSITION	AD5	AD4	AD3	AD2	AD1
PUSH SWITCH TO ON FOR 0	S1	S2	S3	S4	S5
PUSH SWITCH TO OFF FOR 1					

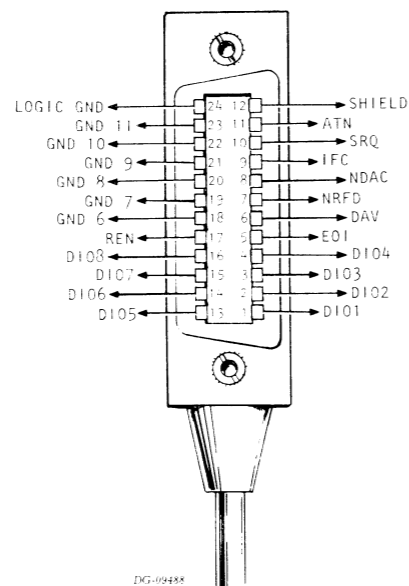
EXAMPLE: FOR BUS ADDRESS 17₈, CLOSE SWITCH S1 ONLY.

Ref DGC Dwg No 107-001851 Rev 01

NOTE: IF THIS BOARD IS THE SYSTEM CONTROLLER,
INSERT W10 FOR SYSTEM CONTROLLER AND W1
FOR BUS SHIELD GROUND.

A-CONNECTOR PIN ASSIGNMENTS

EVEN	SIGNAL NAMES	ODD
2		1
4		3
6		5
8		7
10		9
12		11
14		13
16		15
18		17
20		19
22	D102	D101
24	D104	D103
26	DAV	E01
28	NDAC	NRFD
30	SRQ	IFC
32	SHIELD	ATN
34	D106	D105
36	D108	D107
38	GND	REN
40	GND	GND
42	GND	GND
44	GND	GND
46		45
48		47
50		49



I/O BUS DEVICE CODE

BIT POSITION	0-9	10	11	12	13	14	15
INSERT JUMPER TO SPECIFY 1. REMOVE JUMPER TO SPECIFY 0	0	W4	W5	W6	W7	W8	W9

NOTE: FOR A STANDARD DEVICE CODE OF 41₈ WITH MNEMONIC TLC,
INSERT ONLY JUMPERS W4 AND W9.

PRIORITY MASK BIT SELECT

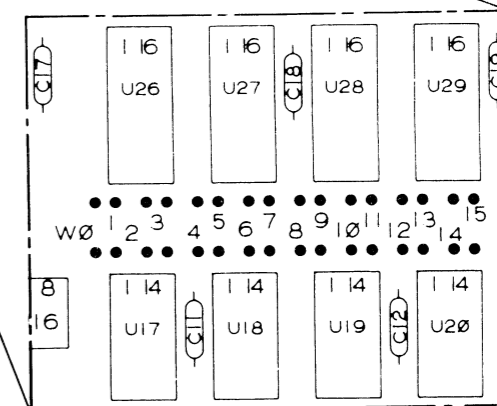
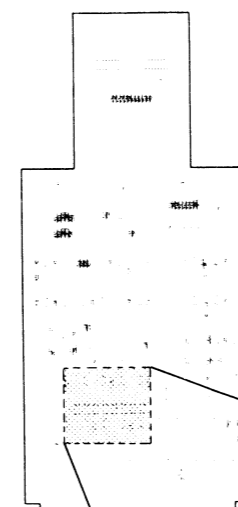
BIT POSITION	JUMPERS	W2	W3
4	OUT	IN	OUT
11	IN	OUT	IN

THE IEEE-488 DCH INTERFACE REQUIRES:

+5V . 2.4A (TYPICAL +20%),
-5V . 0.276A (TYPICAL + 20%), AND
+12V . 0.15A (MAX)

TOTAL MAXIMUM POWER DISSIPATION
IS 15.46W (TYPICAL +20%) (52.7 BTU)

DG/DAC CONTROLLER Ref DGC No 107-000852-00

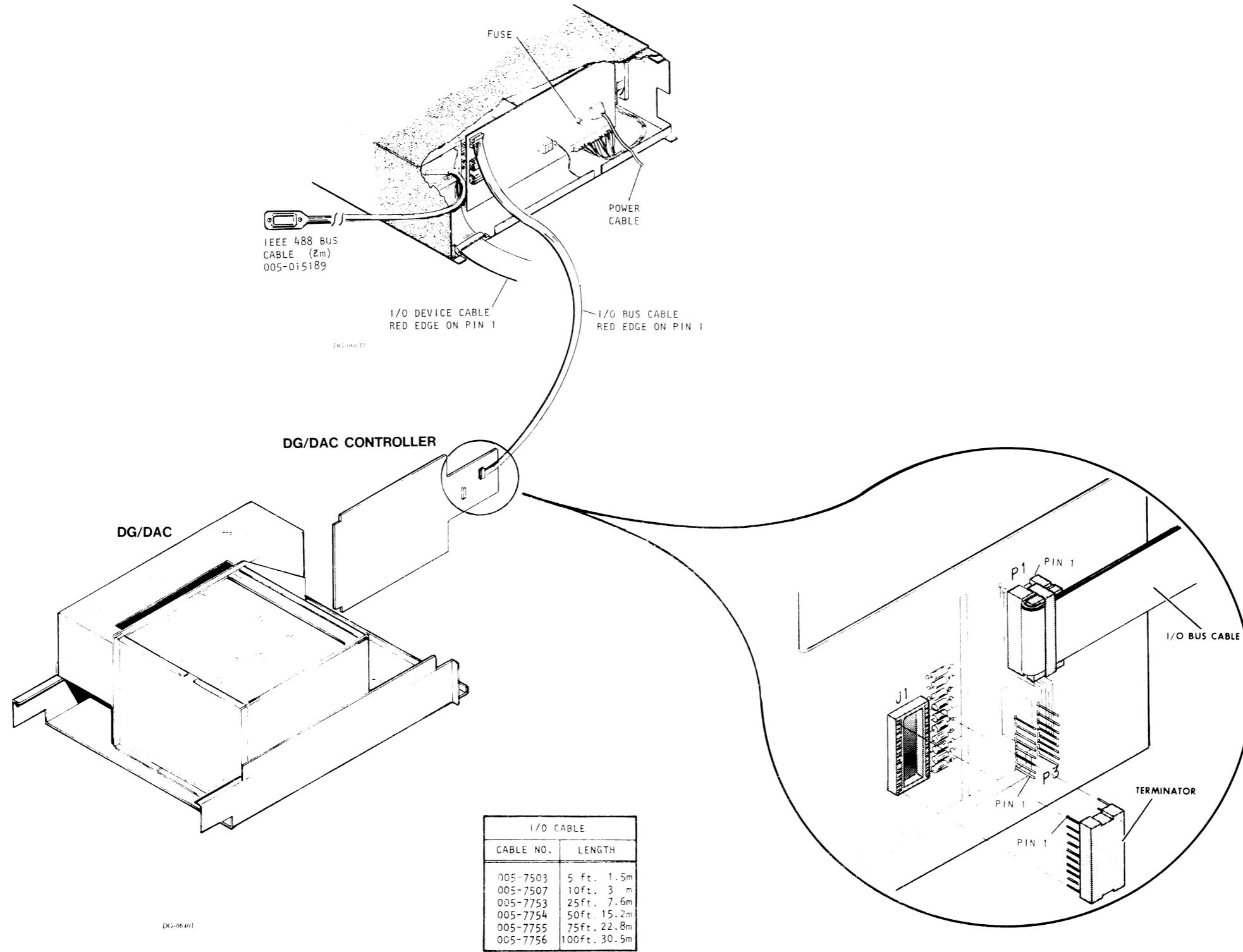


INSERT JUMPER TO SELECT CORRESPONDING PRIORITY MASK BIT
STANDARD IS BIT 5.

POWER REQUIREMENTS (SUPPLIED BY DG/DAC)

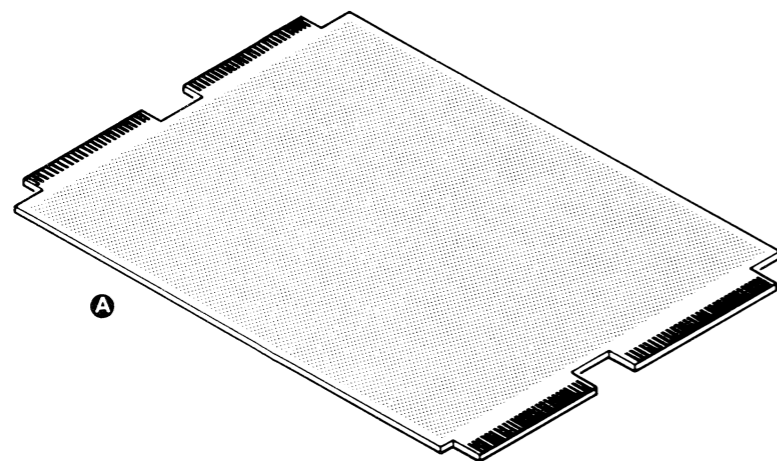
VOLTAGE	CURRENT
+5.0V	3.00A
+21.5V	0.10A
-21.5V	0.04A

EXTERNAL CABLING



DG-06401

SUBSYSTEM COMPONENT BREAKDOWN



MAJOR COMPONENTS

ITEM	COMPONENT	MOUNTING LOCATION	NOTES
A	GENERAL PURPOSE INTERFACE	SLOTS 2-9 (9-SLOT) SLOTS 2-18 (18-SLOT)	

SPECIFICATIONS OF CHASSIS-MOUNTED COMPONENTS

ITEM	COMPONENT	NO. OF SLOTS	+5 CURRENT DRAW (AMPS)	NOTES
A	GENERAL PURPOSE INTERFACE	1	0.35	MODEL 4210 +15V 0.065 MODEL 4210-S +12V 0.08 4210 & 4210-S -5V 0.03

FOR OTHER MICRONOVA INTERFACE DOCUMENTS SEE: 010 000190
010 000191

SHIPPING

FOR PACKING PROCEDURE,
SEE 010-000262

INTERNAL CABLING

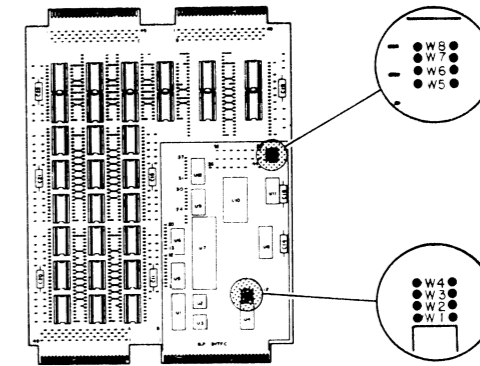
WIRE WRAP
PIN ASSIGNMENTS

PIN	SIGNAL	PIN	SIGNAL
1	SET BUSY	30	DONE
2	SET DONE	31	D9H
3	MASTER CLOCK	32	D9L
4	D12H	33	D13H
5	D12L	34	D13L
6	D11H	35	D14H
7	D11L	36	D14L
8	D10H	37	D15L
9	D10L	38	D15H
10	D4H	39	D1B
11	D4L	40	DOA
12	D3H	41	CLR
13	D7H	42	DCHA
14	D7L	43	CLK
15	D6H	44	MSKO
16	D6L	45	DOC
17	D5H	46	DIA
18	D5L	47	STRT
19	D3L	48	IORST
20	D1H	49	WCEZ
21	D1L	50	DCHO
22	DCH SYN	51	-5V
23	INT SYN	52	BUSY
24	DOH	53	DOB
25	DO L	54	DIC
26	D2H	55	OPLS
27	D2L	56	DCH1
28	D8H	57	+15V*
29	D8L	58	+5V

* MODEL 4210-S USES +12V DC

TAILORING

JUMPERING



DEVICE CODE JUMPERS

BIT POSITION OF DEVICE CODE	D10	D11	D12	D13	D14	D15
INSERT JUMPER TO SPECIFY A 1	W3	W2	W1	W6	W7	W8

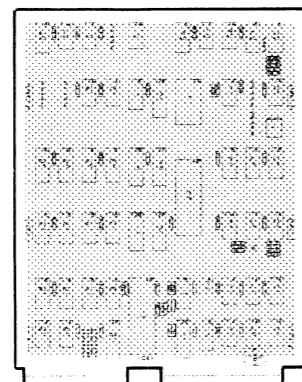
OTHER JUMPERS

FUNCTION	W4	W5
USE EXTERNAL ADD AND WORD COUNT REG.	IN	—
USE INTERNAL ADD AND WORD COUNT REG.	OUT	—
DATA IN AND OUT OF IOC; LOW = 0, HIGH = 1	—	IN
DATA IN AND OUT OF IOC; LOW = 1, HIGH = 0	—	OUT

INSTALLATION SPECIFICATIONS

SHIPPING

FOR PACKING PROCEDURE,
SEE 010-000262



A

MAJOR COMPONENT

ITEM	COMPONENT	MOUNTING LOCATION	NOTES
A	VIDEO INTERFACE	ANY I/O SLOT	005-14414

POWER REQUIREMENTS

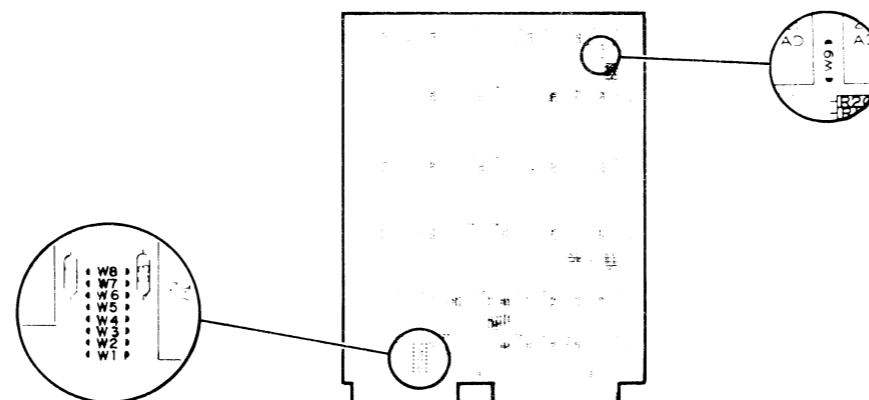
ITEM	COMPONENT	CURRENT DRAW (AMPS.)	
		- 5.0V	+ 12.0V
A	VIDEO INTERFACE	1.200	0.075

TAILORING JUMPERING

THE "A" EDGE CONNECTOR

2	GND	KBSTB	1
4	GND	KBD0	3
6	GND	KBD1	5
8	GND	KBD2	7
10	GND	KBD3	9
12	GND	KBD4	11
14	GND	KBD5	13
16	GND	KBD6	15
18	GND	KBD7	17
20	GND	RPT	19
22		USERMODE1	21
24		USERMODE1	23
26		USERMODE2	25
28		USERMODE2	27
30			29
32			31
34			33
36		DOF	35
38		XRST	37
40	GND	COMP VIDEO	39
42	GND	HSYNC	41
44	GND	VSYNC	43
46	GND	HSYNC	45
48	GND	VSYNC	47
50	GND	TTL VIDEO	49

Ref DGC No 107-001363-01



THE "B" EDGE CONNECTOR

2	BMCLOCK	BMCLOCK	1
4	B101	GND	3
6	CLEAR	B101	5
8	BEXTINT		7
10			9
12	B102	GND	11
14	GND	B102	13
16	BIOCLOCK	BIOCLOCK	15
18			17
20	INTPIN	INTPOUT	19
22			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	57
60	+5V	+5V	59

DEVICE CODES

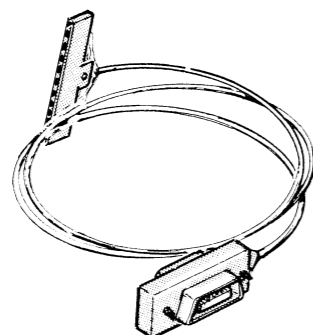
BIT POSITIONS	0-9	10	11	12	13	14	15
INSERT TO SELECT 1	0	W8	W7	W6	W5	W4	W3
REMOVE TO SELECT 0							

NOTE: FOR PRIMARY DEVICE CODE 07₈, INSERT JUMPERS W3, W4, AND W5.
FOR SECONDARY DEVICE CODE 47₈, INSERT JUMPERS W3, W4, W5, AND W8.

JUMPER	FUNCTION
W1	INSERT W1 WHEN THE INPUT FROM THE KEYBOARD STROBE LINE (KBSTB) IS NORMALLY HIGH (ACTIVE LOW). THE VIDEO INTERFACE BOARD REQUIRES A POSITIVE INPUT PULSE FROM KBSTB. REMOVE W1 WHEN W2 IS INSERTED.
W2	INSERT W2 WHEN THE INPUT FROM THE KEYBOARD STROBE LINE (KBSTB) IS NORMALLY LOW (ACTIVE HIGH). THE VIDEO INTERFACE BOARD REQUIRES A POSITIVE INPUT PULSE FROM KBSTB. REMOVE W2 WHEN W1 IS INSERTED.
W9	NORMALLY IN. SELECTS ONBOARD DOT CLOCK. PROVIDES TEST POINT FOR EXTERNAL DOT CLOCK GENERATOR.

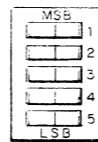
microNOVA IEEE-488 DATA CHANNEL INTERFACE

INSTALL IN ANY I/O SLOT



CABLE: A-CONNECTOR TO IEEE-488 BUS
(005-015189)
2 METER (6.56 FT)

PRESS OFF (OPEN) PRESS ON (CLOSED)



SW1

IEEE 488 BUS DEVICE CODE SWITCHES

SWITCH POSITION	AD5	AD4	AD3	AD2	AD1
PUSH SWITCH TO ON FOR 0	S1	S2	S3	S4	S5
PUSH SWITCH TO OFF FOR 1					

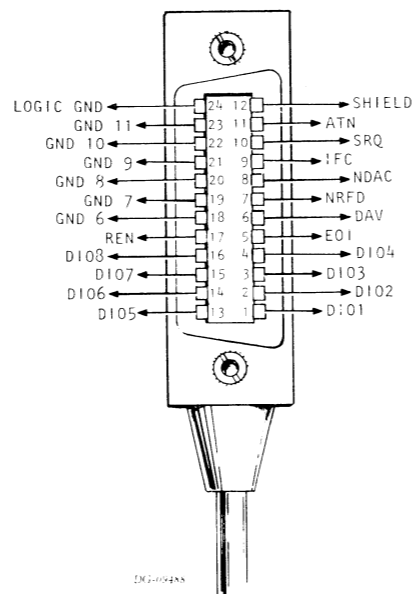
EXAMPLE: FOR BUS ADDRESS 17₈, CLOSE SWITCH S1 ONLY.

Ref DGC Dwg No 107-001851 Rev 01

NOTE: IF THIS BOARD IS THE SYSTEM CONTROLLER, INSERT W10 FOR SYSTEM CONTROLLER AND W1 FOR BUS SHIELD GROUND.

A-CONNECTOR PIN ASSIGNMENTS

EVEN	SIGNAL NAMES	ODD
2		1
4		3
6		5
8		7
10		9
12		11
14		13
16		15
18		17
20		19
22	D102	D101
24	D104	D103
26	DAV	E01
28	NDAC	NRFD
30	SRQ	IFC
32	SHIELD	ATN
34	D106	D105
36	D108	D107
38	GND	REN
40	GND	GND
42	GND	GND
44	GND	GND
46		45
48		47
50		49



I/O BUS DEVICE CODE

BIT POSITION	0-9	10	11	12	13	14	15
INSERT JUMPER TO SPECIFY 1. REMOVE JUMPER TO SPECIFY 0	0	W4	W5	W6	W7	W8	W9

NOTE: FOR A STANDARD DEVICE CODE OF 41₈ WITH MNEMONIC TLC, INSERT ONLY JUMPERS W4 AND W9.

PRIORITY MASK BIT SELECT

BIT POSITION	JUMPERS W2	W3
4	OUT	IN
11	IN	OUT

THE IEEE-488 DCH INTERFACE REQUIRES:

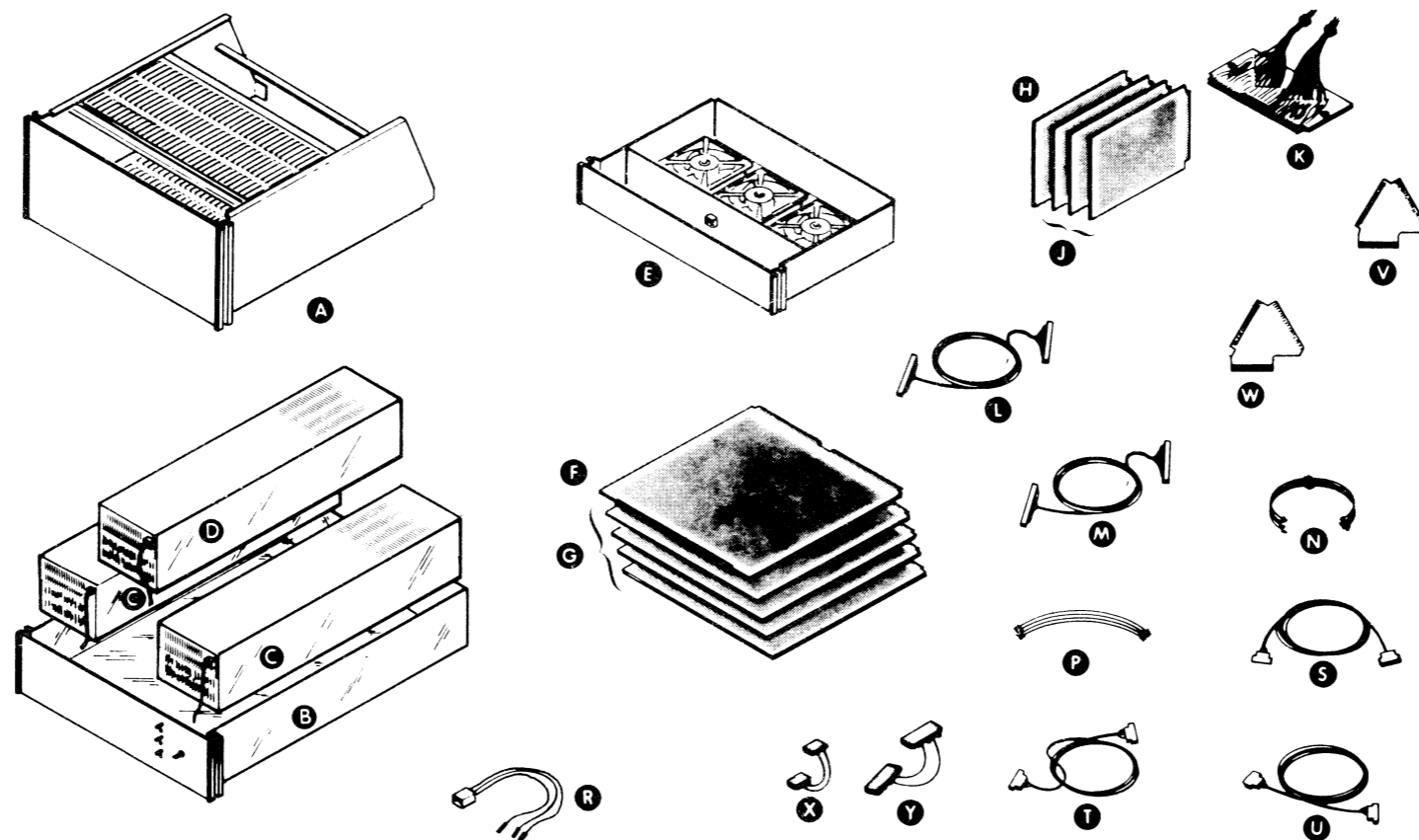
- +5V - 2.4A (TYPICAL +20%)
- 5V - 0.276A (TYPICAL +20%), AND
- +12V - 0.15A (MAX)

TOTAL MAXIMUM POWER DISSIPATION IS 15.46W (TYPICAL +20%) (52.7 BTU)

COMMUNICATIONS DEVICES

SUBSYSTEM COMPONENT BREAKDOWN

FOR PACKING PROCEDURE,
SEE 010-000262/263



MAJOR COMPONENT

Item	Component	Mounting Location	Notes
A	LINE INTFC CHASSIS	CABINET	
B	P/S CHASSIS	CABINET	
C	P/S MODULE	P/S CHASSIS	
D	REDUNDANT P/S MODULE	P/S CHASSIS	
E	COOLING UNIT CHASSIS	CABINET	
F	DATA CONTROLLER	COMPUTER CHASSIS	REQUIRED WITH TWO LINE INTFC CHASSIS
G	SUBASSEMBLY BOARD	COMPUTER CHASSIS	
	SUBASSEMBLY BOARD WITH MODEM CONTROL	COMPUTER CHASSIS	
	SUBASSEMBLY BOARD WITH PARITY OPTION	COMPUTER CHASSIS	
	SUBASSY BD W/MODEM CONTROL & PARITY OP	COMPUTER CHASSIS	
H	BUS DROP/CLK MODULE	LINE INTFC CHASSIS	
J	LINE INTFC MODULE - 2 LINES W/MODEM CONT	LINE INTFC CHASSIS	
	LINE INTFC MODULE - 4EIA LINES	LINE INTFC CHASSIS	
	LINE INTFC MODULE - 4 20mA LINES	LINE INTFC CHASSIS	

D6-02672

CABLE

Item	Cable	Connecting	Max Allowed Lg ft / m	Notes
K	INTERNAL COMMUNICATIONS	DATA CONTROLLER and EXT COMM CABLE	2 / .6	
L	EXTERNAL COMMUNICATIONS	INT COMM " LINE INTFC CHASSIS	15 / 4.5	
M	INTER-CHASSIS	LINE INTFC CHASSIS and LINE INTFC CHASSIS	2 / .6	
N	POWER	P/S MODULE " LINE INTFC CHASSIS	3 / .9	
P	REDUNDANT DC POWER	REDUNDANT " P/S MODULE	.75 / .23	
R	COOLING UNIT	P/S MODULE " COOLING UNIT CHAS	4 / 1.2	INCLUDED AS PART OF P/S CHASSIS
S	TELETYPE	LINE INTFC MODULE " TELETYPE	500 / 150	
T	MODEM LOCAL	LINE INTFC MODULE " MODEM	50 / 15	
U	TERMINAL	LINE INTFC MODULE " LOCAL TERMINAL	50 / 15	

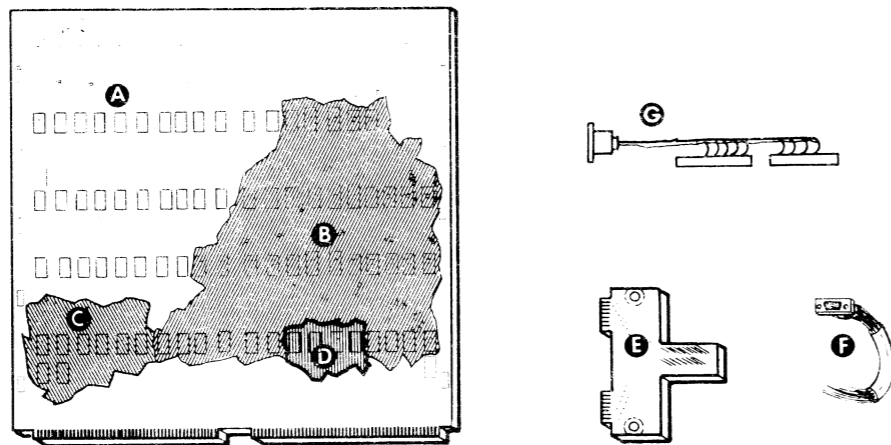
D6-02673

TERMINATOR

Item	Terminator	Location	Notes
V	COMMUNICATIONS TERMINATOR BOARD	LINE INTFC CHASSIS	
W	COMMUNICATIONS CONNECTOR BOARD	LINE INTFC CHASSIS	
X	MODEM TEST PLUG	LINE INTFC CHASSIS	
Y	DATA TEST PLUG	LINE INTFC CHASSIS	

D6-02674

SUBSYSTEM COMPONENT BREAKDOWN



DG-03094

CONFIGURATION RULES

1. If a system has one or more TTYs, one (device code 10) must be assigned the primary slot (3, 4, or 5, depending on computer type).
2. If a system has one or more 6012s, Infotons, or other CRT displays, and no TTY, one (device code 10) must be assigned the primary slot.
3. If a system has one or more Low Cost Displays and none of the above, then one (device code 10) must be assigned the primary slot.
4. If a system has one or more Sprints (with keyboard) and none of the above, then one (device code 10) must be assigned the primary slot.
5. If a system has none of the above, then it is assumed to have no console device, and any other constraints and rules can be followed without diagnostic impact.

The above assumes that the interface boards required are standard DG types (ALM and Data Channel Line Printer interfaces excluded). In these cases, No. 5 applies.

MAJOR COMPONENT

Item	Component	Mounting Location	Notes
A	BASIC I/O INTERFACE	COMPUTER CHASSIS	
B	ASYNC LINE CONTROLLER	BASIC I/O INTERFACE	FOR 20mA CURRENT LOOP APPLICATIONS AT 110 BAUD
C	EIA INTERFACE	ASYNC LINE CONTROLLER	FOR EIA APPLICATION AT 110 BAUD OR HIGHER
D	PRECISION CRYSTAL OSCILLATOR	ASYNC LINE CONTROLLER	FOR 75-9600 BAUD

CABLE

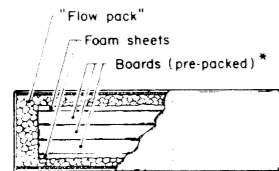
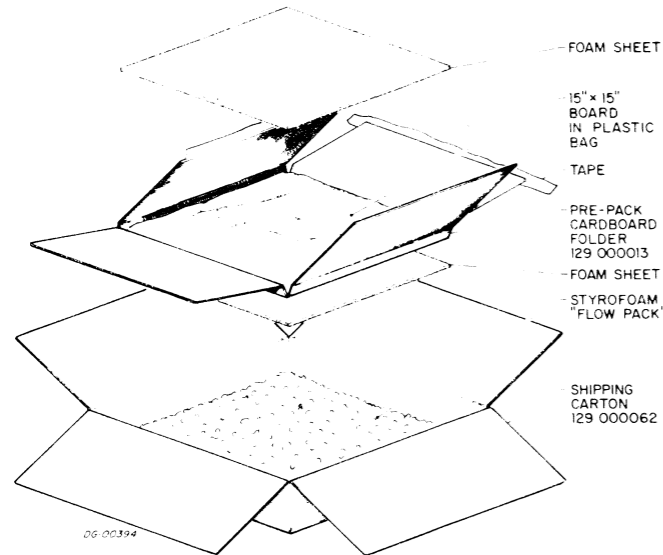
Item	Cable	Connecting	Max Allowed Lg ft / m	Notes
E	INTERNAL	ASYNC LINE CONTROLLER and DEVICE CABLE	N/A	NEEDED FOR SECOND CONTROLLER OR WHEN PREFERRED SLOT IS NOT USED. PADDLEBOARD STYLE
F	INTERNAL	ASYNC LINE CONTROLLER " DEVICE CABLE	N/A	SAME AS ABOVE SOCKET STYLE.
G	INTERNAL	ASYNC LINE CONTROLLER " BULK HEAD	N/A	

SPECIFICATIONS OF CHASSIS MOUNTED COMPONENTS

Item	Component	Chassis	Slots Required	Max Allowable Data Channel Latency (μ sec)	Type of Data Channel Service Desired		Max Allowable Programmed I/O Latency +	Controller's +5 Volt Current Draw (Amps)
					High Speed	Standard		
A	BASIC I/O INTERFACE	COMPUTER	1	N/A	N/A	N/A	21.6ms @ 110 BAUD TO	0.25 FOR INTERFACE PLUS
	AND ASYNC LINE CONTROLLER						0.24ms @ 9600 BAUD	0.7 FOR ASYNC LINE CONT.

+DATA WILL BE LOST IN INPUT IF THESE LATENCIES ARE EXCEEDED

SHIPPING



MULTIPLE PACKING
 * Up to three (3) 15" x 15" boards, enclosed in plastic bags and sealed in pre-pack folders as shown, can be put in shipping carton No 129 000062. For four (4) to seven (7) boards, use shipping carton No. 129 000012.

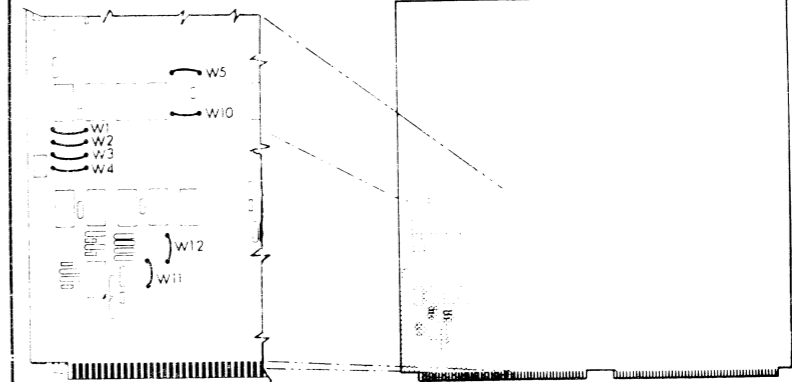
Shipping Specifications			Storage Specifications		
Temperature Range	Relative Humidity	Maximum Altitude	Temperature Range	Relative Humidity	Maximum Period
°F -40 to +185	(Non-condensing) 0-85%	50,000 ft.	°F -40 to +185	(Non-condensing) 0-85%	90 days
°C -40 to +85			°C -40 to +85		

INTERNAL CABLING

Internal Cable Connections			
Signal Name	Paddle-board Connector Pin Numbers	Destination Plus on Back Panel NOVA and ECLIPSE Line Display Terminal	Socket Connector Pin Numbers
- V	B1	A86	7
TTO	B2	A85	6
STOP WIDTH	B3	A87	8
RDR RUN	B4	A89	2
+5V	B8	A3	1
GND	B9	A1	9
TTI	B11	B69	3
-5V	B12	A6	4
CTS	B6	A81	5

Computer	Primary Device	Secondary Device
ECLIPSE NOVA 2 4, 2 10 1210, 820, 1220 NOVA 3 4, 3 12	none required	005-001023
NOVA 800, 830, 840, 1200 NOVA 4/S140	none required NONE REQUIRED	005-000506 005-016638
EMI HARDENED NOVA 4, S140, S120, S280	NONE REQUIRED	005-021056

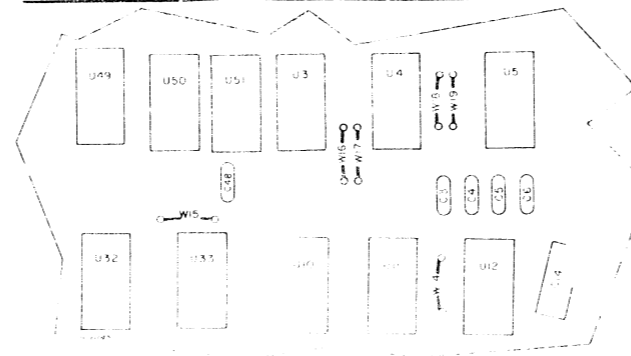
**JUMPERING
4010 CONTROLLER**



Function	Jumpers
Select the primary device codes - 10g for TTI, 11g for TPO, 12g for the reader, and 14g for the punch.	Install jumpers W2, W3, W10, W11 Omit jumpers W1, W4, W5, W12
Select the secondary device codes - 50g for TTI, 51g for TPO, 52g for the reader, and 53g for punch.	Install jumpers W1, W3, W5, W10, W11 Omit jumpers W2, W4, W12

NOTE: CLIP CAPACITOR C39 FOR 1200 BAUD AND ABOVE.

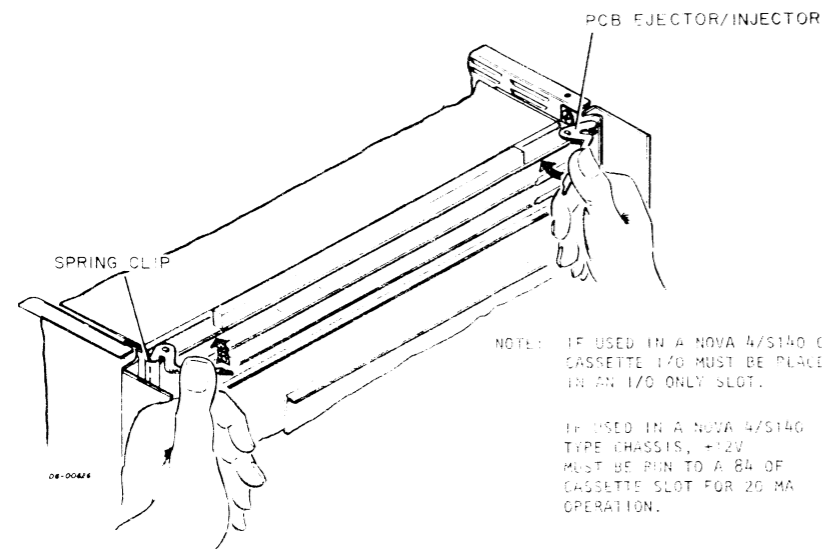
4077 CONTROLLER



Function	Jumpers
Select the primary device codes - 34g for the cassette, 10g for TTI, 11g for TPO, and 14g for RTC	Install jumpers W16, W19 Omit jumpers W14, W15, W17, W18
Select the secondary device codes - 74g for the cassette, 50g for TTI, 51g for TPO.	Install jumpers W14, W15, W17, W18 Omit jumpers W16, W19
Select the primary device code - 34g for the cassette, and the secondary device codes - 50g for TTI, 51g for TPO.	Install jumpers W15, W17, W19 Omit jumpers W14, W16, W18
Select the secondary device code - 74g for the cassette, and the primary device codes - 10g for TTI, 11g for TPO, and 14g for RTC	Install jumpers W14, W16, W18 Omit jumpers W15, W17, W19

* Ref. DGC 107-000063 REV. 00-06.

INSTALLING PC BOARD



NOTE: IF USED IN A NOVA 4/S140 CPU, CASSETTE 1/0 MUST BE PLACED IN AN I/O ONLY SLOT.

IF USED IN A NOVA 4/S140 TYPE CHASSIS, +12V MUST BE RUN TO A 84 OF CASSETTE SLOT FOR 20 MA OPERATION.

Teletype Baud Rate	
Function	Jumpers
Select 110 baud rate	Install W5, W6, W9, W11, W12* Omit W4, W7, W8, W10, W13*
Select 150 baud rate	Install W4, W5, W6, W7, W10, W11, W12* Omit W8, W9, W13*
Select 300 baud rate	Install W4, W5, W6, W7, W11, W12* Omit W8, W9, W10, W13*
Select 600 baud rate	Install W4, W5, W6, W7, W12* Omit W8, W9, W10, W11, W13*
Select 1200 baud rate	Install W5, W6, W7, W12* Omit W4, W8, W9, W10, W11, W13*
Select 2400 baud rate	Install W6, W7, W12* Omit W4, W5, W8, W9, W10, W11, W13*
Select 4800 baud rate	Install W7, W12 Omit W4, W5, W6, W8, W9, W10, W11, W13*
Select 9600 baud rate	Install W13* Omit W4, W5, W6, W7, W8, W9, W10, W11, W12*

* W12 and W13 are not present in revisions 00-09 of artwork 107-000151. Ref. 107-000151 Revs 00-18.

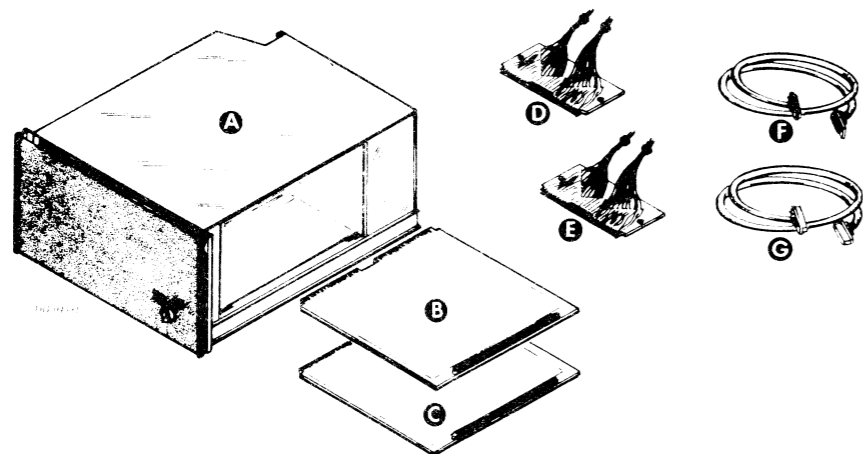
NOTE: CLIP CAPACITOR C18 FOR 1200 BAUD AND ABOVE.

Current or Voltage Loop	
Function	Jumpers
Select the current loop	Install jumpers W1 and W2
Select the EIA voltage levels	Omit jumpers W1 and W2

Ref. 107-000151 Revs 00-18

NOTE: IF SELECTING ZOMA OPERATION, ON AN EIA 4078 OPTION BOARD: INSTALL JUMPERS W1 AND W2, INSTALL R30 (IF BELOW 1200 BAUD, ALSO INSTALL C18), ALSO REMOVE R33, R34, R35, R36.

SUBSYSTEM COMPONENT BREAKDOWN



MAJOR COMPONENT

Item	Component	Mounting Location	Notes
A	I/O BUS SWITCH CHASSIS	CABINET	
B	BUS BUFFER CARD	BUS SWITCH CHASSIS (SLOT #3)	
C	BUS CONTROL CARD	CPU CHASSIS IN LAST SLOT	*FARTHEST FROM CPU ONE FOR EACH CPU

CABLE

Item	Cable	IO80A		IO80B		Max Allowed Lg	Notes
		Cannon to Cannon	Edge to Cannon	ft.	m		
D	DATA INTERNAL	005-1982	005-1986	N/A			FOR EACH CPU ONE PAIR OF CABLES (CANNON TO CANNON OR EDGE TO CANNON) IS REQUIRED.
E	SELECT INTERNAL	005-1990	005-3706	N/A			
F	DATA EXTERNAL	005-123	005-858	15	3		
G	SELECT EXTERNAL	005-1989	005-3705	15	3		

SLOT ASSIGNMENTS

Data Channel Speeds Available:			
		Standard <input checked="" type="checkbox"/>	High Speed <input type="checkbox"/>
Slot	Allowed (Slot Chart)	Assigned	+5V Current Draw
17	USER CONTROL BOARDS		
16			
15			
14			
13			
12			
11			
10			
9			
8			
7			
6			
5			
4	USER CONTROL BOARDS		
3	BUS BUFFER CARD		2A
2	DO NOT USE		
1	DO NOT USE		

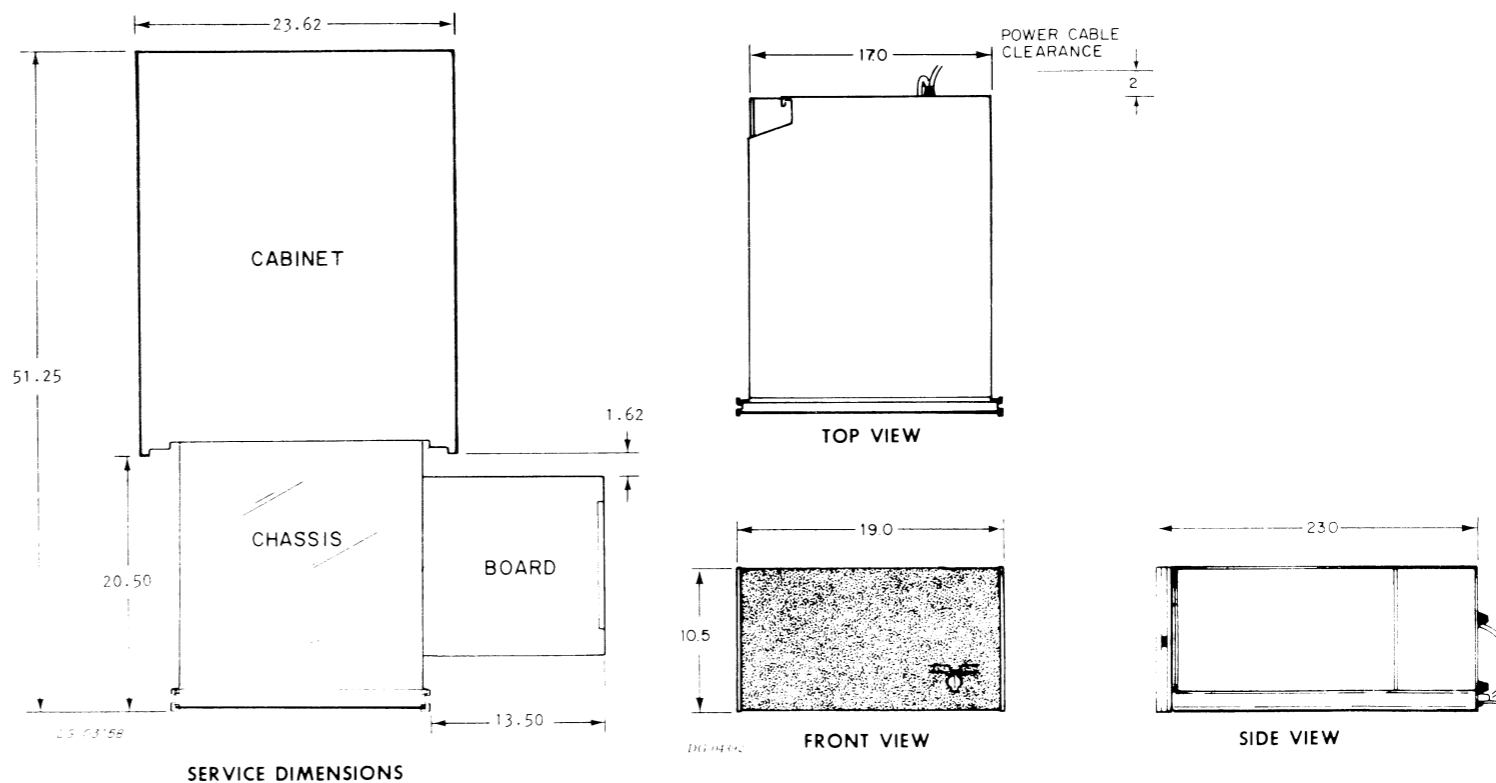
Total +5V Current draw: 2A
 Max +5V Current Available: 38A
 +5V Current Surplus: 36A

SPECIFICATIONS OF THE CABINET-MOUNTED COMPONENTS

Item	Component	Number in Sub-system	Maximum Operating Temperature		Primary Power					Cabinet Height Required			Weight	Power Dissipation (Max Watts)	Preferred Location or Remarks	Operating Humidity (Relative)		
			Component	Media	Volts	Hz	Phase	Cond	Amps	Area	in.	cm				lbs	kg	min
			°F	°C	°F	°C												
A	CHASSIS	1	125	55	100	50	1	3	10	6	10.5	27	100	45.4	900	SINGLE SWITCH CHASSIS BETWEEN CPUS. DUAL SWITCH CHASSIS ADJACENT TO CPUS ABOVE OR BELOW.	20	90
			125	55	120	60	1	3	8.5	6	10.5	27	100	45.4	900		20	90
			125	55	220	50	1	3	7.5	6	10.5	27	100	45.4	900		20	90
			125	55	240	50	1	3	5.5	6	10.5	27	100	45.4	900		20	90

Voltage	Power Cable Length		Power Cable Plug	Mating Receptacle on Power Drop	Mating Receptacle in Wall
	ft	m			
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

SERVICE CLEARANCES		
	FRONT & REAR	LEFT & RIGHT
MM	914.4	609.6
IN	36	24



ALL DIMENSIONS IN INCHES

SHIPPING

FOR PACKING PROCEDURE,
SEE 010-000262/263

SHIPPING SPECIFICATIONS			STORAGE SPECIFICATIONS		
Temperature Range	Relative Humidity	Maximum Altitude	Temperature Range	Relative Humidity	Maximum Period
$\frac{^{\circ}\text{F}}{-40 \text{ to } +160}$ $\frac{^{\circ}\text{C}}{-40 \text{ to } +71}$	(Non-condensing) 0 / 80	50,000ft. 15,200m	$\frac{^{\circ}\text{F}}{-40 \text{ to } +160}$ $\frac{^{\circ}\text{C}}{-40 \text{ to } +71}$	(Non-condensing) 0 / 80	90 days

DG-03224

INTERNAL CABLE

BUS SWITCH CHASSIS (8080)

SELECT CABLE

CABLE		FROM	TO	
SELECT 1	SELECT 2	CANNON CONNECTOR PIN NO.	BACK PANEL PIN NO.	
X SEL A	X SEL B	1	SWITCH POS 3	SWITCH POS 4
X CLR	2X CLR	2	B19	SWITCH POS 2
GND	GND	5	1A1	1A99
GND	GND	6	1A2	1A100
GND	GND	9	1A1	1A99
+5 OK	+5 OK	4	B77	B79

DATA CABLE

SIGNAL NAME		FROM	TO BACKPANEL PIN NO.	
CABLE 1	CABLE 2	CANNON PIN NO.	CABLE 1	CABLE 2
GND	GND	1	2A1	4A1
1 CLR	2 CLR	2	A63	A61
1 DATA 0	2 DATA 0	3	B67	B67
1 DATA 1	2 DATA 1	4	B69	B69
1 DATA 2	2 DATA 2	5	B53	B53
1 DATA 3	2 DATA 3	6	B51	B51
1 DATA 4	2 DATA 4	7	B49	B49
1 DATA 5	2 DATA 5	8	B54	B54
1 DATA 6	2 DATA 6	9	B52	B52
1 DATA 7	2 DATA 7	10	B48	B48
1 DATA 8	2 DATA 8	11	B40	B40
1 DATA 9	2 DATA 9	12	B38	B38
1 DATA 10	2 DATA 10	13	B36	B36
1 DATA 11	2 DATA 11	14	B34	B34
1 DATA 12	2 DATA 12	15	B31	B31
1 DATA 13	2 DATA 13	16	B27	B27
1 DATA 14	2 DATA 14	17	B25	B25
1 DATA 15	2 DATA 15	18	B23	B23
1 DIA	2 DIA	19	A71	A39
1 DIB	2 DIB	20	A69	A41
1 DIC	2 DIC	21	A67	A43
1 DOA	2 DOA	22	A77	A35
1 DOB	2 DOB	23	A75	A37
1 DOC	2 DOC	24	A73	A36
1 DCHA	2 DCHA	25	A78	A55
GND	GND	SPLICE	2A99	4A99
1 DCH1	2 DCH1	26	B12	B14
GND	GND	SPLICE	2B1	4A100
1 DCHMO	2 DCHMO	27	B11	B11
GND	GND	SPLICE	2B2	4B1
EXT +5	EXT +5	28	+5	+5
1 DCHO	2 DCHO	29	B8	B9
GND	GND	SPLICE	2B1	4B99
1 DCHR	2 DCHR	31	B26	B26
GND	GND	SPLICE	2B100	4B100
1 DS0	2 DS0	32	A83	A84
1 DS1	2 DS1	33	A85	A86
1 DS2	2 DS2	34	A87	A88
1 DS3	2 DS3	35	A51	A53
1 DS4	2 DS4	36	B42	B44
1 DS5	2 DS5	37	B43	B32
1 INTA	2 INTA	38	A49	A47
X BUS BUSY	2 X BUS BUSY	39	JUMPER	JUMPER
1 INTR	2 INTR	40	B24	B24
GND	GND	SPLICE	2B99	4B1
1 IOPLS	2 IOPLS	41	A59	A57
1 IORST	2 IORST	42	A90	B22
1 MSKO	2 MSKO	43	A76	A91
1 OVFL0	2 OVFL0	44	B16	B18
GND	GND	SPLICE	2B100	4B2
1 ROENB	2 ROENB	45	B15	B28
GND	GND	SPLICE	2B99	4B99
1 SELB	2 SELB	46	A79	A79
1 SELD	2 SELD	47	A81	A81
1 STRT	2 STRT	48	A65	A45
1 +5 VOLTS	2 +5 VOLTS	49	RELAY	RELAY
GND	GND	50	2A2	4A2

INTERNAL CABLE (Cont)

CPU CHASSIS (FOR 8081)

SELECT CABLE

SIGNAL NAMES		FROM		TO	
EDGE CONN.	CANNON CONN.	EDGE CONN.	CANNON CONN.	EDGE CONN.	CANNON CONN.
XSEL	XSEL	41	1	A92	A92
SCLR	XCLR	42	2	B19*	B19
PWR OK	+5 OK	43	4	**	1A8
GND	GND	44	5	A99*	GND
GND	GND	45	6	A100*	A99
GND	GND	46	9	B1*	A100

* 8081 SLOT

** SEE CHART BELOW

C.P.U.	PIN	SLOT
ECLIPSE MAIN FRAME	A6	1
ECLIPSE "B" EXPANSION	A4	1
NOVA 3	A9	1
ALL OTHERS	A8	1

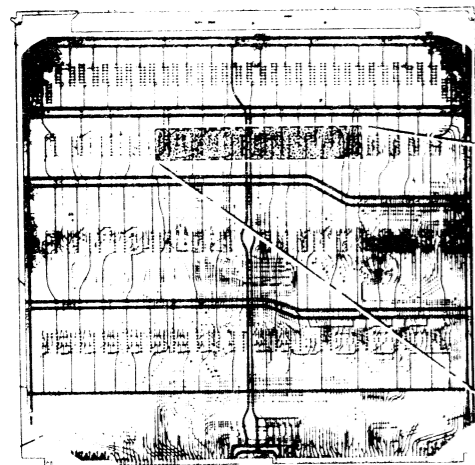
DATA CABLE

SIGNAL NAMES	FROM		TO	
	EDGE CONNECTOR	CANNON CONNECTOR	BACKPANEL NO. CANNON	EDGE
GND	1	1	B100	A1
X CLR	42	2	A63	A63
DATA 0	10	3	B67	B67
DATA 1	7	4	B69	B69
DATA 2	3	5	B53	B53
DATA 3	5	6	B51	B51
DATA 4	11	7	B49	B49
DATA 5	15	8	B54	B54
DATA 6	2	9	B52	B52
DATA 7	17	10	B48	B48
DATA 8	12	11	B40	B40
DATA 9	9	12	B38	B38
DATA 10	4	13	B36	B36
DATA 11	14	14	B34	B34
DATA 12	13	15	B31	B31
DATA 13	8	16	B27	B27
DATA 14	16	17	B25	B25
DATA 15	6	18	B23	B23
XDIA	45	19	A71	A71
XDIB	46	20	A69	A69
XDIC	40	21	A67	A67
XDOA	38	22	A77	A77
XDOB	39	23	A75	A75
XDOC	43	24	A73	A73
XDCHA	37	25	A78	A78
XDCHI	20	26	A57	A57
XDCHMO	25	27	B11	B11
XDCHM!	24	28	B13	B13
XDCHO	22	29	A59	A59
XDCHR	21	31	A91	A91
XDS0	31	32	A83	A83
XDS1	33	33	A84	A84
XDS2	34	34	A85	A85
XDS3	44	35	A86	A86
XDS4	36	36	A87	A87
XDS5	35	37	A88	A88
XINTA	47	38	A47	A47
X BUS BUSY	26	39	A89	A89
XINTR	23	40	B6	B6
XIOPLS	30	41	A61	A61
XIORST	32	42	A90	A90
XMSKO	48	43	A76	A76
XOVFLO	19	44	A49	A49
XRQENB	18	45	B15	B15
XSELB	28	46	A79	A79
XSELD	29	47	A81	A81
XSTRT	41	48	A65	A65
+5	49	49	B4	A3
GND	50	50	A1	A1

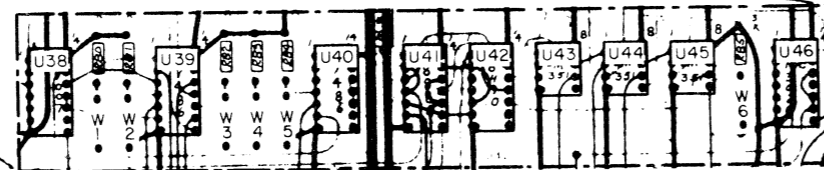
GROUND

PADDLEBOARD CONNECTOR SPLICE B99, A99, A100, B1, B2, A1
 CANNON CONNECTOR B1, B99, A99, A100,
 FOR NOVA 3 ONLY JUMPER 1A95 to 8081 SLOT A94

TAILORING JUMPERS



BUS CONTROL CARD
Ref. DGC 107 000303 Rev. 02



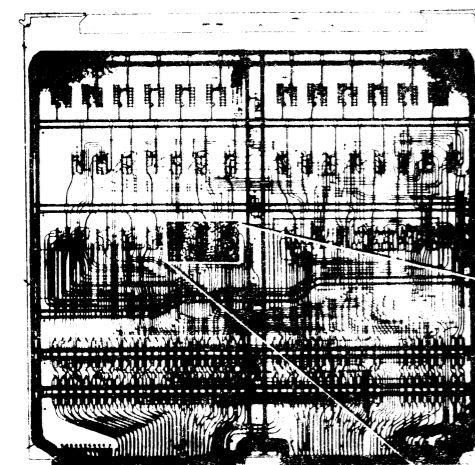
DEVICE CODE JUMPER

DS0	W1	JUMPER IN SELECTS 0	JUMPER OUT SELECTS 1
DS1	W4	0	1
DS2	W3	0	1
DS3	W2	0	1
DS4	W5	0	1
DS5	NO JUMPER		

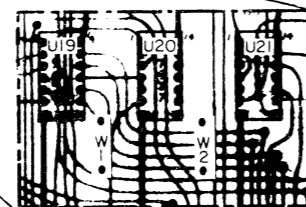
MASTER/SLAVE JUMPER

MASTER	W6	IN
SLAVE	W6	OUT

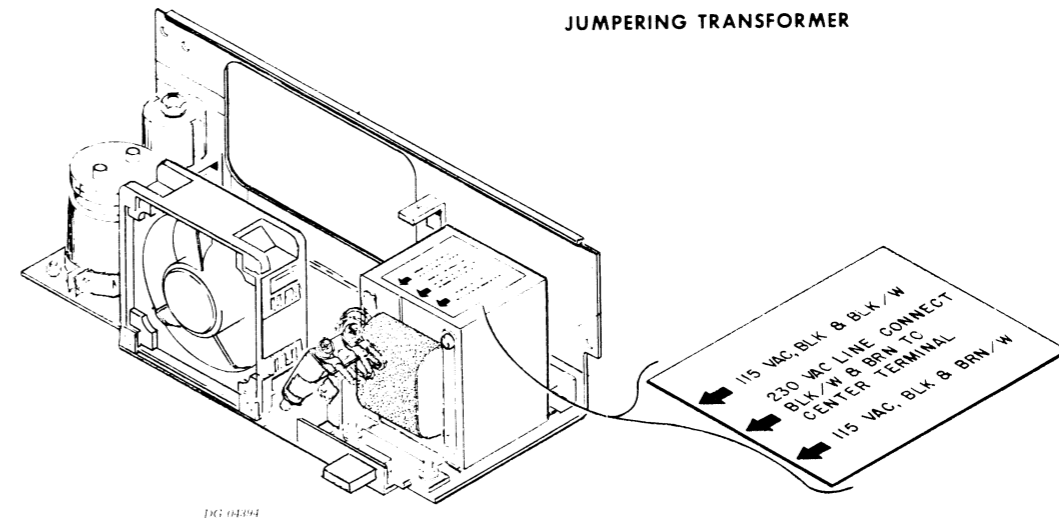
PRIMARY DC 74 TRANSMIT 74
SECONDARY 54 RCV. 75



BUS BUFFER CARD
Ref. 107 000284 Rev. 03



JUMPER	SIGNAL
W1 IN W2 OUT	1ORST
W1 OUT W2 IN	1ORST

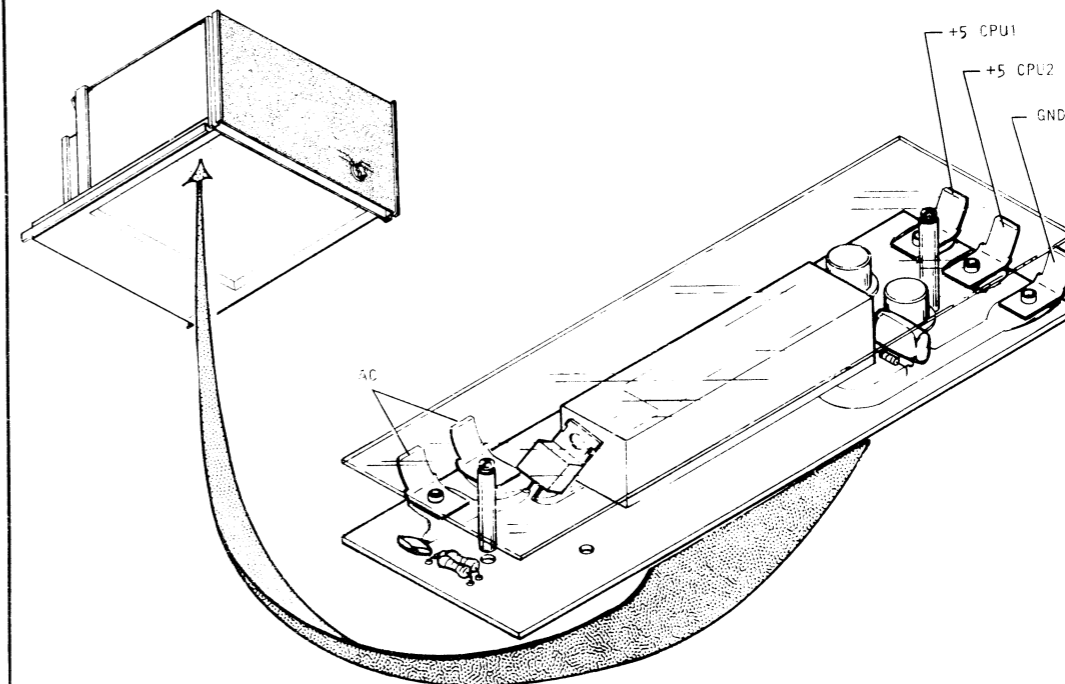


JUMPERING TRANSFORMER

DG 0804

115 VAC, BLK & BLK/W
230 VAC LINE CONNECT
BLK/W & BRN TO
CENTER TERMINAL
115 VAC, BLK & BRN/W

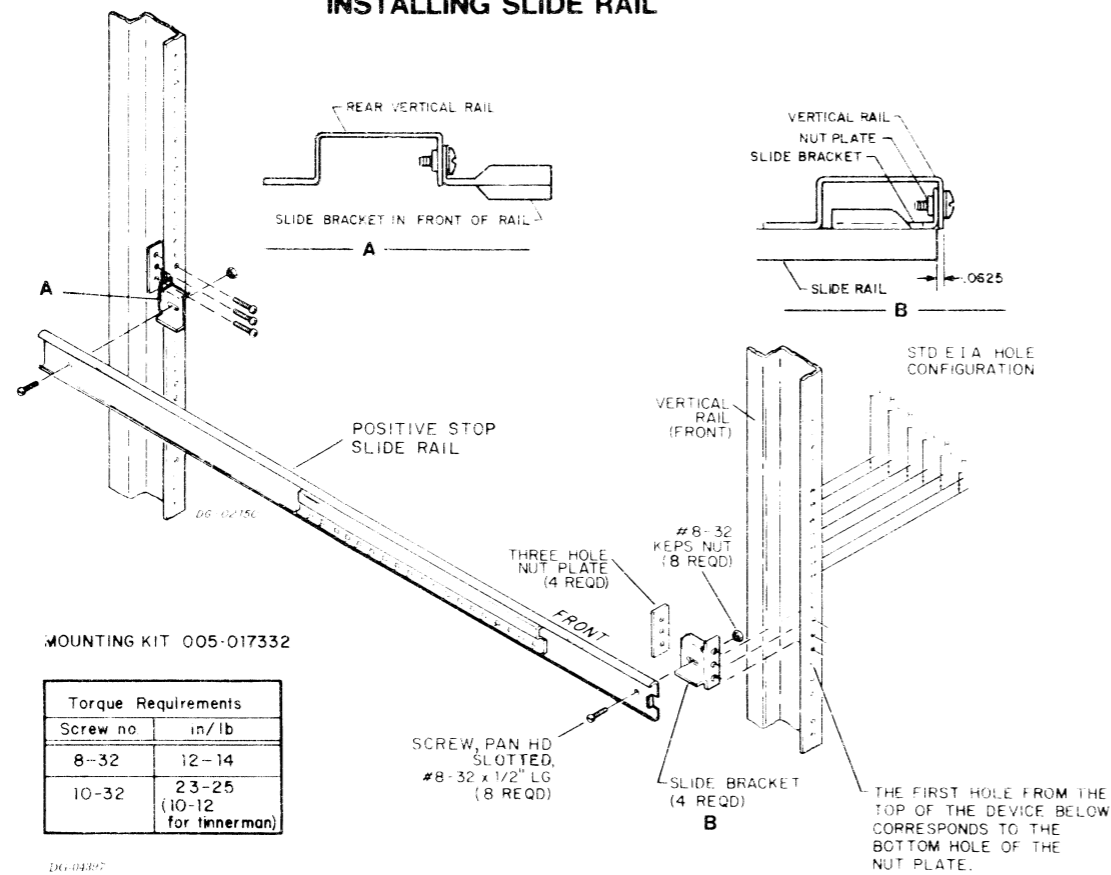
REMOTE POWER FEATURE LOCATION



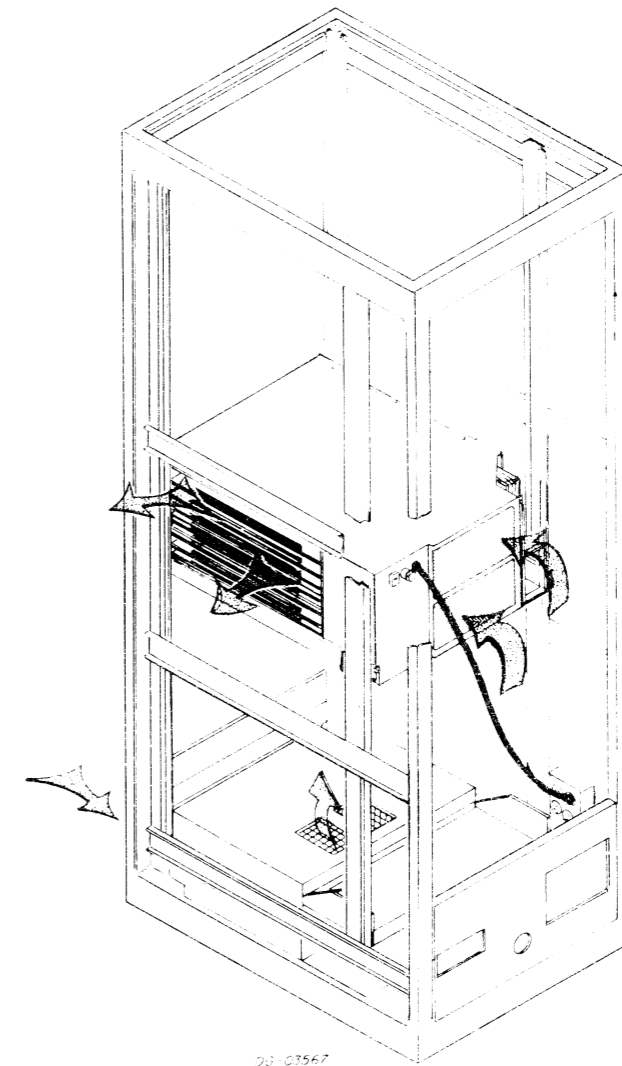
DG 0807

INSTALLATION PROCEDURE

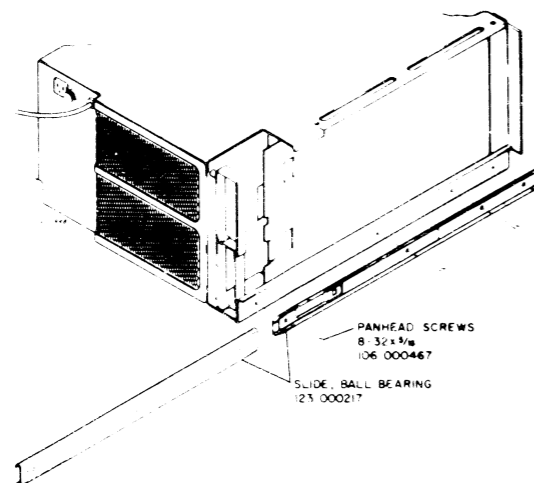
INSTALLING SLIDE RAIL



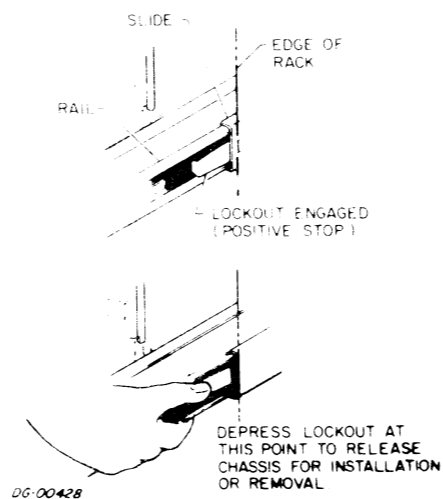
AIR FLOW



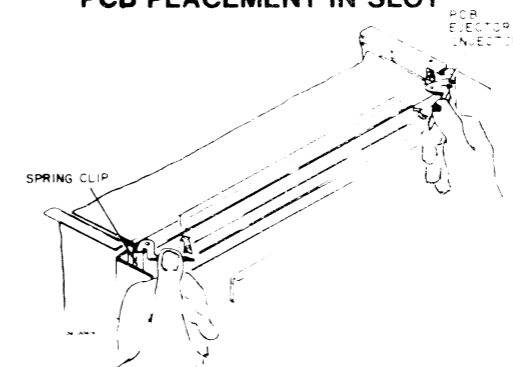
MOUNTING SLIDE ON CHASSIS



SLIDE LOCKOUT

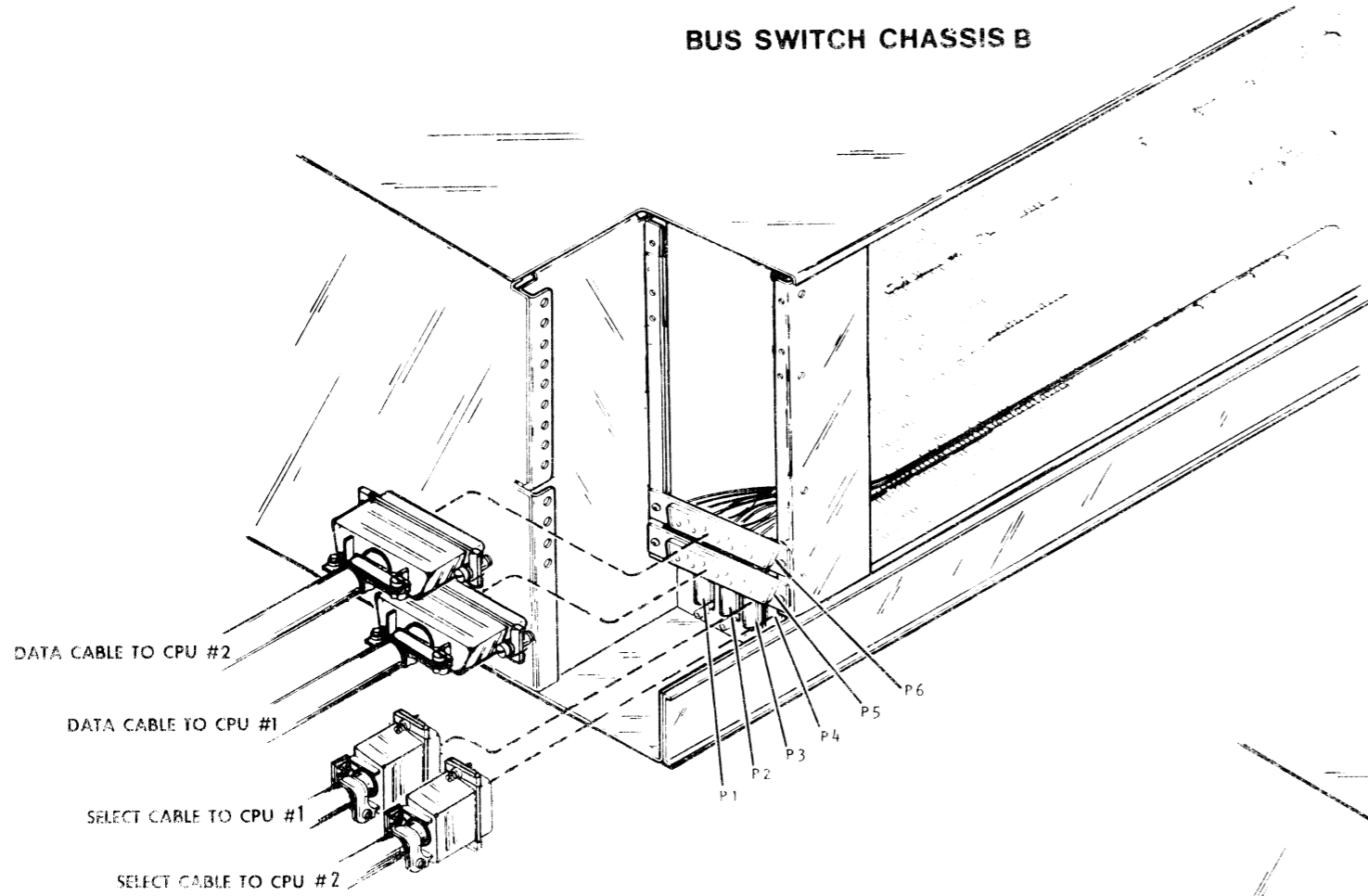


PCB PLACEMENT IN SLOT

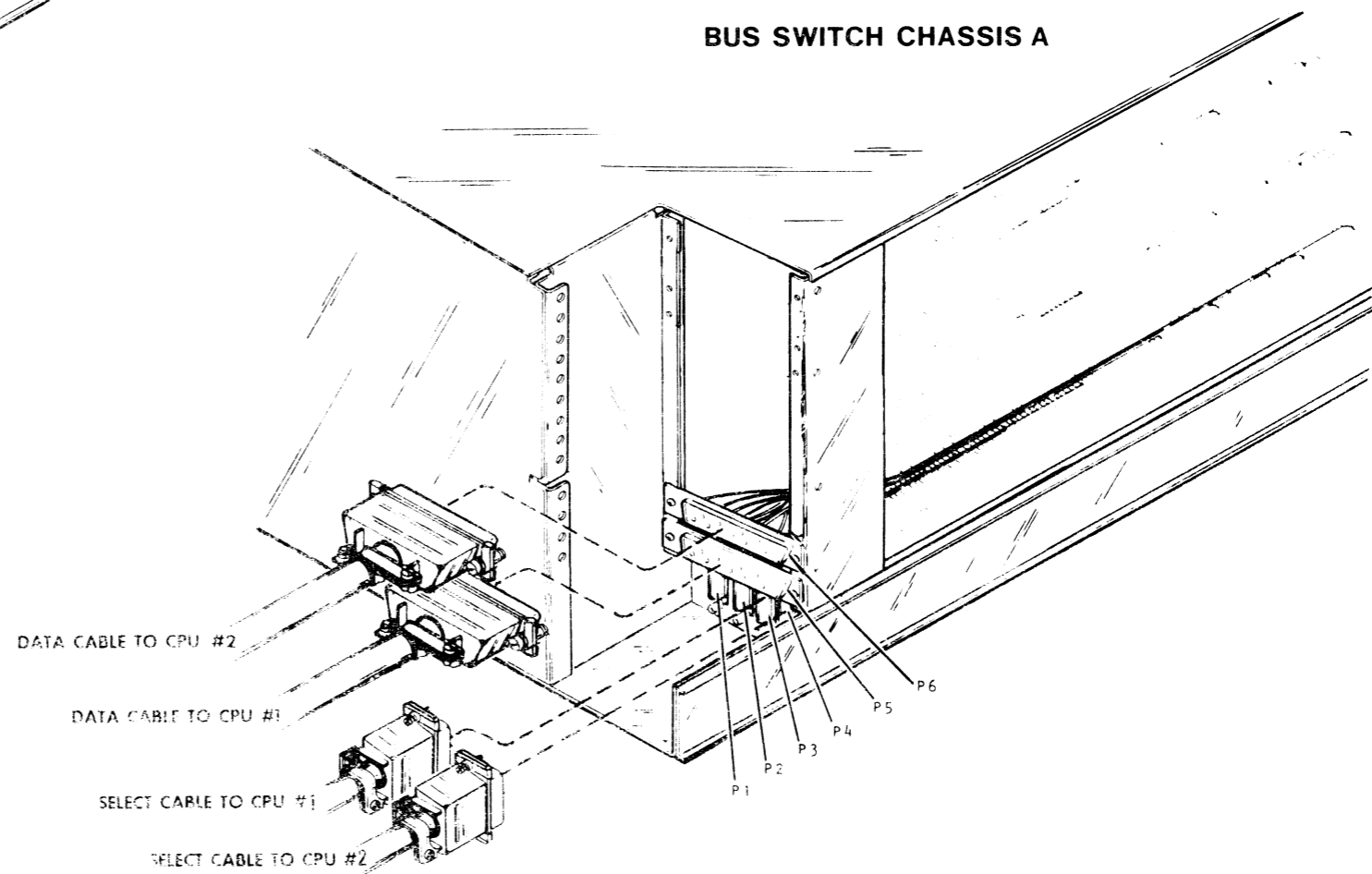


EXTERNAL CABLING

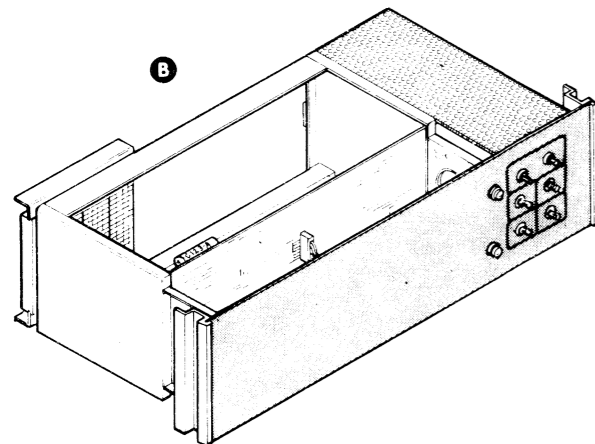
BUS SWITCH CHASSIS B



BUS SWITCH CHASSIS A

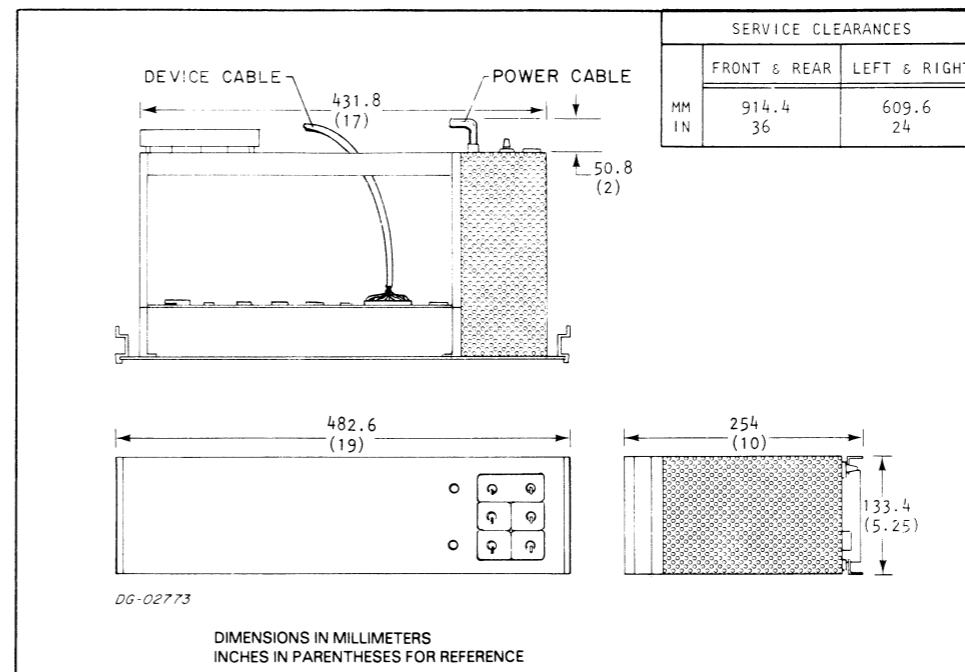
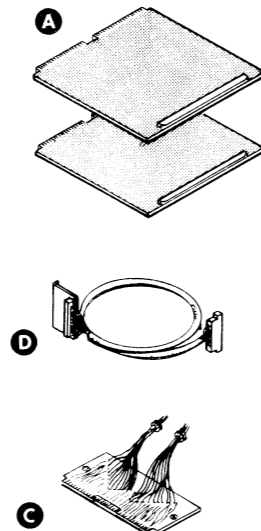


INSTALLATION SPECIFICATIONS



DG-02774

EMERGENCY POWER OPERATION CABLE (EPO) (SPECIFY LENGTH)	IBM 5351178
BUS/TAG CABLE (SPECIFY LENGTH)	IBM 5353920
BUS LINE TERMINATOR	IBM 5440649
TAG LINE TERMINATOR	IBM 5440650
FOLLOWING PARTS SUPPLIED BY CUSTOMER	



MAJOR COMPONENT

Item	Component	Mounting Location	Notes
A	CONTROLLER	COMPUTER CHASSIS	
B	ADAPTER	CABINET	

CABLE

Item	Cable	Connecting	Max Allowed Lg	Notes
			ft / m	
C	INTERNAL CAB.	CON-TROLLER and ADAPTER CAB.	10	
D	ADAPTER CAB.	INTERNAL CAB. ADAPTER	3.0	

SPECIFICATIONS OF THE CHASSIS-MOUNTED COMPONENTS

Component	Chassis	Slots Required	Max Allowable Data Channel Latency (μ sec)	Type of Data Channel Service Desired	Max Allowable Programmed I/O Latency +	Controller's +5 Volt Current Draw (Amps)
				High Speed Standard		
CONTROLLER	COMPUTER	2	—	✓	✓	4.1

DG-01912

IBM 360/370 INTERFACE

DIMENSIONS:

	Width	Depth	Height
Millimeters	482.6	254.00	133.35
Inches	19.0	10.00	5.25

WEIGHT:

Kilograms	6.8
Pounds	15

HEAT OUTPUT:

13 Watts	44.3 BTU/hr
----------	-------------

OPERATING ENVIRONMENT:

Temperature (max)	55°C	131°F
Relative Humidity	20-90%	

POWER REQUIREMENTS:

(Domestic)

Voltage	103-132
Hz	57-63
Max Amp per Phase	1.8

(Export)

Voltage	103-132	216-264	216-264
Hz	47-53	47-53	57-63
Max Amp per Phase	1.8	1.8	1.8

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

INTERNAL CABLING

INTERNAL CABLE CONNECTIONS FOR SOCKET CONNECTOR		
Signal Names	Backpanel Pin Numbers	Socket Connector Pin Numbers
GND	U-A1	1
CH SEL	U-A92	2
GND	U-A2	3
BUS IN 31	L-A92	4
BUS IN 3P	L-A73	5
BUS IN 34	L-A71	6
GND	U-A99	7
O.L.	U-A86	8
GND	U-B2	9
GND	U-B99	10
BUS OUT 32	L-A89	11
BUS OUT 34	L-A86	12
BUS OUT 36	L-A77	13
BUS OUT 30	L-A63	14
OPERATIONAL OUT (3)	U-A77	15
HOLD OUT (3)	U-A73	16
REQ IN (3)	U-A81	17
ADDRESS IN (3)	U-A85	18
STATUS IN (3)	U-A89	19
SERVICE IN (3)	U-A91	20
INB	U-A76	21
ON/OFF CONTROL (0)	U-A90	22
GND	L-A1	23
GND	L-A2	24
GND	L-A100	25
QLR	U-B69	26
GND	L-B1	27
BUS IN 30	L-B69	28
BUS IN 32	L-A83	29
BUS IN 33	L-A88	30
BUS IN 35	L-A61	31
BUS IN 36	L-A67	32
BUS IN 37	L-A65	33
BUS OUT 3P	L-A81	34
BUS OUT 31	L-A90	35
BUS OUT 33	L-A85	36
BUS OUT 35	L-A91	37
BUS OUT 37	L-A87	38
SELECT OUT (30)	U-A87	39
OPERATIONAL IN (3)	U-A83	40
SUPPRESS OUT (3)	U-A67	41
ADDRESS OUT (3)	U-A63	42
COMMAND OUT (3)	U-A65	43
SERVICE OUT (3)	U-A69	44
SELECT OUT (1)	U-A71	45
GND	L-B2	46
MSTR	U-A61	47
GND	U-B1	48
GND	U-B100	49
GND	L-A99	50
GND	L-B99	51
GND	L-B100	52

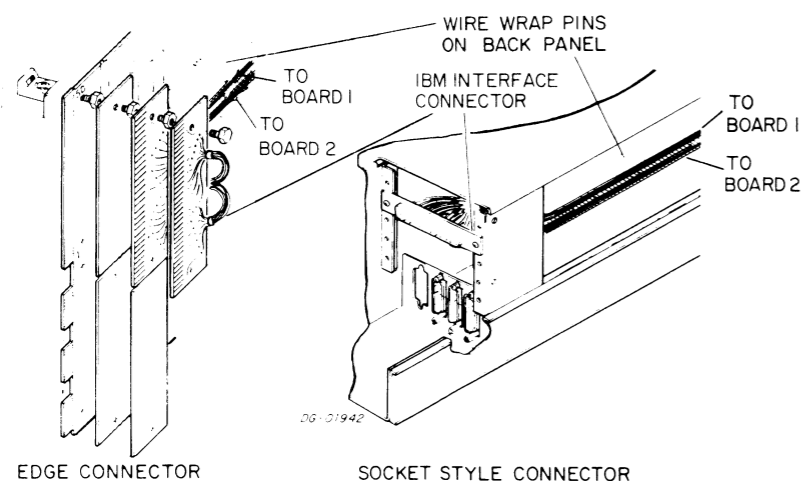
TAILORING

INTERBOARD CONNECTIONS FOR SOCKET CONNECTORS		
Signal Names	Backpanel Pin Numbers Board 1	Backpanel Pin Numbers Board 2
WE2	A47	A47
DEV SEL (31)	A49	A49
DEV SEL (32)	A57	A57
WE1	A59	A59
ACOMP	A75	A75
INB	A76	A76
BUSY	A78	A78
DONE(1)	A79	A79
MD3(1)	A84	A84
TS1(1)	B6	B6
RI	B11	B11
NPO	B13	B13
NPI	B15	B15
BYTE ADD	B19	B19
AOE	B23	B23
ATE	B25	B25
MD2	B27	B27
COUNT	B31	B31
CTAD	B34	B34
LCP	B36	B36
CMR1	B38	B38
CMR2	B40	B40
S0	B48	B48
S1	B49	B49
TC4	B51	B51
LPE	B52	B52
N DATA	B53	B53
E ODD	B54	B54
TI/O	B67	B67
SP OP RST	B91	B91
E1(1)	A88	A69

NOTE: U = Upper slot (Board 1)
L = Lower slot (Board 2)

INTERNAL CABLE CONNECTIONS FOR EDGE CONNECTOR BOARD 1		
Signal Names	Backpanel Pin Numbers	Edge Connector Pin Numbers
GND	A1	1
CH SEL	A92	2
SERVICE IN (3)	A91	3
BUSY	A78	4
OPERATIONAL OUT (3)	A77	5
INB	A76	6
ACOMP	A75	7
HOLD OUT (3)	A73	8
SELECT OUT (1)	A71	9
SERVICE OUT (3)	A69	10
SUPPRESS OUT (3)	A67	11
COMMAND OUT (3)	A65	12
ADDRESS OUT (3)	A63	13
MSTR	A61	14
WE1	A59	15
DEV SEL (32)	A57	16
WE2	A47	17
GND	A99	1
DEV SEL (31)	A49	18
GND	A100	1
DONE(1)	A79	19
REQ IN (3)	A81	20
MD3(1)	A84	21
OPERATIONAL IN (3)	A83	22
O.L.	A86	23
ADDRESS IN (3)	A85	24
E1(1)	A88	25
SELECT OUT (30)	A87	26
STATUS IN (3)	A89	27
ON/OFF CONTROL (0)	A90	28
TS1(1)	B6	29
RI	B11	30
NPO	B13	31
NPI	B15	32
BYTE ADD	B19	33
AOE	B23	34
ATE	B25	35
MD2	B27	36
COUNT	B31	37
CTAD	B34	38
GND	B99	1
LCP	B36	39
CMR1	B38	40
CMR2	B40	41
S0	B48	42
S1	B49	43
TC4	B51	44
LPE	B52	45
N DATA	B53	46
E ODD	B54	47
TI/O	B67	48
GND	B100	1
OLR	B69	49
(not used)	A3	50

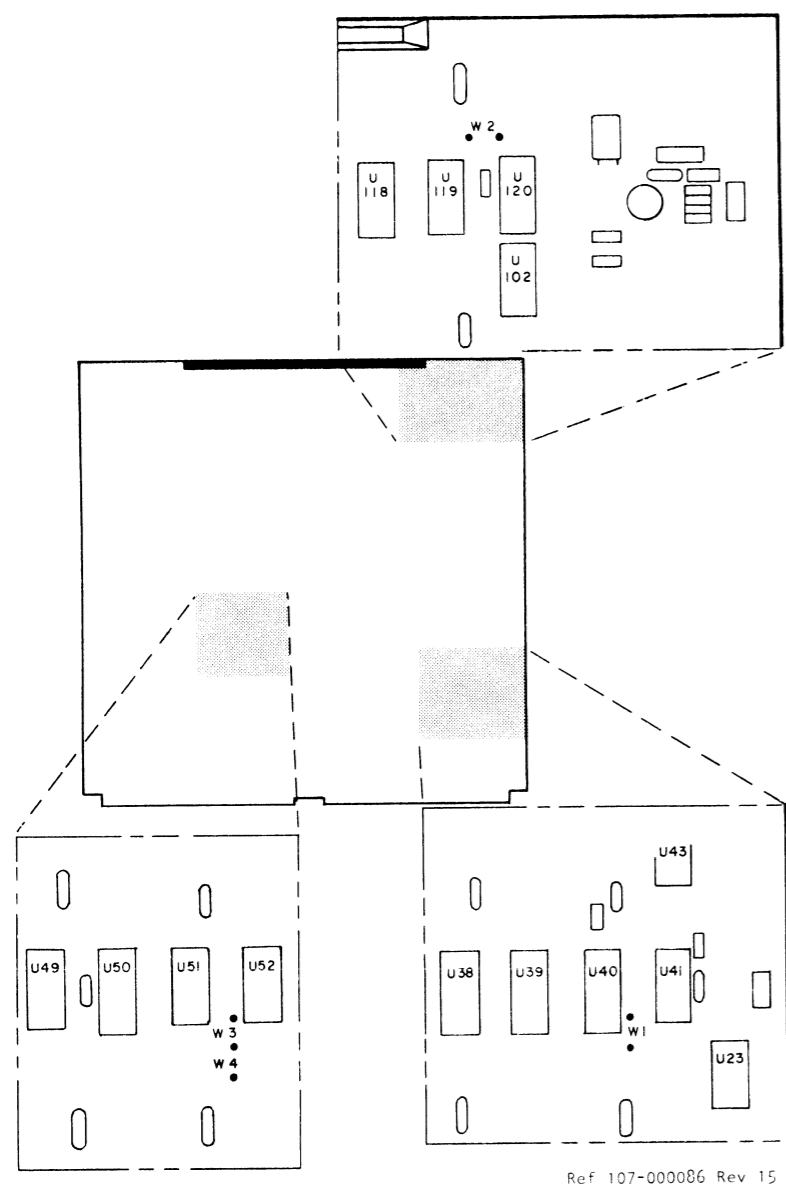
INTERNAL CABLE CONNECTIONS FOR EDGE CONNECTOR BOARD 2		
Signal Names	Backpanel Pin Numbers	Edge Connector Pin Numbers
GND	A1	1
BUS IN 31	A92	2
BUS OUT 35	A91	3
BUSY	A78	4
BUS OUT 36	A77	5
INB	A76	6
ACOMP	A75	7
BUS IN 3P	A73	8
BUS IN 34	A71	9
E1(1)	A69	10
BUS IN 36	A67	11
BUS IN 37	A65	12
BUS OUT 30	A63	13
BUS IN 35	A61	14
WE1	A59	15
DEV SEL (32)	A57	16
WE2	A47	17
GND	A99	1
DEV SEL (31)	A49	18
GND	A100	1
DONE(1)	A79	19
BUS OUT 3P	A81	20
MD3(1)	A84	21
BUS IN 32	A83	22
BUS OUT 34	A86	23
BUS OUT 33	A85	24
BUS IN 33	A88	25
BUS OUT 37	A87	26
BUS OUT 32	A89	27
BUS OUT 31	A90	28
TS1(1)	B6	29
RI	B11	30
NPO	B13	31
NPI	B15	32
BYTE ADD	B19	33
AOE	B23	34
ATE	B25	35
MD2	B27	36
COUNT	B31	37
CTAD	B34	38
GND	B99	1
LCP	B36	39
CMR1	B38	40
CMR2	B40	41
S0	B48	42
S1	B49	43
TC4	B51	44
LPE	B52	45
N DATA	B53	46
E ODD	B54	47
TI/O	B67	48
GND	B100	1
BUS IN 30	B69	49
(not used)	A3	50



TAILORING (Continued)

BOARD 1

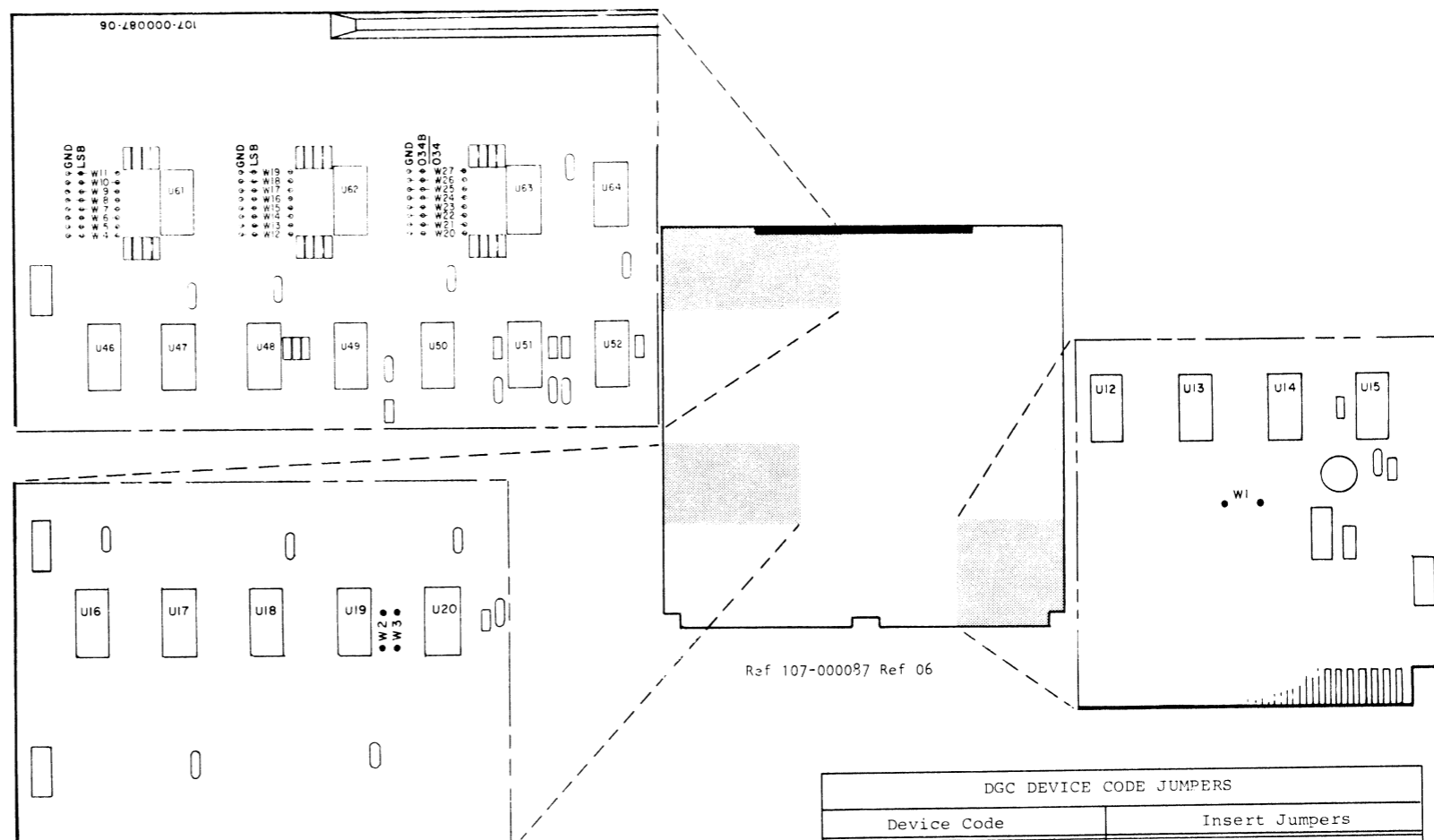
BOARD 2



DG-03282

Ref 107-000086 Rev 15

COMPUTER INTERFACE JUMPERS	
Type of Computer	Insert Jumpers
IBM 360, IBM 370	W2 and W3 on Board 1
AMDAHL 470	W1 and W4 on Board 1



DG-03283

Ref 107-000097 Ref 06

IBM DEVICE CODE JUMPERS (MOST SIGNIFICANT DIGIT)			
Jumper	Connect jumper to LSB to enable device codes	Remove jumper to enable device codes	Connect jumper to GND to disable device codes
W11 on Board 2	0X	00-0F	00-0F
W10 on Board 2	1X	10-1F	10-1F
W9 on Board 2	2X	20-2F	20-2F
W8 on Board 2	3X	30-3F	30-3F
W7 on Board 2	4X	40-4F	40-4F
W6 on Board 2	5X	50-5F	50-5F
W5 on Board 2	6X	60-6F	60-6F
W4 on Board 2	7X	70-7F	70-7F
W19 on Board 2	8X	80-8F	80-8F
W18 on Board 2	9X	90-9F	90-9F
W17 on Board 2	AX	A0-AF	A0-AF
W16 on Board 2	BX	B0-BF	B0-BF
W15 on Board 2	CX	C0-CF	C0-CF
W14 on Board 2	DX	D0-DF	D0-DF
W13 on Board 2	EX	E0-EF	E0-EF
W12 on Board 2	FX	F0-FF	F0-FF

NOTE: X is any digit specified by the IBM device code jumpers for the least significant digit.

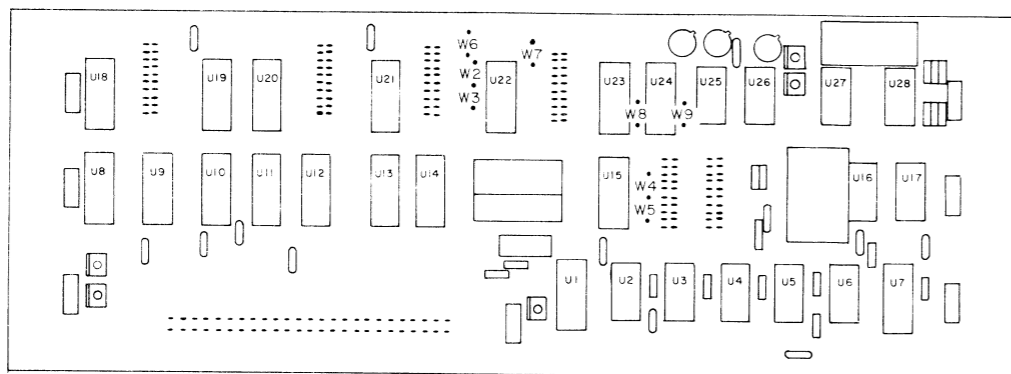
DGC DEVICE CODE JUMPERS	
Device Code	Insert Jumpers
31/32 (IBM1/IBM2) 71/72	W2 on Board 2 W1 and W3 on Board 2

IBM DEVICE CODE JUMPERS (LEAST SIGNIFICANT DIGIT)		
To Enable Device Code	Connect Jumper	To Signal
X0	W27 on Board 2	034
X1	W26 on Board 2	034
X2	W25 on Board 2	034
X3	W24 on Board 2	034
X4	W23 on Board 2	034
X5	W22 on Board 2	034
X6	W21 on Board 2	034
X7	W20 on Board 2	034
X8	W27 on Board 2	034B
X9	W26 on Board 2	034B
XA	W25 on Board 2	034B
XB	W24 on Board 2	034B
XC	W23 on Board 2	034B
XD	W22 on Board 2	034B
XE	W21 on Board 2	034B
XF	W20 on Board 2	034B

NOTE: X is any digit specified by the IBM device code jumpers for the most significant digit. All other jumpers on Board 2 from W20 thru W27 should be connected to GND.

INTERNAL CABLING (Continued)

ADAPTER BOARD



DG-03284

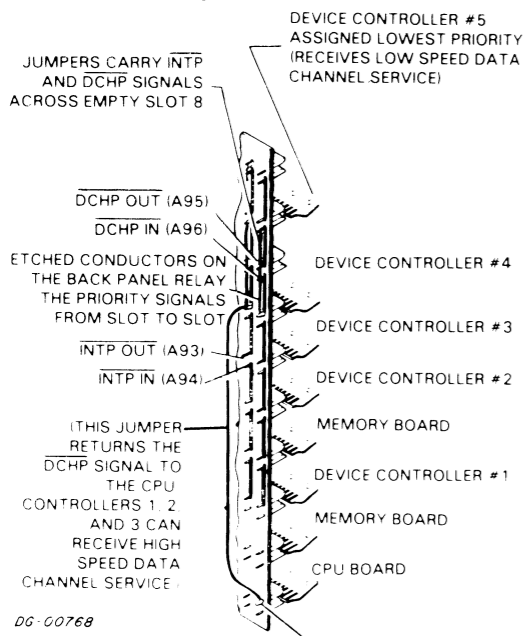
Ref 107-000527 Rev 01

IBM PRIORITY CHAIN JUMPERS	
Type of Priority	Insert Jumpers
High Priority	W2, W4, and W6 on Adapter Board
Low Priority	W3, W5, and W7 on Adapter Board

Jumpers W8 and W9 on the adapter board should always be inserted. Jumper W1 on the adapter board does not exist.

JUMPERING THE BACKPANEL

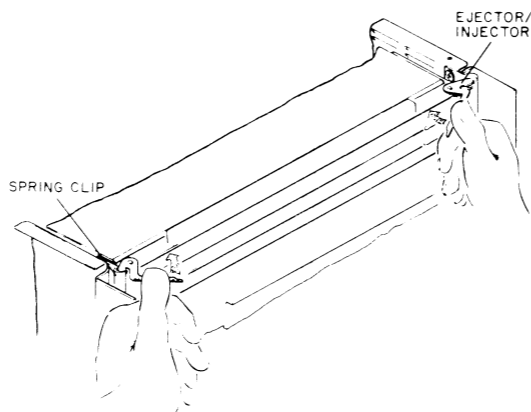
AN EXAMPLE OF JUMPERING THE BACKPANEL OF A 10-SLOT COMPUTER TO MAINTAIN THE INTEGRITY OF THE PRIORITY CHAINS



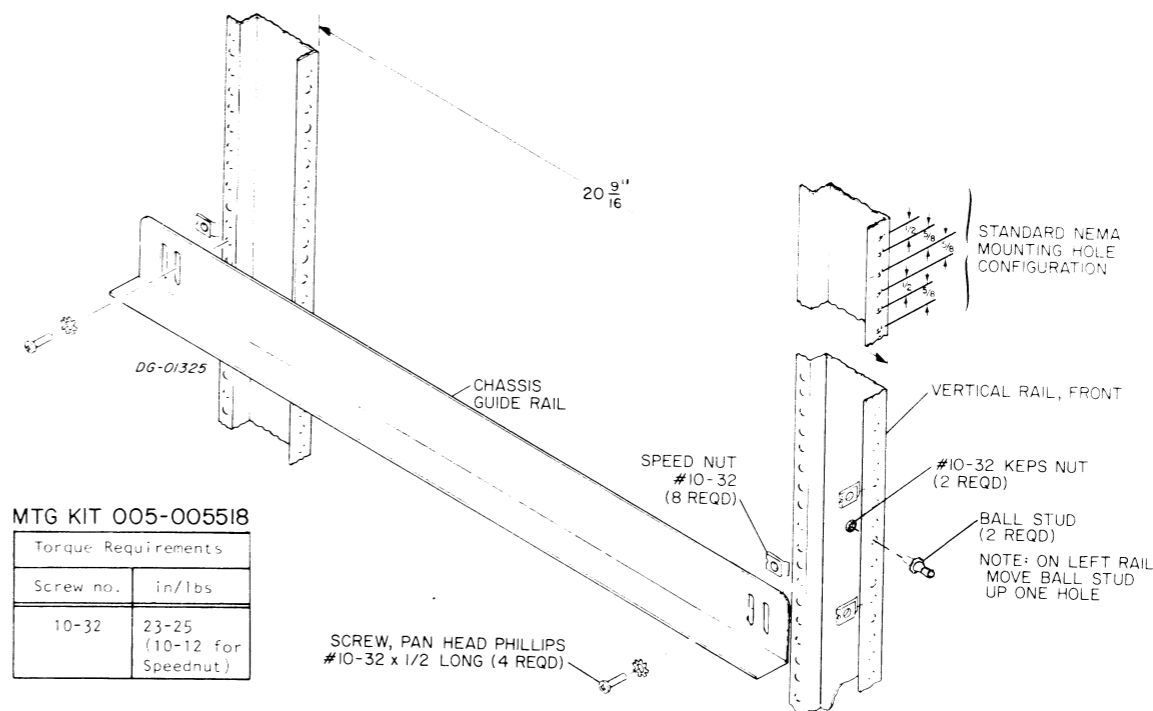
DG-00768

(THE BRANCH FROM DCHP CHAIN IS RETURNED TO CPU PIN A95. ALL CONTROLLERS HAVING HIGHER PRIORITY THAN THE BRANCH POINT WILL RECEIVE DATA CHANNEL SERVICE WITH HIGH SPEED CYCLE. CONTROLLERS HAVING LOWER PRIORITY THAN THE BRANCH POINT WILL RECEIVE LOW SPEED DATA CHANNEL SERVICE.)

INSTALLING PC BOARD



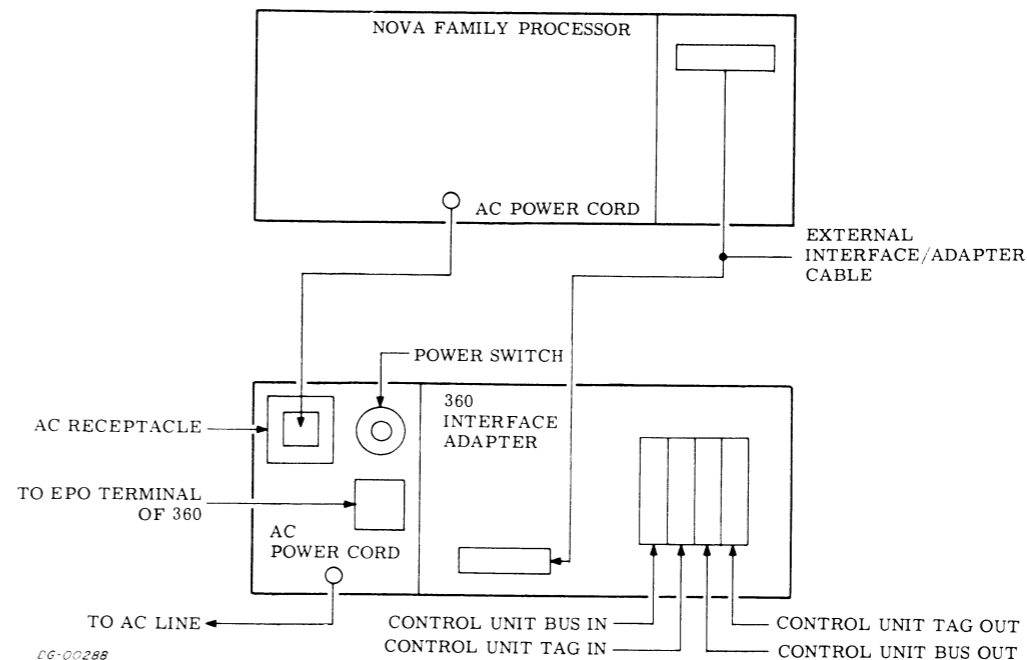
INSTALLATION IN A CABINET



MTG KIT 005-00518

Torque Requirements	
Screw no.	in/lbs
10-32	23-25 (10-12 for Speednut)

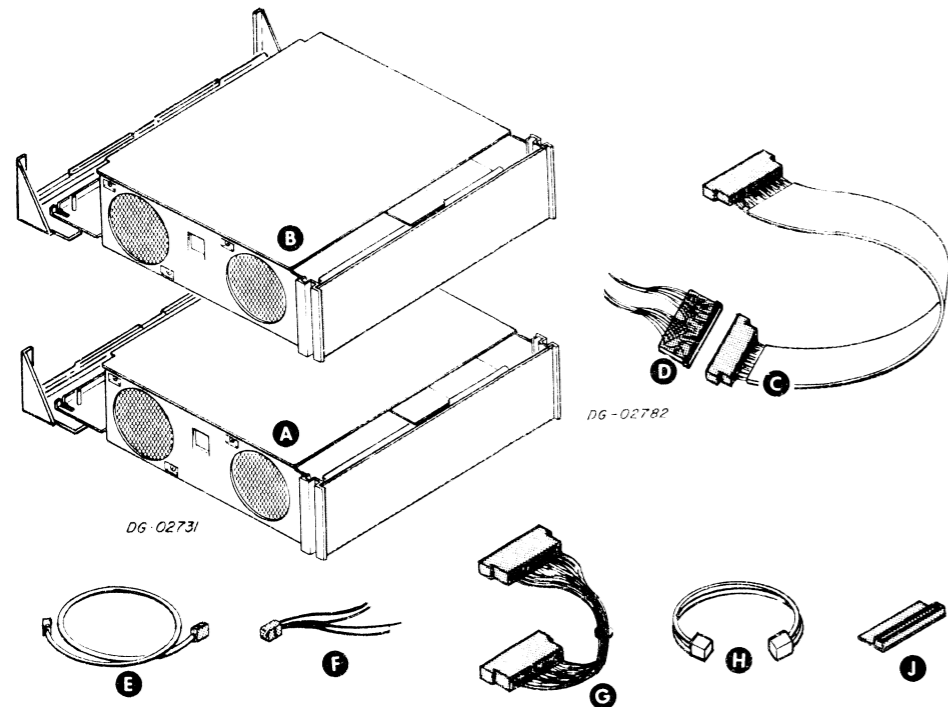
EXTERNAL CABLING



DG-00288

NOTE: IBM bus/tag cables should be mounted with the light gray cable connectors mated to the dark gray adapter connectors and the dark gray cable connectors mated to the light gray adapter connectors.

SUBSYSTEM COMPONENT BREAKDOWN



MAJOR COMPONENT

Item	Component	Mounting Location	Notes
A	COMMUNICATIONS CHASSIS	CABINET	SHOULD BE MOUNTED ABOVE COMPUTER CHASSIS
B	EXPANSION COMMUNICATIONS CHASSIS	CABINET	MUST BE MOUNTED IMMEDIATELY ABOVE COMMUNICATIONS CHASSIS OR ANOTHER EXPANSION COMMUNICATIONS CHASSIS

DG-02672

CABLE

Item	Cable	Connecting	Max Allowed Lg	Notes
C	EXTERNAL I/O BUS	COMPUTER CHASSIS and COMM CHASSIS	15 / 4.5	SUPPLIED WITH FIRST COMM CHASSIS
D	INTERNAL I/O BUS	COMPUTER CHAS & B/P BOARD	2 / 6	
E	EXTERNAL POWER FAIL	COMPUTER CHASSIS and COMM CHASSIS	15 / 4.5	SUPPLIED WITH EXPANSION COMM CHASSIS
F	INTERNAL POWER FAIL	COMPUTER CHAS B/P CONNECTOR	1 / .3	
G	DAISY-CHAIN GND JUMPER WIRES	COMM CHASSIS and COMM CHASSIS	.75 / .22	
H		COMM CHASSIS and COMM CHASSIS	1 / .3	

DG-02573

TERMINATOR

Item	Terminator	Location	Notes
J	I/O BUS TERMINATOR BOARD	COMMUNICATIONS CHASSIS OR EXPANSION COMMUNICATIONS CHASSIS	

DG-02574

SPECIFICATIONS OF CABINET-MOUNTED COMPONENTS

Item	Component	Number in System	Maximum Operating Temperature		Primary Power			Cabinet Height Required			Weight lbs	Power Dissipation (Max Watts)	Preferred Location or Remarks	Operating Humidity (Relative)		
			Component °F	Media °C	Current (max Draw) (Amp)	Voltage ±ΔV	Frequency	Area	in.	cm				min	%max	
A	COMM CHASSIS	1	131	55	3	120+24	50/60+3	3	5 1/2	13.3	40	18	350	ABOVE COMPUTER CHASSIS	0	90
	"	1	131	55	3	240+48	50/60+3	3	5 1/2	13.3	40	18	350		0	90
B	EXPANSION COMM CHASSIS	0-3	131	55	3	120+24	50/60+3	3	5 1/2	13.3	40	18	350	ABOVE COMMUNICATIONS CHASSIS	0	90
	"	0-3	131	55	3	240+48	50/60+3	3	5 1/2	13.3	40	18	350		0	90

DG-01914

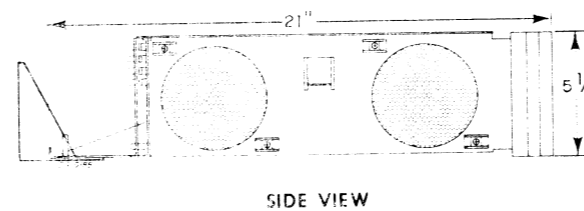
Item	Voltage	Power Cable Length		Power Cable Plug	Mating Receptacle on Power Drop	Mating Receptacle in Wall
		ft	m			
A	COMMUNICATIONS CHASSIS 120	6	1.8	NEMA 5-15P	NEMA 5-15R	NEMA 5-15R
	COMMUNICATIONS CHASSIS 240	6	1.8	NEMA 6-15P	NEMA 6-15R	NEMA 6-15R
B	EXPANSION COMM CHASSIS 120	6	1.8	NEMA 5-15P	NEMA 5-15R	NEMA 5-15R
	EXPANSION COMM CHASSIS 240	6	1.8	NEMA 6-15P	NEMA 6-15R	NEMA 6-15R

DG-02717

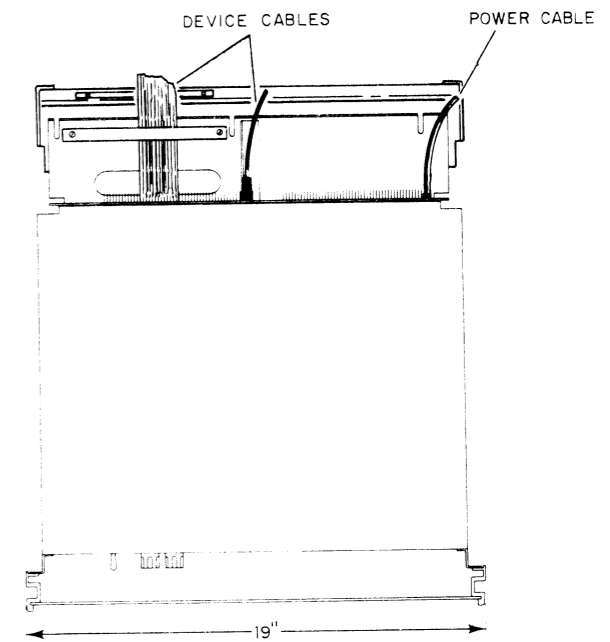
SERVICE CLEARANCES		
	FRONT & REAR	LEFT & RIGHT
MM	914.4	609.6
IN	36	24

* A 1.75" FILLER PANEL SHOULD BE INSTALLED DIRECTLY BELOW THE FIRST CHASSIS BECAUSE WHEN THE TERMINATOR IS INSTALLED IT EXTENDS BELOW THE CHASSIS. IF TWO OR THREE CHASSIS SYSTEM, THIS 1.75" IS NOT REQUIRED BECAUSE THE TERMINATOR WILL MOUNT 2ND ON 3RD OBJECTIVES.

COMMUNICATIONS CHASSIS



SIDE VIEW



TOP VIEW



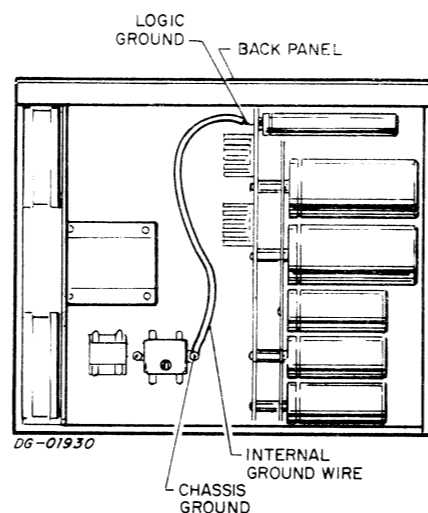
FRONT VIEW

SHIPPING

FOR PACKING PROCEDURE,
SEE 010-000263

INTERNAL CABLING

GROUNDING REQUIREMENTS



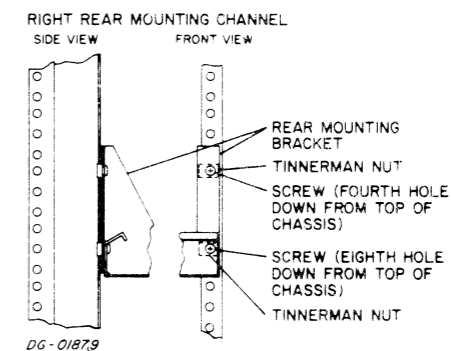
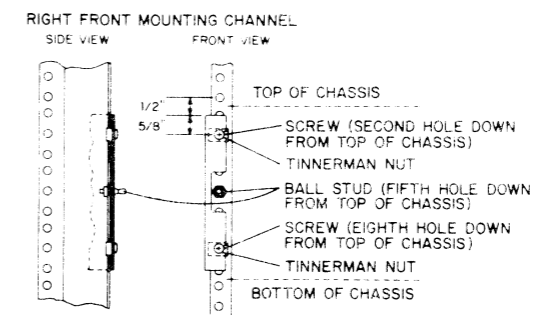
THE COMMUNICATIONS CHASSIS HAS AN INTERNAL GROUND WIRE WHICH CONNECTS CHASSIS GROUND TO LOGICAL GROUND. TO AVOID GROUND LOOPS, THIS WIRE SHOULD BE DISCONNECTED BEFORE THE COMMUNICATIONS CHASSIS IS CONNECTED TO THE COMPUTER CHASSIS WITH AN I/O CABLE.

INTERNAL CABLE FOR POWER-FAIL

Signal Name	Power-Fail Cable Pin Numbers	Back Panel Pin Numbers for NOVA Computers	Back Panel Pin Numbers for ECLIPSE Computers
MEM OK	1	A9 of slot 1	A6 of slot 1
POWER FAIL	2	A5 of slot 1	A5 of slot 2
GND	4	GND	GND
GND	5	GND	GND

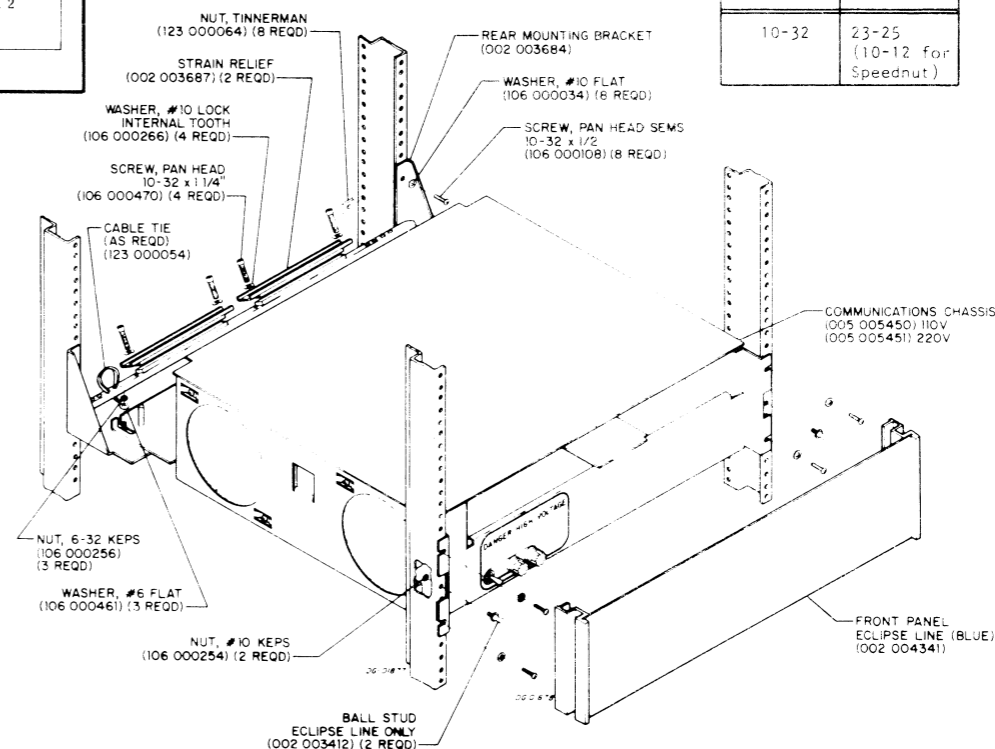
DG-01736

INSTALLATION IN A CABINET



MTG KIT 005-005453

Torque Requirements	
Screw no.	in/lbs
10-32	23-25 (10-12 for Speednut)

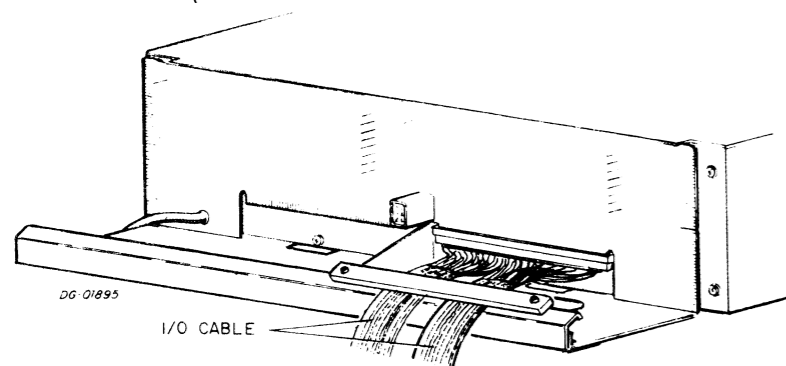


Caution

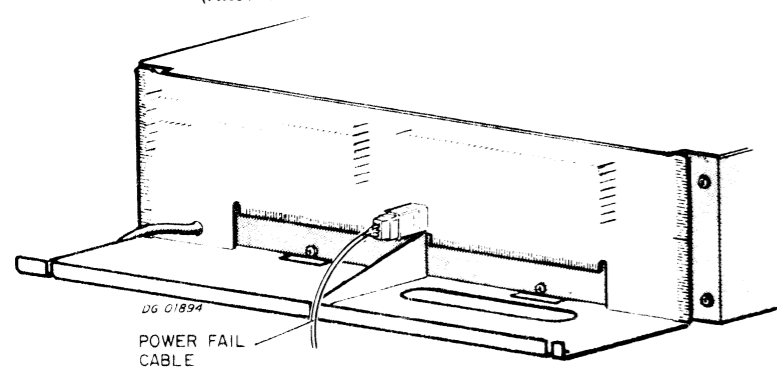
The communications chassis is designed for line multiplexor boards only. Ordinary I/O controller boards may be damaged if they are used in a communications chassis.

EXTERNAL CABLING

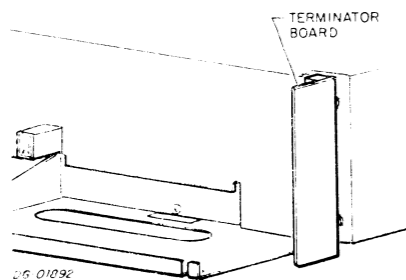
I/O CABLE CONNECTION
(FIRST COMMUNICATIONS CHASSIS ONLY)



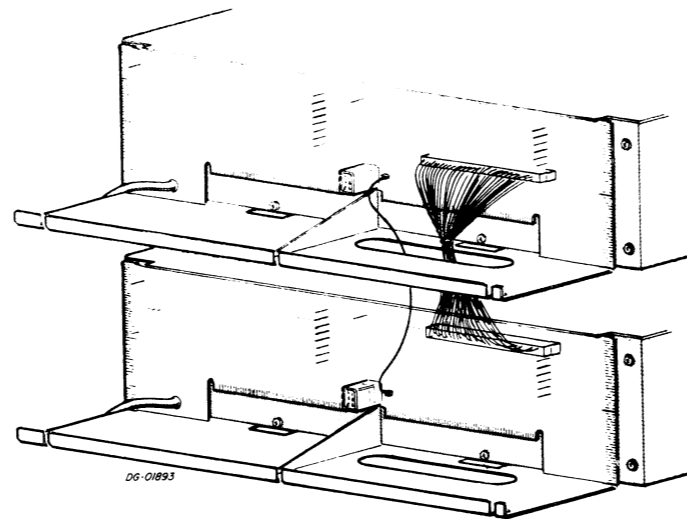
EXTERNAL POWER FAIL CABLE
(FIRST COMMUNICATIONS CHASSIS ONLY)



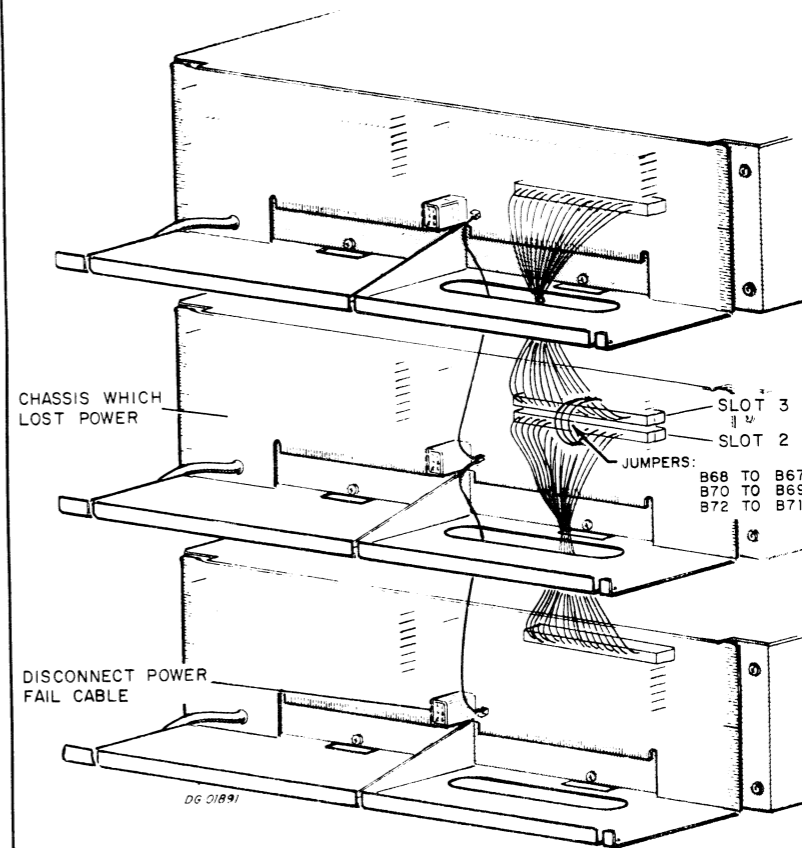
TERMINATOR BOARD
(LAST COMMUNICATIONS CHASSIS ONLY)



DAISY CHAIN CABLE AND GROUND JUMPERING
FOR MULTIPLE COMMUNICATIONS CHASSIS



POWER FAILURE PROCEDURE



JUMPER CONNECTIONS FOR A COMMUNICATIONS CHASSIS WITHOUT POWER

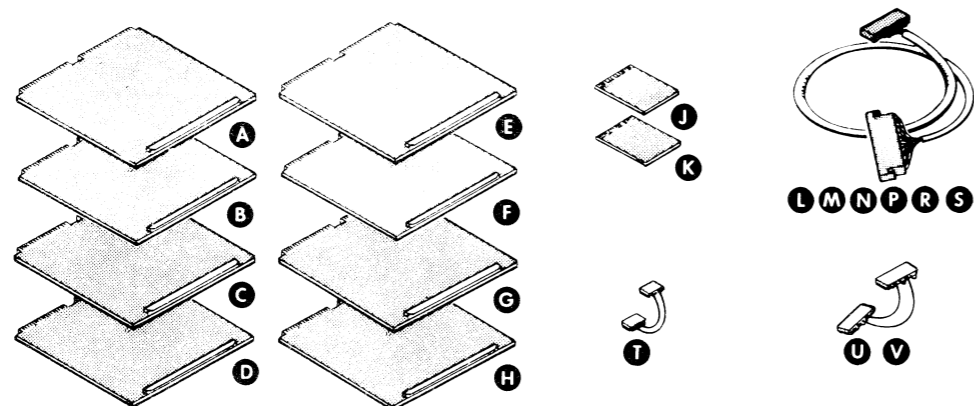
Signal	on Pin	to	Signal	on Pin
UMCP IN	B68 of slot 4		UMCP OUT	B67 of slot 1
INTP IN	B70 of slot 4		INTP OUT	B69 of slot 1
DCHP IN	B72 of slot 4		DCHP OUT	B71 of slot 1

DG-01737

IF MORE THAN ONE COMMUNICATIONS CHASSIS IS INCLUDED IN A COMMUNICATIONS SYSTEM, THE CHASSIS SHOULD BE MOUNTED IN THE RACK ONE DIRECTLY ON TOP OF THE OTHER. THE I/O BUS OF THE COMPUTER CHASSIS SHOULD BE CABLED TO THE BOTTOM COMMUNICATIONS CHASSIS AND DAISY-CHAINED THROUGH ANY ADDITIONAL COMMUNICATIONS CHASSIS. THE LAST COMMUNICATIONS CHASSIS IN THE CHAIN MUST BE CONNECTED TO EITHER AN EXPANSION CHASSIS OR OTHER I/O BUS EXTENSION WITH ANOTHER I/O CABLE OR MUST BE TERMINATED WITH A TERMINATOR BOARD.

NOTE: WHEN A COMMUNICATIONS CHASSIS IS USED WITH A NOVA 4 CHASSIS (EITHER 16 SLOT OR 5 SLOT), THE EXTERNAL POWER FAIL CABLE IS NOT USED. IF THE COMMUNICATION CHASSIS IS CONNECTED TO THE NOVA 4 I/O BUS, THE COMMUNICATION CHASSIS POWER SWITCH MUST BE IN THE LOCAL POSITION.

SUBSYSTEM COMPONENT BREAKDOWN



SPECIFICATIONS OF THE CHASSIS-MOUNTED COMPONENTS

Item	Component	Chassis	Slots Required	Max Allowable Data Channel Latency (μ sec)	Type of Data Channel Service Desired		Max Allowable Programmed I/O Latency *	Controller's +5 Volt Current Draw (Amps)
					High Speed	Standard		
A	16-LINE ALM-16	COMM	1	N/A				3.6
B	8-LINE ALM-16	COMM	1	N/A				3.2
C	8-LINE ALM-8	COMM	1	N/A				3.1
D	4-LINE ALM-8	COMM	1	N/A				2.8
E	2-LINE SLM-2, CRC	COMM	1	N/A				5.6
F	2-LINE SLM-2	COMM	1	N/A				4.6
G	1-LINE SLM-2, CRC	COMM	1	N/A				4.2
H	1-LINE SLM-2	COMM	1	N/A				3.2

DG-01912

MAJOR COMPONENT

Item	Component	Mounting Location	Notes
A	SIXTEEN LINE ALM-16 (1) 4257	COMMUNICATIONS CHASSIS	
B	EIGHT LINE ALM-16 4258	COMMUNICATIONS CHASSIS	
C	EIGHT LINE ALM-8 (2) 4255	COMMUNICATIONS CHASSIS	BOARD WITH HIGHEST BAUD RATE LINES SHOULD BE ASSIGNED TO LOWEST SLOT
D	FOUR LINE ALM-8 4256	COMMUNICATIONS CHASSIS	
F	TWO LINE SLM-2 WITH CRC (3) 4263/4266	COMMUNICATIONS CHASSIS	
F	TWO LINE SLM-2 4263	COMMUNICATIONS CHASSIS	
G	ONE LINE SLM-2 WITH CRC 4264/4266	COMMUNICATIONS CHASSIS	
H	ONE LINE SLM-2 4264	COMMUNICATIONS CHASSIS	
J	4-LINE EIA INTERF MODULE 4261	ALM-16	DAUGHTER BOARDS REQUIRED
K	4-LINE 20mA INTERF MODULE 4260	ALM-16	

DG-02672 (1) ASYNCHRONOUS LINE MULTIPLEXOR WITHOUT MODEM CONTROL
 (2) ASYNCHRONOUS LINE MULTIPLEXOR WITH MODEM CONTROL
 (3) SYNCHRONOUS LINE MULTIPLEXOR

CABLE

Item	Cable	Connecting	Max Allowed Lg ft / m	Notes
L	MODEM	ALM-8 OR SLM-2 MODEM	50 / 15	
M	BELL 303 MODEM	SLM-2 WITH 303 INTERF MODEM	50 / 15	
N	DEDICATED MODEM	ALM-16 WITH EIA INTERF DEDICATED MODEM	50 / 15	
P	TELETYPE	ALM-16 WITH 20mA INTERF TELETYPE	500 / 150	
R	VIDEO DISPLAY WITH MODEM	ALM-8 OR SLM-2 VIDEO DISPLAY	50 / 15	
S	VIDEO DISPLAY	ALM-16 WITH EIA 20mA VIDEO DISPLAY	50 / 15	

TERMINATOR

Item	Terminator	Location	Notes
T	ALM-16 TEST PLUG	COMMUNICATIONS CHASSIS BACK PANEL	
U	ALM-8 TEST PLUG	COMMUNICATIONS CHASSIS BACK PANEL	
V	SLM-2 TEST PLUG	COMMUNICATIONS CHASSIS BACK PANEL	

DG-02674

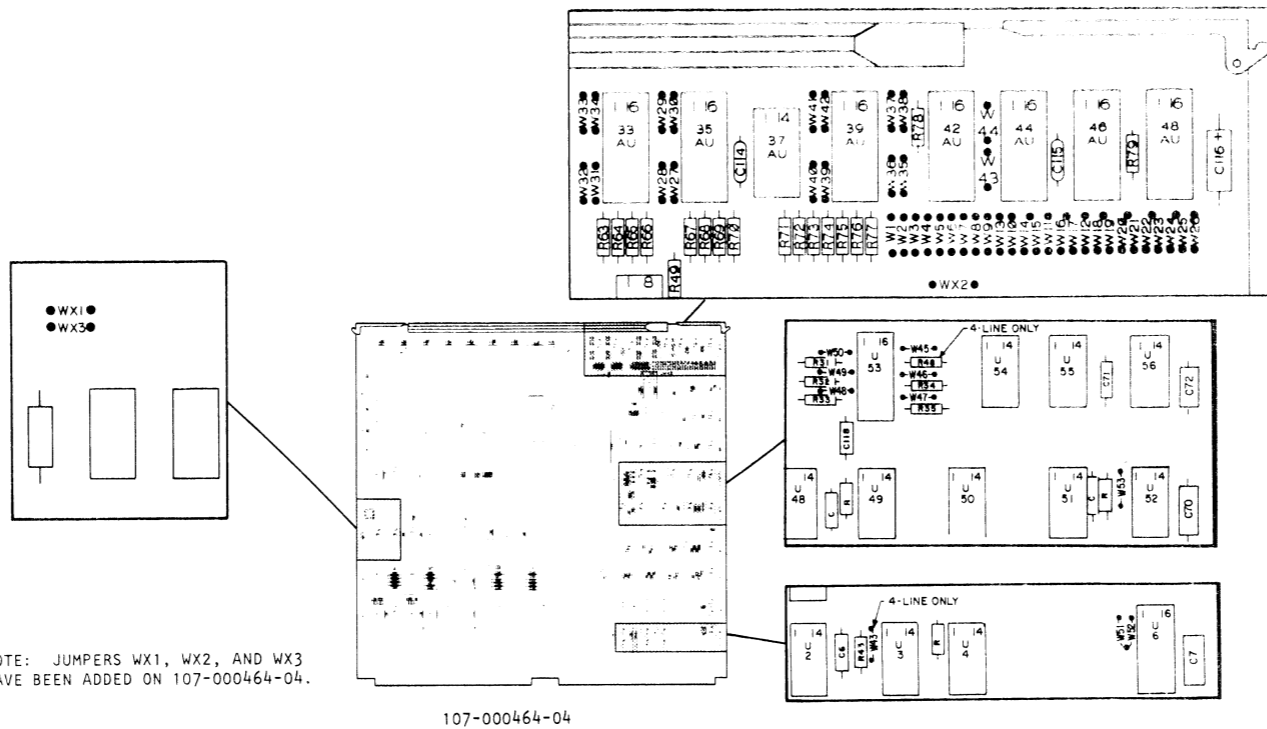
DG/CS MULTIPLEXORS SERIES 4255 / 4258, 4263, 4264

SHIPPING

FOR PACKING PROCEDURE, SEE 010-000262

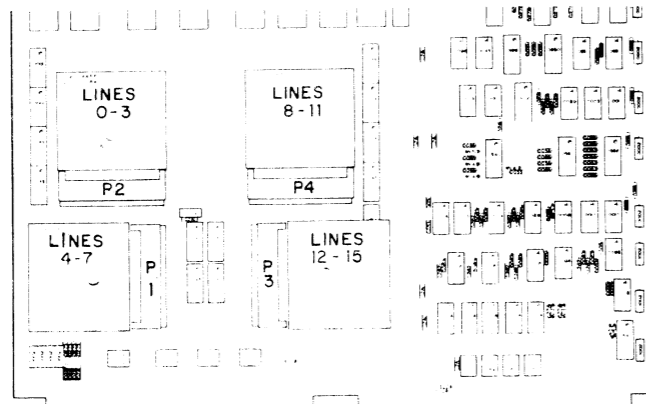
TAILORING

ALM-8 SERIES ASYNCHRONOUS LINE MULTIPLEXOR



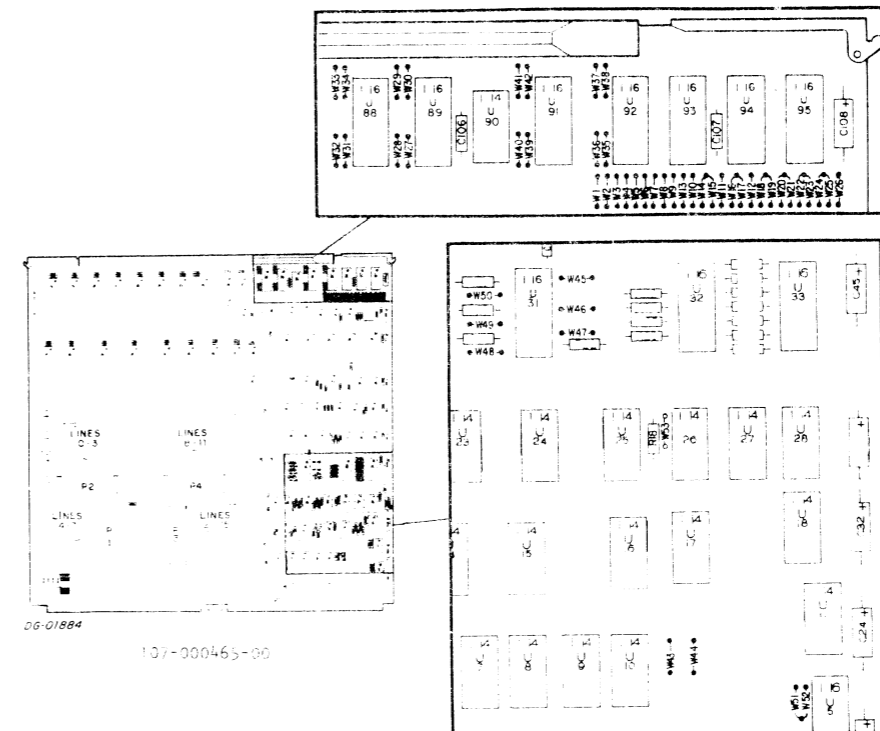
ALM-16 SERIES ASYNCHRONOUS LINE MULTIPLEXOR

EIA AND 20mA CURRENT LOOP MODULES



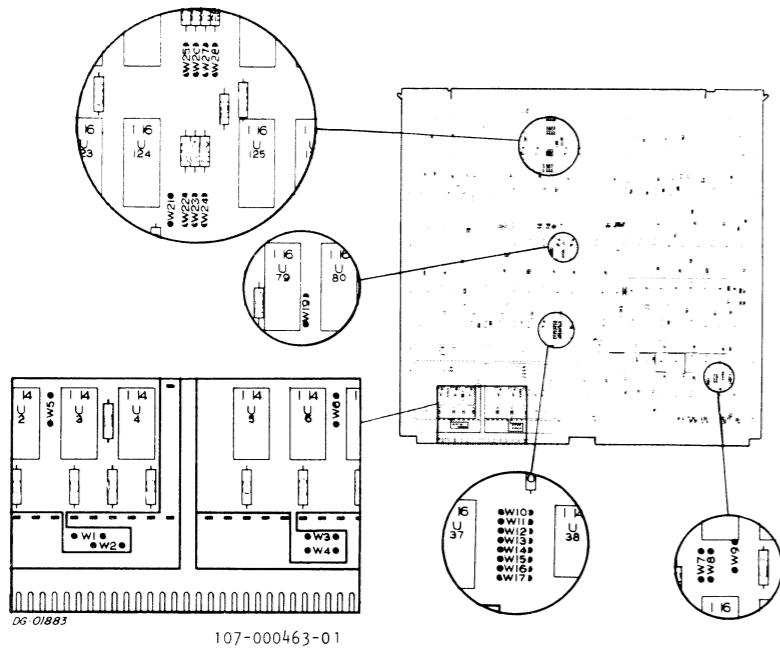
DG-01896

THE EIA MODULE AND THE 20mA CURRENT LOOP MODULE ARE DAUGHTER BOARDS WHICH ARE PLUGGED INTO THE LINE MULTIPLEXOR BOARD. THE FIGURE SHOWS THE LOCATIONS OF THE FEMALE EDGE CONNECTORS ON A LINE MULTIPLEXOR BOARD AND THE LINE NUMBERS TO WHICH THEY CORRESPOND. THE DAUGHTER BOARDS ARE INSTALLED BY PLUGGING THEM INTO THE APPROPRIATE EDGE CONNECTORS, TAKING CARE TO ENSURE THAT THE BOARDS ARE SEATED PROPERLY, AND THEN SECURING THEM IN PLACE WITH A SCREW THROUGH THE CENTER AND AN INSULATING WASHER ON TOP OF EACH BOARD.



TAILORING (Continued)

SYNCHRONOUS LINE MULTIPLEXOR



DEVICES CODE JUMPERS

Device Address	Asynchronous Line Multiplexor	Synchronous Line Multiplexor
34 35 (MUX CRC)	W51	W8
44 45 (MUX CRC)	W52	W7

DG-01740

LINE ADDRESS GROUP JUMPERS

Bit Positions of Line Address in DIA or DOA instructions (insert jumper to specify 0)	7	8	9	10	11	12	13	14
4-line asynchronous with modem control	W50	W49	W48	W47	W46	W45		W43
8-line asynchronous with modem control	W50	W49	W48	W47	W46			
8-line asynchronous without modem control	W50	W49	W48	W47	W46	W44		
16-line asynchronous without modem control	W50	W49	W48	W47				
1-line synchronous	W27	W26	W25	W28	W23	W24	W22	
2-line synchronous	W27	W26	W25	W28	W23	W24	W22	W21

DG-01741

CLOCK FREQUENCY JUMPERS

Synchronous Internal Clock		Asynchronous Clock 0		Asynchronous Clock 1	
Baud Rate	Jumper	Baud Rate	Jumper	Baud Rate	Jumper
38,400	W14	9600	W13	4800	W14
19,200	W15	4800	W15	2400	W16
9600	W16	2400	W17	1200	W18
4800	W17	1200	W19	600	W20
2400	W10	600	W21	300	W22
1200	W11	300	W23	150	W24
600	W12	150	W25	75	W26
300	W13				

Asynchronous Clock 2

If Desired Baud Rate in Range	Jumper	Yields Source Frequency
37,42690 to 74,85380	W8	9600
74,85380 to 149,7076	W6	19,200
149,7076 to 299,4152	W4	38,400
299,4152 to 598,8304	W2	76,800
598,8304 to 4800	W1	153,600

Source Frequency Divisor Minus One

Bit Position	0	1	2	3	4	5	6	7
Insert Jumper to Specify 1	W27	W28	W29	W30	W31	W32	W33	W34

Asynchronous Clock 3

If Desired Baud Rate in Range	Jumper	Yields Source Frequency
4,678363 to 9,356725	W12	1200
9,356725 to 18,71345	W11	2400
18,71345 to 37,42690	W10	4800
37,42690 to 74,85380	W9	9600
74,85380 to 149,7076	W7	19,200
149,7076 to 299,4152	W5	38,400
299,4152 to 2400	W3	76,800

Source Frequency Divisor Minus One

Bit Position	0	1	2	3	4	5	6	7
Insert Jumper to Specify 1	W35	W36	W37	W38	W39	W40	W41	W42

DG-01742

JUMPERS FOR COMMONLY USED CLOCK FREQUENCIES

Baud Rate	Source Frequency Divisor Minus One (Octal)	Insert Jumpers	
Asynchronous Clock 2			
4800	37	W1	W30-W34
3600	52	W1	W29, W31, W33
2400	77	W1	W29-W34
1800	124	W1	W28, W30, W32
1200	177	W1	W28-W34
600	377	W1	W27-W34
300	377	W2	W27-W34
150	377	W4	W27-W34
110	256	W6	W27, W29, W31, W32, W33
75	377	W6	W27-W34
Asynchronous Clock 3			
2400	37	W3	W38-W42
1800	52	W3	W37, W39, W41
1200	77	W3	W37-W42
600	177	W3	W36-W42
300	377	W3	W35-W42
150	377	W5	W35-W42
110	256	W7	W35, W37, W39, W40, W41
75	377	W7	W35-W42

DG-02091

ADDITIONAL SYNCHRONOUS LINE MULTIPLEXOR JUMPERS

INTERNAL JUMPERS

To Connect Internal Clock to Line	Insert Jumper
EIA Line 0	W5
EIA Line 1	W6
303 Line	W1 on daughter board

SPACE MODEM DRIVER JUMPERS

Modem Driver	Jumper
Space A to Line 0	W1
Space B to Line 0	W2
Space A to Line 1	W3
Space B to Line 1	W4

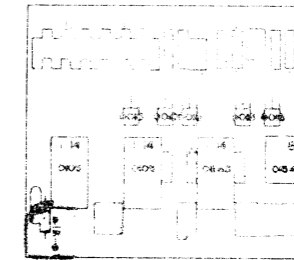
DG-01743

SYNCHRONOUS INTERNAL CLOCK JUMPERS

To Connect Internal Clock to Line	Insert Jumper
EIA Line 0	W5
EIA Line 1	W6
303 Line	W1 on daughter board

DG-01743

303 MODEM INTERFACE



DG-0188E

107-000488-00

COMMUNICATIONS CHASSIS BACKPANEL JUMPERING

JUMPER CONNECTIONS FOR AN EMPTY COMMUNICATIONS SLOT

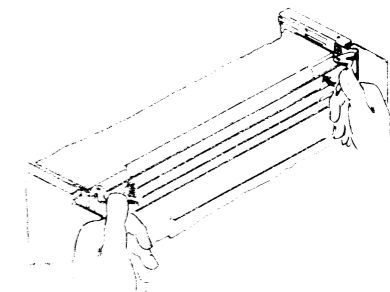
Signal	on Pin	Signal	on Pin
UMCP IN	B66	UMCP OUT	B67
INTP IN	B70	INTP OUT	B69
DCHP IN	B72	DCHP OUT	B71

DG-01739

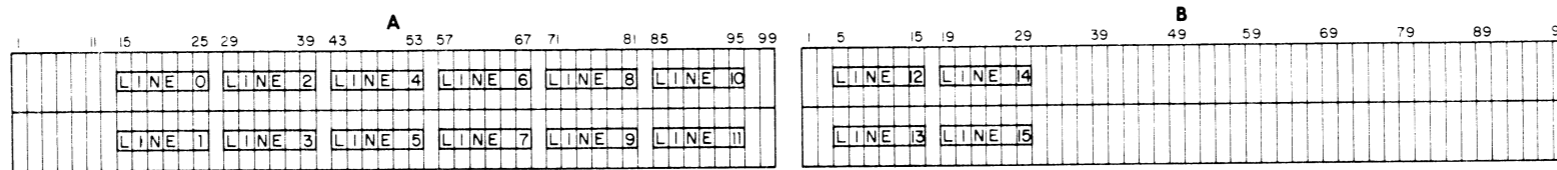
PC BOARD PLACEMENT IN SLOTS

Caution

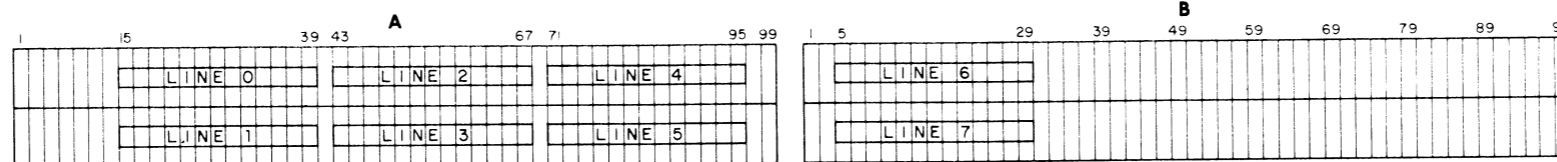
A line multiplexor board should only be placed in a communications chassis. Placing a line multiplexor in an ordinary I/O slot of the computer chassis may damage the board.



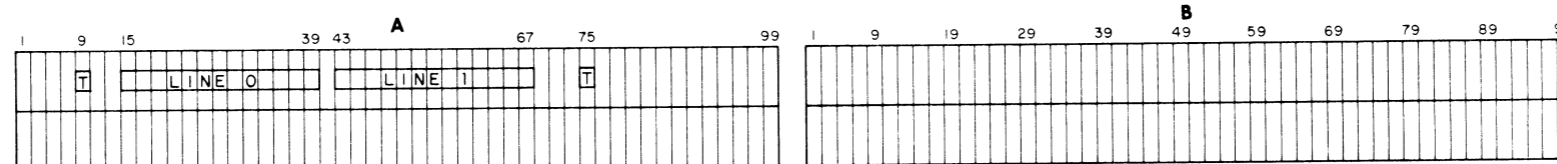
EXTERNAL CABLING



ASYNCHRONOUS LINE MULTIPLEXOR WITHOUT MODEM CONTROL



ASYNCHRONOUS LINE MULTIPLEXOR WITH MODEM CONTROL



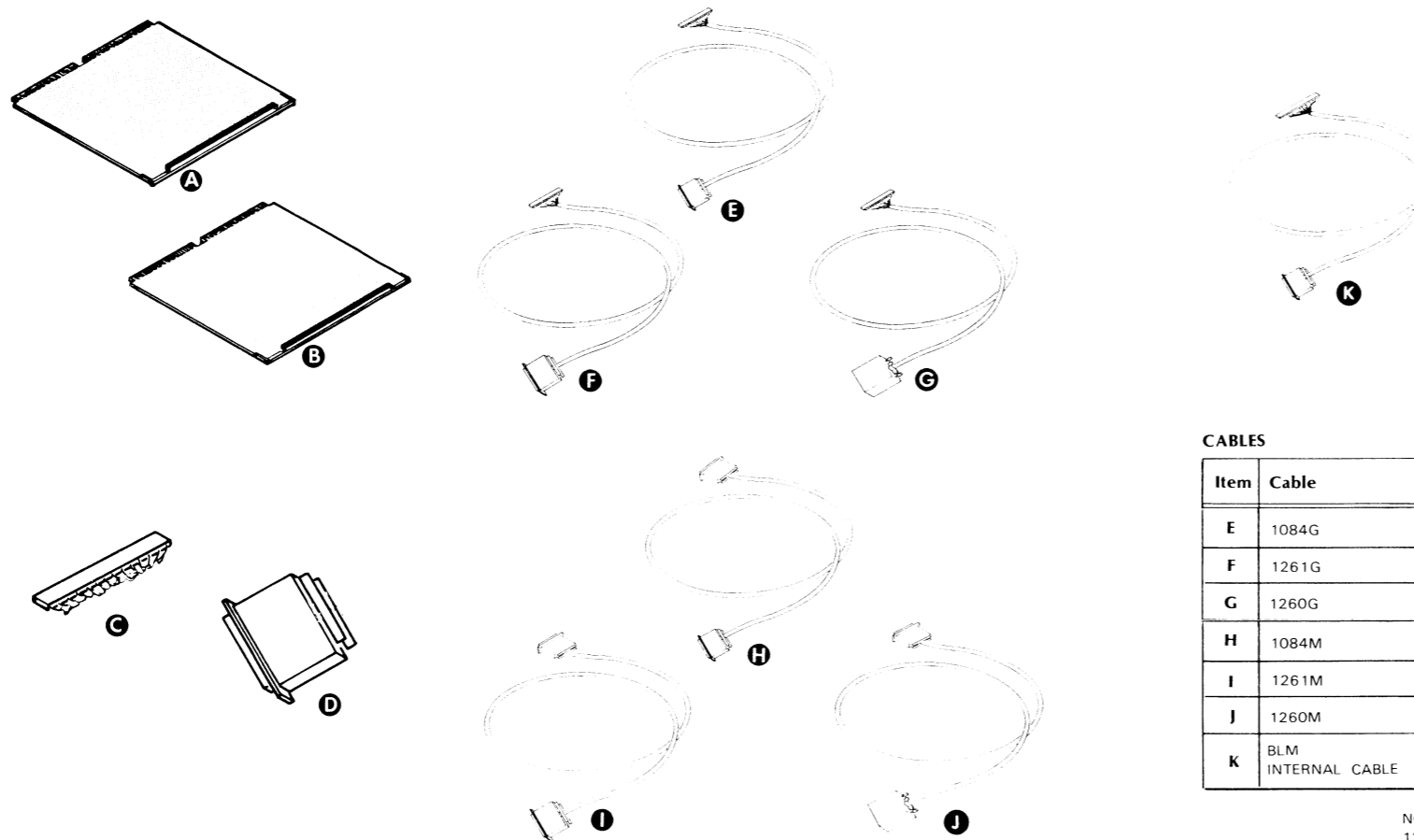
SYNCHRONOUS LINE MULTIPLEXOR

DG-01723

DEVICE CONNECTOR SIGNALS							
Asynchronous Line Multiplexor Without Modem Control (EIA Interface)		Asynchronous Line Multiplexor Without Modem Control (20mA Current Loop Interface)		Asynchronous Line Multiplexor With Modem Control		Synchronous Line Multiplexor	
Pin Number	Signal Name	Pin Number	Signal Name	Pin Number	Signal Name	Pin Number	Signal Name
1	XMIT DATA	1	XMIT DATA (-XMIT)	1	not used	1	XMIT CLOCK
2	REC DATA	2	REC DATA (+REC)	2	XMIT DATA	2	XMIT DATA
3	+5V			3	RING	3	RING
4	RDR RUN(GND)			4	CARRIER DETECT	4	CARRIER DETECT
5	+V	5	+V (+XMIT)	5	DATA TERMINAL READY	5	DATA TERMINAL READY
6	-12V	6	-12V (-REC)	6	CLEAR TO SEND	6	CLEAR TO SEND
				7	DATASET READY	7	DATASET READY
				8	not used	8	SPARE A
				9	GND	9	GND
				10	not used	10	SPARE B
				11	REC DATA	11	REC DATA
				12	REQUEST TO SEND	12	REQUEST TO SEND
				13	not used	13	REC CLOCK

DG-01924

INSTALLATION SPECIFICATIONS



CABLES

Item	Cable	Connecting	Max Length		Notes
			Ft	M	
E	1084G	BLM TO MODEM	20	6.1	RS-232-C 005-005269
F	1261G		20	6.1	RS 449/423 005-016364
G	1260G		20	6.1	CCITT V.35 005-016366
H	1084M	EIA CONNECTOR PANEL TO MODEM	20	6.1	RS-232-C 005-010711
I	1261M		20	6.1	RS 449/423 005-016363
J	1260M		20	6.1	CCITT V.35 005-016365
K	BLM INTERNAL CABLE	BLM-1 OR BLM-4 TO EIA CONNECTOR PANEL	4	1.22	S/250, C/350, MV/8000 005-016370
			12	3.66	M/600 005-016369

NOTE: 4248-A AND 4249-A COME WITH THE 12 FT BLM INTERNAL CABLE

MAJOR COMPONENT

Item	Component	Model Number	Mounting Location	Notes
A	BLM-1	4248	COMMUNICATIONS CHASSIS	BOARD WITH HIGHEST BAUD RATE SHOULD BE ASSIGNED TO LOWEST SLOT NUMBER.
B	BLM-4	4249	COMMUNICATIONS CHASSIS	

Item	Terminator	Location	Notes
C	BLM TEST CONNECTOR (LOOPBACK PLUG)	COMMUNICATIONS CHASSIS BACKPANEL	005-016511
D	EIA TEST CONNECTOR (LOOPBACK PLUG)	EIA CONNECTOR PANEL	005-016512

SPECIFICATIONS

Component	Chassis	Slots Required	Maximum Allowable PIO Latency	Controller's Current Draw
BLM-1	COMMUNICATIONS	1	N-1/2 CLOCK PERIODS*	+5V -- 2.8 AMPS -12V -- 0.5 AMPS +12V -- 175 MA
BLM-4	COMMUNICATIONS	1	N-1/2 CLOCK PERIODS*	+5V -- 4.0 AMPS -12V -- 0.5 AMPS +12V -- 250 MA

*N IS THE NUMBER OF BITS PER CHARACTER, AND A CLOCK PERIOD IN SECONDS IS THE INVERSE BIT RATE

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

INTERNAL CABLING

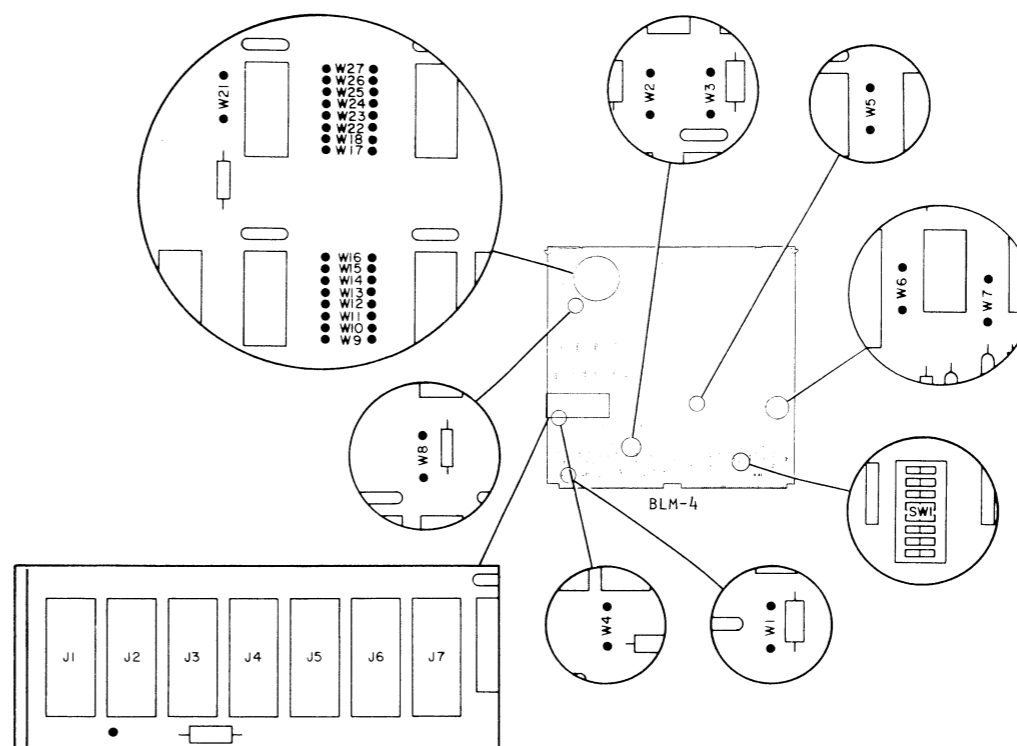
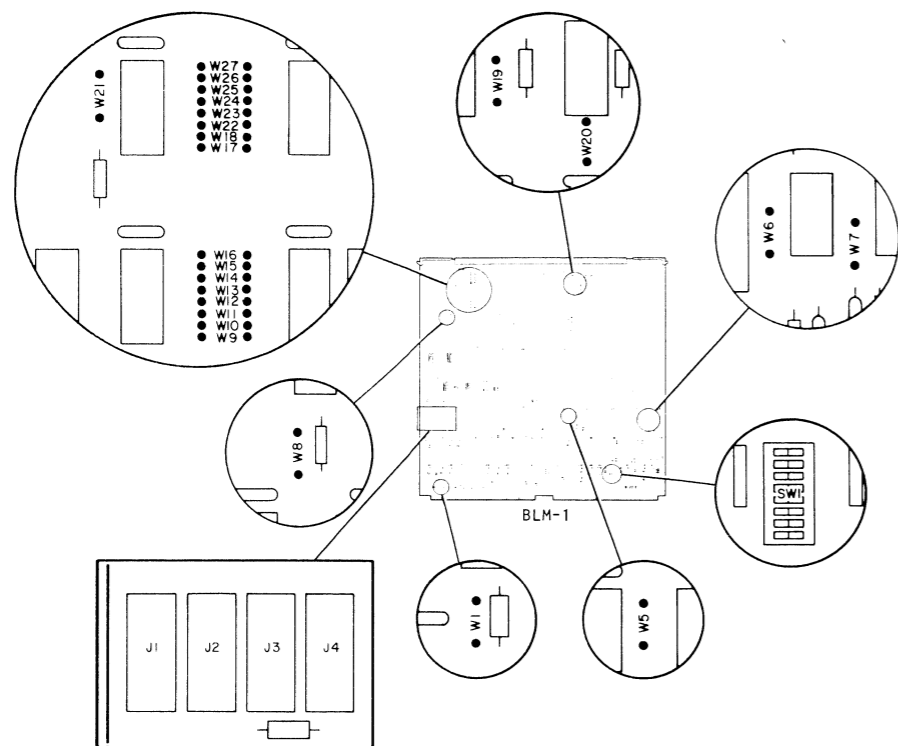
SIGNAL NAMES

SIGNAL NAME	BACKPANEL PIN NUMBER
GND	A001
GND	A002
GND	A007
GND	A008
ICLK0	A009
ICLK1	A010
RCO	A011
RC1	A012
XMIT CLOCK0	A013
XMIT CLOCK1	A014
XMIT DATA0	A015
XMIT DATA1	A016
XMIT CLOCK0	A017
XMIT CLOCK1	A018
XMIT DATA0	A019
XMIT DATA1	A020
RING0	A021
RING1	A022
CARRIER DET0	A023
CARRIER DET1	A024
DTR0	A025
DTR1	A026
CTS0	A027
CTS1	A028
DSR0	A029
DSR1	A030
LOCAL LOOP0	A031
LOCAL LOOP1	A032
GND	A033
GND	A034
REMOTE LOOP0	A035
REMOTE LOOP1	A036
REC DATA0	A037
REC DATA1	A038
RTS0	A039
RTS1	A040
REC CLOCK0	A041
REC CLOCK1	A042
REC DATA0	A043
REC DATA1	A044
REC CLOCK0	A045
REC CLOCK1	A046
SIG QUAL0	A047
SIG QUAL1	A048
RATE INDO	A049
RATE IND1	A050
SEL STBY0	A051
SEL STBY1	A052
STNDBY INDO	A053
STNDBY IND1	A054

SIGNAL NAME	BACKPANEL PIN NUMBER
XMIT CLOCK2	A065
XMIT CLOCK3	A066
XMIT DATA2	A067
XMIT DATA3	A068
RING2	A069
RING3	A070
CARRIER DET2	A071
CARRIER DET3	A072
DTR2	A073
DTR3	A074
CTS2	A075
CTS3	A076
DSR2	A077
DSR3	A078
SPA2	A079
SPA3	A080
GND	A081
GND	A082
SPB2	A083
SPB3	A084
REC DATA2	A085
REC DATA3	A086
RTS2	A087
RTS3	A088
REC CLOCK2	A089
REC CLOCK3	A090
ICLK2	A093
ICLK3	A094
GND	A099
GND	A100

SIGNAL NAME	EIA CONNECTOR PIN
ICLK	(0-1) 24
RC	(0-1) 19
XMIT CLOCK	(0-1) 16
XMIT DATA	(0-1) 21
XMIT CLOCK	(0-3) 15
XMIT DATA	(0-3) 2
RING	(0-3) 22
CD	(0-3) 8
DTR	(0-3) 20
CTS	(0-3) 5
DSR	(0-3) 6
SPA	(2-3) 14
GND	7
SPB	(2-3) 23
REC DATA	(0-3) 3
RTS	(0-3) 4
REC CLOCK	(0-3) 17
REC DATA	(0-1) 25
REC CLOCK	(0-1) 18
SIG QUAL	(0-1) 13
RATE IND	(0-1) 12
SEL STBY	(0-1) 9
STNDBY IND	(0-1) 10

TAILORING JUMPERING



BLM-1 ADDRESSING

THE LINE CAN BE ANY ADDRESS FROM 0 TO 255. POSITIONS 1-8 OF THE DIP SWITCH REPRESENT THE ADDRESS IN BINARY.

POSITION 8 IS THE LEAST SIGNIFICANT BIT, AND POSITION 1 IS THE MOST SIGNIFICANT BIT.

THE ON POSITION REPRESENTS A 0, AND THE OFF POSITION REPRESENTS A 1. JUMPERS W19 AND W20 MUST REFLECT THE SETTINGS OF DIP SWITCH POSITIONS 8 AND 7 RESPECTIVELY.

DIP 8	DIP 7	DIP SWITCH POSITION	W19	W20
ON	ON	1	IN	--
OFF	ON	2	OUT	--
ON	OFF	3	--	IN
OFF	OFF	4	--	OUT

TEST JUMPERS NORMAL OPERATION	W5	W21
	IN	IN

DEVICE CODE	W7
34	IN
44	OUT

BLM-4 ADDRESSING

THE 4 LINES MUST BELONG TO ONE OF A GROUP OF 4 ADDRESSES. THE GROUPS ARE 0-3, 4-7, ..., 249-251, 252-255. THERE ARE 64 SUCH GROUPS. THE GROUP NUMBER VARIES FROM 0 TO 63. 0-3 IS GROUP 0; 4-7 IS GROUP 1; AND SO ON UNTIL 252-255 WHICH IS GROUP 63. THE GROUP NUMBER IS DETERMINED BY THE 6 POSITION DIP SWITCH.

POSITION 1-6 OF THE DIP SWITCH REPRESENT THE GROUP NUMBER IN BINARY. POSITION 6 IS THE LEAST SIGNIFICANT BIT; POSITION 1 IS THE MOST SIGNIFICANT BIT.

THE ON POSITION REPRESENTS A 0, AND THE OFF POSITION REPRESENTS A 1. POSITIONS 7 AND 8 MUST BE OFF.

DUAL PORT	W6
YES	IN
NO	OUT

NRZI OPTION	W8
YES	IN
NO	OUT

JUMPERS W19 AND W20 DO NOT EXIST ON BLM-4.

LINE OPTIONS	PLUG
LINE 0	
RS-449/423	J1
CCITT V.35	J2
RS-232-C	J4
LINE 1	
RS-449/423	J5
CCITT V.35	J6
RS-232-C	J7

INTERNAL CLOCK SUPPLIED TO LINE				
LINE	W1	W2	W3	W4
0	IN	OUT	OUT	OUT
1	OUT	OUT	OUT	IN
2	OUT	IN	OUT	OUT
3	OUT	OUT	IN	OUT

JUMPERS W2, W3, AND W4 DO NOT EXIST ON BLM-1.

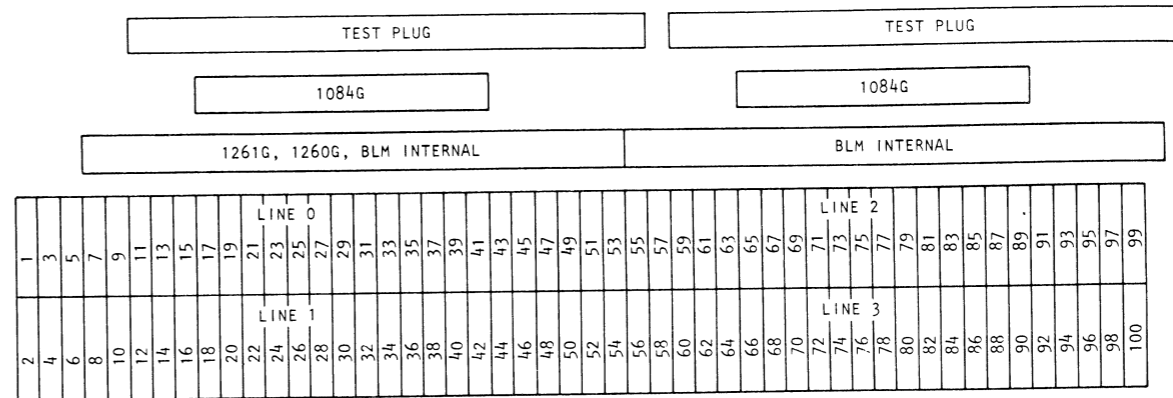
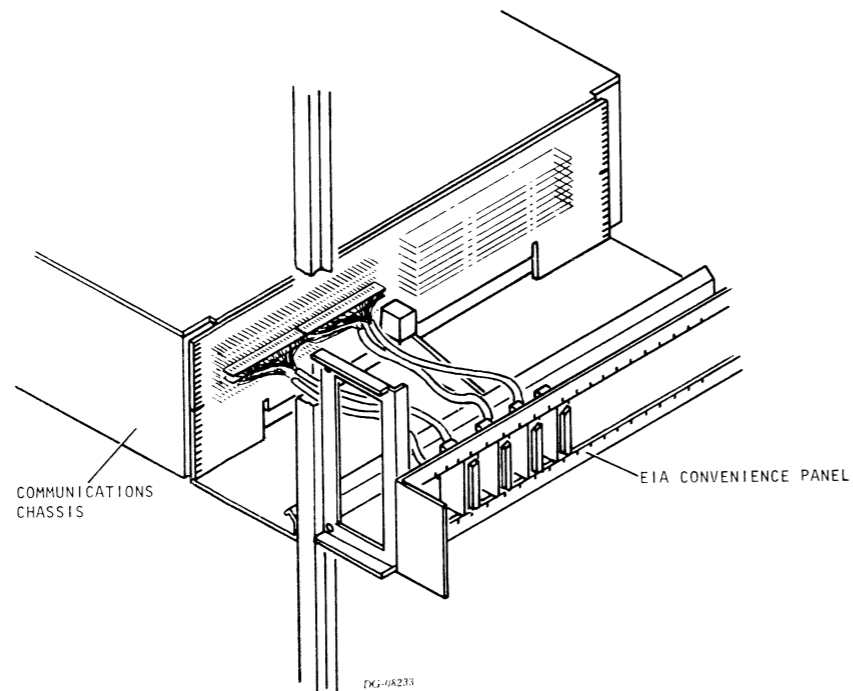
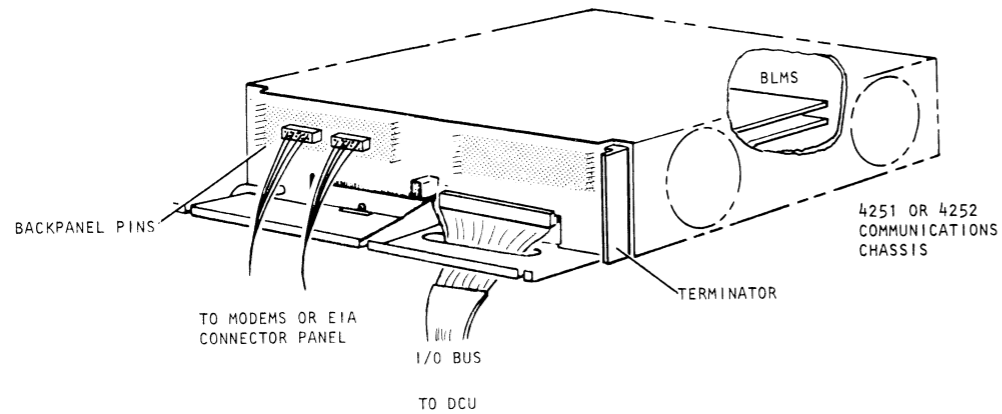
NRZI CLOCK RATE*	W9	W10	W11	W12	W13	W14	W15	W16
600	IN	OUT	OUT	OUT	OUT	OUT	OUT	OUT
1200	OUT	IN	OUT	OUT	OUT	OUT	OUT	OUT
2400	OUT	OUT	IN	OUT	OUT	OUT	OUT	OUT
4800	OUT	OUT	OUT	IN	OUT	OUT	OUT	OUT
9600	OUT	OUT	OUT	OUT	IN	OUT	OUT	OUT
19.2K	OUT	OUT	OUT	OUT	OUT	IN	OUT	OUT
38.4K	OUT	OUT	OUT	OUT	OUT	OUT	IN	OUT
76.8K	OUT	OUT	OUT	OUT	OUT	OUT	OUT	IN

*IF THE NRZI OPTION IS NOT CHOSEN (W8) THESE JUMPERS ARE IRRELEVANT.

INTERNAL CLOCK RATE*	W17	W18	W22	W23	W24	W25	W26	W27
300	IN	OUT	OUT	OUT	OUT	OUT	OUT	OUT
600	OUT	IN	OUT	OUT	OUT	OUT	OUT	OUT
1200	OUT	OUT	IN	OUT	OUT	OUT	OUT	OUT
2400	OUT	OUT	OUT	IN	OUT	OUT	OUT	OUT
4800	OUT	OUT	OUT	OUT	IN	OUT	OUT	OUT
9600	OUT	OUT	OUT	OUT	OUT	IN	OUT	OUT
19.2K	OUT	OUT	OUT	OUT	OUT	OUT	IN	OUT
38.4K	OUT	OUT	OUT	OUT	OUT	OUT	OUT	IN

*IF NO LINE USES THE INTERNAL CLOCK, THESE JUMPERS ARE IRRELEVANT.

INTERNAL / EXTERNAL CABLING



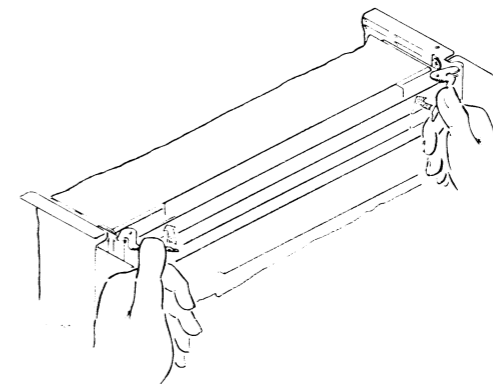
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
LINE 0																					LINE 1																					LINE 2																					LINE 3																																				

A

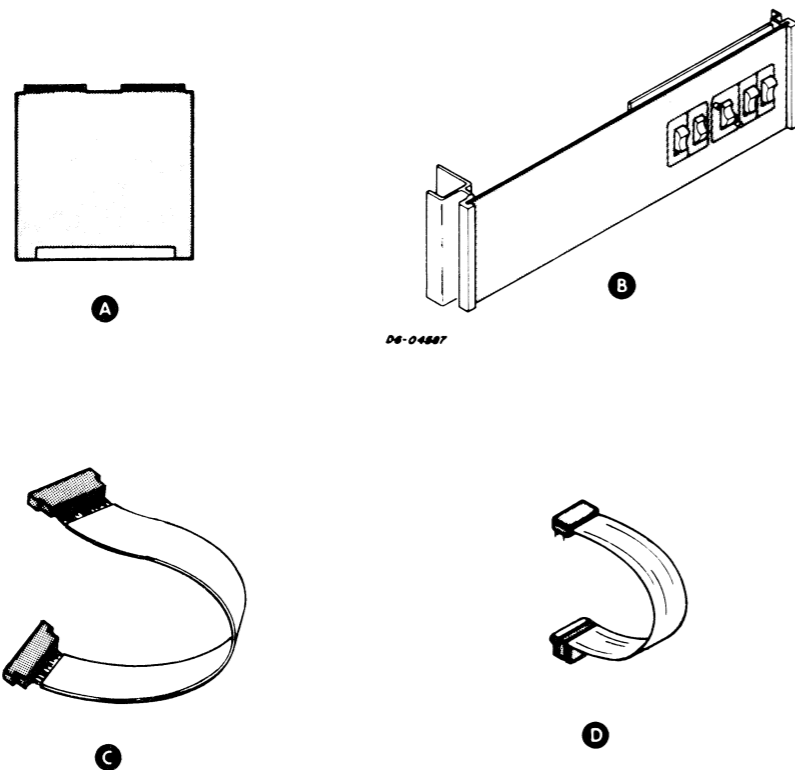
CABLE	COMMUNICATIONS BACKPANEL PINS
1261G 1260G	7-53 OR 8-54 7-53 OR 8-54
1084G	17 - 41 18 - 42 65 - 89 66 - 90
BLM INTERNAL	7 - 53 8 - 54 55 - OVERSHOOT BY ONE POSITION 56 - OVERSHOOT BY ONE POSITION
TEST PLUG	11 - 55 12 - 56 59 - OVERSHOOT BY TWO POSITIONS 60 - OVERSHOOT BY TWO POSITIONS

CAUTION

A LINE MULTIPLEXOR BOARD SHOULD ONLY BE PLACED IN A COMMUNICATIONS CHASSIS. PLACING A LINE MULTIPLEXOR IN AN ORDINARY I/O SLOT OF THE COMPUTER CHASSIS MAY DAMAGE THE BOARD.



SUBSYSTEM COMPONENT BREAKDOWN



SPECIFICATIONS OF THE CHASSIS-MOUNTED COMPONENTS

Item	Component	Chassis	Slots Required	Max Allowable Data Channel Latency (μ sec)	Type of Data Channel Service Desired		Max Allowable Programmed I/O Latency \uparrow	Controller's +5 Volt Current Draw (Amps)
					High Speed	Standard		
A	DUAL PORT CONTROLLER	COMM.	1	N/A	N/A	N/A	N/A	6

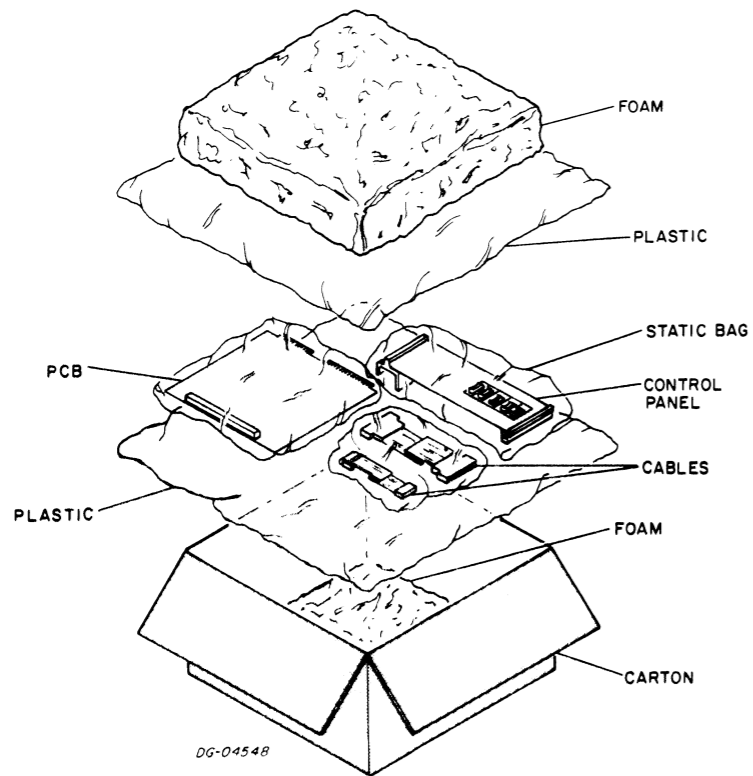
MAJOR COMPONENT

Item	Component	Mounting Location	Notes
A	DUAL PORT CONTROLLER PCB	COMMUNICATION CHASSIS	PLUGS INTO BOTTOM SLOT OF BOTTOM COMMUNICATION CHASSIS
B	WATCH DOG TIMER CONTROL PANEL	COMMUNICATION CHASSIS	ATTACHES TO FRONT OF BOTTOM COMMUNICATION CHASSIS

CABLE

Item	Cable	Connecting	Max Allowed Lg		Notes
			ft	m	
C	EXTERNAL I/O BUS	COMPUTER CHASSIS and COMM. CHASSIS	10	3.05	
D	INTERNAL WATCHDOG TIMER CONTROL	DUAL PORT CONTROLLER " WATCHDOG TIMER CONTROL PANEL	1.25	0.38	

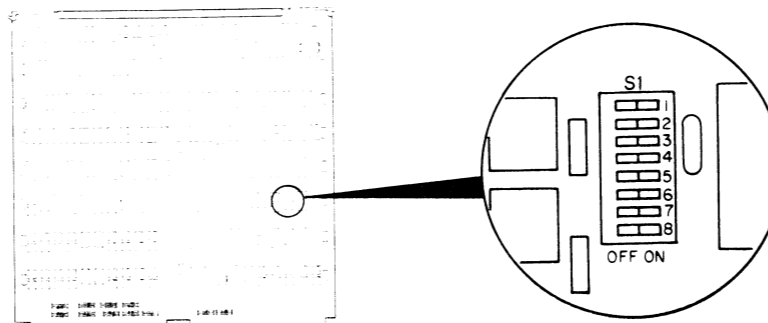
SHIPPING



SHIPPING AND PACKAGE DATA					
Outside Dimensions			Weight (Gross)	Volume	Density
Length	Width	Depth			
in.	in.	in.	lbs.	cu ft.	lbs/cu ft.
cm	cm	cm	kg	cu m	kg/cu m
29	24	9	15	3.6	4.2
74	61	23	6.8	.1	68
SHIPPING SPECIFICATIONS			STORAGE SPECIFICATIONS		
Temperature Range	Relative Humidity	Maximum Altitude	Temperature Range	Relative Humidity	Maximum Period
°F / °C	(Non-condensing)		°F / °C	(Non-condensing)	
-40 to +160	0 / 80	50,000 ft. / 15,200 m	-40 to +160	0 / 80	90 days
-40 to +71			-40 to +71		

DG-03224

TAILORING



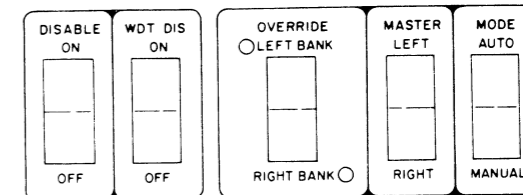
Ref. DGC 107-000840 Rev. 00

WATCHDOG TIMER CLOCK FREQUENCY SWITCHES

TIME FOR 1 FULL TRANSMIT/RECEIVE CYCLE		SWITCH SETTINGS			
50Hz Line Freq.	60Hz Line Freq.	SW1	SW2	SW3	SW4
4.8 sec	4.0 sec	ON	ON	OFF	OFF
2.4 sec	2.0 sec	OFF	ON	OFF	OFF
240 msec	200 msec	OFF	OFF	ON	OFF
40 msec	33.3 msec	OFF	OFF	OFF	ON

DEVICE CODE SWITCH

DEVICE ADDRESS	SWITCH SW5
34/35 (MUX/CRC)	ON
44/45 (MUX/CRC)	OFF



DG-05016

CONTROL PANEL SWITCHES

DISABLE ALARM AND ERROR LAMPS	DISABLE ON
SELECT WDT OPERATING MODE	MODE
ALLOWS AUTOMATIC BANK SWITCH UNDER SOFTWARE CONTROL ALLOWS OPERATOR CONTROL OF BANK SWITCHING	AUTO MANUAL
SELECT MASTER SYSTEM	MASTER
ASSIGNS ALL LINE MODULES TO LEFT PROCESSOR AT SYSTEM POWER UP ASSIGNS ALL LINE MODULES TO RIGHT PROCESSOR AT SYSTEM POWER UP	LEFT RIGHT
SELECT BUS MODE	OVERRIDE
ALLOWS MANUAL FORCE LINE ASSIGNMENT TO THE RIGHT PROCESSOR AND NO I/O ACCESS FROM LEFT PORT. ALLOWS MANUAL FORCE LINE ASSIGNMENT TO THE LEFT PROCESSOR AND NO I/O ACCESS FROM THE RIGHT PORT. NEUTRAL POSITION ALLOWS BOTH RIGHT AND LEFT PORT I/O ACCESS.	RIGHT BANK LEFT BANK
ALLOWS DISABLE OF WDT	WDT DIS. ON

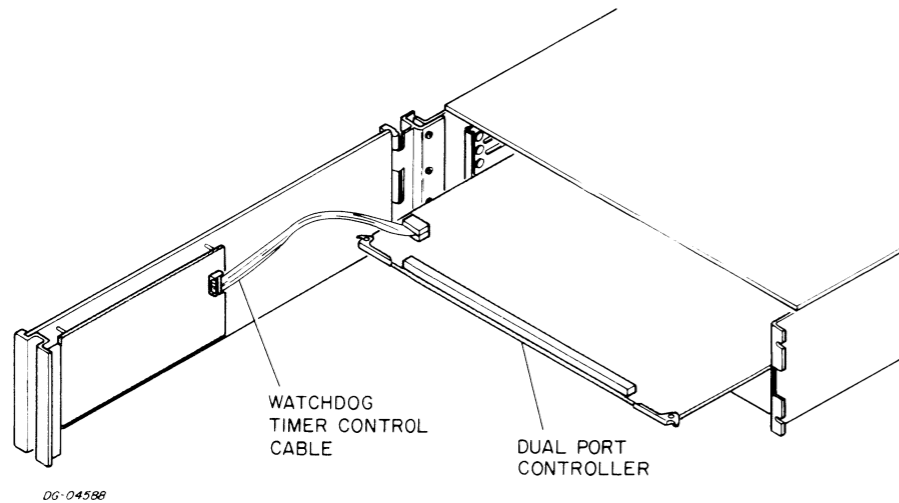
SUGGESTED SWITCH SETTINGS FOR INSTALLATIONS

SW1-OFF	SELECT WDT CLOCK FOR FASTEST TIME INTERVAL
SW2-OFF	
SW3-OFF	
SW4-ON	
SW5-ON	

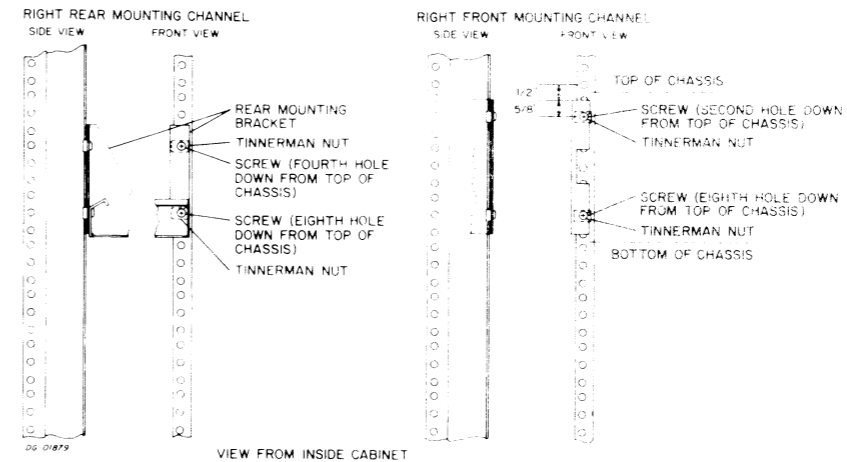
SUGGESTED FRONT PANEL SWITCH SETTINGS FOR INSTALLATION

DISABLE	- OFF	- ENABLE ERROR INDICATORS
MODE	- AUTO	- ENABLE AUTO WDT MODE
MASTER	- RIGHT	- SELECT RIGHT AS MASTER
OVERRIDE	- NEUTRAL	- SELECT DUAL BUS MODE
WDT DIS	- OFF	- ENABLE WDT

INTERNAL CABLING



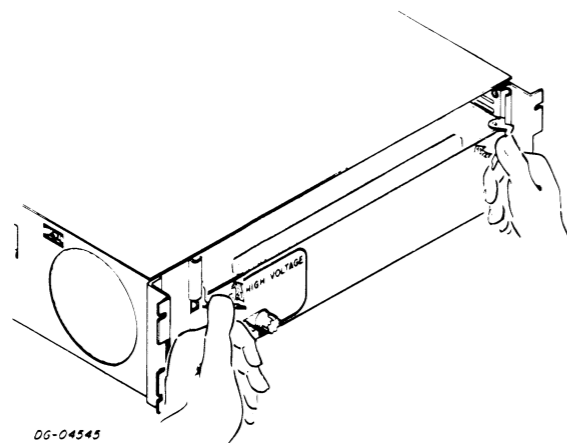
INSTALLATION IN A CABINET



MTG KIT 005-009975

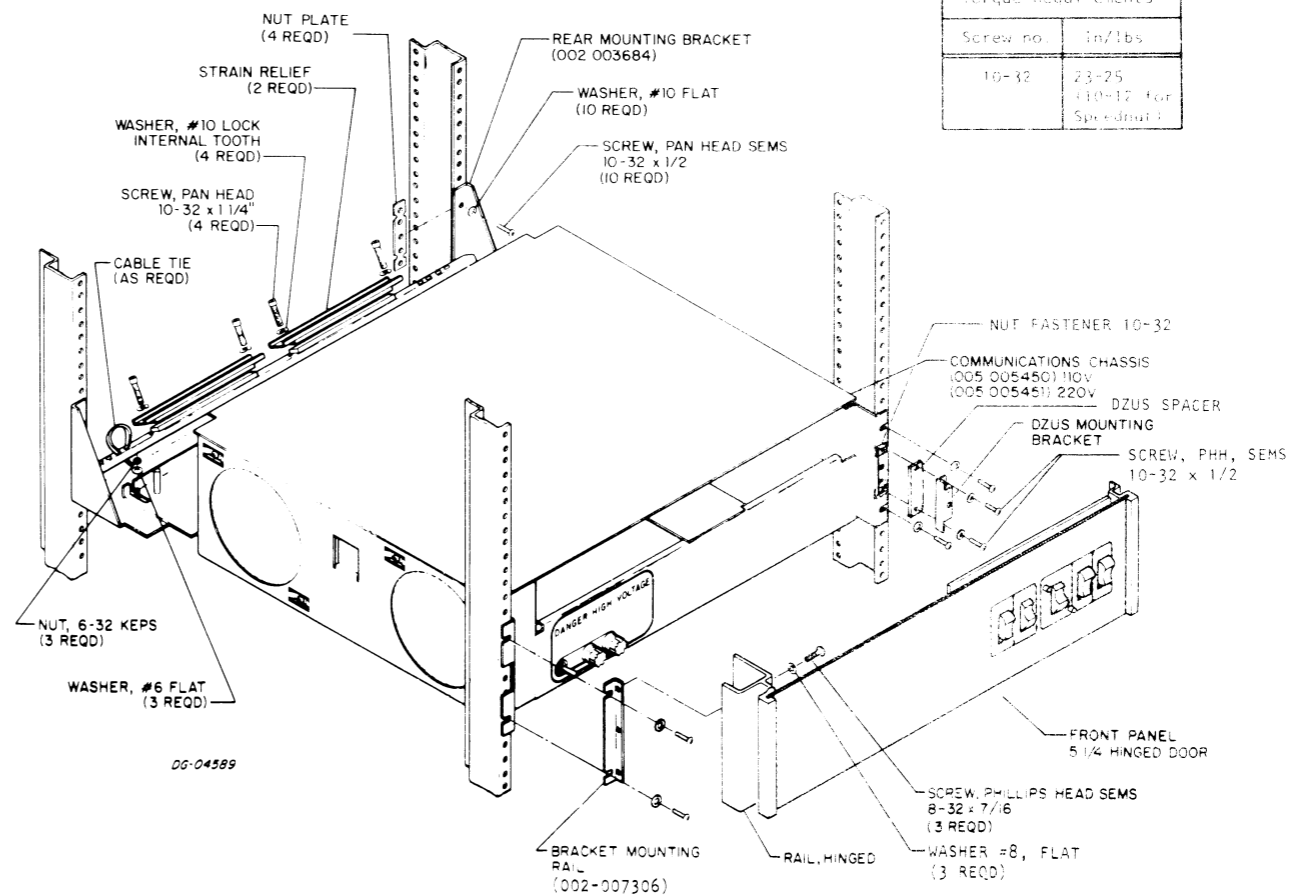
Torque Requirements	
Screw no.	in./lbs.
10-32	23-25 (10-17 for Speednut)

INSTALLING PC BOARD

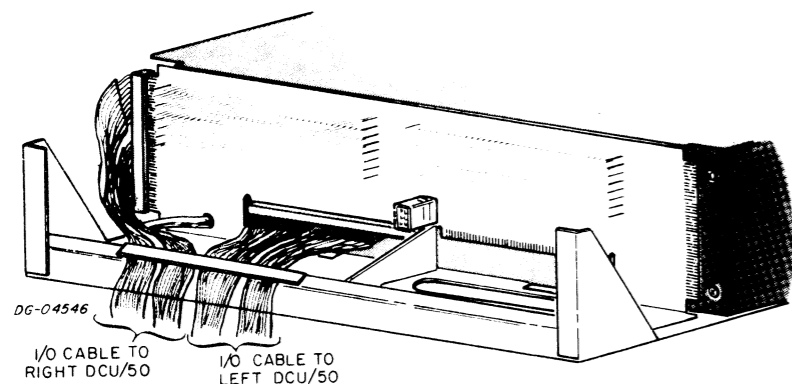


Caution

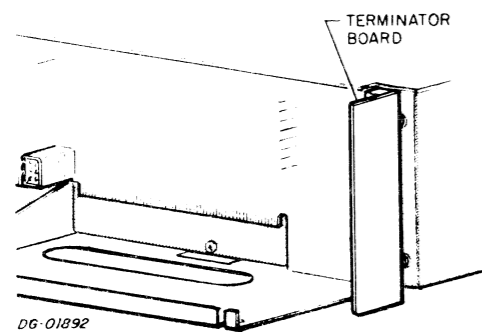
A DUAL PORT CONTROLLER BOARD SHOULD ONLY BE PLACED IN A COMMUNICATION CHASSIS. PLACING THE BOARD IN AN ORDINARY I/O SLOT OF THE COMPUTER CHASSIS MAY DAMAGE THE BOARD.



I/O CABLE CONNECTION
(FIRST COMMUNICATIONS CHASSIS ONLY)

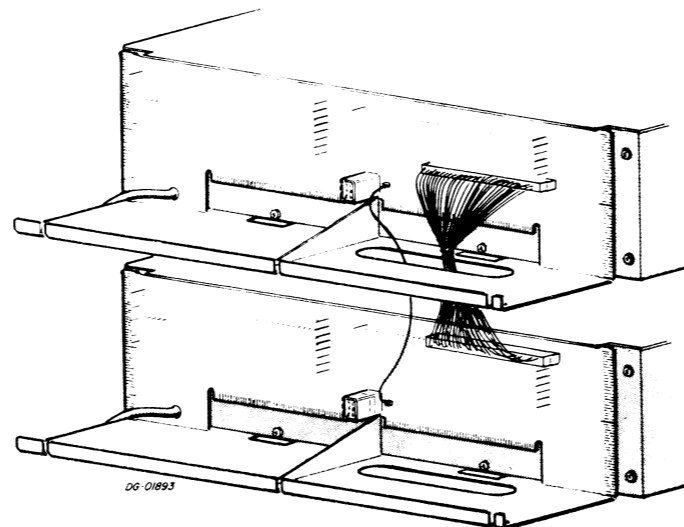


TERMINATOR BOARD
(LAST COMMUNICATION CHASSIS ONLY)



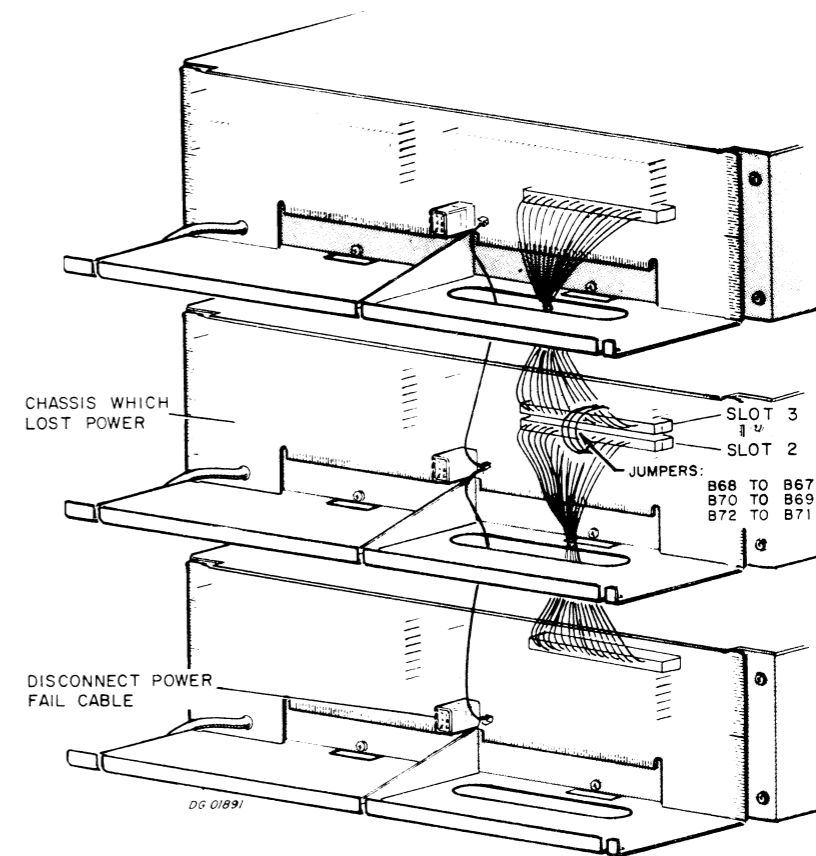
EXTERNAL CABLING

DAISY CHAIN CABLE AND GROUND JUMPERING FOR MULTIPLE COMMUNICATIONS CHASSIS



IF MORE THAN ONE COMMUNICATIONS CHASSIS IS INCLUDED IN A COMMUNICATIONS SYSTEM, THE CHASSIS SHOULD BE MOUNTED IN THE RACK ONE DIRECTLY ON TOP OF ANOTHER. THE I/O BUS OF THE COMPUTER CHASSIS SHOULD BE CABLED TO THE BOTTOM COMMUNICATIONS CHASSIS AND DAISY-CHAINED THROUGH ANY ADDITIONAL COMMUNICATIONS CHASSIS. THE LAST COMMUNICATIONS CHASSIS IN THE CHAIN MUST BE CONNECTED TO EITHER AN EXPANSION CHASSIS OR OTHER I/O BUS EXTENSION WITH ANOTHER I/O CABLE OR MUST BE TERMINATED WITH A TERMINATOR BOARD.

POWER FAILURE PROCEDURE

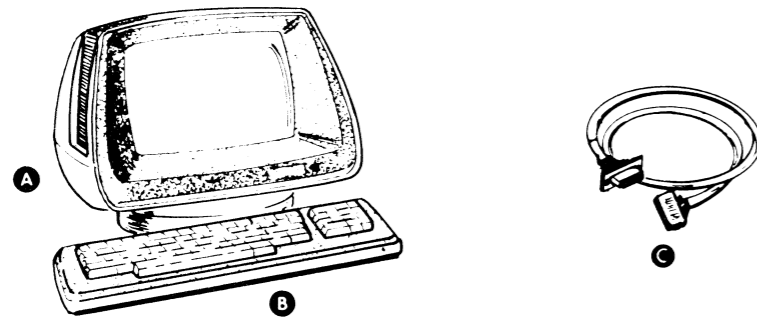


JUMPER CONNECTIONS FOR A COMMUNICATIONS CHASSIS WITHOUT POWER						
Signal	on	Pin	to	Signal	on	Pin
UMCP IN		B68 of slot 4		UMCP OUT		B67 of slot 1
INTP IN		B70 of slot 4		INTP OUT		B69 of slot 1
DCHP IN		B72 of slot 4		DCHP OUT		B71 of slot 1

DG-01737

TERMINALS

INSTALLATION SPECIFICATIONS



MAJOR COMPONENT

ITEM	COMPONENT	MOUNTING LOCATION	NOTES
A	DISPLAY 6130 6134	TABLE-TOP	
B	KEYBOARD 6131	TABLE-TOP	CONNECTED TO DISPLAY BY INTEGRAL 3.95 FOOT (1.2 METERS) CABLE

CABLE

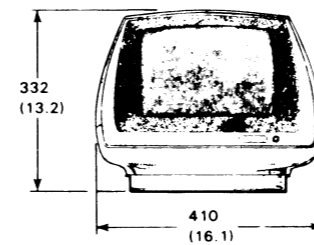
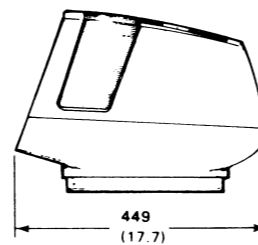
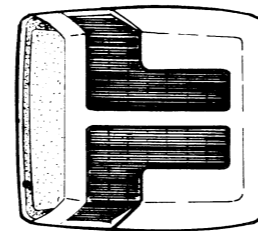
ITEM	CABLE	CONNECTING	MAX LG		NOTES
			FT	M	
C	EXTERNAL (20 MA)	TERMINAL AND COMPUTER	1500	450	MAX. LENGTH= 1500 FT. * MAX. BAUD= 9600
	EXTERNAL (EIA)	TERMINAL AND COMPUTER	50	15	50FT MAX. AT 19,200 BAUD AND BELOW

* BAUD RATE AND CABLE LENGTH ARE CONTROLLER AND CABLE DEPENDENT. LOWER BAUD RATE MAY BE REQUIRED FOR LONGER CABLE LENGTHS.

MODEL NUMBER SUFFIX TABLE

MODEL NUMBER	SUFFIX	DESCRIPTION
6130 6134 DISPLAY	ALPHA -	EXTERNAL CABLE TYPE
	BETA - 0	120 VAC, 60Hz
	1	100 VAC, 50Hz
	2	220 VAC, 50Hz
	4	240 VAC, 50Hz
6131 KEYBOARD	ALPHA - A	U.S.
	B	U.K.
	C	FRANCE
	D	GERMANY
	F	SWEDEN FINLAND
	G	SPAIN
	H	DENMARK NORWAY

DIMENSIONS IN MILLIMETERS
INCHES IN PARENTHESIS FOR REFERENCE



DISPLAY

DIMENSIONS:

Display	Width	Depth	Height
Millimeters	410	449	332
Inches	16.1	17.7	13.2

Keyboard:

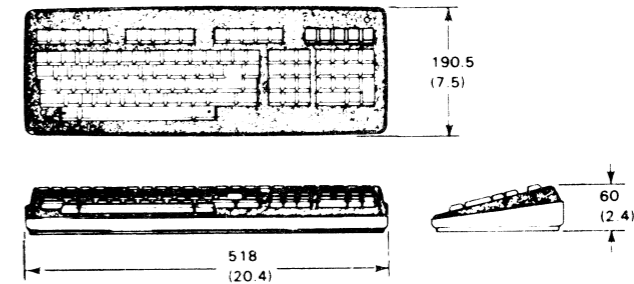
Keyboard	Width	Depth	Height
Millimeters	518	190.5	60
Inches	20.4	7.5	2.4

WEIGHT:

	kg	lbs
Display:	10	22
Keyboard:	1.6	3.5

HEAT OUTPUT (Max.):

	Watts	BTU/hr
	70	240



POWER REQUIREMENTS (DISPLAY) :

(BETA SUFFIX = 0)

VOLTAGE :	85 - 132 VAC
FREQ :	60 HZ
CURRENT :	.6A MAX FOR D400 & .7A MAX FOR D450 AT 120VAC
STARTUP SURGE :	2 AMPS AT 120 VAC FOR 1 CYCLE

(BETA SUFFIX = 1)

VOLTAGE :	85 - 132 VAC
FREQ :	50 HZ
CURRENT :	.7A MAX FOR D400 & .8A MAX FOR D450 AT 100VAC
STARTUP SURGE :	2 AMPS AT 100 VAC FOR 1 CYCLE

(BETA SUFFIX = 2 OR 4)

VOLTAGE :	187-264 VAC
FREQ :	50 HZ
CURRENT :	.3A MAX FOR D400 & .35A MAX FOR D450 AT 240VAC
STARTUP SURGE :	2 AMPS AT 240 VAC FOR 1 CYCLE

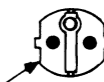
OPERATING ENVIRONMENT:

Temperature (max)	0° - 38°C 32° - 100°F
Humidity (max)	10% - 80% non-condensing
Altitude	3048 m 10,000 ft

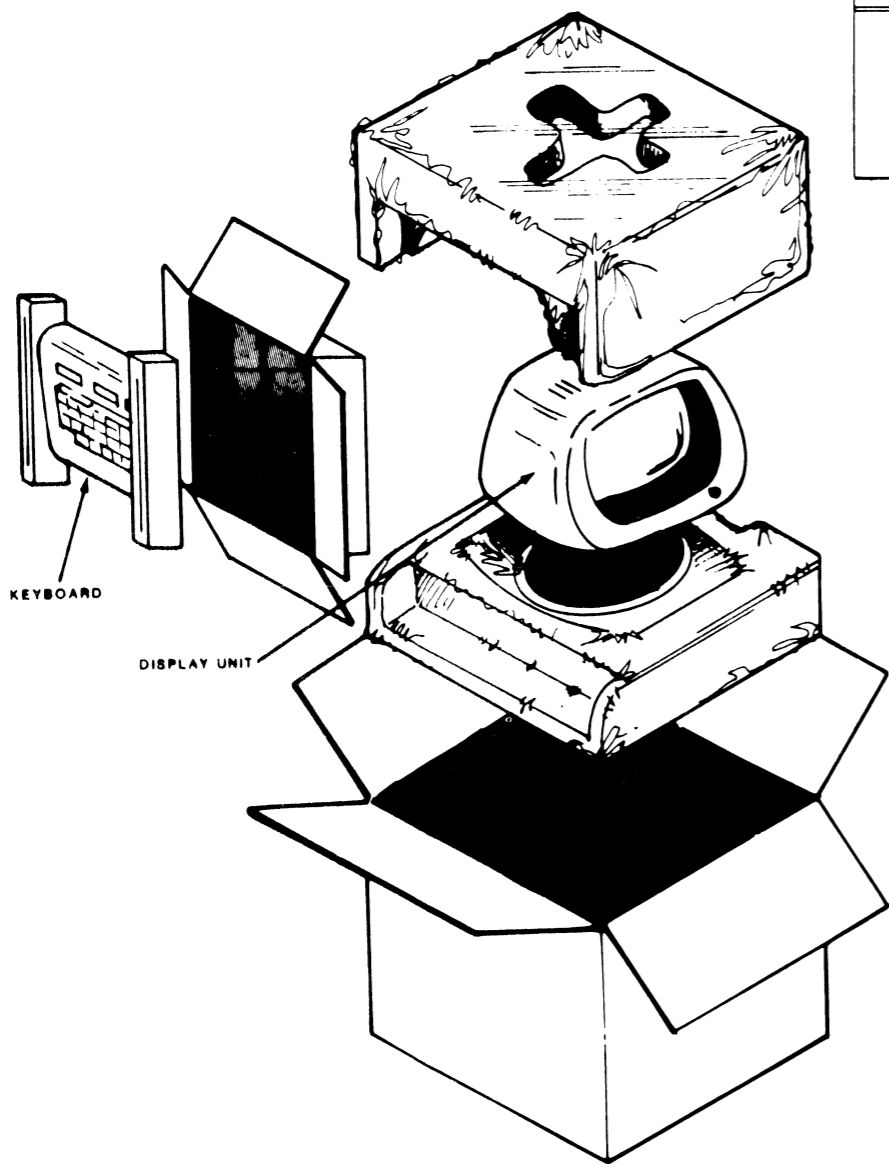
CABLES:

PRIMARY POWER CABLE (DISPLAY) :

BETA SUFFIX	Length	Conn	Mating Conn
0 OR 1	1.8m (6')	5-15P	5-15R
2 OR 4	3.0m (9.8')	---	---

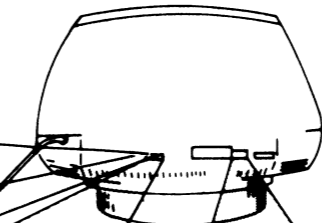


SHIPPING



TAILORING
BAUD RATE and PARITY SWITCHES

SWITCH POSITIONS
1, 5, AND 6 RESERVED



SPLIT BAUD	SWITCH 7 8
ENABLED	0 0
DISABLED	1 1

50/60 HZ OPERATION	SWITCH 7
50 HZ	1
60 HZ	0

PRINTER INTERFACE AND/OR DISPLAY TRANSMIT BAUD RATE (SPLIT BAUD)	SWITCH		
	2	3	4
4800	1	1	1
3600	1	1	0
2400	1	0	1
1800	1	0	0
1200	0	1	1
600	0	1	0
300	0	0	1
110	0	0	0

BAUD RATE	SWITCH POSITIONS			
19,200	1	1	1	1
9,600	1	1	1	0
7,200	1	1	0	1
4,800	1	1	0	0
3,600	1	0	1	1
2,400	1	0	1	0
1,800	1	0	0	1
1,200	1	0	0	0
600	0	1	1	1
300	0	1	1	0
150	0	1	0	1
134.5	0	1	0	0
110	0	0	1	1
75	0	0	1	0
50	0	0	0	1
50	0	0	0	0

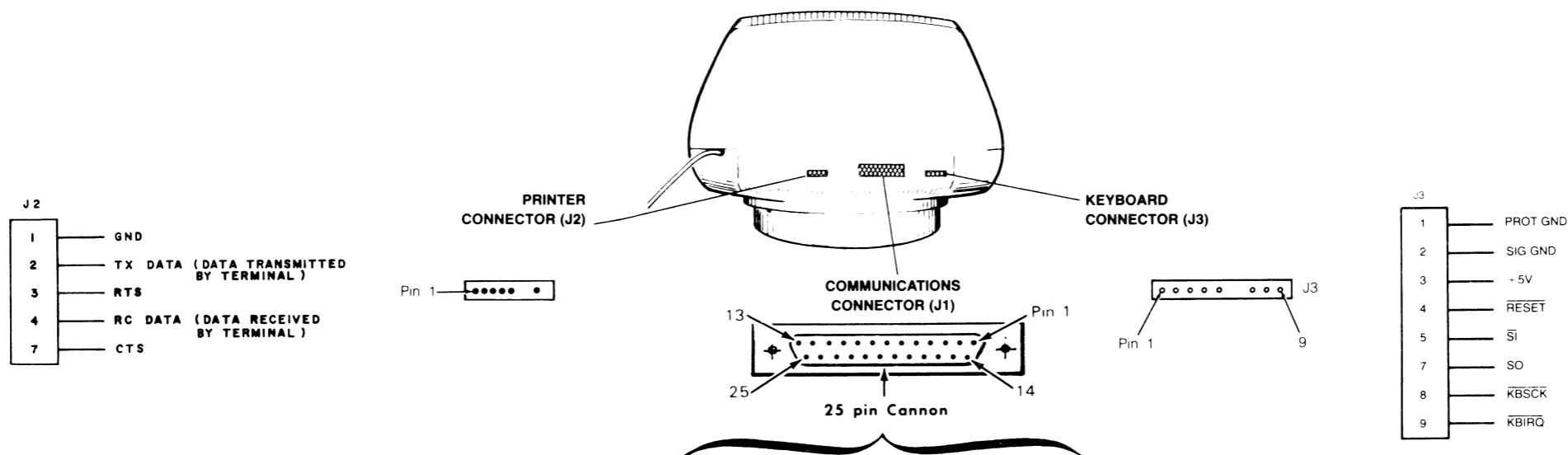
1 STOP BIT

2 STOP BITS

PARITY	SWITCH POSITIONS		COMMENTS
EVEN	1	1	THE STATE OF THE PARITY BIT IS SET SUCH THAT THERE ARE AN EVEN NUMBER OF ONES IN THE TRANSMITTED CHARACTER.
MARK	1	0	THE PARITY BIT IS ALWAYS ONE (1).
ODD	0	1	THE STATE OF THE PARITY BIT IS SET SUCH THAT THERE ARE AN ODD NUMBER OF ONES IN THE TRANSMITTED CHARACTER.
NONE	0	0	THERE IS NO PARITY BIT.

NOTE: SWITCH TERMINAL OFF LINE AND THEN BACK ON LINE TO INITIATE NEW SWITCH SETTINGS.

EXTERNAL CABLING CONNECTORS



J2

1	GND
2	TX DATA (DATA TRANSMITTED BY TERMINAL)
3	RTS
4	RC DATA (DATA RECEIVED BY TERMINAL)
7	CTS

J3

1	PROT GND
2	SIG GND
3	-5V
4	RESET
5	SI
7	SO
8	KBSCCK
9	KBIRQ

EIA CONNECTIONS

20mA CURRENT LOOP CONNECTIONS

EIA CONTROLLERS

1	PROT GND AA**
2	TX DATA BA (Data transmitted by terminal)
3	RC DATA BB (Data received by terminal)
7	SG / AB (Signal ground)
4	RTS CA
5	CTS CB
6	DSR CC
8	DCD CF
20	DTR CD

If these connections are not made the terminal will not go on line

MODEM

1	PROT GND AA**
2	TX DATA BA (Data transmitted by terminal)
3	RC DATA BB (Data received by terminal)
7	SG / AB (Signal ground)
4	RTS CA
5	CTS CB
6	DSR CC
8	DCD CF
20	DTR CD

Modem control signals

PASSIVE CURRENT LOOP *

1	PROT GND**
23	RC DATA -
24	RC DATA +
18	TX DATA -
24	TX DATA +
6	DSR
20	DTR
25	EIA CURRENT LOOP
7	SIG GND

Data transmitted to the terminal
Data received from the terminal
Pin 25 grounded for current loop operation

ACTIVE CURRENT LOOP

1	PROT GND**
23	RC DATA -
17	RC DATA +
15	TX DATA +
24	TX DATA -
6	DSR
20	DTR
7	SIG GND
25	EIA CURRENT LOOP
14	
18	
16	
21	

Data transmitted to the terminal
Data received from the terminal
Pin 25 grounded for current loop operation

* ALL DCC CURRENT LOOP CONTROLLERS USE PASSIVE CURRENT LOOP CONNECTIONS.

**FOR SHIELD TERMINATIONS ON USER SUPPLIED CABLES. USE PROT GND (Pin 1).

EXTERNAL CABLING (CONT)

CABLES

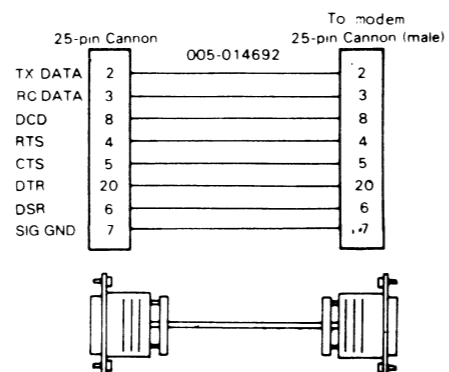
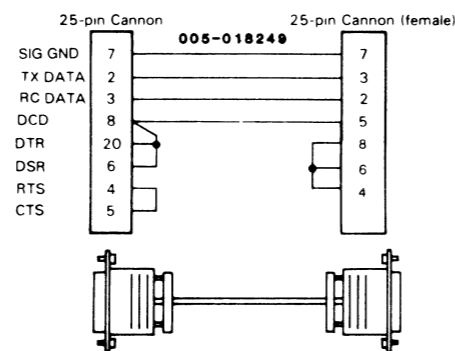
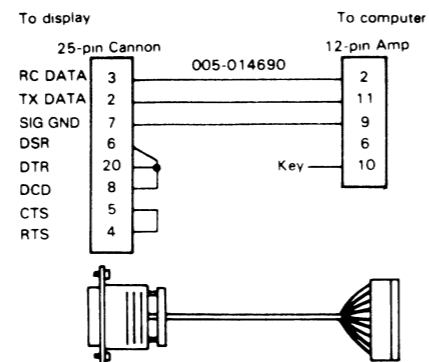
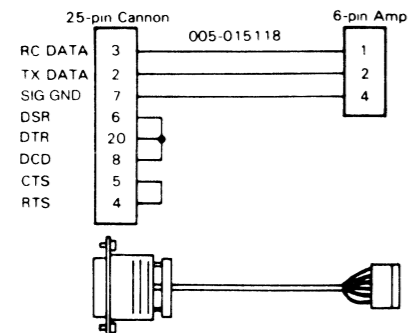
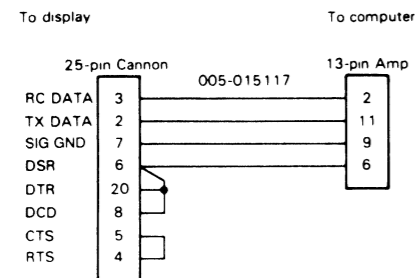
EIA INTERFACE CABLES

COMPUTER/CONTROLLER	CABLE NUMBER	MODEL NUMBER
ULM, MICRONOVA 422X, OR ANY SINGLE LINE CONSOLE INTERFACE WITH BACKPLANE CONNECTION MODEM	005-014690	6130A/6134A
	005-014692	6130J/6134J
25-PIN CONNECTOR CONVENIENCE PANEL SYSTEMS	005-018249 *	6130N/6134N
ALM-8, CS SYSTEMS	005-015117	6130F/6134F
ALM-16	005-015118	6130C/6134C

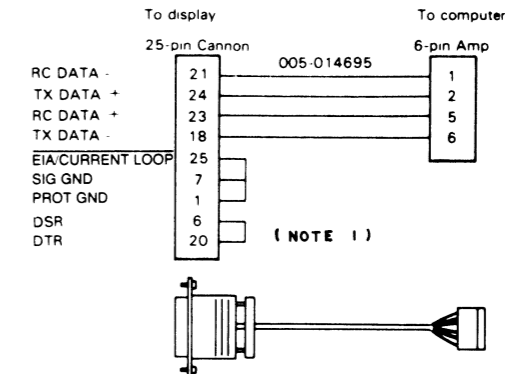
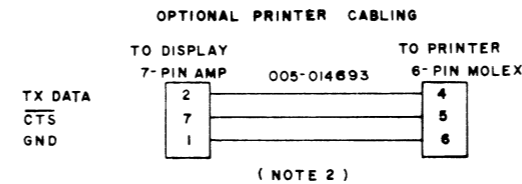
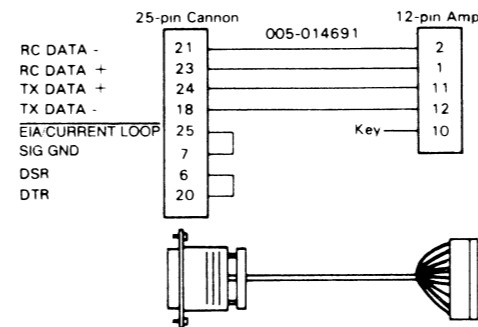
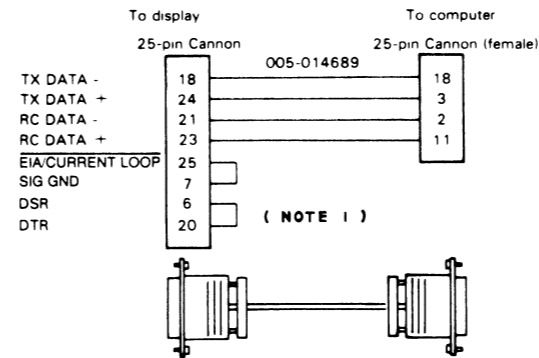
* DOWNWARD COMPATIBLE WITH (REPLACES) 005-014694

20mA INTERFACE CABLES

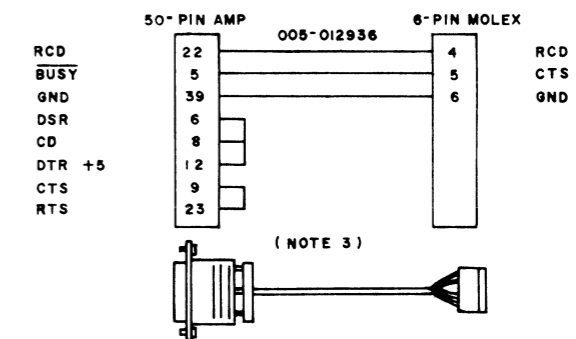
COMPUTER/CONTROLLER	CABLE NUMBER	MODEL NUMBER
25-PIN CONNECTOR CONVENIENCE PANEL SYSTEMS	005-014689	6130M/6134M
ULM, MICRONOVA 422X, OR ANY SINGLE LINE CONSOLE INTERFACE WITH BACKPLANE CONNECTION	005-014691	6130D/6134D
ALM-16, CS SYSTEMS	005-014695	6130G/6134G



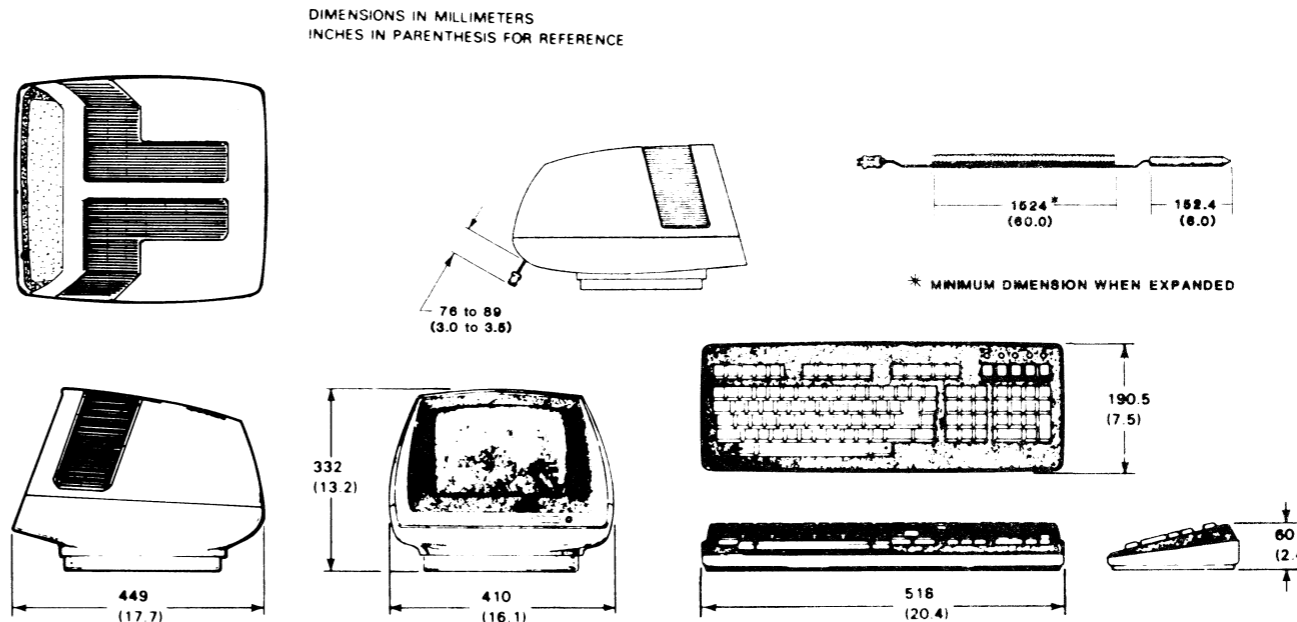
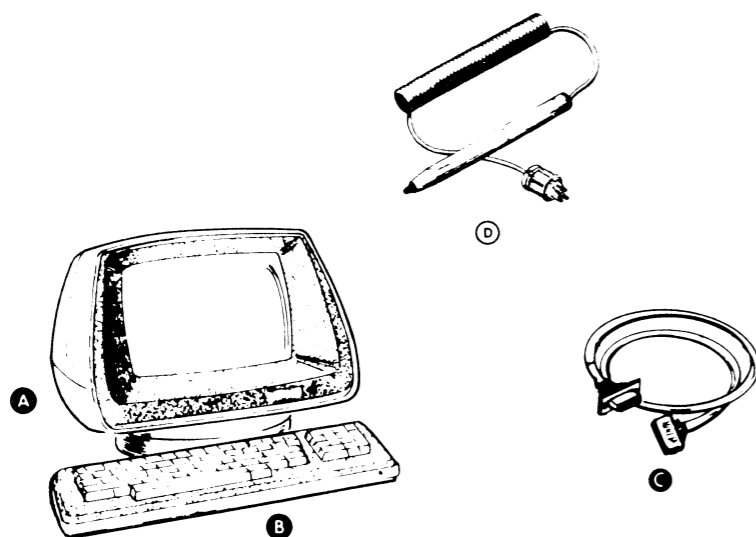
NOTE
 1. REQUIRED FOR D200 COMPATABILITY.
 2. THIS CABLE SUPPLIED WITH PRINTER.
 3. THIS CABLE AND THE OPTIONAL PRINTER CABLE (005-014693) REQUIRED TO INSTALL A MODEL 4354 PRINTER.



340 CPS PRINTER (MODEL 4354) PRINTER ADAPTER CABLE



INSTALLATION SPECIFICATIONS



MAJOR COMPONENT

ITEM	COMPONENT/MODEL	MOUNTING LOCATION	NOTES
A	DISPLAY/6150	TABLE-TOP	
B	KEYBOARD/6151	TABLE-TOP	CONNECTED TO DISPLAY BY INTEGRAL 3.95 FOOT (1.2 METERS) CABLE
D	LIGHTPEN WITH DISPLAY/6152	TABLE-TOP	LIGHTPEN CONNECTS TO CABLE RUNNING OUT REAR OF DISPLAY

CABLE

ITEM	CABLE	CONNECTING	MAX LG		NOTES
			FT	M	
C	EXTERNAL (20MA)	TERMINAL AND COMPUTER	1500	450	1500 FT MAX. AT 9600 BAUD AND BELOW.
	EXTERNAL (E1A)	TERMINAL AND COMPUTER	50	15	50 FT MAX. AT 19,200 BAUD AND BELOW.

MODEL NUMBER SUFFIX TABLE

MODEL NUMBER	SUFFIX	DESCRIPTION
6150 and 6152 ALPHA/BETA (DISPLAY)	ALPHA=EXTERNAL CABLE TYPE	SEE SHEET 4 FOR DETAILS
	BETA = 0	120 VAC, 60 Hz
	= 1	100 VAC, 50 Hz
	= 2	220 VAC, 50 Hz
	= 4	240 VAC, 50 Hz
6151 ALPHA (KEYBOARD)	ALPHA = A	UNITED STATES
	= B	UNITED KINGDOM
	= C	FRANCE
	= D	GERMANY
	= F	SWEDEN/FINLAND
	= G	SPAIN
	= H	DENMARK/NORWAY

DISPLAY

DIMENSIONS:

Display

Width	Depth	Height	
Millimeters	410	449	332
Inches	16.1	17.7	13.2

Keyboard

Width	Depth	Height	
Millimeters	518	190.5	60
Inches	20.4	7.5	2.4

WEIGHT:

	kg	lbs
Display	10	22
Keyboard	1.6	3.5

HEAT OUTPUT (Max.):

Watts	BTU/hr
85	290

POWER REQUIREMENTS (DISPLAY):
(BETA SUFFIX = 0)

VOLTAGE:	85-132 VAC
FREQ.:	60 HZ
CURRENT:	1.5 AMPS AT 120 VAC
STARTUP SURGE:	2 AMPS AT 120 VAC FOR 1 CYCLE

POWER REQUIREMENTS (DISPLAY):
(BETA SUFFIX = 1)

Voltage	85-132 VAC
Freq	50 HZ
Current	1.5 AMPS AT 100VAC
Startup Surge:	2 AMPS AT 120 VAC FOR 1 CYCLE

(BETA SUFFIX = 2 OR 4)

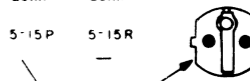
Voltage	187-264 VAC
Freq	50 HZ
Current	75 AMPS AT 240 VAC
Startup Surge:	2 AMPS AT 240 VAC FOR 1 CYCLE

OPERATING ENVIRONMENT:

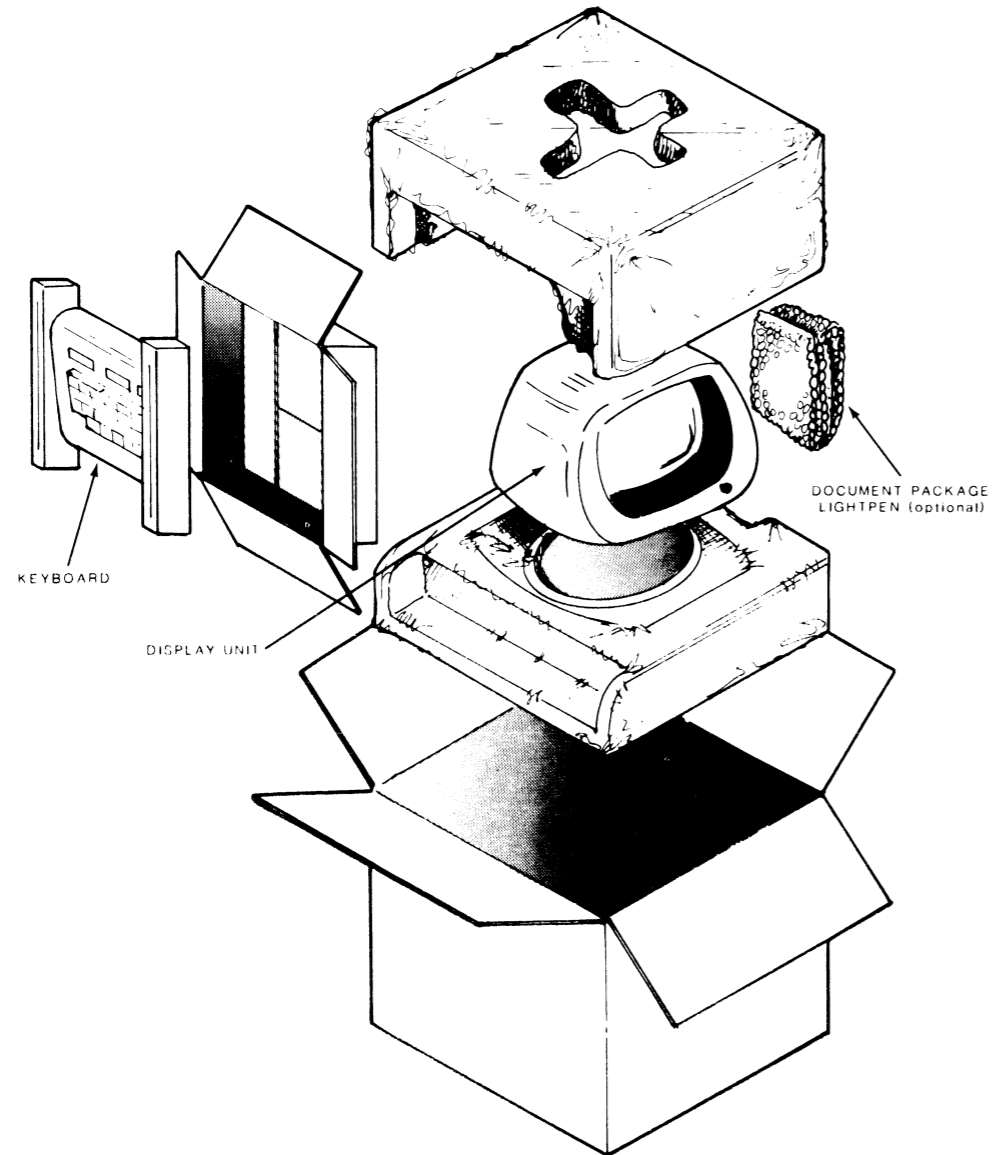
Temperature (max)	0° - 38°C 32° - 100°F
Humidity (max)	10% - 95% NON-CONDENSING
Altitude	3048 m 10,000 ft

PRIMARY POWER CABLE (DISPLAY):

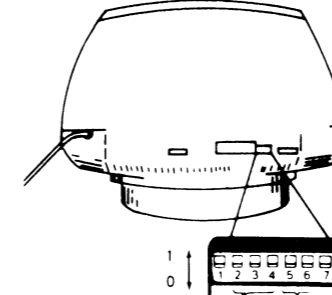
BETA SUFFIX	Length	Conn	Mating Conn
0 OR 1	1.8m (6')	5-15P	5-15R
2 OR 4	3.0m (9.8')	—	—



SHIPPING



TAILORING
BAUD RATE and PARITY SWITCHES



NOTE: SWITCHES 1, 7, AND 8 ARE RESERVED FOR TEST MODE AND MUST BE SET TO ZERO (DOWN) FOR NORMAL OPERATION. FOR LIGHTPEN TEST, SET SWITCH 7 TO ONE (UP) AND POWER-UP TERMINAL.

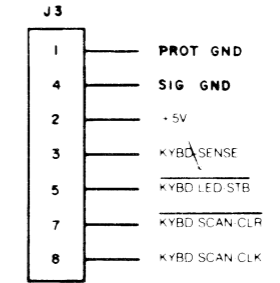
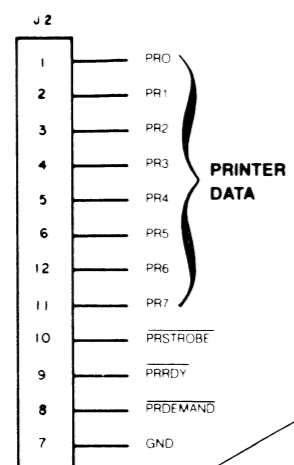
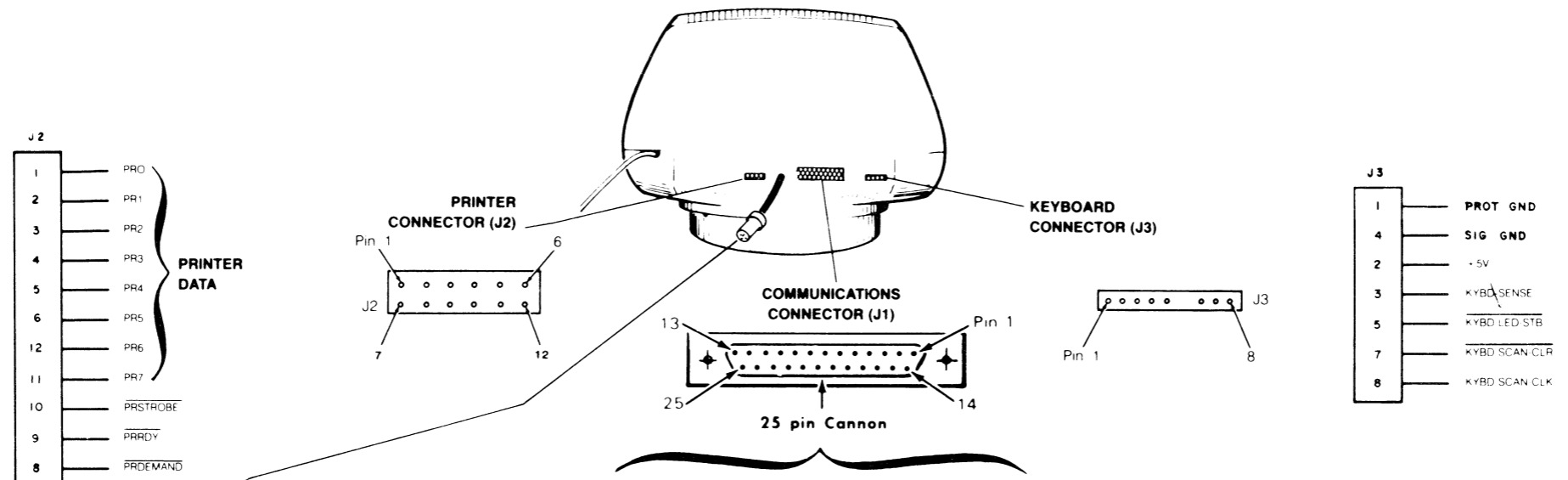
BAUD RATE	SWITCH POSITIONS		
	2	3	4
19,200	1	1	1
9,600	1	1	0
4,800	1	0	1
2,400	1	0	0
1,200	0	1	1
600	0	1	0
300	0	0	1
110	0	0	0

1 STOP BIT (for 19,200, 9,600, 4,800, 2,400)
2 STOP BITS (for 110)

PARITY	SWITCH POSITIONS		COMMENTS
	5	6	
EVEN	1	1	THE STATE OF THE PARITY BIT IS SET SUCH THAT THERE ARE AN EVEN NUMBER OF ONES IN THE TRANSMITTED CHARACTER.
MARK	1	0	THE PARITY BIT IS ALWAYS ONE (1).
ODD	0	1	THE STATE OF THE PARITY BIT IS SET SUCH THAT THERE ARE AN ODD NUMBER OF ONES IN THE TRANSMITTED CHARACTER.
NONE	0	0	THERE IS NO PARITY BIT.

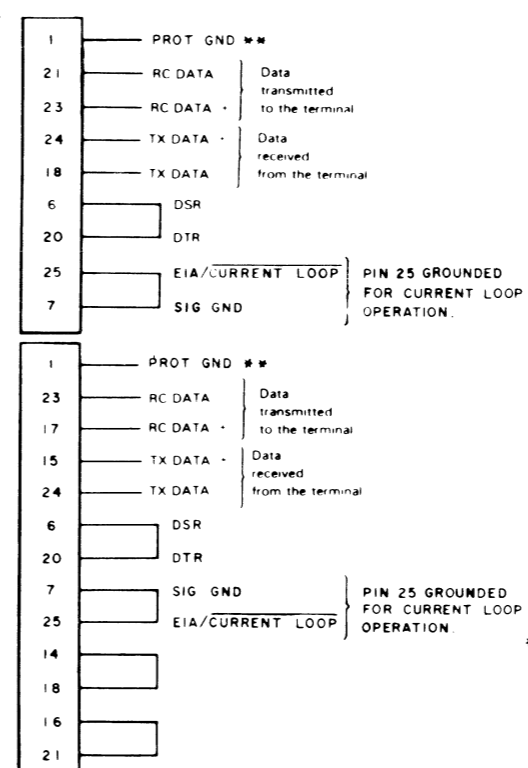
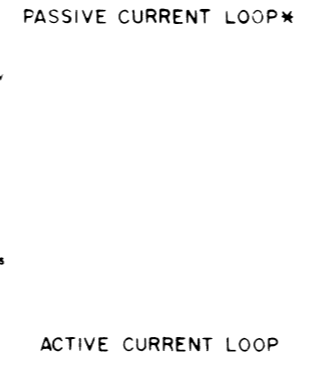
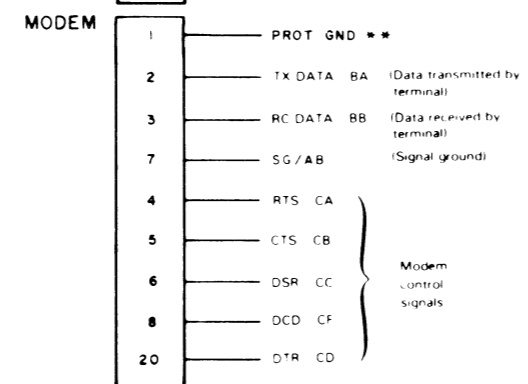
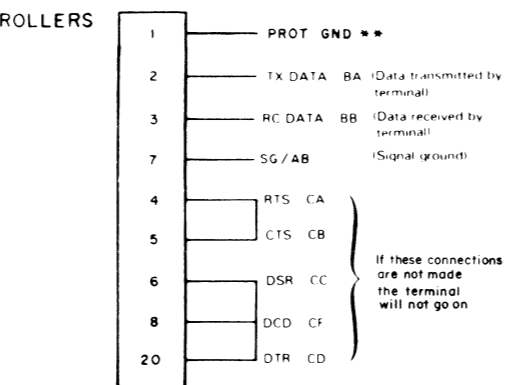
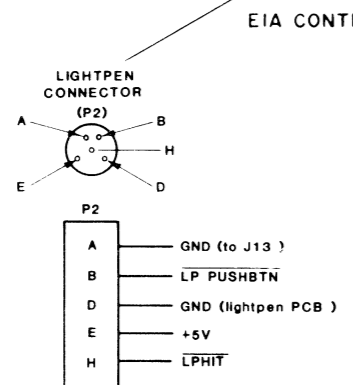
NOTE: SWITCH TERMINAL OFF LINE AND THEN BACK ON LINE TO INITIATE NEW SWITCH SETTINGS.

EXTERNAL CABLING CONNECTORS



EIA CONNECTIONS

20mA CURRENT LOOP CONNECTIONS



* ALL DGC CURRENT LOOP CONTROLLERS USE PASSIVE CURRENT LOOP CONNECTIONS.

** FOR SHIELD TERMINATIONS ON USER SUPPLIED CABLES, USE PROT GND (PIN 1).

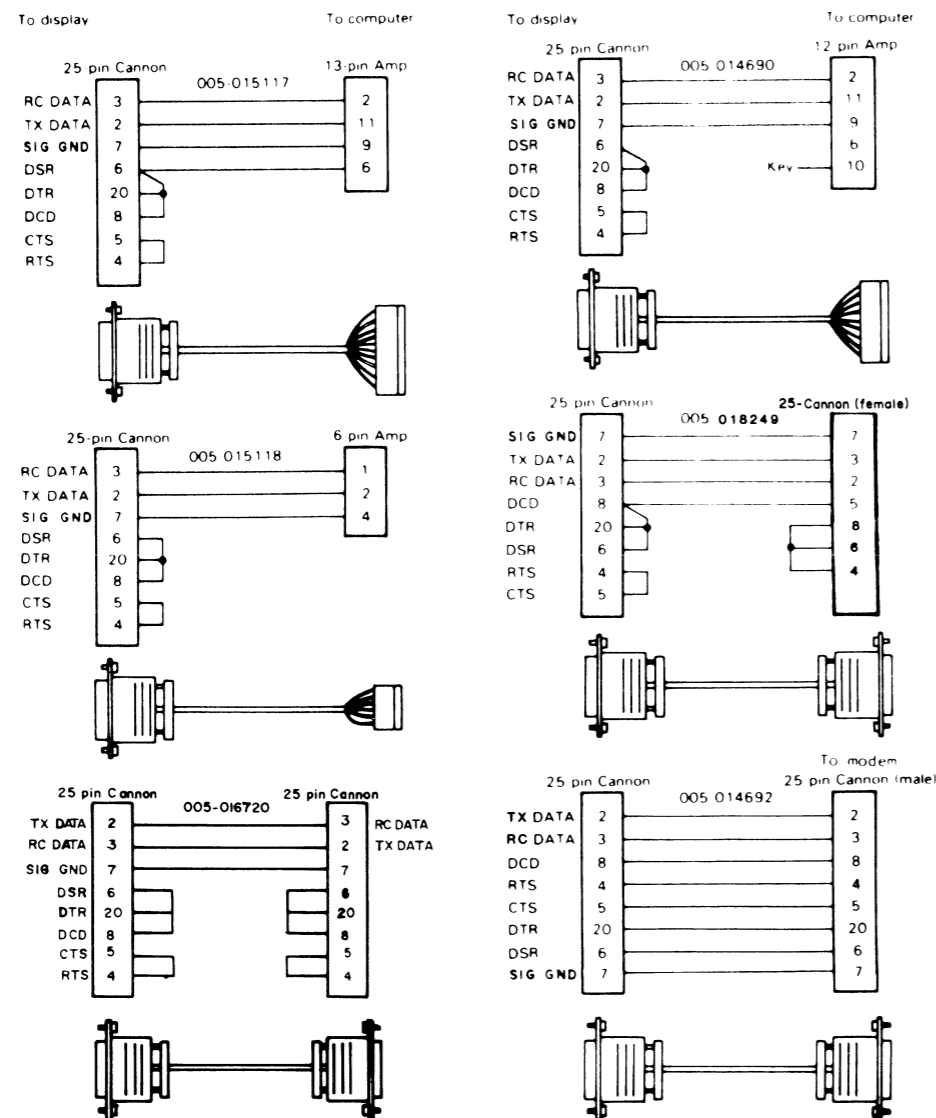
EXTERNAL CABLING (CONT)

CABLES

EIA INTERFACE CABLES

COMPUTER/CONTROLLER	CABLE NUMBER	MODEL 6150/6152 ALPHA SUFFIX
PRIMARY TERMINAL (ALL CPU'S), ULM, 4010	005-014690	A
MODEM	005-014692	J
25-PIN CONNECTOR CONVENIENCE PANEL SYSTEMS	005-018249	N
ALM-8, CS SYSTEMS	005-015117	F
ALM-16	005-015118	C
MPT SYSTEMS	005-016720	T

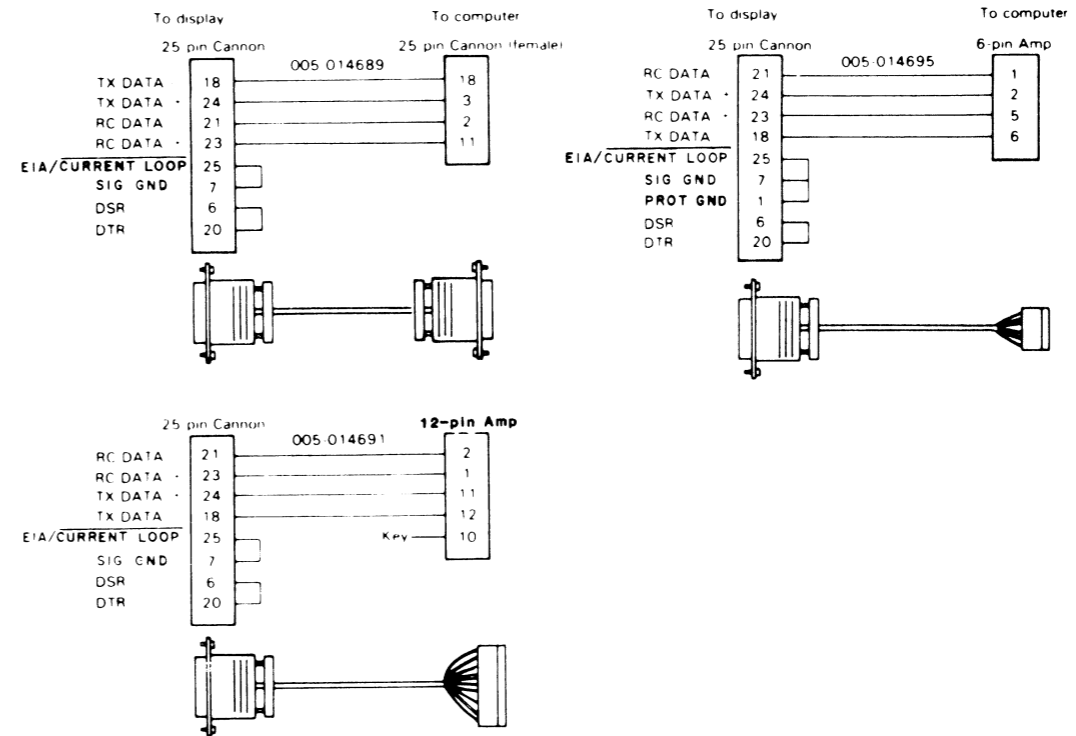
* INCLUDING MICROPRODUCTS
EXCLUDING ECLIPSE M600, C350
AND S250.



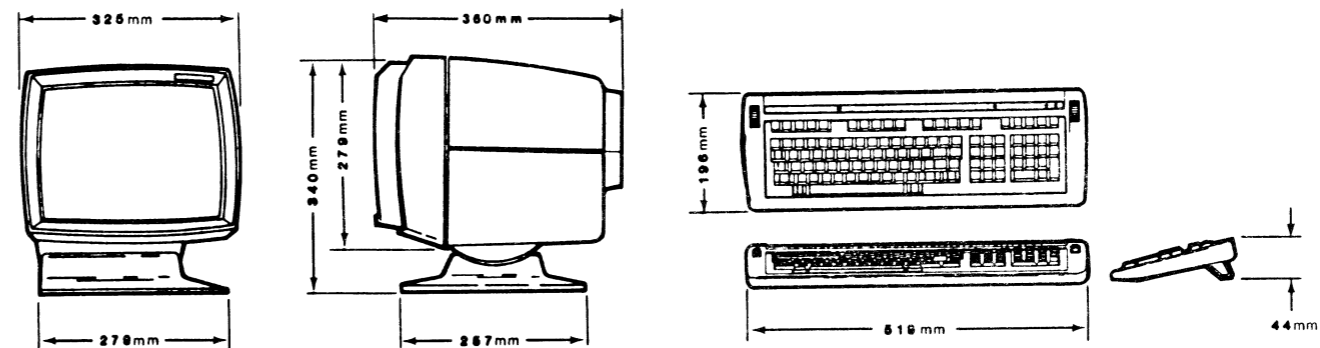
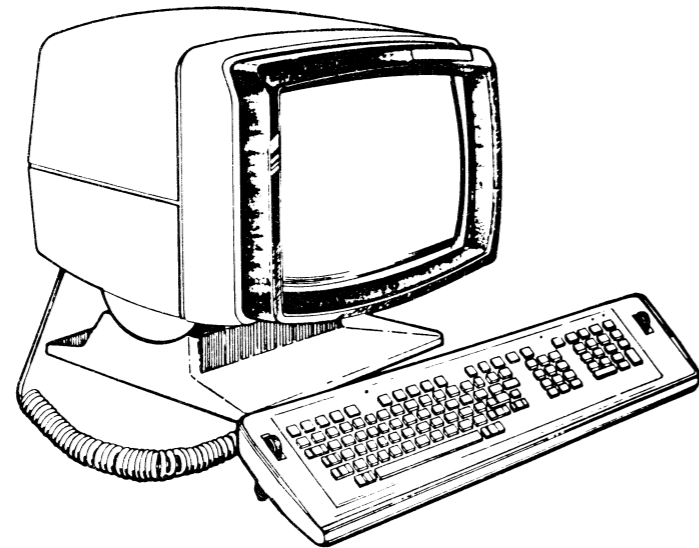
20mA INTERFACE CABLES

COMPUTER/CONTROLLER	CABLE NUMBER	MODEL 6150/6152 ALPHA SUFFIX
25-PIN CONNECTOR CONVENIENCE PANEL SYSTEMS	005-014689	M
PRIMARY TERMINAL (ALL CPU'S), ULM, 4010	005-014691	D
ALM-16, CS SYSTEMS	005-014695	G

* INCLUDING MICROPRODUCTS
EXCLUDING ECLIPSE M600, C350,
AND S250.



INSTALLATION SPECIFICATIONS



ITEM	COMPONENT/MODEL	MOUNTING LOCATION	NOTES
A	DISPLAY 6283	TABLE-TOP	
B	KEYBOARD 6246	TABLE-TOP	CONNECTED TO DISPLAY BY INTEGRAL COILED CABLE CABLE LENGTH UNEXTENDED=608mm EXTENDED = 1216mm

MAXIMUM CABLE LENGTH TABLE

CABLE	CONNECTING	BAUD RATE	MAX. LENGTH	NOTES:
EXTERNAL (20 MA)	TERMINAL TO COMPUTER	9600	300 ft. (91 m)	1200 ft. MAX. AT 2400 BAUD RATE AND BELOW
		4800	600 ft. (182 m)	
		2400	1200 ft.	
EXTERNAL RS-232C EIA	TERMINAL TO COMPUTER		50 ft. 1.5m	50 ft. MAX. AT 19,200 BAUD & BELOW
EXTERNAL RS-422A EIA	TERMINAL TO COMPUTER		4920 ft. 1500m	4920 ft. MAX. AT 19,200 BAUD & BELOW

MODEL NUMBER	SUFFIX	DESCRIPTION
6283-ALPHA	ALPHA=0,1 2,4	100,120V 50/60HZ 220,240V 50/60HZ
6246-ALPHA (keyboard)	ALPHA=A B C D E F G H I J K L M N O P	U.S. U.K. FRENCH GERMAN KATA/KANA RESERVED SPANISH DANISH/NORWEGIAN ITALIAN SWISS/GERMAN SWISS/FRENCH ENGLISH/CANADIAN FRENCH/CANADIAN SWEDISH/FINNISH RESERVED RESERVED

DIMENSIONS:

Display:

	Width	Depth	Height
Millimeters	325	360	340
Inches	12.8	14.2	13.1

Keyboard:

	Width	Depth	Height
Millimeters	510	196	44
Inches	20.4	7.6	2.4

Weight:

	kg.	lbs.
Display:	12.2	27
Keyboard:	2.6	5.8

HEAT OUTPUT (Max.)

	Watts	BTU/hr
	110	377

POWER REQUIREMENTS (Display):

0 or 1 suffix:

Voltage:	90-132 VAC
Freq:	50HZ +-1% or 60HZ +-1%
Current:	1.6 Amps RMS at 90 VAC
Startup Surge:	10 Amp peak at 120 VAC for 1/2 Cycle

2 or 4 suffix:

Voltage:	187-264 VAC
Freq:	50HZ +-1% or 60HZ +-1%
Current:	0.8 Amps RMS at 187 VAC
Start-up Surge:	5 Amp peak at 240 VAC for 1/2 Cycle

STORAGE ENVIRONMENT:

Temperature:	-40° to +65°C -40° to +149°F
Humidity:	10 to 90% non-condensing

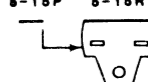
OPERATING ENVIRONMENT:

Temperature:	10° to 38°C 50° to 100°F
Humidity:	20% to 80% non-condensing
Altitude:	305m (1000ft)

CABLES:

PRIMARY POWER CABLE (DISPLAY):

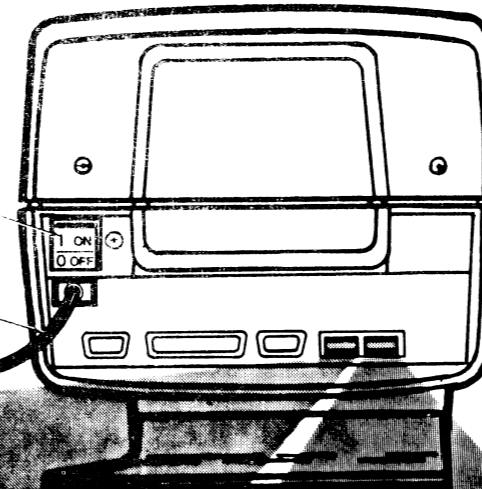
ALPHA SUFFIX	Length	Conn	MATING Conn
0 or 1	2.3 m (7.5')	5-15P	5-15R
2 or 4	2.3 m (7.5')		



D220 DISPLAY TERMINAL SWITCH SETTINGS

POWER CONTROL SWITCH

POWER CORD



SWITCH SETTING 0001 IS RESERVED FOR TEST PURPOSES. DO NOT USE.

BAUD RATE	SWITCH			
	1	2	3	4
19200	1	1	1	1
9600	1	1	1	0
7200	1	1	0	1
4800	1	1	0	0
3600	1	0	1	1
2400	1	0	1	0
1800	1	0	0	1
1200	1	0	0	0
600	0	1	1	1
300	0	1	1	0
150	0	1	0	1
134.5	0	1	0	0
110	0	0	1	1
75	0	0	1	0
50	0	0	0	0

1 STOP BIT

2 STOP BITS

PARITY	SWITCH		COMMENTS
	5	6	
EVEN	1	1	THE STATE OF THE PARITY BIT IS SET SUCH THAT THERE ARE AN EVEN NUMBER OF ONES IN THE TRANSMITTED CHARACTER.
MARK	1	0	THE PARITY BIT IS ALWAYS ONE (1).
ODD	0	1	THE STATE OF THE PARITY BIT IS SET SUCH THAT THERE ARE AN ODD NUMBER OF ONES IN THE TRANSMITTED CHARACTER.
NONE	0	0	THERE IS NO PARITY BIT.

NOTE: SWITCH TERMINAL OFF LINE AND THEN BACK ON LINE TO INITIATE NEW SWITCH SETTINGS.

7/8 BIT MODE	SWITCH 7
8 BIT	1
7 BIT	0

TERMINAL MODE	SWITCH 8
ANSI	1
D.G.	0

PRINTER INTERFACE BAUD RATE	SWITCH			
	1	2	3	4
19200	0	1	1	1
9600	0	1	1	0
4800	0	1	0	1
2400	0	1	0	0
1200	0	0	1	1
600	0	0	1	0
300	0	0	0	1
110	0	0	0	0

PRINTER MODE	SWITCH 6
8 BIT	1
7 BIT	0

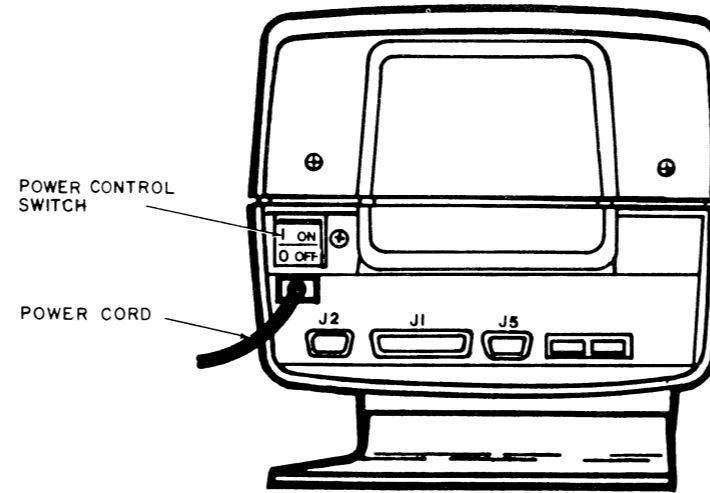
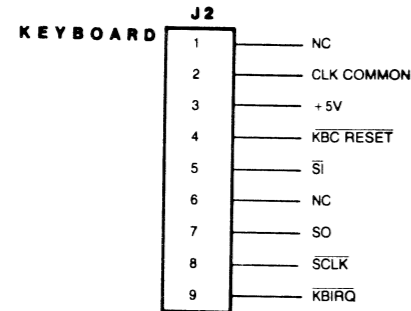
SWITCH 6 and 7 NOT USED

SET TO POSITION

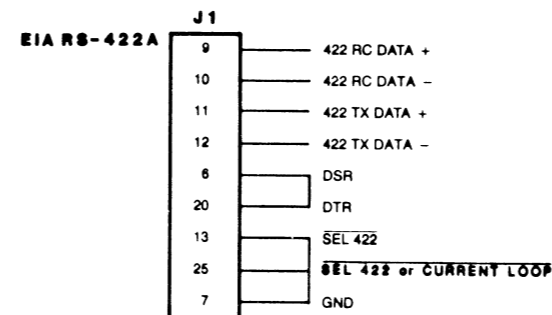
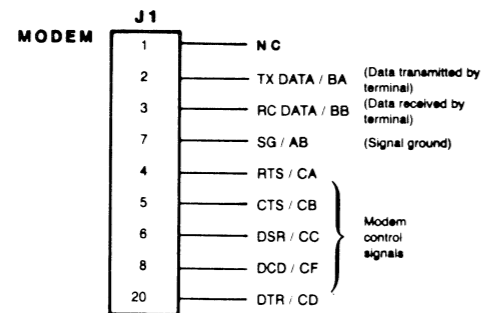
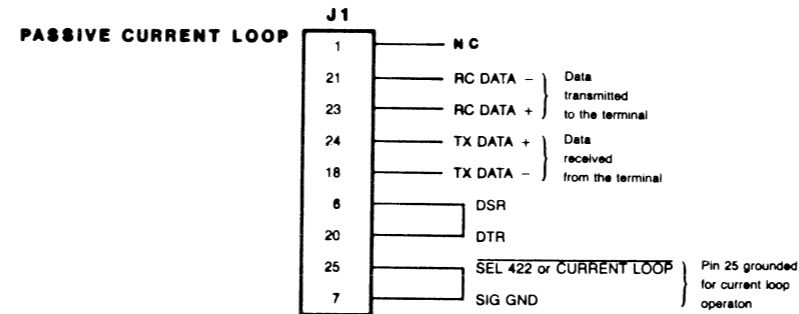
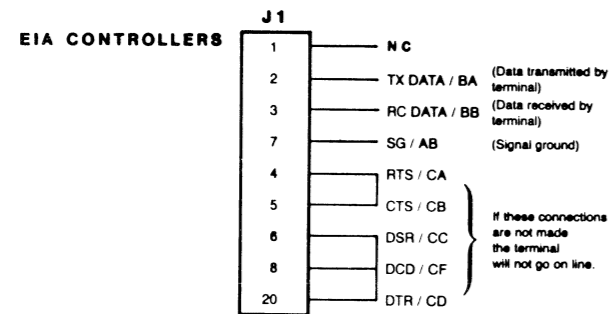
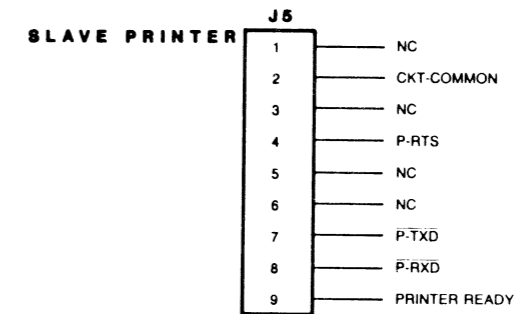


50/60 HZ OPERATION	SWITCH 8
50 HZ	1
60 HZ	0

EXTERNAL CABLING CONNECTORS



REAR VIEW D220



NOTE: Both pins 25 & 13 grounded for 422 operation.

CABLE REQUIREMENTS

EIA RS-232C

HOST/CONTROLLER	CABLES REQUIRED MODEL # (ASSEMBLY)	CABLE MODEL # LENGTH SUFFIXES
CONVENIENCE PANEL SYSTEMS WITH 25-PIN CONNECTORS	1340 (005-13258)	MODEL 1340 CABLE (EIA RS-232C) IS 25' LONG. MODEL 1340-A IS 50' LONG. 1340-A MAY BE USED IN PLACE OF MODEL 1340. MODELS 1241, 1243, 1244, AND ARE ADAPTOR CABLES. EACH IS 18" LONG.
ALM-8 SYSTEMS WITH BACKPANEL CONNECTION	AND 1340 (005-13258) 1241 (005-13270)	
ULM, microNOVA 422x, OR microNOVA CONSOLE INTERFACE	AND 1340 (005-13258) 1243 (005-13271)	
ALM-16 WITH BACKPANEL CONNECTION	AND 1340 (005-13258) 1244 (005-13273)	
PRIMARY CONSOLE INTERFACE WITH BACKPANEL CONNECTION	AND 1340 (005-13258) 1257 (005-13389)	
MODEM	1338 (005-13266)	

EIA RS-422A

HOST/CONTROLLER	CABLES REQUIRED MODEL # (ASSEMBLY)	CABLE MODEL # LENGTH SUFFIXES										
	1339 (005-13384)	MODEL 1339 CABLE (EIA RS-422A) IS 25' LONG EXTENSION CABLES FOR MODEL 1339 ARE: <table border="1"> <thead> <tr> <th>MODEL</th> <th>LENGTH</th> </tr> </thead> <tbody> <tr> <td>1339-A</td> <td>50'</td> </tr> <tr> <td>1339-B</td> <td>100'</td> </tr> <tr> <td>1339-C</td> <td>300'</td> </tr> <tr> <td>1339-D</td> <td>500'</td> </tr> </tbody> </table> EXTENSION CABLE OR CABLES MAY BE USED IN ADDITION TO MODEL 1339 FOR LONGER DISTANCES. SUBJECT TO LENGTH LIMITATIONS SHOWN IN "MAXIMUM CABLE LENGTHS" TABLE. MODELS 1339-A, -B, -C and -D, MAY NOT BE USED WITHOUT MODEL 1339.	MODEL	LENGTH	1339-A	50'	1339-B	100'	1339-C	300'	1339-D	500'
MODEL	LENGTH											
1339-A	50'											
1339-B	100'											
1339-C	300'											
1339-D	500'											

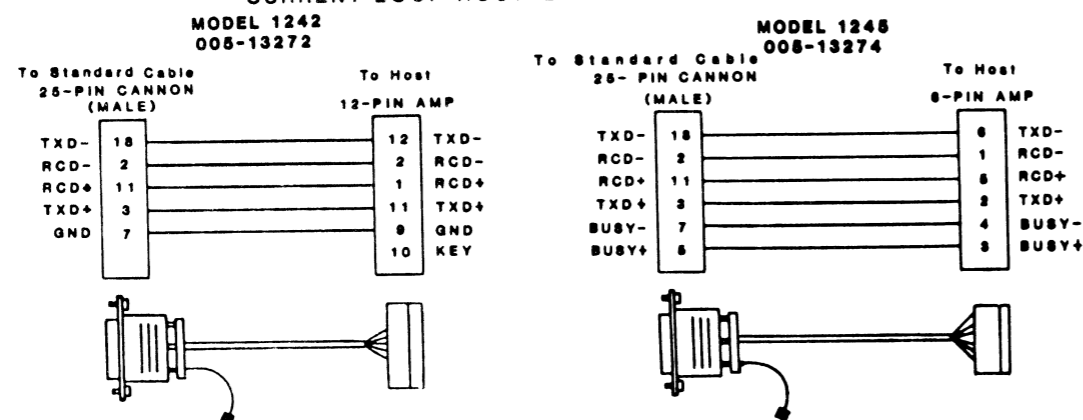
20mA CURRENT LOOP

HOST/CONTROLLER	CABLES REQUIRED	CABLE MODEL # LENGTH SUFFIXES
CONVENIENCE PANEL SYSTEMS WITH 25 PIN CONNECTORS	1341	MODEL 1341 CABLE (20mA CURRENT LOOP) IS 25' LONG. MODELS 1242 AND 1245 ARE ADAPTOR CABLES. EACH IS 18" LONG CURRENT LOOP EXTENSION CABLES MODEL 1341-A IS 50' LONG MODEL 1341-B IS 100' LONG MODEL 1341-C IS 300' LONG MODEL 1341-D IS 500' LONG EXTENSION CABLE OR CABLES MAY BE USED IN ADDITION TO MODEL 1341 FOR LONGER DISTANCES. SUBJECT TO LENGTH LIMITATIONS SHOWN IN "MAXIMUM CABLE LENGTHS" TABLE. MODELS 1341-A, -B, -C, -D, MAY NOT BE USED WITHOUT MODEL 1341.
ULM, microNOVA 422x, OR ANY SINGLE LINE CONSOLE INTERFACE WITH BACKPANEL CONNECTION	AND 1341 (005-13260) 1242 (005-13272)	
ALM-16 WITH BACKPANEL CONNECTION	AND 1341 (005-13260) 1245 (005-13274)	

PRINTER PORT CABLE

PRINTER	CABLES REQUIRED MODEL # (ASSEMBLY)	CABLE MODEL # LENGTH SUFFIXES										
150 CPS DOT MATRIX (Model 4422)	AND 1342 (005-20404) 1256 (005-13280)	MODEL 1342 CABLE IS 5' LONG. MODEL 1256 IS AN ADAPTER CABLE. IT IS 16" LONG. THE FOLLOWING MODEL NUMBERS MAY BE USED IN PLACE OF MODEL 1342: <table border="1"> <thead> <tr> <th>MODEL</th> <th>LENGTH</th> </tr> </thead> <tbody> <tr> <td>1342-R</td> <td>2'</td> </tr> <tr> <td>1342-T</td> <td>15'</td> </tr> <tr> <td>1342-U</td> <td>25'</td> </tr> <tr> <td>1342-A</td> <td>50'</td> </tr> </tbody> </table>	MODEL	LENGTH	1342-R	2'	1342-T	15'	1342-U	25'	1342-A	50'
MODEL	LENGTH											
1342-R	2'											
1342-T	15'											
1342-U	25'											
1342-A	50'											
150 CPS DOT MATRIX (Model 4433)	1342 (005-20404)											
TP1, TP2 (MODELS 6040-6043, 6073-6079, 6086-6089, 6193-6194) MULTIFUNCTION MATRIX PRINTER (MODEL 4434)	AND 1256 (005-13280) 1342 (005-20404)											

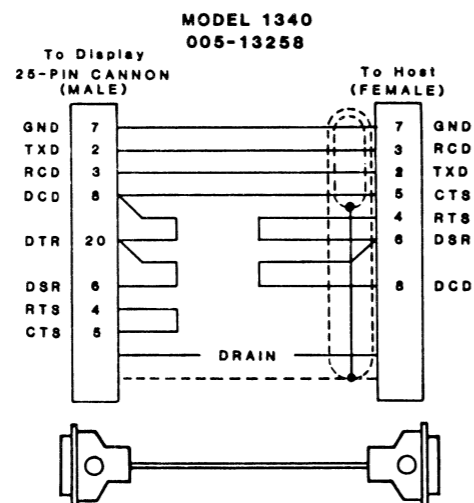
CURRENT LOOP HOST-END ADAPTER CABLES



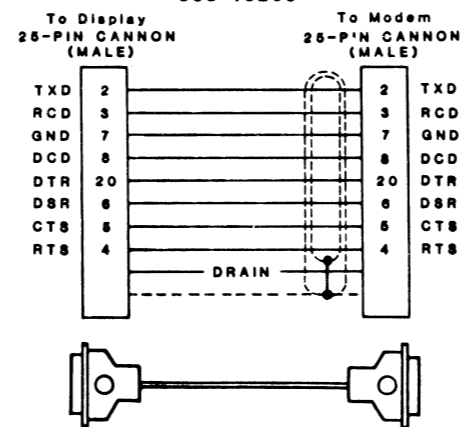
NOTE: THIS CABLING INFORMATION MAY ALSO BE FOUND IN DOCUMENT 010-683. CABLES LISTED IN THIS DOCUMENT ARE SHIELDED AND ARE DESIGNED TO WORK WITH THE D220 (MODEL 6238)

CABLE REQUIREMENTS

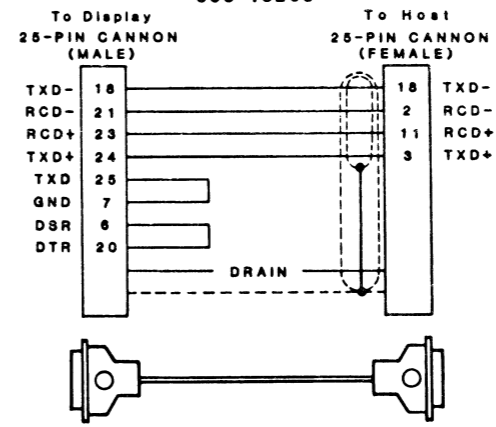
STANDARD EIA RS-232C CABLE



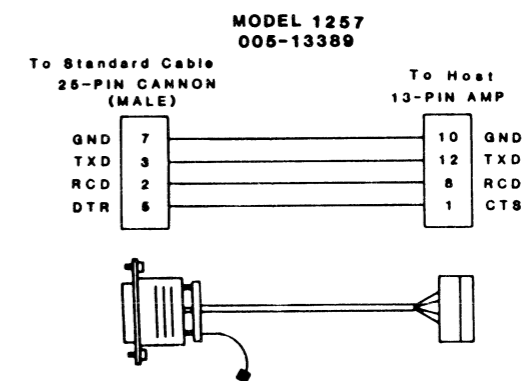
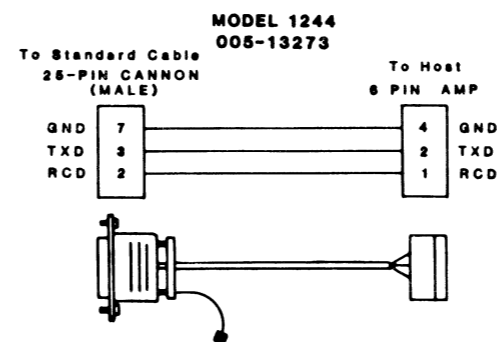
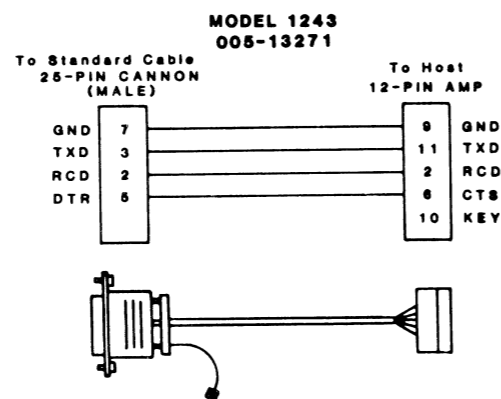
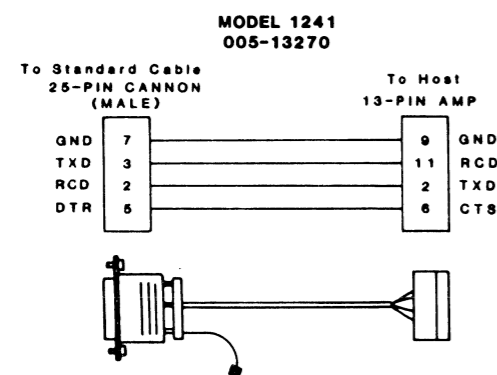
MODEM CABLE



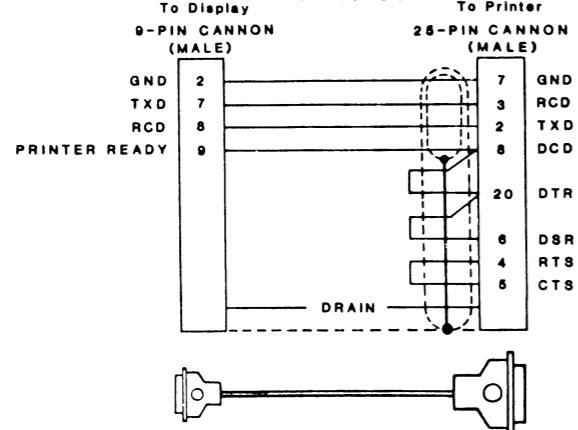
STANDARD CURRENT LOOP CABLE



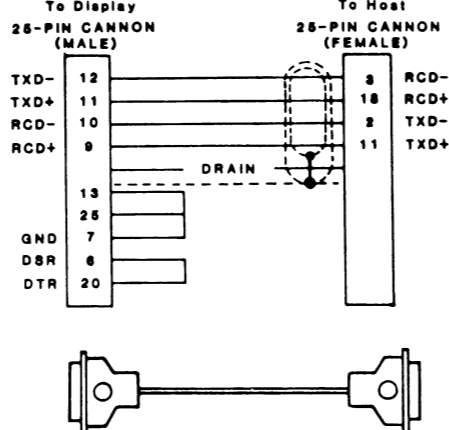
RS-232C HOST-END ADAPTER CABLES



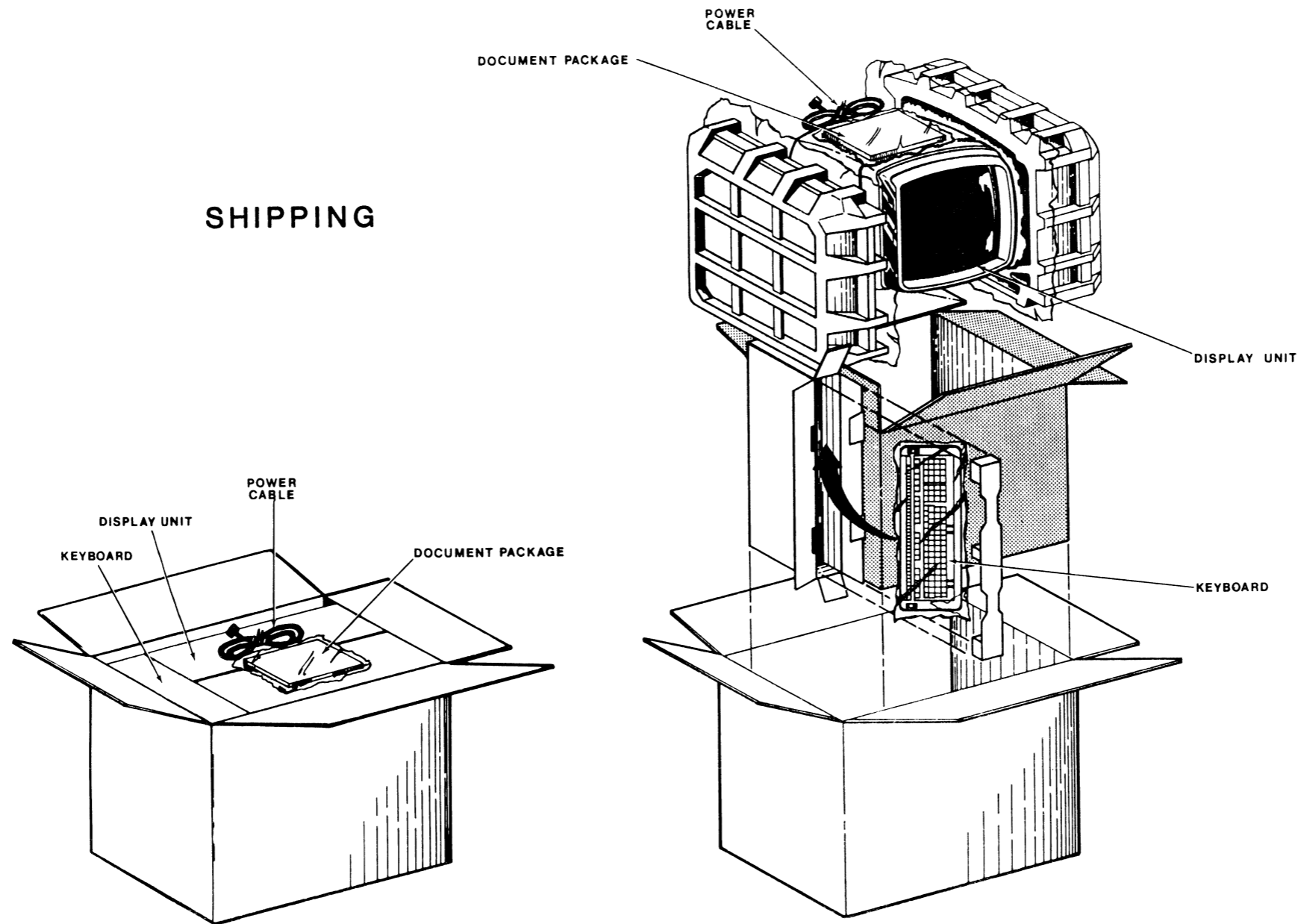
PRINTER PORT CABLE.



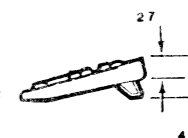
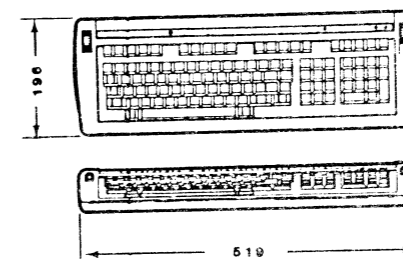
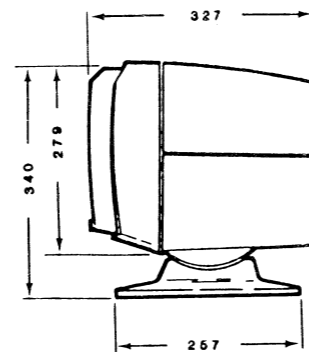
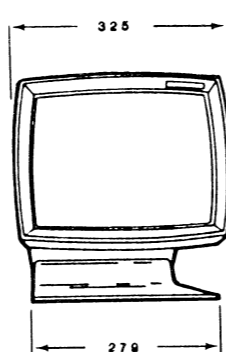
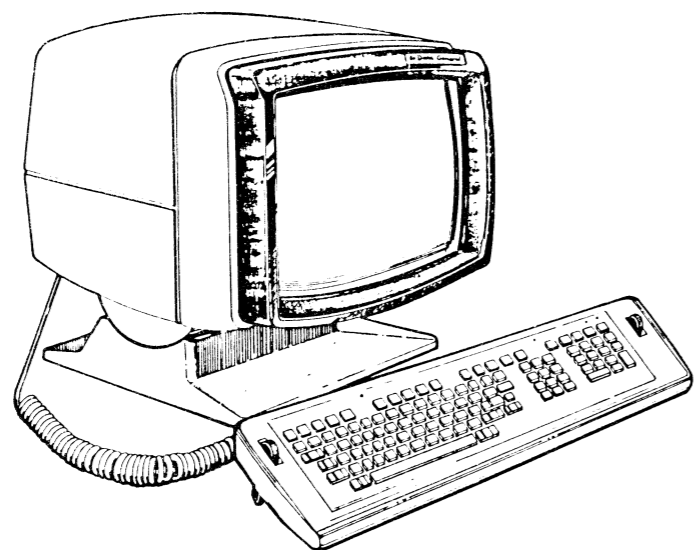
RS-422A CABLE



SHIPPING



INSTALLATION SPECIFICATIONS



ITEM	COMPONENT/MODEL	MOUNTING LOCATION	NOTES
A	DISPLAY 8255/8256	TABLE-TOP	
B	KEYBOARD 8248	TABLE-TOP	CONNECTED TO DISPLAY BY INTEGRAL COILED CABLE CABLE LENGTH UNEXTENDED=808mm EXTENDED=1216mm

MAXIMUM CABLE LENGTH TABLE

CABLE	CONNECTING	BAUD RATE	MAX. LENGTH	NOTES:
EXTERNAL (20 MA)	TERMINAL TO COMPUTER	9600	300 ft. (91 m)	1200ft MAX. AT 2400 BAUD RATE AND BELOW
		4800	600 ft. (182 m)	
		2400	1200 ft.	
EXTERNAL RS-232C EIA	TERMINAL TO COMPUTER		50 ft. 15m	50 ft. MAX. AT 19,200 BAUD & BELOW
EXTERNAL RS-422A EIA	TERMINAL TO COMPUTER		4920ft 1500m	4920 ft. MAX. AT 19,200 BAUD & BELOW

MODEL NUMBER	SUFFIX	DESCRIPTION
8255 -ALPHA	ALPHA=0,1	D410 100,120V 50/60HZ
	2,4	D410 220,240V 50/60HZ
8256 -ALPHA	ALPHA=0,1	D460 100,120V 50/60HZ
	2,4	D460 220,240V 50/60HZ
8248 -ALPHA (keyboard)	ALPHA=A	U.S.
	B	U.K.
	C	FRENCH
	D	GERMAN
	E	RESERVED
	F	RESERVED
	G	SPANISH
	H	DANISH/NORWEGIAN
	I	ITALIAN
	J	SWISS GERMAN
	K	SWISS FRENCH
	L	ENGLISH CANADIAN
	M	FRENCH CANADIAN
N	SWEDISH/FINNISH	
O	RESERVED	
P	RESERVED	

NOTE: FOR AMBER DISPLAY TUBE,
6255 becomes 6255A
6256 becomes 6256A

DIMENSIONS:

Display:

	Width	Depth	Height
Millimeters	325	327	340
Inches	12.8	12.8	13.1

Keyboard:

	Width	Depth	Height
Millimeters	519	196	44
Inches	20.4	7.5	2.4

Weight:

	kg	lbs
Display:	8.1	18
Keyboard:	2.6	5.8

HEAT OUTPUT (Max.)

	Watts	BTU/hr
	50	170

UNLESS OTHERWISE NOTED
ALL DIMENSIONS ARE IN MILLIMETERS.

POWER REQUIREMENTS (Display):

0 or 1 suffix:

Voltage:	90-132 VAC
Freq:	50HZ +-1% or 60HZ +-1%
Current:	3.0 Ampe peak at 90 VAC
Startup Surge:	22 Amp at 120 VAC for 1/2 Cycle

2 or 4 suffix:

Voltage:	187-264 VAC
Freq:	50HZ +-1% or 60HZ +-1%
Current:	2.4 Ampe peak at 187 VAC
Start-up Surge:	11 AMP at 240 VAC for 1/2 cycle

STORAGE ENVIRONMENT:

Temperature:	-40° to +65°C -40° to +149°F
Humidity:	10 to 90% non-condensing

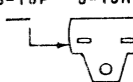
OPERATING ENVIRONMENT:

Temperature:	10° to 38°C 50° to 100°F
Humidity:	20% to 80% non-condensing
Altitude:	2438m (8000FT) -305m (-1000FT)

CABLES:

PRIMARY POWER CABLE (DISPLAY):

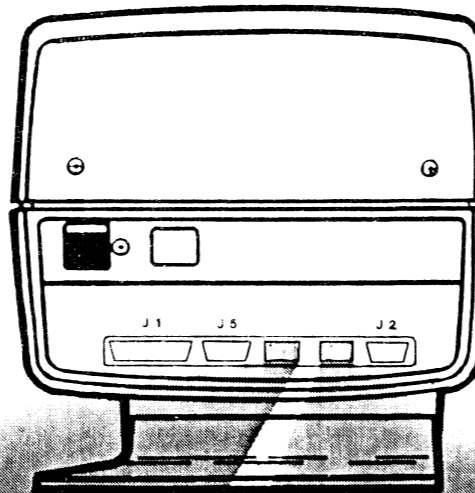
ALPHA SUFFIX	Length	Conn	Mating Conn
0 or 1	2.3 m (7.5')	5-15P	5-15R
2 or 4	2.3 m (7.5')		



D410/D460 DISPLAY TERMINAL

SWITCH SETTINGS

1 = up
0 = down



PRINTER INTERFACE BAUD RATE	SWITCH			
	1	2	3	4
19200	0	1	1	1
9600	0	1	1	0
4800	0	1	0	1
2400	0	1	0	0
1200	0	0	1	1
600	0	0	1	0
300	0	0	0	1
110	0	0	0	0

7/8 BIT PRINTER	SWITCH 5
8 BIT	1
7 BIT	0

SPLIT BAUD	SWITCH 6
ENABLED	1
DISABLED	0*

* NORMAL SETTING

SWITCH 7
RESERVED

50/60 HZ OPERATION	SWITCH 8
50 HZ	1
60 HZ	0

BAUD RATE	SWITCH				
	1	2	3	4	
10200	1	1	1	1	} 1 STOP BIT
9600	1	1	1	0	
7200	1	1	0	1	
4800	1	1	0	0	
3600	1	0	1	1	} 2 STOP BITS
2400	1	0	1	0	
1800	1	0	0	1	
1200	1	0	0	0	
800	0	1	1	1	
300	0	1	1	0	
150	0	1	0	1	
134.5	0	1	0	0	
110	0	0	1	1	
75	0	0	1	0	
50	0	0	0	0	

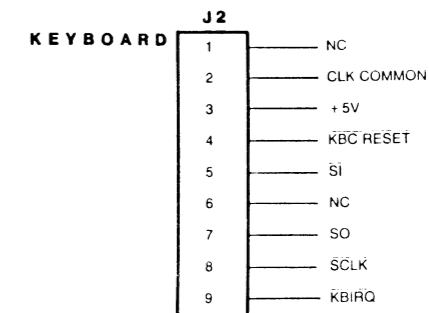
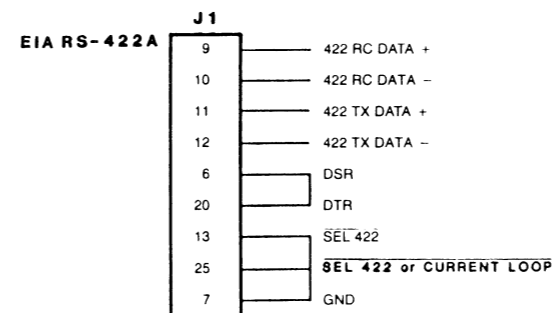
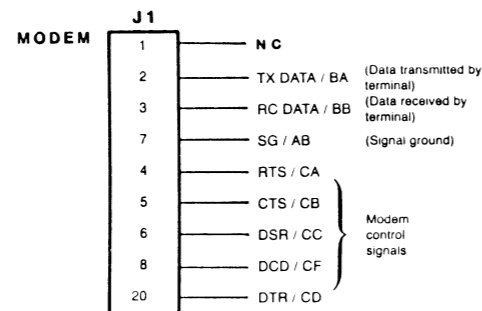
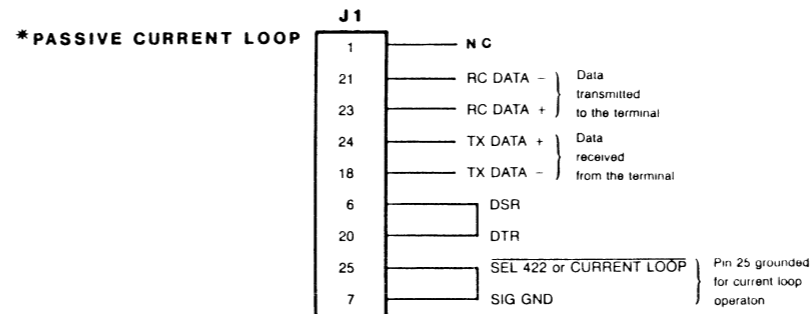
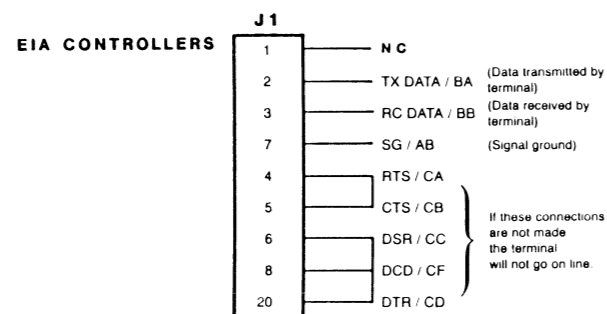
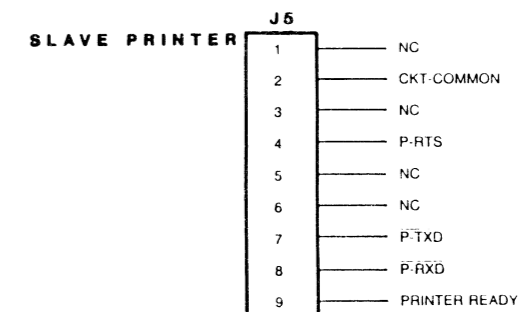
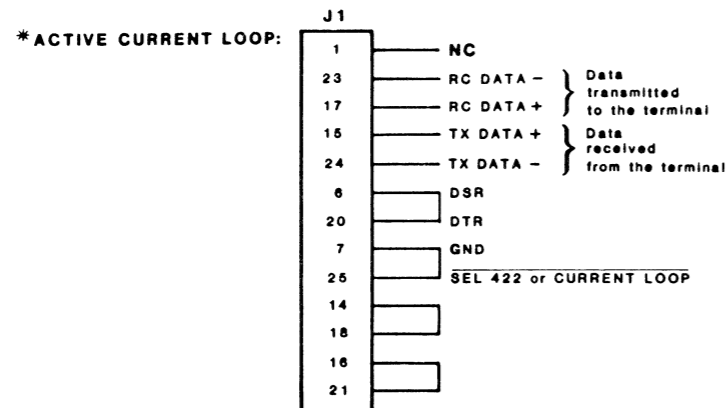
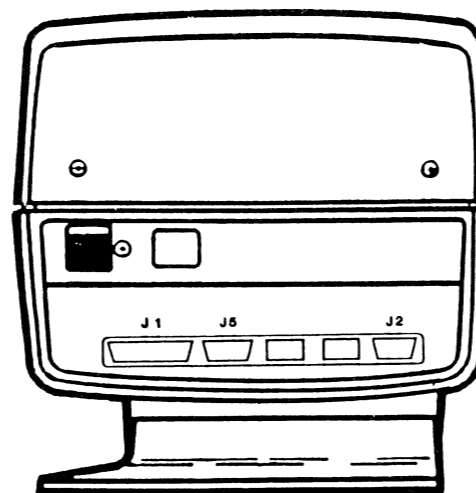
NOTE:
SWITCH SETTING 0001 IS RESERVED
FOR TEST PURPOSES. DO NOT USE.

PARITY	SWITCH		COMMENTS
	5	6	
EVEN	1	1	THE STATE OF THE PARITY BIT IS SET SUCH THAT THERE ARE AN EVEN NUMBER OF ONES IN THE TRANSMITTED CHARACTER.
MARK	1	0	THE PARITY BIT IS ALWAYS ONE (1).
ODD	0	1	THE STATE OF THE PARITY BIT IS SET SUCH THAT THERE ARE AN ODD NUMBER OF ONES IN THE TRANSMITTED CHARACTER.
NONE	0	0	THERE IS NO PARITY BIT.

7/8 BIT MODE	SWITCH 7	TERMINAL MODE	SWITCH 8
8 BIT	1	ANSI	1
7 BIT	0	D.G.	0

NOTE:
SWITCH TERMINAL OFF LINE AND THEN
BACK ON LINE TO INITIATE NEW SWITCH SETTINGS

EXTERNAL CABLING CONNECTORS



NOTE: Both pins 25 & 13 grounded for 422 operation.

*NOTE: Use passive current loop configuration with DATA GENERAL current loop controllers.

CABLE REQUIREMENTS

EIA RS-232C

HOST/CONTROLLER	CABLES REQUIRED MODEL # (ASSEMBLY)	CABLE MODEL # LENGTH SUFFIXES
CONVENIENCE PANEL SYSTEMS WITH 25-PIN CONNECTORS	1340 (005-13258)	MODEL 1340 CABLE (EIA RS-232C) IS 25' LONG.
ALM-8 SYSTEMS WITH BACKPANEL CONNECTION	AND 1340 (005-13258) 1241 (005-13270)	MODEL 1340-A IS 50' LONG. 1340-A MAY BE USED IN PLACE OF MODEL 1340.
ULM, microNOVA 422x, OR microNOVA CONSOLE INTERFACE	AND 1340 (005-13258) 1243 (005-13271)	MODELS 1241, 1243, 1244, AND ARE ADAPTOR CABLES. EACH IS 18" LONG.
ALM-16 WITH BACKPANEL CONNECTION	AND 1340 (005-13258) 1244 (005-13273)	
PRIMARY CONSOLE INTERFACE WITH BACKPANEL CONNECTION	1340 (005-13258) 1257 (005-13389)	
MODEM	1338 (005-13268)	

20mA CURRENT LOOP

HOST/CONTROLLER	CABLES REQUIRED	CABLE MODEL # LENGTH SUFFIXES
CONVENIENCE PANEL SYSTEMS WITH 25 PIN CONNECTORS	1341 (005-13260)	MODEL 1341 CABLE (20mA CURRENT LOOP) IS 25' LONG. MODELS 1242 AND 1245 ARE ADAPTOR CABLES. EACH IS 18" LONG
ULM, microNOVA 422x, OR ANY SINGLE LINE CONSOLE INTERFACE WITH BACKPANEL CONNECTION	AND 1341 (005-13260) 1242 (005-13272)	CURRENT LOOP EXTENSION CABLES MODEL 1341-A IS 50' LONG MODEL 1341-B IS 100' LONG MODEL 1341-C IS 300' LONG MODEL 1341-D IS 500' LONG
ALM-16 WITH BACKPANEL CONNECTION	AND 1341 (005-13260) 1245 (005-13274)	EXTENSION CABLE OR CABLES MAY BE USED IN ADDITION TO MODEL 1341 FOR LONGER DISTANCES, SUBJECT TO LENGTH LIMITATIONS SHOWN IN "MAXIMUM CABLE LENGTHS" TABLE. MODELS 1341-A, -B, -C, -D, MAY NOT BE USED WITHOUT MODEL 1341.

EIA RS-422A

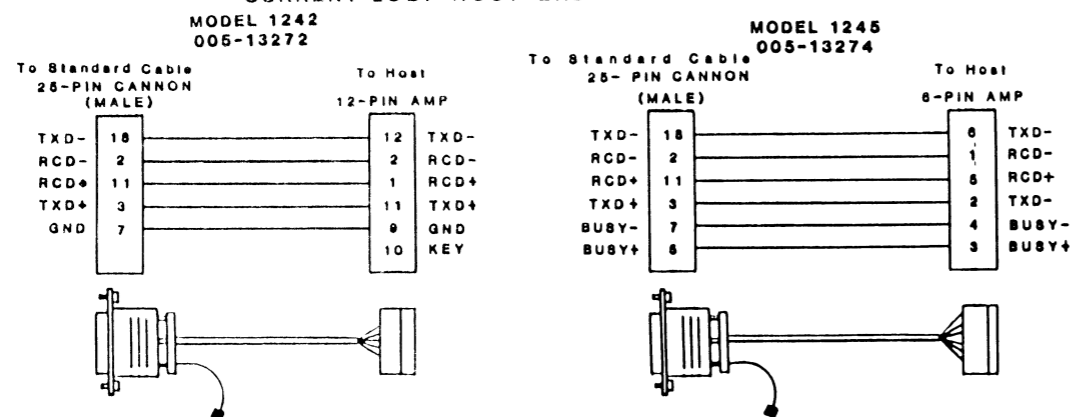
HOST/CONTROLLER	CABLES REQUIRED MODEL # (ASSEMBLY)	CABLE MODEL # LENGTH SUFFIXES
	1339 (005-13384)	MODEL 1339 CABLE IS 25' LONG. THE FOLLOWING MODEL NUMBERS ARE EXTENSION CABLES FOR MODEL 1339: MODEL/LENGTH 1339-A/50' 1339-B/100' 1339-C/300' 1339-D/500' EXTENSION CABLE OR CABLES MAY BE USED IN ADDITION TO MODEL 1339 FOR LONGER DISTANCES, SUBJECT TO LENGTH LIMITATIONS SHOWN IN "MAXIMUM CABLE LENGTH" TABLE. MODELS 1339-A, -B, -C AND -D MAY NOT BE USED WITHOUT MODEL 1339.

PRINTER PORT CABLE

PRINTER	CABLES REQUIRED MODEL # (ASSEMBLY)	CABLE MODEL # LENGTH SUFFIXES
150 CPS DOT MATRIX (Model 4422)	AND 1342 (005-20404) 1256 (005-13259)	MODEL 1342 CABLE IS 5' LONG. MODEL 1256 IS AN ADAPTER CABLE. IT IS 18" LONG.
150 CPS DOT MATRIX (Model 4433)	1342 (005-20404)	THE FOLLOWING MODEL NUMBERS MAY BE USED IN PLACE OF MODEL 1342:
TP1, TP2 (MODELS 6040-6043, 6073-6078, 6086-6089, 6193-6194)	AND 1342 (005-20404) 1256 (005-13259)	MODEL LENGTH 1342-R 2' 1342-T 15' 1342-U 25' 1342-A 50'
MULTIFUNCTION MATRIX PRINTER (MODEL 4434) 1342 (005-20404)	1342 (005-20404)	

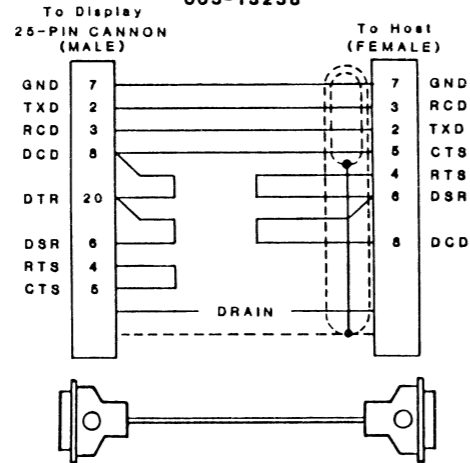
NOTE: THIS CABLING INFORMATION MAY ALSO BE FOUND IN DOCUMENT O10-683

CURRENT LOOP HOST-END ADAPTER CABLES

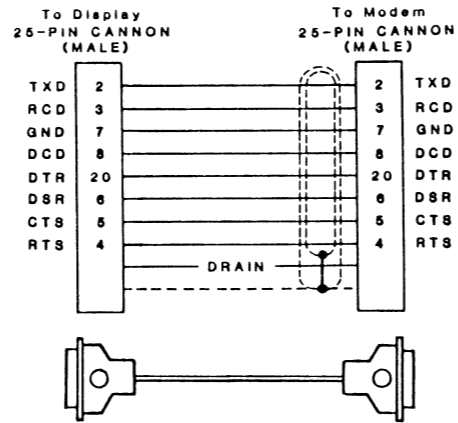


CABLE REQUIREMENTS

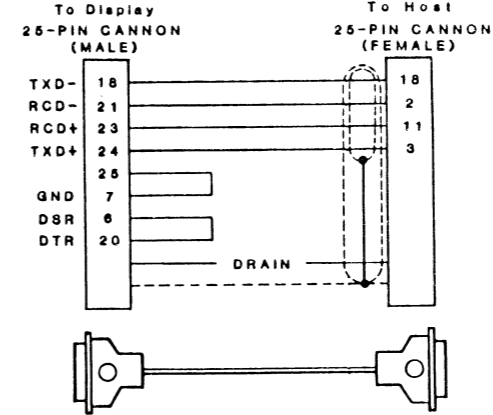
STANDARD EIA RS-232C CABLE
MODEL 1340
005-13258



MODEM CABLE
MODEL 1338
005-13266

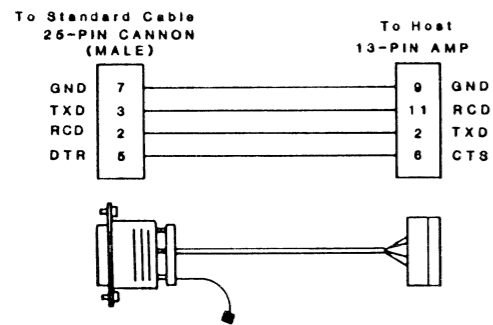


STANDARD CURRENT LOOP CABLE
MODEL 1341
005-13260

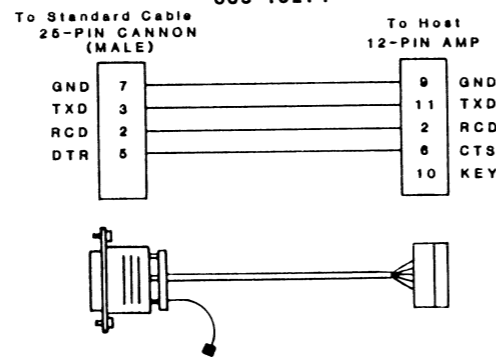


RS-232C HOST-END ADAPTER CABLES

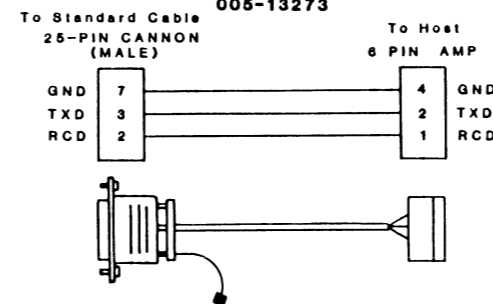
MODEL 1241
005-13270



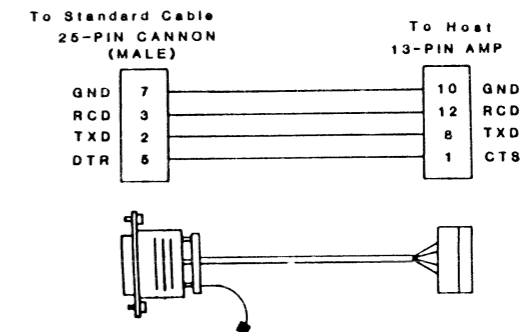
MODEL 1243
005-13271



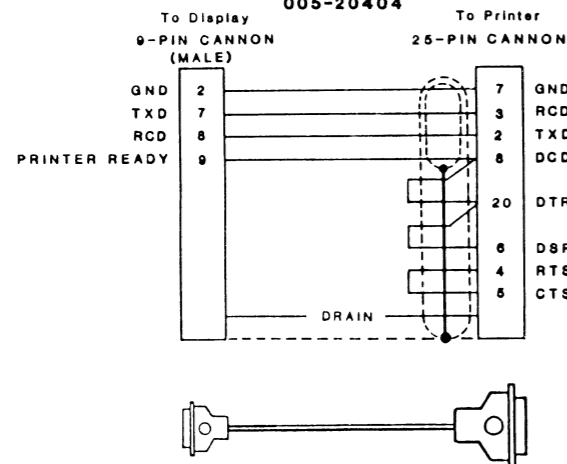
MODEL 1244
005-13273



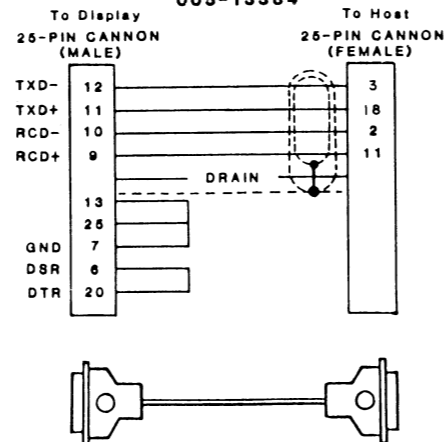
MODEL 1257
005-13389



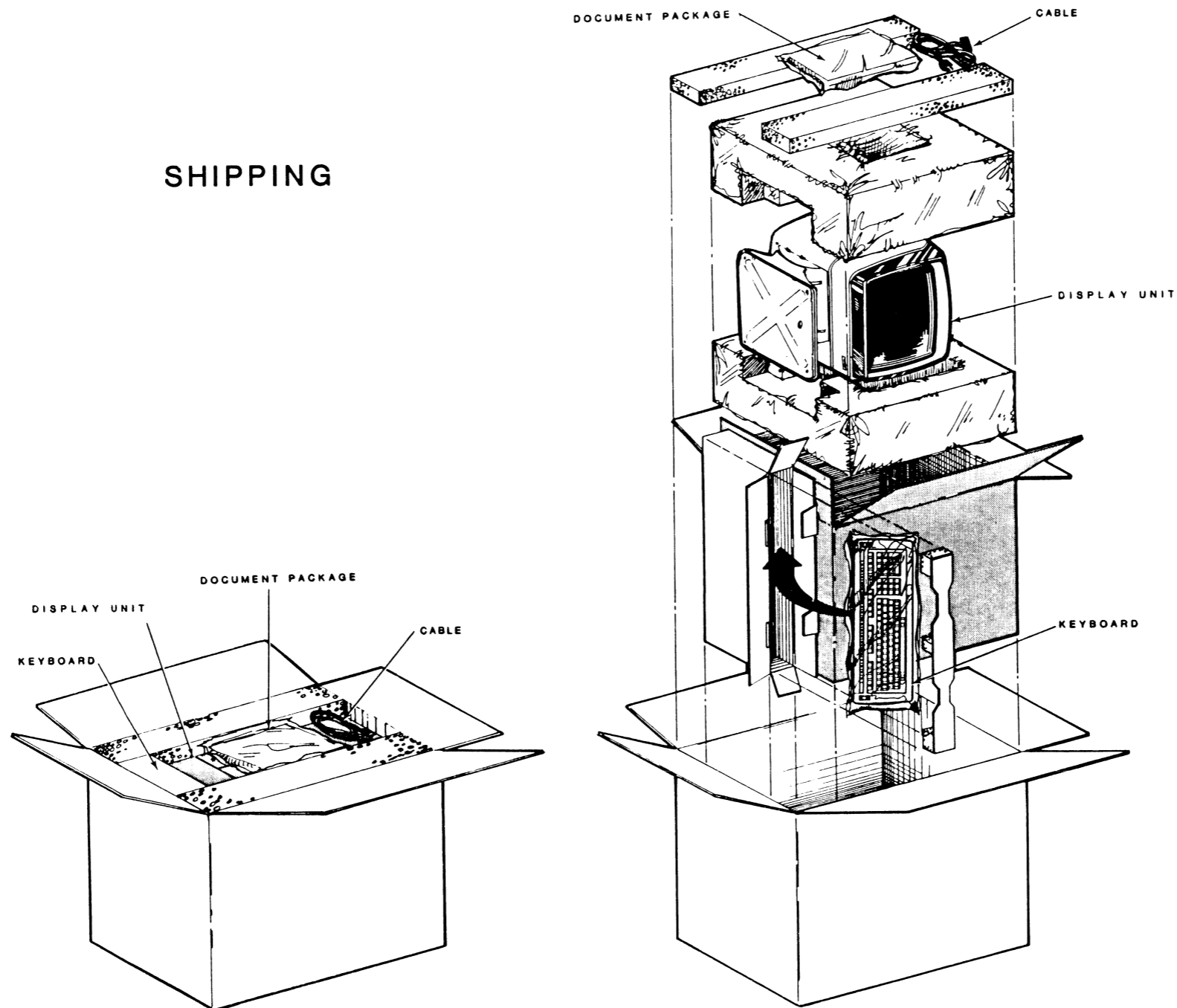
PRINTER PORT CABLE
MODEL 1342
005-20404



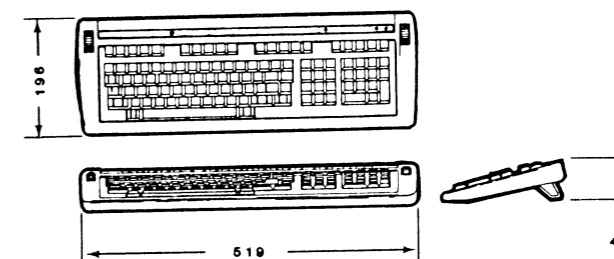
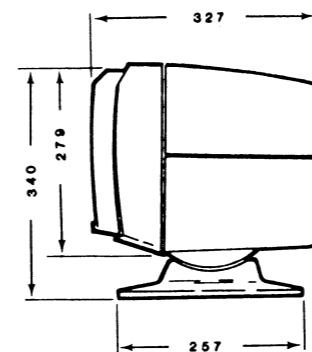
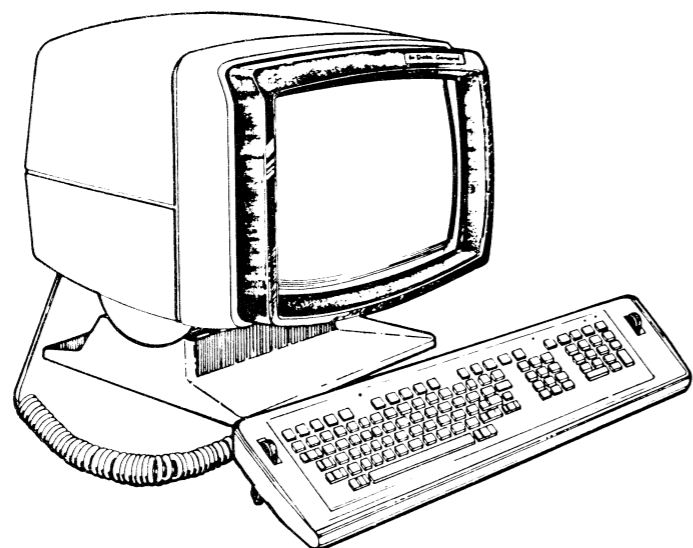
RS-422A CABLE
MODEL 1339
005-13384



SHIPPING



INSTALLATION SPECIFICATIONS



ITEM	COMPONENT/MODEL	MOUNTING LOCATION	NOTES
A	DISPLAY 6242/6243	TABLE-TOP	
B	KEYBOARD 6245	TABLE-TOP	CONNECTED TO DISPLAY BY INTEGRAL COILED CABLE CABLE LENGTH UNEXTENDED=608mm EXTENDED = 1216mm

MAXIMUM CABLE LENGTH TABLE

CABLE	CONNECTING	BAUD RATE	MAX. LENGTH	NOTES:
EXTERNAL (20 MA)	TERMINAL TO COMPUTER	9600	300 ft. (91 m)	1200 ft. MAX. AT 2400 BAUD RATE AND BELOW
		4800	600 ft. (182 m)	
		2400	1200 ft.	
EXTERNAL RS-232C EIA	TERMINAL TO COMPUTER		50 ft. 15m	50 ft. MAX. AT 19,200 BAUD & BELOW
EXTERNAL RS-422A EIA	TERMINAL TO COMPUTER		4920ft. 1500m	4920 ft. MAX. AT 19,200 BAUD & BELOW

MODEL NUMBER	SUFFIX	DESCRIPTION
6242-ALPHA	ALPHA=0,1	D210 100,120V 50/60HZ
	2,4	D210 220,240V 50/60HZ
6243-ALPHA	ALPHA=0,1	D211 100,120V 50/60HZ
	2,4	D211 220,240V 50/60HZ
6245-ALPHA (keyboard)	ALPHA=A	U.S.
	B	U.K.
	C	FRENCH
	D	GERMAN
	E	RESERVED
	F	RESERVED
	G	SPANISH
	H	DANISH/NORWEGIAN
	I	ITALIAN
	J	SWISS GERMAN
	K	SWISS FRENCH
	L	ENGLISH CANADIAN
M	FRENCH CANADIAN	
N	SWEDISH/FINNISH	
O	RESERVED	
P	RESERVED	

NOTE FOR AMBER DISPLAY TUBE,
6242 becomes 6242A
6243 becomes 6243A

MODEL 6242 (D210) TO BE USED ONLY WITH 6245A

DIMENSIONS:

Display:

	Width	Depth	Height
Millimeters	325	327	340
Inches	12.8	12.8	13.1

Keyboard:

	Width	Depth	Height
Millimeters	519	196	44
Inches	20.4	7.5	2.4

Weight:

	kg	lbs
Display:	8.1	18
Keyboard:	2.6	5.8

HEAT OUTPUT (Max.)

	Watts	BTU/hr
	35	120

POWER REQUIREMENTS (Display):

0 or 1 suffix:

Voltage:	90-132 VAC
Freq:	50 HZ+-1% OR 60HZ +-1%
Current:	2.4 Amps peak at 90 VAC
Startup Surge:	22 Amp at 120 VAC for 1/2 Cycle

2 or 4 suffix:

Voltage:	187-264 VAC
Freq:	50HZ +-1% OR 60HZ +-1%
Current:	2.0 Amps peak at 187 VAC
Start-up Surge:	11 AMP at 240 VAC for 1/2 Cycle

STORAGE ENVIRONMENT:

Temperature:	-40° to +65°C -40° to +149°F
Humidity:	10 to 90% non-condensing

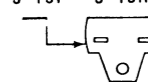
OPERATING ENVIRONMENT:

Temperature:	10° to 38°C 50° to 100°F
Humidity:	20% to 80% non-condensing
Altitude:	2438 m (8000 FT) -305m (-1000 FT)

CABLES:

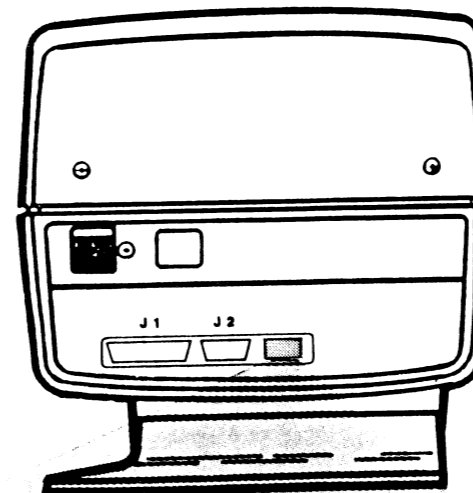
PRIMARY POWER CABLE (DISPLAY):

ALPHA SUFFIX	Length	Conn	MATING Conn
0 or 1	2.3 m (7.5')	5-15P	5-15R
2 or 4	2.3 m (7.5')		



UNLESS OTHERWISE NOTED ALL DIMENSIONS ARE IN MILLIMETERS.

D210
DISPLAY TERMINAL
SWITCH SETTINGS



BAUD RATE	SWITCH			
	1	2	3	4
19200	1	1	1	1
9600	1	1	1	0
7200	1	1	0	1
4800	1	1	0	0
3600	1	0	1	1
2400	1	0	1	0
1800	1	0	0	1
1200	1	0	0	0
600	0	1	1	1
300	0	1	1	0
150	0	1	0	1
134.5	0	1	0	0
110	0	0	1	1
75	0	0	1	0
50	0	0	0	0

} 1 STOP BIT

} 2 STOP BITS

SWITCH SETTING 0001 IS RESERVED FOR TEST PURPOSES. DO NOT USE.

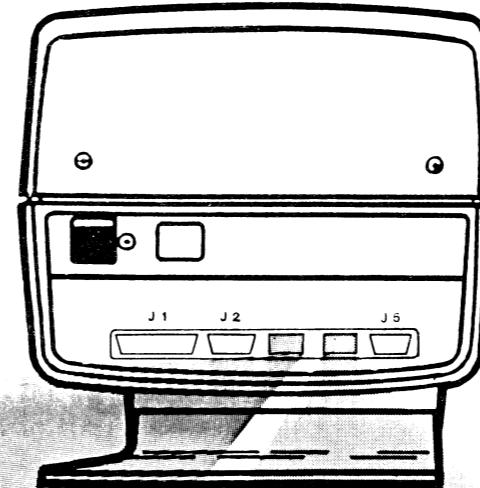
PARITY	SWITCH		COMMENTS
	5	6	
EVEN	1	1	THE STATE OF THE PARITY BIT IS SET SUCH THAT THERE ARE AN EVEN NUMBER OF ONES IN THE TRANSMITTED CHARACTER
MARK	1	0	THE PARITY BIT IS ALWAYS ONE (1)
ODD	0	1	THE STATE OF THE PARITY BIT IS SET SUCH THAT THERE ARE AN ODD NUMBER OF ONES IN THE TRANSMITTED CHARACTER
NONE	0	0	THERE IS NO PARITY BIT

NOTE: SWITCH TERMINAL OFF LINE AND THEN BACK ON LINE TO INITIATE NEW SWITCH SETTINGS

50/60 HZ OPERATION	SWITCH 7
50 HZ	1
60 HZ	0

TERMINAL MODE	SWITCH 8
ANSI	1
D.G.	0

D211 DISPLAY TERMINAL SWITCH SETTINGS



SWITCH SETTING 0001 IS RESERVED FOR TEST PURPOSES. DO NOT USE.

BAUD RATE	SWITCH			
	1	2	3	4
19200	1	1	1	1
9600	1	1	1	0
7200	1	1	0	1
4800	1	1	0	0
3600	1	0	1	1
2400	1	0	1	0
1800	1	0	0	1
1200	1	0	0	0
600	0	1	1	1
300	0	1	1	0
150	0	1	0	1
134.5	0	1	0	0
110	0	0	1	1
75	0	0	1	0
50	0	0	0	0

} 1 STOP BIT

} 2 STOP BITS

PARITY	SWITCH 5	SWITCH 6	COMMENTS
EVEN	1	1	THE STATE OF THE PARITY BIT IS SET SUCH THAT THERE ARE AN EVEN NUMBER OF ONES IN THE TRANSMITTED CHARACTER.
MARK	1	0	THE PARITY BIT IS ALWAYS ONE (1).
ODD	0	1	THE STATE OF THE PARITY BIT IS SET SUCH THAT THERE ARE AN ODD NUMBER OF ONES IN THE TRANSMITTED CHARACTER.
NONE	0	0	THERE IS NO PARITY BIT.

NOTE: SWITCH TERMINAL OFF LINE AND THEN BACK ON LINE TO INITIATE NEW SWITCH SETTINGS

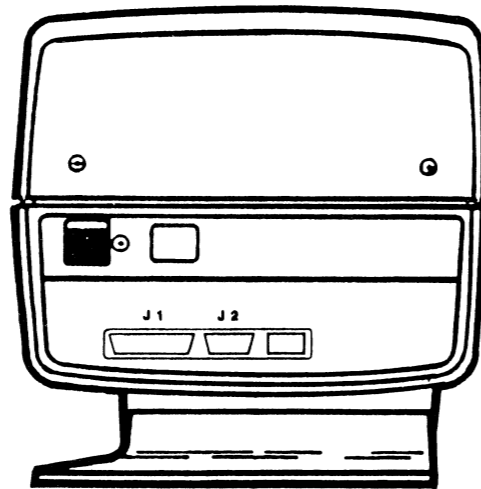
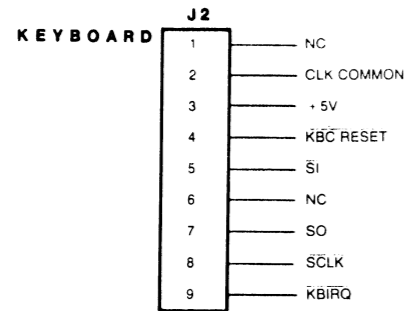
7/8 BIT MODE	SWITCH 7
8 BIT	1
7 BIT	0

TERMINAL MODE	SWITCH 8
ANSI	1
D.G.	0

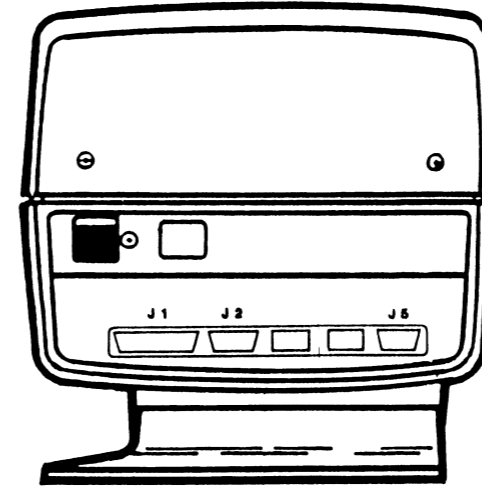
PRINTER INTERFACE BAUD RATE	SWITCH				PRINTER MODE	SWITCH 5	SWITCH 6 and 7 NOT USED	50/60 HZ OPERATION	SWITCH 8
	1	2	3	4					
19200	0	1	1	1	8 BIT	1		50 HZ	1
9600	0	1	1	0	7 BIT	0		60 HZ	0
4800	0	1	0	1					
2400	0	1	0	0					
1200	0	0	1	1					
600	0	0	1	0					
300	0	0	0	1					
110	0	0	0	0					

EXTERNAL CABLING

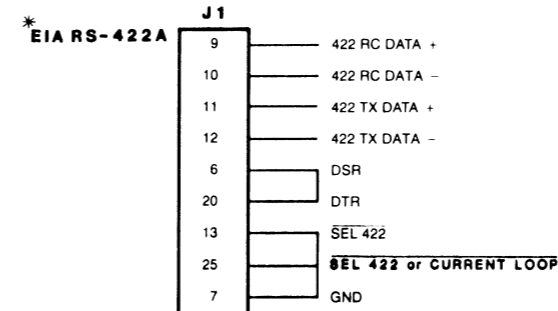
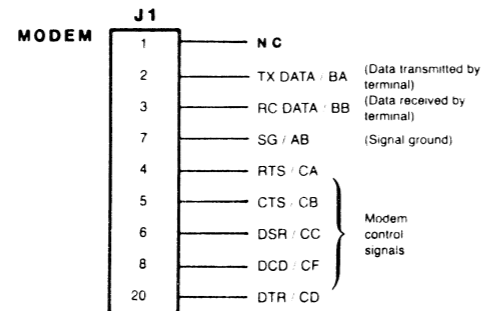
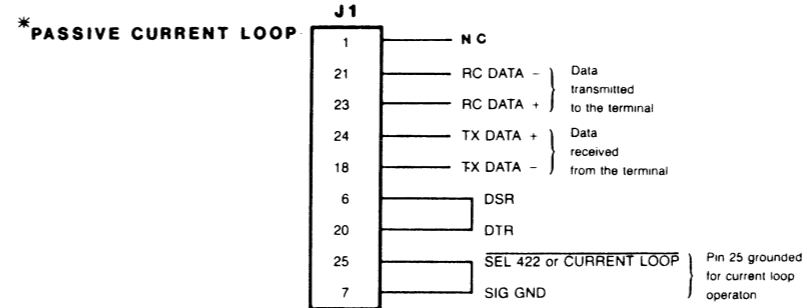
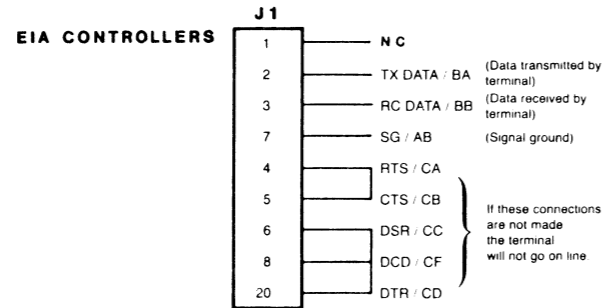
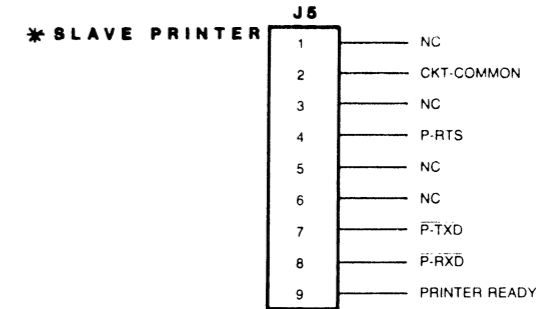
CONNECTORS



REAR VIEW D210



REAR VIEW D211



*** D211 ONLY**

NOTE: Both pins 25 & 13 grounded for 422 operation.

CABLE REQUIREMENTS

EIA RS-232C

HOST/CONTROLLER	CABLES REQUIRED MODEL # (ASSEMBLY)	CABLE MODEL # LENGTH SUFFIXES
CONVENIENCE PANEL SYSTEMS WITH 25-PIN CONNECTORS	1340 (005-13258)	MODEL 1340 CABLE (EIA RS-232C) IS 25' LONG.
ALM-8 SYSTEMS WITH BACKPANEL CONNECTION	AND 1340 (005-13258) 1241 (005-13270)	MODEL 1340-A IS 50' LONG. 1340-A MAY BE USED IN PLACE OF MODEL 1340.
ULM, microNOVA 422x, OR microNOVA CONSOLE INTERFACE	AND 1340 (005-13258) 1243 (005-13271)	MODELS 1241, 1243, 1244, AND ARE ADAPTOR CABLES. EACH IS 18" LONG.
ALM-16 WITH BACKPANEL CONNECTION	AND 1340 (005-13258) 1244 (005-13273)	
PRIMARY CONSOLE INTERFACE WITH BACKPANEL CONNECTION	AND 1340 (005-13258) 1257 (005-13389)	
MODEM	1338 (005-13268)	

20mA CURRENT LOOP (D211 only)

HOST/CONTROLLER	CABLES REQUIRED	CABLE MODEL # LENGTH SUFFIXES
CONVENIENCE PANEL SYSTEMS WITH 25 PIN CONNECTORS	1341 (005-13280)	MODEL 1341 CABLE (20mA CURRENT LOOP) IS 25' LONG. MODELS 1242 AND 1245 ARE ADAPTOR CABLES. EACH IS 18" LONG
ULM, microNOVA 422x, OR ANY SINGLE LINE CONSOLE INTERFACE WITH BACKPANEL CONNECTION	AND 1341 (005-13280) 1242 (005-13272)	CURRENT LOOP EXTENSION CABLES MODEL 1341-A IS 50' LONG MODEL 1341-B IS 100' LONG MODEL 1341-C IS 300' LONG MODEL 1341-D IS 500' LONG
ALM-16 WITH BACKPANEL CONNECTION	AND 1341 (005-13280) 1245 (005-13274)	

EXTENSION CABLE OR CABLES MAY BE USED IN ADDITION TO MODEL 1341 FOR LONGER DISTANCES. SUBJECT TO LENGTH LIMITATIONS SHOWN IN "MAXIMUM CABLE LENGTHS" TABLE. MODELS 1341-A, -B, -C, -D, MAY NOT BE USED WITHOUT MODEL 1341.

**EIA RS-422A
(D211 ONLY)**

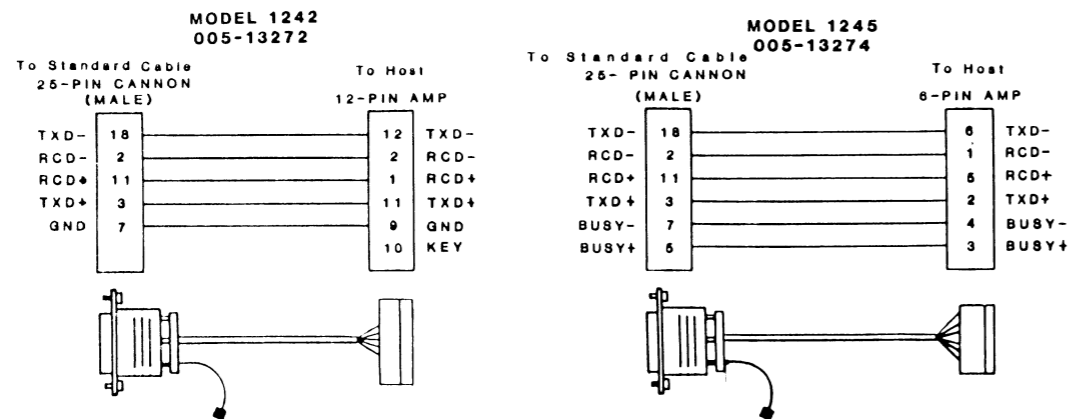
HOST/CONTROLLER	CABLES REQUIRED MODEL # (ASSEMBLY)	CABLE MODEL # LENGTH SUFFIXES
	1339 (005-13384)	MODEL 1339 CABLE IS 25' LONG. THE FOLLOWING CABLES ARE EXTENSION CABLES FOR MODEL 1339: MODEL/LENGTH 1339-A/50' 1339-B/100' 1339-C/300' 1339-D/500' EXTENSION CABLE OR CABLES MAY BE USED IN ADDITION TO MODEL 1339 FOR LONGER DISTANCES, SUBJECT TO LENGTH LIMITATIONS SHOWN IN "MAXIMUM CABLE LENGTH" TABLE. MODELS 1339-A, -B, -C AND -D MAY NOT BE USED WITHOUT MODEL 1339.

PRINTER PORT CABLE (D211 ONLY)

PRINTER	CABLES REQUIRED MODEL # (ASSEMBLY)	CABLE MODEL # LENGTH SUFFIXES
150 CPS DOT MATRIX (Model 4422)	AND 1342 (005-20404) 1258 (005-13259)	MODEL 1342 CABLE IS 5' LONG. MODEL 1258 IS AN ADAPTER CABLE. IT IS 18" LONG.
150 CPS DOT MATRIX (Model 4433)	1342 (005-20404)	THE FOLLOWING MODEL NUMBERS MAY BE USED IN PLACE OF MODEL 1342:
TP1, TP2 (MODELS 8040-8043, 8073-8078, 8088-8089, 6193-6194)	AND 1342 (005-20404) 1258 (005-13280)	MODEL LENGTH 1342-R 2' 1342-T 15' 1342-U 25' 1342-A 50'
MULTIFUNCTION MATRIX PRINTER (342 (005-20404) (MODEL 4434)	1342 (005-20404)	

NOTE: THIS CABLING INFORMATION MAY ALSO BE FOUND IN DOCUMENT OIO-683

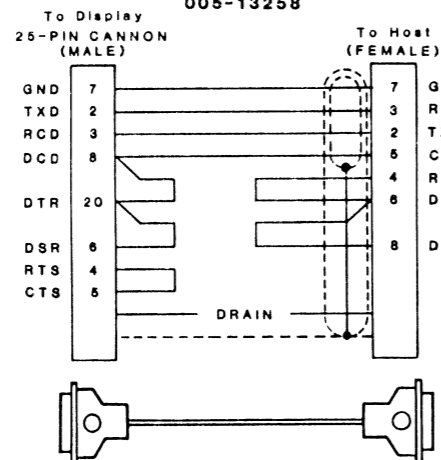
CURRENT LOOP HOST-END ADAPTER CABLES



CABLE REQUIREMENTS

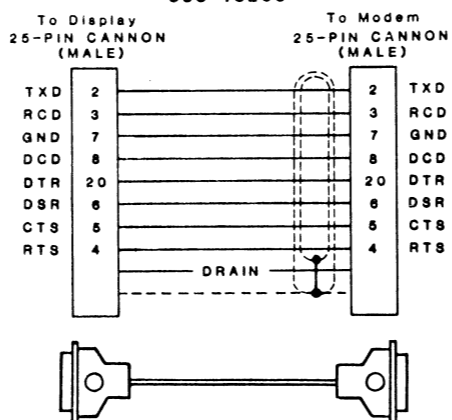
STANDARD EIA RS-232C CABLE

MODEL 1340
005-13258



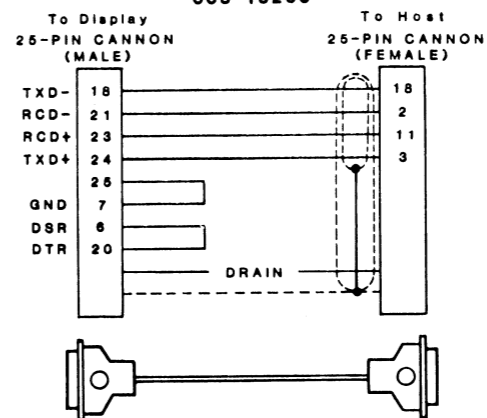
MODEM CABLE

MODEL 1338
005-13266



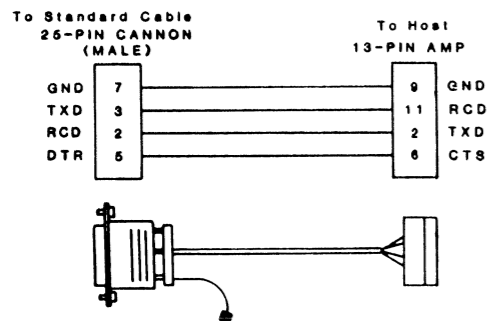
STANDARD CURRENT LOOP CABLE

MODEL 1341
005-13260

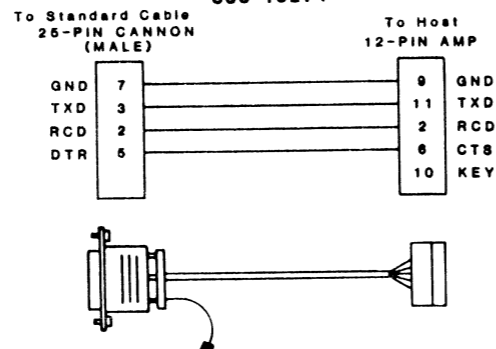


RS-232C HOST-END ADAPTER CABLES

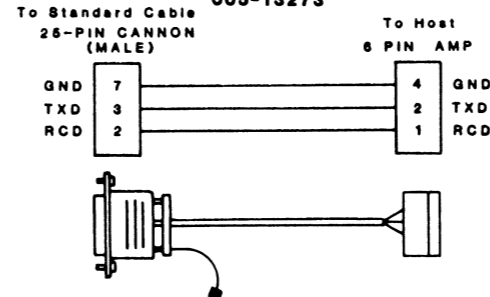
MODEL 1241
005-13270



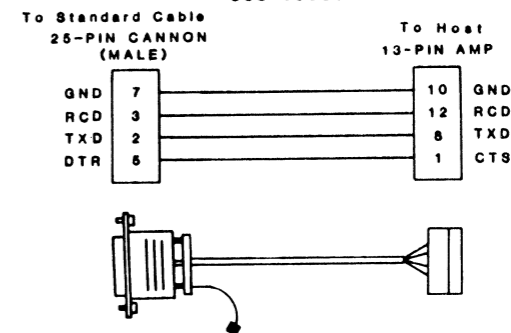
MODEL 1243
005-13271



MODEL 1244
005-13273

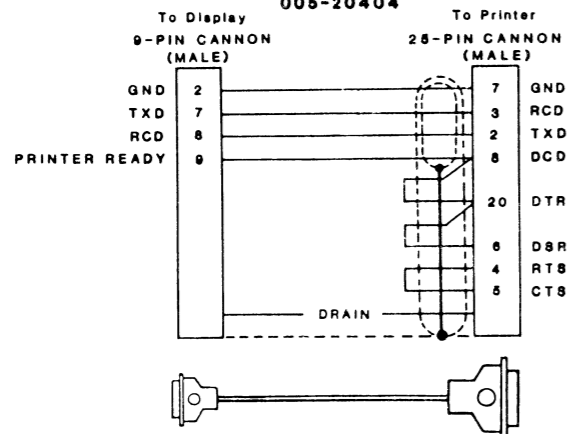


MODEL 1257
005-13389



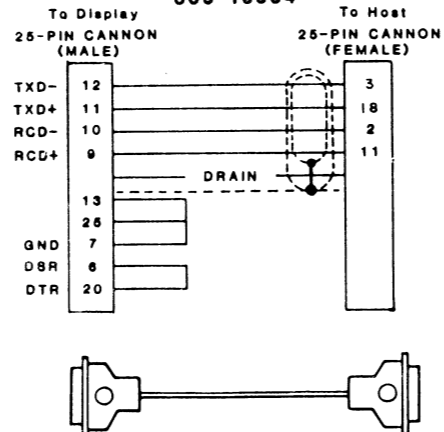
PRINTER PORT CABLE

MODEL 1342
005-20404

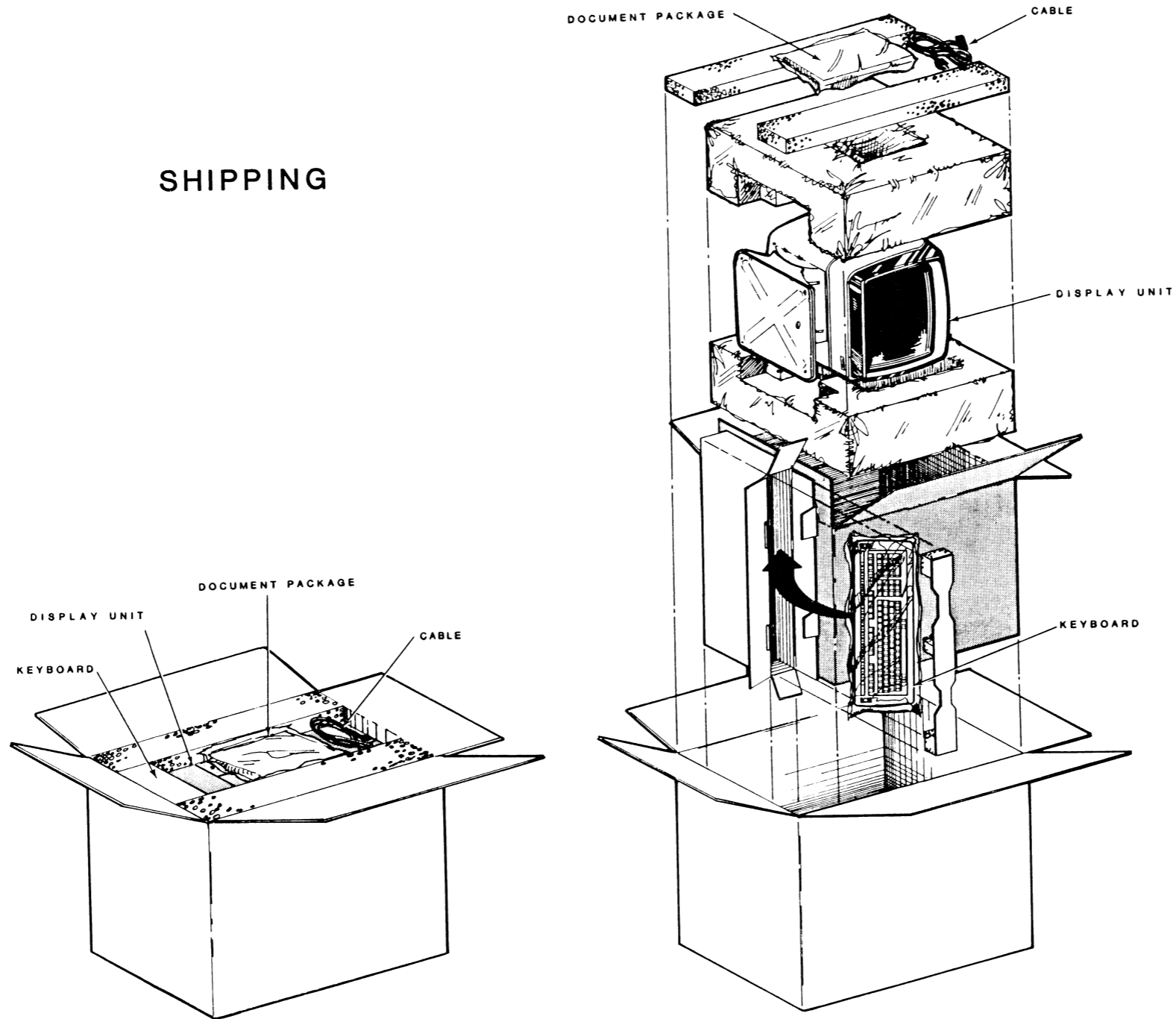


RS-422A CABLE

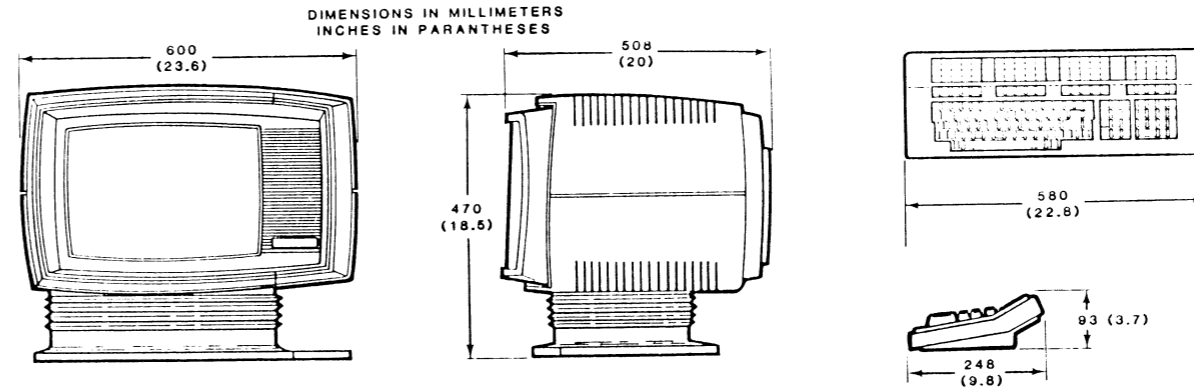
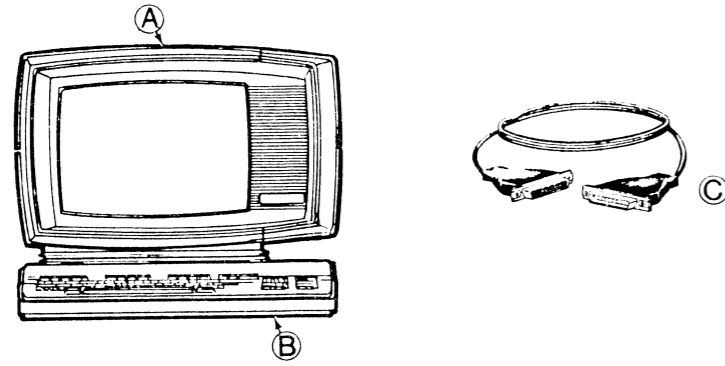
MODEL 1339
005-13384



SHIPPING



INSTALLATION SPECIFICATIONS



MAJOR COMPONENT

ITEM	COMPONENT	MOUNTING LOCATION	NOTES
A	DISPLAY UNIT	TABLE-TOP	CONNECTED TO DISPLAY BY INTEGRAL 5 FOOT (1.5 METERS) CABLE.
B	KEYBOARD	TABLE-TOP	

CABLE

CABLE	CONNECTING	BAUD RATE	LENGTH	NOTES
EXTERNAL (20MA)	TERMINAL TO COMPUTER	9600	300 FT (91 M)	1200 FT MAX AT 2400 BAUD RATE AND BELOW
		4800	600 FT (182 M)	
		2400	1200 FT	
EXTERNAL RS-232C EIA	TERMINAL TO COMPUTER		50 FT (15M)	50 FT MAX AT 9600 BAUD RATE AND BELOW

MODEL NUMBER TABLE

MODEL NUMBER	SUFFIX	DESCRIPTION
6241 ALPHA/BETA/GAMMA DISPLAY UNIT, KEYBOARD, AND EXTERNAL CABLE	ALPHA = EXTERNAL CABLE TYPE	SEE SHEET 5 FOR DETAILS
	BETA = KEYBOARD NATIONALITY	
	= A	UNITED STATES
	= B	UNITED KINGDOM
	= C	FRANCE
	= D	GERMANY
	= F	SWEDEN/FINLAND
	= G	SPAIN
	= H	DENMARK/NORWAY
	GAMMA = POWER SOURCE	
	= 0	120 VAC, 60 HZ
	= 1	100 VAC, 50 HZ
	= 2	220 VAC, 50 HZ
= 4	240 VAC, 50 HZ	

DIMENSIONS:

DISPLAY UNIT	WIDTH	DEPTH	HEIGHT
MILLIMETERS	600	508	470
INCHES	23.6	20.0	18.5
KEYBOARD			
MILLIMETERS	580	248	93
INCHES	22.8	9.8	3.7

WEIGHT

	KG	LBS
DISPLAY UNIT	34.1	75
KEYBOARD	2.55	5.6

HEAT OUTPUT (MAX.):

WATTS	BTU/HR
370	1265

OPERATING ENVIRONMENT:

TEMPERATURE RANGE	10 TO 38°C (50 TO 106°F)
HUMIDITY RANGE	20 TO 80% NON-CONDENSING
ALTITUDE	-305M (-1000 FT) TO 2438M (8000 FT)

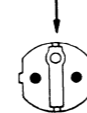
POWER REQUIREMENTS

GAMMA SUFFIX = 0	
VOLTAGE	120 VAC +10%/-15%
FREQUENCY	60 +/- 1%
CURRENT	2.6 AMPS
STARTUP SURGE	20 AMPS AT 120 VAC FOR 1 CYCLE
GAMMA SUFFIX = 1	
VOLTAGE	100 VAC +/- 10%
FREQUENCY	50 +/- 1%
CURRENT	2.9 AMPS
STARTUP SURGE	20 AMPS AT 100 VAC FOR 1 CYCLE
GAMMA SUFFIX = 2	
VOLTAGE	220 VAC +10%/-15%
FREQUENCY	50 +/- 1%
CURRENT	1.4 AMPS
STARTUP SURGE	20 AMPS AT 220 VAC FOR 1 CYCLE
GAMMA SUFFIX = 4	
VOLTAGE	240 VAC +10%/-15%
FREQUENCY	50 +/- 1%
CURRENT	1.3 AMPS
STARTUP SURGE	20 AMPS AT 240 VAC FOR 1 CYCLE

POWER CABLES:

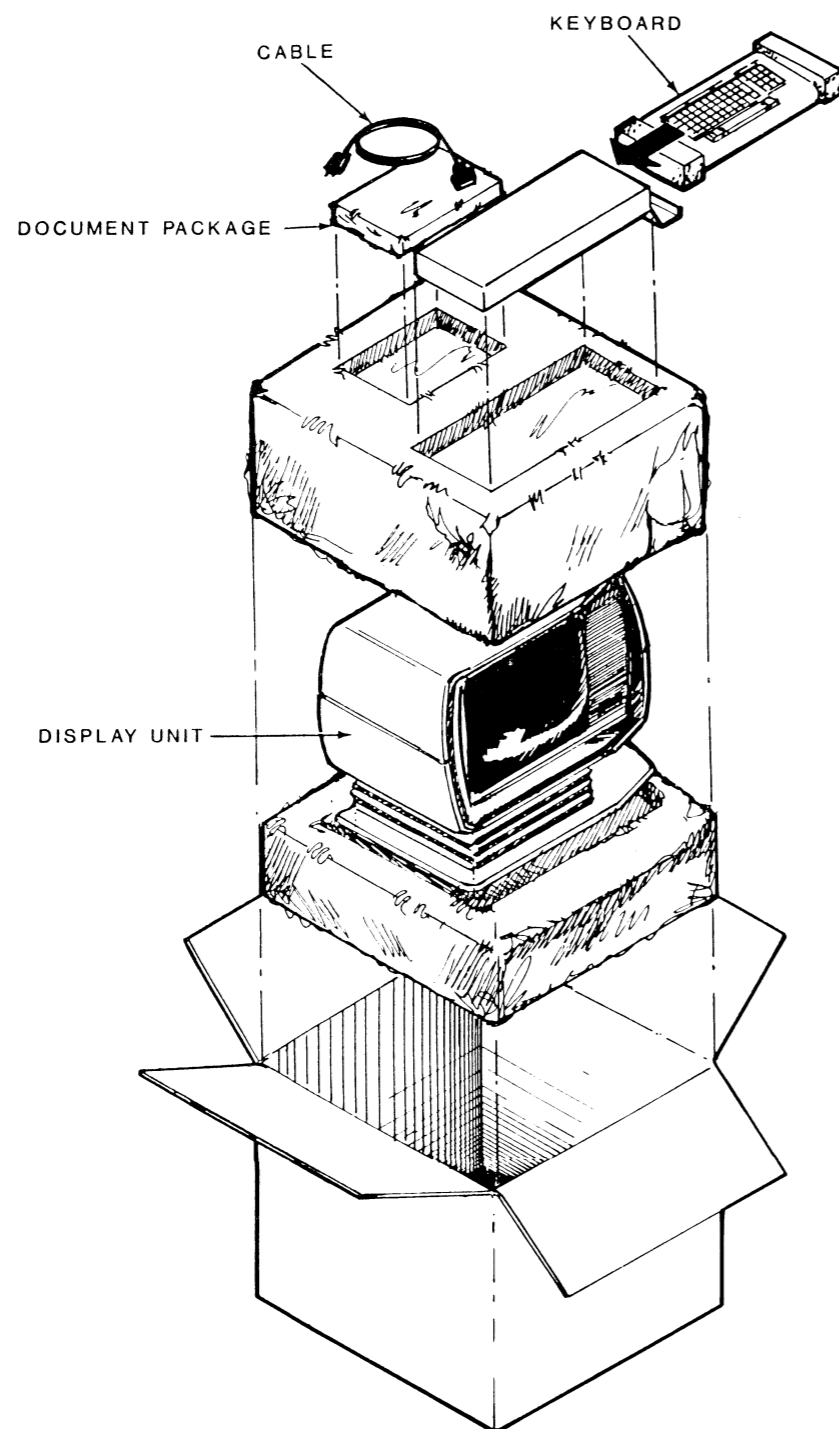
BETA SUFFIX	LENGTH
0 OR 1	1.8 M (6 FT)
2 OR 4	3.0 M (10 FT)

CONNECTOR	MATING CONNECTOR
5-15P	5-15R
	- - -



CEE - Publication 7 Standard Sheet VII

SHIPPING



TERMINAL CONFIGURATION

TERMINAL CONFIGURATION MENU

TERMINAL PARAMETERS	POWER-UP	CURRENT
SCREEN BRIGHTNESS (0-15)	15	15
AUDIBLE TONE VOLUME (0-15)	7	7
SCROLL RATE (0-2)	0	0
KEYCLICK (ON,OFF)	ON	ON
CHARACTER PACING (ON,OFF)	ON	ON
BAUD RATE (110,150,300,600,1200,2400,4800,9600)	9600	9600
PARITY (MARK,ODD,EVEN,NONE)	MARK	MARK
EXT SCAN RATE (31.5,15.75)	31.5	31.5
EXT VIDEO ENABLE (ON,OFF)	ON	ON
EXT VIDEO SYNC POLARITY (POS,NEG)	NEG	NEG
SAVE CURRENT VALUES OF <u>NORMAL</u> AND <u>DIM</u> CHARACTERS? NO		

TERMINAL CONFIGURATION PROCEDURE

THE TERMINAL CONFIGURATION MENU ABOVE IS ACCESSED AND USED TO CONFIGURE THE TERMINAL OPERATING PARAMETERS AS FOLLOWS:

1. SET THE TERMINAL POWER SWITCH TO ON. THE POWER SWITCH IS LOCATED UNDER THE RIGHT SIDE OF THE DISPLAY UNIT HOUSING, IMMEDIATELY IN FRONT OF THE POWER CORD CONNECTION.
2. WAIT FOR THE SELF-TEST TO COMPLETE (JUST UNDER 15 SECONDS). NO ERROR MESSAGE SHOULD BE DISPLAYED. HOWEVER, IF A "NON-VOLATILE RAM ERROR" MESSAGE IS DISPLAYED, CONTINUE WITH THIS PROCEDURE AND READ STEP 7 CAREFULLY BEFORE EXITING THE TERMINAL CONFIGURATION MENU. (REFERENCE THE SERVICE DOCUMENTATION FOR OTHER SELF-TEST ERROR MESSAGES.)
3. IF THE TERMINAL IS NOT OFF-LINE (ON-LINE LAMP NOT OFF), DEPRESS AND HOLD THE CMD KEY AND THEN DEPRESS ON LINE (CMD-ON LINE) TO SET THE TERMINAL OFF-LINE.
4. DEPRESS AND HOLD THE CMD KEY AND THEN DEPRESS CONFIG MENU (CMD-CONFIG MENU) TO DISPLAY THE TERMINAL CONFIGURATION MENU.
5. THE ALPHANUMERIC CURSOR IS LOCATED UNDER THE POWER-UP VALUE FOR THE FIRST PARAMETER IN THE MENU (SCREEN BRIGHTNESS). FOR EACH VALUE IN THE MENU THERE ARE FOUR OPTIONS:
 - A. DEPRESS NEW LINE TO ADVANCE TO THE NEXT VALUE. WHEN THE CURSOR IS UNDER THE LAST VALUE IN THE MENU, DEPRESSING NEW LINE CAUSES AN EXIT FROM THE MENU.

(CONTINUED ON NEXT PAGE.)

TERMINAL CONFIGURATION (Continued)

- B. DEPRESS THE CURSOR LEFT (←) KEY TO BACK UP TO THE PREVIOUS VALUE. IF CURSOR LEFT IS DEPRESSED WHEN THE CURSOR IS UNDER THE FIRST VALUE IN THE MENU, AN "INVALID ENTRY - TRY AGAIN" MESSAGE IS DISPLAYED IN THE LOWER-RIGHT CORNER OF THE SCREEN. SELECT ONE OF THE OTHER MENU OPTIONS AND CONTINUE.
- C. KEY IN A NEW VALUE FROM THE OPTIONS LISTED (ONLY THE OPTIONS LISTED ARE ACCEPTED). IF AN INVALID VALUE IS ENTERED, AN "INVALID ENTRY - TRY AGAIN" MESSAGE IS DISPLAYED IN THE LOWER-RIGHT CORNER OF THE SCREEN. CORRECT THE INVALID VALUE AND CONTINUE.
- D. DEPRESS BREAK ESC TO EXIT THE MENU. AFTER AN EXIT IS TAKEN, THE TERMINAL PARAMETERS TAKE EFFECT, THE TERMINAL REMAINS OFF-LINE, THE SCREEN IS ERASED, AND THE ALPHANUMERIC CURSOR APPEARS IN THE UPPER-LEFT CORNER OF THE SCREEN.
6. USING THE FOUR OPTIONS LISTED ABOVE, PROCEED DOWN THROUGH THE MENU FOLLOWING THE GUIDELINES BELOW:
- A. THE FIRST FOUR PARAMETERS IN THE MENU (SCREEN BRIGHTNESS, AUDIBLE TONE VOLUME, SCROLL RATE, AND KEYCLICK) ARE USER PREFERENCE SELECTIONS. NORMALLY THE VALUES SELECTED AT THE FACTORY ARE SATISFACTORY, SO THESE CAN BE SKIPPED OVER.
- B. THE NEXT THREE PARAMETERS (CHARACTER PACING, BAUD RATE, AND PARITY) ARE CRITICAL TO ON-LINE PERFORMANCE. SET BOTH THE POWER-UP AND CURRENT VALUES OF THESE PARAMETERS TO MATCH THE HOST REQUIREMENTS.
- C. THE LAST THREE PARAMETERS (EXTERNAL SCAN RATE, EXTERNAL VIDEO ENABLE, AND EXTERNAL VIDEO SYNC POLARITY) CAN BE SKIPPED UNLESS EXTERNAL VIDEO IS TO BE USED.
- D. THE LAST ITEM IN THE MENU IS A QUESTION FOR THE TERMINAL USER, AND SHOULD BE SKIPPED DURING INSTALLATION.
7. THE "NON-VOLATILE RAM ERROR" MESSAGE THAT APPEARS AFTER THE SELF-TEST NORMALLY MEANS THAT THE NON-VOLATILE RAM HAS NOT BEEN PROGRAMMED WITH THE POWER-UP VALUES APPEARING IN THE TERMINAL CONFIGURATION MENU. WHEN THE MENU IS USED TO CHANGE ONE OR MORE POWER-UP PARAMETER VALUES, ALL OF THE POWER-UP VALUES ARE WRITTEN TO THE NON-VOLATILE RAM WHEN THE MENU IS EXITED. TAKE THE FOLLOWING STEPS TO PROGRAM THE NON-VOLATILE RAM:
- A. IF A PARAMETER IN THE MENU HAS ALREADY BEEN CHANGED, DEPRESS BREAK ESC TO EXIT THE MENU.
- B. IF A PARAMETER HAS NOT BEEN CHANGED, DO THE FOLLOWING: SELECT ANY PARAMETER, CHANGE IT TO ANOTHER VALUE AND DEPRESS NEW LINE, BACK UP TO THE PARAMETER JUST CHANGED, RESET THE PARAMETER TO ITS ORIGINAL VALUE, AND DEPRESS BREAK ESC TO EXIT THE MENU.
- C. CYCLE THE TERMINAL POWER OFF AND THEN ON, AND THEN VERIFY THE "NON-VOLATILE RAM ERROR" MESSAGE DOES NOT REAPPEAR FOLLOWING THE SELF-TEST. IF ANY ERROR MESSAGE APPEARS, REFERENCE THE SERVICE DOCUMENTATION.

DISABLING USER ACCESS TO TERMINAL POWER-UP PARAMETERS

THE G500 TERMINAL USES A NON-VOLATILE READ/WRITE MEMORY DEVICE TO MAINTAIN THE POWER-UP TERMINAL CONFIGURATION PARAMETERS AND COLORS. THERE IS A SWITCH INSIDE THE DISPLAY UNIT THAT CAN BE SET TO DISABLE NON-VOLATILE MEMORY WRITE OPERATIONS AND, THEREFORE, PREVENT THE USER FROM CHANGING THE POWER-UP VALUES. TWO TOOLS ARE NEEDED TO ACCESS AND SET THE SWITCH:

- A 12-INCH (OR LONGER) NARROW SHANK PHILLIPS SCREWDRIVER
- A NON-CONDUCTIVE POINTED TOOL THAT WILL FIT THROUGH A 6 MILLIMETER (0.25 INCH) DIAMETER HOLE TO A DEPTH OF AT LEAST 26 MILLIMETERS (1 INCH).

PROCEDURE

- 1) SET THE TERMINAL POWER SWITCH TO OFF. THE SWITCH IS LOCATED UNDER THE RIGHT SIDE OF THE DISPLAY UNIT HOUSING, IMMEDIATELY IN FRONT OF THE POWER CORD CONNECTION.
- 2) USING THE NARROW SHANK PHILLIPS SCREWDRIVER, UNSCREW THE FIVE TOP COVER RETAINING SCREWS (SEE FIGURE 1) FROM THE DISPLAY UNIT. RETAINERS MOUNTED ON THE SCREWS PREVENT THEM FROM COMING OUT OF THE TOP COVER.
- 3) CAREFULLY LIFT THE TOP COVER STRAIGHT UP AND OFF THE DISPLAY UNIT.
- 4) USING FIGURE 2 AS A GUIDE, LOCATE THE DUAL-IN-LINE-PACKAGE (DIP) SWITCHES UNDER THE METAL GRILL COVERING THE DISPLAY

NOTE

WHEN THE G500 IS SHIPPED FROM THE FACTORY, DIP SWITCHES 1 THROUGH 8 ARE SET FOR NORMAL TERMINAL OPERATION. DO NOT CHANGE ANY OF THE SWITCH SETTINGS OTHER THAN THE ONE MENTIONED BELOW.

- 5) SWITCH NUMBER 5 CONTROLS THE WRITE ACCESS TO THE NON-VOLATILE MEMORY. TO SET THE SWITCH, THE NON-CONDUCTIVE POINTED TOOL MUST BE DIRECTED THROUGH THE METAL GRILL DIRECTLY ABOVE SWITCH 5.
 - A) SET SWITCH 5 TO OPEN (DOWN) TO DISABLE WRITING INTO THE NON-VOLATILE MEMORY. WITH SWITCH 5 SET OPEN, THE POWER-UP PARAMETERS CANNOT BE ACCESSED WITH THE TERMINAL CONFIGURATION MENU.
 - B) SET SWITCH 5 TO THE UP (CLOSED) POSITION TO ENABLE WRITING INTO THE NON-VOLATILE MEMORY. WITH SWITCH 5 SET UP, THE POWER-UP PARAMETERS CAN BE ACCESSED WITH THE TERMINAL CONFIGURATION MENU.
- 6) CAREFULLY SLIP THE TOP COVER DOWN OVER THE TOP OF THE DISPLAY UNIT AND SECURE THE COVER WITH ITS FIVE SCREWS.
- 7) POWER UP THE TERMINAL AND ACCESS THE TERMINAL CONFIGURATION MENU. IF SWITCH 5 WAS SET TO DISABLE WRITING INTO THE NON-VOLATILE MEMORY, THE CURSOR SHOULD REMAIN IN THE CURRENT COLUMN OF THE MENU FOR EACH DEPRESSION OF NEW LINE. IF SWITCH 5 WAS SET TO ENABLE WRITING INTO THE NON-VOLATILE MEMORY, THE CURSOR SHOULD MOVE BETWEEN THE TWO COLUMNS OF THE MENU FOR EACH DEPRESSION OF NEW LINE.

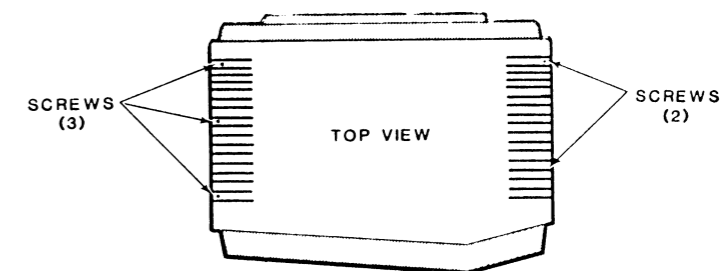


Figure 1. Retaining Screws on Top Cover of Display Unit

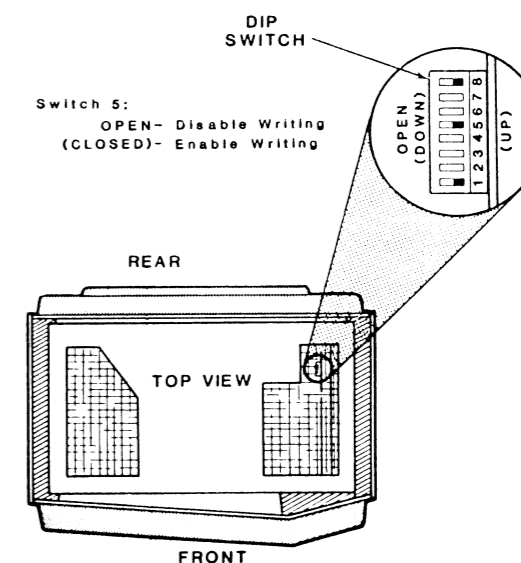
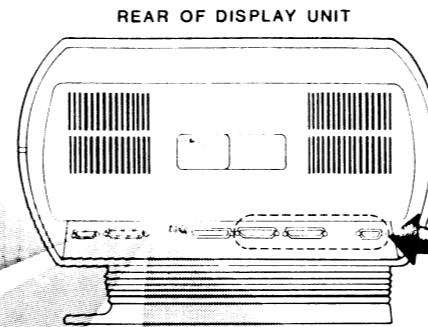
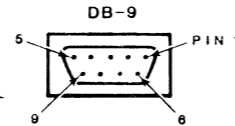
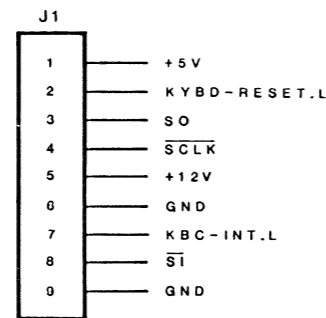


Figure 2. DIP Switch Location Under Top Cover

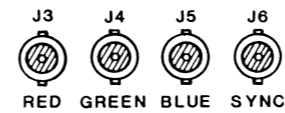
EXTERNAL CABLING CONNECTORS

KEYBOARD
CONNECTOR (J1)

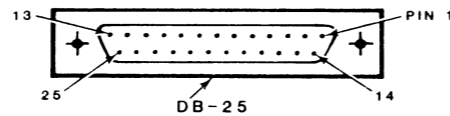


OPTIONAL COMM 1
OPTIONAL COMM 2
POSITIONING DEVICE
(ALL 3 NOT USED)

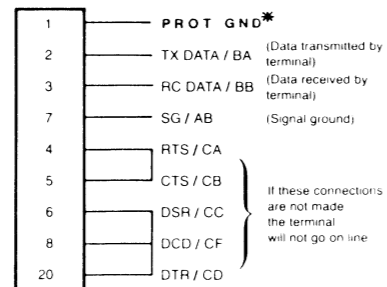
EXTERNAL VIDEO
CONNECTORS



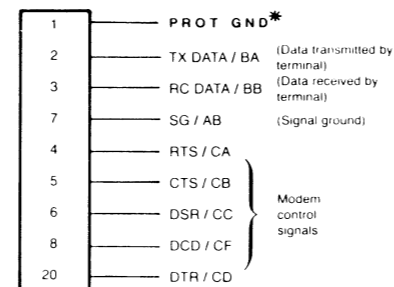
HOST
EIA/CURRENT LOOP
CONNECTOR (J2)



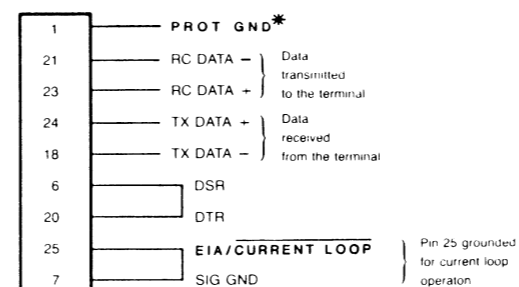
EIA CONNECTIONS



MODEM



20mA CURRENT LOOP
CONNECTIONS (PASSIVE)



* FOR SHIELD TERMINATIONS ON USER SUPPLIED CABLES, USE PROT GND (PIN 1).

EXTERNAL CABLING (Continued)

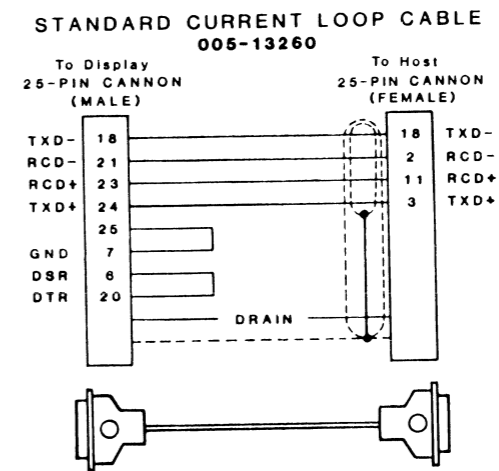
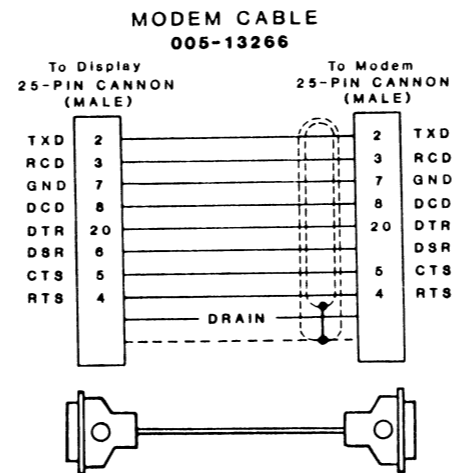
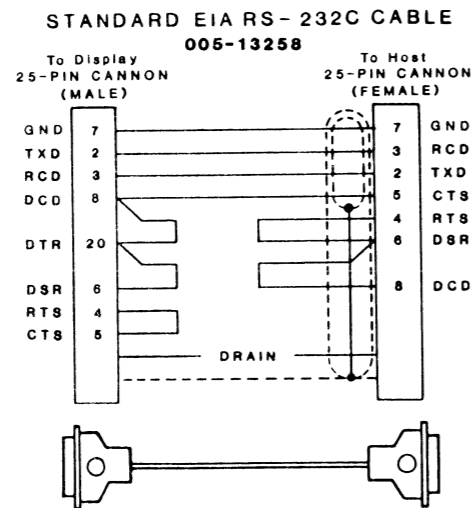
EIA INTERCONNECT CABLES

HOST/CONTROLLER	CABLE(S) USED*	MODEL 6241 ALPHA SUFFIX
CONVENIENCE PANEL SYSTEMS WITH 25 PIN CONNECTORS	005-13258	N
ALM-3 SYSTEMS	005-13258 AND 005-13270	F
ULM, MICRONOVA 422X, OR MICRONOVA CONSOLE INTERFACE	005-13258 AND 005-13271	A
ALM-16 WITH BACKPLANE CONNECTION	005-13258 AND 005-13273	C
PRIMARY CONSOLE INTERFACE WITH BACKPLANE CONNECTION	005-13258 AND 005-13389	O
MODEM	005-13266	J

20mA CURRENT LOOP INTERCONNECT CABLES

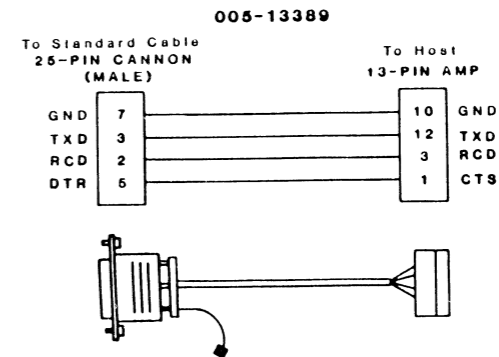
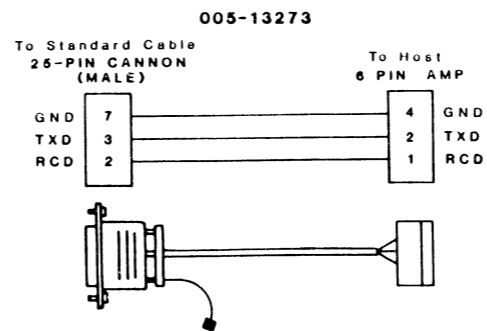
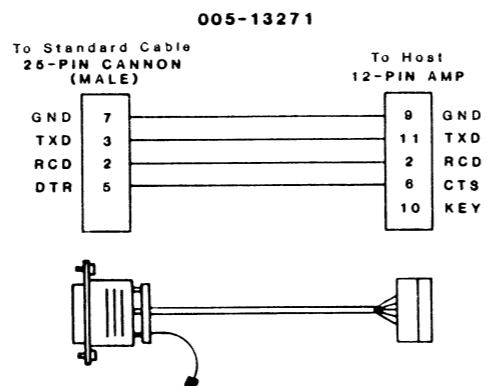
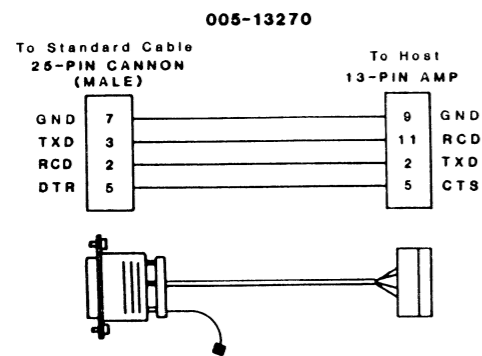
HOST/CONTROLLER	CABLE(S) USED*	MODEL 6241 ALPHA SUFFIX
CONVENIENCE PANEL SYSTEMS WITH 25-PIN CONNECTORS	005-13260	N
ULM, MICRONOVA 422X, OR ANY SINGLE-LINE CONSOLE INTERFACE WITH BACKPLANE CONNECTION	005-13260 AND 005-13272	D
ALM-16 WITH BACKPLANE CONNECTION	005-13260 AND 005-13274	G

* ADAPTER CABLES CONNECT BETWEEN FCC-COMPLIANT (STANDARD DG) CABLES AND HOSTS WITH NON-COMPLIANT (NON-STANDARD DG) CABLE CONNECTORS.

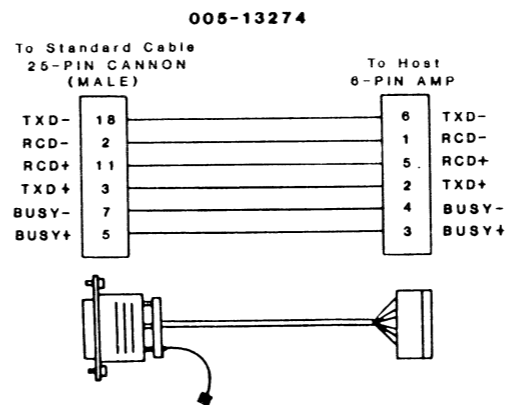
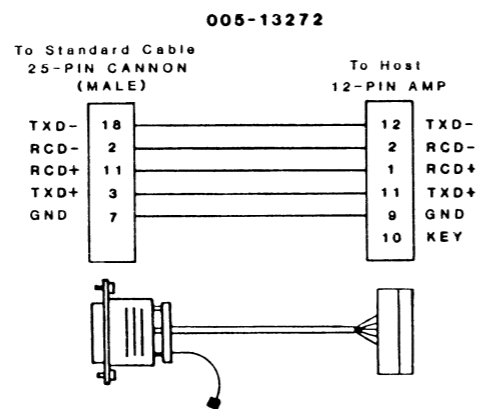


EXTERNAL CABLING (Continued)

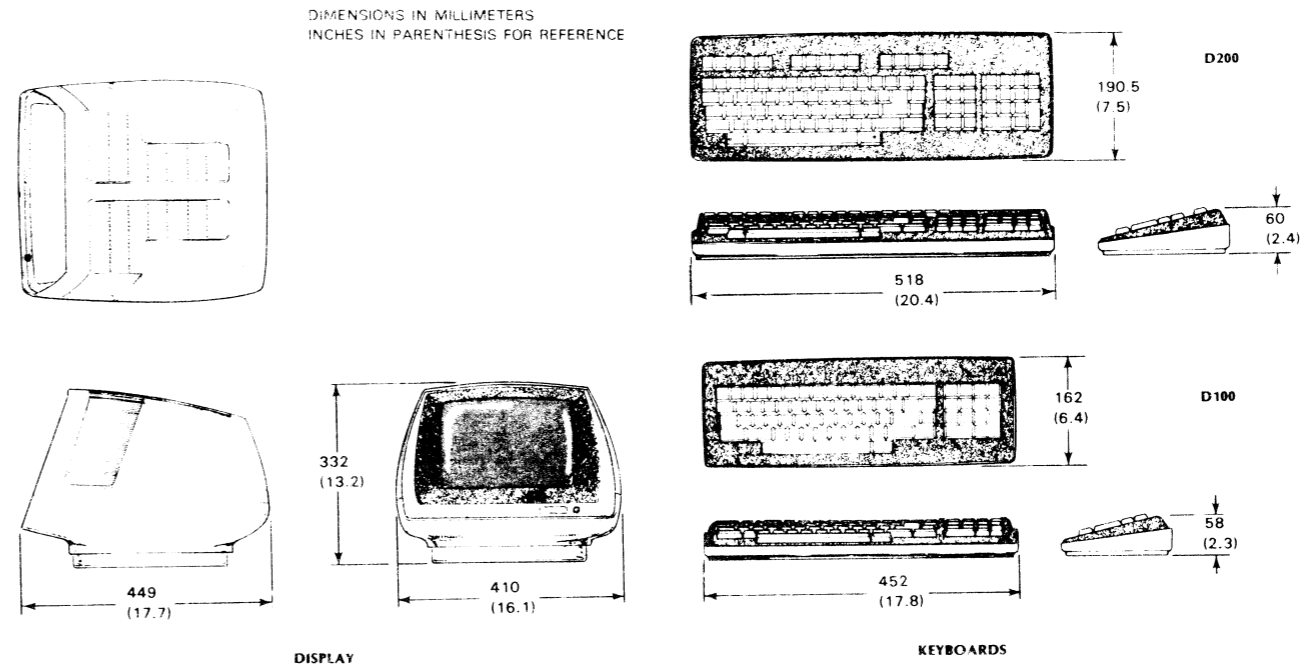
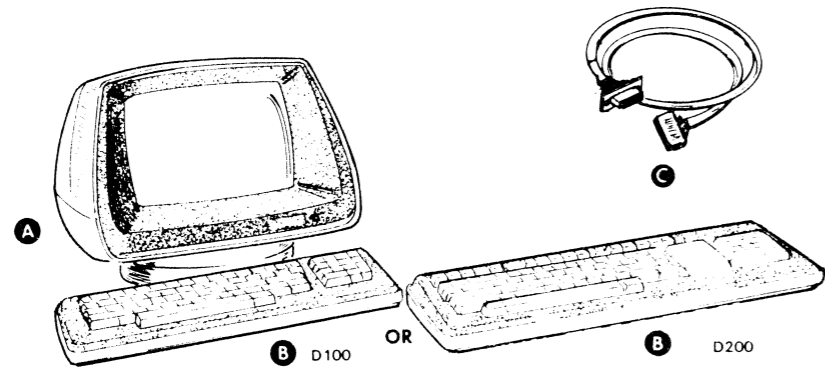
EIA HOST-END ADAPTER CABLES



CURRENT LOOP HOST-END ADAPTER CABLES



INSTALLATION SPECIFICATIONS



MAJOR COMPONENT

ITEM	COMPONENT	MOUNTING LOCATION	NOTES
A	DISPLAY	TABLE-TOP	
B	KEYBOARD	TABLE-TOP	CONNECTED TO DISPLAY BY INTEGRAL 3.95 FOOT (1.2 METERS) CABLE

CABLE

ITEM	CABLE	CONNECTING	MAX LG		NOTES
			FT	M	
C	EXTERNAL (20 MA)	TERMINAL AND COMPUTER	1500	450	1500 FT MAX. AT 9600 BAUD AND BELOW
	EXTERNAL (EIA)	TERMINAL AND COMPUTER	50	15	50 FT MAX. AT 19,200 BAUD AND BELOW

DIMENSIONS:

Display	Width	Depth	Height
Millimeters	410	449	332
Inches	16.1	17.7	13.2

D100 Keyboard:	Width	Depth	Height
Millimeters	452	162	58
Inches	17.8	6.4	2.3

D200 Keyboard:	Width	Depth	Height
Millimeters	518	190.5	60
Inches	20.4	7.5	2.4

WEIGHT:

	kg	lbs
Display:	10	22
D100 keyboard:	1.1	2.4
D200 keyboard:	1.6	3.5

HEAT OUTPUT (Max.):	Watts	BTU/hr
	50	171

POWER REQUIREMENTS:

(Domestic)	
Voltage:	85-132 VAC
Freq.:	47-63 HZ
Current:	1.5 Amps at 120 VAC, 60 Hz
Startup Surge:	2 Amps at 120 VAC, 60 Hz for 1 cycle

(Export)	
Voltage:	187-264 VAC
Freq.:	47-63 Hz
Current:	.75 Amps at 240 VAC, 50 Hz
Startup Surge:	2 Amps at 240 VAC, 50 Hz for 1 cycle

OPERATING ENVIRONMENT:

Temperature (max)	0°-45°C 32°-113°F
Humidity (max)	0% - 95% non-condensing
Altitude	3048 m 10,000 ft

CABLES:

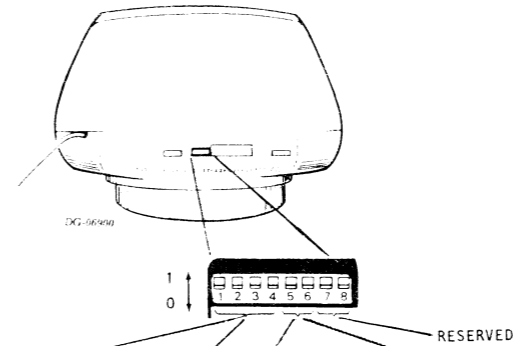
Primary Power	Length	Conn	Mating Conn
Domestic 60Hz	1.8m(6')	5-15P	5-15R
Export 50Hz	1.8m(6')	--	--

SHIPPING

FOR PACKING PROCEDURE,
SEE 010-000263

TAILORING

BAUD RATE and PARITY SWITCHES



BAUD RATE	SWITCH POSITIONS
19,200	1 1 1 1
9,600	1 1 1 0
7,200	1 1 0 1
4,800	1 1 0 0
3,600	1 0 1 1
2,400	1 0 1 0
1,800	1 0 0 1
1,200	1 0 0 0
600	0 1 1 1
300	0 1 1 0
150	0 1 0 1
134.5	0 1 0 0
110	0 0 1 1
75	0 0 1 0
50	0 0 0 1
50	0 0 0 0

1 STOP BIT

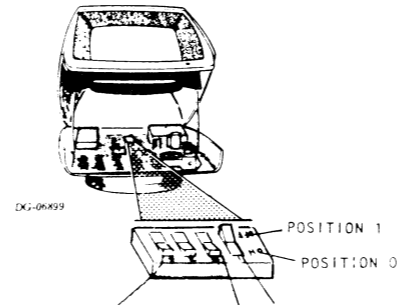
2 STOP BITS

PARITY	SWITCH POSITIONS	COMMENTS
EVEN	1 1	THE STATE OF THE PARITY BIT IS SET SUCH THAT THERE ARE AN EVEN NUMBER OF ONES IN THE TRANSMITTED CHARACTER.
MARK	1 0	THE PARITY BIT IS ALWAYS ONE (1).
ODD	0 1	THE STATE OF THE PARITY BIT IS SET SUCH THAT THERE ARE AN ODD NUMBER OF ONES IN THE TRANSMITTED CHARACTER.
NONE	0 0	THERE IS NO PARITY BIT.

NOTE: SWITCH TERMINAL OFF LINE AND THEN BACK ON LINE TO INITIATE NEW SWITCH SETTINGS.

**PRINTER/ SPLIT BAUD SWITCHES
(MODELS 6107 and 6109 ONLY)**

- SEE NOTE 1 -

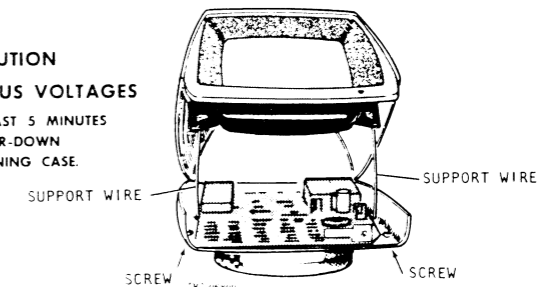


PRINTER INTERFACE AND/OR DISPLAY TRANSMIT BAUD RATE (SPLIT BAUD)	SWITCH
	2 3 4
4800	1 1 1
3600	1 1 0
2400	1 0 1
1800	1 0 0
1200	0 1 1
600	0 1 0
300	0 0 1
110	0 0 0

NOTE 1: MODELS 6106 AND 6108 TERMINALS USE THE 005-14529 LOGIC BOARD, (W/O PTR OPTION) WHICH DOES NOT CONTAIN THE SPLIT BAUD RATE SWITCH. MODELS 6107 AND 6109 USE THE 005-13685 LOGIC BOARD, WHICH HAS THE SPLIT BAUD RATE SWITCH INSTALLED. IF SPLIT BAUD RATE IS NOT DESIRED, THE OPTION "MUST" BE DISABLED. FAILURE TO DO SO WILL CAUSE AN APPARENT KEYBOARD FAILURE.

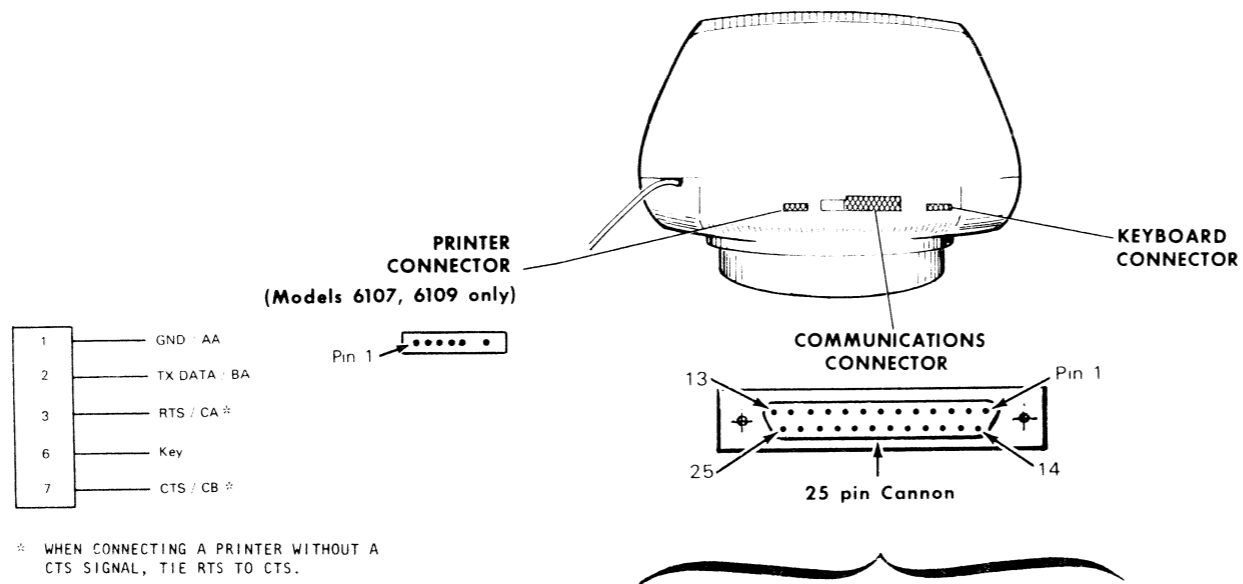
OPENING CASE

CAUTION
HAZARDOUS VOLTAGES
WAIT AT LEAST 5 MINUTES AFTER POWER-DOWN BEFORE OPENING CASE.

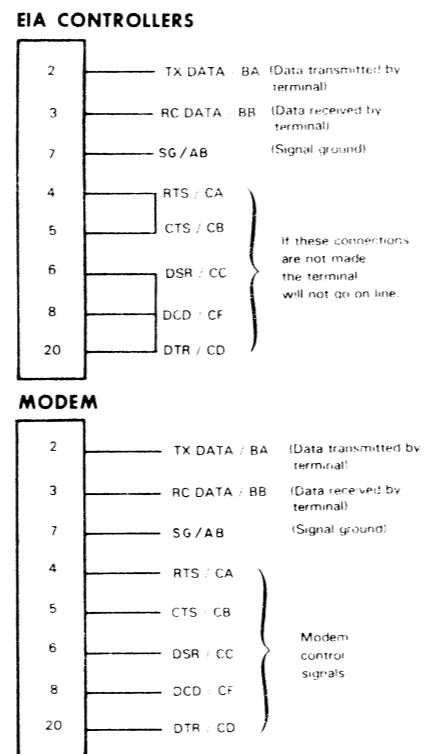


1. TURN OFF TERMINAL, UNPLUG POWER CORD, AND WAIT AT LEAST FIVE MINUTES.
2. REMOVE THE POWER ON/OFF KNOB BY PULLING IT STRAIGHT OUT. PUSH THE SWITCH INTO "OFF" POSITION.
3. LOOSEN THE TWO SCREWS UNDER THE FRONT OF THE CASE.
4. WHILE HOLDING THE BOTTOM OF THE CASE, LIFT THE TOP OF THE CASE UNTIL THE SUPPORT WIRES SNAP INTO POSITION.

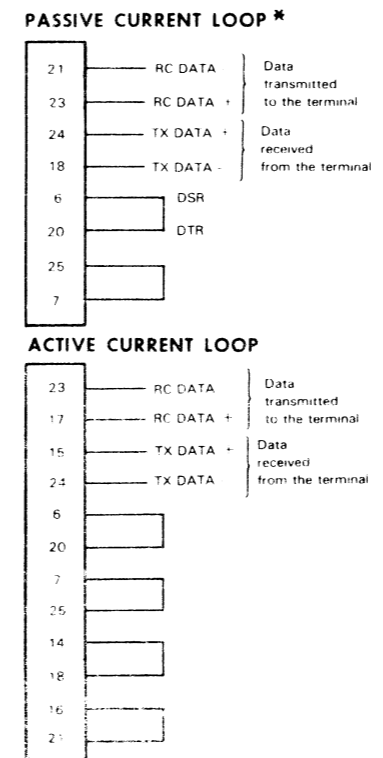
EXTERNAL CABLING CONNECTORS



EIA CONNECTIONS



20mA CURRENT LOOP CONNECTIONS



DOCUMENT UNDER CONTROL OF AUSTIN LAB

* ALL DDC CURRENT LOOP CONTROLLERS USE PASSIVE CURRENT LOOP CONNECTIONS.

EXTERNAL CABLING (CONT) CABLES

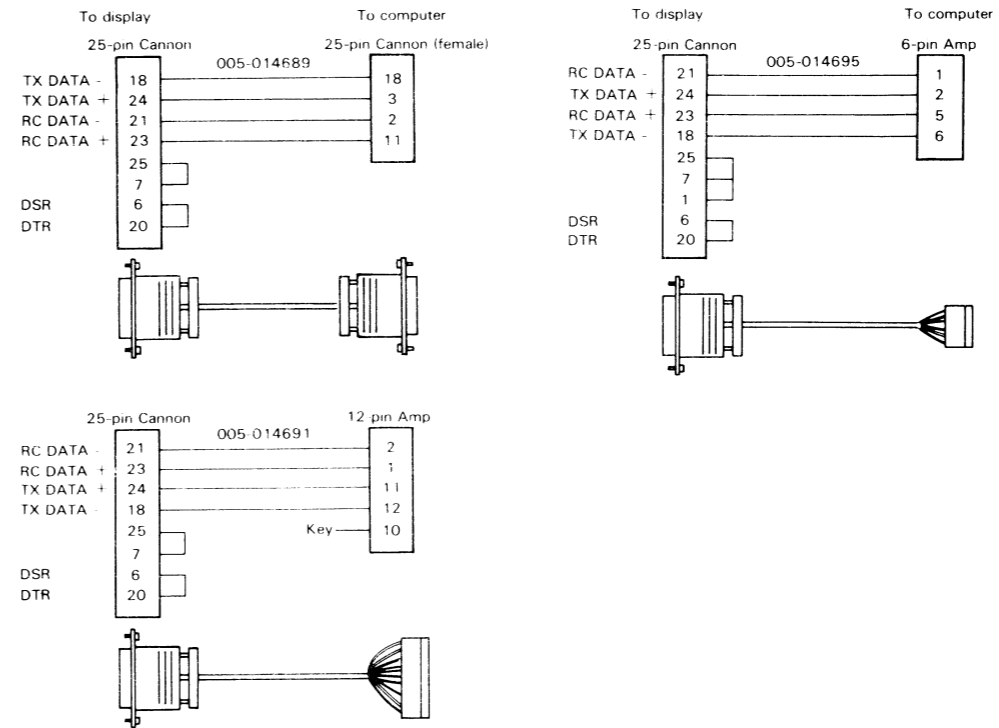
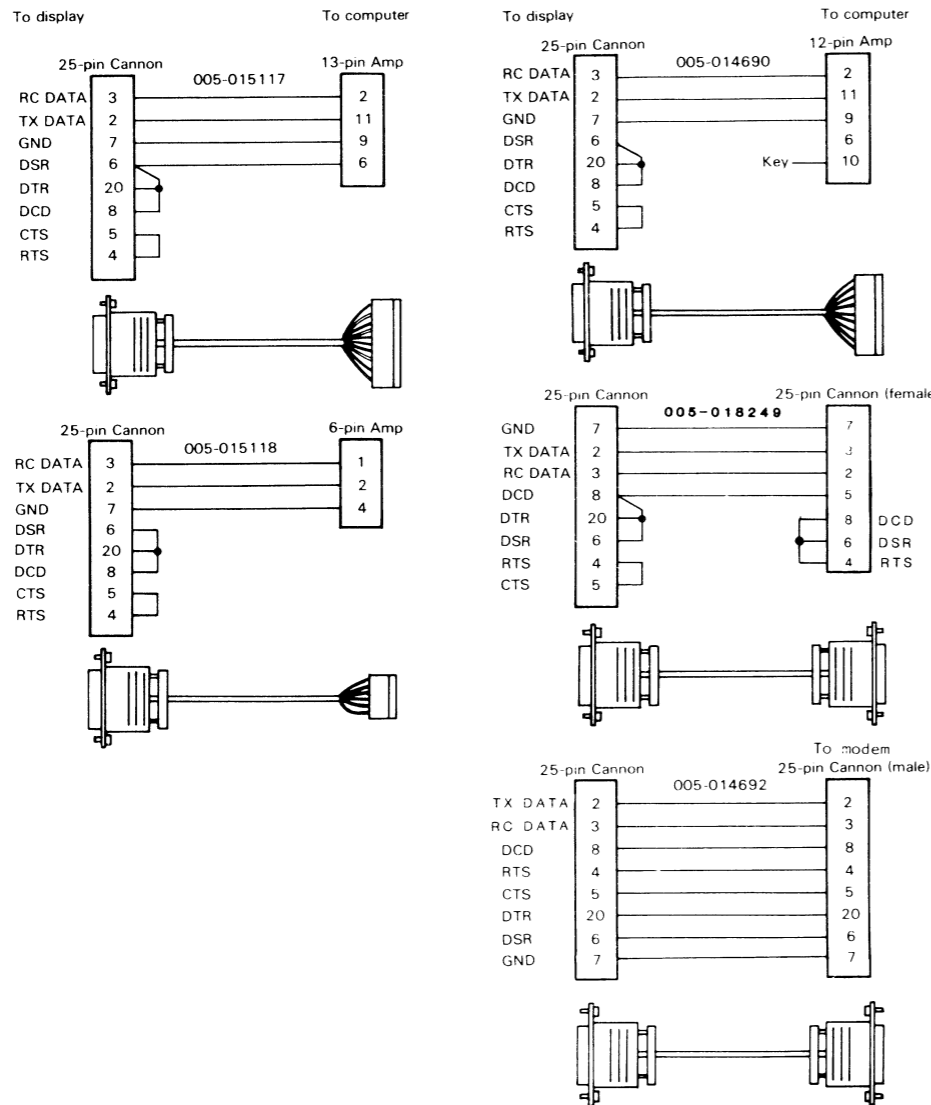
EIA INTERFACE CABLES

COMPUTER/CONTROLLER	CABLE NUMBER
ULM, MICRO NOVA 422X, OR ANY SINGLE LINE CONSOLE INTERFACE WITH BACKPLANE CONNECTION	005-014690
MODEM	005-014692
25-PIN CONNECTOR CONVENIENCE PANEL SYSTEMS	005-018249 *
ALM-8, CS SYSTEMS	005-015117
ALM-16	005-015118

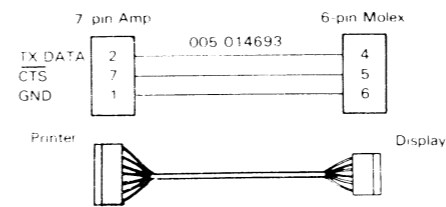
* DOWNWARD COMPATIBLE (REPLACES) 005-014694

20mA INTERFACE CABLES

COMPUTER/CONTROLLER	CABLE NUMBER
25-PIN CONNECTOR CONVENIENCE PANEL SYSTEMS	005-014689
ULM, MICRONOVA 422X, OR ANY SINGLE LINE CONSOLE INTERFACE WITH BACKPLANE CONNECTION	005-014691
ALM-16, CS SYSTEMS	005-014695



PRINTER CABLE (Models 6107, 6109 only)



EQUIPMENT

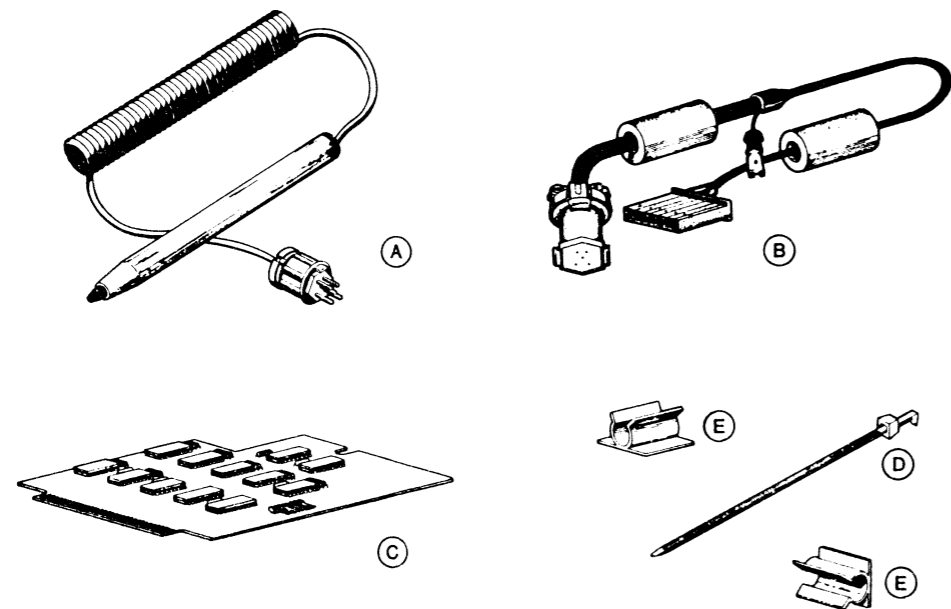
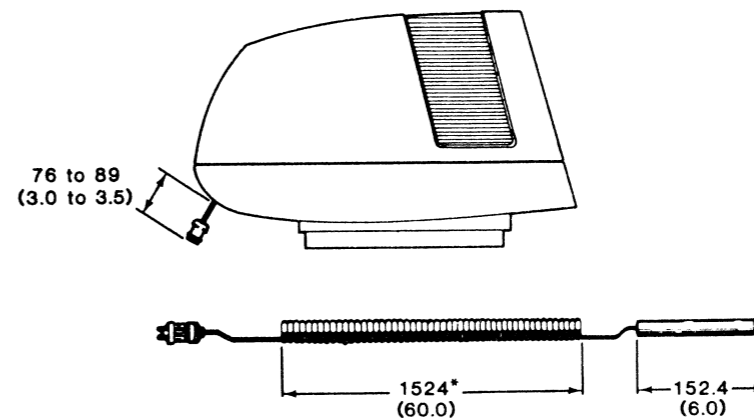


TABLE 1. MODEL 6154 LIGHTPEN OPTION KIT

ITEM	COMPONENT	PART NO.
A	LIGHTPEN AND CONNECTOR	005-012980
B	LIGHTPEN EXTENSION CABLE	005-012979
C	LIGHTPEN PCB	005-012977
D	TIE WRAP	123-000025
E	CABLE CLIPS (2)	123-001764
	LABELS	
	MODEL No.	002-11777
	SERIAL No.	002-11777

SPECIFICATIONS

DIMENSIONS IN MILLIMETERS (INCHES)



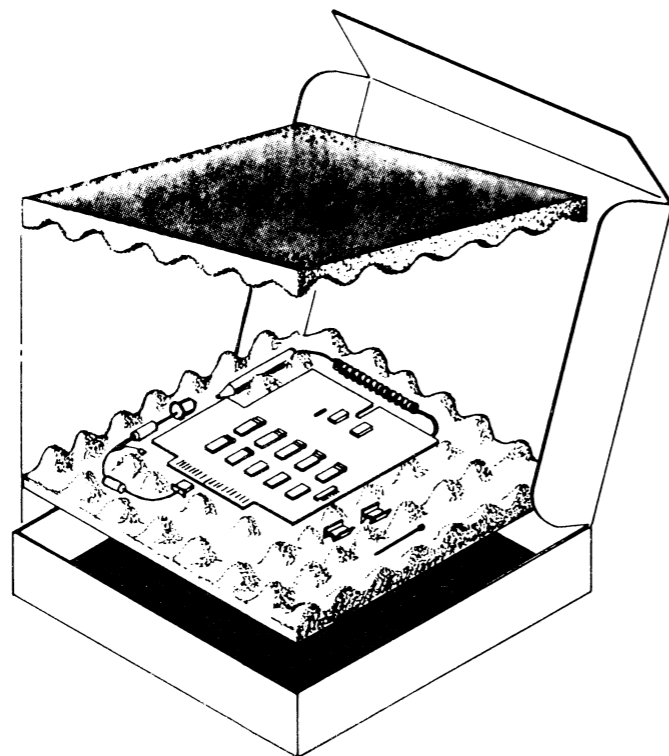
* MINIMUM DISTANCE WHEN EXPANDED

OPERATING ENVIRONMENT:

TEMPERATURE OPERATING: 0 TO 40°C (32 TO 104°F)
 STORAGE: -40 TO 65°C (-40 TO 149°F)

HUMIDITY 0 TO 90% NON-CONDENSING

ALTITUDE 3000 METERS (9843 FEET) MAXIMUM

SHIPPING**INSTALLATION****LIGHTPEN PCB AND EXTENSION CABLE INSTALLATION**

PERFORM THE FOLLOWING STEPS TO INSTALL THE LIGHTPEN PCB AND EXTENSION CABLE IN THE G300 TERMINAL HOUSING:

- 1) PUSH IN THE CONTROL KNOB ON THE DISPLAY UNIT TO TURN OFF POWER TO THE TERMINAL.
- 2) UNPLUG THE TERMINAL POWER CORD FROM ITS AC POWER OUTLET AND DISCONNECT ALL CABLES AT THE REAR OF THE DISPLAY UNIT.

---WARNING---

WAIT AT LEAST FIVE MINUTES BEFORE CONTINUING. THIS ALLOWS THE ENERGY STORED IN THE POWER SUPPLY CAPACITORS TO DISCHARGE.

- 3) PULL STRAIGHT OUT ON THE DISPLAY UNIT CONTROL KNOB TO SLIDE THE KNOB OFF THE SWITCH SHAFT.

INSTALLATION (continued)

- 4) LOCATE THE TWO RECESSED SCREWS ON EITHER SIDE OF THE BOTTOM, FRONT OF THE DISPLAY UNIT (REFERENCE FIGURE 1). THESE SCREWS HOLD THE BOTTOM AND TOP HALVES OF THE DISPLAY UNIT HOUSING TOGETHER. LOOSEN THESE SCREWS UNTIL THEY ARE BOTH FLUSH WITH THE HOUSING.
- 5) PUSH IN ON THE POWER SWITCH SHAFT AND PULL OUT ON THE BOTTOM OF THE DISPLAY SCREEN BEZEL SO THE BEZEL CLEARS THE SWITCH SHAFT. CAREFULLY RAISE THE TOP HALF OF THE HOUSING UNTIL THE SUPPORT RODS ON EITHER SIDE OF THE DISPLAY UNIT LATCH INTO PLACE AS SHOWN IN FIGURE 1.
- 6) USING FIGURE 1 AS A GUIDE, DISCONNECT THE CABLE RUNNING FROM THE MONITOR PCB IN THE TOP HALF OF THE HOUSING DOWN TO THE MAIN LOGIC PCB AT THE CONNECTOR ON THE MAIN LOGIC PCB.
- 7) DISCONNECT THE GROUND WIRE AT THE CRT MOUNTING BRACKET ON THE RIGHT SIDE OF THE TOP HALF OF THE HOUSING. THE GROUND WIRE RUNS BACK TO THE RIGHT REAR OF THE MAIN LOGIC PCB.

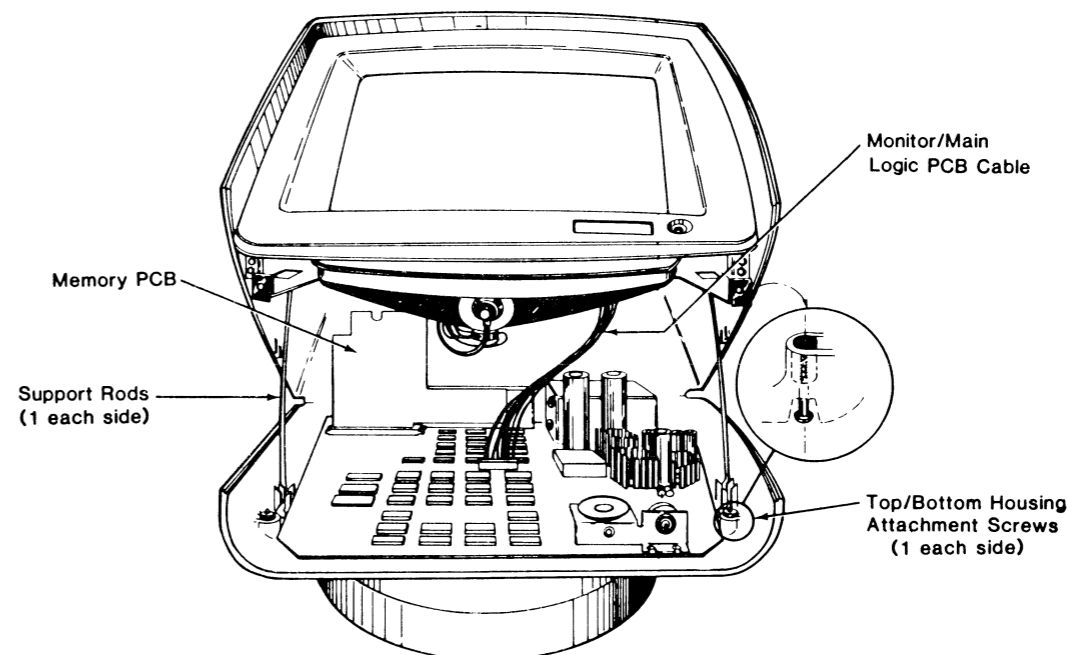


FIGURE 1. OPENED DISPLAY UNIT HOUSING

INSTALLATION (continued)

- 8) REMOVE THE TOP HALF OF THE HOUSING FROM THE BOTTOM HALF AS FOLLOWS:
 - A) UNLATCH THE SUPPORT RODS FROM THEIR BRACKETS AND RAISE THE TOP HALF OF THE HOUSING UNTIL IT IS AT APPROXIMATELY A 90 DEGREE ANGLE WITH THE BOTTOM HALF OF THE HOUSING.
 - B) LIFT UP ON THE TOP HALF OF THE HOUSING AND SHIFT IT SLIGHTLY TO THE RIGHT TO DISENGAGE THE HINGES HOLDING THE TWO HOUSING HALVES TOGETHER.
 - C) REMOVE THE TOP HALF OF THE HOUSING AND CAREFULLY SET IT UPSIDE DOWN NEXT TO THE BOTTOM HALF OF THE HOUSING.

- 9) USING FIGURE 2 AS A GUIDE, REMOVE THE FIVE SCREWS THAT SECURE THE MAIN LOGIC PCB TO THE BOTTOM HALF OF THE HOUSING. FOUR OF THE FIVE SCREWS ARE LOCATED TOWARDS THE FOUR CORNERS OF THE MAIN LOGIC PCB AND CAN BE REMOVED FROM THE TOP OF THE MAIN LOGIC PCB. THE FINAL SCREW IS LOCATED ON THE OUTSIDE OF THE HOUSING AT THE RIGHT, REAR. THIS FINAL SCREW IS INSERTED VERTICALLY THROUGH THE HOUSING INTO THE MAIN LOGIC PCB GROUND BUS (ALSO SERVING AS THE EMI FILTER MOUNTING BRACKET). THERE IS A COPPER WASHER BETWEEN THE GROUND BUS AND THE HOUSING; SAVE THIS WASHER FOR USE DURING THE ASSEMBLY PROCESS.

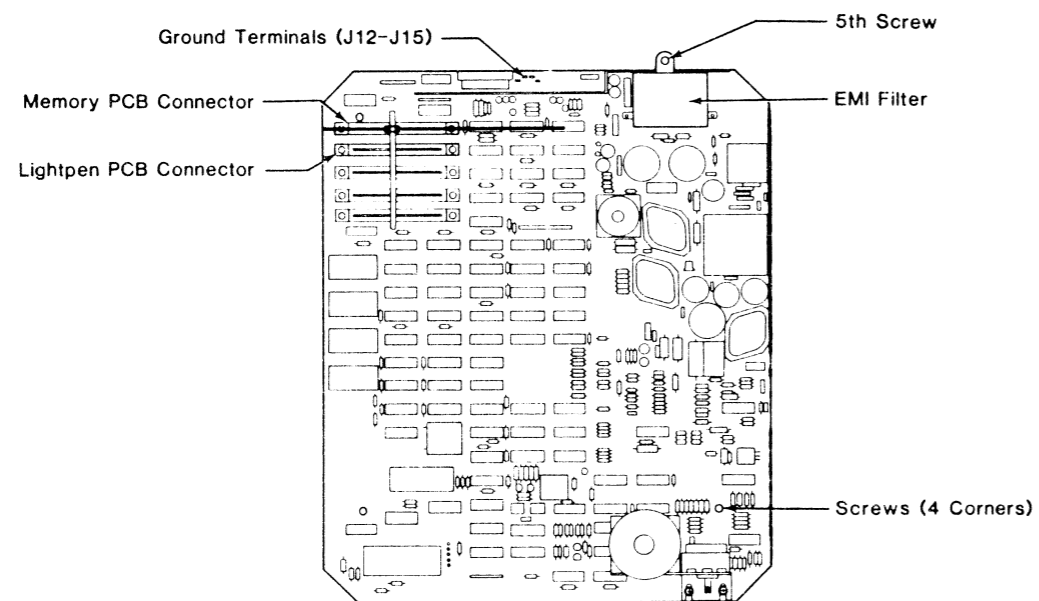


FIGURE 2. POINTS OF INTEREST ON MAIN LOGIC PCB

- 10) SLIDE THE MAIN LOGIC PCB SLIGHTLY FORWARD TO CLEAR THE HOLDING TABS AT THE REAR OF THE HOUSING, THEN SLIDE THE PCB FORWARD IN THE HOUSING AN ADDITIONAL INCH OR TWO (OR UNTIL THERE IS ADEQUATE WORK SPACE BETWEEN THE REAR OF THE HOUSING AND THE EMI FILTER BRACKET ON THE REAR OF THE PCB).

- 11) REMOVE THE SUPPORT ROD HOLDING THE MEMORY PCB IN PLACE ON THE MAIN LOGIC PCB BY SQUEEZING THE LOWER ENDS OF THE ROD TOGETHER AND CAREFULLY PULLING THE ROD UP AND OFF THE MAIN LOGIC PCB.
- 12) REMOVE THE MEMORY PCB (REFERENCE FIGURE 2) FROM ITS CONNECTOR ON THE MAIN LOGIC PCB; NOTE THAT THE MEMORY PCB COMPONENTS FACE TOWARDS THE FRONT OF THE DISPLAY UNIT WHEN THE PCB IS INSTALLED.
- 13) THE TWO CABLE CLIPS SUPPLIED WITH THE LIGHTPEN KIT ARE USED TO HOLD THE LIGHTPEN EXTENSION CABLE IN PLACE ON THE EMI FILTER BRACKET AS SHOWN IN FIGURE 3. FIGURE 4 SHOWS THAT THE TWO CABLE CLIPS ARE MOUNTED DIRECTLY ACROSS FROM EACH OTHER ON EITHER SIDE OF THE EMI FILTER BRACKET. THE CLIPS ARE LOCATED TWO INCHES FROM THE BEND IN THE EMI FILTER BRACKET NEXT TO THE PRINTER CONNECTOR AND JUST BELOW THE PLASTIC GUARD RUNNING ACROSS THE TOP OF THE EMI FILTER BRACKET. PEEL THE TAPE OFF THE BACK OF THE TWO CABLE CLIPS AND INSTALL THEM AS SHOWN IN FIGURE 4.

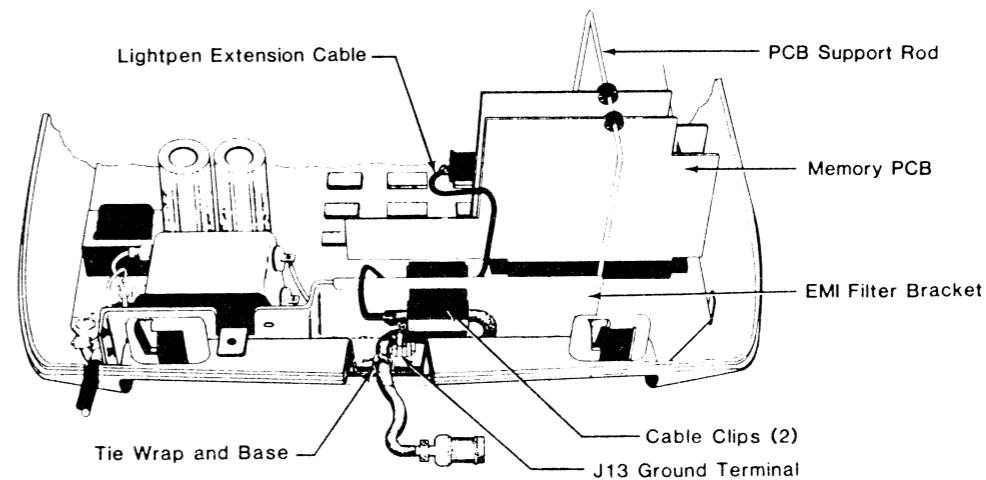


FIGURE 3. INSTALLED LIGHTPEN EXTENSION CABLE (VIEWED FROM REAR OF DISPLAY UNIT HOUSING)

INSTALLATION (continued)

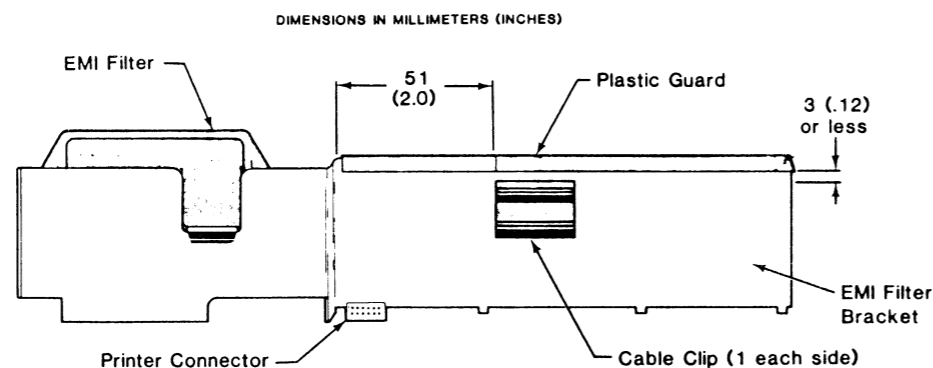


FIGURE 4. LOCATION OF CABLE CLIPS ON EMI FILTER BRACKET (FROM REAR OF DISPLAY UNIT HOUSING)

14) INSTALL THE LIGHTPEN EXTENSION CABLE IN THE DISPLAY UNIT HOUSING AS FOLLOWS:

- A) ROUTE THE LIGHTPEN-PCB-END OF THE LIGHTPEN EXTENSION CABLE IN THROUGH THE OPENING AT THE REAR OF THE HOUSING USED FOR THE HOST COMPUTER CONNECTOR AND UP OVER THE EMI FILTER BRACKET. CAREFULLY PULL MOST OF THE CABLE THROUGH THE OPENING UNTIL THE TWO FERRITE BEADS (BLACK CYLINDRICAL OBJECTS) ON THE CABLE ARE INSIDE THE HOUSING.
- B) USING FIGURE 3 AS A GUIDE, PRESS THE FERRITE BEAD CLOSEST TO THE LIGHTPEN PCB CONNECTOR INTO THE CABLE CLIP FACING THE FRONT OF THE DISPLAY UNIT HOUSING. ADJUST THE LENGTH OF CABLE RUNNING OVER THE EMI FILTER BRACKET AS SHOWN IN FIGURE 3.
- C) SLIP THE REMAINING FERRITE BEAD UP AGAINST THE GROUND LUG ON THE CABLE AND THEN PRESS THE BEAD INTO THE REMAINING EMPTY CABLE CLIP.
- D) LOCATE THE TIE WRAP BASE BELOW AND TO THE LEFT OF THE FERRITE BEAD JUST SNAPPED INTO PLACE (REFERENCE FIGURE 3). IF NECESSARY, LOOSEN THE SCREW SECURING THE TIE WRAP BASE TO THE MAIN LOGIC PCB AND ADJUST THE BASE SO IT IS POSITIONED AS SHOWN IN FIGURE 3. TIGHTEN DOWN THE SCREW SECURING THE BASE.
- E) CAREFULLY ROUTE THE LIGHTPEN-CONNECTOR-END OF THE CABLE BACK AROUND AND OVER THE GROUND TERMINALS AND TIE WRAP BASE AS SHOWN IN FIGURE 3.
- F) PRESS THE CABLE UP AGAINST THE EMI FILTER BRACKET AND SLIP THE CABLE GROUND LUG ONTO GROUND TERMINAL J13 SO THE CABLE RUNS BETWEEN THE EMI FILTER BRACKET AND THE INSTALLED LUG.

- G) WITH THE LIGHTPEN CONNECTOR OUTSIDE THE HOUSING, SECURE THE CABLE TO THE TIE WRAP BASE WITH THE TIE WRAP SUPPLIED WITH THE KIT.
- 15) REPLACE THE MEMORY PCB IN ITS CONNECTOR ON THE MAIN LOGIC PCB.
- 16) USING FIGURE 3 AS A GUIDE, INSTALL THE LIGHTPEN PCB IN THE CONNECTOR DIRECTLY IN FRONT OF THE MEMORY PCB SO THE PCB COMPONENTS FACE THE FRONT OF THE HOUSING.
- 17) CONNECT THE LIGHTPEN EXTENSION CABLE TO THE LIGHTPEN PCB AS SHOWN IN FIGURE 3. THE CABLE CONNECTOR IS KEYED SO THAT IT WILL CONNECT TO THE PINS ON THE LIGHTPEN PCB IN ONLY ONE WAY.
- 18) SECURE THE LIGHTPEN AND MEMORY PCBS WITH THE SUPPORT ROD REMOVED EARLIER. MAKE SURE BOTH PCBS ARE HELD IN PLACE WITH THE RUBBER GROMMETS RUNNING ACROSS THE TOP OF THE ROD.
- 19) SLIDE THE MAIN LOGIC PCB BACK IN THE HOUSING UNTIL IT IS HELD IN PLACE UNDER THE TWO TABS AT THE REAR OF THE HOUSING.
- 20) SECURE THE MAIN LOGIC PCB TO THE HOUSING WITH THE FIVE SCREWS REMOVED EARLIER. WHEN INSTALLING THE FIFTH SCREW FROM THE BOTTOM OF THE HOUSING, MAKE SURE THE COPPER WASHER SAVED DURING DISASSEMBLY IS INSERTED BETWEEN THE HOUSING AND EMI FILTER BRACKET (GROUND BUSS).
- 21) INSTALL THE TOP HALF OF THE DISPLAY UNIT HOUSING ON THE BOTTOM HALF OF THE HOUSING BY REVERSING THE REMOVAL STEPS (STEP 8).
- 22) RECONNECT THE GROUND WIRE REMOVED EARLIER TO THE CRT MOUNTING BRACKET ON THE RIGHT SIDE OF THE TOP HALF OF THE HOUSING. THIS GROUND WIRE RUNS FROM THE RIGHT REAR OF THE MAIN LOGIC PCB.
- 23) RECONNECT THE MONITOR PCB CABLE TO THE MAIN LOGIC PCB.

INSTALLATION (continued)

- 24) BEFORE CLOSING THE DISPLAY UNIT HOUSING, MAKE ONE FINAL CHECK TO VERIFY ALL ASSEMBLIES AND CABLING INSIDE THE HOUSING HAVE BEEN REASSEMBLED IN ACCORDANCE WITH THIS PROCEDURE.

CAUTION

IN THE FOLLOWING STEP, PULL THE SUPPORT RODS OUT JUST FAR ENOUGH SO THEY DISENGAGE FROM THEIR LOCK POSITION. MAKE SURE THE RODS REMAIN IN THEIR SLOTS.

- 25) PULL THE SUPPORT RODS OUT, AWAY FROM THE CENTER OF THE DISPLAY UNIT HOUSING ONE AT A TIME AND CAREFULLY LOWER THE TOP HALF OF THE HOUSING. AS THE TOP AND BOTTOM HALVES OF THE HOUSING COME TOGETHER, PULL OUT ON THE BOTTOM OF BEZEL TO CLEAR THE POWER SWITCH SHAFT.
- 26) SECURE THE TWO HALVES OF THE HOUSING WITH THE SCREWS UNDER THE FRONT, BOTTOM OF THE DISPLAY UNIT.
- 27) SLIDE THE CONTROL KNOB ONTO THE POWER SWITCH SHAFT.
- 28) LOCATE THE TERMINAL MODEL NUMBER AND SERIAL NUMBER LABELS ATTACHED TO THE REAR OF THE DISPLAY UNIT HOUSING. STICK THE MODEL AND SERIAL NUMBER LABELS THAT CAME WITH THE LIGHTPEN OPTION KIT NEXT TO THE EXISTING LABELS.
- 29) VERIFY THE POWER SWITCH IS PUSHED IN (POWER OFF POSITION), THEN RECONNECT THE AC POWER CORD TO ITS POWER SOURCE, RECONNECT THE CABLES TO THE REAR OF THE DISPLAY UNIT THAT WERE REMOVED AT THE BEGINNING OF THIS PROCEDURE.

LIGHTPEN INSTALLATION

THIS PROCEDURE ASSUMES THE LIGHTPEN PCB AND EXTENSION CABLE HAVE BEEN INSTALLED IN THE G300 DISPLAY UNIT.

- 1) VERIFY THE POWER SWITCH ON THE FRONT OF THE DISPLAY UNIT IS PUSHED INTO THE POWER OFF POSITION.
- 2) CONNECT THE COILED LIGHTPEN CABLE TO THE LIGHTPEN EXTENSION CABLE RUNNING OUT THE REAR OF THE DISPLAY UNIT AS FOLLOWS:
 - A) THE 5 PINS ON THE CONNECTOR OF THE COILED LIGHTPEN CABLE INSERT IN THE EXTENSION CABLE CONNECTOR ONLY ONE WAY. ALIGN THE PINS AND PUSH THE TWO CONNECTORS TOGETHER.
 - B) SECURE THE CONNECTION WITH THE TWIST LOCK ON THE LIGHTPEN CONNECTOR.

LIGHTPEN INSTALLATION CHECKOUT

THE FOLLOWING CHECK TESTS THE LIGHTPEN'S ABILITY TO DETECT THE PASSING OF AN UNBLANKED CRT BEAM (LIGHTPEN HIT) AND OPERATION OF THE LIGHTPEN'S NOSE CONE SWITCH.

- 1) TURN OFF POWER TO THE G300 DISPLAY TERMINAL.
- 2) AT THE REAR OF THE TERMINAL, SET DIP SWITCH 7 UP (1). VERIFY DIP SWITCHES 1 AND 8 ARE BOTH SET DOWN (0).
- 3) PERFORM THE STEPS IN THE LIGHTPEN CHECKOUT TABLE (TABLE 2) TO VERIFY THE LIGHTPEN IS WORKING (GO TO THE TABLE NOW).
- 4) WHEN THE STEPS IN TABLE 2 HAVE BEEN PERFORMED, TURN OFF POWER TO THE TERMINAL.
- 5) AT THE REAR OF THE TERMINAL, SET DIP SWITCH 7 DOWN (0) FOR NORMAL TERMINAL OPERATION.

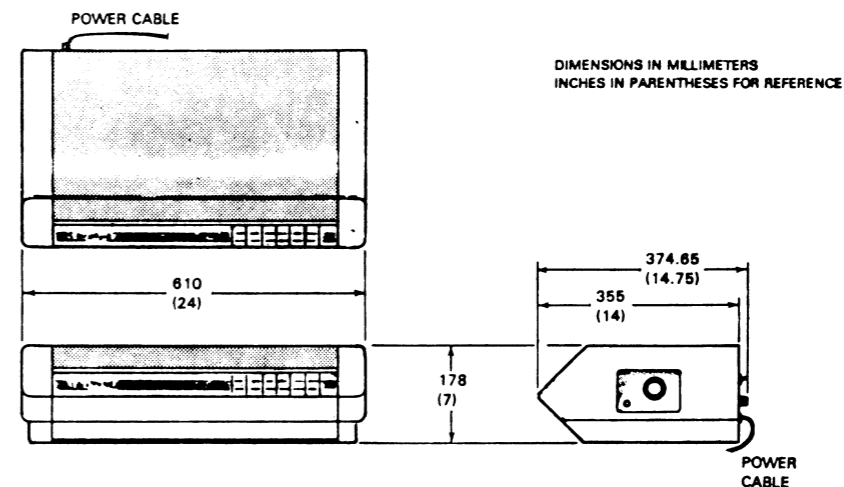
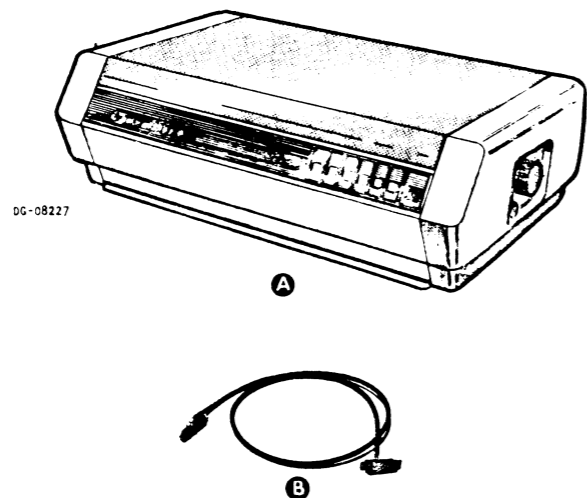
TABLE 2. LIGHTPEN CHECKOUT TABLE

<u>PROCEDURE</u>	<u>EXPECTED RESULTS</u>
TURN ON POWER TO TERMINAL.	IN A FEW SECONDS, KYBD PRESENT OR KYBD NOT PRESENT AND SELFTEST COMPLETED MESSAGES APPEAR ON DISPLAY SCREEN. LIGHTPEN BACKGROUND AND HORIZONTAL BAR OF LARGE FORM OF GRAPHICS CURSOR APPEAR ON SCREEN.
PLACE NOSE OF LIGHTPEN UP TO SCREEN AND MOVE LIGHTPEN ON SCREEN.	VERTICAL LINE OF CURSOR APPEARS AND CURSOR TRACKS LIGHTPEN MOVEMENT.
WITH LIGHTPEN NOSE ON SCREEN, PUSH IN GENTLY ON LIGHTPEN TO DEPRESS NOSE AGAINST SCREEN.	GRAPHICS CURSOR APPEARANCE CHANGES FROM LARGE FORM TO SMALL FORM.
MOVE LIGHTPEN NOSE ON SCREEN.	SMALL FORM OF CURSOR TRACKS LIGHTPEN.
DEPRESS LIGHTPEN NOSE AGAINST SCREEN.	CURSOR RETURNS TO LARGE FORM.

HARD COPY

CHAPTER V

INSTALLATION SPECIFICATIONS



MAJOR COMPONENT

ITEM	COMPONENT	MOUNTING LOCATION	NOTES
A	PRINTER	DESKTOP	MODEL 4422 TA

CABLE

ITEM	CABLE	CONNECTING	MAX LG		NOTES
			FT	M	
B	DEVICE CABLE (EIA)	PRINTER AND COMMUNICATIONS INTERFACE	10	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.

DIMENSIONS:

	Width	Depth	Height
MILLIMETERS	610	355	178
INCHES	24	14	7

WEIGHT:

KILOGRAMS	15.9
POUNDS	35

HEAT OUTPUT (max.):

WATTS	BTU/hr
175	597

OPERATING ENVIRONMENT:

TEMPERATURE (max.)	10°C - 38°C (50°F-100°F)
RELATIVE HUMIDITY (max.)	20% - 80% NON-CONDENSING

POWER REQUIREMENTS:

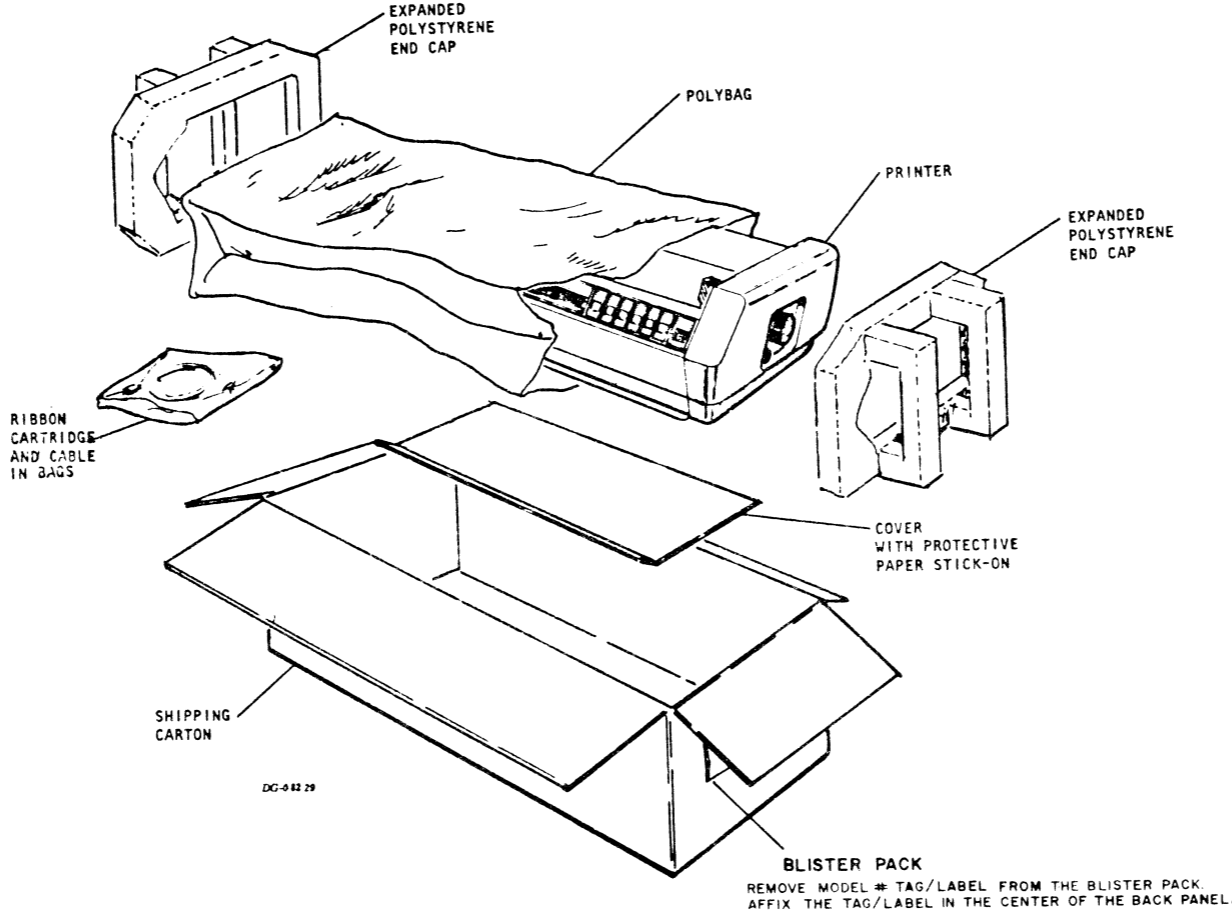
(Domestic)

VOLTAGE	120V (+10%, -15%)
HZ	60 ± 1%
AMP PER PHASE	1.8
PHASE	1
START-UP SURGE PER PHASE	13 AMPS PEAK FOR 2 CYCLES

CABLES:

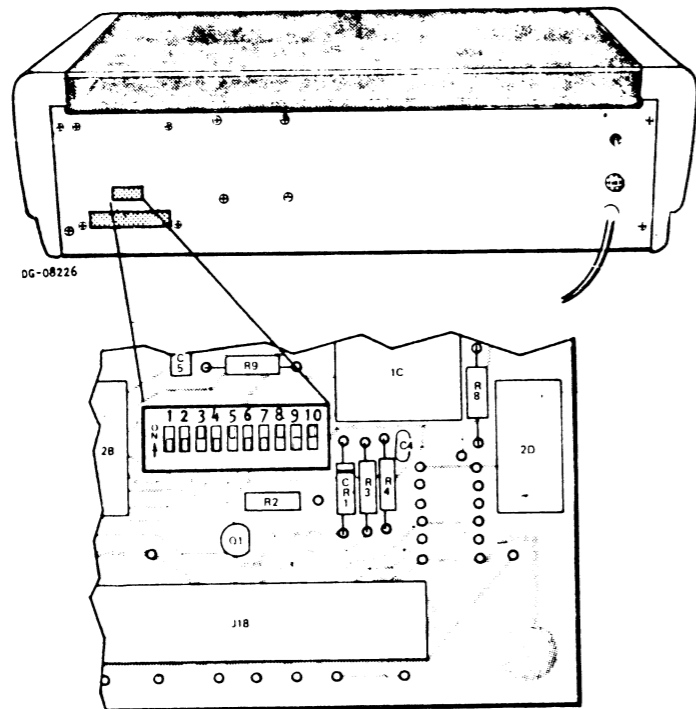
PRIMARY	POWER	LENGTH	CONN	MATING CONN
DOMESTIC	60HZ	6ft. (1.8m)	5-15P	5-15R

SHIPPING



TAILORING SWITCHES

SERIAL INTERFACE SWITCHES (REAR OF PRINTER)

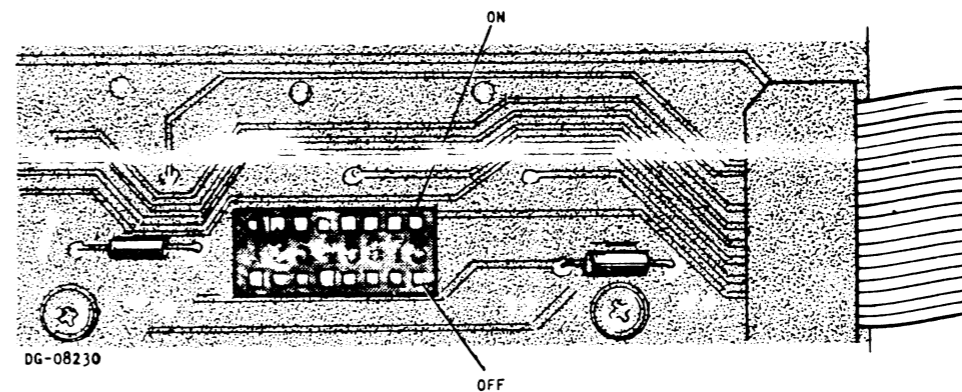


SWITCH NO.	ON POSITION	OFF POSITION
1	9600 BAUD	TURN THE SWITCH FOR THE SELECTED BAUD RATE ON AND THE OTHER BAUD RATE SWITCHES (1-6) OFF
2	4800 BAUD	
3	2400 BAUD	
4	1200 BAUD	
5	300 BAUD	
6	110 BAUD	
7	1 STOP BIT	2 STOP BITS
8	7 DATA BITS	8 DATA BITS
9	PARITY	NO PARITY
10	ODD PARITY	EVEN PARITY

NOTES:

- SWITCHES ARE ROCKER TYPE. A SWITCH IS ON WHEN ITS TOP HALF IS PUSHED IN. IT IS OFF WHEN THE BOTTOM HALF IS PUSHED IN.
- SWITCH 10 HAS NO EFFECT IF SWITCH 9 IS OFF.
- THE REV 0 PRINTER IS SHIPPED WITH SWITCHES 1 AND 8 IN THE ON POSITION. THE REV 1 PRINTER IS SHIPPED WITH SWITCHES 1, 8, 9 AND 10 IN THE ON POSITION. ANY OTHER SWITCH SETTINGS WILL NOT BE COMPATIBLE WITH THE TBS SYSTEM SOFTWARE SUPPLIED BY DATA GENERAL.

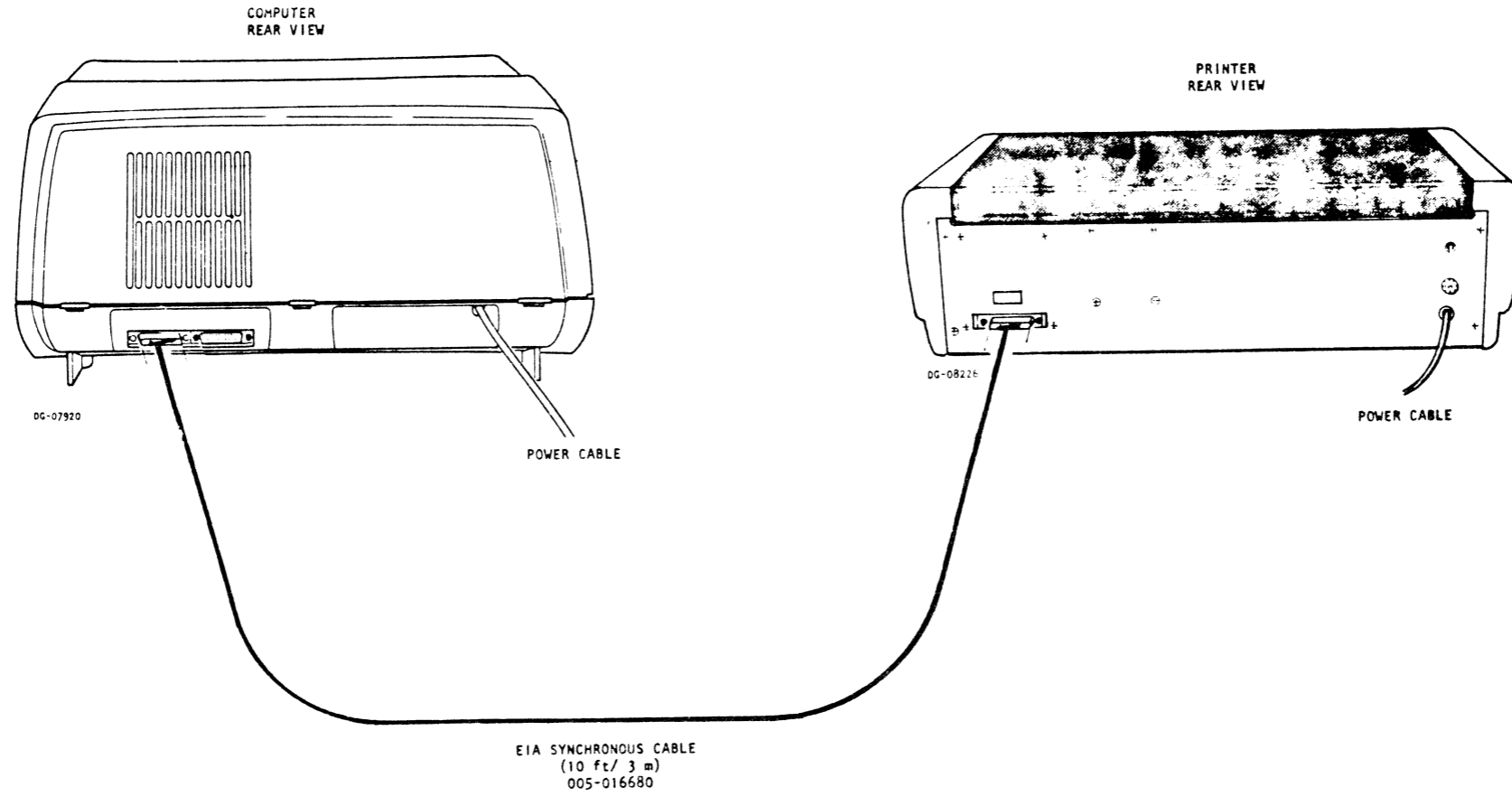
OPERATING PARAMETER SWITCHES REAR OF CONTROL PANEL (REMOVE PRINTER COVER TO ACCESS SWITCHES)



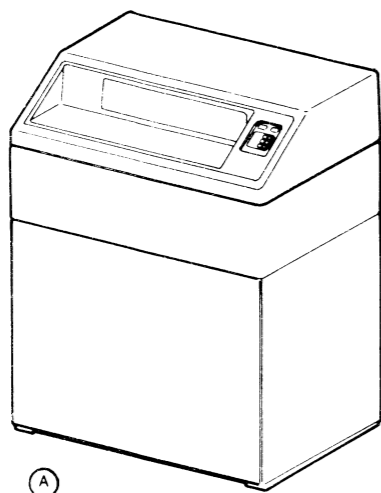
SWITCH	POSITION
1	OFF: UNUSED
2	OFF: UNUSED
3	ON: DISABLE AUTO-LINEFEED ON CR
4	ON: SERIAL INTERFACE
5	ON: CR CODE RECOGNIZED
6	OFF: DISABLE PERFORATION SKIPOVER
7	OFF: UNUSED
8	OFF: UNUSED

NOTES:

- SWITCHES ARE ROCKER TYPE. A SWITCH IS ON WHEN ITS TOP HALF IS PUSHED IN. IT IS OFF WHEN THE BOTTOM HALF IS PUSHED IN.
- SWITCH 3 HAS NO EFFECT IF SWITCH 5 IS OFF.
- SWITCHES 3, 4 AND 5 MUST BE ON.
- WITH THE EXCEPTION OF SWITCHES 3, 4 AND 5, ALL SWITCHES ARE IN THE OFF POSITION WHEN UNIT IS SHIPPED.



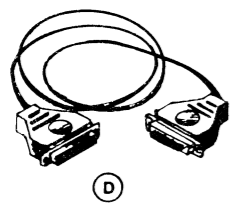
INSTALLATION SPECIFICATIONS



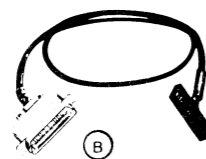
A



C

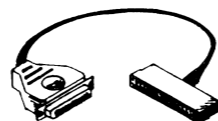


D

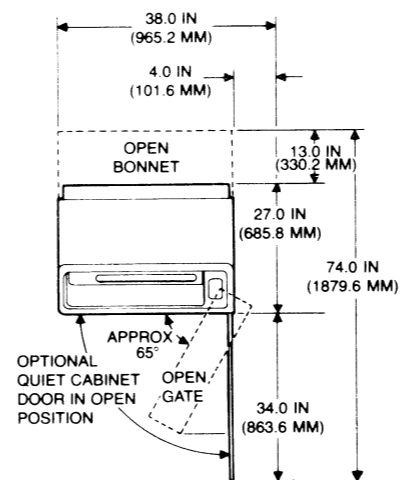


B

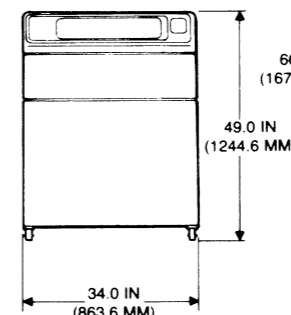
EDGE CONNECTOR



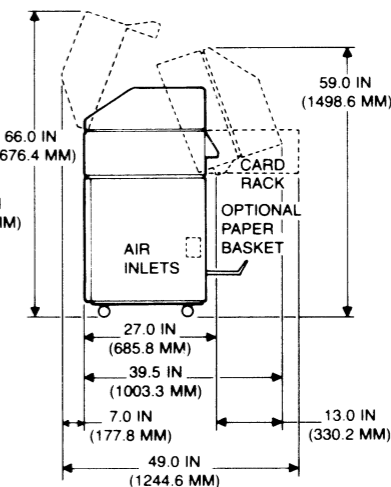
E



TOP VIEW



FRONT VIEW



SIDE VIEW

DIMENSIONS:		Width	Depth	Height
Millimeters		863.6	658.8	1244.6
Inches		34.0	27.0	49.0
SERVICE CLEARANCES:		Front	Rear	Right
Millimeters		838.2	965.2	1879.6
Inches		33.0	38.0	74.0
WEIGHT:		Empty	Shipping	
Kilograms		227.3	250.0	
Pounds		500.0	550.0	
HEAT OUTPUT:		Watts	BTU/hr	
Domestic:				
Standby		750.0	2557.5	
Printing		1300.0	4433.0	
Export:				
Standby		750.0	2557.5	
Printing		1300.0	4433.0	

POWER REQUIREMENTS:	
(Domestic)	
Voltage	120 + 10-15%
Hz	60 ± 1%
Phase	Single
(Export)	
Voltage (low)	100 ± 10%
Hz	50/60 ± 1%
Phase	Single
Voltage (high)	220/240 + 10-15%
Hz	50/60 ± 1%
Phase	Single

CABLES:		Mating	
Primary Power		Length	Conn Conn
Domestic		2.3m (7.5 ft.)	5-15P 5-15R
Export		2.3m (7.5 ft.)	6-15P 6-15R

OPERATING ENVIRONMENT:
 Temperature (max) 10-35°C (50-95°F)
 Humidity, non-condensing 20-80%

MAJOR COMPONENT

ITEM	COMPONENT	MOUNTING LOCATION	NOTES
A	4374 4376 4378 BAND PRINTER	FREE STANDING	1200 LPM 64 CHAR. SET
	4373 4375 4377 BAND PRINTER	FREE STANDING	890 LPM 96 CHAR. SET

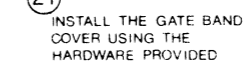
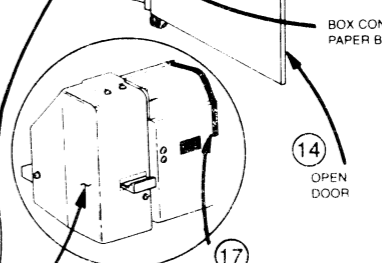
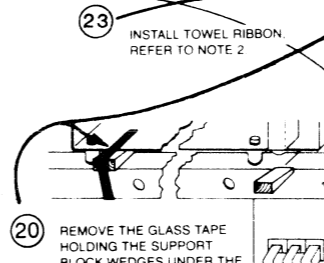
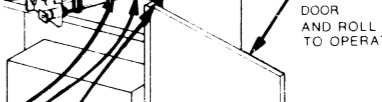
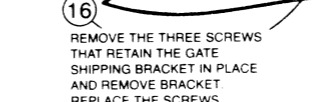
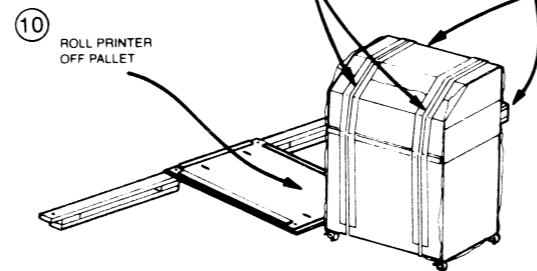
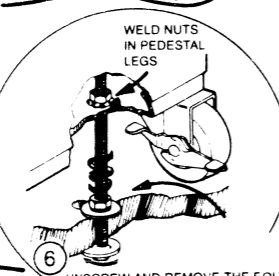
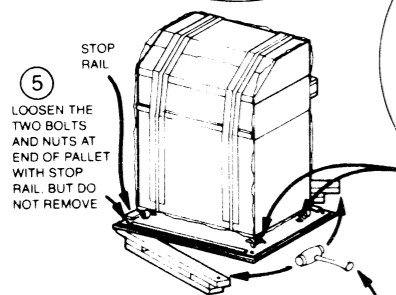
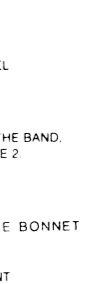
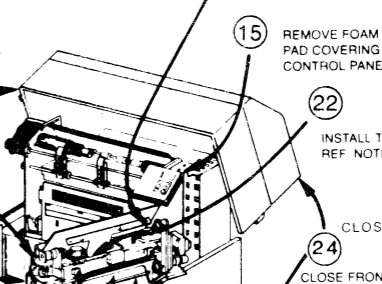
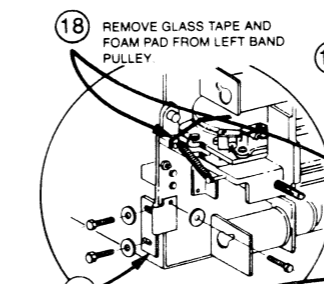
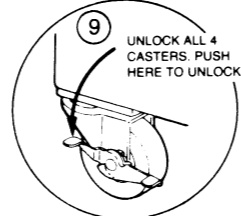
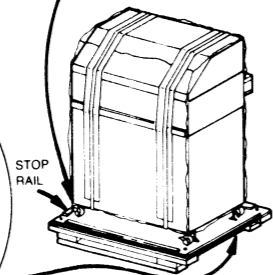
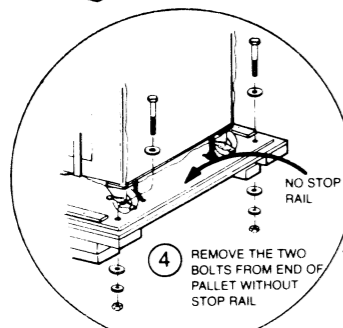
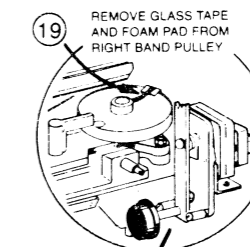
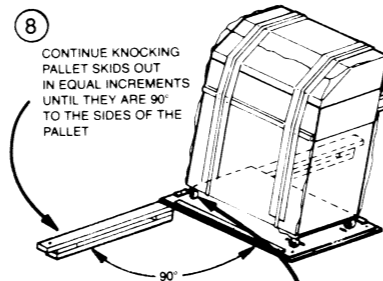
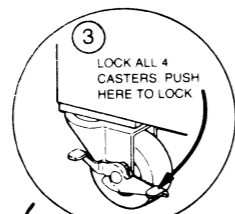
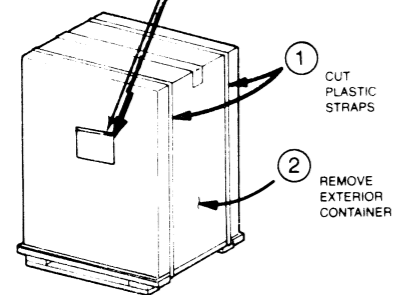
CABLES

ITEM	CABLE	CONNECTING	MAX LG		NOTES
			FT	M	
B	EXTERNAL DEVICE	BACK PANEL EDGE CONNECTOR AND PRINTER	2	0.61	MV 8000, MV 6000 M 600, C 350, S 250
C	POWER CABLE	PRINTER TO PRIMARY POWER	7.5	2.3	
D	EXTERNAL DEVICE	COMPUTER AND ADP. CBL	30	9.18	ALL DEVICES
F	EXTERNAL DEVICE	ADP. CBL AND HOST	1.5	0.46	ALL DEVICES

FOR CONTROLLER AND INTERNAL CABLES SEE 010001038.

PRINTER UNPACKAGING

★ REMOVE MODEL ★ TAG/LABEL FROM BLISTER PACK. AFFIX THE TAG/LABEL TO THE BACK OF THE PRINTER TO THE RIGHT OF THE U/L tm LABEL.



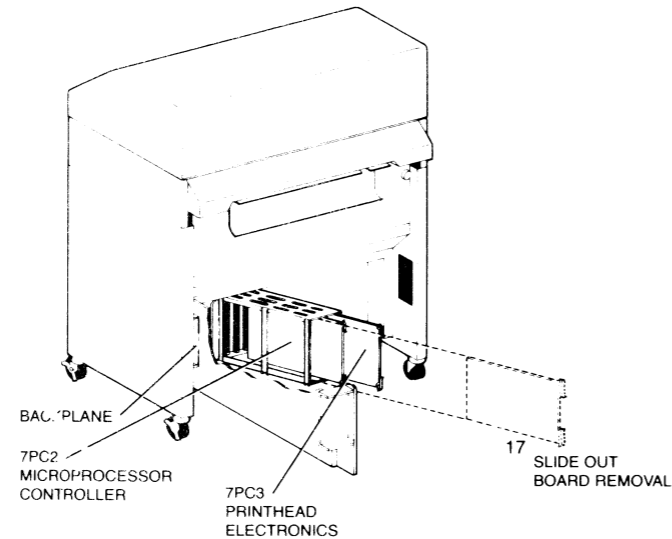
NOTES:

1. Refer to the Hardware Reference/Maintenance Manual (44684652), pages 2.1, 2.8 for installation & checkout of the printer.
2. Refer to the Operator's Manual (44684668) for installation of:
 - A. Band - page 2-4 (band is shipped inside the exterior container)
 - B. Towel Ribbon - page 2-8 (towel ribbon is shipped inside the printer)
 - C. Paper - page 2-11
3. For installation of the Powered Paper Stacker refer to DGC 010-000651

TAILORING

For information on installing the band, loading paper, and operating the printer, see the:

Band Printer Model 1200
LPM (Operator Manual) E Series 44684668



BACKPLANE		
SW	POS.	FUNCTION
1	OFF	NOT USED
2	OFF	REGULAR PRINT
3	OFF	1440 PRINTER
4	ON	HORIZ. ENABLE
5	ON	H. FLT SW DIS
6	ON	HI SPEED SLEW ENABLE (SEE NOTE 1)

NOTE:

1. The powered paper stacker is installed for hi-speed slew enable.

M PROCESSOR CONT.-SWN1		
SW	POS.	FUNCTION
8	OFF	SWITCHES ARE SET TO
7	OFF	040 OCTAL WITH SW8
6	OFF	LSB AND SW1 = MSB
5	OFF	
4	OFF	CODE SET
3	ON	SWITCH ON = 1
2	OFF	SWITCH OFF = 0
1	OFF	

M PROCESSOR CONT.-SWN-2		
SW	POS.	FUNCTION
8	OFF	NOT USED
7	OFF	NOT USED
6	OFF	ASCII CONTROL CODE SELECTED
5	OFF	VER. TAB ENABLED
4	OFF	48 CHAR. BAND TRANS. DIS.
3	ON	64 CHAR. BAND TRANS. EN.
2	OFF	96 CHAR. BAND TRANS. DIS.
1	OFF	128 CHAR. BAND TRANS. DIS.

M PROCESSOR CONT.-SWN-3		
SW	POS.	FUNCTION
8	OFF	132 COL. TEST PATTERN
7	OFF	AUTO PERF. SKIP DISABLED
6	OFF	WITH SW5 SELECTS 1200 LPM
5	OFF	WITH SW6 SELECTS 1200 LPM
4	ON	SELECTS MEMBRANE C.P.
3	ON	E-SERIES
2	ON	NOT USED
1	OFF	EVFU NOT INSTALLED

M PROCESSOR CONT.-SWN-4				
SW POSITION				
8	7	6	5	PATTERN
OFF	ON	OFF	OFF	PRINT M'S
ON	ON	ON	ON	SLIDING PATT
ON	OFF	ON	ON	NO PRINT TEST
ON	ON	OFF	ON	HOR. MOTION TEST
ON	ON	ON	OFF	VER. MOTION TEST

NOTE: Switches 5, 6, 7, and 8 select one of the above patterns

When switch 8 is in the off position all one character test print is selected. In this condition switches 4, 3, 2, and 1 select a character. The character M is selected with switch 2 off and switches 1, 3, and 4 on.

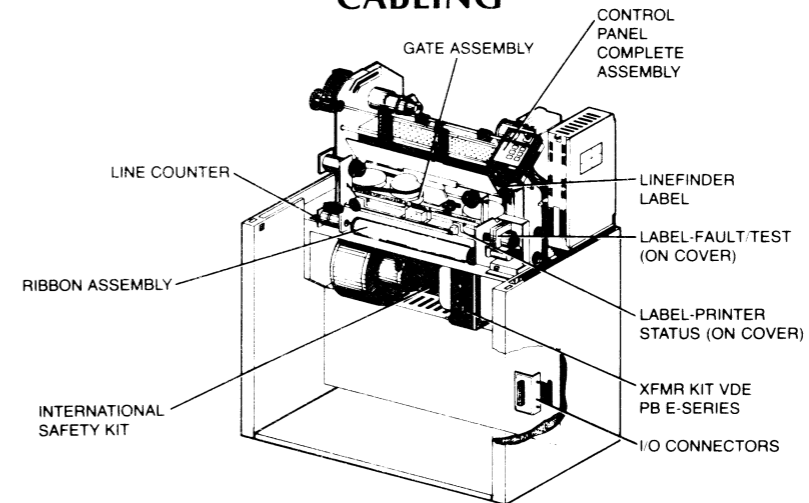
*Indicates correct switch settings

M PROCESSOR CONT.-SWN-6		
SW	POS.	FUNCTION
2	OFF	ENABLE DAVFU CONT. CODES
1	ON	IF DATA BIT 8 DISABLED

M PROCESSOR CONT.-SWN-5		
SW8	SW7	FUNCTION
ON	ON	DISABLE EVFU
OFF	ON	FORMAT TAPE
ON	OFF	DAVFU MODE
SW6 SW5 FUNCTION		
ON	ON	BOF = CHANNEL 2
OFF	ON	BOF = CHANNEL 8
ON	OFF	BOF = CHANNEL 12

SW4	SW3	SW2	SW1	FUNCTION
ON	ON	ON	ON	4 BIT LINE COUNTER
OFF	ON	ON	ON	6 BIT LINE COUNTER
ON	ON	OFF	ON	7 BIT LINE COUNTER
ON	OFF	ON	ON	CR = LF, VT = CHAN. 4
OFF	OFF	ON	ON	VT = CHAN. 4
OFF	OFF	OFF	OFF	FUTURE USE

CABLING



EXTERNAL CABLING

CABLE PART No

(WIRE LIST)
FOR REFERENCE ONLY

PRINTER	COMPUTER SYSTEM	INTERNAL CABLE	EXTERNAL CABLE
4373	S/250	005-12496	
4374	M/600		
4375	MV/8000	005-13627	005-12928
4376	MV/6000 C/350	(SEE NOTE 2)	
4377	N/A	N/A	005-12928
4378			

NOTES:

- The 1200 LPM Printer will utilize the 005-8096 Data Channel Controller.
- Mounting hardware for 005-12496 cable.

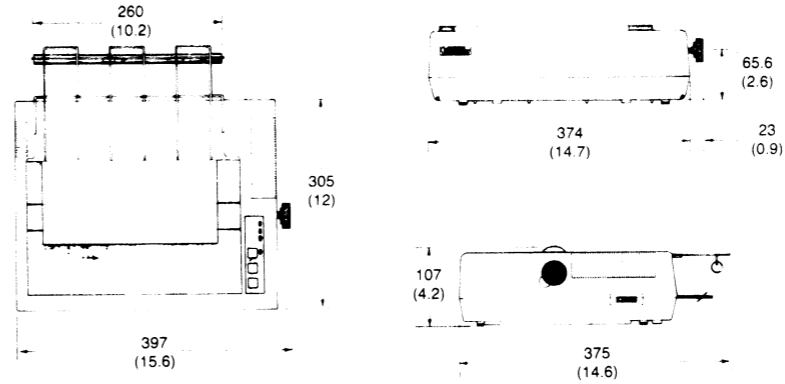
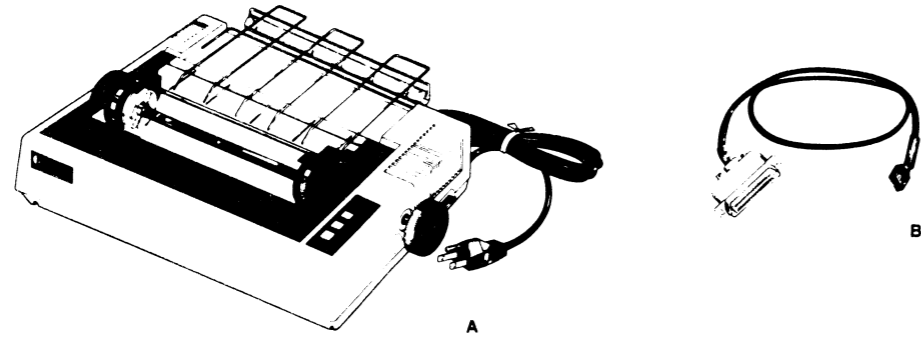
EMI HARDENED CABLE MATRIX

PRINTER	COMPUTER SYSTEM	INTERNAL CABLE	HOST END ADAPTER	EXTERNAL CABLE
4373	S/250			
4374	M/600	005-12496	005-13278 (001-2596)	005-13265 (001-2578)
4375	MV/8000	005-13627	(018-680)	(018-642)
4376	MV/6000 C/350	(SEE NOTE 1)		
4377		N/A		
4378				

NOTES:

- MOUNTING HARDWARE FOR 005-12496 CABLE.

INSTALLATION SPECIFICATION



DIMENSION IN MILLIMETERS
INCHES IN PARENTHESIS
FOR REFERENCE

MAJOR COMPONENT

ITEM	COMPONENT	MOUNTING LOCATION	NOTES
A	PRINTER	TABLE-TOP	

CABLE

ITEM	CABLE	CONNECTING	MAX LG.		NOTES
			FT	M	
B	EXTERNAL	PRINTER AND G300 TERMINAL	10	3.05	

MODEL NUMBER AND SUFFIX TABLE

Component	Model # Suffix	Description
Printer unit		Suffix defines power configuration
	6156	115 volts, 60 Hz.
	6156-2	220 volts, 50 Hz.
	6156-4	240 volts, 50 Hz.
Ribbon Cartridge	1286A	Package quantity of 6
	1286B	Package quantity of 36
	1286C	Package quantity of 100
Replacement Printhead	1278	Package quantity of 1

SPECIFICATIONS

DIMENSIONS:

	Width	Depth	Height
Millimeters	374	305	107
Inches	14.7	12.0	4.2

WEIGHT

Kilograms	5.5
Pounds	12

HEAT OUTPUT

100 WATTS

OPERATING ENVIRONMENT

Temperature (min-max)	5 - 38 °C 41 - 95 °F
Humidity (min-max)	10% - 80% Non-Condensing

POWER REQUIREMENTS

(MODEL 6156)

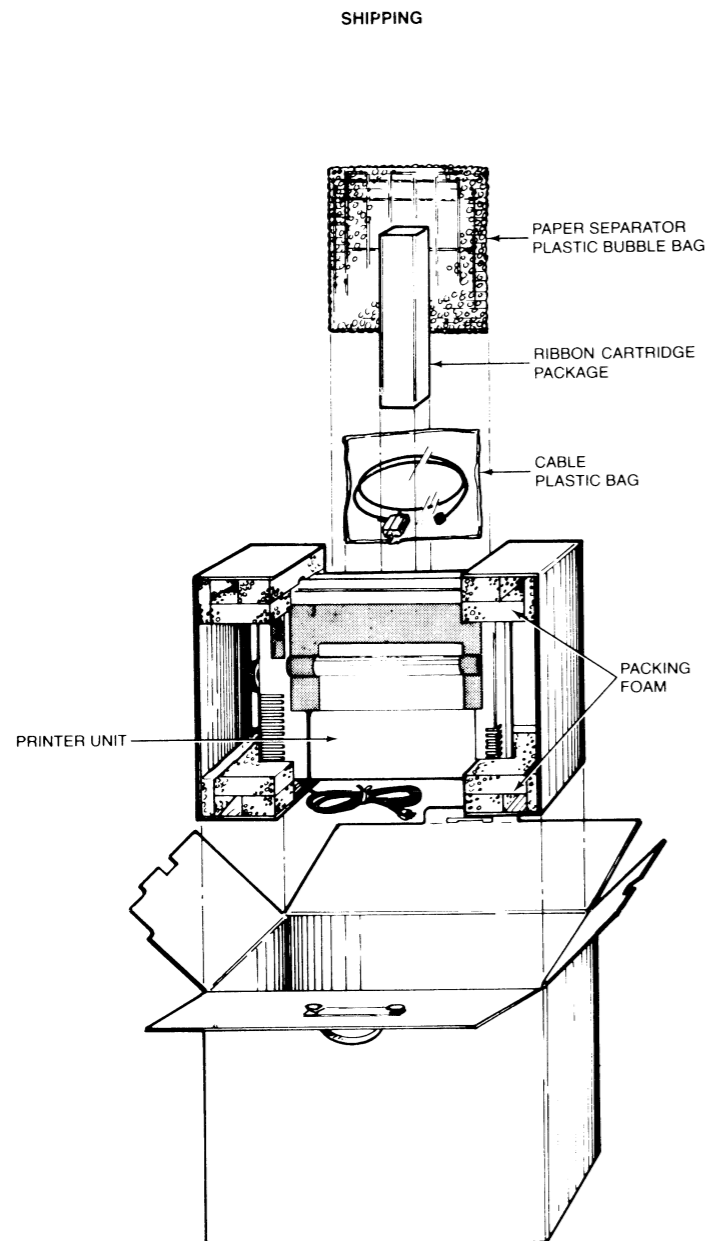
Voltage	115 VAC ± 10%
Freq.	60Hz ± 1%
Current	1 amp

(MODEL 6156-2)

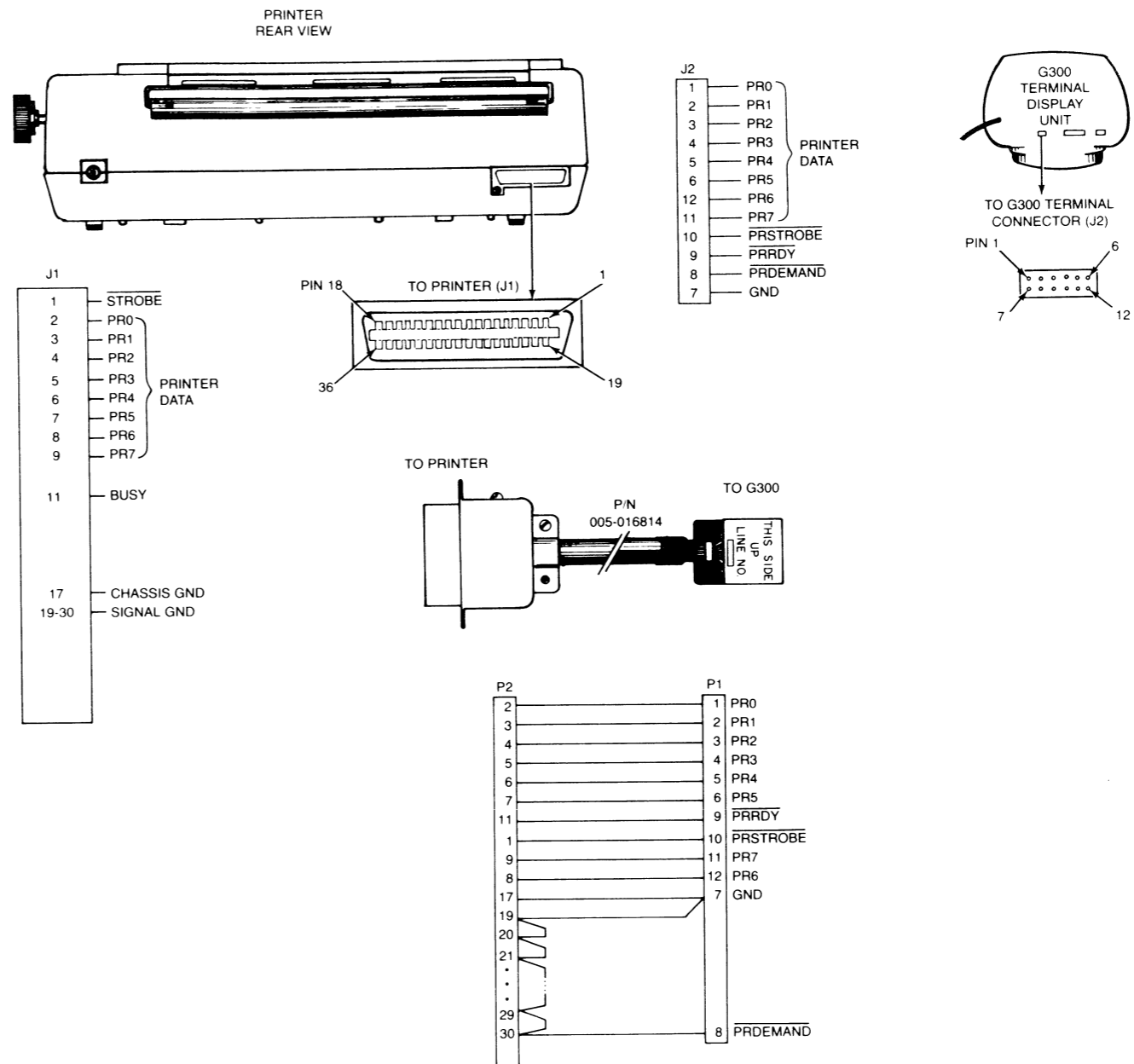
Voltage	220 VAC ± 10%
Freq.	50Hz ± 1%
Current	0.6 amp

(MODEL 6156-4)

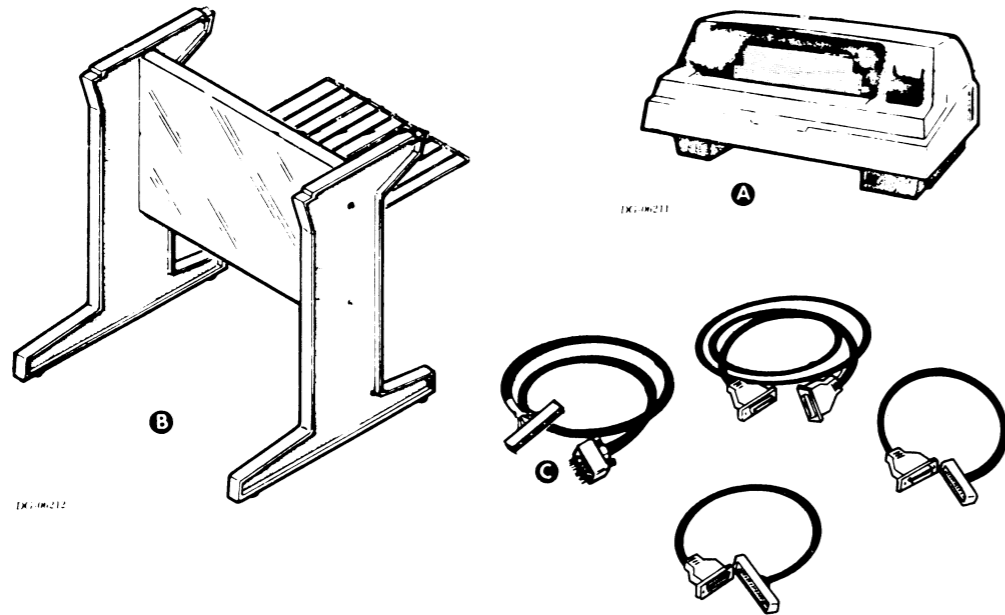
Voltage	240 VAC ± 10%
Freq.	50Hz ± 1%
Current	0.6 amp



EXTERNAL CABLING CONNECTORS



INSTALLATION SPECIFICATIONS



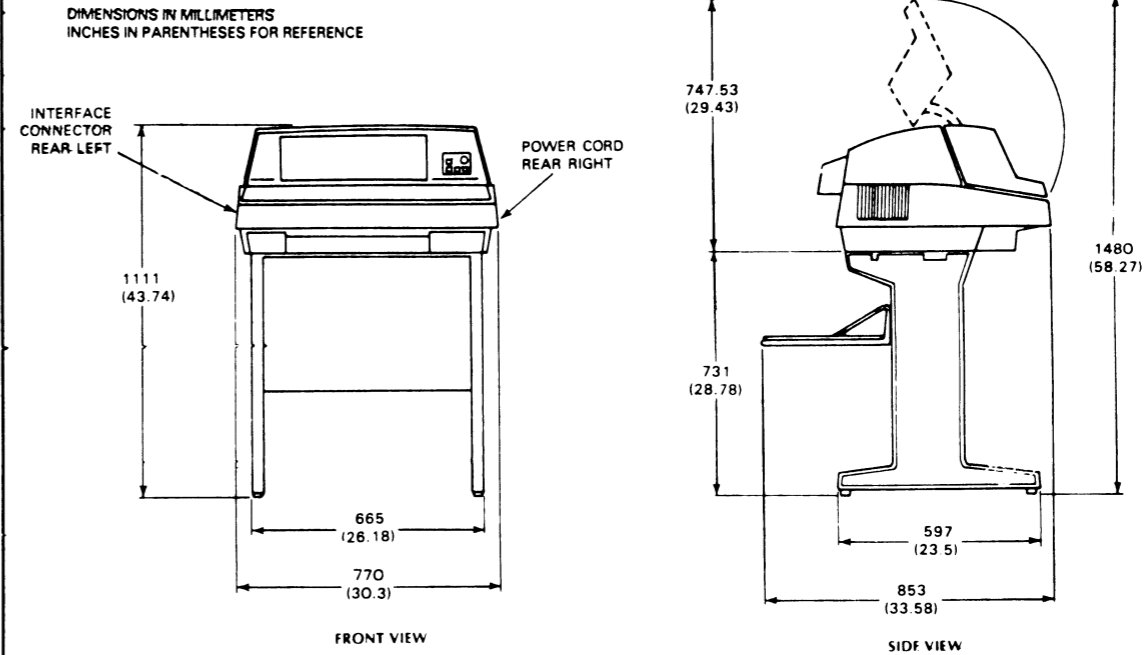
MAJOR COMPONENT

ITEM	COMPONENT	MOUNTING LOCATION	NOTES
A	4364, 4366, 9756 BAND PRINTER	ON PEDESTAL	600 LPM, 64 CHAR. SET
	4363, 4365, 9755 BAND PRINTER	ON PEDESTAL	445 LPM, 96 CHAR. SET
B	PEDESTAL & PAPER TRAY	FREE STANDING	

CABLES

ITEM	CABLE	CONNECTING	MAX LG		NOTES
			FT	M	
C	EXTERNAL DEVICE	BACK PANEL EDGE CONNECTOR AND PRINTER	30	9.1	CS/50, CS/70, S/140, C/150, S/250, C/350, M/600, MV8000, MV6000
D	EXTERNAL DEVICE	COMPUTER AND ADP. CBL.	30	9.18	ALL DEVICES
E	EXTERNAL DEVICE	ADP. CBL. AND PTR	1.5	0.45	ALL DEVICES
F	EXTERNAL DEVICE	ADP. CBL. AND HOST	1.5	0.45	ALL DEVICES

FOR CONTROLLER AND INTERNAL CABLES SEE 010001031



DIMENSIONS:

	Width	Depth	Height
Millimeters	770	853	1111
Inches	30.3	33.6	43.7

SERVICE CLEARANCES:

	Front	Rear	Right
Millimeters	609.6	370	609.6
Inches	24	14.53	24

WEIGHT:

	Empty	Shipping
Kilograms	86.5	100.0
Pounds	191.0	221.0

HEAT OUTPUT:

	Watts	BTU/hr
Domestic:		
Standby	250	853
Printing	400	1364
Export:		
Standby	400	1364
Printing	450	1535

OPERATING ENVIRONMENT:

Temperature (max) 10-38°C (50-100°F)
 Humidity, non-condensing 20-80%

POWER REQUIREMENTS:

(Domestic)

Voltage 120 ± 10-15%
 Hz 60 ± 1%
 Phase Single

(Export)

Voltage (low) 100 ± 10%
 Hz 50/60 ± 1%
 Phase Single

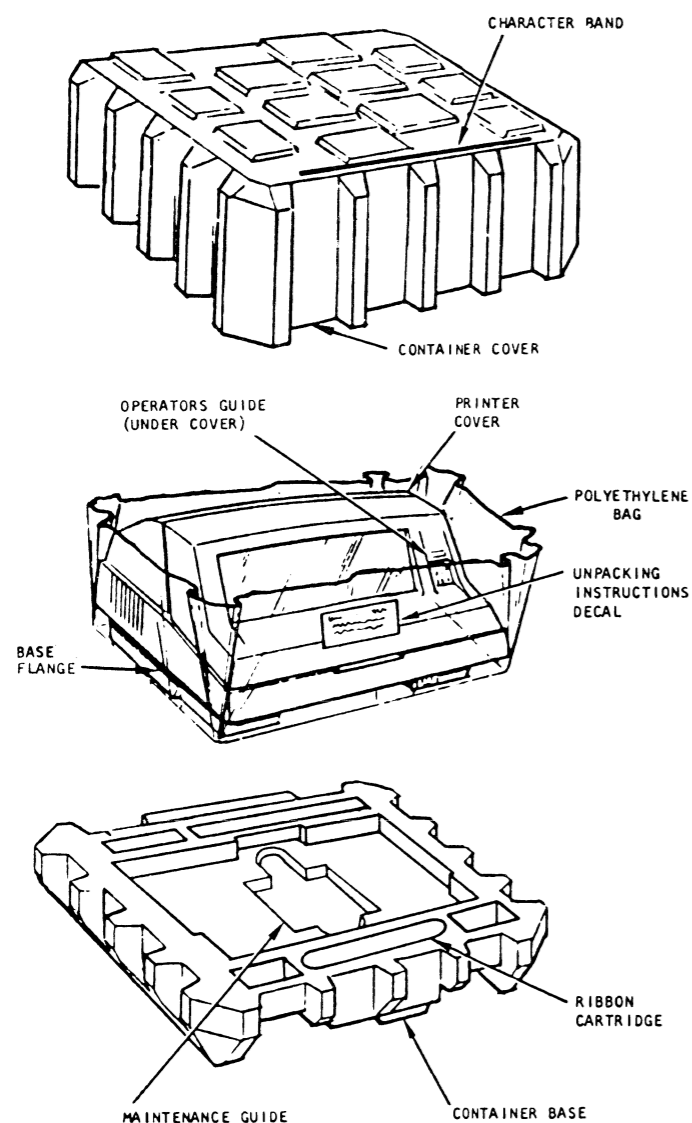
Voltage (high) 220/240 ± 10-15%
 Hz 50/60 ± 1%
 Phase Single

CABLES:

Primary Power	Length	Conn	Mating Conn
Domestic	4m (13.1)	5-15P	5-15R
Export	DGC 109-000643		

SHIPPING

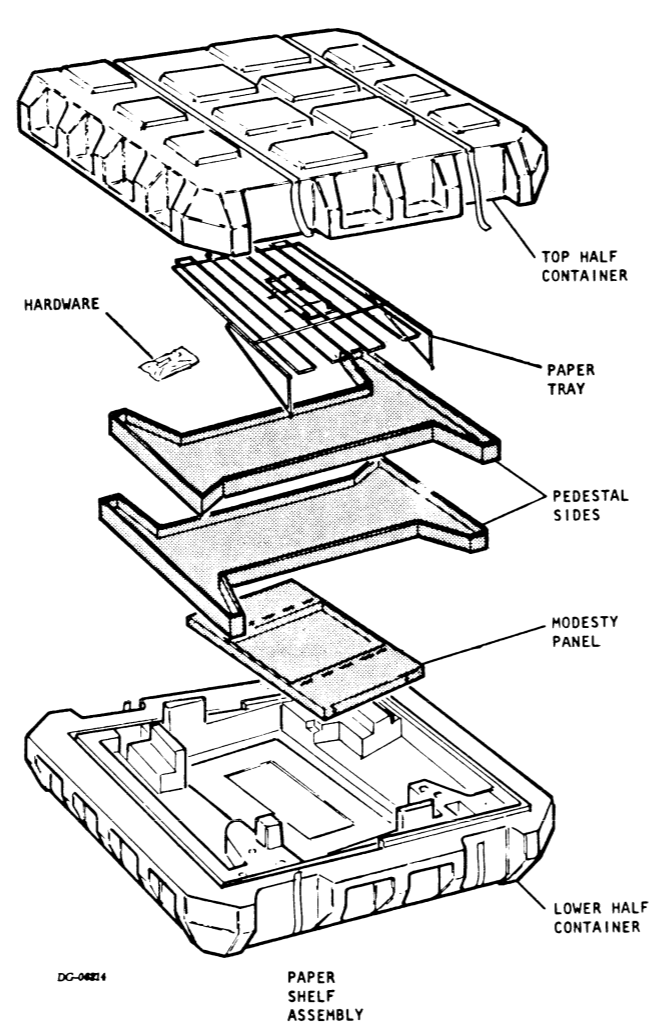
PRINTER



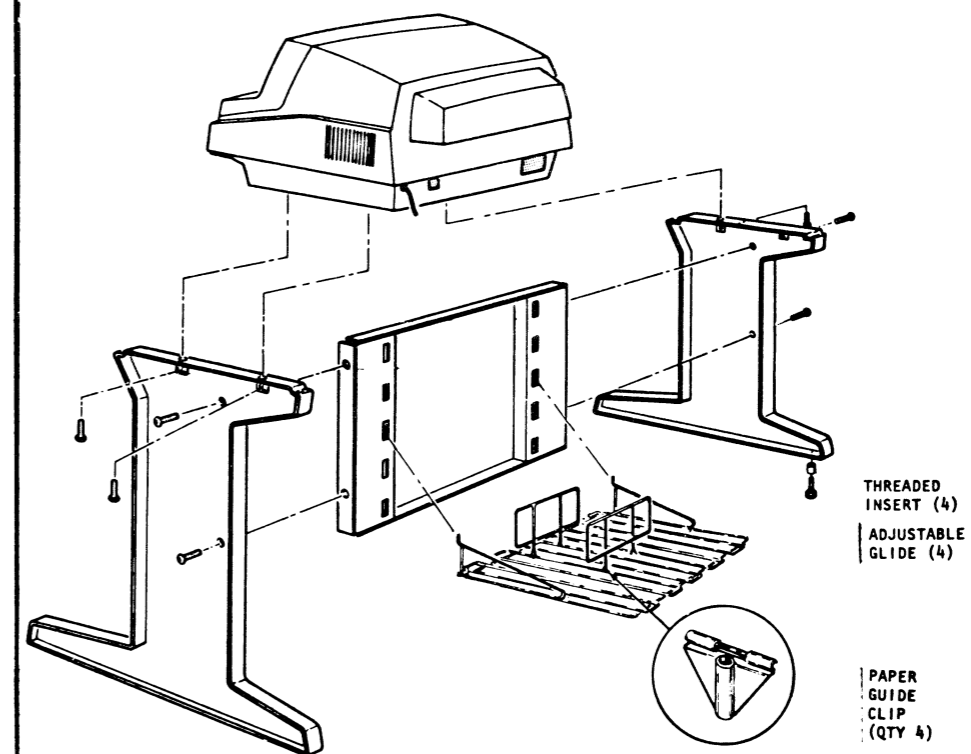
CAUTION

LIFT PRINTER FROM INSIDE OF POLYETHYLENE BAG AND ONLY BY BASE FLANGE. DO NOT LIFT BY THE PRINTER COVER.

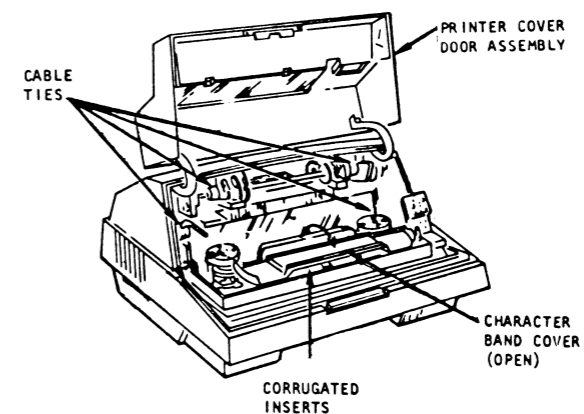
PEDESTAL



ASSEMBLY



REMOVING SHIPPING RESTRAINTS



TAILORING

FOR INFORMATION ON INSTALLING THE BAND, LOADING PAPER, AND OPERATING THE PRINTER, SEE THE:

MAINTENANCE GUIDE DGC No. 098-000095

NOTE: FOR FOREIGN MODELS ONLY

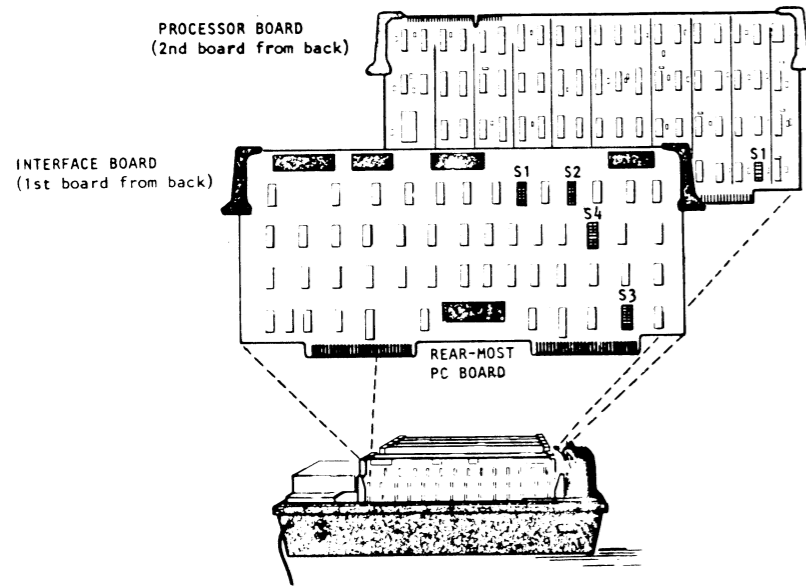
INPUT VOLTAGE VAC	INPUT FREQUENCY ±1 Hz	TRANSFORMER PLUGS*		
		P4	P5	P9
100	50 Hz	J4A	J5A	J9A
220/240	50 Hz	J4B	J5A	J9A
100	60 Hz	J4A	J5B	J9B
220/240	60 Hz	J4B	J5B	J9B

* P4 CONNECTS TO J4A OR J4B ON THE UNIVERSAL RECTIFIER BOARD. P5 CONNECTS TO J5A OR J5B ON THE UNIVERSAL RECTIFIER BOARD. P9 CONNECTS TO J9A OR J9B ON THE RESONANT CAPACITOR.

PROCESSOR BOARD SWITCH TABLE

S1-1	S1-2	S1-3	S1-4	S1-5	B600 126.6 IPS
OFF	OFF	OFF	OFF	OFF	INVALID SETTING RESULTING IN PRINTER NEVER BEING READY.
*ON	OFF	OFF	OFF	OFF	1.5 SEC
OFF	ON	OFF	OFF	OFF	3.0 SEC
OFF	OFF	ON	OFF	OFF	5.9 SEC
OFF	OFF	OFF	ON	OFF	11.8 SEC
OFF	OFF	OFF	OFF	ON	23.6 SEC

* NORMAL CONFIGURATION



DGC 06216

INTERFACE BOARD:
S1

OFF	1	VFU IN PRINTER
OFF	2	ENABLES P1 LINE WHEN VFU INSTALLED
ON	3	ENABLES 7-BIT I/O
ON	4	LOW TRUR BUFFER OR DISABLE BUF CLEAR
OFF	5	LOW TRUE I/O
OFF	6	PARITY CHECK ON 8 DATA BITS
ON	7	PARITY CHECK ON 7 DATA BITS AND P1
OFF	8	DISABLES PARITY

S2

OFF	1	NO PAPER MOVEMENT ON CR
OFF	2	ON ZERO SKIP ON 4-LINE SKIP OFF 3-LINE SKIP OFF 6-LINE SKIP
OFF	3	OFF ZERO SKIP ON 4-LINE SKIP OFF 3-LINE SKIP ON 6-LINE SKIP
OFF	4	ENABLES PRINT TO BOF
ON	5	PRINTER WILL ACCEPT 140 CONSECUTIVE CRS
OFF	6	11 INCH FOR1
OFF	7	SPARE
OFF	8	SPARE

S3

OFF	1	DISABLE VFU SKIP OVER
OFF	2	BOF SEL: OFF = 12 ON = 11 OFF = 2 ON = 8
OFF	3	SPARE
OFF	4	SPARE
OFF	5	TAPE READER NOT INSTALLED
OFF	6	PAPER MOVEMENT STATUS ON USER PRMV
OFF	7	TOF STATUS = CHANNEL 1
OFF	8	VFU READY ON PRMV

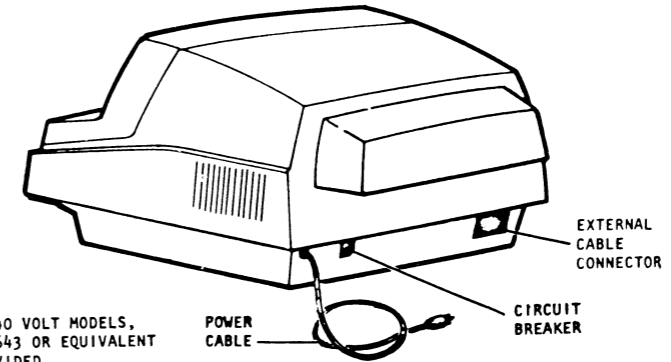
"SPARE" SWITCHES TO BE IN "OFF" POSITION

S4

OFF	1	DATAS = TAPE CHANNEL OR LINE SKIP COMMANDS
OFF	2	LOGIC0 = TAPE CHANNEL COMM. LOGIC1 = SKIP COMM.
OFF	3	15 LINE VFU SKIP
OFF	4	1403 COMPATIBILITY OPTION DISABLED
OFF	5	STEP TRUNCATE OPTION DISABLED
OFF	6	SPARE
OFF	7	SPARE
OFF	8	SPARE

"SPARE" SWITCHES TO BE IN "OFF" POSITION

CABLING



NOTE: ON 220/240 VOLT MODELS, DGC 109-643 OR EQUIVALENT PLUG PROVIDED.

EXTERNAL CABLING

CABLE PART No
(WIRE LIST)

PRINTER	COMPUTER SYSTEM	INTERNAL CABLE	EXTERNAL CABLE	
4363,4364	S/250	005-12496	005-7874	
	M/600	005-13627 (SEE NOTE 2)		
	MV/8000		C/150	005-1802
	C/350	S/140	005-12472	005-7874
9755,9756	CS/50	005-12472	005-7874	
	CS/70			
4365,4366	N/A	N/A		

NOTE: 1. THE B600 BAND PRINTER WILL UTILIZE A DATA CHANNEL CONTROLLER. 005-8096 DATA CHANNEL CONTROLLER OR 005-8161 DATA CHANNEL CONTROLLER WITH PIT
2. MOUNTING HARDWARE FOR 005-12496 CABLE.
3. THIS TABLE FOR REFERENCE ONLY. SEE PAGE 4 OF 4 FOR EMI HARDENED CABLE MATRIX.

PROM AND HEADER KIT CONFIGURATION

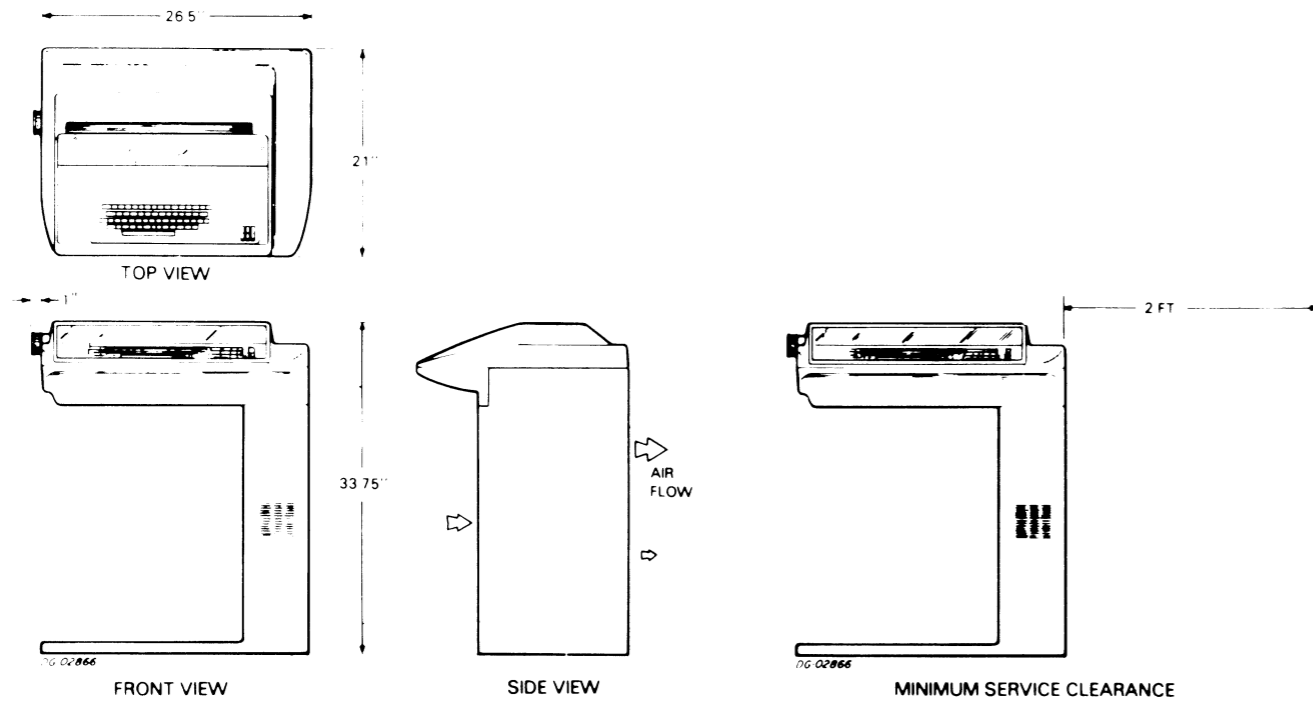
D.G. PART NO.	DESCRIPTION	LOCATION
118-1540	HEADER KIT, HAMMER DRIVER	J18
118-1541	HEADER KIT, T & S	J2, J4
100-2464	PROM KIT, FLSS	I/F BOARD

TABLE A, EMI HARDENED CABLE MATRIX

PRINTER	SYSTEM	INTERNAL	HOST END ADAPTER	EXTERNAL CABLE	PERIPHERAL ADAPTER
4363 4364	MV/8000	005-12496	005-013276 (001-002596) (018-000680)	005-013265 (001-002578) (018-000642)	005-013267 (001-002580) (018-000644)
	MV/6000	005-13627			
	M/600	(SEE NOTE 1)			
	C/350	005-1802			
	S/250	005-12472			
9755	CS/70	005-12472			
9756	CS/50				
4365 4366	N/A				

NOTES: 1. MOUNTING HARDWARE FOR 005-12496 CABLE.

INSTALLATION SPECIFICATIONS



NOTE
 REAR OF UNIT MUST BE AT LEAST 6"
 FROM WALL OR OTHER OBSTRUCTION TO
 PROVIDE COOLING AIR FLOW

SPECIFICATIONS

DIMENSIONS:	WIDTH	DEPTH	HEIGHT
CENTIMETERS	67.31	53.34	85.73
INCHES	26.50	21.00	33.75

SERVICE CLEARANCES:	REAR	RIGHT
CENTIMETERS	30.48	60.96
INCHES	12	24

WEIGHT:	KILOGRAMS	POUNDS
	36.3	80

HEAT OUTPUT: 300 WATTS (1023BTU/HR)

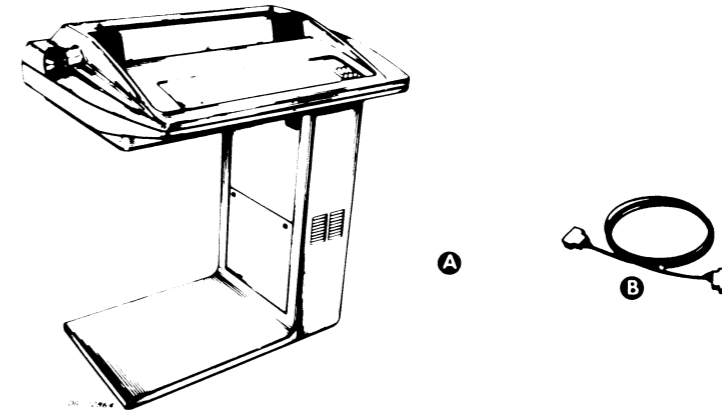
OPERATING ENVIRONMENT:

TEMPERATURE (MIN)	10 DEGC (50 DEGF)
TEMPERATURE (MAX)	40 DEGC (104 DEGF)
RELATIVE HUMIDITY (MAX)	90%

CABLES:

PRIMARY POWER	1.8M (6')	CONN	MATING CONN
DOMESTIC	1.8M (6')	5-15P	5-15R
EXPORT	1.8M (6')	6-15P	6-15R

POWER REQUIREMENTS:	
(DOMESTIC)	
VOLTAGE (47-63Hz)	120
Hz	47-63
MAX AMP PER PHASE	2.5
PHASE	1
(EXPORT)	
VOLTAGE (47-63Hz)	220/240
Hz	47-63
MAX AMP PER PHASE	1.4/1.3
PHASE	1



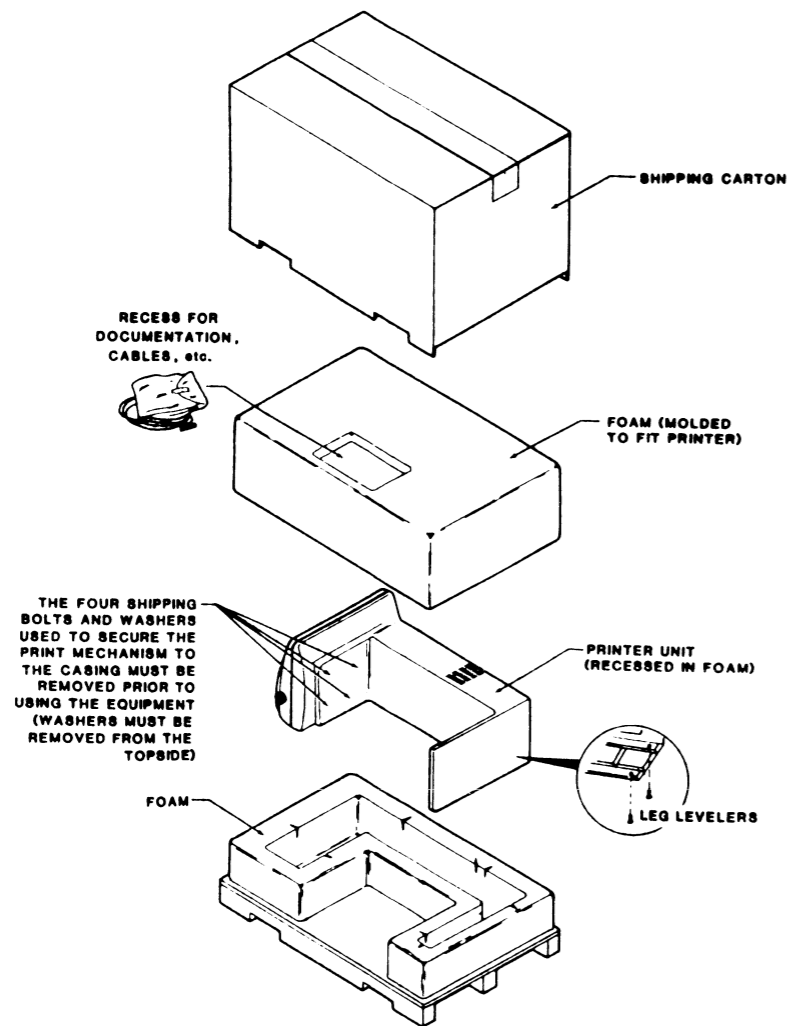
MAJOR COMPONENT

ITEM	COMPONENT	MOUNTING LOCATION	NOTES
A	DATA PRINTER	FREE-STANDING	PLUG-COMPATIBLE WITH PARALLEL INTERFACE CONTROLLERS

CABLE

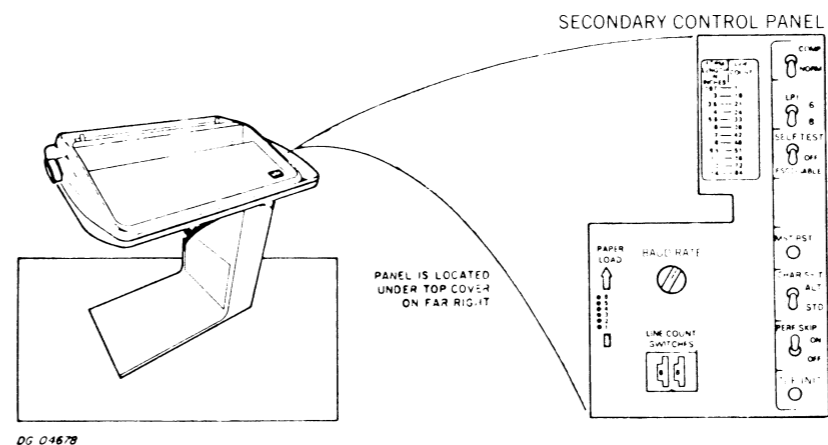
ITEM	CABLE	CONNECTING	MAX LG		NOTES
			FT	M	
B	DEVICE CABLE	PARALLEL AND MATRIX INTERFACE PRINTER	25	7.4	DEVICE CABLE VARIES WITH INTERFACE

SHIPPING



SHIPPING SPECIFICATIONS			STORAGE SPECIFICATIONS		
TEMPERATURE RANGE	RELATIVE HUMIDITY (NON-CONDENSING)	MAXIMUM ALTITUDE	TEMPERATURE RANGE	RELATIVE HUMIDITY (NON-CONDENSING)	MAXIMUM PERIOD
$^{\circ}\text{F}$ 40 +160 $^{\circ}\text{C}$ 49 +71	0 - 80 %	50,000 ft 15,200 m	$^{\circ}\text{F}$ 40 +160 $^{\circ}\text{C}$ -40 +71	0 - 80 %	90 DAYS

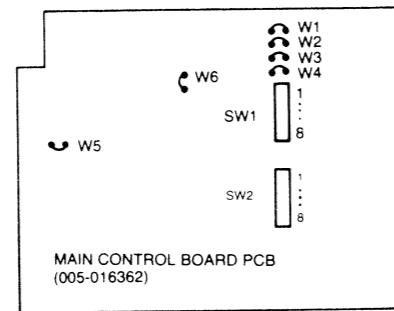
TAILORING SWITCHES



SECONDARY CONTROL PANEL SWITCHES

- 1) COMP/NORM - SET TO NORMAL OR COMPRESSED WIDTH CHARACTERS.
- 2) LPI - SET TO 6 OR 8 LINES PER INCH.
- 3) SELF TEST / ESC DISABLE - SET IN THE MIDDLE POSITION IF THE PRINTER SHOULD RESPOND TO ESCAPE SEQUENCES. SET IN THE ESC DISABLE POSITION IF THE PRINTER SHOULD IGNORE ESCAPE SEQUENCES.
- 4) CHAR SET - SET TO STANDARD OR ALTERNATE CHARACTER SET.
- 5) PERF SKIP - SET ON OR OFF FOR PERFORATION SKIPOVER.
- 6) LINE COUNT - SET LINE COUNT CORRESPONDING TO THE FORM LENGTH. LINE COUNT = FORM LENGTH (INCHES) X 6 OR 8 LINES PER INCH.
- 7) TOF - MOVE THE PAPER TO THE TOP OF FORM AND PRESS TOF TO INITIATE THE LINE COUNTER.
- 8) BAUD RATE - SET ROTARY SWITCH TO THE DESIRED DATA TRANSFER RATE.

TAILORING (Cont) SWITCHES/JUMPERS ON MAIN CONTROL PCB



JUMPER WIRE INSTALLATION

JUMPER	IN/OUT	DESCRIPTION
W1	IN	Parallel I/F
W2	IN	Power Failure Recovery Enabled
W3	OUT	SA Disabled
W4	OUT	APL Disabled
W5	IN	Clock Enabled
W6	IN	8-Bit Interface (OUT = 7 Bit I/F)

STANDARD Set			ALTERNATE Set			SELECTED Set
SW1 Bits 1	SW1 Bits 2	SW1 Bits 3	SW1 Bits 4	SW1 Bits 5	SW1 Bits 6	
ON	ON	ON	ON	ON	ON	American
ON	ON	OFF	ON	ON	OFF	British
ON	OFF	ON	ON	OFF	ON	German
ON	OFF	OFF	ON	OFF	OFF	Spanish
OFF	ON	ON	OFF	ON	ON	French
OFF	ON	OFF	OFF	ON	OFF	Danish
OFF	OFF	ON	OFF	OFF	ON	Swedish
OFF	OFF	OFF	OFF	OFF	OFF	Optional**

**American set if no optional character set has been installed

LP2 SWITCH BIT SETTINGS

SWITCH	BIT	SETTING	DESCRIPTION
SW1	1	See Table	Standard character set select
	2	Table	
	3	At Right	
	4	See Table	Alternate character set select
	5	Table	
	6	At Right	
	7	OFF	Alignment 1 Adjust * 1 (Not Used)
	8	OFF	

* See FRU manual for usage instructions.

NOTE 1:

For 005-16362 PCBs that have EPROM 100-3096 Rev 02 or higher installed, the functions of SW1-7, SW1-8 and SW2-1 are described by the alignment switch setting chart. Setting and functions described for these switches by other charts are to be disregarded.

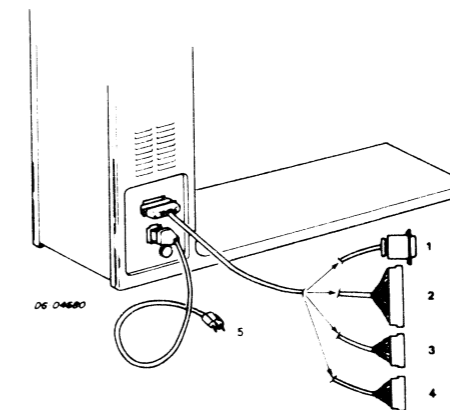
NOTE: Standard and Alternate font Selection is normally performed at the customer's site during initial installation.

ALIGNMENT SWITCH SETTINGS¹

SW1-7	SW1-8	SW2-1	ALIGNMENT INCREMENTS ^{***}	
			REGULAR	COMPRESSED
ON	ON	ON	0	0
ON	ON	OFF	0	1
ON	OFF	ON	1	2
ON	OFF	OFF	1	3
OFF	ON	ON	2	3
OFF	ON	OFF	2	4
OFF	OFF	ON	3	5
OFF	OFF	OFF	3	6

^{***} Each Regular increment is worth .010" and each compressed increment is worth .006".

EXTERNAL CABLING



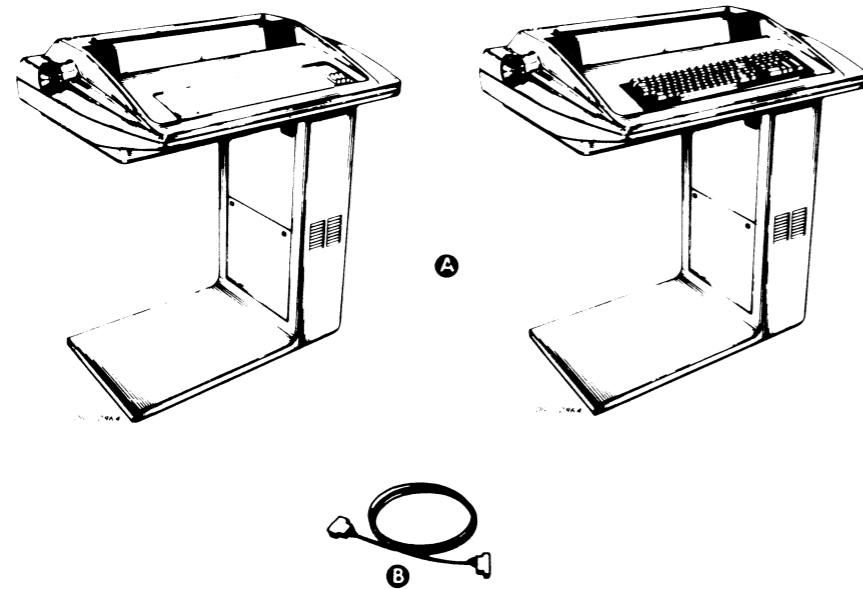
	COMPUTER	CABLE NUMBER	WIRE LIST NO.	CONTROLLER
1	NOVA 800, 830, 1200	005-001256 005-012100	008-000310 008-003203	005-001365 005-008096
2	NOVA 2, 3, 820, 1210, 1220	005-001354 005-012099	008-000304 008-003202	005-001564 005-008096
3	MicroNOVA	005-001452	008-000995	005-009448
4	CS Systems	005-009060	008-2086	
5	120V 13A	109-000238		
	240V 15A	109-000240		

INTERFACE REQUIREMENTS

SIGNAL	CHARACTERISTIC
Data Lines	High = Logic 1 Low = Logic 0
STROBE	Duration = 0.5 - 10.0µs Data lines sampled on falling edge of STROBE
DEMAND	High = Requesting Data Low = Busy
READY	High = ON LINE, no fault conditions Low = OFF LINE and/or fault conditions

*High = 2.4 - 5.0 Volts
Low = 0.0 - 0.4 Volts

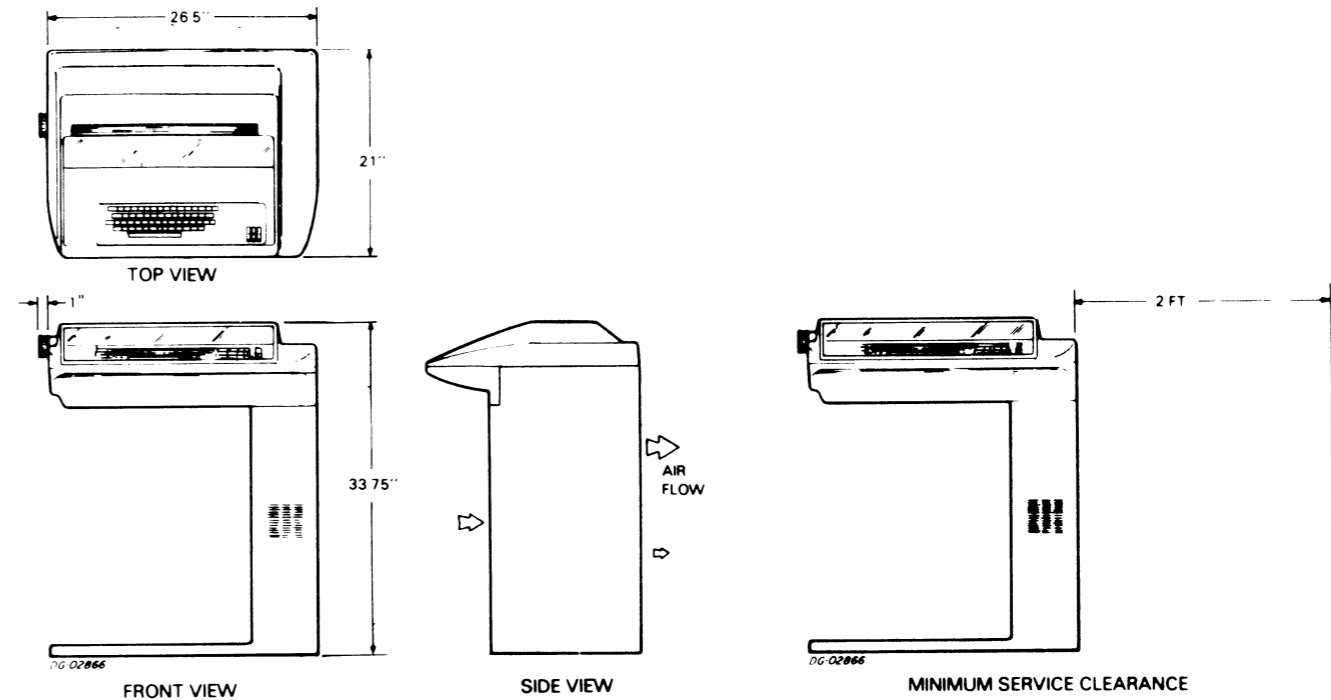
SUBSYSTEM COMPONENT BREAKDOWN



MAJOR COMPONENT			
ITEM	COMPONENT	MOUNTING LOCATION	NOTES
A	180CPS RO SERIAL PRINTER OR	FREE STANDING	
	180CPS KSR TERMINAL	FREE STANDING	

CABLE					
ITEM	CABLE	CONNECTING	MAX LG		NOTES
			FT	M	
B	DEVICE CABLE (20MA)	20MA INTERFACE CONNECTOR and PRINTER TERMINAL	1500	457	DEV CABLE VARIES WITH 1) COMPUTER 2) INTERFACE
	DEVICE CABLE (EIA)	EIA INTERFACE CONNECTOR and PRINTER TERMINAL	50	15.2	
	DEVICE CABLE (MODEM)	MODEM CONNECTOR and PRINTER TERMINAL	50	15.2	

SPECIFICATIONS OF FREE-STANDING COMPONENTS



NOTE
REAR OF UNIT MUST BE AT LEAST 6"
FROM WALL OR OTHER OBSTRUCTION TO
PROVIDE COOLING AIR FLOW

SPECIFICATIONS

DIMENSIONS:	WIDTH	DEPTH	HEIGHT
CENTIMETERS	67.31	53.34	85.73
INCHES	26.50	21.00	33.75

SERVICE CLEARANCES:	REAR	RIGHT
CENTIMETERS	30.48	60.96
INCHES	12	24

WEIGHT:	
KILOGRAMS	36.3
POUNDS	80

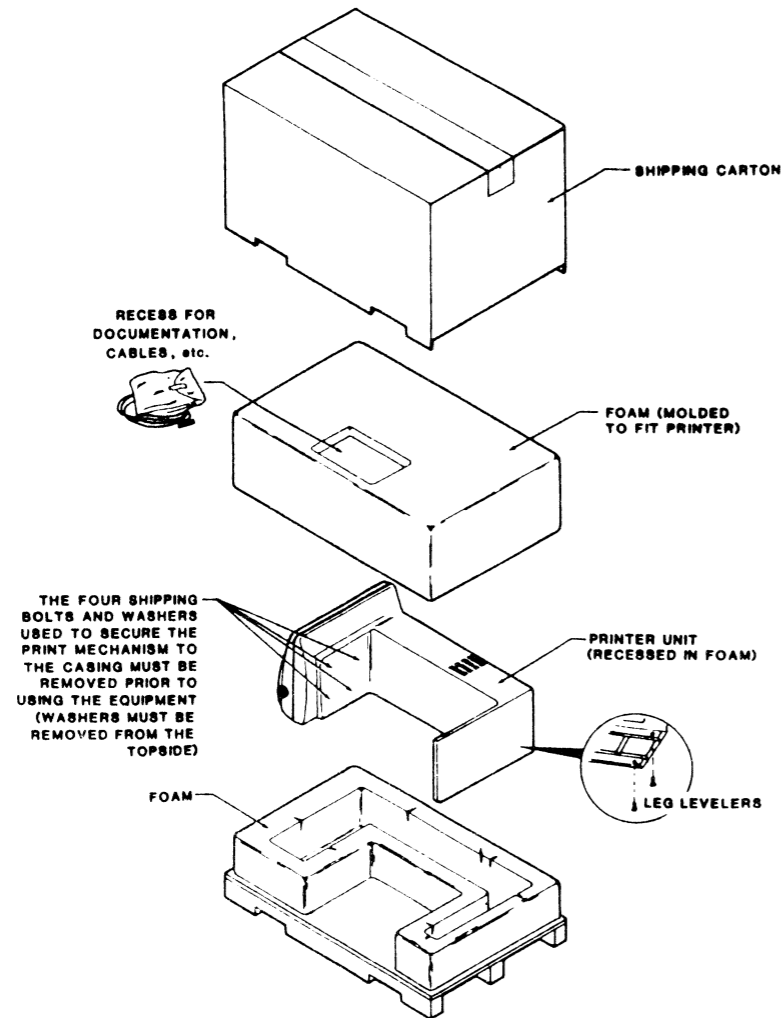
HEAT OUTPUT: 300 WATTS (1023BTU/HRI)

OPERATING ENVIRONMENT:	
TEMPERATURE (MIN)	10 DEGC (50 DEGF)
TEMPERATURE (MAX)	40 DEGC (104 DEGF)
RELATIVE HUMIDITY (MAX)	90%

CABLES:		CONN	MATING CONN
PRIMARY POWER			
DOMESTIC	1.8M (6')	5-15P	5-15R
EXPORT	1.8M (6')	6-15P	6-15R

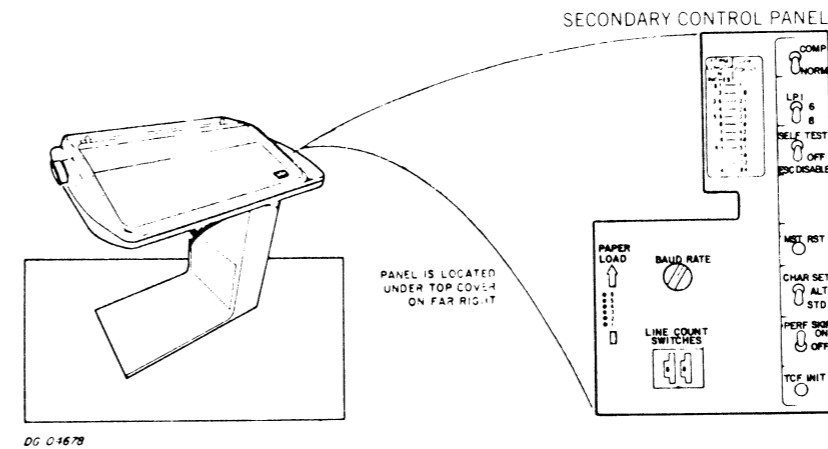
POWER REQUIREMENTS:	
(DOMESTIC)	
VOLTAGE (47-63Hz)	120
Hz	47-63
MAX AMP PER PHASE	2.5
PHASE	1
(EXPORT)	
VOLTAGE (47-63Hz)	220/240
Hz	47-63
MAX AMP PER PHASE	1.4/1.3
PHASE	1

SHIPPING



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 +160 / -49 +71	0 - 80 %	50,000 ft / 15,200 m.	40 +160 / -40 +71	0 - 80 %	90 DAYS

TAILORING SWITCHES



DG 0-1678

SECONDARY CONTROL PANEL SWITCHES

- 1) COMP/NORM - SET TO NORMAL OR COMPRESSED WIDTH CHARACTERS.
- 2) LPI - SET TO 6 OR 8 LINES PER INCH
- 3) SELF TEST / ESC DISABLE - SET IN THE MIDDLE POSITION IF THE PRINTER SHOULD RESPOND TO ESCAPE SEQUENCES. SET IN THE ESC DISABLE POSITION IF THE PRINTER SHOULD IGNORE ESCAPE SEQUENCES.
- 4) CHAR SET - SET TO STANDARD OR ALTERNATE CHARACTER SET.
- 5) PERF SKIP - SET ON OR OFF FOR PERFORATION SKIPOVER.
- 6) LINE COUNT - SET LINE COUNT CORRESPONDING TO THE FORM LENGTH. LINE COUNT - FORM LENGTH (INCHES) X 6 OR 8 LINES PER INCH.
- 7) TOF - MOVE THE PAPER TO THE TOP OF FORM AND PRESS TOF TO INITIATE THE LINE COUNTER.
- 8) BAUD RATE - SET ROTARY SWITCH TO THE DESIRED DATA TRANSFER RATE.

ALIGNMENT SWITCH SETTINGS³

SW1-7	SW1-8	SW2-1	ALIGNMENT INCREMENTS ^{***}	
			REGULAR	COMPRESSED
ON	ON	ON	0	0
ON	ON	OFF	0	1
ON	OFF	ON	1	2
ON	OFF	OFF	1	3
OFF	ON	ON	2	3
OFF	ON	OFF	2	4
OFF	OFF	ON	3	5
OFF	OFF	OFF	3	6

^{***} Each Regular increment is worth .010" and each compressed increment is worth .006".

SWITCH	BIT	SETTING	DESCRIPTION
SW1	1	See Table Below	Standard character set select
	2		
	3		
	4	See Table Below	Alternate character set select
	5		
	6		
	7	OFF	Alignment Adjust *
	8	OFF	Enabled
SW2	4	ON	Parity Fault Disabled
SW3	5	OFF	DTR Enabled

* See FRU Manual 015-124 for usage instructions.

CHARACTER SET SELECT (SW1, BITS 1-6)							
STANDARD SET			ALTERNATE SET			SELECTED CHARACTER SET	
SW1 BITS	1	2	3	SW1 BITS	4		5
ON	ON	ON	ON	ON	ON	ON	American
ON	ON	OFF	ON	ON	OFF	ON	British
ON	OFF	ON	ON	OFF	ON	ON	German
ON	OFF	OFF	ON	OFF	OFF	ON	Spanish
OFF	ON	ON	OFF	ON	ON	ON	French
OFF	ON	OFF	OFF	ON	OFF	ON	Danish
OFF	OFF	ON	OFF	OFF	ON	ON	Swedish
OFF	OFF	OFF	OFF	OFF	OFF	OFF	Optional **

** American set if no optional character set has been installed.

STOP BIT CONFIGURATIONS	
SW2 BIT 6	NO. STOP BITS
ON	One Stop Bit
OFF	Two Stop Bits

- NOTES:**
1. Normal Configuration: 7 Data Bits, selectable parity and selectable stop bits.
 2. DLL Configuration: 8 Data Bits.
 3. For 005-016326 PCBs that have EPROM 100-3096 Rev 02 or higher installed, the functions of SW1-7, SW1-8 and SW2-1 are described by the Alignment Switch Settings chart. Settings and functions described in other charts for these switches must be disregarded. Also, space parity is not selectable when 100-3096 Rev 02 or higher is installed.

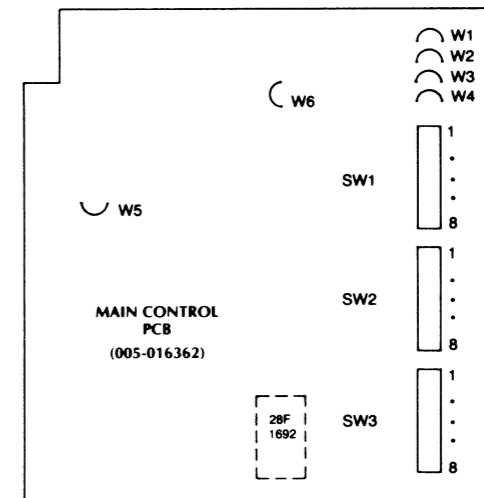
TP2 TAILORING GUIDELINES (MAIN CONTROL PCB 005-016362) DIP SWITCH SETTINGS

INTERFACE OPTIONS			
HARDWARE BUSY CONFIGURATION			
SW1	8	OFF	HW Busy Enabled
SW2	7	ON	HW Busy Low
SW2	8	ON	SW Busy Disabled
SW3	3	ON	Busy to RTS
SW3	4	OFF	RTS Enabled
SOFTWARE BUSY CONFIGURATION			
SW1	8	ON	HW Busy Disabled
SW2	7	ON	HW Busy Low
SW2	8	OFF	SW Busy Enabled
SW3	3	OFF	Busy to RTS
SW3	4	ON	RTS Enabled
EIA CONFIGURATION			
SW3	1	OFF	EIA Modem
SW3	2	ON	EIA Modem
SW3	6	OFF	EIA Modem
SW3	7	ON	EIA Modem
20 MIL CURRENT LOOP			
SW3	1	ON	Curr. Loop Mod.
SW3	2	OFF	Curr. Loop Mod.
SW3	6	ON	Curr. Loop Mod.
SW3	7	OFF	Curr. Loop Mod.

PARITY OPTIONS			
SW2 BIT POSITIONS			SELECTED PARITY
1	2	3	
ON	OFF	OFF	No Parity
OFF	ON	OFF	Mark Parity
OFF	OFF	OFF	Space Parity
OFF	OFF	ON	Even Parity
OFF	ON	ON	Odd Parity

CHARACTER LENGTH	
SW 2 BIT 5	LENGTH
OFF	7 Data Bits ¹
ON	8 Data Bits ²

LOCATION OF JUMPERS/SWITCHES



NOTE: IC 100-1692 is installed for TP2 Board (P/N 005-16710 through 005-16713)

TP2 JUMPER WIRE INSTALLATION

JUMPER	IN/OUT	DESCRIPTION
W1	OUT	Serial Interface Power Failure Recovery Enabled
W2	IN	
W3	OUT	SA Disabled
W4	OUT	APL Disabled
W5	IN	Clock Enabled
W6	N/A	—

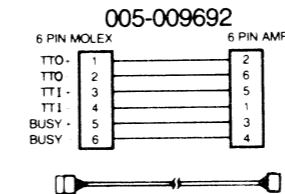
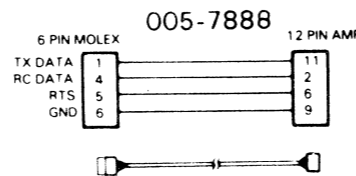
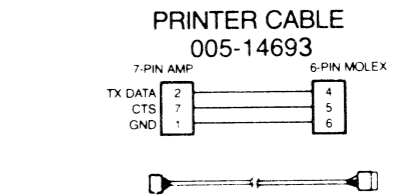
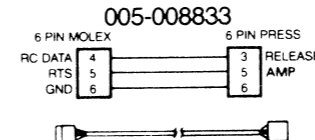
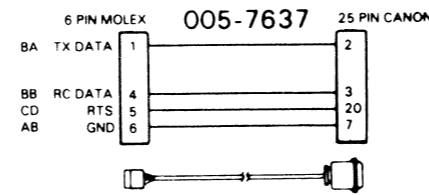
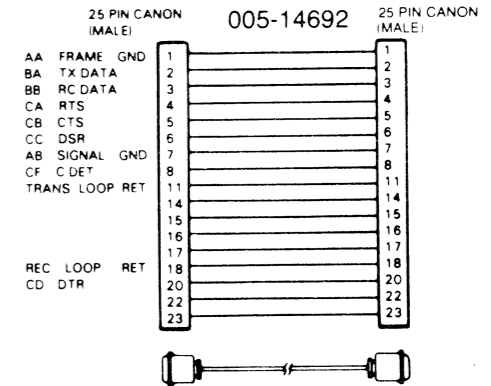
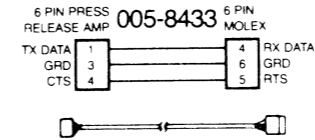
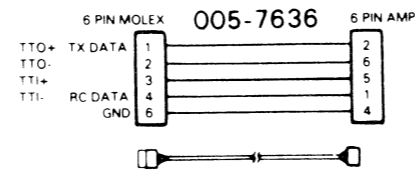
EXTERNAL CABLING

SERIAL INTERFACE CABLES

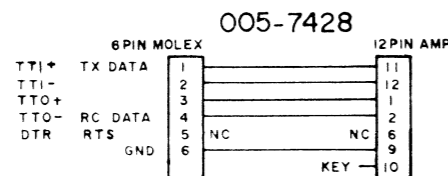
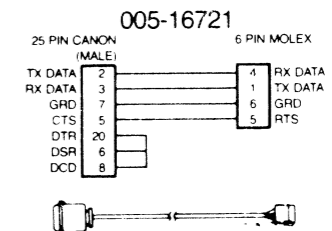
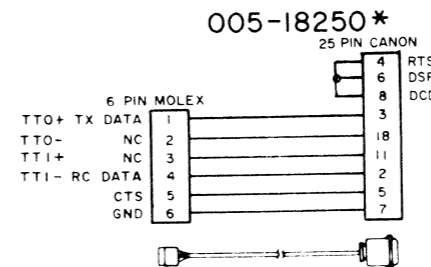
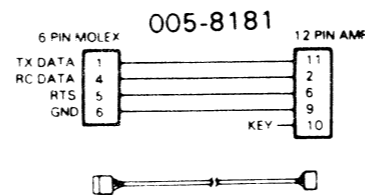
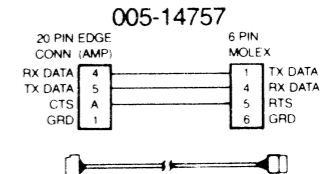
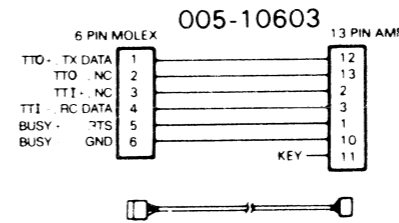
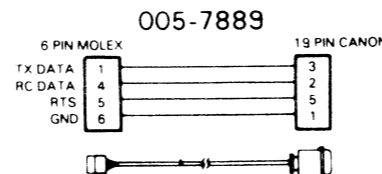
DASHER TP2 PRINTER EXTERNAL CABLING LIST

CABLE CONNECTS				
TP2 CONNECTOR	COMPUTER CONTROLLER	REMARKS	CABLE NUMBER	WIRELIST
EIA CL	ALM-16	BAUD RATES UP TO 4800 BAUD CAN BE RUN IF DC1 AND DC3 ARE USED	005-007636	008-000971
EIA	MODEM	USED WITH SIMPLE MANUAL ANSWER MODEMS	005-007637	008-000973
EIA	NOVA 2, 3, 4, 820, 1210, 1220, ECLIPSE S100, S200, S230, C300, C330, S130, C150, AP130, S140, MICRONOVA	WHEN TP2 PRINTER IS A SECONDARY DEVICE (OR ANY DEVICE ON MICRO NOVA)	005-007888	008-002003
EIA	NOVA 800, 830, 840, 1200	---	005-007889	008-002002
EIA	ALM-8 CS SYSTEMS	TP2 IS A SECONDARY DEVICE ON CS SYSTEMS	005-008181	008-002033
EIA	ALL	D1, 2 R O PRINTER	005-008433	008-002071
EIA	ALL	CS20, D3, R O PRINTER	005-008833	008-002552
C.L.	CS SYSTEMS	ALLOWS USE OF CURRENT LOOP BUSY SIGNAL. CABLE LENGTH DEPENDS ON 005 CABLE #	005-009692 005-009806 thru 005-009810	008-002125
EIA	NOVA 2, 3, 4, 820, 1210, 1220, ECLIPSE S100, S200, S230, C300, C330, S130, S140, C150, AP130	WHEN TP2 PRINTER IS THE PRIMARY CONSOLE	005-010603	008-002507
EIA C.L.	MV8000, M600, S250, C350, NOVA 4, S140, CS10, C3	---	005-18250 *	018-001116
EIA	MODEM	USED WITH AUTO-ANSWER, AUTO-DISCONNECT MODEMS	005-014692	018-000819
EIA	ALL	D100, 200 R O PRINTER	005-014693	018-000820
EIA	CS10, C1	R O PRINTER	005-014757	018-000886
EIA	MPT 80 83 87	R O PRINTER	005-016721	018-000994
C.L.	ALL	SECONDARY DEVICE, MICRONOVA, MUX, ULM	005-007428	008-000977

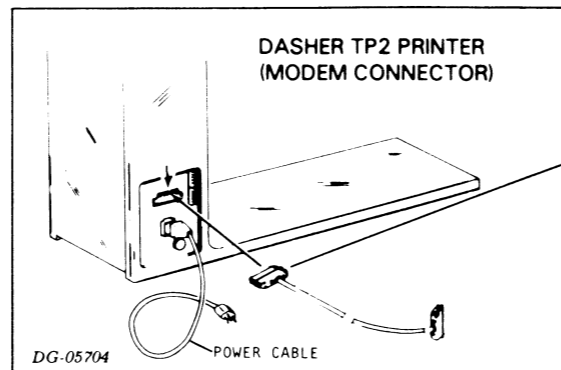
* DOWNWARD COMPATIBLE (REPLACES) 005-010707



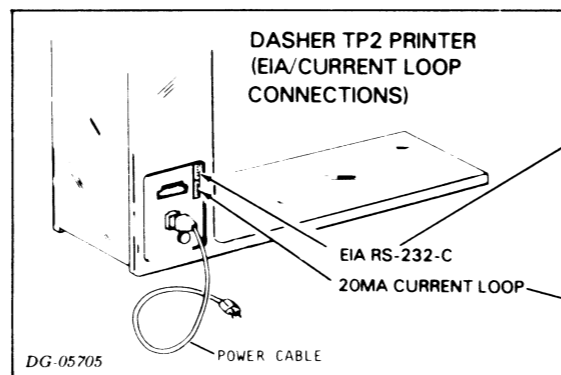
PRINTER CABLE 005-14693



EXTERNAL CABLING (CONTINUED) SERIAL INTERFACE CABLES



- 25 PIN CANON (MALE)
- 1 AA FRAME GND
 - 2 BA TX DATA
 - 3 BB RC DATA
 - 4 CA RTS
 - 5 CB CTS
 - 6 CC DSR
 - 7 AB SIGNAL GND
 - 8 CF C DET
 - 11 TRANSMIT LOOP RET
 - 18 RECEIVE LOOP RET
 - 20 CD DTR



- 6 PIN MOLEX
- 1 TX DATA
 - 2 NC
 - 3 NC
 - 4 RC DATA
 - 5 RTS
 - 6 GND

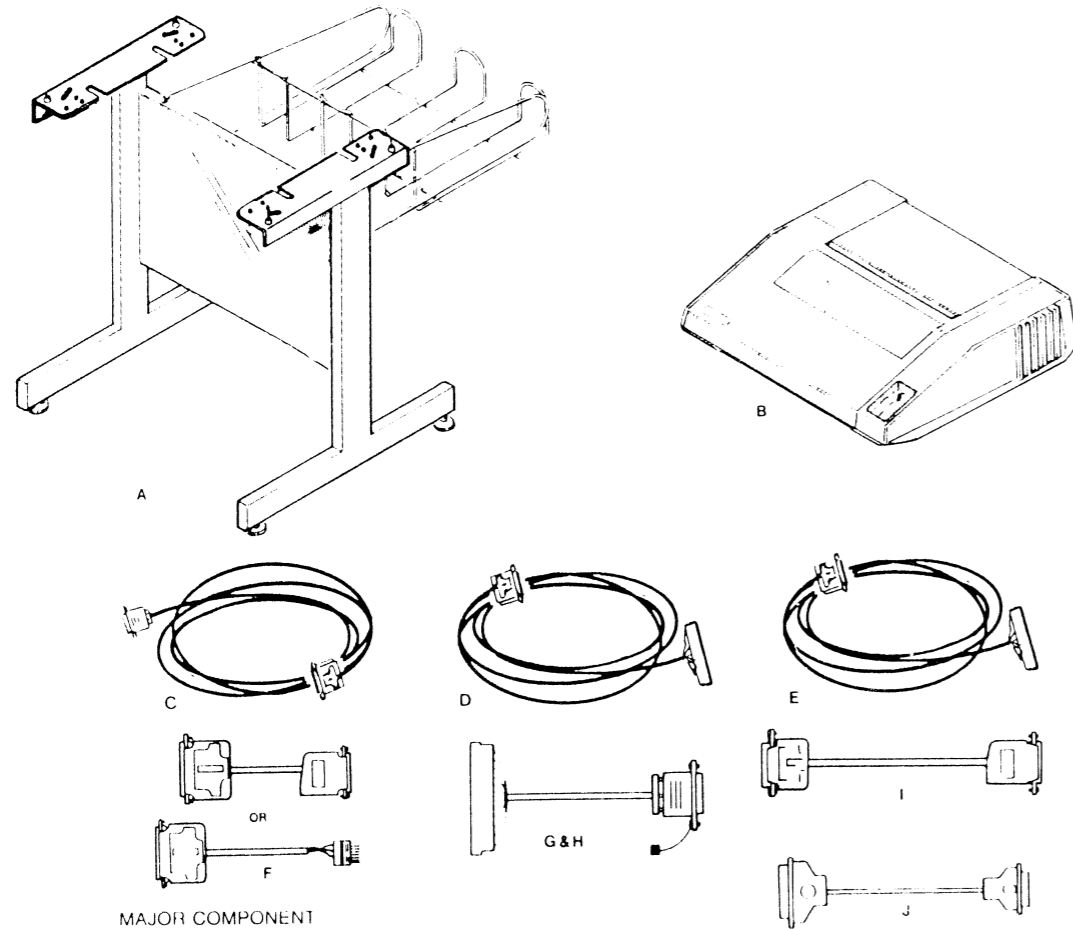
- 6 PIN MOLEX
- 1 +C LOOP OUT
 - 2 -C LOOP OUT
 - 3 +C LOOP IN
 - 4 -C LOOP IN
 - 5 +C LOOP BUSY
 - 6 -C LOOP BUSY

	TERMINAL TRANSMITTING	TERMINAL RECEIVING
MARK SENSE	V max = 40V I max = 40mA	V max = 40V
SPACE SENSE	I = 10 - 60mA	I < 5mA

POWER CABLE

120 VOLTS, 13A	109000238
240 VOLTS, 15A	109000240

INSTALLATION SPECIFICATIONS



MAJOR COMPONENT

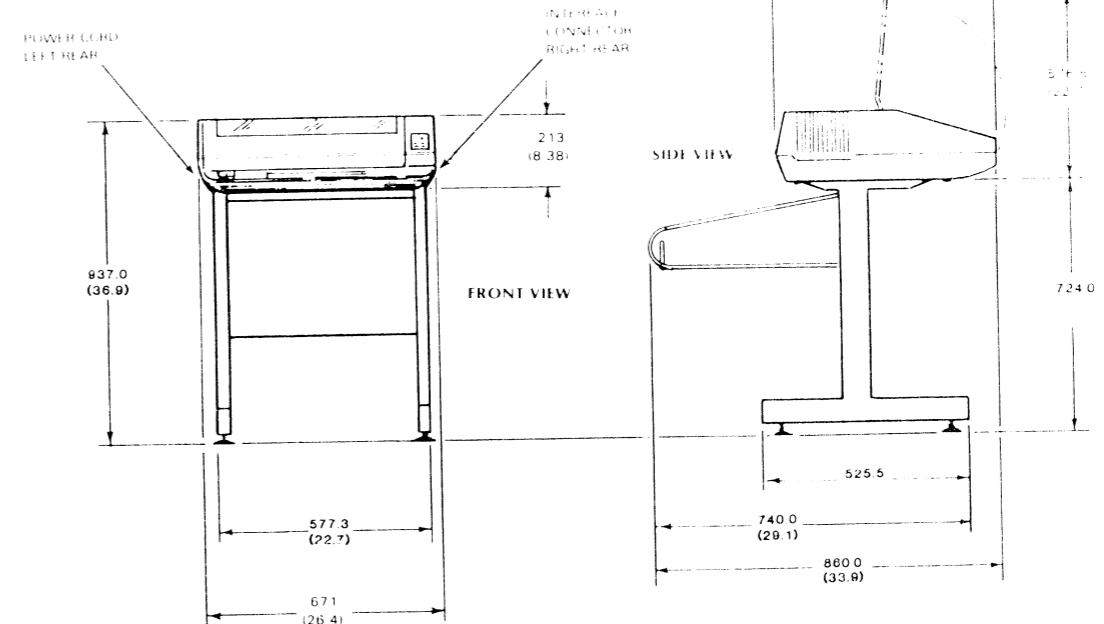
ITEM	COMPONENT	MOUNTING LOCATION	NOTES
A	4354 MATRIX PRINTER	ON PEDESTAL	140 CPS 96 CHARACTER SET
B	PEDESTAL & PAPER TRAY	FREE STANDING	

CABLES

ITEM	CABLES	CONNECTING		MAX LG		NOTES
				FT	M	
C	EXTERNAL DEVICE	BACK PANEL SOCKET CONNECTOR	AND ADAPTER	25	7.62	NOVA SUPN 890 120W
D	EXTERNAL DEVICE	BACK PANEL EDGE CONNECTOR	AND ADAPTER	25	7.62	890 1210 1220 2 ALL 3 ALL 4 ALL ECLIPSE ALL
E	EXTERNAL DEVICE	CONTROLLER EDGE CONNECTOR	AND ADAPTER	25	7.62	MICRONOVA MICROPRODUCTS
F	ADAPTER	EXTERNAL DEVICE CABLE	AND ADAPTER			
G	ADAPTER HOST END	BACKPANEL EDGE CONNECTOR	AND EXTERNAL CABLE	15	4.57	SEE TABLE SHEET 5
H	ADAPTER HOST END	BACKPANEL EDGE CONNECTOR	AND EXTERNAL CABLE	15	4.57	SEE TABLE SHEET 5
I	ADAPTER PERIPHERAL	STANDARD CABLE	AND PRINTER	15	4.57	SEE TABLE SHEET 5
J	STANDARD CABLE	HOST OR HOST END ADAPTER	AND PRINTER OR PERIPHERAL ADAPTER	30	9.14	SEE TABLE SHEET 5

FOR CONTROLLER AND INTERNAL CABLES
SEE 010000199 OR 010000126

DIMENSIONS IN MILLIMETERS
INCHES IN PARENTHESES FOR REFERENCE



06-100088

DIMENSIONS:	Width	Depth	Height
Millimeters	671	880	937
Inches	26.4	33.9	36.9

SERVICE CLEARANCES:	Front	Top	Rear
Millimeters	609.6	370	609.6
Inches	24	14.53	24

WEIGHT:	Printer	Pedestal & Tray
Kilograms	27.2	12.3
Pounds	60	27.1

HEAT OUTPUT:	Domestic	Export
Standby	200W 682BTU/hr	250W 853BTU/hr
Printing	300W 1024BTU/hr	350W 1194BTU/hr

OPERATING ENVIRONMENT:	Temperature (max)	Relative Humidity (max)	Altitude
	10-38 C (50-100 F)	20-80%	

POWER REQUIREMENTS	(Domestic)	(Export)
Voltage	120V ± 10% 15	100 220 240 ± 10% 15
Hz	60 ± 1%	50 60 ± 1%
Amp per Phase	5A	2.8A
Phase	single	single
Startup Surge per Phase	10A	5.5A

CABLES:	Primary Power	Length	Conn	Matng Conn
Domestic 60Hz		48-113.1m	5-15F	5-15F
Export 50Hz		109-000643	or equiv	

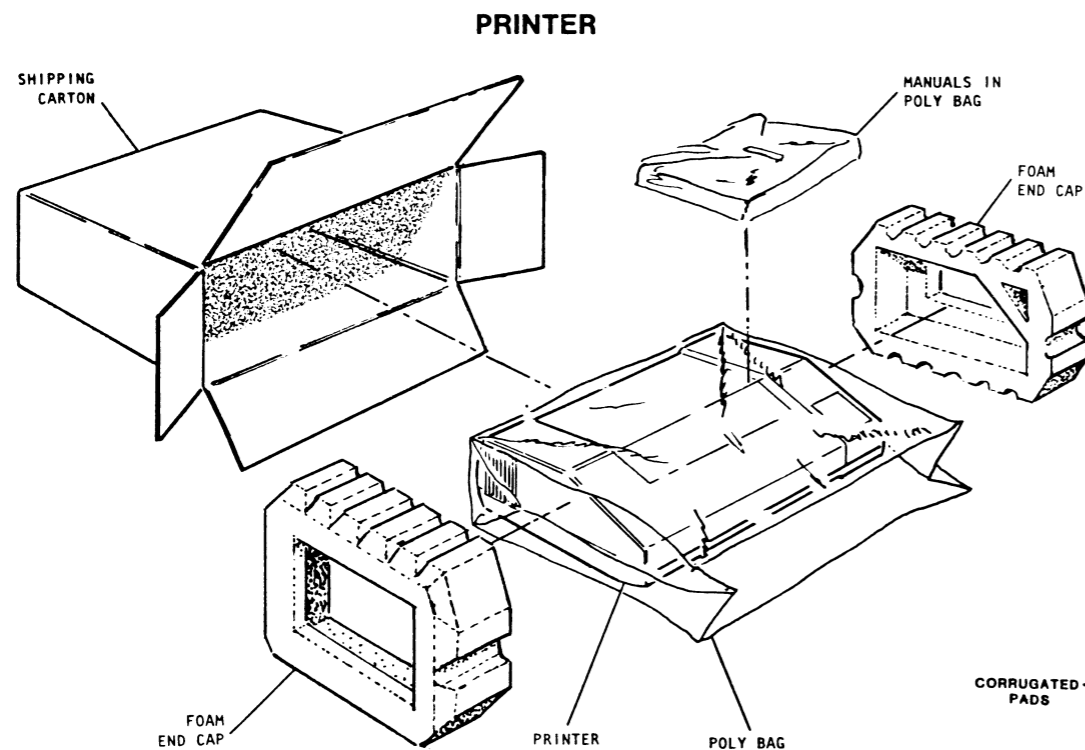
WARNING

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.

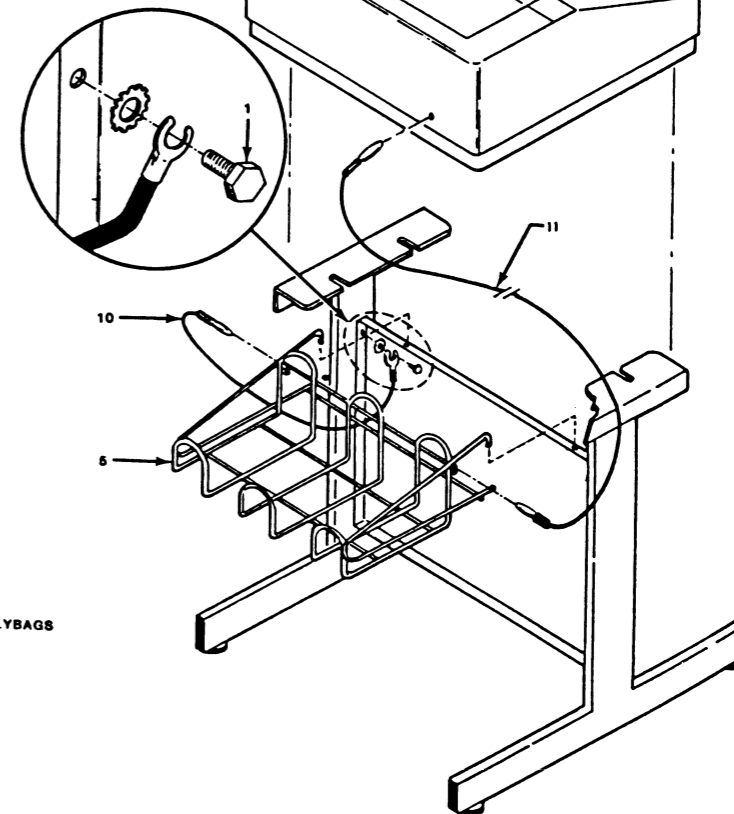
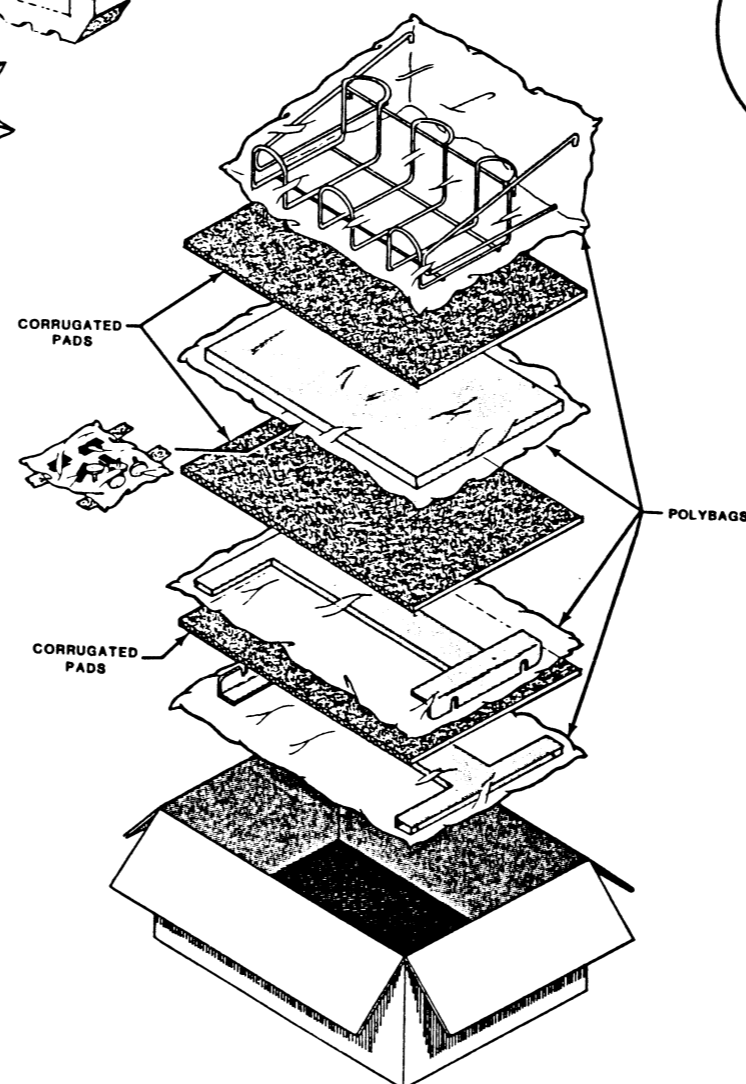
SHIPPING

(VENDOR'S PACKAGING)

ASSEMBLY



PEDESTAL

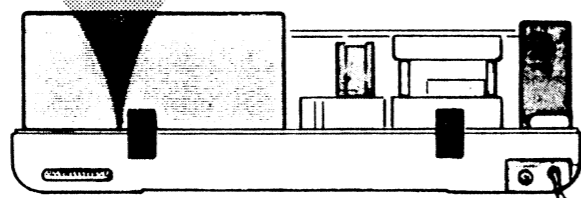
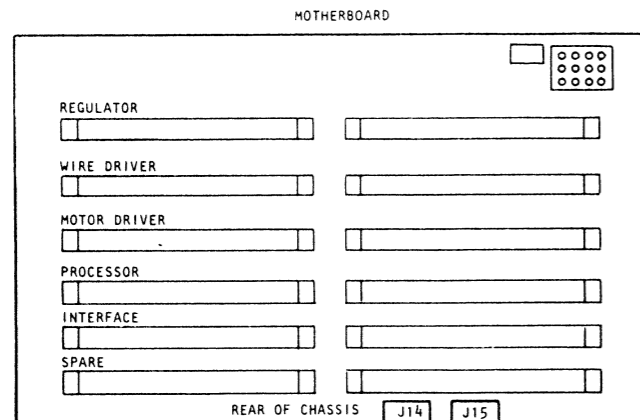


SHIPPING SPECIFICATIONS			STORAGE SPECIFICATIONS		
Temperature Range	Relative Humidity	Maximum Altitude	Temperature Range	Relative Humidity	Maximum Period
$^{\circ}\text{F}$	(Non-condensing)		$^{\circ}\text{F}$	(Non-condensing)	
$^{\circ}\text{C}$			$^{\circ}\text{C}$		
-40 to 160	90% MAX	32,808 FT 10,000 M	-40 to 122	10 - 90%	-
-40 to +70			-10 to +50		

FOR DETAILS OF PEDESTAL ASSEMBLY AND PRINTER MOUNTING, REFER TO INSTALLATION DATA SHEET 010-001047

TAILORING

MOTHERBOARD SWITCH SETTINGS



PRINTER, COVER REMOVED (REAR VIEW)

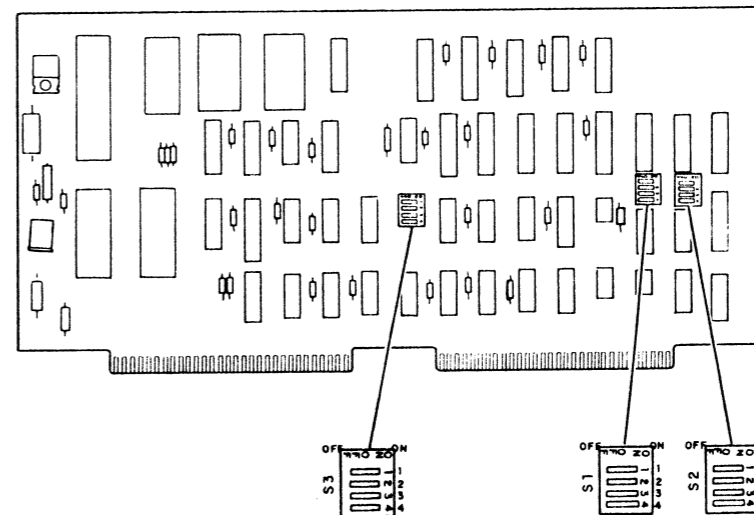
	EIA SOFTWARE BUSY	MODEM	CURRENT LOOP	EIA HARDWARE BUSY
J14-1	OFF	OFF	OFF	OFF
J14-2	OFF	OFF	OFF	OFF
J14-3	OFF	OFF	OFF	OFF
J14-4	ON	ON	ON	ON
J14-5	OFF	OFF	OFF	OFF
J14-6	OFF	OFF	OFF	OFF
J14-7	OFF	OFF	OFF	OFF
J14-8	OFF	OFF	OFF	OFF
J15-1	PERFORATION SKIPOVER, SEE TABLE 1			
J15-2	OFF	OFF	OFF	OFF
J15-3	ON = 7 DATA BITS; OFF = 8 DATA BITS			
J15-4	ON = PARITY ENABLED; OFF = PARITY DISABLED			
J15-5	OFF	OFF	OFF	OFF
J15-6	ON = ODD PARITY; OFF = EVEN PARITY			
J15-7	PERFORATION SKIPOVER, SEE TABLE 1			
J15-8	OFF	OFF	OFF	OFF

TABLE 1

J15-1	J15-7	LINES SKIPPED
OFF	OFF	3
OFF	ON	4
ON	OFF	6
ON	ON	0

SWITCH DEFINITIONS AND POWER SUPPLY WIRING

SERIAL SWITCH SETTINGS



	EIA SOFTWARE BUSY	MODEM	CURRENT LOOP	EIA HARDWARE BUSY				
S1-1	ON = 1 STOP BIT; OFF = 2 STOP BITS							
S1-2	OFF	OFF	OFF	ON				
S1-3	OFF	OFF	OFF	OFF				
S1-4	ON	ON	ON	ON				
S2-1	ON	OFF	ON	ON				
S2-2	ON	ON	OFF	ON				
S2-3	ON	OFF	ON	ON				
S2-4	ON	OFF	ON	ON				
BAUD RATE DEFINITION PER CONTROLLER								
BAUD	110	150	300	600	1200	2400	4800	9600
S3-1	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF
S3-2	OFF	ON	OFF	OFF	ON	OFF	ON	OFF
S3-3	ON	OFF	OFF	OFF	ON	ON	OFF	OFF
S3-4	ON	ON	ON	ON	OFF	OFF	OFF	OFF

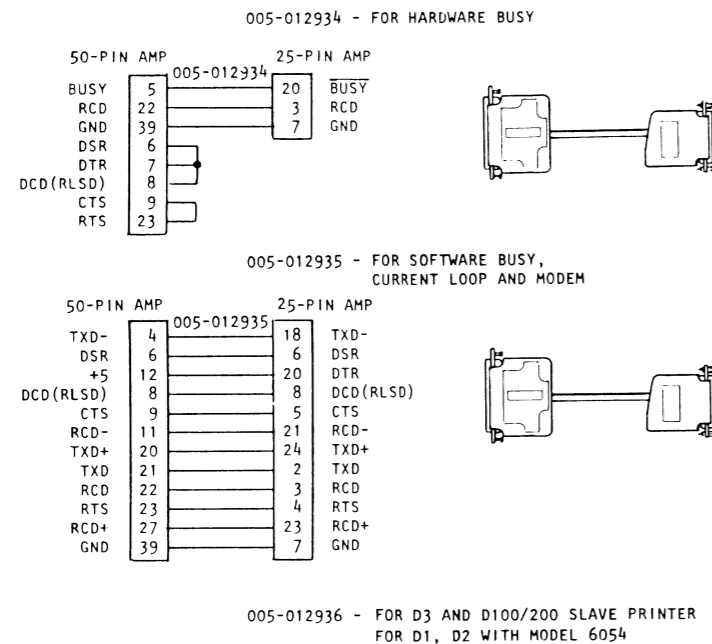
WIRING GUIDE FOR UNIVERSAL POWER SUPPLY

WIRE COLOR	MALE PIN CONNECTOR POSITIONS ON TB2			
	115 VAC 60 HZ	115 VAC 50 HZ	250 VAC 60 HZ	250 VAC 50 HZ
RED	8	8	16	16
GREEN/YELLOW	6	10	6	10
GREEN/WHITE	9	6	9	6
BROWN	3	3	7	7
BROWN/YELLOW	7	14	12	14
BROWN/WHITE	13	7	13	12
ORANGE/WHITE	27	26	27	26
WHITE	23	24	23	24
VIOLET/WHITE	22	21	22	21
NOTE: REMAINING TWO WIRES NOT LOCATED ON TB2				
RED/WHITE	BASE TERM.	C4	BASE TERM	C4
RED/BLACK	C4	BASE TERM	C4	BASE TERM

EXTERNAL CABLING

(FOR REFERENCE ONLY)

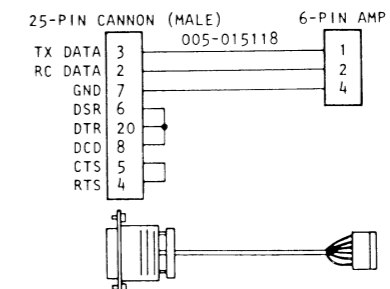
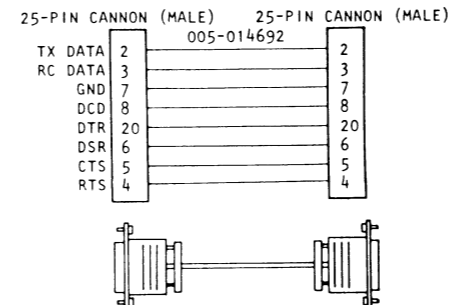
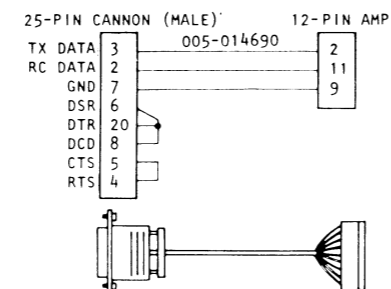
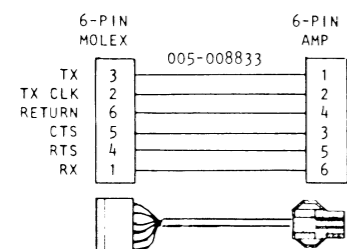
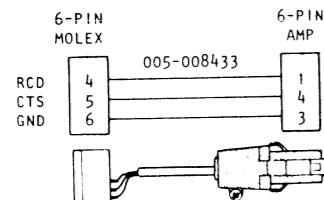
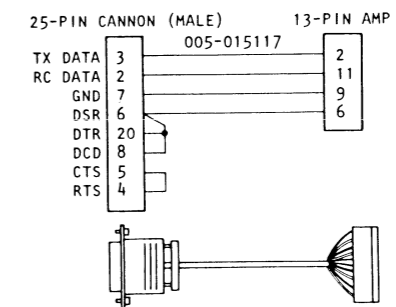
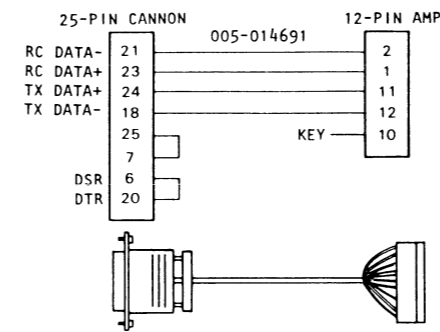
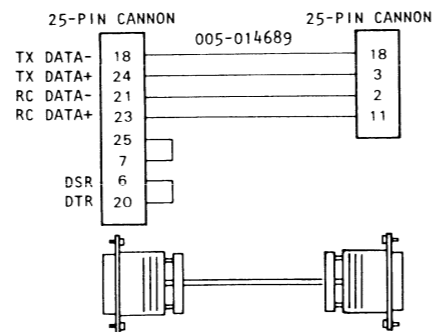
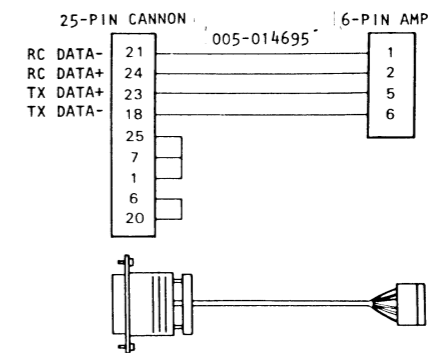
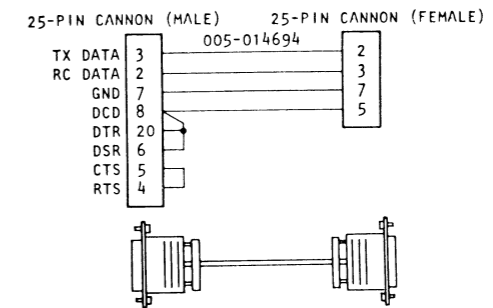
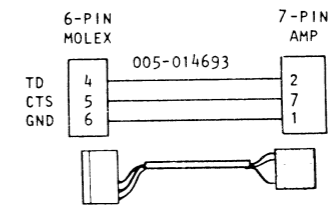
ADAPTER CABLES



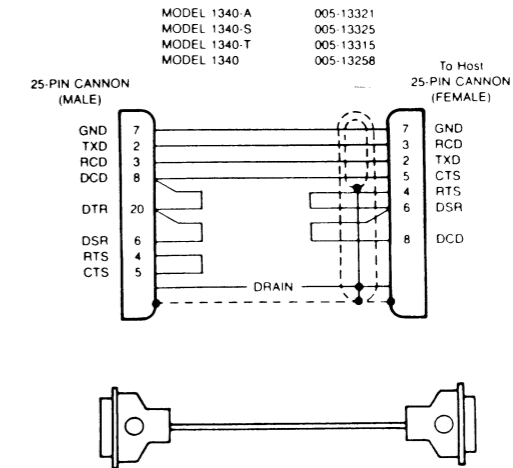
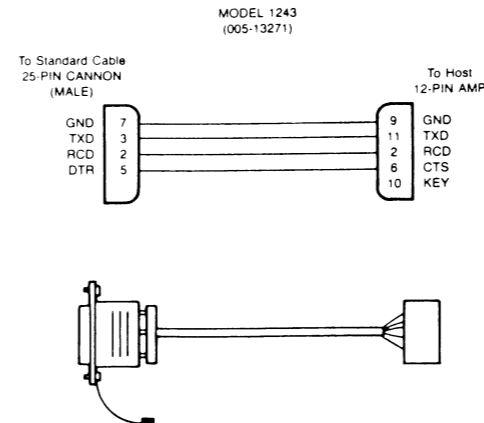
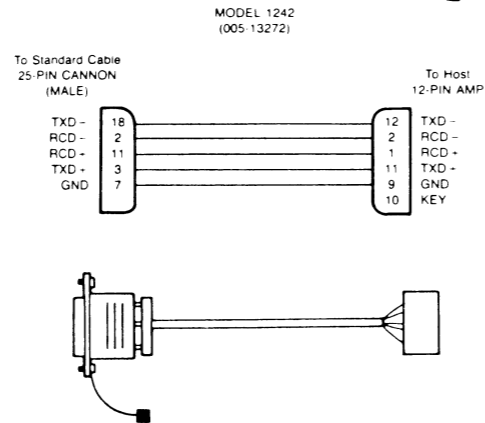
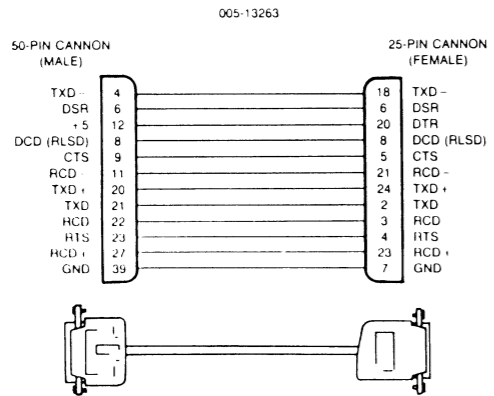
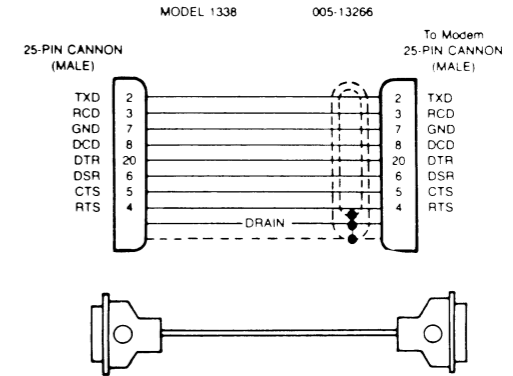
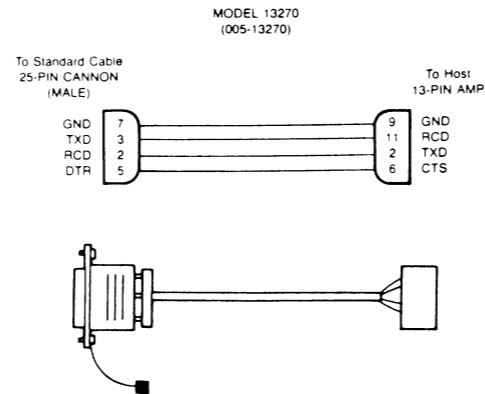
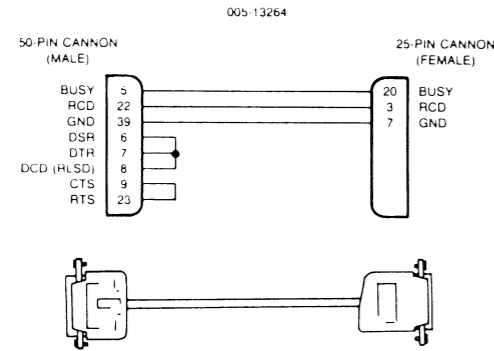
SERIAL CABLING

CONTROLLER	EIA SOFTWARE BUSY	CURRENT LOOP	EIA HARDWARE BUSY
4010 (+4029)	005-014690	005-014691	005-015117 (1)
4077 (+4078)	005-014690	005-014691	005-015117 (1)
4207 (2)	005-014690	005-014691 (3)	005-015117 (4)
4227 (2)	005-014690	005-014691	005-015117 (4)
4336-AS	005-014692	—	005-014692
CS/30 THRU 70	005-015117	005-014695	005-015117 (5)
CS/10-C1	005-016839	—	005-016839
CS/10-C3	005-014694	005-014689	005-014694
ALM/8	005-015117	—	005-015117
ALM/16	005-015118	005-014695	—
ULM/5	005-014690	005-014691	005-015117 (4)
AM1/8	005-014694	—	005-014694
AT1/16	005-014694	005-014689	—
D1/D2	—	—	005-008433
D3	—	—	005-008833
D100/200	—	—	005-014693
MODEM	005-014692	—	—

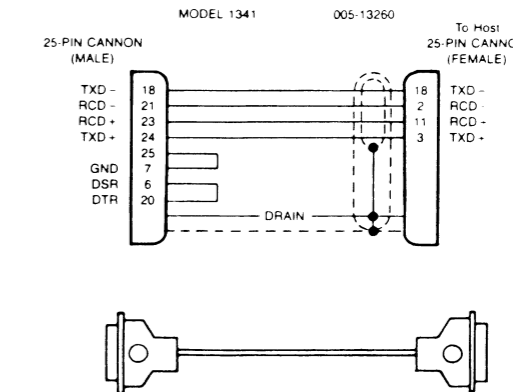
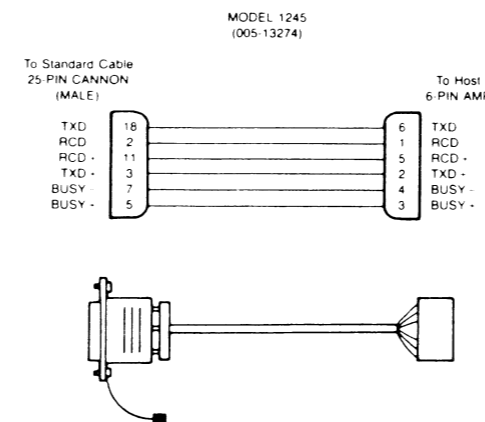
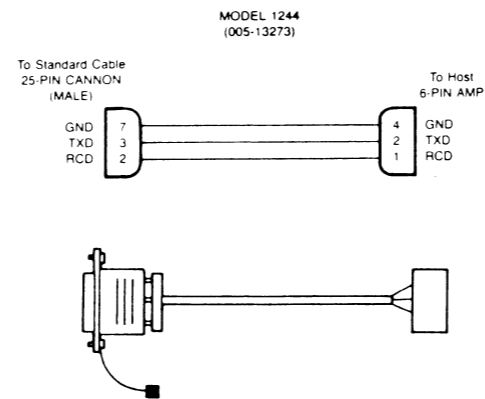
1. USE 005-012473 ADAPTER CABLE OR EQUIVALENT.
2. CS/30 ALSO
3. C9 (CAP) MUST BE REMOVED FOR 20ma OPERATION.
4. CTS JUMPER ON CONTROLLER MUST BE REMOVED.
5. THE CTS SWITCH ON THE CONVENIENCE PANEL MUST BE ON TO MAKE BUSY SIGNAL CONNECTION.



DG-07926

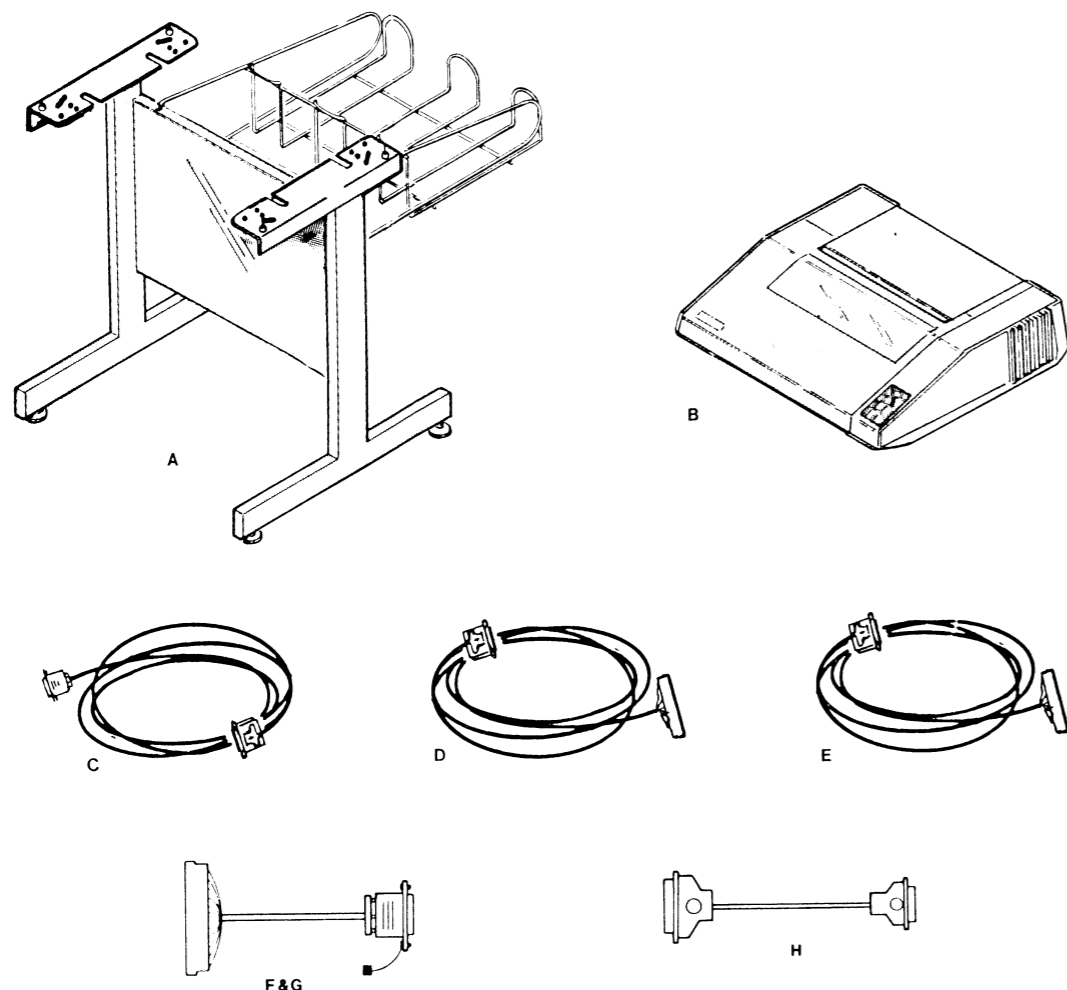


CONTROLLER	HOST END ADAPTER (005-)	S/W BUSY (005-)	CURRENT LOOP (005-)	H/W BUSY (005-)	PERIPHERAL ADAPTER
4010 (+4029)	13271	13258	-----	-----	13263
	13272	-----	13260	-----	13263
	13270	-----	-----	13258	13264
4077 (+4078)	"	"	"	"	"
4207	"	"	" (1)	" (2)	"
4227	"	"	"	" (2)	"
4336-A5	-----	13258	-----	-----	13263
	-----	-----	-----	13258	13264
CS/33 THRU CS/70	13270	13258	-----	-----	13263
	13270	-----	13260	-----	13263
	13270	-----	-----	13258 (3)	13264
CS/10-C3	-----	-----	13260	-----	13263
ALM/8	13270	13258	-----	-----	13263
	13270	-----	-----	13258	13264
ALM/16	13273	13258	-----	-----	13263
	13274	-----	13260	-----	13263
ULM/5	13271	13258	-----	-----	13263
	13272	-----	13260	-----	13263
	13270	-----	-----	13258 (2)	13264
AT1/16	-----	13258	-----	-----	13263
	-----	-----	13260	-----	13263
MODEM	-----	13260	-----	13260	-----

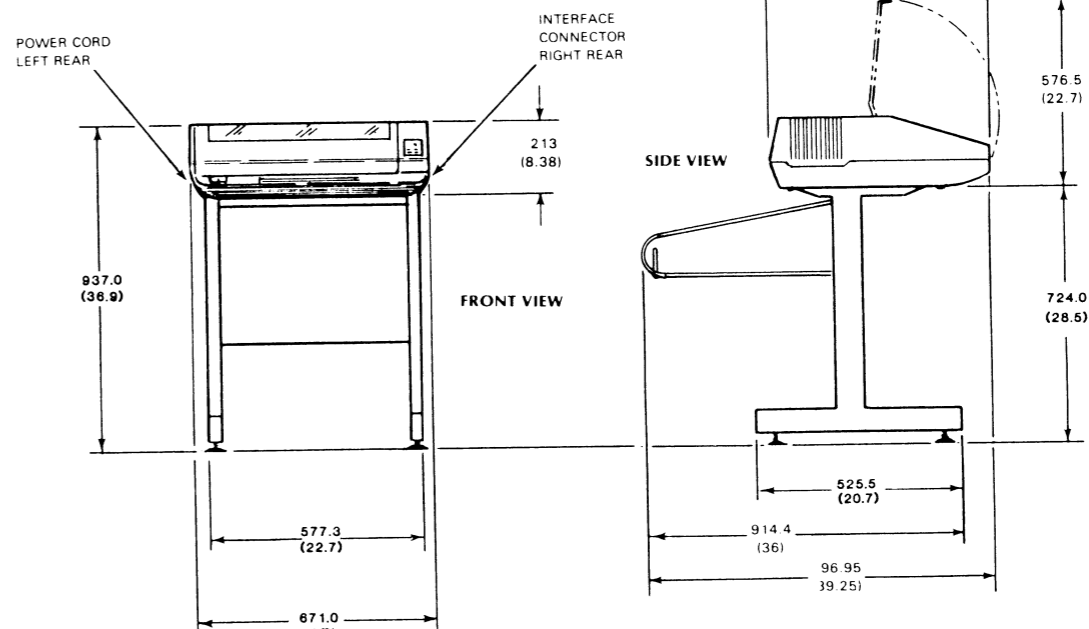


- NOTES:
1. GND (CAP) MUST BE REMOVED FOR 200A OPERATION.
 2. CTS JUMPER ON CONTROLLER MUST BE REMOVED.
 3. THE CTS SWITCH ON THE CONVENIENCE PANEL MUST BE ON TO MAKE THE BUSY SIGNAL CONNECTION.

INSTALLATION SPECIFICATIONS



DIMENSIONS IN MILLIMETERS
INCHES IN PARENTHESES FOR REFERENCE



DG-08088

MAJOR COMPONENT

ITEM	COMPONENT	MOUNTING LOCATION	NOTES
A	4353, 4355, 4356, 9198, 9199, 9293 MATRIX PRINTER	ON PEDESTAL	340 CPS 96 CHARACTER SET
B	PEDESTAL & PAPER TRAY	FREE STANDING	

CABLES

ITEM	CABLE	CONNECTING	MAX LG		NOTES
			FT	M	
C	EXTERNAL DEVICE	BACKPANEL SOCKET CONNECTOR AND PRINTER	25	7.62	NOVA SUPN. 800, 1200
D	EXTERNAL DEVICE	BACKPANEL EDGE CONNECTOR AND PRINTER	25	7.62	820, 1210, 1220, 2/ALL, 3/ALL, 4/ALL, ECLIPSE/ALL
E	EXTERNAL DEVICE	CONTROLLER EDGE CONNECTOR AND PRINTER	25	7.62	MICRONOVA MICROPRODUCTS
F	ADAPTER HOST END	BACKPANEL EDGE CONNECTOR AND EXTERNAL CABLE	15	1.37	SEE TABLE SHEET 5
G	ADAPTER HOST END		15	1.37	SEE TABLE SHEET 5
H	STANDARD CABLE	AND PRINTER OR PERIPHERAL ADAPTER		9.14	SEE TABLE SHEET 5

FOR CONTROLLER AND INTERNAL CABLES
SEE 010000199 OR 010000126

DIMENSIONS:

	Width	Depth	Height
Millimeters	671	880	937
Inches	26.4	33.9	36.9

SERVICE CLEARANCES:

	Front	Top	Rear
Millimeters	609.6	370	609.6
Inches	24	14.53	24

WEIGHT:

	Printer	Pedestal & Tray
Kilograms	27.2	12.3
Pounds	60	27.1

HEAT OUTPUT:

	Domestic	Export
Standby	200W 682BTU/hr	250W 853BTU/hr
Printing	300W 1024BTU/hr	350W 1194BTU/hr

POWER REQUIREMENTS:

(Domestic)	
Voltage	120V + 10% - 15%
Hz	60 ± 1Hz
Amp per Phase	5A
Phase	single
Startup Surge per Phase	10A

(Export)

Voltage	100/220/240 + 10% - 15%
Hz	50/60 Hz
Amp per Phase	2.8A
Phase	single
Startup Surge per Phase	5.5A

CABLES:

Primary Power	Length	Conn	Mating Conn
Domestic 60Hz	4m (13.1 ft)	5-15P	5-15R
Export 50Hz	109-000643	or equiv.	

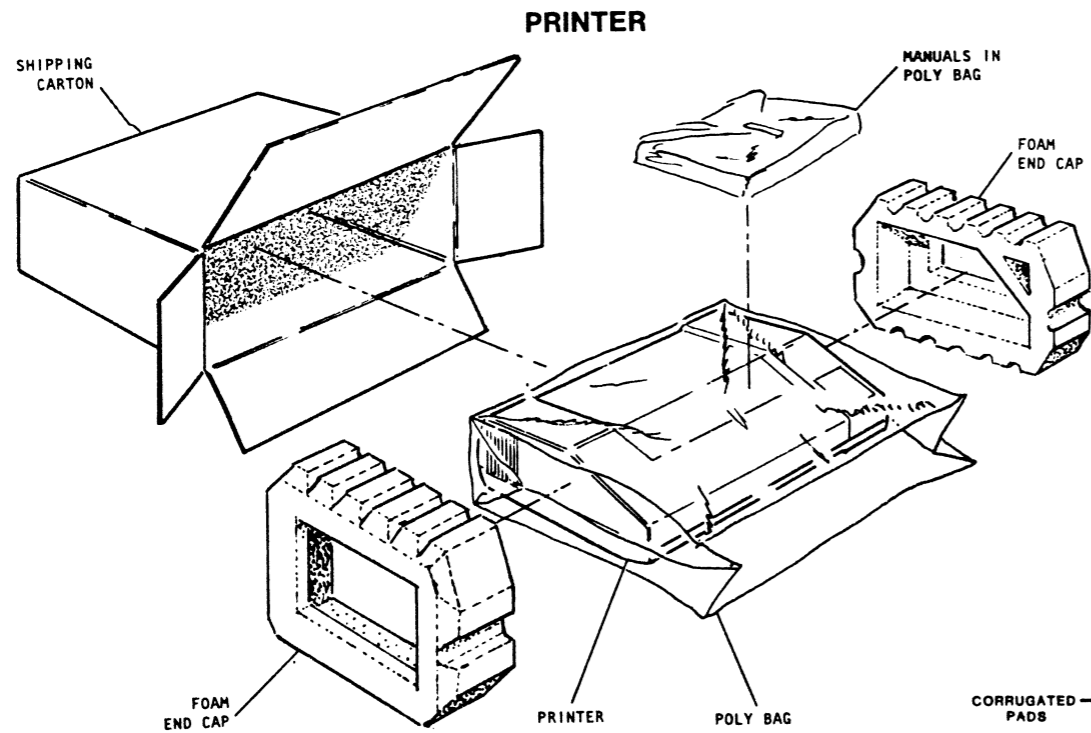
OPERATING ENVIRONMENT:
 Temperature (max) 10°-38°C(50°-100°F)
 Relative Humidity (max) 20-80%
 Altitude

WARNING

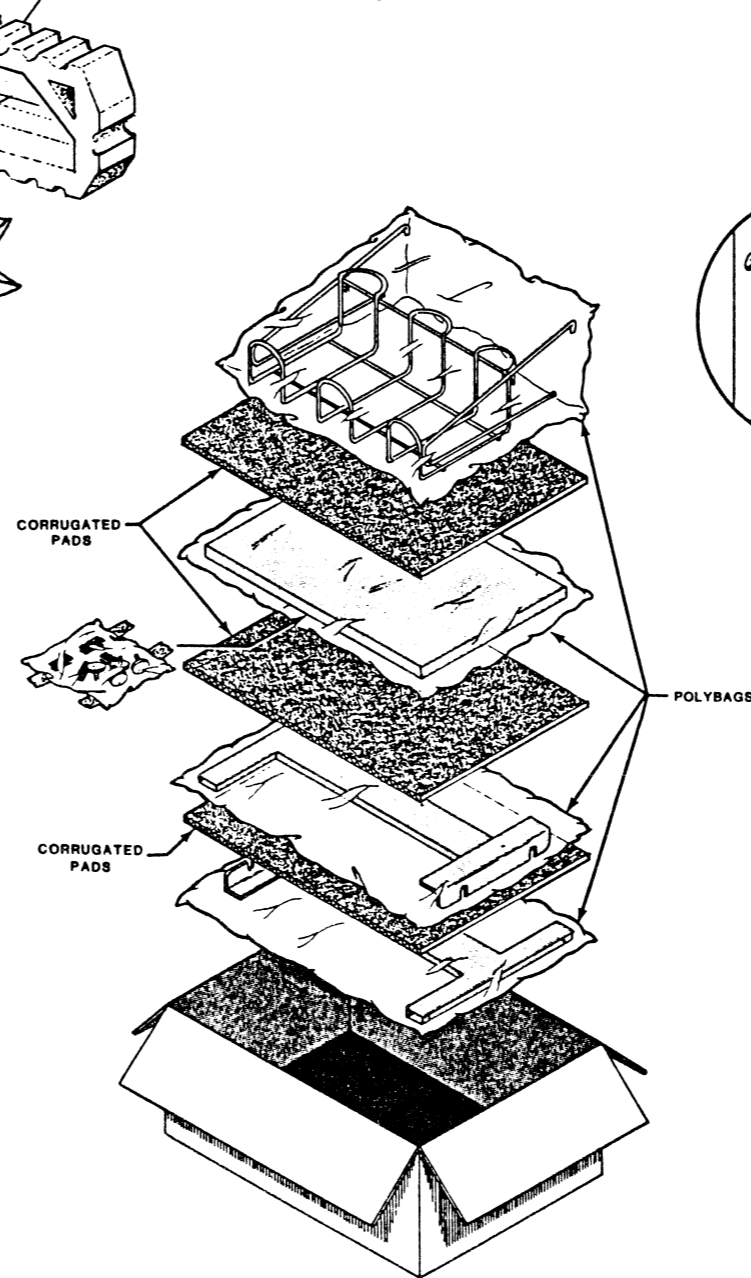
THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY ENERGY AND IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTION MANUAL, MAY CAUSE INTERFERENCE TO RADIO COMMUNICATIONS. AS TEMPORARILY PERMITTED BY REGULATION IT HAS NOT BEEN TESTED FOR COMPLIANCE WITH THE LIMITS FOR CLASS A COMPUTING 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

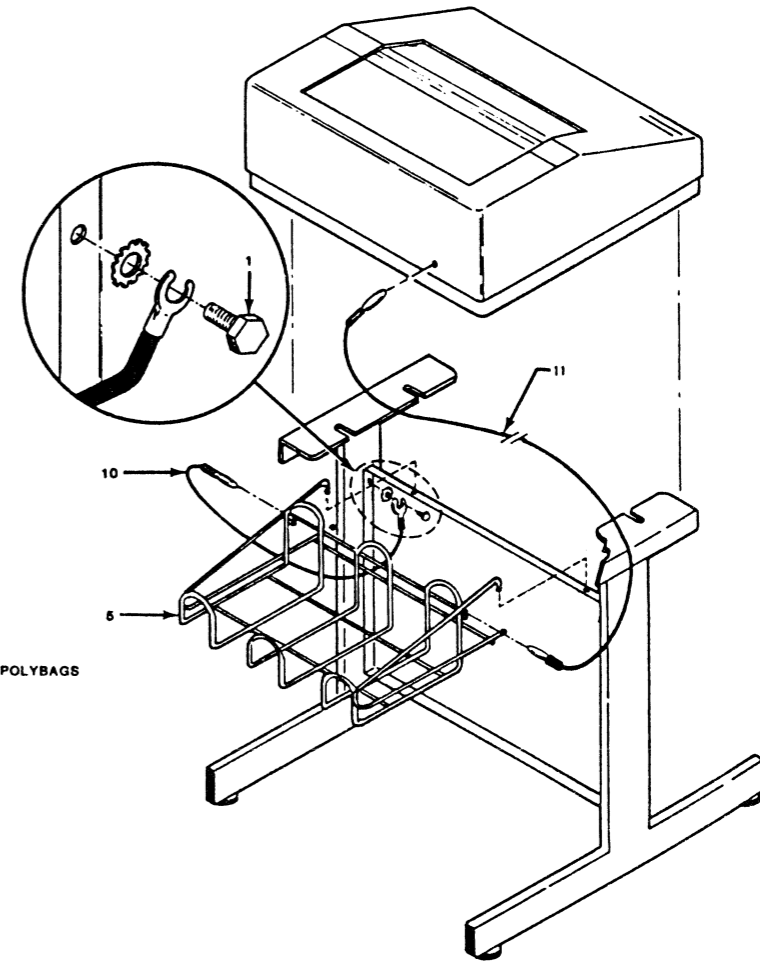
(VENDOR'S PACKAGING)



PEDESTAL



ASSEMBLY

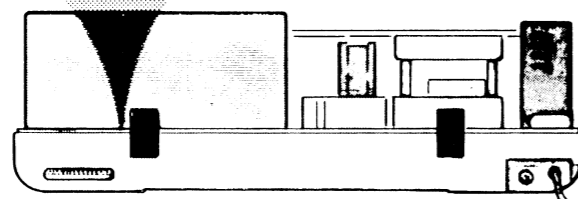
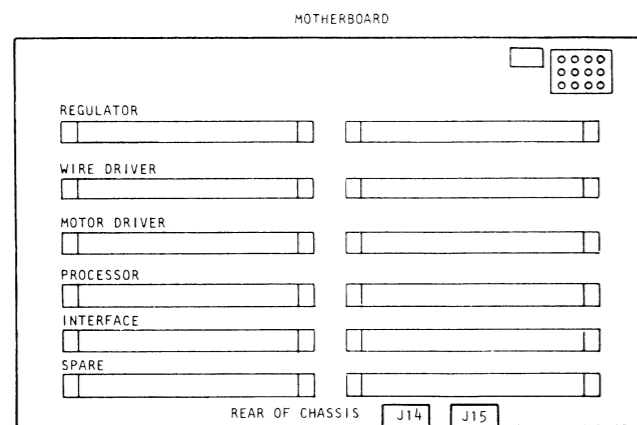


FOR DETAILS OF PEDESTAL ASSEMBLY AND PRINTER MOUNTING, REFER TO INSTALLATION DATA SHEET 010-001047

SHIPPING SPECIFICATIONS			STORAGE SPECIFICATIONS		
Temperature Range	Relative Humidity	Maximum Altitude	Temperature Range	Relative Humidity	Maximum Period
$^{\circ}\text{F}$	(Non-condensing)		$^{\circ}\text{F}$	(Non-condensing)	
$^{\circ}\text{C}$			$^{\circ}\text{C}$		
-40 to 160	90% MAX	32,808 FT 10,000 H	14 to 122	10 - 90%	-
-40 to +70			-10 to +50		

TAILORING

MOTHERBOARD SWITCH SETTINGS



DG-C0089
PRINTER, COVER REMOVED
(REAR VIEW)

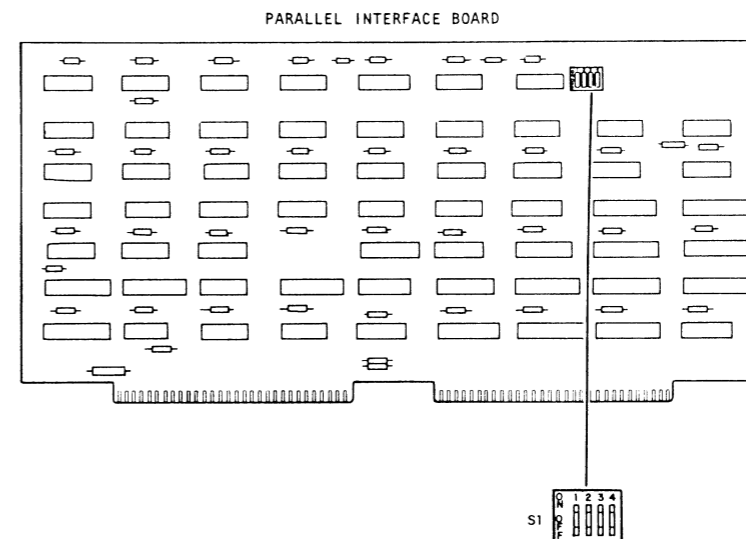
SWITCH DEFINITIONS AND POWER SUPPLY WIRING

	4353, 4355 9198, 9293	4356, 9199
J14-1	OFF	OFF
J14-2	OFF	OFF
J14-3	OFF	OFF
J14-4	ON	ON
J14-5	OFF	ON
J14-6	OFF	OFF
J14-7	OFF	OFF
J14-8	OFF	OFF
J15-1	PERFORATION SKIPOVER, SEE TABLE 1	
J15-2	OFF	OFF
J15-3	ON = 7 DATA BITS;	OFF
J15-4	OFF	OFF
J15-5	OFF	OFF
J15-6	OFF	OFF
J15-7	PERFORATION SKIPOVER, SEE TABLE 1	
J15-8	OFF	OFF

TABLE 1

J15-1	J15-7	LINES SKIPPED
OFF	OFF	3
OFF	ON	4
ON	OFF	6
ON	ON	0

PARALLEL SWITCH SETTINGS



SWITCHES LOCATED ON THE
PARALLEL INTERFACE BOARD

S1-1	OFF: UNUSED
S1-2	OFF: UNUSED
S1-3	OFF: UNUSED
S1-4	OFF: UNUSED

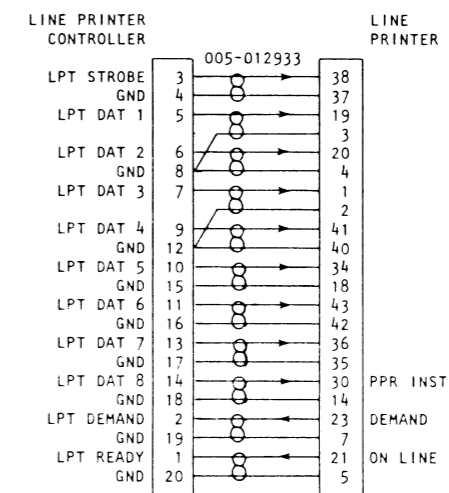
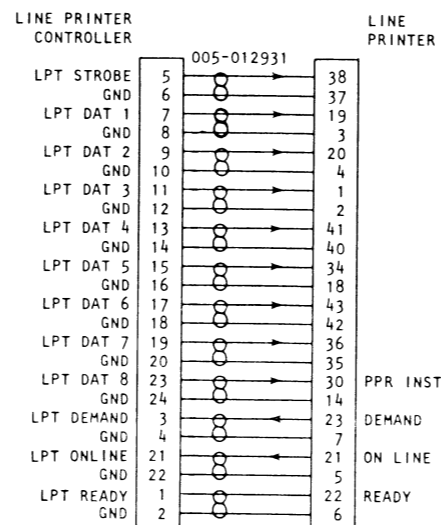
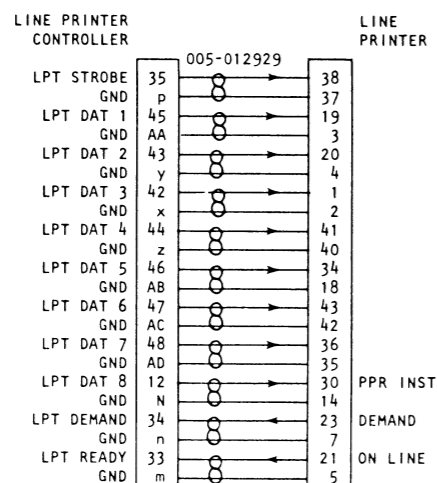
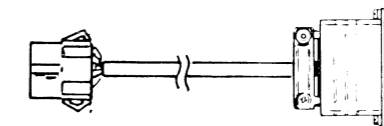
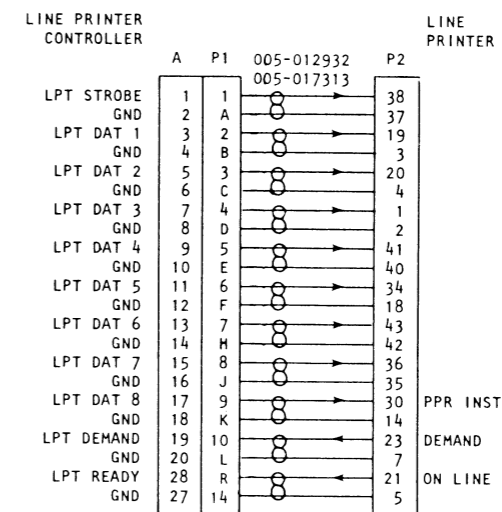
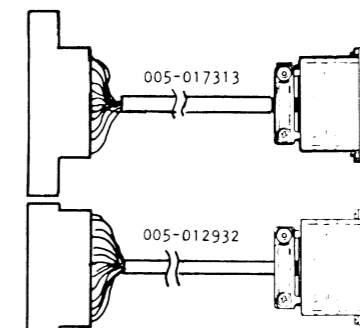
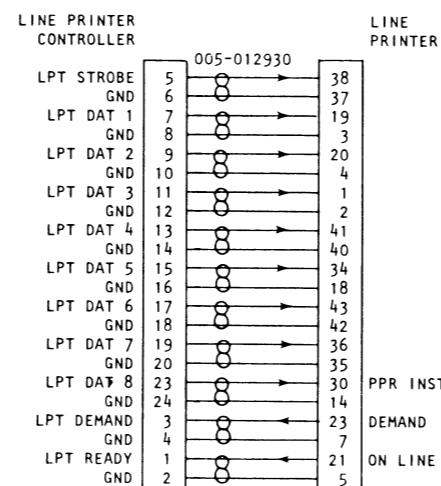
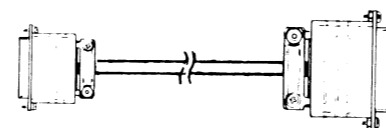
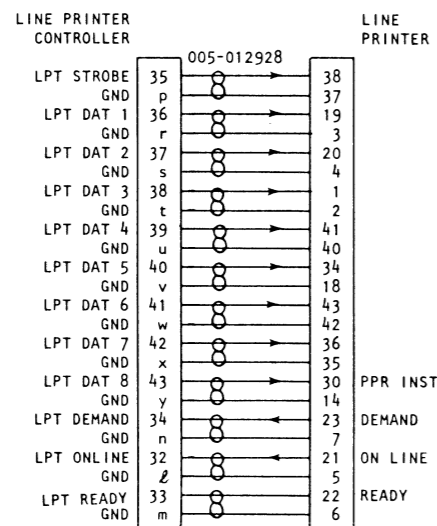
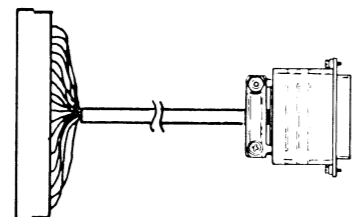
WIRING GUIDE FOR UNIVERSAL POWER SUPPLY

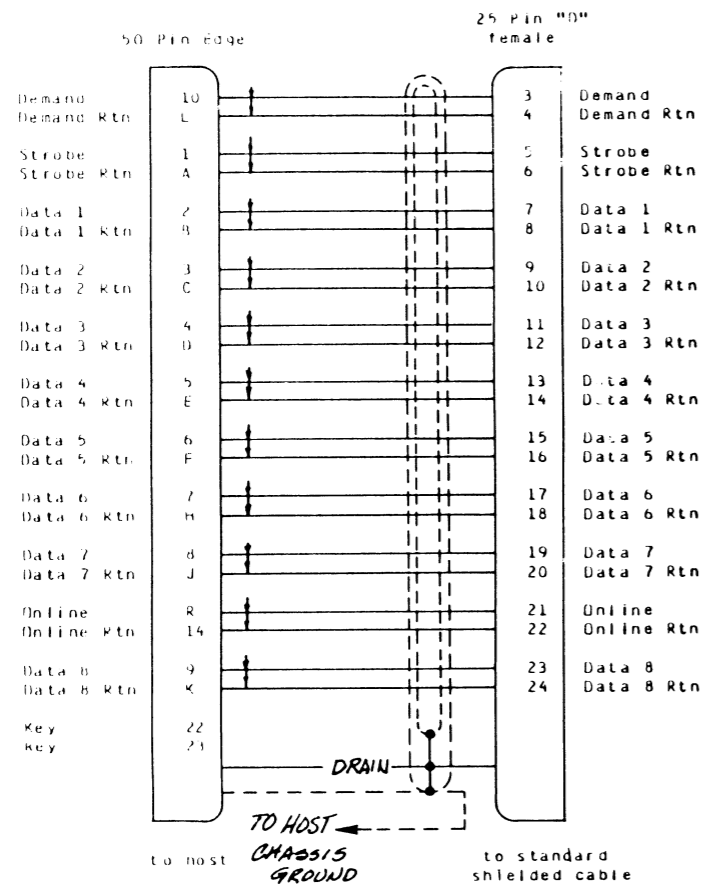
WIRE COLOR	MALE PIN CONNECTOR POSITIONS ON TB2			
	115 VAC 60 HZ	115 VAC 50 HZ	250 VAC 60 HZ	250 VAC 50 HZ
RED	8	8	16	16
GREEN/YELLOW	6	10	6	10
GREEN/WHITE	9	6	9	6
BROWN	3	3	7	7
BROWN/YELLOW	7	14	12	14
BROWN/WHITE	13	7	13	12
ORANGE/WHITE	27	26	27	26
WHITE	23	24	23	24
VIOLET/WHITE	22	21	22	21
NOTE: REMAINING TWO WIRES NOT LOCATED ON TB2				
RED/WHITE	BASE TERM.	C4	BASE TERM	C4
RED/BLACK	C4	BASE TERM	C4	BASE TERM

EXTERNAL CABLING

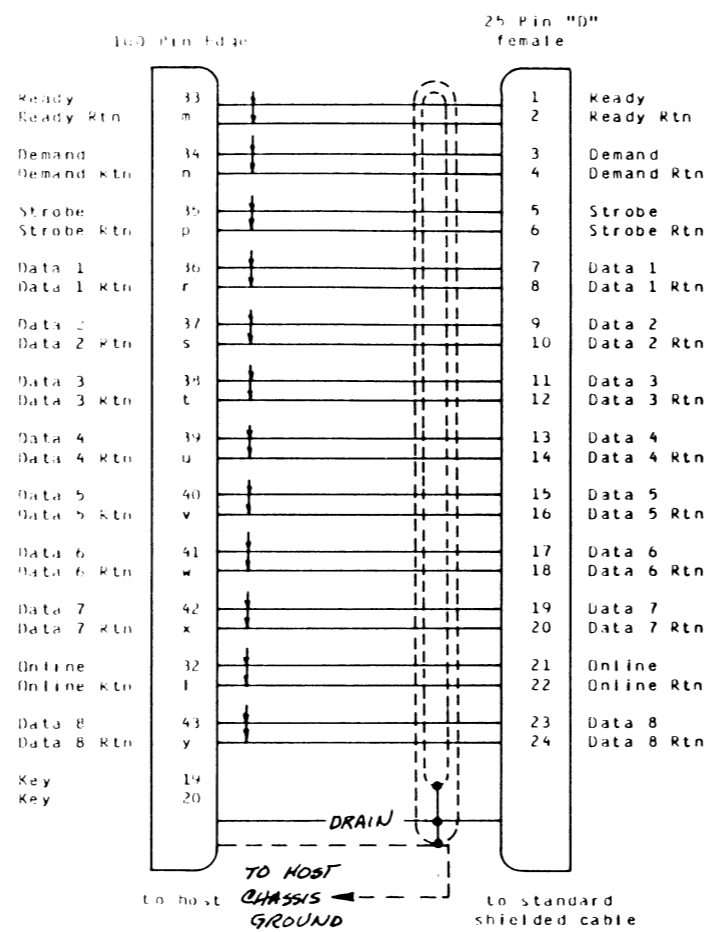
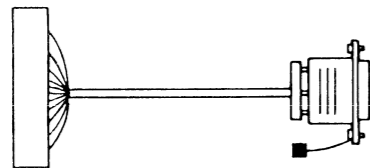
PARALLEL CABLING
(FOR REFERENCE ONLY)

SYSTEM	CONTROLLER	CABLE
ECLIPSE/NOVA	DATA CHANNEL	005-012928
ECLIPSE/NOVA	P I/O	005-012929
NOVA 800/1200	P I/O	005-012930
NOVA 800/1200	DATA CHANNEL	005-012931
microNOVA	P I/O	005-012932
CS/30 THRU CS/70	P I/O	005-012933
CS/10 MOD C1, C3	P I/O	005-017313

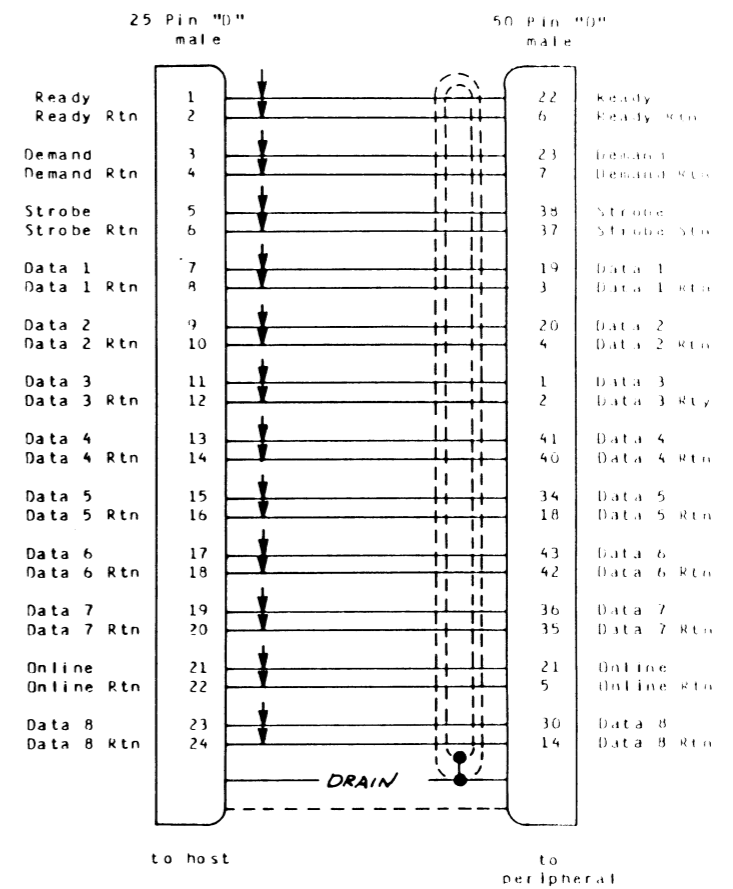
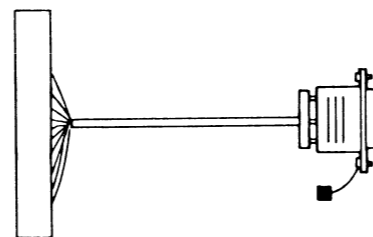




Note: All signal names are with respect to the peripheral device.

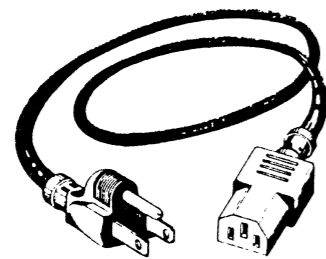
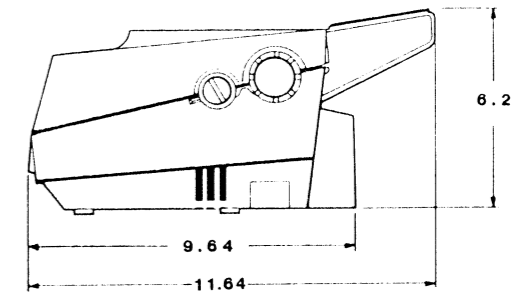
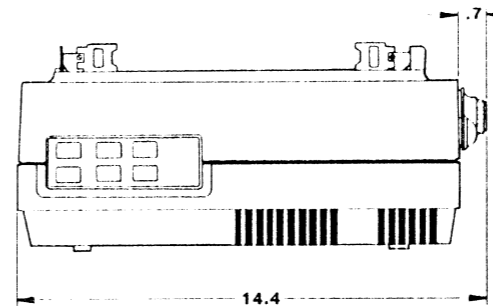
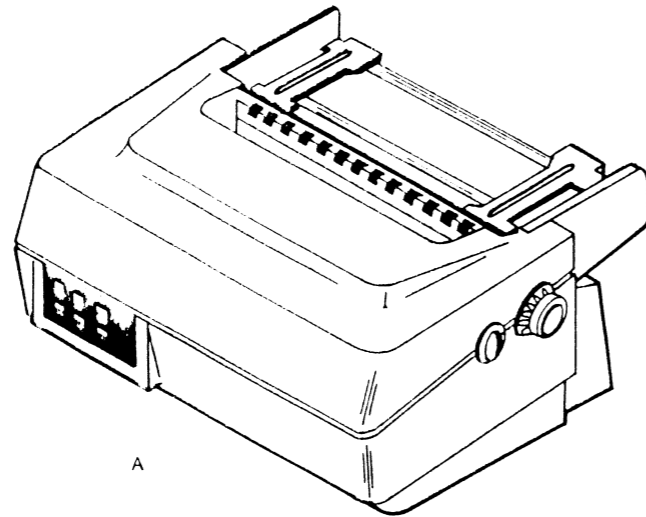


Note: All signal names are with respect to the peripheral device.

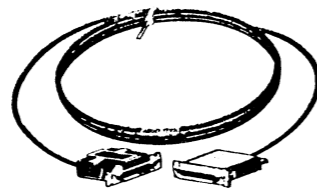


CPU	MODEL NO.	INTERNAL CABLE 005-	HOST ADAPTER CABLE 005-	EXTERNAL CABLE 005-
ECLIPSE, M/600	4354	12496	13276	13265
NOVA 820, 1210, 1200 NOVA 2, NOVA 3, NOVA 4, ECLIPSE	4355	1302	13278	
	4356	1802	13276	
NOVA 800, 1200 SUPERNOVA	4355	384	NONE	
	4356	384	NONE	
MICRONOVA	4353	N/A	13275	

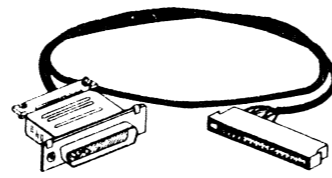
INSTALLATION SPECIFICATIONS



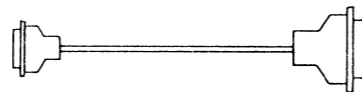
D



B



C



E

CABLES

ITEM	COMPONENT	MOUNTING LOCATION	NOTES
A	4434 MULTIFUNCTION PRINTER	DESKTOP	

MAJOR COMPONENT

ITEM	CABLE	CONNECTING	MAX LG	
			FT	M
B	EXTERNAL	SERIAL INTERFACE CABLE	50	
C	HOST ADAPTOR	EXTERNAL CABLE TO BACK PLANE	5	6
D	* POWER	PRINTER TO PRIMARY POWER	7.5	2.3
E	PRINTER	TERMINAL TO PRINTER	5 FT	1.5

DIMENSIONS:		Width	Depth	Height
Centimeters		34.80	24.49	15.75
Inches		14.4	11.64	6.2

SHIPPING WEIGHT

Kilograms	10
Pounds	22

INSTALLED WEIGHT

Kilograms	8
Pounds	18

OPERATING ENVIRONMENT

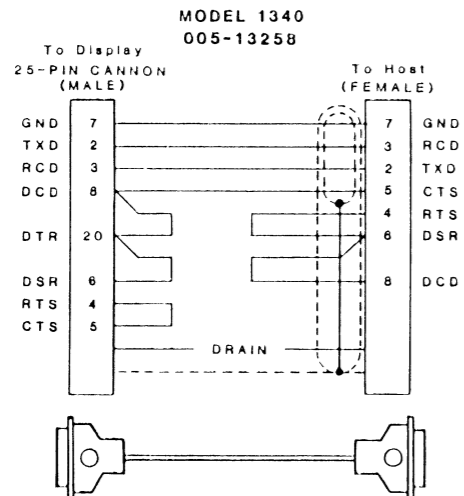
Temperature Range:	10°C to 38°C (50° to 100° F)
Relative Humidity:	20% to 80% non-condensing

OPERATING REQUIREMENTS

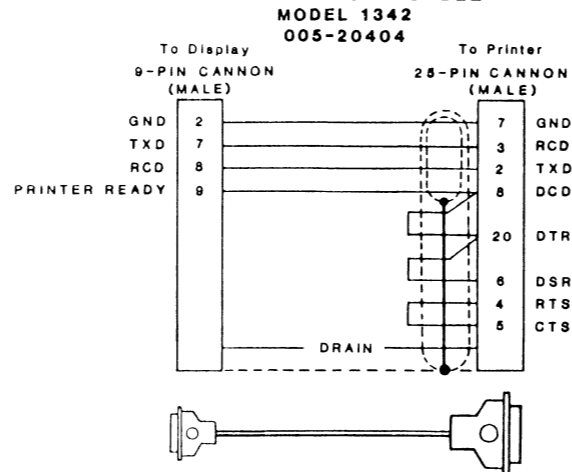
100 Volt Unit	SUFFIX 1	
Voltage		100 VAC RMS +10% -10%
Phase		Single
Frequency		50 Hz ± 1%
Maximum Current		1.2 A
120 Volt Unit	SUFFIX 0	
Voltage		120 VAC RMS +10% -15%
Phase		Single
Frequency		60 Hz ± 1%
Maximum Current		1.2 A
220/240 VOLT UNIT	SUFFIX 2	
Voltage		220 VAC RMS +10% -15%
		240 VAC RMS +10% -15%
Phase		Single
Frequency		50 Hz ± 1%
Maximum Current		0.6 A

* POWER CORDS FOR INTERNATIONAL UNITS MUST BE ORDERED SEPARATELY

STANDARD EIA RS-232C CABLE



PRINTER PORT CABLE

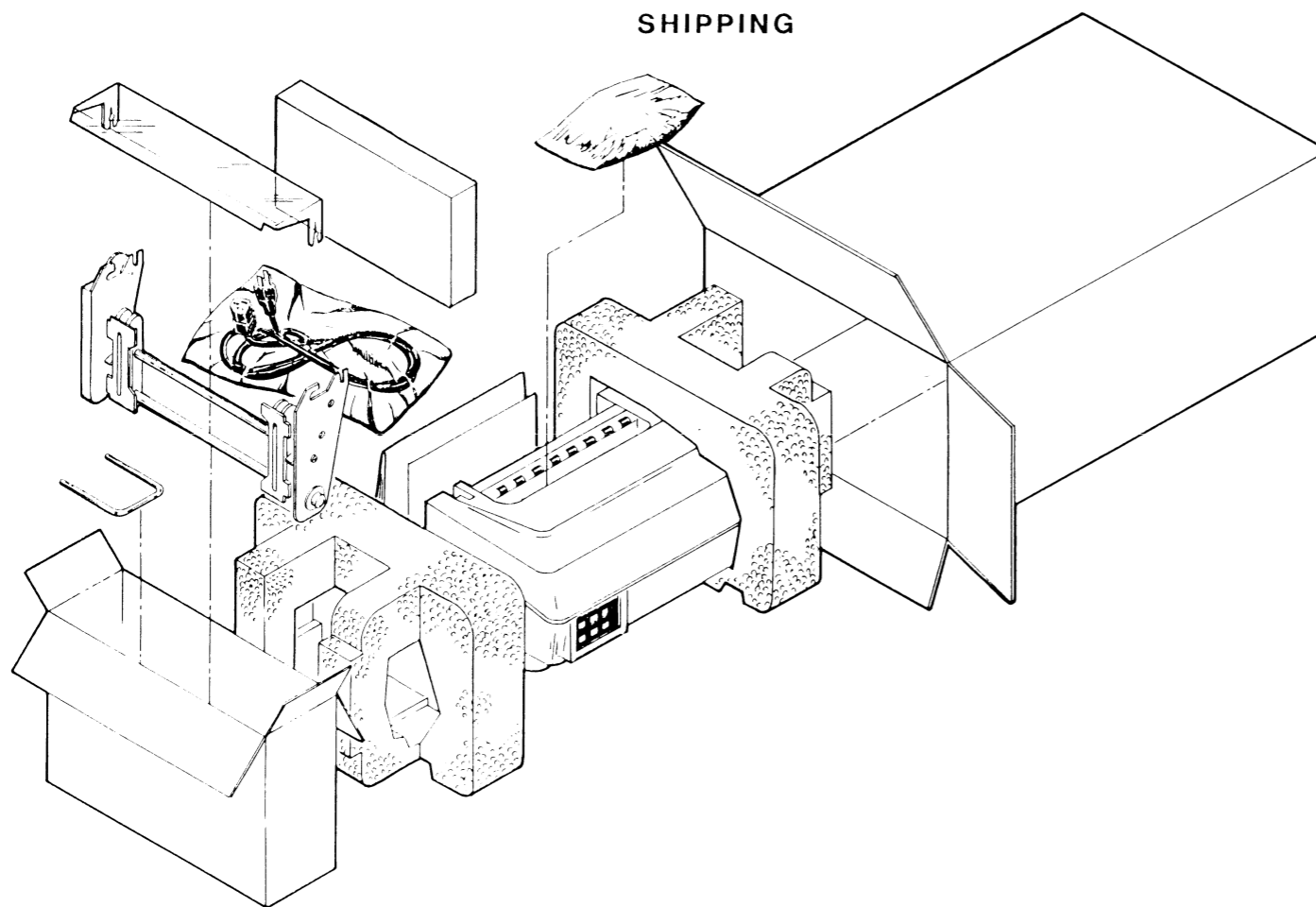


SERIAL INTERFACE

PIN NUMBER(S)	SIGNAL NAME
1, 7	GND
2	TXD
3	RCD
6	DSR (CONNECTED BUT NOT USED)
11, 19	BUSY
20	DTR
4, 5	NOT CONNECTED
8-10	NOT CONNECTED
12-18	NOT CONNECTED
21-25	NOT CONNECTED

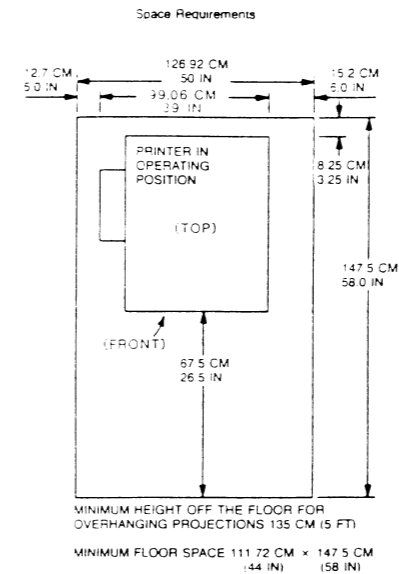
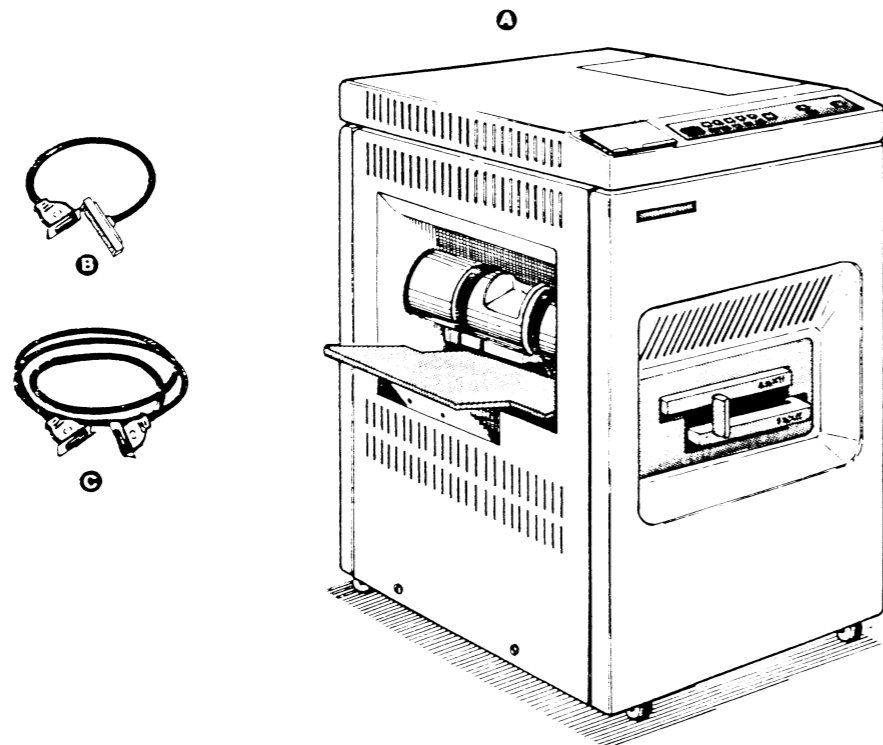
CONTROLLER	MODEL	HOST ADAPTER	E.I.A. CABLE S/W BUSY
4 LINE USAM	4463-ZT	005-21041	MODEL #1340
1 LINE USAM	4463-WT	005-20688	MODEL #1340
D-211, D410, D480	6243/44 6255/56		MODEL #1342

SHIPPING



MODEL	LENGTH	ASSEMBLY
1340	25ft	005-13258
1340-T	15ft	005-13315
1340-A	50ft	005-13321
1340-S	5ft	005-13325
1342	5ft	005-20404
1342-R	2ft	005-20403
1342-T	15ft	005-20405
1342-U	25ft	005-20406
1342-A	50ft	005-20407

INSTALLATION SPECIFICATION



NOTE: The minimum floor space requirement (example: 111.72 x 147.5 cm or 44 inches x 58 inches) is the minimum required service space. During operation, the rear and sides of printer can be as close to a wall or other object as shown.

MAJOR COMPONENT

Item	Component	Mounting location	Notes
A	Printer	Floor	Model 4425

CABLE

Item	Cable	Connecting	Max. Lgth		Notes
			Ft	M	
B	Host adapter Cable	Host and External Cable	1.5	.46	See Page 3 (Cable Matrix)
C	External Cable	Host or Host adapter Cable	20	6.1	All installations

DIMENSIONS	Width	Depth	Height	Under clearance
Millimeters	655	660	914	63.5
inches	25.8	26	36	2.5

WEIGHT:	Kilograms	Pounds
	136	300

HEAT OUTPUT (MAX):	Watts	BTU hr	Nominal	Maximum
	1000	3413		
	1150	3925		

OPERATING ENVIRONMENT:	Temperature	Relative Humidity
	10 C 32 C (50-90 F)	15%-65%

POWER REQUIREMENT:	(U.S. and Canada)	
Voltage	120v	104-127 Volts
Hz	60 Hz	59.7-60.3
Amp	15 amp (U.S.)	
	20 amp (Canada)	
Phase	1	
(Export)		
Voltage	220 240 v	198-242 Volts
Hz	50 Hz	49.5-50.5 Hz
KVA	2.2 (max)	
Phase	1	

CABLES	Primary Power	Length	Conn
Domestic 60Hz		9.84 Ft (3m)	6-15P
Export 50Hz		N/A	

For 220V and 240V units attach a power cord which is compatible with the line voltage and outlet configuration, and which meets the applicable safety standards.

SHIPPING/UNPACKING

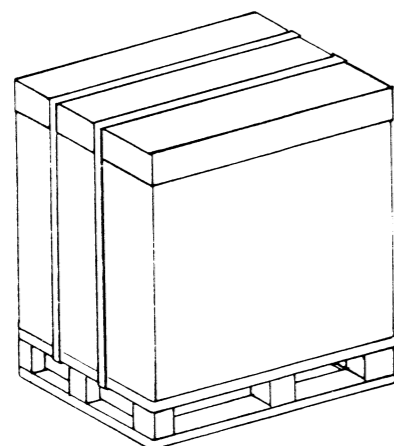


FIGURE 1
(SHIPPING CONFIGURATION)

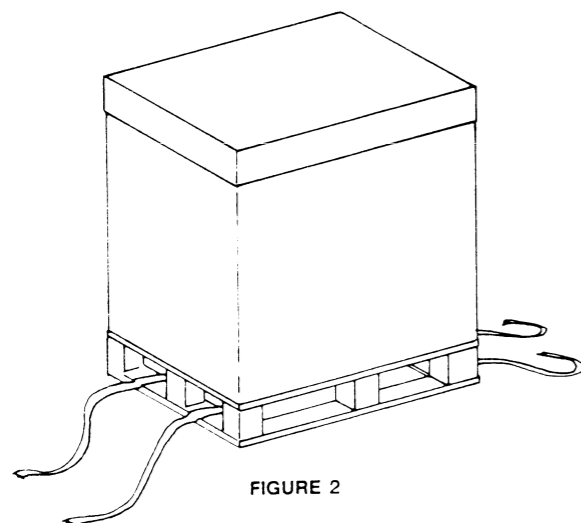


FIGURE 2

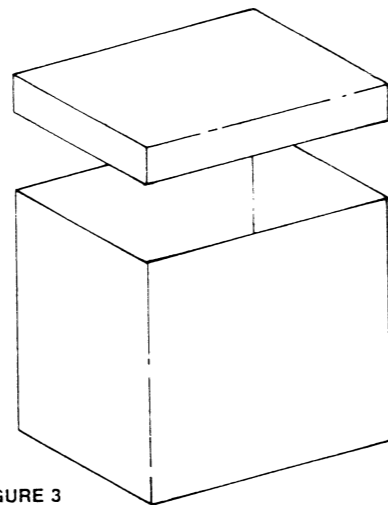


FIGURE 3

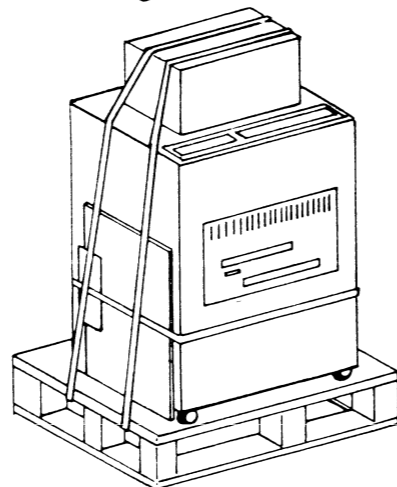


FIGURE 4

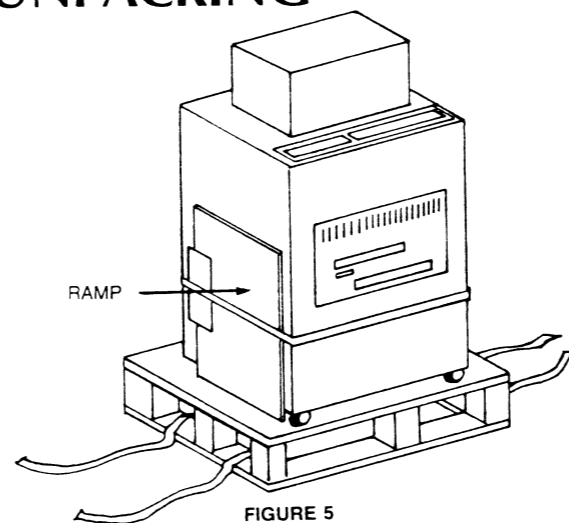


FIGURE 5

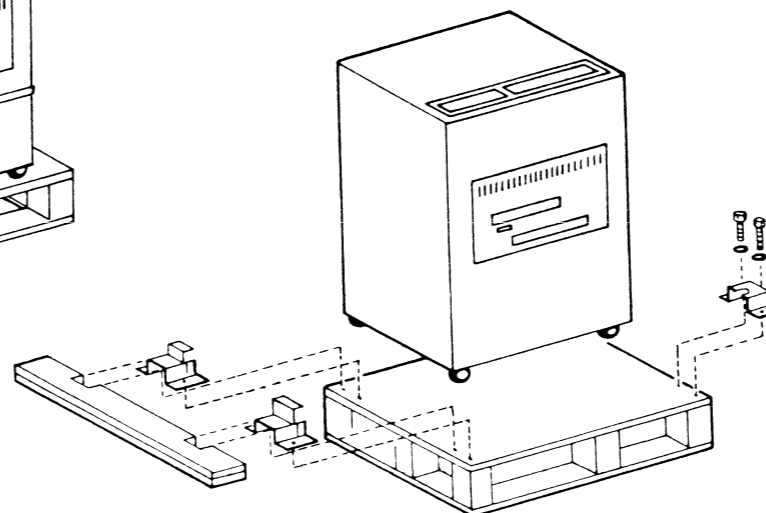


FIGURE 6

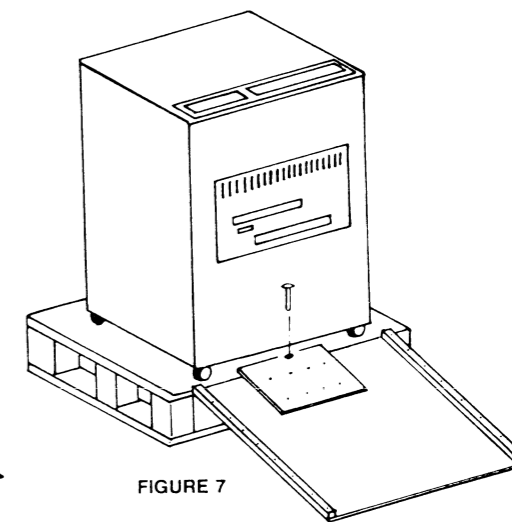


FIGURE 7

UNPACKING INSTRUCTIONS

1. Remove the straps securing the shipping box to the pallet (See Figure 2).
2. Remove the cardboard box (See Figure 3).
3. Remove the straps securing the accessories box to the top of the printer. Remove the accessories box (See Figure 4).
4. Remove the shipping strap around the bottom of the printer. Remove the ramp from its shipping position (See Figure 5).
5. Remove the shipping bolts, caster clamps, and hold-down brackets securing the printer to the pallet (See Figure 6).
6. Install the ramp as shown in Figure 7 and roll the printer off the pallet. Move the printer to the user's location.
7. Unpack the items in the accessories box removed in step 3. Install the accessories per the Operator's **Manual**.
8. Reverse the unpacking procedure for packaging.

PRINTER CONFIGURATION

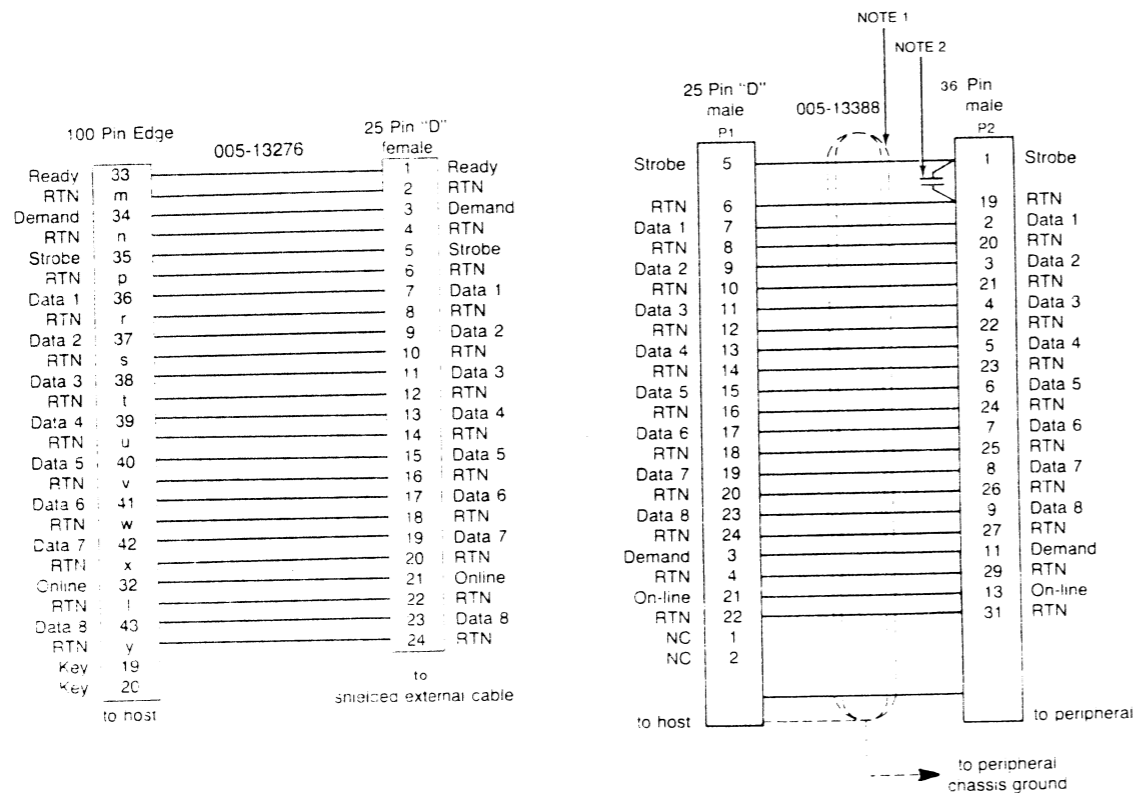
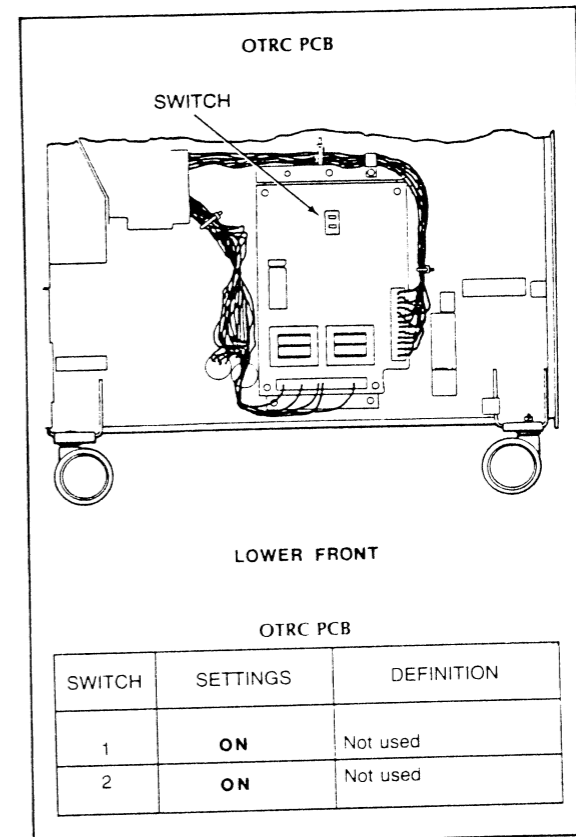
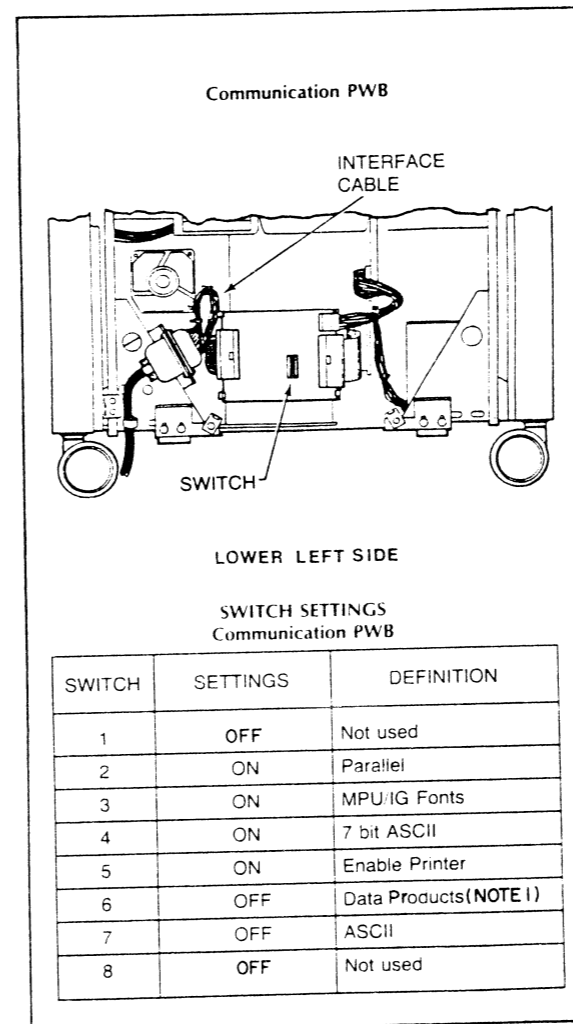
EXTERNAL CABLING

CABLE MATRIX

SYSTEM	INTERNAL CABLE	HOST ADAPTER CABLE	EXTERNAL CABLE
MV/10000 MV/8000 II MV/4000 S/280	005-13261		
MV/8000 C/350	005-12496 (NOTE 2)	005-13276	005-13388
C/150	005-1802		
MV/6000 S/140 S/120	005-12472		

- COMMENTS:
1. CONTROLLER: 005-13361 DATA CHANNEL CONTROLLER.
 2. USE 005-13627 MOUNTING HARDWARE FOR INTERNAL CABLE 005-12496

TAILORING



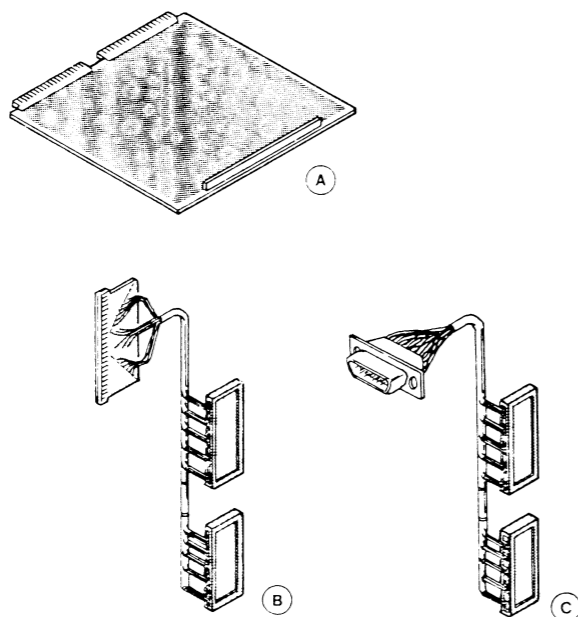
NOTES

1. DOUBLE SHIELD (FOIL INSIDE BRAID)
2. 1,000 pF CAPACITOR INSTALLED BETWEEN PINS 1 & 19

NOTES:

1. A CENTRONICS (36 PIN AMPHENOL) I/F CONNECTOR IS USED ON THE I/F CABLE. THE INTERFACE PROTOCOL REMAINS DATA PRODUCTS.

SUBSYSTEM COMPONENT BREAKDOWN



MAJOR COMPONENT			
Item	Component	Mounting Location	Notes
A	LASER DOCUMENT PRINTER CONTROLLER	CPU CHASSIS	USED WITH MODEL NO. 4425 ONLY

CABLE				
Item	Cable	Connecting	Max Allowed Lg	Notes
B	INTERNAL DEVICE	BP (CONNECTORS) EDGE CONN		MV 8000, MV 6000, C 350, S 250
C	INTERNAL DEVICE	BP (CONNECTORS) SOCKET CONN		MV 4000

SPECIFICATIONS OF THE CHASSIS-MOUNTED COMPONENTS

Component	Chassis	Slots Required	Max Allowable Data Channel Latency (μsec)	Type of Data Channel Service Desired	Max Allowable Programmed I/O Latency -	Controller's -5 Volt Current Draw (Amps)
005-13361	Computer	1		High Speed, Standard	N/A	2.5

*There is no maximum data channel latency figure for the subsystem per se; however, in order to maintain maximum print rate, a line of data and a control character must be transferred within 2.5 ms after the initial demand assertion.

SHIPPING FOR PACKING PROCEDURE, SEE 010-000262

SHIPPING SPECIFICATIONS			STORAGE SPECIFICATIONS		
Temperature Range	Relative Humidity (Non-condensing)	Maximum Altitude	Temperature Range	Relative Humidity (Non-condensing)	Maximum Period
F -40 to +160 C -40 to +71	0% 80%	50,000ft. 15,200m	F -40 to +160 C -40 to +71	0% 80%	90 days

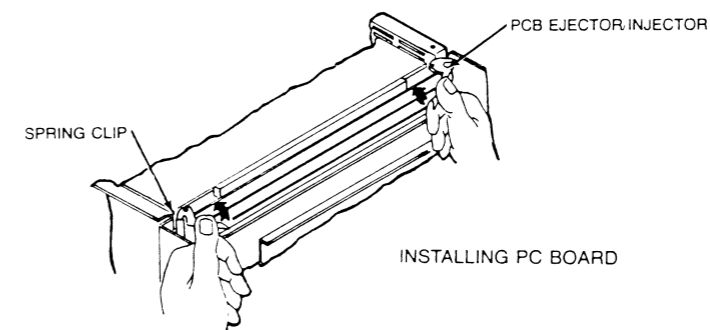
INTERNAL CABLING

LASER DOCUMENT PRINTER CONTROLLER

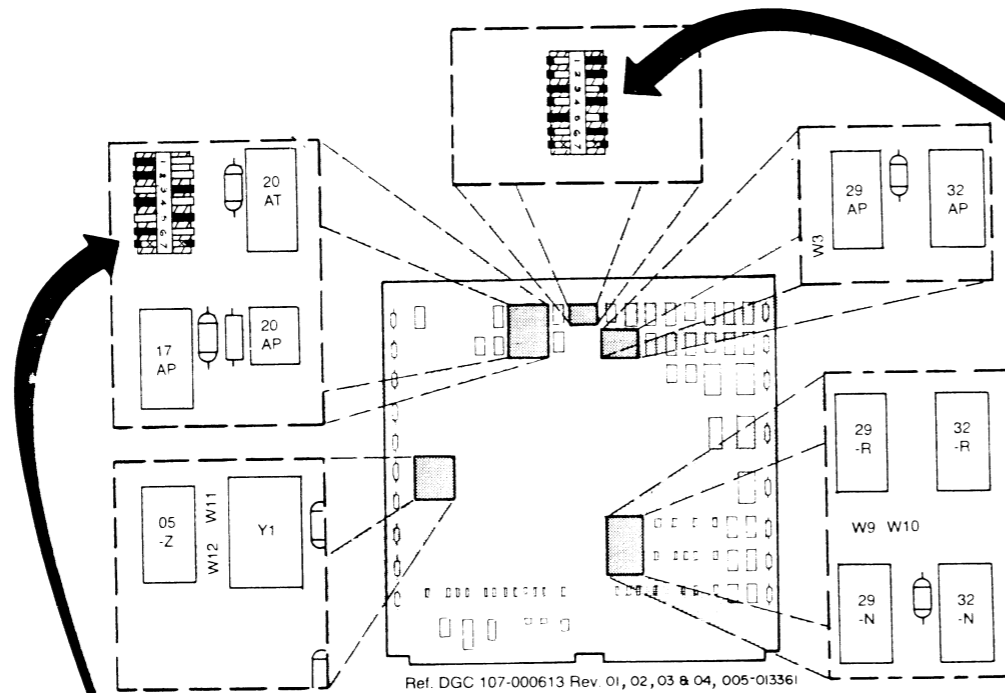
Signal Names	Paddleboard Edge Connector Pin Numbers	Destination Pins on Backpanel (NOVA & ECLIPSE Line Computers)	Socket Connector Pin Numbers
DEMAND	34	B-23	3
STROBE	35	B-25	5
DATA 1	36	B-27	7
DATA 2	37	B-31	9
DATA 3	38	B-34	11
DATA 4	39	B-36	13
DATA 5	40	B-38	15
DATA 6	41	B-40	17
DATA 7	42	B-48	19
ON LINE	32	B-15	21
PAPER INST.	43	B-49	23

Computer	Internal Cable Part No.
MV/8000, C/350, S/250	005-012496
MV/6000, S/140, S/120	005-012472

*USE WIRE LIST WHEN INSTALLING THIS CABLE



TAILORING JUMPERING



Ref. DGC 107-000613 Rev. 01, 02, 03 & 04, 005-013361

JUMPERS	FUNCTION
W3	ALWAYS IN Provides column counter resync for a paper feed or form feed
W9 W10	IN OUT Selects Positive Assertion for LPT STROBE signal ¹
	OUT IN Selects Negative Assertion for LPT STROBE signal
W11*	ALWAYS OUT
W12*	ALWAYS IN

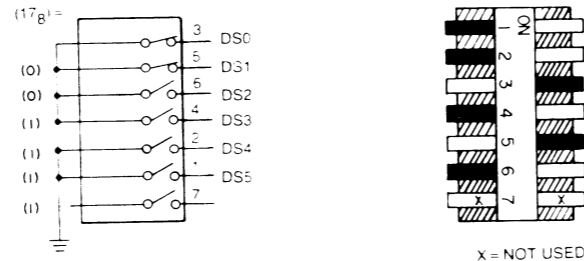
*DGC 107-000613 REV 03 ONLY

DEVICE CODE SWITCHES

The data channel line printer controller has individually settable device code switches which may be set to any of the 64 possible codes. Typically this device will use the code 17_g.

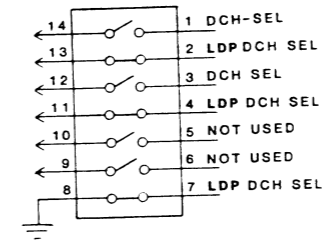
The switches use negative assertion logic which means that when a switch is in the OFF position, a logic one will be asserted. The switches may be pushed into the desired positions with a stylus or pen tip.

The device code 17_g would be selected as shown below.



X = NOT USED

DATA CONTROL SWITCHES SELECT



SWITCH

	DCH	LDP
SW 1	ON	OFF
SW 2	OFF	ON
SW 3	ON	OFF
SW 4	OFF	ON
SW 5	OFF*	OFF*
SW 6	OFF*	OFF*
SW 7	OFF	ON

* NOT USED

CHART

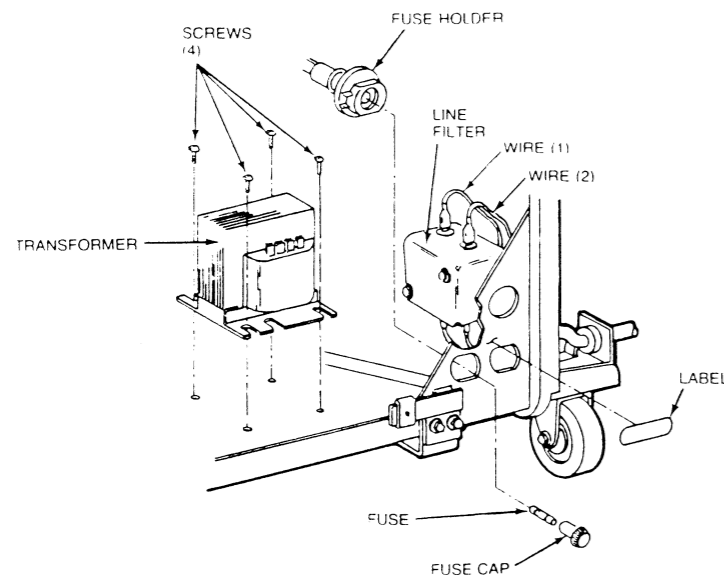
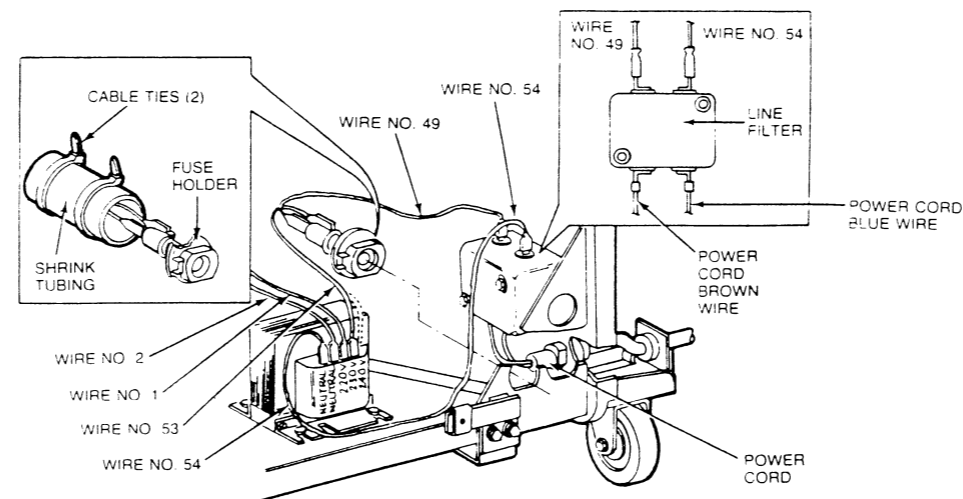


FIGURE 1. INSTALLATION OF TRANSFORMER



NOTE: FUSE HOLDER SHOWN REMOVED FOR CLARITY

FIGURE 2. KIT WIRE LOCATIONS

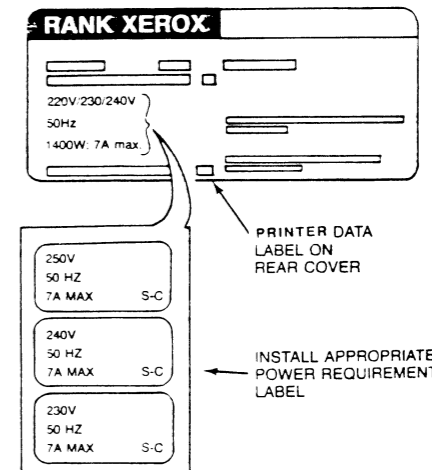


FIGURE 3. INSTALLING POWER REQUIREMENT LABEL

Purpose

The purpose is to install a transformer in the printer that will match existing line voltage to a level compatible with the machine.

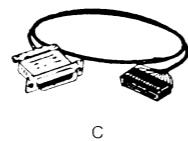
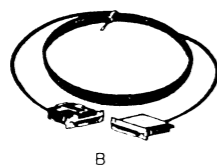
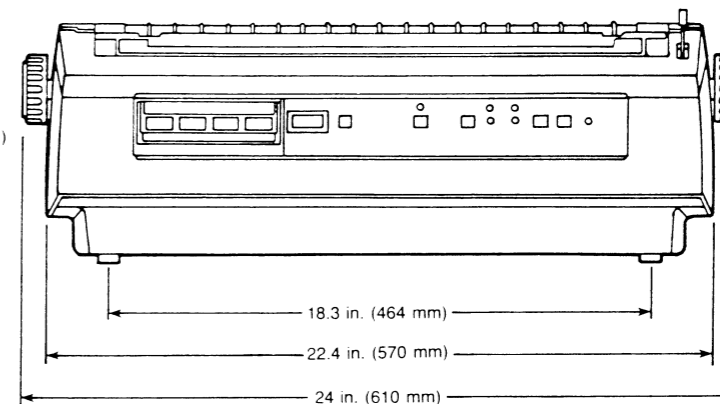
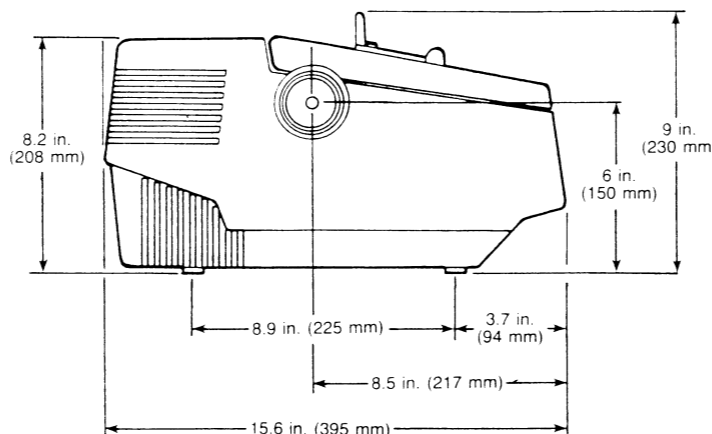
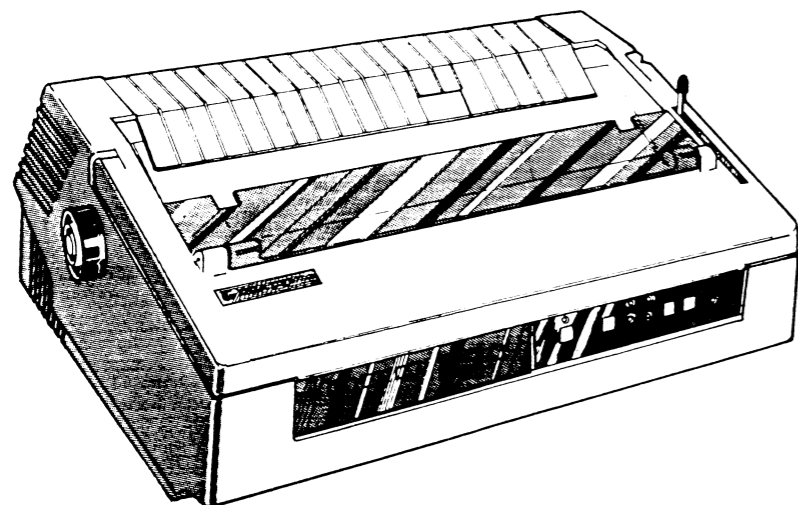
Kit Content

Item	Description	Qty
1	Transformer	1
2	Wire Assembly (49)	1
3	Wire Assembly (53)	1
4	Wire Assembly (54)	1
5	Preinsulated Faston	2
6	Screw (M4 x 8)	4
7	Cable Tie	6
8	Fuse Holder	1
9	Fuse Cap	1
10	Fuse (10A)	1
11	Fuse Label (10A)	1
12	Conversion Label	1
13	Shrink Tubing	1
14	Instructions	1

Procedure

1. Ensure Main Power Plug is disconnected.
2. Measure and record voltage from wall outlet.
3. Remove right and rear covers.
4. Install transformer (Figure 1).
5. Install fuse holder assembly.
 - a. Install fuse holder.
 - b. Insert fuse in holder assembly.
 - c. Secure fuse with fuse cap.
6. Attach label above fuse holder assembly.
7. Disconnect wires from line filter.
 - a. Wire (1) from terminal (3).
 - b. Wire (2) from terminal (4).
8. Connect wires to transformer (Figure 2).
 - a. Wire (1) to 220V terminal.
 - b. Wire (2) to Neutral terminal.
 - c. Wire (54) from kit to neutral terminal.
 - d. Wire (53) from kit to terminal corresponding to voltage measures in step 2 of these instructions.
9. Connect wires to fuse holder assembly.
 - a. Wire (53) to side terminal.
 - b. Wire (49) to center terminal.
10. Put shrink tubing over terminals on fuse holder (Figure 2, insert).
11. Connect wires to line filter.
 - a. Wire (54) to terminal (4).
 - b. Wire (49) to terminal (3).
12. Connect preinsulated faston to unused terminal on transformer.
13. Secure wire harness with cable ties.
14. Check main power plug configuration. Install correct plug on power cord.
15. Connect main power plug and check operation of printer.
16. Install right cover.
17. Install rear cover.
18. Install appropriate power requirement label over existing power requirements on printer data label, located on rear cover (Figure 3).
19. Mark off tag 247 on processor tag matrix.

INSTALLATION SPECIFICATIONS



Dimensions	
Width:	24.0 inches (610mm)
Depth:	15.6 inches (395 mm)
Height:	8.2 inches (208 mm), including paper release lever — 9 inches (230 mm)

Weight	
	37.4 pounds (17 kg) (qualifies for UPS shipment)

POWER REQUIREMENTS:

(Domestic)	
Voltage	120 + 10-15%
Hz	60 ± 1%
Phase	Single
(Export)	
Voltage (low)	100 ± 10%
Hz	50 60 ± 1%
Phase	Single
Voltage (high)	220-240 + 10-15%
Hz	50 60 ± 1%
Phase	Single

OPERATING NOISE LEVEL
62d Ba with cover and tractors

MAJOR COMPONENT

ITEM	COMPONENT	MOUNTING LOCATION	NOTES
A	4518 LETTER QUALITY PRINTER	DESKTOP	

CABLES

ITEM	CABLE	CONNECTING	MAX LG	
			FT	M
B	EXTERNAL	PRINTER TO HOST ADAPTOR CABLE	25	7.6
C	HOST ADAPTOR	EXTERNAL CABLE TO BACK PLANE	1	3
D	POWER	PRINTER TO PRIMARY POWER	7.5	2.3

OPERATING ENVIRONMENT:

Temperature (max)	10° C-38° C (50°-100° F)
Relative Humidity (max)	20%-80% non-condensing

CABLES:

Primary Power	Length	Conn	Mating Conn
Domestic	7.5 ft. (2.3 m)	5-15P	5-15R

HEAT OUTPUT:	Watts	BTU/hr
Typical	170	579.7

SHIPPING

PRINTER
UNPACKING/REPACKING
INFORMATION

NOTE

Follow these directions closely to ensure that your printer warranty will remain valid.

1. UNPACKING INSTRUCTIONS

SAVE THE CARTON AND ALL PACKING MATERIALS FOR POSSIBLE FUTURE USE IN RE-SHIPMENT.

- Peel off the sealing tape, open the carton flaps, and remove the attached styrofoam braces (see Figure 1).
- Lift out the printer with its plastic cover (see Figure 1), and put on a sturdy table (one capable of supporting at least 50 pounds).
- Remove the plastic cover. Remove and save the printed materials, power cable, and bag of silica gel.
- Tilt the printer up on its back to expose the base. Keep one hand on it to prevent it from falling.
- Unscrew (counterclockwise) and remove four screws and spacers (see Figure 2).
- Lower the printer to rest it on its base. Remove the pressure sensitive tape restraining the top cover, the hammer cover, pressure shaft, and the pressure lever. If protective plastic material is adhered to the operator control panel DIP switches, remove it (Figure 2).

NOTE

Be sure to perform the next step. If you don't the printer will not operate properly.

- Open the top cover (by lifting up at the front) and remove the two yellow Print Carriage Retaining Rings (see Figure 3).

CAUTION

The printer comes equipped with a UL and CSA required and approved plug for the operator's safety. When you install the printer, insert this plug into a properly grounded receptacle to avoid possible severe electrical shock.

- Remove the power cord from its protective package and plug the female end into the mating connector on the back of the printer.
- You are now ready to connect the printer to a power source and turn it on. Refer to the appropriate model Operator's Guide for further instructions.
- If the printer was ordered with a forms handling option, refer to the manual shipped with the option for instruction on how to install it.

2. REPACKING INSTRUCTIONS

The repacking procedure is just the reverse of unpacking. Reuse the same carton and packing materials. If the silica gel desiccant has been exposed to humid air, or is more than one month old, replace it with a fresh bag.

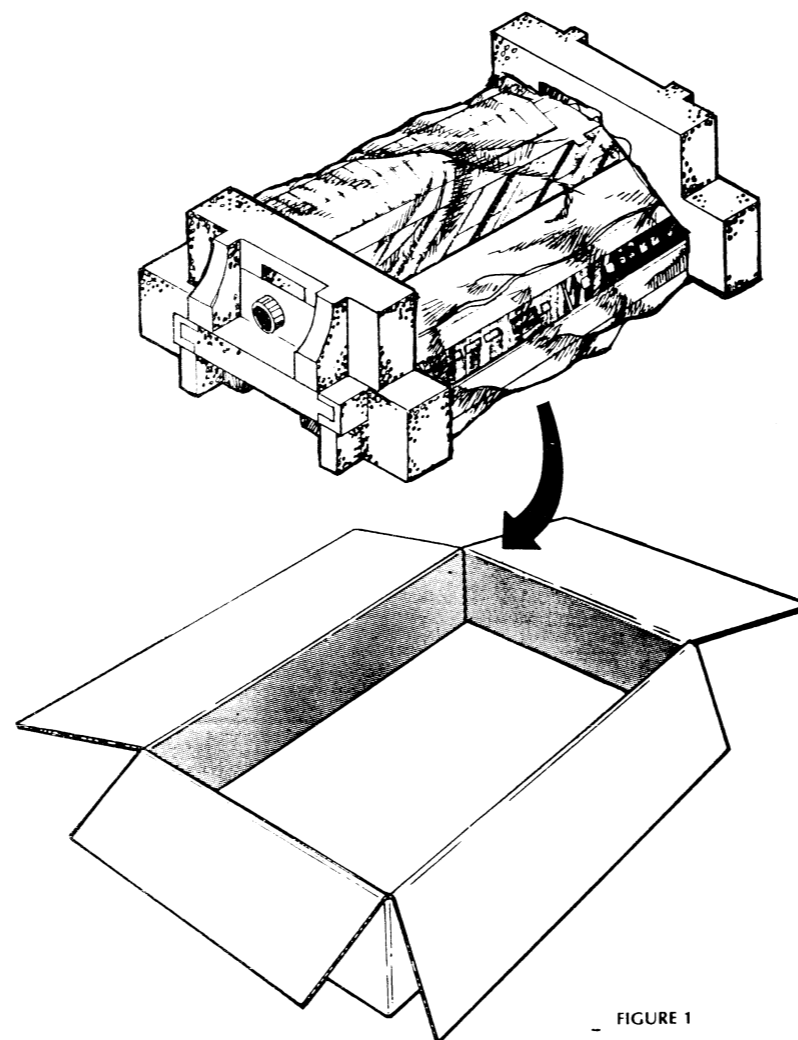


FIGURE 1

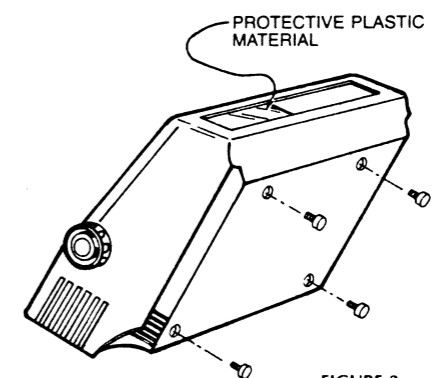


FIGURE 2

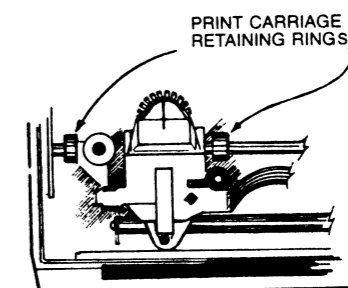
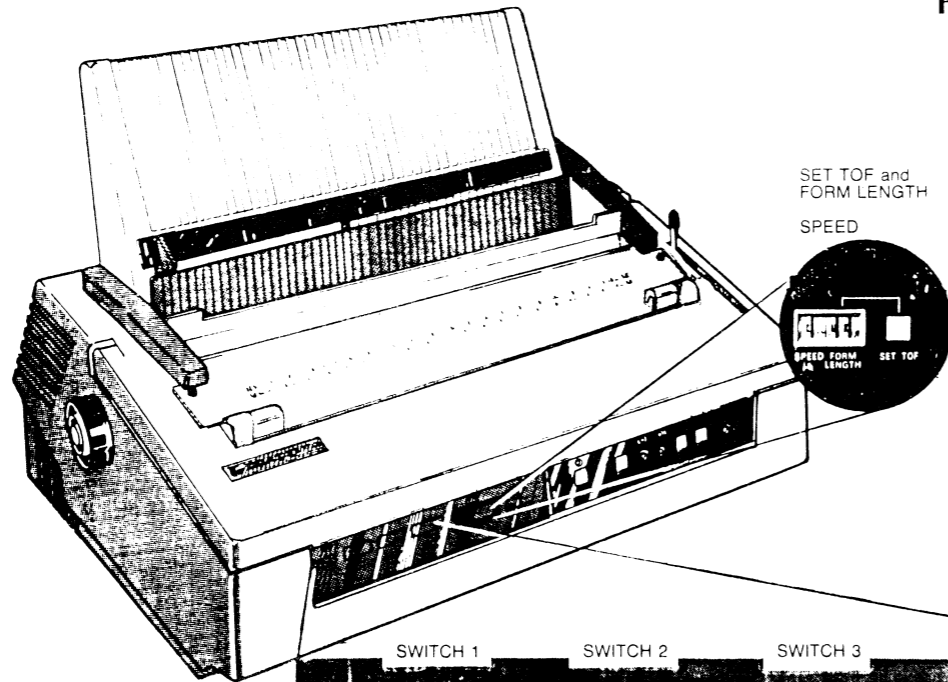


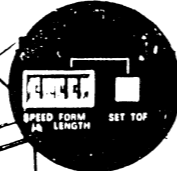
FIGURE 3

PRINTER CONFIGURATION TAILORING



SET TOP and FORM LENGTH

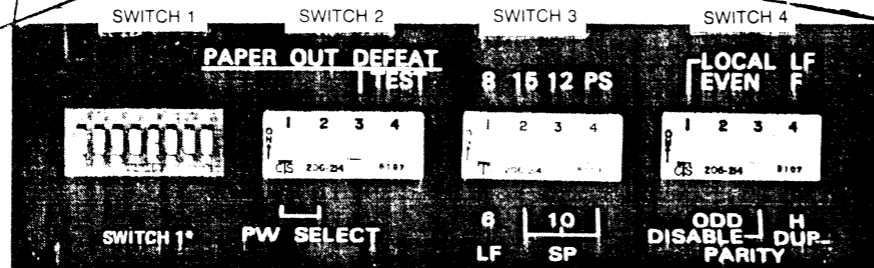
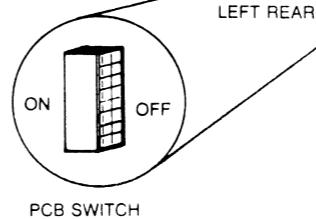
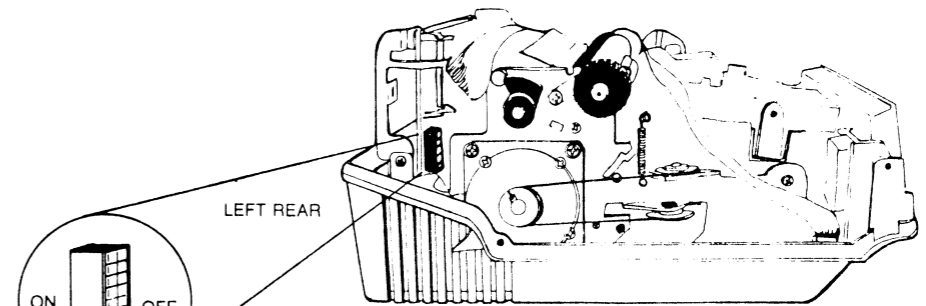
SPEED



Press SET TOP to define form feed length as the value stored in the FORM LENGTH switches. Current print line is defined as top of form. Printer is shipped with 66 lines form length.

Select baud rate as follows:

POSITION	BAUD RATE
0	110
1	150
2	200
3	300
4	600
5	1200
6	2400
7	4800
8	9600
9	—



SWITCH 1 FRONT PANEL		
POSITION	FUNCTION	
1	ON	OFF LINE AT POWER UP
	OFF*	ON LINE AT POWER UP
2	ON	LINE FEED ON FORM FEED SWITCH
	OFF*	FORM FEED ON FORM FEED SWITCH
3	ON	ALL HORIZONTAL TABS CLEARED
	OFF*	INDIVIDUAL HORIZONTAL TABS CLEARED
4	ON*	AUTO CARRIAGE RETURN ENABLED
	OFF	AUTO CARRIAGE RETURN DISABLED
5	ON*	XON/XOFF PROTOCOL
	OFF	EXT ACK PROTOCOL
6	ON*	INHIBIT BREAK SIGNAL TO HOST
	OFF	SEND BREAK ON ALARM
7	ON*	IGNORE FORM LENGTH SWITCH
	OFF	FORM LENGTH SWITCH VALID
8	ON	DIAGNOSTIC TEST MODE SELECT
	OFF*	NORMAL OPERATION

SWITCH 2 FRONT PANEL		
POSITION	FUNCTION	
1	2	
OFF*	OFF*	CONSTANT PITCH (10:12:15)
OFF	ON	BOLD P.S.
ON	OFF	KEEPSAKE P.S.
ON	ON	EMPEROR P.S.
3	ON	PAPER OUT CONDITIONS IGNORED.
	OFF*	PAPER OUT SENSING.
4	ON	SELF TEST ENABLED
	OFF*	SELF TEST DISABLED

SWITCH 3 FRONT PANEL			
POSITION	FUNCTION		
1	ON	8 LINES PER INCH	
	OFF*	6 LINES PER INCH	
2	3	4	HORIZONTAL PITCH SELECTED
OFF*	OFF*	OFF*	10 CHAR. PER INCH
OFF	ON	OFF	12 CHAR. PER INCH
ON	OFF	OFF	15 CHAR. PER INCH
ON	ON	OFF	15 CHAR. PER INCH
X	X	ON	PROPORTIONAL SPACING

SWITCH 4 FRONT PANEL			
POSITION	FUNCTION		
1	ON	LOCAL LINE FEED ENABLED	
	OFF*	LOCAL LINE FEED DISABLED	
2	3	PARITY REC	TRANSMISSION
OFF*	OFF*	PARITY CHECK OFF	MARK
ON	OFF	PARITY CHECK OFF	MARK
OFF	ON	ODD	ODD
ON	ON	EVEN	EVEN
4	ON	FULL DUPLEX	
	OFF*	HALF DUPLEX	

PCB DIP SWITCH		
POSITION	FUNCTION	
1	ON*	DATA SET READY
	OFF	DATA SET READY DISABLED
2	ON*	CLEAR TO SEND
	OFF	CLEAR TO SEND DISABLED
3	ON*	DCD DISABLED (NO MODEM)
	OFF	DCD ENABLED (MODEM)
4	ON	REVERSE CHANNEL ACTIVE LOW
	OFF*	REVERSE CHANNEL ACTIVE HIGH
5	ON	LOOPBACK TEST ON
	OFF*	LOOPBACK TEST OFF
6	ON*	ENABLE 2K BUFFER
	OFF	LINE BUFFERING ONLY
7	ON	NOT USED
	OFF*	NOT USED
8	ON	HAMMER DRIVE DISABLED
	OFF*	HAMMER DRIVE ENABLED

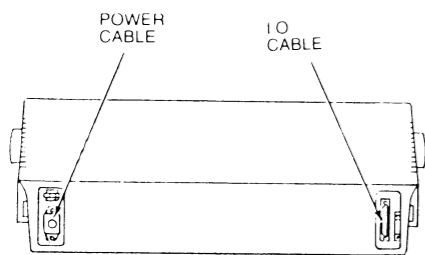
* INDICATES FACTORY CONFIGURATION
 ** SWITCH 1-7 MUST BE ON WHEN USING THE CUT SHEET GUIDE MODEL NO. 4526
 X= DON'T CARE

EXTERNAL CABLING

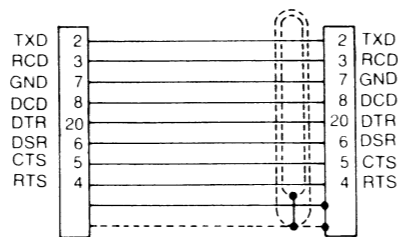
SYSTEM	CONTROLLER	INTERNAL CABLE	HOST ADAPTER CABLE	EIA S W BUSY CABLE	CABLE SUFFIX
MV 8000 MV 6000	005-16764 IAC 8	005-14115	---	005-13258	N
	005-16650 IAC 16	005-14111	---	005-13258	N
	005-17342 AMI 8	005-14114	---	005-13258	N
	005-14460 ATI 16*	005-14111	---	005-13258	N
MV 10000 MV 8000 II MV 4000 S 280	005-16764 IAC 8	005-19058** 005-19397***	---	005-13258	N
	005-16650 IAC 16	005-19398***	---	005-13258	N
	005-17342 AMI 8	005-19397***/005-19058**	---	005-13258	N
	005-16746 IAC 8	005-19397***/005-19058**	---	005-13258	N
	005-14460 ATI 16*	005-19059**/005-19398***	---	005-13258	N
	005-16650 IAC 16	005-19059**/005-19398***	---	005-13258	N
	005-17364 ULM 5	005-19565	---	005-13258	N
C 350 C 150 S 140 S 120 CS 200A CS 200B NOVA 4	005-5458 ALM 8	---	005-13270	005-13258	F
	005-5460 ALM 16*	005-13703	---	005-13258	N
	005-5460 ALM 16*	---	005-13273	---	C
	005-5460 ALM 16*	005-10708	---	005-13258	N
	005-17346 ULM 5	---	---	---	A
	005-17346 ULM 5	005-12765 005-13529	---	005-13271	005-13258
S 140 S 120 CS 200A CS 200B NOVA 4	005-14460 ATI 16*	005-14111	---	005-13258	N
	005-17342 AMI 8	005-14115	---	005-13258	N
MP 200 MP 100	005-14418 4336-S 005-15552 4336-AS	005-14416	---	005-13258	N
	005-13983	---	---	---	---
CS 100 S 20	005-14485 4227-P 005-14485 4227-S	005-9654	005-13270	005-13258	F
	005-14485 4227-S	---	---	---	---
ENTRPHS CS 5	---	MAIN ID	---	005-16720	T
MODIM	---	---	---	005-13266	J
MP 100 MP 200 CS 100	005-13951 4201-S	005-7506	005-13270	005-13258	F
E91001 E91002 E91003 E91006 E91007 E91020 E91021 E91030	4463-W	20688	---	---	---
	4463-Z	21041	---	13258 (MODEL # 1340 (I))	---
	---	21148	---	13258 (MODEL # 1340 (I))	---
	---	---	---	---	---
	---	---	---	---	---

* DAUGHTER PCB FOR EIA OPERATION IS 010-5464
 ** WITH JUNCTION BOX
 *** WITHOUT JUNCTION BOX

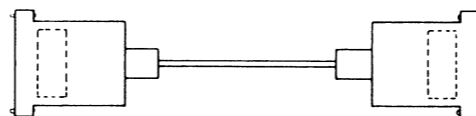
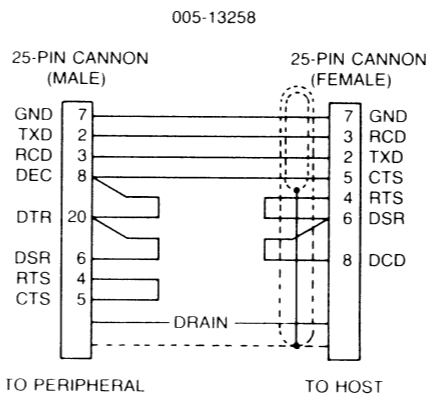
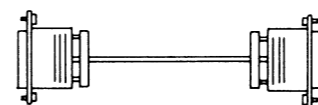
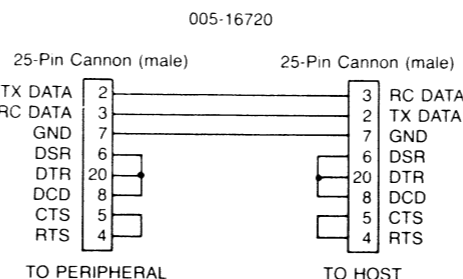
005-13266



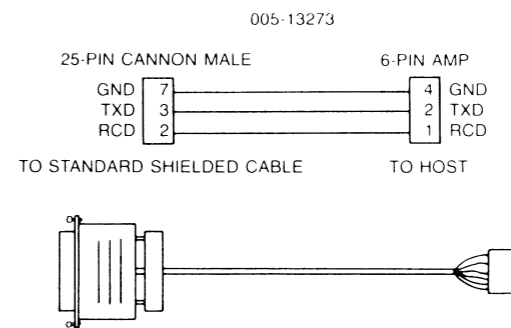
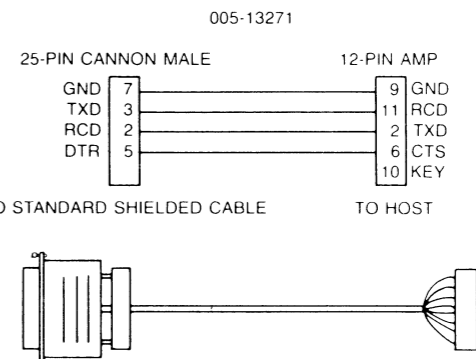
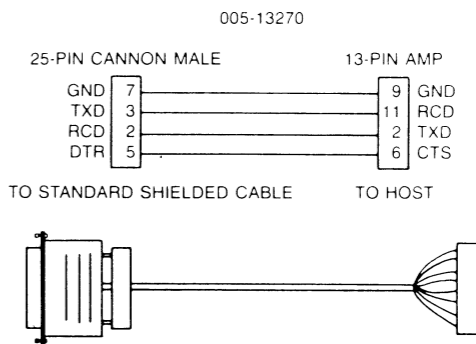
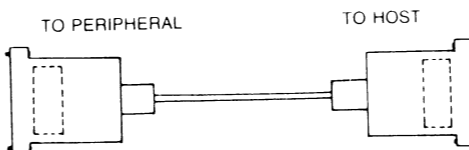
25-PIN CANNON MALE 25-PIN CANNON MALE



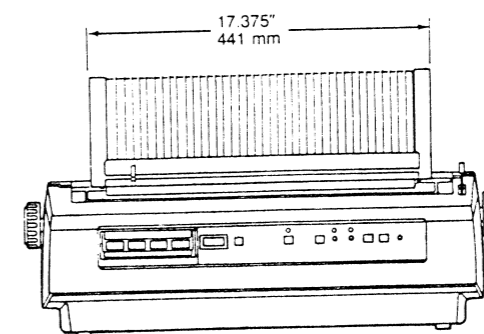
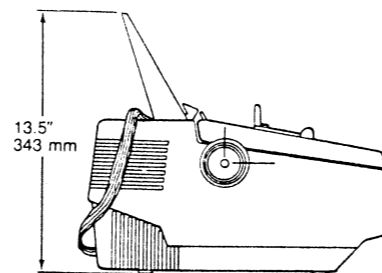
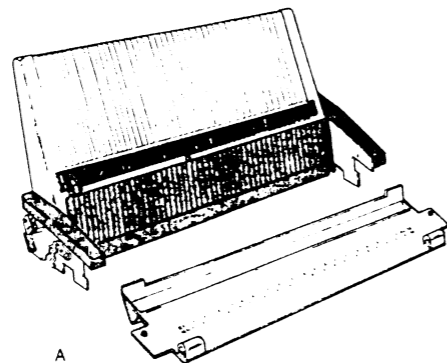
NOTE 1: SEE CABLE MODEL NUMBER CHART FOR CABLES LISTED IN THE CABLE MATRIX



MODEL	LENGTH	ASSEMBLY
1340	25 FT	005-13258
1340-A	50 FT	005-13321
1340-S	5 FT	005-13325
1340-T	15 FT	005-13315
1338	25 FT	005-13266
1241	1.5 FT	005-13270
1243	1.5 FT	005-13271
1244	1.5 FT	005-13273



INSTALLATION SPECIFICATIONS



MAJOR COMPONENT

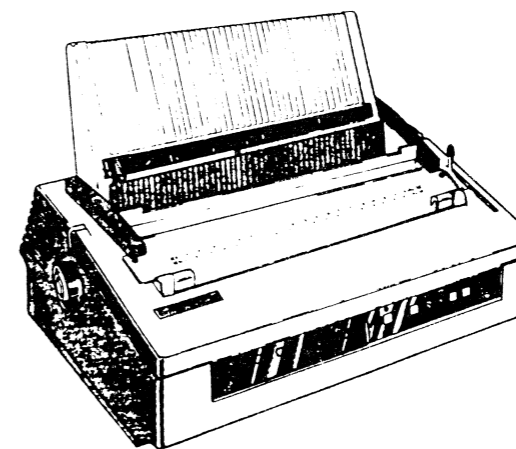
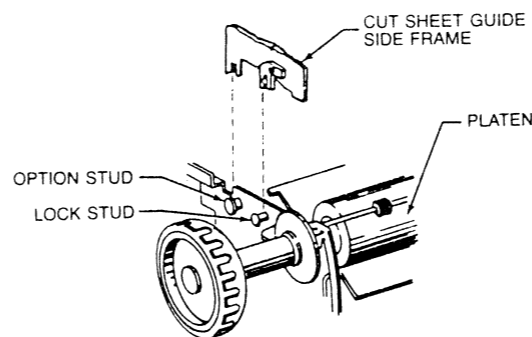
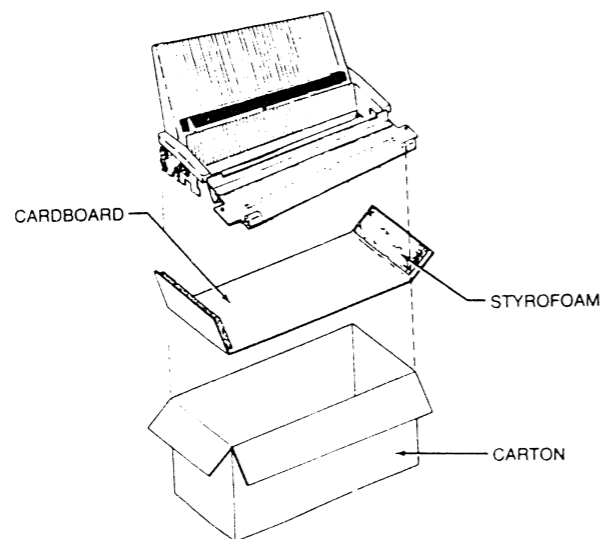
ITEM	COMPONENT	MOUNTING LOCATION	NOTES
A	4526 CUT SHEET GUIDE	4518 LETTER QUALITY PRINTER	

PAPER SPECIFICATION

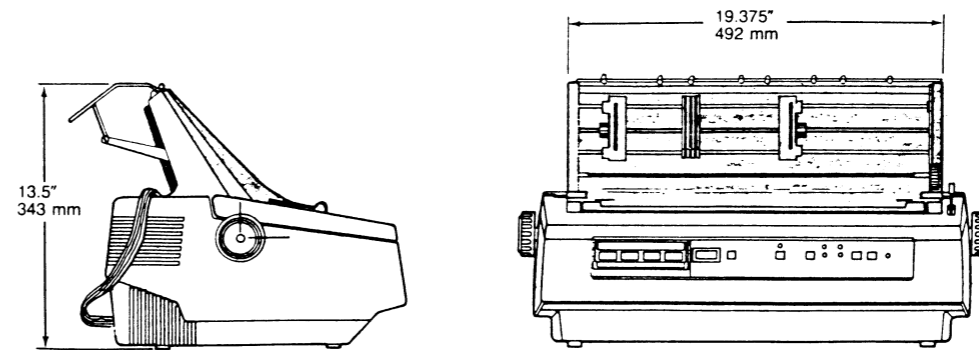
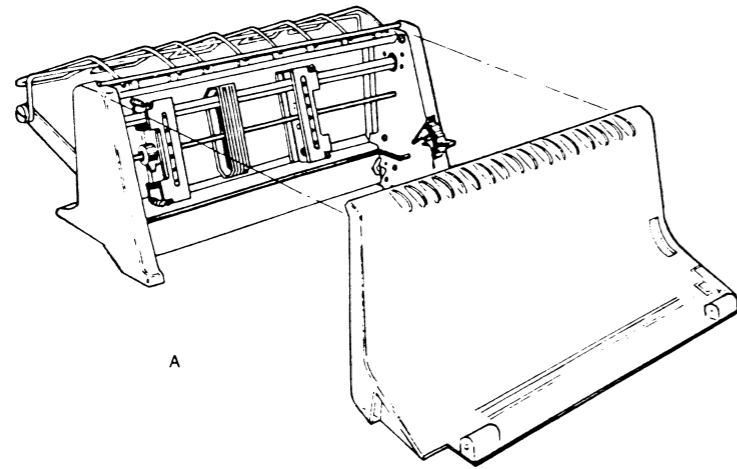
The paper used with the cut sheet guide must be of the following type.

- Paper Width: 5 to 16 inches
- Paper Length: 3.6 to 16.5 inches
- Paper Weight: 13 to 24 pounds
- Multipart Paper: 2 parts maximum, with bottom edge glue 13 pounds per part, maximum

NOTE: Switch 1-7 must be on



INSTALLATION SPECIFICATIONS



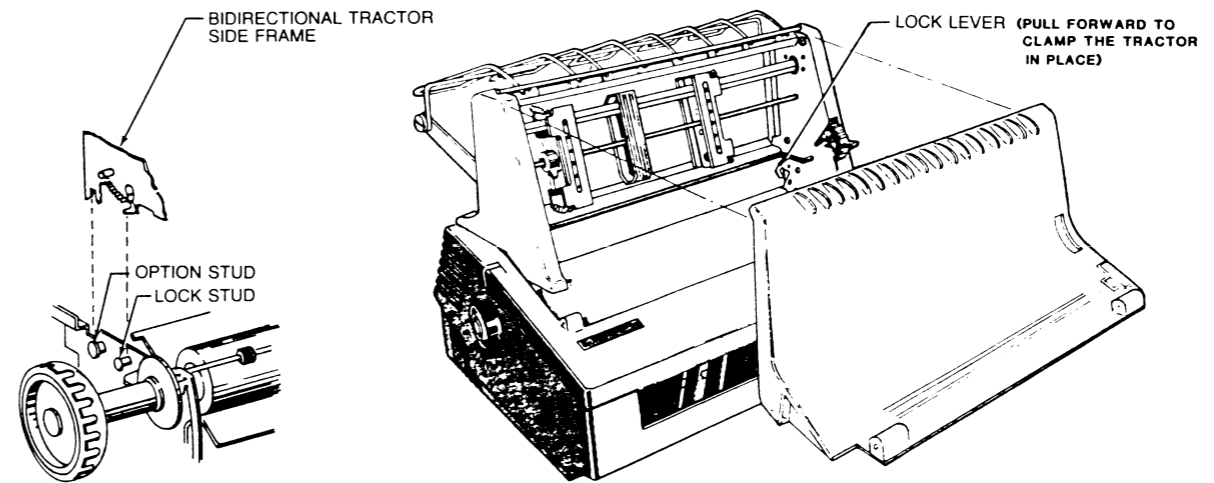
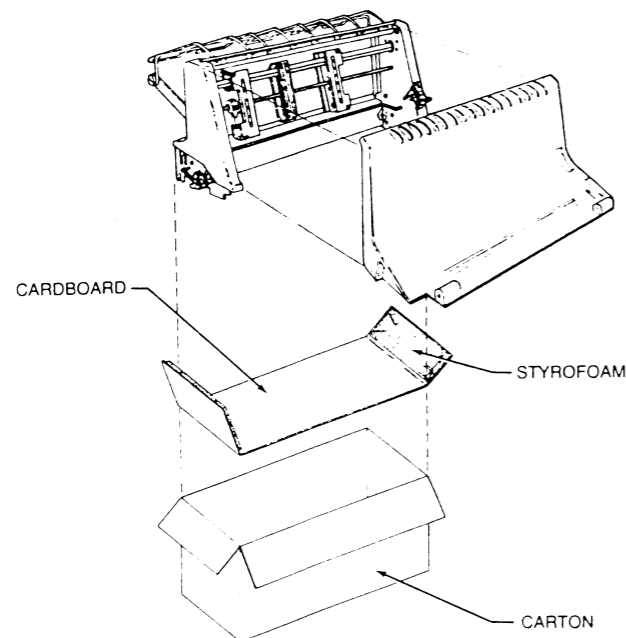
MAJOR COMPONENT

ITEM	COMPONENT	MOUNTING LOCATION	NOTES
A	4522 BIDIRECTIONAL (TRACTOR ASSEMBLY)	4518 LETTER QUALITY PRINTER	

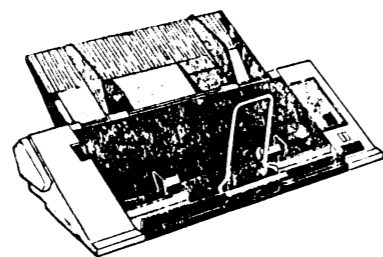
PAPER SPECIFICATION

The paper used with the bidirectional tractor must be of the following type.

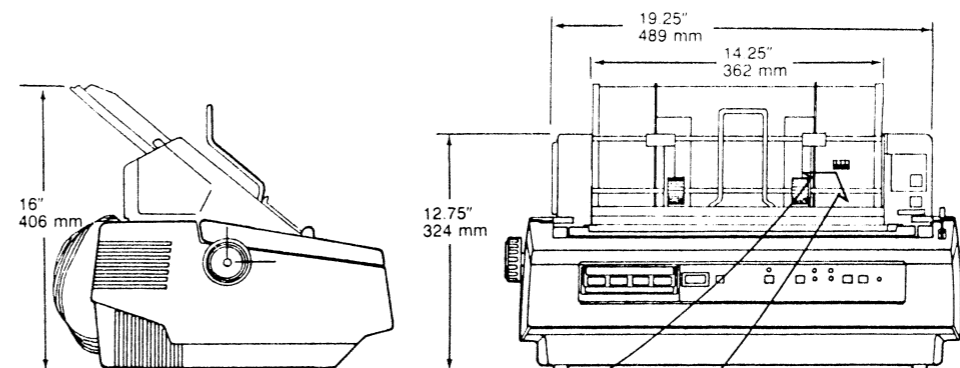
- Paper Size: 3.0 to 16 inches (pin center to pin center)
- Paper Type: Continuous form, side-sprocket hole
- 5 parts maximum to 13 pounds
- 6 parts maximum to 10 pounds



INSTALLATION SPECIFICATIONS



A



MAJOR COMPONENT

ITEM	COMPONENT	MOUNTING LOCATION	NOTES
A	4523 SINGLE BIN SHEET FEEDER	4518 LETTER QUALITY PRINTER	

PAPER SPECIFICATION

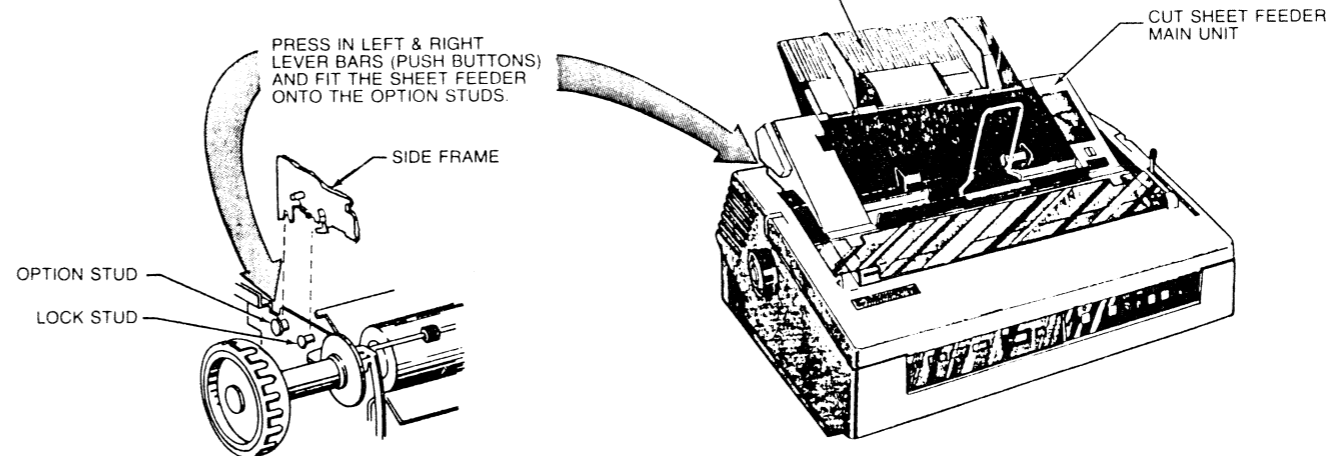
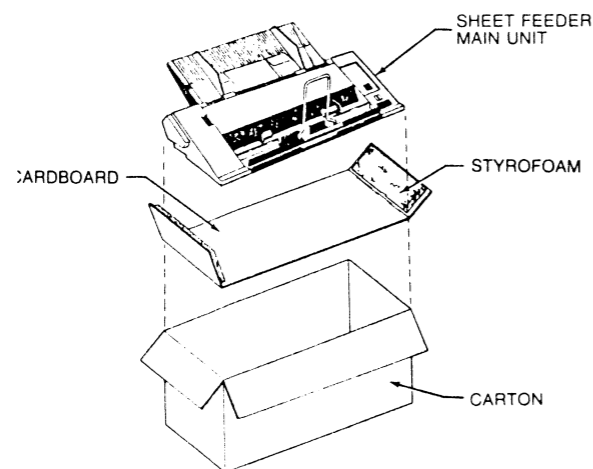
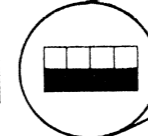
The paper used with the cut sheet feeder must meet the following specifications.

HOPPER	WIDTH	LENGTH
First	5.5 to 11 inches	4.3 to 14 inches
Manual Slot	5.7 to 12.2 inches	to 14 inches

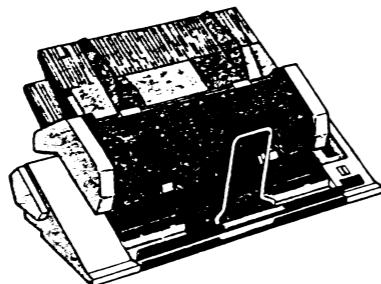
Use a paper weight of 13 to 24 pounds. Each hopper holds 180 sheets. The manual insertion pocket holds one sheet at a time.

SWITCH SETTINGS

SWITCH	1	2	3	4
SETTING	OFF	OFF	OFF	OFF



INSTALLATION SPECIFICATIONS



MAJOR COMPONENT

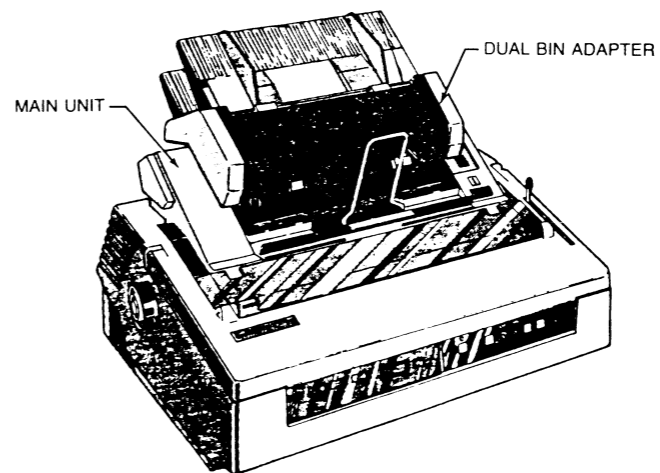
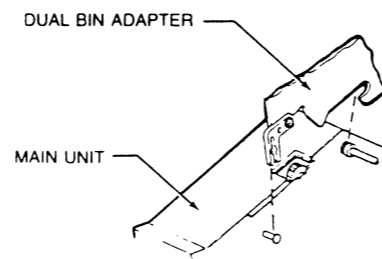
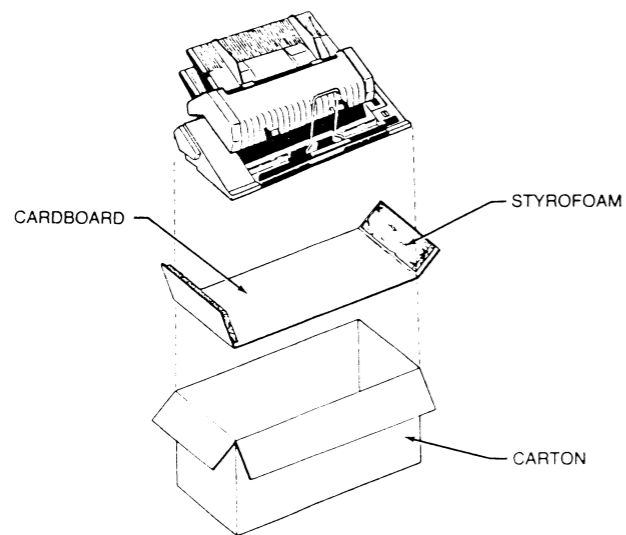
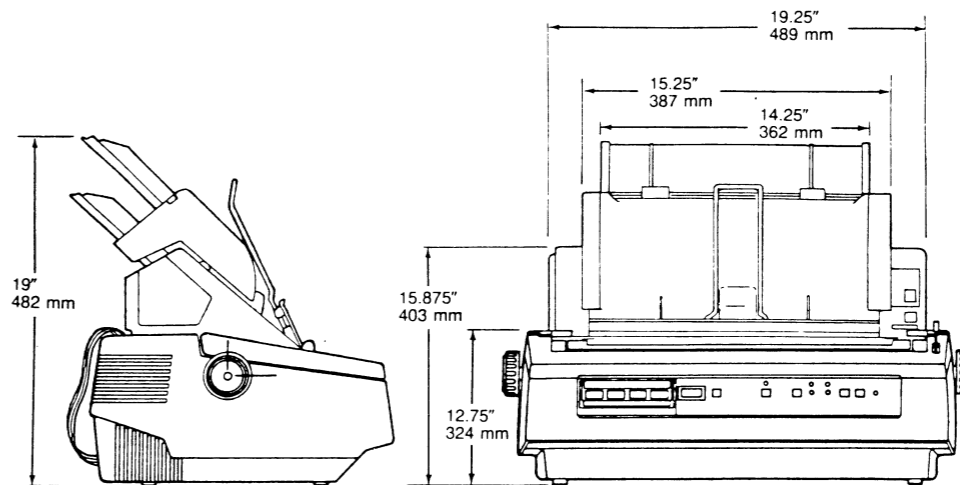
ITEM	COMPONENT	MOUNTING LOCATION	NOTES
A	4523 SINGLE BIN SHEET FEEDER WITH 4524 DUAL BIN ADAPTOR	4518 LETTER QUALITY PRINTER	

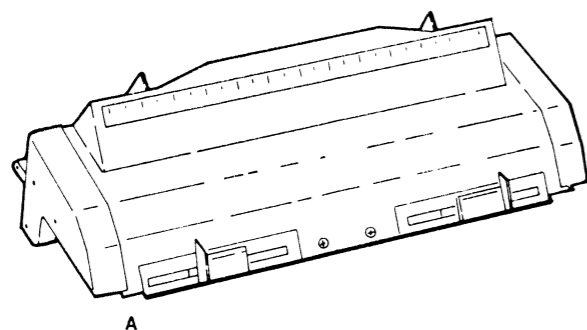
PAPER SPECIFICATION

The paper used with the cut sheet feeder must meet the following specifications.

HOPPER	WIDTH	LENGTH
First	5.5 to 11 inches	4.3 to 14 inches
Second	5.5 to 11 inches	6.2 to 14 inches
Manual Slot	5.7 to 12.2 inches	4 to 14 inches

Use a paper weight of 13 to 24 pounds. Each hopper holds 180 sheets. The manual insertion pocket holds one sheet at a time.

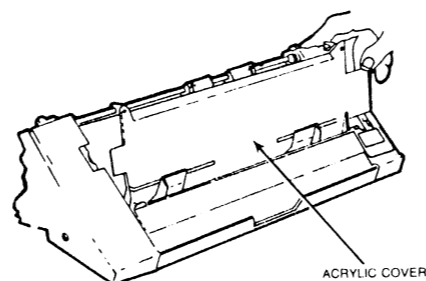




A

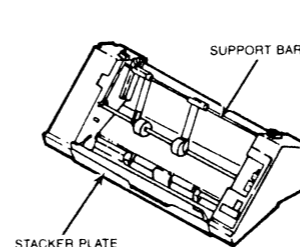
MAJOR COMPONENT

ITEM	COMPONENT	MOUNTING LOCATION	NOTES
A	4525 ENVELOPE ADAPTER	SINGLE BIN CUT SHEET FEEDER	



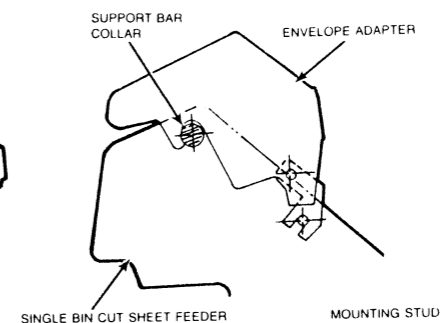
ACRYLIC COVER

Figure 1 Cut Sheet Feeder Acrylic Cover



STACKER PLATE

Figure 2 Cut Sheet Feeder (Cover Removed)



SINGLE BIN CUT SHEET FEEDER MOUNTING STUD

Figure 3 Installing the Envelope Adapter

INSTALLING THE ENVELOPE ADAPTER
Follow these steps to install the envelope adapter.

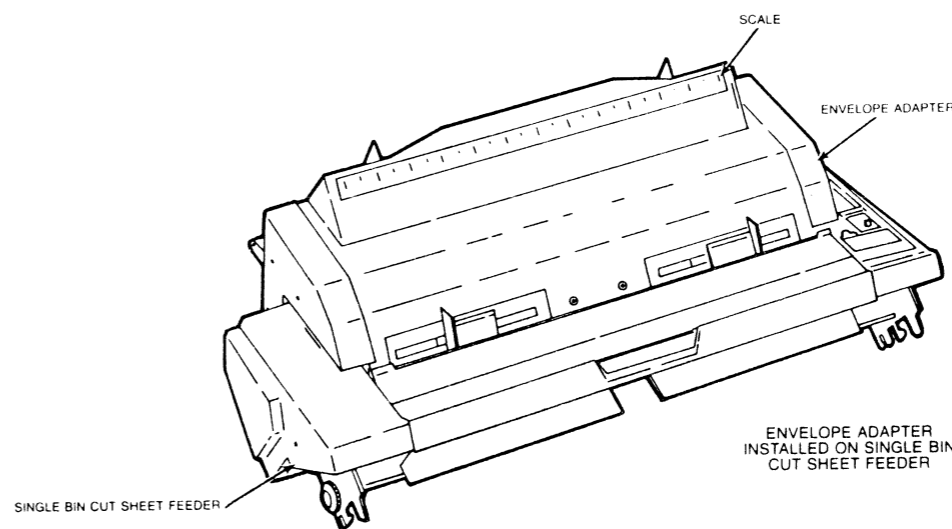
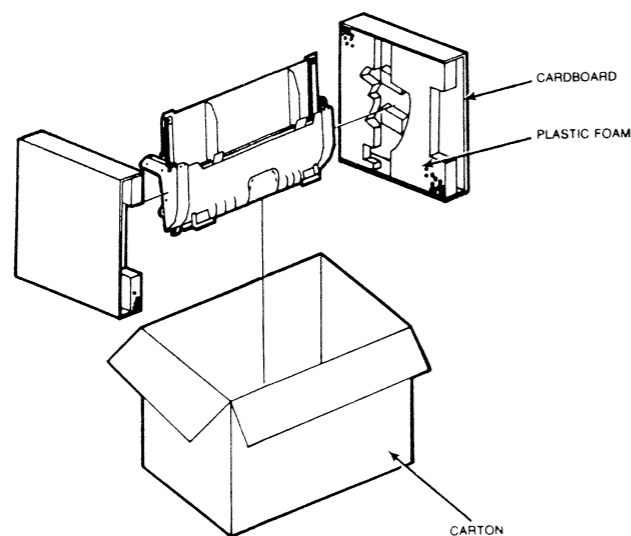
- 1 Lower and remove the acrylic cover of the cut sheet feeder (see Figure 1)
- 2 Open the stacker plate assembly on the cut sheet feeder (see Figure 2)
- 3 Place the upper braces of the envelope adapter on the cut sheet feeder support bar. The braces slide into the grooves of the collars that are located at each end of the support bar (see Figure 3)
- 4 Lower the envelope adapter onto the left and right mounting studs of the cut sheet feeder (see Figure 3)
- 5 Close the stacker plate assembly

ENVELOPE SPECIFICATIONS

THE ENVELOPES USED WITH THE ENVELOPE ADAPTER MUST MEET THE FOLLOWING SPECIFICATIONS.

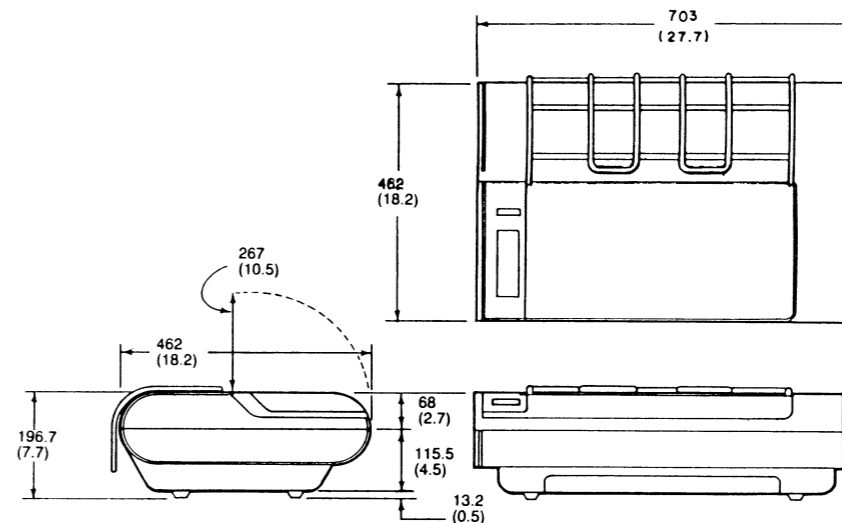
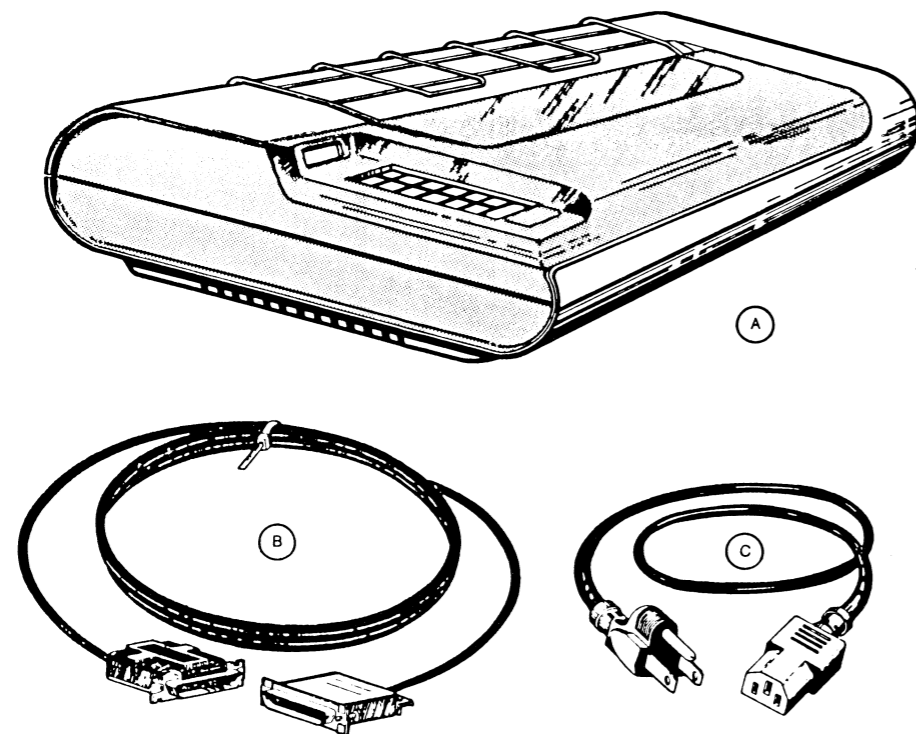
DIMENSION	MINIMUM	MAXIMUM
WIDTH	3.5 inches (88.9 mm)	5 inches (127 mm)
LENGTH	5.25 inches (133.35 mm)	12 inches (304.8 mm)
WEIGHT	20 pounds (64 kg)	28 pounds (90 kg)

NOTE: DO NOT USE WINDOW OR VELLUM ENVELOPES.



ENVELOPE ADAPTER INSTALLED ON SINGLE BIN CUT SHEET FEEDER

INSTALLATION SPECIFICATIONS



DIMENSIONS IN MILLIMETERS (INCHES IN PARENTHESES FOR REFERENCE)

MAJOR COMPONENT

ITEM	COMPONENT	MOUNTING LOCATION	NOTES:
A	PRINTER	DESKTOP	MODELS 6215, 6216

CABLES

ITEM	CABLE	CONNECTING	NOTES:
B	DEVICE CABLE	PRINTER AND COMMUNICATIONS INTERFACE	SEE SHEET 4
C	POWER CABLE	PRIMARY POWER	SEE SUFFIX TABLE

MAXIMUM CABLE LENGTH TABLE

CABLE	CONNECTING	BAUD RATE	MAX LENGTH	NOTES
EXTERNAL (20MA)	TERMINAL TO COMPUTER	9600	300 ft (91 m)	1200 ft MAX AT 2400 BAUD RATE AND BELOW
		4800	600 ft (183 m)	
		2400	1200 ft (366 m)	
EXTERNAL RS 232C EIA	TERMINAL TO COMPUTER		50 ft (15 m)	50 ft MAX AT 19,200 BAUD & BELOW
EXTERNAL RS 422A EIA	TERMINAL TO COMPUTER		4920 ft (1500 m)	4920 ft MAX AT 19,200 BAUD & BELOW
PARALLEL	TERMINAL TO COMPUTER		30 FT 9.1M	THIS CABLE FOR 6216

DIMENSIONS:	Width	Depth	Height
Millimeters	703	462	196.7
Inches	27.7	18.2	7.7

WEIGHT:		
Kilograms	22.7	
Pounds	50	

HEAT OUTPUT (MAX):	Watts	BTU/hr
	240	819.1

OPERATING ENVIRONMENT:	
Temperature (max)	10°C-38°C (50°-100°F)
Relative Humidity (max)	20%-80% non-condensing

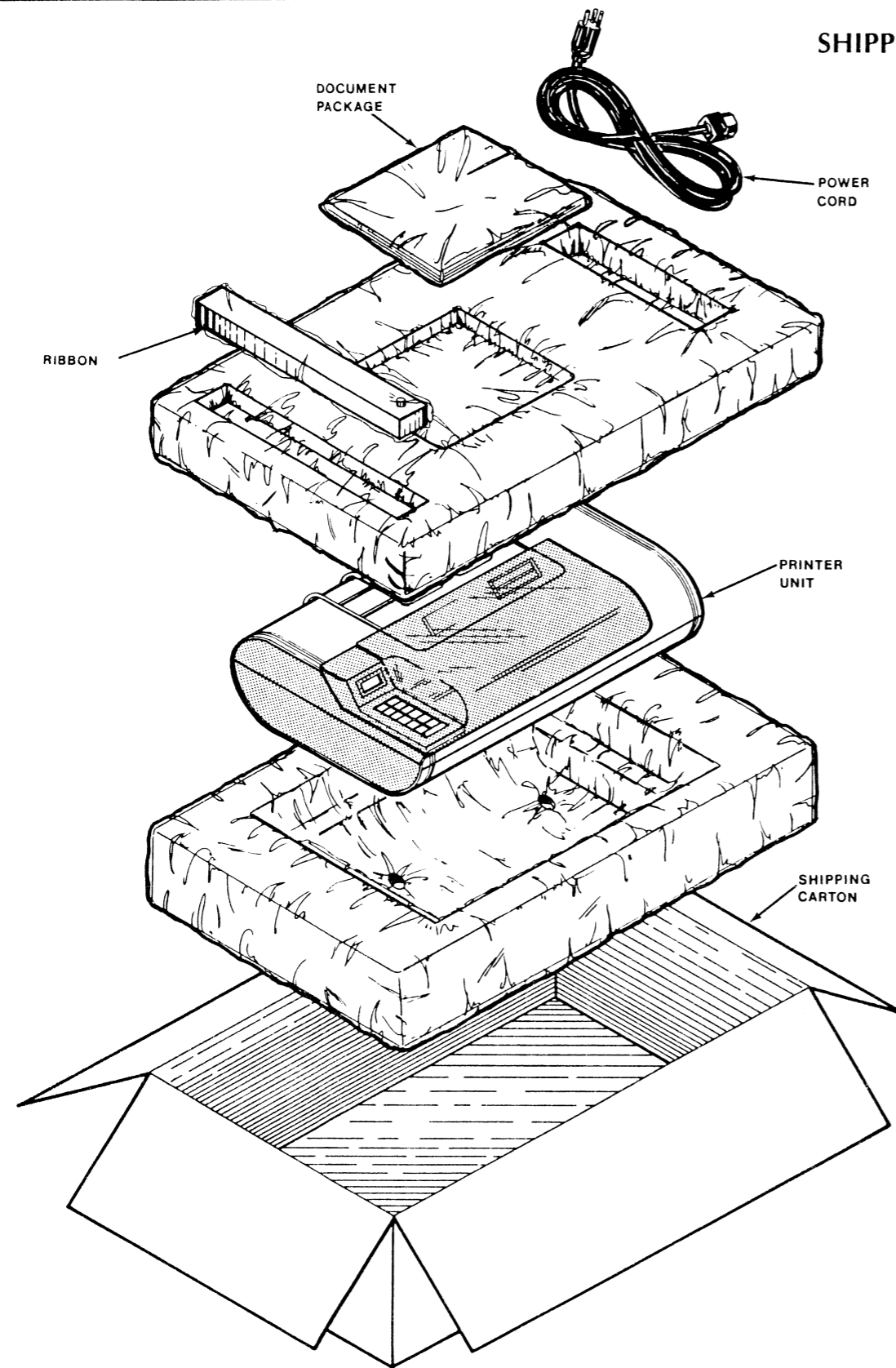
POWER REQUIREMENTS:

[Domestic]	
Voltage	100V + 10-10%
Hz	50/60 ± 1%
Amp per Phase	2.4
Phase	1
Startup Surge per Phase	7.5A peak for 2 cycles
[Export]	
Voltage	120V + 10-15%
Hz	60 ± 1%
Amp per Phase	2
Phase	1
Startup Surge per Phase	12 amps peak for 2 cycles
Voltage	220V/240V + 10-15%
Hz	50 ± 1%
Amp per Phase	1.4 @ 220V 1.0 @ 240V
Phase	1
Startup Surge per Phase	7 amps peak for 2 cycles (220/240V)

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. It has been tested and found to comply 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 when operated in a commercial environment. 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



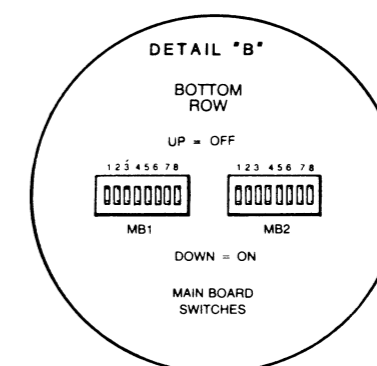
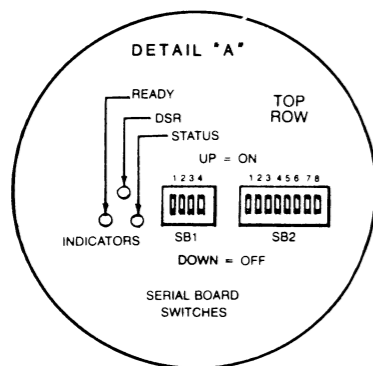
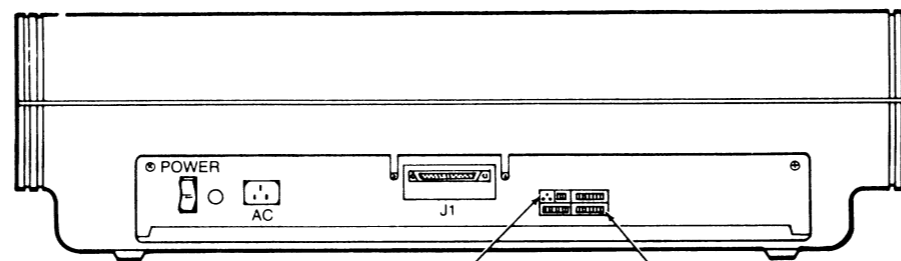
POWER CORD SUFFIX TABLE FOR PERIPHERALS

SUFFIX	VOLTAGE	CYCLES	PART #	COUNTRIES
NONE	120	60	109-249	ANTILLES, CANADA, BOLIVIA, BRAZIL, CHILE, COLOMBIA, COSTA RICA, DOMINICAN REPUBLIC, ECUADOR, GUATEMALA, HAITI, HONDURAS, KOREA, MEXICO, NICARAGUA, PANAMA, PARAGUAY, PERU, PHILIPPINES, TAIWAN, TRINIDAD, VENEZUELA, URUGUAY, U.S.A.
1	120	50	109-249	JAPAN (U.S. POWER CORD)
2	220	50	N/A	POWER CORD NOT SUPPLIED
3	220-380	50	N/A	NOT AVAILABLE FOR T-BOX AND PERIPHERALS
4	240	50	N/A	POWER CORD NOT SUPPLIED
5	240	50	109-813	BELIZE, BERMUDA, B/W INDIES, HONG KONG, IRELAND, MALAYSIA, NIGERIA, SINGAPORE, UAR, UK (ENGLAND, SCOTLAND, N. IRELAND, WALES)
6	240	50	109-809	AUSTRALIA, NEW ZEALAND
7	220	50	109-812	AUSTRIA, BELGIUM, FINLAND, FRANCE, GERMANY, GREECE, ICELAND, INDONESIA, IRAN, LUXEMBOURG, NETHERLANDS, NORWAY, PORTUGAL, SPAIN, SWEDEN
8	220	50	109-811	ITALY
9	220	50	109-815	DENMARK, GREENLAND
0	220	50	109-810	SWITZERLAND

NOTE: SUFFIX NONE & 1 HAVE POWER CORD INCLUDED IN BOX.
SUFFIXES 5, 6, 7, 8, 9 & 0 ARE SHIPPED SEPARATELY.

PRINTER CONFIGURATION TAILORING

INTERFACE SWITCHES (REAR OF PRINTER)



SEE DETAIL "A"

SEE DETAIL "B"

SB1-1/2 FAULT MODE SELECT¹

SWITCH SETTING		ERROR HANDLING PROCEDURE
SB1-1	SB1-2	
ON	ON	Ignore faults, drop bad character
ON	OFF	Substitute space for bad character
OFF	ON	Substitute ? for bad character
OFF	OFF	Treat all communication errors as fatal

NOTE: SWITCH IN OPEN POSITION is OFF. ON denotes CLOSED POSITION.

SB2-5/6 PARITY SELECT¹

SWITCH SETTING		PARITY TYPE
SB2-5	SB2-6	
OFF	OFF	Even
OFF	ON	Mark
ON	OFF	Odd
ON	ON	None

SB2-7 BIT CODE FORMAT¹

SWITCH SETTING	SELECTS
ON	8-Bit Code Format
OFF	7-Bit Code Format

SB1-3, SB1-4, SB2-8 SERIAL COMMUNICATION CONFIGURATION¹

COMMUNICATION TYPE	SWITCH SETTINGS		
	SB1-3	SB1-4	SB2-8
Hardware busy	OFF	OFF	OFF
Software busy without modem	ON	ON	OFF
Software busy with normal modem operation only	ON	OFF	OFF
Software busy with normal modem operation plus calls disconnect if printer goes off-line for 30 seconds or receives no data for 30 seconds (wrong number terminate)	ON	OFF	ON

SB2 — 1, 2, 3, 4 BAUD RATE SELECT¹

SWITCH				SELECTED BAUD RATE
SB2-1	SB2-2	SB2-3	SB2-4	
OFF	OFF	OFF	OFF	19,200
OFF	OFF	ON	ON	9,600
OFF	OFF	ON	OFF	7,200
OFF	OFF	ON	ON	4,800
OFF	ON	OFF	OFF	3,600
OFF	ON	OFF	ON	2,400
OFF	ON	ON	OFF	1,800
OFF	ON	ON	ON	1,200
ON	OFF	OFF	OFF	600
ON	OFF	OFF	ON	300
ON	OFF	ON	OFF	150
ON	OFF	ON	ON	135
ON	ON	OFF	OFF	110
ON	ON	OFF	ON	75
ON	ON	ON	OFF	50
ON	ON	ON	ON	Interface Self Test (See note)

NOTE: SELF-TEST CAUSES THE PRINTER TO GENERATE AN 80 CHARACTER ROTATING PATTERN THAT IS PRINTED OUT AS IF IT HAD BEEN RECEIVED AT THE INTERFACE. THE PRINTER MUST BE ON-LINE FOR THIS TEST.

MB1 SWITCHES

SWITCH	SETTING	FUNCTION
MB1-1	OFF TO ON	Forces printer into signature analysis mode
MB1-2	ON OFF	On-Line mode at power-up Off-Line mode at power-up
MB1-3	ON OFF	Power-up line spacing 8 LPI Power-up line spacing 6 LPI
MB1-4	ON OFF	Power-up form length 12 inches Power-up form length 11 inches
MB1-5	ON OFF	Software error trap disabled Software error trap enabled
MB1-6	ON OFF	Print 80 characters per line Print 136 characters per line
MB1-7	ON OFF	Bottom margin 1 inch less than form length Bottom margin equal to form length
MB1-8	ON OFF	8-bit interface communications 7-bit interface communications NOTE: All serial interface printers should have this switch ON

NOTE¹: THESE SWITCHES ARE ON MODEL 6215 ONLY

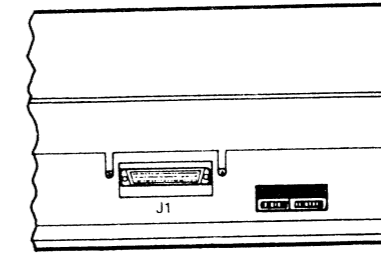
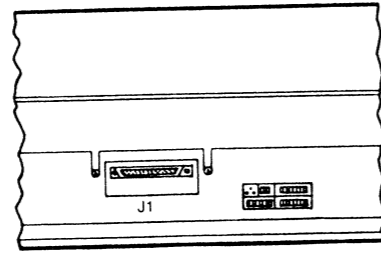
CHARACTER SET SELECTION

FONT ²	FONT SWITCHES				FONT SELECTED
	MB2-5	MB2-6	MB2-7	MB2-8	
MAIN					
ALTERNATE	MB2-1	MB2-2	MB2-3	MB2-4	
	ON	ON	ON	ON	U.S. ASCII
	ON	ON	ON	OFF	UK
	ON	ON	OFF	ON	French
	ON	ON	OFF	OFF	German
	ON	OFF	ON	ON	Swedish Finnish
	ON	OFF	ON	OFF	Spanish
	ON	OFF	OFF	ON	Danish Norwegian
	OFF	ON	ON	ON	Swiss
	OFF	ON	ON	OFF	Kana ASCII*
	OFF	ON	OFF	ON	Kana Japanese
	OFF	OFF	OFF	OFF	Multilingual

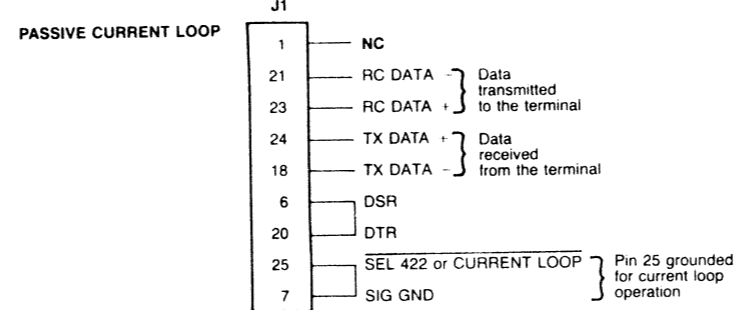
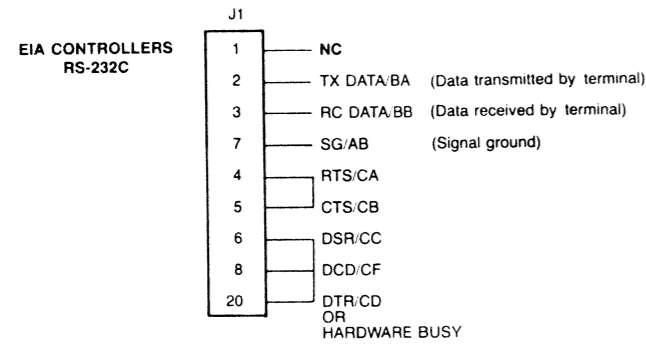
* U.S. ASCII with yen sign instead of backslash

NOTE²: THE MAIN FONT IS USED ON POWER UP. THE ALTERNATE FONT MUST BE SELECTED BY SOFTWARE.

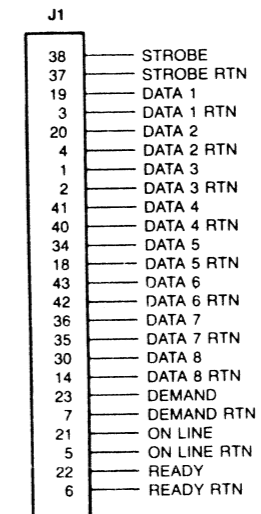
EXTERNAL CABLING



SERIAL CABLES

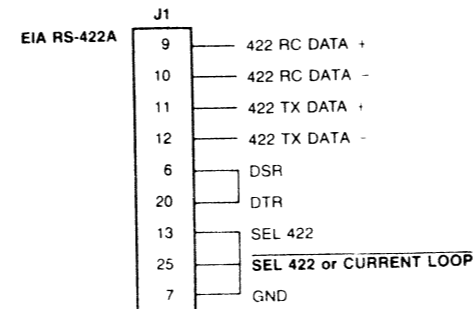
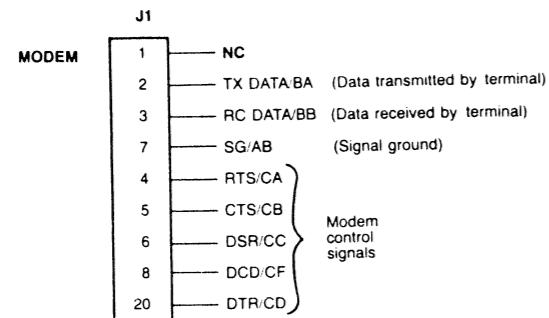


PARALLEL CABLE



NOTE¹: FOR COMPLETE CABLING INFORMATION, REFER TO 010-000695 FOR PARALLEL PRINTER MODEL 6216.

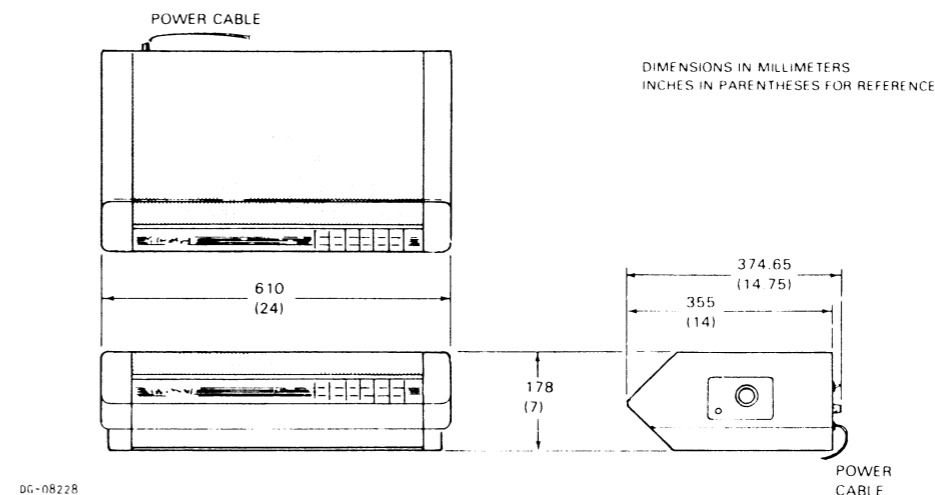
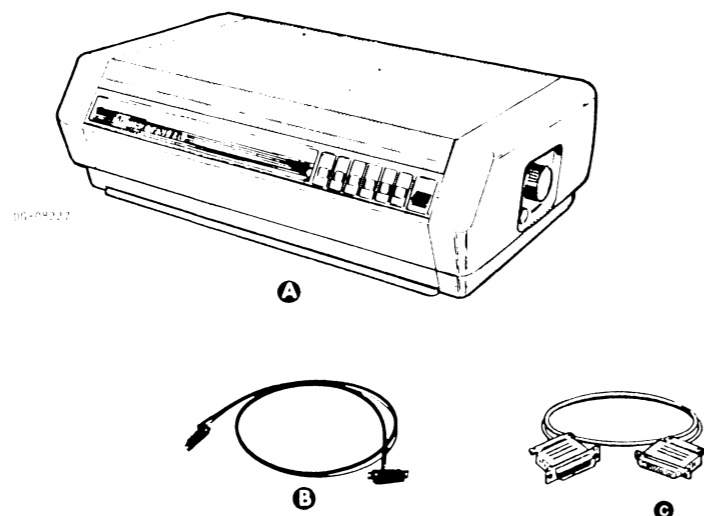
NOTE²: THE PARALLEL CONTROLLER MUST BE JUMPED TO HAVE A NEGATIVELY ASSERTED STROBE SIGNAL. CONSULT THE CONTROLLER IDS FOR MORE INFORMATION.



NOTE: BOTH PINS 25 & 13 ARE GROUNDED FOR 422 OPERATION

NOTE: FOR COMPLETE CABLING INFORMATION, REFER TO 010-000683 FOR SERIAL PRINTER MODEL 6215. 6215 WILL NOT FUNCTION AS A PRIMARY CONSOLE.

INSTALLATION SPECIFICATIONS



MAJOR COMPONENT

ITEM	COMPONENT	MOUNTING LOCATION	NOTES
A	PRINTER	DESK TOP	MODEL 4422

CABLE

ITEM	CABLE	CONNECTING	MAX LG		NOTES
			FT	M	
B	DEVICE CABLE (EIA)	PRINTER AND CPU / COMMUNICATIONS INTERFACE	26	7.6	SEE CABLE TABLE
C	ADAPTOR CABLE (EIA)	PRINTER AND COMMUNICATIONS CABLE	1	3	

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 (max) 10 C 38°C (50°F-100°F)
 Relative Humidity (max) 20% - 80% non condensing

POWER REQUIREMENTS:

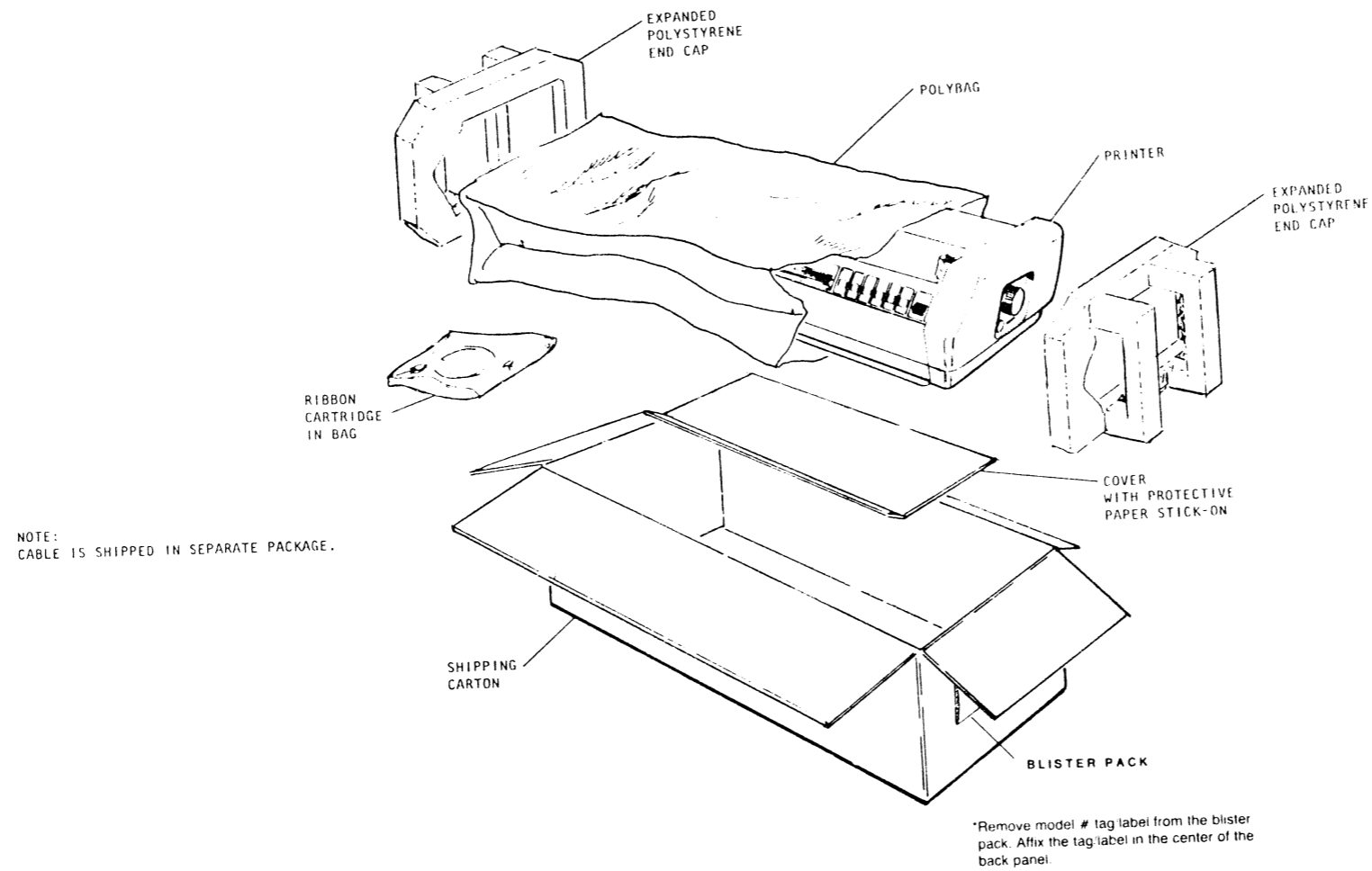
(Domestic)
 Voltage 120V (+10%, -15%)
 Hz 60 +/- 1%
 Amp per Phase 1.8
 Phase 1
 Startup Surge per Phase 13 amps peak for 2 cycles (Export)

(Export)
 Voltage 220/240V (+10%, -15%)
 Hz 50 +/- 1%
 Amp per Phase .9
 Phase 1
 Startup Surge per Phase 13 amps peak for 2 cycles (120V)
 7 amps peak for 2 cycles (220V)
 7 amps peak for 2 cycles (240V)

CABLES:

Primary Power	Length	Conn	Mating Conn
Domestic 60Hz	7½ft(2.25m)	5-15P	5-15R
Export 50Hz		NONE	

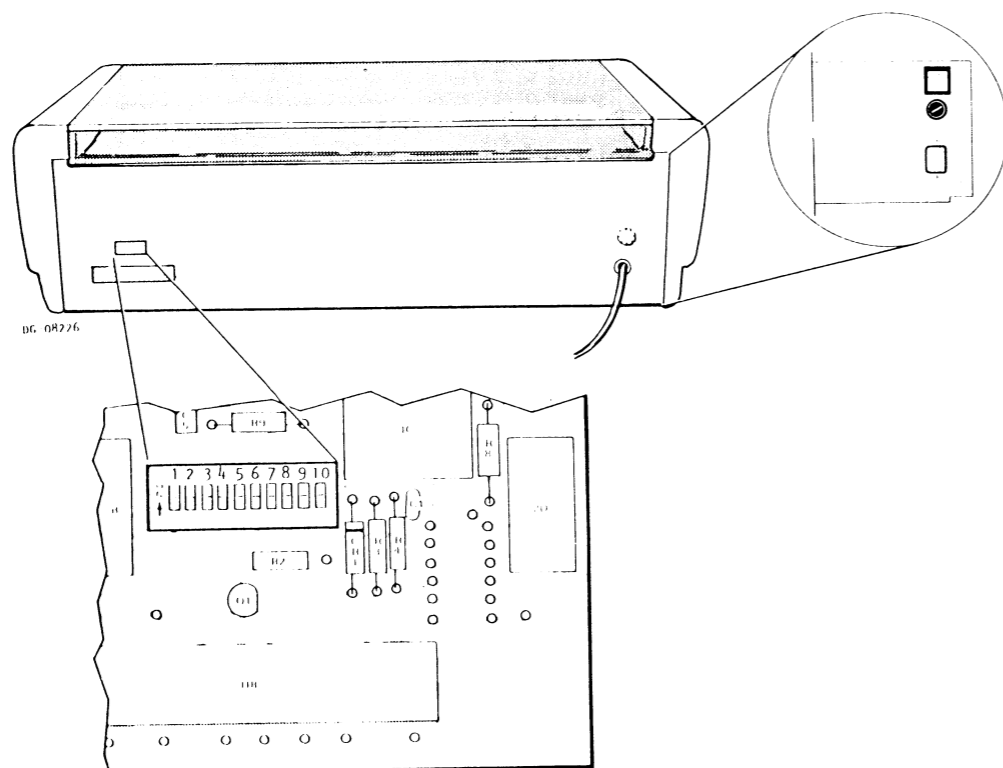
SHIPPING



TAILORING SWITCHES

SERIAL INTERFACE SWITCHES (REAR OF PRINTER)

VDE REAR PANEL
220V/240V UNITS
ONLY



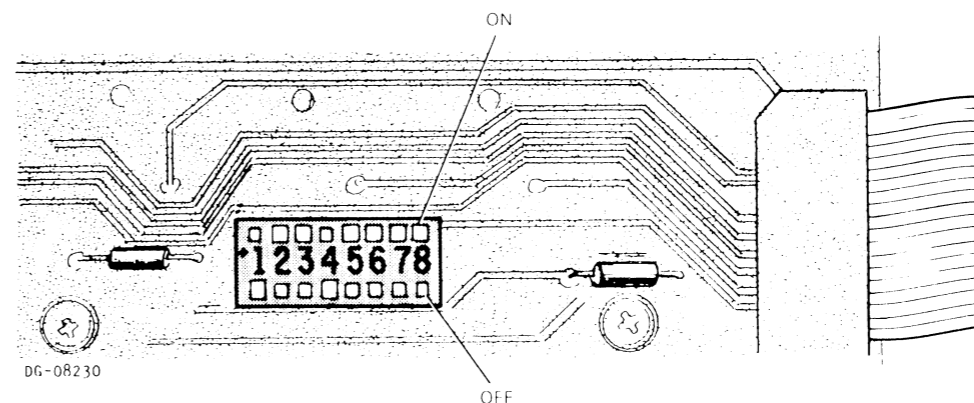
SWITCH NO.	ON POSITION	OFF POSITION
1	9600 BAUD	TURN THE SWITCH FOR THE SELECTED BAUD RATE ON AND THE OTHER BAUD RATE SWITCHES (1-6) OFF
2	4800 BAUD	
3	2400 BAUD	
4	1200 BAUD	
5	300 BAUD	
6	110 BAUD	
7	1 STOP BIT	2 STOP BITS
8	7 DATA BITS	8 DATA BITS
9	PARITY	NO PARITY
10	ODD PARITY	EVEN PARITY

NOTES:

1. SWITCHES ARE ROCKER TYPE. A SWITCH IS ON WHEN ITS TOP HALF IS PUSHED IN. IT IS OFF WHEN THE BOTTOM HALF IS PUSHED IN.
2. SWITCH 10 HAS NO EFFECT IF SWITCH 9 IS OFF.
3. DEFAULT SWITCH SETTINGS MAY NOT BE COMPATIBLE WITH SUPPLIED SOFTWARE. IN SUCH CASES, MODIFY SWITCH SETTINGS AS REQUIRED.

OPERATING PARAMETER SWITCHES

REAR OF CONTROL PANEL
(REMOVE PRINTER COVER TO ACCESS SWITCHES)



OPERATING PARAMETER SWITCH SETTINGS

SW	SETTING	FUNCTION
1	SEE CHARACTER SET TABLE	CHARACTER SET SELECTOR A
2	SEE CHARACTER SET TABLE	CHARACTER SET SELECTOR B
3	ON	DISABLES AUTOMATIC LINE-FEED
	OFF	ENABLES LINE-FEED AFTER CARRIAGE RETURN
4	ON	SERIAL INTERFACE
	OFF	PARALLEL INTERFACE (INVALID SETTING)
5	SEE CHARACTER SET TABLE	CHARACTER SET SELECTOR C
6	ON	SPACE INSERTED AT BOTTOM OF PAGE (1" @ 6 LPI; 3/4" @ 8 LPI)
	OFF	SPACE FEATURE DISABLED
7	ON	COMPRESSED PRINT
	OFF	NORMAL PRINT
8	---	NOT USED

CHARACTER SET TABLE

SW1	SW2	SW5	FONT
OFF	OFF	OFF	ASCII - USA
OFF	OFF	ON	SWEDISH
OFF	ON	OFF	DANISH
OFF	ON	ON	GERMAN
ON	OFF	OFF	BRITISH
ON	ON	OFF	FRENCH
ON	ON	ON	SPANISH
ON	OFF	ON	ITALIAN

EXTERNAL CABLING

CABLE MATRIX - WITHOUT ADAPTER CABLE

PRINTER MODEL NO.	SYSTEM	CABLE
4422-s, -s2, -s4	cs/10	005-018271
4422-F, -F2, -F4	cs/50 cs/70	005-018318
4422-Q, -Q2, -Q4	D/100 D/200	005-018317
4422-XX	MP/100	005-016680

CABLE MATRIX - WITH ADAPTER CABLE

ADAPTER CABLE 005-13249 MUST BE INSTALLED BETWEEN THE PRINTER AND THE EXTERNAL CABLE LISTED TO OPERATE ON THE LISTED CPU'S/CONTROLLERS.

CPU	INTERNAL CABLE	CONTROLLERS	EXTERNAL CABLES
S/250	005-13703	005-5458=ALM 8	005-18249
	OR		005-14694
S/140	005-10710		005-15117*
S/120	005-12765		005-14694
CS/200A	005-13529	005-17346=ULM 5	005-18249
CS/200B	005-13529		005-14694
NOVA/4	005-14115	005-17342=AMI 8	005-14694
MP/100	005-14416	005-14418=4336-S **	005-14694
	005-14416	005-15522=4336-AS**	005-14694
MP/200	005-9654	005-9656 = 4227	005-15117*
CS/100	005-9654	005-14485=4227-S	005-15117*
S/20	005-7506	005-7105 = 4207	005-15117*
	005-7506	005-13951=4207-S	005-15117*

* CLEAR TO SEND JUMPER ON THE CONTROLLER MUST BE REMOVED.
 ** 2 STOP BIT CONFIGURATION ONLY.

TO ASSOCIATED
HOST CPU/
TERMINAL

EIA ASYNCHRONOUS CABLE
(W/O ADAPTER)

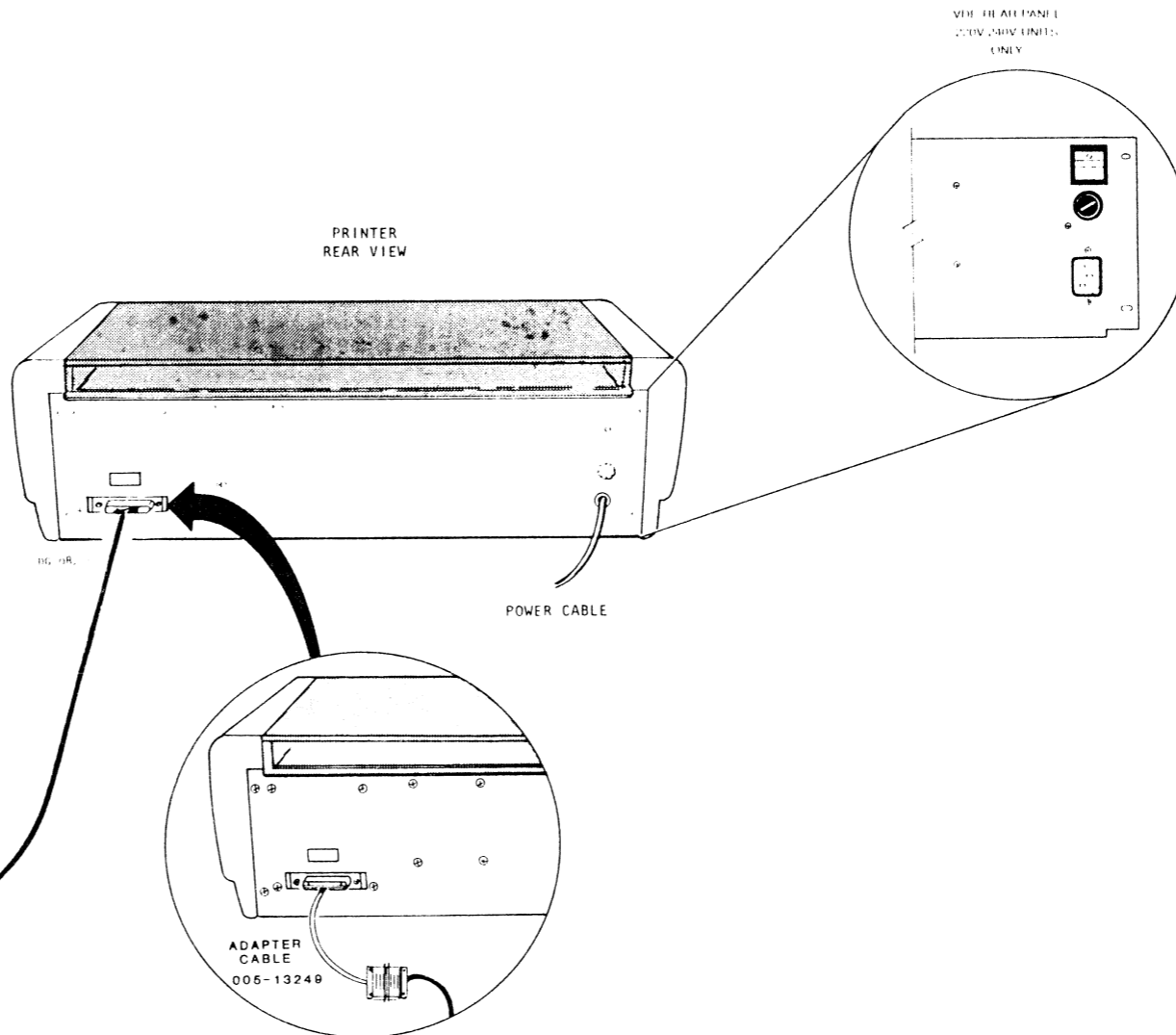


TABLE B - WITH ADAPTER CABLE

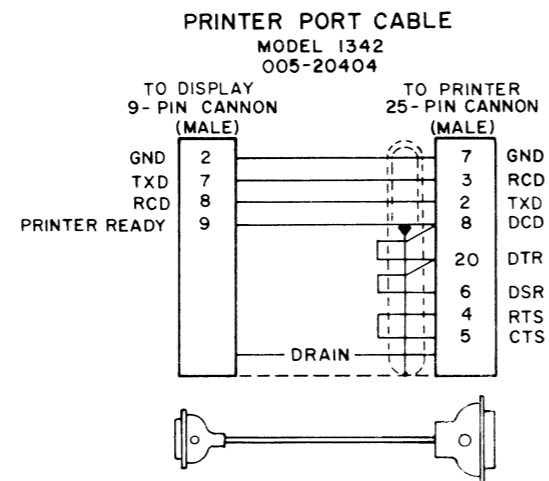
ADAPTER CABLE 005-13259 MUST BE INSTALLED BETWEEN THE PRINTER AND THE EXTERNAL CABLE LISTED TO OPERATE ON THE LISTED CPU'S CONTROLLERS.

CPU	INTERNAL CABLE	CONTROLLER	EXTERNAL CABLE	CABLE SUFFIX
S/250 S/140	005-13703 OR 005-10710	005-5458=ALM 8	005-13258	C
S/120 CS/200A	005-12765	005-17346=ULM 5	005-13258*+005-13270	B
CS/200B NOVA/4	005-13529		005-13258	C
	005-14115	005-17342=AMI 8	005-13258	C
MP/100	005-14416	005-14418=4336-S**	005-13258	C
MP/200	005-14416	005-15522=4336-AS**	005-13258	C
CS/100	005-9654	005-9656=4227	005-13258*+005-13270	B
S/20	005-9654	005-14485=4224-S	005-13258*+005-13270	B
	005-7506	005-7105=4207	005-13258*+005-13270	B
	005-7506	005-13951=4207-S	005-13258*+005-13270	B
---	---	---	005-20404 ***	---

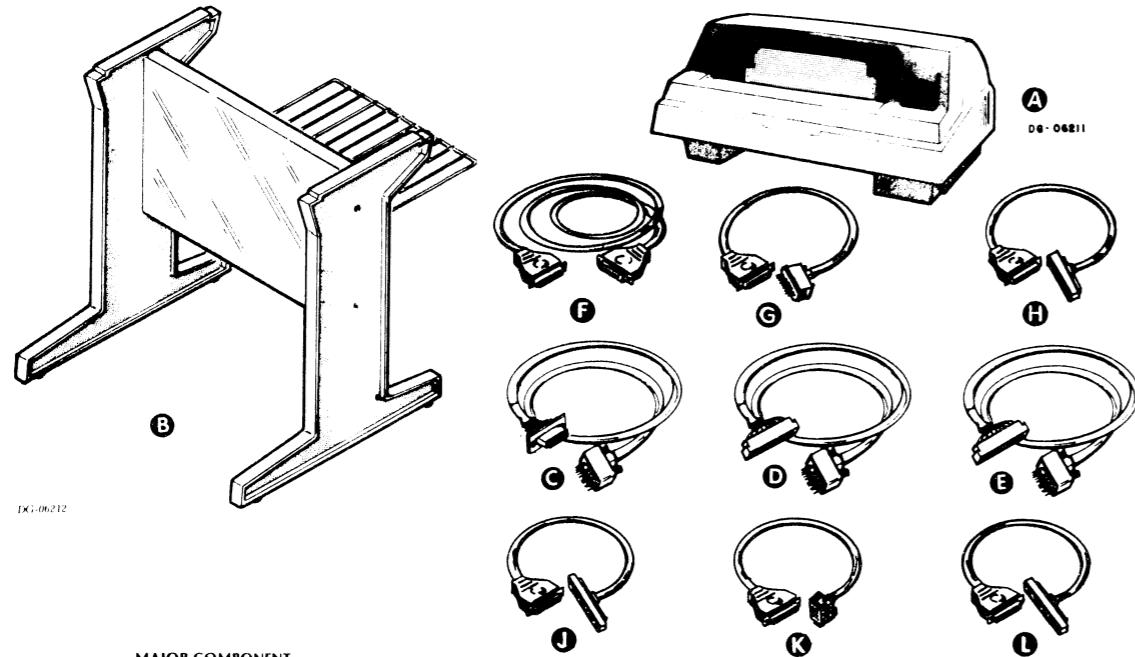
* CLEAR-TO-SEND JUMPER ON THE CONTROLLER MUST BE REMOVED
 ** 2 STOP BIT CONFIGURATION ONLY
 ***SEE MODEL NUMBER TABLE FOR CABLE INFORMATION

PRINTER PORT MODEL NO. TABLE

MODEL NO.	LENGTH	ASSEMBLY
1342R	2 FT	005-20403
1342	5 FT	005-20404
1342T	15 FT	005-20405
1342U	25 FT	005-20406
1342A	50 FT	005-20407



INSTALLATION SPECIFICATIONS



MAJOR COMPONENT

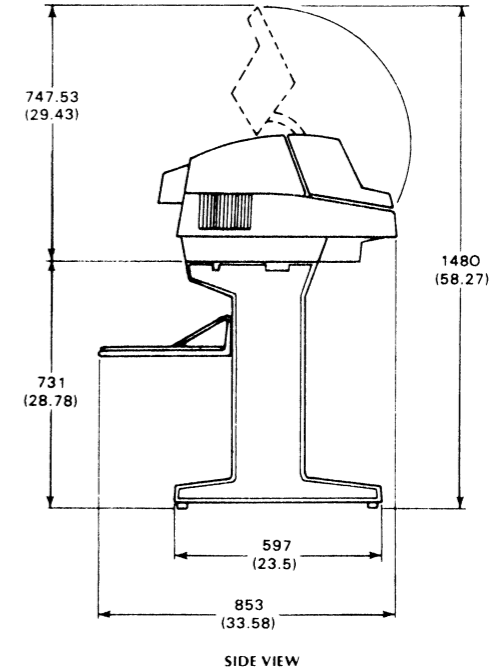
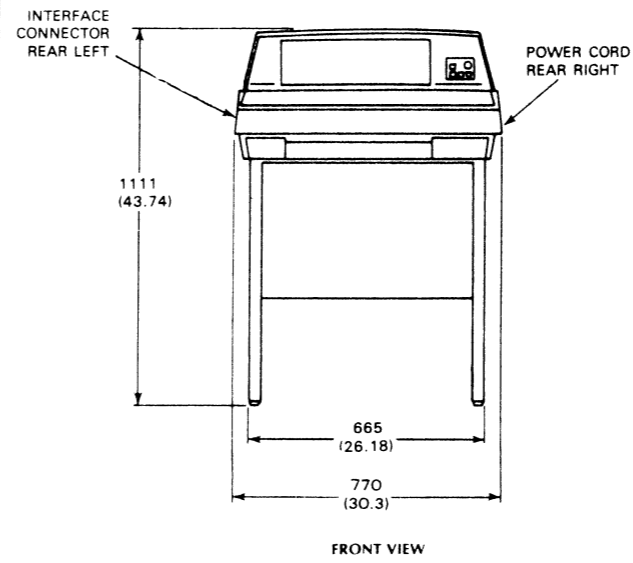
ITEM	COMPONENT	MOUNTING LOCATION	NOTES
A	4323 BAND PRINTER	ON PEDESTAL	300 LPM, 64 CHARACTER SET
	4324 BAND PRINTER	ON PEDESTAL	230 LPM, 96 CHARACTER SET
B	PEDESTAL & PAPER TRAY	FREE STANDING	

CABLES

ITEM	CABLE	CONNECTING	MAX LG		NOTES
			FT	M	
C	EXTERNAL DEVICE	BACK PANEL SOCKET CONNECTOR AND PRINTER	49	15	NOVA, SUPN. 800, 830 840, 1200
D	EXTERNAL DEVICE	BACK PANEL EDGE CONNECTOR AND PRINTER	49	15	820, 1210, 1220, 2/ALL 4/ALL, ECLIPSE/ALL
E	EXTERNAL DEVICE	CONTROLLER EDGE CONNECTOR AND PRINTER	49	15	MICRONOVA, MICROPRODUCTS
F	EXTERNAL DEVICE	COMPUTER AND ADP. CBL.	30	9.18	MV/4000
G	EXTERNAL DEVICE	ADP. CBL. AND PRINTER	1.5	0.45	MV/4000
H	EXTERNAL DEVICE	ADP. CBL. HOST END	1.5	0.45	PIO
J	EXTERNAL DEVICE	ADP. CBL. HOST END	1.5	0.45	DCH
K	EXTERNAL DEVICE	ADP. CBL. HOST END	1.5	0.45	PIO
L	EXTERNAL DEVICE	ADP. CBL. HOST END	1.5	0.45	PIO

FOR CONTROLLER AND INTERNAL CABLES SEE 010000199 OR 010000126.

DIMENSIONS IN MILLIMETERS
INCHES IN PARENTHESES FOR REFERENCE



DIMENSIONS:

	Width	Depth	Height
Millimeters	770	853	1111
Inches	30.3	33.6	43.7

SERVICE CLEARANCES:

	Front	Top	Rear
Millimeters	609.6	370	609.6
Inches	24	14.53	24

WEIGHT:

		Shipping
Kilograms	63	80
Pounds	140	180

HEAT OUTPUT:

	Domestic	Export
Standby	200W 662BTU/hr	250W 853BTU/hr
Printing	300W 1024BTU/hr	350W 1194BTU/hr

OPERATING ENVIRONMENT:
Temperature 10°-38°C (50°-100°F)
Humidity, non-condensing 20-80%

POWER REQUIREMENTS:

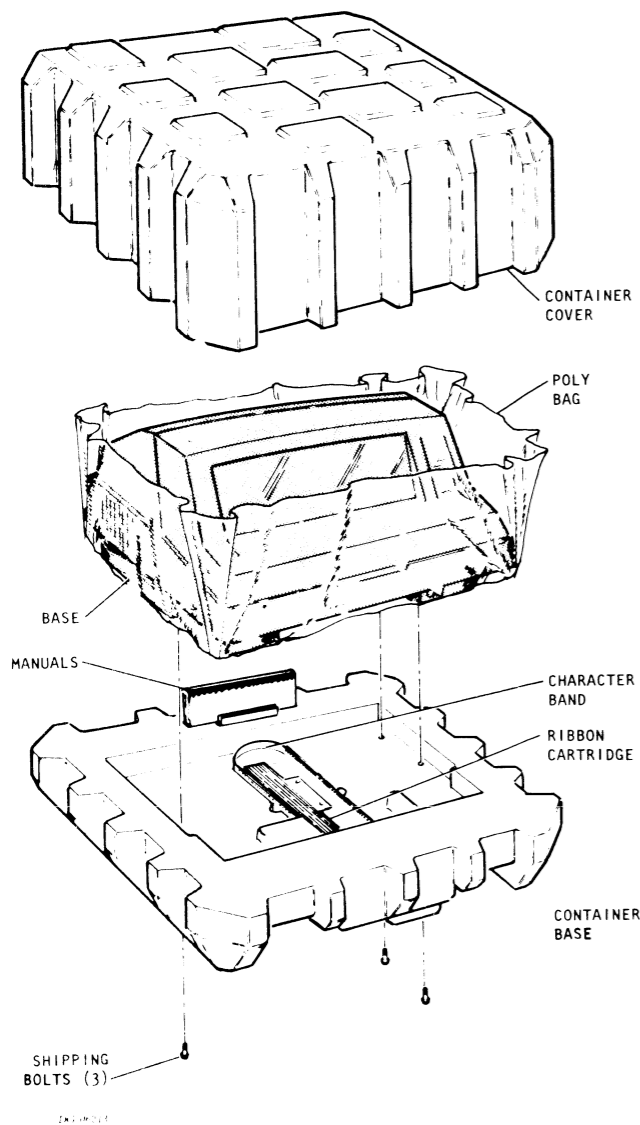
(Domestic)
Voltage 120V + 10% - 15%
Hz 60 ± 1 Hz
Phase single
(Export)
Voltage 100/220/240 + 10% - 15%
Hz 50/60 ± 2 Hz
Phase single

CABLES:

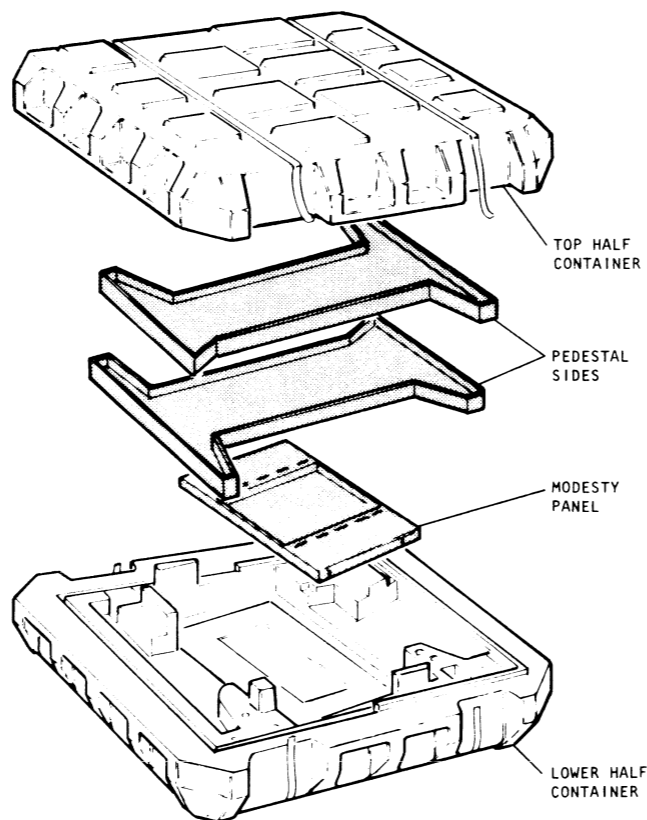
Primary Power	Length	Conn	Mating Conn
Domestic 60Hz	4m(13.1ft)	5-15P	5-15R

SHIPPING

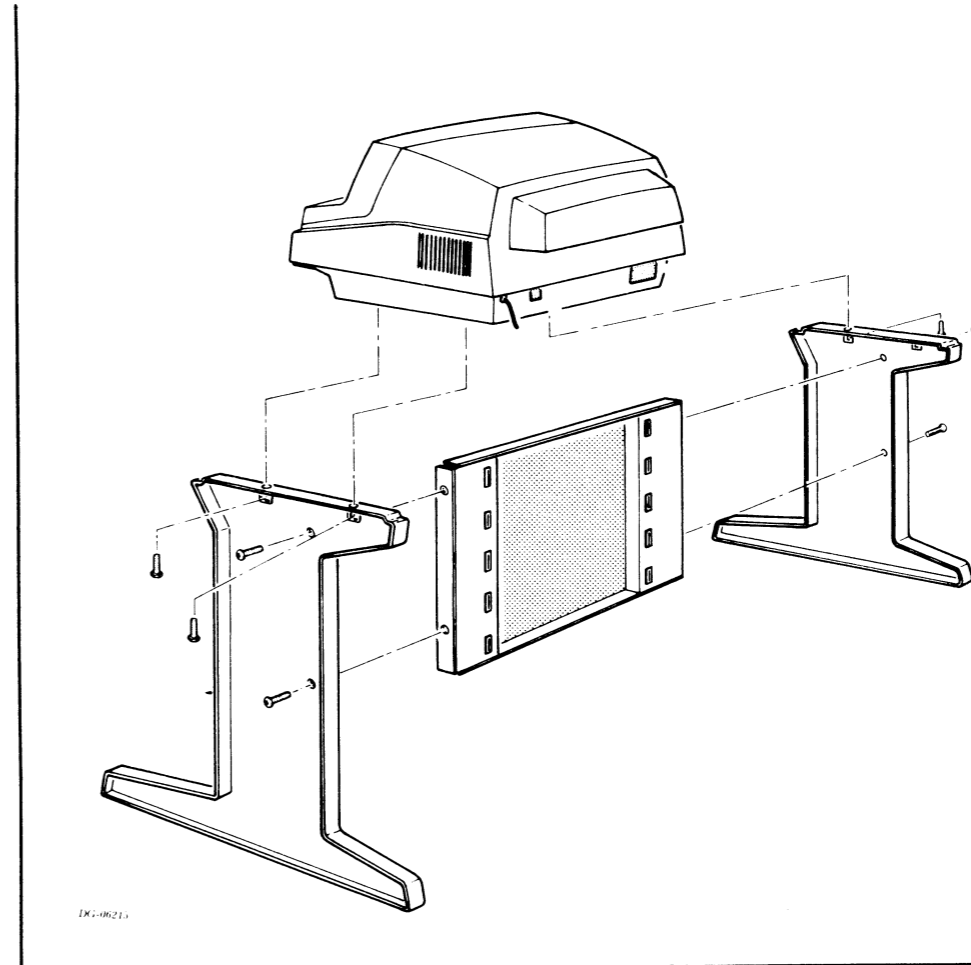
PRINTER



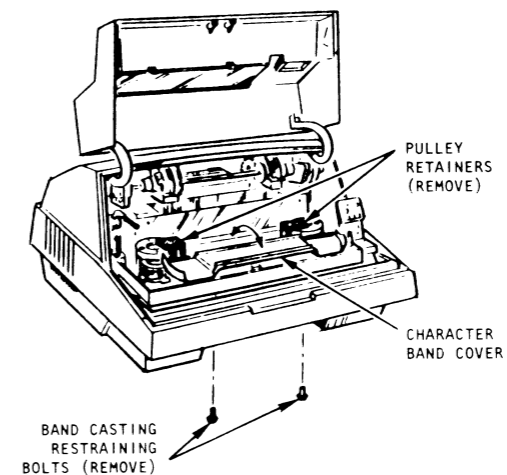
PEDESTAL



ASSEMBLY



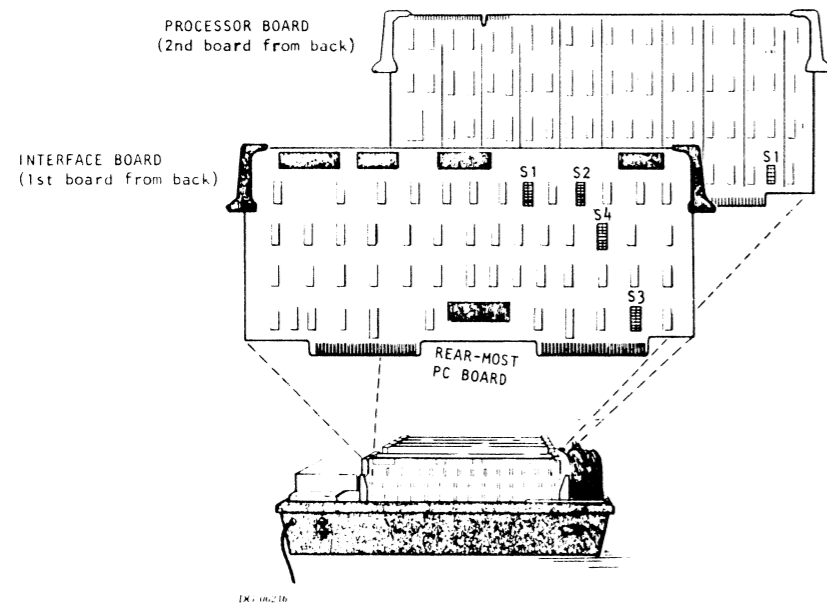
REMOVING SHIPPING RESTRAINTS



TAILORING

FOR INFORMATION ON INSTALLING THE BAND, LOADING PAPER, AND OPERATING THE PRINTER, SEE THE:

MAINTENANCE GUIDE DGC No. 098-000095



NOTE: FOR FOREIGN MODELS ONLY

INPUT VOLTAGE VAC	INPUT FREQUENCY +2 Hz	TRANSFORMER PLUGS*		
		P4	P5	P9
90-132	50 Hz	J4A	J5A	J9A
180-250	50 Hz	J4B	J5A	J9A
90-132	60 Hz	J4A	J5B	J9B
180-250	60 Hz	J4B	J5B	J9B

* P4 CONNECTS TO J4A OR J4B ON THE UNIVERSAL RECTIFIER BOARD. P5 CONNECTS TO J5A OR J5B ON THE UNIVERSAL RECTIFIER BOARD. P9 CONNECTS TO J9A OR J9B ON THE RESONANT CAPACITOR.

PROCESSOR BOARD SWITCH TABLE

S1-1	S1-2	S1-3	S1-4	S1-5	8-300 184 IPS
OFF	OFF	OFF	OFF	OFF	INVALID SETTING RESULTING IN PRINTER NEVER BEING READY.
*ON	OFF	OFF	OFF	OFF	2.0 SEC
OFF	ON	OFF	OFF	OFF	4.1 SEC
OFF	OFF	ON	OFF	OFF	8.1 SEC
OFF	OFF	OFF	ON	OFF	16.3 SEC
OFF	OFF	OFF	OFF	ON	32.6 SEC

* Normal Configuration

INTERFACE BOARD: S1

OFF	1	VFU IN PRINTER
OFF	2	DISABLE PAPER INSTRUCTION
ON	3	DISABLE 8-BIT I/O
ON	4	LOW TRUE BUFFER OR DISABLE BUF CLEAR
OFF	5	LOW TRUE I/O
OFF	6	PARITY CHECK ON 8 DATA BITS
ON	7	PARITY CHECK ON 7 DATA BITS AND P1
OFF	8	ENABLE PARITY

COMPUTER SYSTEM S2

OFF	1	MOTION ON CR
OFF	2	ON ZERO SKIP ON 4-LINE SKIP OFF 3-LINE SKIP OFF 6-LINE SKIP
OFF	3	OFF ZERO SKIP ON 4-LINE SKIP OFF 3-LINE SKIP ON 6-LINE SKIP
OFF	4	DISABLE PRINT TO BOF
ON	5	(CR8 = OFF, CR140 = ON)
OFF	6	11-INCH TOF DISABLE
OFF	7	SPARE
OFF	8	SPARE

S3

OFF	1	ENABLE VFU SKIPOVER
OFF	2	ON 8 BOF ON BOF 2 OFF BOF 12
OFF	3	ON 8 BOF OFF BOF 2 OFF BOF 12
OFF	4	SPARE
OFF	5	TAPE READER FITTED
OFF	6	ON ENABLE VFU READY/CHANNEL 9 STATUS OFF ENABLE REPORT PAPER MOVE ON PAPER MOVE STATUS
OFF	7	REPORT CHANNEL 9 STATUS ON ON TOP OF FORM LINE OFF REPORT CHANNEL 1 STATUS ON TOP OF FORM LINE
OFF	8	ON REPORT CHANNEL 9 STATUS ON PAPER MOVE LINE OFF REPORT VFU READY ON PAPER MOVE LINE

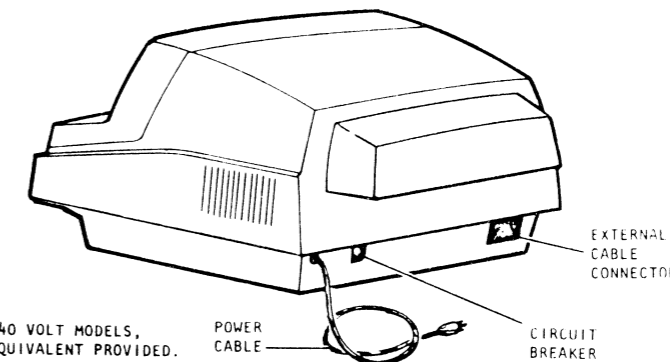
"SPARE" SWITCHES TO BE IN "OFF" POSITION

S4

OFF	1	ON VFU FUNCTION BIT = 7 OFF VFU FUNCTION BIT = 5
OFF	2	ON VFU FUNCTION BIT = NEGATIVE BIT 5 = "0" = LINE COUNT OFF VFU FUNCTION BIT = POSITIVE BIT 5 = "1" = LINE COUNT
OFF	3	ON STEP COUNT TO 63 LINES OFF STEP COUNT TO 15 LINES
OFF	4	ON ENABLE SKIP IF PRINTED (1403 OPTION) OFF DISABLE SKIP IF PRINTED (1403 OPTION)
OFF	5	ON STEP COUNT TRUNCATE ENABLE OFF STEP COUNT TRUNCATE DISABLE
OFF	6	SPARE
OFF	7	SPARE
OFF	8	SPARE

"SPARE" SWITCHES TO BE IN "OFF" POSITION

CABLING



NOTE: ON 220/240 VOLT MODELS, 109-000643 OR EQUIVALENT PROVIDED.

EXTERNAL CABLING

CABLE PART No
(WIRE LIST)

COMPUTER	CONTROLLER		
	PROGRAMMED I/O (005003564/107000090)	DATA CHANNEL/COMM I/O (005008161/107000613) (005008096/107000613)	microNOVA, microPRO- DUCTS PROGRAMMED I/O (005008448/107000696)
NOVA 800, 830, 1200	EXTERNAL CABLE: 005000348 (008000040) INTERNAL CABLE: 005000384 (008000075)	EXTERNAL CABLE: 005007925 (008000988) INTERNAL CABLE: 005000384 (008000075)	---
NOVA 2, 3, 820, 1210, 1220, ECLIPSE S200/C300/ C330/S230/S130/C150	EXTERNAL CABLE: 005000900 (008000200) INTERNAL CABLE: 005001802 (008000426)	EXTERNAL CABLE: 005007874 (008000989) INTERNAL CABLE: 005001902 (008000426)	---
microNOVA, microPRODUCTS	---	---	EXTERNAL CABLE: 005014579 (001002855)
ECLIPSE M/600, C/350, S/250	EXTERNAL CABLE: 005000900 (008000200) INTERNAL CABLE: 005012446 (001002862)	EXTERNAL CABLE: 005007874 (008000989) INTERNAL CABLE: 005012446 (001002862)	---
NOVA 4/X/S/C ECLIPSE S140	EXTERNAL CABLE 005000900 (008000200) INTERNAL CABLE 005012472 (001002862)	EXTERNAL CABLE 005007874 (008000989) INTERNAL CABLE 005012472 (001002862)	---

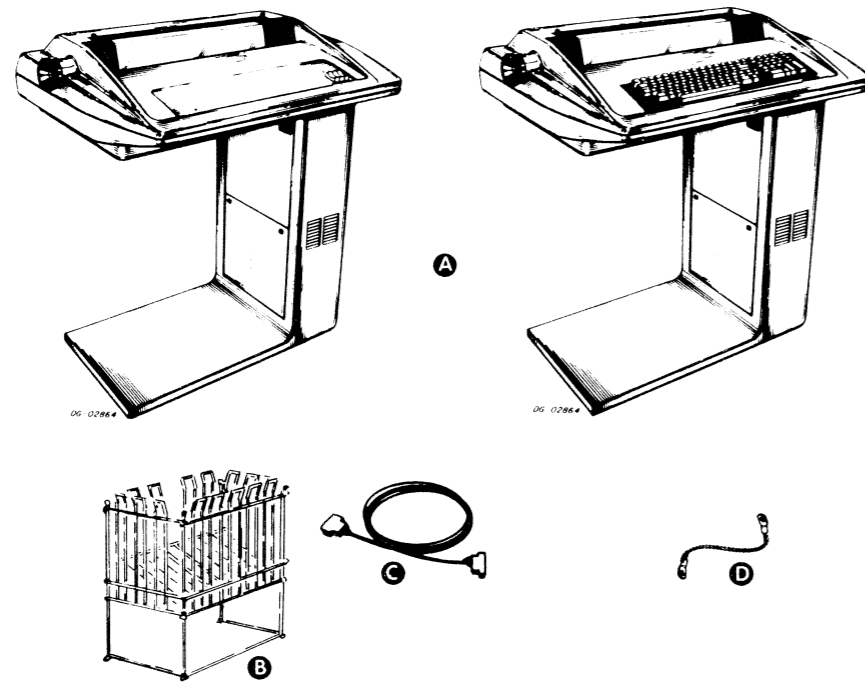
COMPUTER	CONTROLLER	
	PROGRAMMED I/O (005003564/107000090)	DATA CHANNEL/COMM I/O (005008161/107000613) (005008096/107000613)
CS/50, 60, 70	---	EXTERNAL CABLE: 005007874 (008000989) INTERNAL C. (008000426) 005001802.
CS/40	EXTERNAL CABLE: 005009061 (008002087)	---

COMPUTER	CONTROLLER	
	PROGRAMMED I/O (005003564/107000090)	DATA CHANNEL/COMM I/O (005008161/107000613) (005008096/107000613)
CS/20	---	I.T. SYNC I/O (005008815/107000726) EXTERNAL CABLE: 005009061 (008002087)
CS/30	EXTERNAL CABLE: 005009061 (008002087)	---

TABLE A, EMI HARDENED CABLES

COMPUTER SYSTEM	INTERNAL CABLE	HOST END ADAPTER CABLE	EXTERNAL CABLE	PRINTER ADAPTER CABLE
NOVA: 2, 3, 820, 1210, 1220 ECLIPSE: S/200, C/300, C/330, S/230, S/130, C/150	PIO & DCH 005-001802 (008-000426)	PIO 005-013278 (001-002598) (018-000657)		
NOVA/4: X, S, C ECLIPSE: S/140 ECLIPSE: M/600, C/350, S/250	PIO & DCH 005-001247 (001-002862) PIO & DCH 005-012446 (001-002862)	DCH 005-013276 (001-002596) (018-000680)		
MV/4000	DCH 005-013261 (001-002574) (018-000638) PIO 005-013262 (001-002575) (018-000639)	-----	005-013265 (001-002578) (018-000642)	005-013267 (001-002580) (018-000644)
MICRONOVA MICROPRODUCTS	-----	005-13275 (001-002597) (018-000681)		
CS: 40, 50, 60, 70 (NOTE: CS/40 IS CONFIGURED ONLY ON THE SBS MUX.)	-----	DCH 005-013276 (001-002596) (018-000680) SBS MUX 005-013277 (001-003506) (018-000684)		
CS/20	-----	DCH 005-013276 (001-002596) (018-000680)		
CS/30	-----	MN LPT CNTRL 005-013277 (001-003506) (018-000684)		

SUBSYSTEM COMPONENT BREAKDOWN



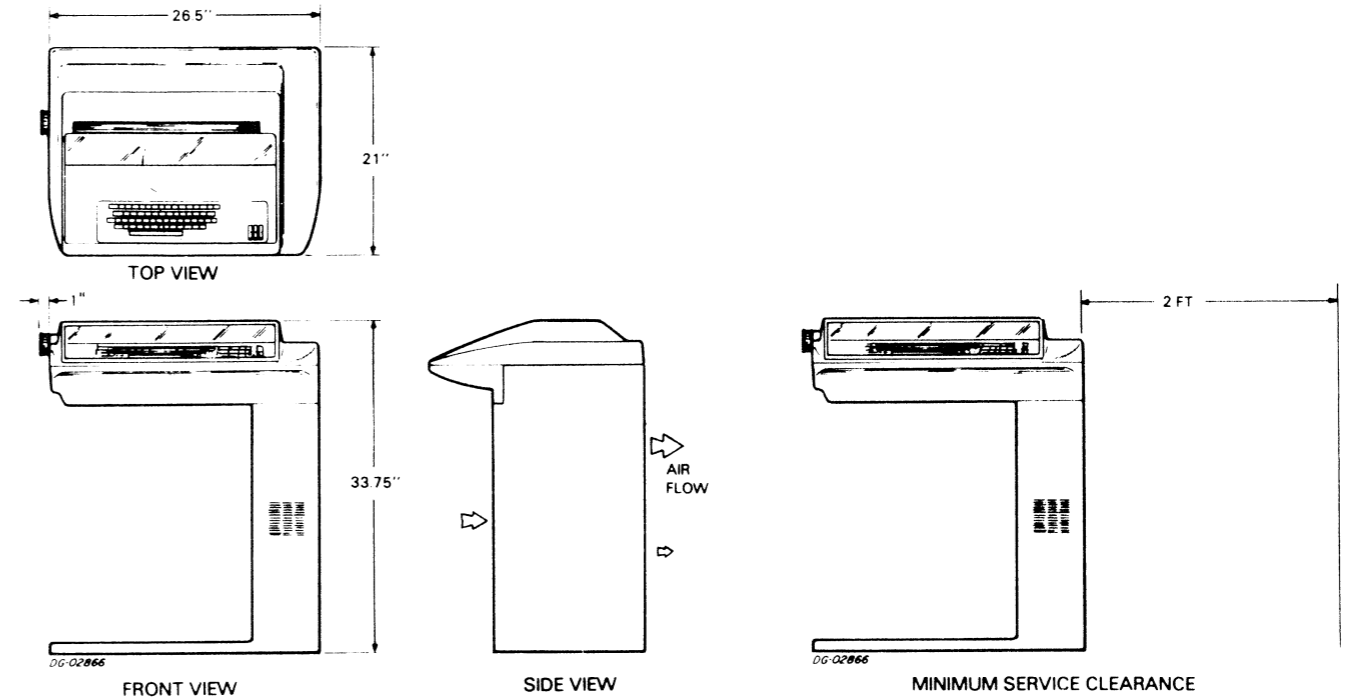
MAJOR COMPONENT			
ITEM	COMPONENT	MOUNTING LOCATION	NOTES
A	180CPS RO SERIAL PRINTER OR 180CPS KSR TERMINAL	FREE STANDING	
		FREE STANDING	
B	FORMS RECEIVER KIT	FREE STANDING	GROUNDED TO PRINTER WITH GROUND CABLE

MODEL 1127A CONSIST OF B AND D.

CABLE					
ITEM	CABLE	CONNECTING	MAX LG		NOTES
			FT	M	
C	DEVICE CABLE (20MA)	20MA INTERFACE CONNECTOR and PRINTER/TERMINAL	1500	457	DEV. CABLE VARIES WITH.
	DEVICE CABLE (EIA)	EIA INTERFACE CONNECTOR and PRINTER/TERMINAL	50	15.2	1) COMPUTER
	DEVICE CABLE (MODEM)	MODEM CONNECTOR CABLE and PRINTER/TERMINAL	50	15.2	2) INTERFACE
D	GROUND CABLE	FORMS RECEIVER and PRINTER/TERMINAL	1	.2	

NOTE: REFER TO 010-000125 FOR INSTALLATION OF B AND D.

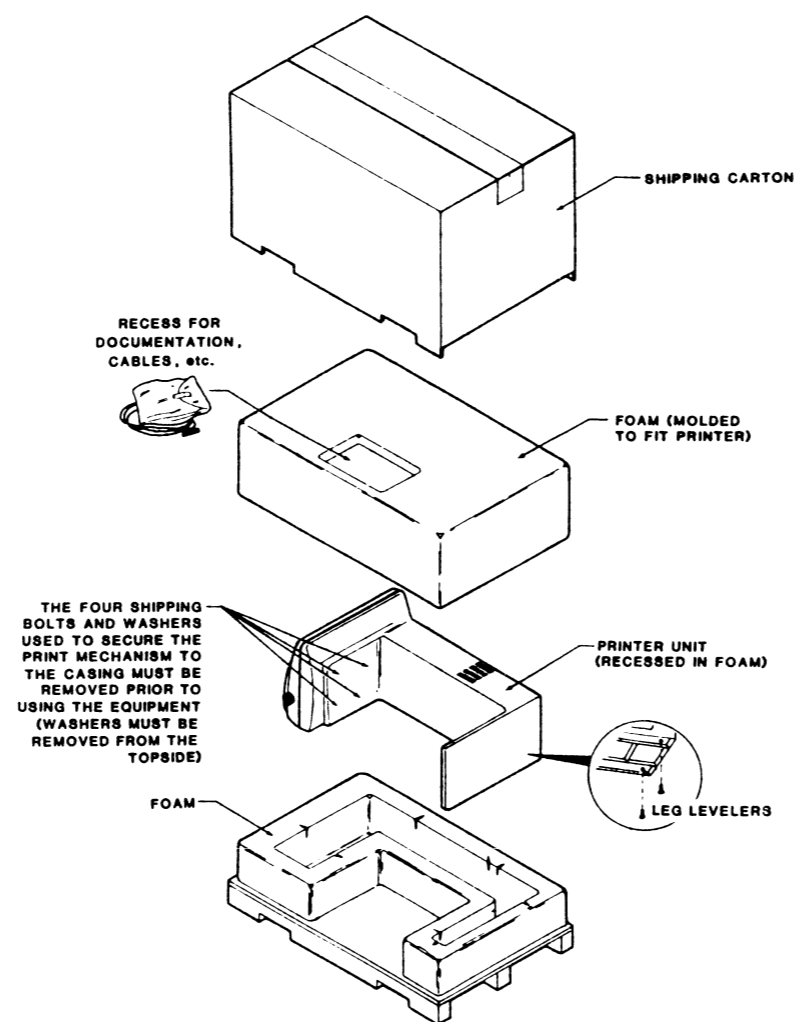
SPECIFICATIONS OF FREE-STANDING COMPONENTS



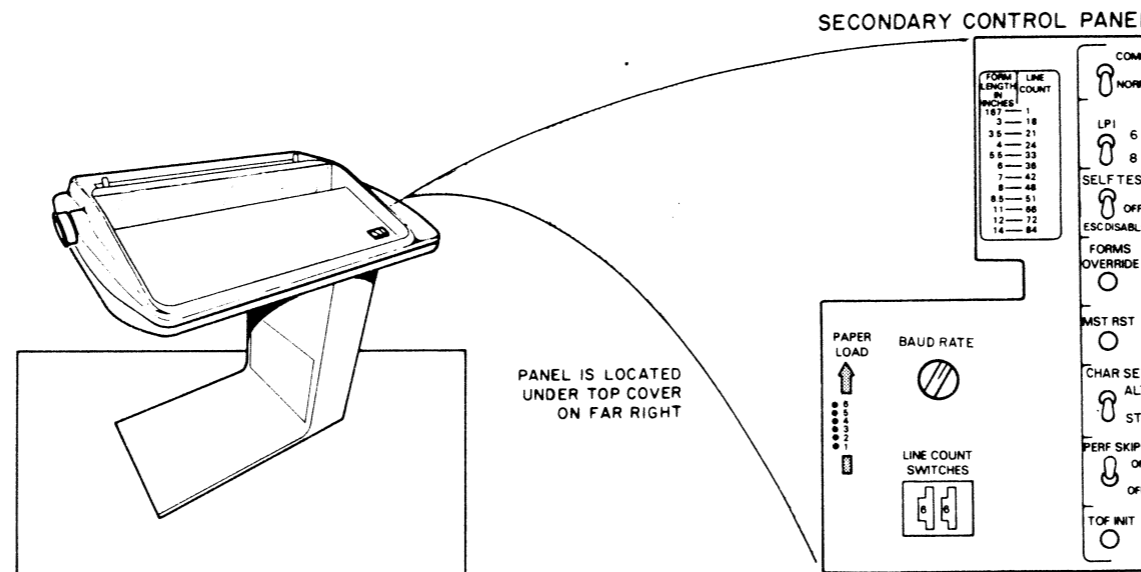
NOTE: REAR OF UNIT MUST BE AT LEAST 6" FROM WALL OR OTHER OBSTRUCTION TO PROVIDE COOLING AIR FLOW

SPECIFICATIONS

DIMENSIONS:	WIDTH	DEPTH	HEIGHT	POWER REQUIREMENTS:
CENTIMETERS	67.31	53.34	85.73	(DOMESTIC)
INCHES	26.50	21.00	33.75	VOLTAGE (47-63Hz)
SERVICE CLEARANCES:	REAR	RIGHT		120
CENTIMETERS	30.48	60.96		Hz
INCHES	12	24		MAX AMP PER PHASE
WEIGHT:				2.5
KILOGRAMS	38.2			PHASE
POUNDS	84			1
HEAT OUTPUT:	300 WATTS (1023BTU/HR)			(EXPORT)
OPERATING ENVIRONMENT:				VOLTAGE (47-63Hz)
TEMPERATURE (MIN)	10 DEGC (50 DEGF)			220/240
TEMPERATURE (MAX)	40 DEGC (104 DEGF)			Hz
RELATIVE HUMIDITY (MAX)	90%			47-63
CABLES:				MAX AMP PER PHASE
PRIMARY POWER		CONN	MATING	1.4/1.3
DOMESTIC	1.8M (6')	5-15P	CONN	PHASE
EXPORT	1.8M (6')	6-15P	5-15R	1
			6-15R	



TAILORING SWITCHES



DG-04678

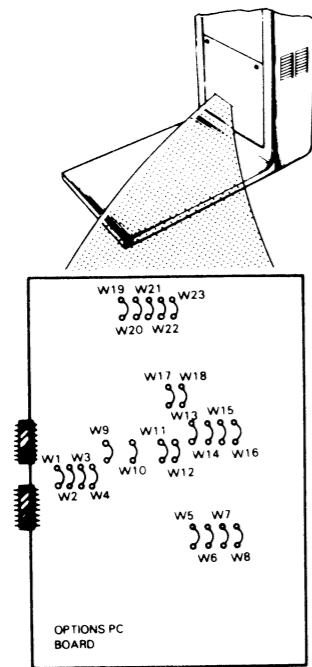
SECONDARY CONTROL PANEL SWITCHES

- 1) *COMP/NORM - SET TO NORMAL OR COMPRESSED WIDTH CHARACTERS.
 - 2) LPI - SET TO 6 OR 8 LINES PER INCH.
 - 3) SELF TEST / ESC DISABLE - SET IN THE MIDDLE POSITION IF THE PRINTER SHOULD RESPOND TO ESCAPE SEQUENCES. SET IN THE ESC DISABLE POSITION IF THE PRINTER SHOULD IGNORE ESCAPE SEQUENCES.
 - 4) *CHAR SET - SET TO STANDARD OR ALTERNATE CHARACTER SET.
 - 5) *PERF SKIP - SET ON OR OFF FOR PERFORATION SKIP OVER.
 - 6) *LINE COUNT - SET LINE COUNT CORRESPONDING TO THE FORM LENGTH.
 $LINE\ COUNT = FORM\ LENGTH\ (INCHES) \times 6\ OR\ 8\ LINES\ PER\ INCH.$
 - 7) *TOF - MOVE THE PAPER TO THE TOP OF FORM AND PRESS TOF TO INITIATE THE LINE COUNTER.
 - 8) BAUD RATE - SET ROTARY SWITCH TO THE DESIRED DATA TRANSFER RATE.
- * IF INSTALLED

TAILORING (cont.)

OPTIONS BOARD JUMPERS

JUMPERING



LOCAL COPY SELECT JUMPERS

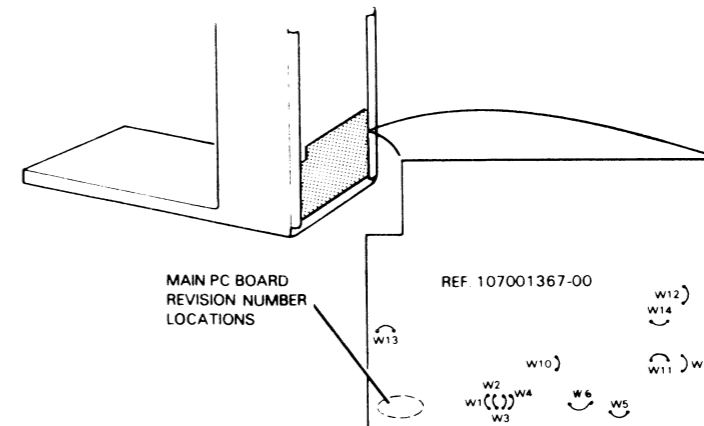
JUMPER	LOCAL COPY ENABLE	LOCAL COPY DISABLE *
W15	IN	OUT
W16	OUT	IN

* NORMAL CONFIGURATION FOR FULL DUPLEX OPERATION

SOFTWARE BUSY SELECT JUMPERS

SELECT PER CUSTOMER CONFIGURATION		
Jumper	Software Busy Enable	Software Busy Disable
W11	OUT	IN
W12	IN	OUT

MAIN CONTROL BOARD JUMPERS



MODEM AUTO-ANSWER/AUTO-DISCONNECT SELECT JUMPERS

JUMPER	DASHER TP2
W5	OUT
W6	IN
W17	IN
W18	OUT
W13	IN
W14	OUT

JUMPER	AUTO-ANSWER AUTO-DISCONNECT DISABLE *	AUTO-ANSWER AUTO-DISCONNECT ENABLE
W8	OUT	IN
W9	IN	OUT

* NORMAL CONFIGURATION

JUMPER	POSITION
W1	IN
W3	IN
W5	OUT
W6	OUT
W7	IN
W8	...
W9	...
W10	IN
W11	OUT
W12	IN
W13	IN
W14	IN

MODEM CONNECTOR CONFIGURATION JUMPERS

SERIAL INTERFACE CONFIGURATION JUMPERS

SELECTS:	JUMPER	POSITION		
PARITY	W19 W23	IN } EVEN OUT }	IN } ODD IN }	OUT } MARK - } PARITY
STOP BITS	W20	IN = 1		OUT = 2
DATA BITS	W21 W22	OUT } 7 DATA IN } BITS	OUT } 8 DATA OUT } BITS	

JUMPER	EIA	20 mA CURRENT LOOP
W1	IN	OUT
W2	OUT	IN
W3	OUT	IN
W4	IN	OUT

HARDWARE BUSY ENABLE JUMPERS

JUMPER	HARDWARE BUSY ENABLE	HARDWARE BUSY DISABLE *
W7	IN	OUT
W10	OUT	IN

* MODEM CONFIGURATION

JUMPER	POSITION	COMMENT
W2	IN	PRINTERS EQUIPPED WITH COMPRESSED PRINT OPTION
	OUT	PRINTERS NOT EQUIPPED WITH COMPRESSED PRINT OPTION
W4	IN	PRINTERS EQUIPPED WITH AN ALTERNATE CHARACTER GENERATOR
	OUT	PRINTERS NOT EQUIPPED WITH AN ALTERNATE CHARACTER GENERATOR

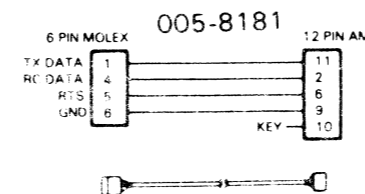
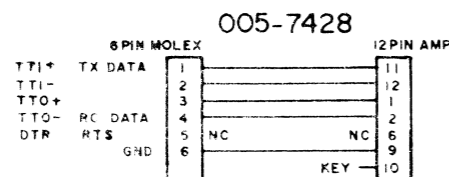
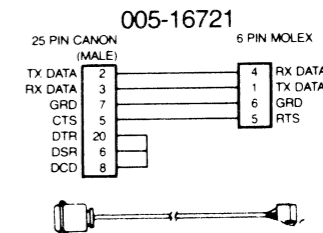
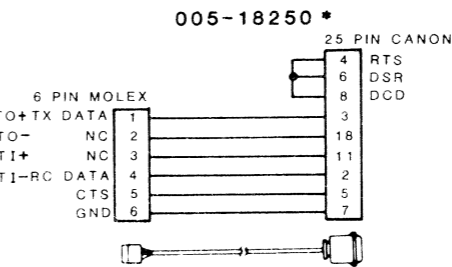
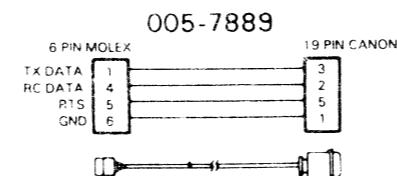
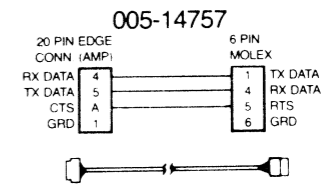
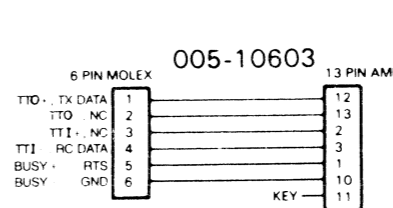
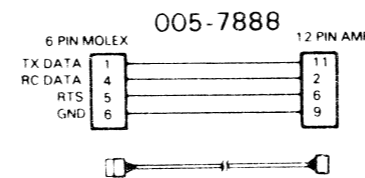
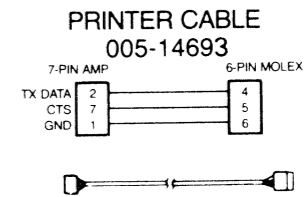
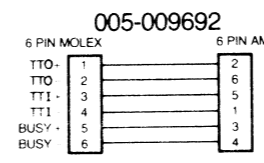
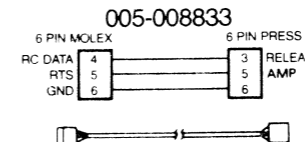
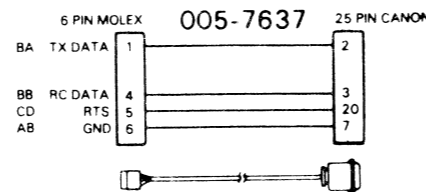
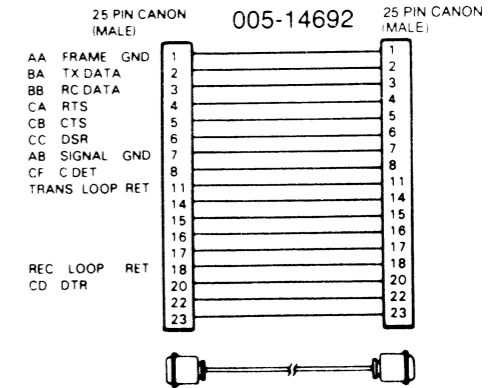
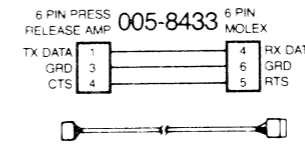
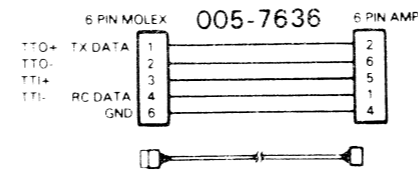
EXTERNAL CABLING

SERIAL INTERFACE CABLES

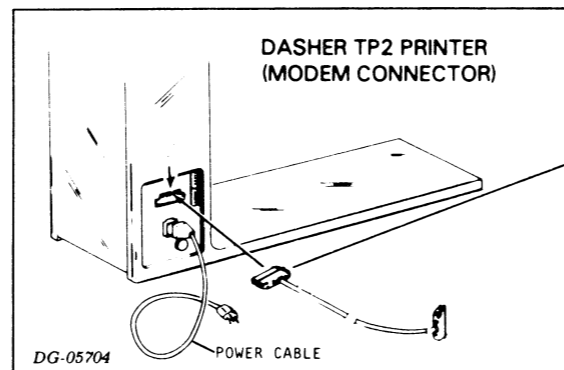
DASHER TP2 PRINTER EXTERNAL CABLING LIST

CABLE CONNECTS				
TP2 CONNECTOR	COMPUTER CONTROLLER	REMARKS	CABLE NUMBER	WIRELIST
EIA CL	ALM-16	BAUD RATES UP TO 4800 BAUD CAN BE RUN IF DC1 AND DC3 ARE USED	005-007636	008-000971
EIA	MODEM	USED WITH SIMPLE MANUAL ANSWER MODEMS	005-007637	008-000973
EIA	NOVA 2, 3, 4, 820, 1210, 1220, ECLIPSE S100, S200, S230, C300, C330, S130, C150, AP130, S140, MICRONOVA	WHEN TP2 PRINTER IS A SECONDARY DEVICE (OR ANY DEVICE ON MICRO NOVA)	005-007888	008-002003
EIA	NOVA 800, 830, 840, 1200	---	005-007889	008-002002
EIA	ALM-8 CS SYSTEMS	TP2 IS A SECONDARY DEVICE ON CS SYSTEMS	005-008181	008-002033
EIA	ALL	D1, 2 R O PRINTER	005-008433	008-002071
EIA	ALL	CS20, D3, R O PRINTER	005-008833	008-002552
C L	CS SYSTEMS	ALLOWS USE OF CURRENT LOOP BUSY SIGNAL CABLE LENGTH DEPENDS ON 005 CABLE #	005-009692 005-009806 thru 005-009810	008-002125
EIA	NOVA 2, 3, 4, 820, 1210, 1220, ECLIPSE S100, S200, S230, C300, C330, S130, S140, C150, AP130	WHEN TP2 PRINTER IS THE PRIMARY CONSOLE	005-010603	008-002507
EIA C L	MV8000, M600, S250, C350, NOVA 4, S140, CS10, C3	---	005-18250 *	018-001115
EIA	MODEM	USED WITH AUTO-ANSWER, AUTO-DISCONNECT MODEMS	005-014692	018-000819
EIA	ALL	D100, 200 R O PRINTER	005-014693	018-000820
EIA	CS10, C1	R O PRINTER	005-014757	018-000886
EIA	MPT 80 83 87	R O PRINTER	005-016721	018-000994
C.L.	ALL	SECONDARY DEVICE, MICRONOVA, MUX, ULM	005-007428	008-000977

* DOWNWARD COMPATIBLE (REPLACES) 005-10707

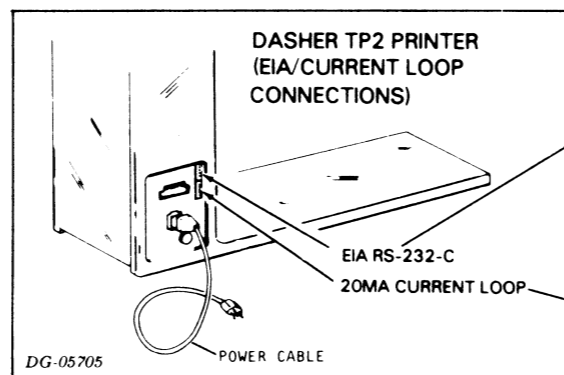


EXTERNAL CABLING (CONTINUED) SERIAL INTERFACE CABLES



25 PIN CANON (MALE)

- 1 AA FRAME GND
- 2 BA TX DATA
- 3 BB RC DATA
- 4 CA RTS
- 5 CB CTS
- 6 CC DSR
- 7 AB SIGNAL GND
- 8 CF C DET
- 11 TRANSMIT LOOP RET
- 18 RECEIVE LOOP RET
- 20 CD DTR



6 PIN MOLEX

- 1 TX DATA
- 2 NC
- 3 NC
- 4 RC DATA
- 5 RTS
- 6 GND

6 PIN MOLEX

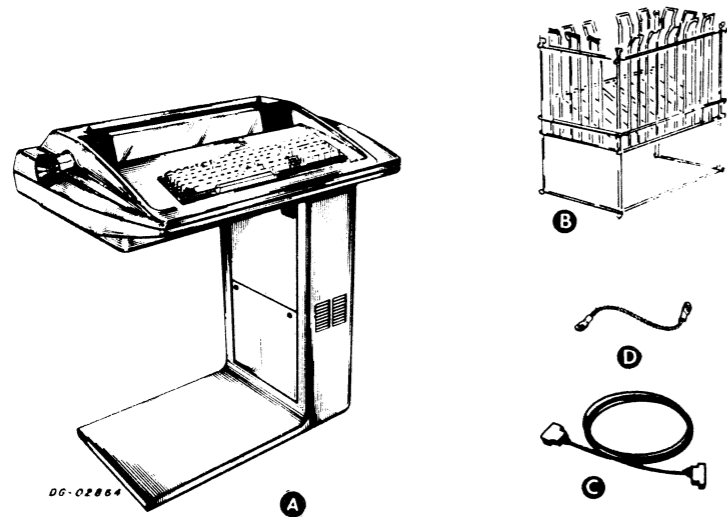
- 1 +C LOOP OUT
- 2 -C LOOP OUT
- 3 +C LOOP IN
- 4 -C LOOP IN
- 5 +C LOOP BUSY
- 6 -C LOOP BUSY

	TERMINAL TRANSMITTING	TERMINAL RECEIVING
MARK SENSE	V max = 40V I max = 40mA	V max = 40V
SPACE SENSE	I = 10 - 60mA	I < 5mA

POWER CABLE

120 VOLTS, 13A	109000238
240 VOLTS, 15A	109000240

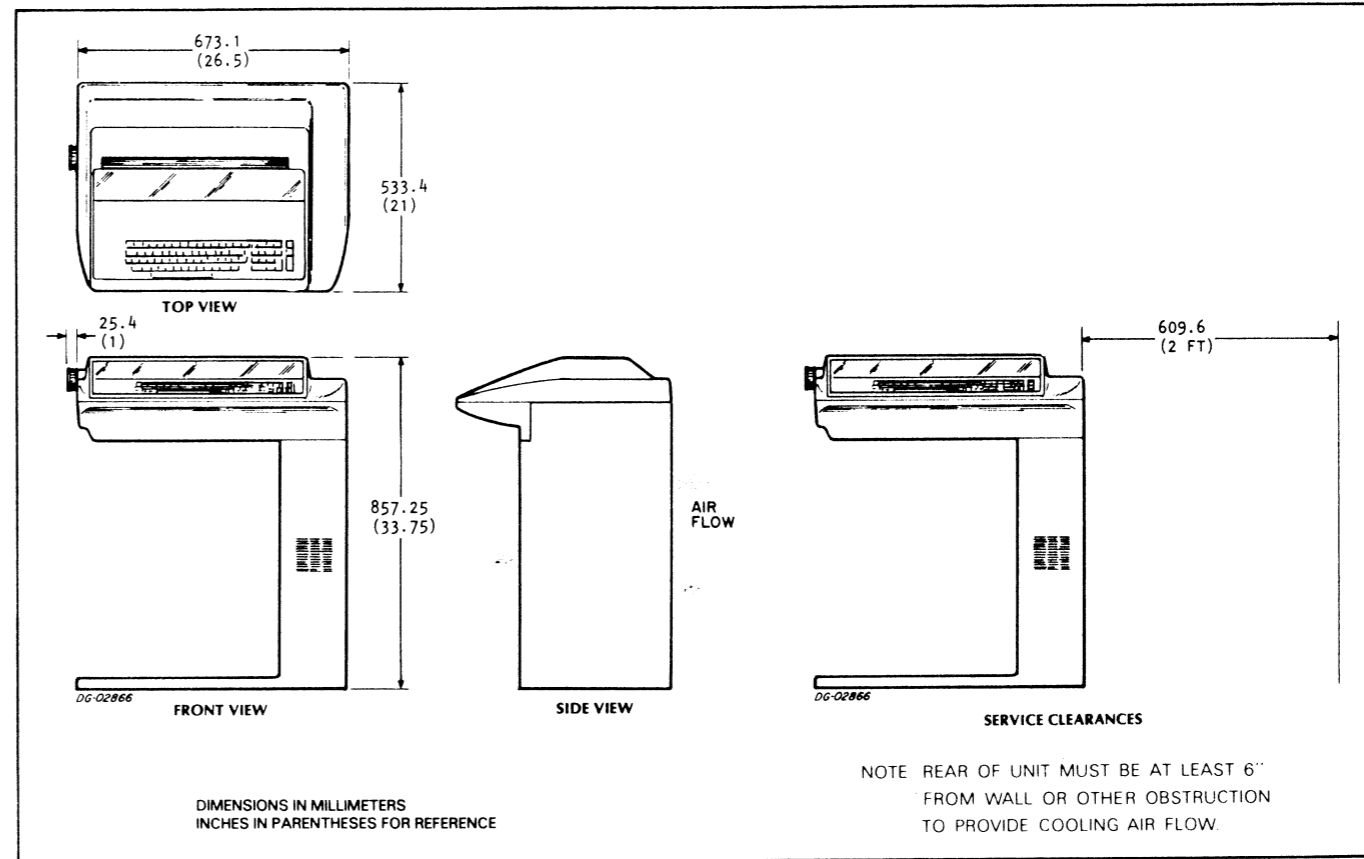
INSTALLATION SPECIFICATIONS



MAJOR COMPONENT			
Component	Mounting Location	Notes	
A	DATA TERMINAL	FREE-STANDING	PLUG-COMPATIBLE WITH 20mA OR EIA INTERFACE
B	FORMS RECEIVER KIT	FREE-STANDING	GROUNDED TO DATA TERMINAL WITH GROUND CABLE

CABLE					
Cable	Connecting	Notes	Max Lgth		
			ft	m	
C	DEVICE CABLE (20mA)	20mA INTERFACE CONNECTOR and MATRIX PRINTER	1500	457	DEV CABLE VARIES WITH: 1) COMPUTER 2) BAUD RATE 3) INTERFACE
	DEVICE CABLE (EIA)	EIA INTERFACE CONNECTOR and MATRIX PRINTER	20	6.1	
D	GROUND CABLE	FORMS RECEIVER and MATRIX PRINTER	1	.2	

NOTE: REFER TO 010-000125 FOR INSTALLATION OF ITEMS B AND D.



DIMENSIONS IN MILLIMETERS
INCHES IN PARENTHESES FOR REFERENCE

NOTE: REAR OF UNIT MUST BE AT LEAST 6" FROM WALL OR OTHER OBSTRUCTION TO PROVIDE COOLING AIR FLOW.

DIMENSIONS:	Width	Depth	Height
Millimeters	673.1	533.4	857.25
Inches	26.50	21.00	33.75

SERVICE CLEARANCES:	Front	Right
Millimeters	609.6	609.6
Inches	24	24

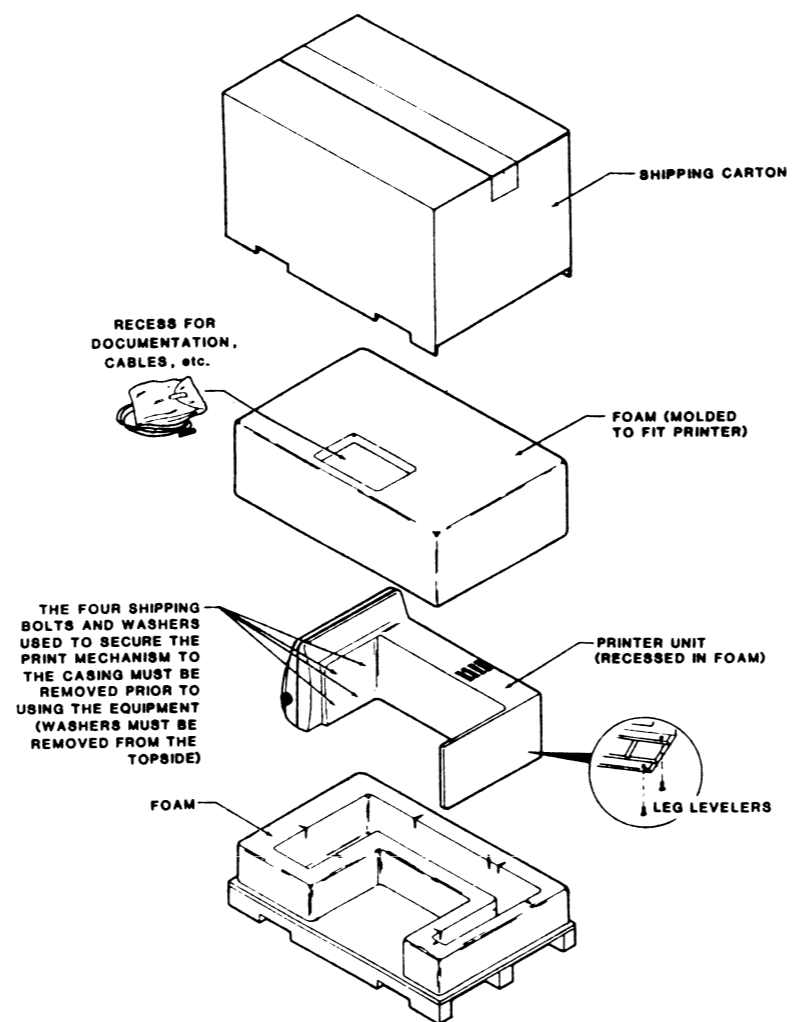
WEIGHT:	
kilograms	27
Pounds	60

HEAT OUTPUT:	
Watts	200
BTU/hr	682

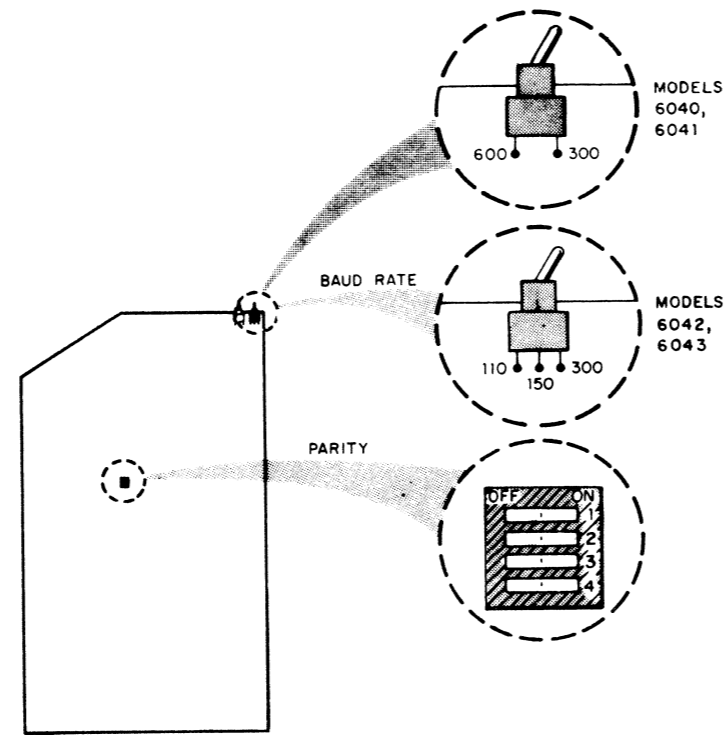
OPERATING ENVIRONMENT:	
Temperature (max)	40°C / 104°F
Relative Humidity	10-90%

POWER REQUIREMENTS:			
(Domestic)			
Voltage	102-132		
Hz	47-63		
Max Amp per Phase	1.7		
(Export)			
Voltage	85-110	187-142	204-264
Hz	47-63	47-63	47-63
Max Amp per Phase	2.0	0.9	0.8

CABLES:			
Primary Power	Length	Conn	Mating Conn
Domestic 60Hz	1.82m(6')	5-15P	5-15R
Export 50Hz	1.82m(6')		



TAILORING SWITCHES



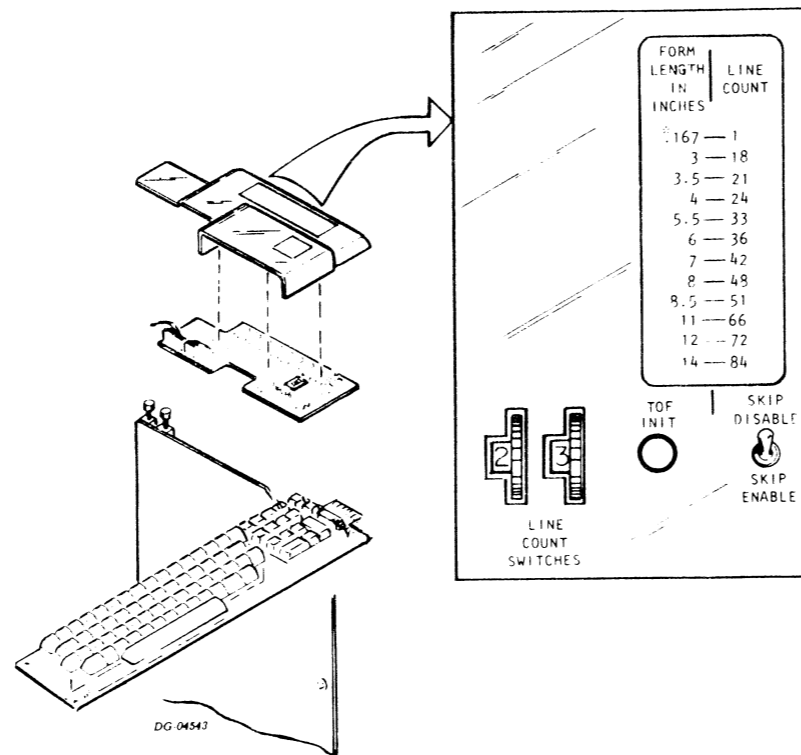
PARITY	SWITCH CONFIGURATION			
	1	2	3	4
EVEN	OFF	ON	RESERVED FOR FUTURE USE.	
ODD	ON	ON	RESERVED FOR FUTURE USE.	
NONE	X	OFF	RESERVED FOR FUTURE USE.	

"X" INDICATES THAT SETTING IS IRRELEVANT.

NOTE: STANDARD SWITCH CONFIGURATION IS FOR EVEN PARITY OPERATION.

DG-02930

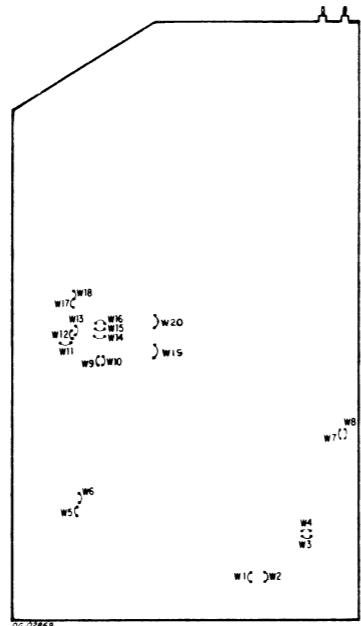
REF. DGC BOARD No. 107 000609 rev.-03
107 000845, rev. 00



SWITCH	OPERATION
LINE COUNT	SET TO LINE COUNT CORRESPONDING TO THE FORM LENGTH
TOF INIT	PUSH DOWN TO INITIATE LINE COUNTERS
SKIP DISABLE	USE TO DISABLE AUTO PERFORATION SKIP FEATURE

DG-04543

JUMPERS



REF. DGC BOARD No. 107 000609 rev.03, 107 000845 rev.00. W19 and W20 are on 107 000609

MODELS 6042, 6043 (110, 150 or 300 BAUD)

INTERFACE	20mA			EIA		
	64	96	124	64	96	124
NUMBER OF PRINTABLE CHARACTERS						
JUMPER POSITIONS *	W1	0	0	0	0	0
	W2	0	0	0	0	0
	W3	1	1	1	0	0
	W4	0	0	0	1	1
	W5	0	0	0	0	0
	W6	1	1	1	1	1
	W7	0	0	0	1	1
	W8	1	1	1	0	0
	W9	0	1	1	0	1
	W10	1	0	0	1	0
	W11	1	1	1	1	1
	W12	0	0	0	0	0
	W13	0	0	0	0	0
	W14	1	1	1	1	1
	W15	0	0	0	0	0
	W16	1	1	1	1	1
	W17	0	0	1	0	1
	W18	1	1	0	1	0
	W19	1	1	1	1	1
	W20	0	0	0	0	0

* 1 INDICATES JUMPER WIRE IN
0 INDICATES JUMPER WIRE OUT

NOTE: STANDARD JUMPER CONFIGURATION IS FOR 96 CHARACTER, 20mA OPERATION.

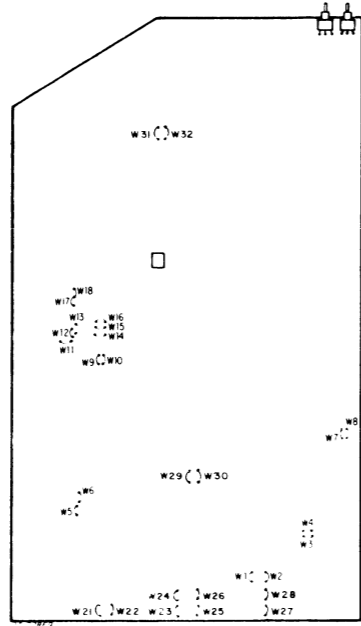
MODELS 6040, 6041 (300 or 600 BAUD)

INTERFACE	20mA			EIA		
	64	96	124	64	96	124
NUMBER OF PRINTABLE CHARACTERS						
JUMPER POSITIONS *	W1	1	1	1	1	1
	W2	0	0	0	0	0
	W3	1	1	1	0	0
	W4	0	0	0	1	1
	W5	1	1	1	1	1
	W6	0	0	0	0	0
	W7	0	0	0	1	1
	W8	1	1	1	0	0
	W9	0	1	1	0	1
	W10	1	0	0	1	0
	W11	0	0	0	0	0
	W12	1	1	1	1	1
	W13	1	1	1	1	1
	W14	0	0	0	0	0
	W15	1	1	1	1	1
	W16	0	0	0	0	0
	W17	0	0	1	0	1
	W18	1	1	0	1	0
	W19	0	0	0	0	0
	W20	1	1	1	1	1

* 1 INDICATES JUMPER WIRE IN
0 INDICATES JUMPER WIRE OUT

NOTE: STANDARD JUMPER CONFIGURATION IS FOR 96 CHARACTER, 20mA OPERATION.

REF. DGC BOARD No. 107 000609 rev.03, 107 000845 rev.00. W19 and W20 are on 107 000609 rev. 03 and 107 000845 rev. 00 only.



REF. DGC BOARD NO. 107-000845 REV.00

JUMPER POSITIONS*	WITHOUT FORM FEED	WITH FORM FEED
W21	1	0
W22	0	1
W23	1	0
W24	0	1
W25	0	1
W26	1	0
W27	0	1
W28	1	0
W29	1	0
W30	0	1
W31	0	1
W32	1	0

*1 INDICATES JUMPER WIRE IN
0 INDICATES JUMPER WIRE OUT

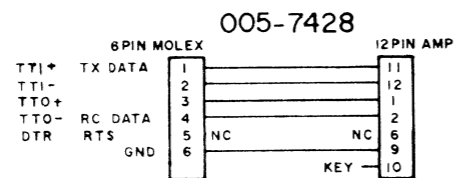
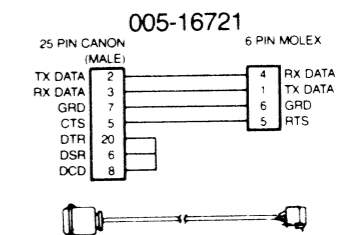
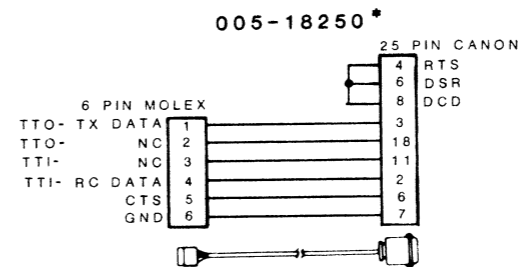
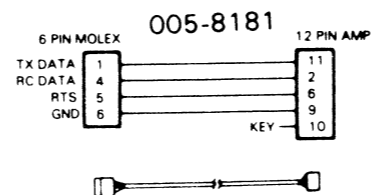
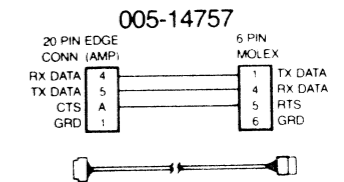
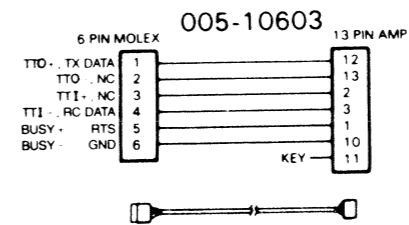
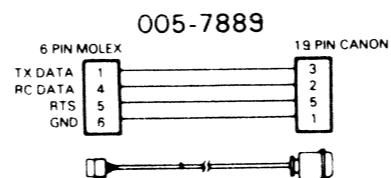
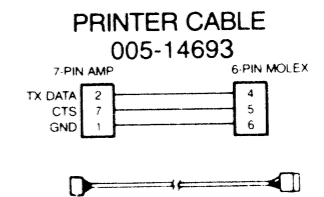
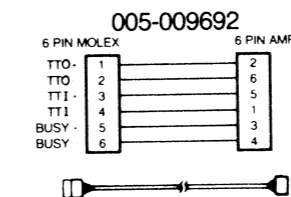
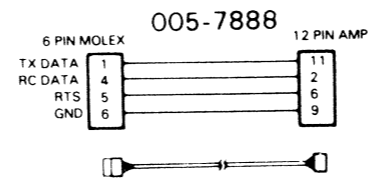
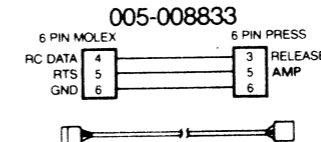
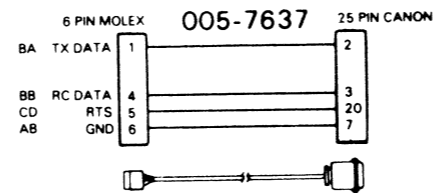
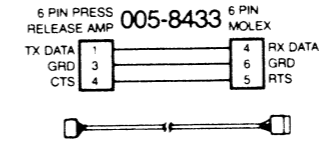
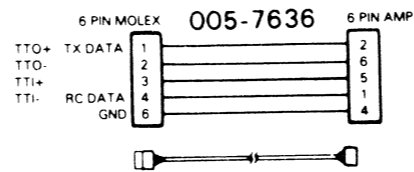
EXTERNAL CABLING

SERIAL INTERFACE CABLES

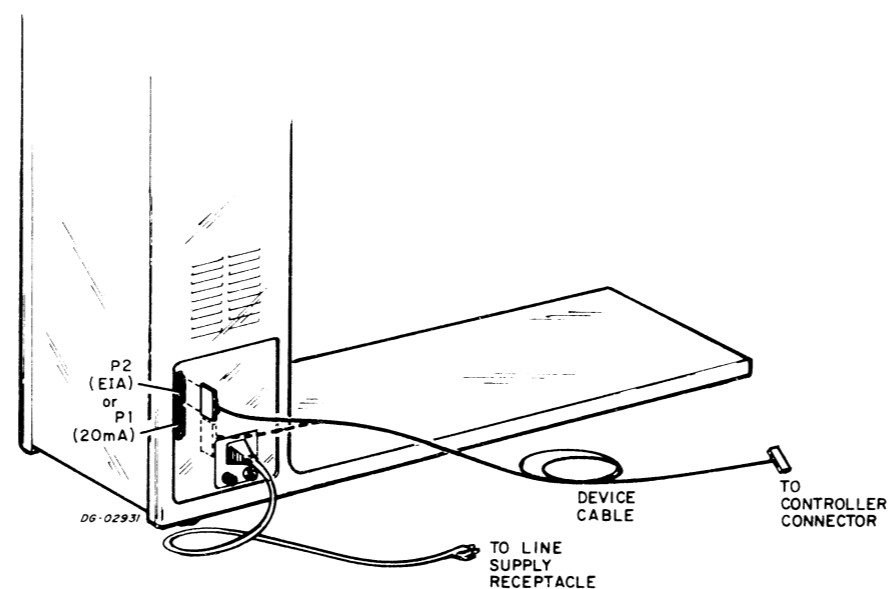
DASHER TP2 PRINTER EXTERNAL CABLING LIST

CABLE CONNECTS				
TP2 CONNECTOR	COMPUTER/CONTROLLER	REMARKS	CABLE NUMBER	WIRELIST
EIA CL	ALM-16		005-007636	008-000971
EIA	MODEM	USED WITH SIMPLE MANUAL ANSWER MODEMS	005-007637	008-000973
EIA	NOVA 2, 3, 4, 820, 1210, 1220, ECLIPSE S100, S200, S230, C300, C330, S130, C150, AP130, S140, MICRONOVA	WHEN TP1 PRINTER IS A SECONDARY DEVICE (OR ANY DEVICE ON MICRO NOVA)	005-007888	008-002003
EIA	NOVA 800, 830, 840, 1200	---	005-007889	008-002002
EIA	ALM-8 CS SYSTEMS	TP1 IS A SECONDARY DEVICE ON CS SYSTEMS	005-008181	008-002033
EIA	ALL	D1, 2 R O PRINTER	005-008433	008-002071
EIA	ALL	CS20, D3, R O PRINTER	005-008833	008-002552
C.L	CS SYSTEMS	ALLOWS USE OF CURRENT LOOP BUSY SIGNAL CABLE LENGTH DEPENDS ON 005 CABLE #	005-009692 005-009806 thru 005-009810	008-002125
EIA	NOVA 2, 3, 4, 820, 1210, 1220, ECLIPSE S100, S200, S230, C300, C330, S130, S140, C150, AP130	WHEN TP1 PRINTER IS THE PRIMARY CONSOLE	005-010603	008-002507
EIA C.L	MV8000, M600, S250, C350, NOVA 4, S140, CS10, C3	---	005-018250 *	018-001116
EIA	ALL	D100, 200 R O PRINTER	005-014693	018-000820
EIA	CS10, C1	R O PRINTER	005-014757	018-000886
EIA	MPT 80 83 87	R O PRINTER	005-016721	018-000994
C.L	ALL	SECONDARY DEVICE, MICRONOVA, MUX, ULM	005-007428	008-000977

* DOWNWARD COMPATIBLE (REPLACES) 005-10707



EXTERNAL CABLING



INTERFACE REQUIREMENTS

20mA CURRENT LOOP INTERFACE
ELECTRICAL REQUIREMENTS

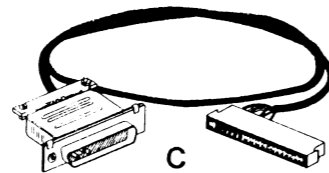
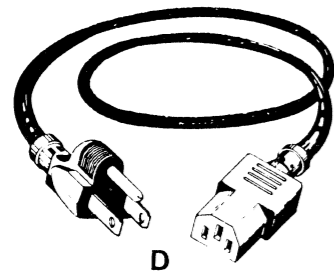
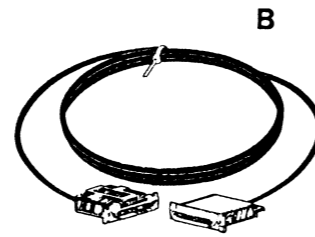
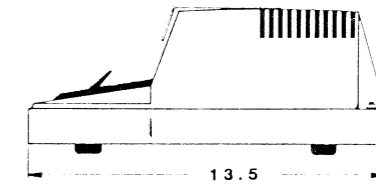
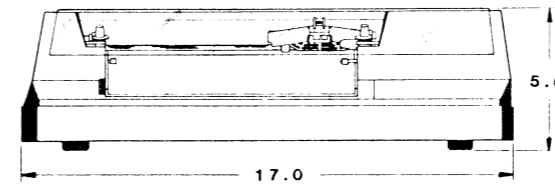
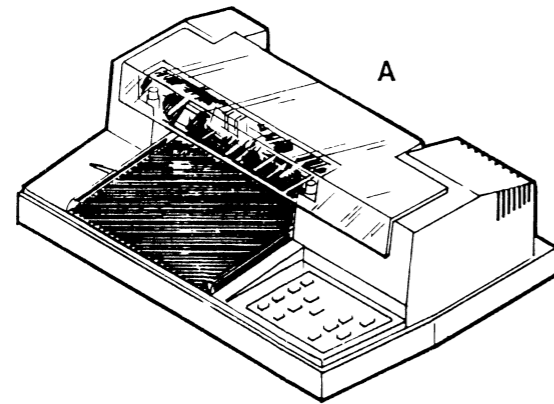
DEVICE CABLE PIN NUMBER	SIGNAL NAME
P1-1	DATA OUT
P1-2	DATA OUT
P1-3	DATA IN
P1-4	DATA IN

	TERMINAL TRANSMITTING	TERMINAL RECEIVING
MARK SENSE	$V_{max} = 40V$ $I_{max} = 40mA$	$I = 10-60mA$
SPACE SENSE	$V_{max} = 40V$	$I < 5mA$

EIA INTERFACE (RS-232-C)

DEVICE CABLE PIN NUMBER	SIGNAL NAME (EIA STANDARD)	CIRCUIT NAME (EIA STANDARD)	PIN ASSIGNMENT (EIA STANDARD)
P2-1	TRANSMITTED DATA	BA	2
P2-4	RECEIVED DATA	BB	3
P2-5	DATA TERMINAL READY	CD	20
P2-6	SIGNAL GROUND	AB	7

INSTALLATION SPECIFICATIONS



SIZE:	Width	Depth	Height
Millimeters	432	343	127
Inches	17.	13.5	5.

WEIGHT	
Kilograms	5.7
Pounds	12.5

POWER REQUIREMENTS

Line Voltage:	SUFFIX 0	120 V \pm 5%, - 10%
	1	100 V \pm 5%, - 10%
	2	220 V \pm 5%, - 10%
	4	240 V \pm 5%, - 10%
Line Frequency:		48 to 66 Hz, single phase
Maximum Line Current:	SUFFIX 0	300 mA @ 120 V
	1	355 mA @ 100 V
	2	150 mA @ 220 V
	4	135 mA @ 240 V
Consumption:		25 Watts maximum

MAJOR COMPONENT

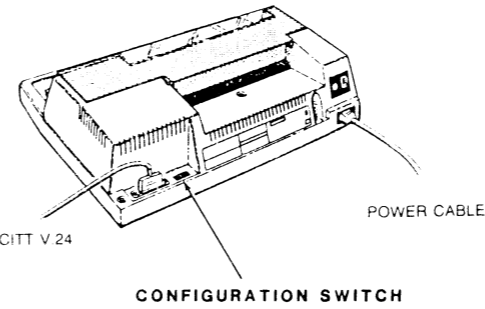
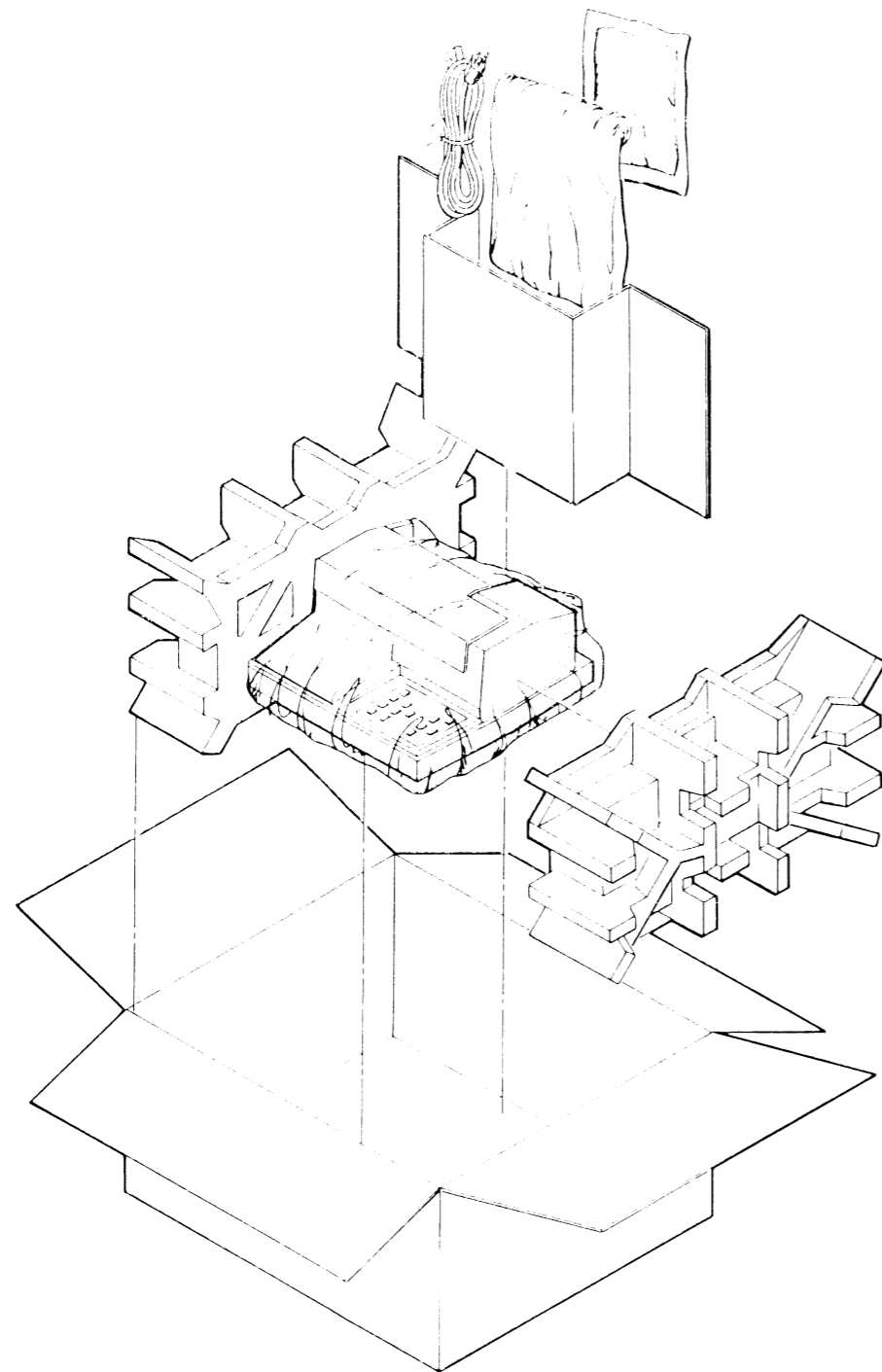
ITEM	COMPONENT	MOUNTING LOCATION	NOTES
A	4435 DIGITAL PLOTTER	DESKTOP	

CABLES

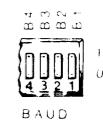
ITEM	CABLE	CONNECTING	MAX LG	
			FT	M
	EXTERNAL	SERIAL INTERFACE CABLE	25	7.6
C	HOST ADAPTOR	EXTERNAL CABLE TO BACK PLANE	1	.3
D	* POWER	SUFFIX 0 1 TO PRIMARY POWER	7.5	2.3

* POWER CORDS FOR INTERNATIONAL UNITS MUST BE ORDERED SEPERATELY

SHIPPING

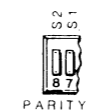


BAUD RATE	B4	B3	B2	B1
75	0	0	0	1
110	0	0	1	0
150	0	0	1	1
200	0	1	0	0
300	0	1	0	1
600	0	1	1	0
1200	0	1	1	1
2400	1	0	0	0
4800	1	0	0	1
* 9600	1	0	1	0



PARITY

FUNCTION	S8	S7
* NO PARITY	X	0
EVEN PARITY	0	1
ODD PARITY	1	1



PROTOCOL

FUNCTION	S6
LISTEN	1
* DIRECT	0



NOTE:
 * "D" FOR END LINE ENVIRONMENT
 * "Y" LISTEN MODE



PAPER SIZE

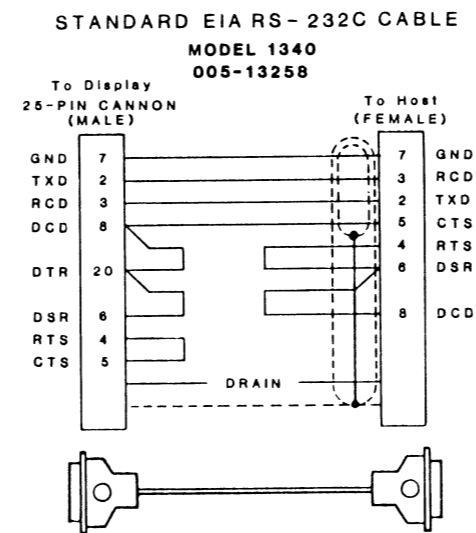
FUNCTION	S5
* US	1
A4	0



NOTE:
 * US SIZE 8 1/2 x 11
 A4 SIZE 210 X 297 mm

* DEFAULT INITIAL SETTINGS

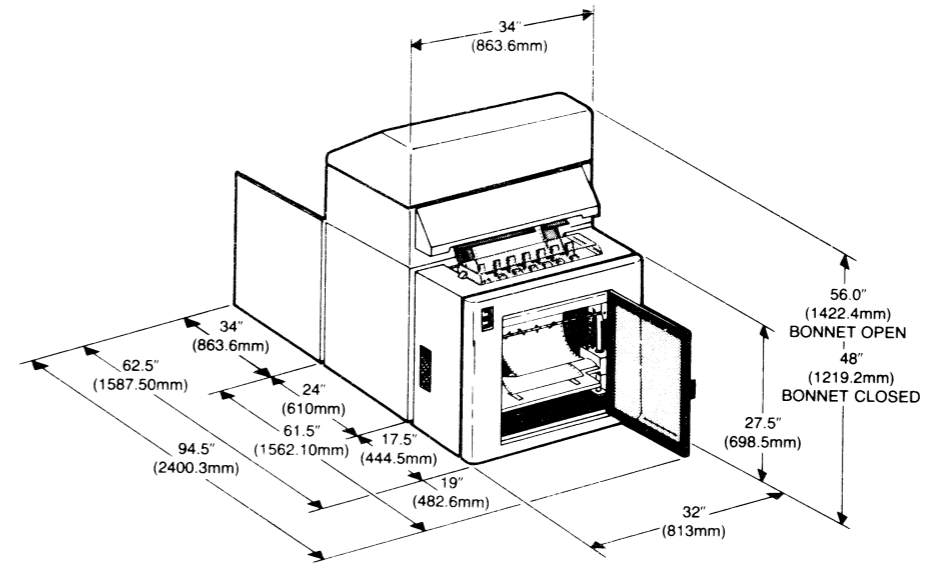
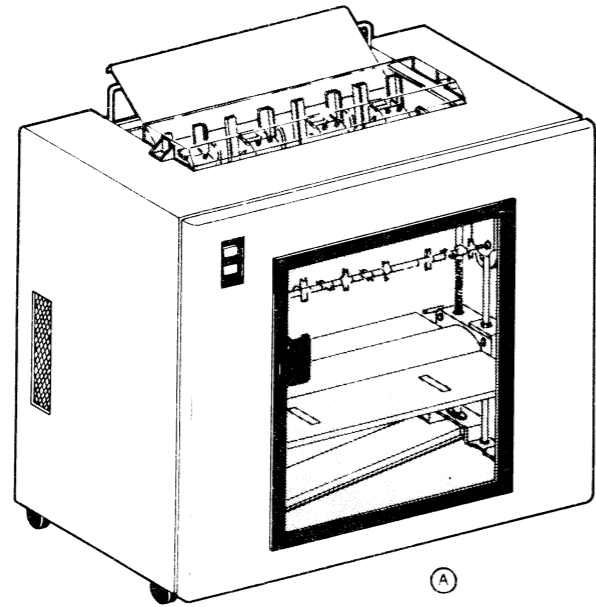
CABLE REQUIREMENTS



CONTROLLER	MODEL	HOST ADAPTER	E.I.A. CABLE S/W BUSY
4 LINE USAM	4463-ZT	005-21041	MODEL # 1340
1 LINE USAM	4463-WT	005-20688	MODEL # 1340

MODEL	LENGTH	ASSEMBLY
1340	25 FT	005-13258
1340-T	15 FT	005-13315
1340-A	50 FT	005-13321
1340-S	5 FT	005-13325

INSTALLATION SPECIFICATIONS



MAJOR COMPONENT

ITEM	COMPONENT	MOUNTING LOCATION	NOTES
A	4379 POWERED PAPER STACKER	REAR OF PRINTER	4373-4378

DIMENSIONS:	Width	Depth	Height
Millimeters	813.0	457.2	692.2
Inches	32.0	18.0	27.25

SERVICE CLEARANCES:	Front	Rear	Right
Millimeters	1260.0	See Note 1	444.5
Inches	49.6	See Note 1	17.5

WEIGHT:	Empty	Shipping
Kilograms	84.0	113.5
Pounds	185.0	225.0

HEAT OUTPUT:	Watts	BTU/hr
Domestic:		
Standby	180.0	613.8
Printing	180.0	613.8
Export:		
Standby		
Printing		

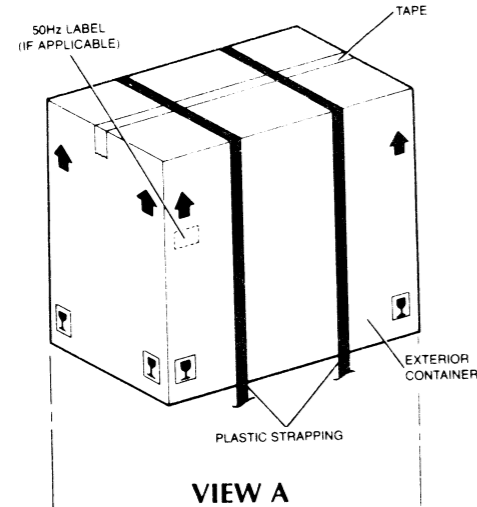
OPERATING ENVIRONMENT:	
Temperature (max)	10-35°C (50-95°F)
Humidity, non-condensing	20-80%

POWER REQUIREMENTS:	
(Domestic)	
Voltage	120 + 10-15%
Hz	60 ± 1%
Phase	Single
See Note 2	

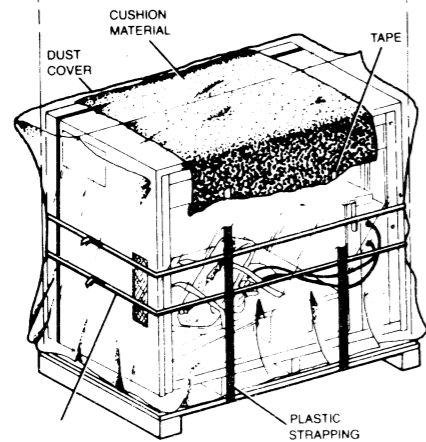
CABLES:
Interconnecting cables only installed in the stacker, connected to the printer at the designated receptacles.

- NOTES:**
- When the stacker is properly installed it is flush with the printer.
 - Power is supplied to the stacker by the printer through the interconnecting cables.

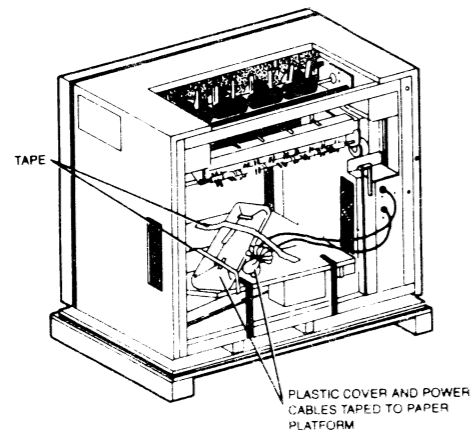
SHIPPING



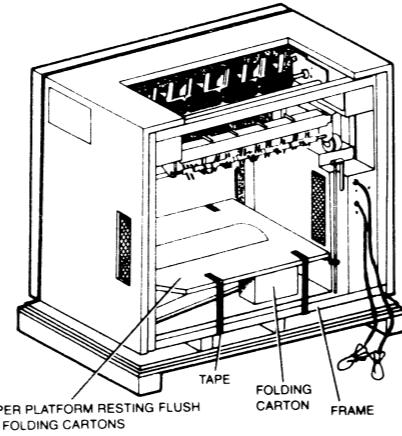
VIEW A



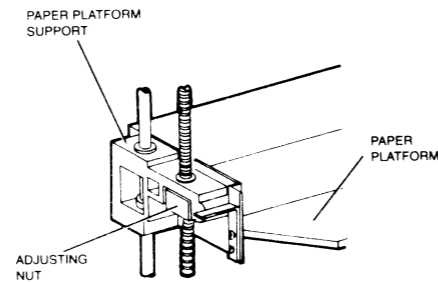
VIEW B



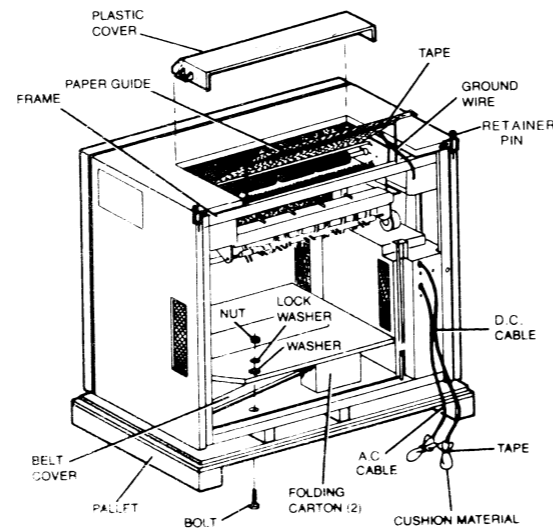
VIEW C



VIEW D



VIEW E

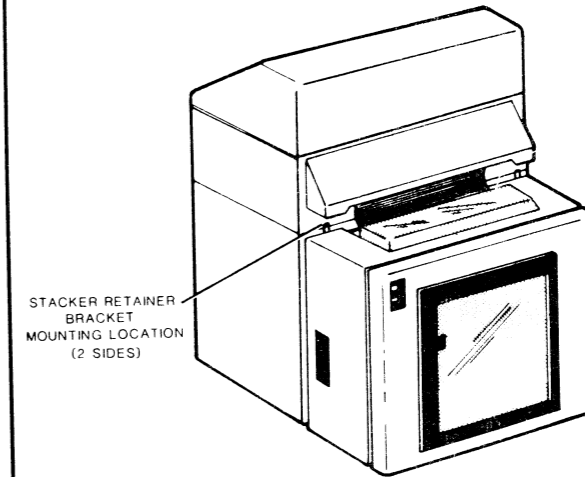


VIEW F

STACKER UNPACKING

1. Cut the plastic strapping shown in view A. Lift the container to remove it.
2. Cut the avis strap that wraps horizontally around the stacker as shown in view B. Remove the dust cover and cushion material.
3. Remove the package containing the plastic cover and power cables shown in view B. Unwrap the plastic cover.
4. Remove the tape holding the platform down onto the folding cartons as shown in view D.
5. Place your hands under the paper platform near the platform support shown in view E. Lift the platform and place one of the folding cartons (view C) vertically near the platform support.
6. Remove the second folding carton.
7. Referring to view F, remove the tape and cushion material from the cables. Remove the tape from the ground wire and the stacker frame.
8. Remove the four sets of bolts, washers, lock washers, and nuts that hold the stacker to the shipping pallet. (View F)
9. Lift the platform slightly and remove the vertical folding carton placed in step 5. Gently lower the platform onto the platform adjusting nut. (view E)
10. Insure that the longest side of the adjusting nut seats into the platform support cutout (view E). If not seated properly, lift the platform and turn the adjusting nut 1/4 turn in either direction.
11. Slide the stacker off the pallet, back side first.
12. Install the stacker retainer bracket on the rear of the printer using the accompanying instructions. Use the lower set of mounting holes (VIEW F & ASSY DWG).
13. Install paper guide, groundwire, and plastic cover. See View F
14. Save the packing material for future moves or shipment.

ASSEMBLY



1. Position the powered paper stacker near the rear of the printer.
2. Locate the limiting strap attached to the stacker below the electrical cables. Attach this to the inner lower right rear of the printer with one of the existing screws.
3. Connect the AC (9P01 to 9J01) & DC (9P02 to 9J02) cables from the powered paper stacker to the designated receptacles at the rear of the printer. Lift the retaining pin on the stacker bracket.
4. Move the powered paper stacker until it is flush against the printer. Insure that the stacker is centered behind the printer, and insert the pins into the locking brackets (see view F).

NOTES:

1. For packaging instructions, reverse the order of the stacker unpacking directions.
2. For installation of the paper into the powered paper stacker see CDC Manual Powered Forms Stacker #44677875

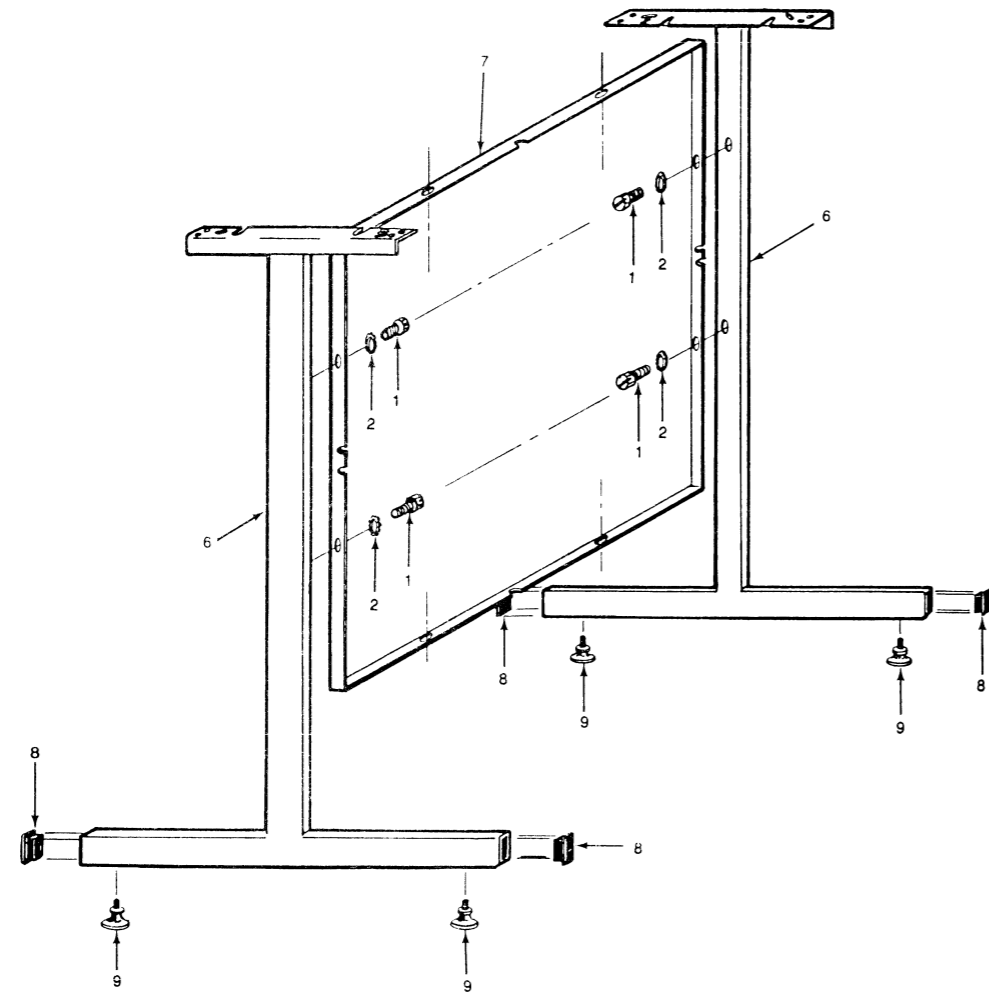


FIGURE 1

NOTE: SEE PEDESTAL ASSEMBLY INSTRUCTIONS FOR CENTRAL PANEL ORIENTATION

INSTALLATION HARDWARE			
item	DGC pn	qty	
1	Screw, 1/4-20	106-01939	4
2	Lock Washer, 1/4	106-01938	4
3	4mm Screw	106-01000	4
4	Flat Washer	106-00687	4
5	Paper Basket	002-10528	1
6	Side Piece	002-10494	2
7	Central Panel	002-10493	1
8	End Cap	123-01809	4
9	Pedestal Foot	123-01496	4
10	Ground Strap	005-13174	1
11	Ground Cable	005-13250	1
12	Lock Washer, 1/4	106-00763	1
13	Flat Washer, 1/4	106-00782	1

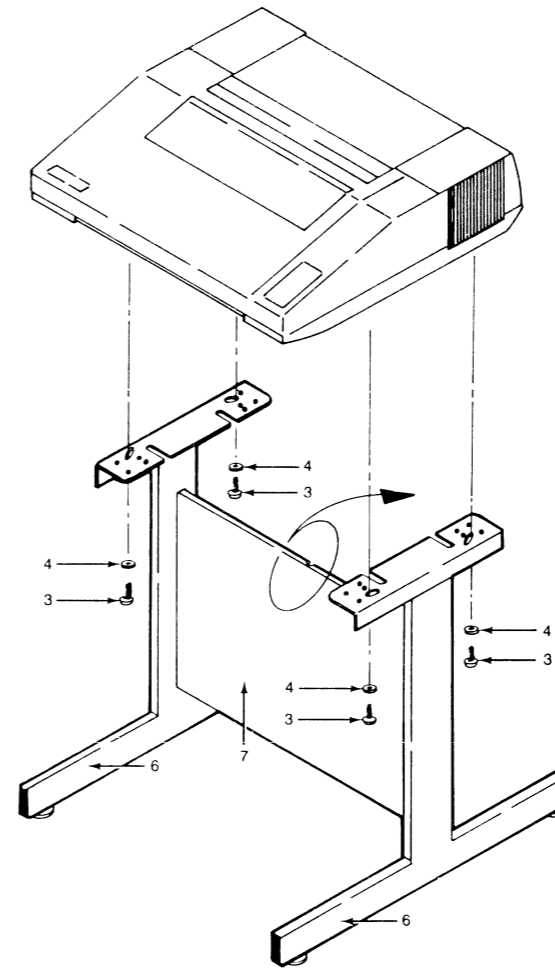


FIGURE 2

ASSEMBLY FOR PRINTER MODELS

4353-4356
9198-9199
9293

PEDESTAL ASSEMBLY

Referring to figure 1, assemble items 8 and 9 into item 6. Attach central panel (item 7) to side pieces (item 6) using 4 each of items 1 & 2 (as shown in figure 1). Central panel should have **single** notch side facing upward. Do not completely tighten the upper right hand 1/4-20 screw (item 1) until after ground straps have been attached.

BASKET ATTACHMENT

Insert the spade connector end of the ground strap (item 10) between the lock washer (item 2), which should be against the inside edge of the central panel, and flat washer (item 13), with split lock washer (item 12), on top, as shown in figure 6, page 3. Then tighten screw completely.

Load basket into proper position, as shown in figure 6.

PRINTER ATTACHMENT

Attach printer to pedestal by using 4 each of items 3 & 4.

GROUNDING

Attach remaining ground cable (item 11) to back of printer in figure 6. Insert banana plug end of each ground strap into position as shown in same figure.

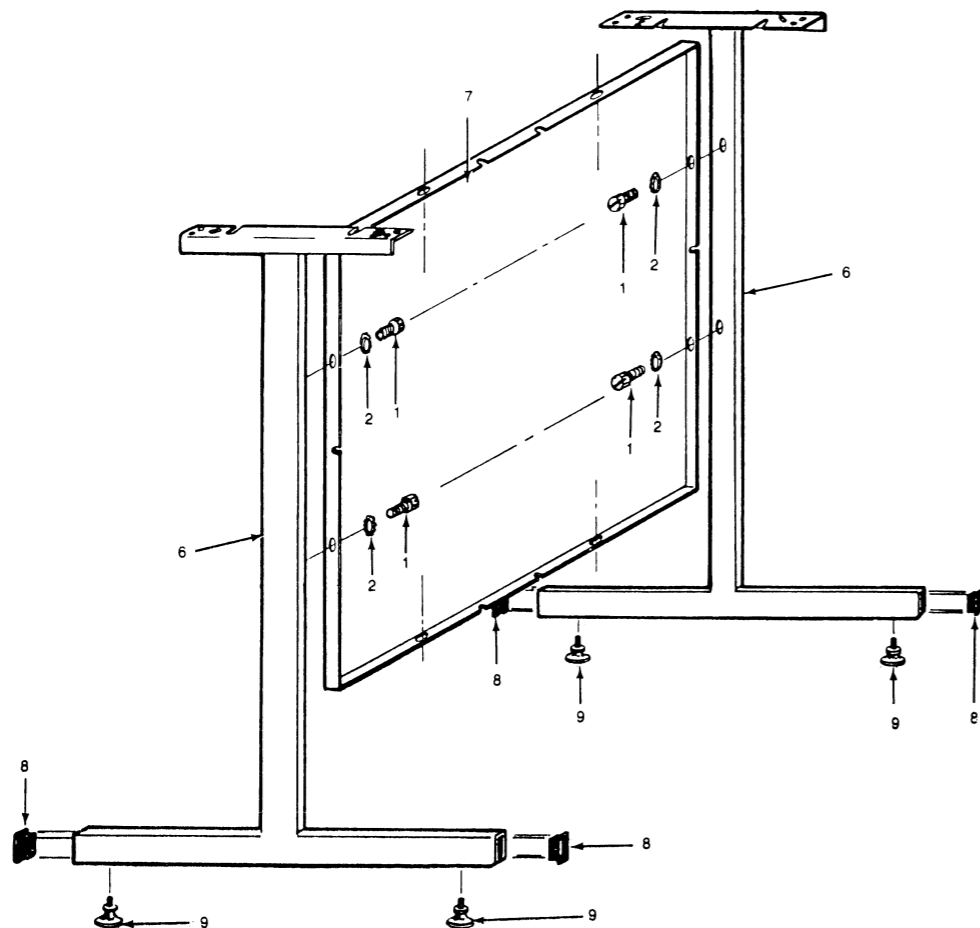


FIGURE 3

NOTE: SEE PEDESTAL ASSEMBLY INSTRUCTIONS FOR CENTRAL PANEL ORIENTATION.

INSTALLATION HARDWARE			
item	DGC pn	qty	
1	Screw, 1/4-20	106-01939	4
2	Lock Washer, 1/4	106-01938	5
3	4mm Screw	106-01000	—
4	Flat Washer	106-00687	4
5	Paper Basket	002-10528	1
6	Side Piece	002-10494	2
7	Central Panel	002-10493	1
8	End Cap	123-01809	4
9	Pedestal Foot	123-01496	4
10	Pedestal GND Strap	002-24892	1
14			4

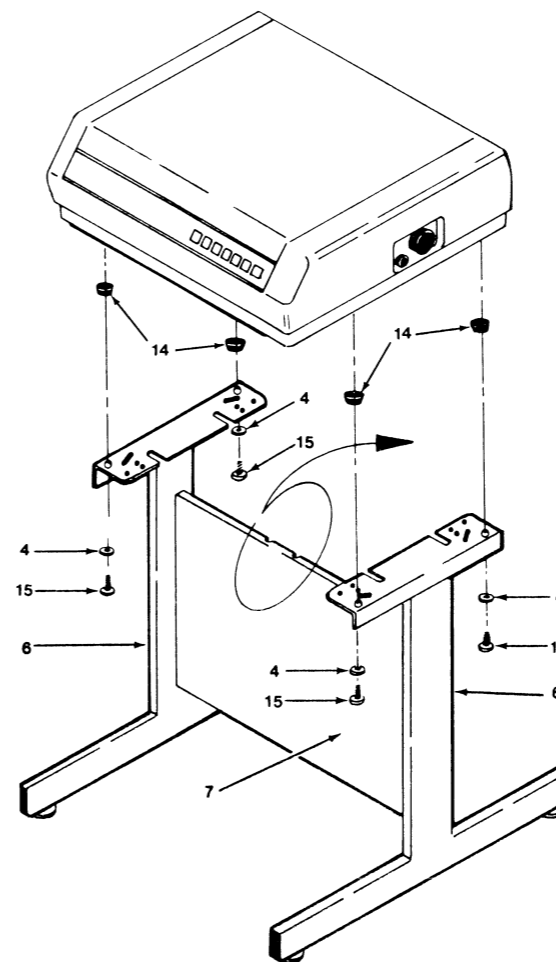


FIGURE 4

ASSEMBLY FOR PRINTER MODELS

4361, 4422, 4433

PEDESTAL ASSEMBLY

Referring to figure 3, assemble items 8 and 9 into item 6.

Attach central panel (item 7) to side piece (item 6) using 4 each of items 1 & 2 (as shown in figure 3). Central panel should have **double** notch side facing upward. Do not completely tighten the upper right hand 1/4-20 screw (item 1) until after ground straps have been attached.

BASKET ATTACHMENT

Insert the spade connector end of the ground strap (item 10) between the lock washer (item 2), which should be against the inside edge of the central panel, and flat washer (item 13), with split lock washer (item 12), on top, as shown in figure 7, page 3. Then tighten screw completely.

Load basket into proper position, as shown in figure 7.

PRINTER ATTACHMENT

Remove 4 rubber feet from bottom of printer and discard. Attach printer to pedestal using 4 screws (item 3) and 4 flat washers (item 4).

GROUNDING

Install pedestal ground strap (item 10) under existing paper guide ground strap with existing screws. Pedestal ground strap then snaps onto the paper basket (item 5).

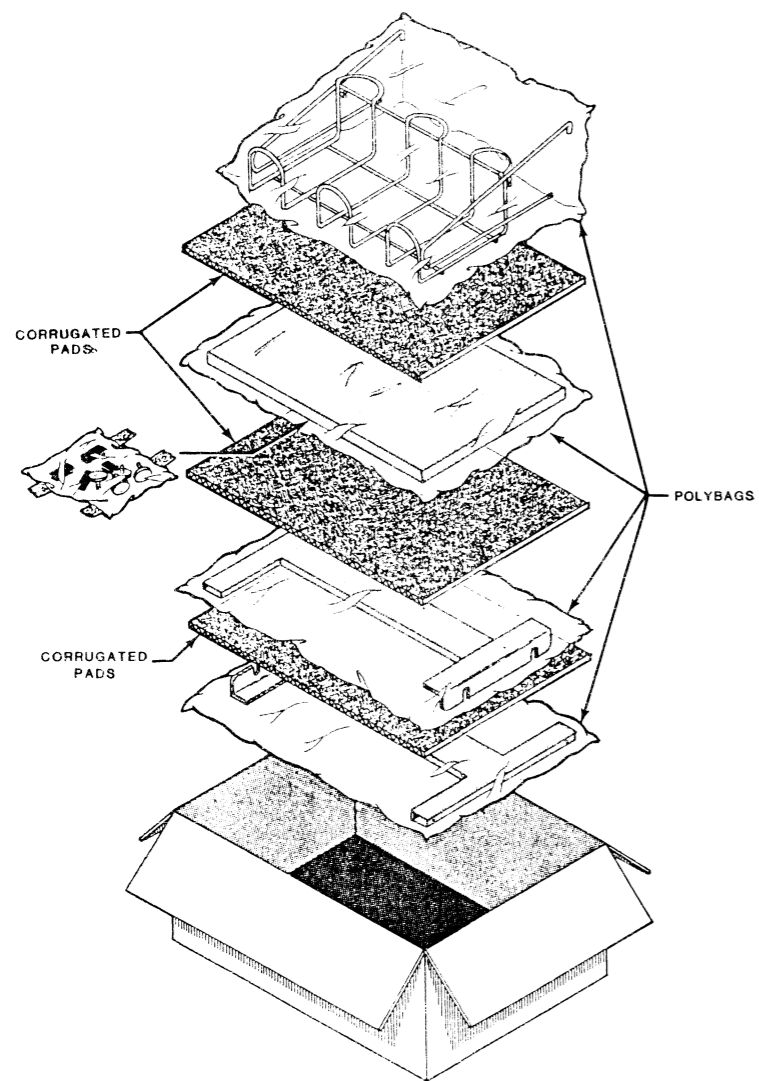


FIGURE 5

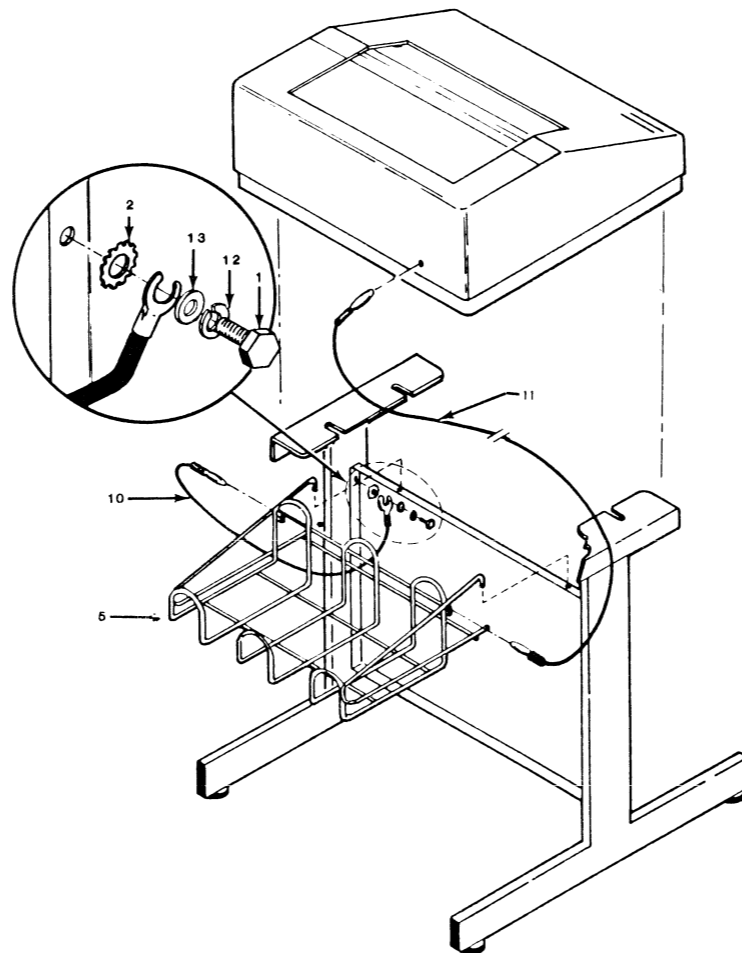


FIGURE 6

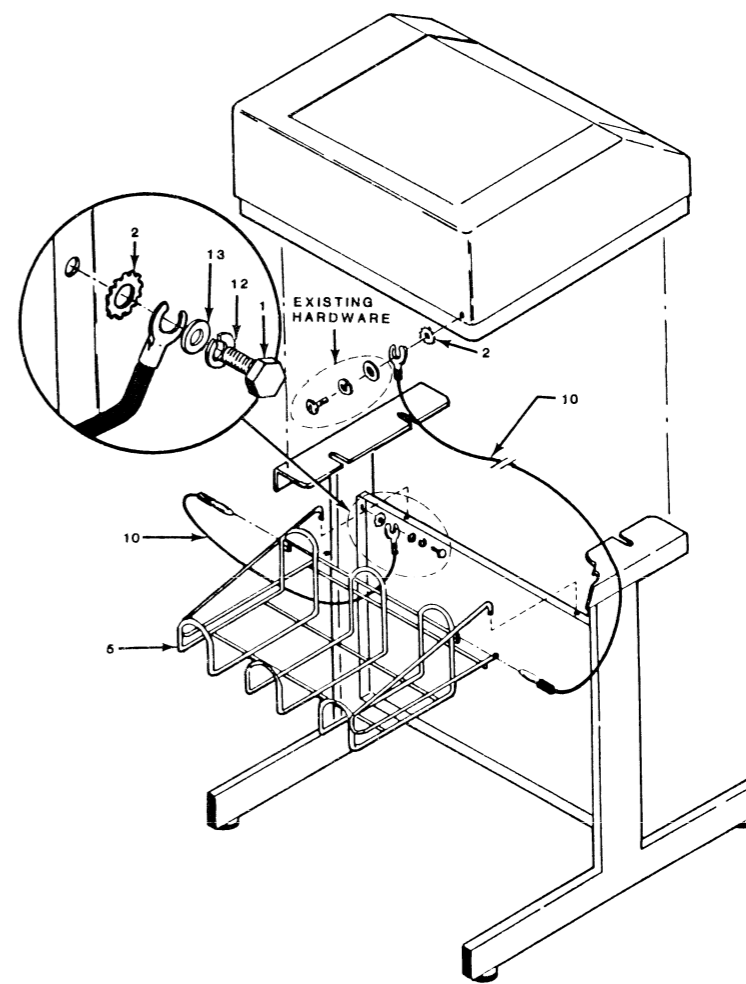


FIGURE 7

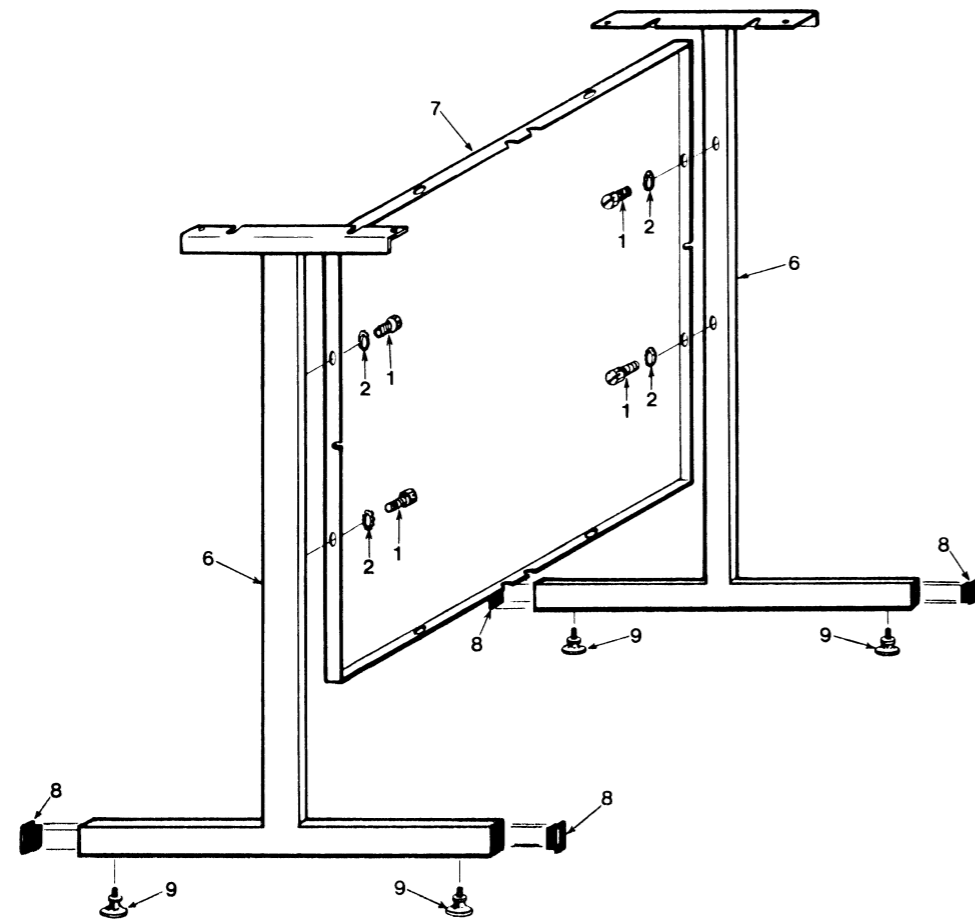


FIGURE 8

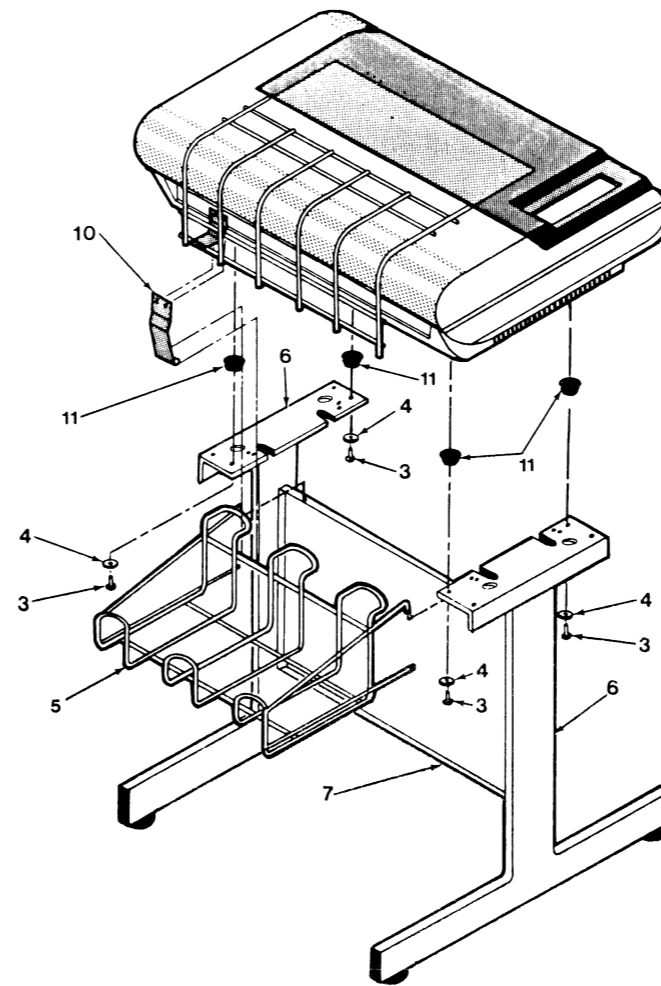


FIGURE 9

ASSEMBLY FOR PRINTER MODELS 6215 6216

PEDESTAL ASSEMBLY

Referring to figure 8, assemble items 8 and 9 into item 6. Attach central panel (item 7) to side piece (item 6) using 4 each of items 1 & 2 (as shown in figure 3). Central panel should have double notch side facing upward.

BASKET ATTACHMENT

Load basket into proper position, as shown in figure 10.

PRINTER ATTACHMENT

Remove 4 rubber feet from bottom of printer and discard. Attach printer to pedestal using 4 screws (item 3) and 4 flat washers (item 4).

GROUNDING

Install pedestal ground strap (item 10) under existing paper guide ground strap with existing screws. Pedestal ground strap then snaps onto the paper basket (item 5).

NOTE: SEE PEDESTAL ASSEMBLY INSTRUCTIONS FOR CENTRAL PANEL ORIENTATION.

INSTALLATION HARDWARE			
item	DGC	qty	
1	Screw, 1/4-20	106-01939	4
2	Lock Washer, 1/4	106-01938	5
3	4mm Screw	106-01000	
4	Flat Washer	106-00687	4
5	Paper Basket	002-10528	1
6	Side Piece	002-10494	2
7	Central Panel	002-10493	1
8	End Cap	123-01809	4
9	Pedestal Foot	123-01496	4
10	Pedestal Gnd. Strap	002-24892	1
11	Rubber Feet	—	4

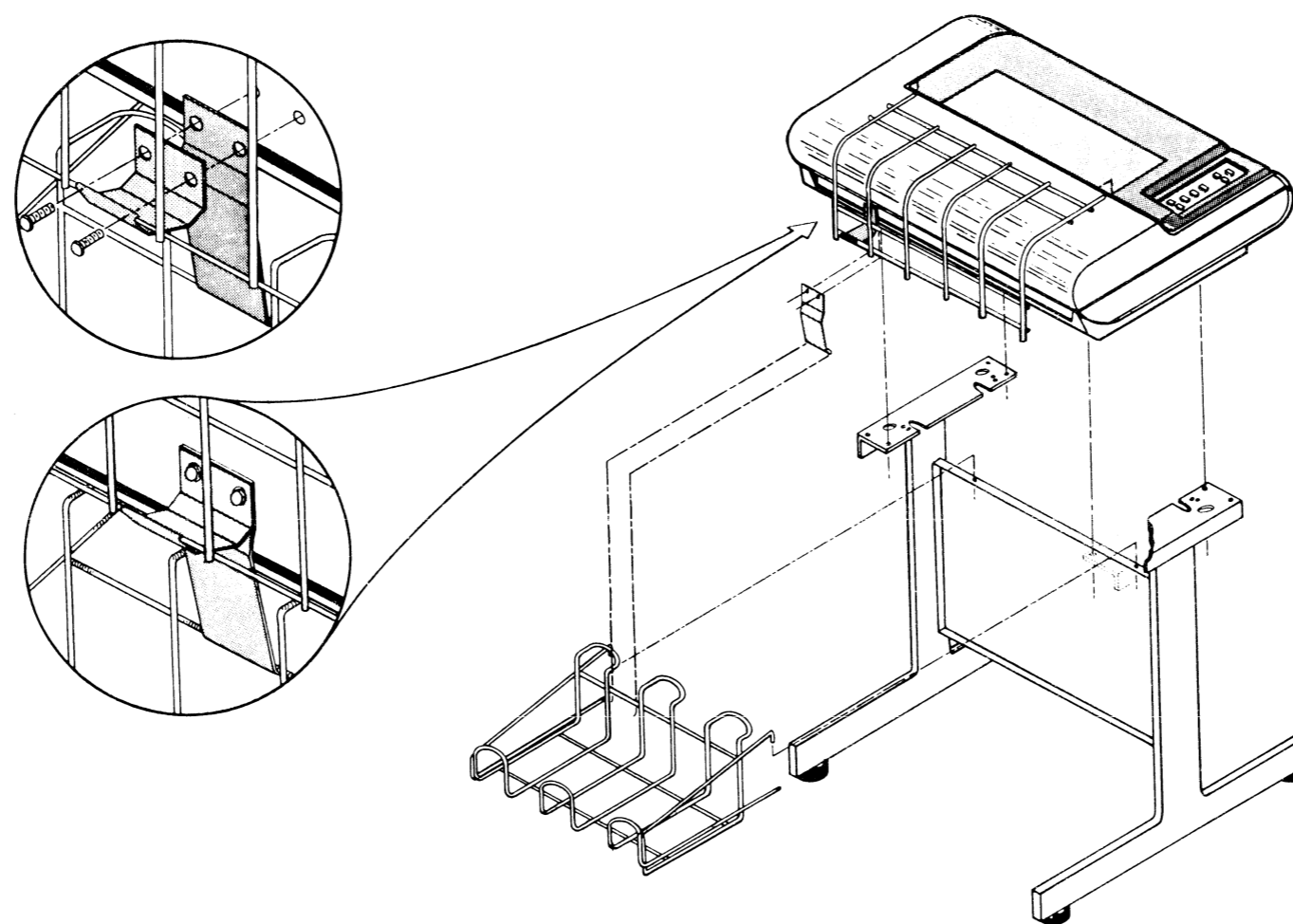
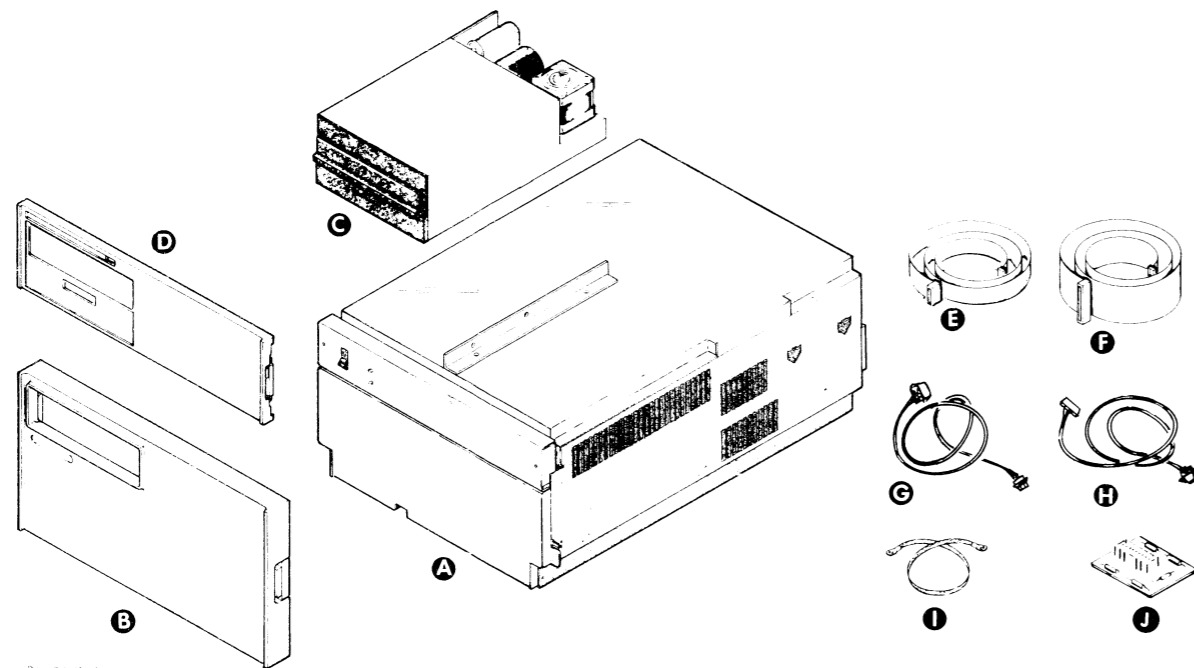


FIGURE 10

DISK STORAGE

INSTALLATION SPECIFICATIONS



MAJOR COMPONENT

ITEM	COMPONENT	MOUNTING LOCATION	NOTES
A	RIGID DISC DRIVE	CABINET	
B	FRONT PANEL	CABINET	
C	FLEXIBLE DISC DRIVE	RIGID DISC CHASSIS	
D	FRONT PANEL	CABINET	

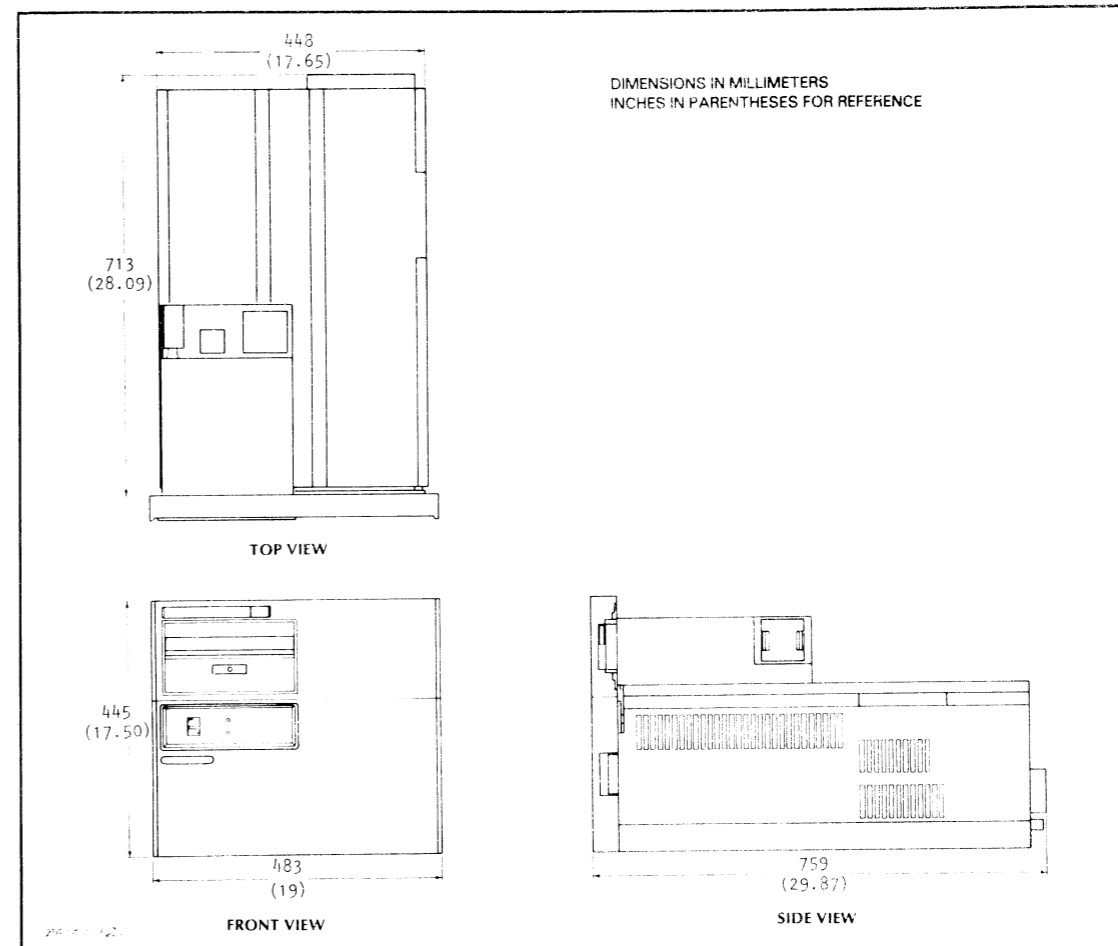
CABLE

ITEM	CABLE	CONNECTING	MAX LG		NOTES
			FT	M	
E	I/O CABLE	CONTROLLER AND MICRONOVA BACKPANEL			
F	I/O CABLE	CONTROLLER AND FLEXIBLE DISC DRIVE			
G	AC POWER CABLE	CHASSIS P1 AND FLEXIBLE DISC DRIVE			
H	DC POWER CABLE	POWER SUPPLY J1 AND FLEXIBLE DISC DRIVE			
I	GROUND BRAID	DISK DRIVE AND CPU			

TERMINATOR

ITEM	TERMINATOR	LOCATION	NOTES
J	TERMINATOR	CONTROLLER J4	

MAXIMUM ACCUMULATIVE BUSS LENGTH IS 100 FT. / 30M
SEE 010-000344 FOR CONFIGURATION AND 005# S.



DIMENSIONS:	Width	Depth	Height
Millimeters	483	759	445
inches	19	29.87	17.50

SERVICE CLEARANCES:	Front	Bottom
Millimeters	686	203
Inches	27.5	8

WEIGHT:	Empty
Kilograms	40.4
Pounds	89

HEAT OUTPUT (MAX)	Watts	BTU/hr
100V	410	1399
120V	432	1474
220V	440	1501
240V	432	1474

OPERATING ENVIRONMENT:		
Temperature (max)	Room	32°C 90°F
	Cabinet	43°C 109°F
Relative Humidity (max)		80%
Altitude		3048m(10,000')

POWER REQUIREMENTS:

(Domestic)	
Voltage	120
Hz	60
Amp per Phase	3.6
Startup Surge per Phase	10A

(Export)

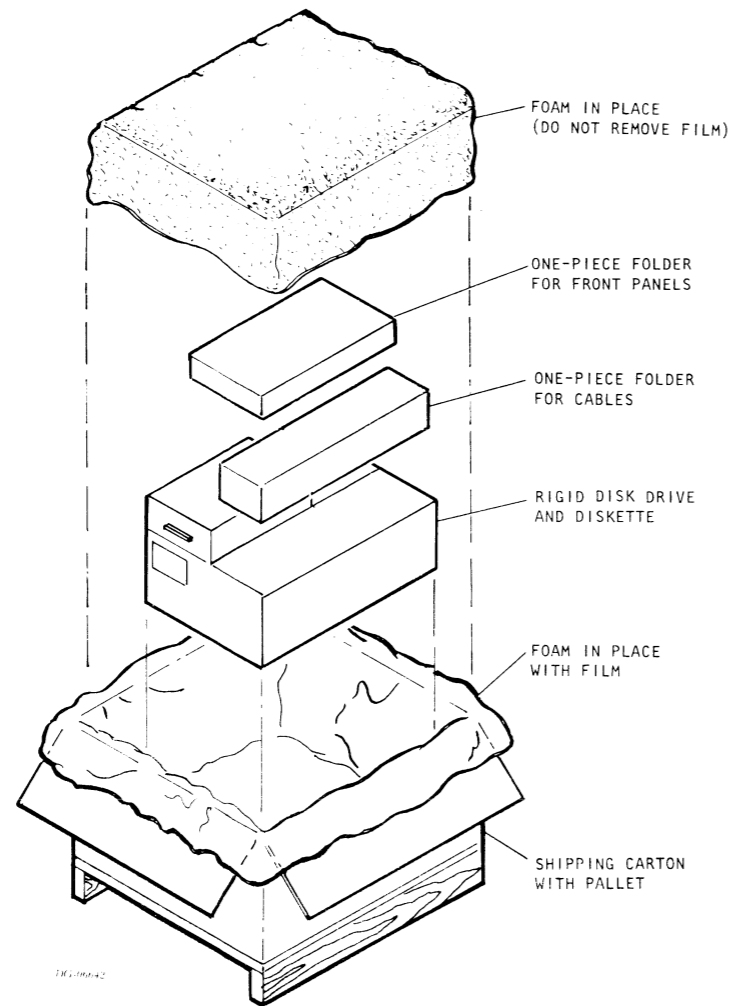
Voltage	100	220	240
Hz	50	50	60
Amp per Phase	4.1	2.0	1.8
Startup Surge per Phase	12A	5.5A	5A

CABLES:

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

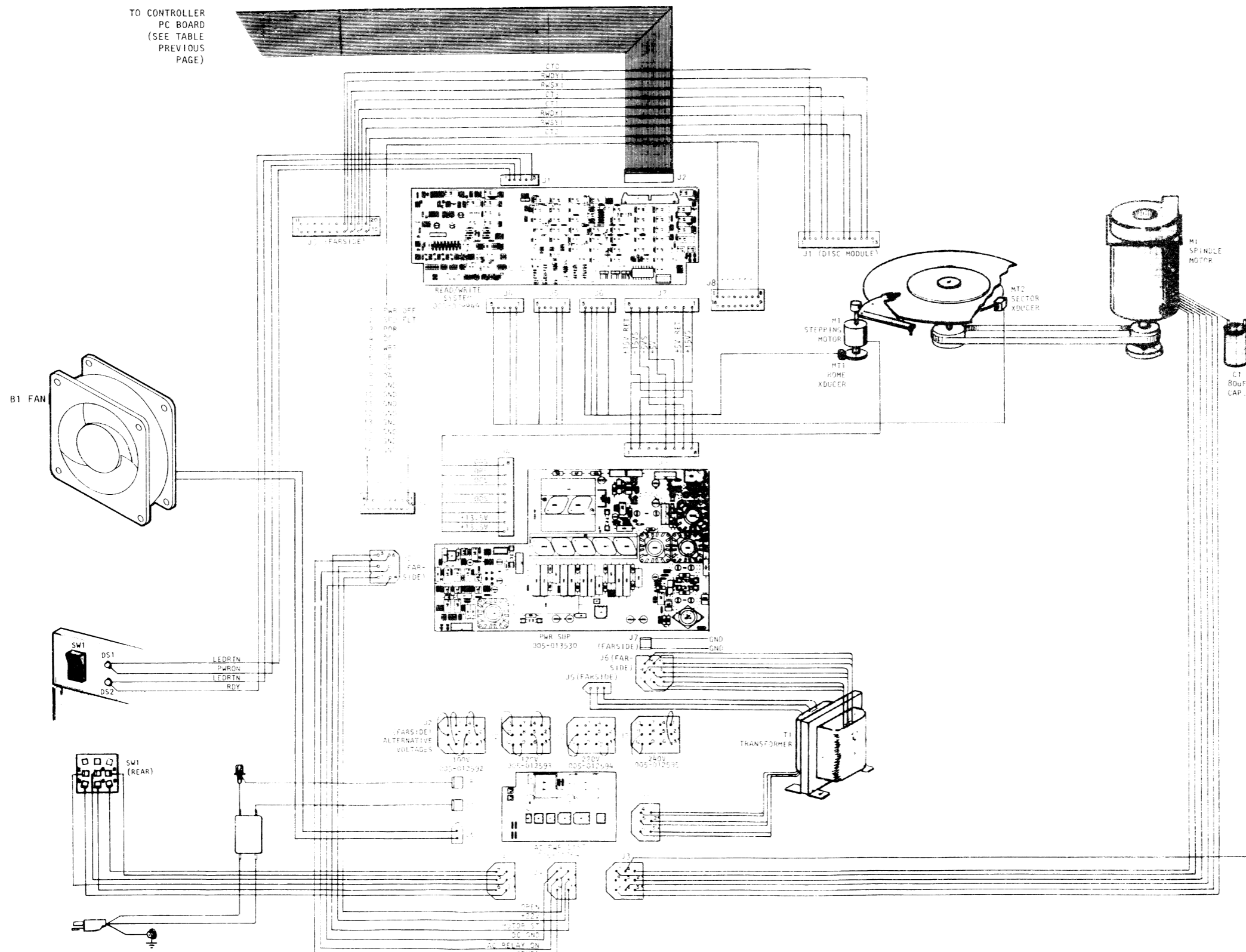


FOR INFORMATION ON PACKAGING SEE DGC DWG 010-000262

INTERNAL CABLING

SIGNAL NAME	RIGID DISK	SIGNAL NAME	FLEXIBLE DISK
	SOCKET CONNECTOR 50 PIN P1		SOCKET CONNECTOR 50 PIN P2
GND	1	GND	1
XPOR	2	TG43	2
GND	3	GND	3
X PWR OFF	4	+5V	4
GND	5	-	5
HOME	6	-	6
GND	7	-	7
QD	8	-	8
QC	9	-	9
QB	10	-	10
QA	11	-	11
GND	12	-	12
H1	13	GND	13
H2	14	STDESEL	14
H4	15	-	15
GND	16	-	16
RDGATE	17	GND	17
GND	18	HEADLOAD	18
WRGATE	19	GND	19
GND	20	INDEX	20
PREAMBLE	21	GND	21
GND	22	READY	22
XSC16	23	-	23
XSC8	24	-	24
XSC4	25	GND	25
XSC2	26	DRIVE SEL1	26
XSC1	27	GND	27
GND	28	DRIVE SEL2	28
XSCTR PLS	29	GND	29
GND	30	DRIVE SEL3	30
XSCNTVALID	31	GND	31
GND	32	DRIVE SEL4	32
RDY	33	GND	33
SWAP 01	34	STDESEL	34
WRPRO	35	GND	35
GND	36	STEP	36
R/W FLT	37	GND	37
SPD FLT	38	WRITEDATA	38
GND	39	GND	39
WR CLK RTN-	40	WRITEGATE	40
WR CLK RTN +	41	GND	41
GND	42	TRACK 00	42
WR OSC RTN-	43	GND	43
WR OSC RTN+	44	WRITEPROTECT	44
GND	45	GND	45
NRZ DAT-	46	READDATA	46
NRZ DAT+	47	-	47
GND	48	-	48
R/W CLK-	49	-	49
R/W CLK+	50	-	50

INTERNAL CABLING (CONT) INTERCONNECTION DIAGRAM



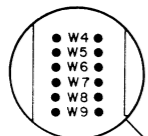
DG-06009
DG/DISK STORAGE SUBSYSTEM, MODELS 6101, 6104

TAILORING

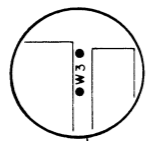
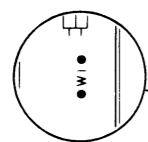
CONTROLLER BOARD

R/W LOGIC BOARD

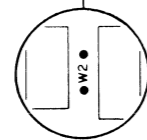
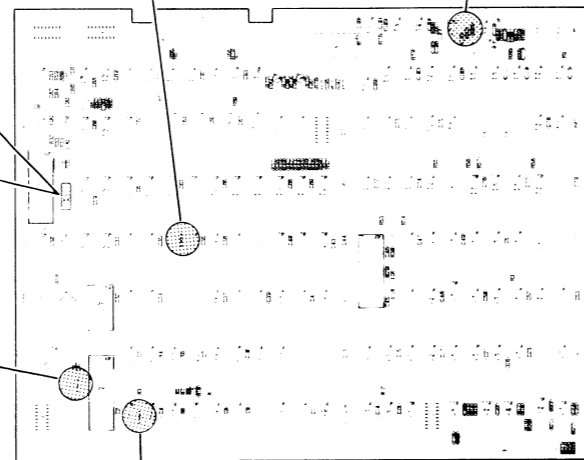
USE FOR 107-1341-01 AND LATER ARTWORKS



USE FOR 107-1341 REV 00 ARTWORK ONLY



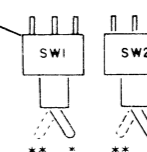
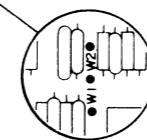
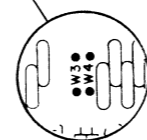
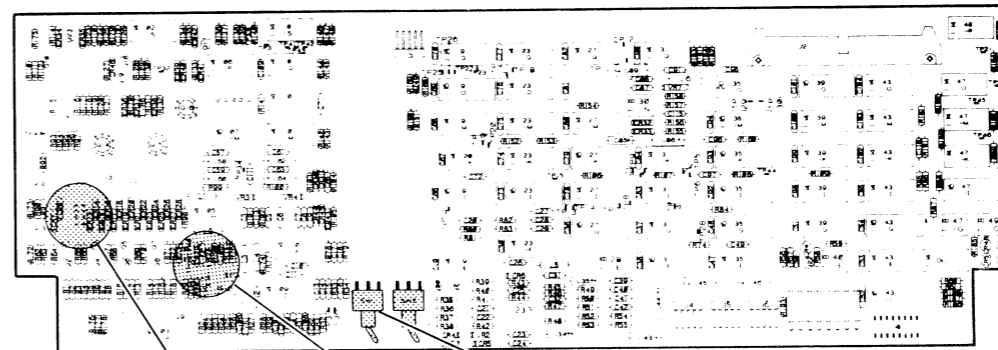
NOT AVAILABLE ON REV. 00 ARTWORK



CONTROLLER DEVICE CODE SELECT			
JUMPER NUMBER	SWITCH NUMBER	DEVICE CODE 26	DEVICE CODE 66
N/A	1	OFF*	OFF*
W4	2	OFF/OUT	ON/IN
W5	3	ON/IN	ON/IN
W6	4	OFF/OUT	OFF/OUT
W7	5	ON/IN	ON/IN
W8	6	ON/IN	ON/IN
W9	7	OFF/OUT	OFF/OUT

*THIS SWITCH NOT USED

CONTROLLER JUMPER SELECTION			
12.5 MBY		25 MBY	
JUMPER		JUMPER	
W1	OUT	W1	OUT
W2	IN	W2	OUT
W3	IN	W3	IN
W10	IN	W10	IN



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

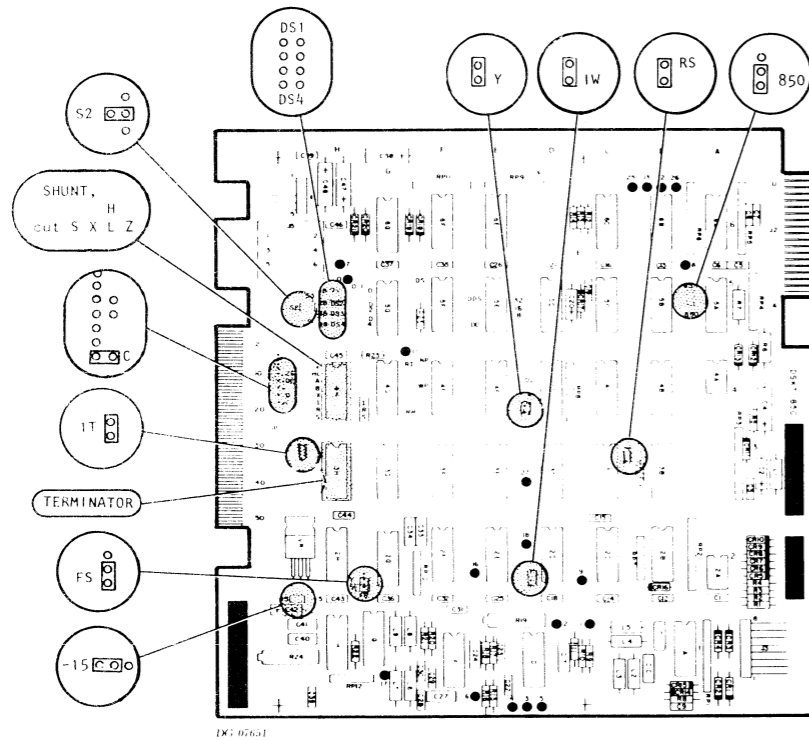
* INSERTED FOR FACTORY USE ONLY

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

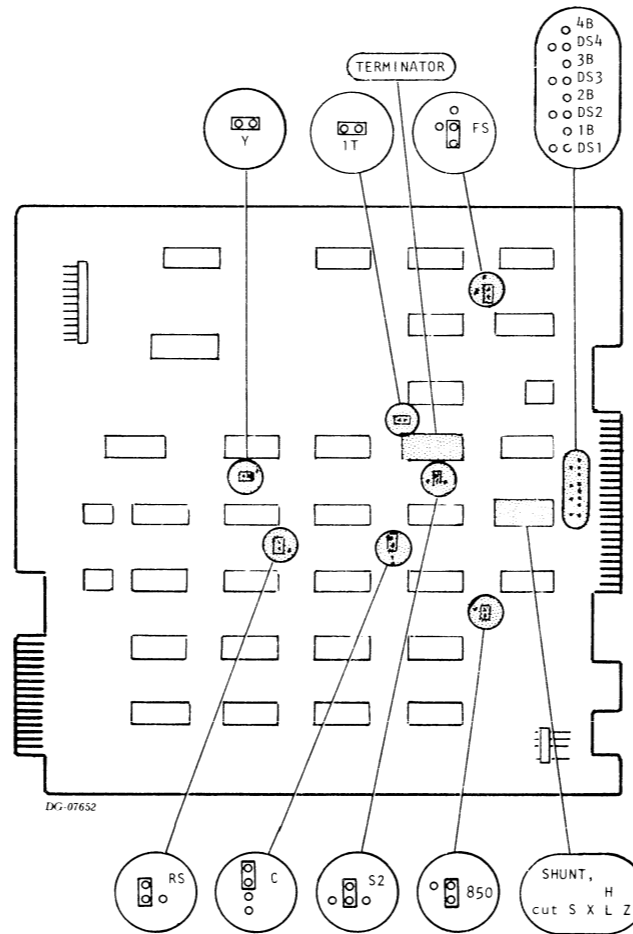
TAILORING

FLEXIBLE DISC LOGIC BOARD

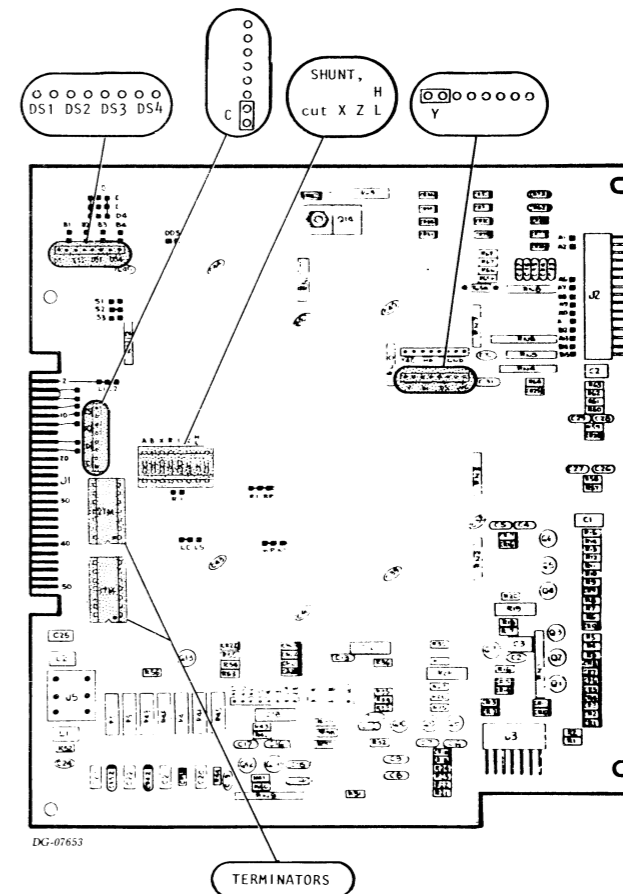
TYPE A1 - A2



TYPE A3



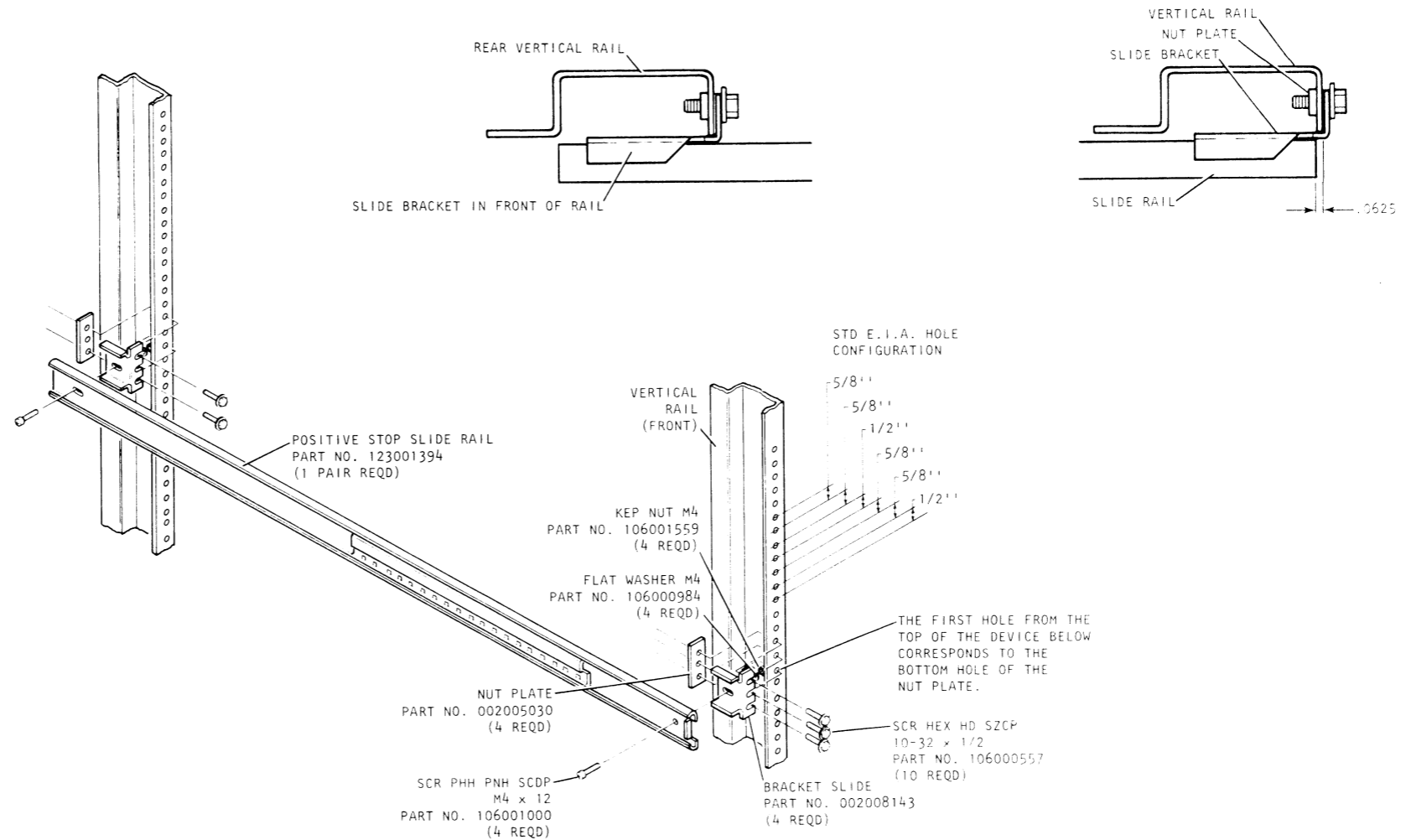
TYPE B



CABINET MOUNTING

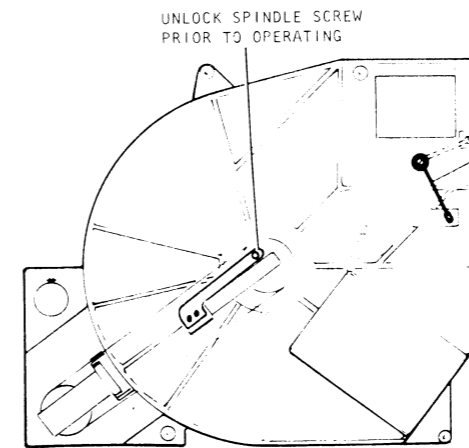
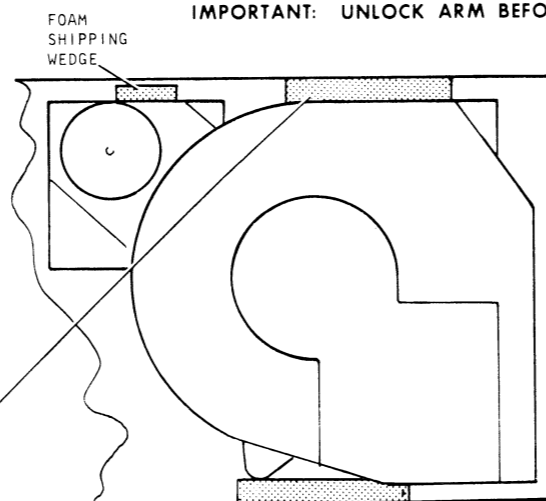
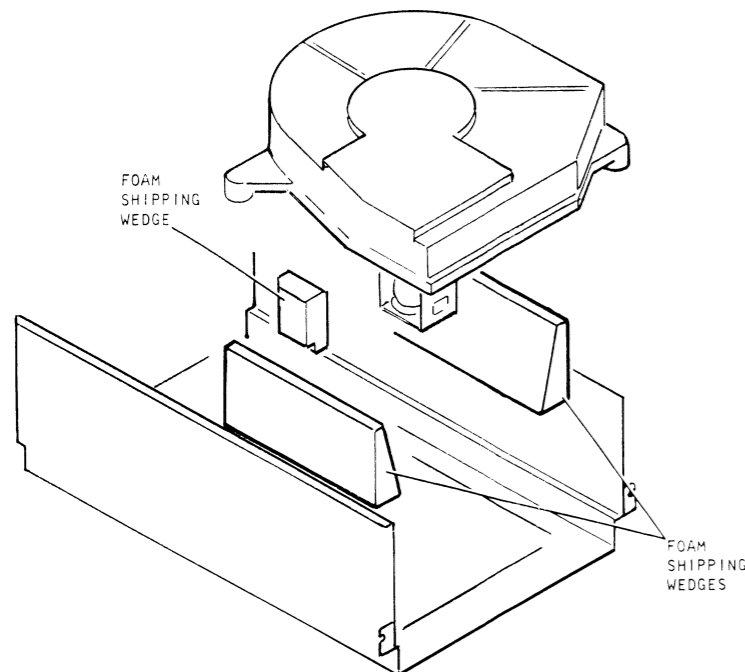
HARDWARE MOUNTING KIT 005-016674

TORQUE REQUIREMENTS		
SCREW NO	IN/LB	N/M
M4	13.27-15.04	1.5-1.70
8-32	14.5-15.5	1.63-1.75
10-32	33-35	3.7-3.95



SHIPPING RESTRAINTS

IMPORTANT: UNLOCK ARM BEFORE OPERATING.



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:

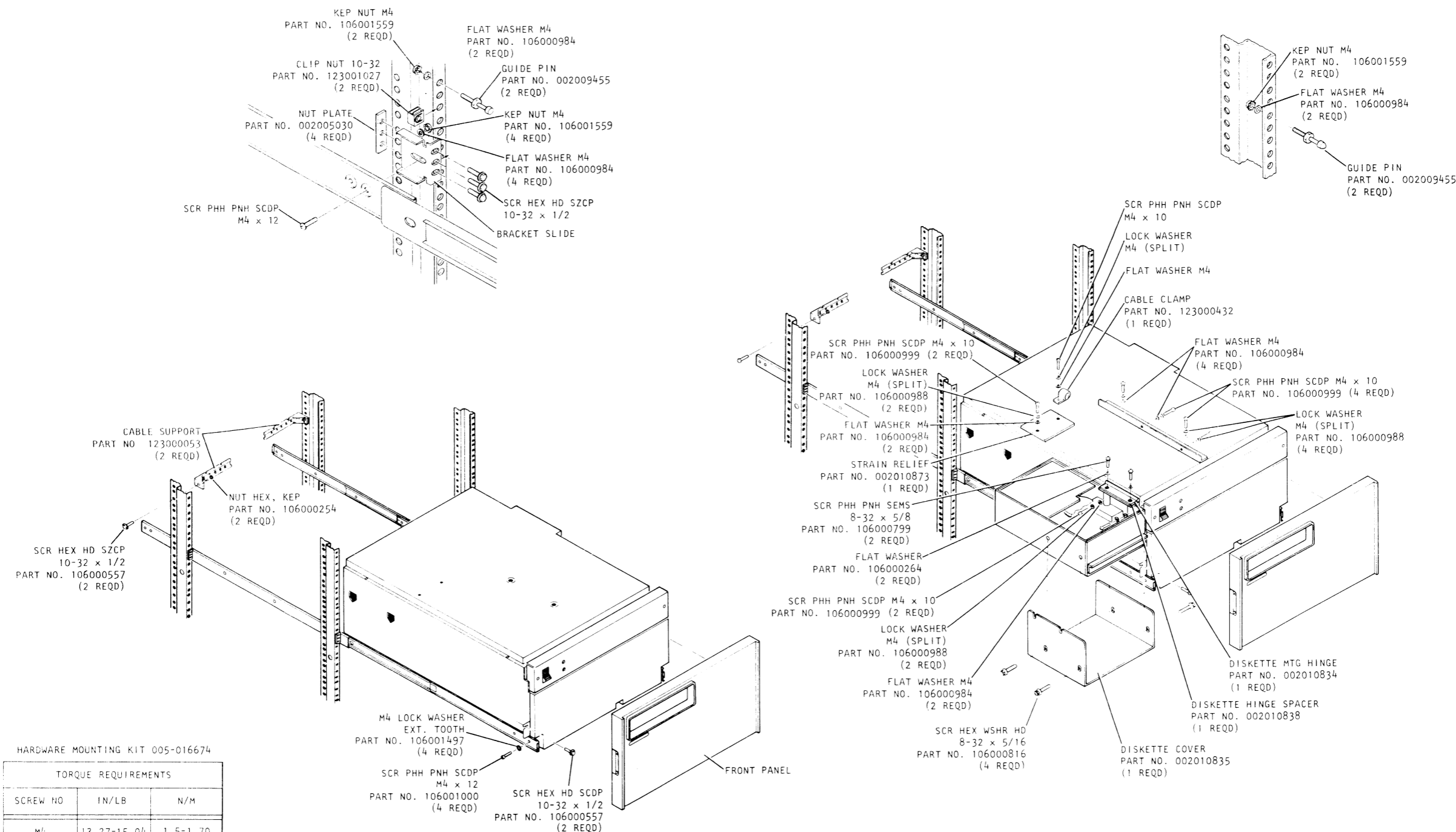
WHEN RETURNING A MODULE TO THE MANUFACTURING FACILITY, PERFORM THE FOLLOWING TASKS.

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.

DG-06034

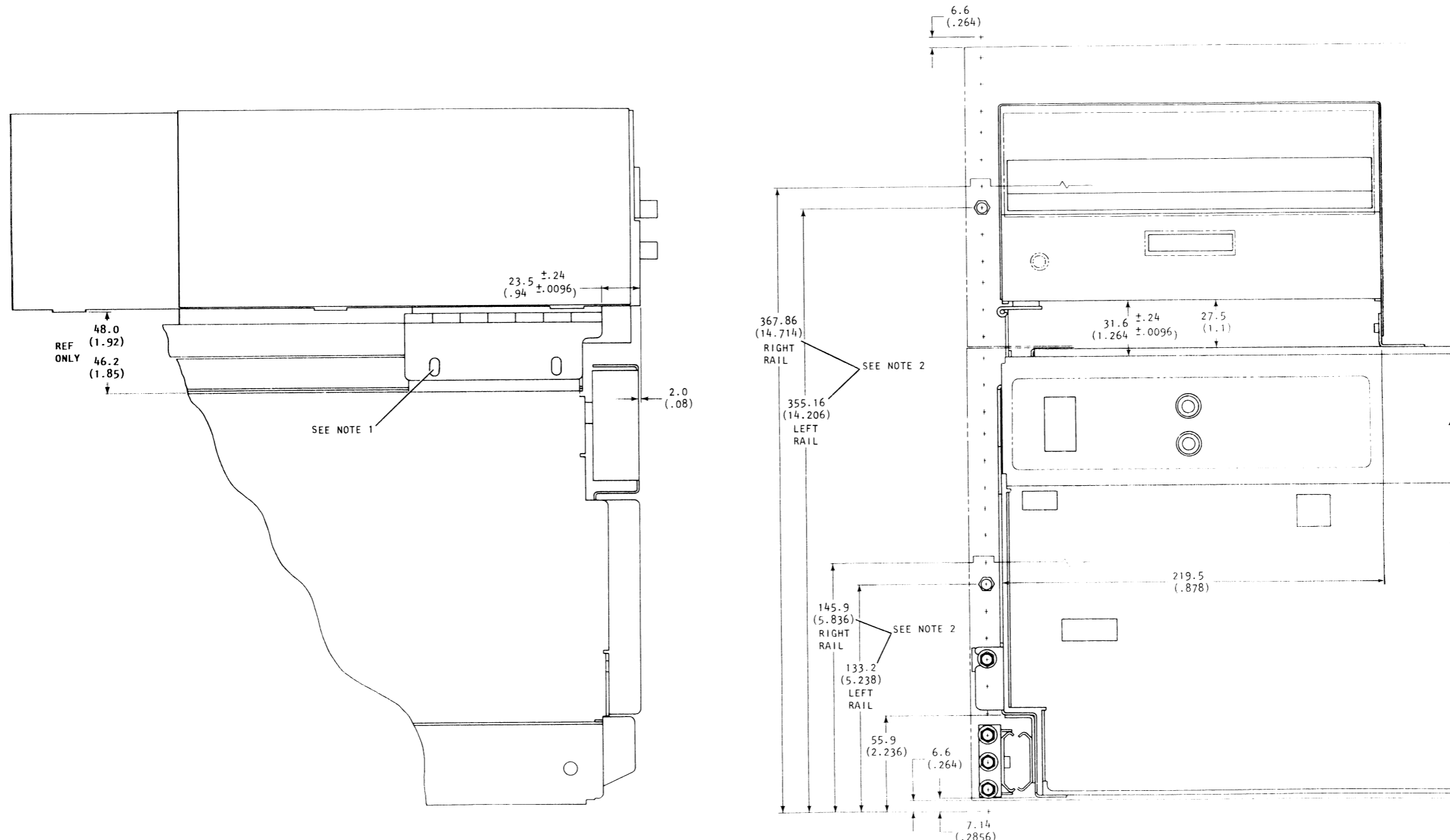
CABINET MOUNTING (CONT)



HARDWARE MOUNTING KIT 005-016674

TORQUE REQUIREMENTS		
SCREW HO	IN/LB	N/M
M4	13.27-15.04	1.5-1.70
8-32	14.5-15.5	1.63-1.75
10-32	33-35	3.7-3.95

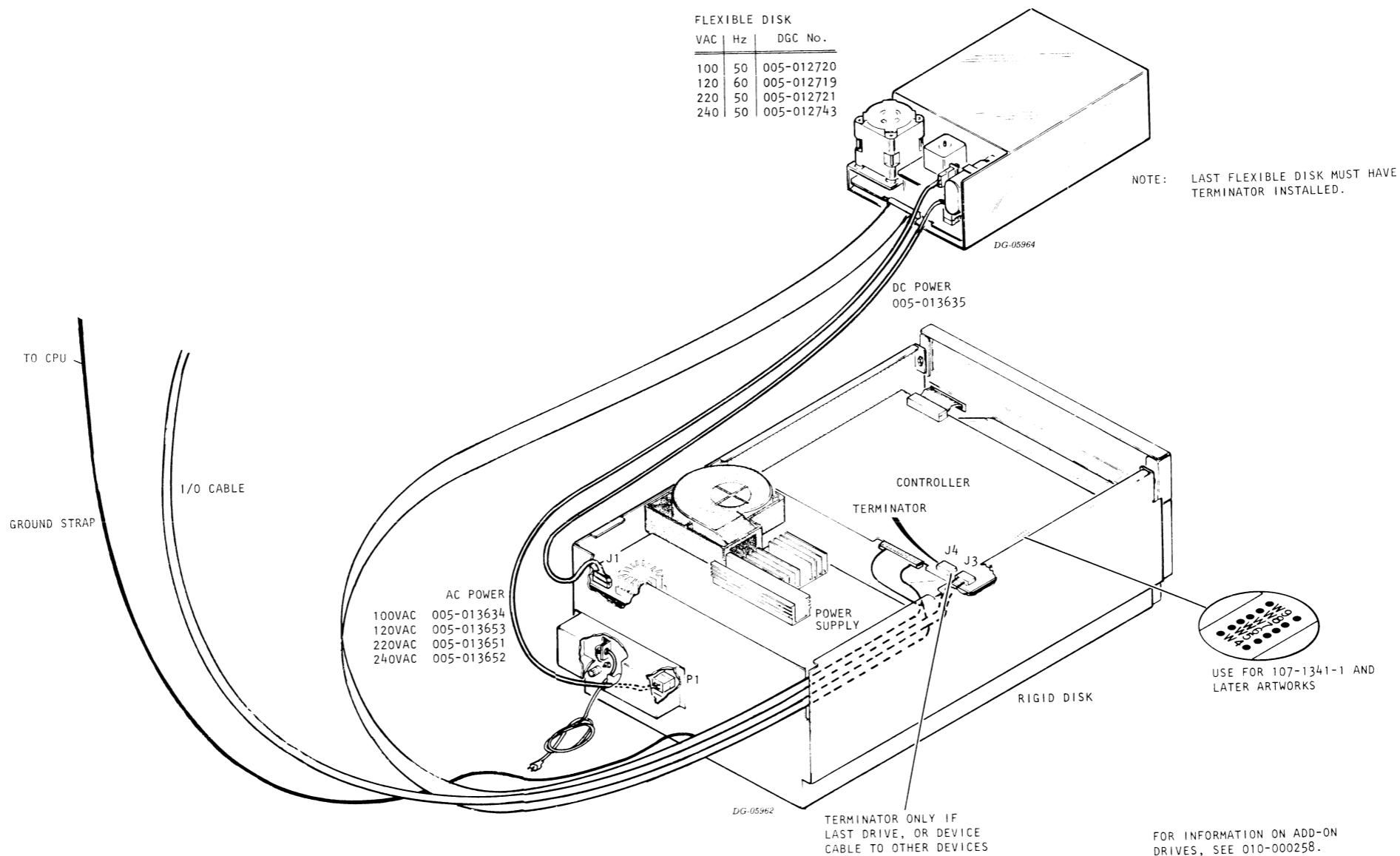
CABINET MOUNTING (CONT)



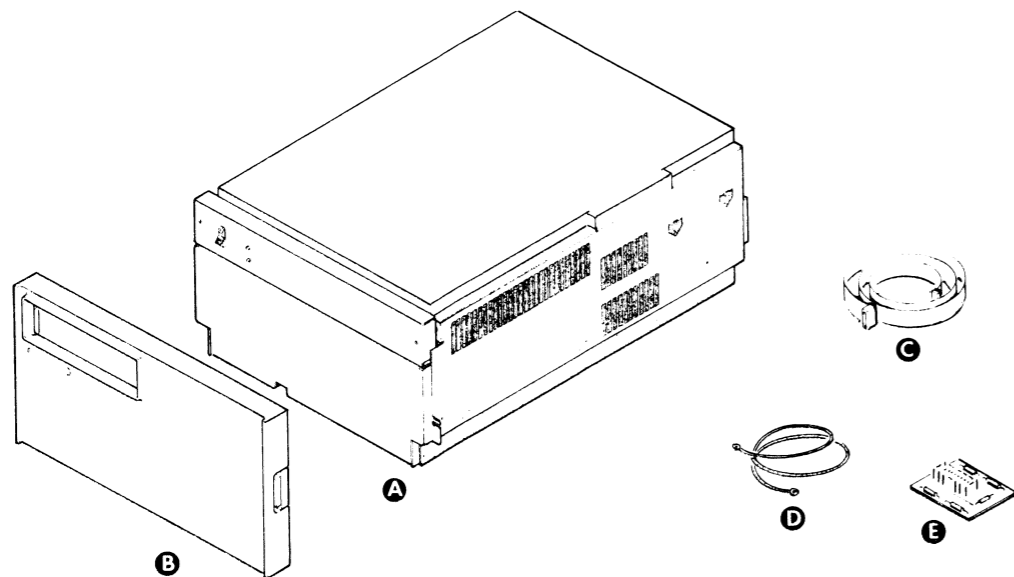
- NOTES: 1. TORQUE SCREW TO 2.4 - 2.6 N/M
 2. NOMINAL DIMENSIONS LOCATING CENTERLINES OF BALL STUDS FOR MOUNTING OF FRONT PANELS

DIMENSIONS IN MILLIMETERS
 INCHES IN PARENTHESES FOR REFERENCE

EXTERNAL CABLING



INSTALLATION SPECIFICATIONS



DIG 01920

MAJOR COMPONENT

ITEM	COMPONENT	MOUNTING LOCATION	NOTES
A	RIGID DISK DRIVE	CABINET	
B	FRONT PANEL	CABINET	

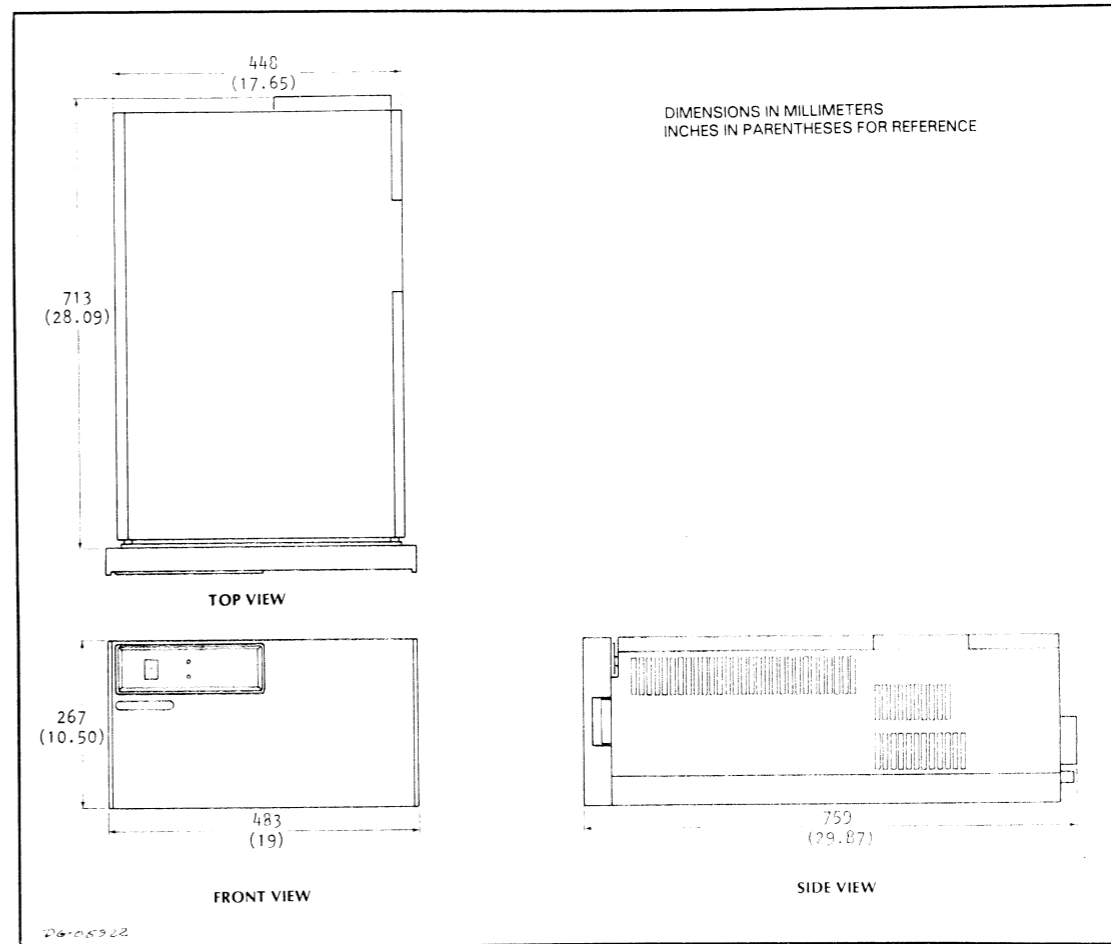
CABLE

ITEM	CABLE	CONNECTING	LENGTH		NOTES
			FT	M	
C	I/O CABLE	CONTROLLER AND MICRONOVA BACKPANEL			
D	GROUND BRAID	CPU TO RIGID DISK CHASSIS			

MAXIMUM ACCUMULATIVE BUSS LENGTH IS 100 FT. /30M
SEE 010-000344 FOR CONFIGURATION AND 005#'S.

TERMINATOR

ITEM	TERMINATOR	LOCATION	NOTES
E	TERMINATOR	CONTROLLER J4	



DIMENSIONS:	Width	Depth	Height
Millimeters	483	759	267
Inches	19	29.87	10.5

SERVICE CLEARANCES:	Front	Bottom
Millimeters	686	203
Inches	27.5	8

WEIGHT:	
Kilograms	34
Pounds	75

HEAT OUTPUT (MAX)	Watts	BTU/hr
100V	340	1160
120V	336	1146
220V	330	1126
240V	336	1147

OPERATING ENVIRONMENT:		
Temperature (max)		
Room	32°C	90°F
Cabinet	43°C	109°F
Relative Humidity (max)	80	
Altitude	3048m(10,000')	

POWER REQUIREMENTS:				
(Domestic)				
Voltage	120			
Hz	60			
Amp per Phase	2.8			
Startup Surge per Phase	10A 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
Startup Surge per Phase	12A	12A	5.5A	5A for 10 seconds

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

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

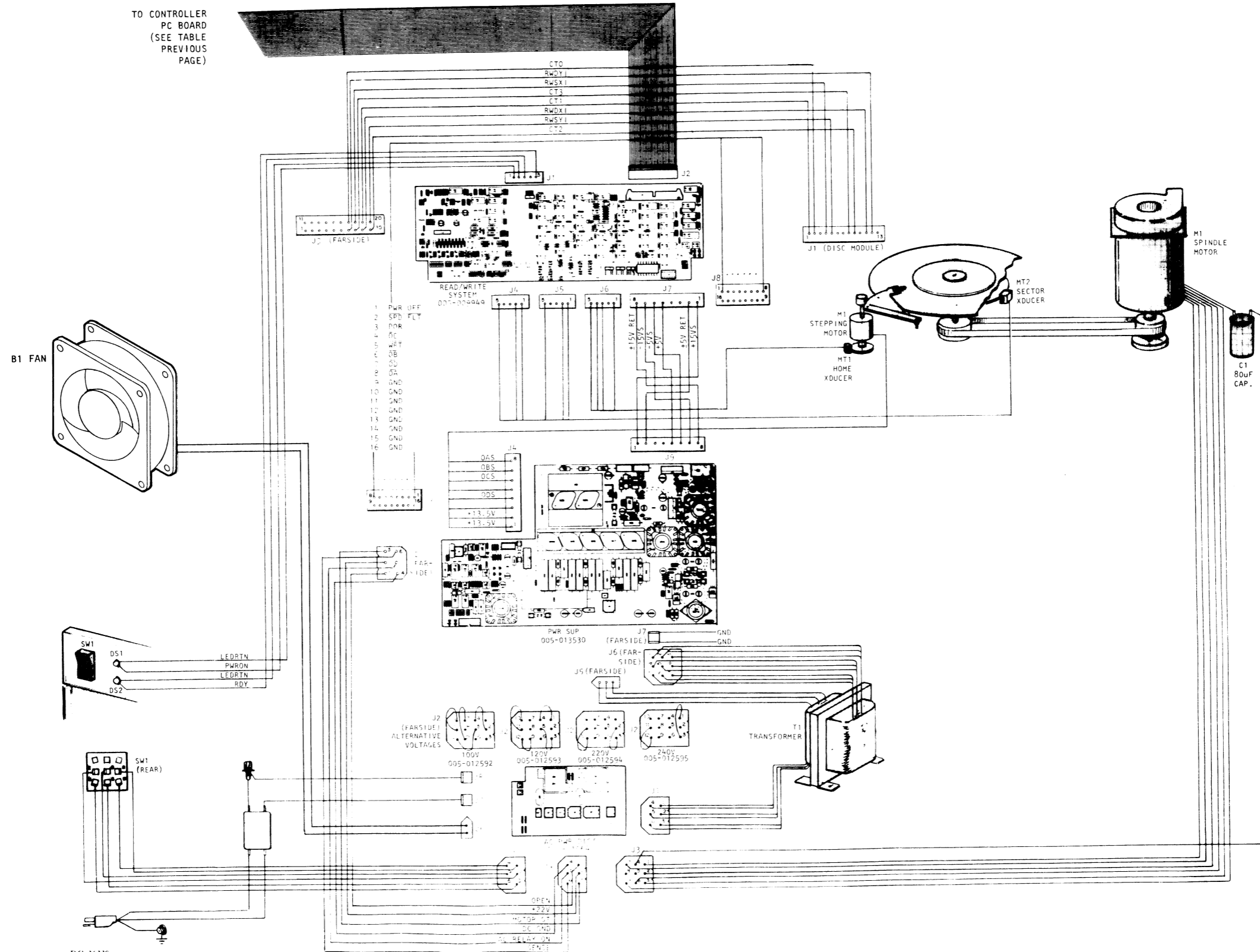
FOR PACKING PROCEDURE,
SEE 010-000263

INTERNAL CABLING

INTERNAL CABLE WIRE LIST

SIGNAL NAME	RIGID DISK
	SOCKET CONNECTOR 50 PIN P1
GND	1
XPOR	2
GND	3
X PWR OFF	4
GND	5
HOME	6
GND	7
QD	8
QC	9
QB	10
QA	11
GND	12
H1	13
H2	14
H4	15
GND	16
RDGATE	17
GND	18
WRGATE	19
GND	20
PREAMBLE	21
GND	22
XSC16	23
XSC8	24
XSC4	25
XSC2	26
XSC1	27
GND	28
XSCTR PLS	29
GND	30
XSCNTVALID	31
GND	32
RDY	33
SWAP 01	34
WRPRO	35
GND	36
R/W FLT	37
SPD FLT	38
GND	39
WR CLK RTN-	40
WR CLK RTN +	41
GND	42
WR OSC RTN-	43
WR OSC RTN+	44
GND	45
NRZ DAT-	46
NRZ DAT+	47
GND	48
R/W CLK-	49
R/W CLK+	50

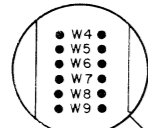
INTERNAL CABLING (CONT)
INTERCONNECTION DIAGRAM



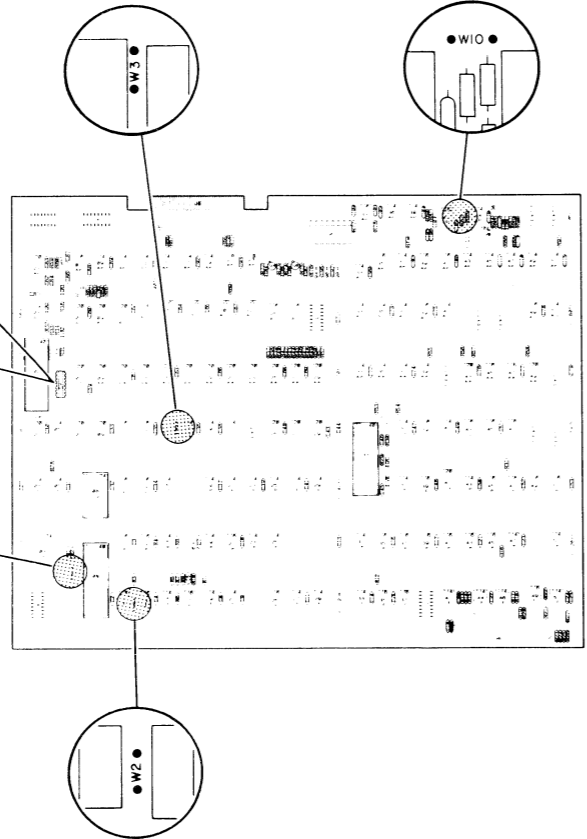
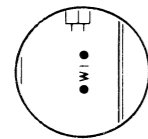
TAILORING

CONTROLLER BOARD

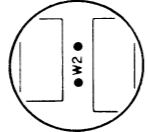
USE FOR 107-1341-01 AND LATER ARTWORKS



USE FOR 107-1341 REV 00 ARTWORK ONLY



NOT AVAILABLE ON REV. 00 ARTWORK

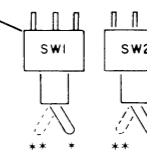
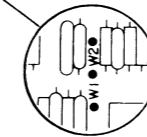
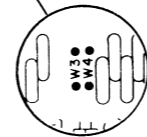
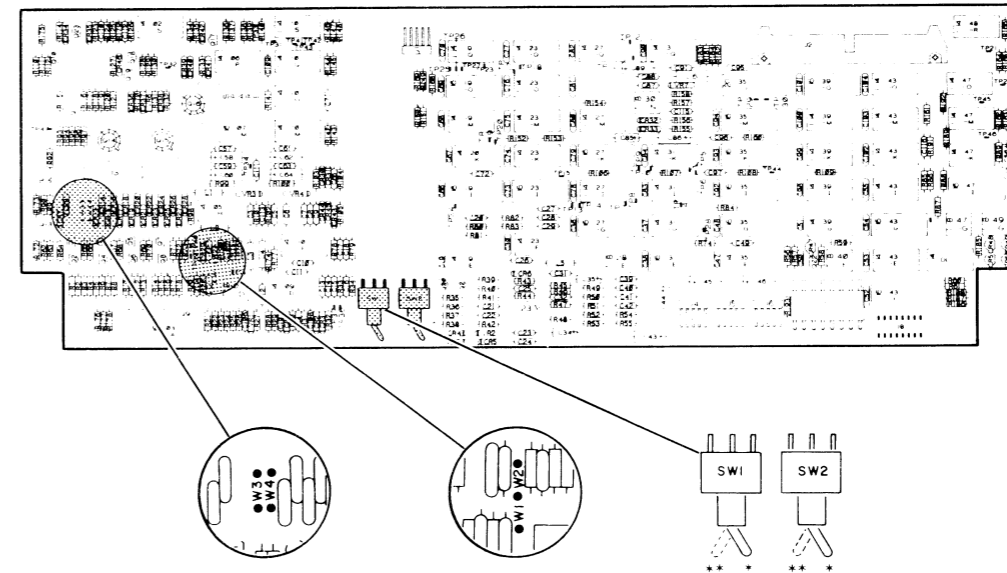


CONTROLLER DEVICE CODE SELECT			
JUMPER NUMBER	SWITCH NUMBER	DEVICE CODE 26	DEVICE CODE 66
N/A	1	OFF*	OFF*
W4	2	OFF/OUT	ON/IN
W5	3	ON/IN	ON/IN
W6	4	OFF/OUT	OFF/OUT
W7	5	ON/IN	ON/IN
W8	6	ON/IN	ON/IN
W9	7	OFF/OUT	OFF/OUT

* THIS SWITCH NOT USED

CONTROLLER JUMPER SELECTION			
12.5 MBY		25 MBY	
JUMPER		JUMPER	
W1	OUT	W1	OUT
W2	IN	W2	OUT
W3	IN	W3	IN
W10	IN	W10	IN

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

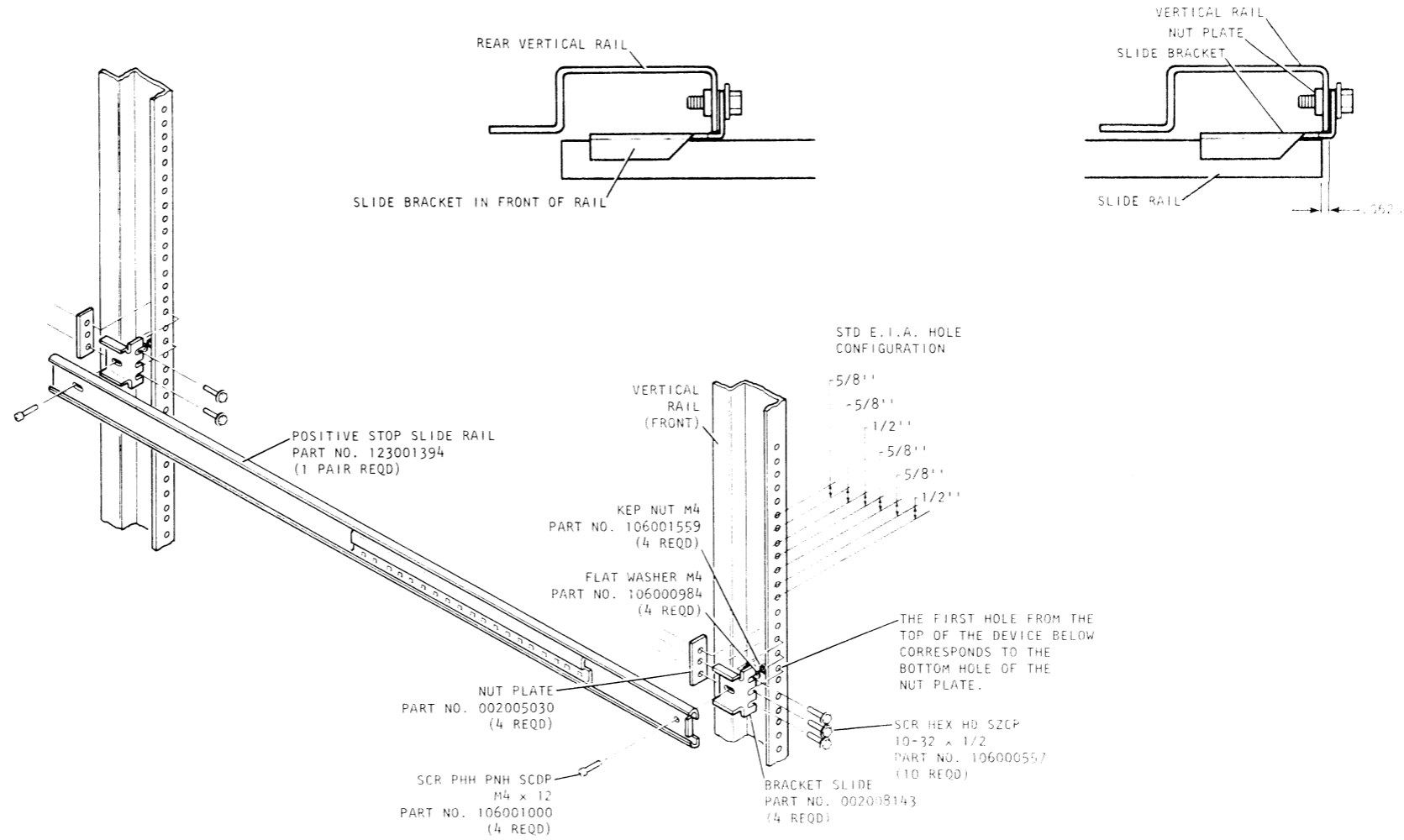
* INSERTED FOR FACTORY USE ONLY

SWITCH SETTINGS	
SWITCH	*RIGHT
SW-1	RIGID DISK NOT WRITE PROTECTED
SW-2	RIGID DISC = UNIT 0 FLEXIBLE DISK = UNIT 1
** LEFT	
SW-1	RIGID DISK WRITE PROTECTED
SW-2	RIGID DISK = UNIT 1 FLEXIBLE DISK = UNIT 0

CABINET MOUNTING

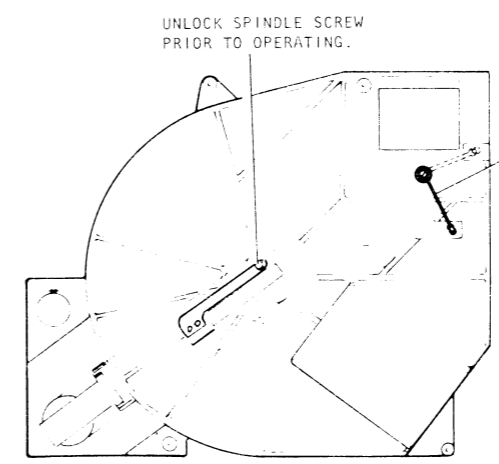
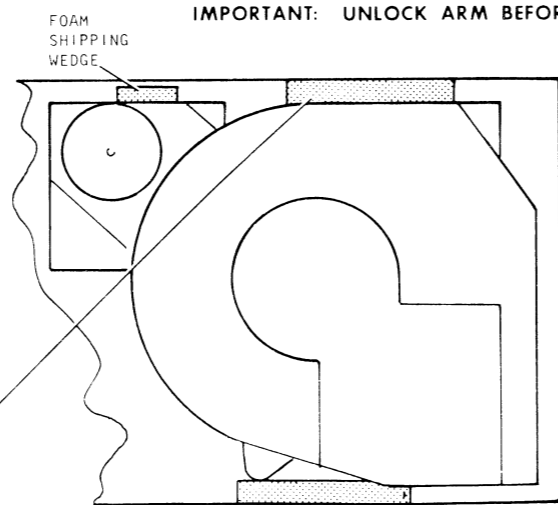
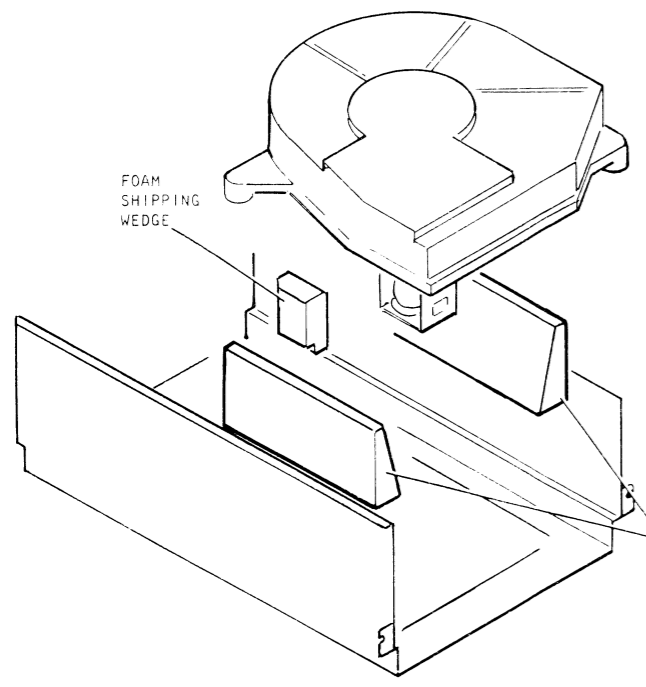
HARDWARE MOUNTING KIT 005-009934

TORQUE REQUIREMENTS		
SCREW NO	IN/LB	N/M
M4	13.27-15.04	1.5-1.70
8-32	14.5-15.5	1.63-1.75
10-32	33-35	3.7-3.95

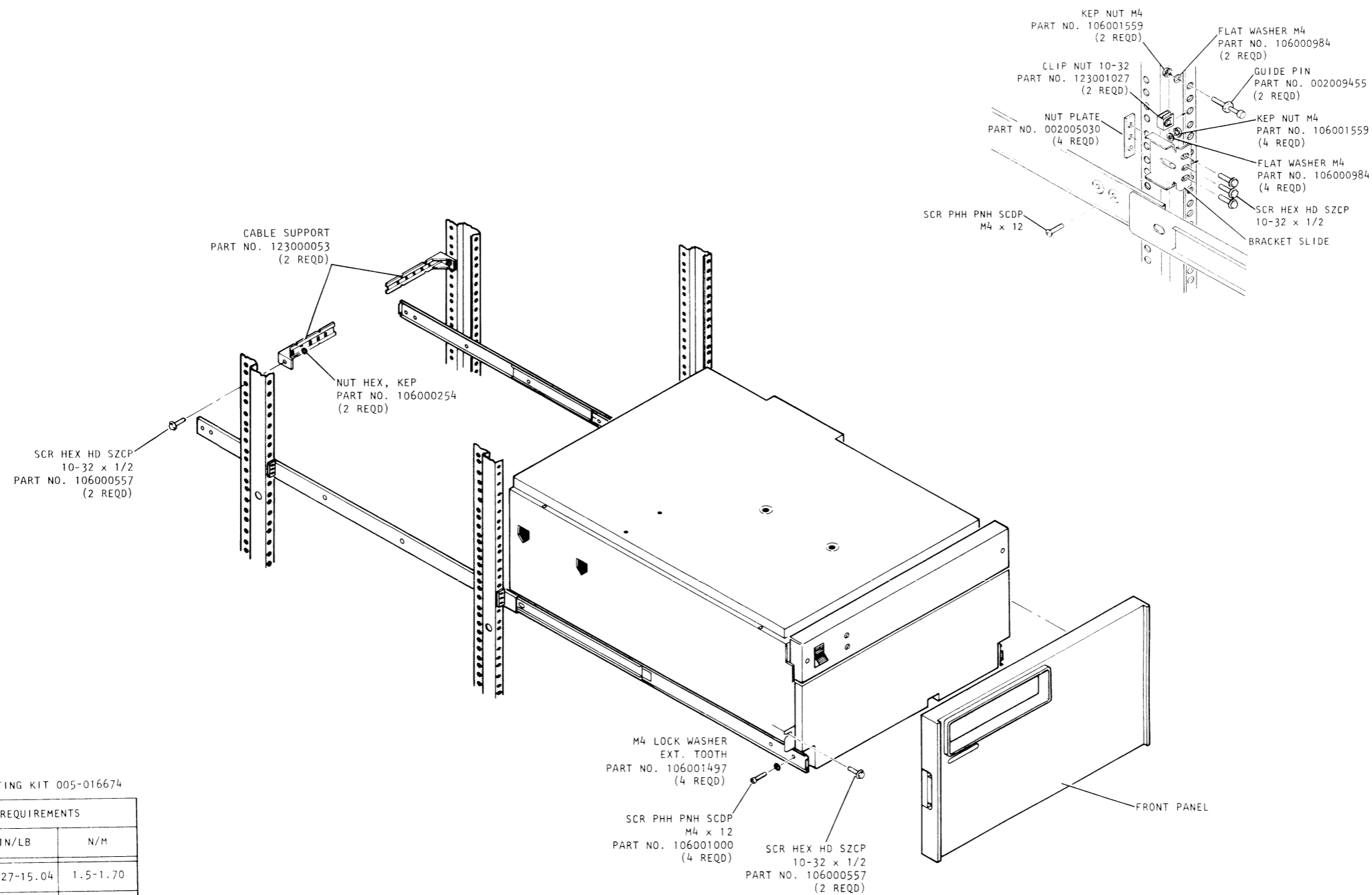


SHIPPING RESTRAINTS

IMPORTANT: UNLOCK ARM BEFORE OPERATING.



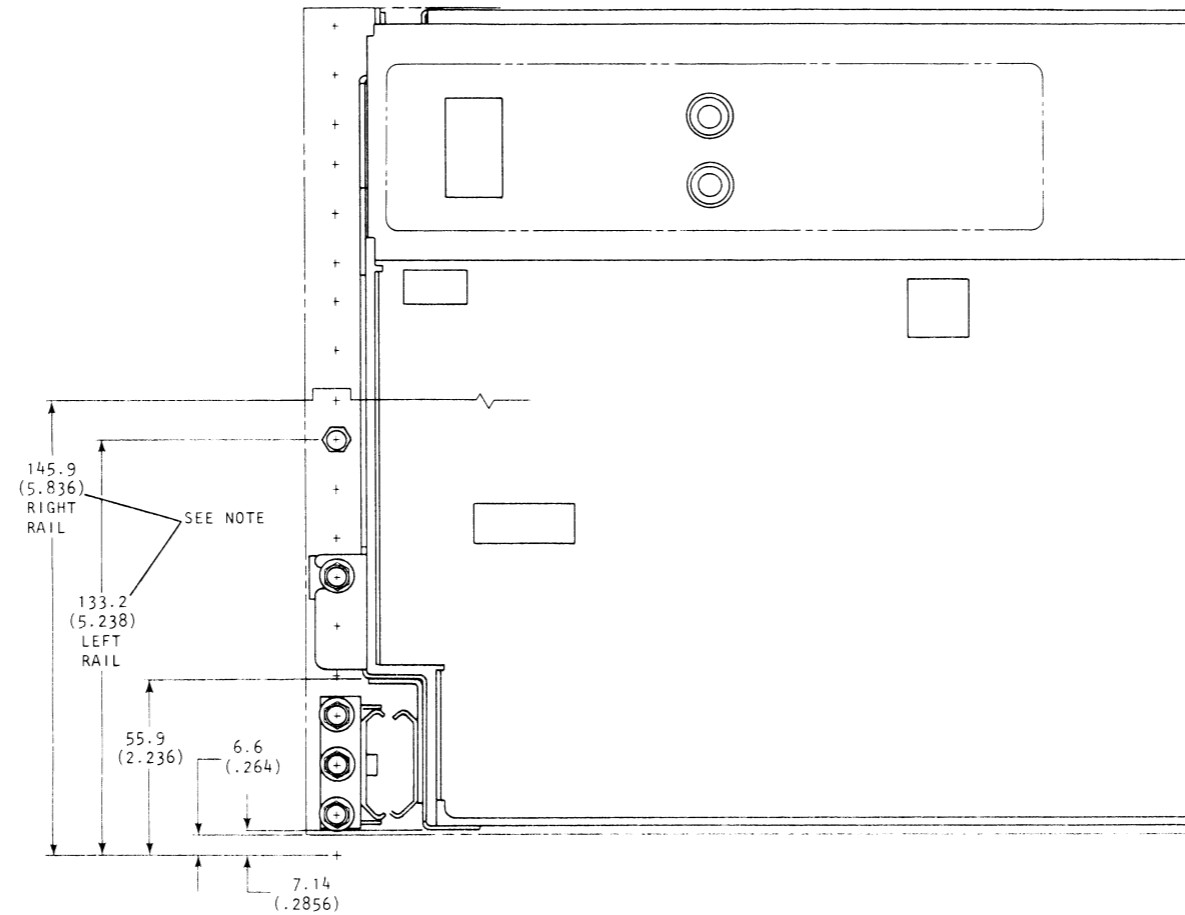
CABINET MOUNTING (CONT)



HARDWARE MOUNTING KIT 005-016674

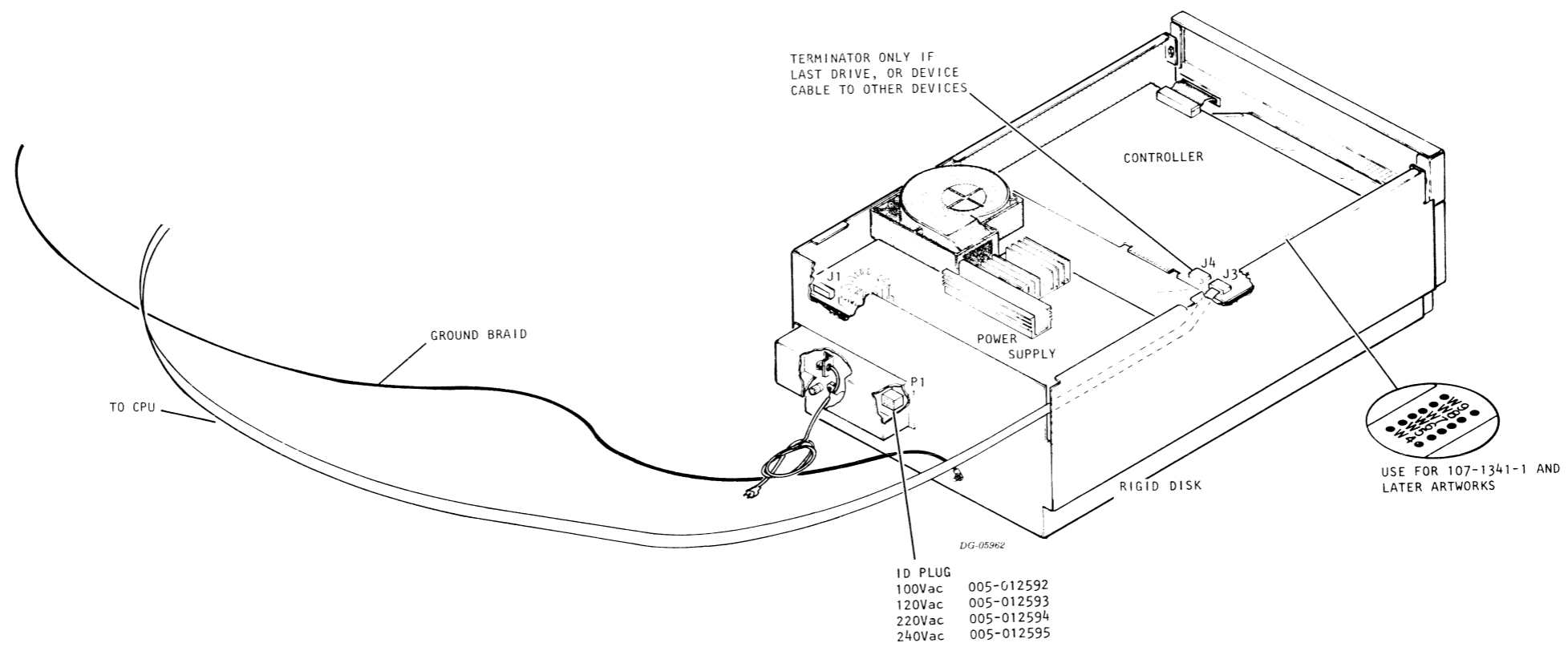
TORQUE REQUIREMENTS		
SCREW NO	IN/LB	N/M
M4	13.27-15.04	1.5-1.70
8-32	14.5-15.5	1.63-1.75
10-32	33-35	3.7-3.95

CABINET MOUNTING (CONT)

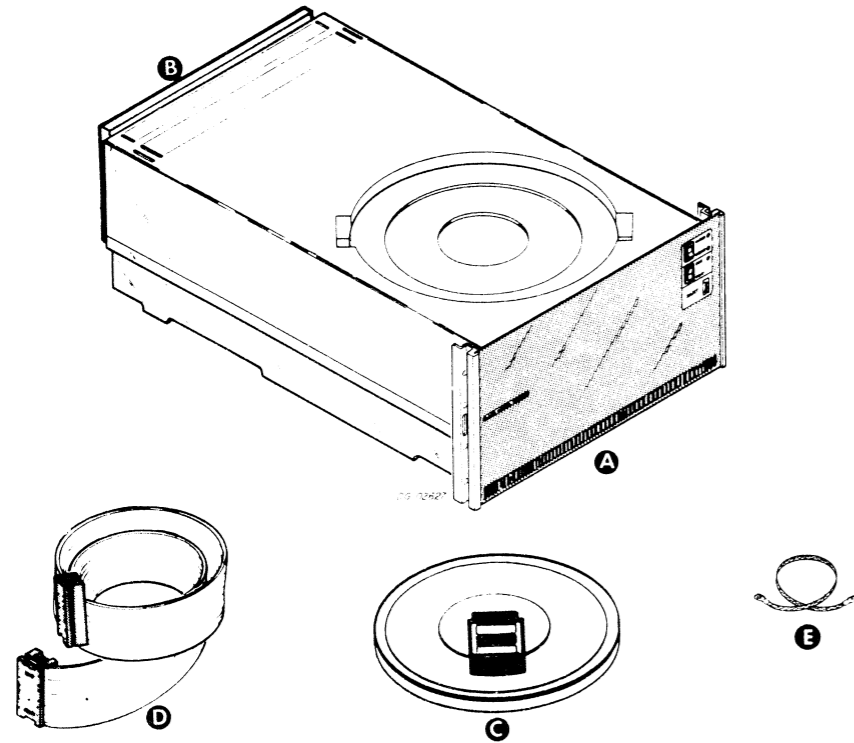


NOTE: NOMINAL DIMENSIONS LOCATING CENTERLINES OF BALL STUDS FOR MOUNTING OF FRONT PANEL

EXTERNAL CABLING



SUBSYSTEM COMPONENT BREAKDOWN



MAJOR COMPONENT			
Item	Component	Mounting Location	Notes
A	10 MBYTE CARTRIDGE DISC DRIVE	CABINET	TWO DRIVES PER CABINET MAXIMUM
B	DISC CONTROLLER	REAR OF DISC DRIVE	ONE REQUIRED PER DRIVE
C	DISC CARTRIDGE	10 MBYTE CARTRIDGE DISC DRIVE	ONE REQUIRED PER SUBSYSTEM

CABLE				
Item	Cable	Connecting	Max Allowed Lg	Notes
D	DEVICE CABLE	COMPUTER CHASSIS CONN. and DISC DRIVE	100 / 30	VARIABLES WITH COMPUTER. LENGTH IS A MAXIMUM FOR THE TOTAL SYSTEM.
E	GROUND BRAID	CPU DISK DRIVE and DISK DRIVE		

SEE 010-000344 FOR CONFIGURATION AND 005#'S

WARNING

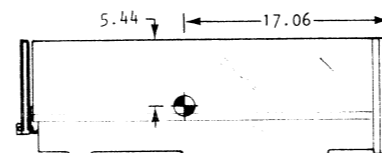
THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY ENERGY AND IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTION MANUAL, MAY CAUSE INTERFERENCE TO RADIO COMMUNICATIONS. AS TEMPORARILY PERMITTED BY REGULATION IT HAS NOT BEEN TESTED FOR COMPLIANCE WITH THE LIMITS FOR CLASS A COMPUTING 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 THE CABINET-MOUNTED COMPONENTS

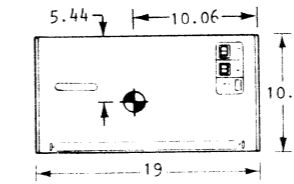
Item	Component	Number in Sub-system	Maximum Operating Temperature				Primary Power					Cabinet Height Required			Weight lbs / kg	Power Dissipation (Max Watts)	Preferred Location or Remarks	Operating Humidity (Relative)	
			Component °F	Media °F	Component °C	Media °C	Volts	Hz	Phase	Cond	Amps	Area	in.	cm				min	max
A	100	1-4	110	43	90	32	100	50	1	3	5.7	6	10.5	26.7	150 / 67	500	1. AREA B 3-8 AND 9-14 FOR OPERATOR CONVENIENCE 2. MAX 2 DRIVE PER CABINET ADJACENT AREAS. 3. POWER CORD 5 FT./1.5M LG 4. AT LEAST 3 IN. BELOW COMP. CABINET MUST BE EQUIPPED WITH ANT-TIP LEGS.	20	80
	120	1-4	110	43	90	32	120	60	1	3	4.9	6	10.5	26.7	150 / 67	500		20	80
	220	1-4	110	43	90	32	220	50	1	3	2.6	6	10.5	26.7	150 / 67	500		20	80
	240	1-4	110	43	90	32	240	50	1	3	2.4	6	10.5	26.7	150 / 67	500		20	80

NOTE: MAXIMUM OPERATING ALTITUDE 10,000FT/3046m FOR ALL DISC DRIVES
FOR NOVA STYLE CABINETS, MOD KIT 005-005249 IS REQUIRED. SEE 010-000056

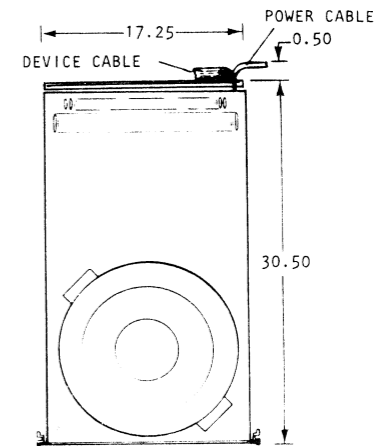
Voltage	Power Cable Length		Power Cable Plug	Mating Receptacle on Power Drop	Mating Receptacle in Wall
	ft	m			
100V, 50Hz	5	1.52	5-15P	5-15R	5-15R
120V, 60Hz	5	1.52	5-15P	5-15R	5-15R
220V, 50Hz	5	1.52	6-15P	6-15R	6-15R
240V, 50Hz	5	1.52	6-15P	6-15R	6-15R



06-02628 SIDE VIEW

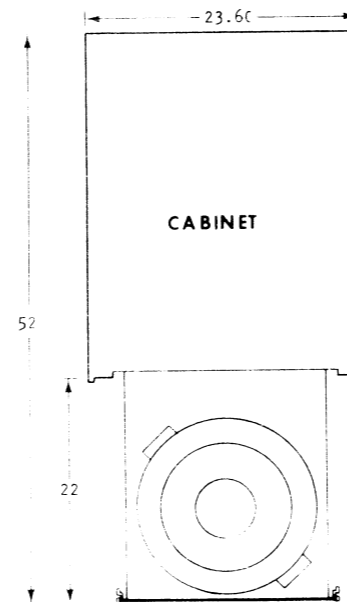


FRONT VIEW

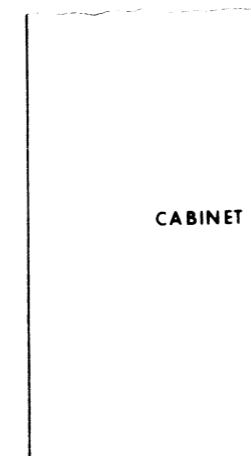


TOP VIEW

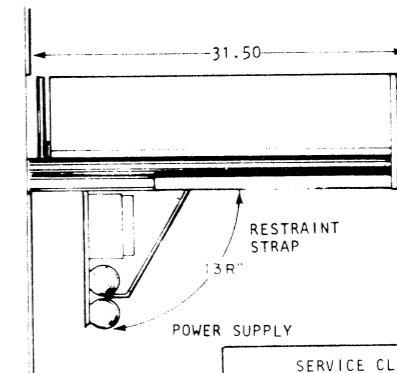
NOTE: THE READ/WRITE HEADS ARE CAREFULLY ALIGNED AT THE FACTORY, AND THE EQUIPMENT IS PACKED IN PROTECTIVE CONTAINERS TO PREVENT DAMAGE DURING SHIPMENT. HOWEVER, ROUGH HANDLING MAY MOVE THE HEADS, SO THAT RE-ALIGNMENT ON-SITE MAY BE REQUIRED. IF THE HEADS DO REQUIRE ALIGNMENT, REFER TO THE PROCEDURE INCLUDED IN THE DOCUMENTATION SUPPLIED WITH THE EQUIPMENT.



OPERATING DIMENSIONS



SERVICE DIMENSIONS



SERVICE CLEARANCES		
	FRONT	LEFT & RIGHT
MM	1219.2	609.6
IN	48	24

CAUTION: EXERCISE EXTREME CARE WHEN LOWERING THE POWER SUPPLY. IF ALLOWED TO FALL FREELY, IT WILL OVERCOME THE RESTRAINT STRAP AND SWING INTO AND DAMAGE COMPONENTS IN THE CABINET BELOW THE DISC DRIVE.

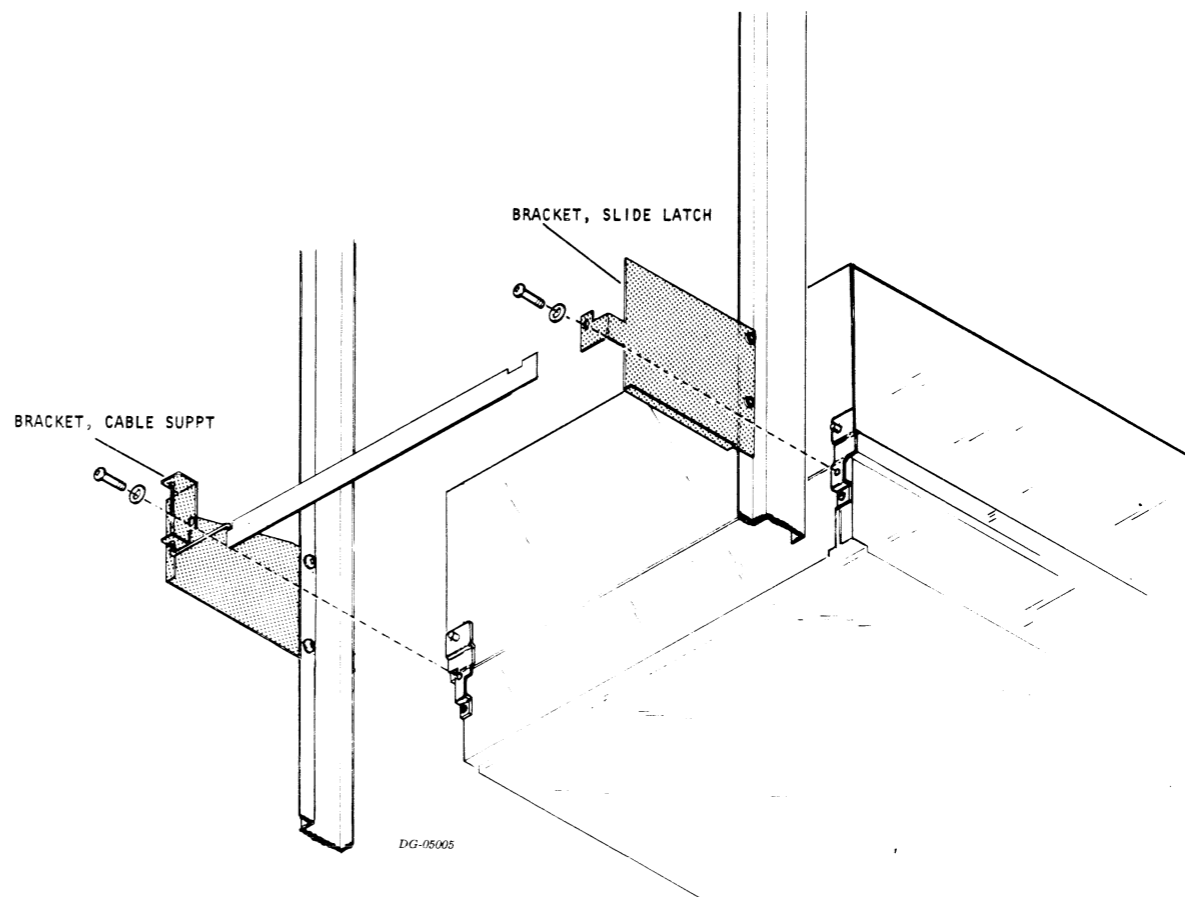
SHIPPING

FOR PACKING PROCEDURE,
SEE 010-000263

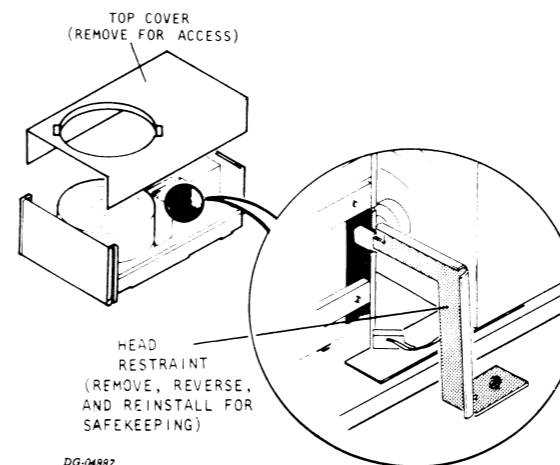
SHIPPING SPECIFICATIONS			STORAGE SPECIFICATIONS		
Temperature Range	Relative Humidity	Maximum Altitude	Temperature Range	Relative Humidity	Maximum Period
$^{\circ}\text{F}$ / $^{\circ}\text{C}$	(Non-condensing)		$^{\circ}\text{F}$ / $^{\circ}\text{C}$	(Non-condensing)	

DG-03224

MOUNTING SHIPPING BRACKETS TO RAILS

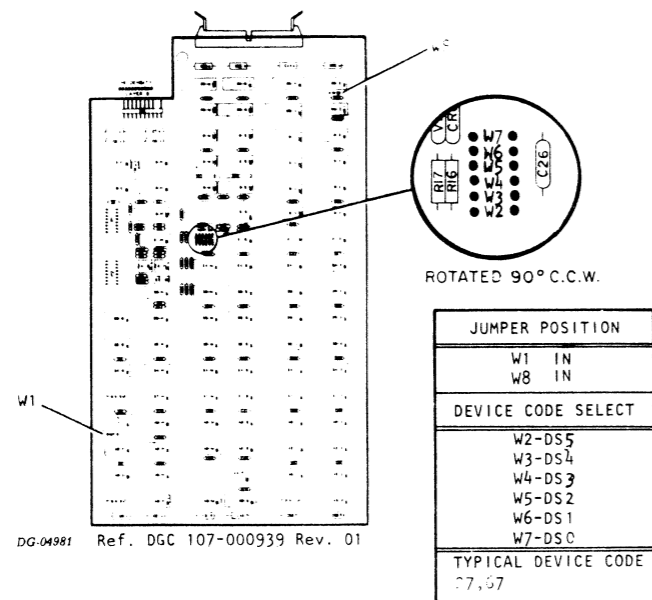


MOUNTING HEAD RESTRAINT

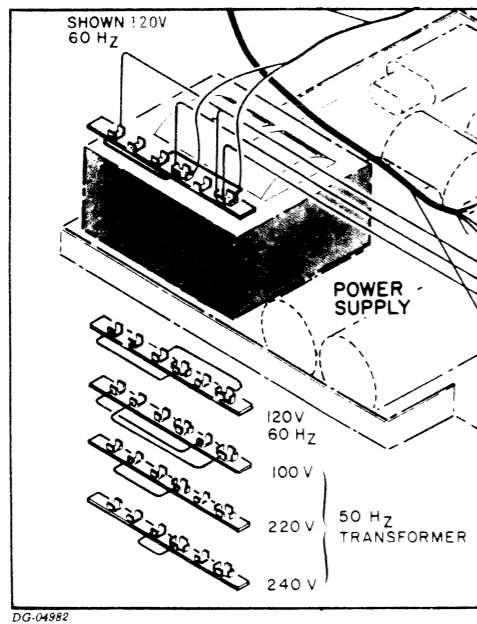


TAILORING

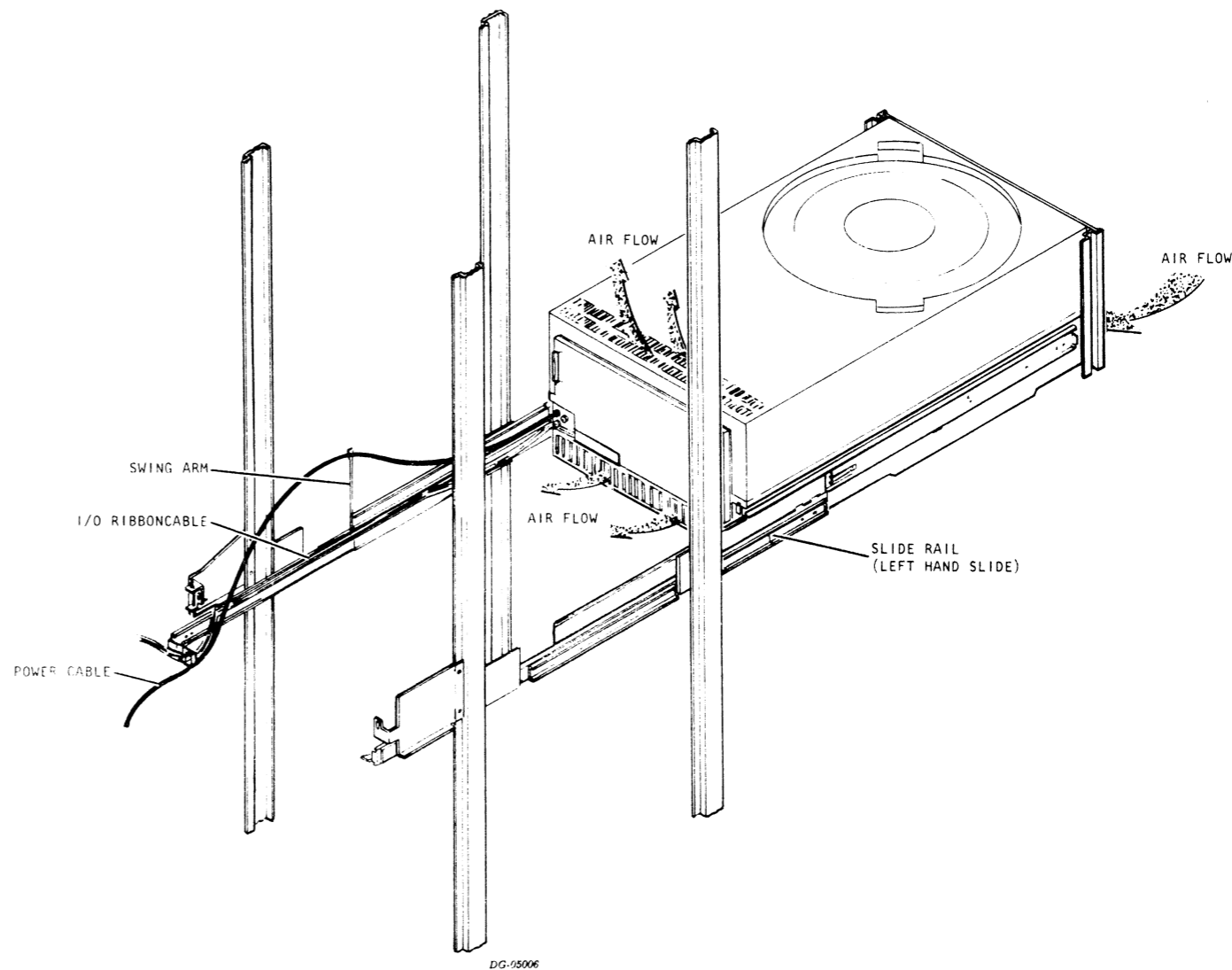
JUMPERS



INPUT VOLTAGE SELECTION



CABINET MOUNTED DISC DRIVE

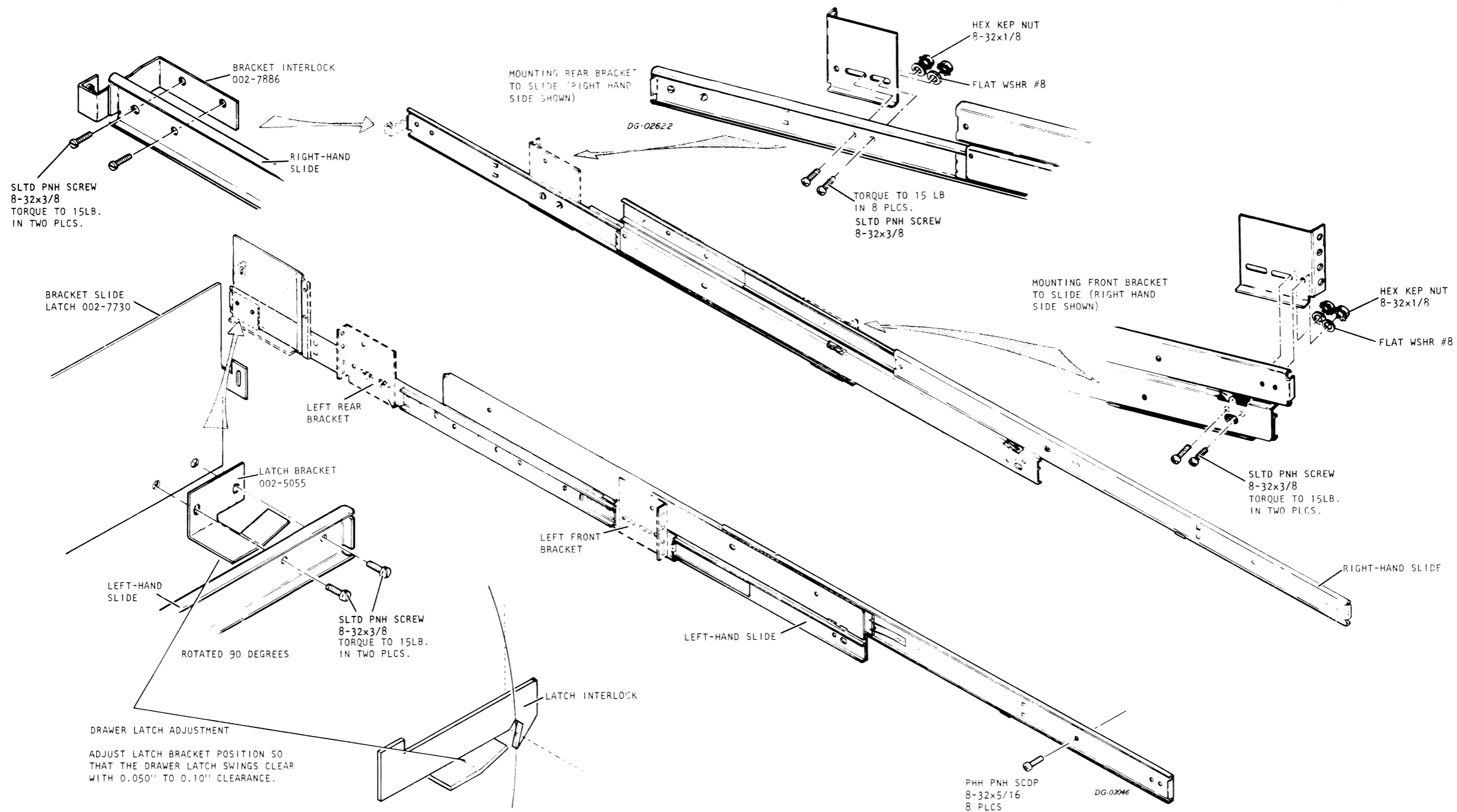


REAR VIEW OF A DISC DRIVE MOUNTED IN A STANDARD CABINET. DRIVE IS SHOWN PARTIALLY EXTENDED ON THE SLIDE RAILS. NOTE DISC CABLE INTERFACE ASSEMBLY FASTENED TO THE REAR OF DRIVE; SLACK IN FLAT CABLE AND POWER CABLES IS TAKEN UP BY A SPRING-LOADED SWING ARM.

INSTALLATION PROCEDURE

MOUNTING KIT (005 010071)

1. ASSEMBLE THE SLIDES. BE SURE TO IDENTIFY RIGHT AND LEFT SLIDES AND BRACKETS.



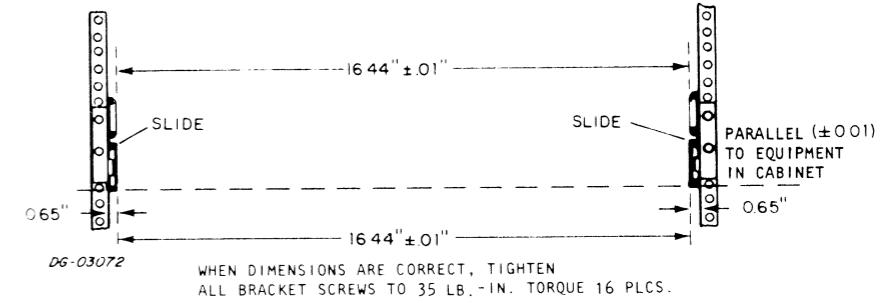
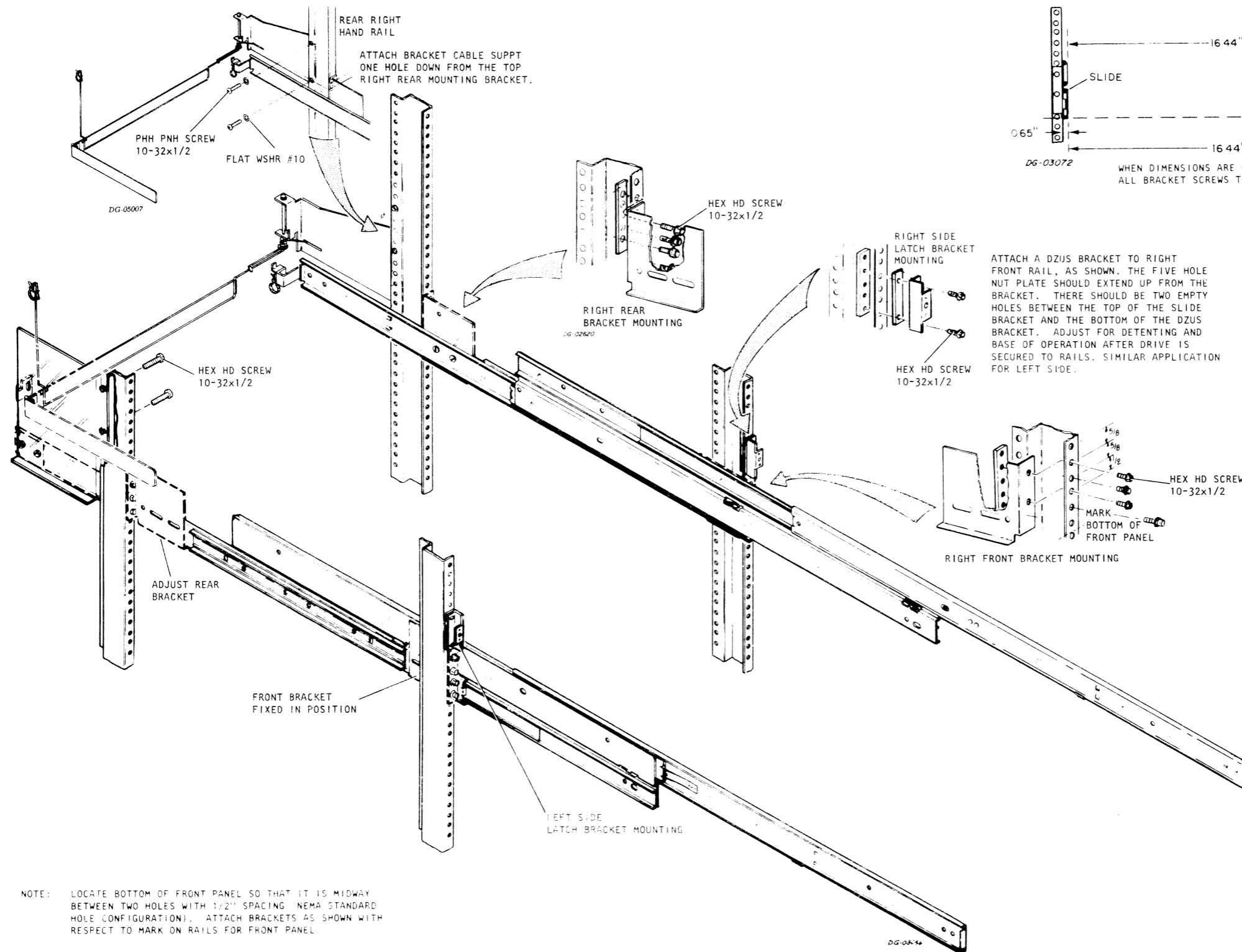
NOTE:
ALL NUTS AND WASHERS ON OUTSIDE OF SLIDES. TO GIVE CLEARANCE. LEFT FRONT AND RIGHT REAR SLIDE BRACKETS ARE THE SAME. RIGHT FRONT AND LEFT REAR SLIDE BRACKETS ARE THE SAME.

INSTALLATION PROCEDURE (CONT)

MOUNTING SLIDES TO RAILS

2. ATTACH ASSEMBLED SLIDES TO CABINET RAILS.
 FASTEN 1/0 FLAT CABLE LINE CORD ASSY. TO RIGHT REAR CABINET RAIL.
 FASTEN LATCH BRACKETS TO FRONT CABINET RAIL.

3. ADJUST RAILS FOR PARALLELISM AND WIDTH.



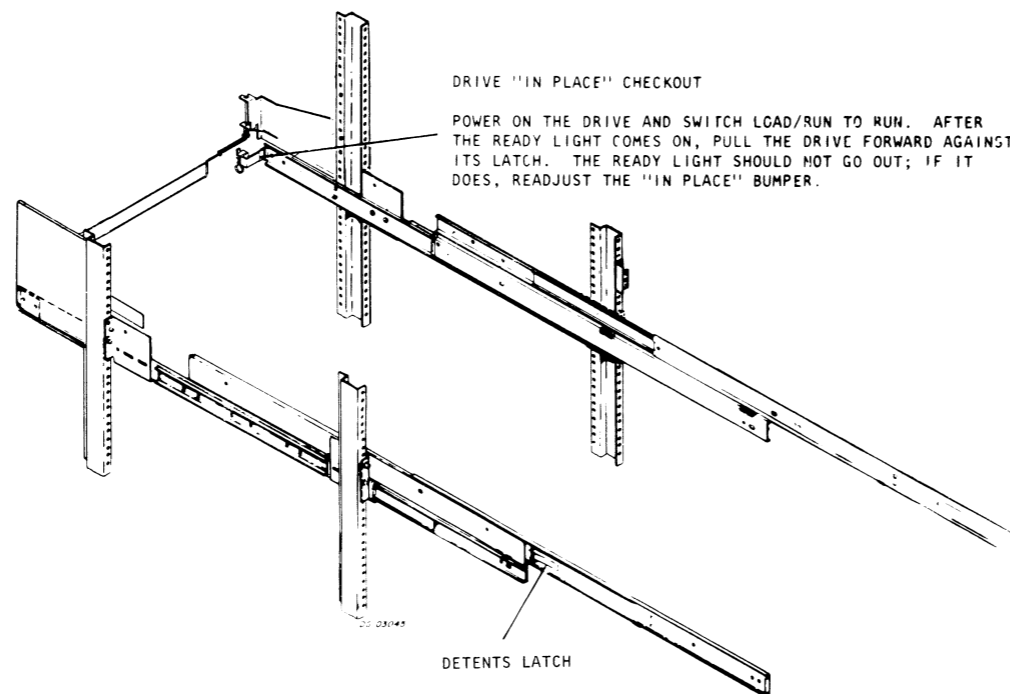
ATTACH A DZUS BRACKET TO RIGHT FRONT RAIL, AS SHOWN. THE FIVE HOLE NUT PLATE SHOULD EXTEND UP FROM THE BRACKET. THERE SHOULD BE TWO EMPTY HOLES BETWEEN THE TOP OF THE SLIDE BRACKET AND THE BOTTOM OF THE DZUS BRACKET. ADJUST FOR DETENTING AND BASE OF OPERATION AFTER DRIVE IS SECURED TO RAILS. SIMILAR APPLICATION FOR LEFT SIDE.

NOTE: LOCATE BOTTOM OF FRONT PANEL SO THAT IT IS MIDWAY BETWEEN TWO HOLES WITH 1/2" SPACING (NEMA STANDARD HOLE CONFIGURATION). ATTACH BRACKETS AS SHOWN WITH RESPECT TO MARK ON RAILS FOR FRONT PANEL.

INSTALLATION IN A CABINET MOUNTING CHASSIS ON THE SLIDES

4. INSTALL DISC DRIVE ONTO SLIDES.

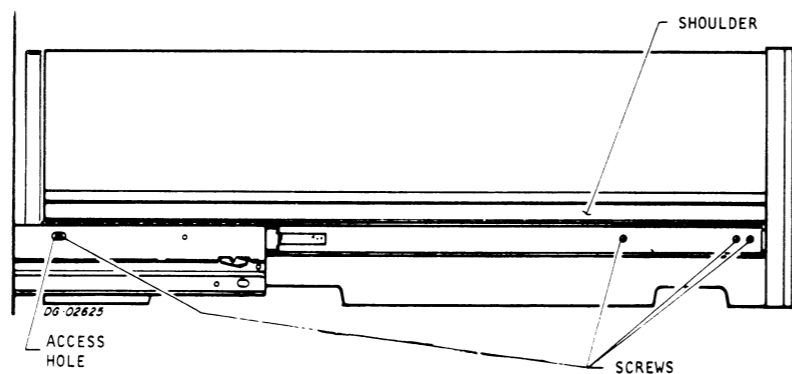
CAUTION: THIS STEP REQUIRES AT LEAST TWO, AND PREFERABLY THREE PERSONS; THE DRIVE WEIGHS APPROXIMATELY 150 POUNDS, AND SOME MANEUVERING IS REQUIRED DURING INSTALLATION.



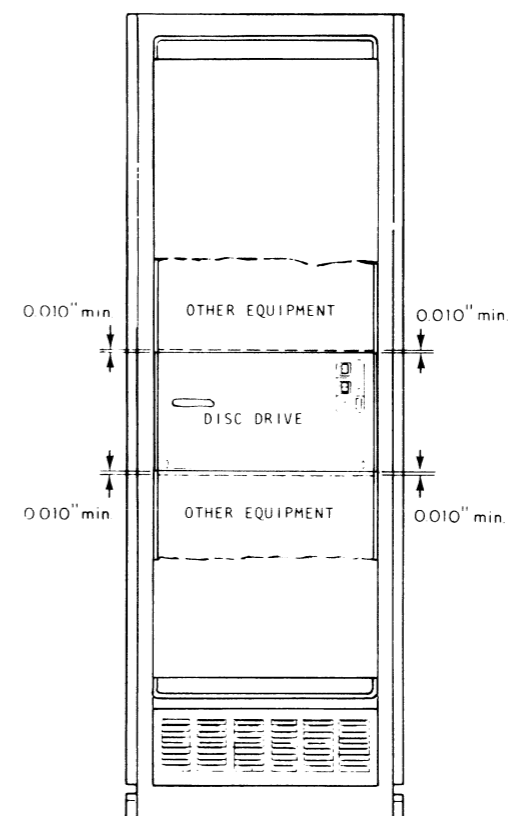
DRIVE "IN PLACE" CHECKOUT
POWER ON THE DRIVE AND SWITCH LOAD/RUN TO RUN. AFTER THE READY LIGHT COMES ON, PULL THE DRIVE FORWARD AGAINST ITS LATCH. THE READY LIGHT SHOULD NOT GO OUT; IF IT DOES, READJUST THE "IN PLACE" BUMPER.

DETENTS LATCH

EXTEND THE SLIDES TO THEIR FULLY EXTENDED (SERVICE) POSITION. ENSURE THAT THE DETENTS LATCH.



LIFT THE DRIVE INTO POSITION, SPREAD THE SLIDES, AND PLACE THE DRIVE ONTO THE EXTENDED SLIDES. PUSH THE SLIDES AGAINST THE CASTING SO THAT THE WEIGHT IS SUPPORTED BY THE MACHINED SHOULDER ON THE CASTING. THE SCREW HOLES IN THE SLIDE SHOULD ALIGN WITH THE TAPPED HOLES IN THE CASTING. SLIDE THE DRIVE FORWARD OR BACKWARD UNTIL THE HOLES ARE ALIGNED. BE SURE TO HOLD THE SLIDES FIRMLY AGAINST THE CASTING AND UNDER THE SHOULDER DURING THIS OPERATION. DO NOT RELEASE THE SLIDES UNTIL ALL SCREWS ARE INSTALLED.



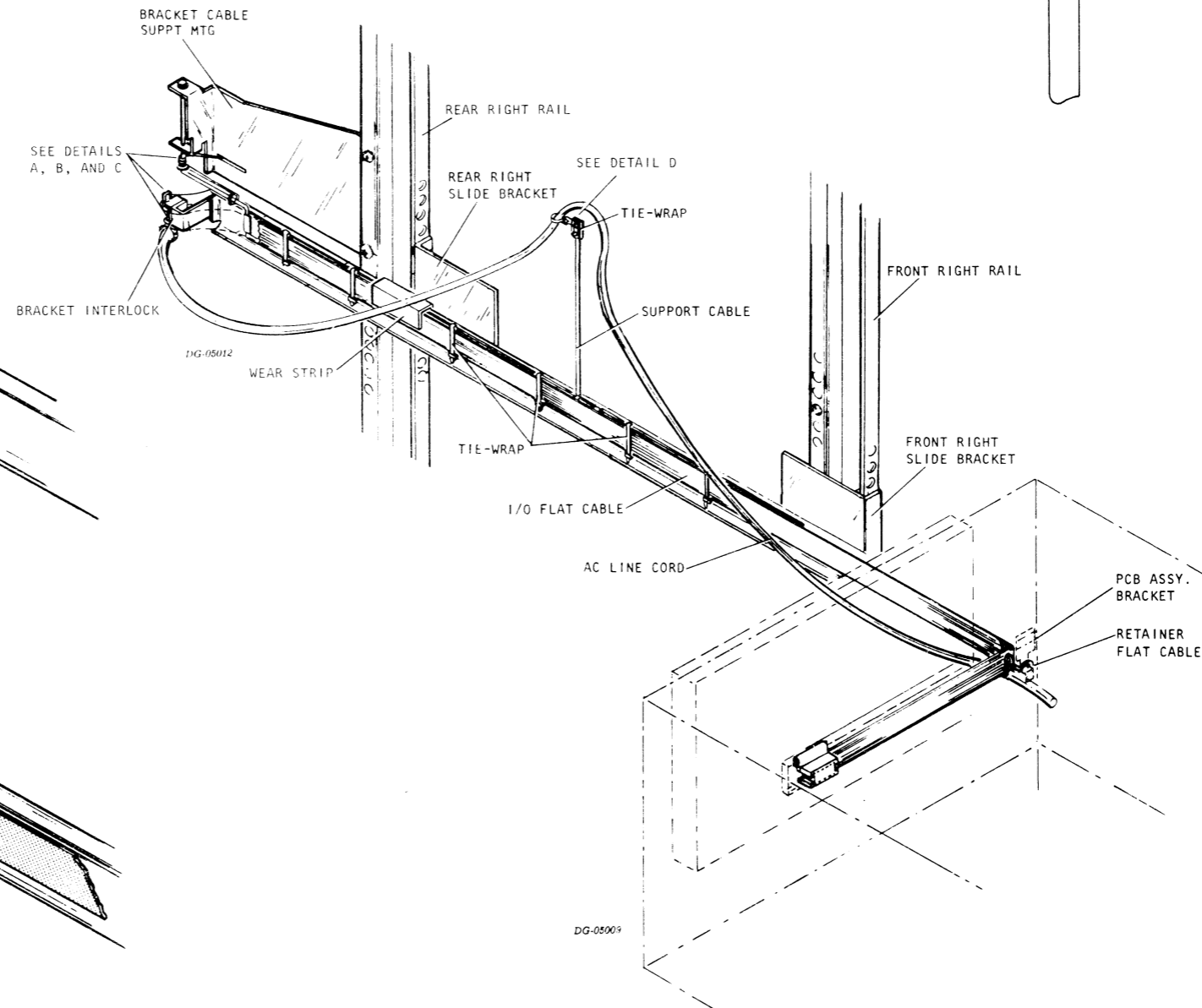
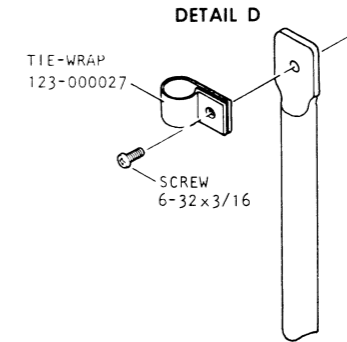
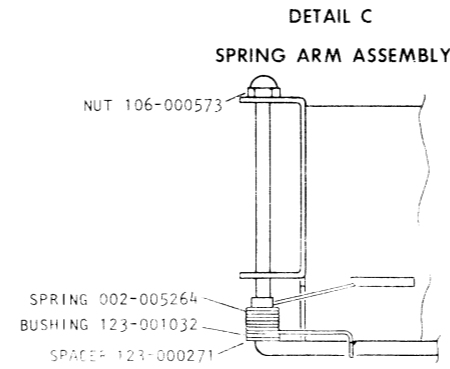
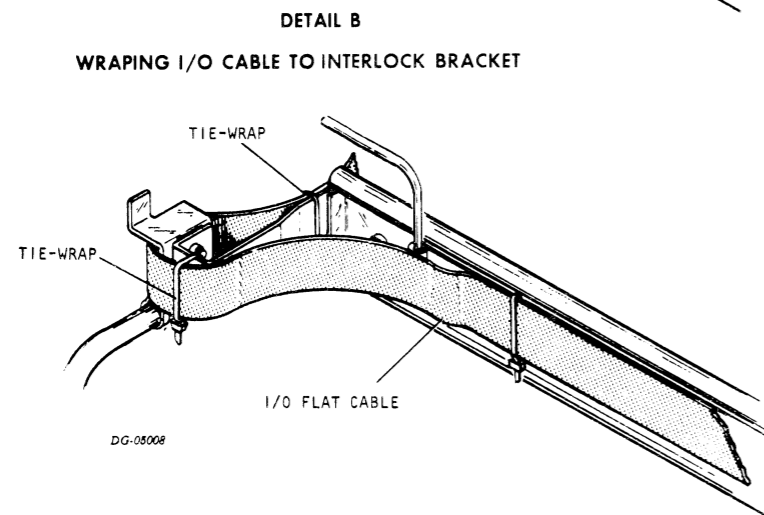
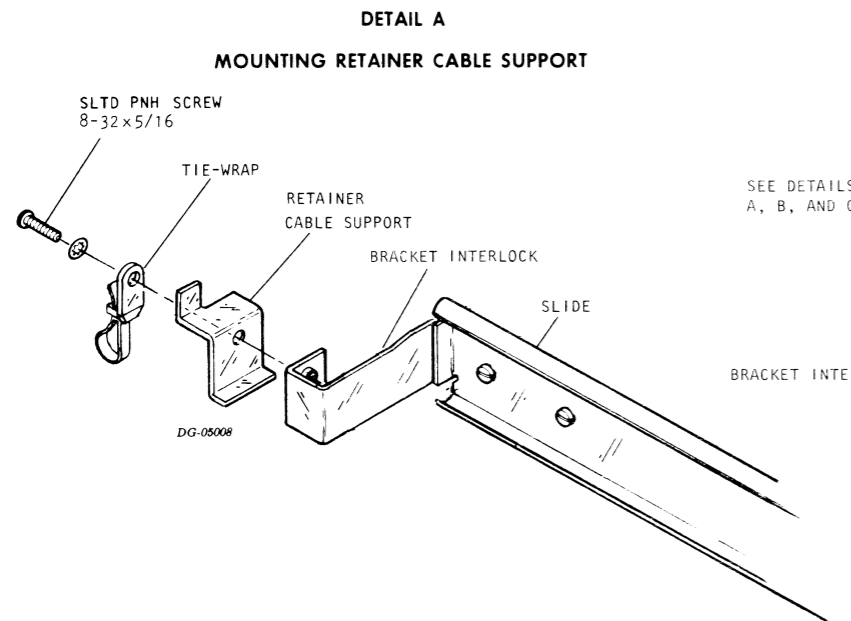
CHECK CLERANCES BETWEEN DRIVE AND OTHER EQUIPMENT

INSTALLATION IN A CABINET (Cont.)
ATTACHING I/O AND AC LINE CABLES

5. ATTACH I/O AND POWER CABLES

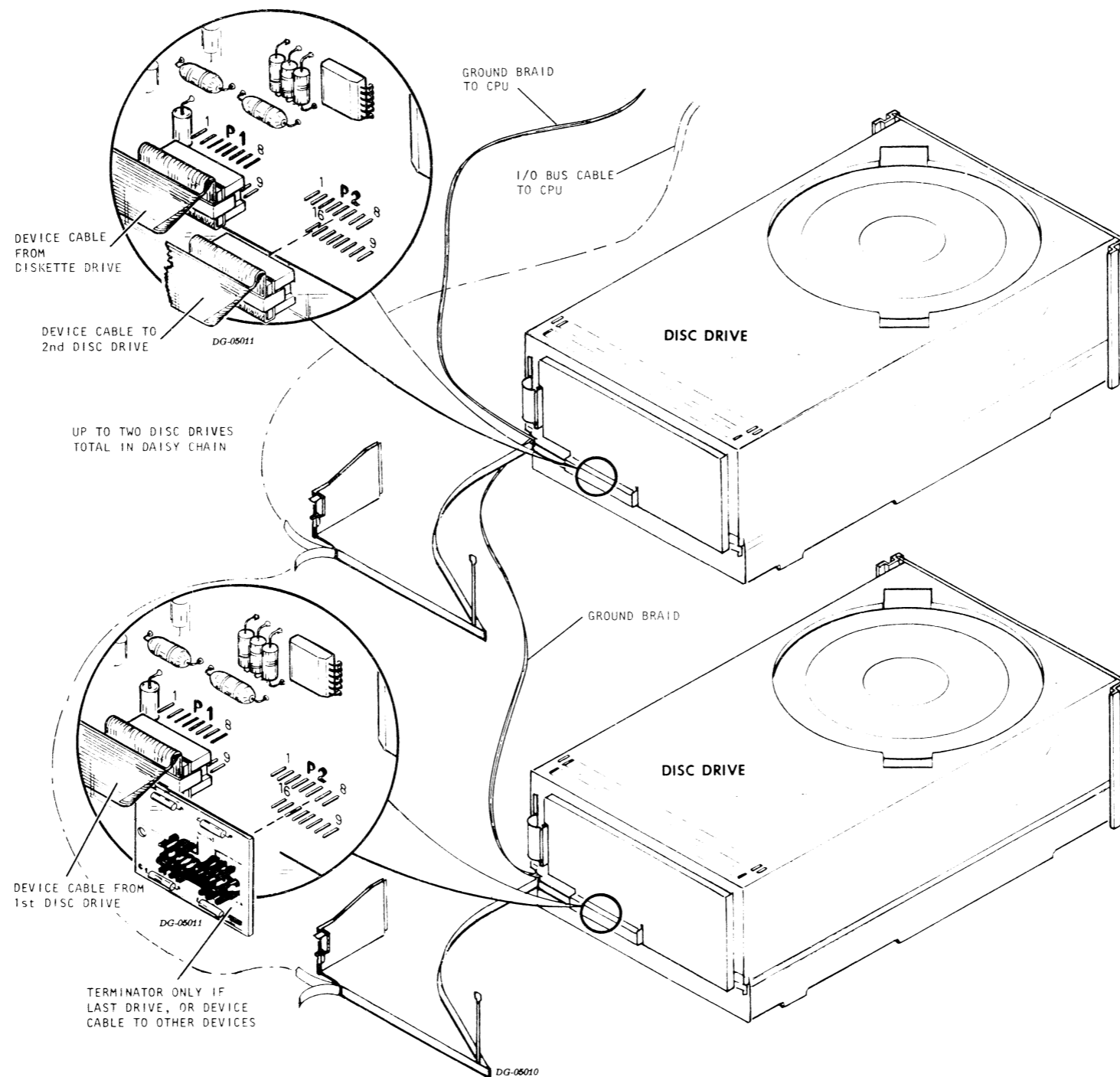
WHEN DRIVE IS EXTENDED INTO FULL FORWARD LOCK POSITION, ASSEMBLE AS FOLLOWS:

- A) POSITION CABLE ASSY ONTO RETAINER FLAT CABLE.
- B) SECURE FLAT I/O CABLE TO SUPPORT, AND INTERLOCK BRACKET USING TIE-WRAP AS SHOWN.
- C) ASSEMBLE AC LINE CORD INTO TIE-WRAP IN TWO PLACES AS SHOWN.

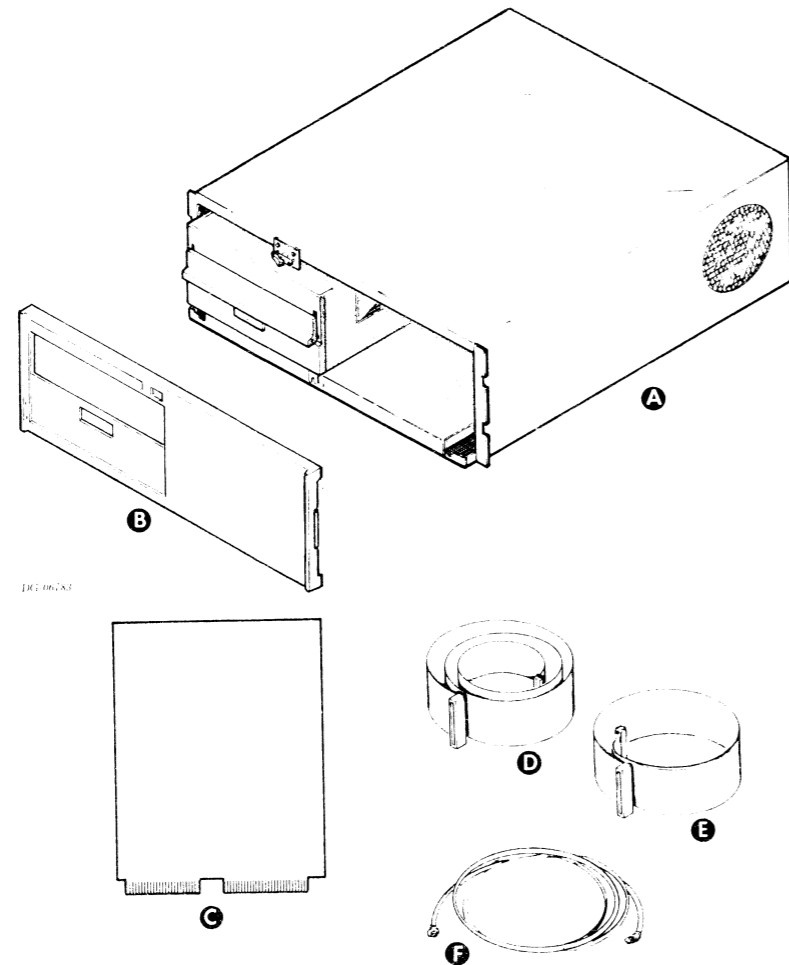


EXTERNAL CABLING

EXAMPLE OF SUBSYSTEM INTERCONNECTION



INSTALLATION SPECIFICATIONS



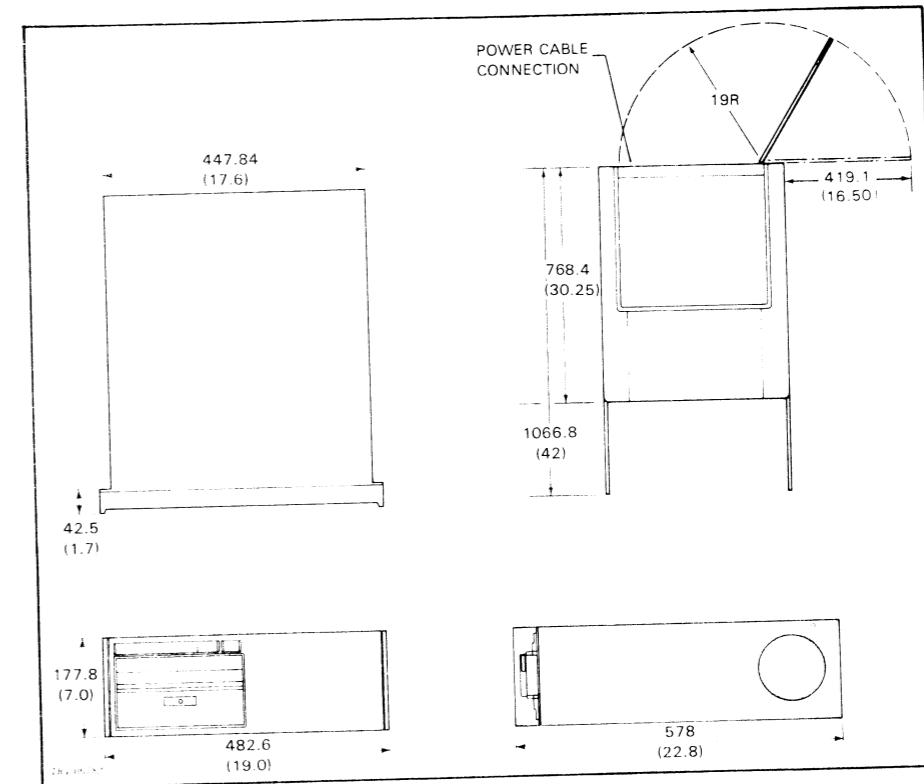
MAJOR COMPONENT

ITEM	COMPONENT	MOUNTING LOCATION	NOTES
A	ENCLOSURE W ONE DRIVE	CABINET	
B	FRONT PANEL	CABINET	
C	CONTROLLER PCB	CPU	

CABLE (SEE PAGE 5)

ITEM	CABLE	CONNECTING	MAX ALLOWED LG		NOTES
			FT	M	
D	I/O CABLE	CONTROLLER AND DRIVE			
E	DAISY-CHAIN CABLE	DRIVE 01 AND DRIVE 02			
F	GROUND CABLE	CPU AND DRIVE			

SEE 010-000344 AND 010 000331 FOR CONFIGURATION AND 005# S.



DIMENSIONS:

	Width	Depth	Height
Millimeters	482.6	578	177.8
Inches	(19.0)	(22.8)	(7.0)

SERVICE CLEARANCES:

	Front
Millimeters	914.4
Inches	(36)

WEIGHT:

Kilograms	22.7
Pounds	50

HEAT OUTPUT:

Watts	BTU/hr
80	273.2

OPERATING ENVIRONMENT:

Temperature (max)	46 C (115 F)
Relative Humidity (max)	85% Wet Bulb
Altitude	3048 m (10,000ft)

POWER REQUIREMENTS:

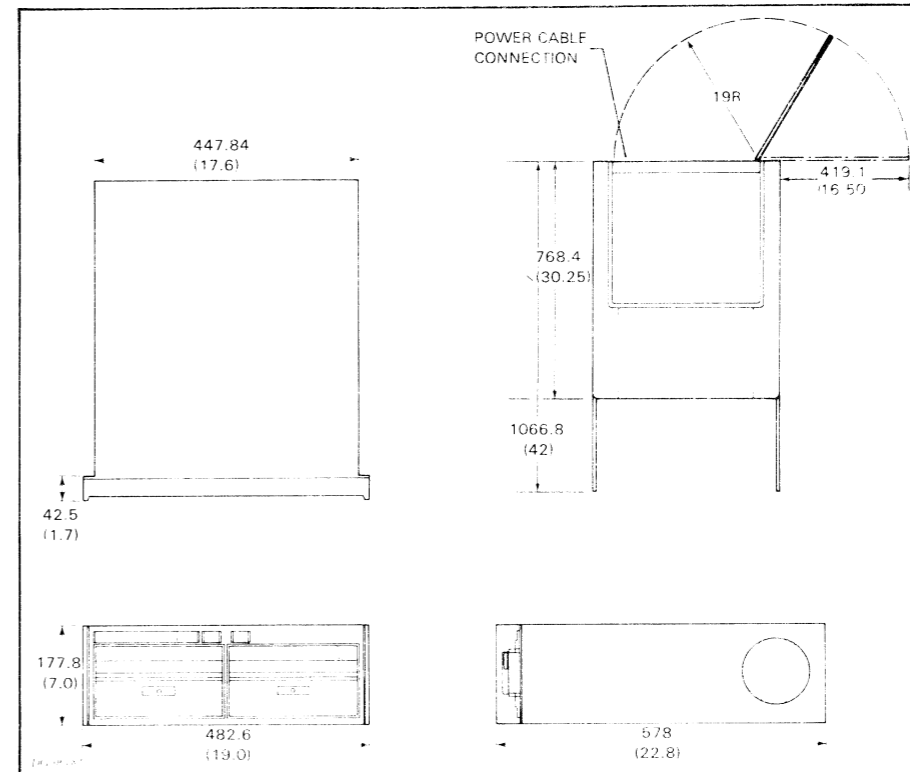
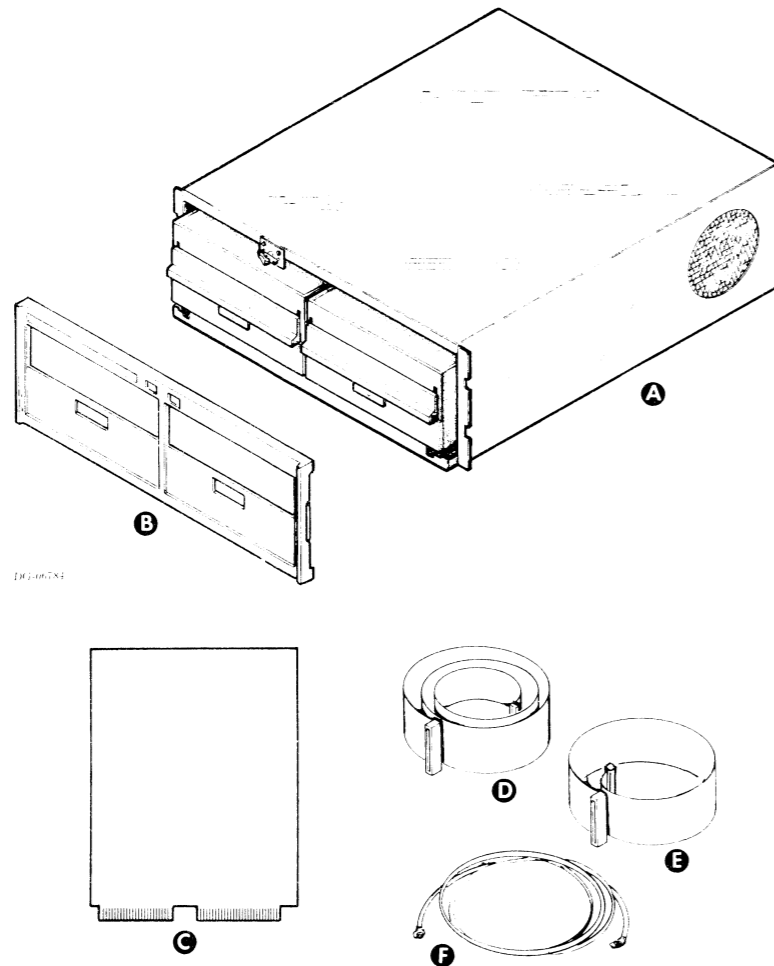
(Domestic)			
Voltage	120V		
Hz	60		
Max Amp per Phase	67A		
Phase	1		
Startup Surge per Phase	1.1A		
(Export)			
Voltage	100V	220V	240V
Hz	50	50	50
Max Amp per Phase	.80A	.36A	.33A
Phase	1	1	1
Startup Surge per Phase	.94A	.42A	.39A

CABLES:

Primary Power	Length	DGC Cable No
Domestic 60Hz	1.8m(6')	1118E
120V		
Export 50Hz		
100V	1.8m(6')	1118D
220V	1.8m(6')	1118G
240V	1.8m(6')	1118F

FOR PACKING PROCEDURE, SEE 010-000262/263

INSTALLATION SPECIFICATIONS



MAJOR COMPONENT

ITEM	COMPONENT	MOUNTING LOCATION	NOTES
A	ENCLOSURE W TWO DRIVES	CABINET	
B	FRONT PANEL	CABINET	
C	CONTROLLER PCB	CPU	

CABLE (SEE PAGE 5)

ITEM	CABLE	CONNECTING	MAX ALLOWED LG		NOTES
			FT	M	
D	I/O CABLE	CONTROLLER AND DRIVE			
E	DAISY-CHAIN CABLE	DRIVE 01 AND DRIVE 02			
F	GROUND CABLE	CPU AND DRIVE			

SEE 010-000344 AND 010-000331 FOR CONFIGURATION AND 005# S.

DIMENSIONS:

	Width	Depth	Height
Millimeters	482	578	177.8
Inches	(19.0)	(22.8)	(7.0)

SERVICE CLEARANCES: Front

Millimeters	444.5
Inches	(17.5)

WEIGHT:

Kilograms	29.5
Pounds	65

HEAT OUTPUT:

Watts	BTU/hr
140	478.1

OPERATING ENVIRONMENT:

Temperature (max)	46 C (115 F)
Relative Humidity (max)	85° Wet Bulb
Altitude	3048m (10,000ft)

POWER REQUIREMENTS:

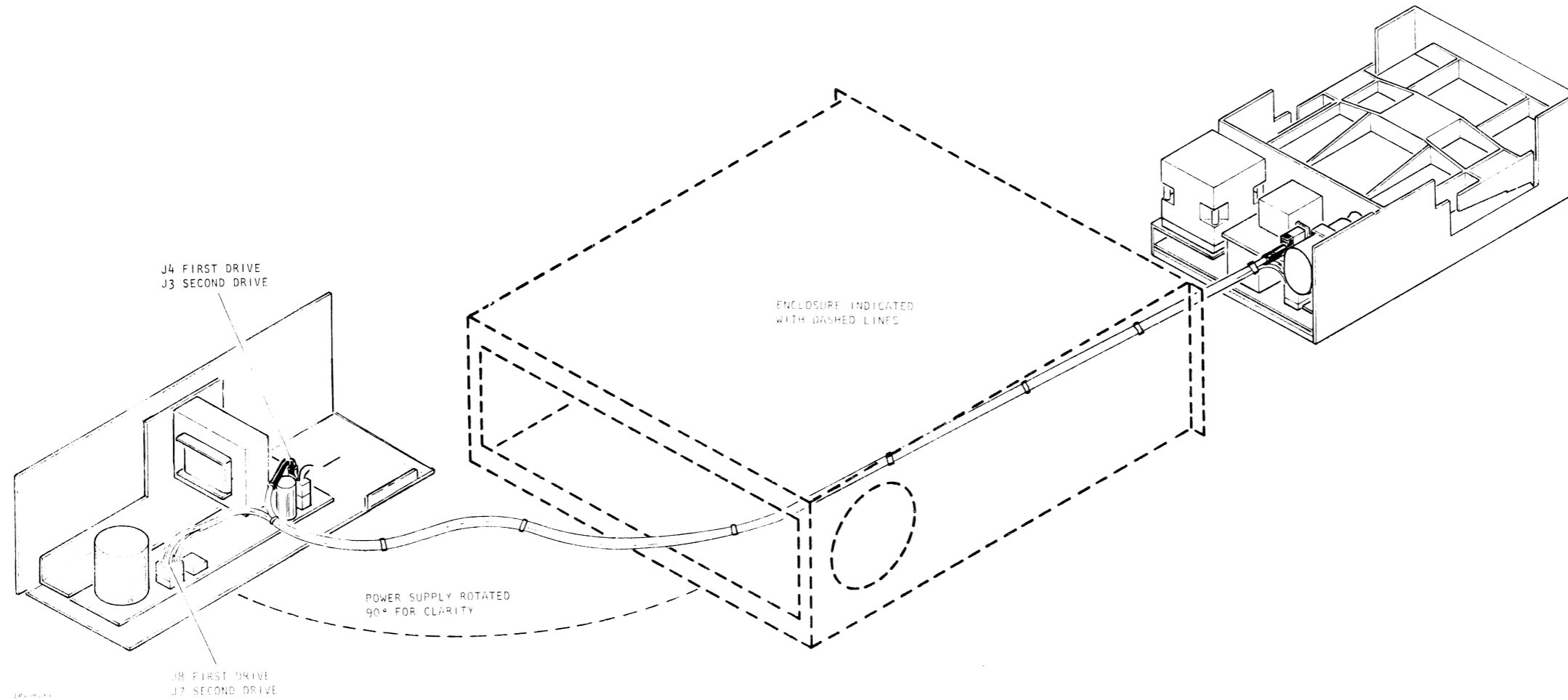
(Domestic)			
Voltage	120V		
Hz	60		
Max Amp per Phase	1.2A		
Phase	1		
Startup Surge per Phase	1.4A		
(Export)			
Voltage	100V	220V	240V
Hz	50	50	50
Max Amp per Phase	1.4A	.64A	.58A
Phase	1	1	1
Startup Surge per Phase	1.6A	.75A	.68A

CABLES:

Primary Power	Length	DGC Cable No
Domestic 60Hz	1.8m(6')	1118E
120V		
Export 50Hz		
100V	1.8m(6')	1118D
220V	1.8m(6')	1118G
240V	1.8m(6')	1118F

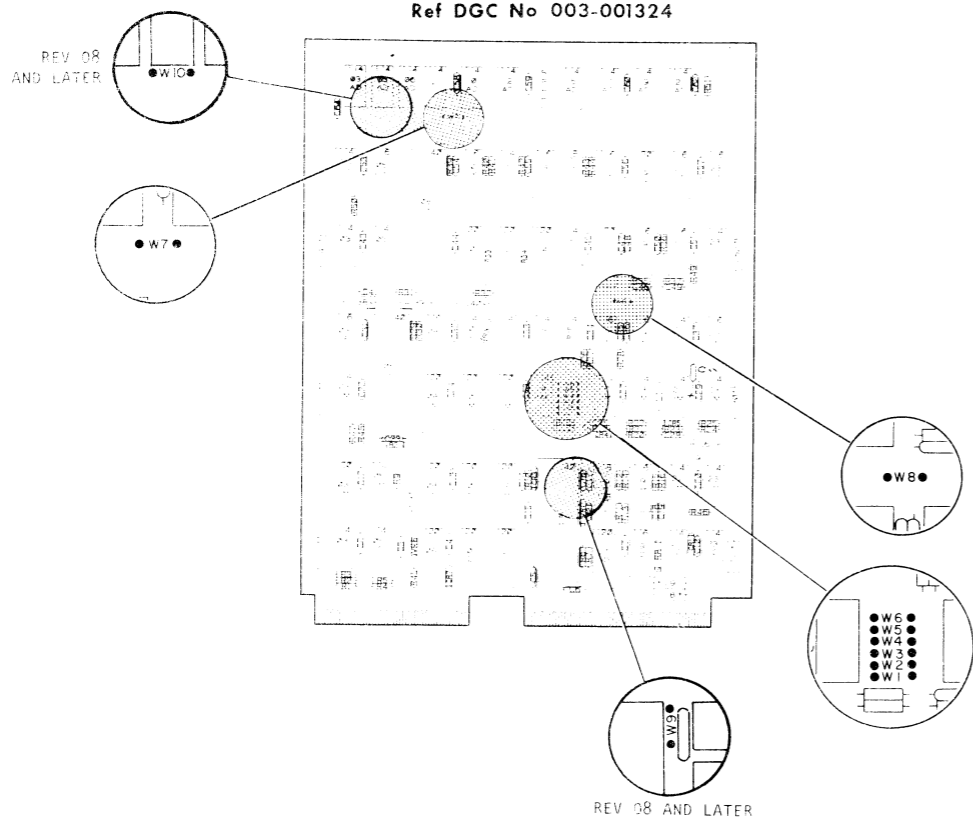
FOR PACKING PROCEDURE,
SEE 010-000262/263

INTERNAL CABLING



TAILORING JUMPERING

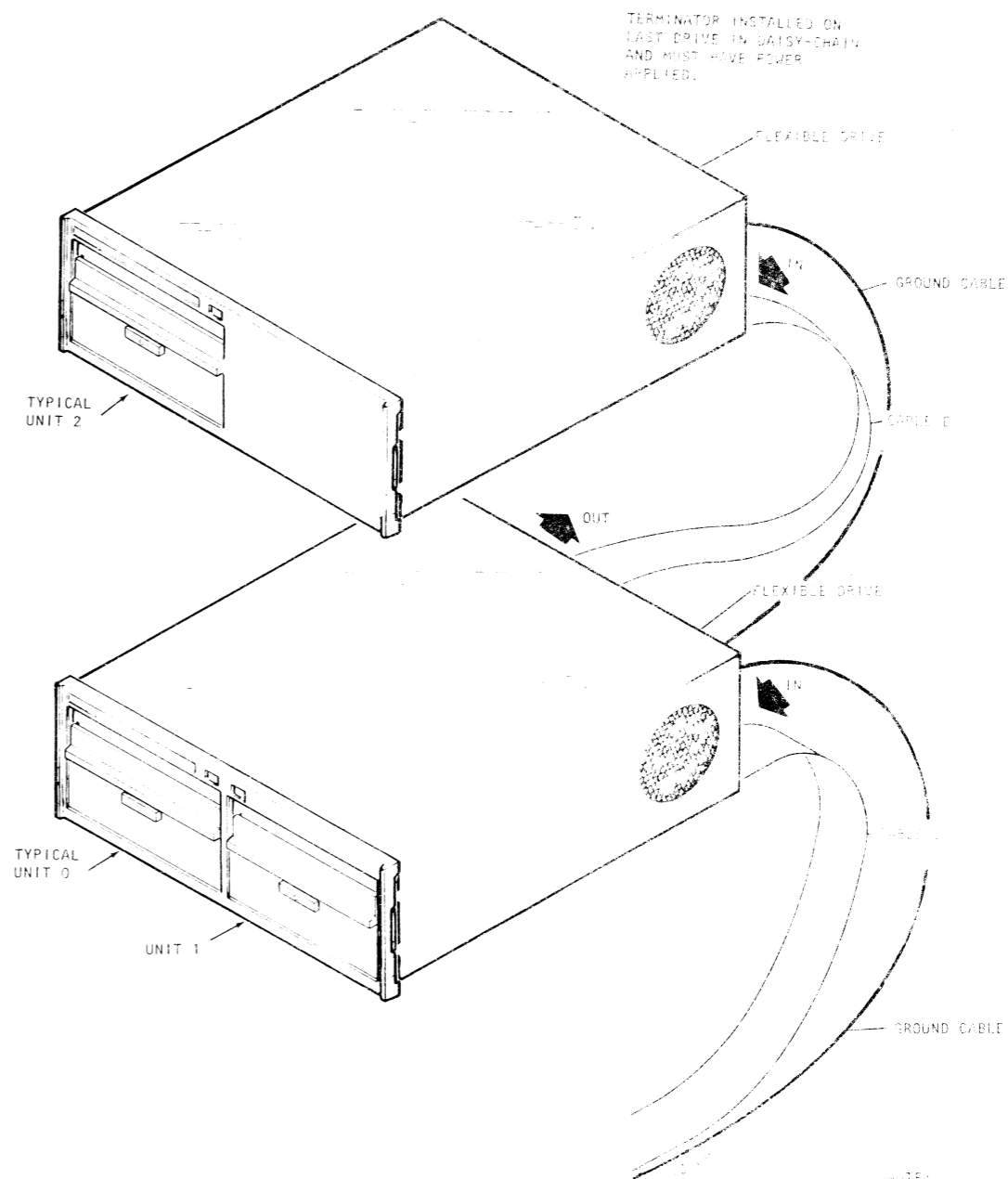
Ref DGC No 003-001324



	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 W10 MUST ALWAYS BE INSTALLED. W9 IS INSERTED WHEN CONTROLLER IS INSTALLED IN +12V CHASSIS (MP/100 AND MP/200), AND REMOVED WHEN IN +15V CHASSIS (9 / 18 SLOT μN601 microNOVA).

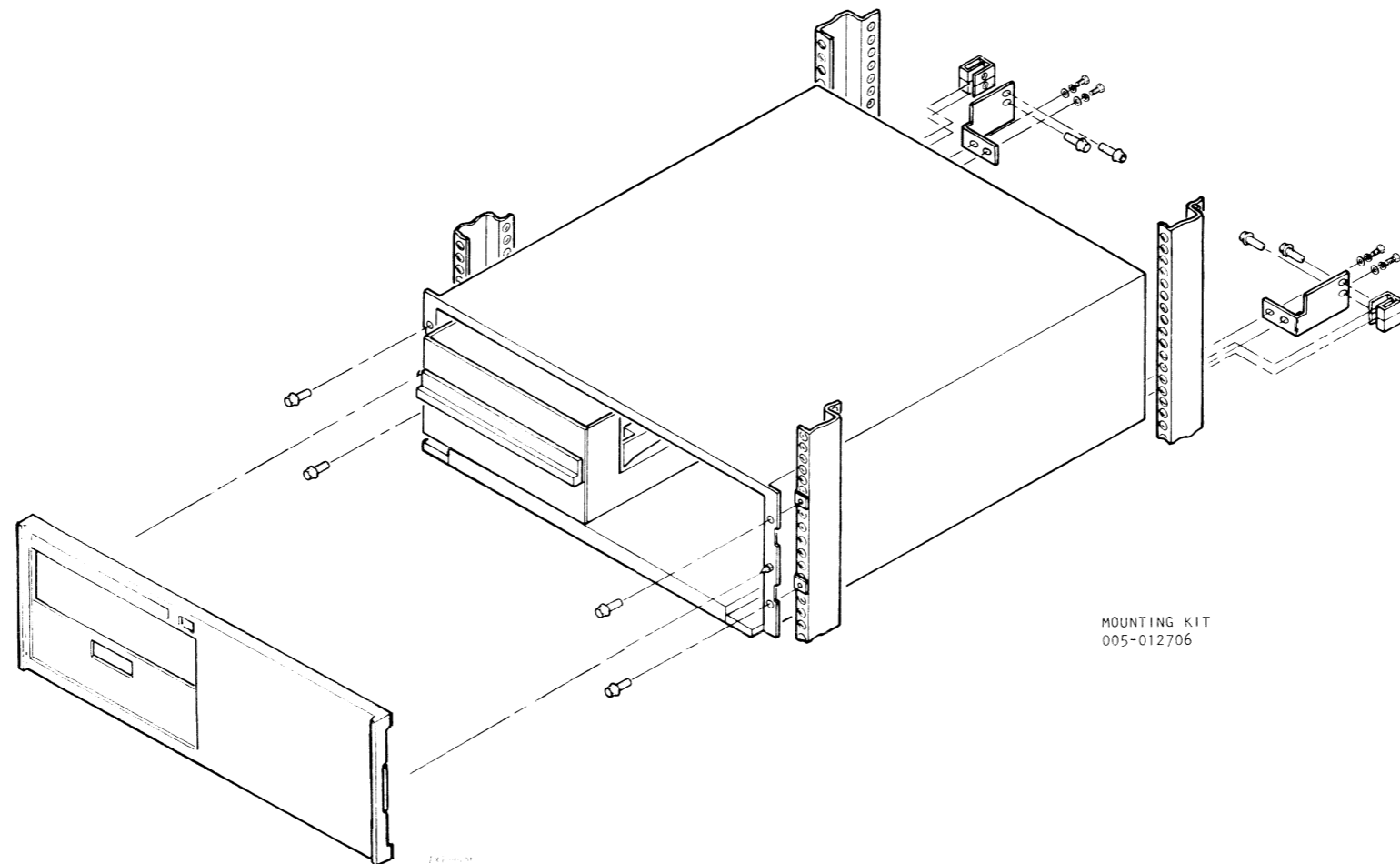
SYSTEM CONFIGURATION



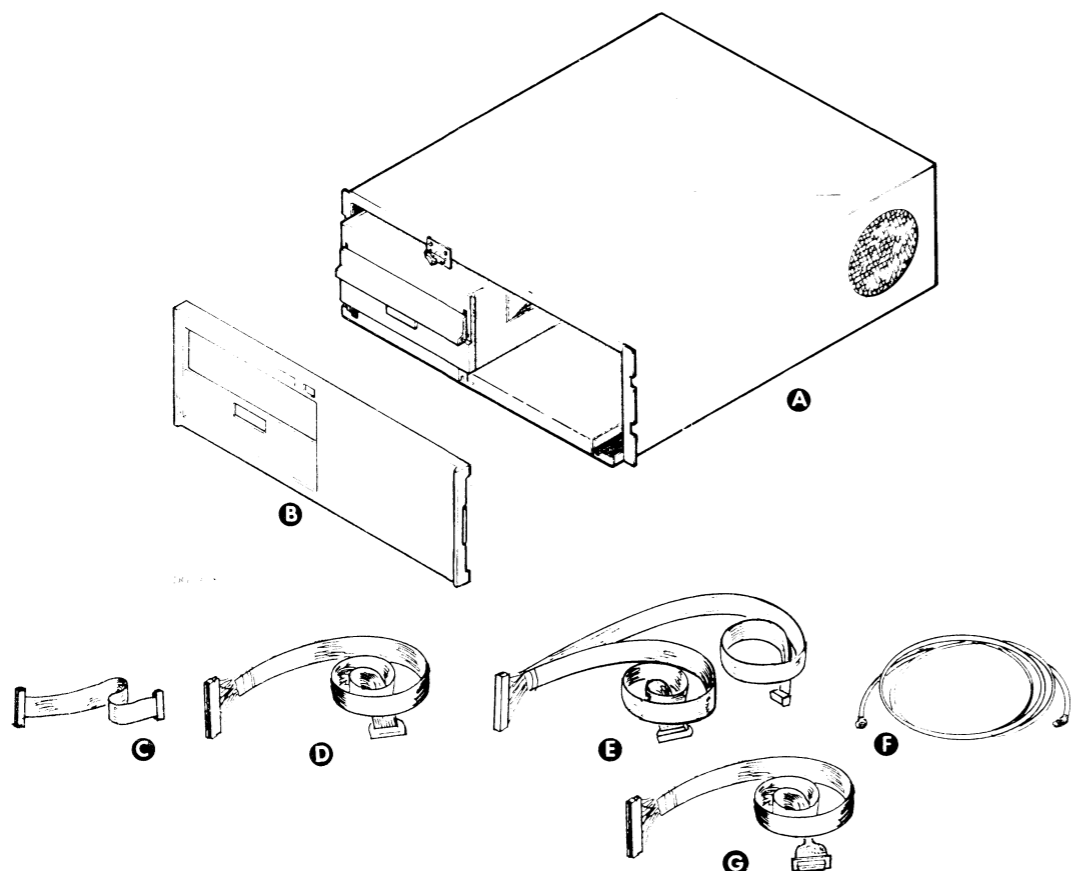
TERMINATOR INSTALLED ON LAST DRIVE IN DAISY-CHAIN AND MUST HAVE POWER APPLIED.

NOTE: SECURE GROUND CABLES TO FRAME AT APPROPRIATE EXISTING SCREWS

CABINET MOUNTING



INSTALLATION SPECIFICATIONS



MAJOR COMPONENT

ITEM	COMPONENT	MOUNTING LOCATION	NOTES
A	ENCLOSURE W ONE DRIVE	CABINET	
B	FRONT PANEL	CABINET	

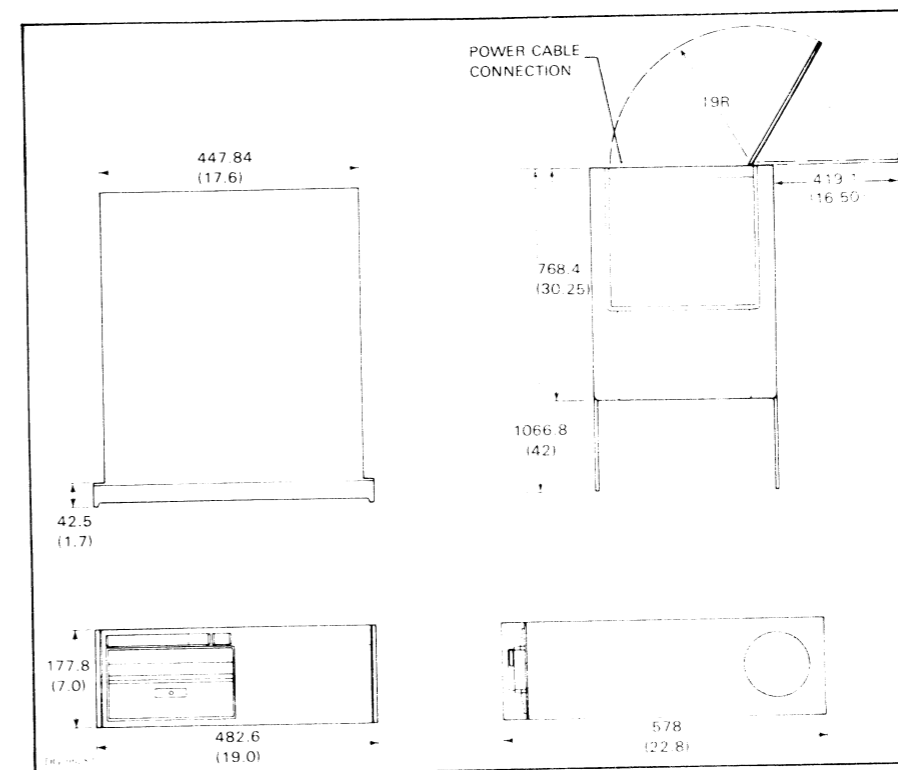
CABLE (SEE PAGE 3)

ITEM	CABLE	CONNECTING	MAX LGTH		NOTES
			FT	M	
C	DAISY-CHAIN CABLE	FLOPPY AND FLOPPY			**
D	I/O CABLE	DISC AND FLOPPY			**
E	I/O CABLE	CPU / DISC / FLOPPY			**
F	GROUND CABLE	CPU AND DRIVE			**
G	I/O CABLE	COMPLIANT CPU-FLOPPY			**

NOTE:

TERMINATOR MUST BE INSTALLED IN LAST DRIVE OF THE DAISY CHAIN.

SEE 010-000344 AND 010-000331 FOR CONFIGURATION AND 005 NUMBERS.
 **MAXIMUM ACCUMULATIVE BUSS LENGTH IS 100FT/30M



DIMENSIONS:

	Width	Depth	Height
Millimeters	482.6	578	177.8
Inches	(19.0)	(22.8)	(7.0)

SERVICE CLEARANCES:

	Front
Millimeters	914.4
Inches	(36)

WEIGHT:

Kilograms	22.7
Pounds	50

HEAT OUTPUT:

Watts	BTU/hr
80	273.2

OPERATING ENVIRONMENT:

Temperature (max)	43°C	109°F
Relative Humidity (max)	80 (MAX WET BULB TEMP 30°C)	
Altitude	3048m (10,000ft)	

POWER REQUIREMENTS:

(Domestic)			
Voltage	120V		
Hz	60		
Max Amp per Phase	67A		
Phase	1		
Startup Surge per Phase	1.1A		
(Export)			
Voltage	100V	220V	240V
Hz	50	50	50
Max Amp per Phase	80A	36A	33A
Phase	1	1	1
Startup Surge per Phase	94A	42A	39A

CABLES:

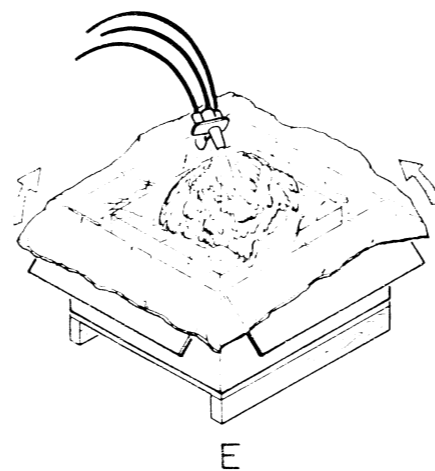
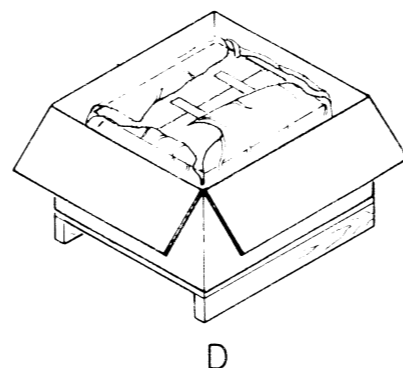
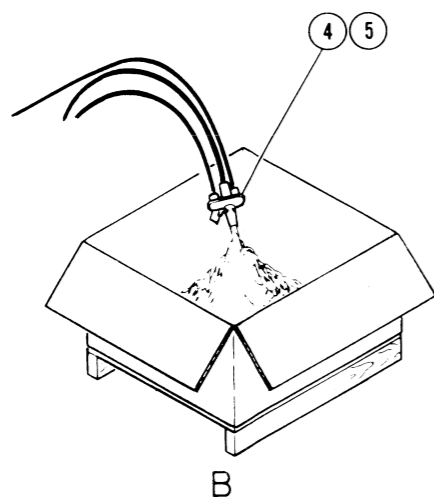
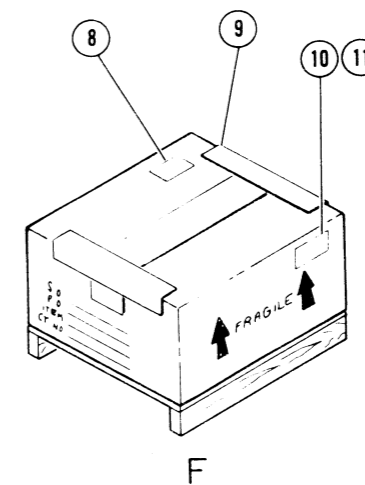
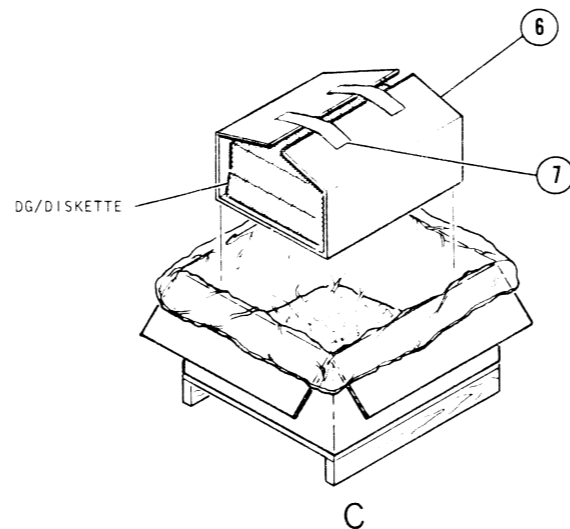
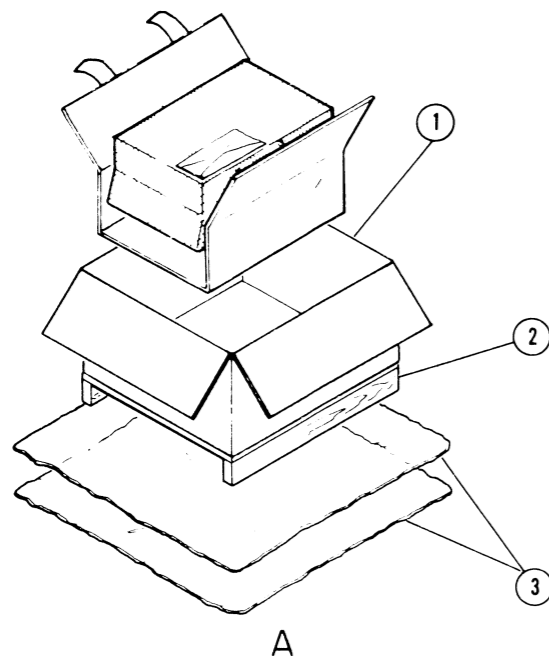
Primary Power	Length	DGC Cable No
Domestic 60Hz	1.8m(6')	1118E
120V		
Export 50Hz		
100V	1.8m(6')	1118D
220V	1.8m(6')	1118G
240V	1.8m(6')	1118F

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.

1.2 MBYTE DG/DISKETTE 6096-C ADD-ONS

SHIPPING



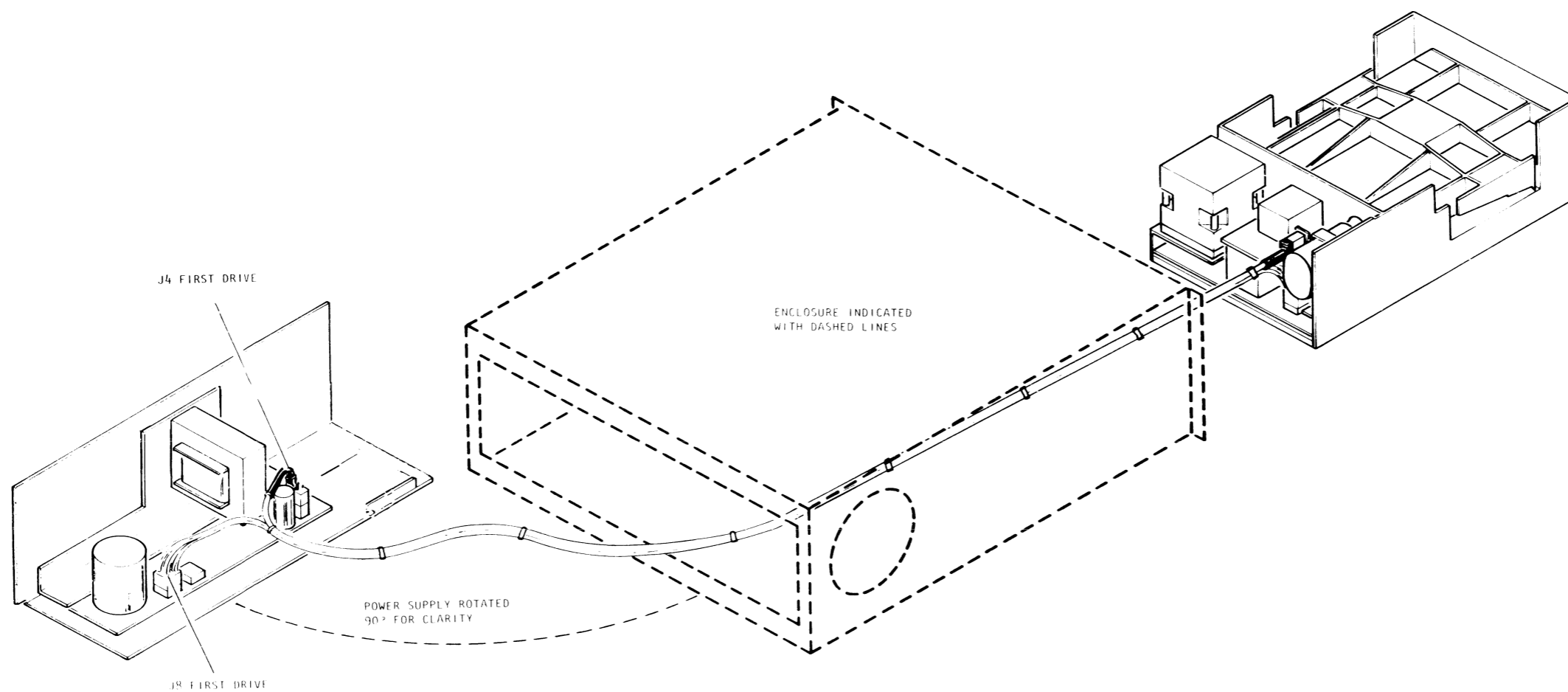
GENERAL PROCEDURE FOR FOAM-IN-PLACE PACKAGING

- 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.

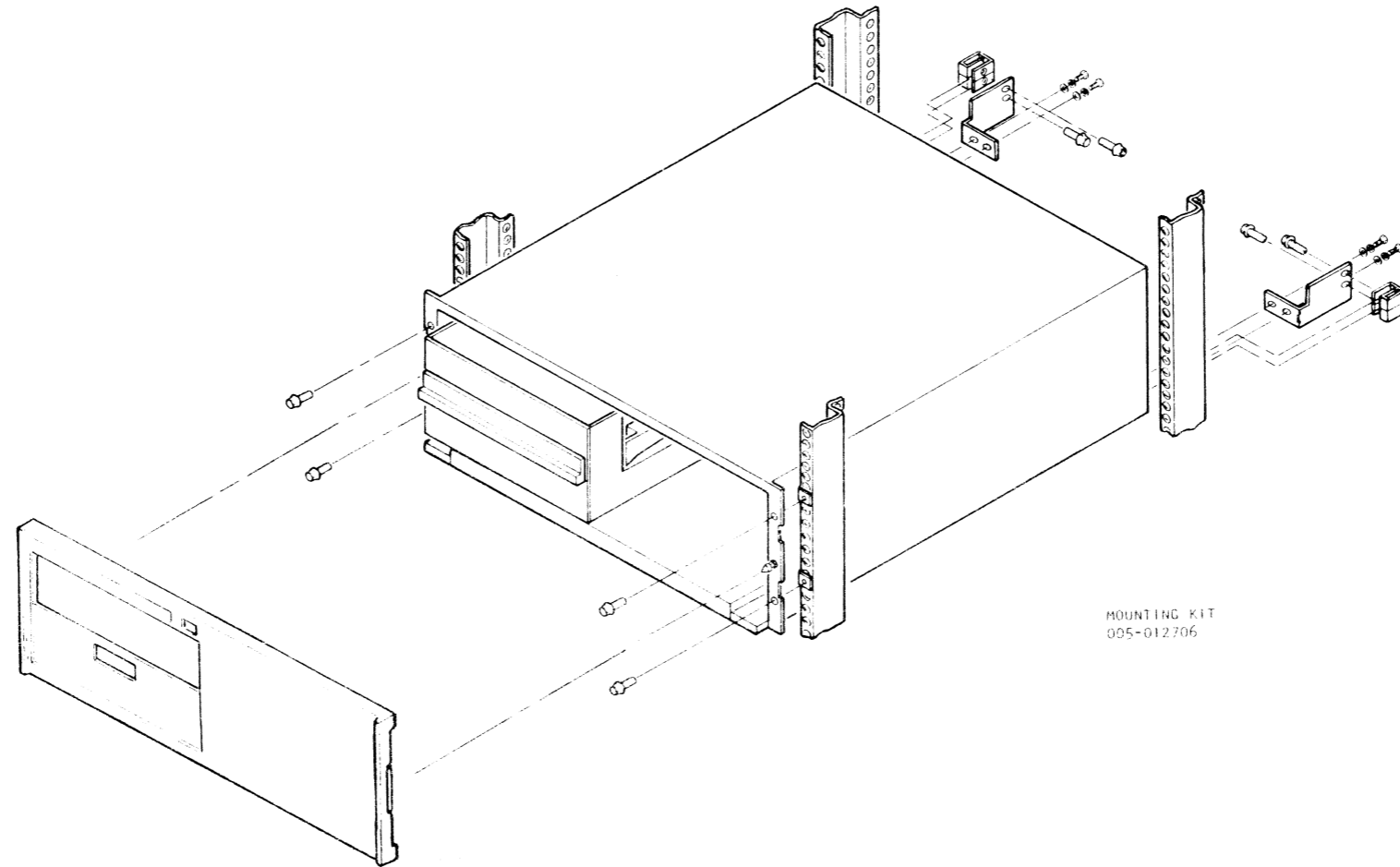
ELEMENTS OF SHIPPING PACKAGE (044)

ITEM	DESCRIPTION	PART NO.	QTY
1	RSC 36 x 27 x 30	129-000325	
	RSC 36 x 27 x 19.25	129-000318	1
2	PALLET 36 x 27	129-000316	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	
		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 FOR AC/DC POWER

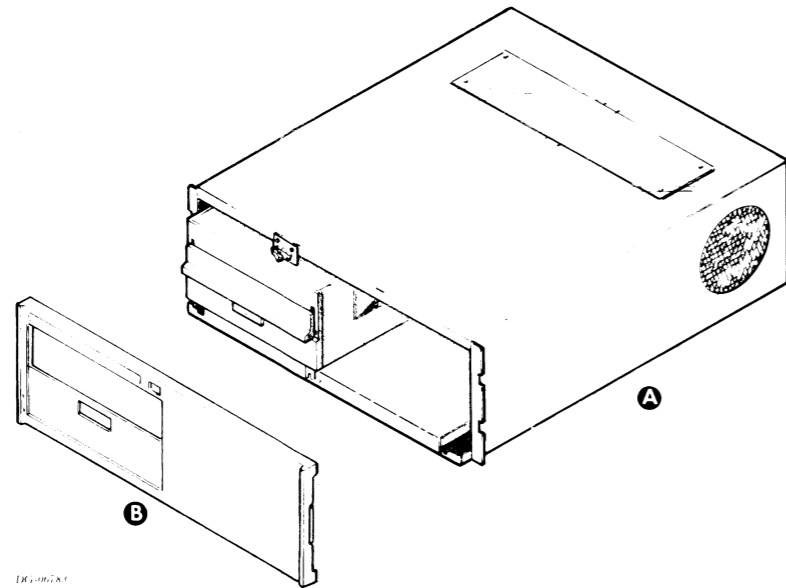


CABINET MOUNTING



INSTALLATION SPECIFICATIONS

6096-CV



DK-00281



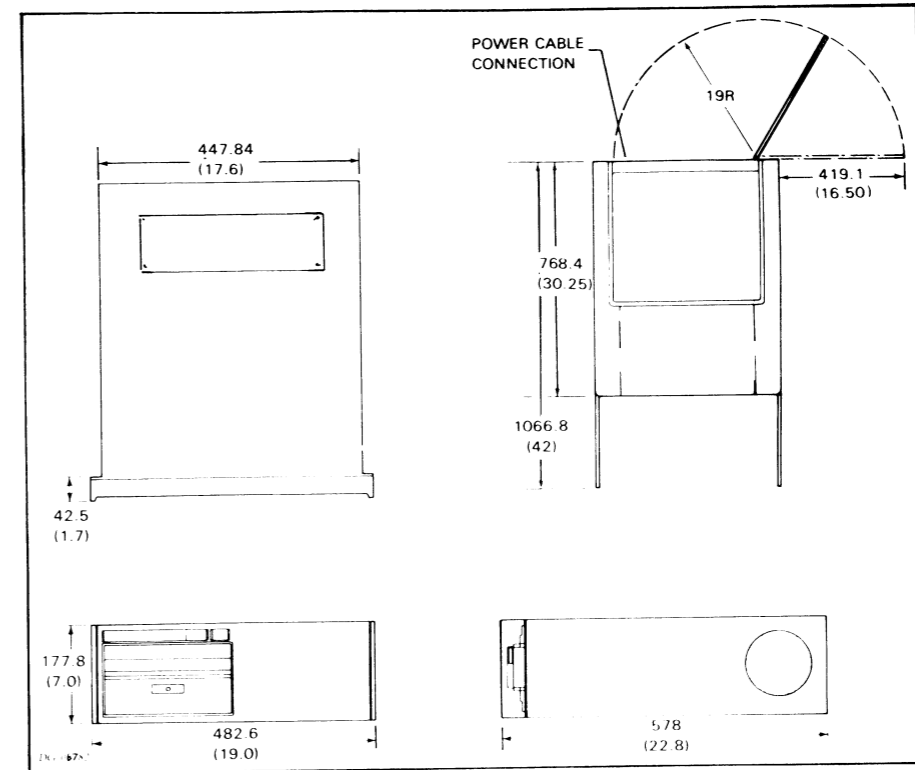
MAJOR COMPONENT

ITEM	COMPONENT	MOUNTING LOCATION	NOTES
A	ENCLOSURE W/ONE DRIVE	CABINET	
B	FRONT PANEL	CABINET	

CABLE (SEE PAGE 5)

ITEM	CABLE	CONNECTING	MAX ALLOWED LG		NOTES
			FT	M	
C	I/O CABLE	CONTROLLER AND DRIVE	10	3	005-017383
D	GROUND CABLE	CPU AND DRIVE	10	3	005-008356

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	57.8	177.8
Inches	(19.0)	(2.28)	(7.0)

SERVICE CLEARANCES:

	Front
Millimeters	914.4
Inches	(36)

WEIGHT:

Kilograms	22.7
Pounds	50

HEAT OUTPUT:

	Watts	BTU/hr
	80	273.2

OPERATING ENVIRONMENT:

Temperature (max)	43°C	109°F
Relative Humidity (max)	85°F	Wet bulb
Altitude	2438 m	(8000 ft)

POWER REQUIREMENTS:

(Domestic)			
Voltage	120	+10%	-15%
Hz	60	± 1%	
Max Amp per Phase	.67A		
Phase	1		
Startup Surge per Phase	1.1A		
(Export)			
Voltage	100±10%	220 +10%	240 +10%
Hz	50±1%	50±1%	50±1%
Max Amp per Phase	.80A	.36A	.33A
Phase	1	1	1
Startup Surge per Phase	.94A	.42A	.39A

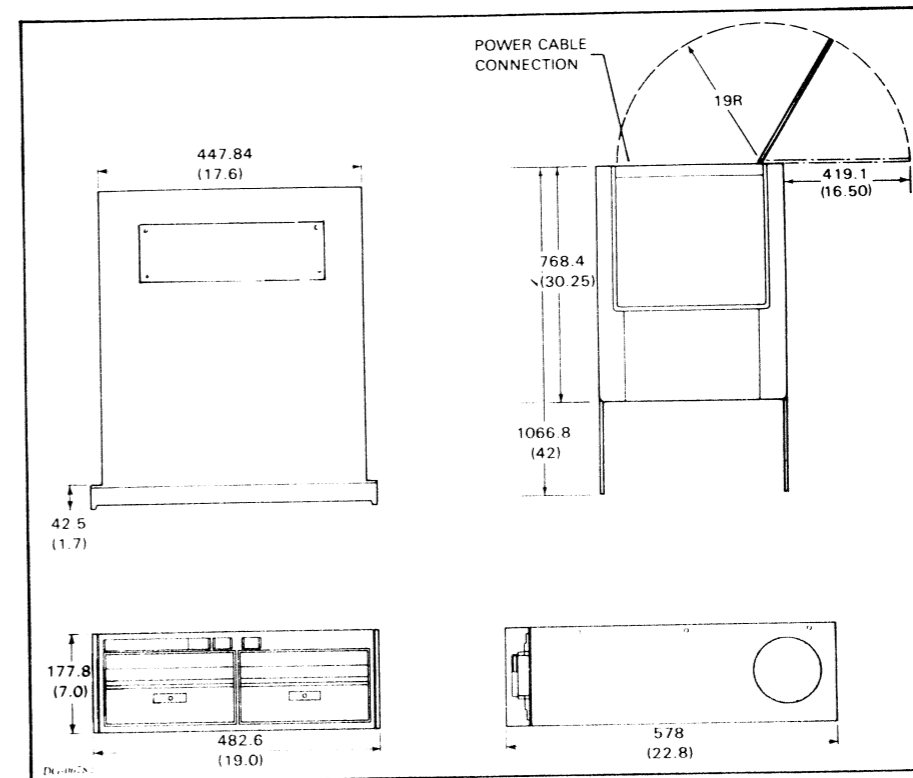
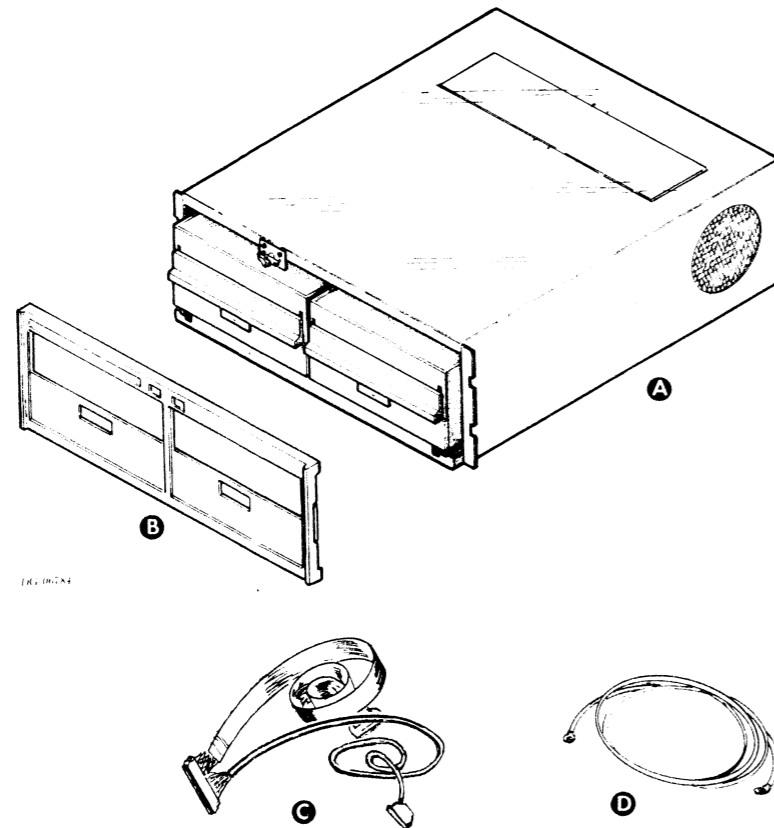
CABLES:

Primary Power	Length	DGC Cable No
Domestic 60Hz	1.8m(6')	1118E
120V		
Export 50Hz		
100V	1.8m(6')	1118D
220V	1.8m(6')	1118G
240V	1.8m(6')	1118F

FOR PACKING PROCEDURE,
SEE 010-000263

INSTALLATION SPECIFICATIONS

6096-DV



MAJOR COMPONENT

ITEM	COMPONENT	MOUNTING LOCATION	NOTES
A	ENCLOSURE W/TWO DRIVES	CABINET	
B	FRONT PANEL	CABINET	

CABLE (SEE PAGE 5)

ITEM	CABLE	CONNECTING	MAX ALLOWED LG		NOTES
			FT	M	
C	I/O CABLE	CONTROLLER AND DRIVE	10	3	005-017383
D	GROUND CABLE	CPU AND DRIVE	10	3	005-008356

DIMENSIONS:

	Width	Depth	Height
Millimeters	482	578	177.8
Inches	(19.0)	(22.8)	(7.0)

SERVICE CLEARANCES:

	Front
Millimeters	444.5
Inches	(17.5)

WEIGHT:

Kilograms	29.5
Pounds	65

HEAT OUTPUT:

	Watts	BTU/hr
	140	478.1

OPERATING ENVIRONMENT:

Temperature (max)	43°C	109°F
Relative Humidity (max)	85°F	Wet bulb
Altitude	2438 m	(8000 ft)

POWER REQUIREMENTS:

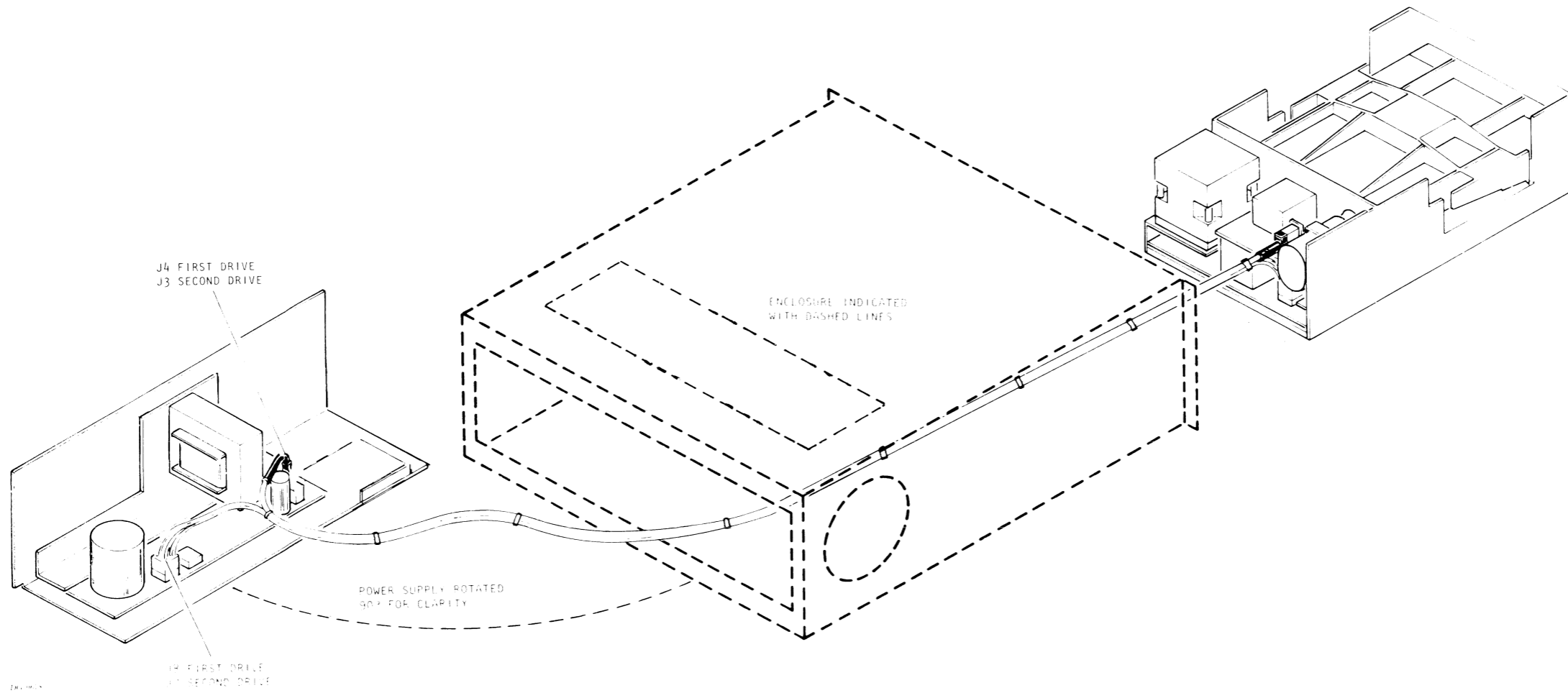
(Domestic)			
Voltage	120	^{+10%} / _{-15%}	
Hz	60	± 1%	
Max Amp per Phase	1.2A		
Phase	1		
Startup Surge per Phase	1.4A		
(Export)			
Voltage	100 ± 10%	220 ^{+10%} / _{-15%}	240 ^{+10%} / _{-15%}
Hz	50 ± 1%	50 ± 1%	50 ± 1%
Max Amp per Phase	1.4A	.64A	.58A
Phase	1	1	1
Startup Surge per Phase	1.6A	.75A	.68A

CABLES:

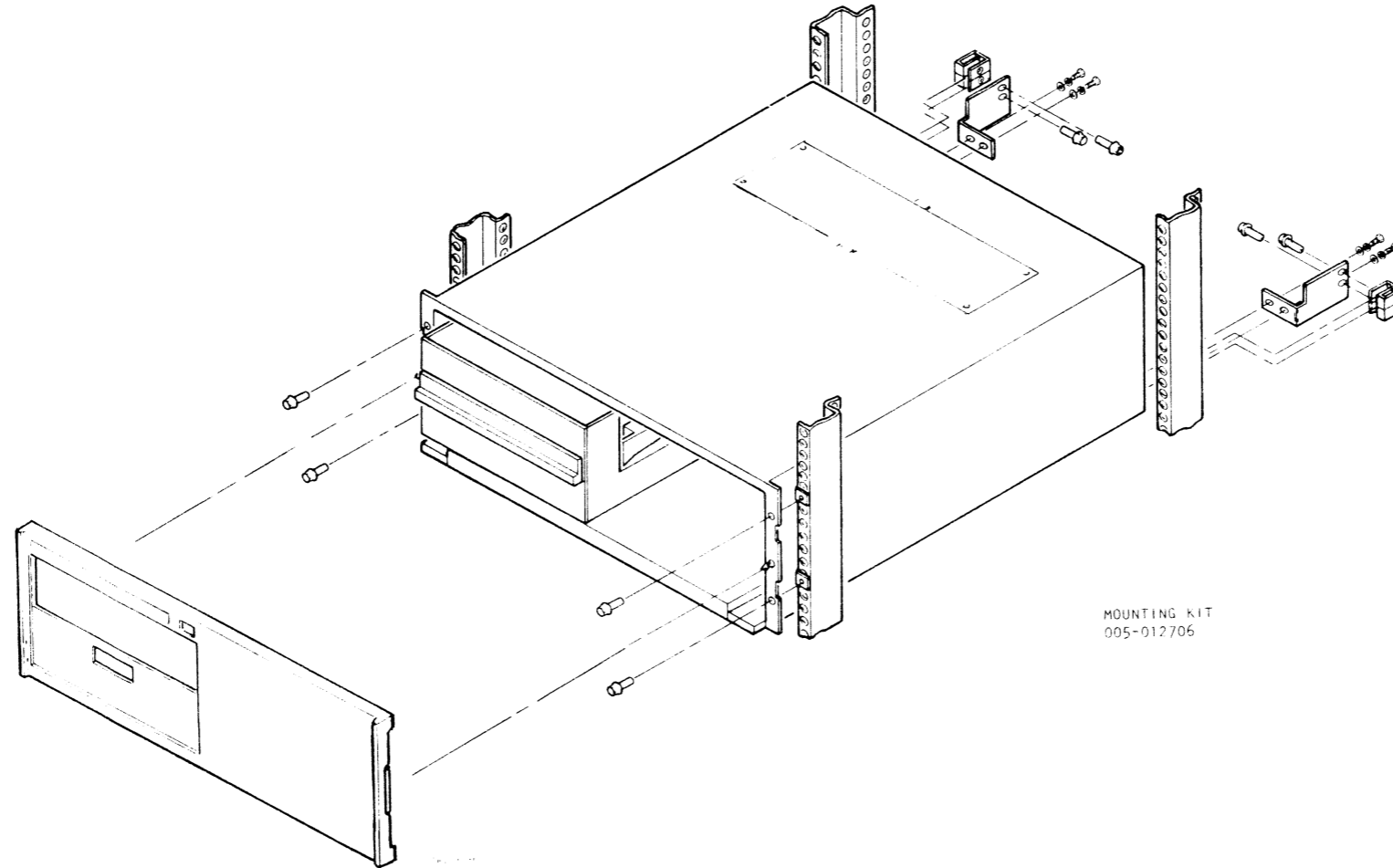
Primary Power	Length	DGC Cable No
Domestic 60Hz	1.8m(6')	1118E
120V		
Export 50Hz		
100V	1.8m(6')	1118D
220V	1.8m(6')	1118G
240V	1.8m(6')	1118F

FOR PACKING PROCEDURE,
SEE 010-000263

INTERNAL CABLING FOR AC/DC POWER



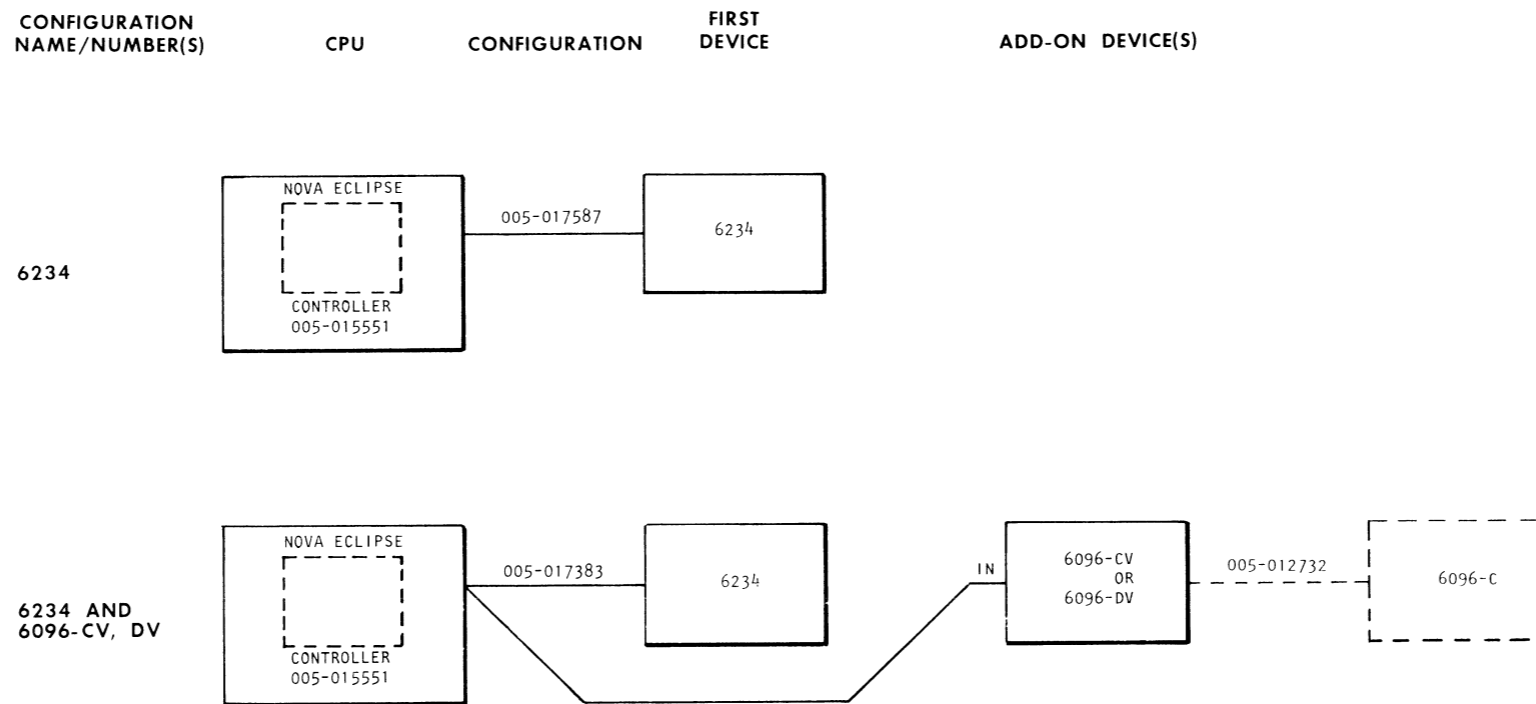
CABINET MOUNTING



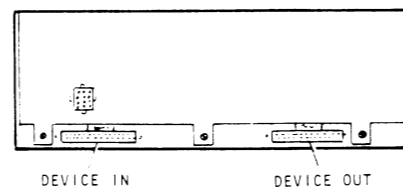
MOUNTING KIT
005-012706

CONFIGURATION DIAGRAMS

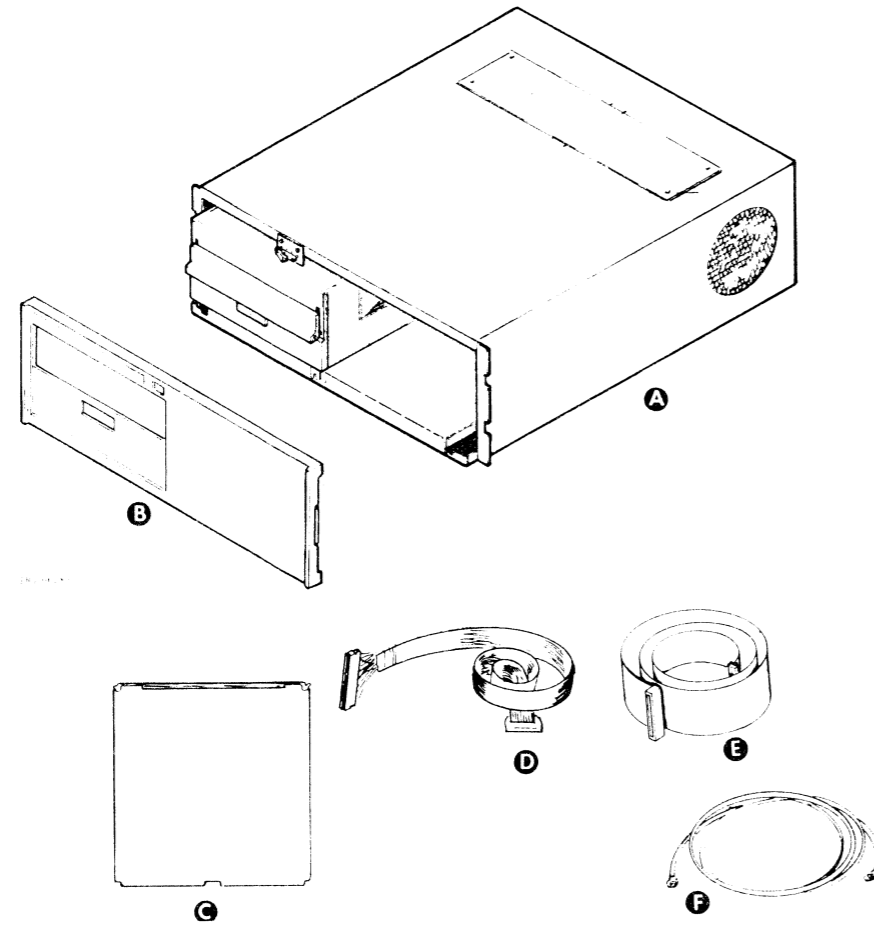
NOTE: EACH DEVICE MUST BE INDIVIDUALLY GROUNDED TO THE CPU USING 005-008356 CABLE OR OPTIONAL 005-008063 CABLE.



DISKETTE - REAR VIEW



INSTALLATION SPECIFICATIONS



MAJOR COMPONENT

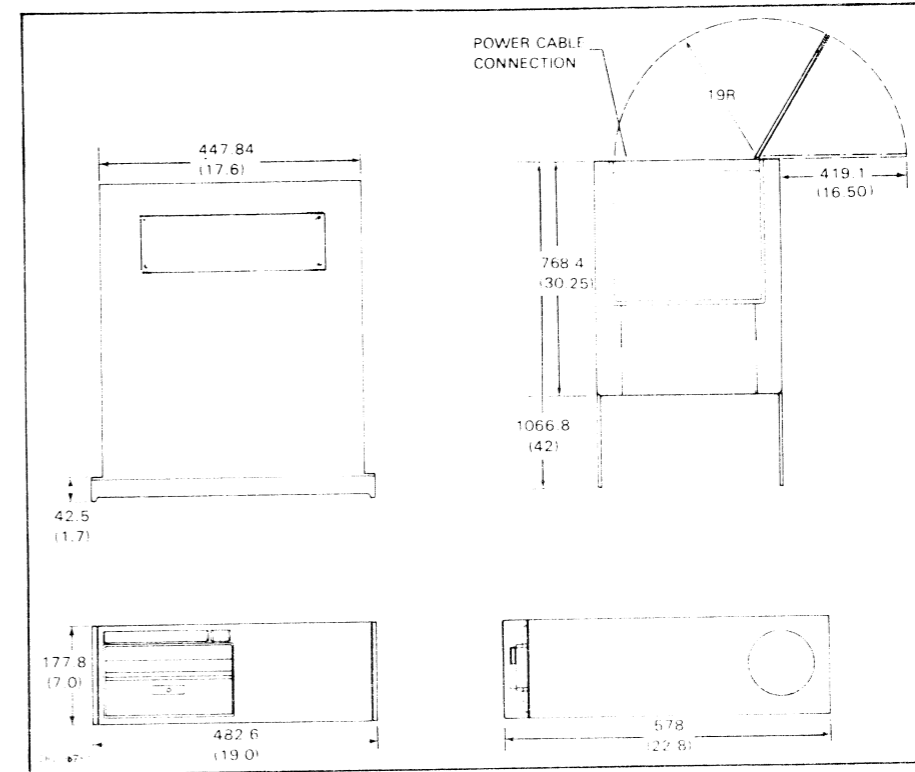
ITEM	COMPONENT	MOUNTING LOCATION	NOTES
A	ENCLOSURE W ONE DRIVE	CABINET	
B	FRONT PANEL	CABINET	
C	CONTROLLER PCB	CPU	

CABLE (SEE PAGE 5)

ITEM	CABLE	CONNECTING	MAX ALLOWED LG		NOTES
			FT	M	
D	I/O CABLE	CONTROLLER AND DRIVE	10	3	*
E	DAISY-CHAIN CABLE	DRIVE 01 AND DRIVE 02	1.21	0.37	*
F	GROUND CABLE	CPU AND DRIVE	10	3	005-008356
G	I/O CABLE	COMPLIANT CPU FLOPPY	10	3	*

* REFER TO DISC PRODUCT MASTER 010-331 FOR CABLE CONFIGURATIONS & 005 NUMBERS

ITEM	COMPONENT	CHASSIS	MAX DATA CHANNEL LATENCY (uS)	+5V CURRENT DRAW (AMPS)
C	CONTROLLER PCB	CPU	50	4.0



DIMENSIONS:

	Width	Depth	Height
Millimeters	482.6	578	177.8
Inches	(19.0)	(22.8)	(7.0)

SERVICE CLEARANCES:

	Front
Millimeters	914.4
Inches	(36)

WEIGHT:

Kilograms	22.7
Pounds	50

HEAT OUTPUT:

Watts	BTU/hr
80	273.2

OPERATING ENVIRONMENT:

Temperature (max)	43°C	109°F
Relative Humidity (max)	85°F Wet bulb	
Altitude	3048m (10,000ft)	

POWER REQUIREMENTS:

(Domestic)			
Voltage	120V		
Hz	60		
Max Amp per Phase	67A		
Phase	1		
Startup Surge per Phase	1.1A		
(Export)			
Voltage	100V	220V	240V
Hz	50	50	50
Max Amp per Phase	80A	36A	33A
Phase	1	1	1
Startup Surge per Phase	94A	42A	39A

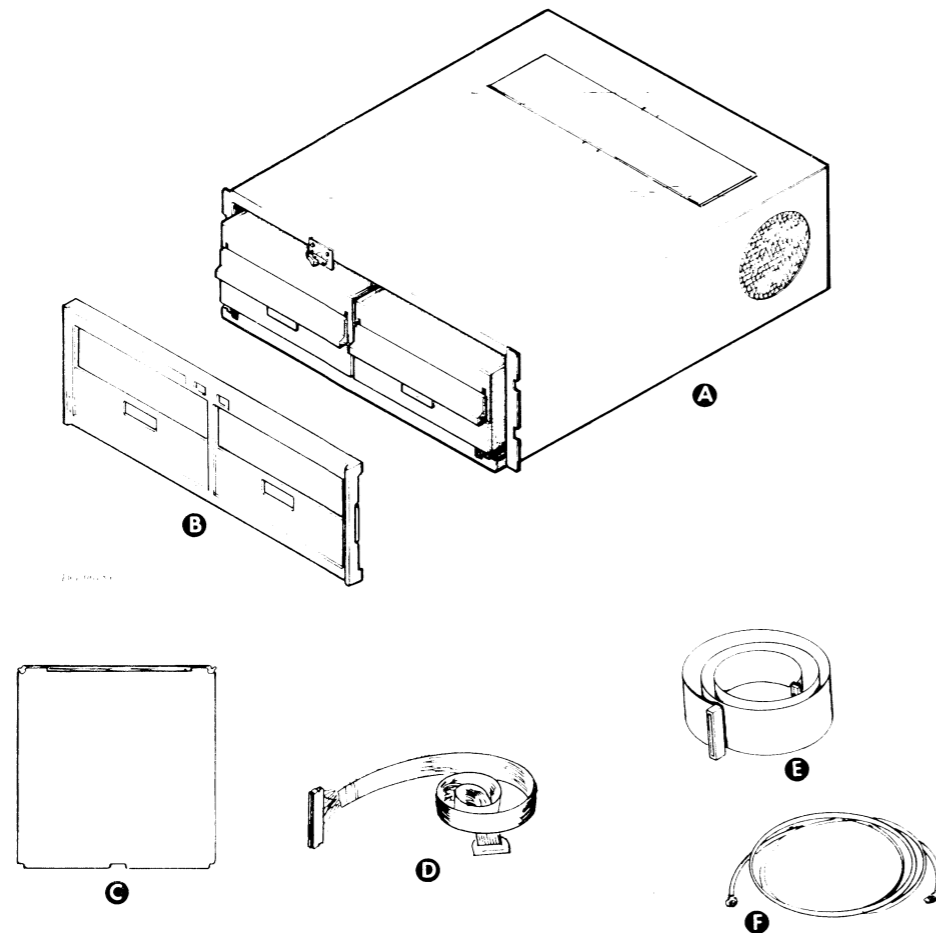
CABLES:

Primary Power	Length	DGC Cable No
Domestic 60Hz	1.8m(6')	1118E
120V		
Export 50Hz		
100V	1.8m(6')	1118D
220V	1.8m(6')	1118G
240V	1.8m(6')	1118F

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



MAJOR COMPONENT

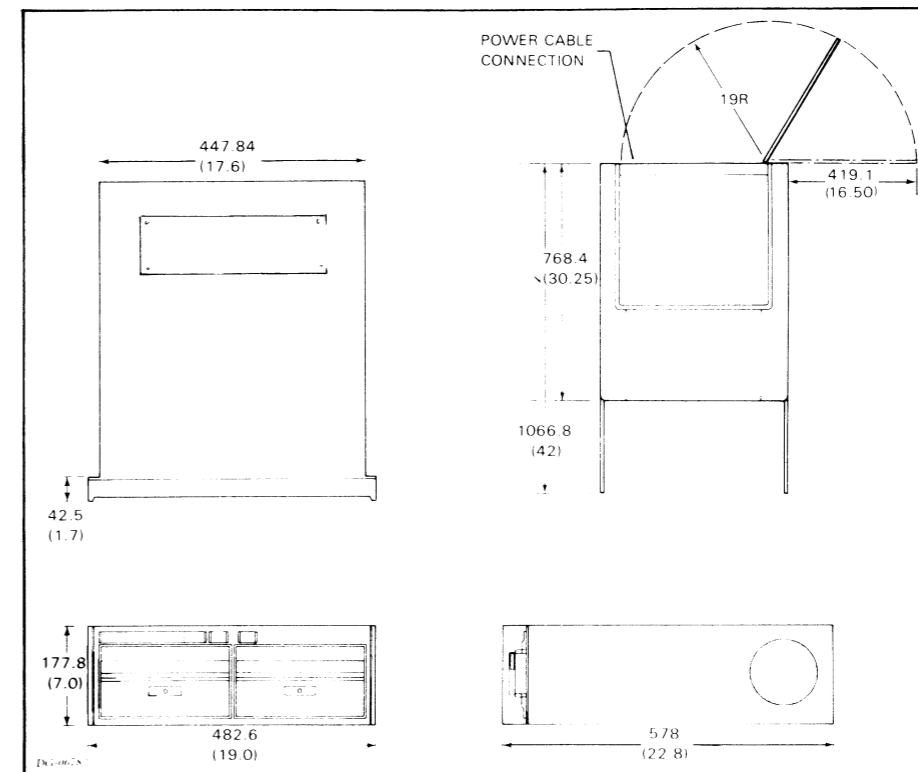
ITEM	COMPONENT	MOUNTING LOCATION	NOTES
A	ENCLOSURE W TWO DRIVES	CABINET	
B	FRONT PANEL	CABINET	
C	CONTROLLER PCB	CPU	

CABLE (SEE PAGE 5)

ITEM	CABLE	CONNECTING	MAX ALLOWED LG		NOTES
			FT	M	
D	I/O CABLE	CONTROLLER AND DRIVE	10	3	•
E	DAISY-CHAIN CABLE	DRIVE 01 AND DRIVE 02	1.21	0.37	•
F	GROUND CABLE	CPU AND DRIVE	10	3	005-008356
G	I/O CABLE	COMPLIANT CPU FLOPPY	10	3	•

* REFER TO DISC PRODUCT MASTER 010-331 FOR CABLE CONFIGURATIONS & 005 NUMBERS

ITEM	COMPONENT	CHASSIS	MAX DATA CHANNEL LATENCY (uS)	+5V CURRENT DRAW (AMPS)
C	CONTROLLER PCB	CPU	50	4.0



DIMENSIONS:

	Width	Depth	Height
Millimeters	482	578	177.8
Inches	(19.0)	(22.8)	(7.0)

SERVICE CLEARANCES:

	Front
Millimeters	444.5
Inches	(17.5)

WEIGHT:

Kilograms	29.5
Pounds	65

HEAT OUTPUT:

	Watts	BTU/hr
	140	478.1

OPERATING ENVIRONMENT:

Temperature (max)	43°C	109°F
Relative Humidity (max)	85°F	Wet bulb
Altitude	3048m (10,000ft)	

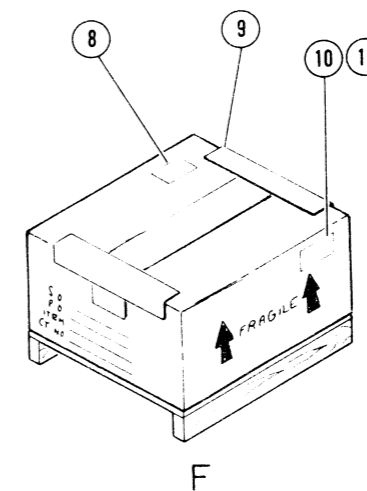
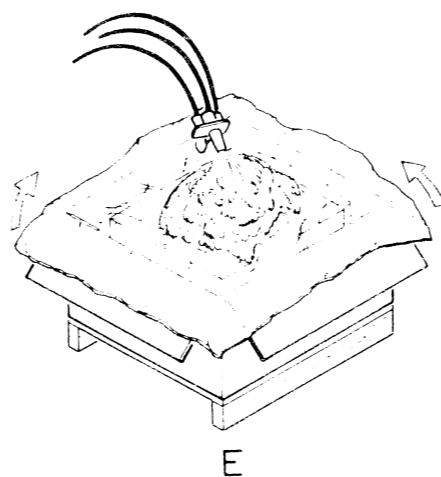
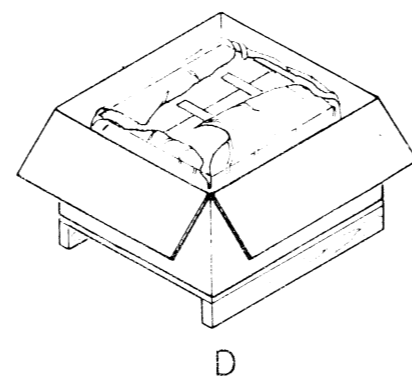
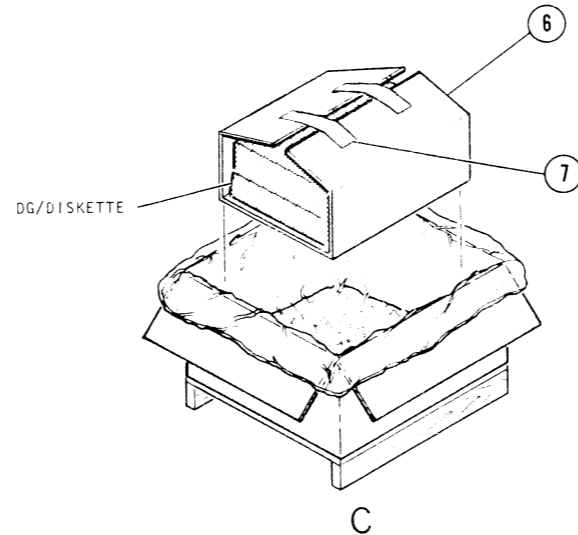
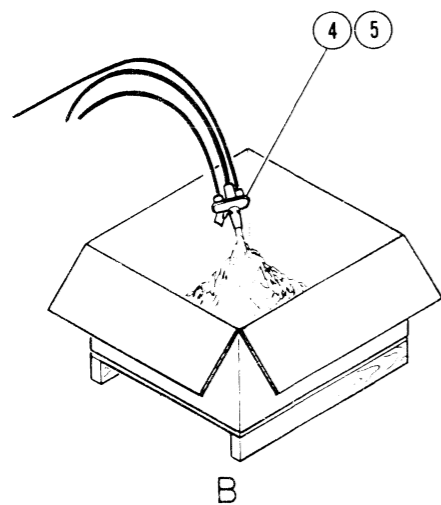
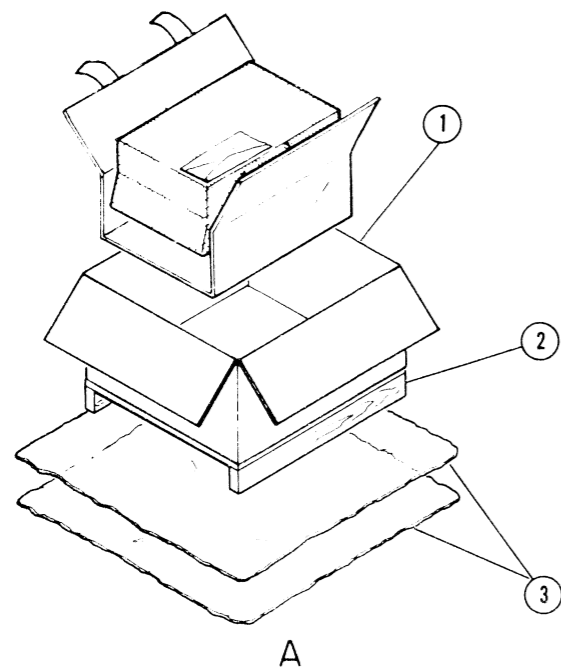
POWER REQUIREMENTS:

(Domestic)			
Voltage	120V		
Hz	60		
Max Amp per Phase	1.2A		
Phase	1		
Startup Surge per Phase	1.4A		
(Export)			
Voltage	100V	220V	240V
Hz	50	50	50
Max Amp per Phase	1.4A	64A	58A
Phase	1	1	1
Startup Surge per Phase	1.6A	75A	68A

CABLES:

Primary Power	Length	DGC Cable No
Domestic 60Hz	1.8m(6')	1118E
120V		
Export 50Hz		
100V	1.8m(6')	1118D
220V	1.8m(6')	1118G
240V	1.8m(6')	1118F

SHIPPING



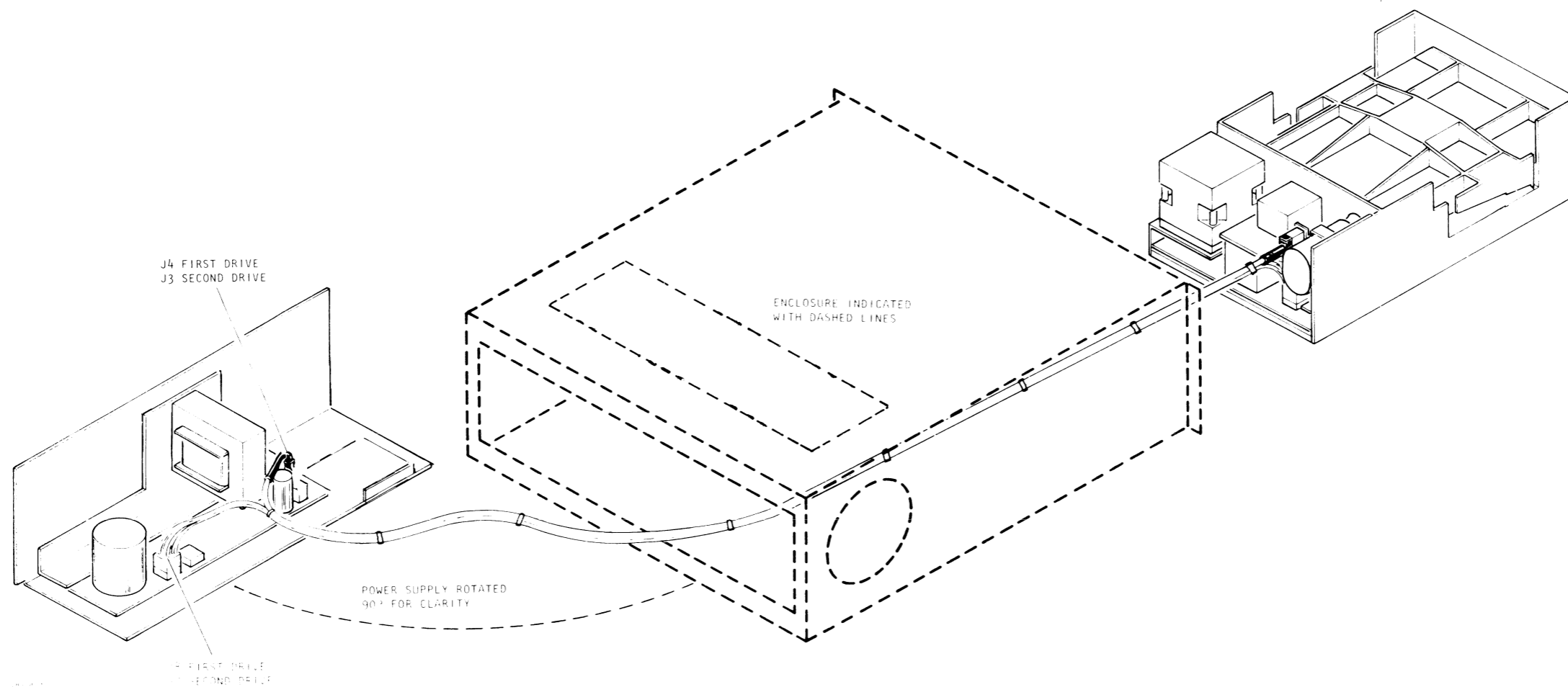
GENERAL PROCEDURE FOR FOAM-IN-PLACE PACKAGING

- A. SET UP CARTON. CUT 2 SHEETS OF POLYETHYLENE 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)

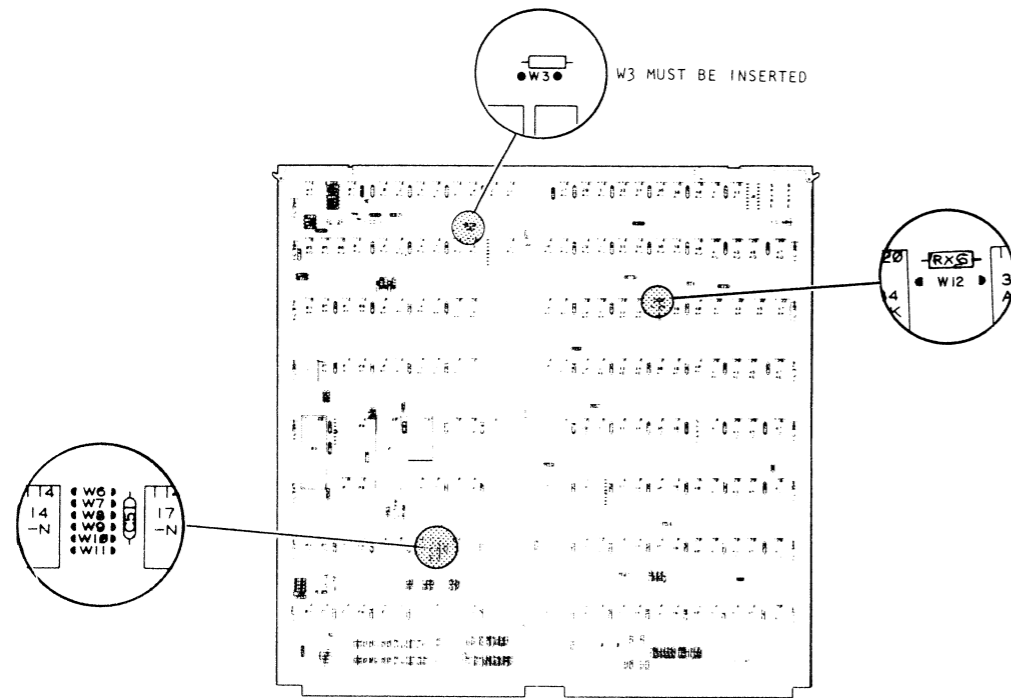
ITEM	DESCRIPTION	PART NO.	QTY
1	RSC 36 x 27 x 30	129-000325	
	RSC 36 x 27 x 19.25	129-000318	1
2	PALETTE 36 x 27	129-000316	1
3	POLYFILM 100"	129-000315	A/R
4	PART "A" FOAM IN PLACE (LB.)	129-000319	1.7
5	PART "B" FOAM IN PLACE (LB.)	129-000320	1.7
6	SLEEVE	129-000326	
	SLEEVE	129-000321	1
7	PERMACEL TAPE	129-000026	1FT
8	PKG LIST ENVELOPE	129-000042	1
9	TAPE	129-000027	A/R
10	DG SHIPPING LABEL	129-000030	1
11	CLEAR SCOTCH TAPE	129-000051	2FT

INTERNAL CABLING FOR AC/DC POWER



CONTROLLER BOARD

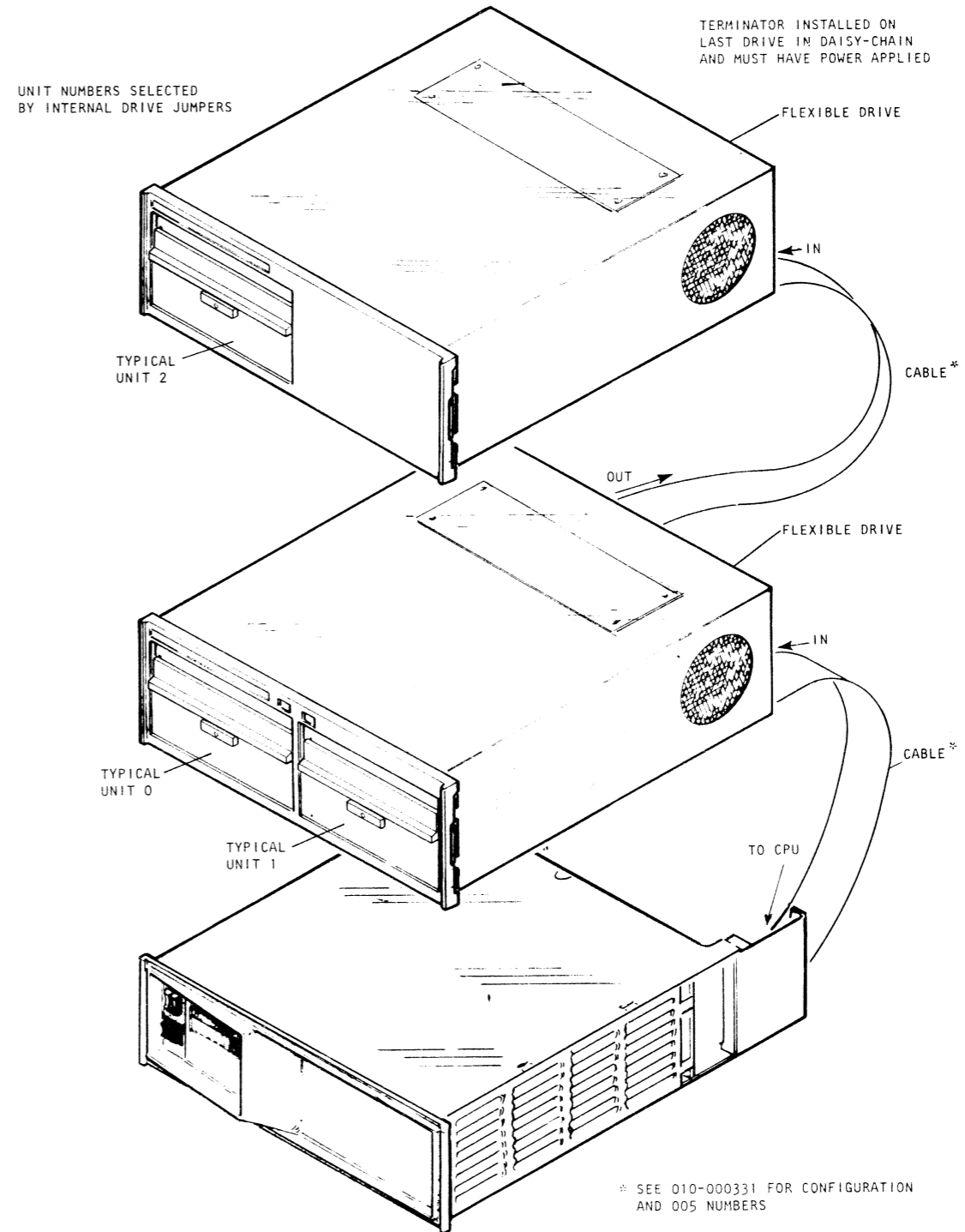
Ref DGC Dwg No 107-891 Rev 01



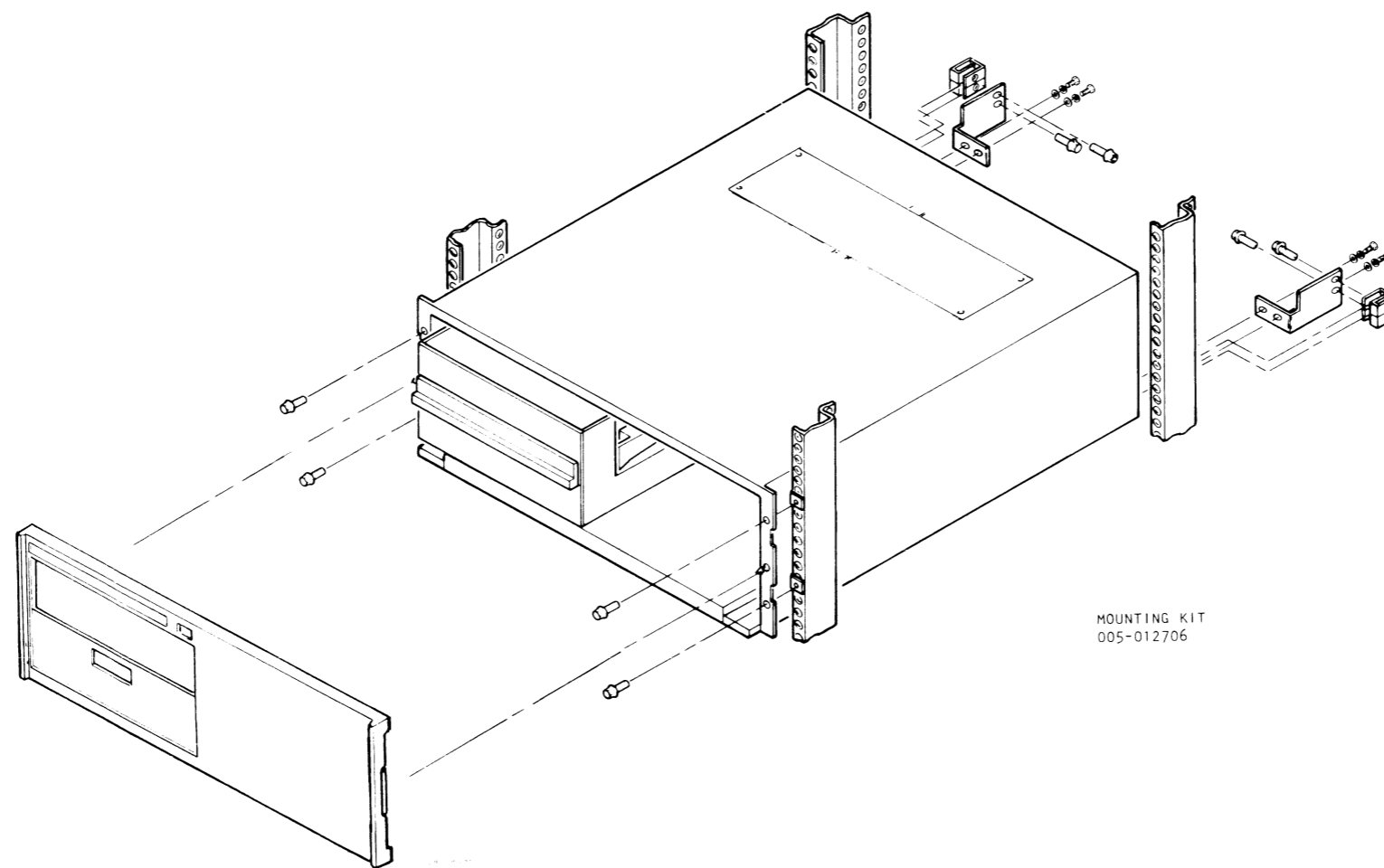
CONTROLLER DEVICE CODE SELECT		
JUMPER NUMBER	DEVICE CODE 33	DEVICE CODE 73
W6	OFF	ON
W7	ON	ON
W8	ON	ON
W9	OFF	OFF
W10	ON	ON
W11	ON	ON

DATA CHANNEL LOGIC SELECT	
CPU TYPE	W12
NOVA 4C	IN
ALL OTHERS	OUT

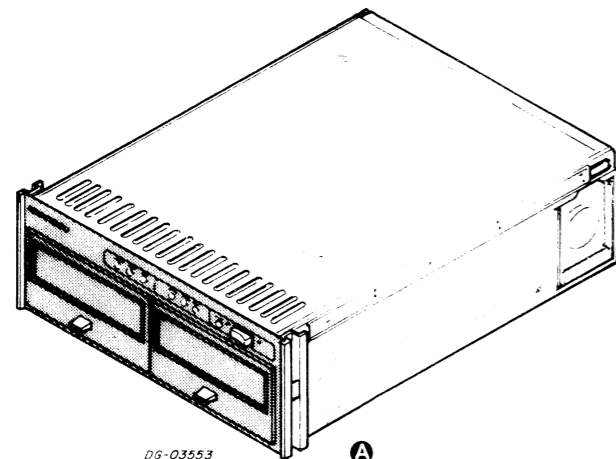
SYSTEM CONFIGURATION



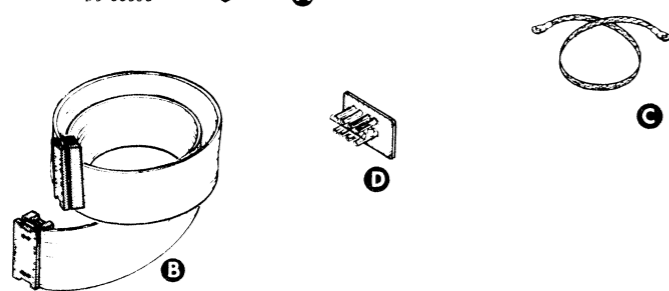
CABINET MOUNTING



SUBSYSTEM COMPONENT BREAKDOWN



DG-03553



MAJOR COMPONENT

Item	Component	Mounting Location	Notes
A	DISKETTE CHASSIS	CABINET	MAY CONTAIN TWO DRIVE UNITS PER CHASSIS

CABLE

Item	Cable	Connecting	Max Allowed Lg ft / m	Notes
B	I/O	COMPUTER and CHASSIS	/	
C	GROUND BRAID	COMPUTER AND CHASSIS	/	

SEE 010-000344 FOR CONFIGURATION AND Q25 NUMBERS.
MAXIMUM ACCUMULATIVE BUSS LENGTH IS 100 FT./30M.

TERMINATOR

Item	Terminator	Location	Notes
D	I/O BUS TERM.	LAST DR UNIT IN DAISY CHAIN	SEE SHEET 4 OF 4

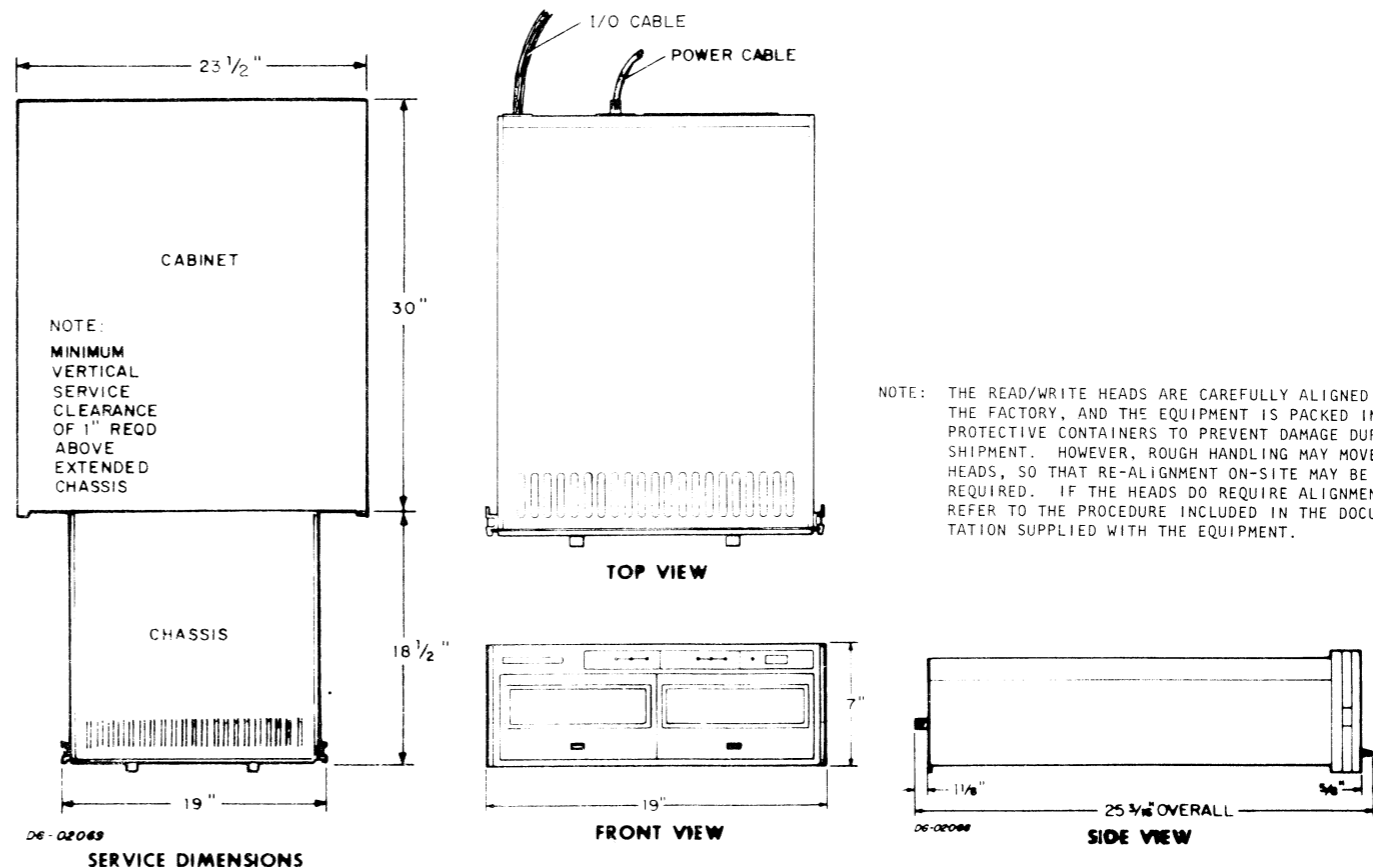
SPECIFICATIONS OF CABINET-MOUNTED COMPONENTS

Item	Component	Number in Sub-system	Maximum Operating Temperature		Primary Power					Cabinet Height Required			Weight		Power Dissipation (Max. Watts)	Preferred Location or Remarks		Operating Humidity (Relative)	
			Component °F	Media °C	Volts	Hz	Phase	Cond	Amps	Area	in.	cm	lbs	kg		1012N	1012P	min	%max
A	SINGLE DR	1	100/38	100/38	100	60	1	3	3.0	4	7	17.5	58/26.3	300	01-04	11-14	20	80	
	DUAL DR		100/38	100/38	100	60	1	3	4.9	4	7	17.8	68/30.6	490	01-04	11-14	20	80	
	SINGLE DR		100/38	100/38	120	60	1	3	2.6	4	7	17.8	58/26.3	312	01-04	11-14	20	80	
	DUAL DR		100/38	100/38	120	60	1	3	3.5	4	7	17.8	68/30.6	420	01-04	11-14	20	80	
	SINGLE DR		100/38	100/38	220	50	1	3	1.4	4	7	17.8	58/26.3	308	01-04	11-14	20	80	
	DUAL DR		100/38	100/38	220	50	1	3	1.8	4	7	17.8	68/30.6	396	01-04	11-14	20	80	
	SINGLE DR		100/38	100/38	240	50	1	3	1.2	4	7	17.8	58/26.3	288	01-04	11-14	20	80	
	DUAL DR		100/38	100/38	240	50	1	3	2.0	4	7	17.8	68/30.6	480	01-04	11-14	20	80	

Voltage	Power Cable Length ft / m	Power Cable Plug	Mating Receptacle on Power Drop	Mating Receptacle in Wall
100V	6 / 1.8	NEMA 5-15P	NEMA 5-15R	NEMA 5-15R
120V	6 / 1.8	NEMA 5-15P	NEMA 5-15R	NEMA 5-15R
220V	6 / 1.8	NEMA 6-15P	NEMA 6-15R	NEMA 6-15R
240V	6 / 1.8	NEMA 6-15P	NEMA 6-15R	NEMA 6-15R

DG-02717

SERVICE CLEARANCES		
	FRONT	LEFT & RIGHT
MM	914.4	609.6
IN	36	24



DG-02069

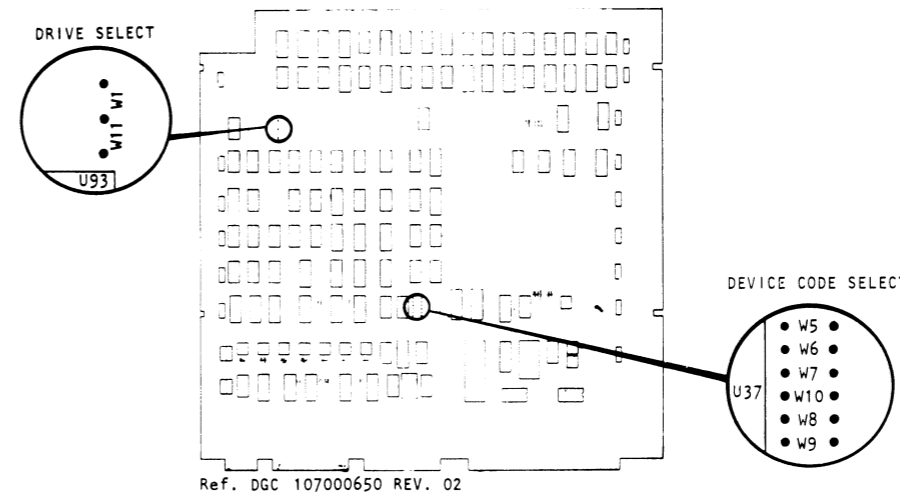
DG-02068

SHIPPING

FOR PACKING PROCEDURE,
SEE 010-000263

TAILORING

JUMPERS



Ref. DGC 107000650 REV. 02

JUMPER INSTALLED FOR DEVICE CODE 33 BY

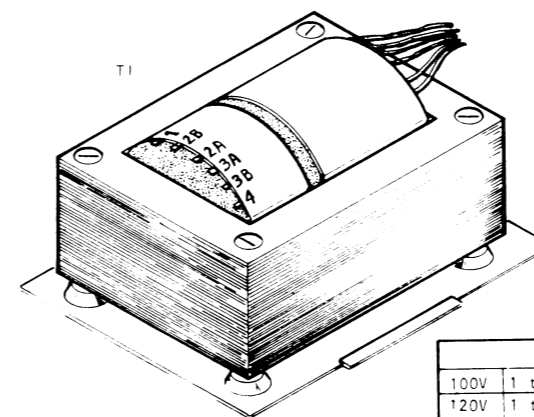
W10	W9	W8	W7	W6	W5
OUT	IN	IN	OUT	IN	IN

IF ONLY DRIVE IN SYSTEM, JUMPER W11
SELECTS DRIVE 0.
W1 SELECTS LEFT DRIVE AS DRIVE 0.
W11 SELECTS RIGHT DRIVE AS DRIVE 0.

INPUT VOLTAGE SELECTION

TRANSFORMER: T1

60 HZ. 104-000-143
50 HZ. 104-000-142

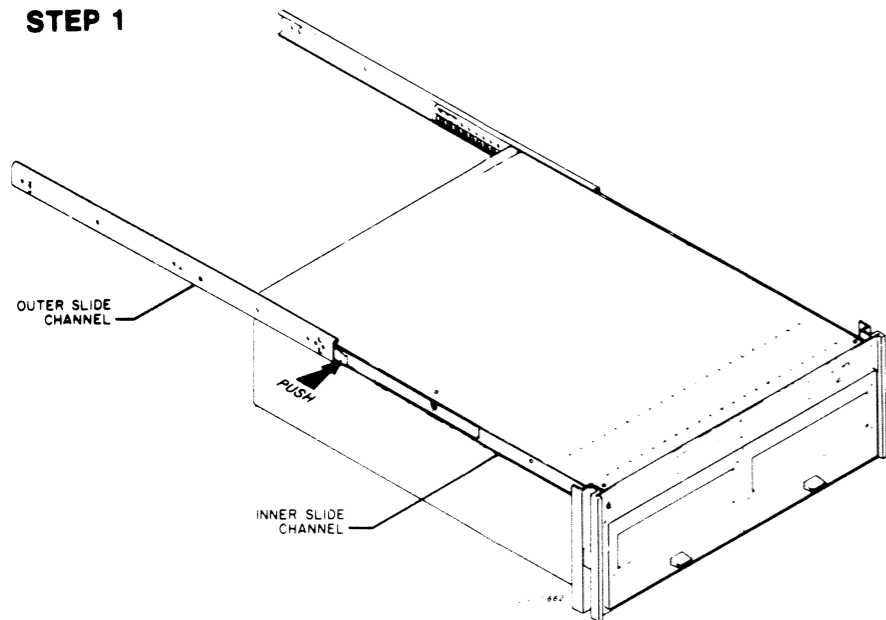


DG-03559

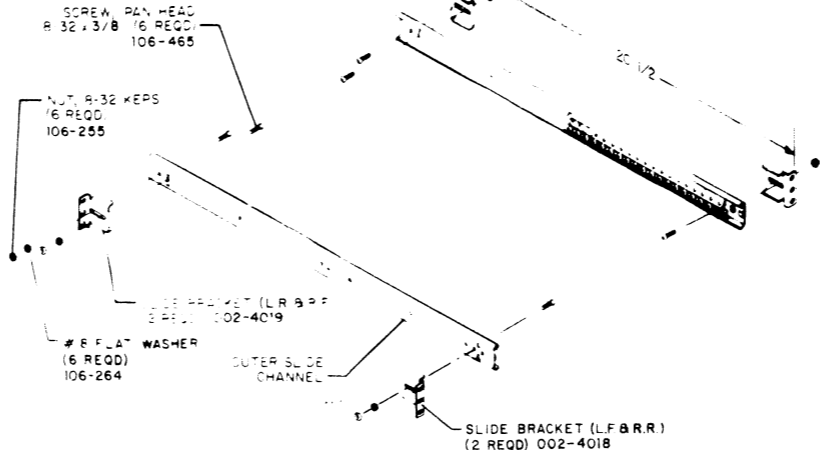
60Hz		TIE 1 and 4 to AC LINE
100V	1 to 3B and 2B to 4	
120V	1 to 3A and 2A to 4	
50Hz		
100V	1 to 3B and 2B to 4	
220V	2B to 3B	
240V	2A to 3A	

SLIDE RAILS

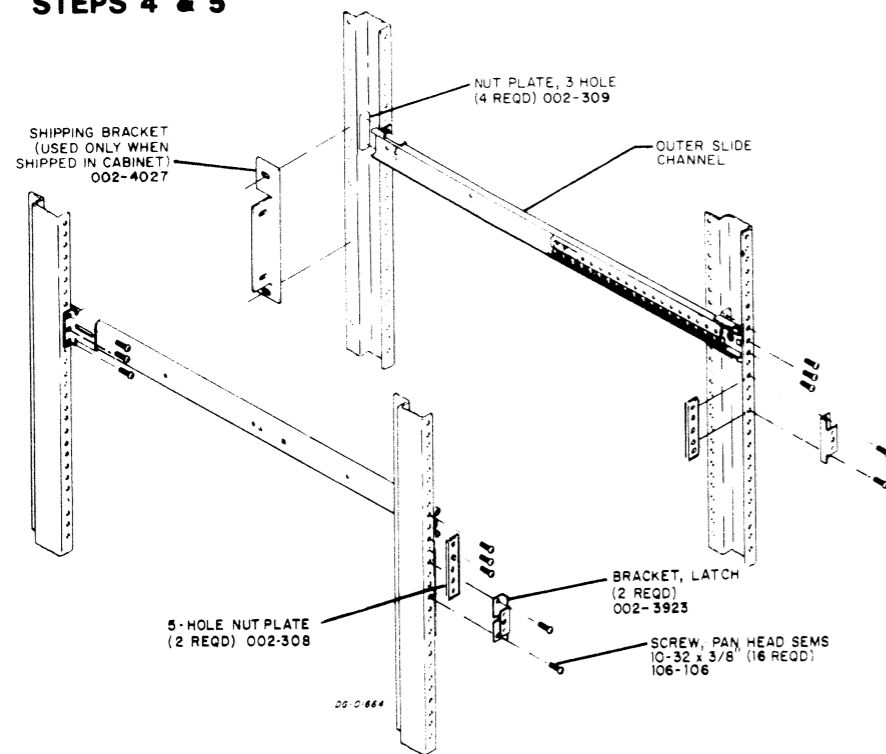
STEP 1



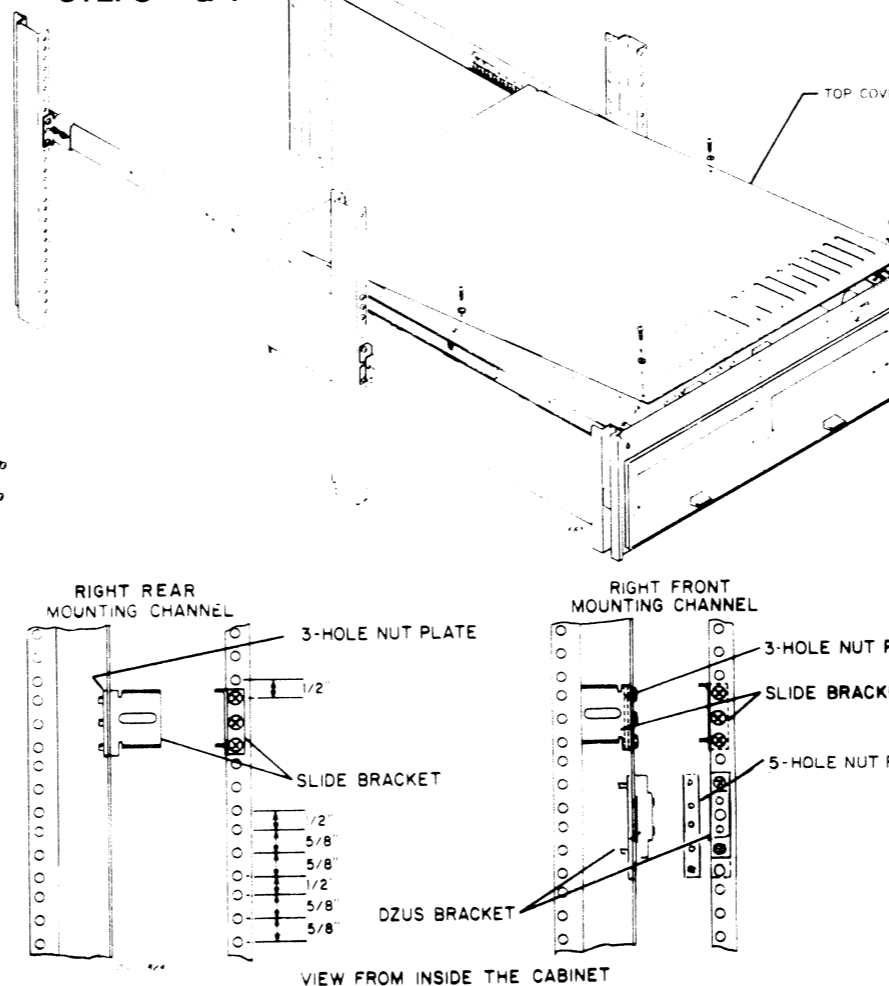
STEPS 2 & 3



STEPS 4 & 5



STEPS 6 & 7



1. REMOVE THE OUTER SLIDE CHANNELS FROM BOTH SIDES OF THE CHASSIS BY PULLING EACH SLIDE CHANNEL BACK UNTIL THE DETENT ENGAGES, PRESSING THE DETENT (INDICATED BY ARROW) TO RELEASE IT, AND PULLING THE SLIDE CHANNELS OFF THE CHASSIS. LEAVE THE INNER SLIDE CHANNELS FASTENED TO THE CHASSIS.
2. ATTACH A SLIDE BRACKET TO THE REAR OF EACH OUTER SLIDE CHANNEL. THE FRONT OF THE SLIDE CHANNEL IS IDENTIFIED BY THE NYLON OR METAL INSERTS. NOTE THAT THE BRACKETS ARE NOT SYMMETRICAL, AND MUST BE POSITIONED AS SHOWN WITH THE ELONGATED SIDE EXTENDED DOWNWARD FROM BOTH SLIDE CHANNELS. SECURE EACH BRACKET WITH TWO 8-32 x 3/8" PAN HEAD SCREWS, TWO #8 FLAT WASHERS AND TWO 8-32 KEPS NUTS. WITH THE NUTS AND WASHERS ON THE OUTSIDE OF THE SLIDE BRACKET SLIDE EACH BRACKET FORWARD AS FAR AS THE REAR SCREW WILL ALLOW, AND TIGHTEN IT IN THIS POSITION.
3. ATTACH A SLIDE BRACKET TO THE FRONT OF EACH SLIDE CHANNEL. NOTE THAT THE BRACKETS ARE NOT SYMMETRICAL, AND MUST BE POSITIONED AS SHOWN WITH THE ELONGATED SIDE EXTENDED DOWNWARD ON BOTH SLIDE CHANNELS. SECURE EACH BRACKET WITH AN 8-32 x 3/8" PAN HEAD SCREW, A #8 FLAT WASHER AND AN 8-32 KEPS NUT WITH THE NUT AND WASHER ON THE OUTSIDE OF THE SLIDE. USE THE MIDDLE OF THE 3 HOLES IN THE FRONT OF THE SLIDE CHANNEL. BEFORE TIGHTENING THE SCREW, ADJUST THE BRACKET'S POSITION TO 20 1/2" FROM THE REAR SLIDE BRACKET, AS MEASURED FROM THE OUTSIDE FACES OF THE BRACKETS. TIGHTEN THE SCREWS SECURELY.
NOTE: THE SLIDE BRACKET WILL BE SET BACK FROM THE FRONT EDGE OF THE SLIDE BY APPROXIMATELY 1 8".
4. FASTEN THE OUTER SLIDE CHANNELS TO THE MOUNTING CHANNELS AT THE LOCATION CHOSEN FOR THE DISKETTE DRIVE UNIT. THE UPPER SCREW HOLE OF THE SLIDE BRACKET SHOULD ALIGN WITH THE LOWER OF A PAIR OF MOUNTING CHANNEL HOLES SPACED ON 1 2" CENTERS. THE TOP OF THE FRONT PANEL WILL THEN LIE BETWEEN THE TWO 1 2" SPACED HOLES.
NOTE: THE ORDER OF ASSEMBLY OF THE SLIDE BRACKET AND NUT PLATE ONTO THE MOUNTING CHANNEL IS DIFFERENT AT EACH END OF A SLIDE CHANNEL. THE PROPER ORDER OF ASSEMBLY OF THE SLIDE BRACKET AND NUT PLATE TO THE MOUNTING CHANNELS IS ESSENTIAL FOR FRONT PANEL CLEARANCE. REFER TO THE ILLUSTRATION FOR THE PROPER SEQUENCE.
SECURE EACH BRACKET TO A MOUNTING CHANNEL WITH A 3-HOLE NUT PLATE AND THREE 10-32 x 3/8" SEMS SCREWS. TIGHTEN ALL SCREWS SECURELY.
5. ATTACH A DZUS BRACKET TO EACH MOUNTING CHANNEL, USING 5-HOLE NUT PLATE AND TWO 10-32 x 3/8" PAN HEAD SEMS SCREWS FOR EACH BRACKET. TIGHTEN THE SCREWS SECURELY.
6. SLIDE THE DISKETTE UNIT INTO THE CABINET BY ALIGNING THE CHASSIS SLIDES AND PUSHING THE UNIT INTO THE CABINET UNTIL THE DETENTS STOP IT. RELEASE THE DETENTS AND PUSH THE UNIT ALL THE WAY BACK INTO THE CABINET. IF IT BINDS OR DOESN'T FIT PROPERLY THE SLIDE CHANNELS ARE NOT ALIGNED CORRECTLY AND SHOULD BE READJUSTED BY TRIAL AND ERROR. (BE SURE TO REMOVE THE UNIT FROM THE CABINET BEFORE ADJUSTING THE SLIDE CHANNELS). THE DZUS BRACKETS MAY ALSO NEED TO BE ADJUSTED IN A SIMILAR FASHION.
7. ONCE THE UNIT MOVES BACK AND FORTH FREELY PULL IT OUT UNTIL THE DETENTS STOP IT. REMOVE THE TOP COVER BY REMOVING THE FOUR SCREWS, RAISING THE FRONT EDGE OF THE COVER AND SLIDING IT FORWARD AND UPWARD.
8. REMOVE THE DEVICE CABLE COVER PLATE ON THE REAR OF THE UNIT AND INSERT THE DEVICE CABLE(S) INTO THE CHASSIS THROUGH THE OPENING. PLUG THE EDGE CONNECTOR INTO THE 100 PIN ETCH (P1 OR P2) ON THE LARGE PCB. THE CONNECTOR MUST BE ORIENTED AS SHOWN IN THE DRAWING.
9. RELEASE THE DETENTS ON BOTH SIDES OF THE UNIT AND SLIDE IT BACK INTO ITS CABINET.
10. WORK FROM THE REAR OF THE CABINET, AND INSTALL A CABLE TIE MOUNT ON THE REAR OF THE CHASSIS IN THE POSITION SHOWN. ONE MOUNT IS REQUIRED FOR EACH DEVICE CABLE EXITING FROM THE CHASSIS. USE ONE 7-32 x 1 2" PAN HEAD SEMS SCREW FOR EACH MOUNT.
11. TIE EACH DEVICE CABLE TO ITS MOUNT, SO THAT THE CABLE DOES NOT STRAIN ITS CONNECTION INSIDE THE CHASSIS.
12. INSTALL THE OFFSET CABLE COVER PLATE, AND SECURE IT WITH THE TWO SEMS SCREWS (6-32 x 5/16").
13. SLIDE THE DISKETTE UNIT FORWARD UNTIL THE DETENTS STOP IT, AND CHECK THAT THE DEVICE CABLES ARE FREE TO FLEX DURING THIS OPERATION.
14. WORK FROM THE FRONT OF THE CABINET, AND RECHECK THAT THE DEVICE CABLES (OR CABLE AND TERMINATOR BOARD) ARE SECURE.
15. REPLACE THE TOP COVER. ENSURE THAT THE OFFSET REAR EDGE OF THE COVER ENGAGES THE FLANGE ON THE REAR OF THE CHASSIS. SECURE THE COVER WITH THE FOUR SEMS SCREWS (6-32 x 5/16").

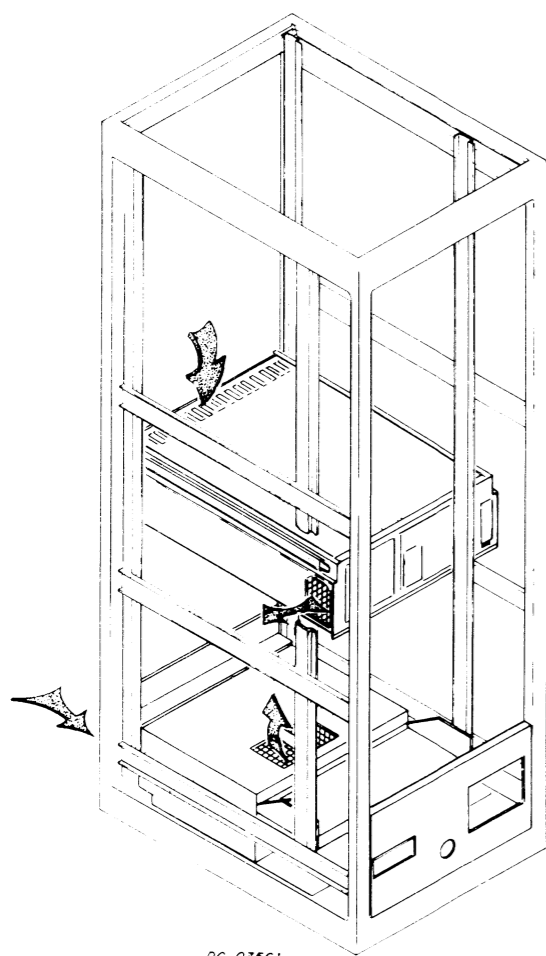
Torque Requirements	
Screw no.	in/lb
8-32	12-14
10-32	23-25

MOUNTING KIT 005 005762

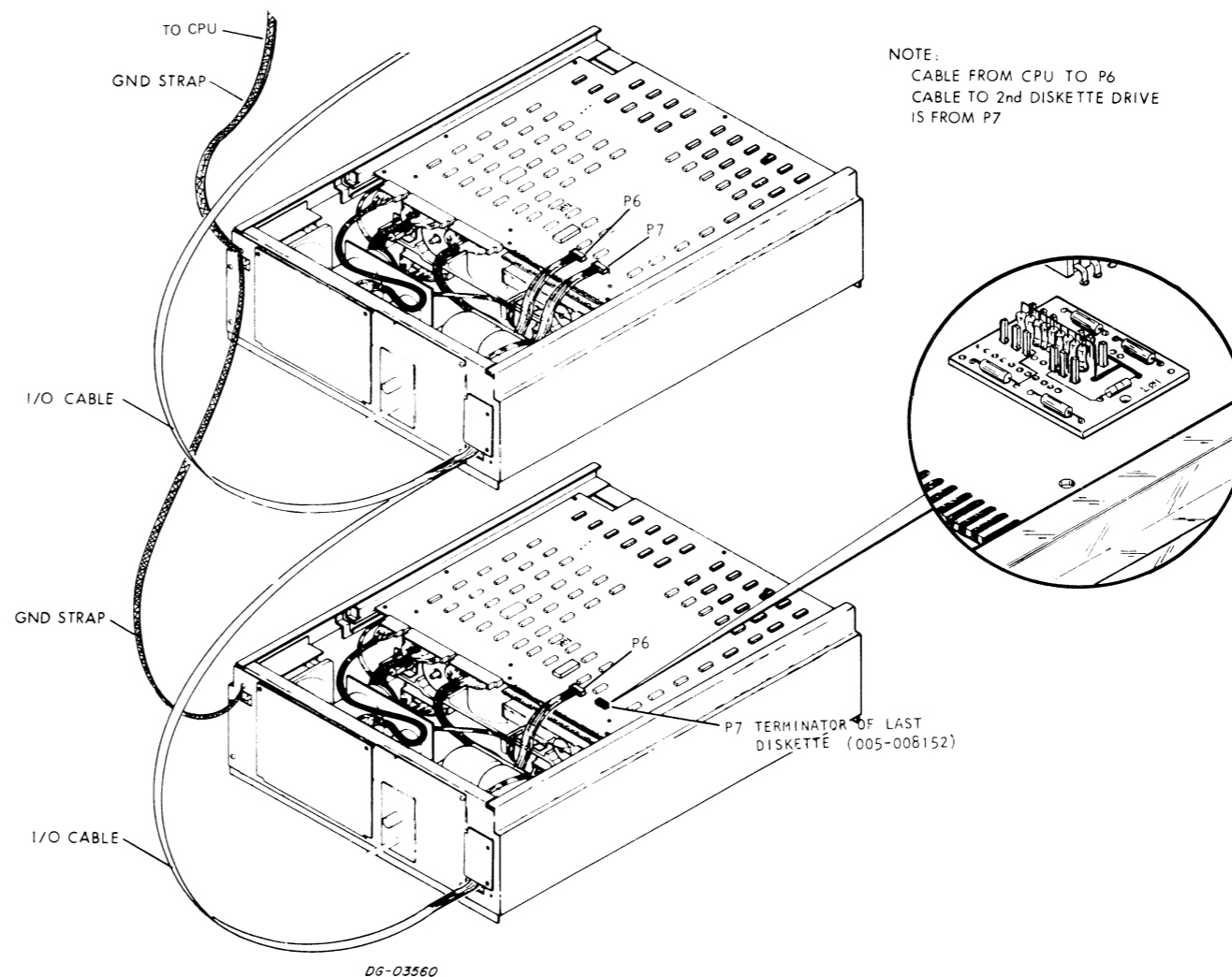
VIEW FROM INSIDE THE CABINET

EXTERNAL CABLING

AIR FLOW



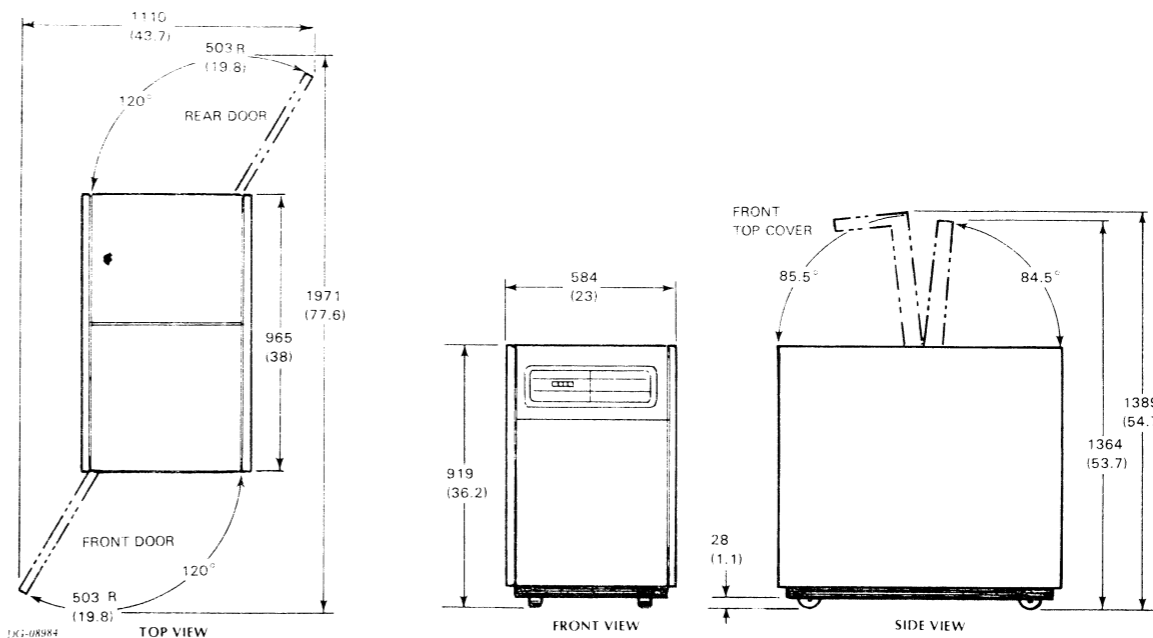
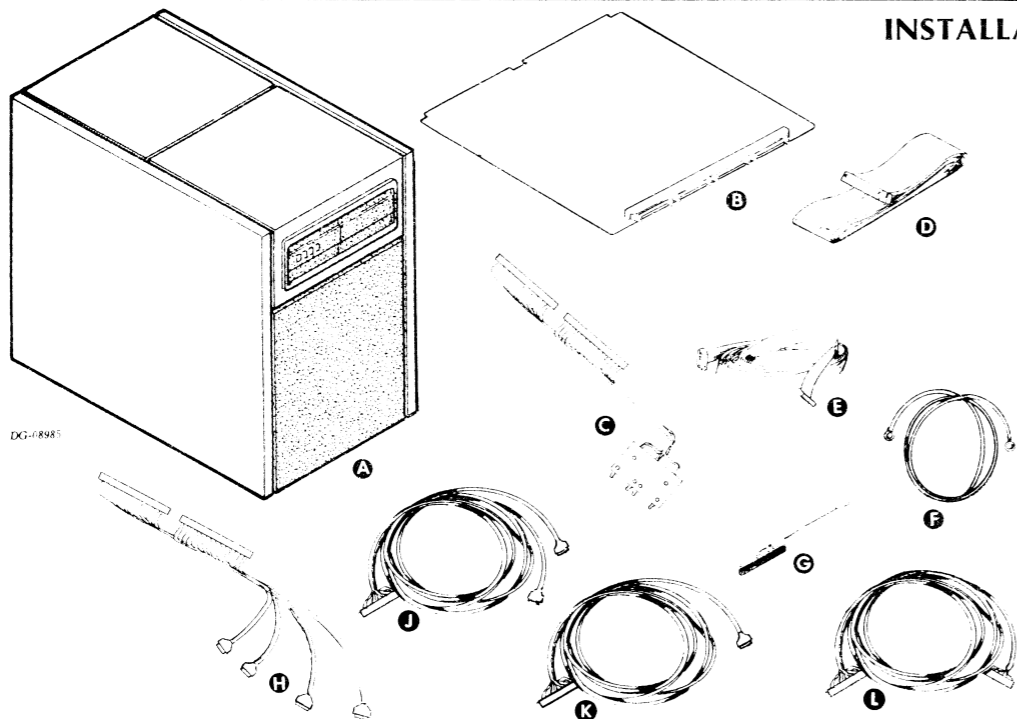
DG-03561



DG-03560

DISKETTE DRIVE, SERIES 6038 / 6039

INSTALLATION SPECIFICATIONS



MAJOR COMPONENT

Item	Component	Mounting Location	Notes
A	DISK DRIVE 602 2MB (FORMATTED)	STAND ALONE	MODEL 6214
B	CONTROLLER	CPU I/O ONLY SLOT	005-016892

CABLE

Item	Cable	Connecting	Max Lgth		Notes
			ft	m	
C	INT CABLE RH PUSH ON	BACKPANEL AND PADDLEBOARD			
D	EXT CABLE 60 COND (CABLE A)	PADDLEBOARD AND DRIVE	30	9.1	REFER TO DISC PRODUCT MASTER 010-331 FOR CABLE CONFIGURATION & 005 NUMBERS
			20 *	6.1	
E	EXT CABLE 26 COND (CABLE B)	PADDLEBOARD AND DRIVE	30	9.1	
F	GROUND STRAP	DRIVE AND CPU CHASSIS	30	9.1	005-008063

* MAXIMUM CUMULATIVE DAISY CHAIN LENGTH IS 50 FEET

TERMINATOR

Item	Terminator	Location	Notes
G	SUPPLIED WITH DRIVE	LAST DRIVE ON DAISY CHAIN "A" CABLE	FAX CARD (SEE SHEET 8)

COMPLIANT CABLES

Item	Cable	Connecting	Max. Lgth.		Notes
			ft	m	
H	INTERNAL CABLE	BACKPANEL			
J	EXTERNAL CABLE CABLE GROUP "A"	CPU TO DRIVE	30**	9.1	REFER TO DISC PRODUCT MASTER 010-331 FOR CABLE CONFIGURATIONS & 005 NUMBERS
K	EXTERNAL CABLE CABLE GROUP "B"	CPU TO DRIVE	30**	9.1	
L	EXTERNAL CABLE CABLE GROUP "C"	DRIVE TO DRIVE	20**	6.1	

** MOLDED CABLES 005-19062-110 FT. "A" CABLE; 005-19069-110 FT. "B" CABLE; AND 005-19086-110 FT. "C" CABLE; MUST NOT BE USED IN THIS PRODUCT.

DIMENSIONS:

	Width	Depth	Height
Millimeters	584	965	919
Inches	23	38	36.2

SERVICE CLEARANCES:

	Front & Rear	Right & Left	Top
Millimeters	914	263	470
Inches	36	15	18.5

WEIGHT:

	Kilograms	Pounds
	286	635

HEAT OUTPUT:

	Watts	BTU/hr
	1391	4745

ENVIRONMENT:

(Operating)	Temperature	Relative Humidity	Altitude
	10 to 35°C (50 to 95°F)	20 to 80% non condensing	305 to 2440m (-1000 to 8000ft)
(Storage)	Temperature	Relative Humidity	Altitude
	40 to 70°C (-40 to 158°F)	10 to 90% non condensing	305 to 7620m (-1000 to 25,000ft)

POWER REQUIREMENTS:

(Domestic)

Voltage	208V
Hz	60 Hz
Max Amp per Phase	See Figure 1
Phase	1
Startup Surge per Phase	See Figure 1

(Export)

Voltage	220V/240V
Hz	50 Hz
Max Amp per Phase	See Figure 1
Phase	1
Startup Surge per Phase	See Figure 1

CABLES:

Primary Power	Length	Conn	Mating Conn
Domestic 60Hz	9 ft (2.7m)	L6-20P	L6-20R
Export 50Hz	9 ft (2.7m)	L9-20P	L9-20R

NOTE: See ac wiring page 7 this 010.

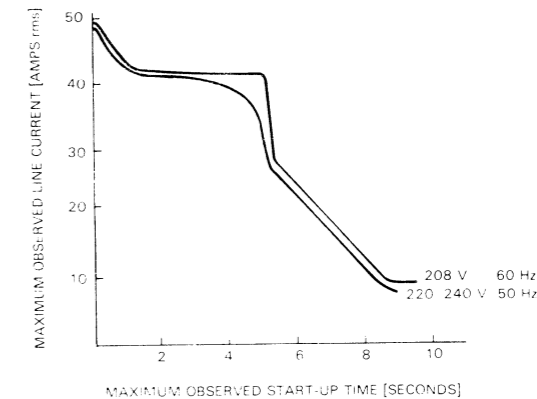
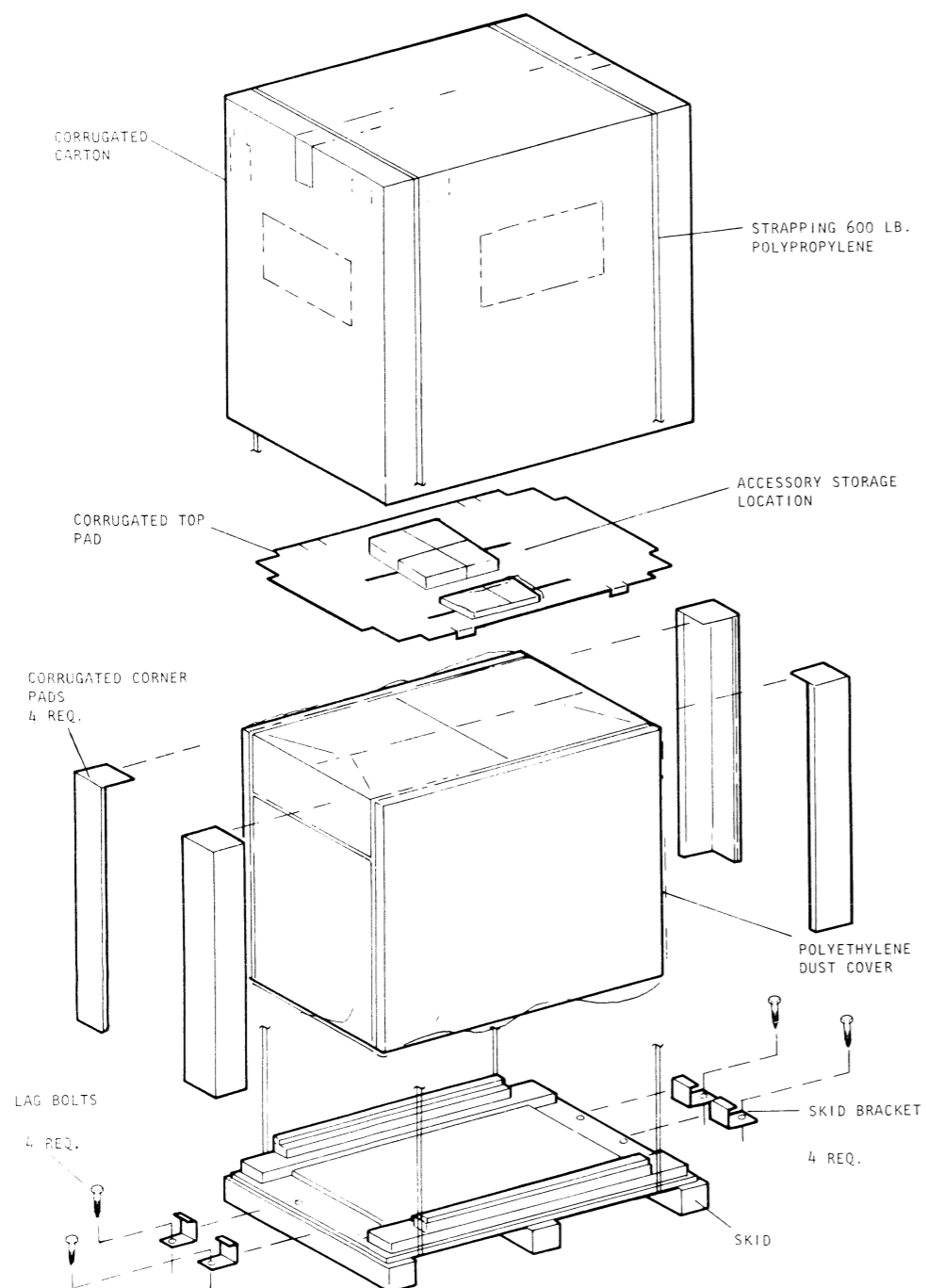


Figure 1. LINE CURRENT vs START-UP TIME

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.

EXTERNAL UNPACKING



EXTERNAL UNPACKAGING

- CUT STRAPS, REMOVE CARTON, CORRUGATED CORNER POSTS, AND ACCESSORIES LOCATED ON TOP OF UNIT.
- REMOVE DUST COVER.
- REMOVE DRIVE FROM PALLET PER PROCEDURE BELOW.

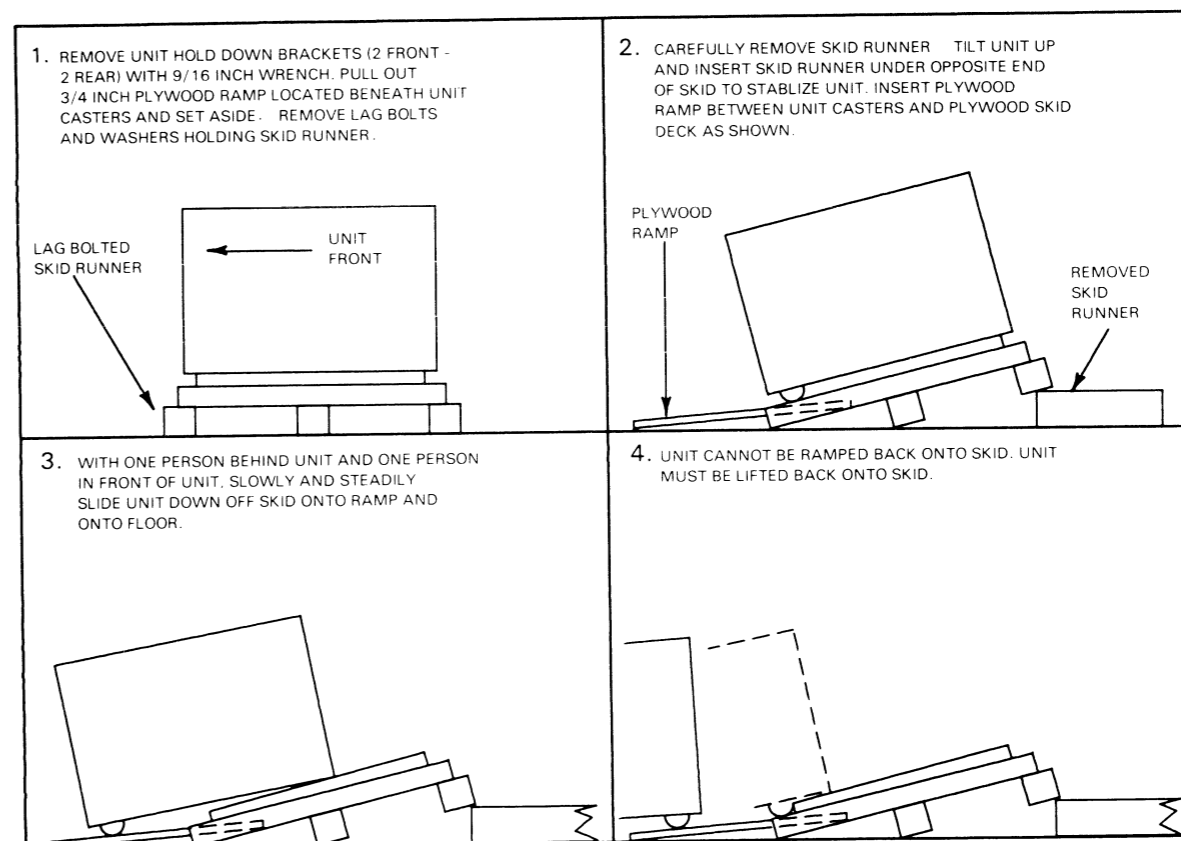
INSTRUCTION FOR SKID REMOVAL

NOTES: READ SKID REMOVAL INSTRUCTIONS COMPLETELY BEFORE PROCEEDING.

ALLOW AT LEAST 10 FT. OF WORKING SPACE IN FRONT OF UNIT.

TWO PEOPLE ARE RECOMMENDED ON THIS PROCEDURE.

OPENING FRONT AND REAR DOORS ON UNIT MAY PROVIDE EASIER ACCESS TO LAG BOLTS. CLOSE DOORS PRIOR TO REMOVING UNIT FROM SKID.

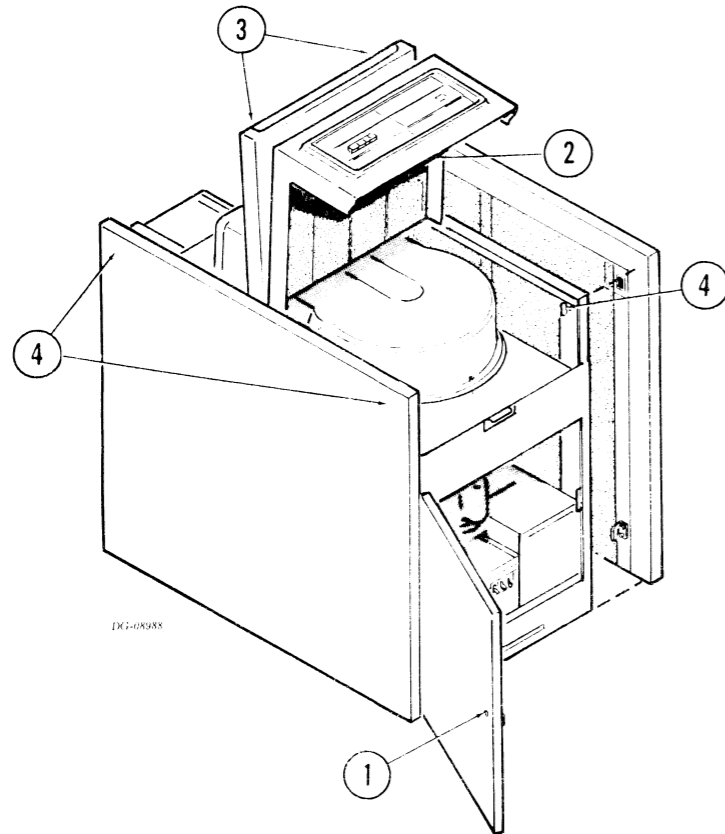


INTERNAL UNPACKING

CAUTION

THE CARRIAGE LOCKING ROD ASSEMBLY MUST BE REINSTALLED WHENEVER THE UNIT IS MOVED EVEN A SHORT DISTANCE (FOR EXAMPLE, ACROSS THE ROOM).

**Step 1
CABINET ACCESS**

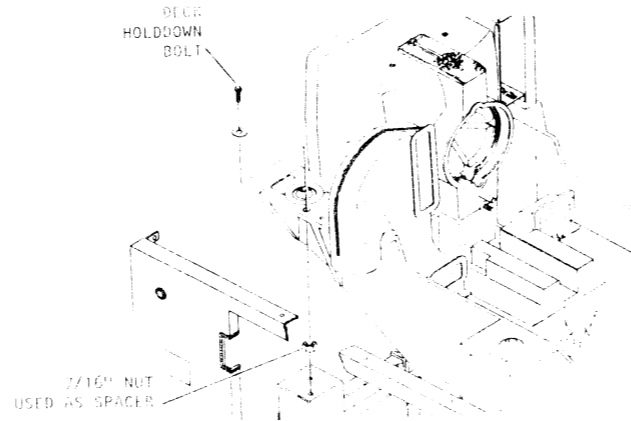


DG-0898

1. TO ACCESS THE CABINET, LOCATE DRIVE SO THERE WILL BE 3 FEET OF CLEARANCE AROUND THE UNIT.
 2. OPEN THE FRONT DOOR BY INSERTING A 6mm HEX DRIVER INTO THE LOCK AND TURNING IT IN EITHER DIRECTION.
 3. LIFT TOP FRONT COVER AFTER SQUEEZING THE LATCH IN THE MIDDLE OF THE FRONT. TOP FRONT COVER HAS SPRING-LOADED SUPPORTS.
 4. OPEN REAR DOOR, USING THE 6mm HEX DRIVER, AND LOOSEN THE TWO SCREWS ATTACHING THE REAR TRIM STRIP TO THE FRAME. RAISE TOP REAR COVER. TOP REAR COVER HAS A FRICTION SUPPORT.
 5. TO REMOVE SIDE PANELS, RELEASE TWO QUARTER-TURN FASTENERS, ONE AT EACH UPPER CORNER. RELEASE ONE END OF THE GROUND CABLE ATTACHED TO THE SIDE PANEL AND THE FRAME. TILT SIDE PANEL OUTWARD SLIGHTLY AND LIFT, DISENGAGING BOTTOM LATCHES.
- REVERSE SEQUENCE TO REMOUNT SIDE PANELS.

Step 2

DECK HOLDDOWN BOLTS

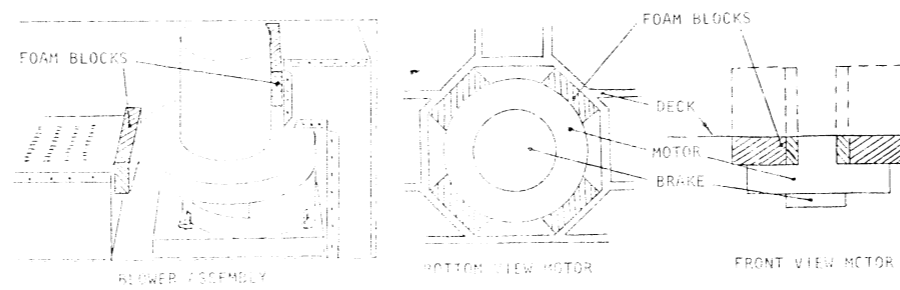


BEFORE OPERATING UNIT, REMOVE FOUR DECK HOLD-DOWN BOLTS AS FOLLOWS:

ACCESS CABINET. THE FOUR HOLD-DOWN BOLTS ARE IDENTIFIED BY A REMOVAL INSTRUCTION TAG.

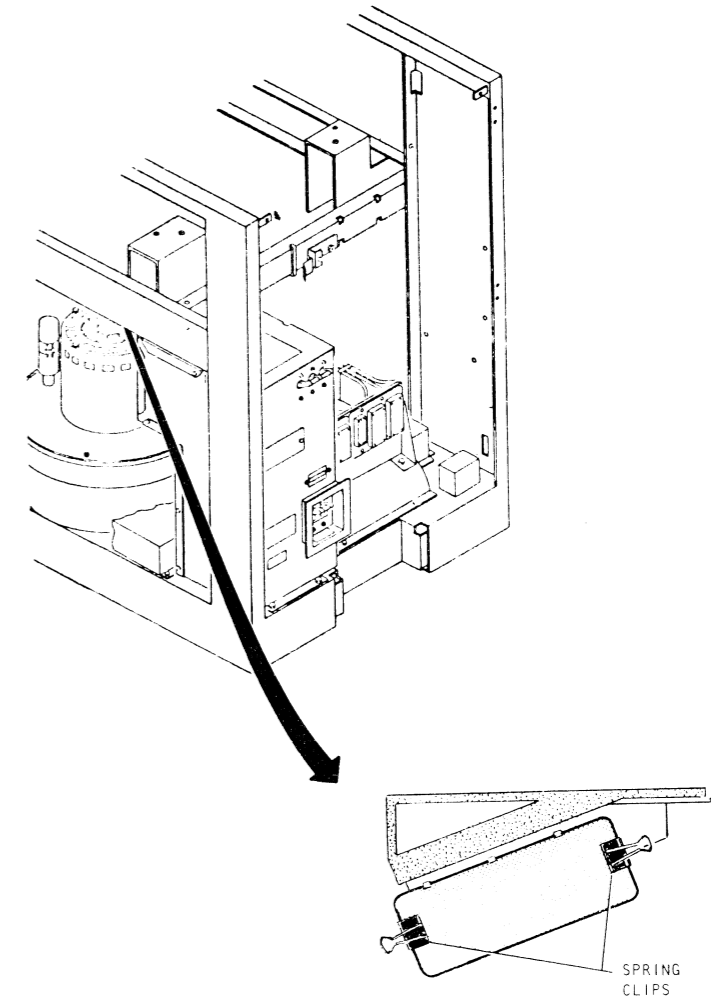
Step 3

INTERNAL UNPACKING



- REMOVE THE FOAM BLOCK HOLDING THE LOGIC CHASSIS CLOSED.
- OPEN LOGIC PANEL AND REMOVE COILED AND TAPED POWER CABLE WHEN LOCATED WITHIN THE UNIT.
- REMOVE FOAM BLOCKS ON BOTH SIDES OF BLOWER ASSEMBLY. (SEE FIGURE 17-17.)
- REMOVE FOUR FOAM BLOCKS FROM BETWEEN MOTOR AND DECK LASTING.
- REMOVE DESICCANT. (SEE NEXT STEP.)

**Step 4
DESICCANT REMOVAL**



TO REMOVE DESICCANT:

1. REMOVE RIGHT SIDE PANEL AND LOCATE MUFFLER COVER.
2. REMOVE THE TWO SPRING CLIPS AND OPEN MUFFLER PLATE COVER.
3. REMOVE DESICCANT PACKAGE AND DISCARD.
4. CAREFULLY EXAMINE DUCTS FOR DESICCANT THAT MAY HAVE ESCAPED FROM A RUPTURED PACKAGE. REMOVE WITH VACUUM CLEANER OR SOFT CLOTH. LOOSE DESICCANT CAN CAUSE HEAD CRASHES IF BLOWN INTO HDA.

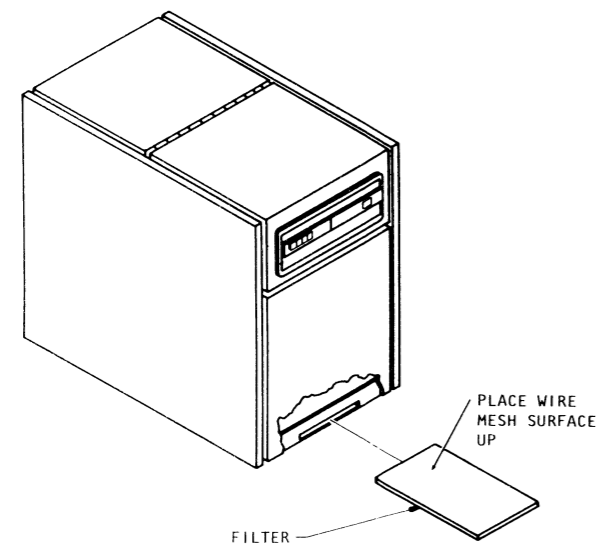
UNPACKING

CAUTION

THE CARRIAGE LOCKING ROD ASSEMBLY MUST BE REINSTALLED WHENEVER THE UNIT IS MOVED EVEN A SHORT DISTANCE (FOR EXAMPLE, ACROSS THE ROOM).

Step 5

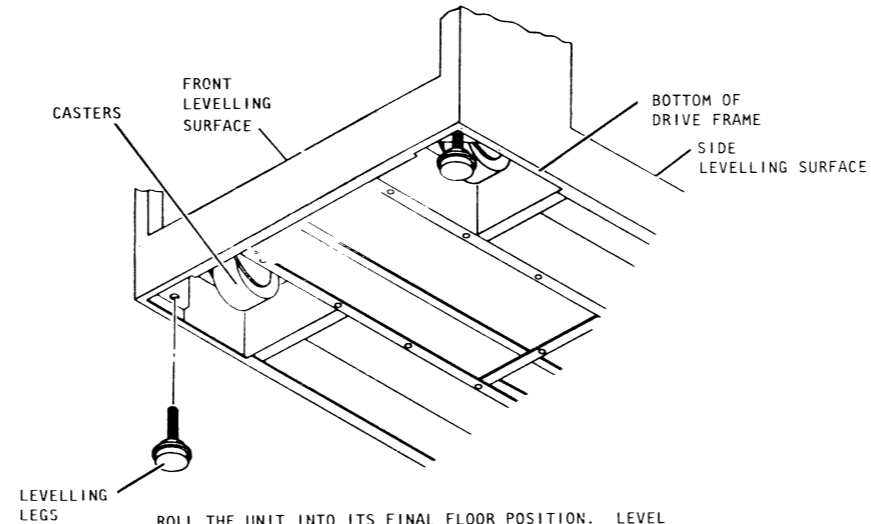
FILTER



THE PRIMARY AIR FILTER IS PLACED INSIDE THE UNIT TO PREVENT DAMAGE DURING SHIPMENT. THE FILTER SLIDES INTO THE SLOT IN THE FRONT OF THE UNIT.

Step 6

PLACEMENT AND LEVELLING



ROLL THE UNIT INTO ITS FINAL FLOOR POSITION. LEVEL THE UNIT BY EXECUTING THE FOLLOWING STEPS:

1. OPEN FRONT AND REAR DOORS.
2. INSERT FINGERS UNDERNEATH EACH CORNER OF THE FRAME. SQUEEZE THE FOAM PAD BEHIND EACH LEVELER PAD. TWIST EACH LEVELER PAD UNTIL IT REACHES THE FLOOR.
3. USE A 9/16-INCH WRENCH ON THE HEX SURFACE (JUST ABOVE THE PAD) OF EACH LEVELER TO LOWER THE LEVELERS UNTIL THE CASTERS ARE OFF THE FLOOR.
4. USING SPIRIT LEVEL, ADJUST LEVELERS UNTIL BUBBLE IS CENTERED FROM FRONT-TO-REAR AND FROM SIDE-TO-SIDE. (USE TOP SURFACE OF THE BOTTOM OF THE DRIVE FRAME FOR LEVELLING OPERATION. SEE ABOVE.)

Step 7

TEMPERATURE STABILIZATION & PURGING PROCEDURES

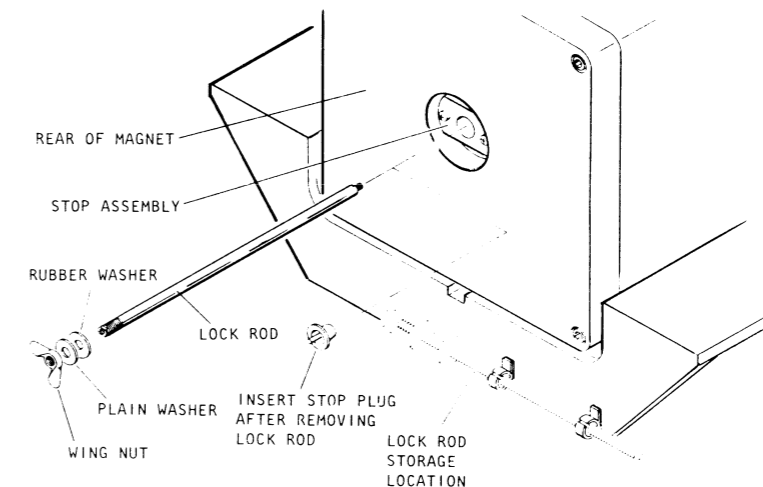
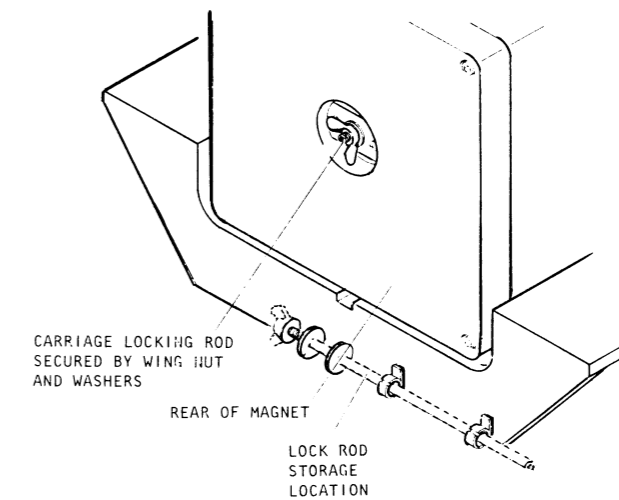
CAUTION

DO NOT APPLY POWER TO THE UNIT UNTIL IT HAS BEEN TEMPERATURE STABILIZED. STABILIZATION AND PURGING OF THE DEVICE ARE REQUIRED, OTHERWISE COMPONENT DAMAGE MAY OCCUR.

1. BEFORE POWER IS APPLIED TO THE UNIT, ALLOW 24 HOURS FOR THE TEMPERATURE TO STABILIZE.
2. START SWITCH ON THE OPERATOR'S CONSOLE MUST BE IN THE "OUT" POSITION.
3. APPLY AC POWER. BLOWER SHOULD COME ON. ALLOW THE BLOWER TO OPERATE (DRIVE MOTOR NOT OPERATING) FOR AT LEAST ONE HOUR.
4. DIAGNOSTIC DISPLAY SHOULD READ EE0d.
5. THE CARRIAGE LOCKING ROD MUST NOW BE REMOVED.

Step 8

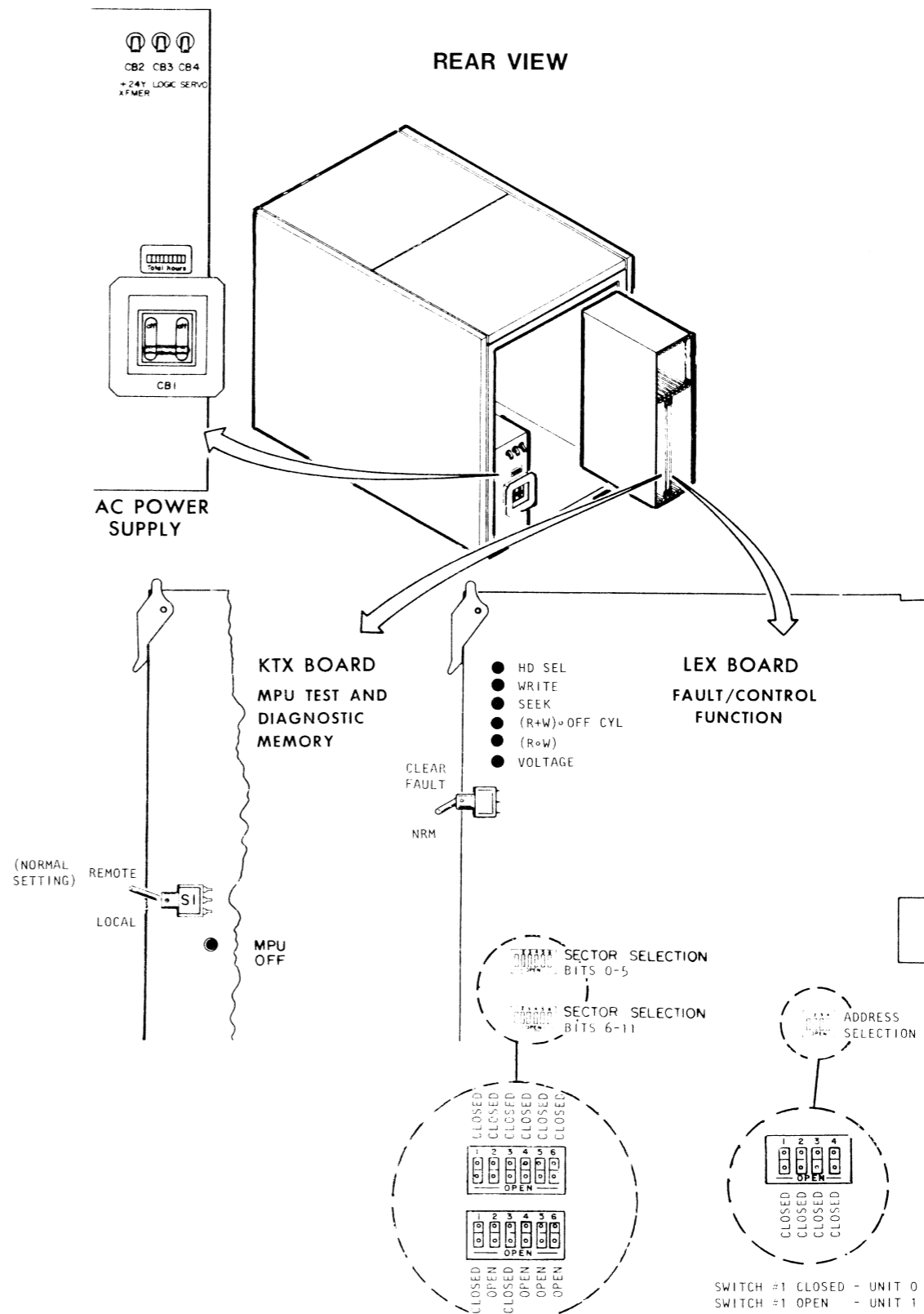
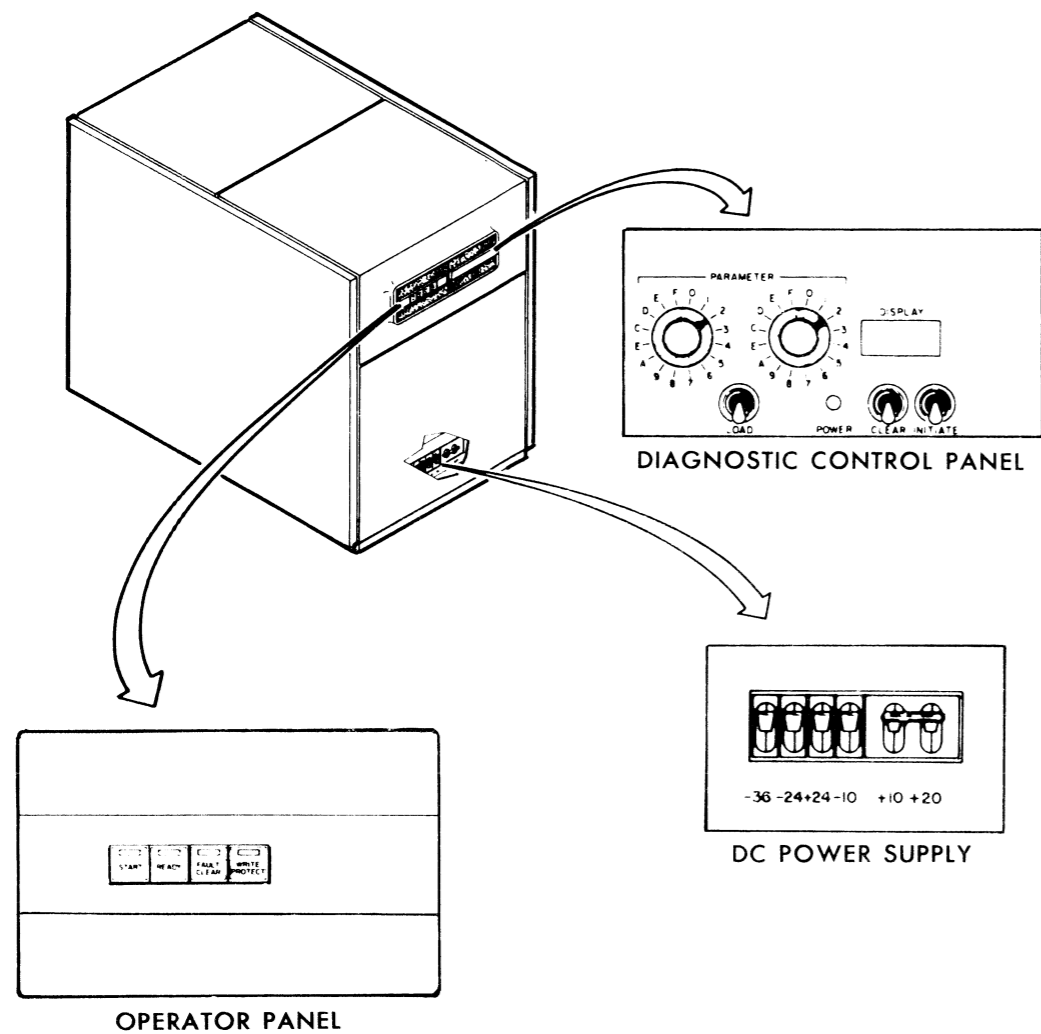
CARRIAGE LOCKING



SWITCHES AND INDICATORS

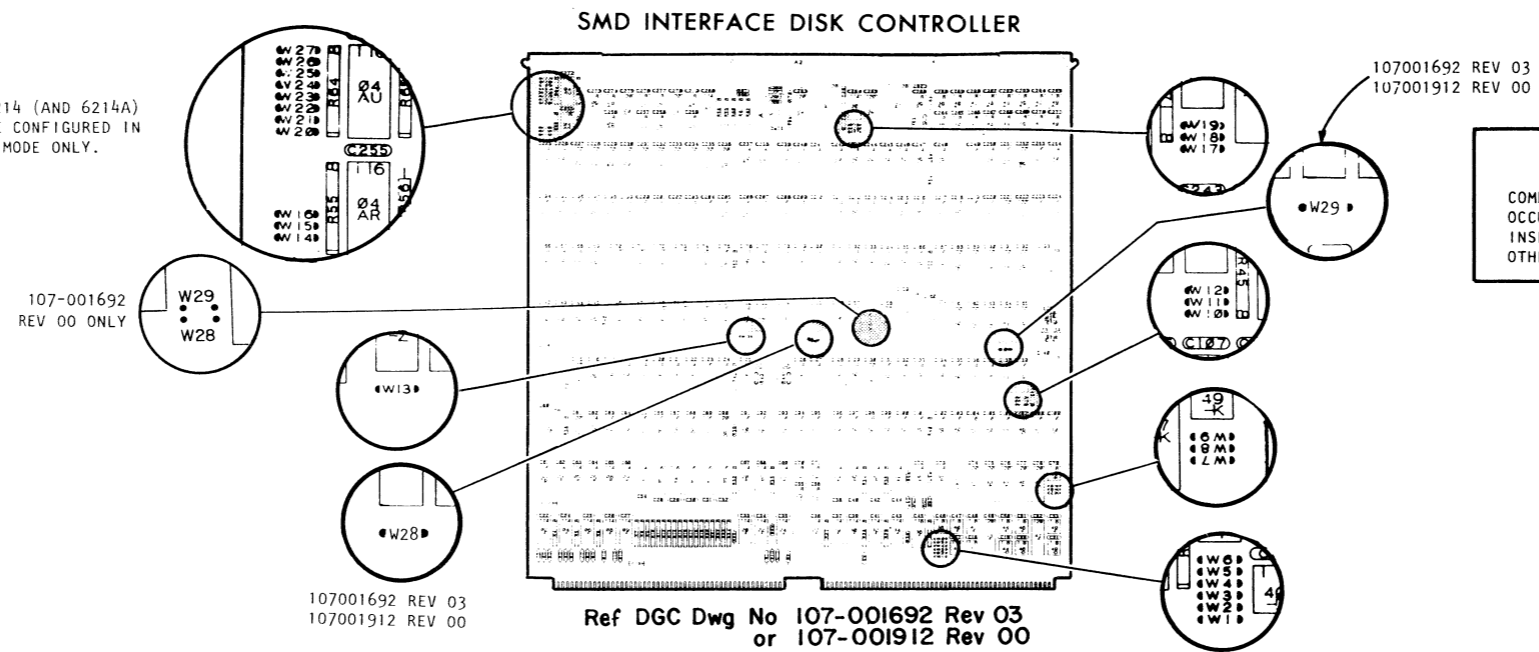
FRONT VIEW

REAR VIEW



TAILORING JUMPERING

NOTE:
MODEL 6214 (AND 6214A)
IS TO BE CONFIGURED IN
THE BMC MODE ONLY.



WARNING

COMPONENT DAMAGE WILL
OCCUR IF CONTROLLER IS
INSERTED INTO A SLOT
OTHER THAN I/O ONLY.

DEVICE CODE SELECTION

JUMPER	27	67	25
W1	OUT	IN	OUT
W2	IN	IN	IN
W6	OUT	OUT	OUT
W5	IN	IN	IN
W4	IN	IN	OUT
W3	IN	IN	IN

27 PRIMARY
67 SECONDARY

DEVICE TYPE SELECTION

JUMPER	DRV1 600M	DRV2 600M
W9	OUT	OUT
W8	X	IN
W7	IN	IN
W28	X	IN
W29	IN	IN

X = DON'T CARE
IN = JUMPER IN
OUT = JUMPER OUT

DCH/BMCI BREAK SELECTIONS

BREAK COUNT CLOCK	W10	W11	W12
32*	IN	IN	IN
28	OUT	IN	IN
24	IN	OUT	IN
20	OUT	OUT	IN
16	IN	IN	OUT
12	OUT	IN	OUT
8**	IN	OUT	OUT
4***	OUT	OUT	OUT

* 32 IS THE RECOMMENDED SYNC CLOCK COUNT
FOR NORMAL BMC SYSTEM CONFIGURATION
** 8 IS THE RECOMMENDED REQENB COUNT FOR
NORMAL DCH SYSTEM CONFIGURATION
*** 4 IS RECOMMENDED FOR C/150 DCH
CONFIGURATION.

CLK TEST JUMPER

MODE	W13
NORMAL	IN
TEST	OUT

005-019410 ONLY

JUMPER	D.G.	N.G.
WX0	IN	OUT
WX1	OUT	IN

BMCI PRIORITY SELECTION

REQUEST PRIORITY SELECT	ONE JUMPER IN W20 TO W27	W14	W15	W16
HSCR 7	W20	IN	IN	IN
HSCR 6	W25	OUT	IN	IN
HSCR 5	W26	IN	OUT	IN
HSCR 4	W27	OUT	OUT	IN
HSCR 3	W24	IN	IN	OUT
HSCR 2	W23	OUT	IN	OUT
HSCR 1	W22	IN	OUT	OUT
HSCR 0	W21	OUT	OUT	OUT

DCH/BMCI SELECTION

JUMPER	DCH	BMCI
W17	IN	OUT

WHEN SELECTING
DCH/BMCI ALSO
CHANGE THE APPROPRIATE
BREAK SELECTION & THE
BURST COUNT FOR DCH, OR BMCI

DCH BURST COUNT

JUMPER	4 WORDS	8 WORDS
W18	IN	OUT
W19	OUT	IN

4 WORD BURST RECOMMENDED FOR DCH

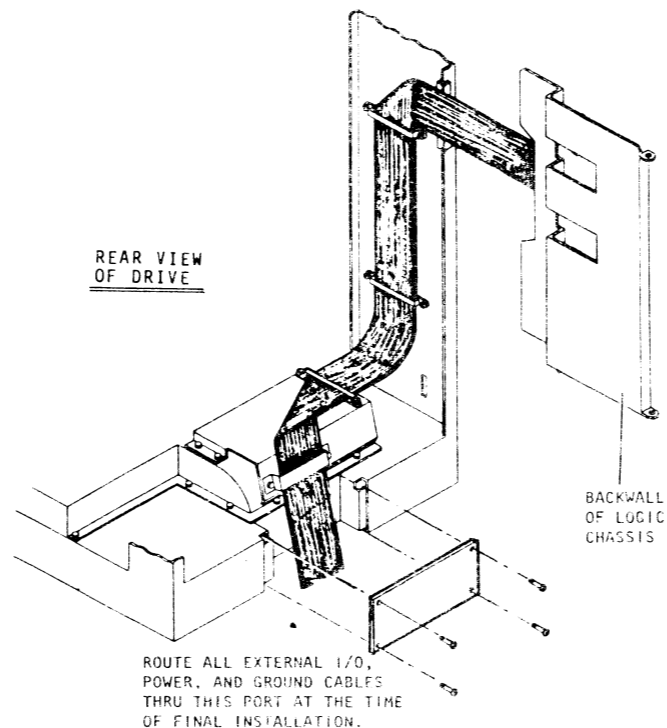
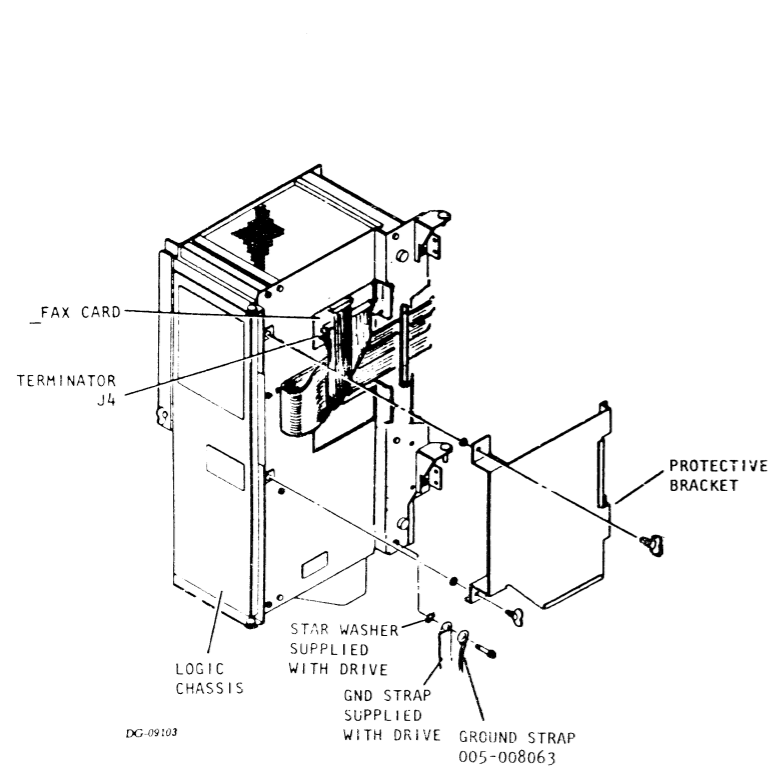
BMCI BURST COUNT

JUMPER	8 WORDS	16 WORDS
W18	IN	OUT
W19	OUT	IN

8 WORD BURST RECOMMENDED FOR BMCI

INTERNAL AND EXTERNAL CABLING

I/O CABLE INSTALLATION

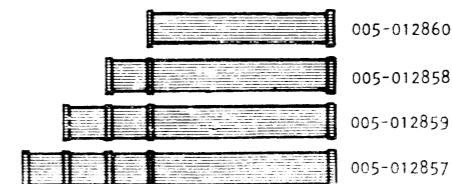


SMD CONTROLLER INSTALLATION

SMD CONTROLLER INSTALLATIONS

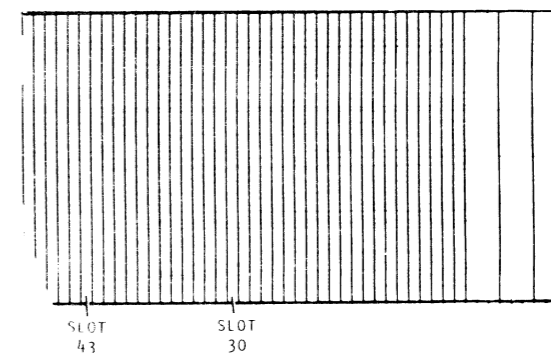
MV/6000 - ANY I/O ONLY SLOT BMC
MV/8000 - ANY I/O ONLY SLOT BMC

CABLES



(2 EACH)
CABLE USED ON
MV/6000, MV/8000
CABLE USED
DEPENDS ON NUMBER
OF BMC1 DEVICES

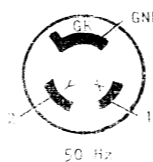
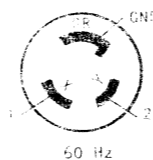
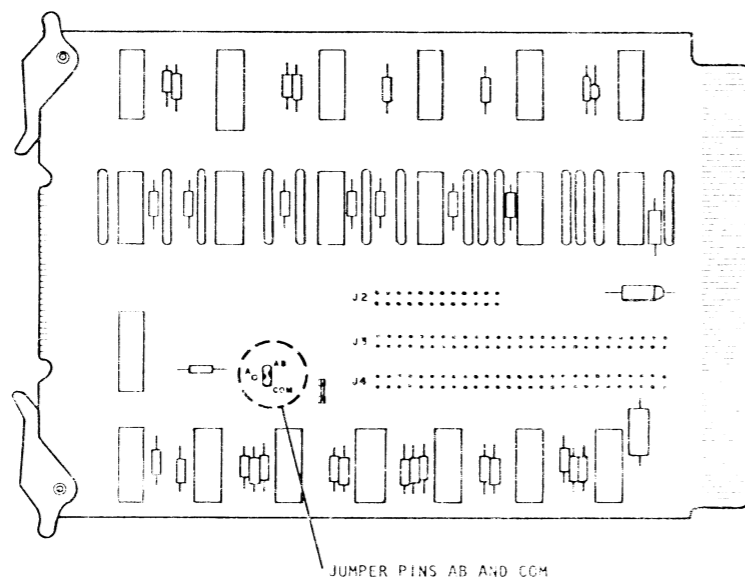
MV/8000



SMD CONTROLLERS CAN BE INSTALLED IN SLOTS 30 THRU 43. CABLE USED DEPENDS ON NUMBER OF BMC1 DEVICES. USE 005-009902 FOR STANDARD CONFIGURATIONS.

JUMPERING

- FAX CARD



AC WIRING (SEE SITE NOTE)

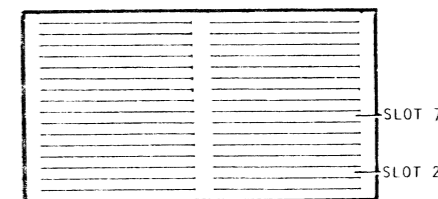
NOTE:

EXTERNAL CABLES SHOULD BE CONNECTED SO THAT THE RED STRIPE ON THE CABLE IS INSTALLED NEAR PIN ONE OF THE CONNECTOR ON THE LOGIC BOARD OF THE DRIVE AND THE PADDLE BOARD IN THE CPU CABINET.

NOTE TO SITE ELECTRICIAN:

SINCE THIS DRIVE TAKES POWER FROM TWO PHASES OF A THREE-PHASE POWER SYSTEM WITH HIGH STARTUP CURRENT, IT IS ESSENTIAL THAT, AS MULTIPLE DRIVES ARE WIRED, THEY ARE STAGGERED ACROSS THE THREE PHASES TO KEEP THE LOAD ON ALL THREE PHASES AS BALANCED AS POSSIBLE.

MV/6000 I/O CHASSIS

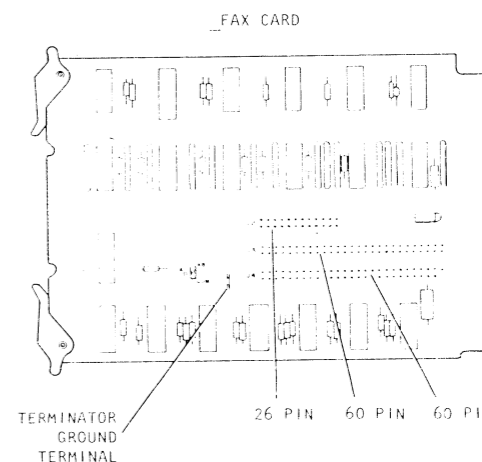
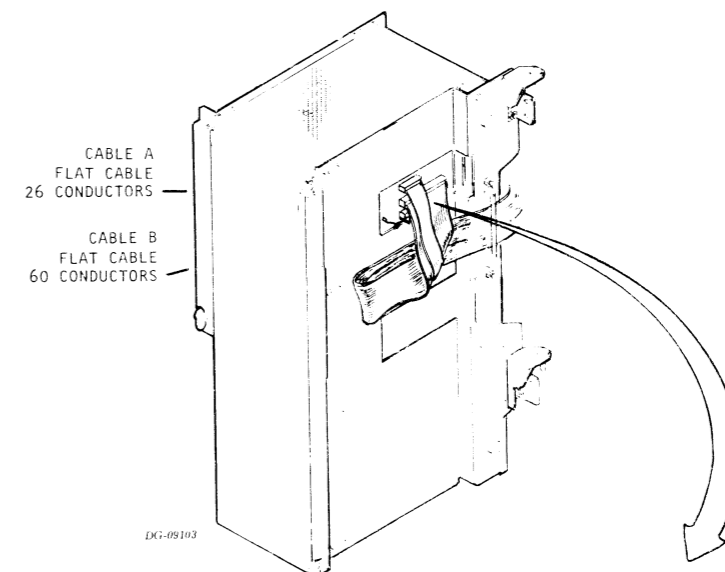
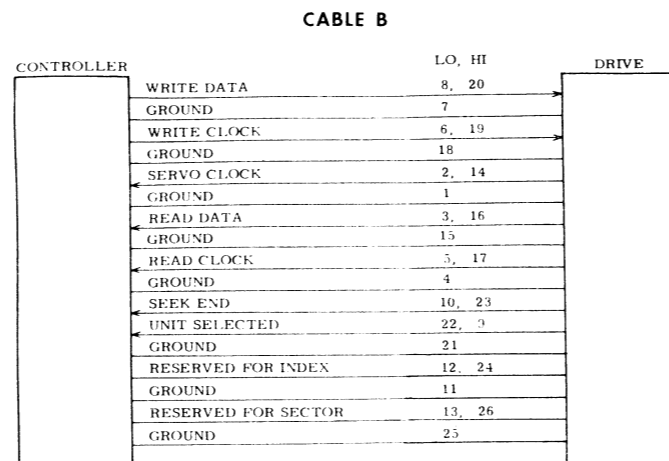
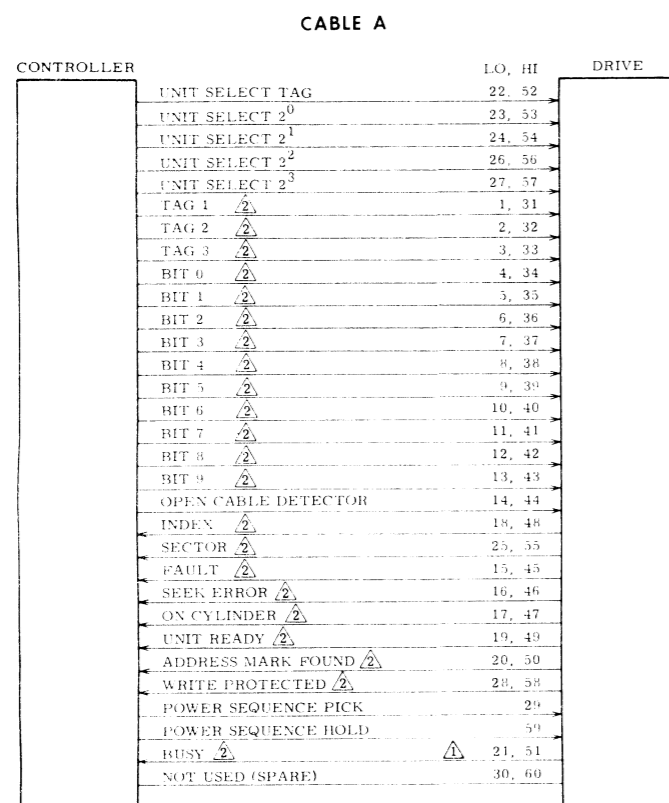


SMD DISK CONTROLLERS CAN BE INSTALLED IN SLOTS 2 THRU 7 IN MV/6000 I/O CHASSIS.

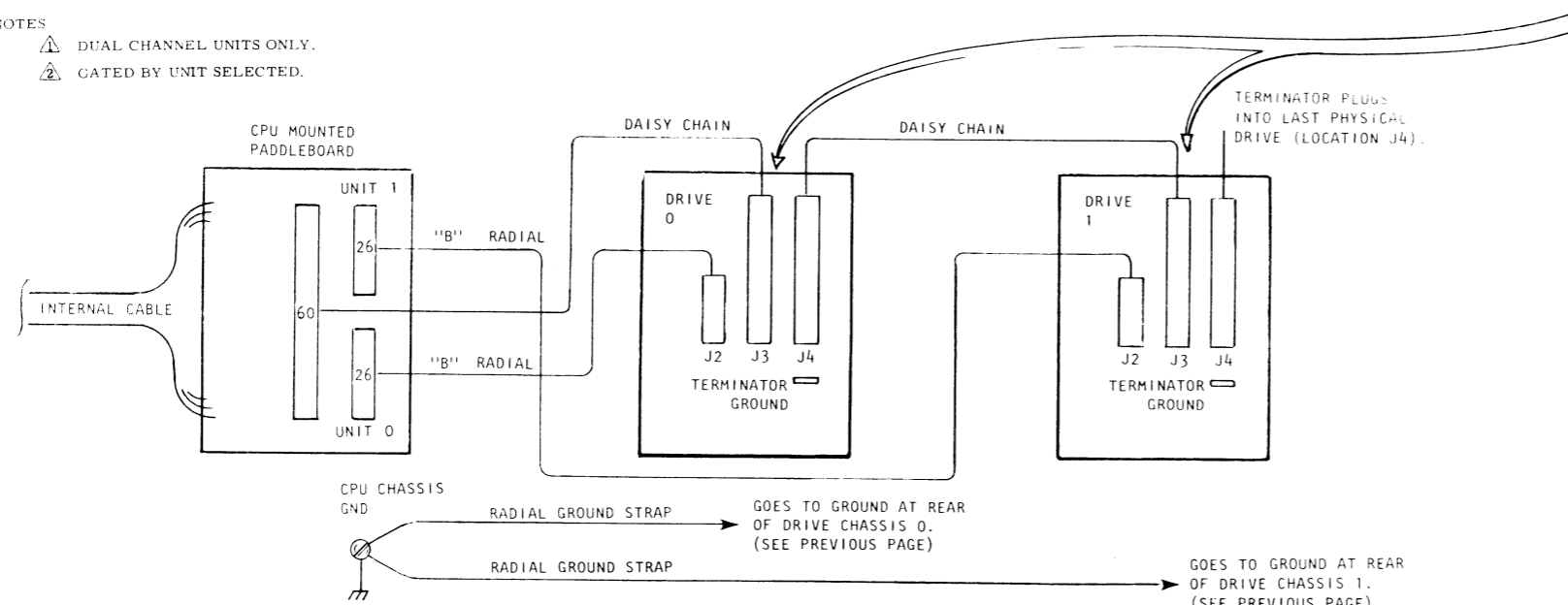
BMC1 TERMINATOR

J2 OF LAST BMC1 DEVICE REQUIRES SHORTING TERMINATOR PLUG PN# 005-13419

EXTERNAL CABLING FOR COMPLIANT CABLES

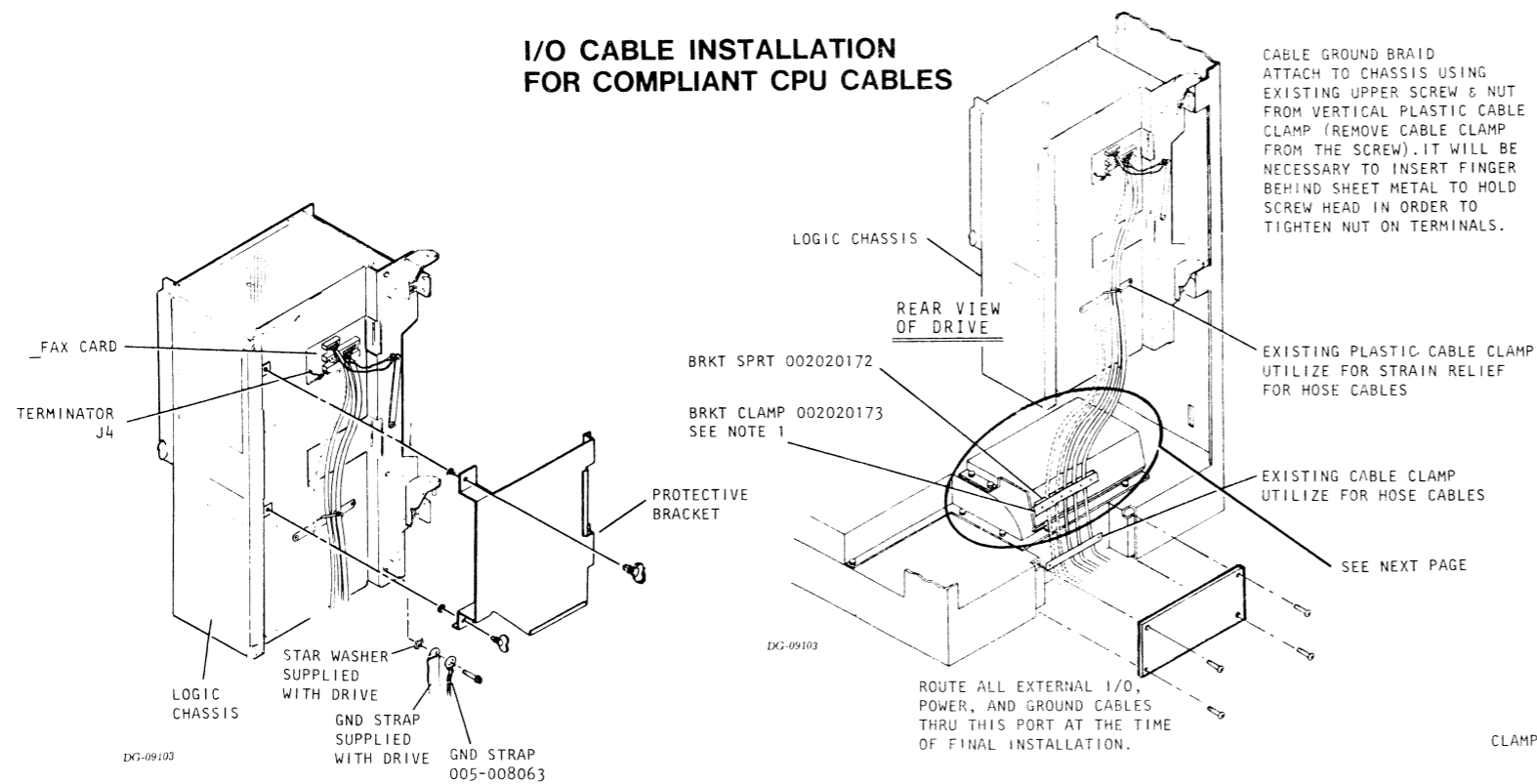


NOTES
 ⚠ DUAL CHANNEL UNITS ONLY.
 ⚡ GATED BY UNIT SELECTED.

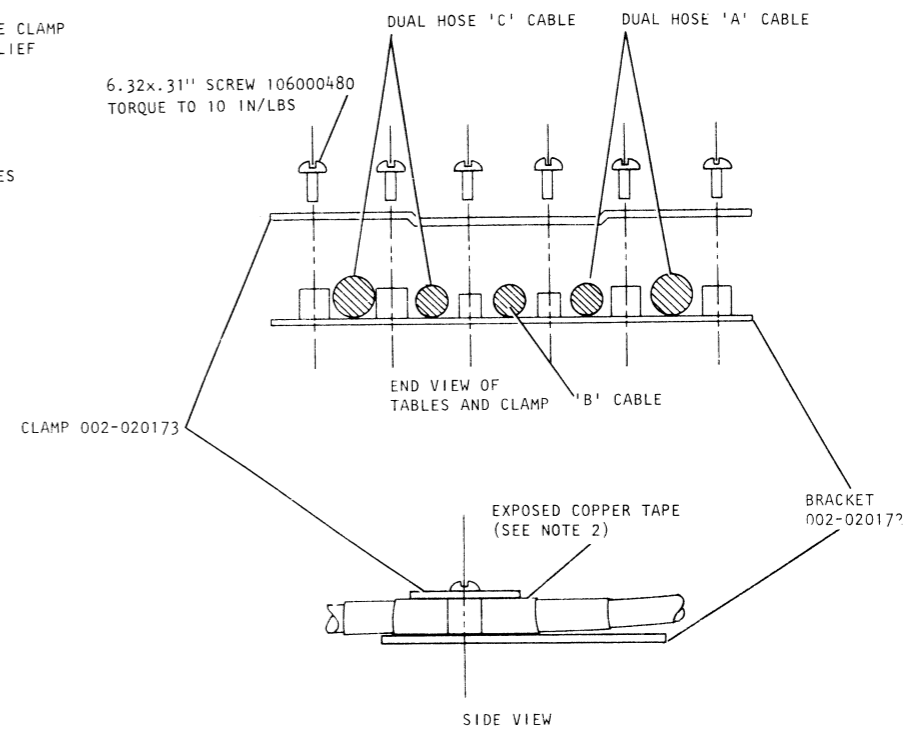


INTERNAL AND EXTERNAL CABLING

I/O CABLE INSTALLATION FOR COMPLIANT CPU CABLES

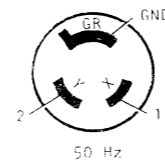
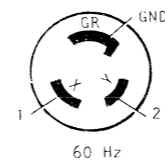
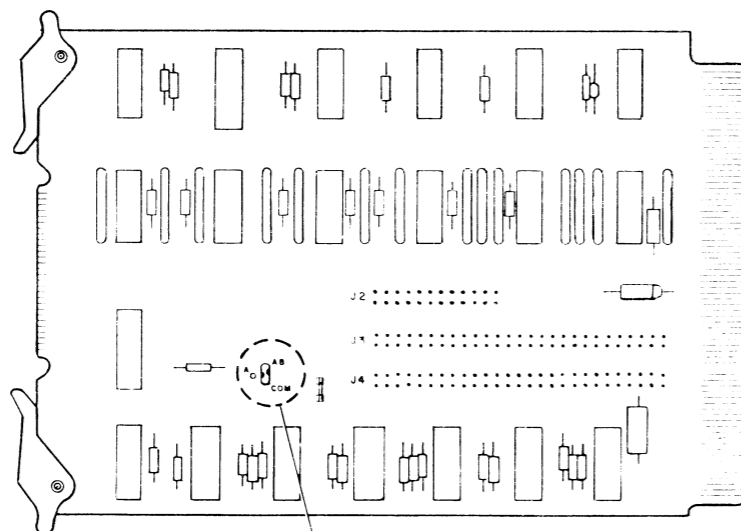


DETAIL A



JUMPERING

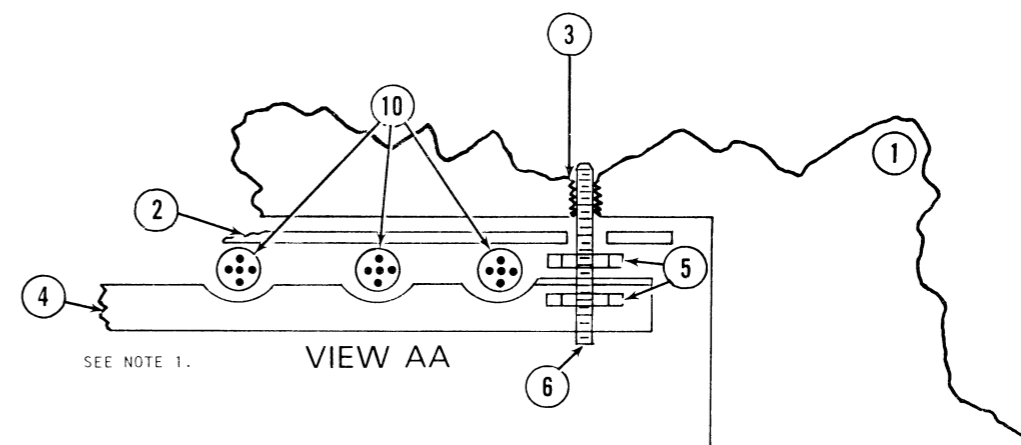
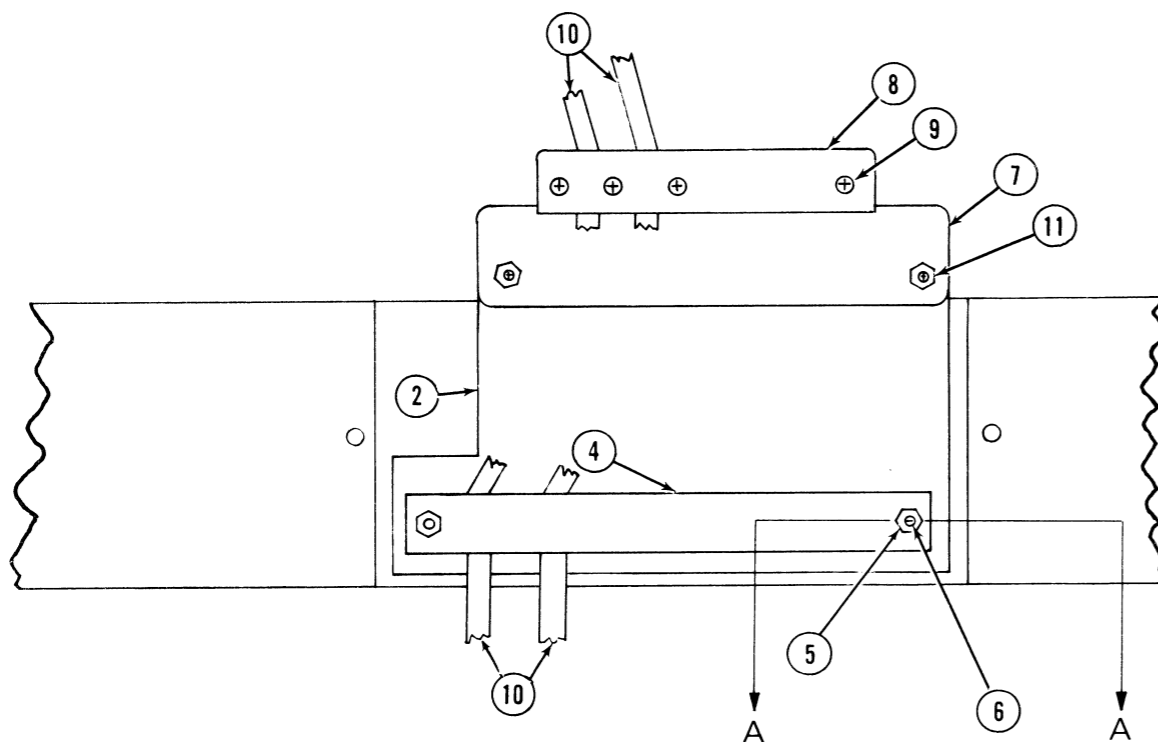
FAX CARD



AC WIRING (SEE SITE NOTE)

NOTE 1. POSITION CABLES ONTO BRACKET SO THAT THE EXPOSED COPPER TAPE LIES EQUALLY BETWEEN THE STANDOFFS (SEE DETAIL A) AND CLAMP USING BRACKET CLAMP AND SCREWS 106000480 (6.32x.31")

I/O CABLE SHIELD GROUNDING



NOTES:

1. LOWER BRACKET:

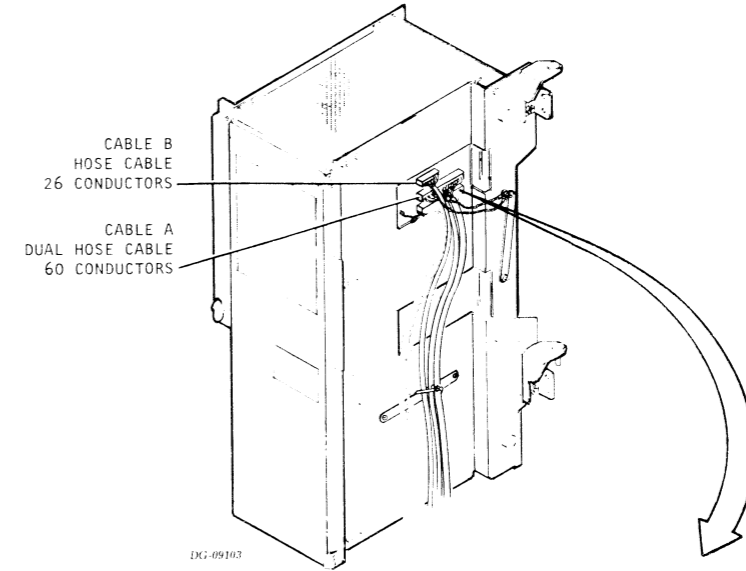
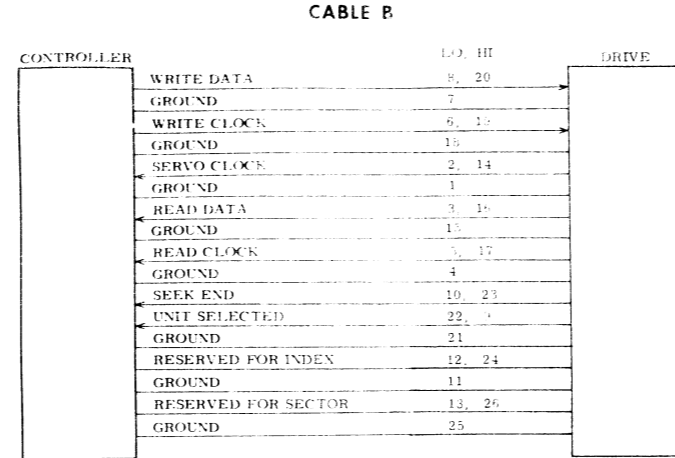
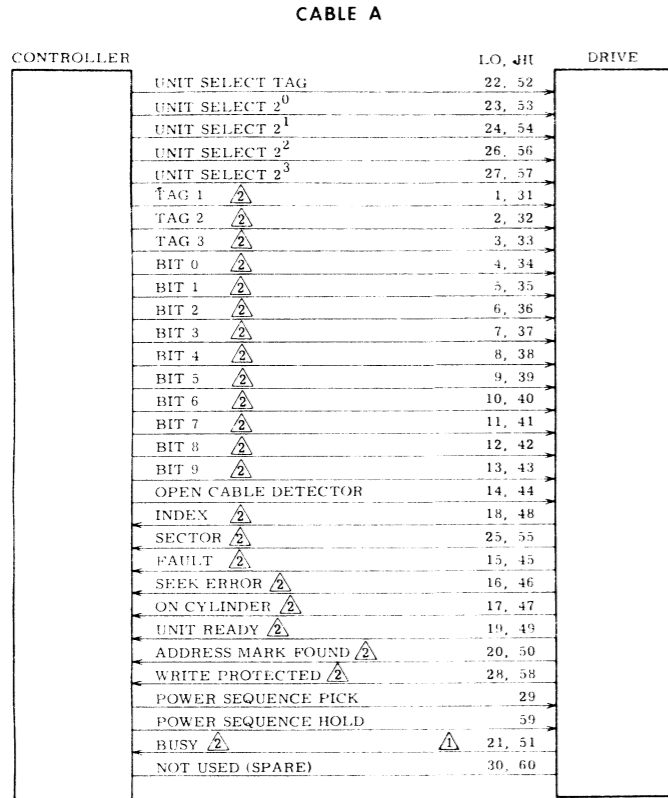
REMOVE SCREWS (2) HOLDING ITEM 4 TO DRIVE AND DISCARD SCREWS.
 REPLACE IN EXISTING HOLES WITH ITEM 6(2PLS) HAVING APPLIED LOCTITE TO THREAD.
 INSTALL APPROX. 1/8" DEEP.
 SLIP ITEM 2 IN POSITION AS SHOWN, SECURE WITH ITEM 5 AND TORQUE TO 16-17 IN/LB.
 REINSTALL ITEM 4 AND SECURE WITH ITEM 5.

2. UPPER BRACKET:

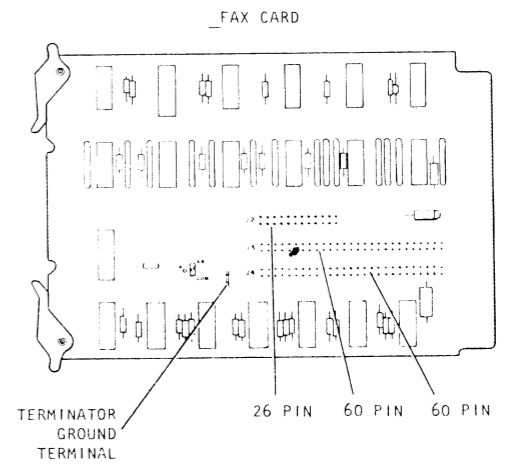
INSTALL ITEM 7 ON ITEM 2 USING ITEM 11. TORQUE TO 10 IN/LB.
 INSTALL ITEM 8 ON ITEM 7. SECURE AND POSITION CABLES ONTO BRACKET SO
 THAT THE EXPOSED COPPER TAPE LIES EQUALLY BETWEEN THE STANDOFFS
 (SEE DETAIL ABOVE) AND CLAMP USING BRACKET CLAMP AND SECURE ITEM 9.

11	2	6-32 NUT SEMS	106-256
10	3 OR 5	I/O CABLE(S)	
9	6	6-32 PHILLIPS SCREW SEMS	106-480
8	1	CLAMP	002-20173
7	1	BRACKET	002-20172
6	2	8-32 X 11 SETSCREWS	106-2157
5	4	8-32 NUT SEMS	106-255
4	1	I/O CABLE STRAIN RELIEF	SUPPLIED
3	A/R	LOC. TITE SCREW LOCK	120-351
2		GROUND BRACKET	002-25013
1	REF	DISK DRIVE (REF)	118-1680
ITEM	QTY.	DESCRIPTION	PART NO.

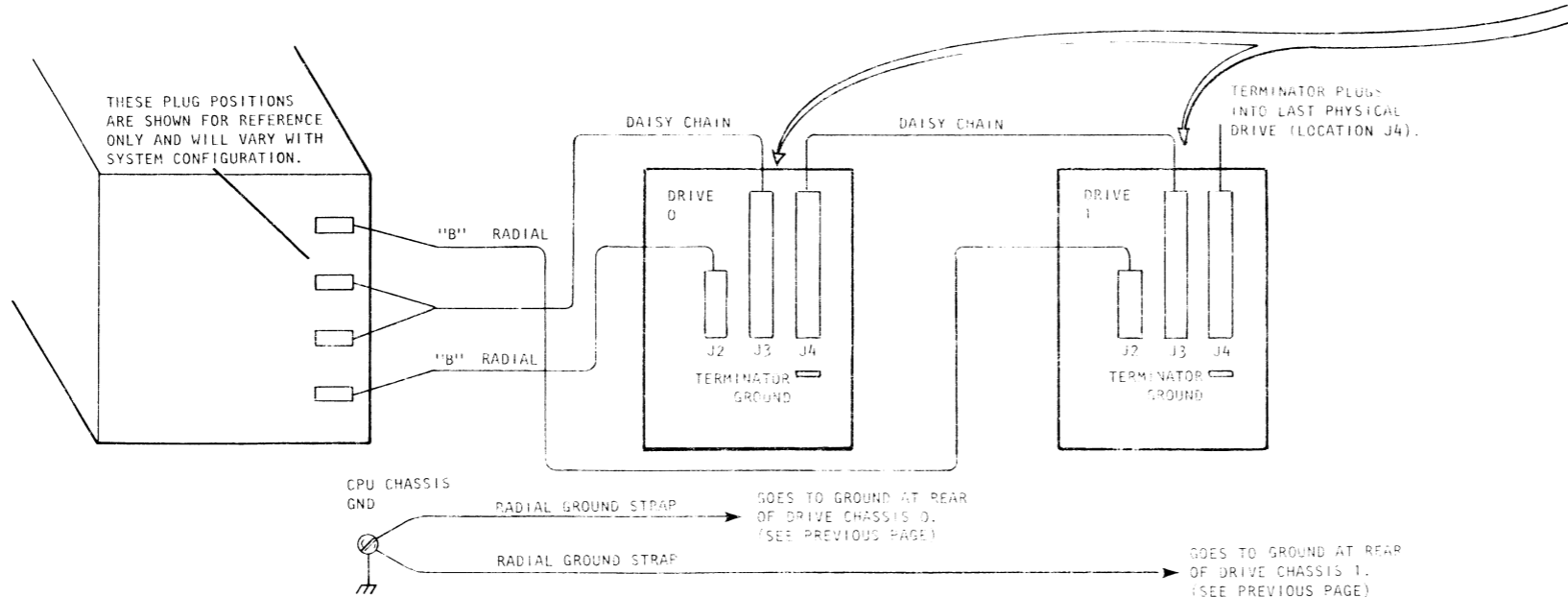
EXTERNAL CABLING FOR COMPLIANT CABLES



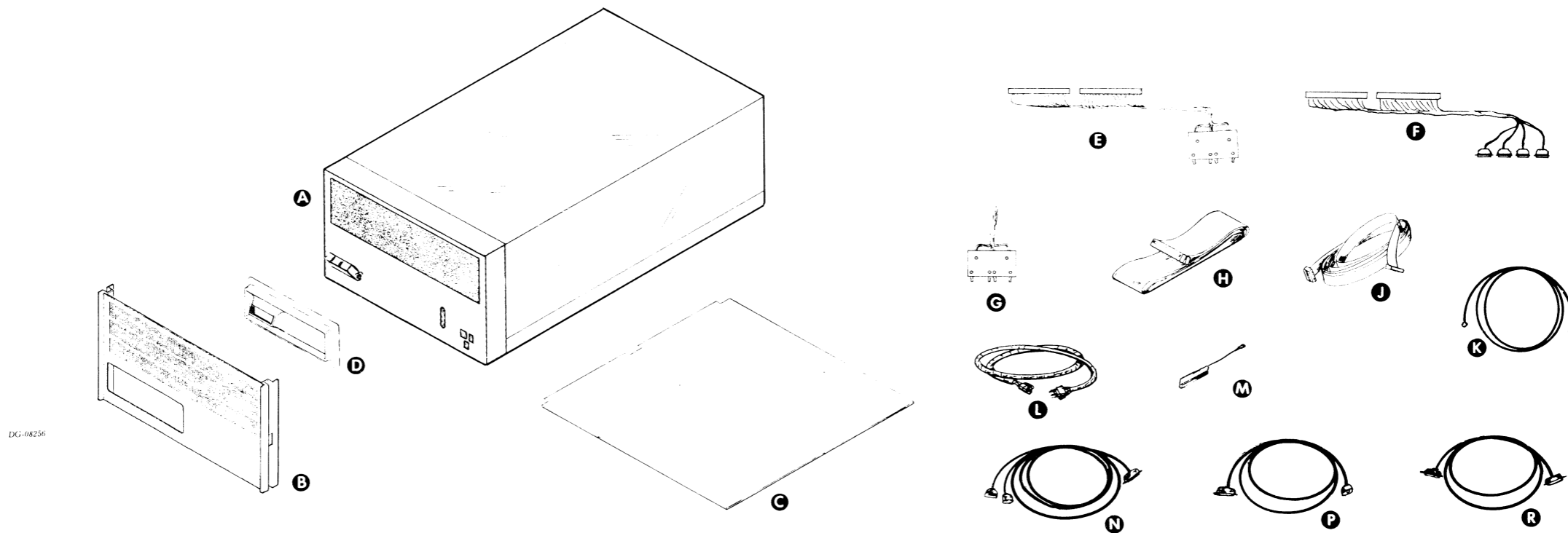
DK-09103



- NOTES:
- DUAL CHANNEL UNITS ONLY.
 - GATED BY UNIT SELECTED.



INSTALLATION SPECIFICATIONS



MAJOR COMPONENT

Item	Component	Mounting Location	Notes
A	DISK DRIVE 73MB (FORMATTED)	CABINET	MODEL 6160
	DISK DRIVE 147MB (FORMATTED)	CABINET	MODEL 6161
B	FRONT PANEL	CABINET	005-016791
C	CONTROLLER	CPU I/O ONLY SLOT	005-016892
D	BEZEL	DRIVE	005-016990

CABLE

Item	Cable	Connecting	Lgth		Notes	
			ft	m		
E	INT CABLE RH PUSH-ON	BACKPANEL AND PADDLEBOARD			REFER TO DISC PRODUCT MASTER 010 331 FOR CABLE CONFIGURATIONS & 005 NUMBERS	
F	INT CABLE RH PUSH-ON	BACKPANEL AND 4 "D" CONNECTORS				
G	INT CABLE WIRE WRAP	BACKPANEL AND PADDLEBOARD				
H	EXT CABLE 60 COND (CABLE A)	PADDLEBOARD AND DRIVE	6	1.8		
			10	3		
			20	6.1		
J	EXT CABLE 26 COND (CABLE B)	PADDLEBOARD AND DRIVE	10	3		
			20	6.1		
K	GROUND STRAP	DRIVE AND CPU CHASSIS	10	3		005-008356
			30	9.1		005-008063
L	POWER CABLE	DRIVE AND AC POWER	SUPPLIED WITH DRIVE			

TERMINATOR

Item	Terminator	Location	Notes
M	SUPPLIED WITH DRIVE	LAST DRIVE ON DAISY CHAIN "A" CABLE	_ FAX CARD. (SEE SHEET 9) 005 017430

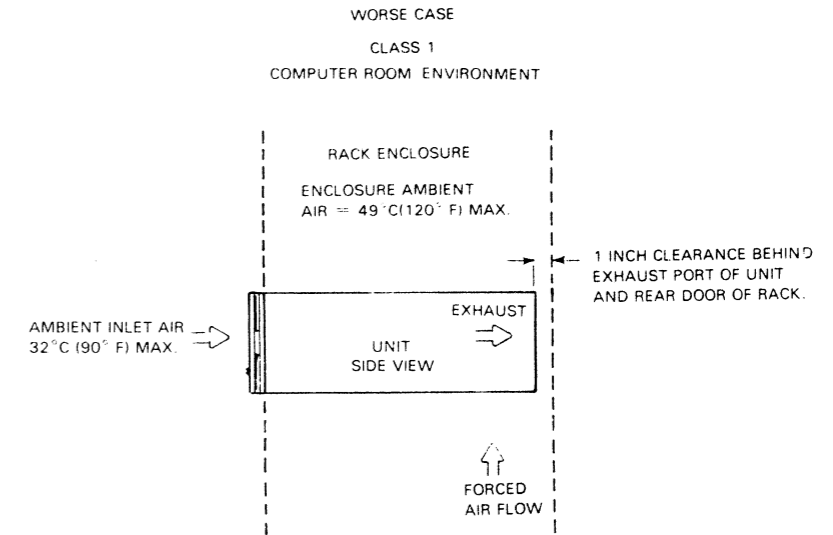
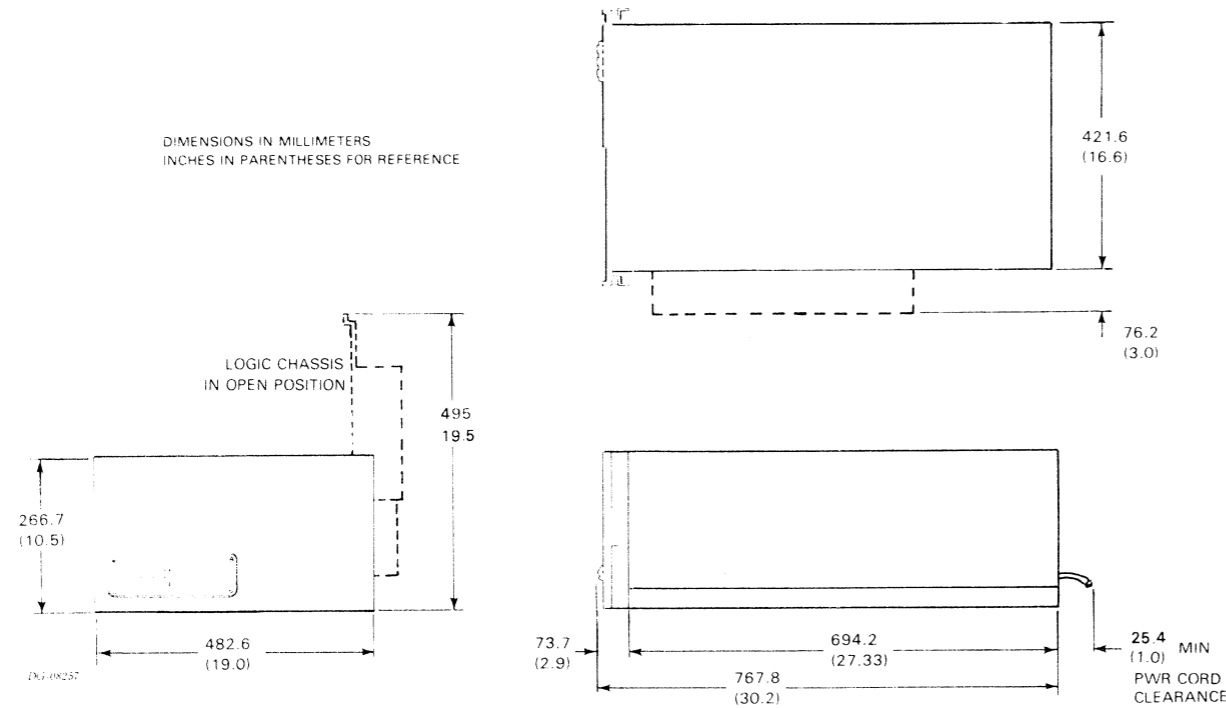
COMPLIANT CABLES

Item	Cable	Connecting	Lgth.		Notes	
			ft	m		
N	EXT CABLE 60 COND (CABLE "A") (EXT CABLE GROUP "A")	COMPLIANT CPU AND COMPLIANT DRIVE	10	3	REFER TO DISC PRODUCT MASTER 010-331 FOR CABLE CONFIGURATION & 005 NUMBERS	
			20	6.1		
			30	9.1		
P	EXT CABLE 26 COND (CABLE "B") (EXT CABLE GROUP "B")	COMPLIANT CPU AND COMPLIANT DRIVE	10	3		
			20	6.1		
			30	9.1		
R	EXT CABLE 26 COND (CABLE GROUP "C")	COMPLIANT DRIVE AND NON COMPLIANT OR COMPLIANT DRIVE	10	6.1		SAME AS ABOVE
			20	9.1		

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 (CONT)



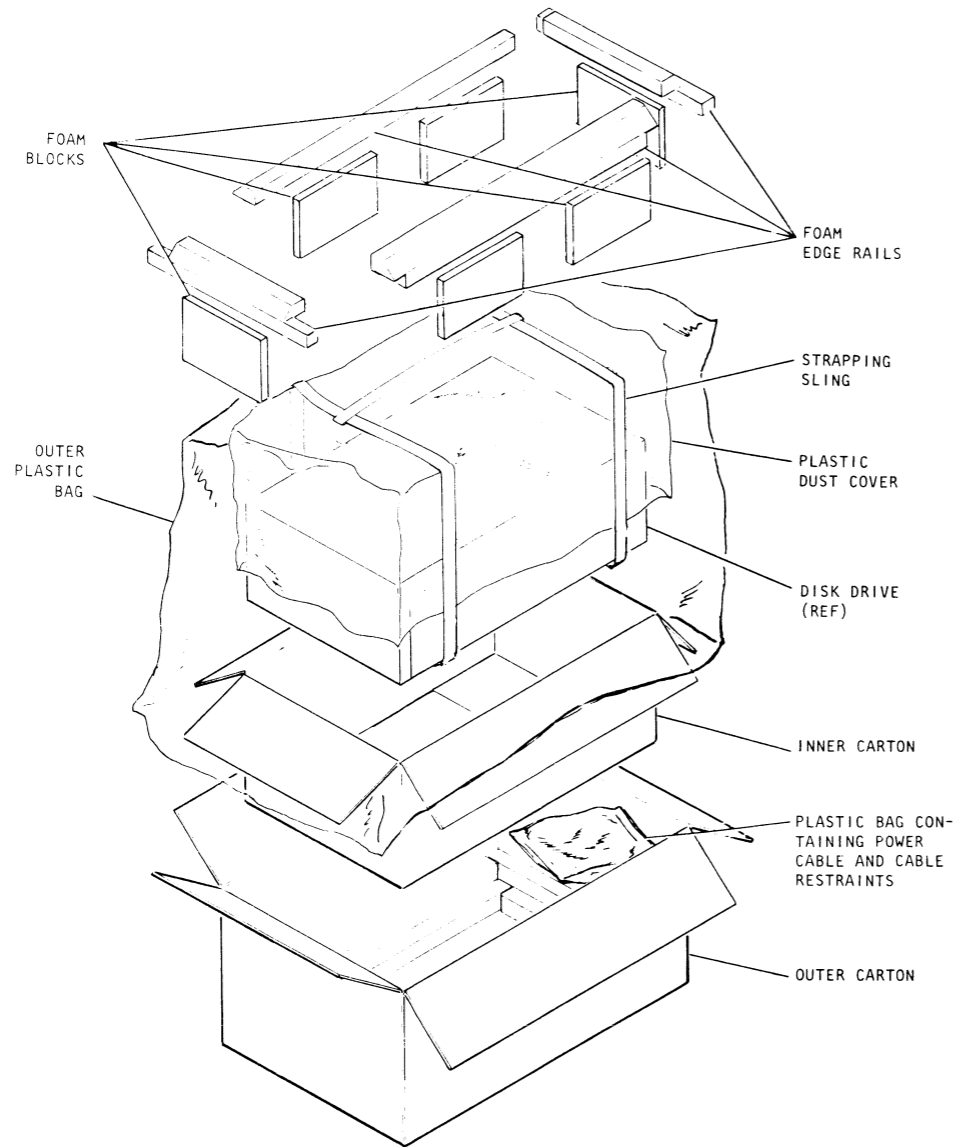
DIMENSIONS:		Width	Depth	Height	
Millimeters		483	767.1	267	
Inches		19.0	30.2	10.5	
SERVICE CLEARANCES:		Front	Right	Left	Bottom
Millimeters		914.4	609.6	609.6	457.2
Inches		36	24	24	18
WEIGHT:		Empty	Fully Loaded		
Kilograms		56.6			
Pounds		125			
HEAT OUTPUT:		Watts	BTU/hr		
		530	1807.3		
OPERATING ENVIRONMENT:					
Temperature (max)		15.6°-40°C (60°-104°F)			
Relative Humidity (max)		20-80% (non-condensing)			
Altitude		Operating -300 to 2400m (-1000 to 8000ft)			
		Non-operating -300 to 12200m (-1000 to 40,000ft)			

POWER REQUIREMENTS (Drive):		
(Domestic)		
Voltage	120 (+ 10% - 15%)	
Hz	60 ± 1Hz	
Amp per Phase	5.2	
Phase	1	
Startup Surge per Phase	22 amps for 7 seconds	
(Export)		
Voltage	220(+ 10%-15%)	240(+ 10%-15%)
Hz	50 ± 1Hz	50 ± 1Hz
Amp per Phase	2	1.9
Phase	1	1
Startup Surge per Phase	11amp/7sec	11amp/7sec

POWER REQUIREMENTS (Controller):		
Voltage	+5Vdc ± 5%	-5Vdc ± 5%
Current	5.5 Amps	0.5 Amps
CABLES:		
Primary Power	Length	Conn
Domestic 60Hz	1.8m (6ft)	515-P
Export 50Hz	1.8m (6ft)	615-P

SHIPPING

PACKING



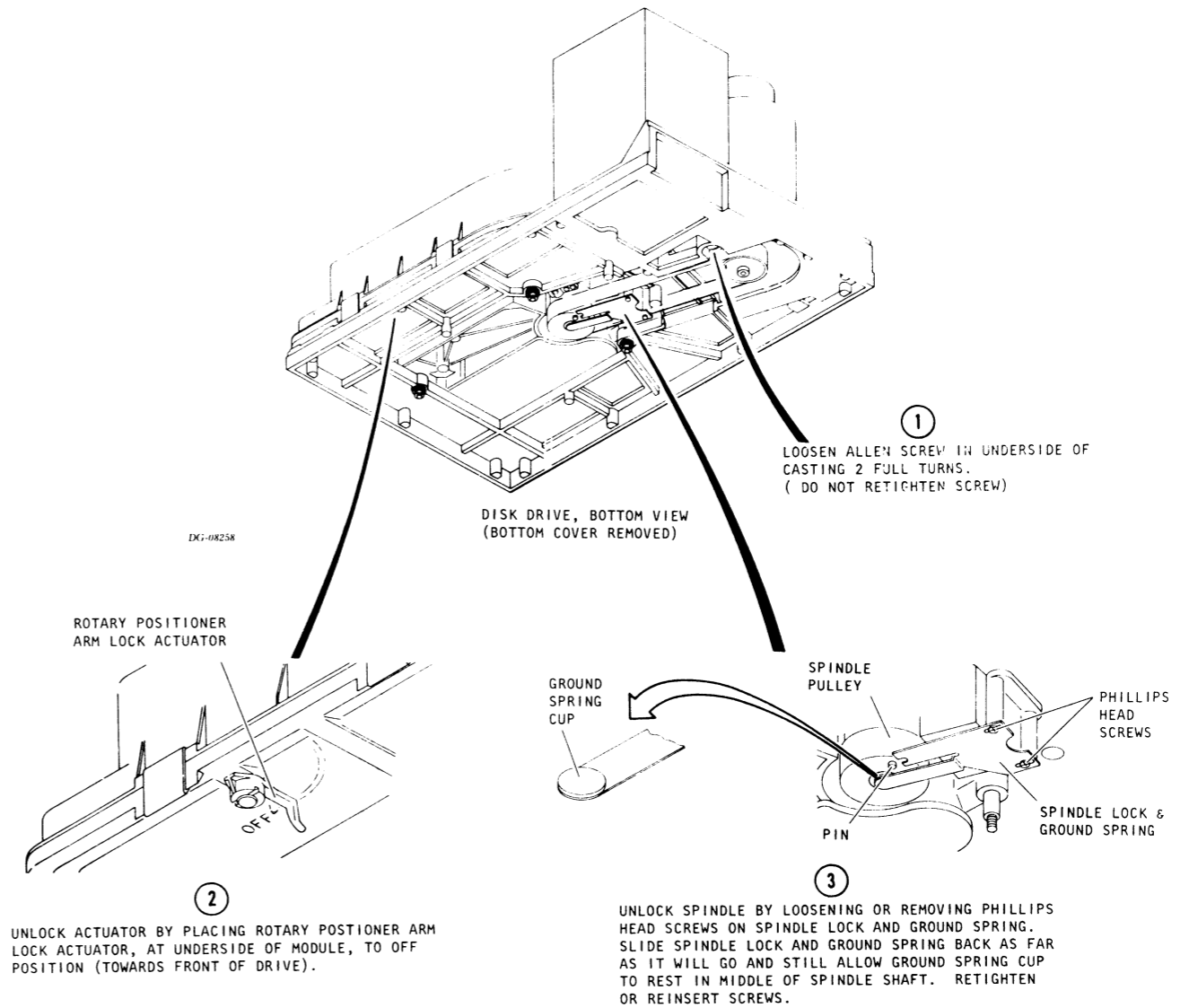
DG-10K253

SHIPPING SPECIFICATIONS		
Temperature Range	Relative Humidity	Maximum Altitude
°F / °C	(Non-condensing)	
-40-158 / -40-70	10 - 90%	12,000 m (40,000 ft)

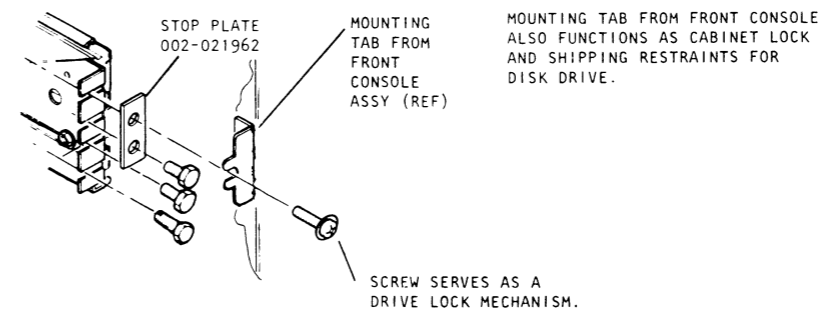
CONTROLLER PCB PACKAGED PER DGC 010-000262

DISK DRIVES, MODELS 6160, 6161

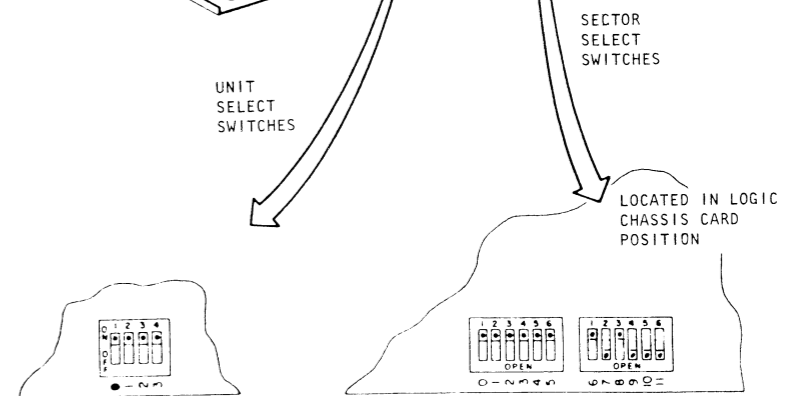
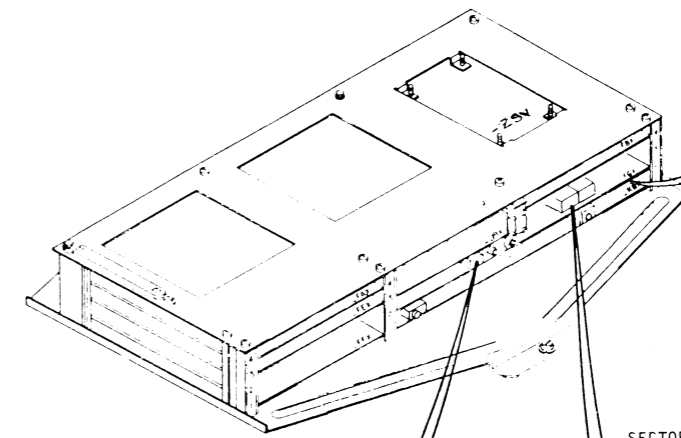
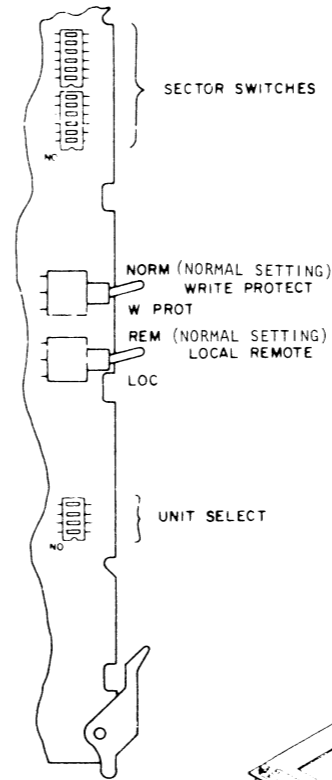
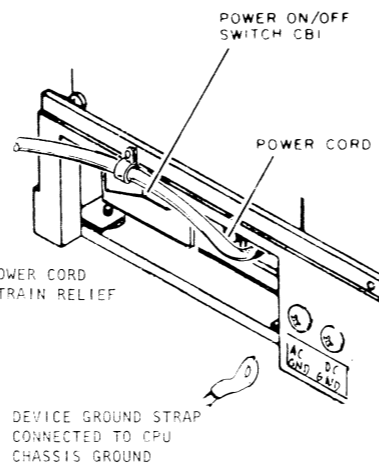
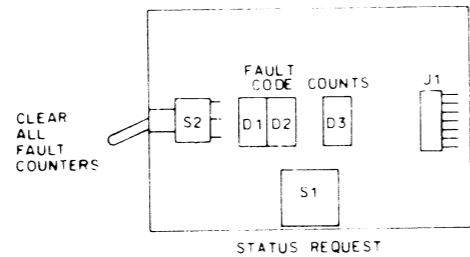
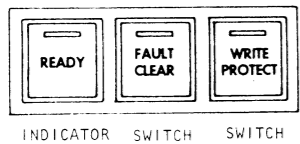
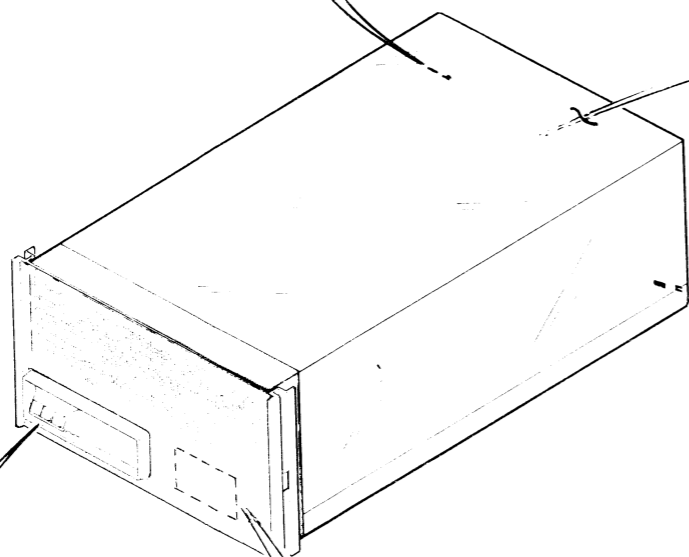
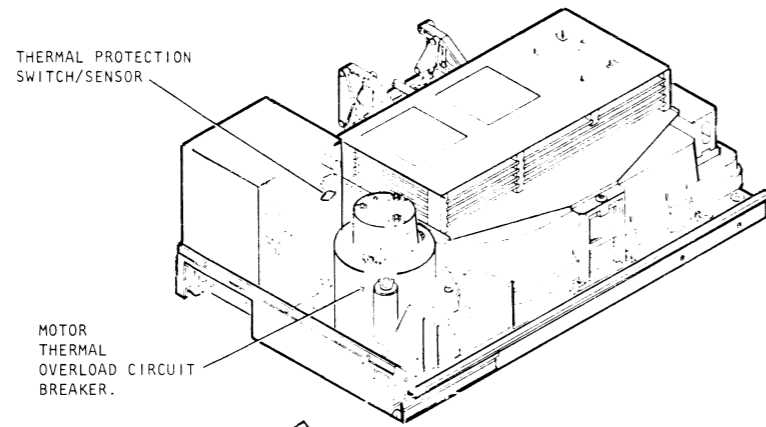
SHIPPING RESTRAINTS



CABINET LOCK AND SHIPPING RESTRAINTS

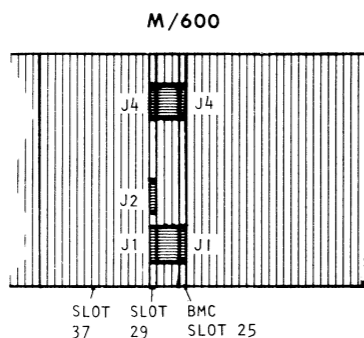


SWITCHES AND INDICATORS



INTERNAL CABLING SMD CONTROLLER INSTALLATION

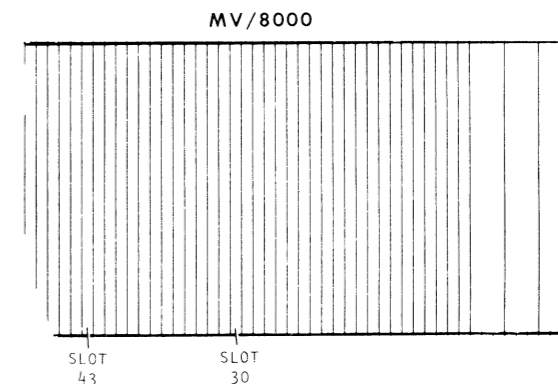
SMD CONTROLLERS CAN BE INSTALLED IN SLOTS 29 THRU 37 CABLE USED DEPENDS ON NUMBER OF BMC1 DEVICES
USE 005-009902 FOR STANDARD CONFIGURATIONS



SMD CONTROLLER INSTALLATIONS ON OTHER COMPUTERS:

MV/6000, MV/8000 - ANY I/O ONLY SLOT DCH/OR BMC
NOVA 4 16-SLOT OR EXP. - ANY I/O ONLY SLOT
C/150, S/130 - EXPANSION CHASSIS ONLY (USE WIRE WRAP INTERNAL CABLE 005-016838)

SMD CONTROLLERS CAN BE INSTALLED IN SLOTS 30 THRU 43. CABLE USED DEPENDS ON NUMBER OF BMC1 DEVICES.
USE 005-009902 FOR STANDARD CONFIGURATIONS.

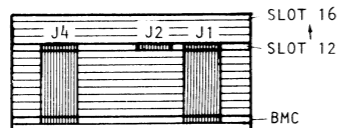


BMC1 TERMINATOR

J2 OF LAST BMC1 SMD INTERFACE REQUIRES SHORTING TERMINATOR PLUG PN# 005-13419

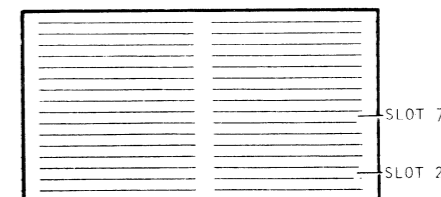
S/140 WITH BMC OPTION

SMD DISK CONTROLLERS CAN BE INSTALLED IN SLOTS 12 THRU 16 ON S/140 & NOVA 4 16 SLOT COMPUTERS



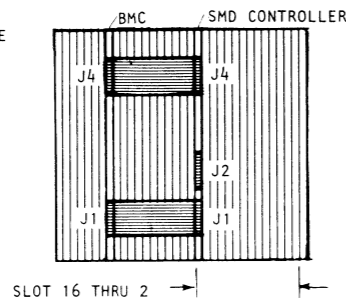
MV/6000 I/O CHASSIS

SMD DISK CONTROLLERS CAN BE INSTALLED IN SLOTS 2 THRU 7 IN THE I/O ONLY EXPANSION CHASSIS

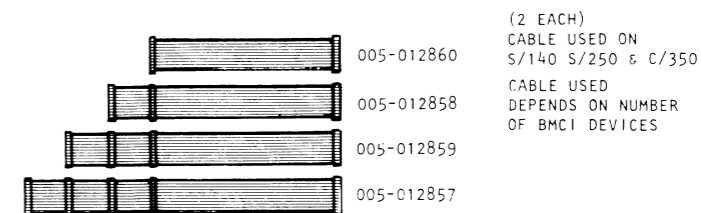


S/250

SMD DISK CONTROLLERS CAN BE INSTALLED IN SLOTS 16 THRU 2 OF S250 OR C/350 WHEN OPTIONAL I/O ONLY BACKPANEL IS USED
DG# 005-14835

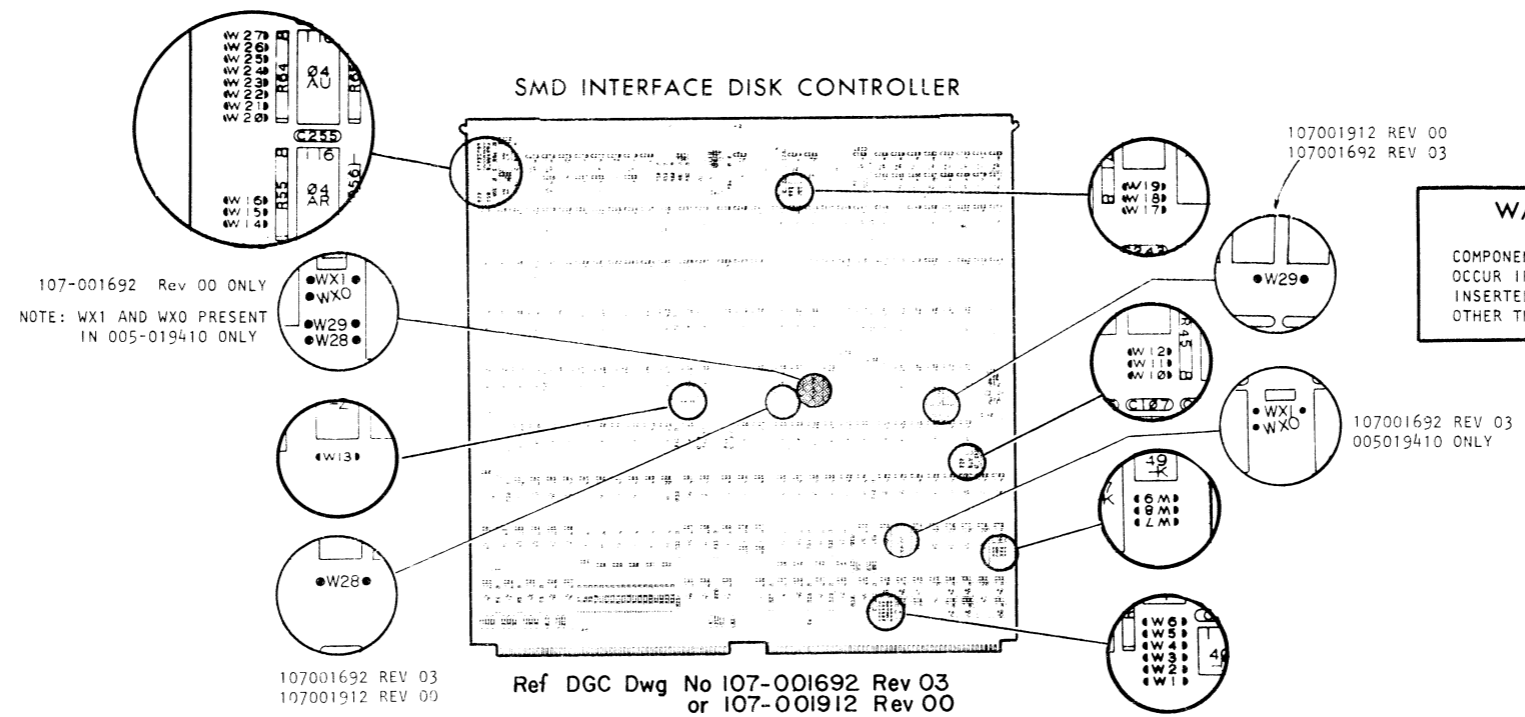


CABLES



DG-0847*

**TAILORING
JUMPERING**



WARNING
COMPONENT DAMAGE WILL OCCUR IF CONTROLLER IS INSERTED INTO A SLOT OTHER THAN I/O ONLY.

DEVICE CODE SELECTION

JUMPER	27	67
W1	OUT	IN
W2	IN	IN
W6	OUT	OUT
W5	IN	IN
W4	IN	IN
W3	IN	IN

27 PRIMARY
67 SECONDARY

DEVICE TYPE SELECTION

JUMPER	DRV0 73 M	DRV0 147 M	DRV1 73 M	DRV1 147 M
W9	OUT	OUT	OUT	OUT
W8	OUT	IN	X	X
W7	X	X	OUT	IN
W28	OUT	OUT	OUT	OUT
W29	OUT	OUT	OUT	OUT

X = DON'T CARE
IN = JUMPER IN
OUT = JUMPER OUT

DCH/BMCI BREAK SELECTIONS

BREAK COUNT CLOCK	W10	W11	W12
32*	IN	IN	IN
28	OUT	IN	IN
24	IN	OUT	IN
20	OUT	OUT	IN
16	IN	IN	OUT
12	OUT	IN	OUT
8**	IN	OUT	OUT
4***	OUT	OUT	OUT

*32 IS THE RECOMMENDED SYNC CLOCK COUNT FOR NORMAL BMC SYSTEM CONFIGURATION
**8 IS THE RECOMMENDED RQENB COUNT FOR NORMAL DCH SYSTEM CONFIGURATION
***4 IS RECOMMENDED FOR C/150 AND S/130 DCH CONFIGURATION.

CLK TEST JUMPER

MODE	W13
NORMAL	IN
TEST	OUT

005-019410 ONLY

JUMPER	DG	N DG
WX0	IN	OUT
WX1	OUT	IN

BMCI PRIORITY SELECTION

REQUEST PRIORITY SELECT	ONE JUMPER IN W20 TO W27	W14	W15	W16
HSCR 7	W20	IN	IN	IN
HSCR 6	W25	OUT	IN	IN
HSCR 5	W26	IN	OUT	IN
HSCR 4	W27	OUT	OUT	IN
HSCR 3	W24	IN	IN	OUT
HSCR 2	W23	OUT	IN	OUT
HSCR 1	W22	IN	OUT	OUT
HSCR 0	W21	OUT	OUT	OUT

DCH/BMCI SELECTION

JUMPER	DCH	BMCI
W17	IN	OUT

WHEN SELECTING DCH/BMCI ALSO CHANGE THE APPROPRIATE BREAK SELECTION & THE BURST COUNT FOR DCH, OR BMCI

DCH BURST COUNT

JUMPER	4 WORDS	8 WORDS
W18	IN	OUT
W19	OUT	IN

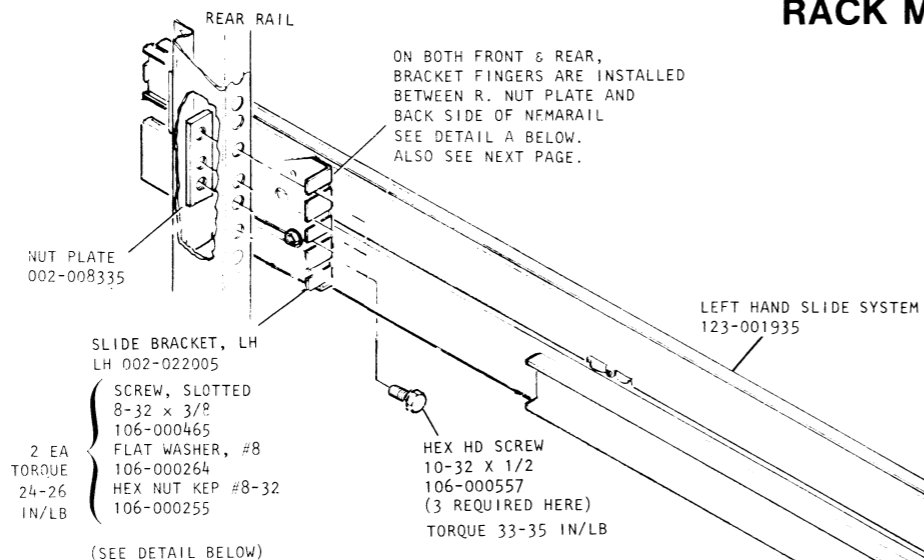
4 WORD BURST RECOMMENDED FOR DCH

BMCI BURST COUNT

JUMPER	8 WORDS	16 WORDS
W18	IN	OUT
W19	OUT	IN

8 WORD BURST RECOMMENDED FOR BMCI

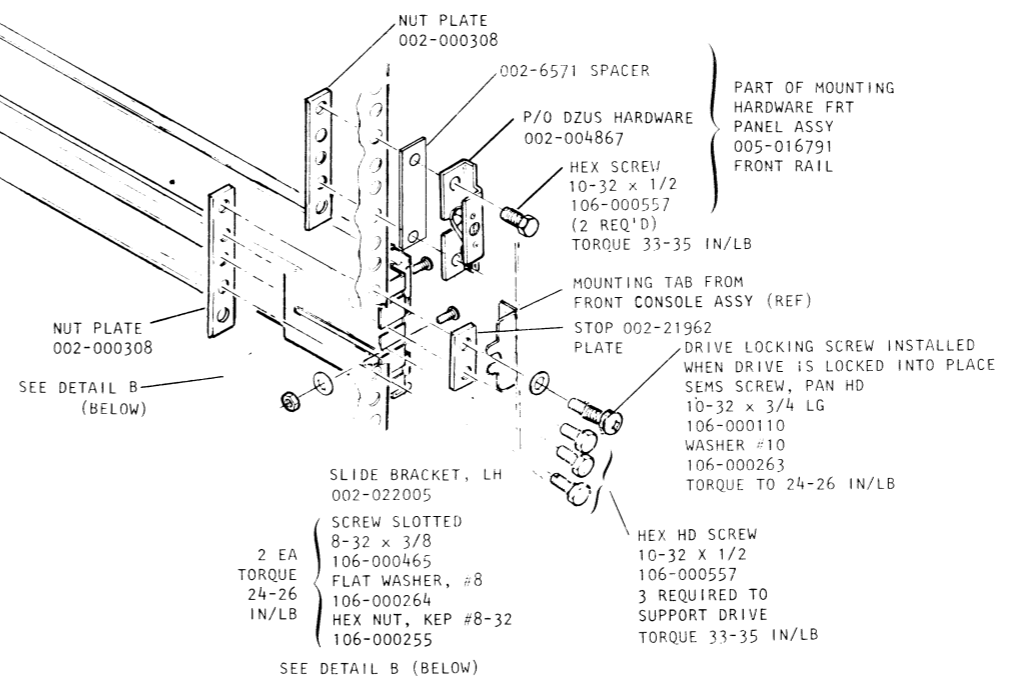
RACK MOUNTING



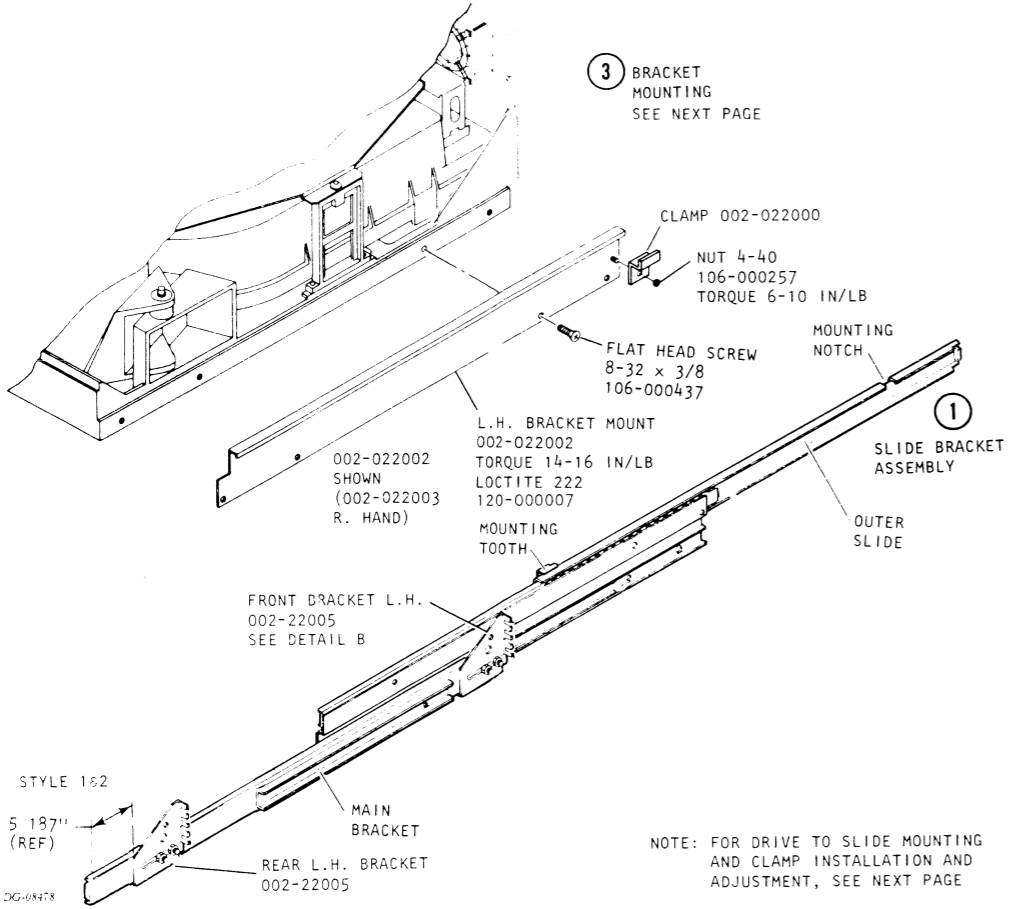
- SCREW, SLOTTED 8-32 x 3/8 106-000465
 - FLAT WASHER, #8 106-000264
 - HEX NUT KEP #8-32 106-000255
 - 2 EA TORQUE 24-26 IN/LB
- (SEE DETAIL BELOW)

- HEX HD SCREW 10-32 X 1/2 106-000557
- (3 REQUIRED HERE)
- TORQUE 33-35 IN/LB

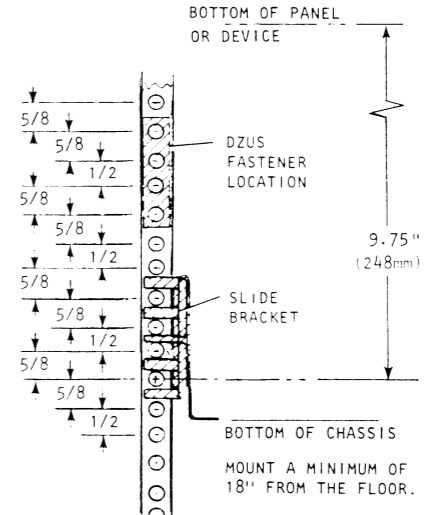
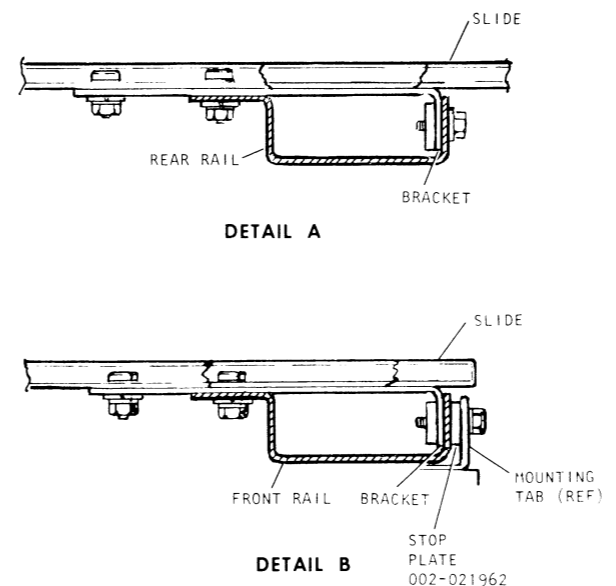
- 2 SLIDE/CABINET MOUNTING
- RACK MOUNTING ASSEMBLY 005-016846
 - LEFT SIDE SHOWN RIGHT SIDE MIRROR IMAGE
 - R.H. SLIDE BRACKET 002-022004
 - R.H. SLIDE 123-001934



- 3 BRACKET MOUNTING SEE NEXT PAGE

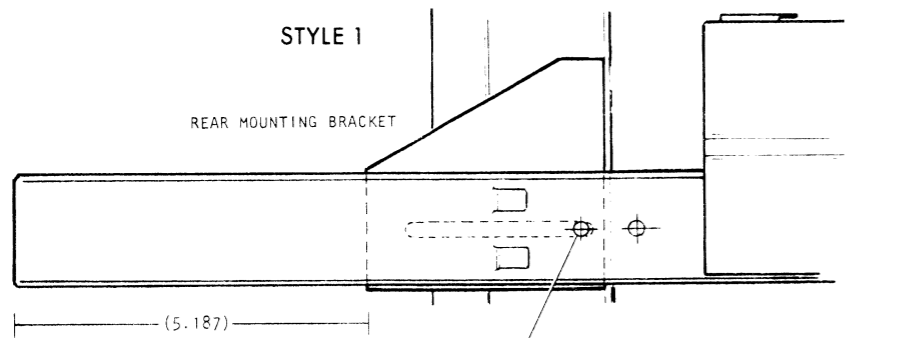


NOTE: FOR DRIVE TO SLIDE MOUNTING AND CLAMP INSTALLATION AND ADJUSTMENT, SEE NEXT PAGE



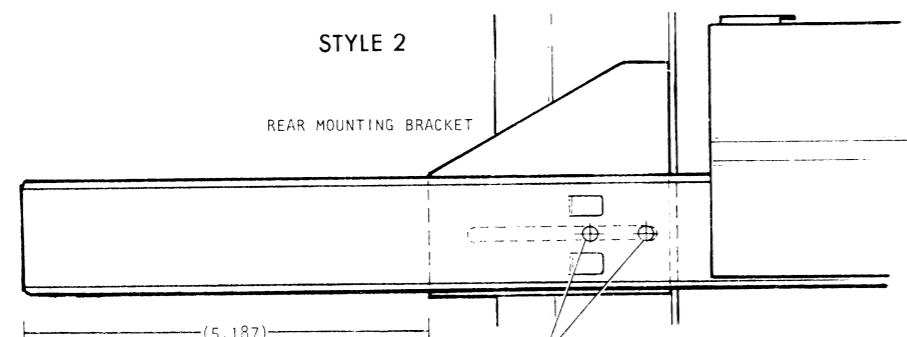
DISK DRIVES, MODELS 6160, 6161

RACK MOUNTING (CONT)



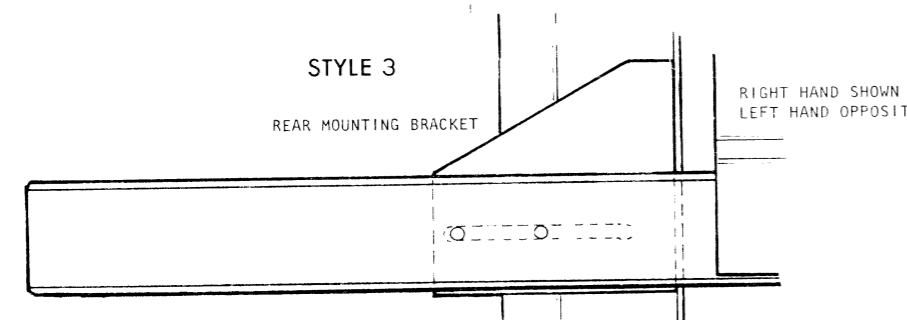
RIGHT HAND SHOWN, LEFT HAND OPPOSITE

2 HOLES ON FRONT BRACKET, AND ONE IN REAR BRACKET

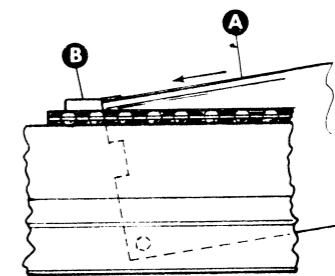


RIGHT HAND SHOWN, LEFT HAND OPPOSITE

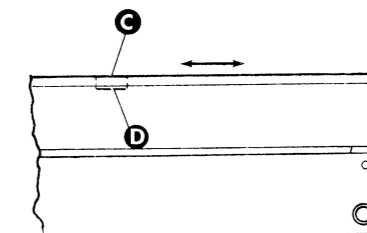
IF HOLE PATTERN IS POSITIONED AS SHOWN, USE BOTH HOLES TO MOUNT FRONT AND REAR MOUNTING BRACKETS.



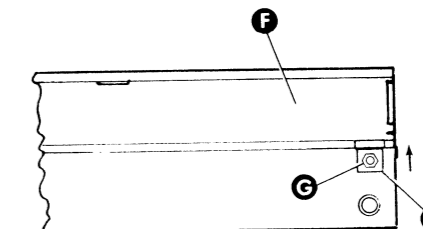
- 1 SLIDE BRACKET MOUNT (A) UNDER BRACKET CATCH (B)



- 2 LOCATE MOUNTING STOP (C) IN MOUNTING NOTCH (D)

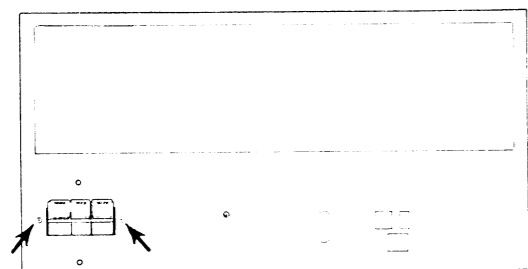


- 3 INSTALL AND SECURE CLAMP SLIDE (E) OVER OUTER SLIDE (F), TIGHTEN NUT (G)

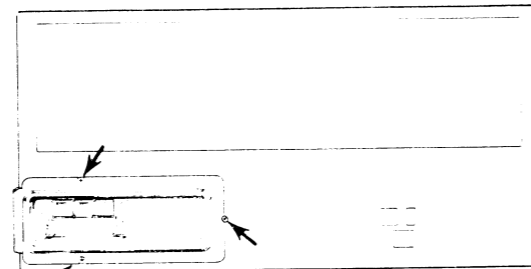


INSTALLING BEZEL

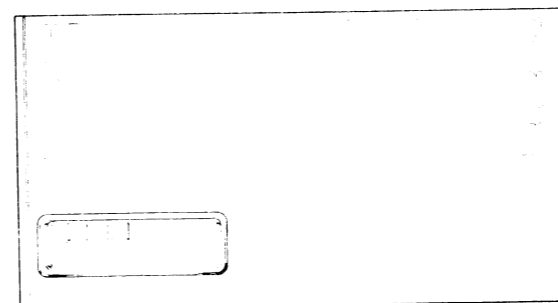
005-016990



- 1 WITH DISK DRIVE MOUNTED IN RACK, SLIGHTLY LOOSEN THE TWO MOUNTING SCREWS SUFFICIENTLY TO ALLOW THE PUSH-BUTTON ASSEMBLY TO "FLOAT".



- 2 HOLD BEZEL IN PLACE AND INSERT THREE SCREWS, TIGHTENING THEM ONLY SO THAT BEZEL CAN BE MOVED UNDER FRICTION BUT WILL STAY WHERE IT IS PUSHED.



- 3 MOUNT FRONT PANEL AND ADJUST POSITION OF BEZEL.

- 4 REMOVE FRONT PANEL, MAKING SURE THAT BEZEL DOES NOT MOVE. TIGHTEN BEZEL MOUNTING SCREWS. THIS WILL ALSO HOLD THE SWITCH ASSEMBLY IN PLACE.

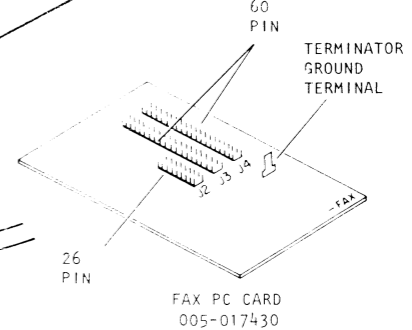
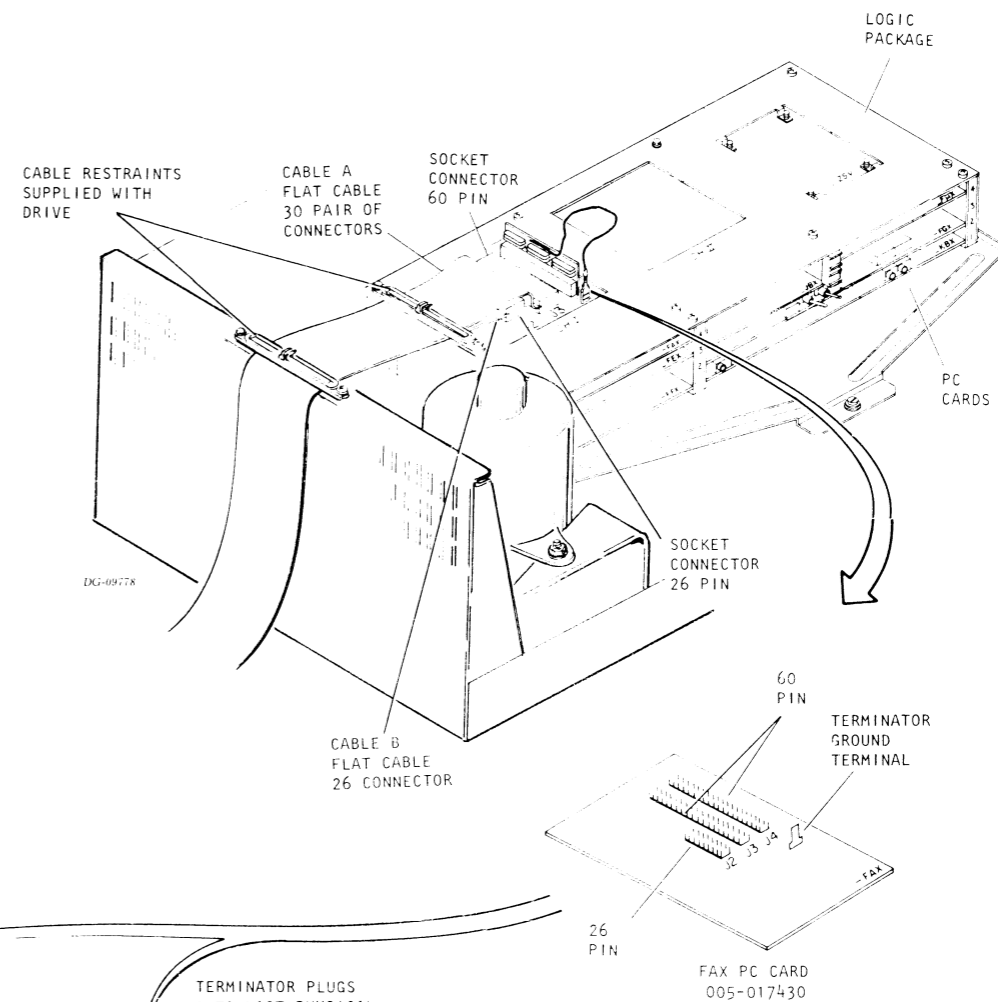
THE BEZEL IS NOW PROPERLY INSTALLED.

EXTERNAL CABLING

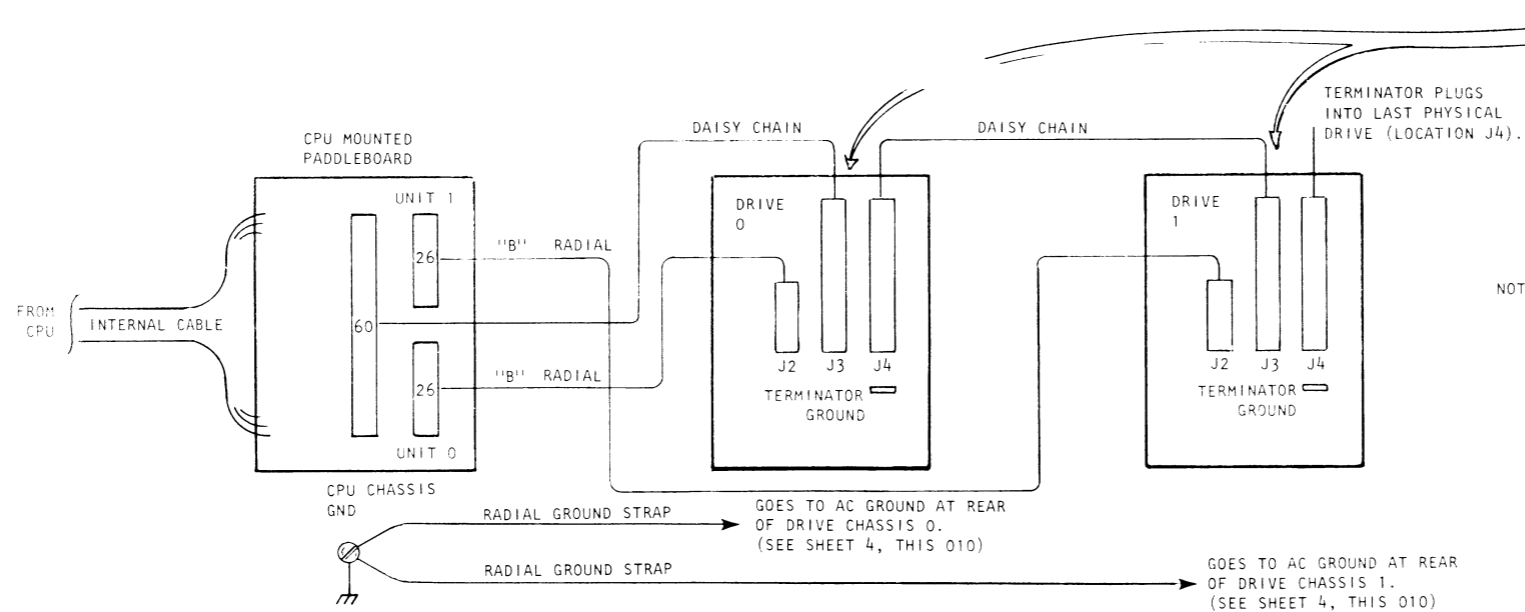
CABLE A	
CONTROLLER	DRIVE
UNIT SELECT TAG	22, 52
UNIT SELECT 2 ⁰	23, 53
UNIT SELECT 2 ¹	24, 54
UNIT SELECT 2 ²	26, 56
UNIT SELECT 2 ³	27, 57
TAG 1 ²	1, 31
TAG 2 ²	2, 32
TAG 3 ²	3, 33
BIT 0 ²	4, 34
BIT 1 ²	5, 35
BIT 2 ²	6, 36
BIT 3 ²	7, 37
BIT 4 ²	8, 38
BIT 5 ²	9, 39
BIT 6 ²	10, 40
BIT 7 ²	11, 41
BIT 8 ²	12, 42
BIT 9 ²	13, 43
OPEN CABLE DETECTOR	14, 44
INDEX ²	18, 48
SECTOR ²	29, 55
FAULT ²	15, 45
SEEK ERROR ²	16, 46
ON CYLINDER ²	17, 47
UNIT READY ²	19, 49
ADDRESS MARK FOUND ²	20, 50
WRITE PROTECTED ²	28, 58
POWER SEQUENCE PICK	29
POWER SEQUENCE HOLD	59
BUSY ²	21, 51
NOT USED (SPARE)	30, 60

CABLE B	
CONTROLLER	DRIVE
WRITE DATA	8, 20
GROUND	7
WRITE CLOCK	6, 17
GROUND	18
SERVO CLOCK	2, 14
GROUND	1
READ DATA	3, 16
GROUND	15
READ CLOCK	5, 17
GROUND	4
SEEK END	10, 23
UNIT SELECTED	22, 9
GROUND	21
RESERVED FOR INDEX	12, 24
GROUND	11
RESERVED FOR SECTOR	13, 26
GROUND	25

- NOTES
1. 26 CONDUCTOR FLAT CABLE.
 2. NO SIGNALS GATED BY UNIT SELECTED.



- NOTES:
- ¹ DUAL CHANNEL UNITS ONLY.
 - ² GATED BY UNIT SELECTED.



NOTES: WHENEVER 6160/6161 DISK DRIVES ARE MOUNTED INTO A DG CABINET, IT IS RECOMMENDED THAT THE 15 AMP NOR-BLO CABINET FUSE DGC No 113-000019 BE REPLACED WITH A 113-000155 SLO-BLO FUSE.

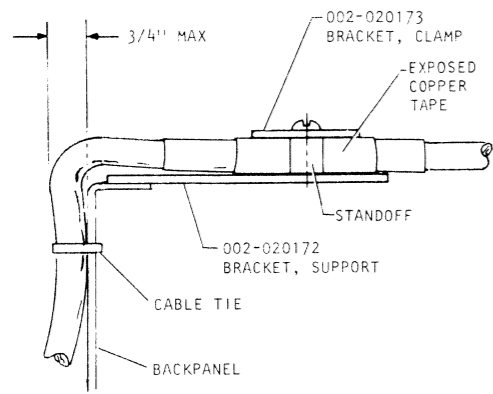
WHENEVER TWO 6160/6161 DISK DRIVES ARE MOUNTED INTO THE SAME CABINET, IT IS RECOMMENDED THAT THEY BE PLUGGED INTO SEPARATE AC POWER OUTLETS.

TERMINATOR IS INSTALLED WITH SOLDER SIDE FACING FRONT OF DISK DRIVE.

DISK DRIVES, MODELS 6160, 6161

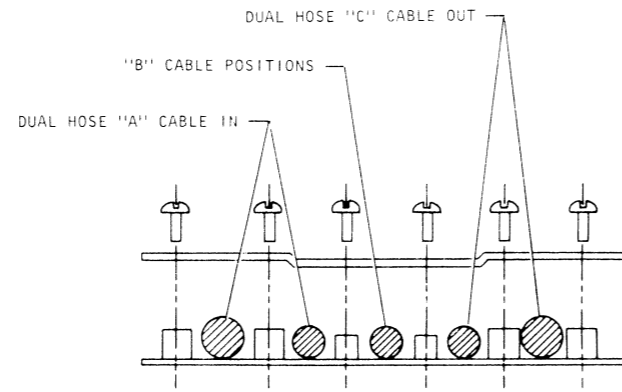
EXTERNAL CABLING (CONT)

COMPLIANT CPU TO DRIVES

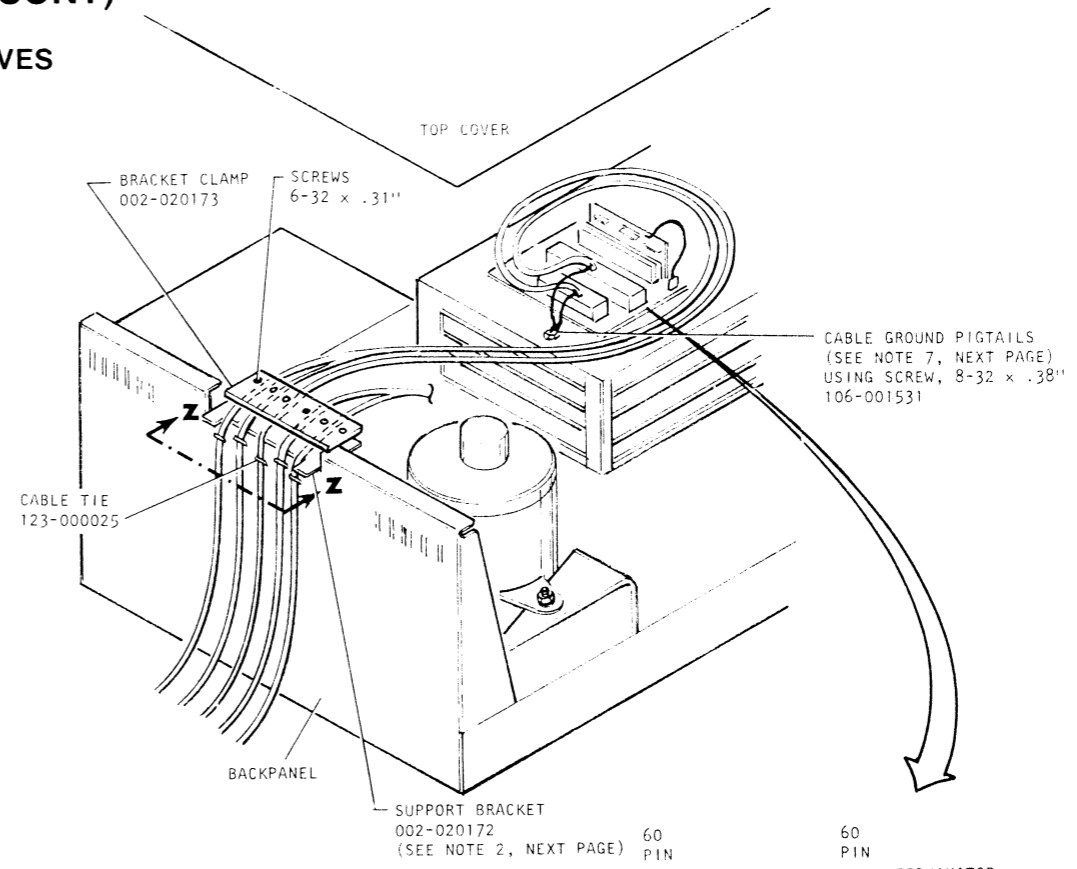


VIEW A

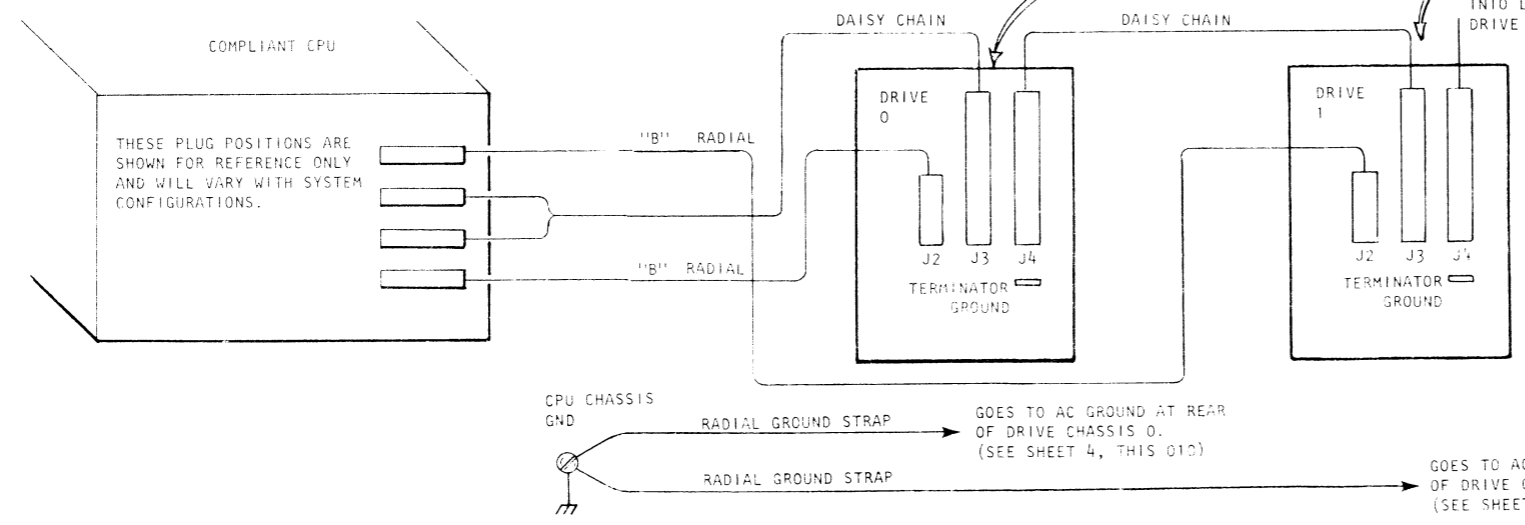
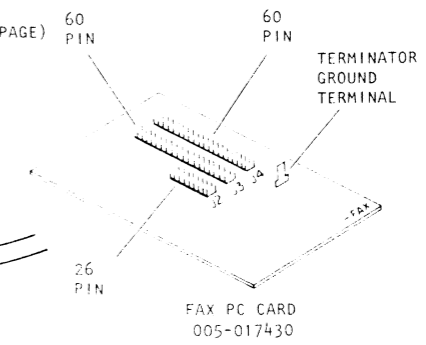
SEE NOTE 4, NEXT PAGE



VIEW Z-Z



NOTE:
TO MODIFY DISK DRIVE TO BE USED WITH
COMPLIANT CPU, USE CONVERSION KIT
005-019521.



TERMINATOR PLUGS INTO LAST PHYSICAL DRIVE (LOCATION J4).

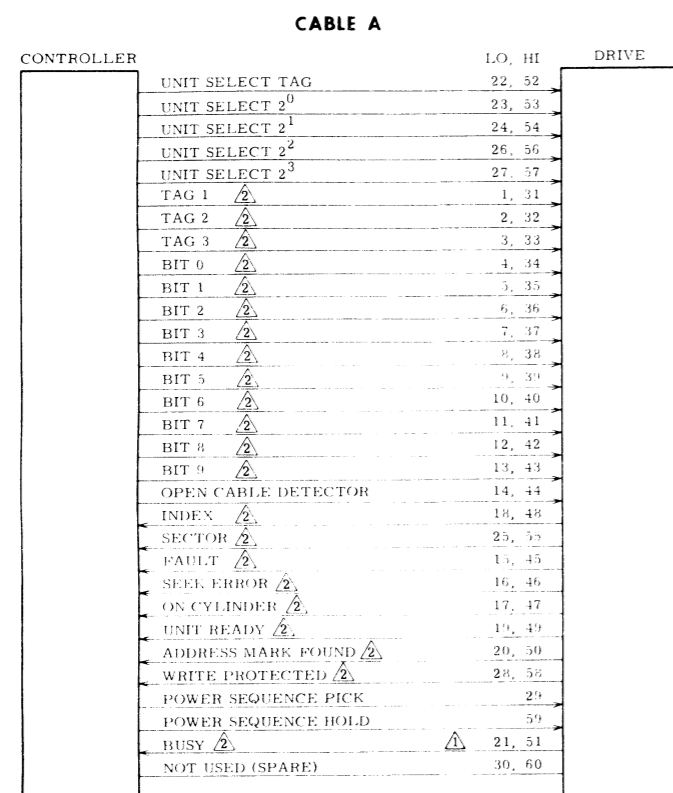
NOTES: WHENEVER 6160/6161 DISK DRIVES ARE MOUNTED INTO A DG CABINET, IT IS RECOMMENDED THAT THE 15 AMP NOR-BLO CABINET FUSE DGC No 113-000019 BE REPLACED WITH A 113-000155 SLO-BLO FUSE.

WHENEVER TWO 6160/6161 DISK DRIVES ARE MOUNTED INTO THE SAME CABINET, IT IS RECOMMENDED THAT THEY BE PLUGGED INTO SEPARATE AC POWER OUTLETS.

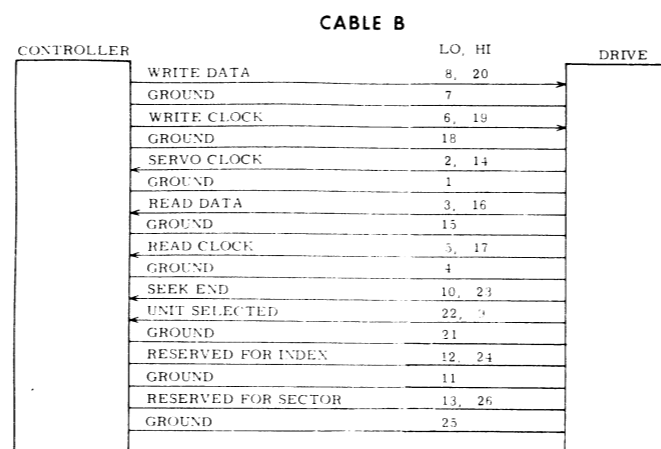
TERMINATOR IS INSTALLED WITH SOLDER SIDE FACING FRONT OF DISK DRIVE.

EXTERNAL CABLING (CONT)

COMPLIANT CPU TO DRIVES



- NOTES:
- DUAL CHANNEL UNITS ONLY.
 - GATED BY UNIT SELECTED.

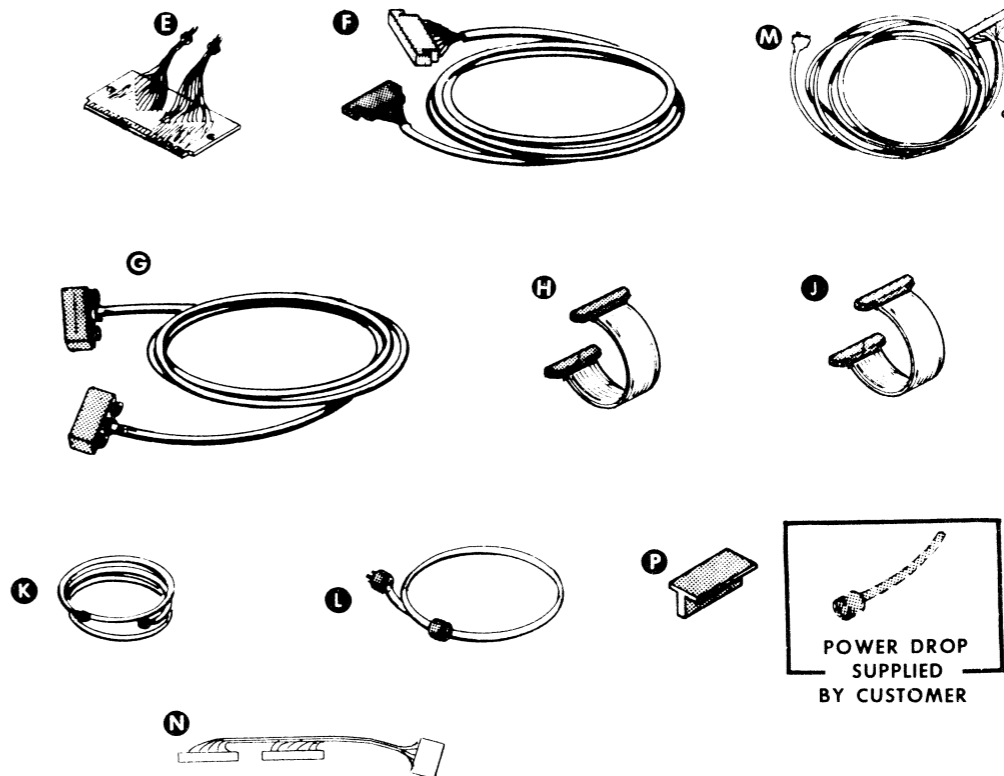
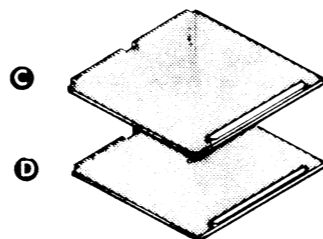
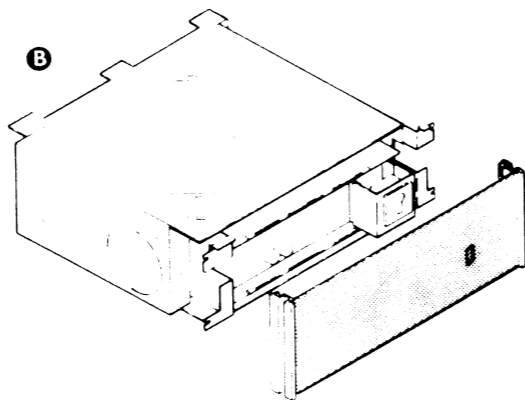
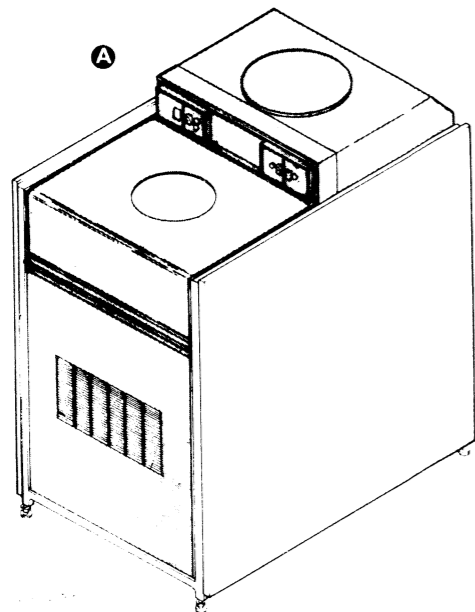


- NOTES
1. 26 CONDUCTOR FLAT CABLE.
 2. NO SIGNALS GATED BY UNIT SELECTED.

STEPS TO ADD HOSE (MOLDED) CABLES TO DRIVE

1. REMOVE TOP COVER.
2. REMOVE AND DISCARD THE TWO PLASTIC FLAT CABLE RESTRAINTS. RETAIN TWO SCREWS FOR STEP 3.
3. INSTALL SUPPORT BRACKET (002-020172) TO BACKPANEL USING SAME TWO SCREWS THAT WERE USED TO FASTEN PLASTIC FLAT CABLE RESTRAINT. TORQUE TO 10 IN/LBS.
4. POSITION CABLES A, B AND C ONTO BRACKET (002-020172) MAKING SURE THE EXPOSED COPPER TAPE LIES EQUALLY BETWEEN THE STANDOFFS. (SEE VIEW A, PREVIOUS PAGE).
5. SECURE BRACKET 002-020172 ONTO CABLES USING SCREWS 106-000480 AND TORQUE TO 10 IN/LBS.
6. FASTEN CABLES ONTO REAR BACKPANEL USING CLAMP (123-000025) AS SHOWN. DO NOT VIOLATE 3/4" MAX. DIMENSION. (SEE VIEW A, PREVIOUS PAGE).
7. ROUTE CABLES INSIDE DRIVE AS SHOWN. FASTEN CABLE GROUND PIGTAILS TO SHEET METAL AS SHOWN, USING 016-001531 INTO THE TAPPED HOLE WHICH WAS USED FOR THE FLAT CABLE RESTRAINT.
8. INSTALL TOP COVER.

SUBSYSTEM COMPONENT BREAKDOWN



REFER TO DISK PRODUCT

MASTER 010-0331 FOR CONFIGURATION AND CABLE 005 NUMBERS

MAJOR COMPONENT

ITEM	COMPONENT	MOUNTING LOCATION	NOTES
A	277 M-BYTE DRIVE UNIT	FREE STANDING	SEE CABLE LENGTH RESTRICTIONS
B	ADAPTER	EQUIPMENT CABINET	SEE CABLE LENGTH RESTRICTIONS
C	CONTROLLER	COMPUTER CHASSIS (1-SLOT)	
D	BURST MULTIPLEXOR CHANNEL INTERFACE	COMPUTER CHASSIS (1-SLOT)	DIRECTLY BESIDE CONTROLLER

ITEM	COMPONENT	CHASSIS	SLOTS REQUIRED	CONTROLLER'S +5 VOLT CURRENT DRAW (AMPS)
C	CONTROLLER	COMPUTER	1	4.0
D	BMC INTERFACE	COMPUTER	1*	5.3

(*DIRECTLY BESIDE CONTROLLER)

CABLE

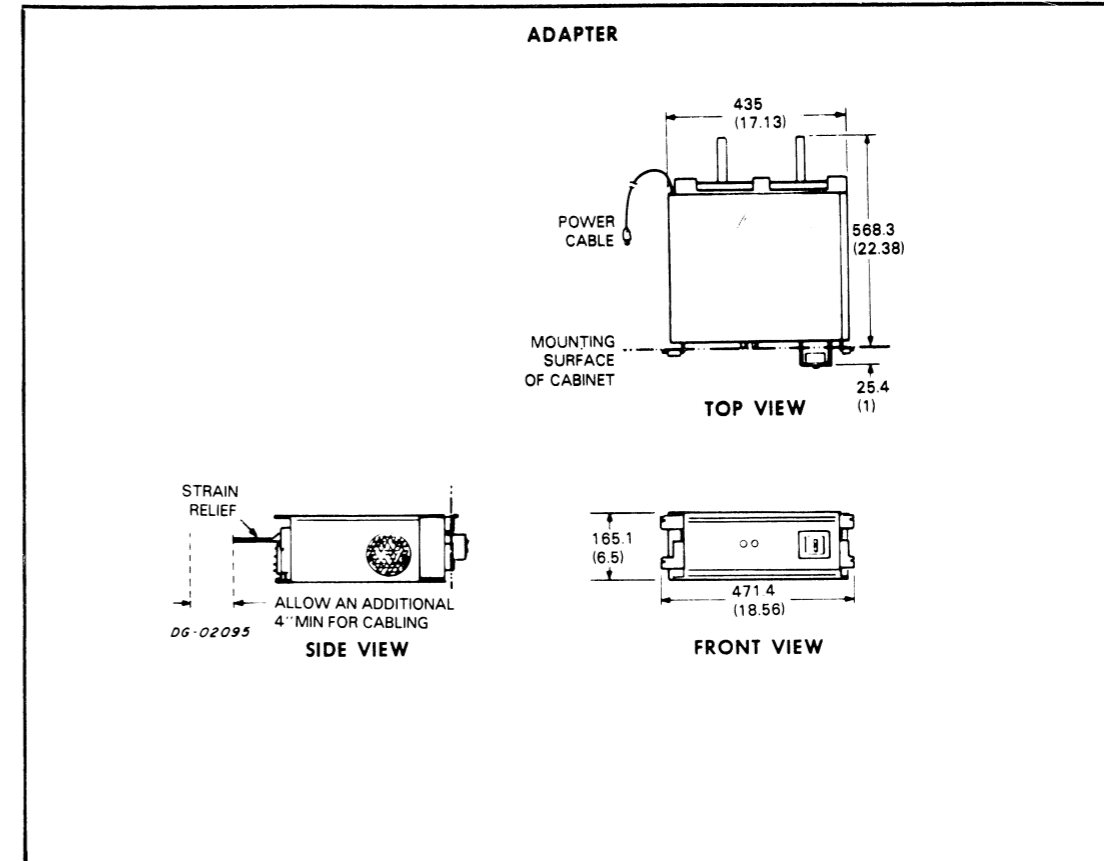
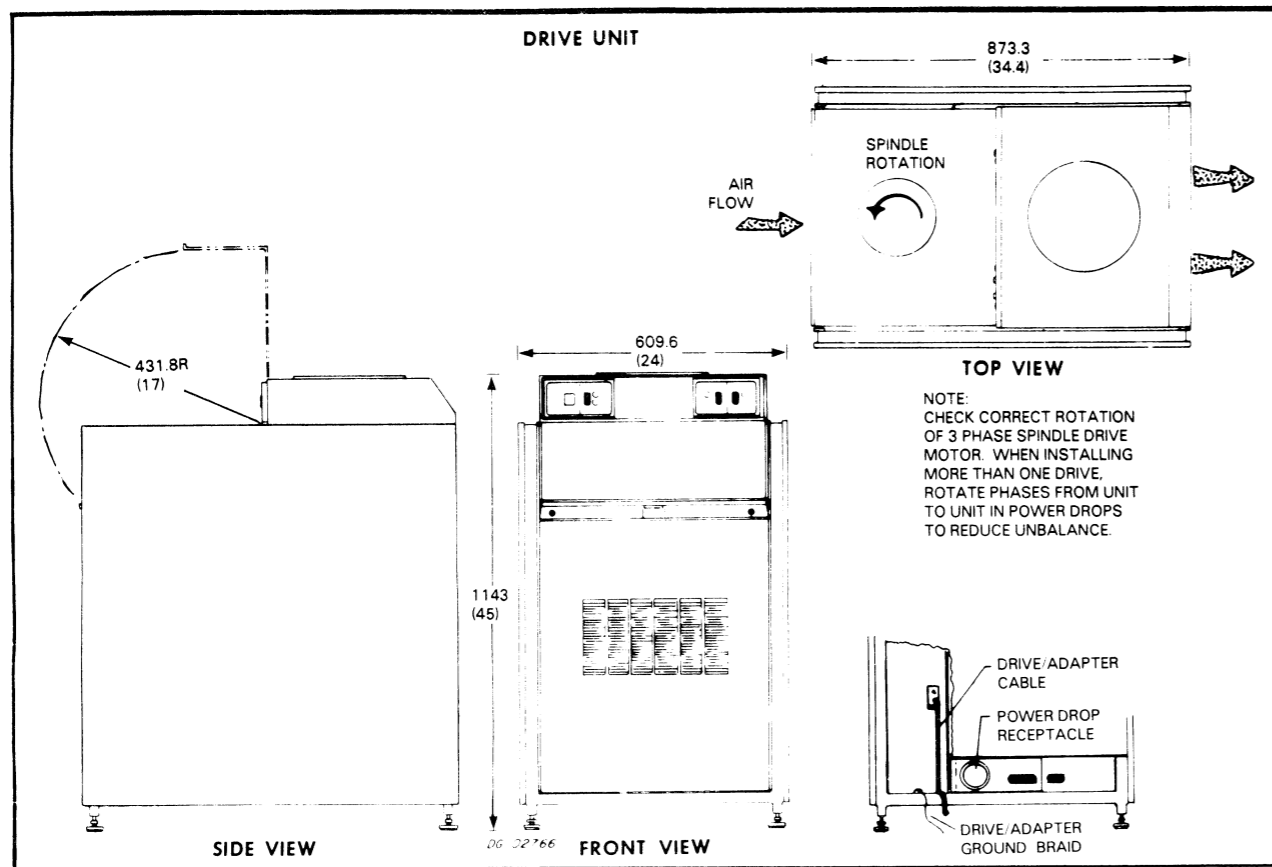
ITEM	CABLE	CONNECTING		MAX. LGTH		NOTES	
				FT	M		
E	INTERFACE CA	B/P CTRLLR SLOT	AND	DEVICE CA CONNECTOR			
F	DEVICE CA (ADAPTER)	DEVICE CA CONNECTOR	AND	ADAPTER	15	4.6	1 PER SUBSYSTEM
G	DEVICE CA (DRIVE)	ADAPTER	AND	DRIVE UNIT	50	15.3	1 PER DRIVE UNIT
H	CONTROLLER RIBBON CA	CONTROLLER	AND	BMC INTERFACE			BTW RIBBON CONN @ HDL END OF BDS
I	ADAPTER RIBBON CA	ADAPTER BD #1	AND	ADAPTER BD #2			BTW RIBBON CONN @ HANDLE END, OF BDS
K	GROUND BRAID	ADAPTER CHASSIS	AND	DRIVE CHASSIS	50	15.3	1 PER DRIVE UNIT
L	EXTERNAL POWER	DRIVE CHASSIS	AND	WALL RECEPTACLE	10	3	1 PER DRIVE UNIT
M	DEVICE CABLE ADAPTER	COMPLIANT CPU	AND	ADAPTER	15	4.6	1 PER SUBSYSTEM
N	COMPLIANT CPU INT. CBL	B/P CTRLLR SLOT	AND	DEVICE CA CONNECTOR	N/A	N/A	

TERMINATOR

ITEM	TERMINATOR	LOCATION	NOTES
P	SIGNAL BUS TERMINATOR	"B" CONNECTOR, ADAPTER	NOT NEEDED IN DUAL CPU SYSTEM

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



DRIVE UNIT

DIMENSIONS:	Width	Depth	Height
Millimeters	609.6	873.3	1143
Inches	24	34.4	45

SERVICE CLEARANCES:	Front	Rear	Top
Millimeters	609.6	304.8	431.8
Inches	24	12	17

WEIGHT:

Kilograms	262
Pounds	575

HEAT OUTPUT:

Watts	BTU/hr
1800	6140

OPERATING ENVIRONMENT:

Temperature (max)	32°C	90°F
Relative Humidity (max)	80%	
Altitude	1830m (6000')	

POWER REQUIREMENTS:

(Domestic)				
Voltage	208, 120			
Hz	60			
Max Amp per Phase	8			
Phase	3			
Startup Surge per Phase	30A for 12 seconds			
(Export)				
Voltage	380/220	415/240	220	200
Hz	50	50	50	50
Max Amp per Phase	5	4	8	8
Phase	3	3	3	3
Startup Surge per Phase	30A for 12 seconds			

CABLES:

	Length	Conn (Hubbell)	Mating Conn
Primary Power			
Domestic 60Hz	3m(10')	2515	2513 (user-supplied)
Export 50Hz	3m(10')	—	—

ADAPTER

DIMENSIONS:	Width	Depth	Height
Millimeters	471.4	593.9	165.1
Inches	18.56	23.38	6.50

WEIGHT:

Kilograms	13.6
Pounds	30

HEAT OUTPUT:

Watts	BTU/hr
180	613.8

OPERATING ENVIRONMENT:

Temperature (max)	55°C	131°F
Relative Humidity (max)	80%	

POWER REQUIREMENTS:

(Domestic)			
Voltage	120		
Hz	60		
Max Amp per Phase	1.5		
Phase	1		
(Export)			
Voltage	100	220	240
Hz	50	50	50
Max Amp per Phase	1.8	0.8	0.75
Phase	1	1	1

CABLES:

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

SHIPPING

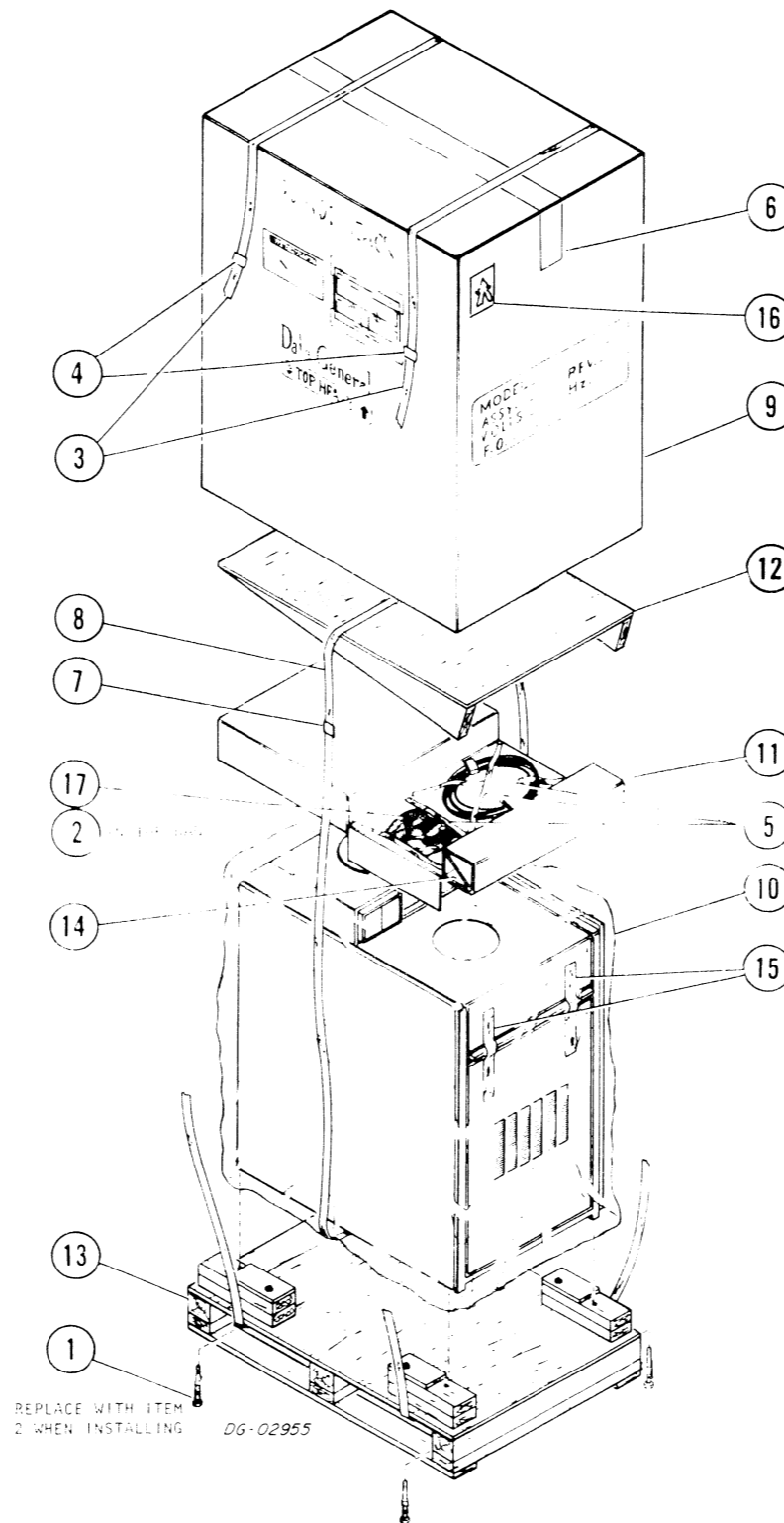
THE DISC DRIVE PACKING KIT

THE CONTROLLER PACKING KIT

FOR PACKING PROCEDURE,
SEE 010-000262

THE ADAPTER PACKING KIT

FOR PACKING PROCEDURE,
SEE 010-000263

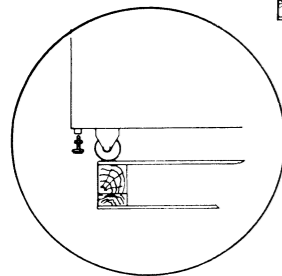
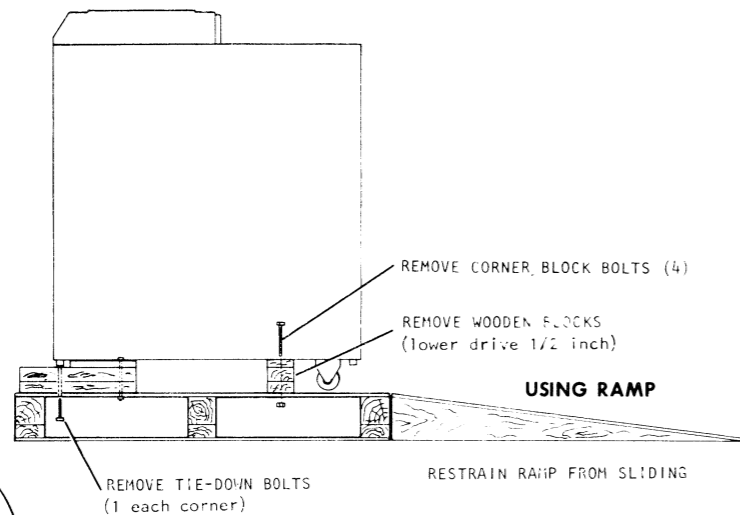


REPLACE WITH ITEM 2 WHEN INSTALLING DG-02955

17	1	PLASTIC BAG 305 x 305 (3 MIL)	136-000335
16	2	TIP-N-TEL INDICATOR	129-000469
15	2 FT	FILAMENT TAPE 2" P-166	129-000370
14	2	5/16" LEG CROWN STAPLE	129-000223
13	1	SHOCK-MOUNTED PALLET	129-000211
12	1	PLYWOOD RAMP	129-000210
11	1	CORRUGATED PAD	129-000209
10	1	POLY BAG, 3 MIL, 36 x 26 x 54	129-000208
9	1	HSC 40.75 x 27.5 x 43.75 TRIWALL	129-000207
8	24 FT	4020 PET, 1/2 x .020" POLYESTER	129-000147
7	7 FT	STRAPPING SEAL	129-000124
6	9 FT	REINFORCED SEALING TAPE 3"	129-000027
5	6 FT	PERMACEL GLASS TAPE	129-000026
4	2	BUCKLE, AVB-4	129-000025
3	12 FT	POLY BAND #420	129-000024
2	4	LEVELER SCREW, FB444	123-000774
1	4	NUT, HEX, SCDP, 1/2-13	106-000724
ITEM	QTY	DESCRIPTION	PART NO.

HANDLING PRECAUTIONS UNPACKING CONSIDERATIONS (Save Materials)

REMOVING DRIVE FROM PALLET

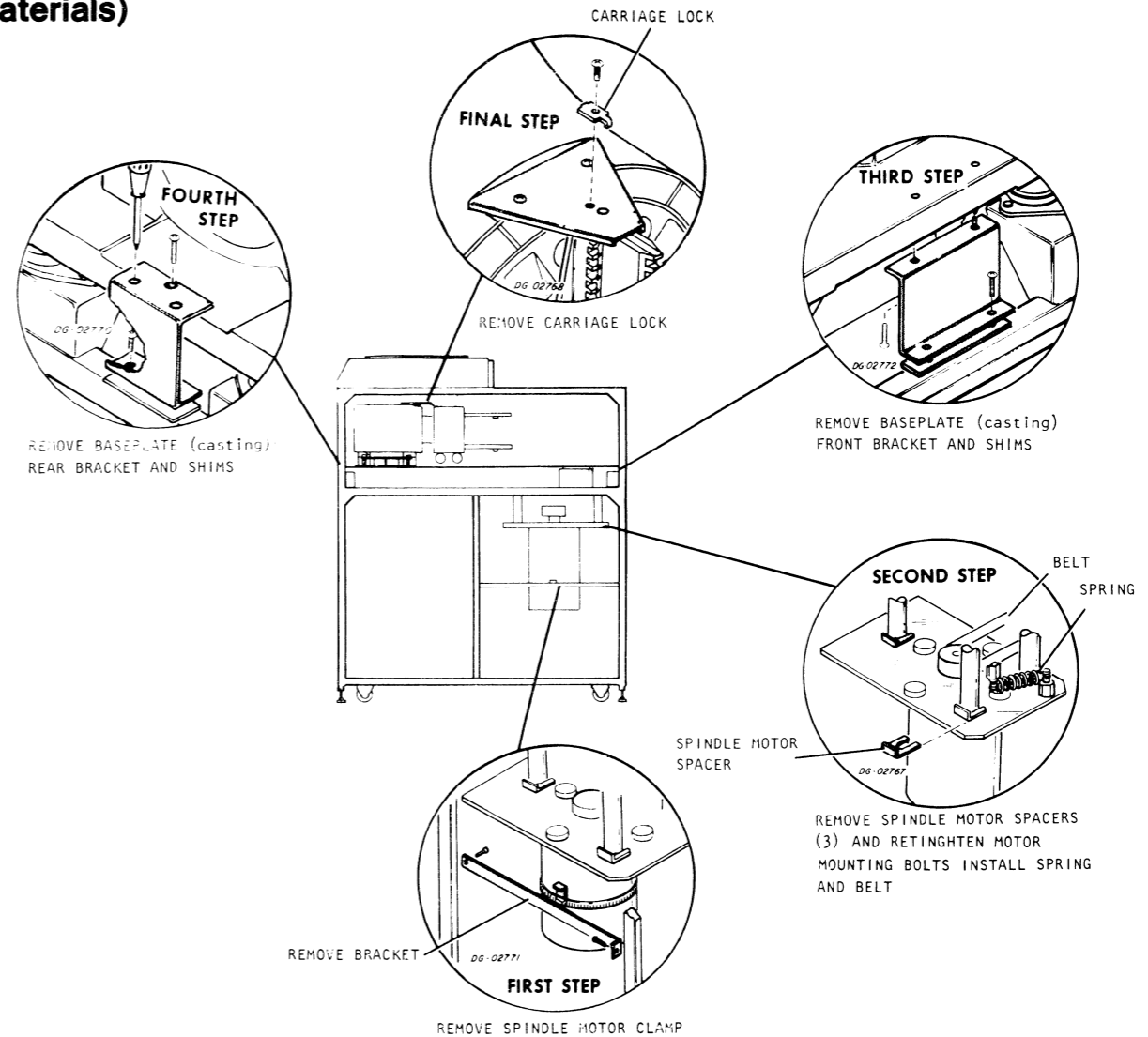


INSTALL LEVELLING LEGS

(MOVE DRIVE TO OVERHANG PALLET EDGE SCREW LEVELLING LEGS AS FAR IN AS THEY WILL GO TO AVOID BENDING THEM GOING ON AND OFF RAMP)

NOTE: THE READ/WRITE HEADS ARE CAREFULLY ALIGNED AT THE FACTORY, AND THE EQUIPMENT IS PACKED IN PROTECTIVE CONTAINERS TO PREVENT DAMAGE DURING SHIPMENT. HOWEVER, ROUGH HANDLING MAY MOVE THE HEADS, SO THAT RE-ALIGNMENT ON-SITE MAY BE REQUIRED. IF THE HEADS DO REQUIRE ALIGNMENT, REFER TO THE PROCEDURE INCLUDED IN THE DOCUMENTATION SUPPLIED WITH THE EQUIPMENT.

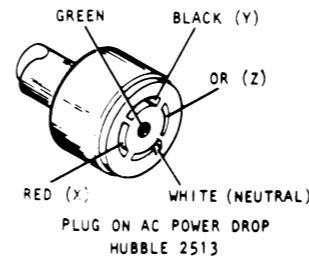
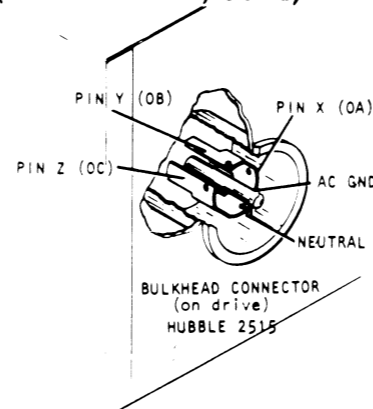
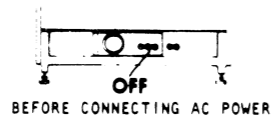
MOVE DRIVE CAREFULLY AFTER REMOVING CARRIAGE LOCK TO AVOID HEAD DAMAGE



AC POWER WIRING (208/120 30 Y, 60Hz)

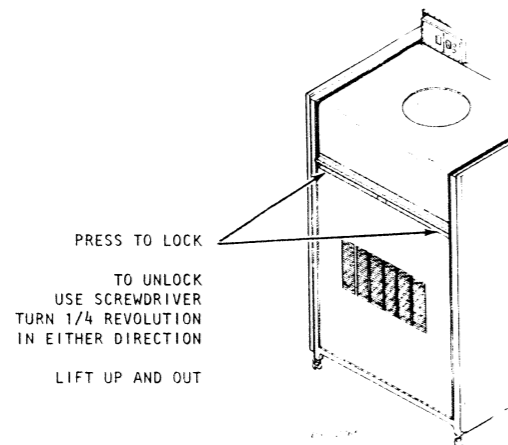
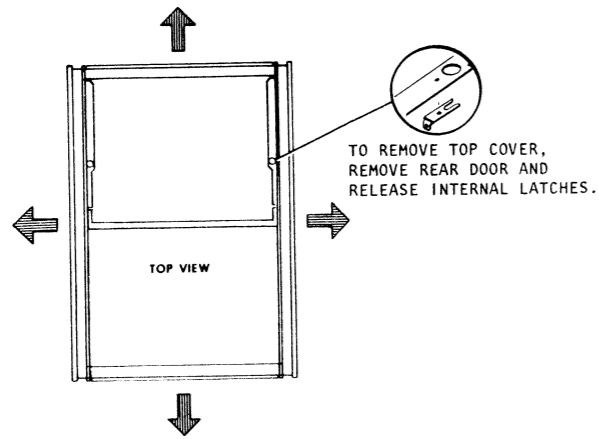
CAUTION

CHECK SPINDLE DRIVE ROTATION DURING BRIEF FIRST POWER UP. SPINDLE MUST TURN CCW (VIEWED FROM ABOVE DRIVE) SPINDLE DRIVE BELT MAY SLIDE OFF ITS PULLEY IF MOTOR ROTATES IN REVERSE DIRECTION. IN MULTIDRIVE SYSTEMS, ROTATE PHASES IN AC DROPS TO EQUALIZE PHASE TO PHASE LOADS.



PHYSICAL ACCESS

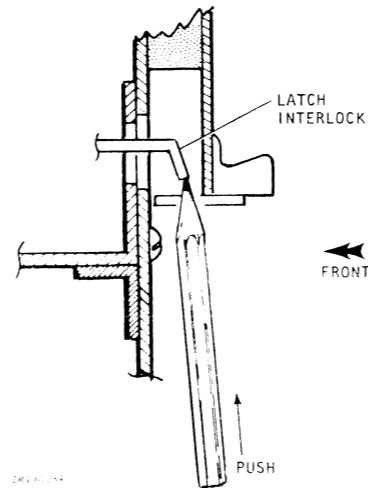
REMOVING COVERS



CONNECT 5 GROUND STRAPS WHEN INSTALLING COVERS

DOOR LOCK ASSEMBLY OVERRIDE

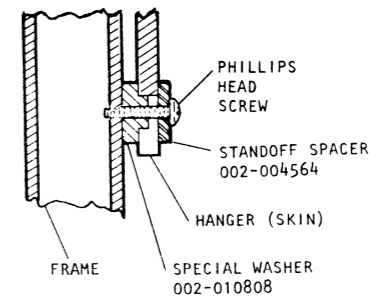
THE DOOR LOCK ASSEMBLY IS INTENDED TO LIMIT THE OPENING OF THE SHROUD COVER WHILE THE DISC PACK IS ROTATING AND/OR POWER TO THE DRIVE IS OFF. COVER MAY BE OPENED ONLY WHEN PACK IS COMPLETELY STOPPED AND DC POWER IS ON.



IN THE EVENT OF POWER FAILURE AND/OR DRIVE OFF AND ACCESS MUST BE GAINED TO THE DISC PACK OR SHROUD, THE FOLLOWING PROCEDURE CAN BE USED:

- STEP 1. REMOVE FRONT DOOR.
- STEP 2. USING A PEN OR PENCIL, PUSH (PIVOT) THE LATCH INTERLOCK OUT-OF-ENGAGEMENT WITH THE BRACKET DETENT.
- STEP 3. WHILE LATCH INTERLOCK IS RELEASED, LIFT COVER OPEN BY DOOR LATCH.

REMOVING SKINS



DG-07285

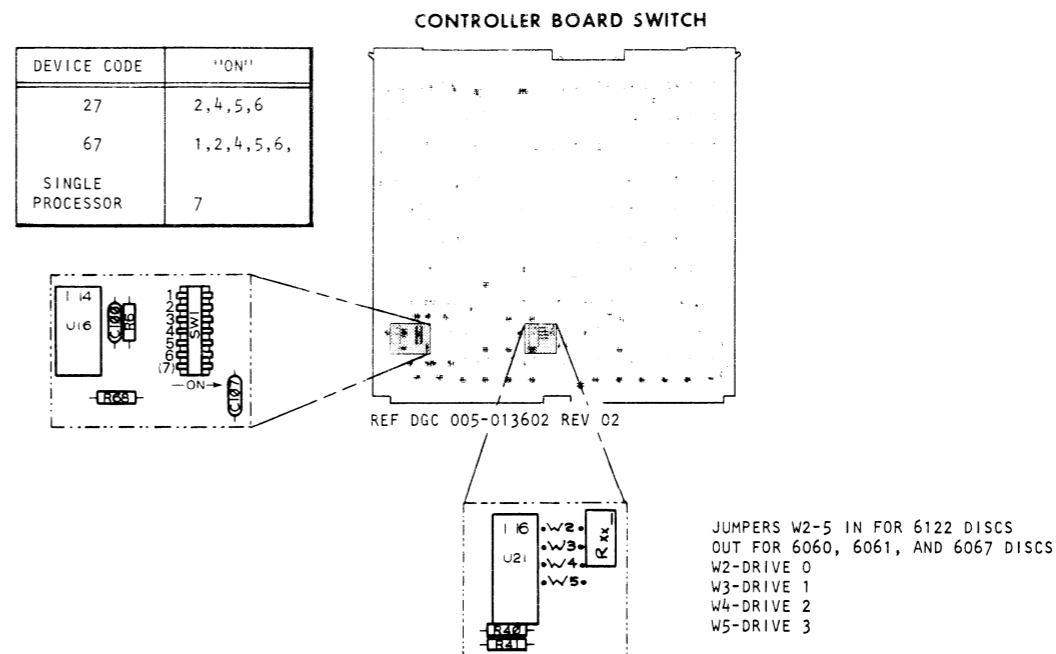
IN OPERATION, TIGHTENING THE SCREW SQUEEZES THE HANGER BETWEEN STANDOFF SPACER 002-4564 AND SPECIAL WASHER 002-10808 LOCKING SKIN IN PLACE. TO REMOVE SKIN, LOOSEN SCREW.

INTERNAL CABLING

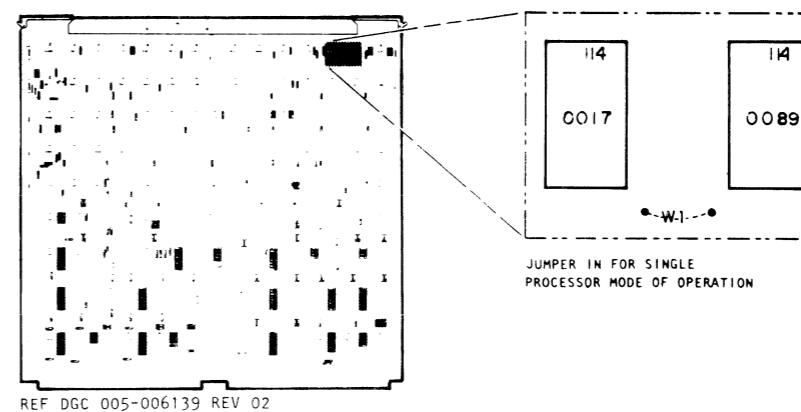
SIGNAL NAME	BACK PANEL PIN NUMBER	PADDLE CONNECTOR PIN NUMBER	COMPLIANT CPU "D" TYPE INTERNAL CABLE
BUSY 0	B27	36	36
BUSY 1	B31	37	37
BUSY 2	B34	38	38
BUSY 3	B36	39	39
TRESS'D	B13	31	31
RESERVED	B15	32	32
COM STROBE	A91	3	3
ADAPT RESET	A87	26	26
REQ/RES	A89	27	27
COM CH BUSY	B11	30	30
COMD 2	A76	6	6
COMD 1	A77	5	5
COMD 0	A78	4	4
D 1	A85	24	24
D 0	A86	23	23
CYL1	A75	7	7
CYL2	A73	8	8
CYL4	A71	9	11
CYL8	A63	13	13
CYL16	A61	14	14
CYL32	A59	15	15
CYL64	A57	16	16
CYL128	A47	17	28
CYL256	A49	18	18
CYL512	A79	19	19
READY 0	A81	20	20
READY 1	A84	21	21
READY 2	A83	22	22
READY 3	B25	25	47
BUS 0	B69	49	29
BUS 1	B40	41	41
BUS 2	B48	42	25
BUS 3	B49	43	43
BUS 4	B51	44	44
BUS 5	B53	46	
BUS 6	B54	47	47
BUS 7	B67	48	48
A RD/WR BYTE	B19	33	33
ADAPT PARITY	B38	40	40
RD/WR START'	B23	34	12

ECLIPSE S/250, C/350 AND M/600 AND COMPLIANT CPU'S

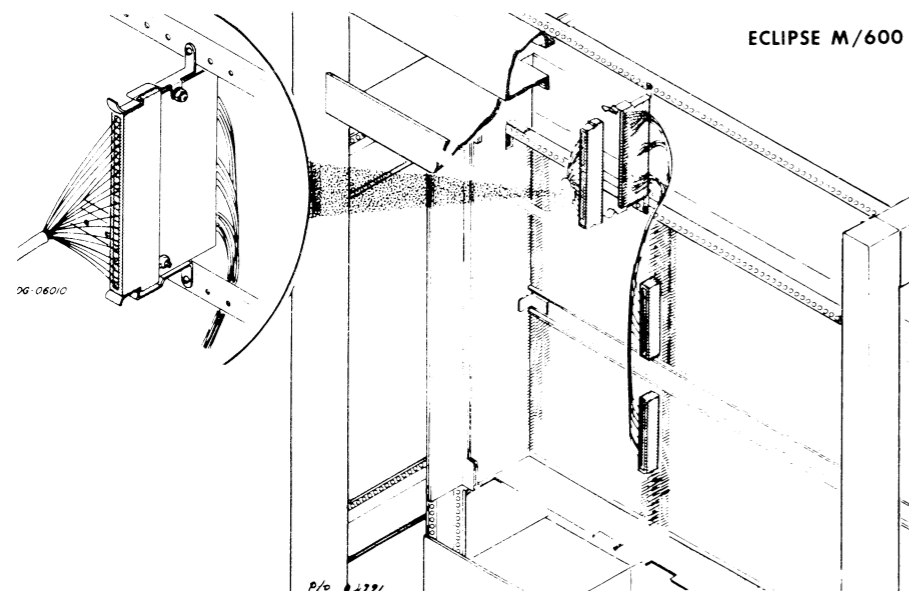
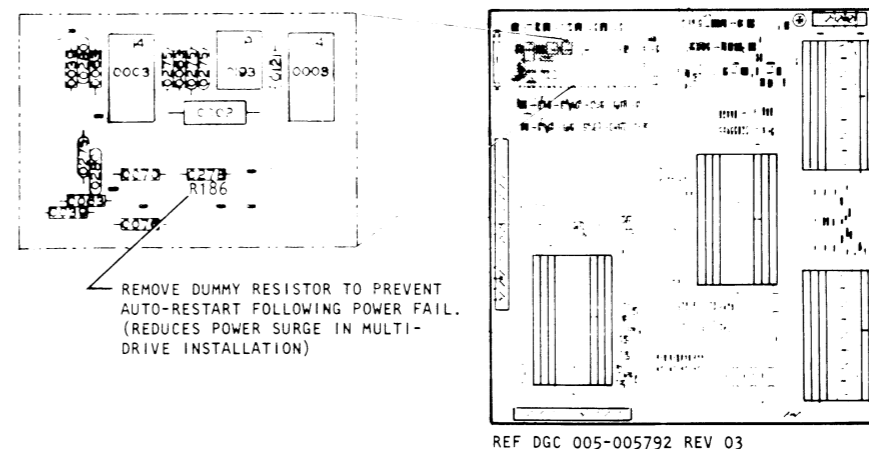
TAILORING



ADAPTOR BOARD #1 JUMPER



DC POWER CONTROL BOARD



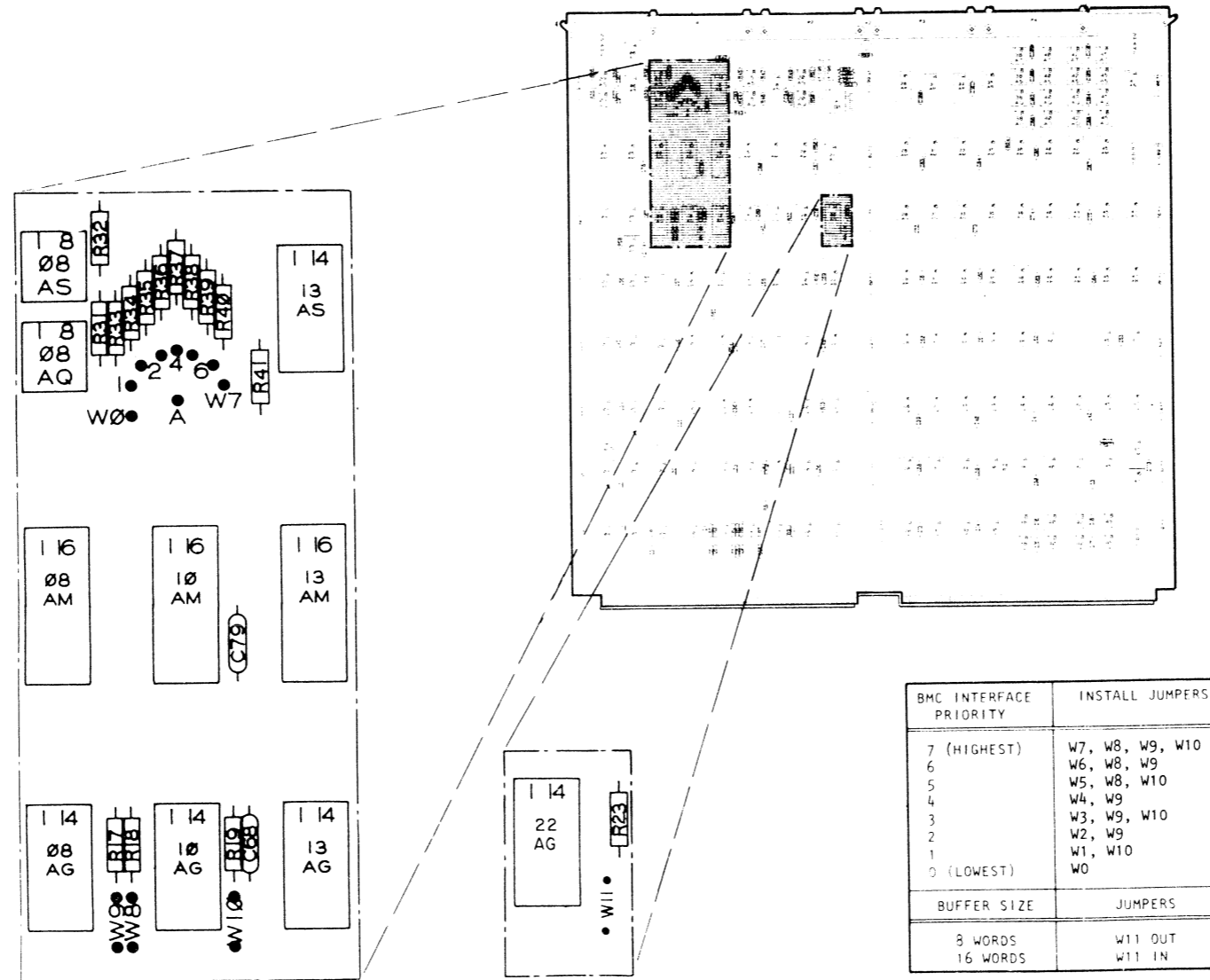
DG/DISK STORAGE SUBSYSTEM, MODEL 6122

TAILORING (Cont)

JUMPERS

BURST MULTIPLEXOR INTERFACE

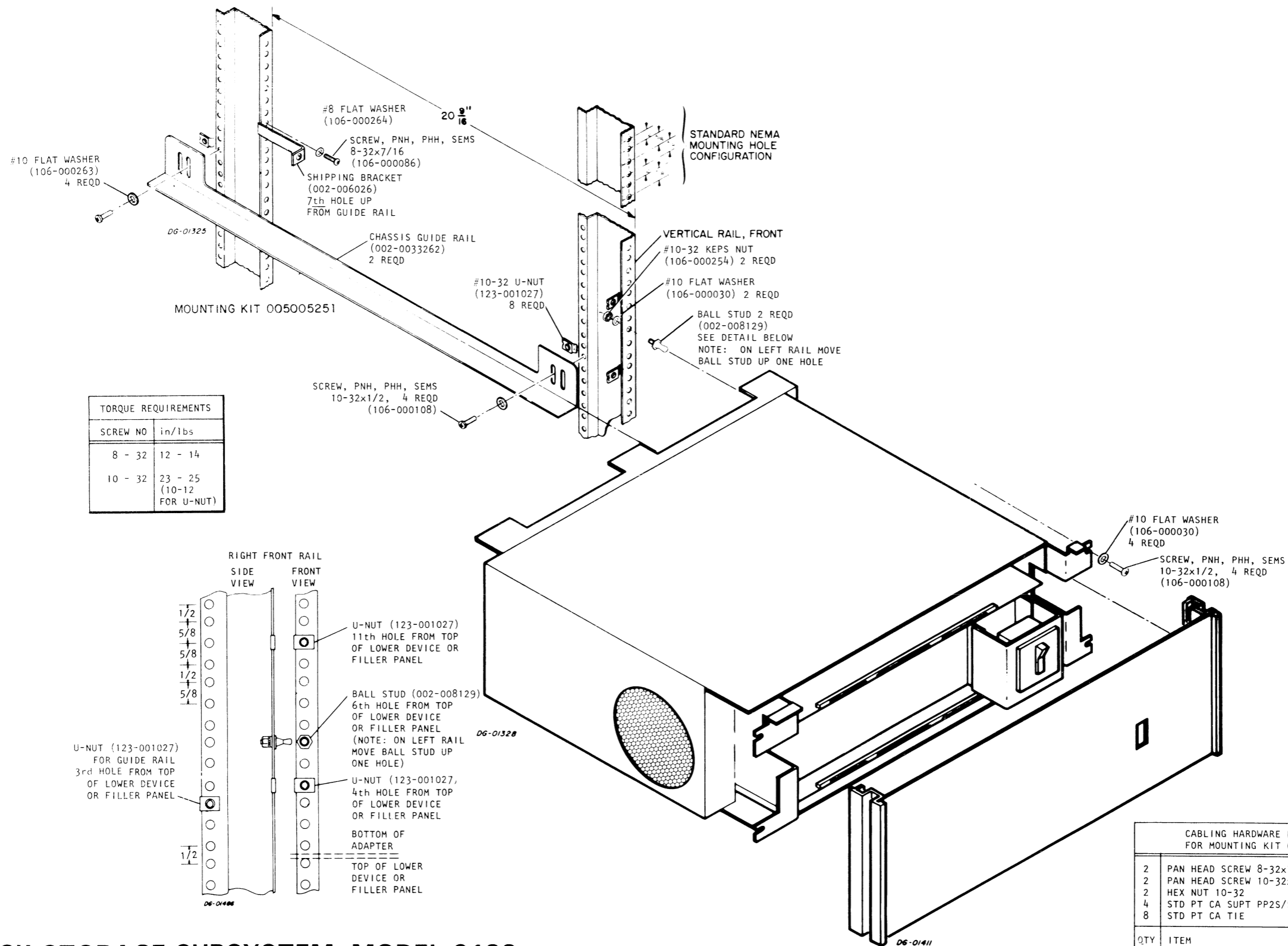
Ref. DGC 005-008502-00



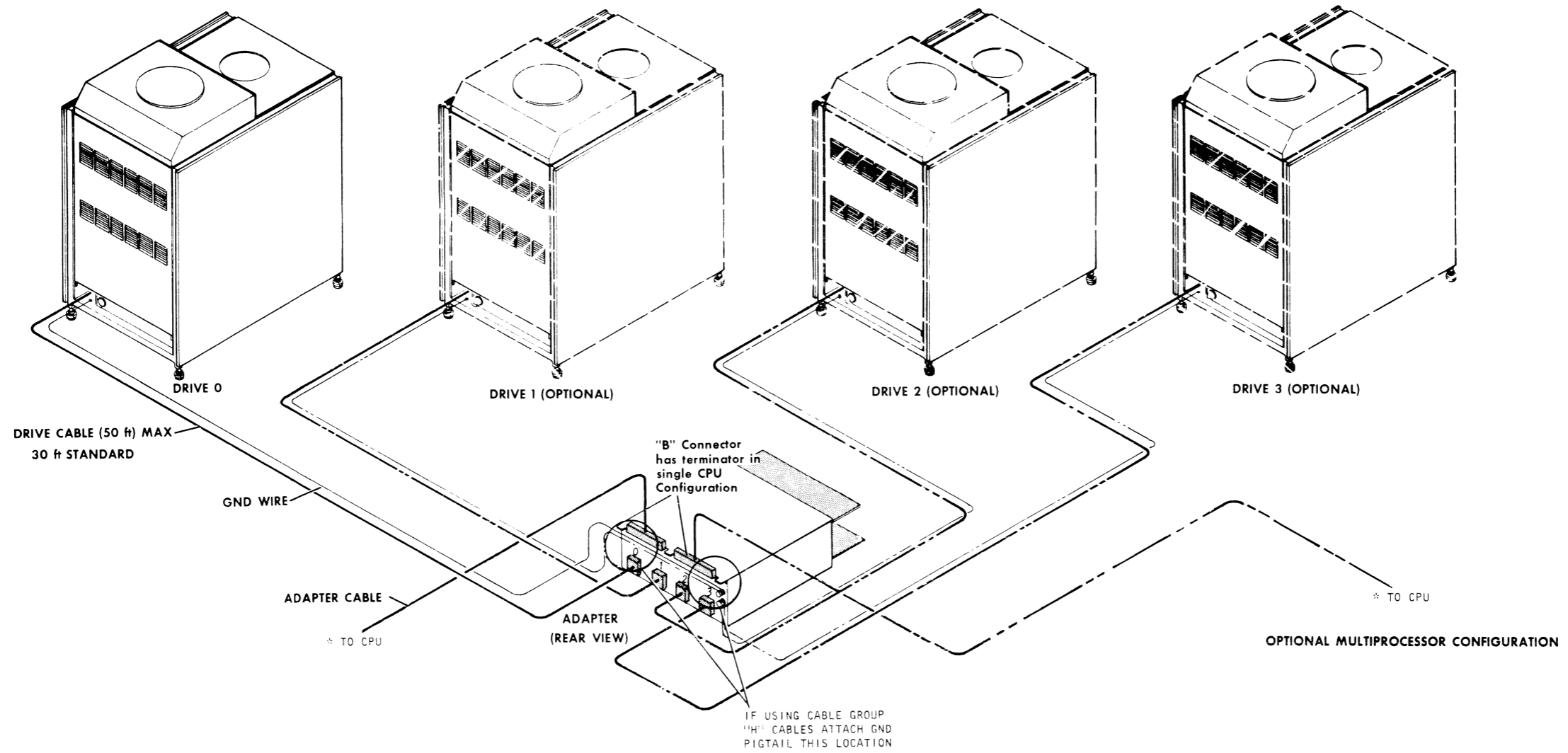
BMC INTERFACE PRIORITY	INSTALL JUMPERS
7 (HIGHEST)	W7, W8, W9, W10
6	W6, W8, W9
5	W5, W8, W10
4	W4, W9
3	W3, W9, W10
2	W2, W9
1	W1, W10
0 (LOWEST)	W0
BUFFER SIZE	JUMPERS
8 WORDS	W11 OUT
16 WORDS	W11 IN

LATENCY: 8 WORD BUFFER, 20 μ sec
 16 WORD BUFFER, 40 μ sec

CABINET-MOUNTING MOUNTING IN THE ECLIPSE-LINE CABINET

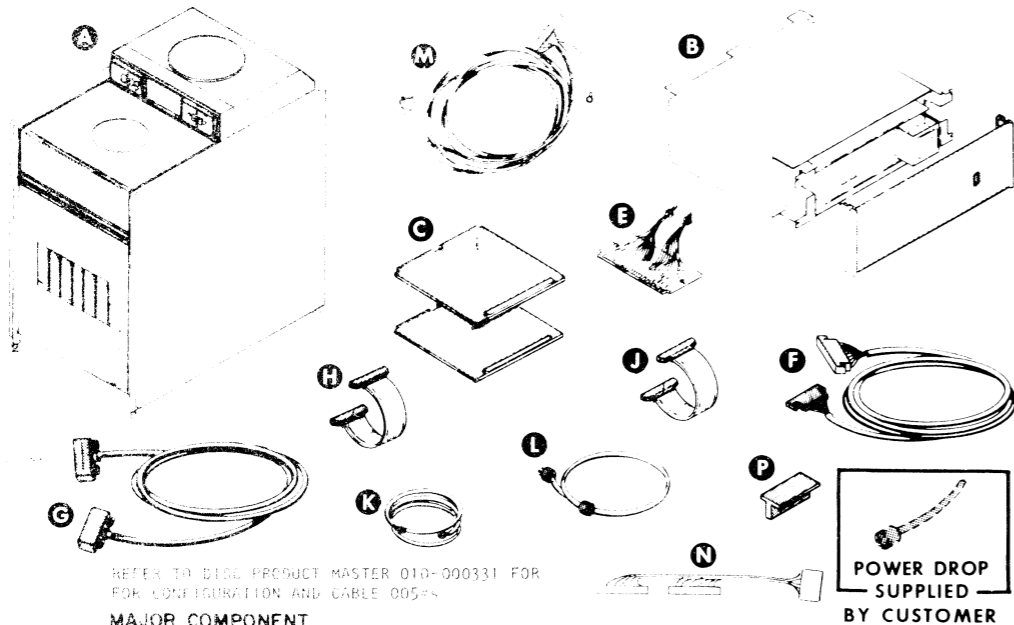


EXTERNAL CABLING



* REFER TO DISC
PRODUCT MASTER
010-0331 FOR
CONFIGURATION
AND CABLE 005#s

SUBSYSTEM COMPONENT BREAKDOWN



REFER TO DISK PRODUCT MASTER 010-000331 FOR CONFIGURATION AND CABLE COORDS.

MAJOR COMPONENT

Item	Component	Mounting Location	Notes
A	100 M-BYTE DRIVE UNIT	FREE STANDING	SEE CABLE LENGTH RESTRICTIONS
B	ADAPTER	EQUIPMENT CABINET (COMPUTER CHASSIS)	SEE CABLE LENGTH RESTRICTIONS
C	CONTROLLER	(1-SLOT)	
D	DATA CHANNEL	(1-SLOT) COMPUTER CHASSIS	DIRECTLY BELOW CONTROLLER

CABLE

Item	Cable	Connecting	Max Allowed Lg ft	m	Notes
E	INTERFACE CA	REF. CTRLER SLOT and DEVICE CA CONNECTOR	15	4.1	1 PER SUBSYSTEM
F	DEVICE CA (ADAPTER)	DEVICE CA CONNECTOR	50	15.2	1 PER DRIVE UNIT
G	DEVICE CA	ADAPTER DRIVE UNIT	12.8	3.9	1 PER DRIVE UNIT
H	CONTROLLER RIBBON CA ADAPTER	CONTROLLER DATA CHAN INTERFACE			BTW RIBBON CONN. HDL END OF BDS
J	RIBBON CA ADAPTER	ADAPTER BD #1			BTW RIBBON CONN. HDL END, OF BDS
K	GROUND BRAID	ADAPTER DRIVE CHASSIS	50	15.2	1 PER DRIVE UNIT
L	EXTERNAL POWER	DRIVE CHASSIS WALL RECEPTACLE	10	3	1 PER DRIVE UNIT
M	DEVICE CABLE (ADAPTER)	COMPLIANT AND ADAPTER CPU	15	4.7	1 PER SUBSYSTEM
N	COMPLIANT CPU INT. CABLE	B/E CONTROLLER AND DEVICE CA SLOT CONNECTOR	N/A	N/A	

TERMINATOR

Item	Terminator	Location	Notes
P	TERMINATOR	CONNECTOR, ADAPTER	NOT NEEDED IN DUAL CPU SYSTEM

SPECIFICATIONS OF THE CHASSIS-MOUNTED COMPONENTS

Item	Component	Chassis	Slots Required	Max Allowable Data Channel Latency (µ sec)	Max Allowable Programmed I/O Latency*	Controller's +5 Volt Current Draw (Amps)
C	CTRLER	COMPUTER	1	N/A	N/A	3.9
D	DATA CHAN. I/O	COMPUTER	1	13.8	N/A	3.6
D	BURST MAX	COMPUTER	1	N/A	N/A	5.0

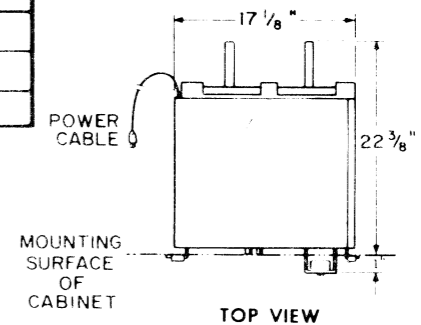
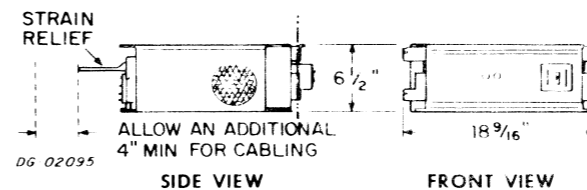
DIRECTLY BELOW CONTROLLER

DGC/DISK STORAGE SUBSYSTEM, SERIES 6060, 6061

SPECIFICATIONS OF CABINET-MOUNTED COMPONENTS

Item	Component	Number in Sub-system	Maximum Operating Temperature		Primary Power					Cabinet Height Required		Weight lbs	kg	Power Dissipation (Max Watts)	Preferred Location or Remarks	Operating Humidity (Relative)		
			Component °C	Media °C	Volts	Hz	Phase	Cond	Amps	Area in	cm					min	max	
B	ADAPTER	1	131	55	100	50	1φ	3	1.8	4	7	17.8	30	13.6	180		20	80
		1	131	55	120	60	1φ	3	1.5	4	7	17.8	30	13.6	180		20	80
		1	131	55	220	50	1φ	3	1.5	4	7	17.8	30	13.6	180		20	80
		1	131	55	240	50	1φ	3	1.75	4	7	17.8	30	13.6	180		20	80

Voltage	Power Cable Length		Power Cable Plug	Mating Receptacle on Power Drop	Mating Receptacle in Wall
	ft	m			
100V, 50Hz	5	1.52	5-15P	5-15R	5-15R
120V, 60Hz	5	1.52	5-15P	5-15R	5-15R
220V, 50Hz	5	1.52	6-15P	6-15R	6-15R
240V, 50Hz	5	1.52	6-15P	6-15R	6-15R



SPECIFICATIONS OF THE FREE-STANDING COMPONENTS

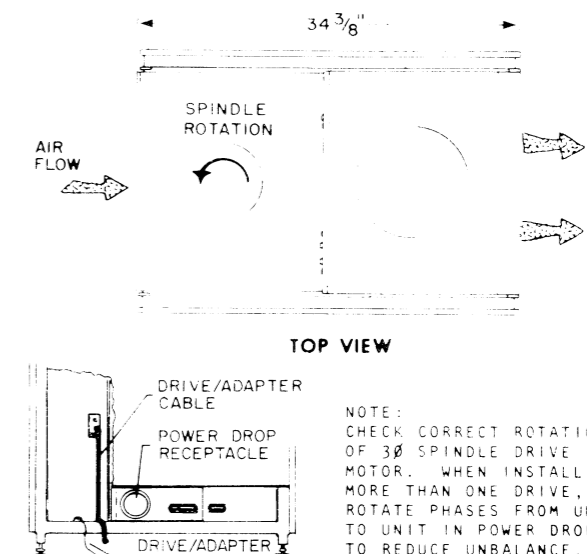
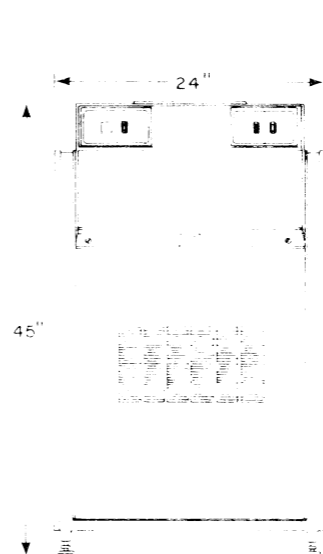
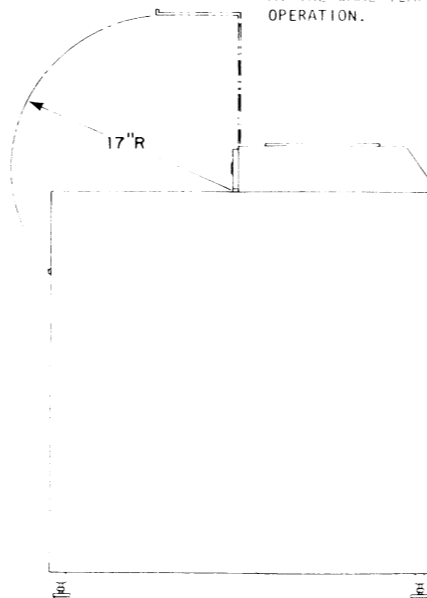
Item	Component	Number in Sub-system	Weight		Operating Humidity (Relative)		Maximum Operating Temperature ①		Power Dissipation (Watts)	BTUs/hr (341 x Watts)	Primary Power ③					Power Cable Length ft	Power Cable Connector	Power Drop Mating Power Receptacle *	Wall Mating Power Receptacle	
			lbs	kg	min	max	°F	°C			°F	°C	Volts ±1%	Hz	Phase					Cond
A	DRIVE UNIT	1-4	575	262	20	80	90	32	90	32	1800	6140	208/120	60	3φ	5	8A/PH MAX	2515	2513	
			575	262	20	80	90	32	90	32	1800	6140	380/220	50	3φ	5	5A/PH MAX	2535	2533	
			575	262	20	80	90	32	90	32	1800	6140	415/240	50	3φ	5	4A/PH MAX	2535	2533	
			575	262	20	80	90	32	90	32	1800	6140	220	50	3φ	4	8A/PH MAX	2535	2533	
			575	262	20	80	90	32	90	32	1800	6140	200	50	3φ	4	8A/PH MAX	2535	2533	
			575	262	20	80	90	32	90	32	1800	6140	200	50	3φ	4	8A/PH MAX	2535	2533	

* SUPPLIED BY CUSTOMER ①

THE DRIVE UNIT AND MEDIA MUST BE AT THE SAME TEMPERATURE FOR PROPER OPERATION.

② BASED ON AVERAGE PER PHASE CURRENT OF 5.0 AMPS PER PHASE, 208/120, 60Hz.

③ CURRENT GIVEN IS FOR DRIVE UNIT WHEN ACCESSING. MAX SURGE CURRENT ON START-UP IS 30 AMPS PER PHASE FOR 12 SECONDS.



NOTE: CHECK CORRECT ROTATION OF 3φ SPINDLE DRIVE MOTOR. WHEN INSTALLING MORE THAN ONE DRIVE, ROTATE PHASES FROM UNIT TO UNIT IN POWER DROPS TO REDUCE UNBALANCE.

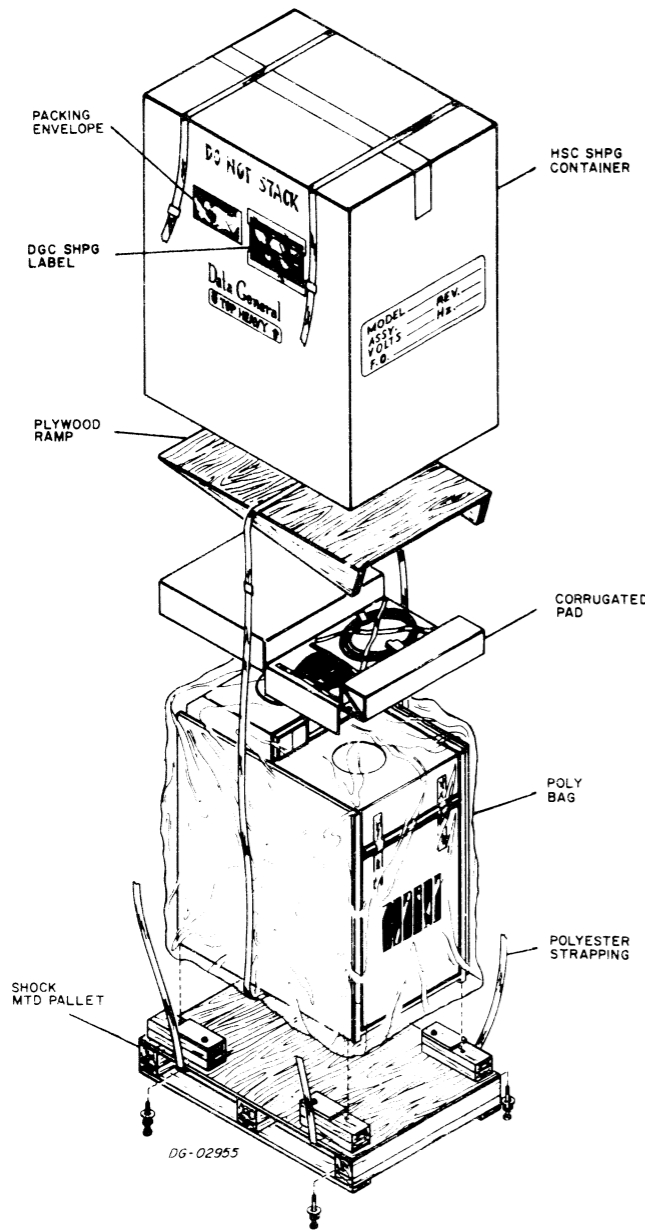
SIDE VIEW

FRONT VIEW

TOP VIEW

SHIPPING

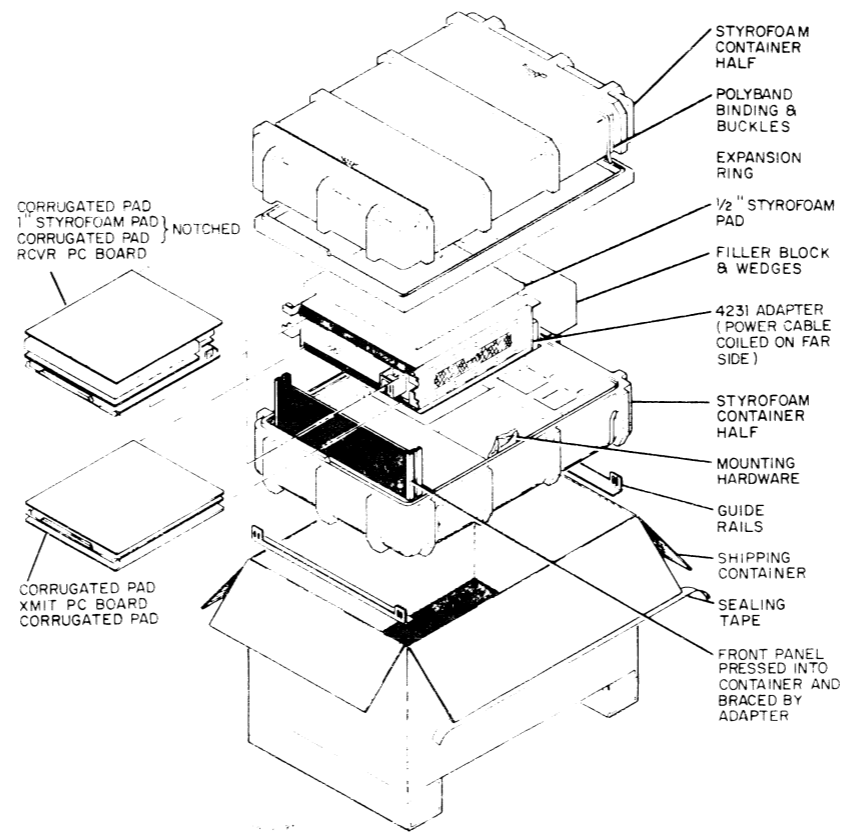
THE DISC DRIVE PACKING KIT



SHIPPING AND PACKAGE DATA					
Outside Dimensions			Weight (Gross)	Volume	Density
Length	Width	Depth			
in	in	in	lbs	cu ft	lbs/cu ft
cm	cm	cm	kg	cu m	kg/cu m
49	124	29 1/4	653	3.5	19
	74	42 1/4	296	1	296
		108			
SHIPPING SPECIFICATIONS			STORAGE SPECIFICATIONS		
Temperature Range	Relative Humidity	Maximum Altitude	Temperature Range	Relative Humidity	Maximum Period
0° to +160°	0% to 90% (Non-condensing)	50,000 ft.	0° to +160°	0% to 90% (Non-condensing)	90 days
-40 to +71	0% to 90%	15,200m	-40 to +71	0% to 90%	90 days

DG-03224

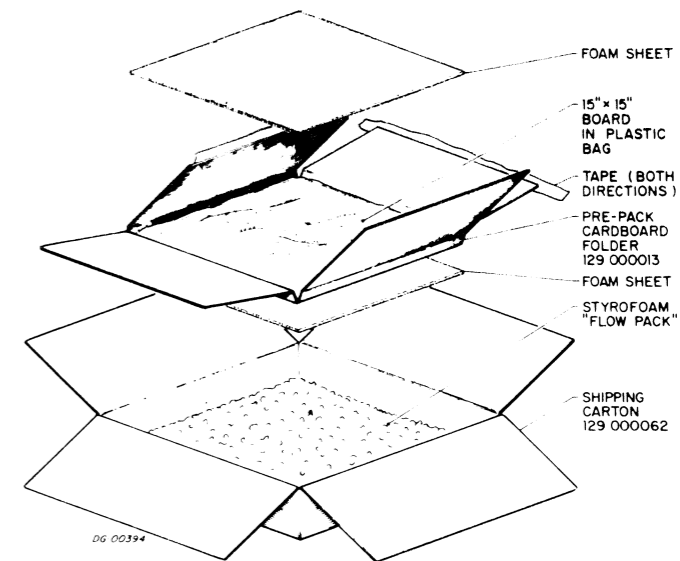
THE ADAPTER PACKING KIT



SHIPPING AND PACKAGE DATA					
Outside Dimensions			Weight (Gross)	Volume	Density
Length	Width	Depth			
in	in	in	lbs	cu ft	lbs/cu ft
cm	cm	cm	kg	cu m	kg/cu m
30	124.3	1.9	62	7.6	8.2
	76.2	61.7	28.1	2.1	133.8
		45.7			
SHIPPING SPECIFICATIONS			STORAGE SPECIFICATIONS		
Temperature Range	Relative Humidity	Maximum Altitude	Temperature Range	Relative Humidity	Maximum Period
0° to +160°	0% to 90% (Non-condensing)	50,000 ft.	0° to +160°	0% to 90% (Non-condensing)	90 days
-40 to +71	0% to 90%	15,200m	-40 to +71	0% to 90%	90 days

DG-03224

THE CONTROLLER PACKING KIT

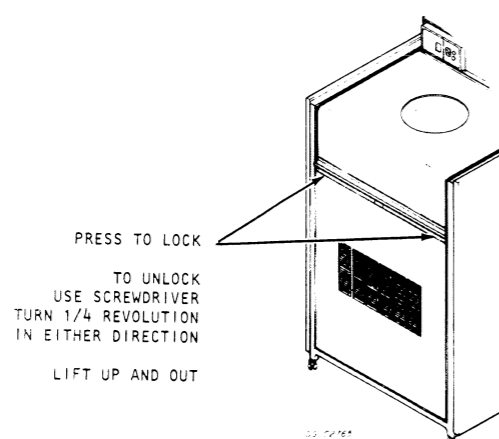
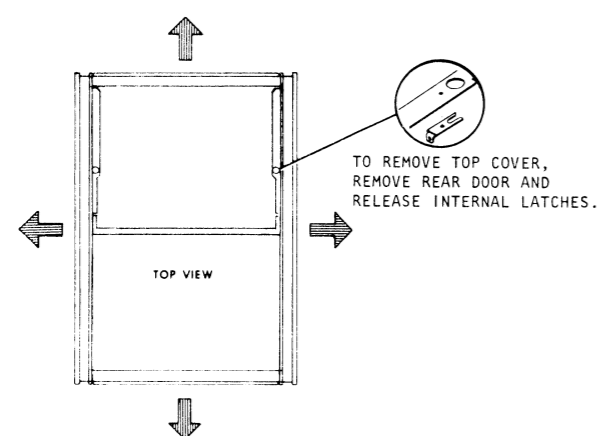


SHIPPING AND PACKAGE DATA					
Outside Dimensions			Weight (Gross)	Volume	Density
Length	Width	Depth			
in	in	in	lbs	cu ft	lbs/cu ft
cm	cm	cm	kg	cu m	kg/cu m
18	18	4	8	.75	10.7
	45	10	3.6	.02	180
SHIPPING SPECIFICATIONS			STORAGE SPECIFICATIONS		
Temperature Range	Relative Humidity	Maximum Altitude	Temperature Range	Relative Humidity	Maximum Period
0° to +160°	0% to 90% (Non-condensing)	50,000 ft.	0° to +160°	0% to 90% (Non-condensing)	90 days
-40 to +71	0% to 90%	15,200m	-40 to +71	0% to 90%	90 days

DG-03224

PHYSICAL ACCESS

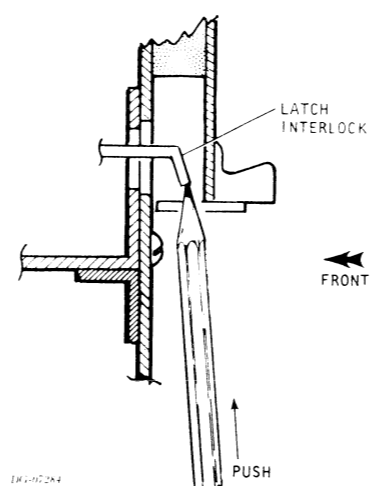
REMOVING COVERS



CONNECT 5 GROUND STRAPS WHEN INSTALLING COVERS

DOOR LOCK ASSEMBLY OVERRIDE

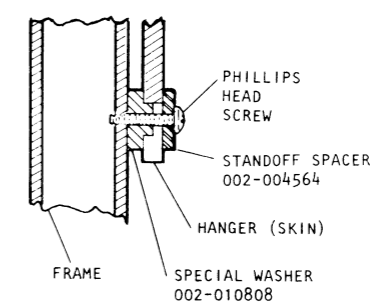
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IN THE EVENT OF POWER FAILURE AND/OR DRIVE OFF AND ACCESS MUST BE GAINED TO THE DISC PACK OR SHROUD, THE FOLLOWING PROCEDURE CAN BE USED:

- STEP 1. REMOVE FRONT DOOR.
- STEP 2. USING A PEN OR PENCIL, PUSH (PIVOT) THE LATCH INTERLOCK OUT-OF-ENGAGEMENT WITH THE BRACKET DETENT.
- STEP 3. WHILE LATCH INTERLOCK IS PIVOTED, LIFT COVER OPEN BY DOOR LATCH.

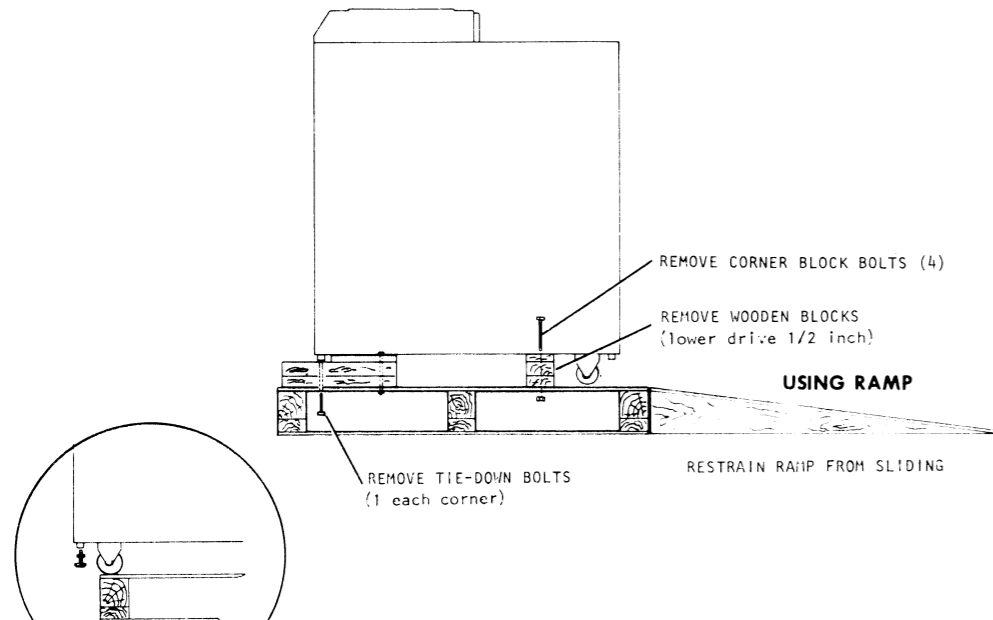
REMOVING SKINS



IN OPERATION, TIGHTENING THE SCREW SQUEEZES THE HANGER BETWEEN STANDOFF SPACER 002-4564 AND SPECIAL WASHER 002-10808 LOCKING SKIN IN PLACE. TO REMOVE SKIN, LOOSEN SCREW.

HANDLING PRECAUTIONS UNPACKING CONSIDERATIONS (Save Materials)

REMOVING DRIVE FROM PALLET

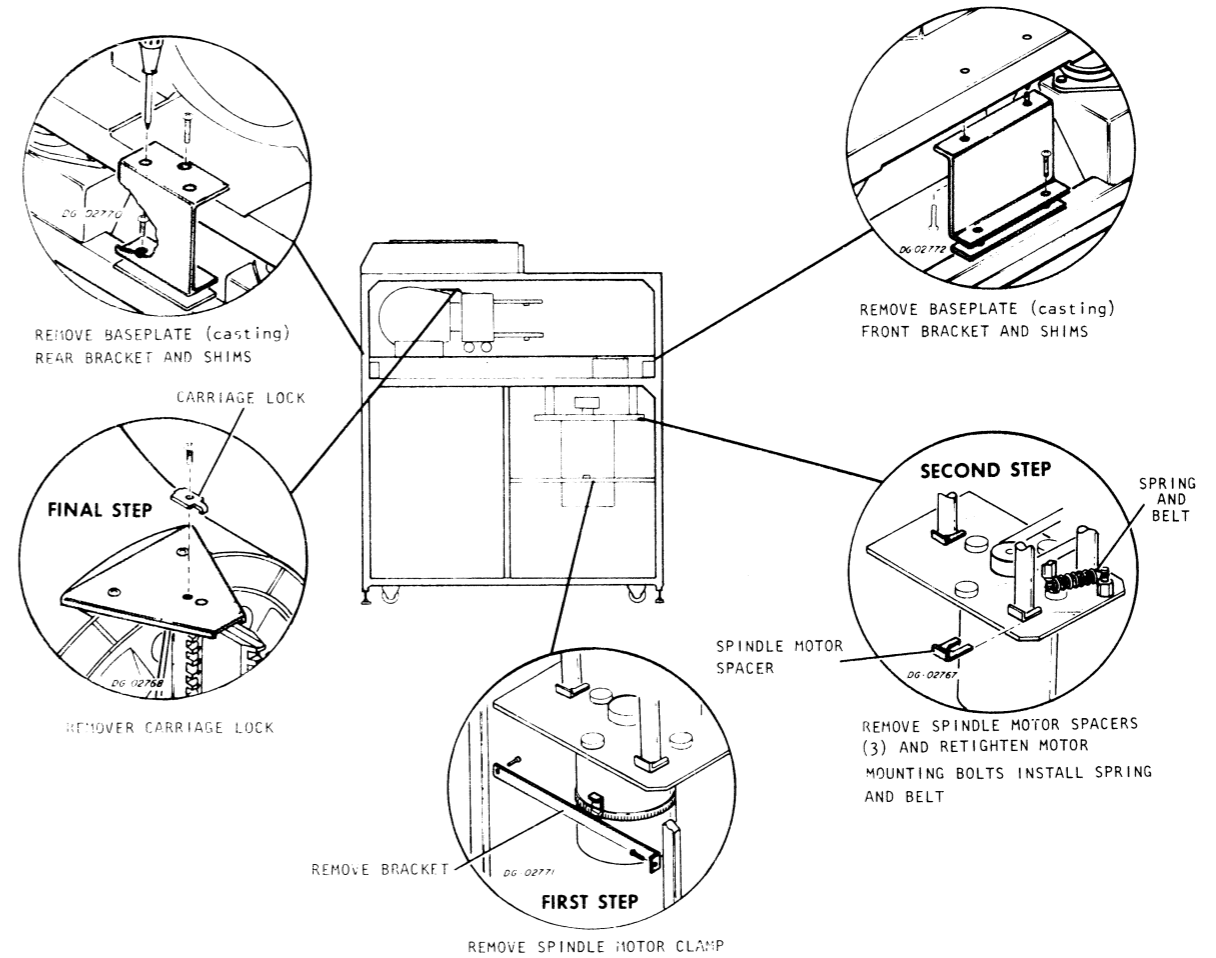


INSTALL LEVELLING LEGS

(MOVE DRIVE TO OVERHANG PALLET EDGE SCREW LEVELLING LEGS AS FAR IN AS THEY WILL GO TO AVOID BENDING THEM GOING ON AND OFF RAMP)

NOTE: THE READ/WRITE HEADS ARE CAREFULLY ALIGNED AT THE FACTORY, AND THE EQUIPMENT IS PACKED IN PROTECTIVE CONTAINERS TO PREVENT DAMAGE DURING SHIPMENT. HOWEVER, ROUGH HANDLING MAY MOVE THE HEADS, SO THAT RE-ALIGNMENT ON-SITE MAY BE REQUIRED. IF THE HEADS DO REQUIRE ALIGNMENT, REFER TO THE PROCEDURE INCLUDED IN THE DOCUMENTATION SUPPLIED WITH THE EQUIPMENT.

MOVE DRIVE CAREFULLY AFTER REMOVING CARRIAGE LOCK TO AVOID HEAD DAMAGE

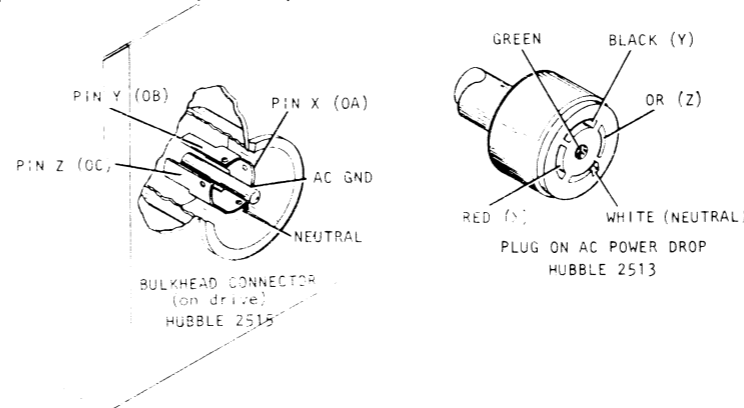
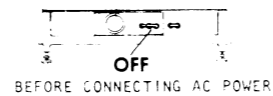


AC POWER WIRING (208/120 30 Y, 60Hz)

CAUTION

CHECK SPINDLE DRIVE ROTATION DURING BRIEF FIRST POWER UP. SPINDLE MUST TURN CCW (VIEWED FROM ABOVE DRIVE). SPINDLE DRIVE BELT MAY SLIDE OFF ITS PULLEY IF MOTOR ROTATES IN REVERSE DIRECTION.

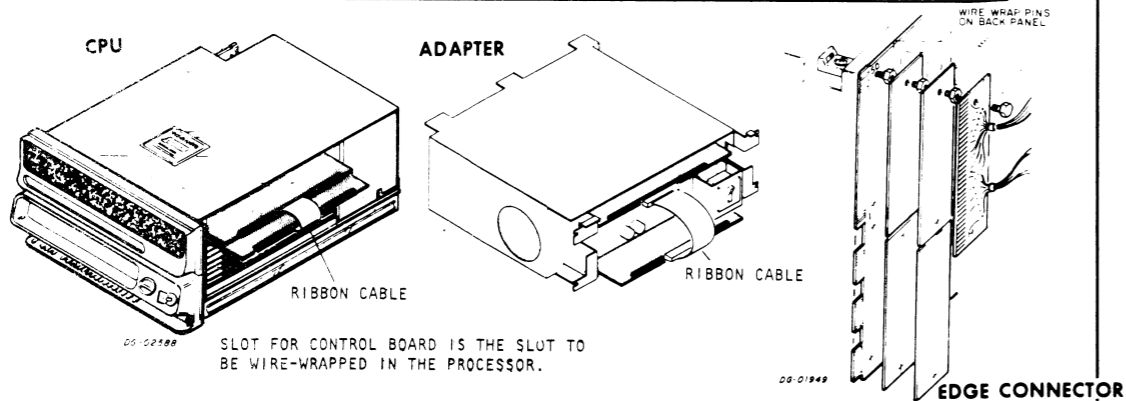
IN MULTIDRIVE SYSTEMS, ROTATE PHASES IN AC DROPS TO EQUALIZE PHASE-TO-PHASE LOADS.



INTERNAL CABLING

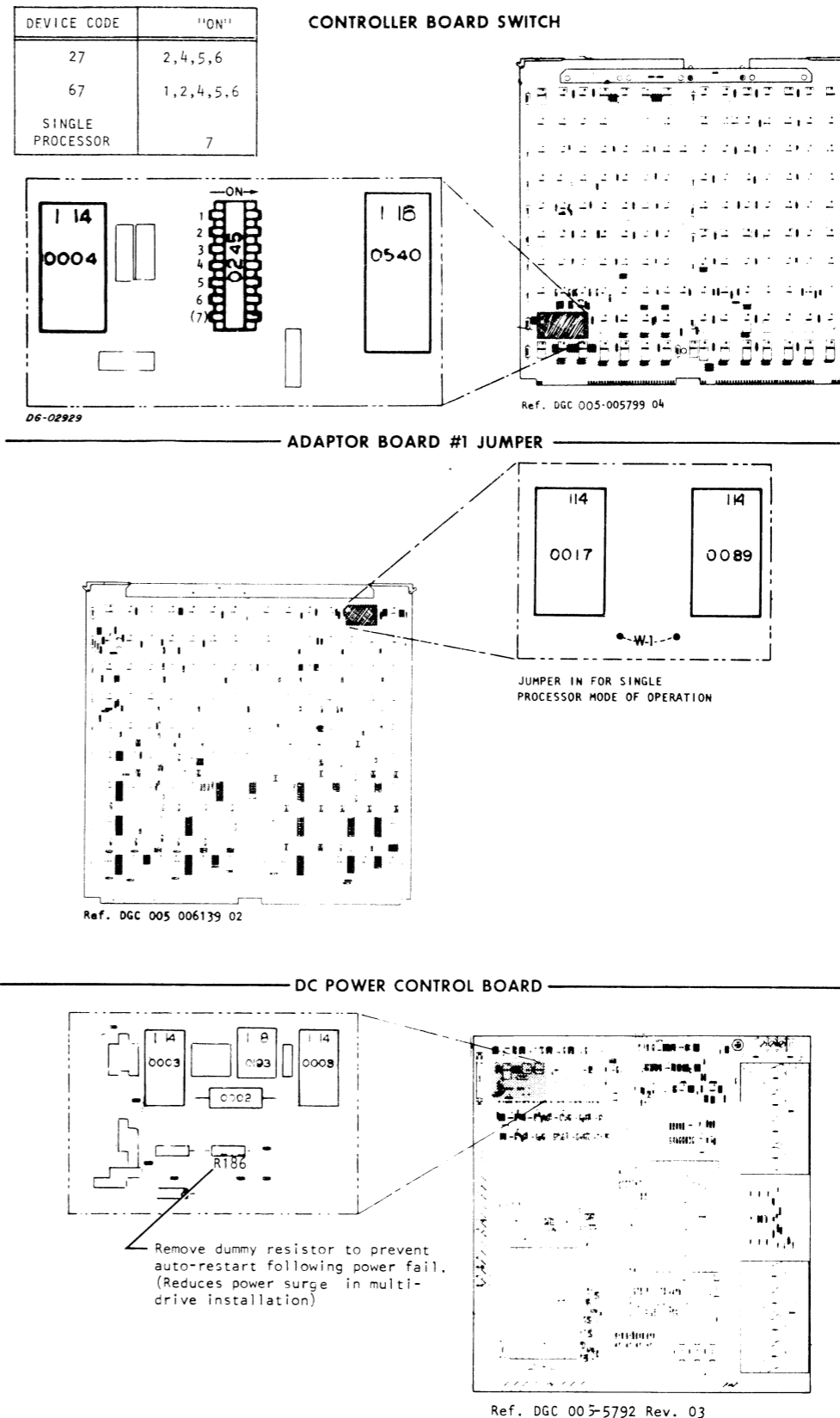
INTERNAL CABLE WIRE LIST				
SIGNAL NAME	Back Panel Pin Number	Paddle Connector Pin Number	Socket Connector Pin Number <small>"See note 1"</small>	Compliant Cpu "D" Type Int. Cbl.
BUSY 0	B27	36	45	36
BUSY 1	B31	37	44	37
BUSY 2	B34	38	15	38
BUSY 3	B36	39	32	39
TRESS'D	B13	31	41	31
RESERVED	B15	32	38	32
COM STROBE	A91	3	16	3
ADAPT RESET	A87	26	47	26
PEO/RES	A89	27	18	27
COM CH BUSY	B11	30	21	30
COMD 2	A76	6	12	6
COMD 1	A77	5	11	5
COMD 0	A78	4	30	4
D 1	A85	24	46	24
D 0	A86	23	40	23
CYL1	A75	7	6	7
CYL2	A73	8	4	8
CYL4	A71	9	2	11
CYL8	A63	13	27	13
CYL16	A61	14	13	14
CYL32	A59	15	14	15
CYL64	A57	16	5	16
CYL128	A47	17	26	28
CYL256	A49	18	33	18
CYL512	A79	19	31	19
READY 0	A81	20	37	20
READY 1	A84	21	17	21
READY 2	A83	22	39	22
READY 3	B25	35	20	47
HHS 0	B69	49	3	29
BUS 1	B40	41	19	41
BUS 2	B48	42	35	25
BUS 3	B49	43	36	43
BUS 4	B51	44	44	44
BUS 5	B53	46	22	46
BUS 6	B54	47	29	47
BUS 7	B67	48	28	48
A RD/WR BYTE	B19	33	42	33
ADAPT PARITY	B38	40	34	40
RD/WR START	B23	34	43	12
NOVA 3 Series Computers		005-1802		
NOVA 2, ECLIPSE Series Computers		005-1802		
NOVA 820, 1210 and 1220 Computers		005-901		
NOVA 840, 1200 and 800 Jumbo Computers		005-386		
NOVA 800, 830 and 1200 Computers		005-386		
NOVA, SUPERNOVA Computers		005-386		
COMPLIANT CPU		005-018382		

NOTE 1
WARNING- NOVA 800/830/840/1200's EQUIPPED WITH "D" STYLE CONNECTORS ARE NOT COMPATIBLE WITH LATE STYLE MOLDED "D" EXTERNAL CABLES.



DGC/DISK STORAGE SUBSYSTEM, SERIES 6060, 6061

TAILORING

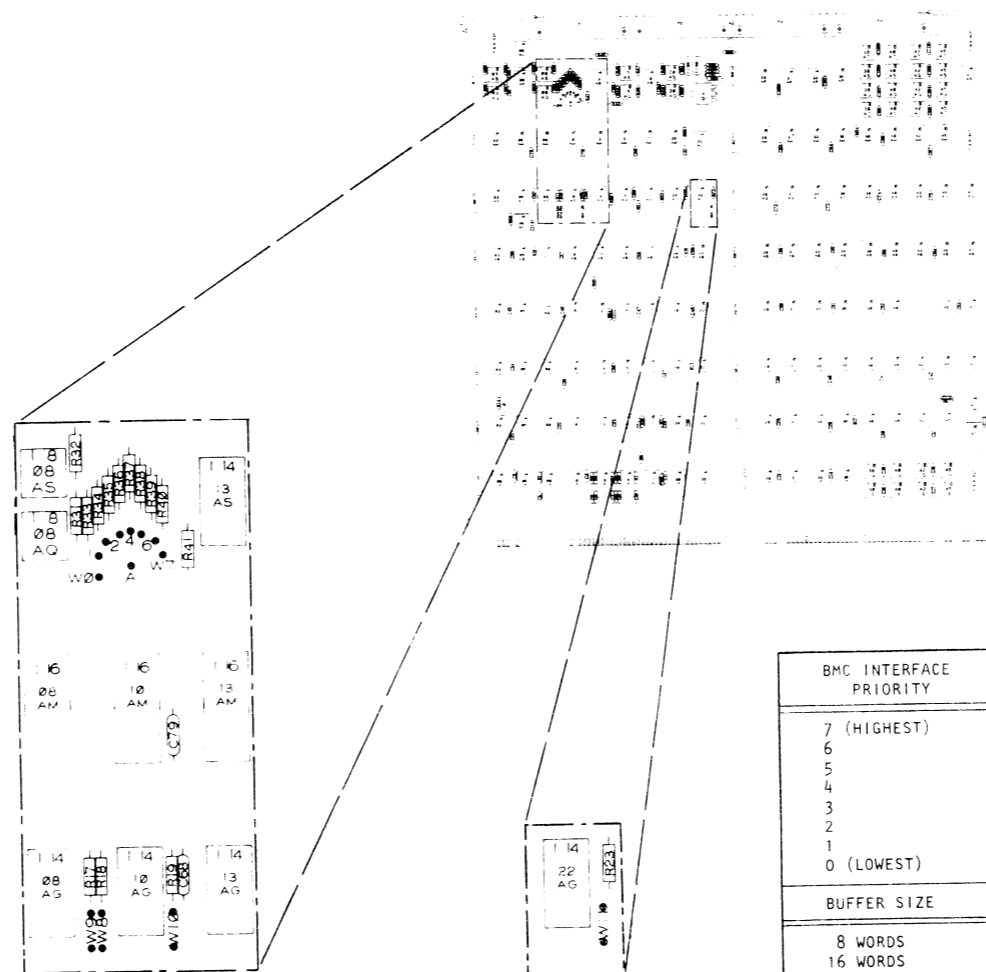


TAILORING (CONT)

JUMPERING

BURST MULTIPLEXOR INTERFACE

Ref. DGC 005-008502-00

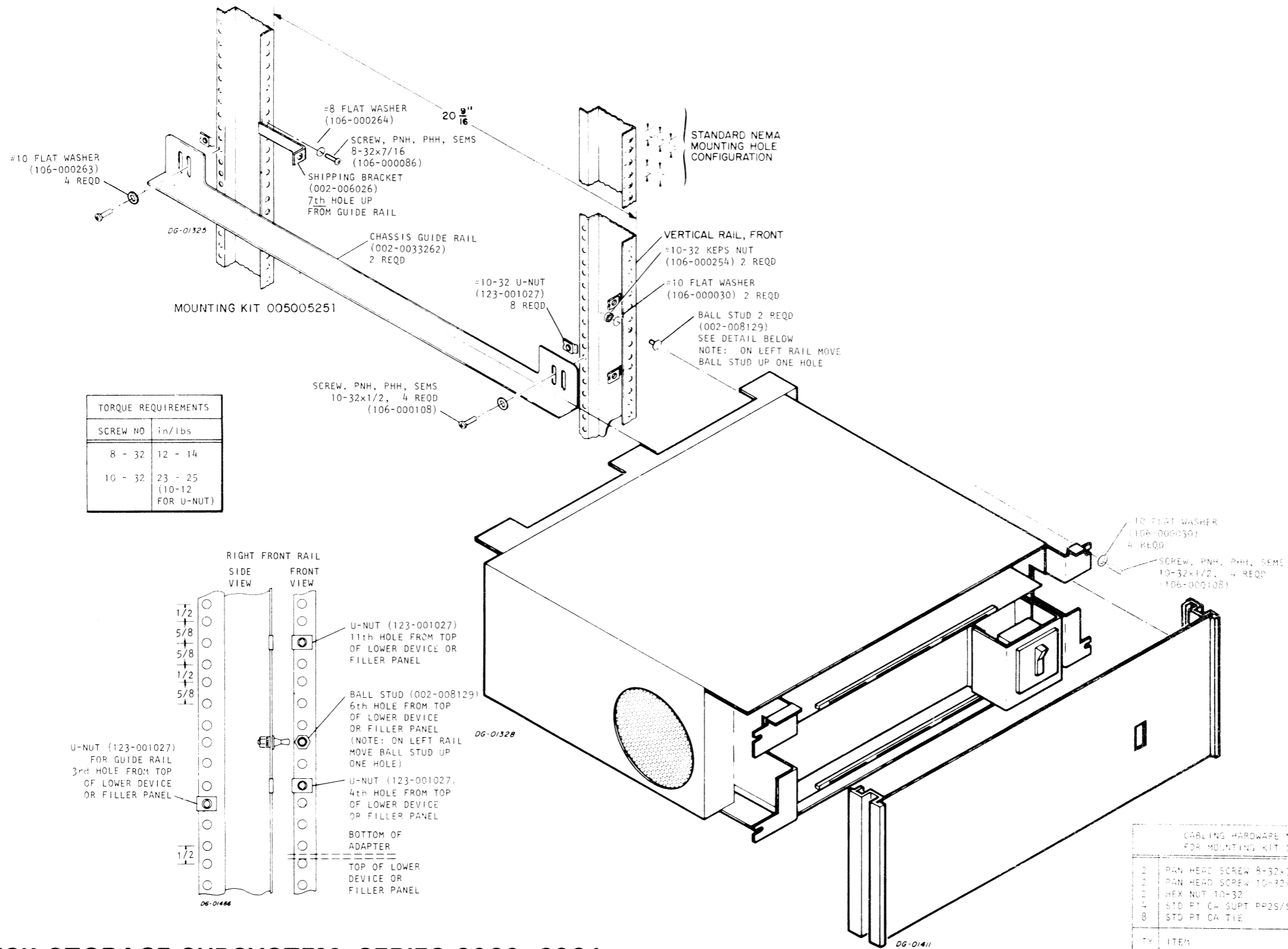


BMC INTERFACE PRIORITY	INSTALL JUMPERS
7 (HIGHEST)	W7, W8, W9, W10
6	W6, W8, W9
5	W5, W8, W10
4	W4, W8
3	W3, W9, W10
2	W2, W9
1	W1, W10
0 (LOWEST)	W0
BUFFER SIZE	JUMPERS
8 WORDS	W11 OUT
16 WORDS	W11 IN

LATENCY: 8 WORD BUFFER, 20 μsec
 16 WORD BUFFER, 40 μsec

CABINET-MOUNTING

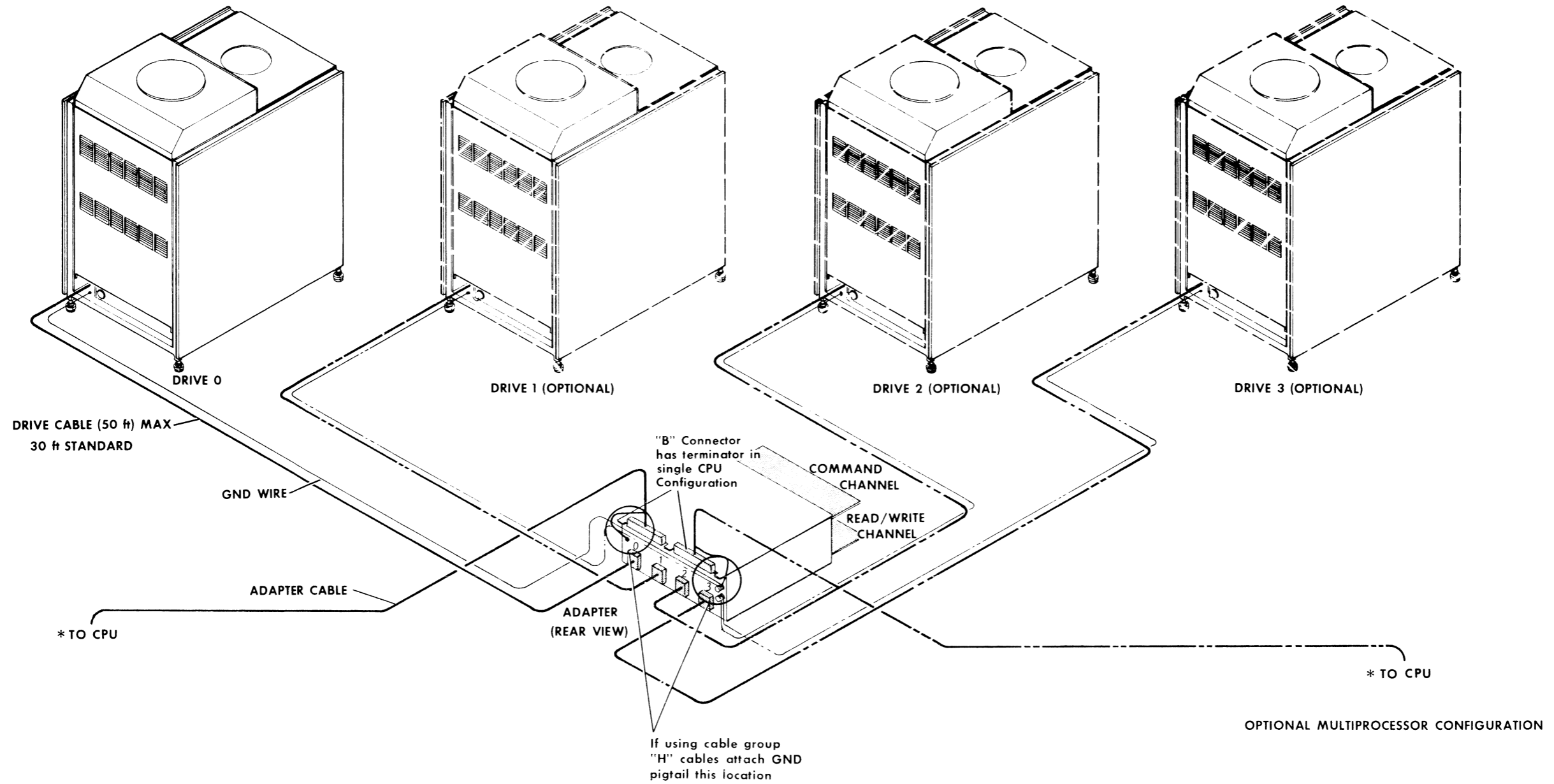
MOUNTING IN THE ECLIPSE-LINE CABINET



CABLING HARDWARE NOT SHOWN FOR MOUNTING KIT 005-005251

QTY	ITEM	PART NO
2	PAN HEAD SCREW 8-32x7/16	106-000086
2	PAN HEAD SCREW 10-32x1/2	106-000108
2	HEX NUT 10-32	106-000254
4	STD PT C- SUPT PR2S/S10-X	123-000053
8	STD PT CA TIE	123-000070

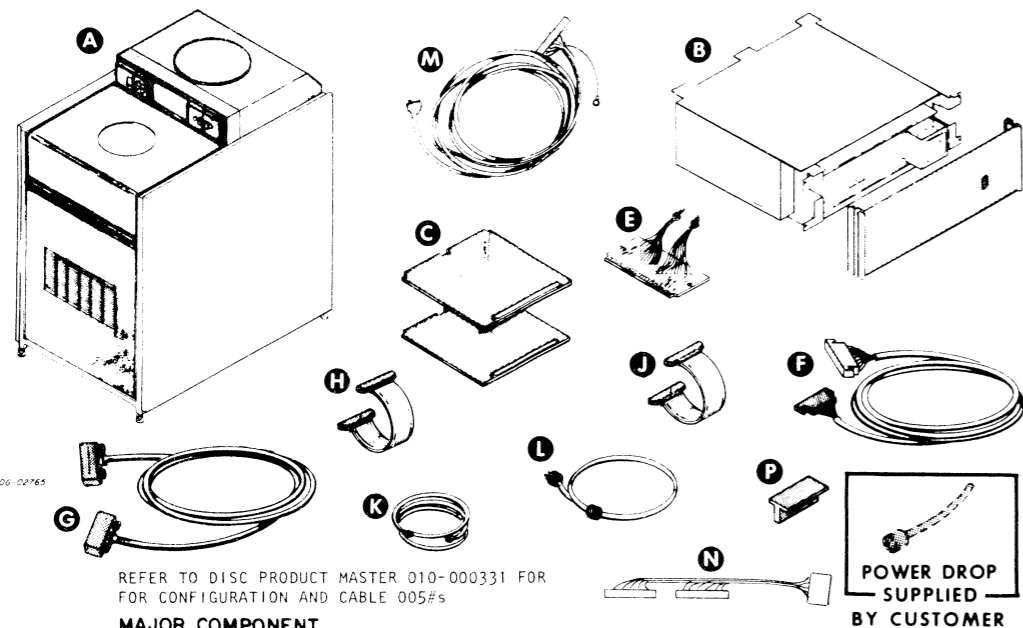
EXTERNAL CABLING



DG-02926

* Refer to disc product master 010-0331 for configuration and cable 005#s

SUBSYSTEM COMPONENT BREAKDOWN



REFER TO DISC PRODUCT MASTER 010-000331 FOR CONFIGURATION AND CABLE 005#s

MAJOR COMPONENT

Item	Component	Mounting Location	Notes
A	50 M-BYTE DRIVE UNIT	FREE STANDING	SEE CABLE LENGTH RESTRICTIONS
B	ADAPTER	EQUIPMENT CABINET COMPUTER CHASSIS (1-SLOT)	SEE CABLE LENGTH RESTRICTIONS
C	CONTROLLER	COMPUTER CHASSIS (1-SLOT)	
D	DATA CHANNEL OR BURST MUX INTERFACE CONTROLLER	COMPUTER CHASSIS (1-SLOT)	DIRECTLY BELOW CONTROLLER

CABLE

Item	Cable	Connecting	Max Allowed Lg ft	Notes
E	INTERFACE CA (ADAPTER)	B/P CTRLR SLOT and DEVICE CA CONNECTOR	15	
F	DEVICE CA (ADAPTER)	DEVICE CA CONNECTOR and ADAPTER	4.7	1 PER SUBSYSTEM
G	DEVICE CA (DRIVE)	ADAPTER and DRIVE UNIT	15.3	1 PER DRIVE UNIT
H	CONTROLLER RIBBON CA	CONTROLLER and DATA CHAN OR BURST MUX		BTW RIBBON CONN HANDLE END OF BDS
J	ADAPTER RIBBON CA	ADAPTER BD #1 and ADAPTER BD #2		BTW RIBBON CONN HANDLE END OF BDS
K	GROUND BRAID	ADAPTER CHASSIS and DRIVE CHASSIS	50	1 PER DRIVE UNIT
L	EXTERNAL POWER	DRIVE CHASSIS and WALL RECEPTACLE	10	1 PER DRIVE UNIT
M	DEVICE CABLE (ADAPTER)	COMPLIANT CPU and ADAPTER	15	1 PER SUBSYSTEM
N	COMPLIANT CPU INT CABLE	B/P CONTROLLER AND DEVICE CA SLOT and CONNECTOR	N/A	N/A

TERMINATOR

Item	Terminator	Location	Notes
P	SIGNAL BUS TERMINATOR	"B" CONNECTOR, ADAPTER	NOT NEEDED IN DUAL CPU SYSTEM

SPECIFICATIONS OF THE CHASSIS-MOUNTED COMPONENTS

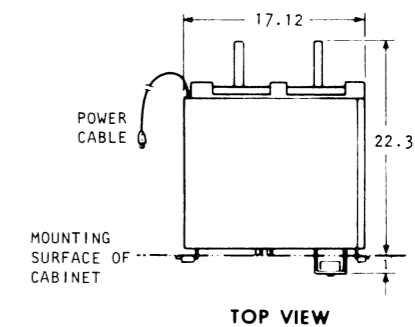
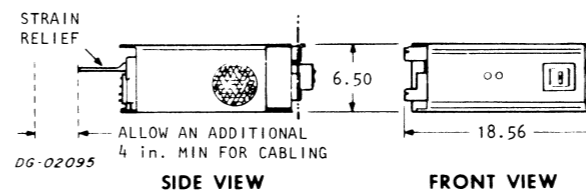
Item	Component	Chassis	Slots Required	Max Allowable Data Channel Latency (µ sec)	Max Allowable Programmed I/O Latency *	Controller's +5 Volt Current Draw (Amps)
C	CTRLR	COMPUTER	1	N/A	N/A	3.9
D	DATA CHAN INT BURST MULTIPLEXOR	COMPUTER	1*	19.8	N/A	3.6
		COMPUTER	1	N/A	N/A	5.0

SPECIFICATIONS OF CABINET-MOUNTED COMPONENTS

Item	Component	Number in Sub-system	Maximum Operating Temperature				Primary Power					Cabinet Height Required			Weight lbs	Power Dissipation (Max Watts)	Preferred Location or Remarks	Operating Humidity (Relative)	
			Component °F	Media °F	Component °C	Media °C	Volts	HZ	Phase	Cord	Amps	Area	in	cm				min	max
B	ADAPTER	1	100	37	100	50	1φ	3	1.8	4	7	17.8	30	13.6	180		20	80	
		1	100	37	120	60	1φ	3	1.5	4	7	17.8	30	13.6	180		20	80	
		1	100	37	220	50	1φ	3	.80	4	7	17.8	30	13.6	180		20	80	
		1	100	37	240	50	1φ	3	.75	4	7	17.8	30	13.6	180		20	80	

DELTA TEMP. RISE 45°F/HR MAX FOR ADAPTER.

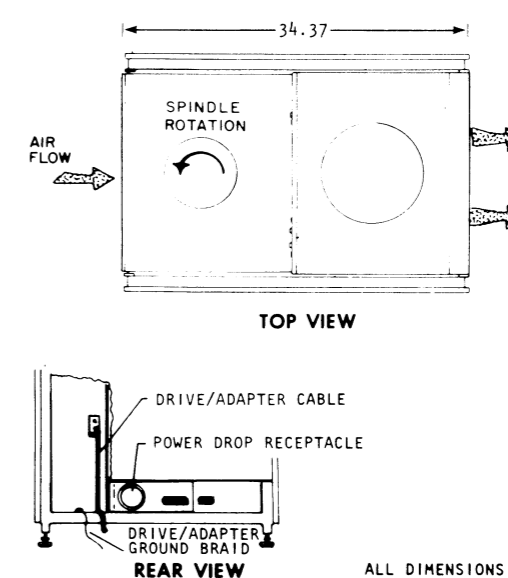
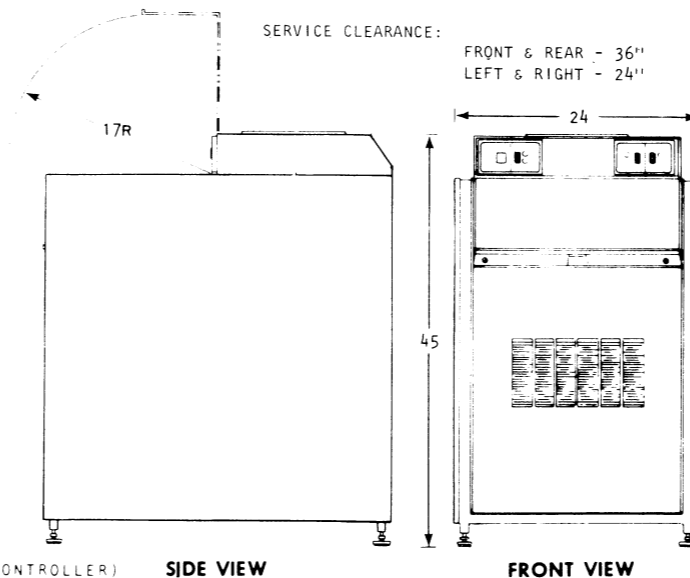
Voltage	Power Cable Length		Power Cable Plug	Mating Receptacle on Power Drop	Mating Receptacle in Wall
	ft	m			
100V, 50Hz	5	1.52	5-15P	5-15R	5-15R
120V, 60Hz	5	1.52	5-15P	5-15R	5-15R
220V, 50Hz	5	1.52	6-15P	6-15R	6-15R
240V, 50Hz	5	1.52	6-15P	6-15R	6-15R



SPECIFICATIONS OF THE FREE-STANDING COMPONENTS

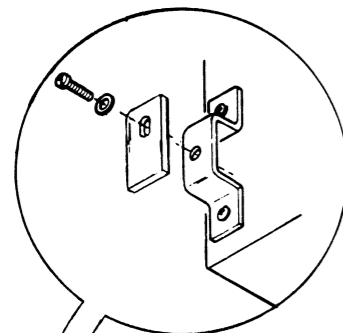
Item	Component	Number in Sub-system	Weight		Operating Humidity (Relative)	Maximum Operating Temperature ①				Power Dissipation (Watts) ②	BTUs/hr (3.41 x Watts)	Primary Power ③					Power Cable Length ft	Power Cable Connector	Power Drop Mating Power Receptacle *	Wall Mating Power Receptacle
			lbs	kg		min	max	Component °F	Media °F			Component °C	Media °C	Volts	HZ	Phase				
A	DRIVE UNIT	1-4	450	205	20	80	90	32	120	48	1600	5400	100	50	1φ	3	15A MAX	2315	2313	
			450	205	20	80	90	32	120	48	1600	5400	120	60	1φ	3	14A MAX	2315	2313	
			450	205	20	80	90	32	120	48	1600	5400	220	50	1φ	3	7.5A MAX	2625	2623	
			450	205	20	80	90	32	120	48	1600	5400	240	50	1φ	3	7A MAX	2625	2623	

- ① THE DRIVE UNIT AND MEDIA MUST BE AT THE SAME TEMPERATURE FOR PROPER OPERATION, MIN. 1 HR. DELTA TEMP RISE 15°F/HR MAX FOR DRIVE UNIT. * SUPPLIED BY CUSTOMER
- ② BASED ON AVERAGE CURRENT OF 13 AMPS, 120V, 60HZ.
- ③ CURRENT GIVEN IS FOR DRIVE UNIT WHEN ACCESSING. MAX SURGE CURRENT ON START-UP IS 35 AMPS FOR 15 SECONDS.



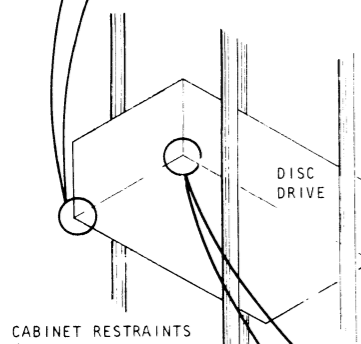
SHIPPING

FOR PACKING PROCEDURE,
SEE 010-000263



MOUNTING SHIPPING BRACKET TO DISC DRIVE

REAR LEFT-HAND VIEW



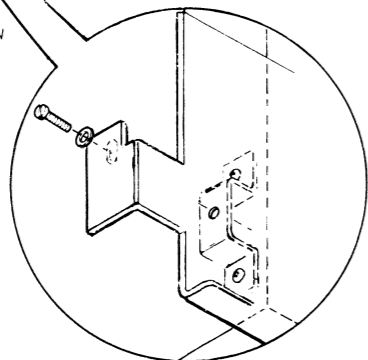
CABINET RESTRAINTS
(MUST BE USED WHEN
DRIVE IS SHIPPED
IN CABINET)

REAR RIGHT-HAND VIEW

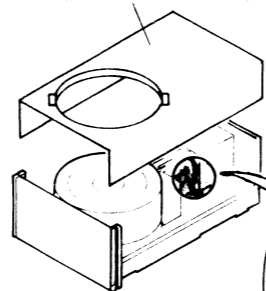
REAR BOTTOM VIEW

SECURING SHIPPING BRACKET TO UNIT

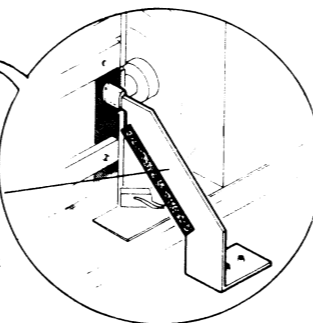
DG-03073



TOP COVER
(REMOVE FOR ACCESS)



HEAD RESTRAINT
(REMOVE, REVERSE,
AND REINSTALL FOR
SAFEKEEPING)



DG-02567

Shipping Specifications		
Temperature Range	Relative Humidity	Maximum Altitude
°F	(Non-condensing)	(Non-Pressurized)
°C		
-40 - 150	0%/80%	40,000ft 12,160m
-40 - 65.6		

DG-02063

Storage Specifications		
Temperature Range	Relative Humidity	Maximum Period
°F	(Non-condensing)	
°C		
-40 - 150	0%/80%	90 days
-40 - 65.6		

DG-00062

INTERNAL CABLING

Signal Names	Paddleboard Edge Connector Pin Numbers	Compliant CPU "D" Type Internal CBL	Destination Pins On Computer Back Panel				
			NOVA 2	NOVA 820, 1210 & 1220	NOVA 800 & 1200	NOVA & SUPERNOVA Computers	Compliant CPU
GND	A-AF					A99	
GND	1					A100	
TAB1	3	3				A91	
TAB2	4	4				A78	
TAB4	5	5				A77	
TAB8	6	6				A76	
TAB16	7	7				A75	
TAS1	8	8				A73	
TAS2	9	11				A71	
HAT	13	13				A63	
HA2	14	14				A61	
HA4	15	15				A59	
Spare	16	16				A57	
Write Data +	17	28				A47	
Write Data -	18	18				A49	
Write Gate	19	19				A79	
Read Gate	20	20				A81	
R/W Diskette	21	21				A84	
CPU Request	22	22				A83	
Finished	23	23				A86	
D2 DSR	24	24				A85	
D1 DSR	26	26				A87	
+5	27	27				A89	
Atten0	30	30				B11	
Atten1	31	31				B13	
Atten2	32	32				B15	
Atten3	33	33				B19	
SAT	34	12				B23	
SA2	35	35				B25	
SA4	36	36				B27	
SA8	37	37				B31	
Sector Pulse	38	38				B34	
SAT6	39	39				B36	
(Not used in CPU) Left Select	40	40				B38	
NRZ Read Data	41	41				B40	
DUR	42	25				B48	
Write Error	43	43				B49	
Write Check	44	44				B51	
Write Error	46	46				B53	
Spare	47	47				B54	
NRZ Read CLR	48	48				B67	
CPU Select	49	29				B69	

Computer	Internal Cable Part Number
NOVA 2 Series, NOVA 3 Series ECLIPSE Line Computers	005-1802
NOVA 820, 1210 and 1220 Computers	005-901
NOVA 840, 1200 and 800 Jumbo Computers	005-469
NOVA 800 and 1200 Computers	005-469
NOVA, SUPERNOVA Computers	005-469
NOVA 830 Computer	005-469
Compliant CPU	005-018382

Warning: Nova 800/830/840/1200's equipped with "D" style connectors are not compatible with late style molded "D" external cables

NOTE:

ON THE FOLLOWING PROCESSORS, A DISC DRIVE CABLE EDGE CONNECTOR IS PART OF THE COMPUTER BACKPANEL, AND IS PERMANENTLY CONNECTED, VIA BACKPANEL ETCH, TO THE SLOT INDICATED IN THE TABLE. NO INTERNAL CABLE IS REQUIRED.

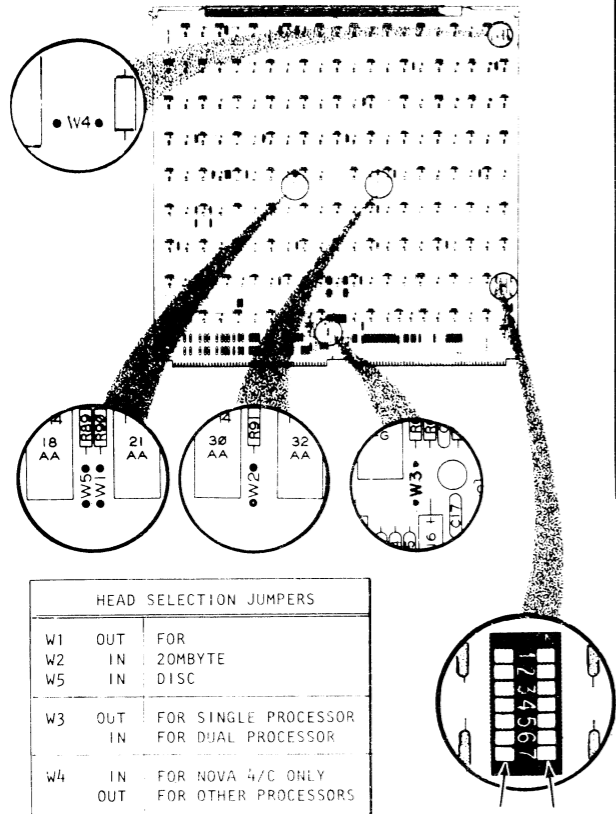
PROCESSOR	SLOT
NOVA 2/10, NOVA 820	9
NOVA 1220 COMPUTERS	
NOVA 3/12 COMPUTER	10

DG-03073

TAILORING

JUMPERS

REF: DGC 005-008928 PCB (CONTROLLER)

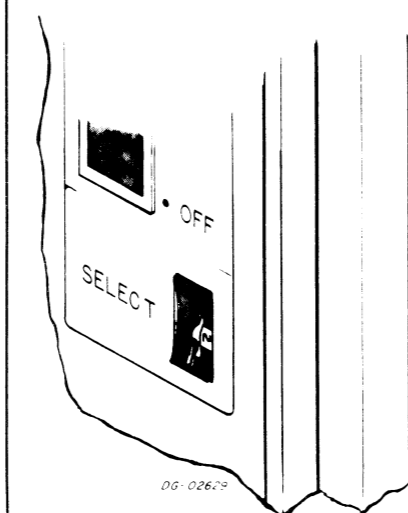


HEAD SELECTION JUMPERS		
W1	OUT	FOR
W2	IN	20MBYTE
W5	IN	DISC
W3	OUT	FOR SINGLE PROCESSOR
	IN	FOR DUAL PROCESSOR
W4	IN	FOR NOVA 4/C ONLY
	OUT	FOR OTHER PROCESSORS

PUSH SWITCH
BUTTON (OFF)
THIS SIDE

PUSH SWITCH
BUTTON (ON)
THIS SIDE

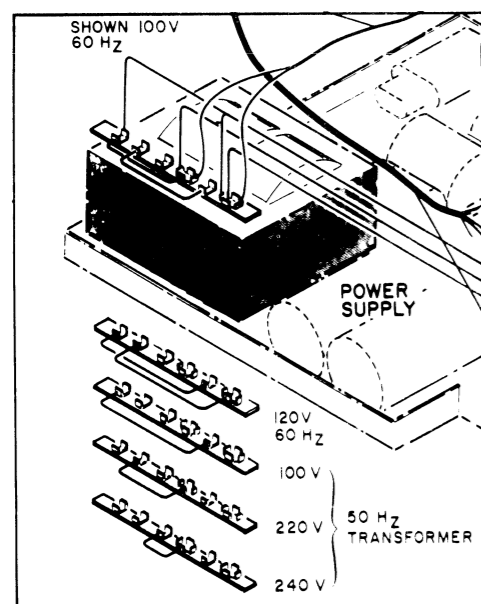
UNIT SELECT SWITCH



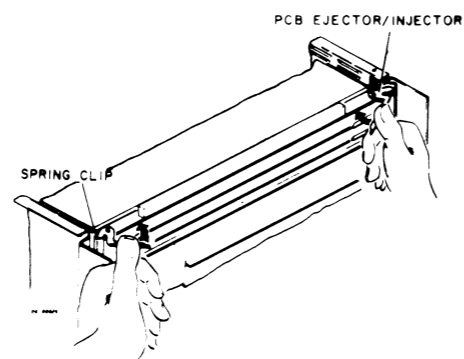
CONTROLLER DEVICE SELECT		
SWITCH NUMBER	DEVICE CODE	DEVICE CODE
	33 ₂	73 ₈
1	OFF	ON
2	ON	ON
3	ON	ON
4	OFF	OFF
5	ON	ON
6	ON	ON
7	OFF	OFF

DG-04549

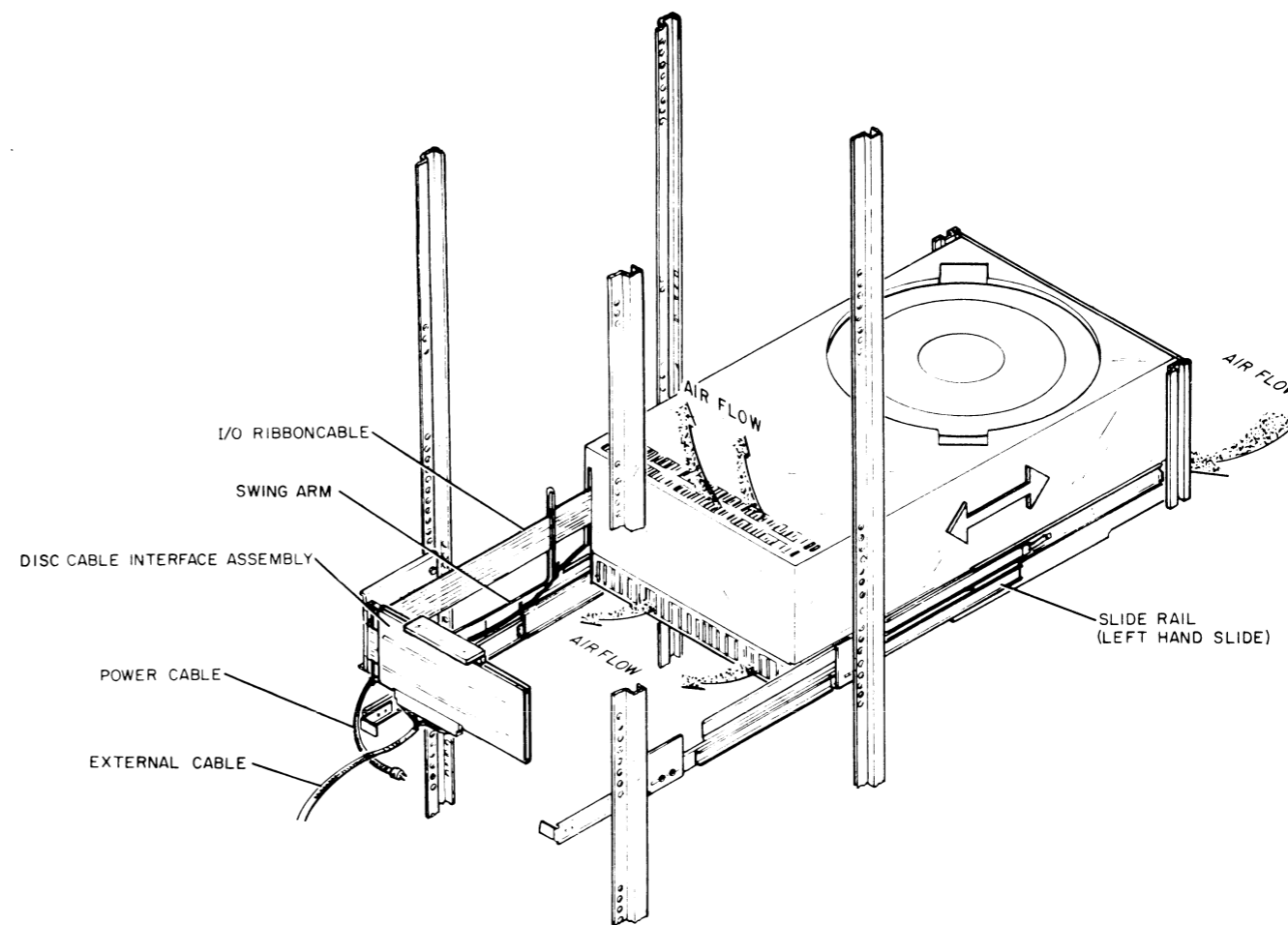
INPUT VOLTAGE SELECTION



INSTALLING PC BOARD



CABINET MOUNTED DISC DRIVE



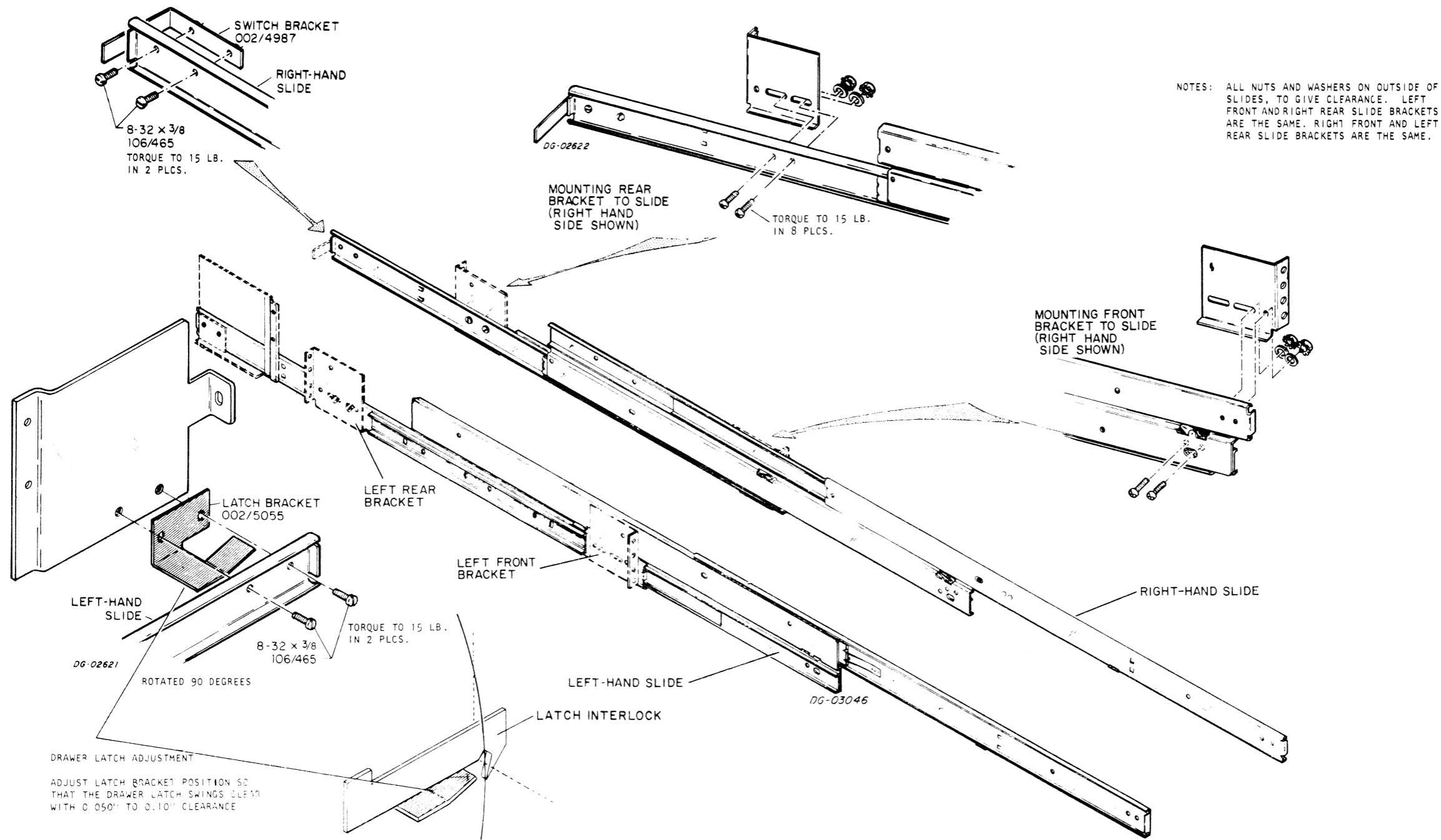
DG-02686

REAR VIEW OF A DISC DRIVE MOUNTED IN A STANDARD CABINET. DRIVE IS SHOWN PARTIALLY EXTENDED ON THE SLIDE RAILS. NOTE DISC CABLE INTERFACE ASSEMBLY FASTENED TO THE REAR CABINET RAIL; SLACK IN I/O AND POWER CABLES IS TAKEN UP BY A SPRING-LOADED SWING ARM.

INSTALLATION PROCEDURE

MOUNTING KIT 005 005927

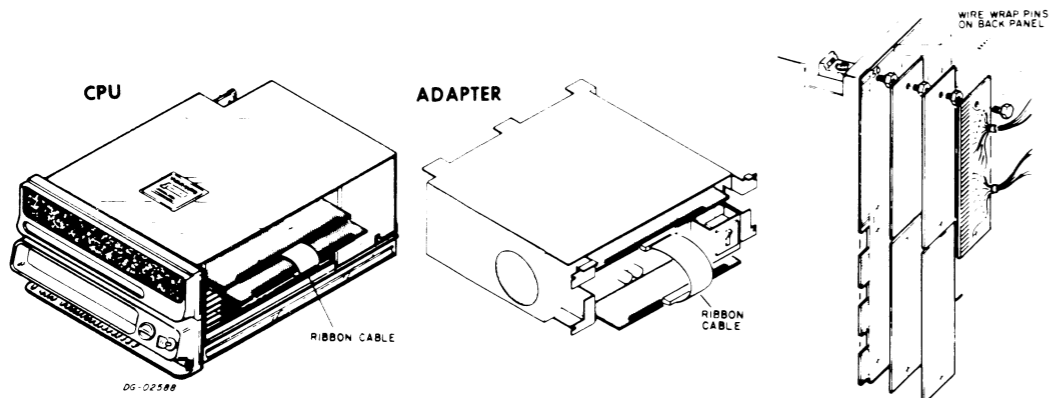
1. ASSEMBLE THE SLIDES. BE SURE TO IDENTIFY RIGHT AND LEFT SLIDES AND BRACKETS.



INTERNAL CABLING

INTERNAL CABLE WIRE LIST				
SIGNAL NAME	Back Panel Pin Number	Paddle Connector Pin Number	Socket Connector Pin Number	Compliant CPU "D" Type Int. Cables
BUSY 0	B27	36	45	36
BUSY 1	B31	37	44	37
BUSY 2	B34	38	15	38
BUSY 3	B36	39	32	39
TRESS'D	B13	31	41	31
RESERVED	B15	32	38	32
COM STROBE	A91	3	16	3
ADAPT RESET	A87	26	47	26
REQ/RES	A89	27	18	27
COM CH BUSY	B11	30	21	30
COMD 2	A76	6	12	6
COMD 1	A77	5	11	5
COMD 0	A78	4	30	4
D 1	A85	24	46	24
D 0	A86	23	40	23
CYL1	A75	7	6	7
CYL2	A73	8	4	8
CYL4	A71	9	2	11
CYL8	A63	13	27	13
CYL16	A61	14	13	14
CYL32	A59	15	14	15
CYL64	A57	16	5	16
CYL128	A47	17	26	28
CYL256	A49	18	33	18
CYL512	A79	19	31	19
READY 0	A81	20	37	20
READY 1	A84	21	17	21
READY 2	A83	22	39	22
READY 3	B25	25	20	47
BUS 0	B69	49	3	29
BUS 1	B40	41	19	41
BUS 2	B48	42	35	25
BUS 3	B49	43	36	43
BUS 4	B51	44	49	44
BUS 5	B53	46	22	46
BUS 6	B54	47	29	47
BUS 7	B67	48	28	48
A RD/WR BYTE	B19	33	42	33
ADAPT PARITY	B38	40	34	40
RD/WR START	B23	34	43	12
NOVA 3 Series Computers	005-1802			
NOVA 2, ECLIPSE Series Computers	005-1802			
NOVA 820, 1210 and 1220 Computers	005-901			
NOVA 840, 1200 and 800 Jumbo Computers	005-386			
NOVA 800, 830 and 1200 Computers	005-386			
NOVA. SUPERNOVA Computers	005-386			
COMPLIANT CPU	005-018322			

NOTE 1
WARNING- NOVA 800/830/840/1200's
EQUIPPED WITH "D" STYLE
CONNECTORS ARE NOT COMPATIBLE
WITH LATE STYLE MOLDED
"D" EXTERNAL CABLES.

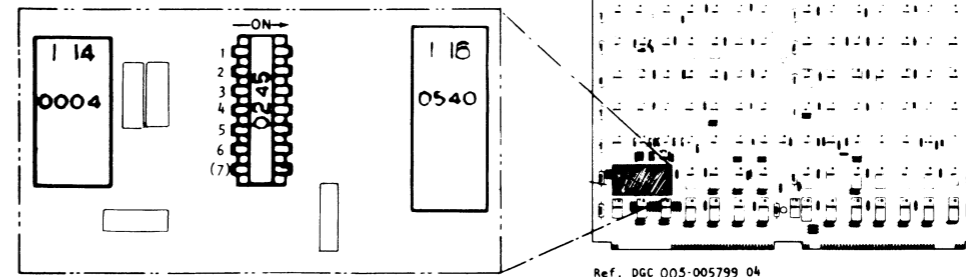


DG/DISK STORAGE SYSTEM, SERIES 6067 00 0199 EDGE CONNECTOR

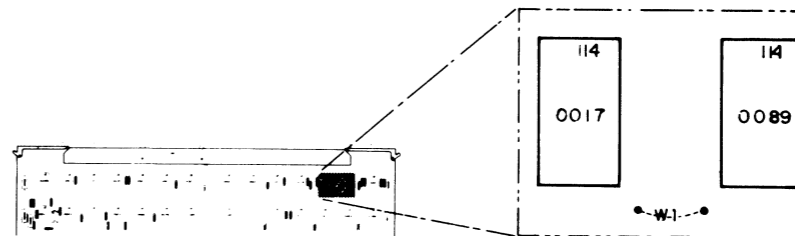
TAILORING

CONTROLLER BOARD SWITCH

DEVICE CODE	"ON"
27	2,4,5,6
67	1,2,4,5,6

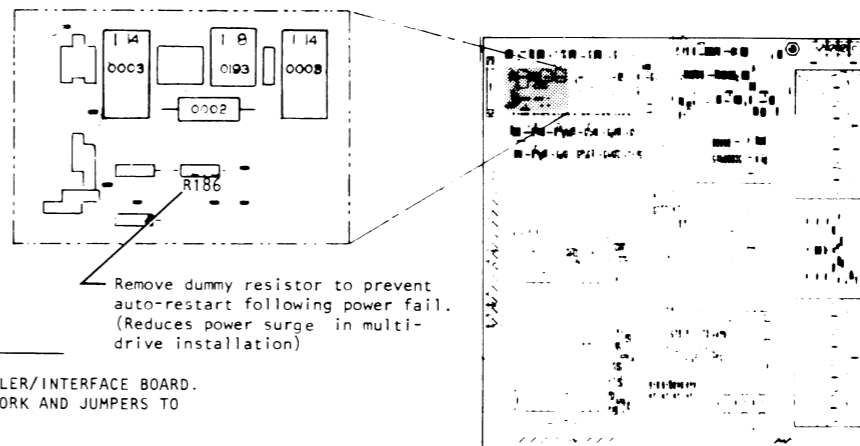


ADAPTOR BOARD #1 JUMPER



JUMPER IN FOR SINGLE
PROCESSOR MODE OF OPERATION

DC POWER CONTROL BOARD

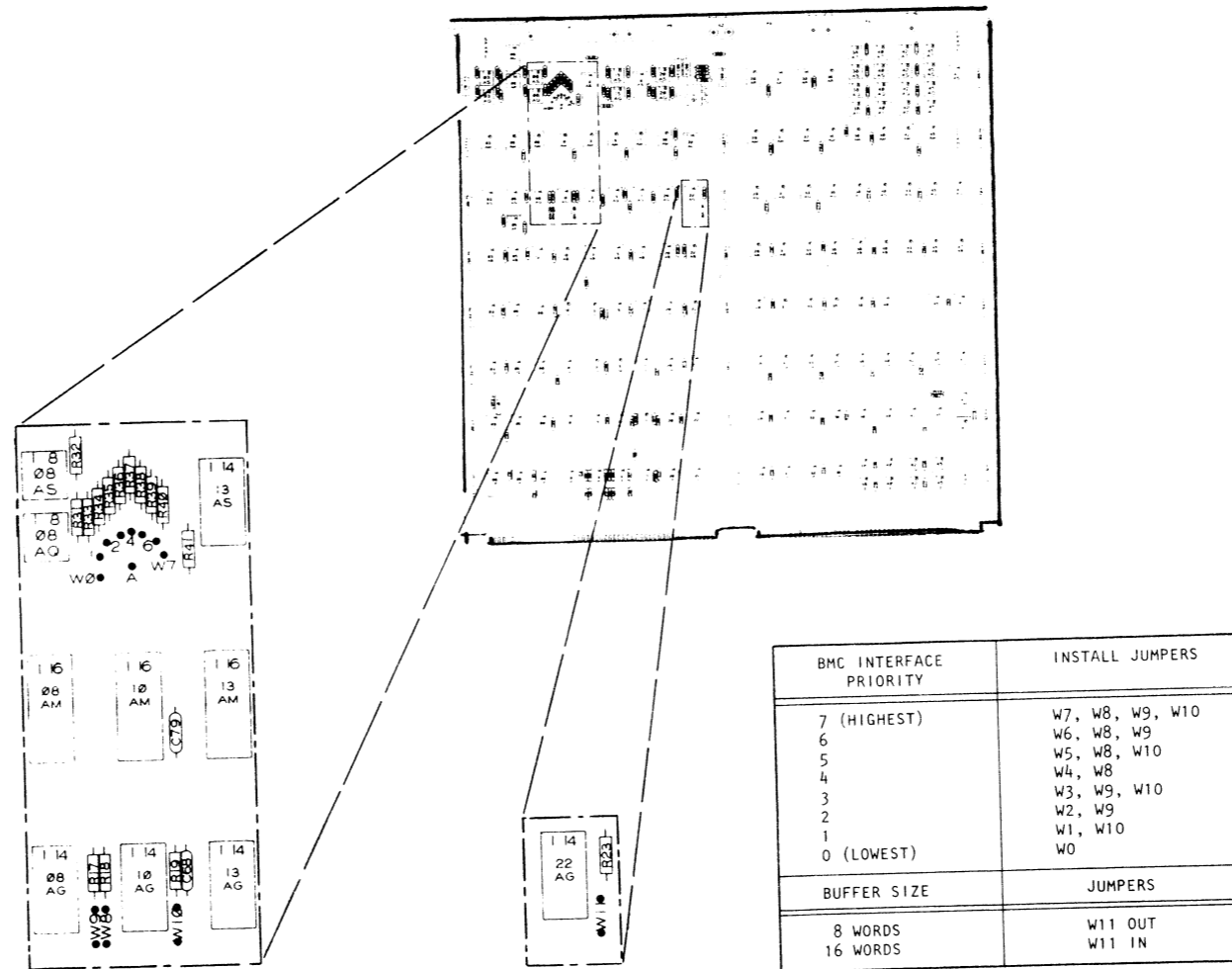


Remove dummy resistor to prevent
auto-restart following power fail.
(Reduces power surge in multi-
drive installation)

NOTE:
BURST MULTIPLEXOR CONTROLLER/INTERFACE BOARD.
REF. DGC 005 008502, ARTWORK AND JUMPERS TO
BE SUPPLIED ON NEXT REV.

TAILORING (CONT)
JUMPERING

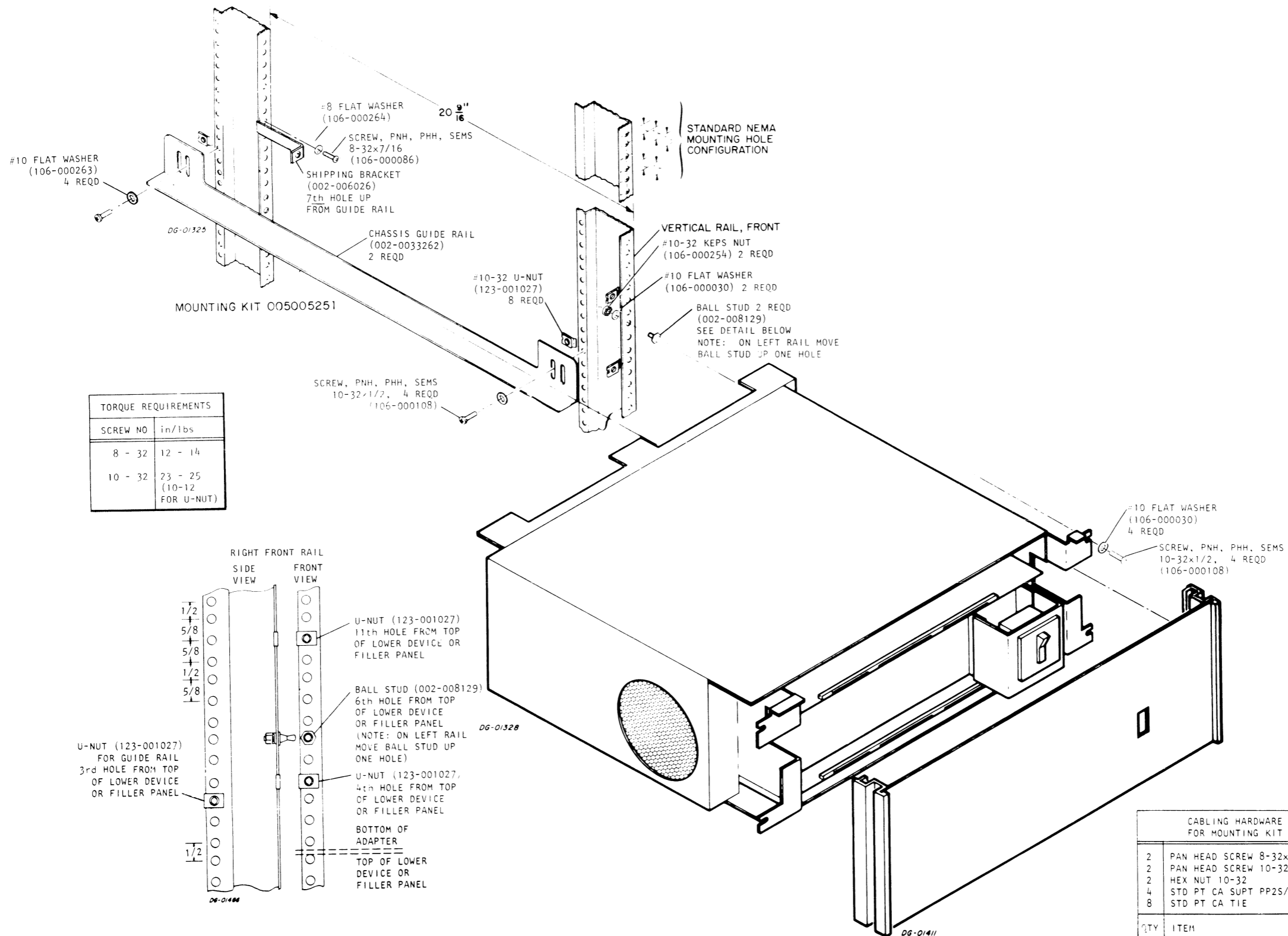
BURST MULTIPLEXOR INTERFACE
 Ref. DGC 005-008502-00



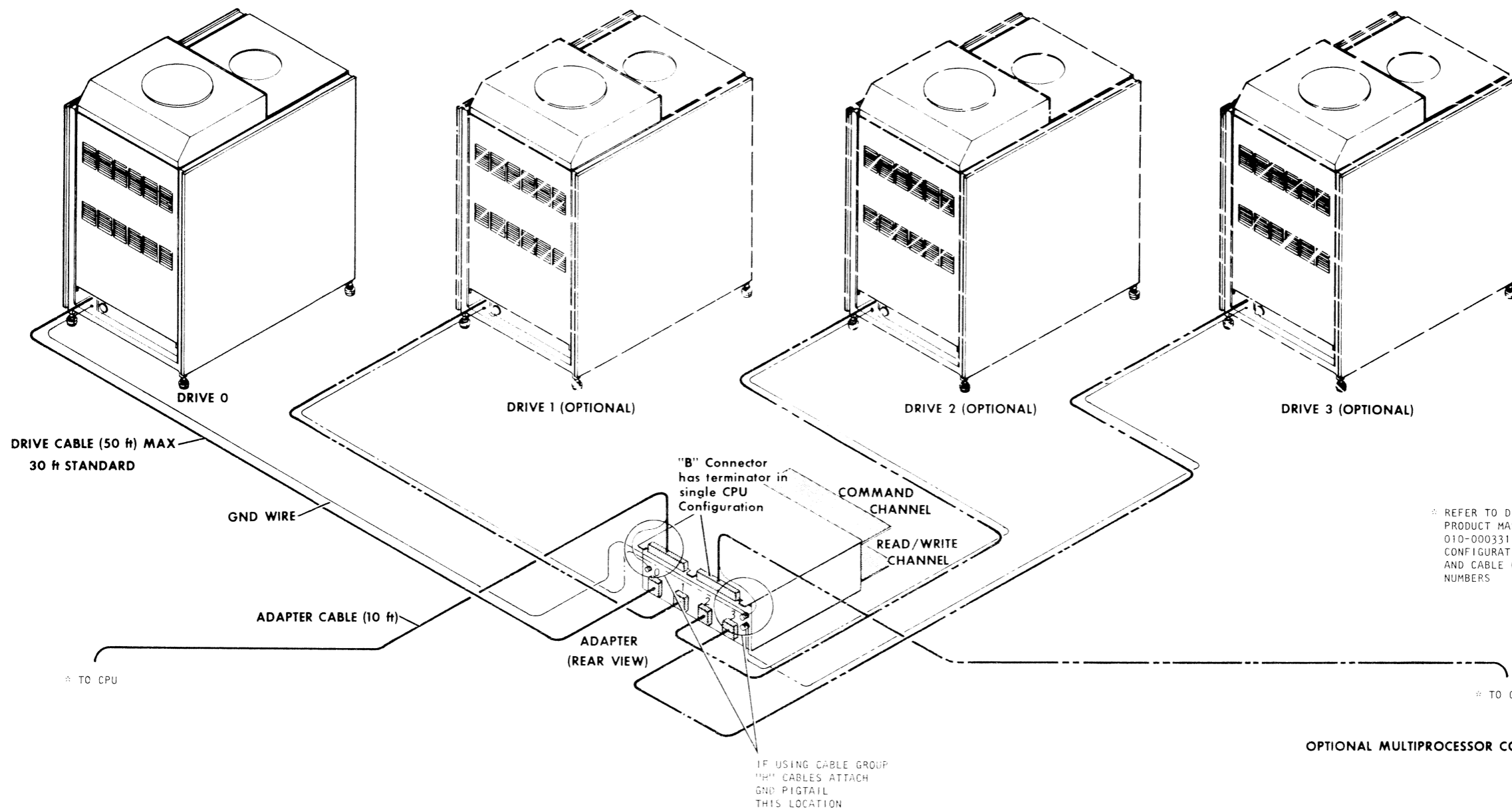
LATENCY: 8 WORD BUFFER, 20 μ sec
 16 WORD BUFFER, 40 μ sec

CABINET-MOUNTING

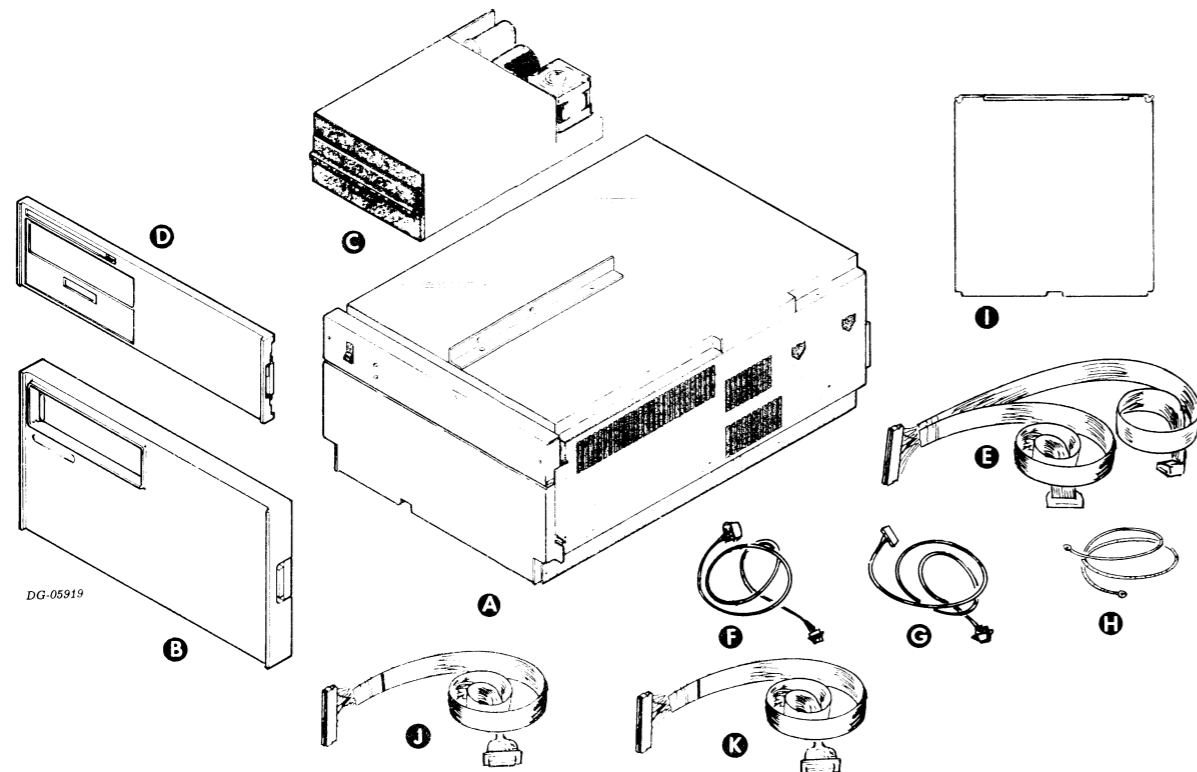
MOUNTING IN THE ECLIPSE-LINE CABINET



EXTERNAL CABLING



INSTALLATION SPECIFICATIONS



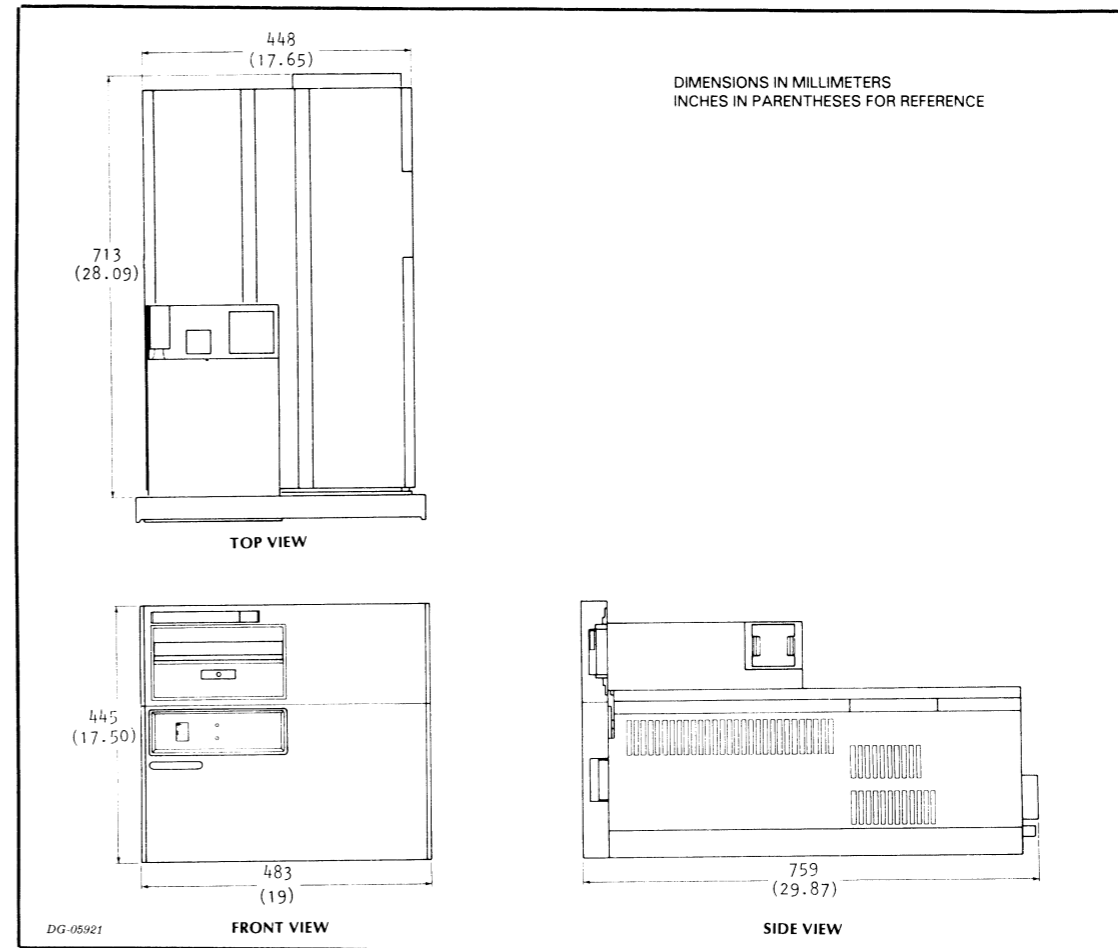
DG-05919

MAJOR COMPONENT

ITEM	COMPONENT	MOUNTING LOCATION	NOTES
A	RIGID DISK DRIVE	CABINET	
B	FRONT PANEL	CABINET	
C	FLEXIBLE DISK DRIVE	RIGID DISK CHASSIS	
D	FRONT PANEL	CABINET	

CABLE

ITEM	CABLE	CONNECTING	MAX LG		NOTES
			FT	M	
E	I/O CABLE	CONTROLLER TO RIGID DISK DRIVE AND FLEXIBLE DISK DRIVE	10	3	005-013636
F	AC POWER CABLE	CHASSIS P1 TO FLEXIBLE DISK DRIVE	6	1.8	
G	DC POWER CABLE	POWER SUPPLY J1 TO FLEXIBLE DISK DRIVE	5	1.5	
H	GROUND BRAID	RIGID DRIVE COMPUTER	10	3	
J	I/O CABLE	COMPLIANT CPU RIGID DISK	10	3	005-019268
K	I/O CABLE	COMPLIANT CPU FLEXIBLE DISK	10	3	005-019437
ITEM	COMPONENT	CHASSIS	MAX DATA CHANNEL LATENCY (μS)	+5V CURRENT DRAW (AMPS)	
I	CONTROLLER PCB	CPU	50	4.0	



DG-05921

DIMENSIONS:

	Width	Depth	Height
Millimeters	483	759	445
Inches	19	29.87	17.50

SERVICE CLEARANCES:

	Front	Bottom
Millimeters	68.6	20.3
Inches	2.7	0.8

WEIGHT:

Kilograms	40.4
Pounds	89

HEAT OUTPUT (MAX):

	Watts	BTU/hr
100V	390	1331
120V	409	1393
220V	418	1427
240V	409	1393

OPERATING ENVIRONMENT:

Temperature (max)		
Room	32°C	90°F
Cabinet	43°C	109°F
Relative Humidity (max)	80%	
Altitude	3048m(10,000')	

POWER REQUIREMENTS:

(Domestic)			
Voltage	120		
Hz	60		
Amps per Phase	3.4		
Startup Surge per Phase	10A		
(Export)			
Voltage	100	220	240
Hz	50	50	50
Amps per Phase	3.9	1.9	1.7
Startup Surge per Phase	12A	5.5A	5A

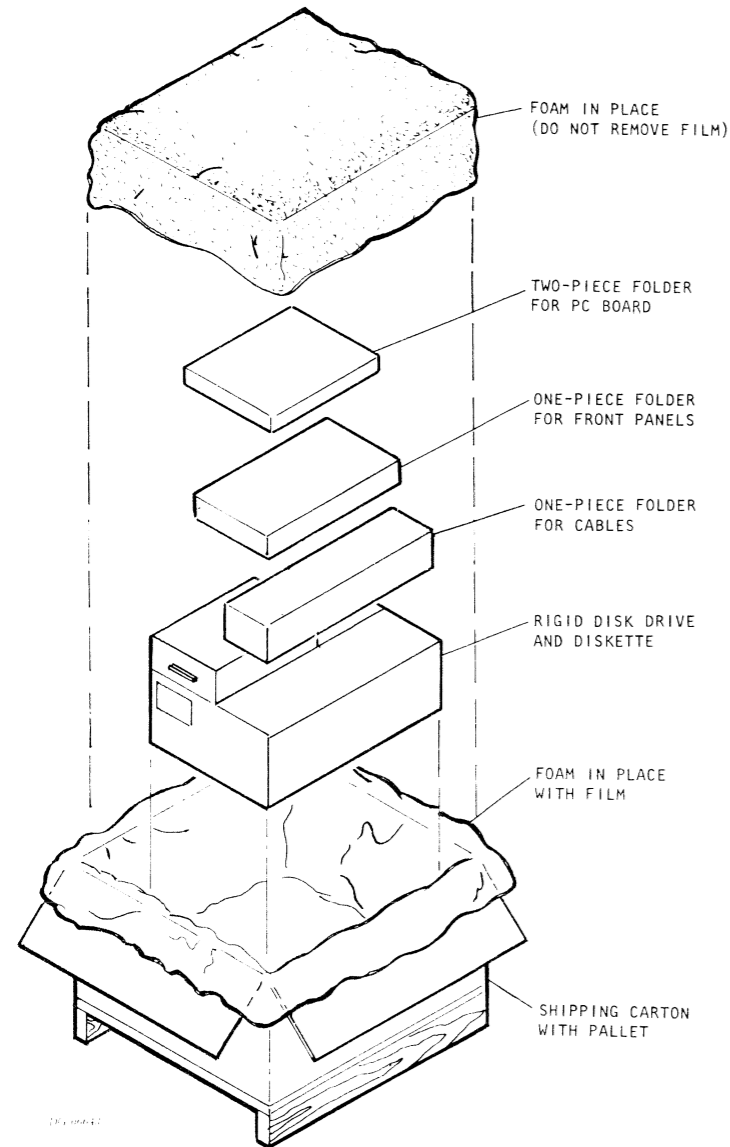
CABLES:

	Length	Conn	Mating Conn
Domestic 60Hz	1.8m(6')	5-15P	5-15R
Export 50Hz	1.8m(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.

DG/DISK STORAGE SUBSYSTEM, MODEL 6098

SHIPPING



FOR PACKAGING INFORMATION REFER TO DGC DWG
NUMBERS 010-000262 AND 010-000263

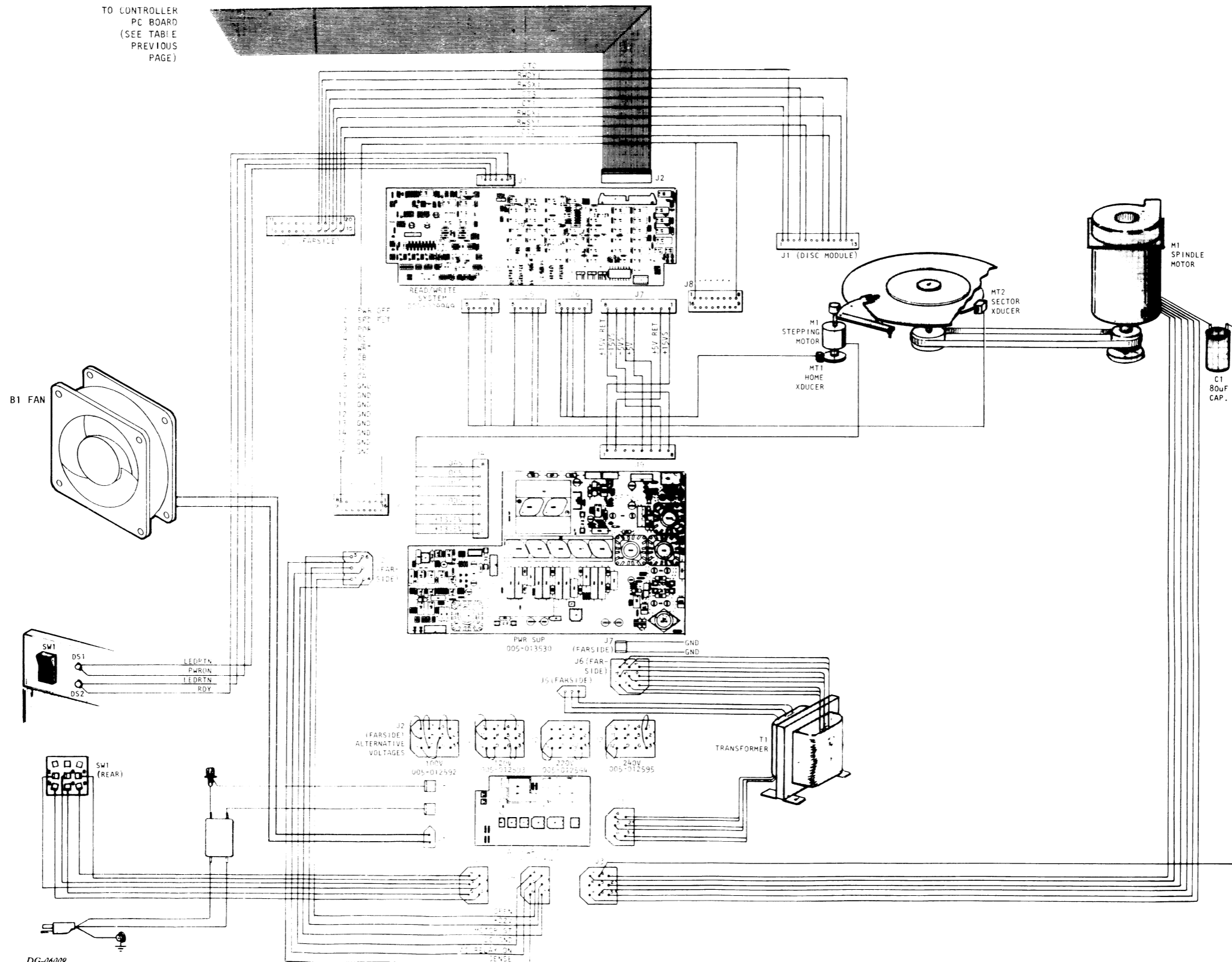
INTERNAL CABLING

INTERNAL CABLE WIRE LIST				RIGID DISK
SIGNAL NAME	BACK PANEL PIN NUMBER	PADDLE CONNECTOR 100 PIN	50 POSITION "D" CONNECTOR J2 (005-018631)	SOCKET CONNECTOR 50 PIN P1
GND	A-1	U	1	1
XPOR	A-47	17	34	2
GND		V	18	3
X PWR OFF	A-49	18	2	4
GND		W	35	5
HOME	A-79	19	19	6
GND		X	3	7
QD	A-81	20	36	8
QC	A-84	21	20	9
QB	A-83	22	4	10
QA	A-86	23	37	11
GND		a	21	12
HT	A-85	24	5	13
H2	A-88	25	38	14
H4	A-87	26	22	15
GND		d	6	16
RDGATE	A-89	27	39	17
GND		e	23	18
WRGATE	A-90	28	7	19
GND		f	40	20
PREAMBLE	B-6	29	24	21
GND		h	8	22
XSC16	B-11	30	41	23
XSC8	B-13	31	25	24
XSC4	B-15	32	9	25
XSC2	B-19	33	42	26
XSC1	B-23	34	26	27
GND		n	10	28
XSCTR PLS	B-25	35	43	29
GND		p	27	30
XSCNTVALID	B-27	36	11	31
GND		r	44	32
RDY	B-31	37	28	33
SWAP 01	B-69	49	12	34
WRPRO	B-34	38	45	35
GND		s		36
R/W FLT	B-36	39	13	37
SPD FLT	B-38	40	46	38
GND		t	39	39
WR CLK RTN-	B-40	41	14	40
WR CLK RTN +	B-48	42	47	41
GND		v		42
WR OSC RTN-	B-49	43	15	43
WR OSC RTN+	B-51	44	48	44
GND		x		45
NRZ DAT-	B-52	45	16	46
NRZ DAT+	B-53	46	49	47
GND		y	33	48
R/W CLK-	B-54	47	17	49
R/W CLK+	B-67	48	50	50

INTERNAL CABLE WIRE LIST CONTINUED				FLEXIBLE DISK
SIGNAL NAME	BACK PANEL PIN NUMBER	PADDLE CONNECTOR 100 PIN	50 POSITION "D" CONNECTOR J1 (005-018631)	SOCKET CONNECTOR 50 PIN P2
GND				1
TG43	A-92		34	2
GND			N/A	3
+5V	A-3	50	N/A	4
-				5
-				6
-				7
-				8
-				9
-				10
-				11
-				12
GND		C	5	13
SIDSEL	A-91	3	12	14
-				15
GND		D	39	17
HEADLOAD	A-78	4	23	18
GND		E	7	19
INDEX	A-77	5	40	20
GND		F	24	21
READY	A-76	6	8	22
-				23
-				24
GND		H	9	25
DRIVE SEL1	A-75	7	42	26
GND		J	26	27
DRIVE SEL2	A-73	8	10	28
GND		K	43	29
DRIVE SEL3	A-71	9	27	30
GND		L	11	31
DRIVE SEL4	A-69	10	44	32
GND		B	5	33
SIDSEL	A-91	3	38	34
GND		M	45	35
STEP	A-77	11	29	36
GND		N	13	37
WRITE DATA	A-65	12	46	38
GND		P	30	39
WRITEGATE	A-63	13	14	40
GND		R	47	41
TRACK 00	A-61	14	21	42
GND		S	15	43
WRITEPROTECT	A-59	15	46	44
GND		T	32	45
READDATA	A-57	16	16	46
-				47
-				48
-				49
-				50

NOVA 3 SERIES COMPUTERS	005-001802
NOVA 2, ECLIPSE SERIES COMPUTERS	005-001802
NOVA 820, 1210 AND 1220 COMPUTERS	005-001802
ECLIPSE M/600	005-008052
NOVA 4	005-008052
COMPLIANT CPU S	005-012631

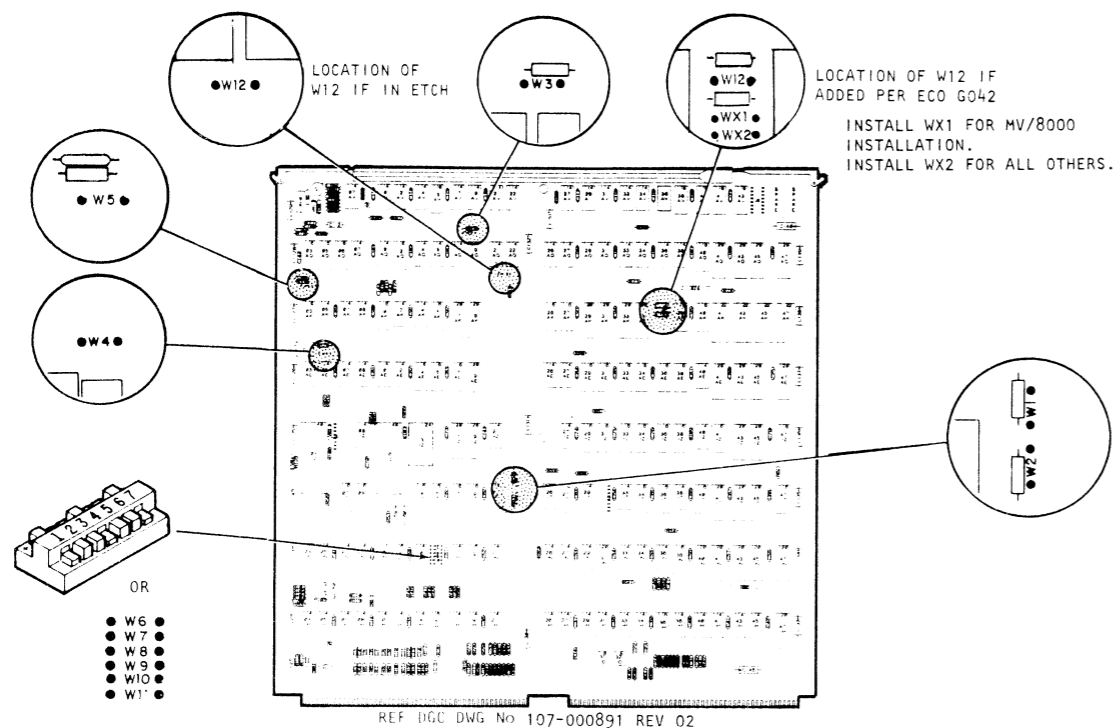
INTERNAL CABLING (CONT) INTERCONNECTION DIAGRAM



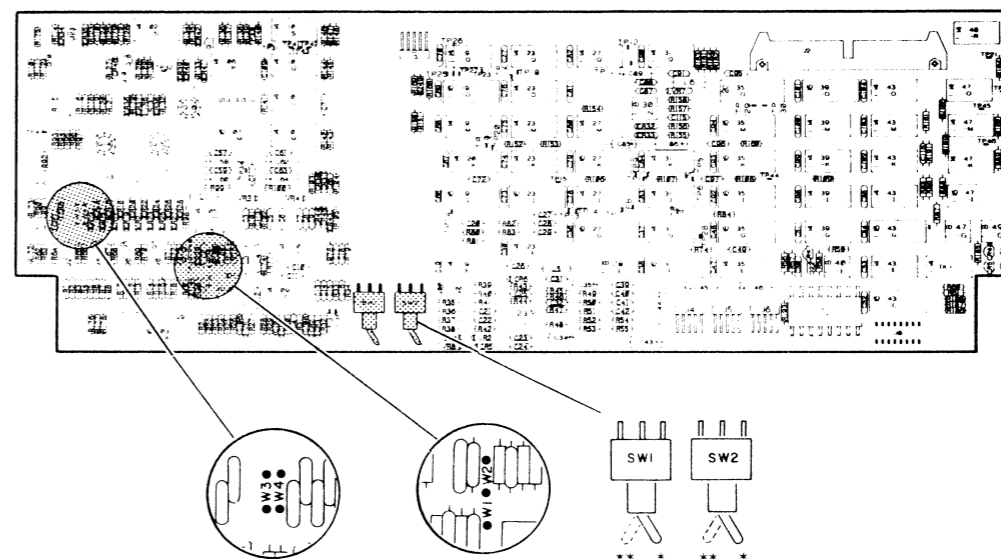
DG-06009

TAILORING

CONTROLLER BOARD



R/W LOGIC BOARD



FOR CONTROLLERS WITH SWITCH MODULE

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

CONTROLLER DEVICE CODE SELECT		
JUMPER NUMBER	DEVICE CODE 33	DEVICE CODE 73
1	OUT	IN
2	IN	IN
3	IN	IN
4	OUT	OUT
5	IN	IN
6	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

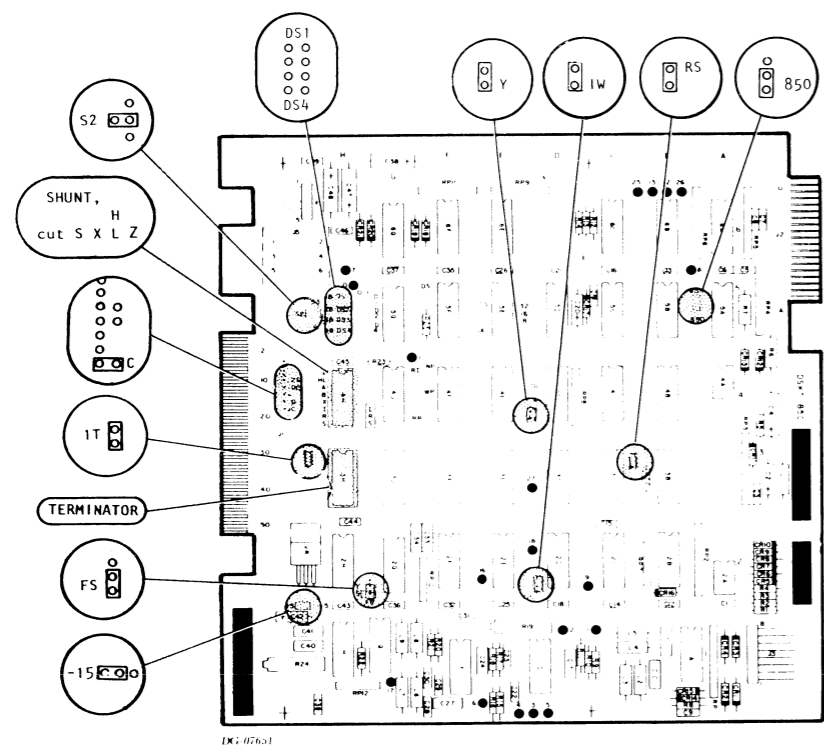
R/W LOGIC JUMPER SELECTION	
JUMPER	
W-1	JUMPER INSERTED
W-2	JUMPER REMOVED
W-3	JUMPER REMOVED
W-4	JUMPER REMOVED

SWITCH SETTINGS	
SWITCH	*OPEN
SW-1	RIGID DISK = UNIT 0
SW-2	FLEXIBLE DISK = UNIT 1
	RIGID DISK NOT WRITE PROTECTED
	**CLOSED
SW-1	RIGID DISK = UNIT 1
SW-2	FLEXIBLE DISK = UNIT 0
	RIGID DISK WRITE PROTECTED

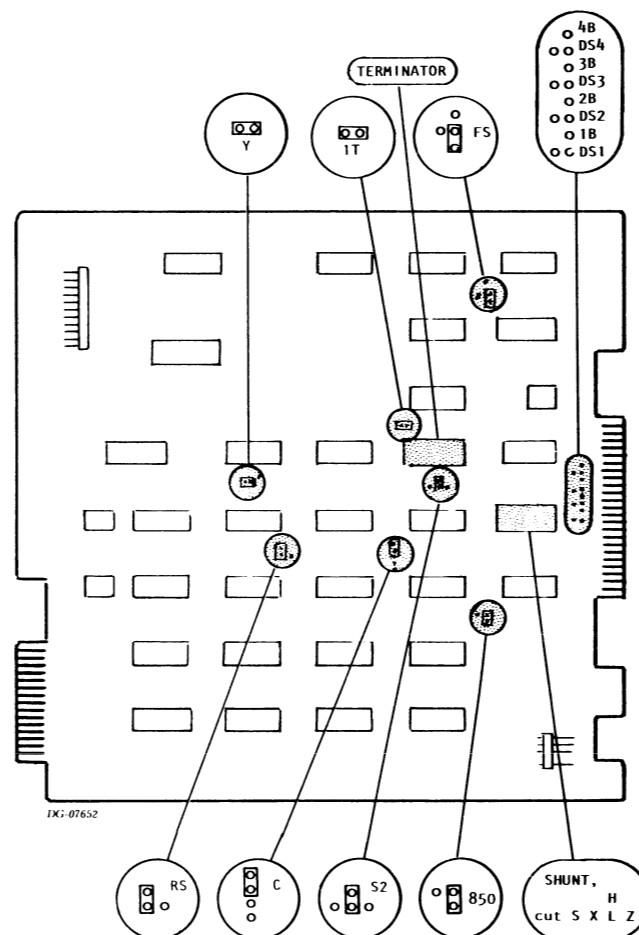
TAILORING

FLEXIBLE DISC LOGIC BOARD

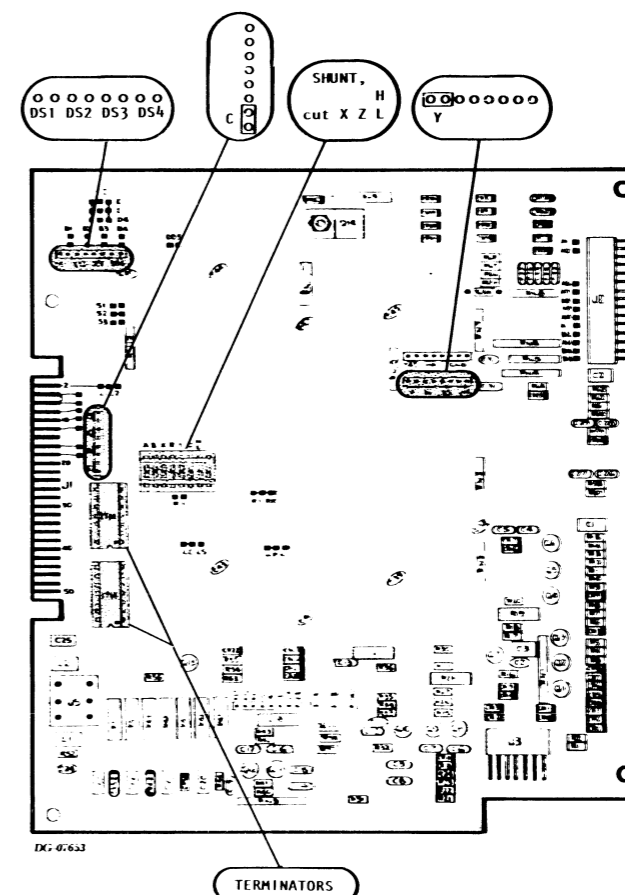
TYPE A1 - A2



TYPE A3



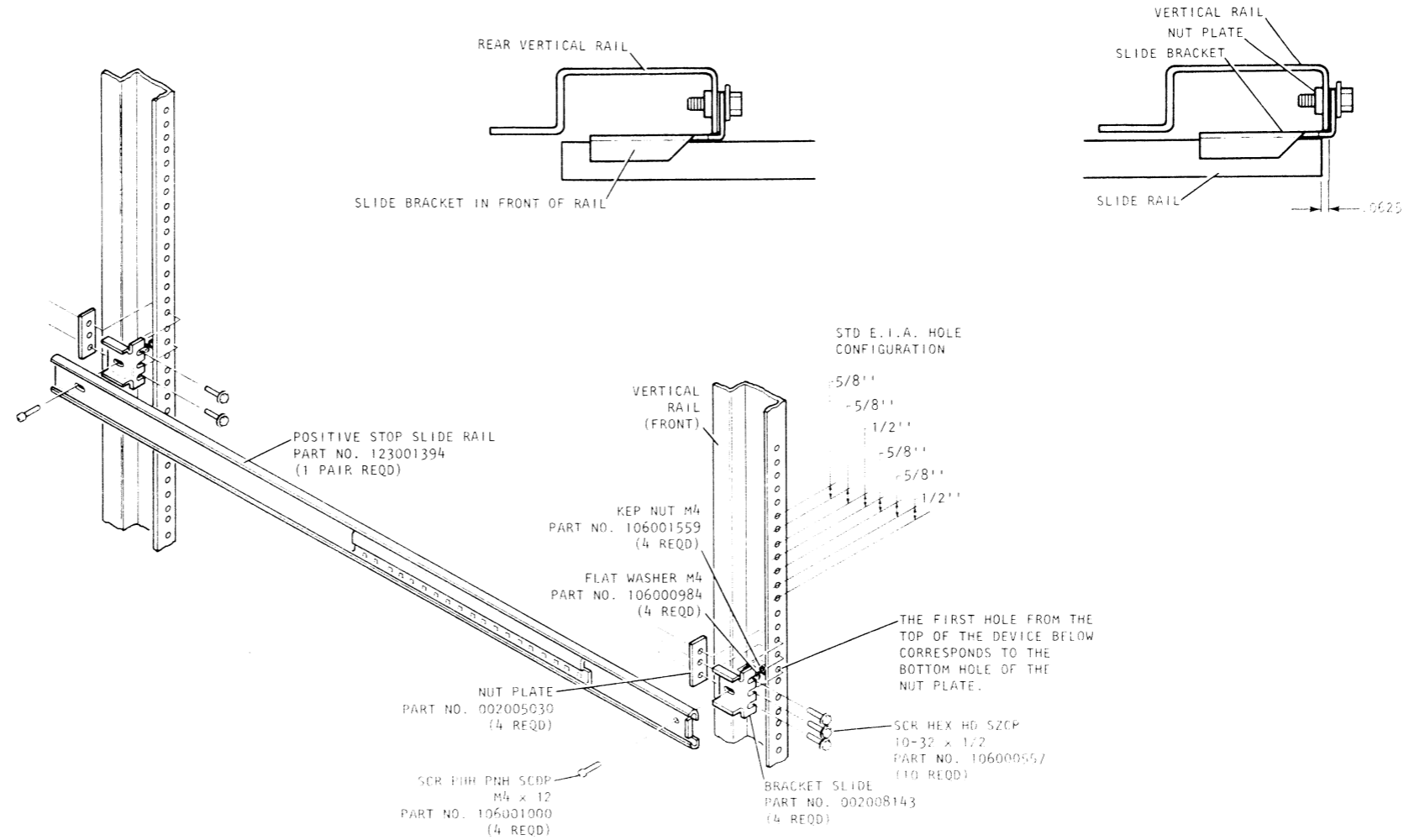
TYPE B



CABINET MOUNTING

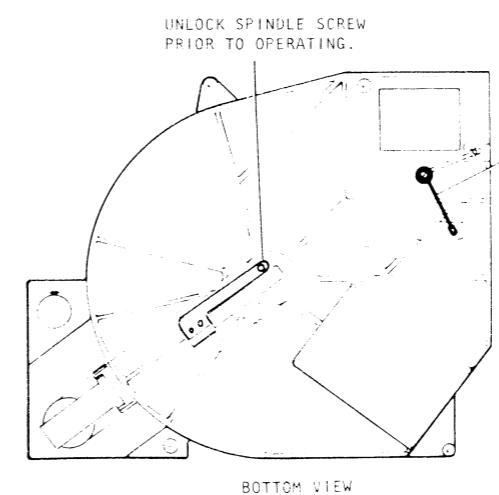
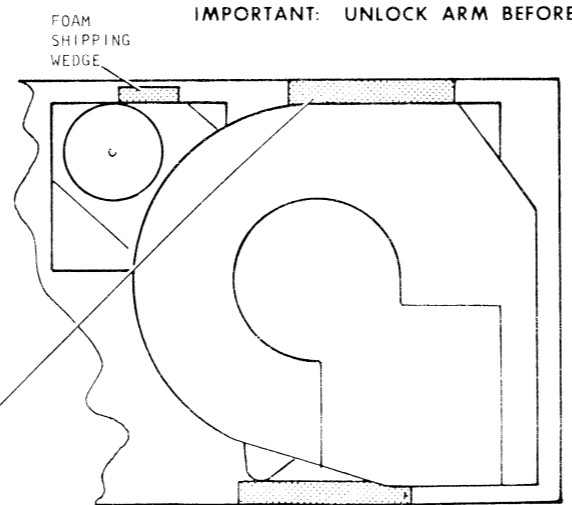
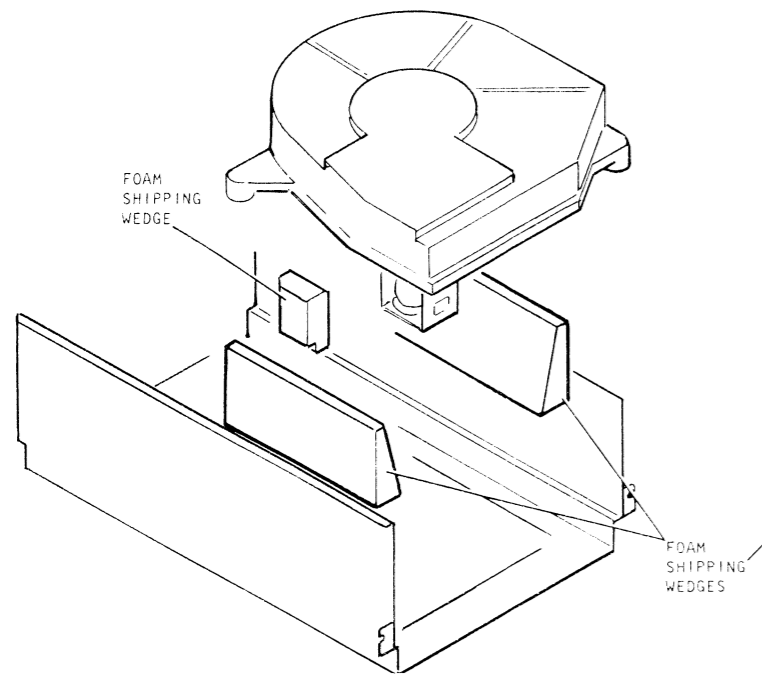
HARDWARE MOUNTING KIT 005-016674

TORQUE REQUIREMENTS		
SCREW NO	IN/LB	N/M
M4	13.27-15.04	1.5-1.70
8-32	14.5-15.5	1.63-1.75
10-32	33-35	3.7-3.95

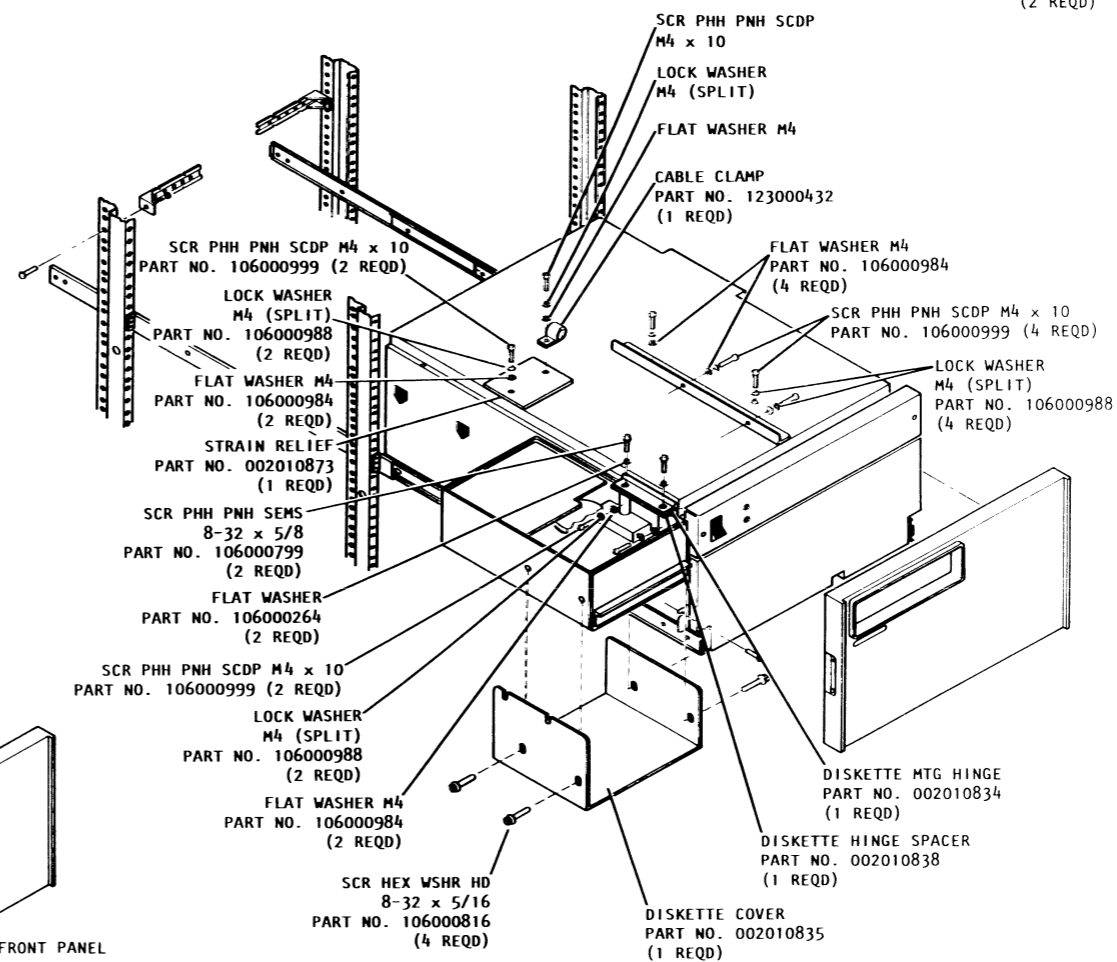
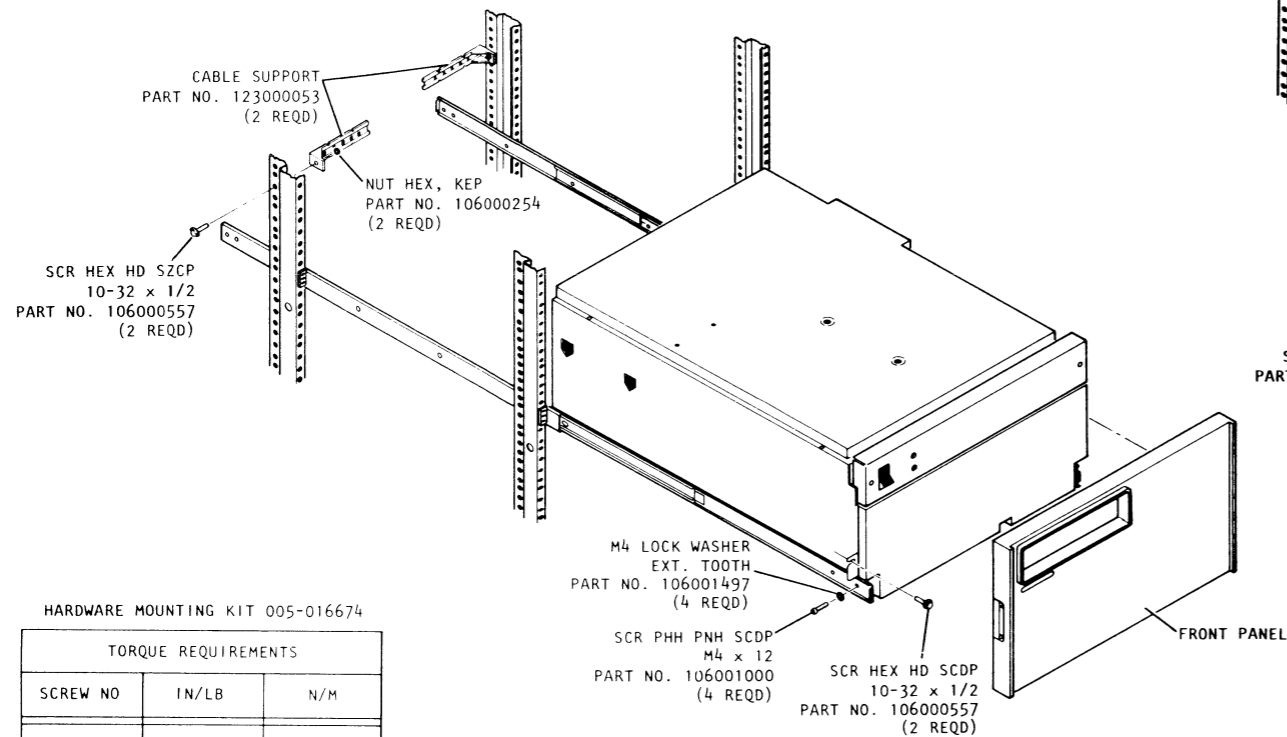
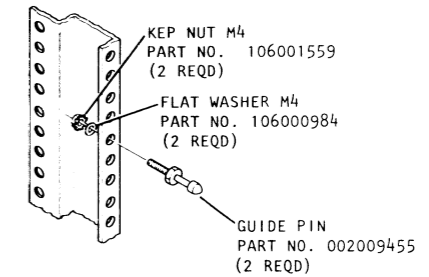
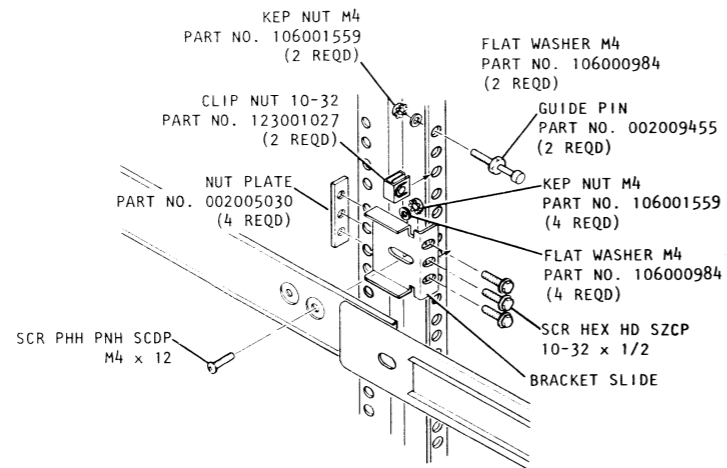


SHIPPING RESTRAINTS

IMPORTANT: UNLOCK ARM BEFORE OPERATING.



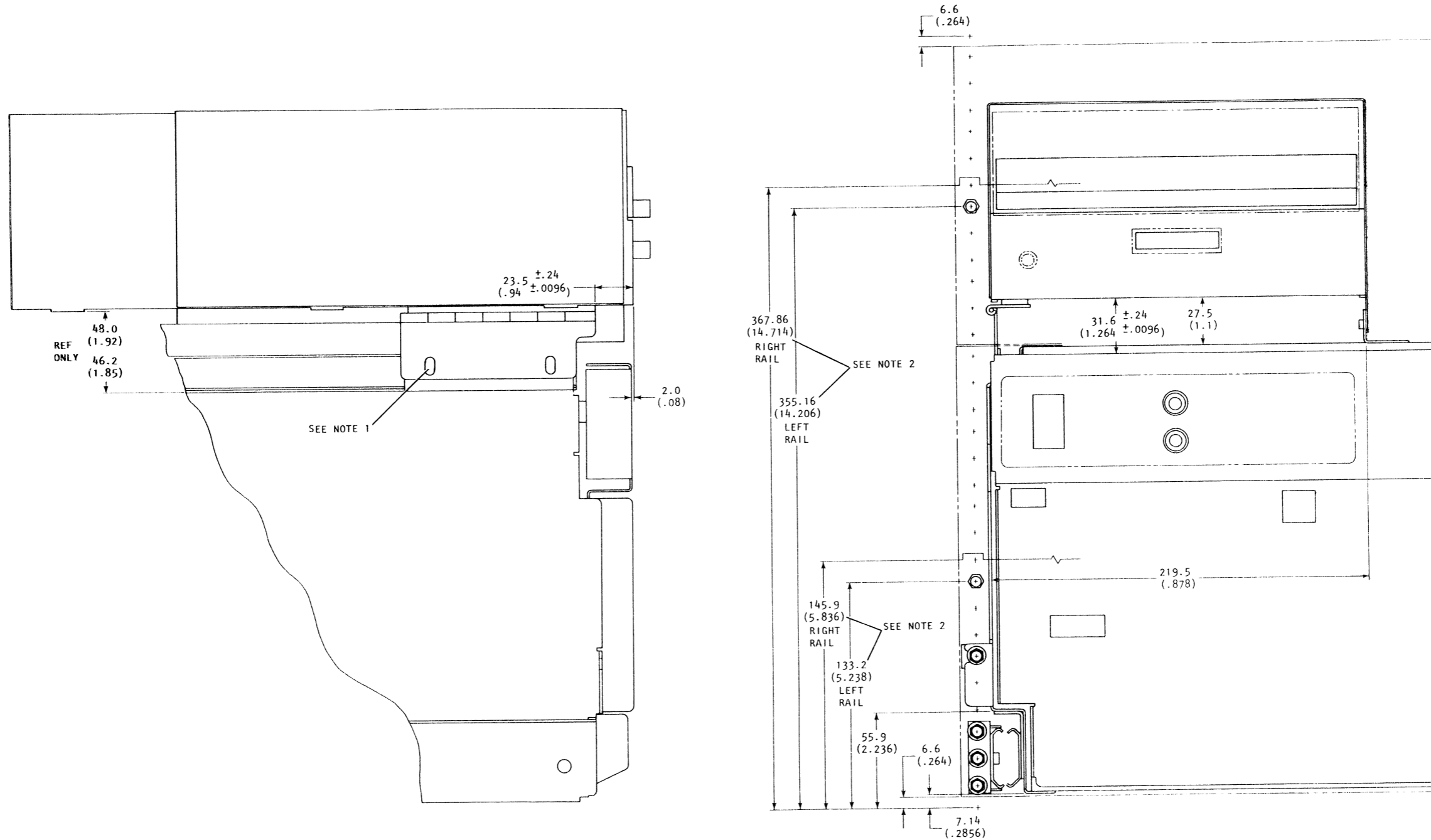
CABINET MOUNTING (CONT)



HARDWARE MOUNTING KIT 005-016674

TORQUE REQUIREMENTS		
SCREW NO	IN/LB	N/M
M4	13.27-15.04	1.5-1.70
8-32	14.5-15.5	1.63-1.75
10-32	33-35	3.7-3.95

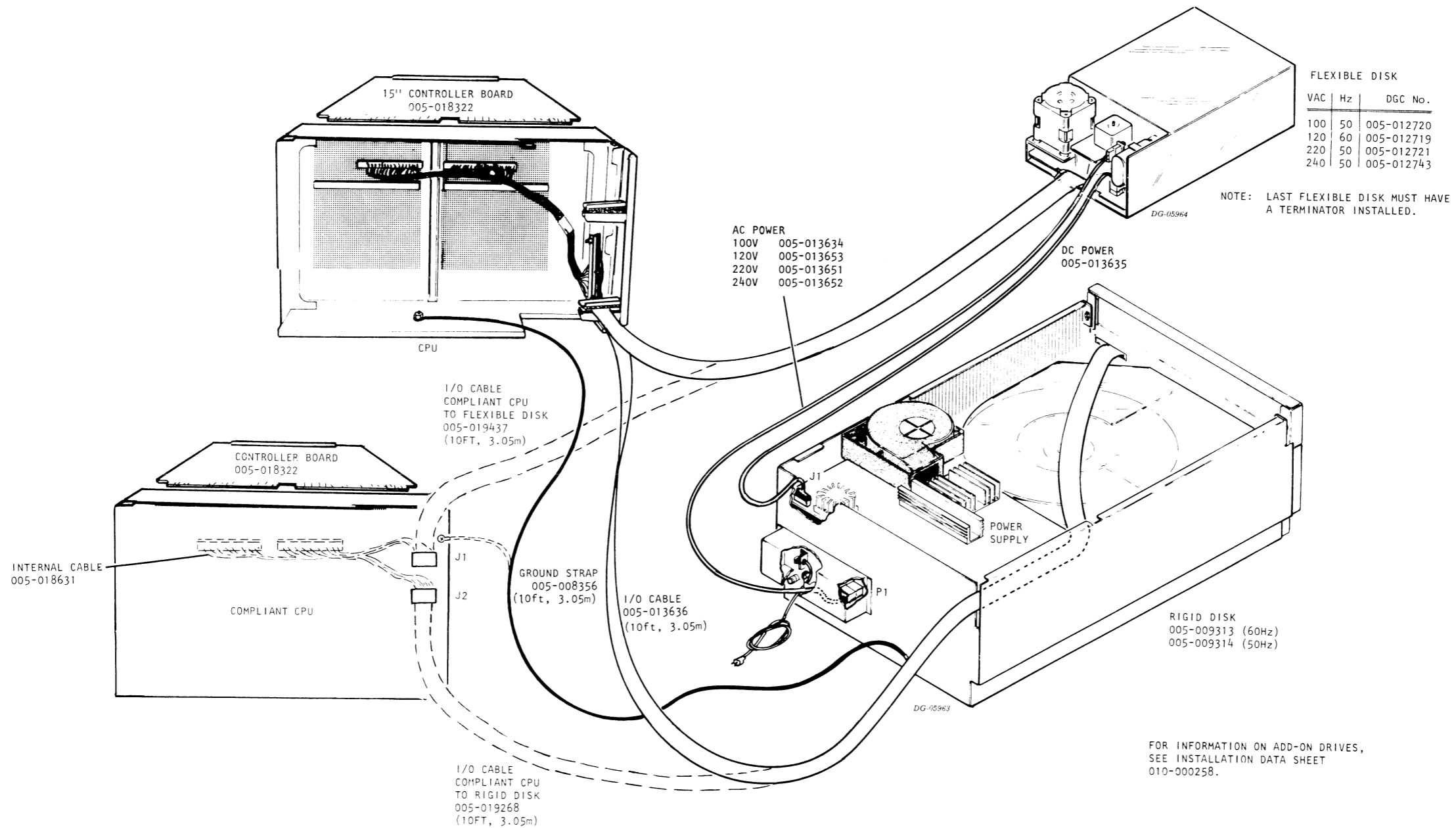
CABINET MOUNTING (CONT)



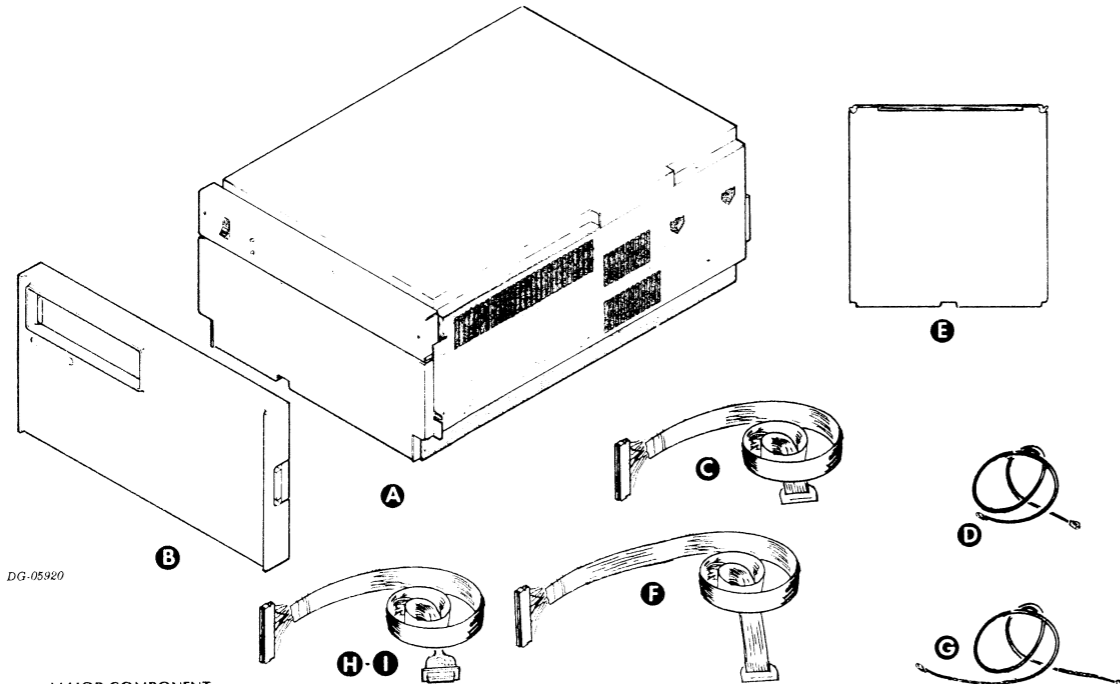
- NOTES: 1. TORQUE SCREW TO 2.4 - 2.6 N/M
 2. NOMINAL DIMENSIONS LOCATING CENTERLINES OF BALL STUDS FOR MOUNTING OF FRONT PANELS

DIMENSIONS IN MILLIMETERS
 INCHES IN PARENTHESES FOR REFERENCE

EXTERNAL CABLING



INSTALLATION SPECIFICATIONS



DG-05920

MAJOR COMPONENT

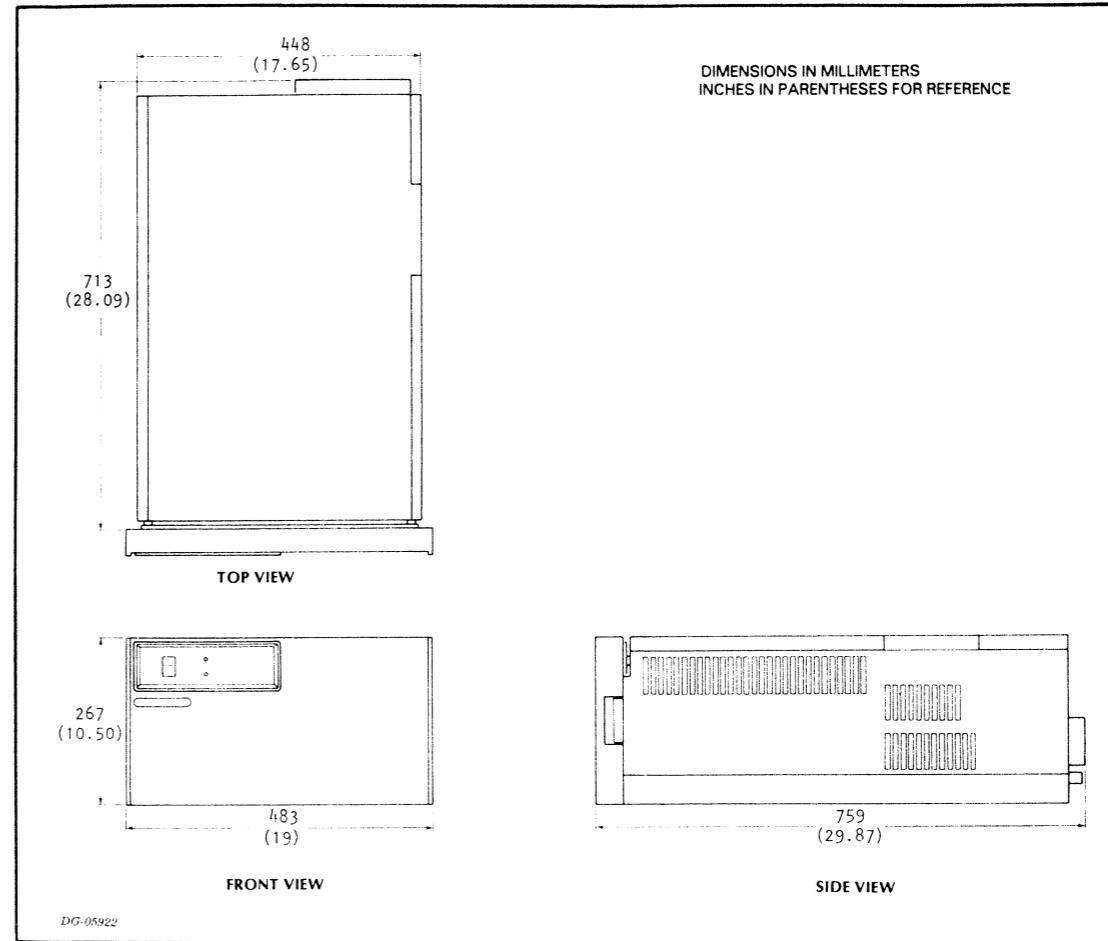
ITEM	COMPONENT	MOUNTING LOCATION	NOTES
A	RIGID DISK DRIVE	CABINET	
B	FRONT PANEL	CABINET	

CABLE

ITEM	CABLE	CONNECTING	LENGTH		NOTES
			FT	M	
C	I/O CABLE	CONTROLLER AND RIGID DISK DRIVE	10	3	*
D	GROUND BRAID	CPU TO RIGID DISK CHASSIS	10	3	
F	I/O CABLE	CONTROLLER AND RIGID DISK DRIVE	20	6.4	*
G	GROUND BRAID	CPU TO RIGID DISK CHASSIS	30	9.1	OPTIONAL 005 008063
H	I/O CABLE	COMPLIANT CPU, RIGID DISK	10	3	*
I	I/O CABLE	COMPLIANT CPU, RIGID DISK	20	6.4	*

ITEM	COMPONENT	CHASSIS	MAX DATA CHANNEL LATENCY (μS)	+5V CURRENT DRAW (AMPS)
E	CONTROLLER PCB	CPU	NONE	4.0

* REFER TO DISC PRODUCT MASTER 010-331 FOR CABLE CONFIGURATIONS & 005 NUMBERS



DG-05922

DIMENSIONS:	Width	Depth	Height
Millimeters	483	759	267
Inches	19	29.87	10.5

SERVICE CLEARANCES:	Front	Bottom
Millimeters	686	203
Inches	27.5	8

WEIGHT:

Kilograms	34
Pounds	75

HEAT OUTPUT

	Watts	BTU/hr
100V	320	1092
120V	312	1065
220V	308	1051
240V	312	1065

OPERATING ENVIRONMENT:

Temperature (max)		
Room	32°C	90°F
Cabinet	43°C	109°F
Relative Humidity (max)	80%	
Altitude	3048m(10,000')	

POWER REQUIREMENTS:				
(Domestic)				
Voltage	120			
Hz	60			
Amp per Phase	2.6			
Startup Surge per Phase	10A for 10 seconds.			
(Export)				
Voltage	100	100	220	240
Hz	50	60	50	50
Amp per Phase	3.2	3.2	1.4	1.3
Startup Surge per Phase	12A	12A	5.5A	5A for 10 seconds

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

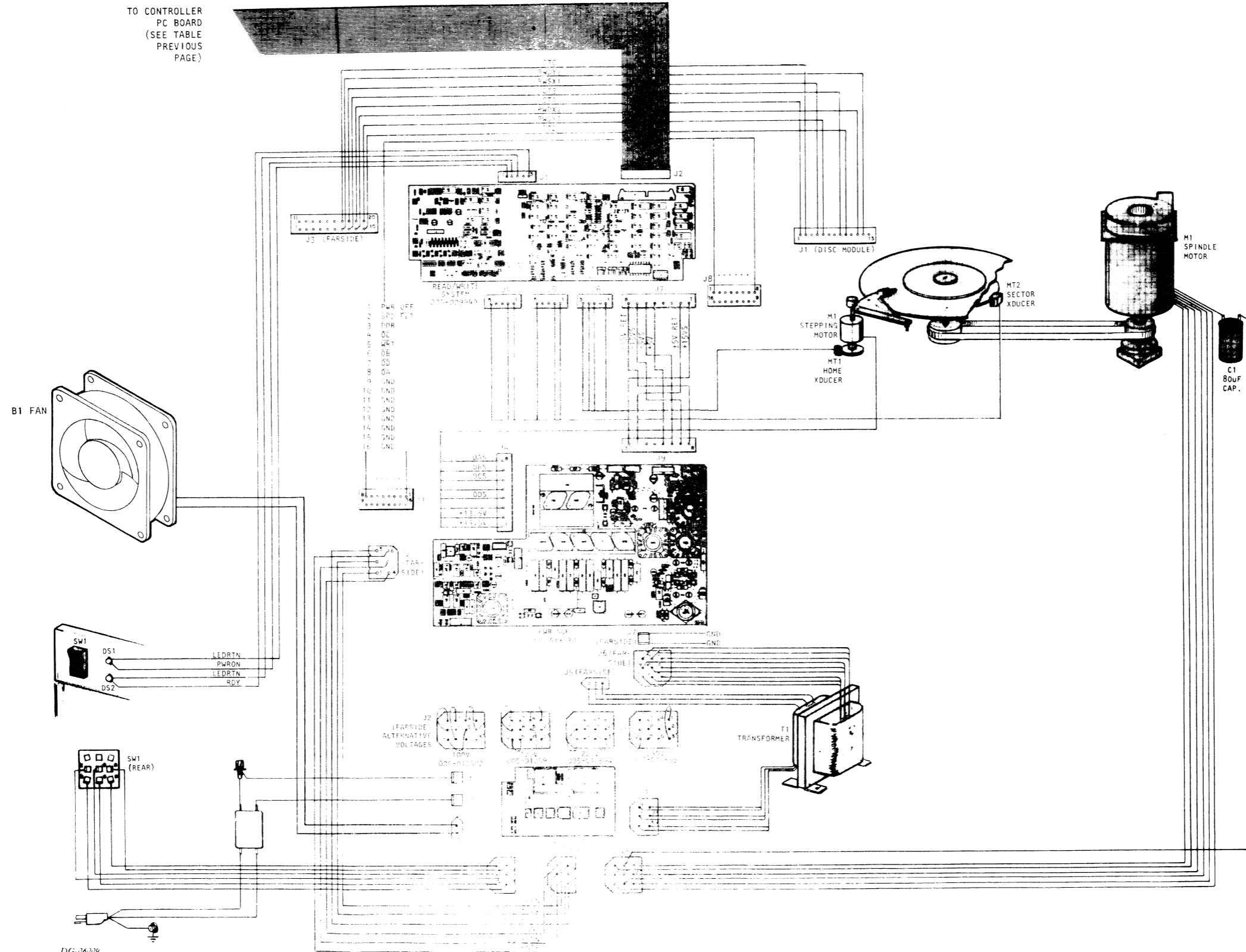
SHIPPING

FOR PACKING PROCEDURE,
SEE 010-000262/263

INTERNAL CABLING

INTERNAL CABLE WIRE LIST				50 POSITION "D" CONNECTOR 005-019499	RIGID DISK SOCKET CONNECTOR 50 PIN P1
SIGNAL NAME	BACK PANEL PIN NUMBER	PADDLE CONNECTOR 100 PIN			
GND	A-1	U	1		1
XPOR	A-47	17	34		2
GND		V	18		3
X PWR OFF	A-49	18	2		4
GND		W	35		5
HOME	A-79	19	19		6
GND		X	3		7
QD	A-81	20	36		8
QC	A-84	21	20		9
QB	A-83	22	4		10
QA	A-86	23	37		11
GND		a	21		12
HT	A-85	24	5		13
H2	A-88	25	38		14
H4	A-87	26	22		15
GND		d	6		16
RDGATE	A-89	27	39		17
GND		e	23		18
WRGATE	A-90	28	7		19
GND		f	40		20
PREAMBLE	B-6	29	24		21
GND		h	8		22
XSC16	B-11	30	41		23
XSC8	B-13	31	25		24
XSC4	B-15	32	9		25
XSC2	B-19	33	42		26
XSC1	B-23	34	26		27
GND		n	10		28
XSCTR PLS	B-25	35	43		29
GND		p	27		30
XSCNTVALID	B-27	36	11		31
GND		r	44		32
RDY	B-31	37	28		33
SWAP 01	B-69	49	12		34
WRPRO	B-34	38	45		35
GND		s			36
R/W FLT	B-36	39	13		37
SPD FLT	B-38	40	46		38
GND		t			39
WR CLK RTN-	B-40	41	14		40
WR CLK RTN +	B-48	42	47		41
GND		w			42
WR OSC RTN-	B-49	43	15		43
WR OSC RTN+	B-51	44	43		44
GND		x			45
NRZ DAT-	B-52	45	16		46
NRZ DAT+	B-53	46	49		47
GND		AB	33		48
R/W CLK-	B-54	47	17		49
R/W CLK+	B-67	48	50		50

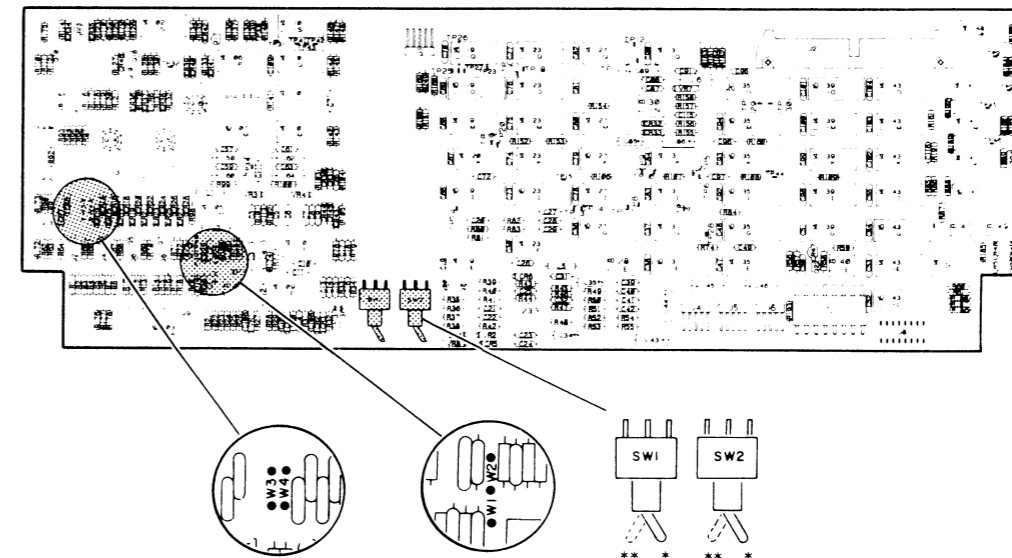
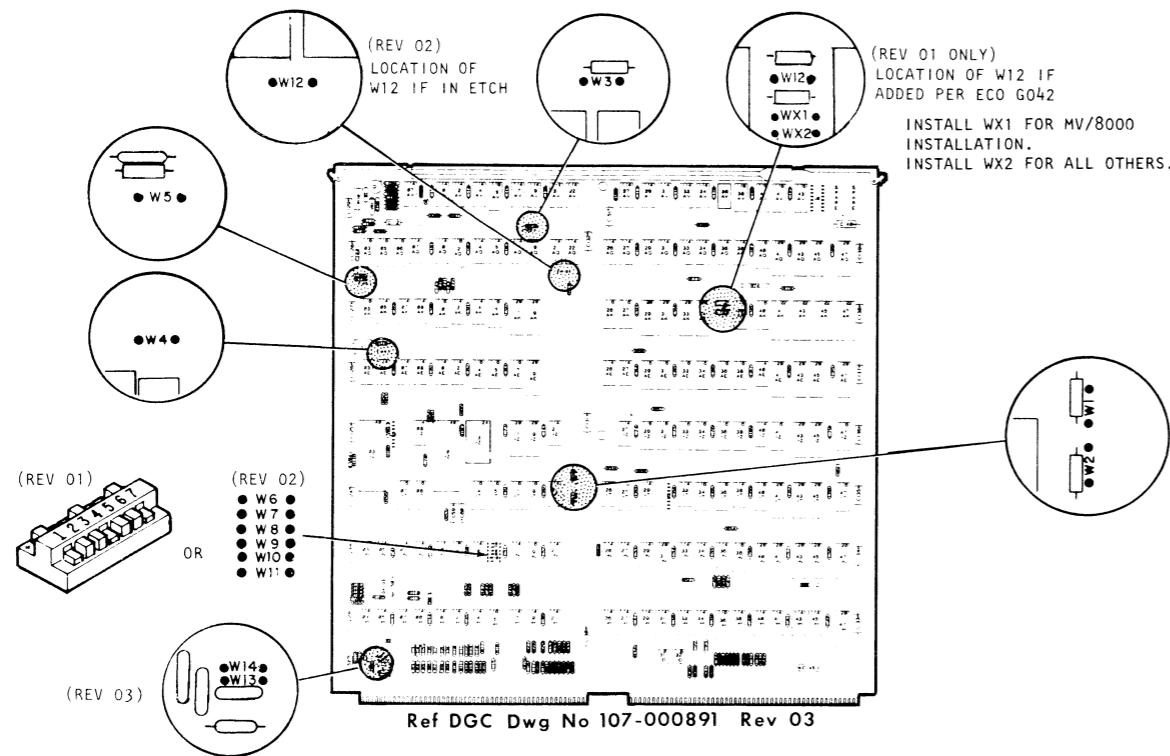
INTERNAL CABLING (CONT) INTERCONNECTION DIAGRAM



TAILORING

CONTROLLER BOARD

R/W LOGIC 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

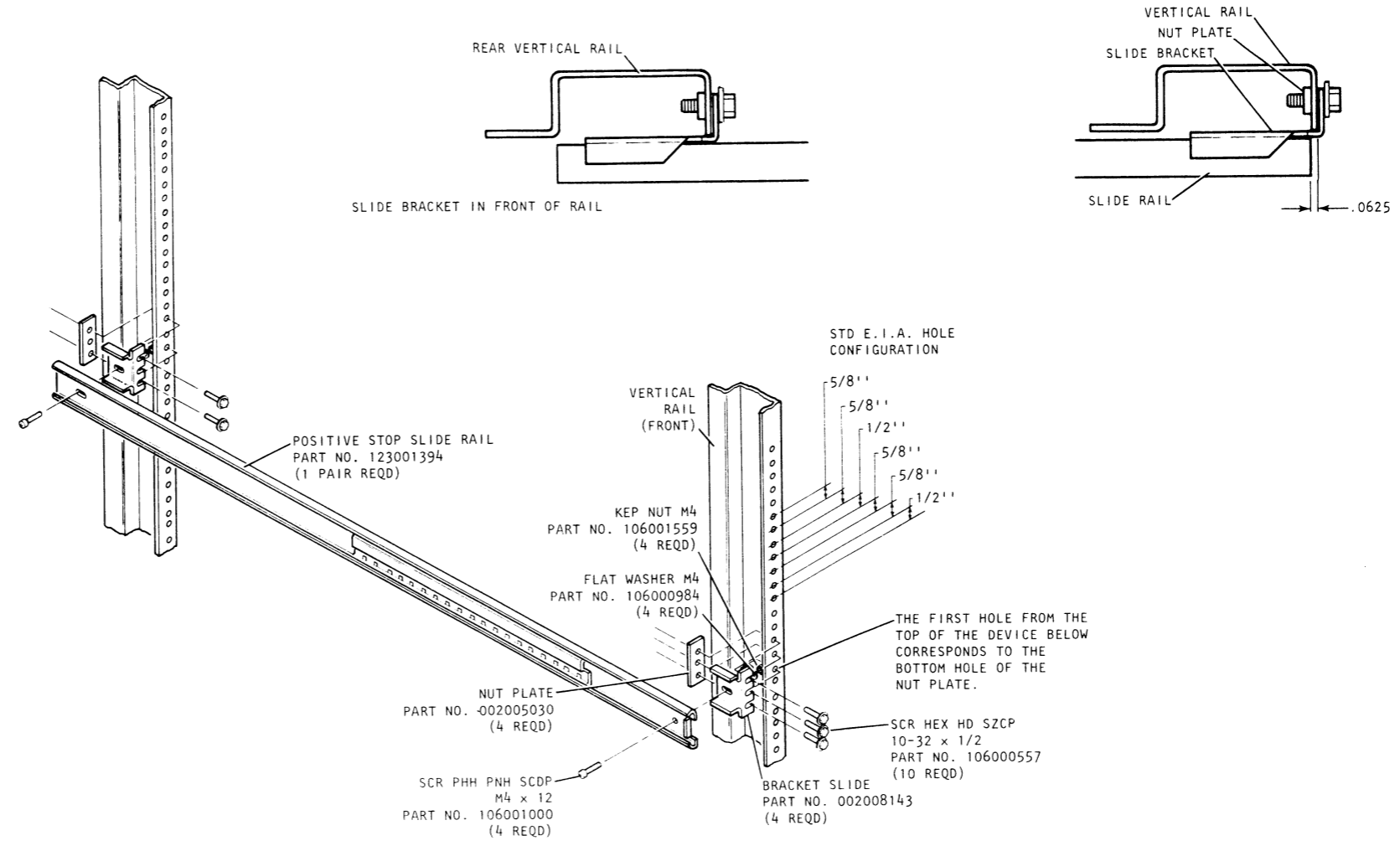
W14 OUT FOR MV/8000 SYSTEMS
IN FOR ALL OTHERS

R/W LOGIC JUMPER SELECTION	
JUMPER	
W1	JUMPER INSERTED
W2**	JUMPER REMOVED
W3**	JUMPER REMOVED
W4**	JUMPER REMOVED

* INSERTED FOR FACTORY USE ONLY.
** INSERTED FOR 25MBYTE

SWITCH SETTINGS	
SWITCH	*OPEN
SW-1	RIGID DISK = UNIT 0 FLEXIBLE DISK = UNIT 1
SW-2	RIGID DISK NOT WRITE PROTECTED
	**CLOSED
SW-1	RIGID DISK = UNIT 1 FLEXIBLE DISK = UNIT 0
SW-2	RIGID DISK WRITE PROTECTED

CABINET MOUNTING

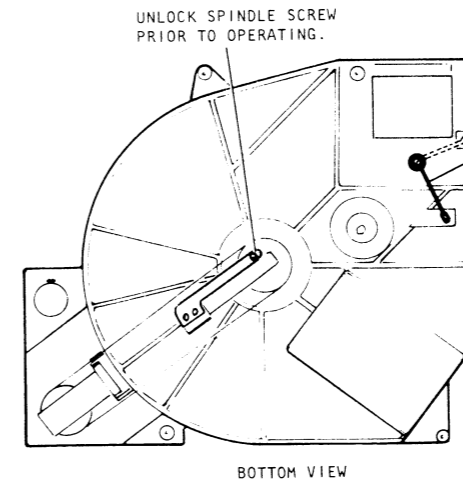
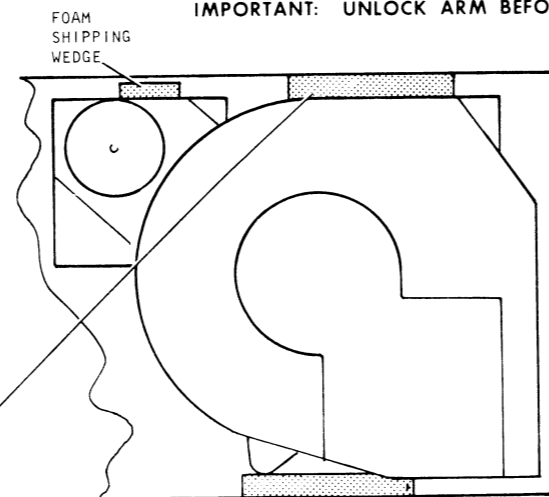
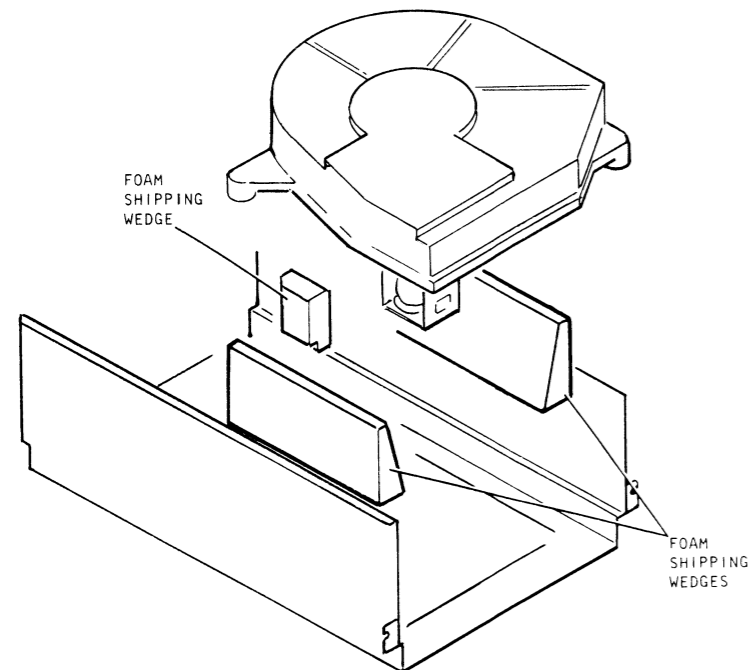


HARDWARE MOUNTING KIT 005-009934

TORQUE REQUIREMENTS		
SCREW NO	IN/LB	N/M
M4	13.27-15.04	1.5-1.70
8-32	14.5-15.5	1.63-1.75
10-32	33-35	3.7-3.95

SHIPPING RESTRAINTS

IMPORTANT: UNLOCK ARM BEFORE OPERATING.



DG-06034

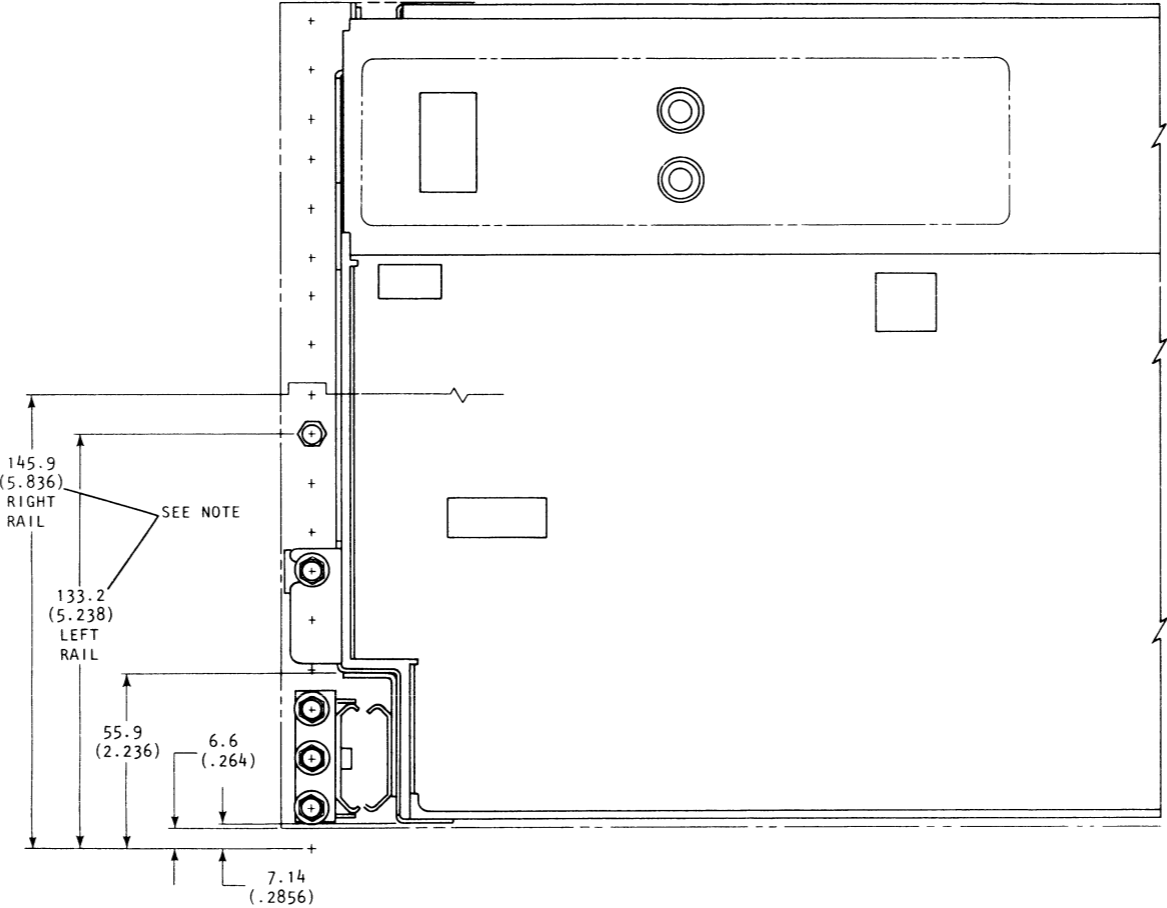
NOTE TO FIELD ENGINEERING:

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.

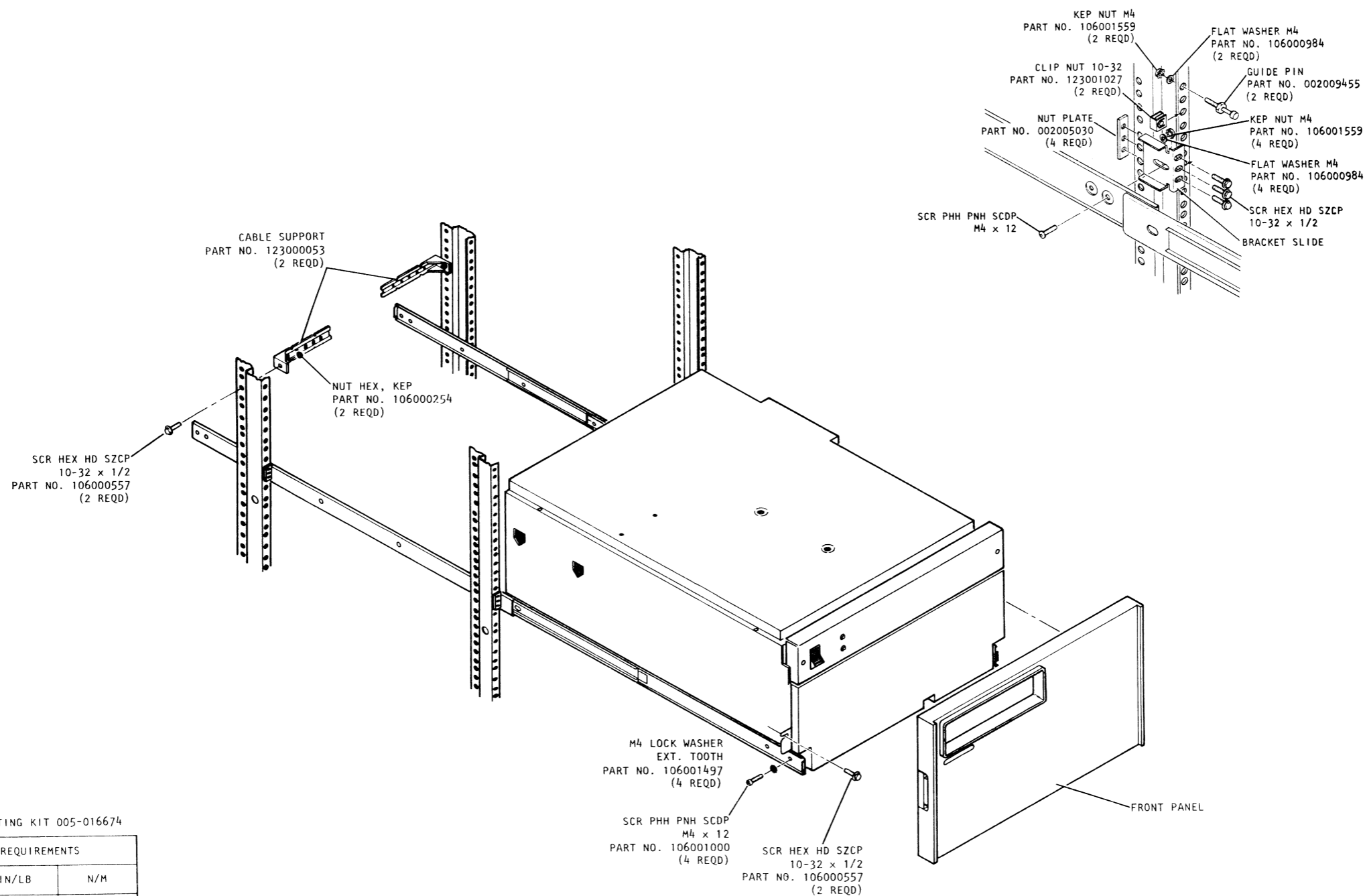
MODULES RETURNED TO THE MANUFACTURING FACILITY WITHOUT BEING PROPERLY SECURED CAN VOID THE WARRANTY.

CABINET MOUNTING (CONT)



NOTE: NOMINAL DIMENSIONS LOCATING CENTERLINES OF BALL STUDS FOR MOUNTING OF FRONT PANEL

CABINET MOUNTING (CONT)

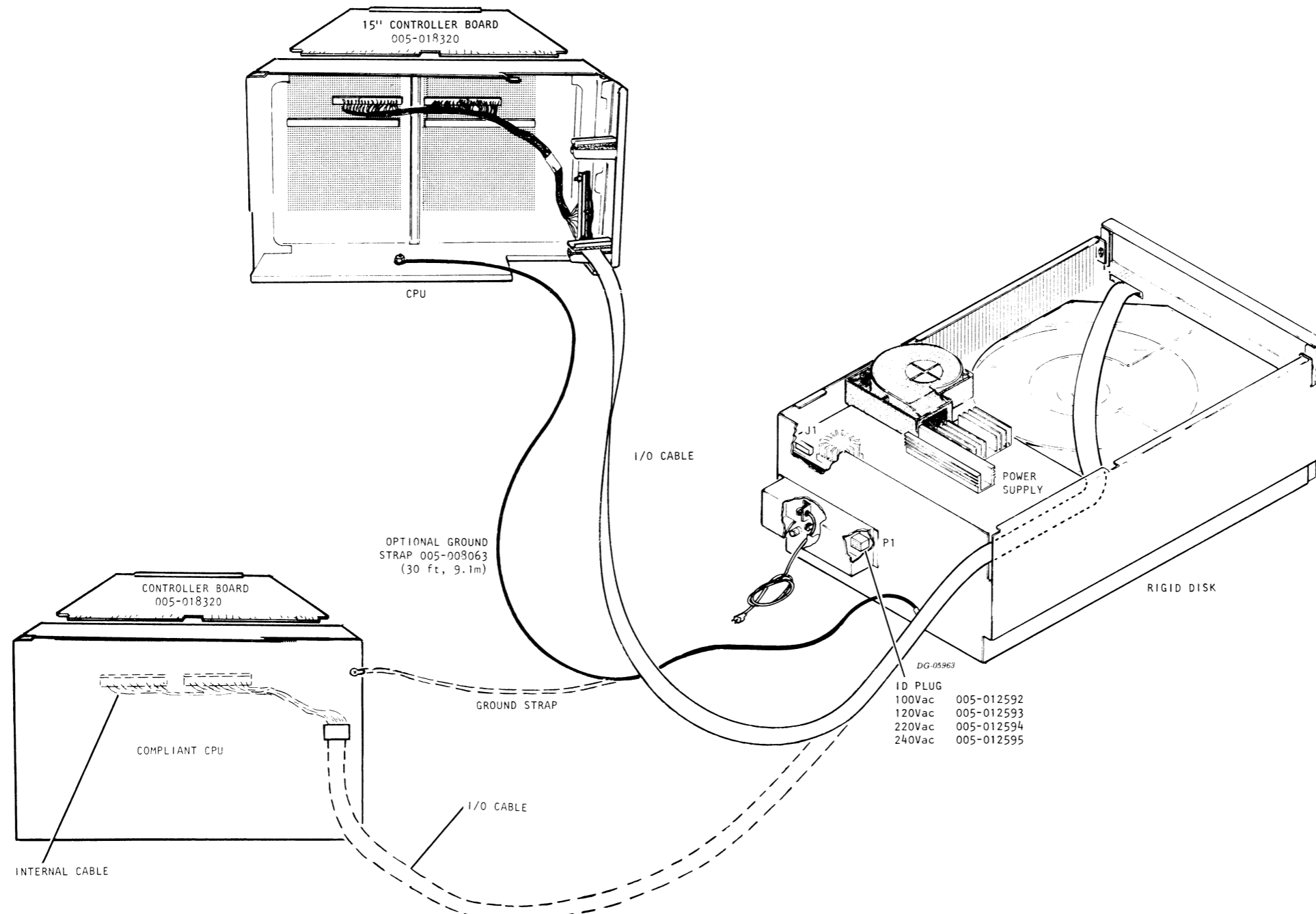


HARDWARE MOUNTING KIT 005-016674

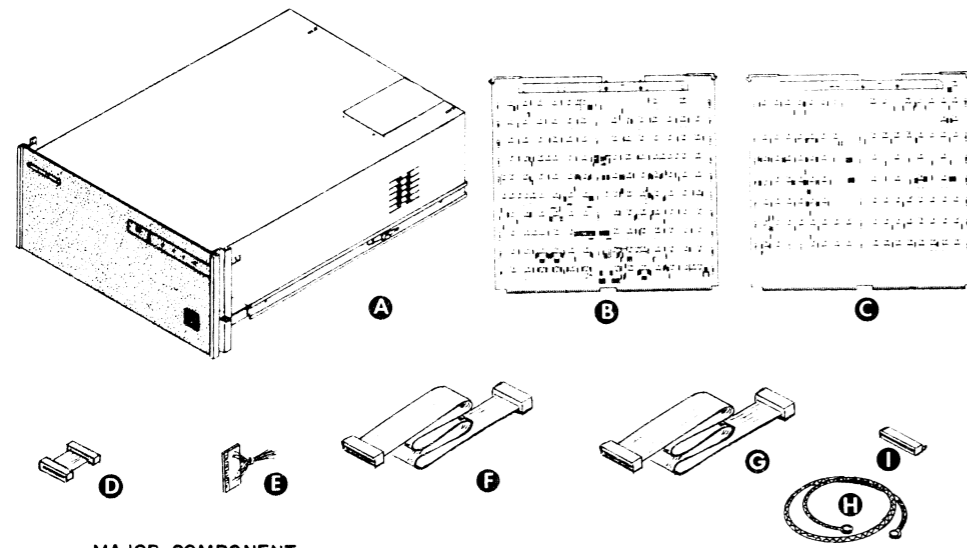
TORQUE REQUIREMENTS		
SCREW NO	IN/LB	N/M
M4	13.27-15.04	1.5-1.70
8-32	14.5-15.5	1.63-1.75
10-32	33-35	3.7-3.95

DG/DISK SUBSYSTEM, MODEL 6099

EXTERNAL CABLING



SUBSYSTEM COMPONENT BREAKDOWN



MAJOR COMPONENT

Item	Component	Mounting Location	Notes
A	2 M-BYTE DISC DRIVE	CABINET	FOUR DRIVES PER SUBSYSTEM, MAX.
B	CONTROLLER BOARD	COMPUTER	ONE OF EACH REQUIRED PER SUBSYSTEM. TWO OF EACH REQUIRED FOR DUAL PROCESSOR SUBSYSTEM.
C	DATA CHANNEL OR BURST MUX INTERFACE BOARD		

DG-02672

CABLE

Item	Cable	Connecting	Max Allowed Lg		Notes
			ft	m	
D	INTER-BOARD	CONTROLLER and DATA CHANNEL INTERFACE	2	5	FLAT CABLE
E	INTERNAL	COMPUTER BACKPANEL PINS " COMPUTER CHASSIS CONN	N/A	N/A	FOR CONTROLLER BOARD ONLY
F	DEVICE	COMPUTER CHASSIS CONN " DISC DRIVE CONNECTOR	50	15.3	TOTAL MAXIMUM LENGTH PER SYSTEM, SINGLE OR DUAL, 50FT (15.3 M)
G	INTERDEVICE	DISC DRIVE " DISC DRIVE	40	12.2	
H	GROUND BRAID	DISC DRIVE DISC DRIVE OR CPU	50	15.3	AS NEEDED

TERMINATOR

Item	Terminator	Location	Notes
I	DISC SUBSYSTEM TERMINATOR	LAST DISC IN DAISY CHAIN	NOT REQUIRED FOR DUAL PROCESSOR APPLICATIONS

DG-02674

SPECIFICATIONS OF THE CHASSIS-MOUNTED COMPONENTS

Item	Component	Chassis	Slots Required	Max Allowable Data Channel Latency (μ sec)	Type of Data Channel Service Desired		Max Allowable Programmed I/O Latency +	Controller's +5 Volt Current Draw (Amps)
					High Speed	Standard		
B	CONTROLLER	CPU	1	18μs (1)	✓	✓	N/A	4.0
C	DATA CHANNEL INTERFACE	CPU	1	18μs (2)	✓	✓	N/A	3.6
	BURST MULTIPLEXOR	CPU	1	N/A			N/A	5.0

NOTE: DATA CHANNEL INTERFACE BOARD MUST HAVE A HIGHER DATA CHANNEL PRIORITY THAN THE CONTROLLER BOARD.

- (1) THIS IS THE MAXIMUM LATENCY ALLOWED TO ASSURE READING OR WRITING CONSECUTIVE SECTORS INCLUDING JUMP COMMANDS.
- (2) THIS IS THE MAXIMUM LATENCY ALLOWED PROVIDED A DATA TRANSFER RATE OF 450,450 WORDS/SEC IS MAINTAINED OVER ANY 8-WORD BLOCK.

SPECIFICATIONS OF THE CABINET-MOUNTED COMPONENTS

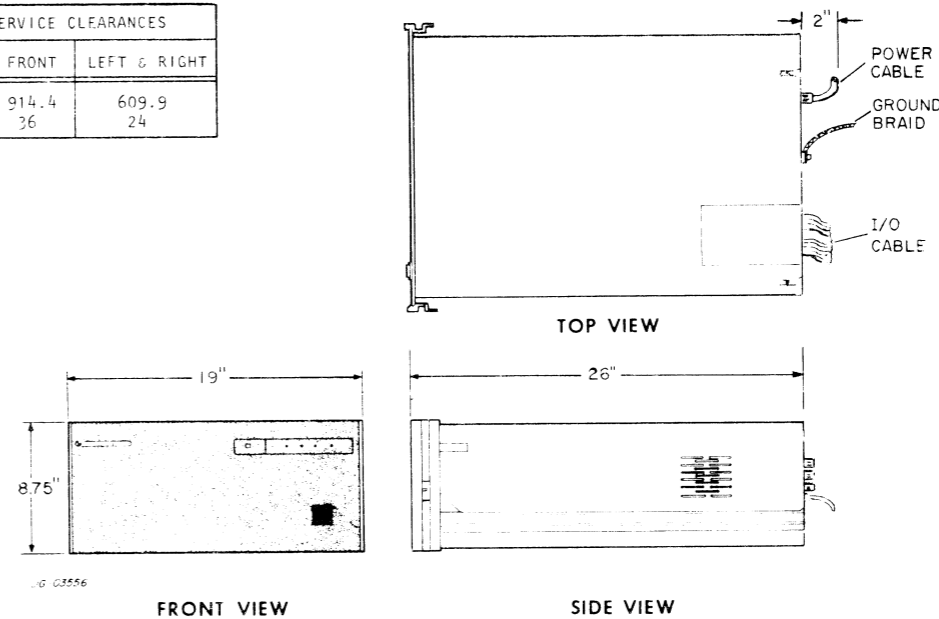
Item	Component	Number in Sub-system	Maximum Operating Temperature		Primary Power					Cabinet Height Required		Weight lbs	Power Dissipation (Max Watts)	Preferred Location or Remarks	Operating Humidity (Relative)			
			Component °C	Media °C	Volts	Hz	Phase	Cond	Amps	Area	in.				cm	min	%max	
A	120V	1-4	100	100	120	60	1	3	3	5	8.75	22.2	76	34.5	300		10	80
	100V	1-4	100	100	100	50	1	3	3	5	8.75	22.2	76	34.5	300		10	80
	220V	1-4	100	100	220	50	1	3	2	5	8.75	22.2	76	34.5	300		10	80
	240V	1-4	100	100	240	50	1	3	2	5	8.75	22.2	76	34.5	300		10	80

DG-01914

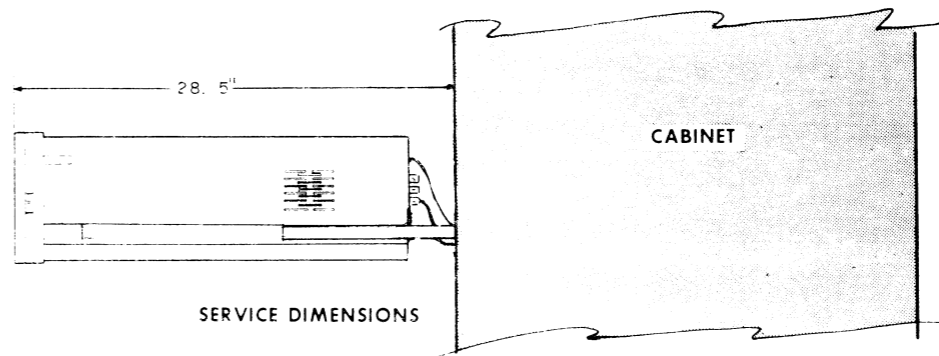
Voltage	Power Cable Length		Power Cable Plug	Mating Receptacle on Power Drop	Mating Receptacle in Wall
	ft	m			
100V	6	1.8	NEMA 5-15P	NEMA 5-15R	NEMA 5-15R
120V	6	1.8	NEMA 5-15P	NEMA 5-15R	NEMA 5-15R
220V	6	1.8	NEMA 6-15P	NEMA 6-15R	NEMA 6-15R
240V	6	1.8	NEMA 6-15P	NEMA 6-15R	NEMA 6-15R

DG-02717

SERVICE CLEARANCES		
	FRONT	LEFT & RIGHT
MM	914.4	609.9
IN	36	24



DG-03556



SHIPPING

FOR PACKING PROCEDURE,
SEE 010-000262/263

INTERNAL CABLING

SIGNAL NAMES	PADDLEBOARD EDGE CONNECTOR PIN NUMBERS	DESTINATION PINS ON COMPUTER BACK PANEL	SOCKET CONNECTOR PIN NUMBERS
GND	A-A8	A-99	50
GND	1	A-100	1
T8	3	A-91	16
WRT OSC RTN(+)	4	A-78	35
WRT OSC RTN(-)	5	A-77	11
LEFT SEL	7	A-75	6
T32	8	A-73	4
T16	13	A-63	27
RD/WRT DATA (-)	14	A-61	13
RD/WRT DATA (+)	15	A-59	14
SECTOR PULSE	18	A-49	33
DISC RESET	19	A-79	31
D0	20	A-81	37
T2	21	A-84	17
RD/WRT CLK (+)	22	A-83	39
+5 AUX V	23	A-86	40
RD/WRT CLK (-)	24	A-85	46
T4	26	A-87	47
T1	27	A-89	18
D1	31	B-13	41
READ GATE	32	B-15	38
DS0	33	B-19	47
WRITE GATE	34	B-23	43
FINISH	35	B-25	20
SC16	36	B-27	45
T64	37	B-31	44
DUR	38	B-34	15
DS1	39	B-36	32
SC1	40	B-38	34
CPU REQ	41	B-40	19
WRT CLK RTN (-)	42	B-48	35
WRT CLK RTN (+)	43	B-49	36
SC2	44	B-51	49
UNSAFE	46	B-53	22
CPU ENABLE	47	B-54	29
SC8	48	B-67	28
SC4	49	B-69	3
NOT USED	2	A-92	
"	6	A-76	
"	9	A-71	
"	10	A-69	
"	11	A-67	
"	12	A-65	
"	16	A-57	
"	17	A-47	
"	25	A-88	
"	28	A-90	
"	29	B-6	
"	30	B-11	
"	45	B-52	
"	50	A-3	

COMPUTER	INTERNAL CABLE PART NUMBER
NOVA 2, NOVA 3, and ECLIPSE LINE	005 001802
NOVA 820, 1210, and 1220	005 001802
NOVA 840, 830, 1200, and 800 JUMBO	005 000411 (INSTALLED IN SLOT 16)
NOVA 800 and 1200	005 000386
NOVA and SUPERNOVA	005 000231

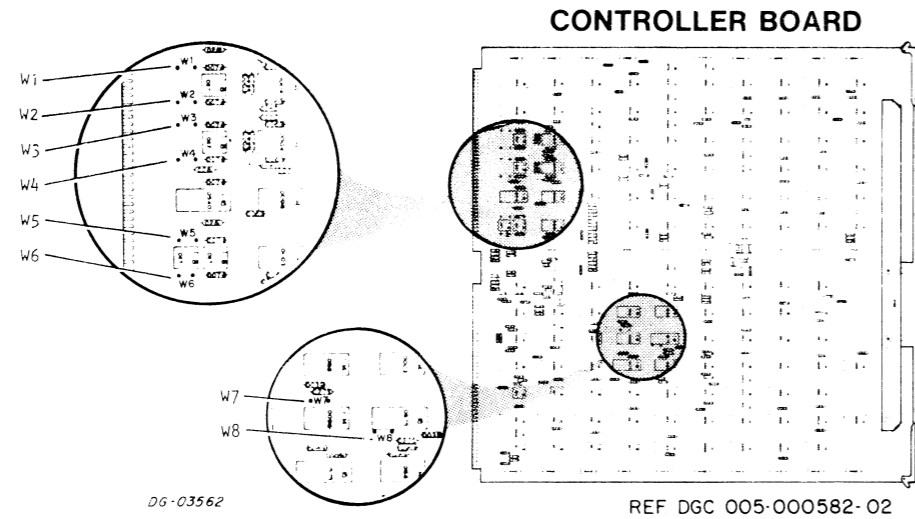
DG-03565

NOTE: INTERNAL CABLE IS FOR CONTROLLER BOARD ONLY; NOT NEEDED FOR DATA CHANNEL INTERFACE BOARD. ON THE FOLLOWING PROCESSORS, A DISC DRIVE CABLE EDGE CONNECTOR IS PART OF THE COMPUTER BACK PANEL, AND IS PERMANENTLY CONNECTED, VIA BACK PANEL ETCH, TO THE SLOT INDICATED IN THE TABLE. NO INTERNAL CABLE IS REQUIRED.

PROCESSOR	SLOT	
NOVA 2/10, NOVA 820 NOVA 1220 COMPUTERS	9	P4 CONNECTOR
NOVA 3/12 COMPUTER	10	P4 CONNECTOR

TAILORING

JUMPERS



DG-03562

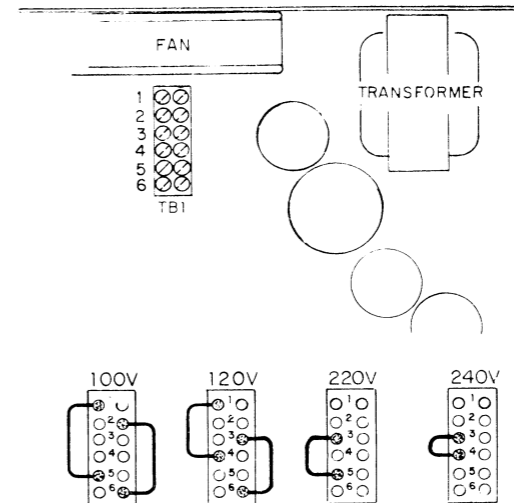
DEVICE CODE SELECT

JUMPER POSITION	DEVICE CODE 26 ₈	DEVICE CODE 66 ₈
W1	JUMPER REMOVED	JUMPER REMOVED
W2	JUMPER INSERTED	JUMPER INSERTED
W3	JUMPER REMOVED	JUMPER REMOVED
W4	JUMPER INSERTED	JUMPER INSERTED
W5	JUMPER REMOVED	JUMPER INSERTED
W6	JUMPER INSERTED	JUMPER INSERTED

	SINGLE PROCESSOR	DUAL PROCESSOR
W3	JUMPER INSERTED	JUMPER REMOVED
W7	JUMPER REMOVED	JUMPER INSERTED (BOT!! CONTROL BOARDS)

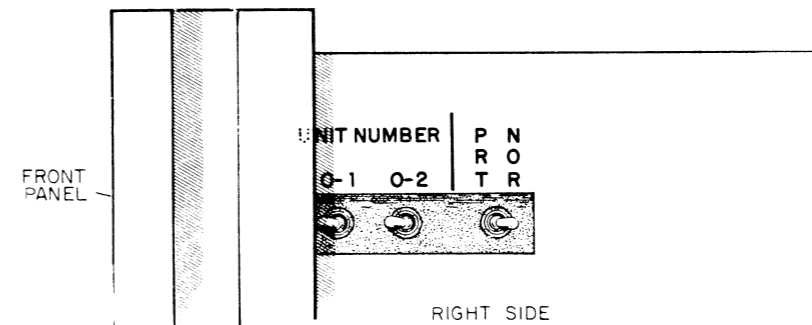
DATA 10	W5
" 11	W6
" 12	W1
" 13	W2
" 14	W4
" 15	W3

VOLTAGE SELECTION



DG-03563

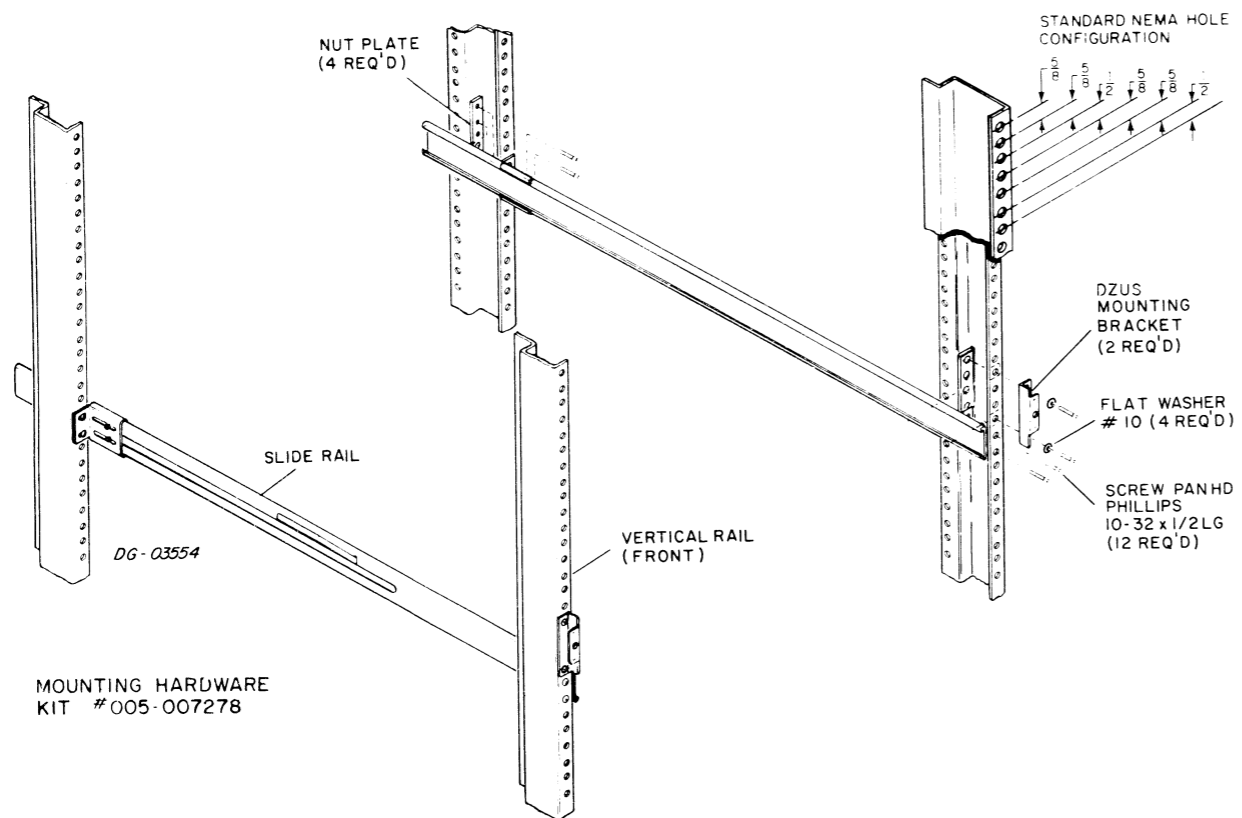
UNIT SELECT & PROTECT SWITCHES



DG-03566

CABINET MOUNTING

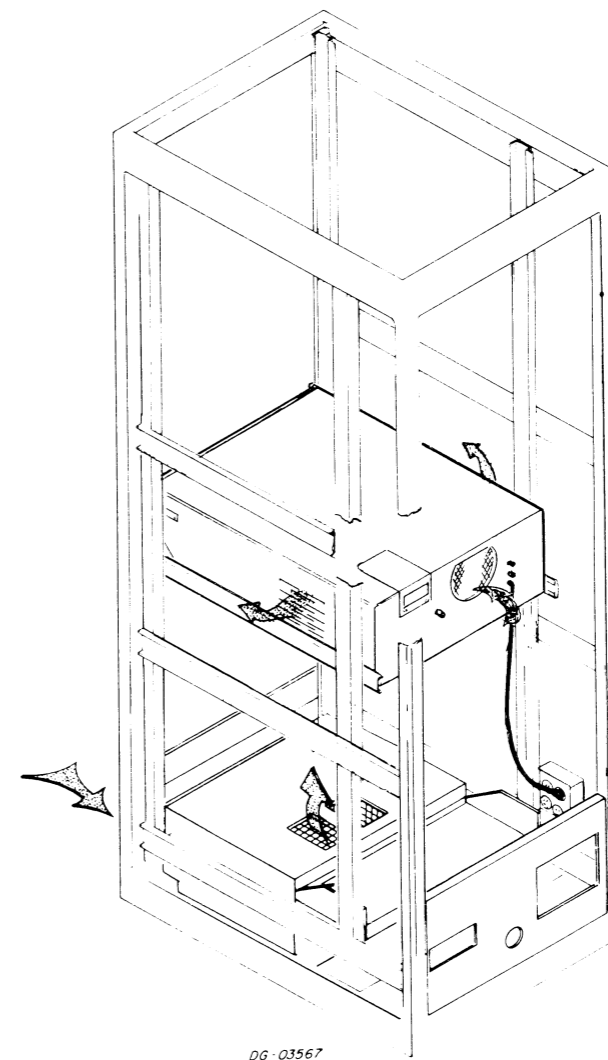
SLIDE RAIL INSTALLATION



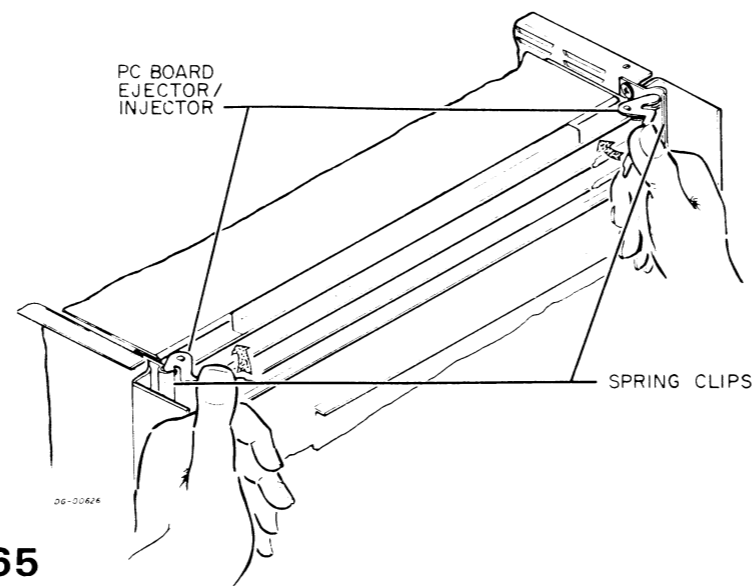
MOUNTING HARDWARE KIT #005-007278

Torque Requirements	
Screw No.	In./Lb.
8-32	12 - 14
10-32	23 - 25 (10-12 for Speednut)

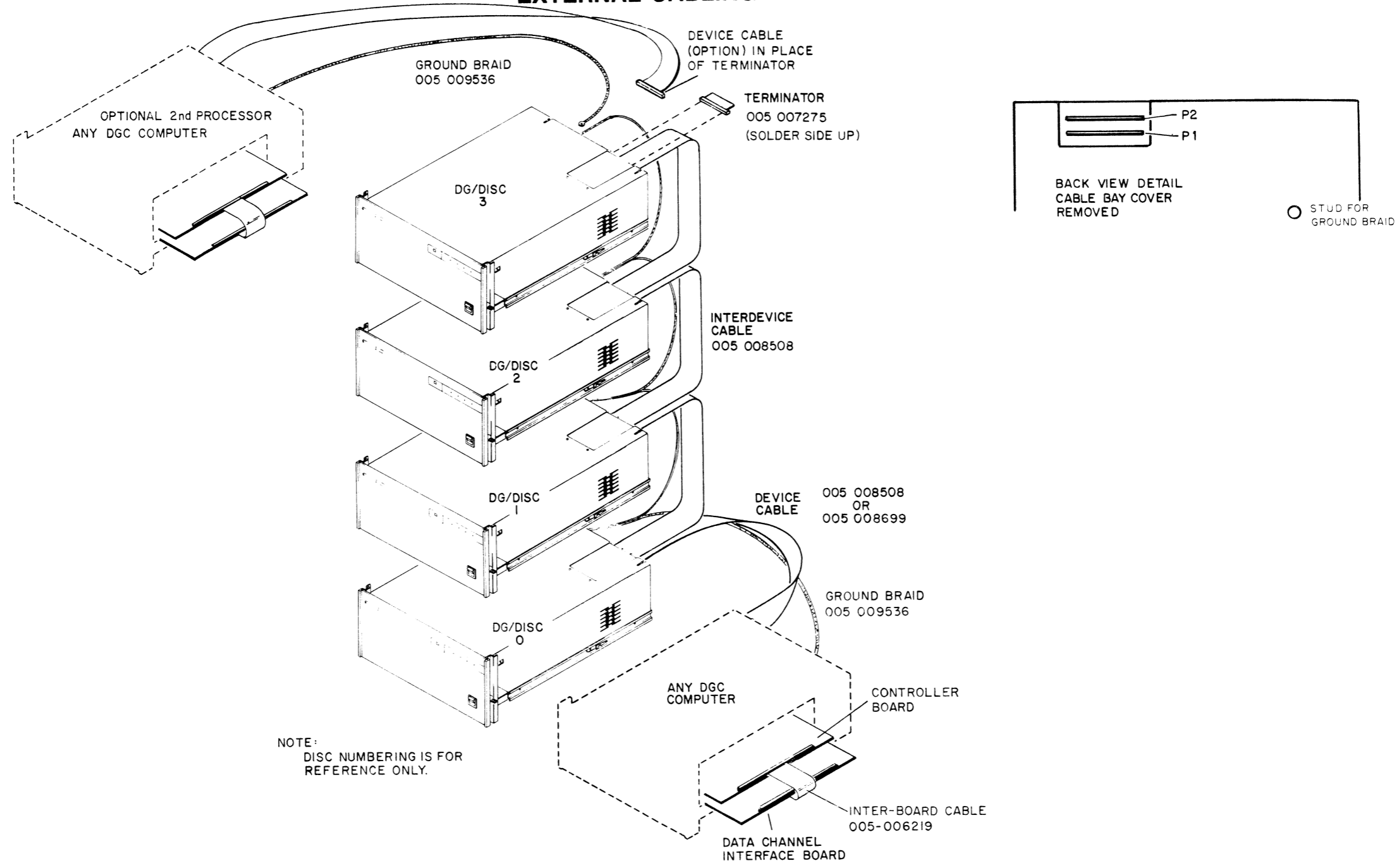
AIR FLOW



INSTALLING PC BOARD

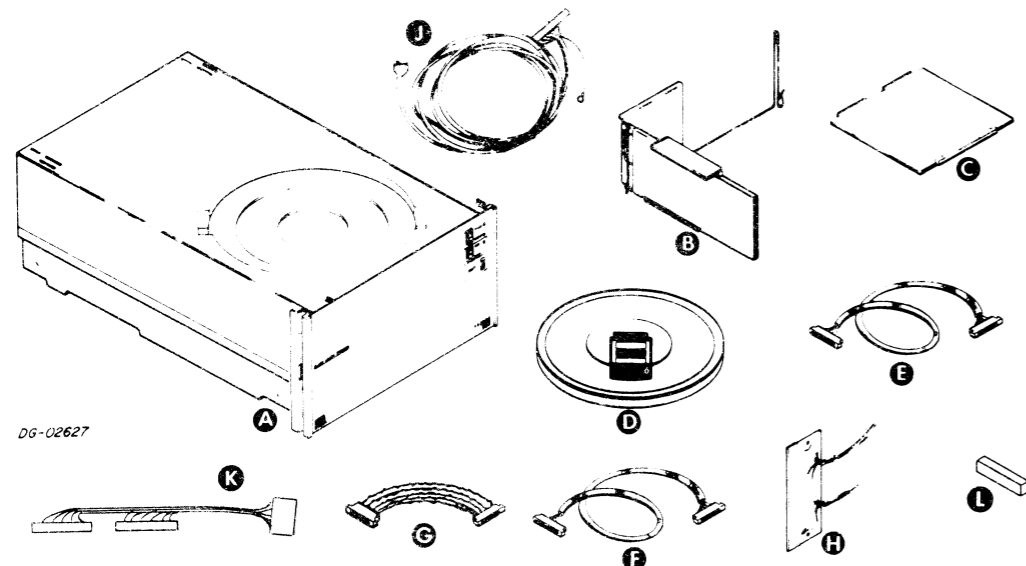


EXTERNAL CABLING



NOTE:
DISC NUMBERING IS FOR
REFERENCE ONLY.

SUBSYSTEM COMPONENT BREAKDOWN



DG-02627

MAJOR COMPONENT

Item	Component	Mounting Location	Notes
A	20Mbyte cartridge disc drive	Cabinet	Two drives per cabinet maximum Four drives per subsystem, max.
B	Disc Cable Interface	Cabinet	One required per drive
C	Controller	Computer	One required per subsystem
D	Disc Cartridge	20Mbyte cartridge disc drive	(Two req'd for dual processor subsystem.)

CABLE

Item	Cable	Connecting	Max Allowed Lg ft / m	Notes
E	Device Cable	Computer Chassis Conn. and Disc Drive	40 / 12.2	REFER TO DISK PRODUCT MASTER 010-000331 FOR CONFIGURATION AND CABLE NUMBERS
*F	Interdevice Cable (long)	Disc Drive " Disc Drive	30 / 9.1	
G	Interdevice Cable (short)	Disc Drive " Disc Drive	7.5' / 19.5cm	
H	Internal Cable	Computer back-panel pins " Computer chas conn	N/A / N/A	
J	Device Cable	Compliant CPU " Disc Drive	40 / 12.2	
K	Compliant CPU Int. Cbl.	Computer back-panel pins " Computer chas conn	N/A / N/A	

TERMINATOR

Item	Terminator	Location	Notes
L	Disc Subsystem Terminator	Last disc cable interface in daisy chain	Not required for dual processor applications.

SPECIFICATIONS OF THE CHASSIS-MOUNTED COMPONENTS

Item	Component	Chassis	Slots Required	Max Allowable Data Channel Latency (sec)	Type of Data Channel Service Desired	Controller's +5 Volt Current Draw (Amps)
C	CONTROLLER	CPU	1	1.58	X High Speed, X Standard	4.0

DG-01912

* FOR 256 WORDS ON A MULTIPLE SECTOR TRANSFER

CARTRIDGE DG/DISK, SERIES 6070

SPECIFICATIONS OF THE CABINET-MOUNTED COMPONENTS

Item	Component	Number in Sub-system	Maximum Operating Temperature				Primary Power *			Cabinet Height Required			Weight lbs / kg	Power Dissipation (Max Watts)	Preferred Location or Remarks **	Operating Humidity (Relative) min%/6max
			Component °F / °C	Media °F / °C	Current (nom) Draw (Amp)	Voltage ±ΔV	Frequency	Area	in.	cm						
A	(120V)	1-4	110 / 43	90 / 32	4.9	120 +10% -15%	60Hz ±1Hz	6	10.5	26.7	150 / 67	500	1. AREAS 3-8 AND 9-14 FOR OPERATOR CONVENIENCE	20 / 80		
	(100V)	1-4	110 / 43	90 / 32	5.7	100 +10% -15%	50Hz ±1Hz	6	10.5	26.7	150 / 67	500	2. MAX 2 DRIVES PER CABINET ADJACENT AREAS	20 / 80		
	(220V)	1-4	110 / 43	90 / 32	2.6	220 +10% -15%	50Hz ±1Hz	6	10.5	26.7	150 / 67	500	3. POWERCORD 5ft./1.52m long	20 / 80		
	(240V)	1-4	110 / 43	90 / 32	2.4	240 +10% -15%	50Hz ±1Hz	6	10.5	26.7	150 / 67	500	4. AT LEAST 3" BELOW COMPUTER CABINET MUST BE EQUIPPED WITH ANT-TIP LEGS.	20 / 80		

DG-01914

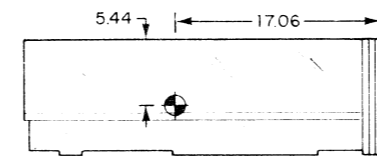
MAXIMUM OPERATING ALTITUDE 6000ft./1828m FOR ALL DISC DRIVES

Voltage	Power Cable Length		Power Cable Plug	Mating Receptacle on Power Drop	Mating Receptacle in Wall
	ft	m			
100V, 50Hz	5	1.52	5-15P	5-15R	5-15R
120V, 60Hz	5	1.52	5-15P	5-15R	5-15R
220V, 50Hz	5	1.52	6-15P	6-15R	6-15R
240V, 50Hz	5	1.52	6-15P	6-15R	6-15R

DG-02717

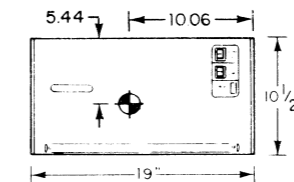
* FOR NOVA STYLE CABINETS, MOD KIT 005-005249 IS REQUIRED. SEE 010-000056.

** WHEN SET IS CONFIGURED WITH ANY DEVICE THAT HAS AN A-C LINE CORD THAT CAN DRAPE NEAR CARTRIDGE AREA, IT MUST BE ROUTED AWAY FROM DISK CARTRIDGE AREA

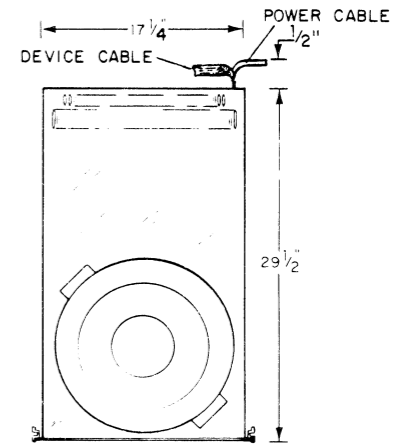


DG-02628

SIDE VIEW

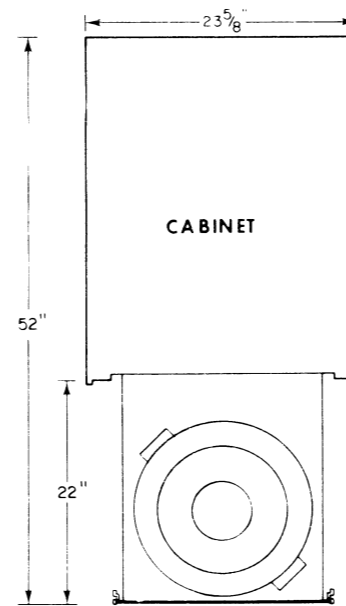


FRONT VIEW

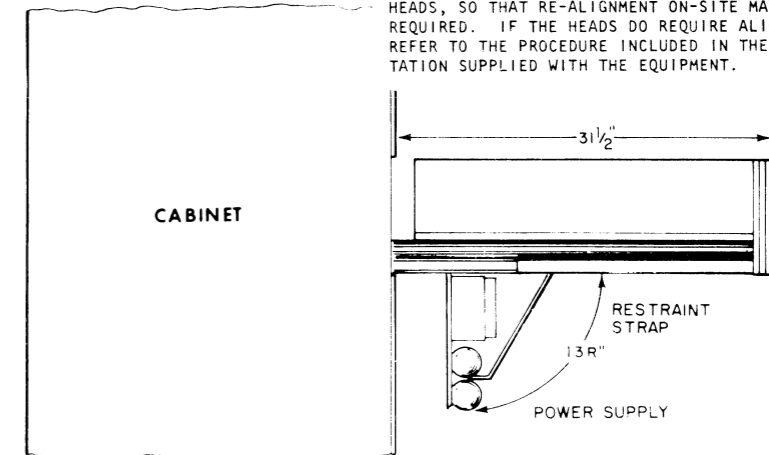


TOP VIEW

NOTE: THE READ/WRITE HEADS ARE CAREFULLY ALIGNED AT THE FACTORY, AND THE EQUIPMENT IS PACKED IN PROTECTIVE CONTAINERS TO PREVENT DAMAGE DURING SHIPMENT. HOWEVER, ROUGH HANDLING MAY MOVE THE HEADS, SO THAT RE-ALIGNMENT ON-SITE MAY BE REQUIRED. IF THE HEADS DO REQUIRE ALIGNMENT, REFER TO THE PROCEDURE INCLUDED IN THE DOCUMENTATION SUPPLIED WITH THE EQUIPMENT.



OPERATING DIMENSIONS



SERVICE DIMENSIONS

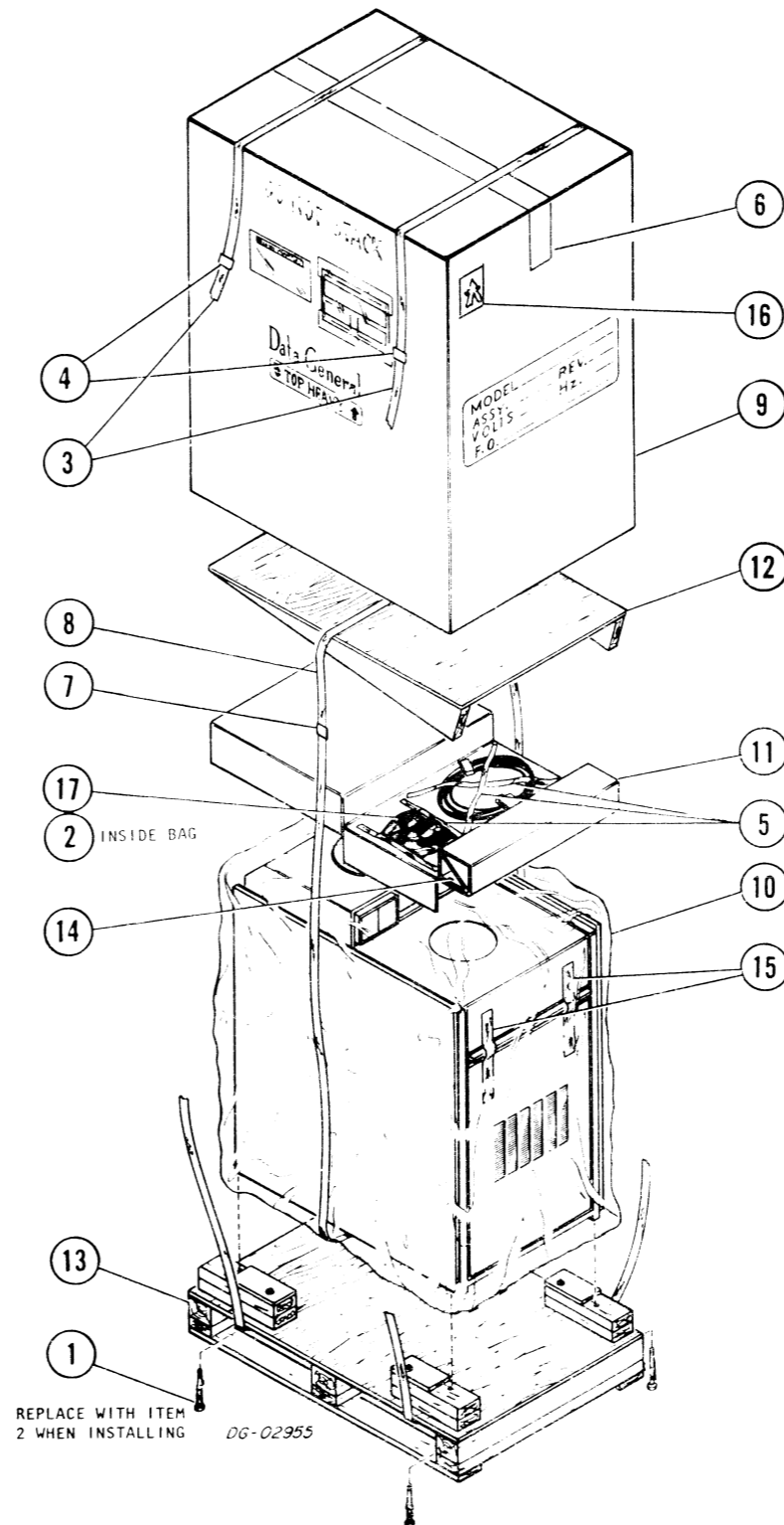
CAUTION: EXERCISE EXTREME CARE WHEN LOWERING THE POWER SUPPLY. IF ALLOWED TO FALL FREELY, IT WILL OVERCOME THE RESTRAINT STRAP AND SWING INTO AND DAMAGE COMPONENTS IN THE CABINET BELOW THE DISK DRIVE.

SHIPPING

THE DISC DRIVE PACKING KIT

THE CONTROLLER PACKING KIT
 FOR PACKING PROCEDURE,
 SEE 010-000262

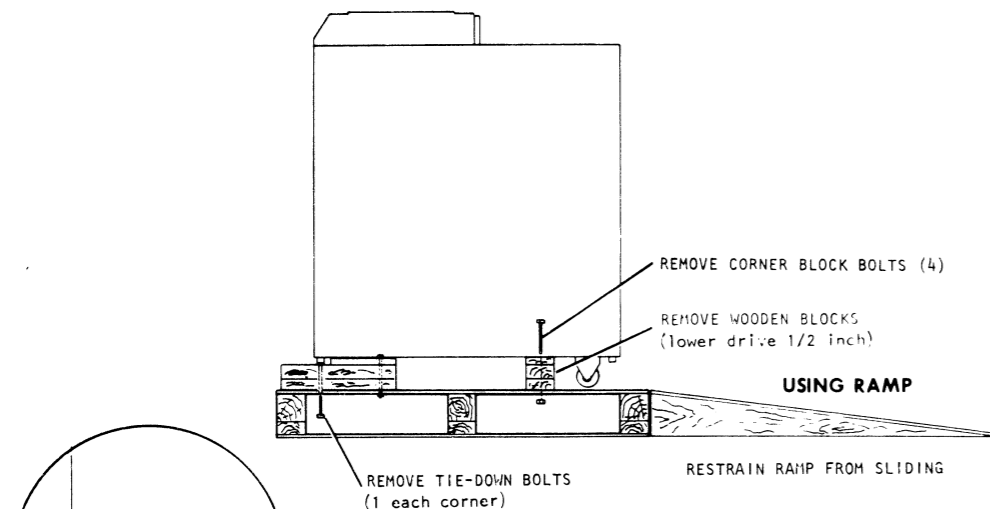
THE ADAPTER PACKING KIT
 FOR PACKING PROCEDURE,
 SEE 010-000263



17	1	PLASTIC BAG 305 x 305 (3 MIL)	136-000335
16	2	TIP-N-TEL INDICATOR	129-000469
15	2 FT	FILAMENT TAPE 2" P-166	129-000370
14	2	9/16" LEG CROWN STAPLE	129-000223
13	1	SHOCK-MOUNTED PALLET	129-000211
12	1	PLYWOOD RAMP	129-000210
11	1	CORRUGATED PAD	129-000209
10	1	POLY BAG, 3 MIL, 36 x 26 x 54	129-000208
9	1	HSC 40.75 x 27.5 x 43.75 TRIWALL	129-000207
8	24 FT	4020 PET, 1/2 x .020" POLYESTER	129-000147
7	2 FT	STRAPPING SEAL	129-000124
6	9 FT	REINFORCED SEALING TAPE 3"	129-000027
5	6 FT	PERMACEL GLASS TAPE	129-000026
4	2	BUCKLE, AVB-4	129-000025
3	12 FT	POLY BAND #420	129-000024
2	4	LEVELER SCREW, FB4444	123-000774
1	4	NUT, HEX, SCDP, 1/2 3	106-000724
ITEM	QTY	DESCRIPTION	PART NO.

HANDLING PRECAUTIONS UNPACKING CONSIDERATIONS (Save Materials)

REMOVING DRIVE FROM PALLET

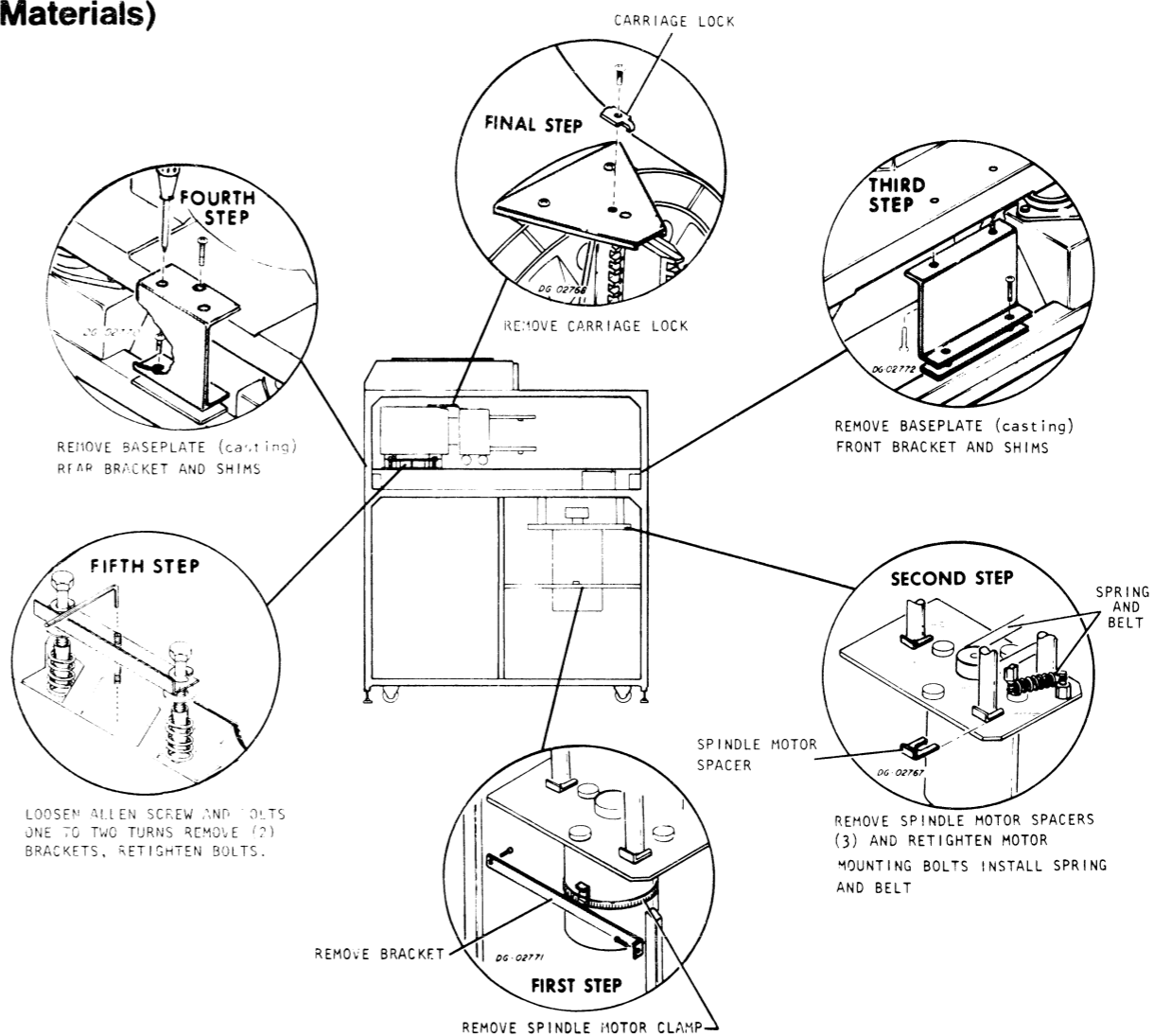


INSTALL LEVELLING LEGS

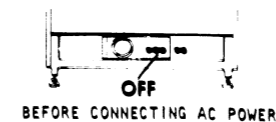
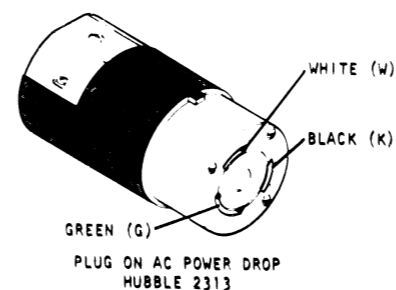
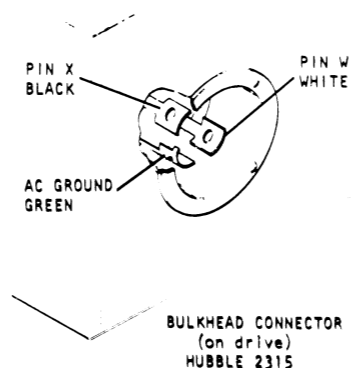
(MOVE DRIVE TO OVERHANG PALLET EDGE SCREW LEVELLING LEGS AS FAR IN AS THEY WILL GO TO AVOID BENDING THEM GOING ON AND OFF RAMP)

NOTE: THE READ/WRITE HEADS ARE CAREFULLY ALIGNED AT THE FACTORY, AND THE EQUIPMENT IS PACKED IN PROTECTIVE CONTAINERS TO PREVENT DAMAGE DURING SHIPMENT. HOWEVER, ROUGH HANDLING MAY MOVE THE HEADS, SO THAT RE-ALIGNMENT ON-SITE MAY BE REQUIRED. IF THE HEADS DO REQUIRE ALIGNMENT, REFER TO THE PROCEDURE INCLUDED IN THE DOCUMENTATION SUPPLIED WITH THE EQUIPMENT.

MOVE DRIVE CAREFULLY AFTER REMOVING CARRIAGE LOCK TO AVOID HEAD DAMAGE

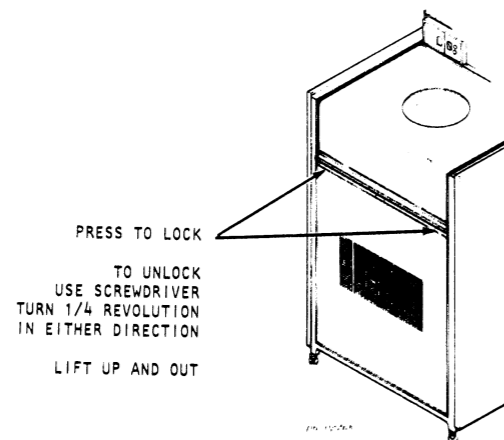
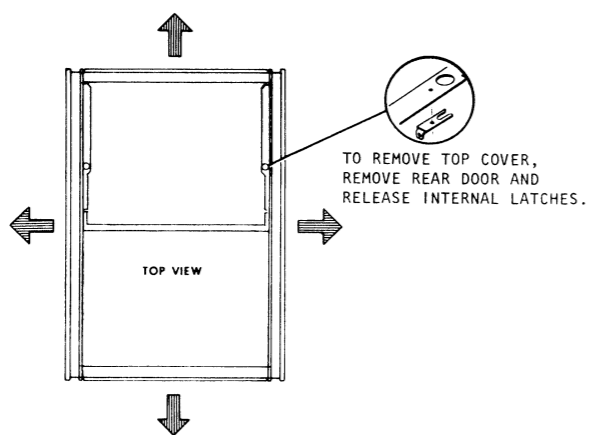


AC POWER WIRING (120V 20A 60Hz)



PHYSICAL ACCESS

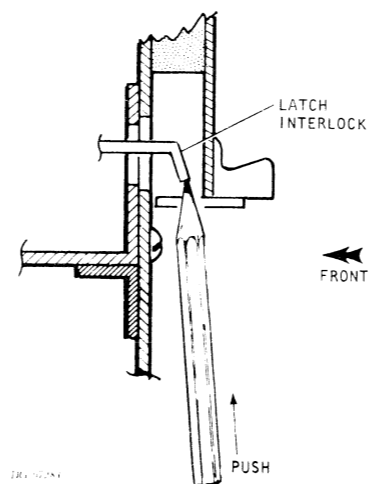
REMOVING COVERS



CONNECT 5 GROUND STRAPS WHEN INSTALLING COVERS

DOOR LOCK ASSEMBLY OVERRIDE

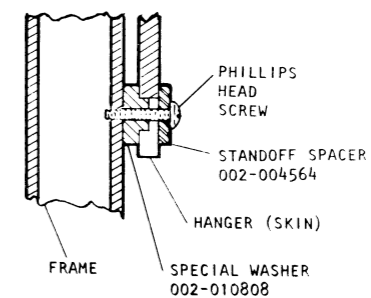
THE DOOR LOCK ASSEMBLY IS INTENDED TO LIMIT THE OPENING OF THE SHROUD COVER WHILE THE DISC PACK IS ROTATING AND/OR POWER TO THE DRIVE IS OFF. COVER MAY BE OPENED ONLY WHEN PACK IS COMPLETELY STOPPED AND DC POWER IS ON.



IN THE EVENT OF POWER FAILURE AND/OR DRIVE OFF AND ACCESS MUST BE GAINED TO THE DISC PACK OR SHROUD, THE FOLLOWING PROCEDURE CAN BE USED:

- STEP 1. REMOVE FRONT DOOR.
- STEP 2. USING A PEN OR PENCIL, PUSH (PIVOT) THE LATCH INTERLOCK OUT-OF-ENGAGEMENT WITH THE BRACKET DETENT.
- STEP 3. WHILE LATCH INTERLOCK IS PIVOTED, LIFT COVER OPEN BY DOOR LATCH.

REMOVING SKINS



1X-107263

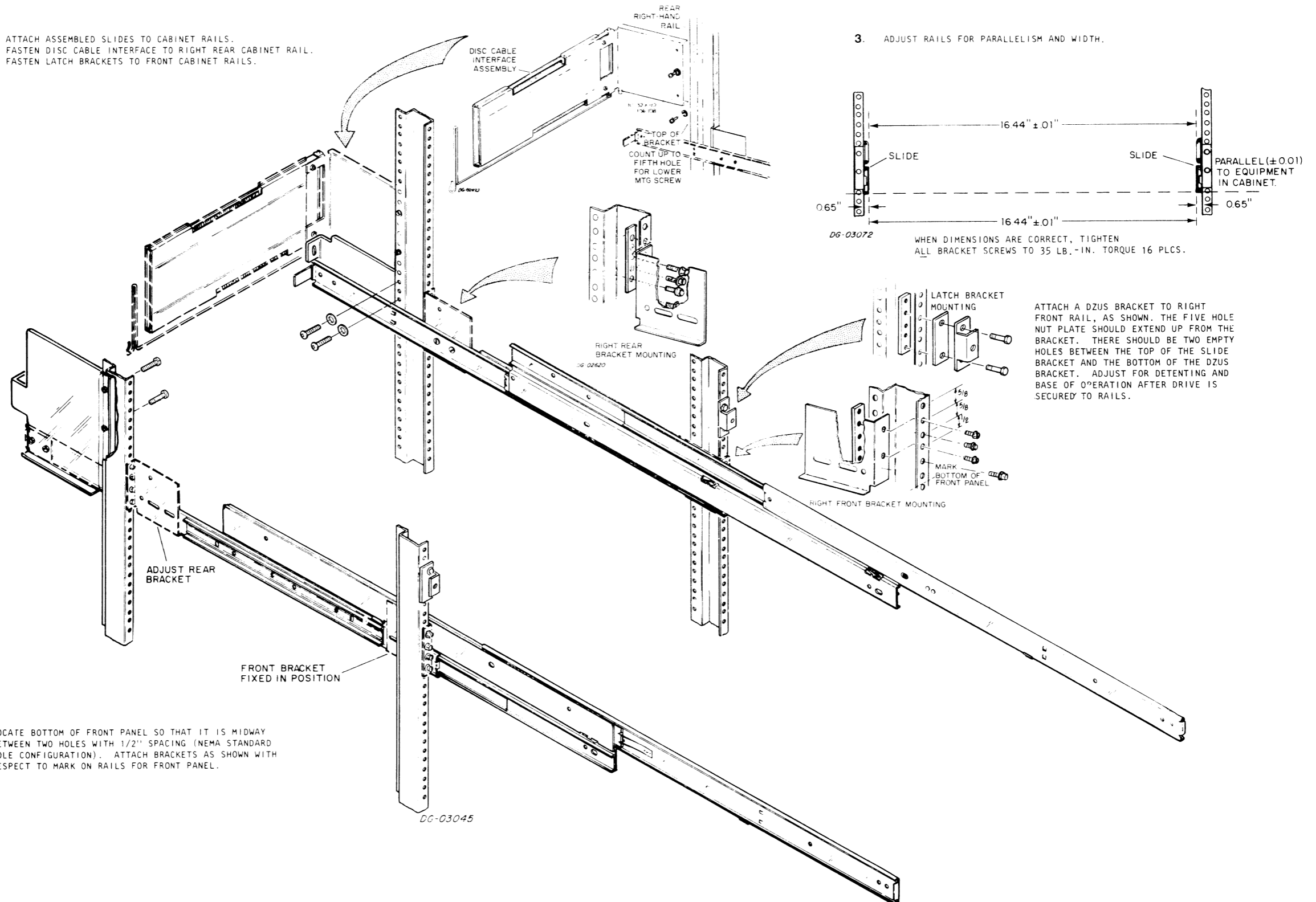
IN OPERATION, TIGHTENING THE SCREW SQUEEZES THE HANGER BETWEEN STANDOFF SPACER 002-4564 AND SPECIAL WASHER 002-10808 LOCKING SKIN IN PLACE. TO REMOVE SKIN, LOOSEN SCREW.

INSTALLATION PROCEDURE (CONT)

MOUNTING SLIDES TO RAILS

2. ATTACH ASSEMBLED SLIDES TO CABINET RAILS. FASTEN DISC CABLE INTERFACE TO RIGHT REAR CABINET RAIL. FASTEN LATCH BRACKETS TO FRONT CABINET RAILS.

3. ADJUST RAILS FOR PARALLELISM AND WIDTH.

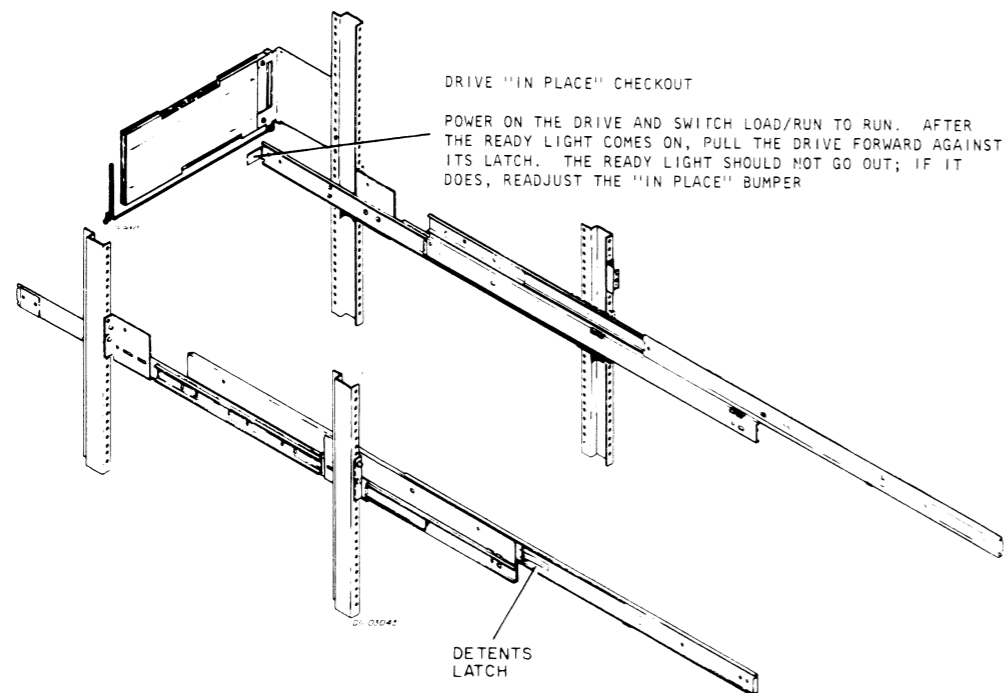


NOTE: LOCATE BOTTOM OF FRONT PANEL SO THAT IT IS MIDWAY BETWEEN TWO HOLES WITH 1/2" SPACING (NEMA STANDARD HOLE CONFIGURATION). ATTACH BRACKETS AS SHOWN WITH RESPECT TO MARK ON RAILS FOR FRONT PANEL.

INSTALLATION IN A CABINET MOUNTING CHASSIS ON THE SLIDES

4. INSTALL DISC DRIVE ONTO SLIDES.

CAUTION: THIS STEP REQUIRES AT LEAST TWO, AND PREFERABLY THREE PERSONS; THE DRIVE WEIGHS APPROXIMATELY 150 POUNDS, AND SOME MANEUVERING IS REQUIRED DURING INSTALLATION.

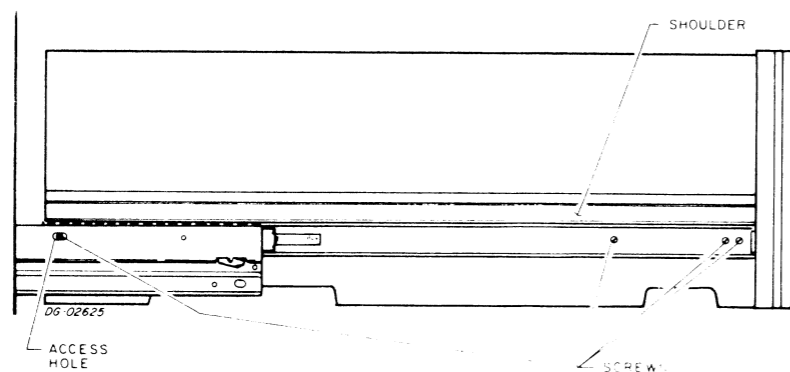


DRIVE "IN PLACE" CHECKOUT

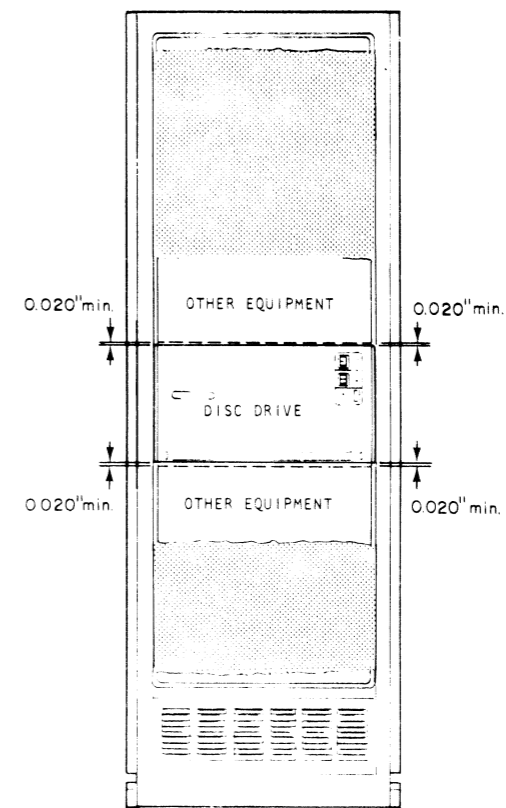
POWER ON THE DRIVE AND SWITCH LOAD/RUN TO RUN. AFTER THE READY LIGHT COMES ON, PULL THE DRIVE FORWARD AGAINST ITS LATCH. THE READY LIGHT SHOULD NOT GO OUT; IF IT DOES, READJUST THE "IN PLACE" BUMPER

DETENTS LATCH

EXTEND THE SLIDES TO THEIR FULLY EXTENDED (SERVICE) POSITION. ENSURE THAT THE DETENTS LATCH.



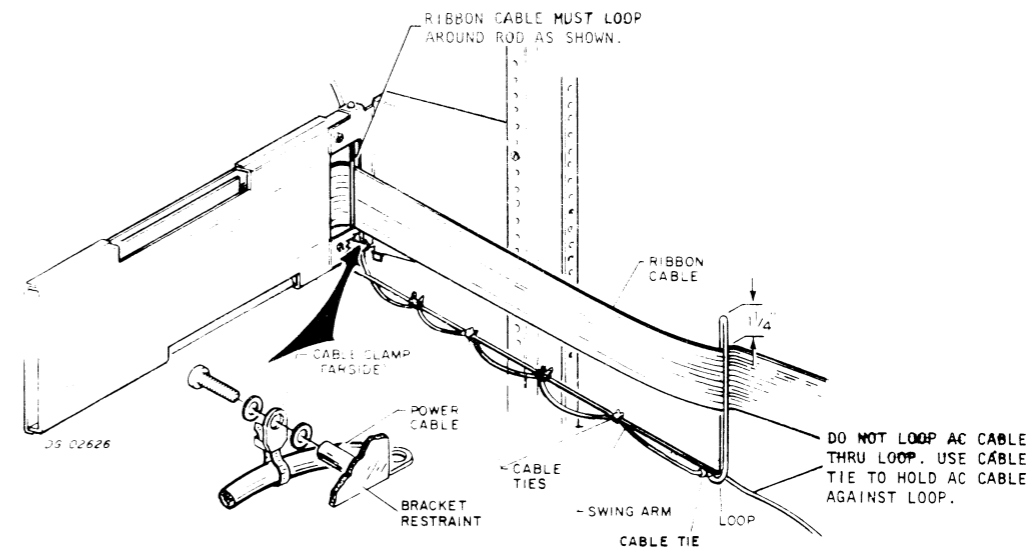
LIFT THE DRIVE INTO POSITION, SPREAD THE SLIDES, AND PLACE THE DRIVE ONTO THE EXTENDED SLIDES. PUSH THE SLIDES AGAINST THE CASTING SO THAT THE WEIGHT IS SUPPORTED BY THE MACHINED SHOULDER ON THE CASTING. THE SCREW HOLES IN THE SLIDE SHOULD ALIGN WITH THE TAPPED HOLES IN THE CASTING. SLIDE THE DRIVE FORWARD OR BACKWARD UNTIL THE HOLES ARE ALIGNED. BE SURE TO HOLD THE SLIDES FIRMLY AGAINST THE CASTING AND UNDER THE SHOULDER DURING THIS OPERATION. DO NOT RELEASE THE SLIDES UNTIL ALL SCREWS ARE INSTALLED.



DG 02048

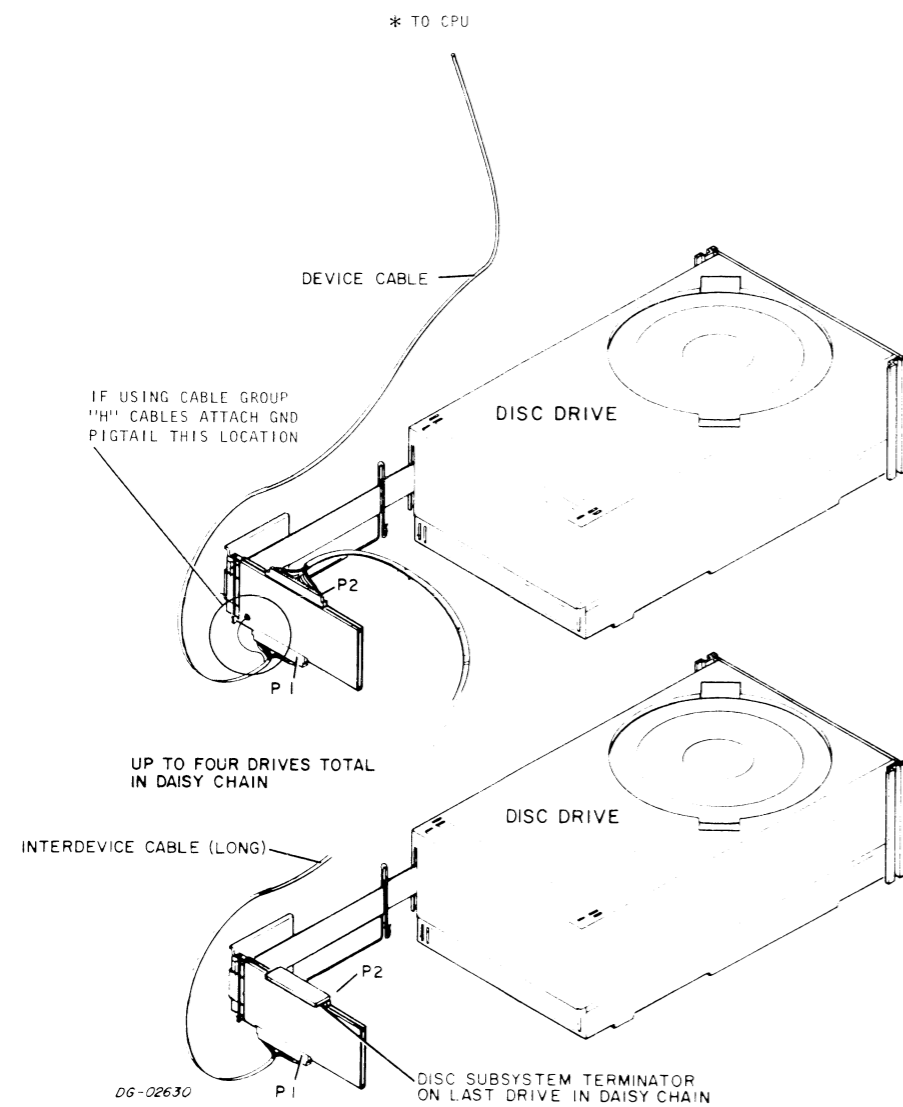
CHECK CLEARANCES BETWEEN DRIVE AND OTHER EQUIPMENT. MOUNT AT LEAST 3" BELOW COMPUTER.

5. ATTACH I/O AND POWER CABLES.

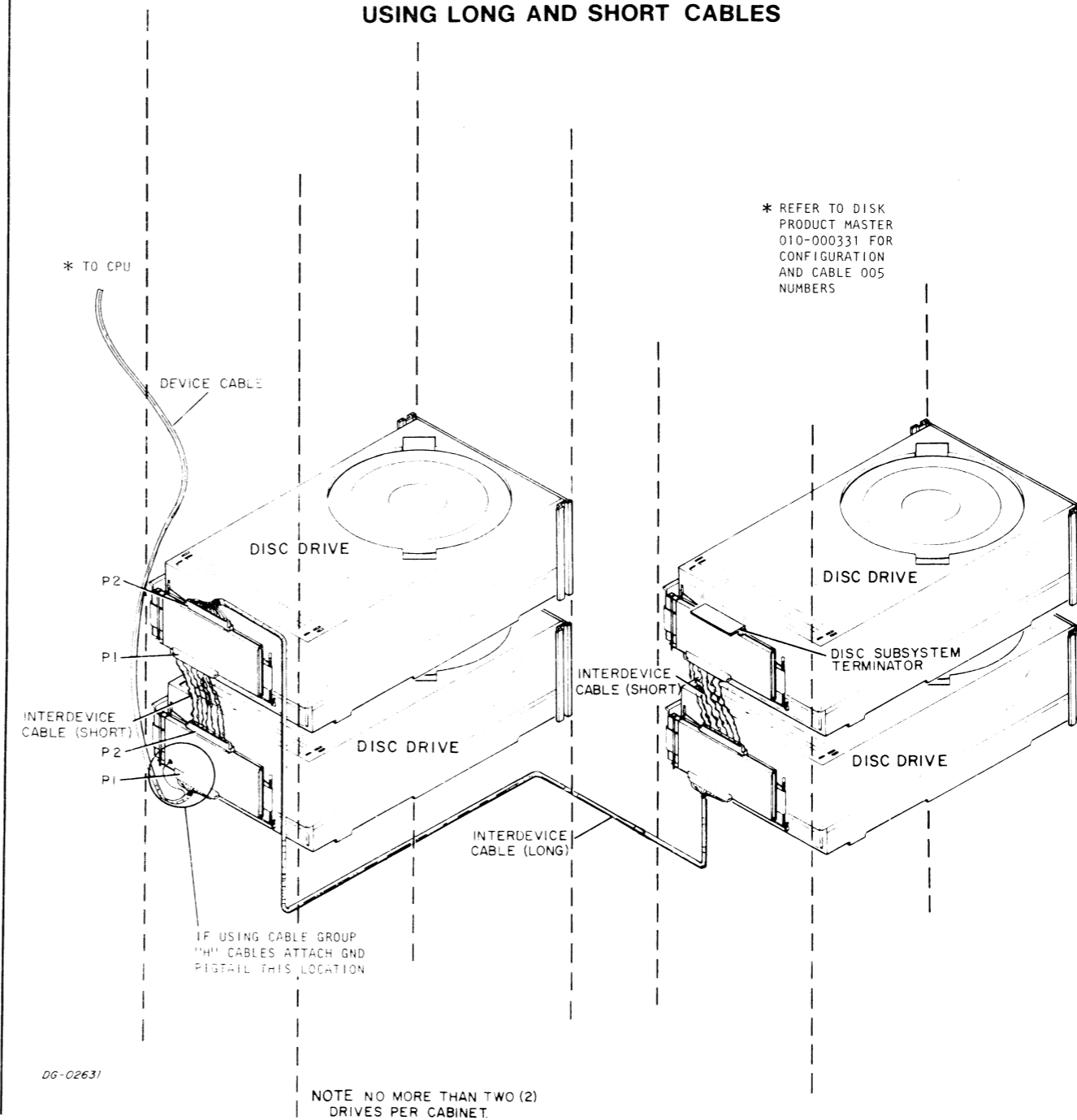


EXTERNAL CABLING

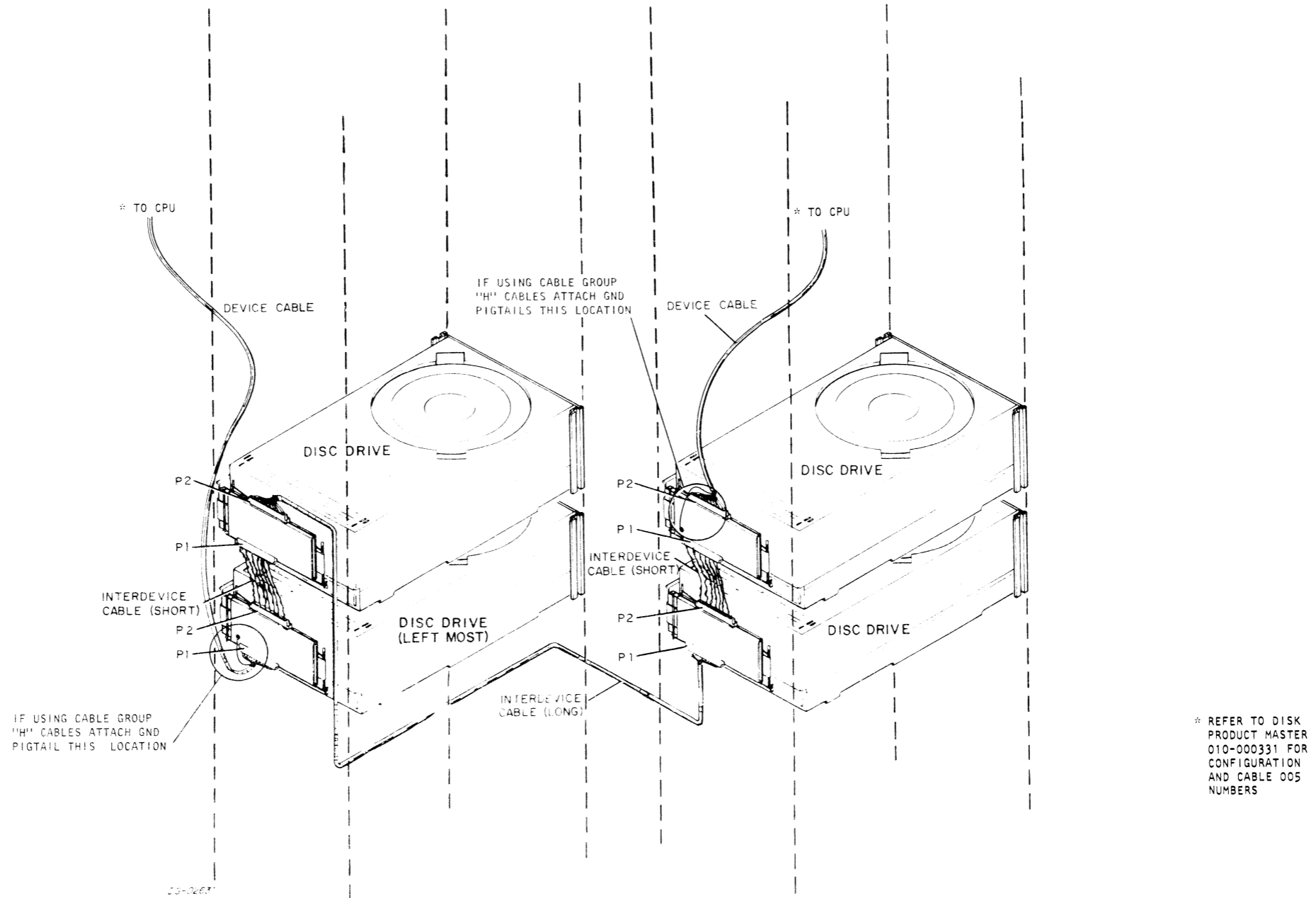
EXAMPLE OF SUBSYSTEM USING LONG CABLE



EXAMPLE OF CABINET MOUNTED SUBSYSTEM USING LONG AND SHORT CABLES

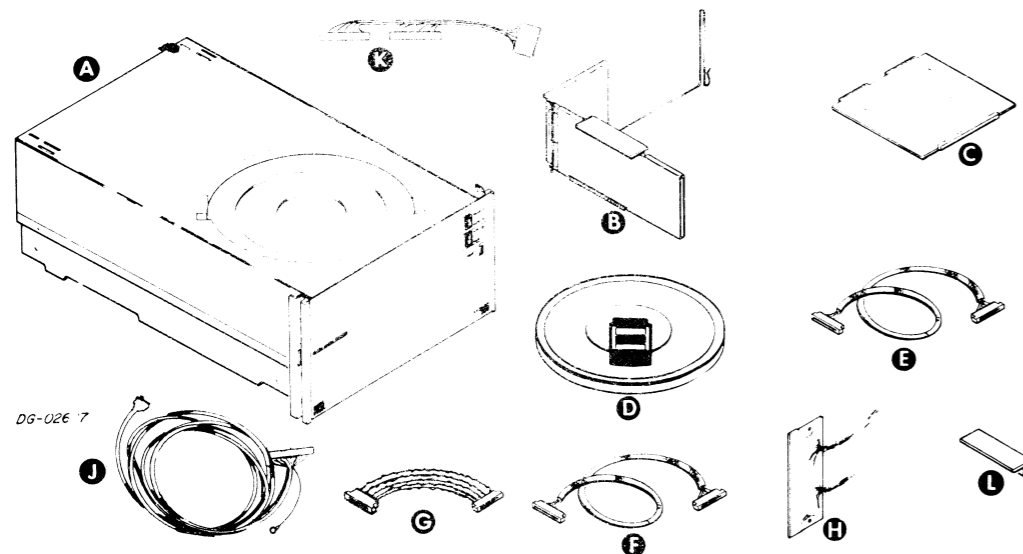


EXTERNAL CABLING
(EXAMPLE OF A DUAL PROCESSOR CONFIGURATION)



NOTE: BOTH PROCESSORS HAVE EQUAL PRIORITY. THE LEFT MOST DRIVE (WITH PLUG P1 CONNECTED TO PROCESSOR) CONTROLS THE PROCESSOR SELECT SWITCHING.

SUBSYSTEM COMPONENT BREAKDOWN



MAJOR COMPONENT

Item	Component	Mounting Location	Notes
A	10Mbyte cartridge disc drive	Cabinet	Two drives per cabinet maximum. Four drives per subsystem, max.
B	Disc Cable Interface	Cabinet	One required per drive
C	Controller	Computer	One required per subsystem (Two req'd for dual processor subsystem.)
D	Disc Cartridge	10Mbyte cartridge disc drive	

CABLE

Item	Cable	Connecting	Max Allowed Lg ft / m	Notes
E	Device Cable	Computer Chassis Conn. and Disc Drive	40 / 12.2	REFER TO DISK PRODUCT MASTER 010-000331 FOR CONFIGURATION AND CABLE 005 NUMBERS
*F	Interdevice Cable (long)	Disc Drive " Disc Drive	30 / 9.1	
G	Interdevice Cable (short)	Disc Drive " Disc Drive	7.5" / 19.5cm	
H	Internal Cable	Computer back-panel pins " Computer chas conn	N/A / N/A	
J	Device Cable	Compliant CPU " Disc Drive	40 / 12.2	
K	Compliant CPU Int. Cbl.	Computer back-panel pins " Computer Chassis	N/A / N/A	

TERMINATOR

Item	Terminator	Location	Notes
L	Disc Subsystem Terminator	Last disc cable interface in daisy chain	Not required for dual processor applications.

* DGC DOES NOT RECOMMEND CONFIGURING 4234 TYPE DISC DRIVES IN SS.

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 Standard	Controller's +5 Volt Current Draw (Amps)
C	CONTROLLER	CPU	1	12.5	X X	4.0

DG-0192

CARTRIDGE DG/DISK, SERIES 6045 - 6051

SPECIFICATIONS OF THE CABINET-MOUNTED COMPONENTS

Item	Component	Number in Sub-system	Maximum Operating Temperature				Primary Power *			Cabinet Height Required			Weight		Power Dissipation (Max Watts)	Preferred Location or Remarks	Operating Humidity (Relative)	
			Component of	°C	°F	°C	Current (nom) Draw (Amp)	Voltage ±ΔV	Frequency	Area	in.	cm	lbs	kg			min	%max
A	(120V)	1-4	110	43	90	32	4.9	120 +10% -15%	60Hz +1Hz	6	10.5	26.7	150	67	500	1. AREAS 3-8 AND 9-14 FOR OPERATOR CONVENIENCE 2. MAX 2 DRIVES PER CABINET ADJACENT AREAS 3. POWERCORD 5ft./1.52m long 4. AT LEAST 3" BELOW COMPUTER CABINET MUST BE EQUIPPED WITH ANT-TIP LEGS.	20	80
	(100V)	1-4	110	43	90	32	5.7	100 +10% -15%	50Hz +1Hz	6	10.5	26.7	150	67	500		20	80
	(220V)	1-4	110	43	90	32	2.6	220 +10% -15%	50Hz +1Hz	6	10.5	26.7	150	67	500		20	80
	(240V)	1-4	110	43	90	32	2.4	240 +10% -15%	50Hz +1Hz	6	10.5	26.7	150	67	500		20	80

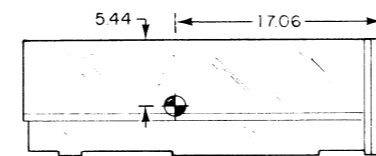
DG-0194

MAXIMUM OPERATING ALTITUDE 10,000FT/3046m FOR ALL DISC DRIVES

Voltage	Power Cable Length		Power Cable Plug	Mating Receptacle on Power Drop	Mating Receptacle in Wall
	ft	m			
100V, 50Hz	5	1.52	5-15P	5-15R	5-15R
120V, 60Hz	5	1.52	5-15P	5-15R	5-15R
220V, 50Hz	5	1.52	6-15P	6-15R	6-15R
240V, 50Hz	5	1.52	6-15P	6-15R	6-15R

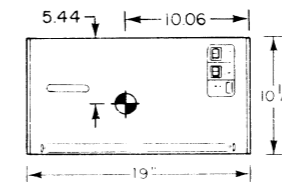
DG-02717

* FOR NOVA STYLE CABINETS, MOD KIT 005-005249 IS REQUIRED. SEE 010 000556.

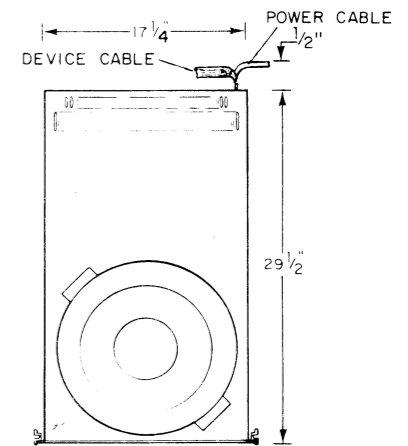


DG-02628

SIDE VIEW

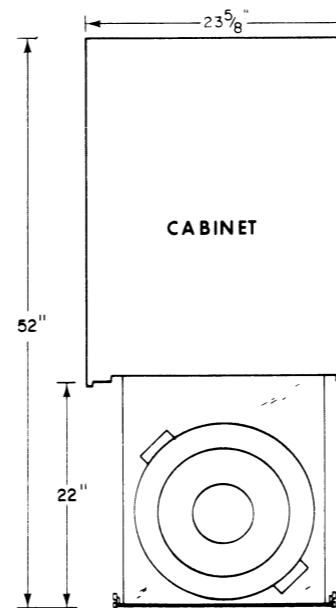


FRONT VIEW

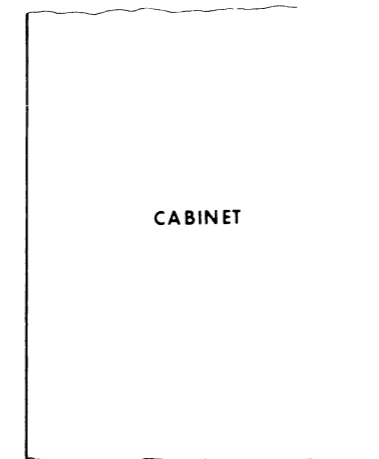


TOP VIEW

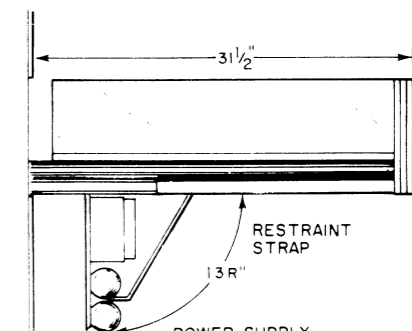
NOTE: THE READ/WRITE HEADS ARE CAREFULLY ALIGNED AT THE FACTORY, AND THE EQUIPMENT IS PACKED IN PROTECTIVE CONTAINERS TO PREVENT DAMAGE DURING SHIPMENT. HOWEVER, ROUGH HANDLING MAY MOVE THE HEADS, SO THAT RE-ALIGNMENT ON-SITE MAY BE REQUIRED. IF THE HEADS DO REQUIRE ALIGNMENT, REFER TO THE PROCEDURE INCLUDED IN THE DOCUMENTATION SUPPLIED WITH THE EQUIPMENT.



OPERATING DIMENSIONS



SERVICE DIMENSIONS



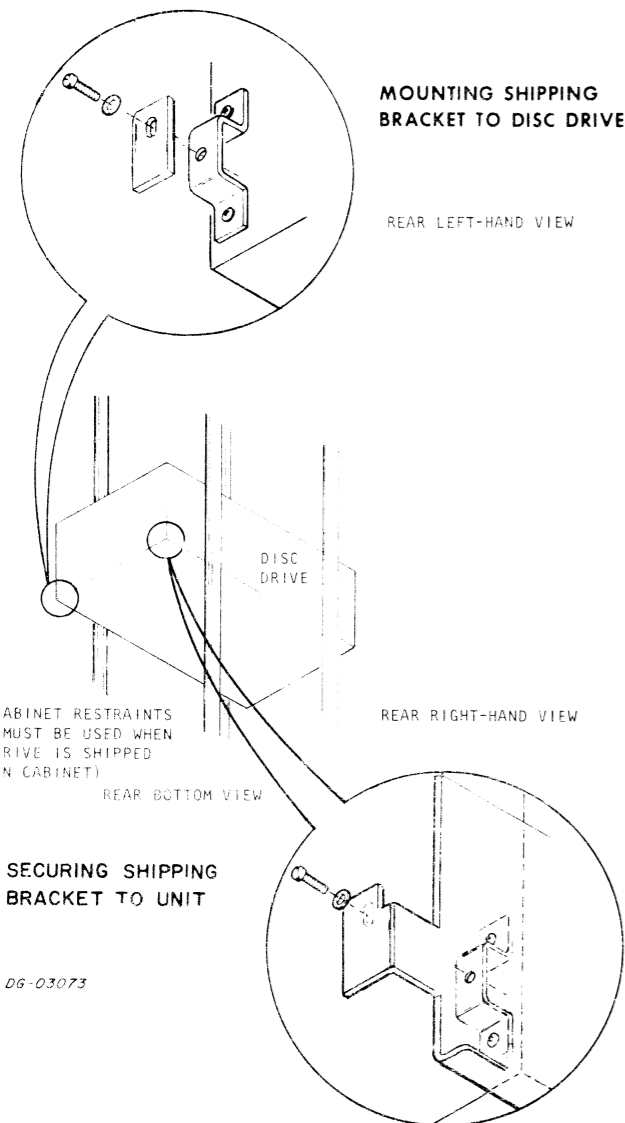
	SERVICE CLEARANCES	
	FRONT	LEFT & RIGHT
MM	914.4	609.6
IN	36	24

CAUTION: EXERCISE EXTREME CARE WHEN LOWERING THE POWER SUPPLY. IF ALLOWED TO FALL FREELY, IT WILL OVERCOME THE RESTRAINT STRAP AND SWING INTO AND DAMAGE COMPONENTS IN THE CABINET BELOW THE DISC DRIVE.

SHIPPING

FOR PACKING PROCEDURE,
SEE 010-000262/263

INTERNAL CABLING



SECURING SHIPPING BRACKET TO UNIT

DG-03073

DG-02567

Shipping Specifications			Storage Specifications		
Temperature Range	Relative Humidity	Maximum Altitude	Temperature Range	Relative Humidity	Maximum Period
$^{\circ}\text{F}$ / $^{\circ}\text{C}$	(Non-condensing)	(Non-Pressurized)	$^{\circ}\text{F}$ / $^{\circ}\text{C}$	(Non-condensing)	
-40 - 150 -40 - 65.6	0%/80%	40,000 ft. 12,160m	-40 - 150 -40 - 65.6	0%/80%	90 days

DG-02083

DG-02082

Signal Names	Paddleboard Edge Connector Pin Numbers	Compliant CPU "D" Type Internal CBL	Destination Pins On Computer Back Panel				Socket Connector Pin Numbers
			NOVA 2	Compliant CPU	NOVA 820, 1210 & 1220	NOVA 800 & 1200	
GND	A-A8				A99		50
GND	1				A100		1
TA8	3	3			A91		16
ATTEN2	4	4			A78		30
RESTORE	5	5			A77		11
ATTEN3	6	6			A76		12
LFT SEL	7	7			A75		6
TA32	8	8			A73		4
TA128	9	11			A71		2
TA16	13	13			A63		27
RD CLK	14	14			A61		13
RD DATA	15	15			A59		14
DISKETTE	16	16			A57		5
SECT PULSE	18	18			A49		33
SK ERROR	19	19			A79		31
D0	20	20			A81		37
TA2	21	21			A84		17
HD1	22	22			A83		39
TAS	23	23			A86		40
RD WR DISKETTE	24	24			A85		46
TA4	26	26			A87		47
TA1	27	27			A89		18
D1	31	31			B13		41
RD GATE	32	32			B15		38
TA256	33	33			B19		42
WR GATE	34	12			B23		43
FINISH	35	35			B25		20
WD CLK	36	36			B27		45
TA64	37	37			B31		44
DUR	38	38			B34		15
SA1	40	40			B38		34
CPU REQ	41	41			B40		19
ATTEN0	42	25			B48		35
ATTEN1	43	43			B49		36
SA2	44	44			B51		49
WR CHECK	46	46			B53		22
CPU SELECT	47	47			B54		29
SA8	48	48			B67		28
SA4	49	29			B69		3
HD2	30	30			B11		21
(not used)	2	2			A92		
..	10	10			A69		
..	11	43			A67		
..	12	25			A65		
..	17	28			A47		
..	25	47			A88		
..	28	46			A90		
..	29	49			B6		
..	30	30			B11		
..	39	39			B36		
..	45	45			B52		
..	47	47			B54		
..	50				A3		

Computer	Internal Cable Part Number
NOVA 2 Series NOVA 3 Series ECLIPSE Line Computers	005-1802
NOVA 820, 1210 and 1220 Computers	005-901
NOVA 840, 1200 and 800 Jumbo Computers	005-469
NOVA 800 and 1200 Computers	005-469
NOVA SUPERNOVA Computers	005-469
NOVA 830 Computer	005-469
Compliant CPU	005-018382

DG 01922

Warning: Nova 800/830/840/1200's equipped with "D" style connectors are not compatible with late style molded "D" external cables

NOTE:

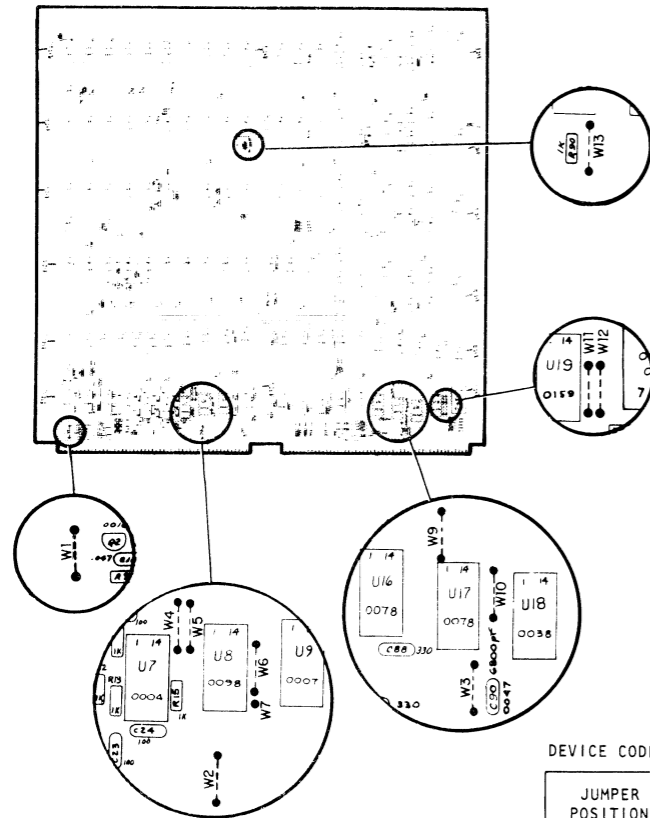
ON THE FOLLOWING PROCESSORS, A DISC DRIVE CABLE EDGE CONNECTOR IS PART OF THE COMPUTER BACKPANEL, AND IS PERMANENTLY CONNECTED, VIA BACKPANEL ETCH, TO THE SLOT INDICATED IN THE TABLE. NO INTERNAL CABLE IS REQUIRED.

PROCESSOR	SLOT
NOVA 2/10, NOVA 820 NOVA 1220 COMPUTERS	9
NOVA 3/12 COMPUTER	10

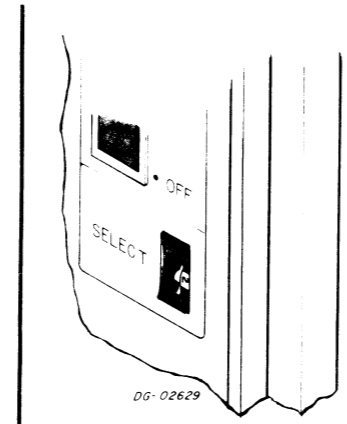
TAILORING

JUMPERS

Ref DGC Dwg 003-000187 Rev 38



UNIT SELECT SWITCH



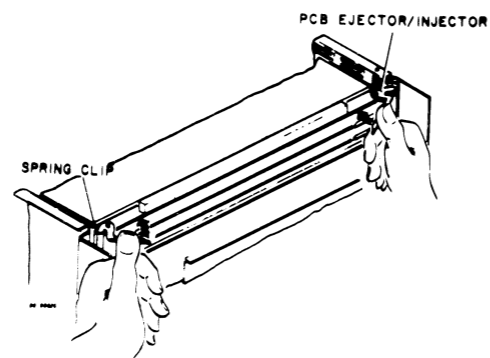
CONFIGURATION JUMPERS

- 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

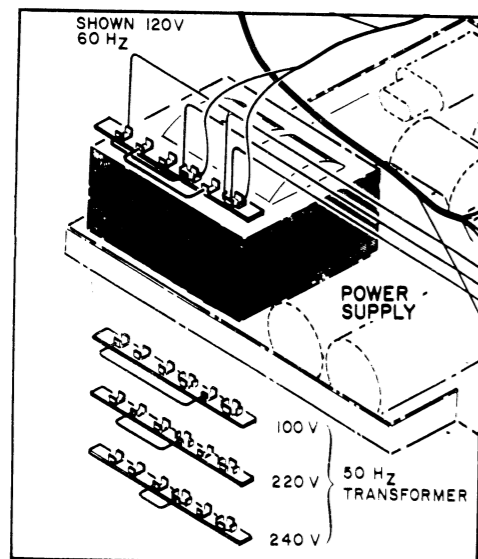
DEVICE CODE SELECTION

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

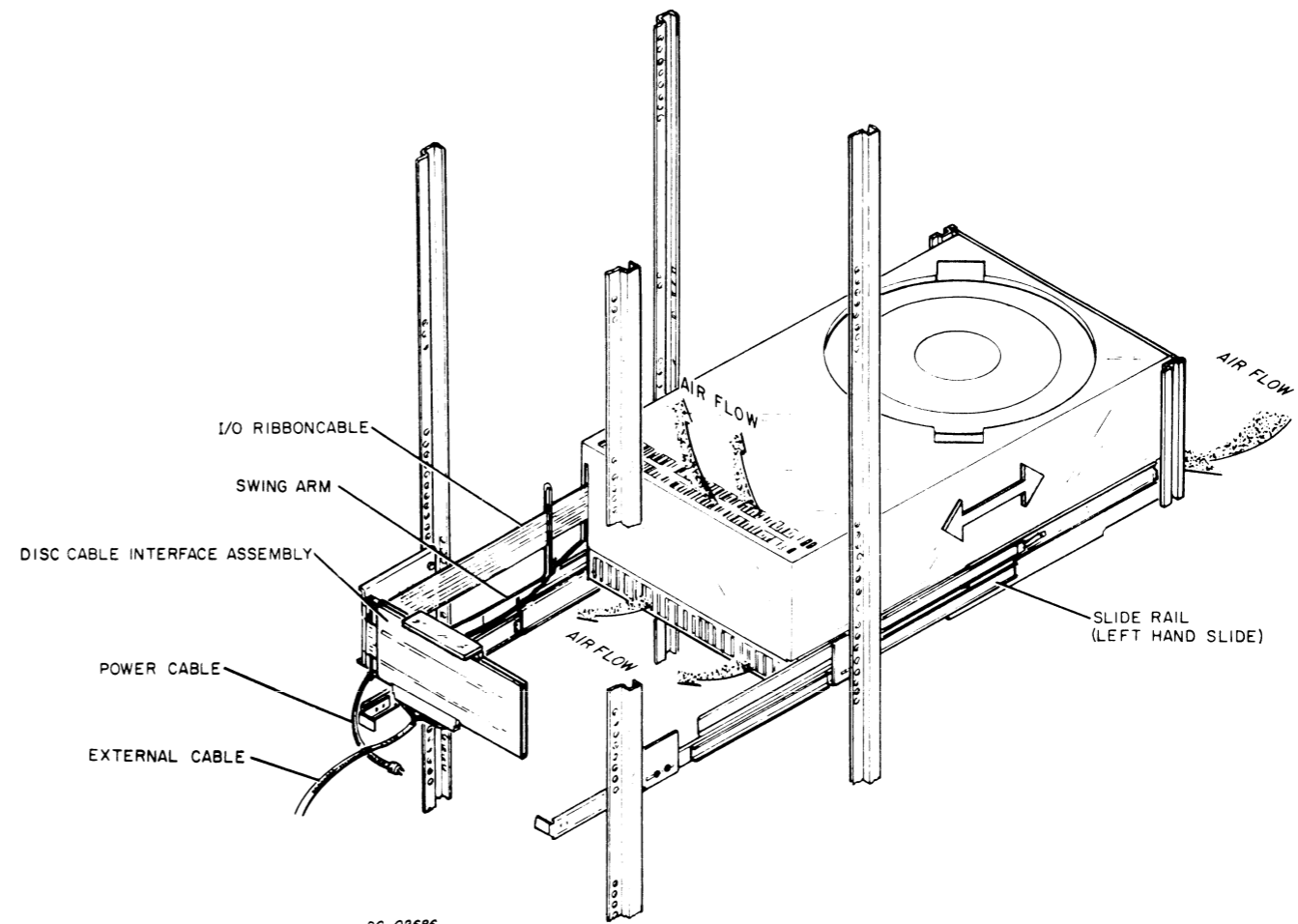
INSTALLING PC BOARD



INPUT VOLTAGE SELECTION



CABINET MOUNTED DISC DRIVE

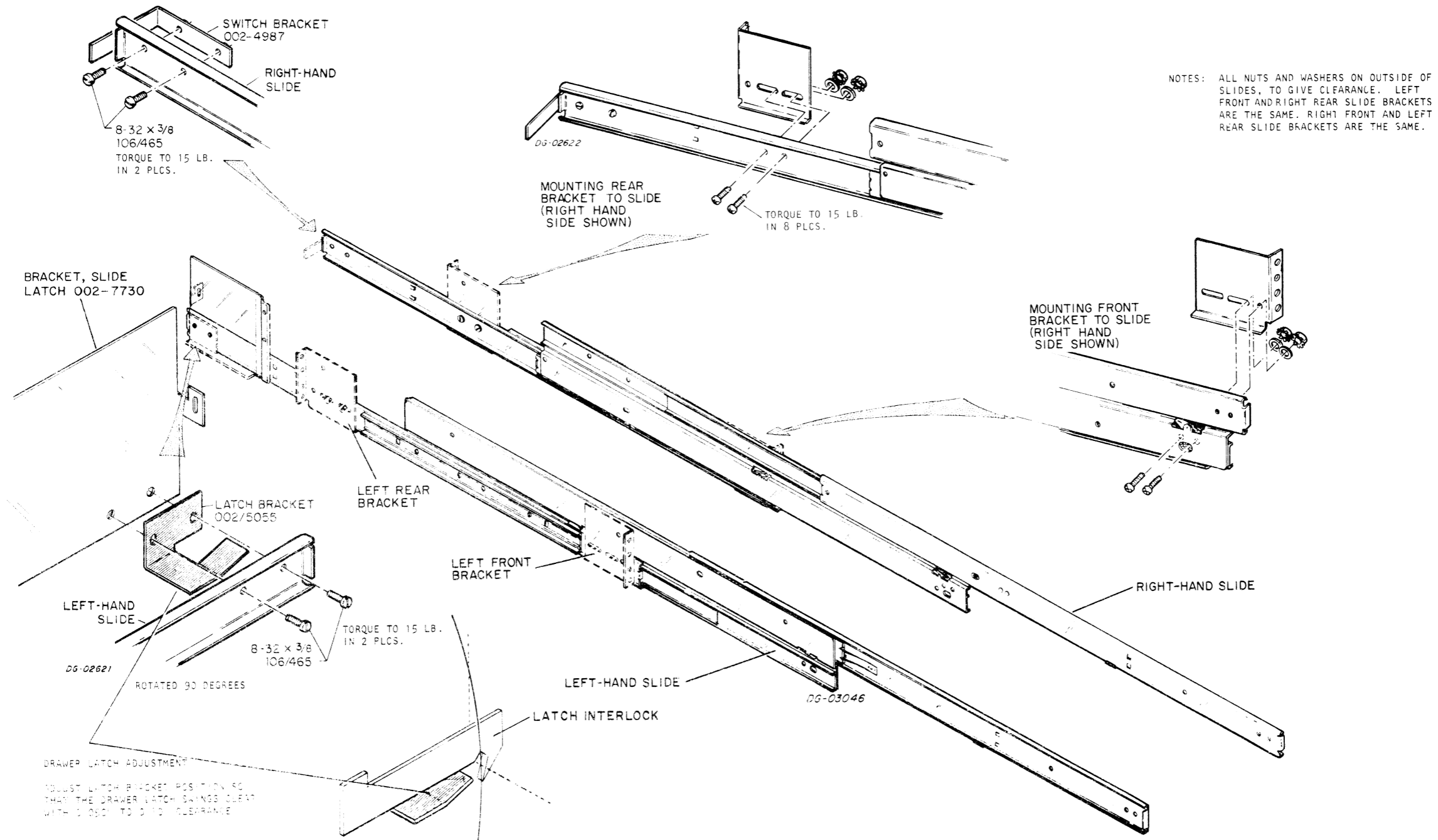


REAR VIEW OF A DISC DRIVE MOUNTED IN A STANDARD CABINET. DRIVE IS SHOWN PARTIALLY EXTENDED ON THE SLIDE RAILS. NOTE DISC CABLE INTERFACE ASSEMBLY FASTENED TO THE REAR CABINET RAIL; SLACK IN I/O AND POWER CABLES IS TAKEN UP BY A SPRING-LOADED SWING ARM.

INSTALLATION PROCEDURE

MOUNTING KIT 005 005927

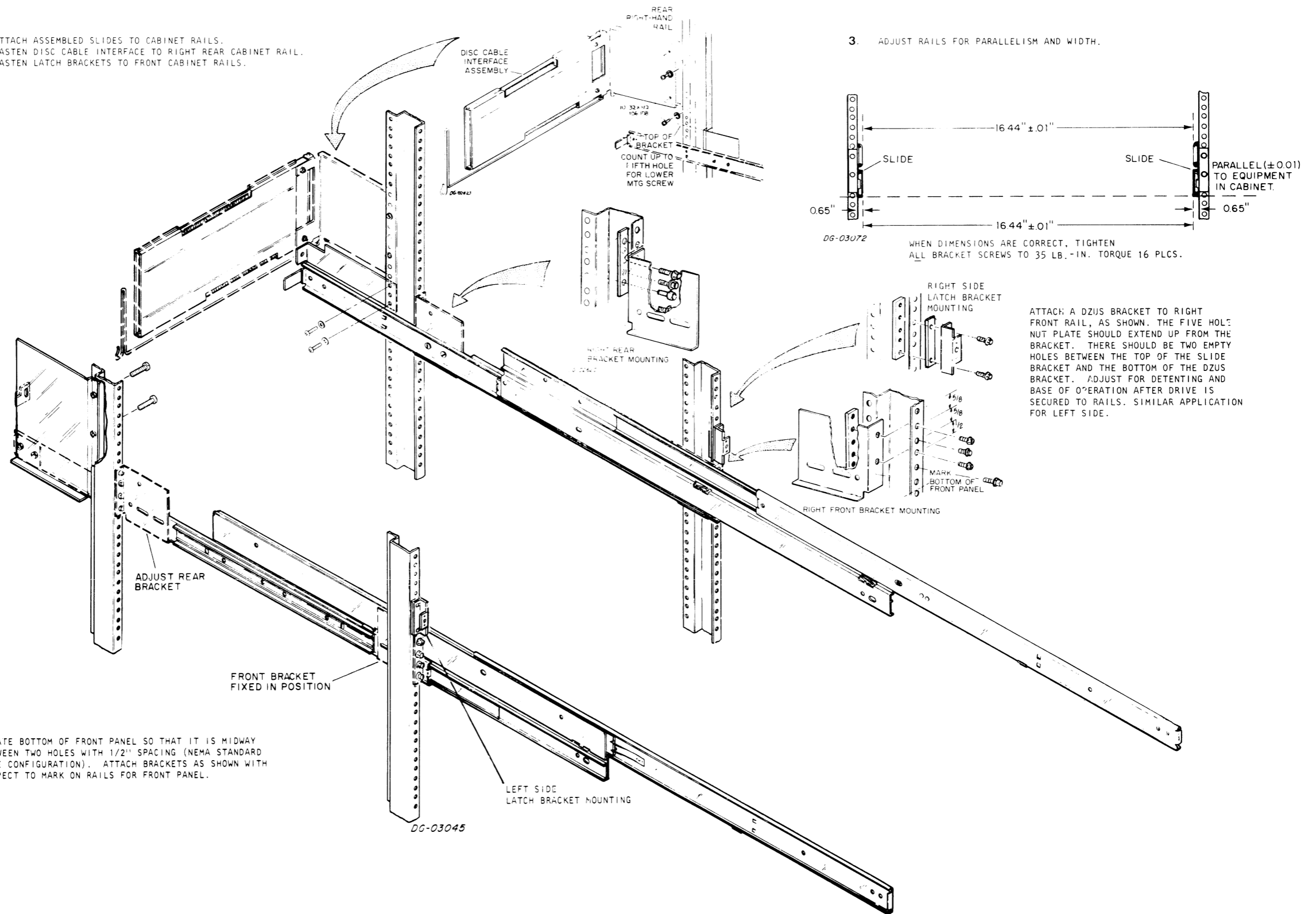
1. ASSEMBLE THE SLIDES. BE SURE TO IDENTIFY RIGHT AND LEFT SLIDES AND BRACKETS.



INSTALLATION PROCEDURE (CONT) MOUNTING SLIDES TO RAILS

2. ATTACH ASSEMBLED SLIDES TO CABINET RAILS.
FASTEN DISC CABLE INTERFACE TO RIGHT REAR CABINET RAIL.
FASTEN LATCH BRACKETS TO FRONT CABINET RAILS.

3. ADJUST RAILS FOR PARALLELISM AND WIDTH.



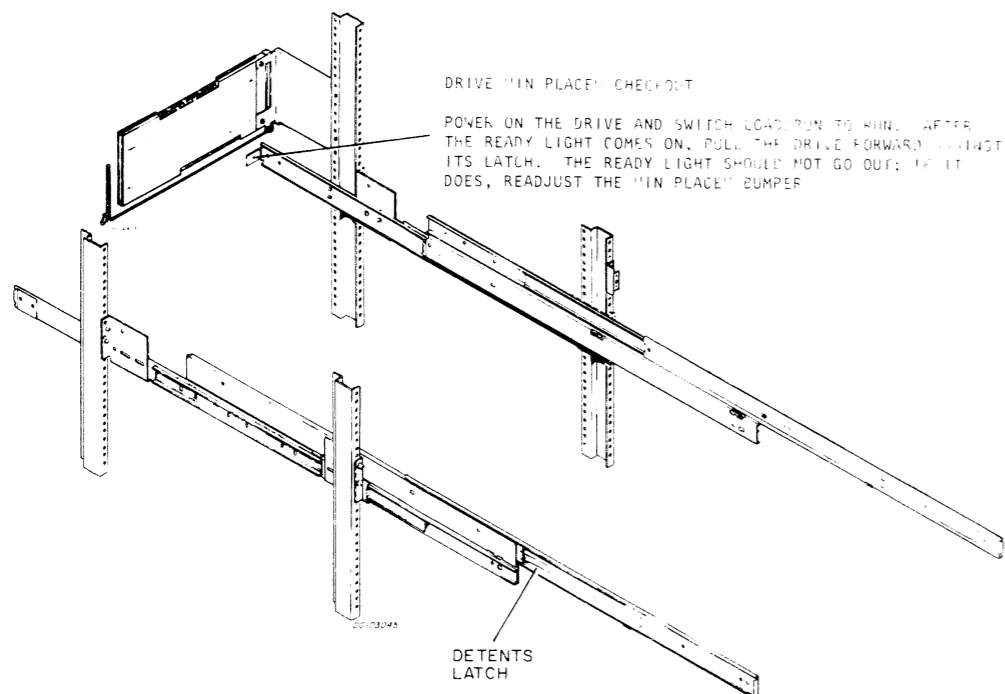
NOTE: LOCATE BOTTOM OF FRONT PANEL SO THAT IT IS MIDWAY BETWEEN TWO HOLES WITH 1/2" SPACING (NEMA STANDARD HOLE CONFIGURATION). ATTACH BRACKETS AS SHOWN WITH RESPECT TO MARK ON RAILS FOR FRONT PANEL.

ATTACH A DZUS BRACKET TO RIGHT FRONT RAIL, AS SHOWN. THE FIVE HOLE NUT PLATE SHOULD EXTEND UP FROM THE BRACKET. THERE SHOULD BE TWO EMPTY HOLES BETWEEN THE TOP OF THE SLIDE BRACKET AND THE BOTTOM OF THE DZUS BRACKET. ADJUST FOR DETENTING AND BASE OF OPERATION AFTER DRIVE IS SECURED TO RAILS. SIMILAR APPLICATION FOR LEFT SIDE.

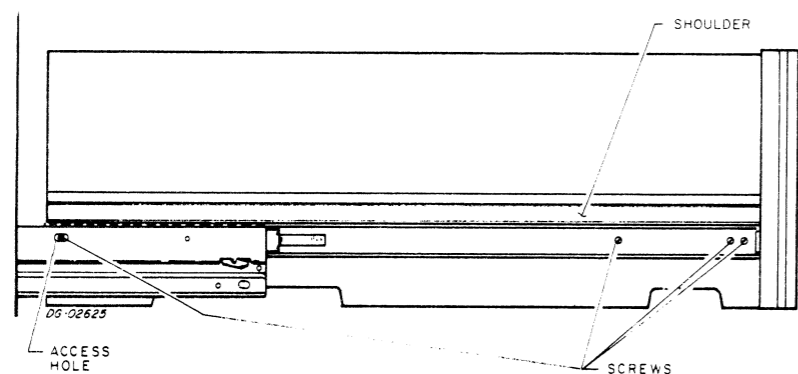
INSTALLATION IN A CABINET MOUNTING CHASSIS ON THE SLIDES

4. INSTALL DISC DRIVE ONTO SLIDES.

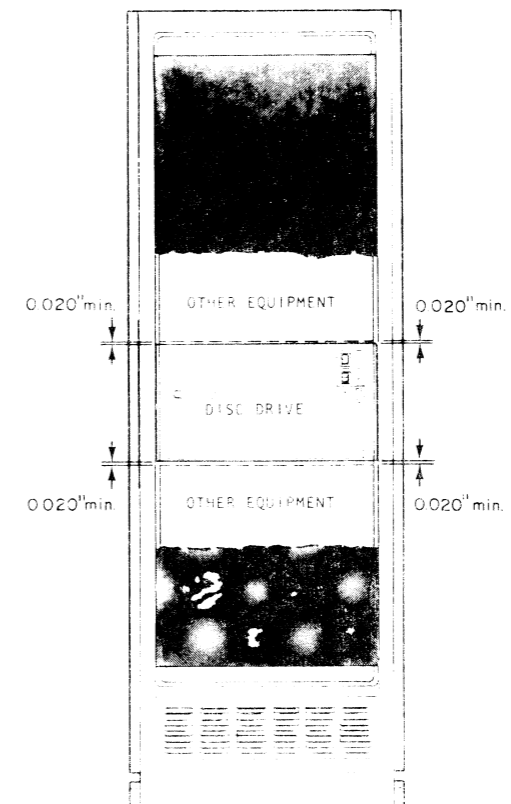
CAUTION: THIS STEP REQUIRES AT LEAST TWO, AND PREFERABLY THREE PERSONS; THE DRIVE WEIGHS APPROXIMATELY 150 POUNDS, AND SOME MANEUVERING IS REQUIRED DURING INSTALLATION.



EXTEND THE SLIDES TO THEIR FULLY EXTENDED (SERVICE) POSITION. ENSURE THAT THE DETENTS LATCH.

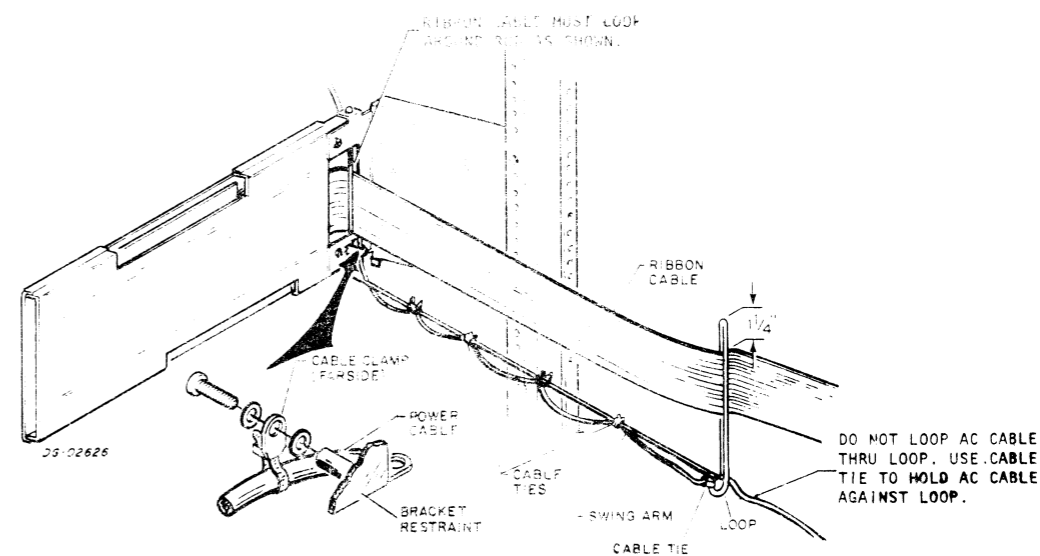


LIFT THE DRIVE INTO POSITION, SPREAD THE SLIDES, AND PLACE THE DRIVE ONTO THE EXTENDED SLIDES. PUSH THE SLIDES AGAINST THE CASTING SO THAT THE WEIGHT IS SUPPORTED BY THE MACHINED SHOULDER ON THE CASTING. THE SCREW HOLES IN THE SLIDE SHOULD ALIGN WITH THE TAPPED HOLES IN THE CASTING. SLIDE THE DRIVE FORWARD OR BACKWARD UNTIL THE HOLES ARE ALIGNED. BE SURE TO HOLD THE SLIDES FIRMLY AGAINST THE CASTING AND UNDER THE SHOULDER DURING THIS OPERATION. DO NOT RELEASE THE SLIDES UNTIL ALL SCREWS ARE INSTALLED.



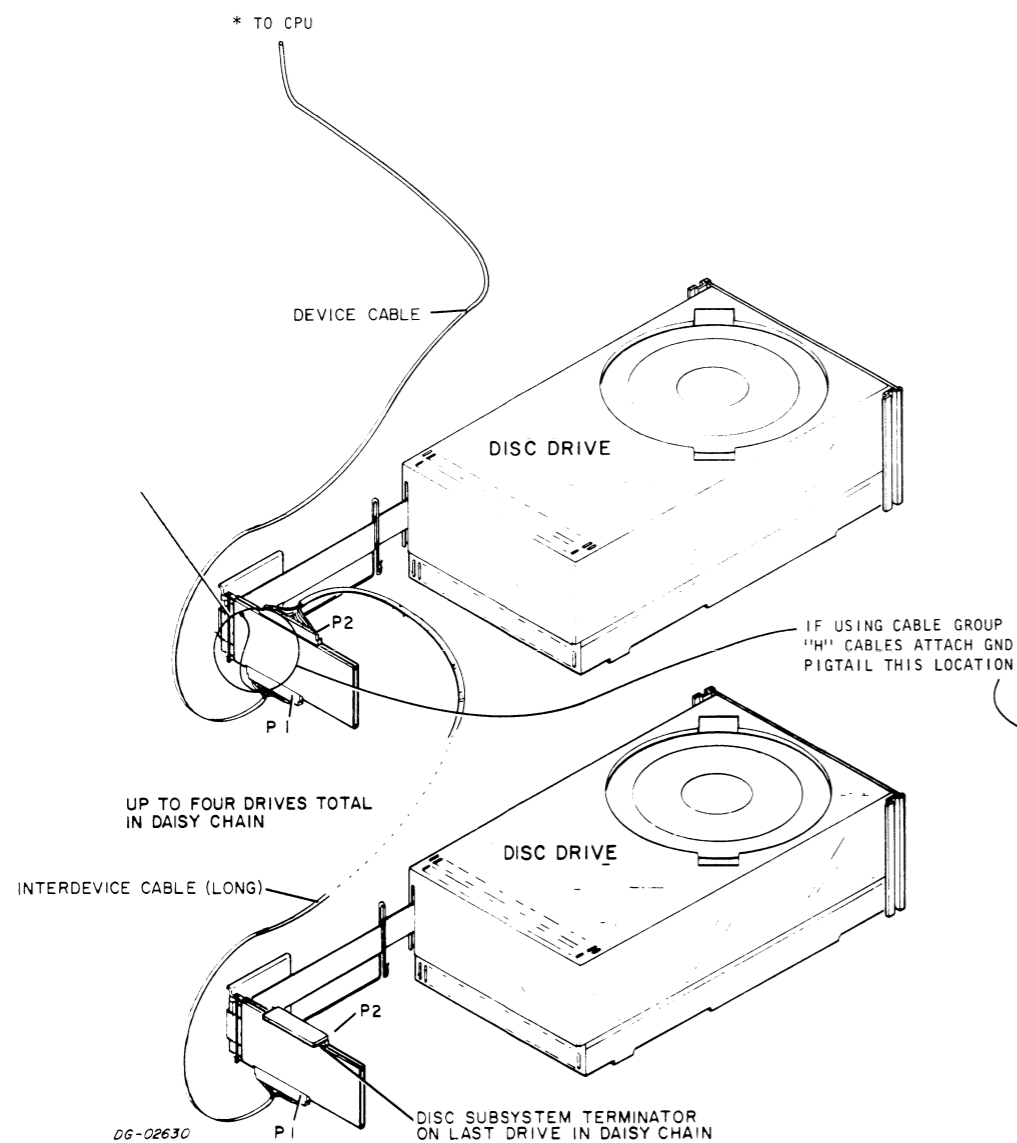
DC 07648
CHECK CLEARANCES BETWEEN DRIVE AND OTHER EQUIPMENT. MOUNTING MUST BE COMPLETE BEFORE COMPLETION.

5. ATTACH I/O AND POWER CABLES.



EXTERNAL CABLING

EXAMPLE OF SUBSYSTEM USING LONG CABLE

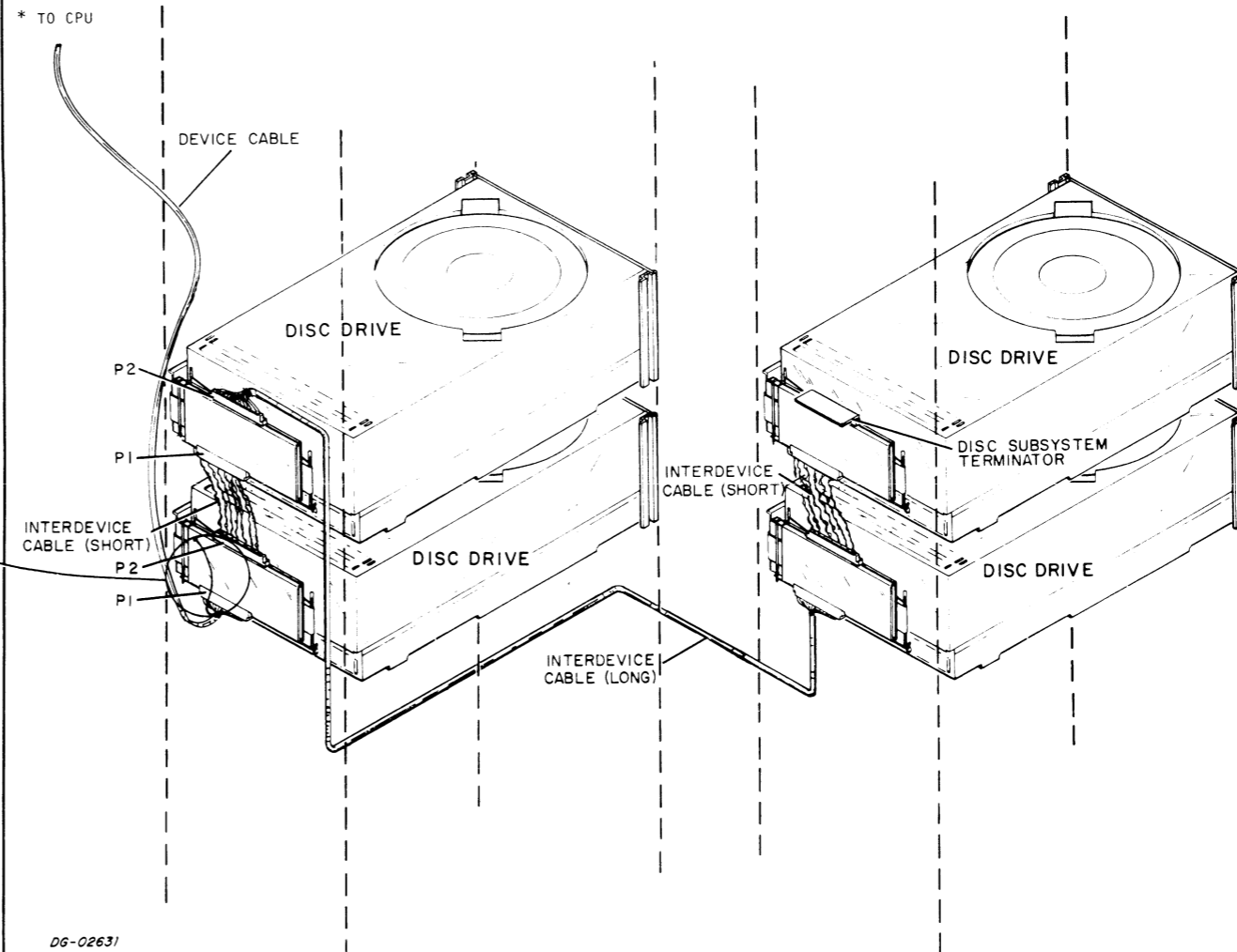


NOTE: DISKETTE DRIVE MAY BE INTERMIXED WITH 10Mbyte CARTRIDGE DISC DRIVE, UP TO FOUR DRIVE TOTAL.

DGC DOES NOT RECOMMEND INTERMIXING 4234 TYPE DISC DRIVES IN THIS SUBSYSTEM.

CARTRIDGE DG/DISK, SERIES 6045 - 6051

EXAMPLE OF CABINET MOUNTED SUBSYSTEM USING LONG AND SHORT CABLES

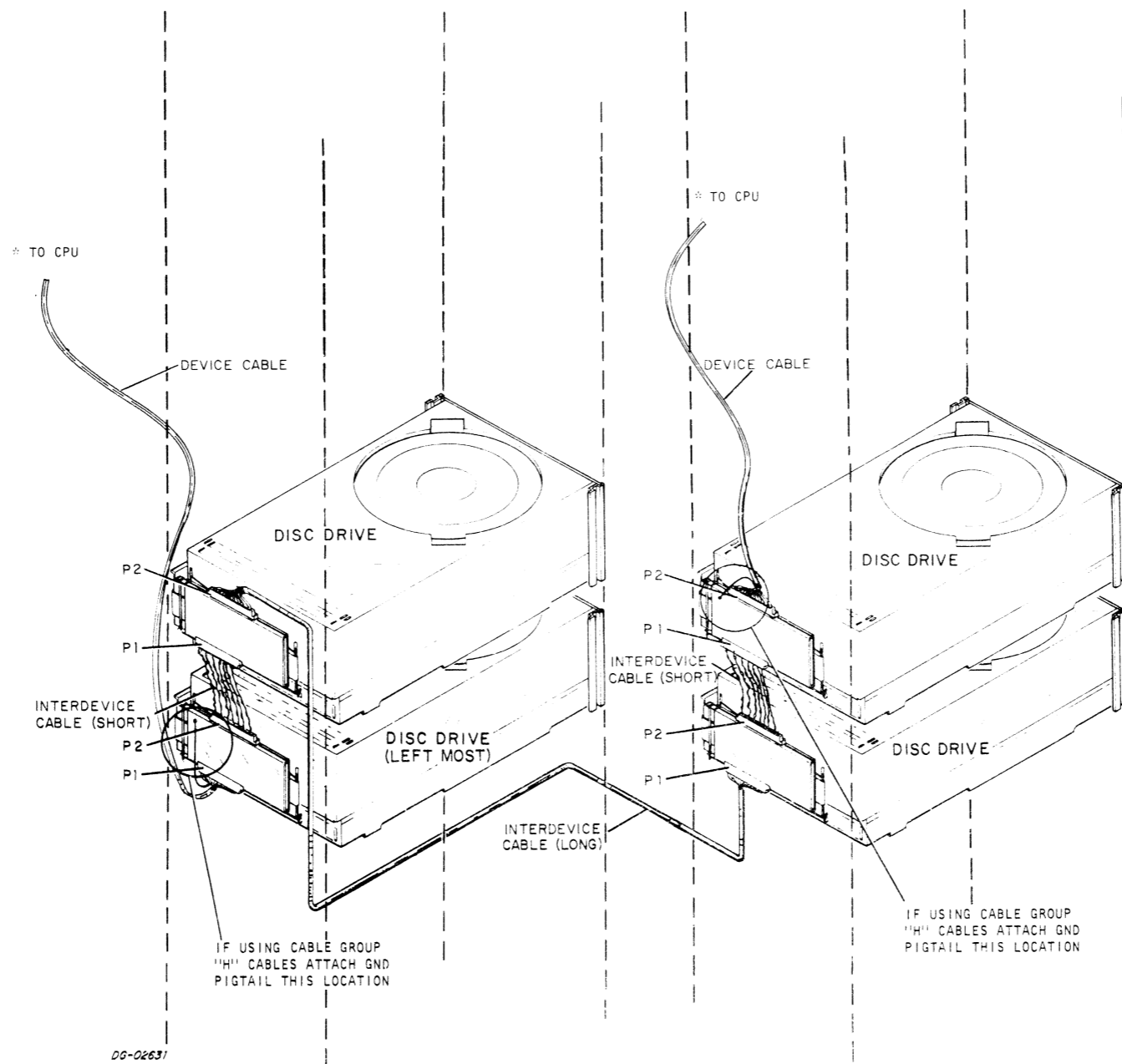


* REFER TO DISC PRODUCT MASTER 010-0331 FOR CONFIGURATION AND CABLE 005#s

NOTE: NO MORE THAN TWO (2) DRIVES PER CABINET.

EXCEPT MODEL 4001

EXTERNAL CABLING
 (EXAMPLE OF A DUAL PROCESSOR CONFIGURATION)



* REFER TO DISC
 PRODUCT MASTER
 010-0331 FOR
 CONFIGURATION
 AND CABLE 055#s

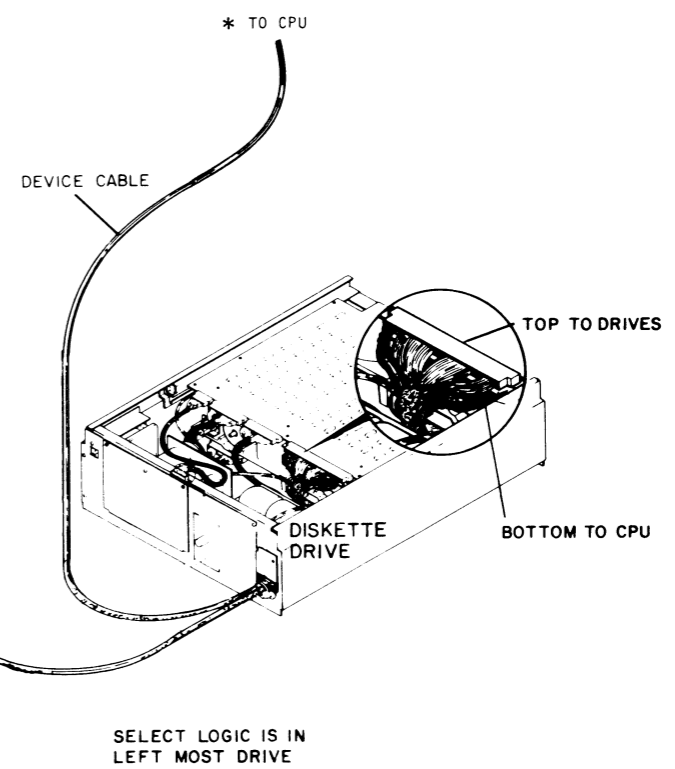
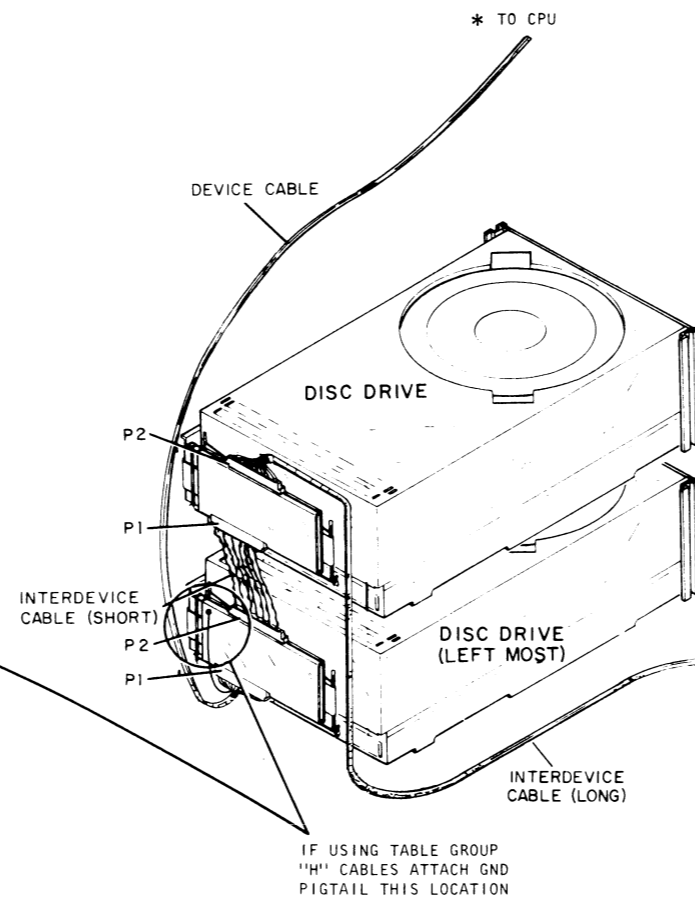
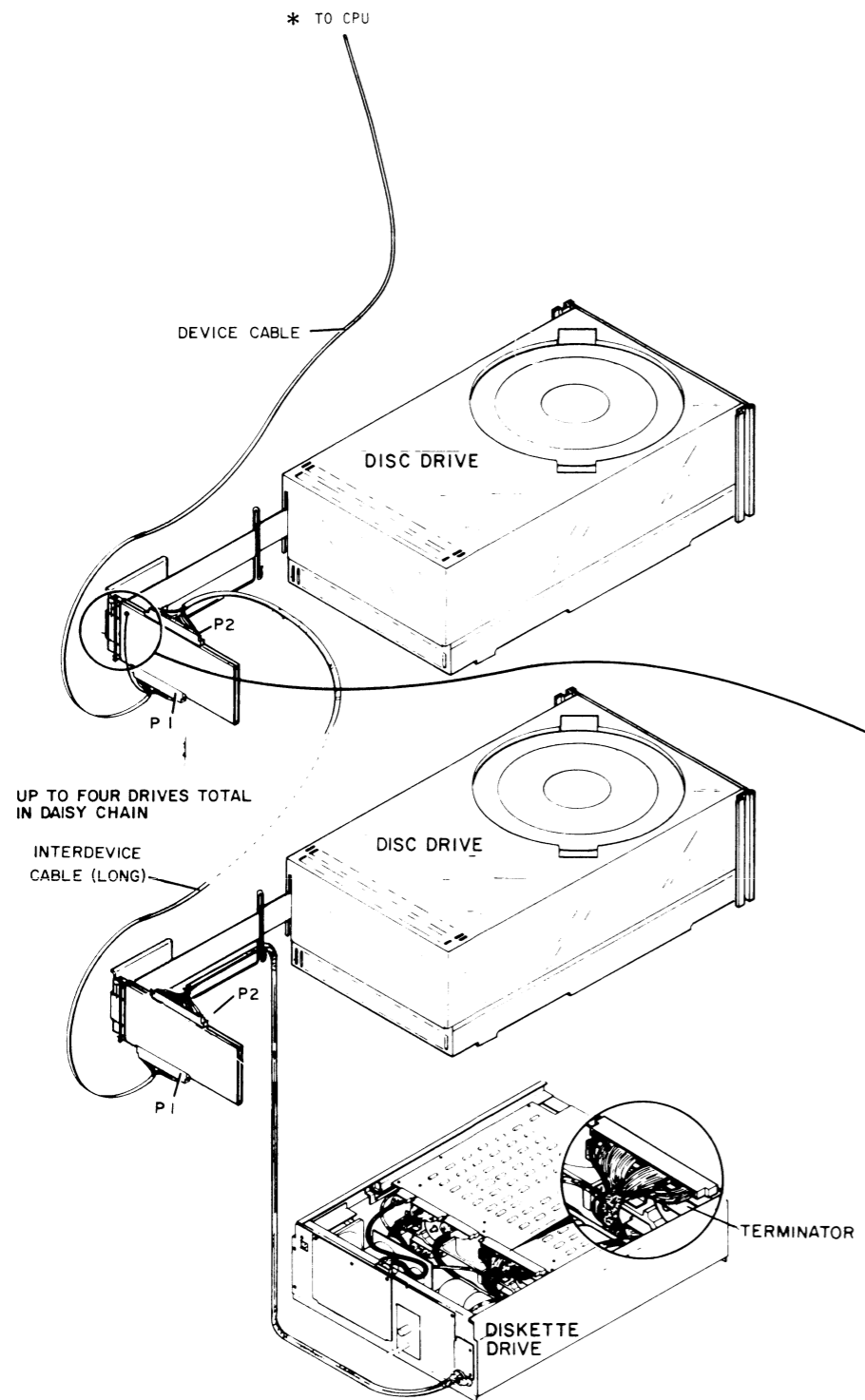
NOTE: BOTH PROCESSORS HAVE
 EQUAL PRIORITY. THE LEFT MOST
 DRIVE (WITH PLUG P1 CONNECTED
 TO PROCESSOR) CONTROLS THE
 PROCESSOR-SELECT SWITCHING.

DGC DOES NOT RECOMMEND INTERMIXING
 4234 TYPE DISC DRIVES IN THIS SUBSYSTEM.
 *EXCEPT MODEL 4001

EXTERNAL CABLING (WITH DISKETTE UNITS)

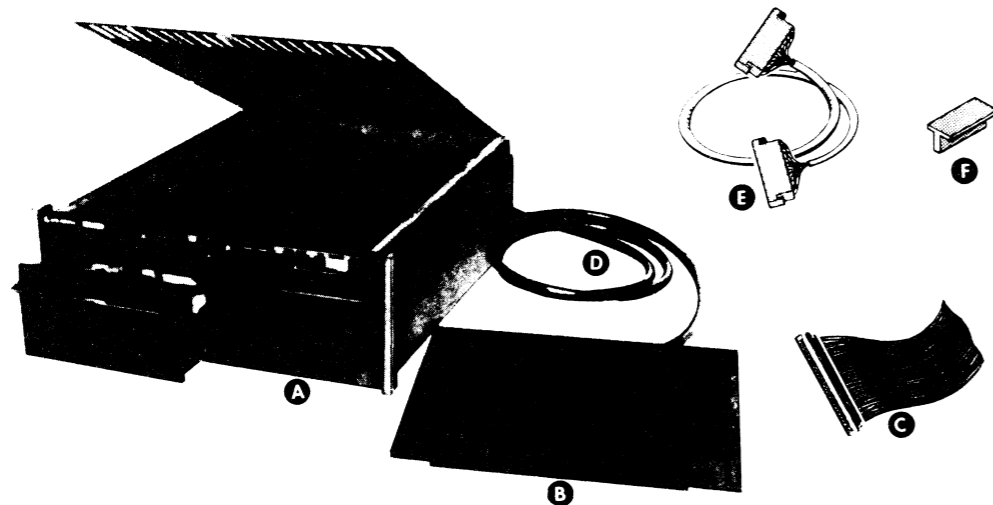
EXAMPLE OF SUBSYSTEM USING LONG CABLE

EXAMPLE OF A DUAL PROCESSOR CONFIGURATION



* REFER TO DISK PRODUCT MASTER 010-000331 FOR CONFIGURATION AND CABLE 005 NUMBERS

SUBSYSTEM COMPONENT BREAKDOWN



MAJOR COMPONENT

Item	Component	Mounting Location	Notes
A	DISKETTE CHASSIS	CABINET	MAY CONTAIN 2 DRIVE UNITS PER CHASSIS
B	CONTROLLER	COMPUTER CHASSIS	

DG-02672

CABLE

Item	Cable	Connecting	Max Allowed Lg ft / m	Notes
C	INTERNAL CABLE	CONTROLLER and DEVICE CABLE	- / -	
D	DEVICE CABLE	COMPUTER " FIRST DR UNIT	*	MAY HAVE 2 DRIVE UNITS IN FIRST CHAS
E	INTERDEVICE CABLE	FIRST DR " ADD'L DR UNITS	*	ADD'L DR MAY BE SINGLE OR DOUBLE UNITS (MAX OF 4 IN SUBSYSTEM)

* 40FT (9.1M) MAXIMUM LENGTH OF TOTAL DAISY-CHAIN

DG-02673

TERMINATOR

Item	Terminator	Location	Notes
F	SIGNAL BUS TERM	LAST DR UNIT IN DAISY-CHAIN	

DG-02674

* REFER TO DISK PRODUCT MASTER 010-000331 FOR CABLE CONFIGURATIONS AND 005 NUMBERS.

SPECIFICATIONS OF THE CHASSIS-MOUNTED COMPONENTS

Item	Component	Chassis	Slots Required	Max Allowable Data Channel Latency (μ sec)	Type of Data Channel Service Desired	Controller's +5 Volt Current Draw (Amps)
B	CONTROLLER	COMP.	1	128	High Speed Standard	x 4.0

DG-01912

SPECIFICATIONS OF THE CABINET-MOUNTED COMPONENTS

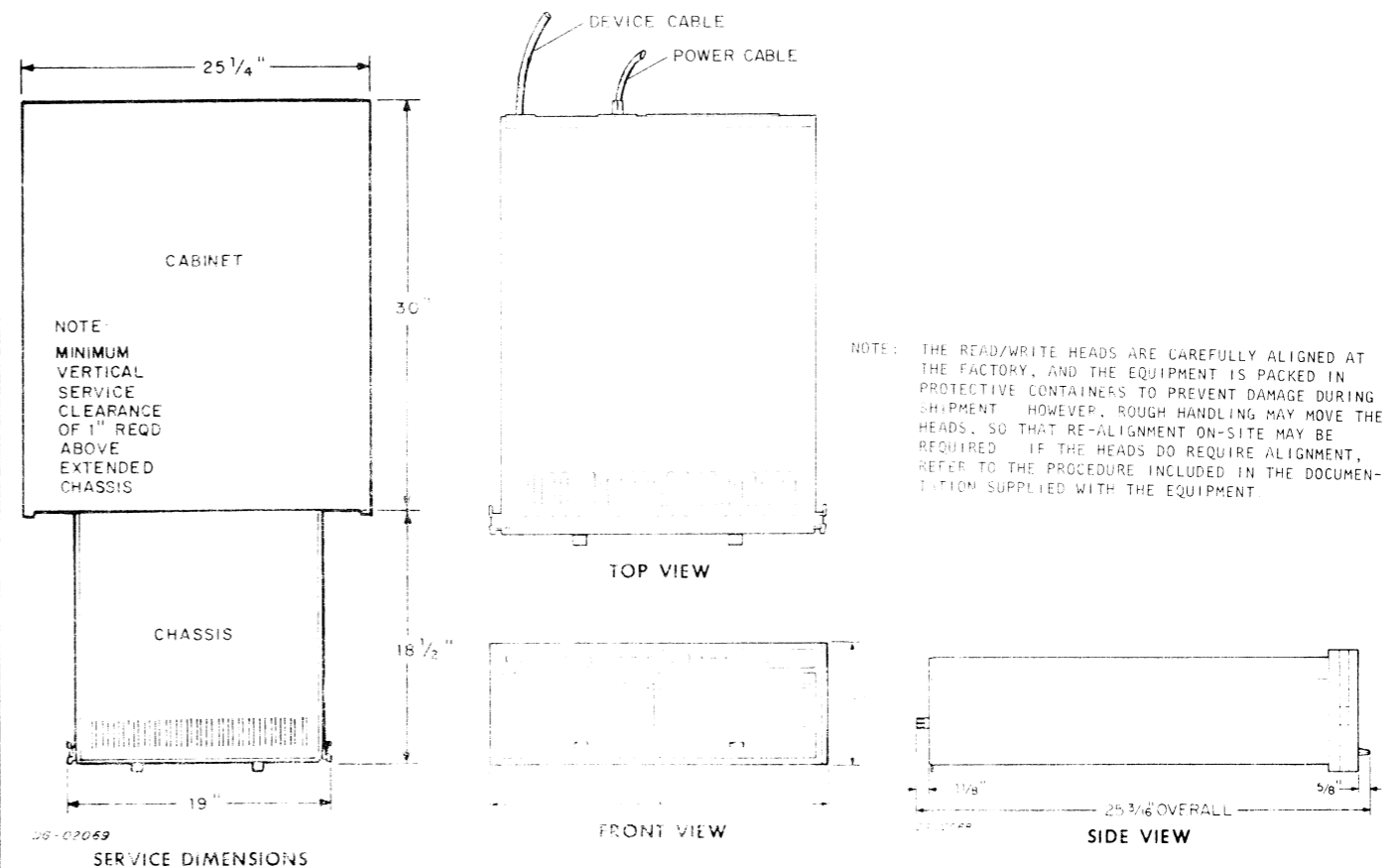
Item	Component	Number in Sub-system	Maximum Operating Temperature		Primary Power			Cabinet Height Required			Weight lbs / kg	Power Dissipation (Max Watts)	Preferred Location or Remarks	Operating Humidity (Relative)		
			Component °C	Media °C	Current (Amps)	Voltage (V) ±ΔV	Frequency	Area	in	cm				min	max	
A	SINGLE DR	1	100	100	3.0	100	50-1	4	7	17.8	54	300	6-9	20	80	
	DUAL DR		38	38	4.9	100	50-1				57	475				
	SINGLE DR				2.6	120	50-1									
	DUAL DR				3.8	120	50-1									
	SINGLE DR					2.1	220				50-1					
	DUAL DR					2.25	240				50-1					

DG-01914

Voltage	Power Cable Length ft / m	Power Cable Plug	Mating Receptacle on Power Drop	Mating Receptacle in Wall
100V	6 / 1.8	NEMA 5-15P	NEMA 5-15R	NEMA 5-15R
120V	6 / 1.8	NEMA 5-15P	NEMA 5-15R	NEMA 5-15R
220V	6 / 1.8	NEMA 6-15P	NEMA 6-15R	NEMA 6-15R
240V	6 / 1.8	NEMA 6-15P	NEMA 6-15R	NEMA 6-15R

DG-02717

SERVICE CLEARANCES		
	FRONT	LEFT & RIGHT
MM	914.4	609.6
IN	36	24



DG-02069

PACKING KIT

FOR PACKING PROCEDURE,
SEE 010-000262/263

INTERNAL CABLING

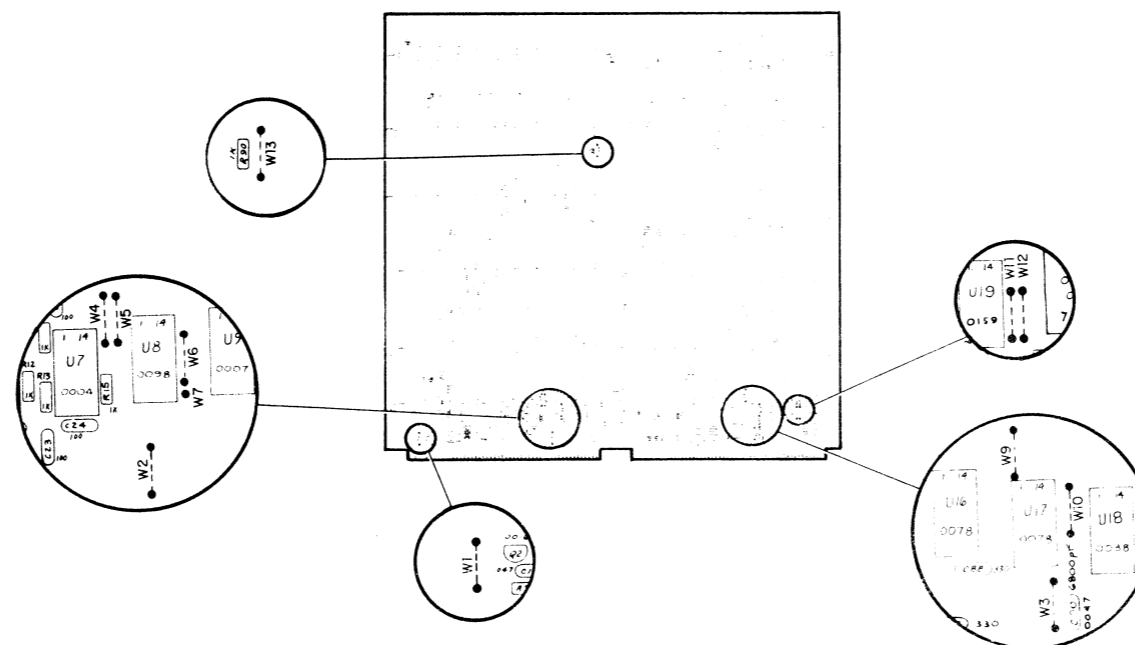
Signal Names	Paddleboard Edge Connector Pin Numbers	Destination Pins On Computer Back Panel			Socket Connector Pin Numbers
		NOVA 2	NOVA 820, 1210 & 1220	NOVA 800 NOVA & SUPERNOVA Computers	
GND	A-A8		A99		50
GND	1		A100		1
TA8	3		A91		16
ATTEN2	4		A78		30
RESTORE	5		A77		11
ATTEN3	6		A76		12
LFT SEL	7		A75		6
TA32	8		A73		4
TA128	9		A71		2
TA16	13		A63		27
RD CLK	14		A61		13
RD DATA	15		A59		14
DISKETTE	16		A57		5
SECT PULSE	18		A49		33
SK ERROR	19		A79		31
D0	20		A81		37
TA2	21		A84		17
HD1	22		A83		39
TAS	23		A86		40
RD/WR DISKETTE	24		A85		46
TA4	26		A87		47
TA1	27		A89		18
D1	31		B13		41
RD GATE	32		B15		38
TA256	33		B19		42
WR GATE	34		B23		43
FINISH	35		B25		20
WD CLK	36		B27		45
TA64	37		B31		44
DUR	38		B34		15
SA1	40		B38		34
CPU REQ	41		B40		19
ATTEN0	42		B48		35
ATTEN1	43		B49		36
SA2	44		B51		49
WR CHECK	46		B53		22
CPU SELECT	47		B54		29
SA8	48		B67		28
SA4	49		B69		3
HD2	30		B11		21
(not used)	2		A92		
"	10		A69		
"	11		A67		
"	12		A65		
"	17		A47		
"	25		A88		
"	28		A90		
"	29		B6		
"	30		B11		
"	39		B36		
"	45		B52		
"	47		B54		
"	50		A3		
		Computer	Internal Cable Part Number		
		NOVA 2, 3	ECLIPSE Line Computers	005-1802	
		NOVA 820, 1210 and 1220	Computers	005-1802	
		NOVA 840, 1200 and 800	Jumbo Computers	005-469	
		NOVA 800 and 1200	Computers	005-469	
		NOVA, SUPERNOVA	Computers	005-469	
		NOVA 830	Computer	005-469	

DG-01922

TAILORING

JUMPERING

Ref DGC Dwg 003-000187 Rev 38



DEVICE CODE SELECTION

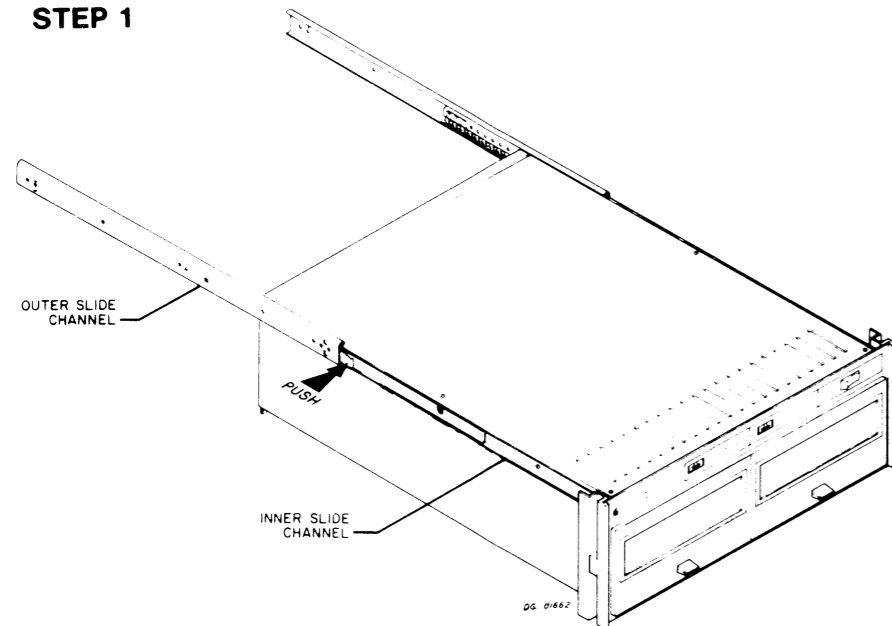
JUMPER POSITION	DEVICE CODE 33	DEVICE CODE 73	DEVICE CODE 32	DEVICE CODE 72
W4	IN	IN	OUT	OUT
W5	OUT	OUT	IN	IN
W6	IN	OUT	IN	OUT
W7	OUT	IN	OUT	IN
W9	OUT	IN	OUT	IN
W10	IN	IN	OUT	OUT

CONFIGURATION JUMPERS

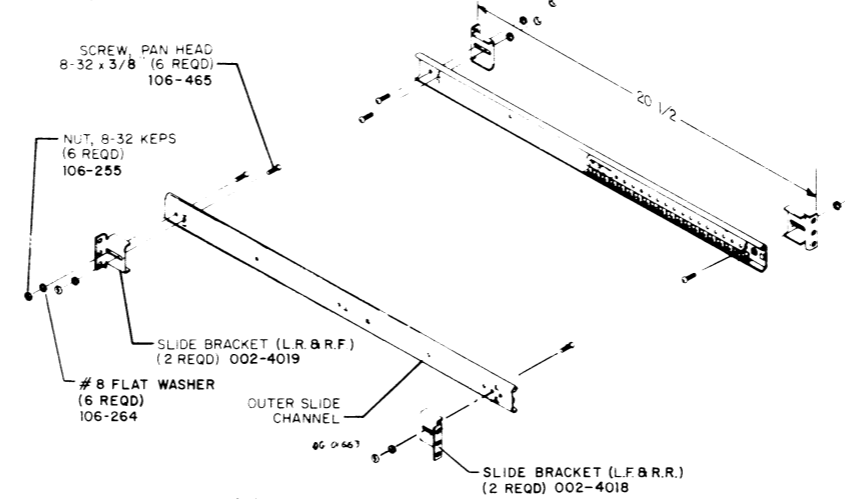
W1	IN - FACTORY TEST
	OUT - NORMAL OPERATION
W2	IN - FUTURE USE
	OUT - NORMAL OPERATION
W3	IN - SINGLE PROCESSOR
	OUT - DUAL PROCESSOR
W11	IN - NORMAL OPERATION
	OUT - FACTORY TEST ONLY
W12	IN - FACTORY TEST ONLY
	OUT - NORMAL OPERATION
W13	IN - NORMAL OPERATION
	OUT - FUTURE USE

SLIDE RAILS

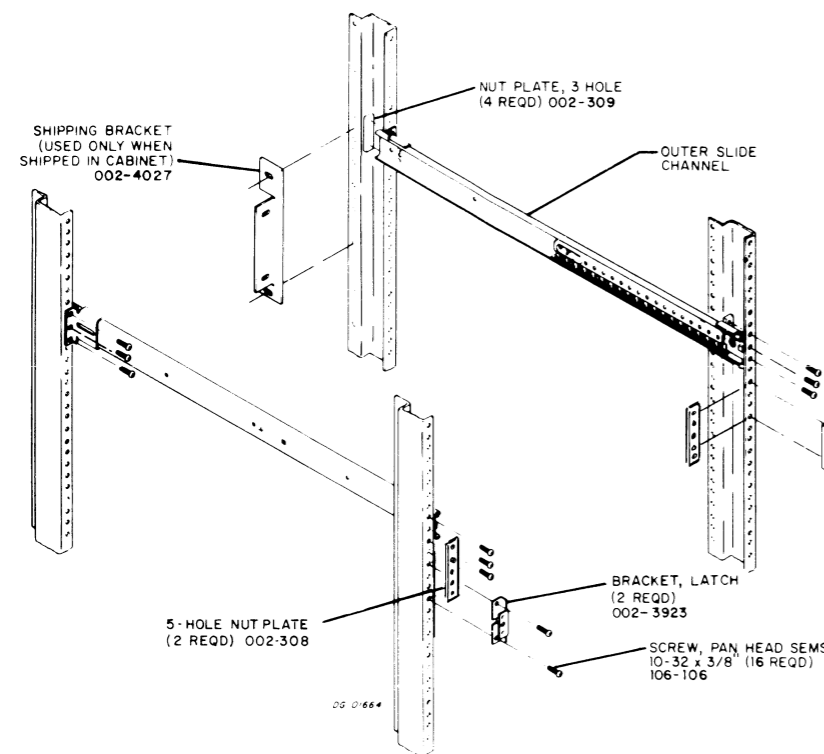
STEP 1



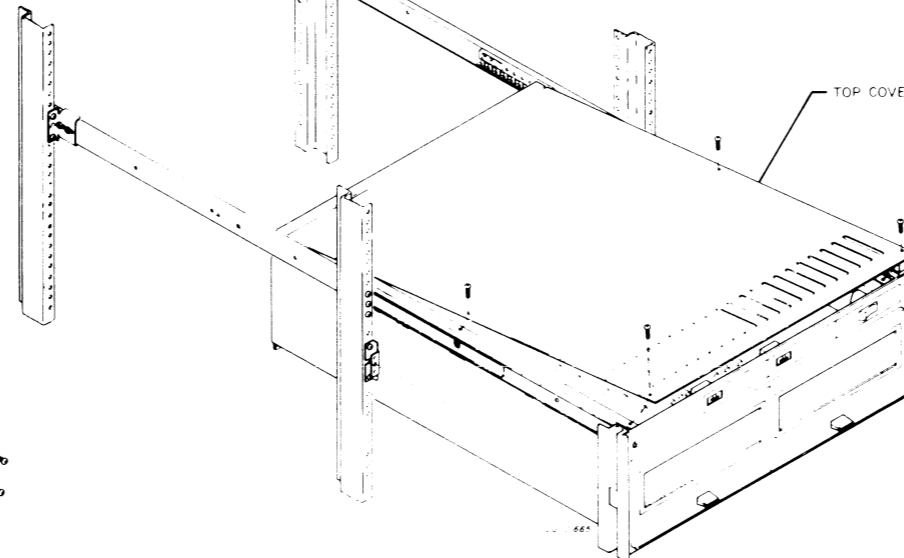
STEPS 2 & 3



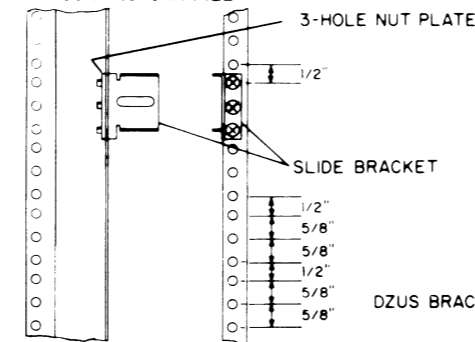
STEPS 4 & 5



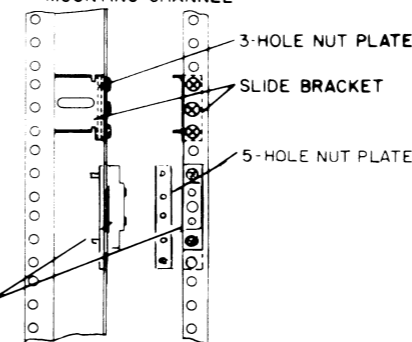
STEPS 6 & 7



RIGHT REAR MOUNTING CHANNEL



RIGHT FRONT MOUNTING CHANNEL



VIEW FROM INSIDE THE CABINET

Torque Requirements	
Screw no.	in/lb
8-32	12-14
10-32	23-25

MOUNTING KIT 005 005762

DISKETTE DRIVE SERIES 6030

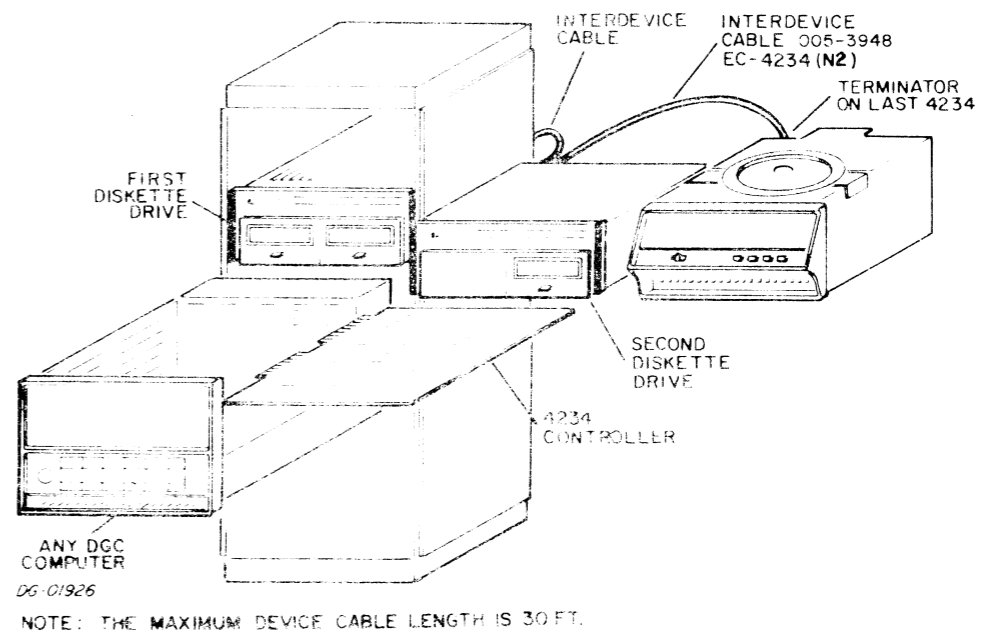
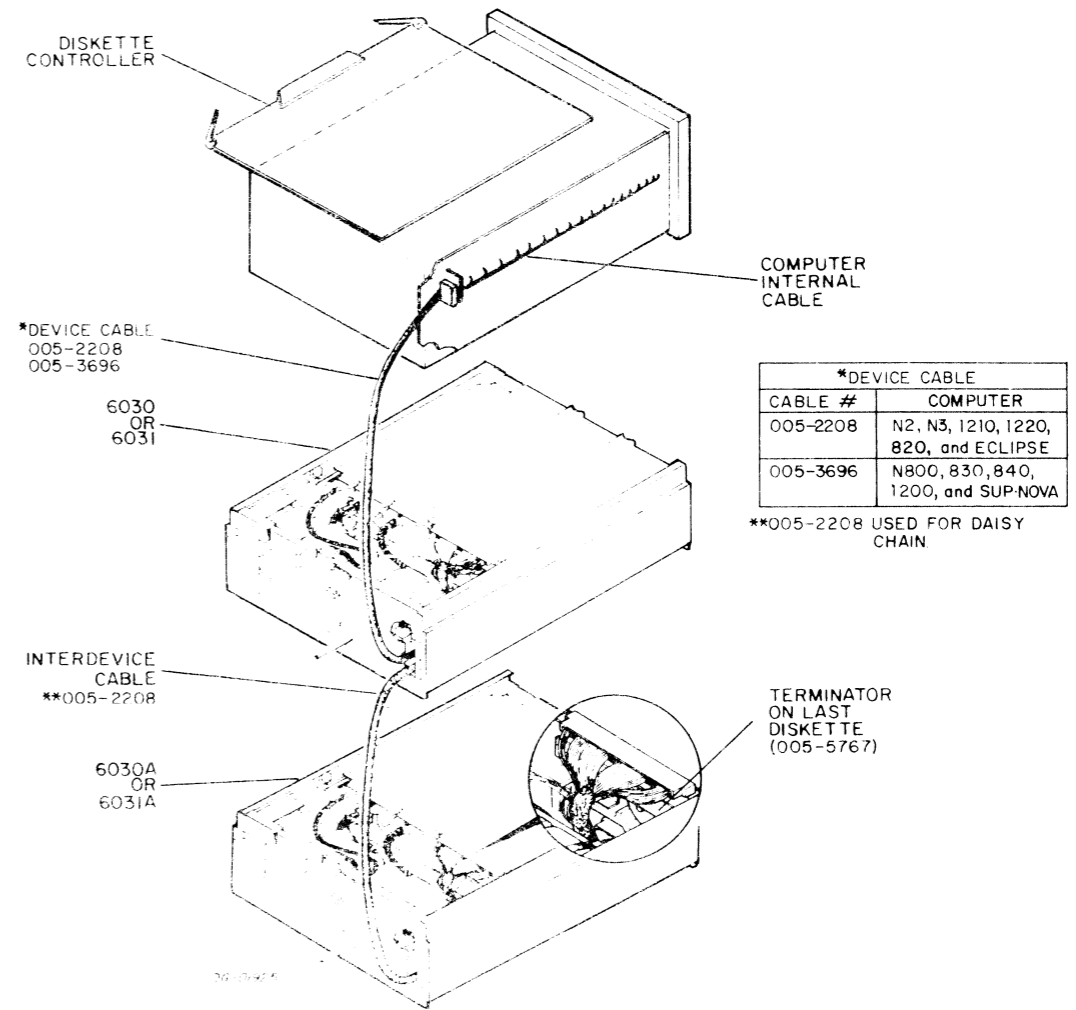
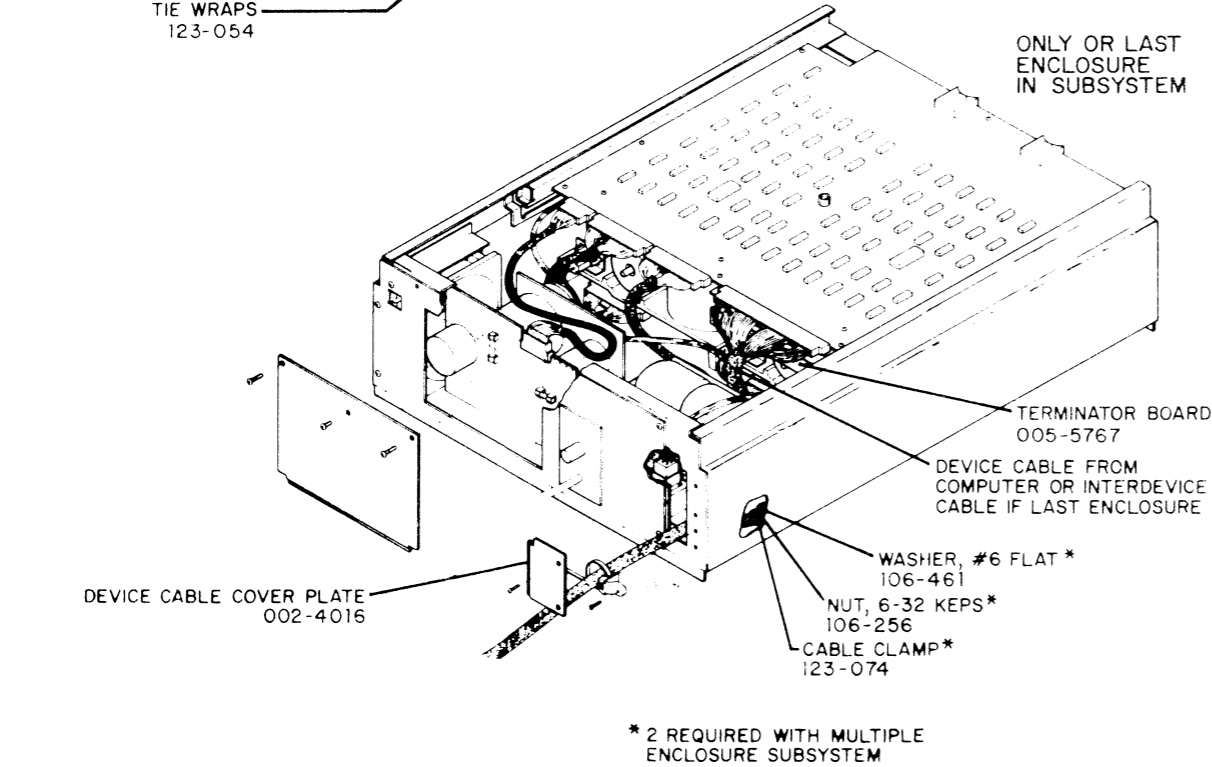
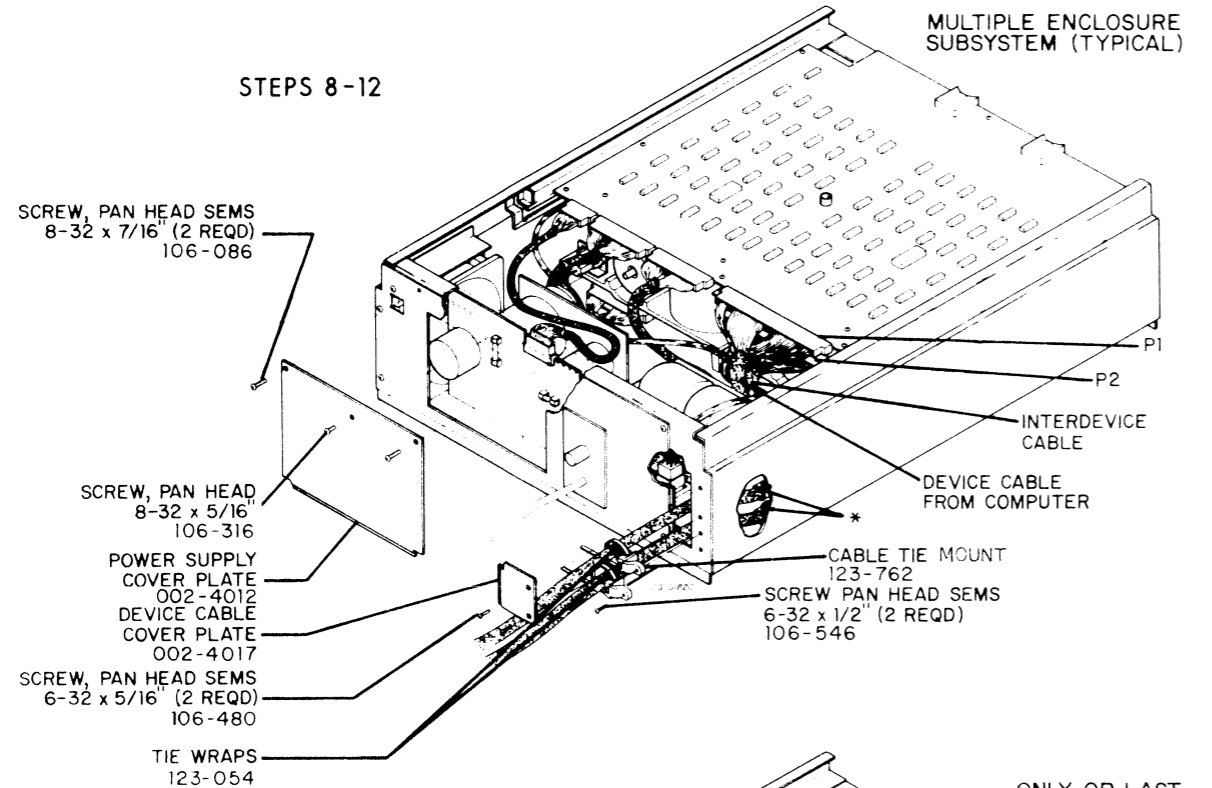
- REMOVE THE OUTER SLIDE CHANNELS FROM BOTH SIDES OF THE CHASSIS BY PULLING EACH SLIDE CHANNEL BACK UNTIL THE DETENT ENGAGES, PRESSING THE DETENT (INDICATED BY ARROW) TO RELEASE IT, AND PULLING THE SLIDE CHANNELS OFF THE CHASSIS. LEAVE THE INNER SLIDE CHANNELS FASTENED TO THE CHASSIS.
- ATTACH A SLIDE BRACKET TO THE REAR OF EACH OUTER SLIDE CHANNEL. (THE FRONT OF THE SLIDE CHANNEL IS IDENTIFIED BY THE NYLON OR METAL INSERTS.) NOTE THAT THE BRACKETS ARE NOT SYMMETRICAL, AND MUST BE POSITIONED AS SHOWN WITH THE ELONGATED SIDE EXTENDED DOWNWARD FROM BOTH SLIDE CHANNELS. SECURE EACH BRACKET WITH TWO 8-32 x 3/8" PAN HEAD SCREWS, TWO # 8 FLAT WASHERS AND TWO 8-32 KEPS NUTS, WITH THE NUTS AND WASHERS ON THE OUTSIDE OF THE SLIDE BRACKET. SLIDE EACH BRACKET FORWARD AS FAR AS THE REAR SCREW WILL ALLOW, AND TIGHTEN IT IN THIS POSITION.
- ATTACH A SLIDE BRACKET TO THE FRONT OF EACH SLIDE CHANNEL. NOTE THAT THE BRACKETS ARE NOT SYMMETRICAL, AND MUST BE POSITIONED AS SHOWN WITH THE ELONGATED SIDE EXTENDED DOWNWARD ON BOTH SLIDE CHANNELS. SECURE EACH BRACKET WITH AN 8-32 x 3/8" PAN HEAD SCREW, A # 8 FLAT WASHER AND AN 8-32 KEPS NUT WITH THE NUT AND WASHER ON THE OUTSIDE OF THE SLIDE. USE THE MIDDLE OF THE 3 HOLES IN THE FRONT OF THE SLIDE CHANNEL. BEFORE TIGHTENING THE SCREW, ADJUST THE BRACKET'S POSITION TO 20 1/2" FROM THE REAR SLIDE BRACKET, AS MEASURED FROM THE OUTSIDE FACES OF THE BRACKETS. TIGHTEN THE SCREWS SECURELY.

NOTE: THE SLIDE BRACKET WILL BE SET BACK FROM THE FRONT EDGE OF THE SLIDE BY APPROXIMATELY 1 8".
- FASTEN THE OUTER SLIDE CHANNELS TO THE MOUNTING CHANNELS AT THE LOCATION CHOSEN FOR THE DISKETTE DRIVE UNIT. THE UPPER SCREW HOLE OF THE SLIDE BRACKET SHOULD ALIGN WITH THE LOWER OF A PAIR OF MOUNTING CHANNEL HOLES SPACED ON 1 2" CENTERS. THE TOP OF THE FRONT PANEL WILL THEN LIE BETWEEN THE TWO 1 2" SPACED HOLES.

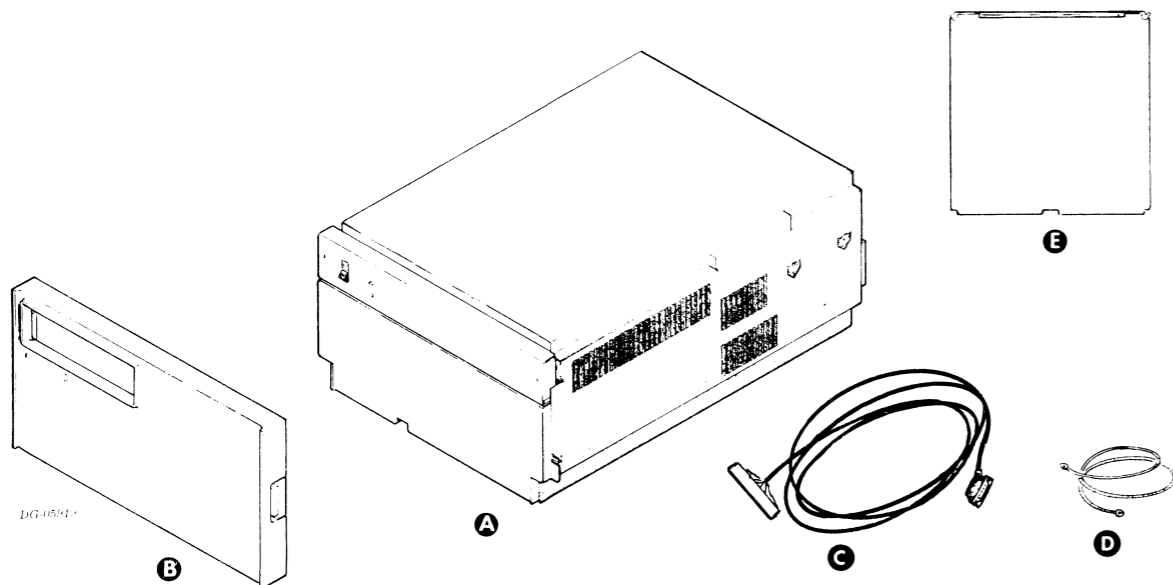
NOTE: THE ORDER OF ASSEMBLY OF THE SLIDE BRACKET AND NUT PLATE ONTO THE MOUNTING CHANNEL IS DIFFERENT AT EACH END OF A SLIDE CHANNEL. THE PROPER ORDER OF ASSEMBLY OF THE SLIDE BRACKET AND NUT PLATE TO THE MOUNTING CHANNELS IS ESSENTIAL FOR FRONT PANEL CLEARANCE. REFER TO THE ILLUSTRATION FOR THE PROPER SEQUENCE.

SECURE EACH BRACKET TO A MOUNTING CHANNEL WITH A 3-HOLE NUT PLATE AND THREE 10-32 x 3/8" SEMS SCREWS. TIGHTEN ALL SCREWS SECURELY.
- ATTACH A DZUS BRACKET TO EACH MOUNTING CHANNEL, USING 5-HOLE NUT PLATE AND TWO 10-32 x 3/8" PAN HEAD SEMS SCREWS FOR EACH BRACKET. TIGHTEN THE SCREWS SECURELY.
- SLIDE THE DISKETTE UNIT INTO THE CABINET BY ALIGNING THE CHASSIS SLIDES AND PUSHING THE UNIT INTO THE CABINET UNTIL THE DETENTS STOP IT. RELEASE THE DETENTS AND PUSH THE UNIT ALL THE WAY BACK INTO THE CABINET. IF IT BINDS OR DOESN'T FIT PROPERLY THE SLIDE CHANNELS ARE NOT ALIGNED CORRECTLY AND SHOULD BE RE-ADJUSTED BY TRIAL AND ERROR. BE SURE TO REMOVE THE UNIT FROM THE CABINET BEFORE ADJUSTING THE SLIDE CHANNELS. THE DZUS BRACKETS MAY ALSO NEED TO BE ADJUSTED IN A SIMILAR FASHION.
- ONCE THE UNIT MOVES BACK AND FORH FREELY PULL IT OUT UNTIL THE DETENTS STOP IT. REMOVE THE TOP COVER BY REMOVING THE FOUR SCREWS, RAISING THE FRONT EDGE OF THE COVER AND SLIDING IT FORWARD AND UPWARD.
- REMOVE THE DEVICE CABLE COVER PLATE ON THE REAR OF THE UNIT AND INSERT THE DEVICE CABLES INTO THE CHASSIS THROUGH THE OPENING. PLUG THE EDGE CONNECTOR INTO THE 199 PIN ETCH (FOR P2) ON THE LARGE PCB. THE CONNECTOR MUST BE ORIENTED AS SHOWN IN THE DRAWING.
- RELEASE THE DETENTS ON BOTH SIDES OF THE UNIT AND SLIDE IT BACK INTO ITS CABINET.
- WORK FROM THE REAR OF THE CABINET, AND INSTALL A CABLE BRACKET ON THE REAR OF THE CHASSIS IN THE POSITION SHOWN. (ONE MOUNT IS REQUIRED FOR EACH DEVICE CABLE ENTERING FROM THE CHASSIS. USE ONE 7-32 x 1 2 PAN HEAD SEMS SCREW FOR EACH MOUNT.)
- THE EACH DEVICE CABLE TO BE MOUNTED, SO THAT THE CABLE DOES NOT STRAIN ITS CONNECTION INSIDE THE CHASSIS.
- INSTALL THE OFFSET CABLE COVER PLATE AND SECURE IT WITH TWO SEMS SCREWS (12 x 1 2).
- SLIDE THE DISKETTE UNIT FORWARD UNTIL THE DETENTS STOP IT, AND CHECK THAT THE DEVICE CABLES ARE FREE TO FLEX DURING THIS OPERATION.
- WORK FROM THE FRONT OF THE CABINET, AND RECHECK THAT THE DEVICE CABLES, OF CABLE AND TERMINATOR BOARD, ARE SECURE.
- REPLACE THE TOP COVER. ENSURE THAT THE OFFSET REAR EDGE OF THE COVER ENGAGES THE FLANGE ON THE REAR OF THE CHASSIS. SECURE THE COVER WITH THE FOUR SEMS SCREWS (6-32 x 5/16").

EXTERNAL CABLING



INSTALLATION SPECIFICATIONS MODEL 6234



MAJOR COMPONENT

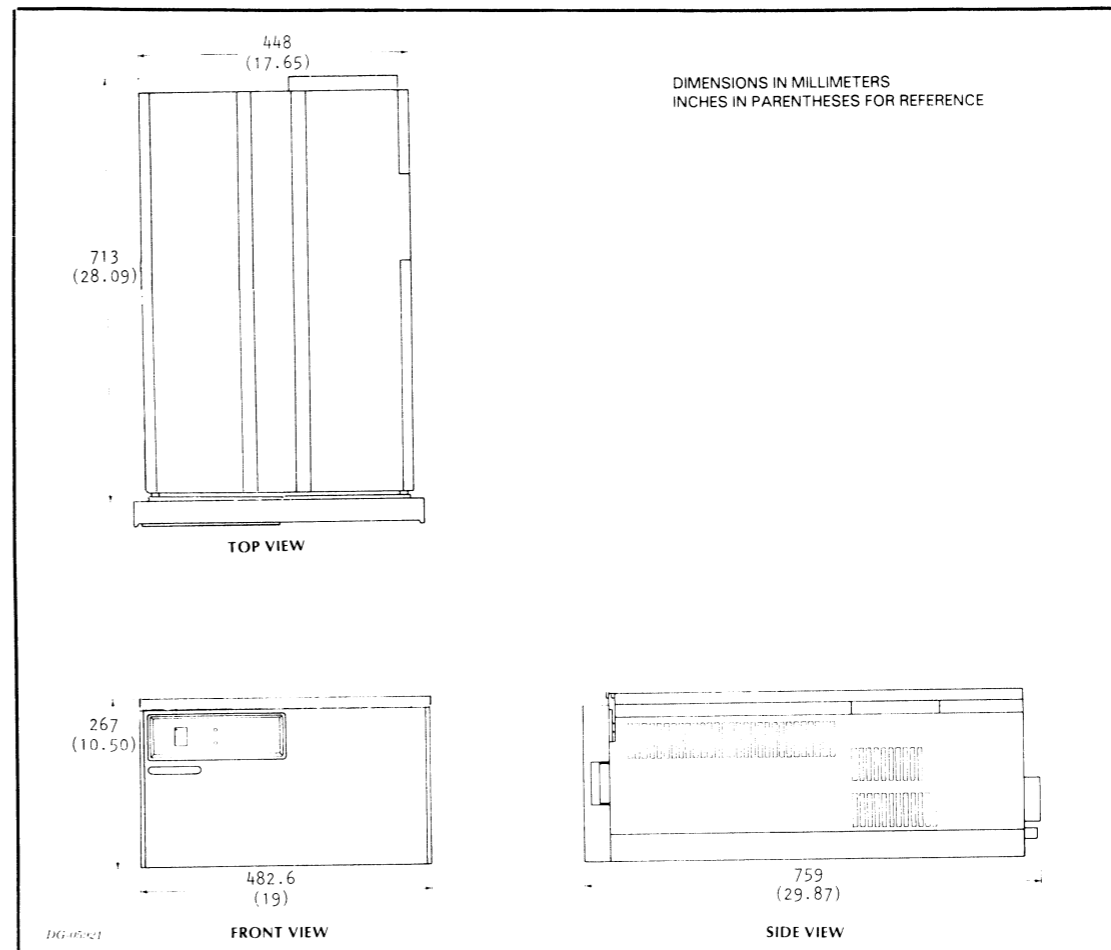
ITEM	COMPONENT	MOUNTING LOCATION	NOTES
A	RIGID DISK DRIVE	CABINET	
B	FRONT PANEL	CABINET	

CABLE

ITEM	CABLE	CONNECTING	MAX LG		NOTES
			FT	M	
C	EXT. I/O CABLE	CONTROLLER TO RIGID DISK DRIVE AND FLEXIBLE DISK DRIVE	10	3	005-017587
D	GROUND BRAID	RIGID DRIVE COMPUTER	10	3	005-009536

ITEM	COMPONENT	CHASSIS	MAX DATA CHANNEL LATENCY (μS)	+5V CURRENT DRAW (AMPS)
E	CONTROLLER PCB	CPU	INFINITE	2.5

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	759	267
Inches	19	29.87	10.5

SERVICE CLEARANCES:

	Front	Rear	Bottom to floor
Millimeters	711.2	482.6	457.2
Inches	28.0	19	18

WEIGHT:

Kilograms	37.3
Pounds	82

HEAT OUTPUT (MAX)

	Watts	BTU/hr
100V	125	427
120V	125	427
220V	125	427
240V	125	427

OPERATING ENVIRONMENT:

Temperature (max)	Room	38°C	100°F
	Cabinet	43°C	109°F
Relative Humidity (max)	80 non-condensing		
Altitude	2438 m (8000 ft)		

POWER REQUIREMENTS:

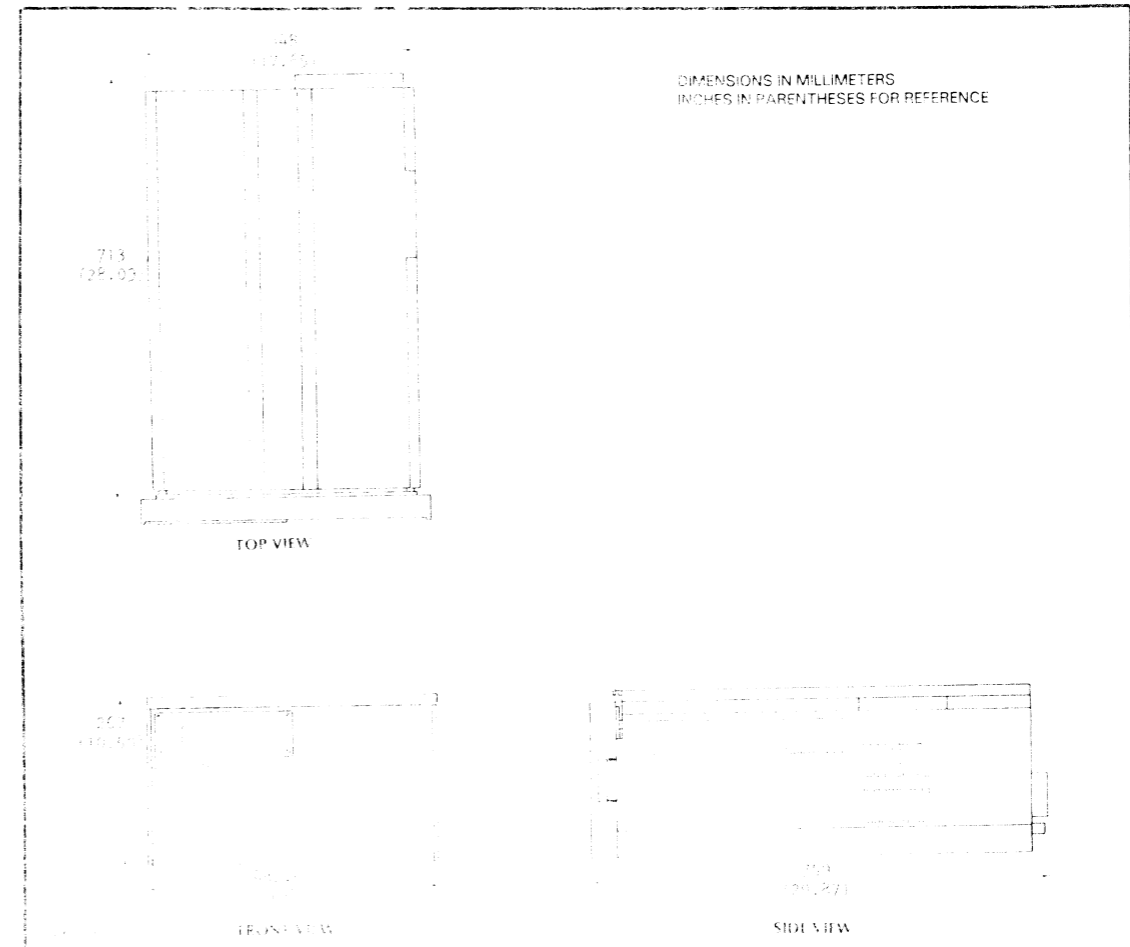
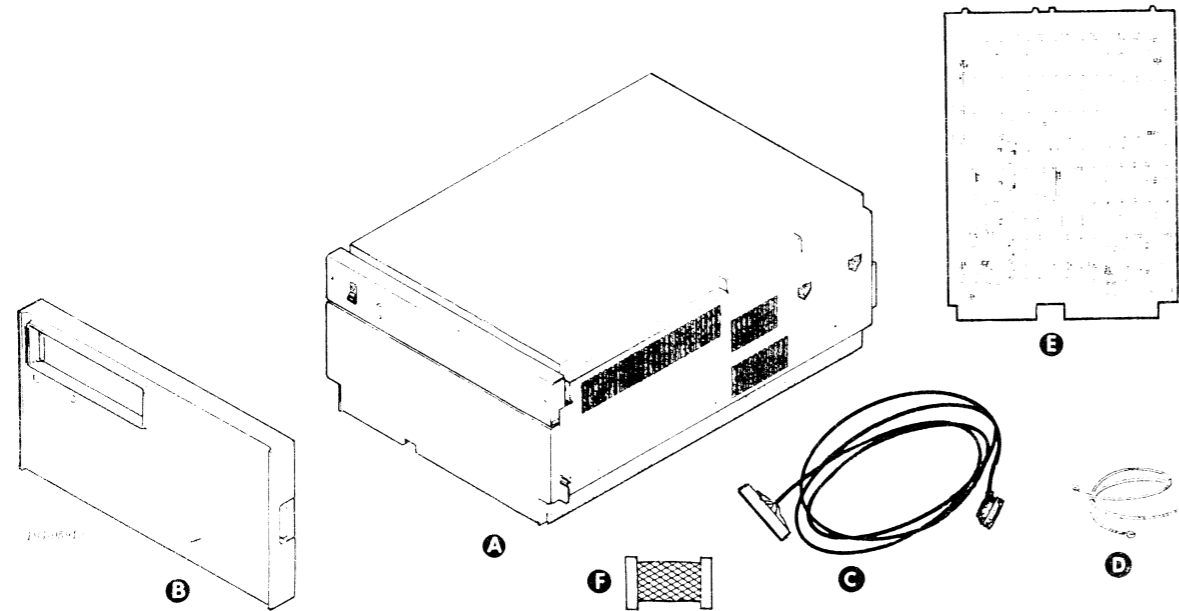
(Domestic)			
Voltage	120	+10%	-15%
Hz	60	±1%	
Amps per Phase	1.8		
Startup Surge per Phase	8.5	For 10 seconds	
(Export)			
Voltage	100±10%	100±10%	220 ^{+10%} / _{-15%} 240 ^{+10%} / _{-15%}
Hz	50±1%	60±1%	50±1% 50±1%
Amps per Phase	2.2	2.2	1.0 0.9
Startup Surge per Phase	10 A	10 A	4.7 A 4.3 A
	For 10 seconds		

CABLES:

Primary Power	Length	Mating	
		Conn	Conn
Domestic 60Hz	1.8m(6')	5-15P	5-15R
Export	Supplied by installer		

INSTALLATION SPECIFICATIONS

MODEL 6280



MAJOR COMPONENT

ITEM	COMPONENT	MOUNTING LOCATION	NOTES
A	RIGID DISK DRIVE	CABINET	
B	FRONT PANEL	CABINET	0050142 (3-BLUE) OR 005019576 (EARTH TONE)

CABLE

ITEM	CABLE	CONNECTING	MAX LG		NOTES
			FT	M	
C	EXT. I/O CABLE	CONTROLLER TO RIGID DISK DRIVE AND FLEXIBLE DISK DRIVE	10	3	005-019669
D	GROUND BRAID	RIGID DRIVE-COMPUTER	10	3	005-009536

ITEM	COMPONENT	NUMBER	NOTE
E	BMC TERMINATOR	005012419	TERMINATE LAST BMC CTRL
F	BMC CABLE	005020219	1 DEV. CTRL. IN MAIN CHASSIS

ITEM	COMPONENT	CHASSIS	BMC CHANNEL LATENCY (μS)	-5V CURRENT DRAW (AMPS)
G	CONTROLLER PCB	005-10124	32 μS	5.6A MAX

DIMENSIONS	Width	Depth	Height
Millimeters	402.3	750	200
Inches	15.8	29.5	7.8
SERVICE CLEARANCES	Front	Rear	Bottom to Floor
Millimeters	71.2	492.6	157.2
Inches	2.8	19	6.2
WEIGHT	Watts	Btu/hr	
Kilograms	4.2	14	
Pounds	9.2	30	

POWER REQUIREMENTS:

Operating Voltage	Operating Current	Standby Current
120 VAC	1.8 A	0.8 A
220 VAC	0.9 A	0.4 A
240 VAC	0.8 A	0.4 A
Operating Phase	Surge per Phase	Surge per Phase
1-Phase	10 A	10 A
3-Phase	3.3 A	3.3 A

OPERATING ENVIRONMENT:

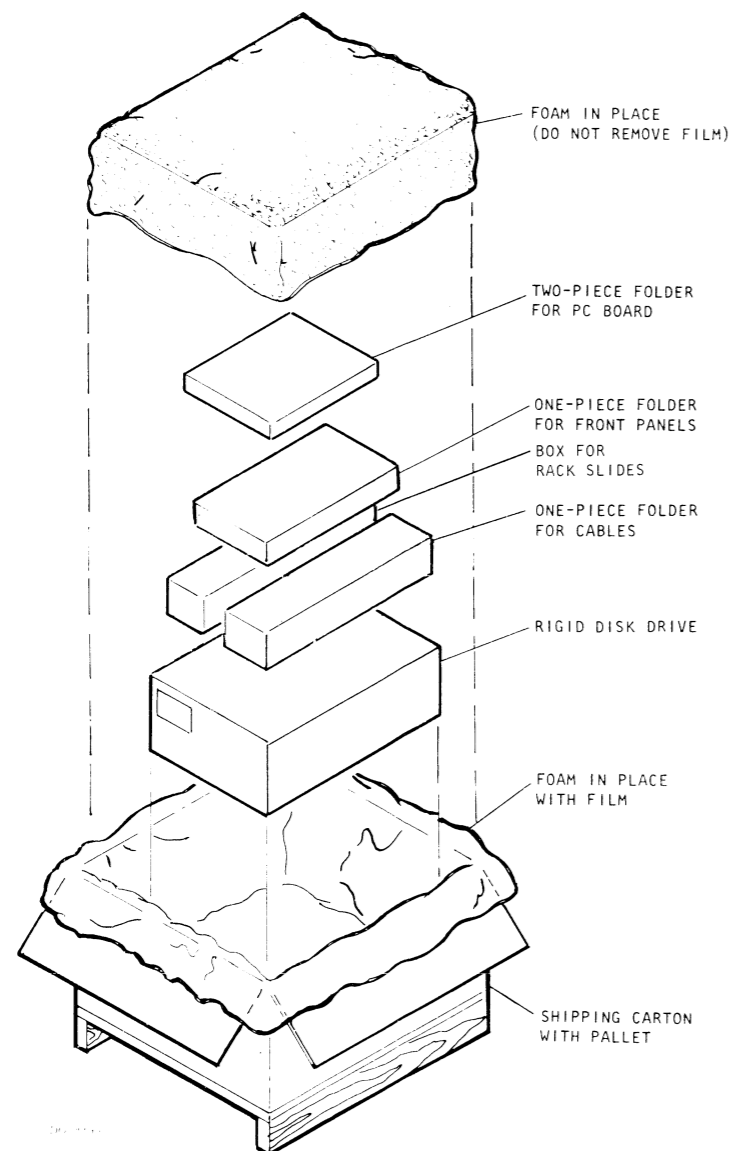
Parameter	Min	Max
Temp	10°C	40°C
Humidity	10%	90%
Relative Humidity	10%	90%
Altitude	2438 m	12000 ft

CABLES:

Connector	Length	Conn	Mating Conn
Direct 50Hz	1.8m(6')	5-15P	5-15R

Power: Supplied by installer

SHIPPING



FOR PACKING PROCEDURE,
SEE 010-000262/263

INTERNAL CABLING

INTERNAL CABLE WIRE LIST MODEL 6234			RIGID DISK	I/O CABLE MODEL 6230	
SIGNAL NAME	BACK PANEL PIN NUMBER	PADDLE CONNECTOR 100 PIN	SOCKET CONNECTOR 50 PIN P1	P2 CONNECTOR PIN	PCB EDGE PIN
GND	A-1	U	1	1	1
XPOR	A-47	17	34	A	2
GND		V	19	2	3
X PWR OFF	A-49	18	2	B	4
GND		W	35	3	5
HOME	A-79	19	19	C	6
GND		X	3	4	7
QD	A-81	20	36	D	8
QC	A-84	21	20	5	9
QB	A-83	22	4	E	10
QA	A-86	23	37	6	11
GND		a	21	F	12
HDSELO	A-35	24	5	7	13
HDSELT	A-88	25	33	H	14
HDSEL2	A-87	26	22	8	15
GND		d	6	J	16
RDGATE	A-89	27	39	9	17
GND		e	23	K	18
WRGATE	A-90	28	7	10	19
GND		f	40	L	20
PREAMBLE	B-6	29	24	11	21
GND		h	8	M	22
XSC4	B-11	30	41	12	23
XSC3	B-13	31	25	N	24
XSC2	B-15	32	9	13	25
XSC1	B-19	33	42	P	26
XSCO	B-23	34	26	14	27
GND		n	10	R	28
XSCTR PLS	B-25	35	43	15	29
GND		p	27	S	30
XSCNTVAL ID	B-27	36	11	16	31
GND		r	44	T	32
XSC5	B-31	37	28	17	33
WRT PRO	B-69	49	12	U	34
HDSEL3	B-34	38	45	18	35
GND		s	29	V	36
DRV FLT	B-36	39	13	19	37
SPARE	B-38	40	46	W	38
GND		t	30	20	39
DIS CLK+	B-40	41	14	X	40
DIS CLK-	B-48	42	47	21	41
GND		w	31	Y	42
RDY	B-49	43	15	22	43
SWAP	B-51	44	48	Z	44
GND		x	32	23	45
DAT-	B-52	45	16	a	46
DAT+	B-53	46	40	24	47
GND		AB	33	b	48
CLK-	B-54	47	17	25	49
CLK+	B-67	48	50	c	50
+DRAIN		AD	SHELL	NC	NC

MODEL 6234-NON HARDENED (NON COMPLIANT) CABLES

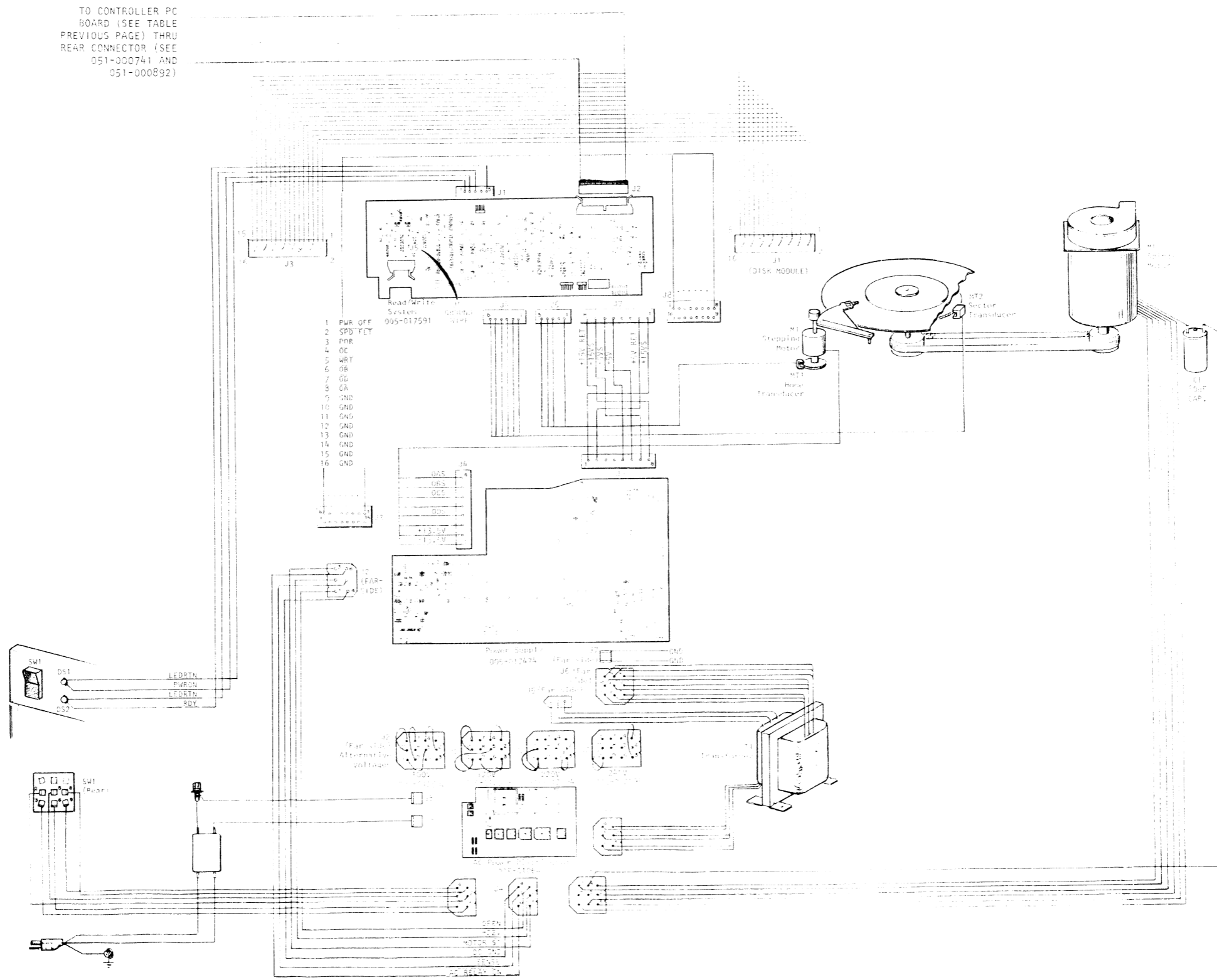
005-001802	} NOVA 3 SERIES COMPUTERS NOVA 2, ECLIPSE SERIES COMPUTERS NOVA 820, 1010 AND 1020 COMPUTERS	} 005-017587
005-012496		
005-012472		

MODEL 6280
005019669

NOTE: FOR HARDENED (COMPLIANT) I/O CABLING INSTALLATION FOR MODEL 6234, SEE 010-000301. WIRE LIST FOR THIS CABLING IS SAME AS ABOVE, EXCEPT THERE IS NO PADDLE CONNECTOR.

INTERNAL CABLING (CONT)
INTERCONNECTION DIAGRAM

TO CONTROLLER PC BOARD (SEE TABLE PREVIOUS PAGE) THRU REAR CONNECTOR (SEE 051-000741 AND 051-000892)

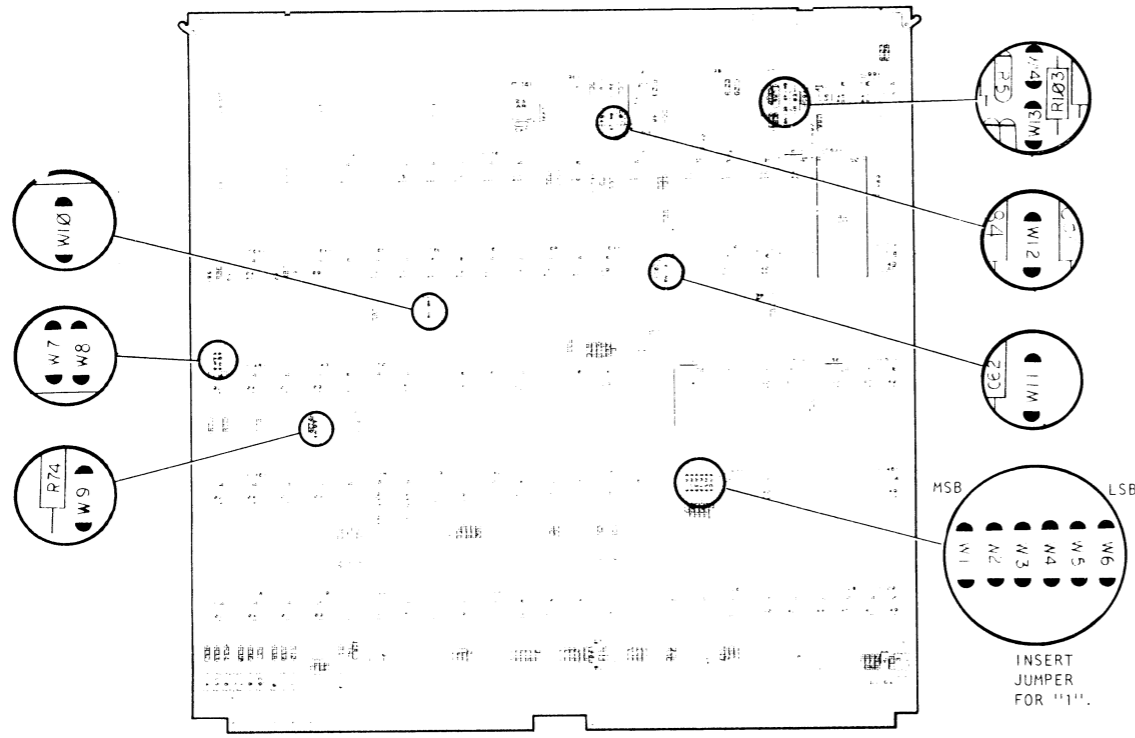


2104X14

TAILORING

**MODEL 6234
CONTROLLER BOARD**
005-015551

R/W LOGIC BOARD
005-017474

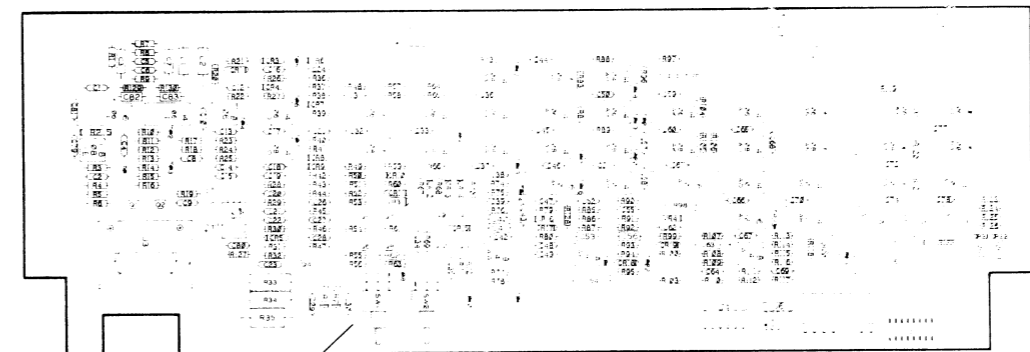


Ref DGC Dwg No 003-001623 Rev 03

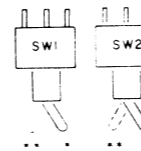
CONTROLLER DEVICE CODE SELECT		
JUMPER NUMBER	DEVICE CODE 33	DEVICE CODE 73
1	OUT	IN
2	IN	IN
3	IN	IN
4	OUT	OUT
5	IN	IN
6	IN	IN

JUMPER NOTES:

1. JUMPERS W1 AND W6 ARE DEVICE CODE SELECTION JUMPERS.
2. JUMPERS W8, W11 AND W12 ARE IN.
3. JUMPERS W7 AND W10 ARE OUT.
4. W14 IS IN FOR ALL CPU'S EXCEPT MV/8000.
5. W13 IS IN FOR MV/8000.
6. IF ONE DISKETTE AND ONE HARD DISK ARE ATTACHED, W9 IS IN.



Ref DGC Dwg No. 003-001740 Rev. 01



SWITCH SETTINGS	
SWITCH	*OPEN
SW-1	RIGID DISK = UNIT 0 FLEXIBLE DISK = UNIT 1
SW-2	RIGID DISK NOT WRITE PROTECTED
	**CLOSED
SW-1	RIGID DISK = UNIT 1 FLEXIBLE DISK = UNIT 0
SW-2	RIGID DISK WRITE PROTECTED

TAILORING (CONT)

MODEL 6280 CONTROLLER BOARD

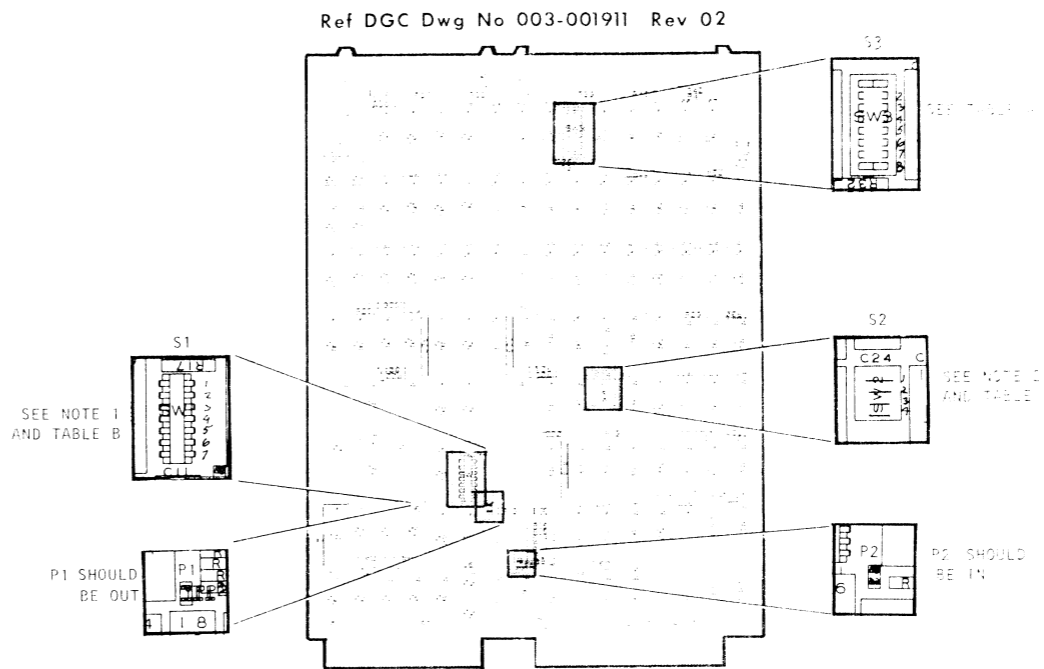
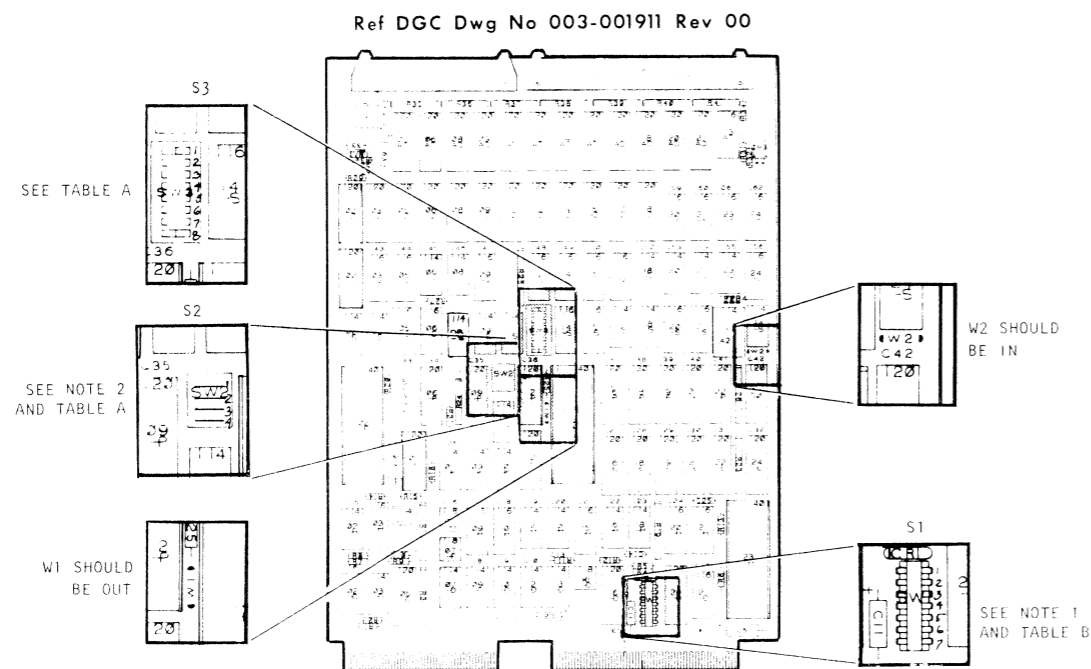


TABLE A

PRIORITY SELECT	S2			S3
	SW4	SW3	SW2	
HSCR7	ON	ON	ON	SW8
HSCR6	ON	ON	-	SW7
HSCR5	ON	-	ON	SW6
HSCR4	ON	-	-	SW5
HSCR3	-	ON	ON	SW4
HSCR2	-	ON	-	SW3
HSCR1	-	-	ON	SW2
HSCR0	-	-	-	SW1

NOTE: TO SELECT BMC PRIORITY LEVEL 0-7, SET SWITCHES 2-4 OF S2 AS SHOWN AND TURN ON ONE SWITCH IN S3 AS INDICATED.

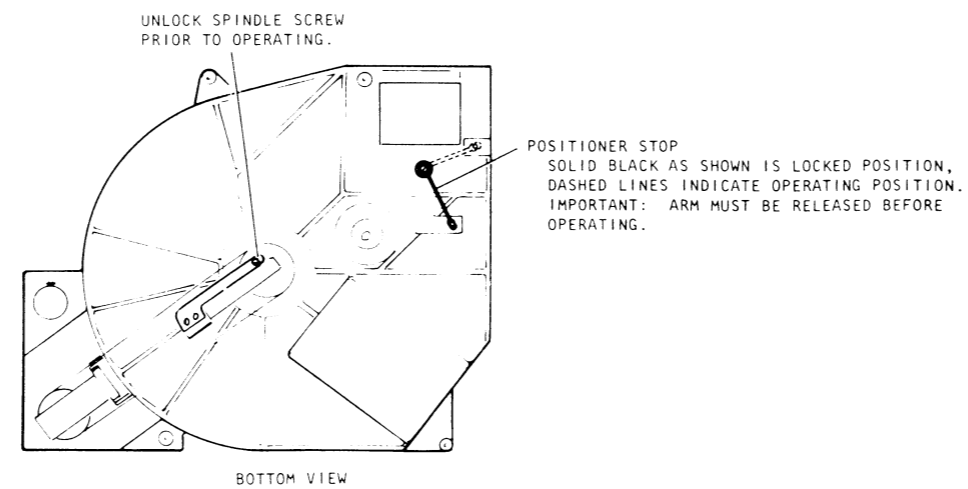
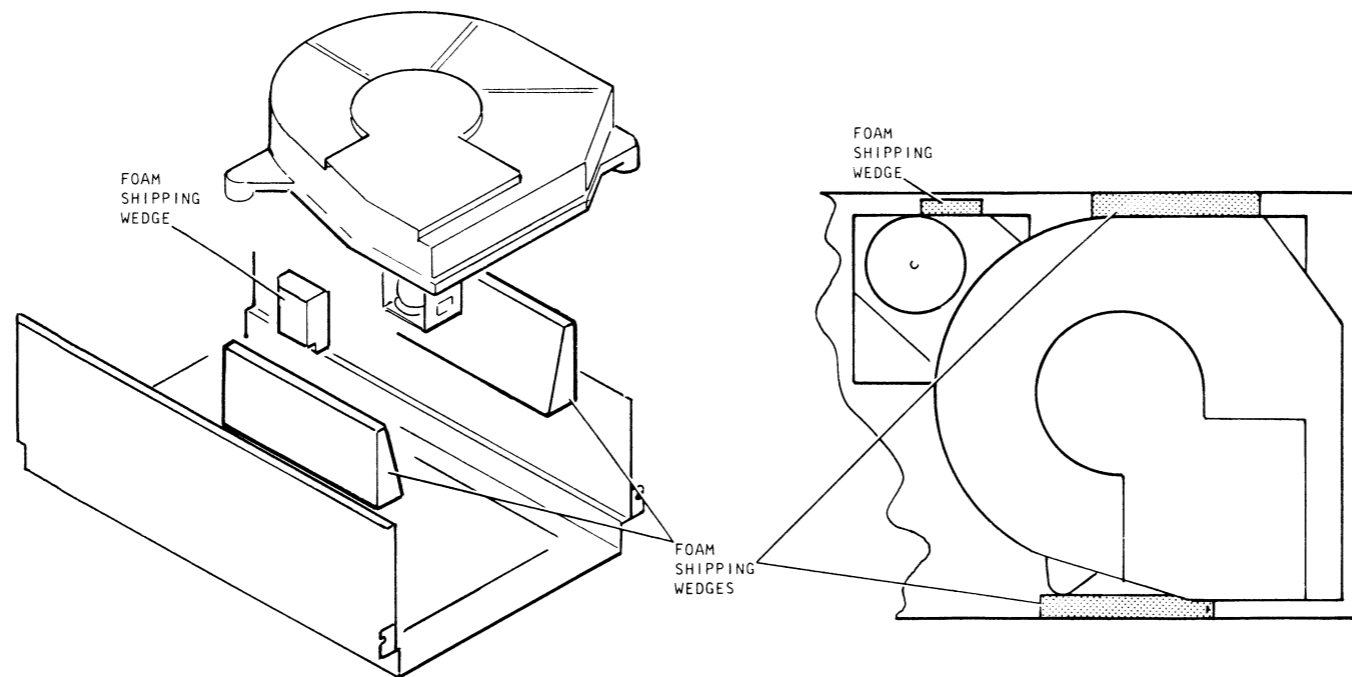
TABLE B

S1	DEVICE CODE (OPTAL)	
	25	65
SW1	OFF	ON
SW2	ON	ON
SW3	OFF	OFF
SW4	ON	ON
SW5	OFF	ON
SW6	ON	ON

SWITCH NOTES: 1. SW1 TO SW6 OF S1 ARE DEVICE CODE SELECTION SWITCHES CORRESPONDING TO 000 TO 006 RESPECTIVELY. SWITCH ON FOR WITHAL OUT NOT USED.
 2. SW1 OF S2 SHOULD BE ON FOR 14" HARD DISK, OFF FOR 9" HARD DISK.

SHIPPING RESTRAINTS

IMPORTANT:
BEFORE OPERATING DISK, REMOVE
FOAM SHIPPING WEDGES, UNLOCK
SPINDLE SCREW AND UNLOCK ARM
(FROM BOTTOM OF DRIVE).



DG-06034

NOTE TO FIELD ENGINEERING:

WHEN RETURNING A MODULE TO THE MANUFACTURING FACILITY, PERFORM THE FOLLOWING TASKS.

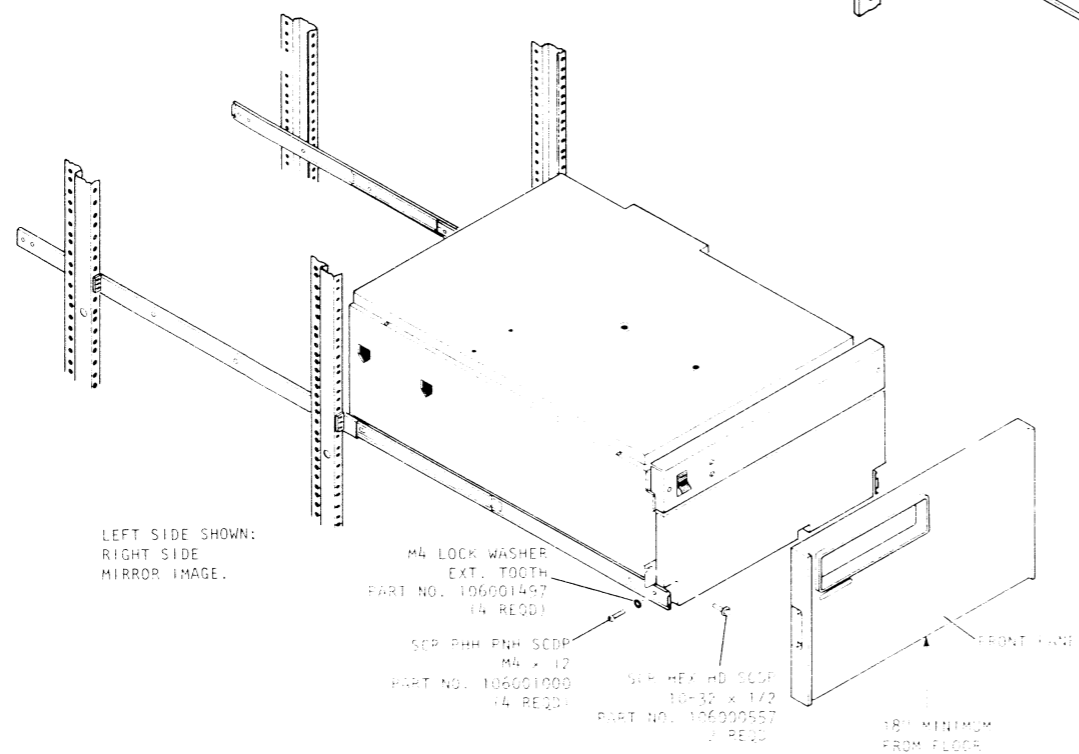
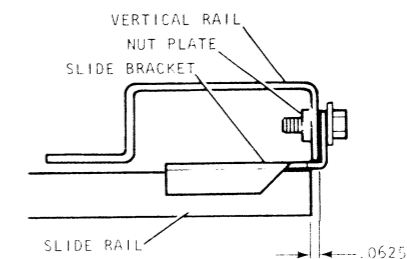
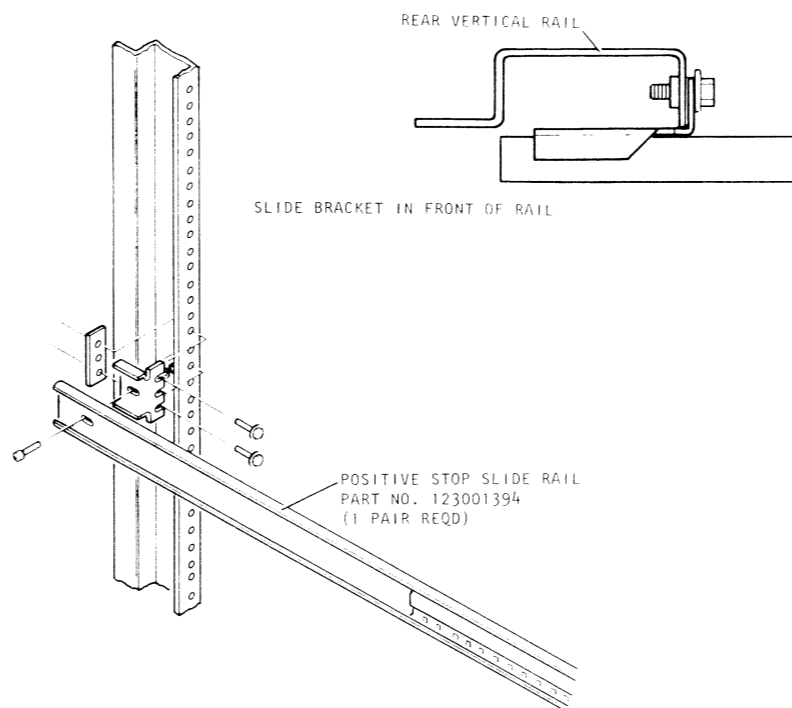
1. MOVE POSITIONER STOP TO LOCK POSITION.
2. LOCK SPINDLE BY ENGAGING CAPTIVE SCREW.

MODULES RETURNED TO THE MANUFACTURING FACILITY WITHOUT BEING PROPERLY SECURED CAN VOID THE WARRANTY.

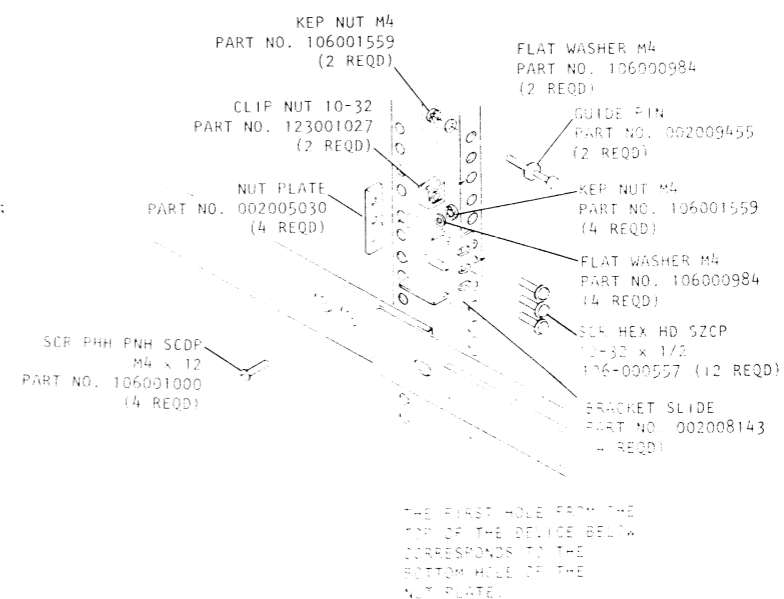
CABINET MOUNTING

HARDWARE MOUNTING KIT 005-019126

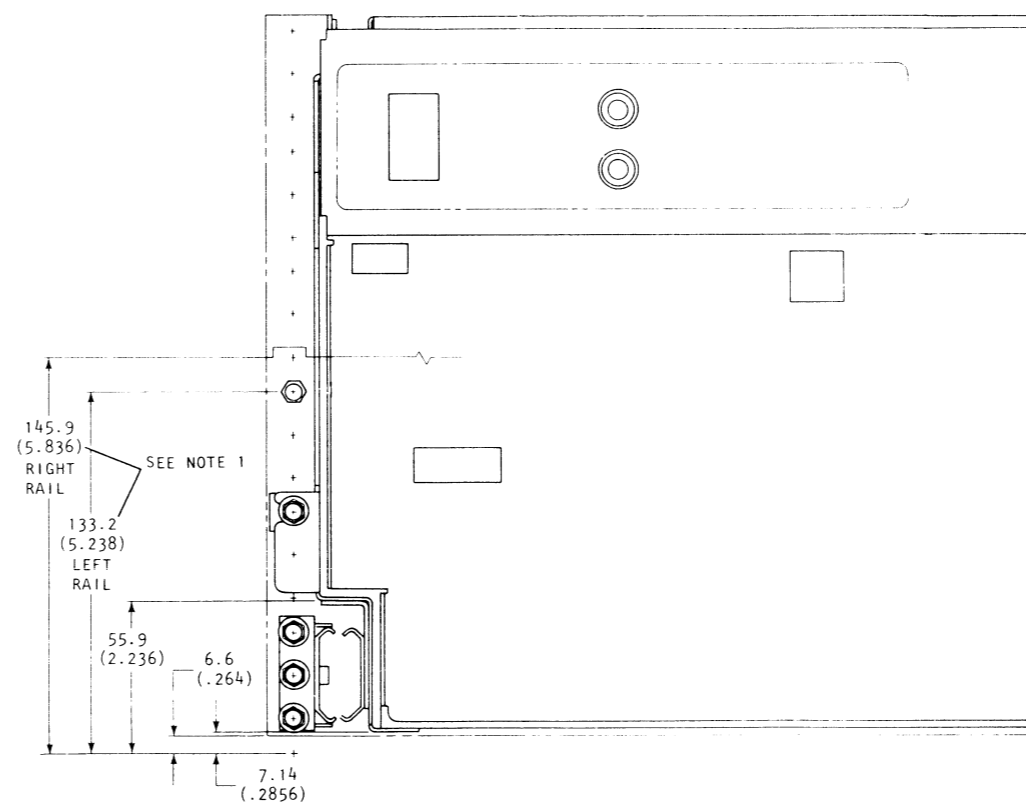
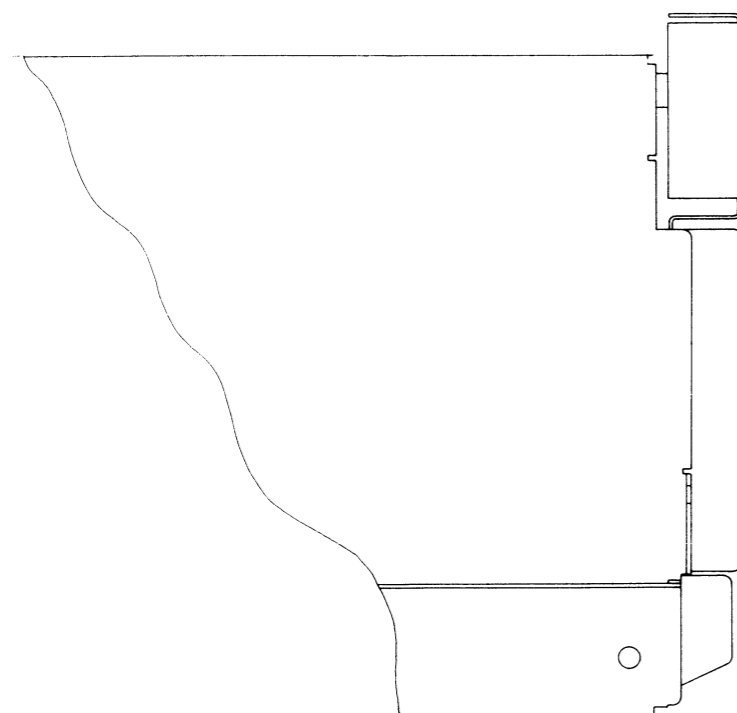
TORQUE REQUIREMENTS		
SCREW NO	IN/LB	N/M
M4	13.27-15.04	1.5-1.70
8-32	14.5-15.5	1.63-1.75
10-32	33-35	3.7-3.95



RIGHT SIDE SHOWN:
LEFT SIDE MIRROR
IMAGE.



CABINET MOUNTING (CONT)

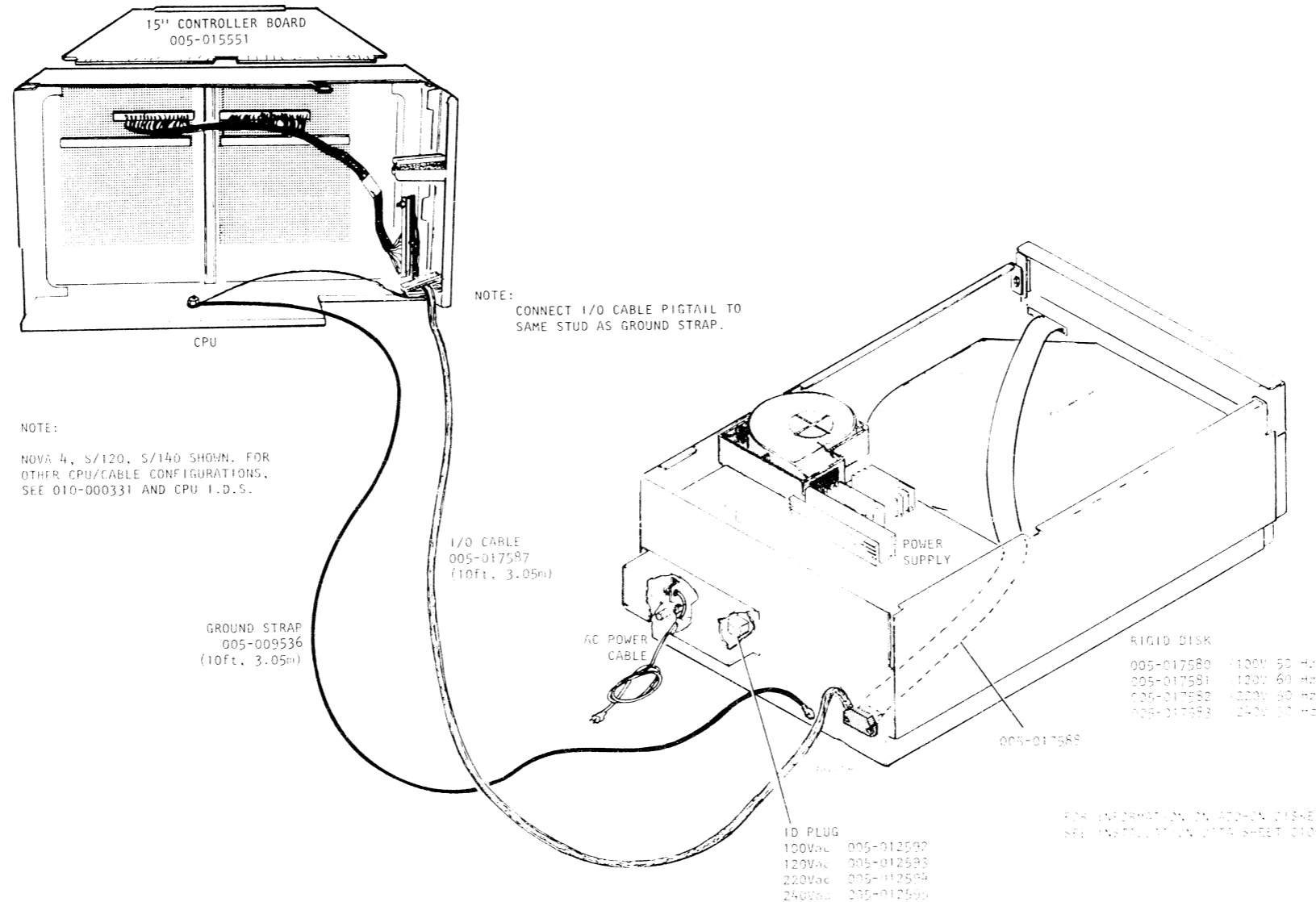


NOTES: 1. NOMINAL DIMENSIONS LOCATING CENTERLINES
OF BALL STUDS FOR MOUNTING OF FRONT PANELS

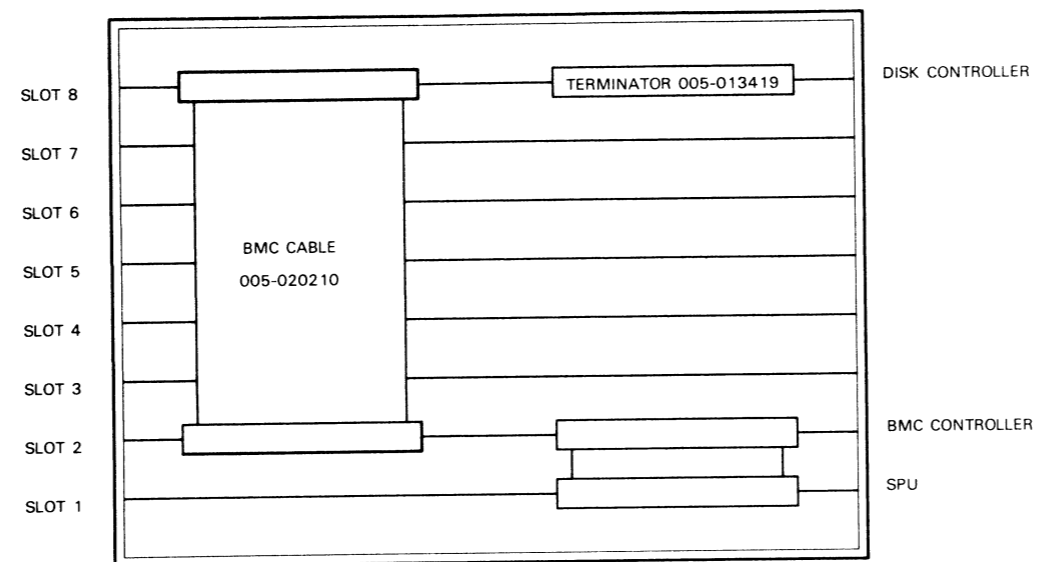
DIMENSIONS IN MILLIMETERS
INCHES IN PARENTHESES FOR REFERENCE

EXTERNAL CABLING

MODEL 6234



INTERNAL CABLING



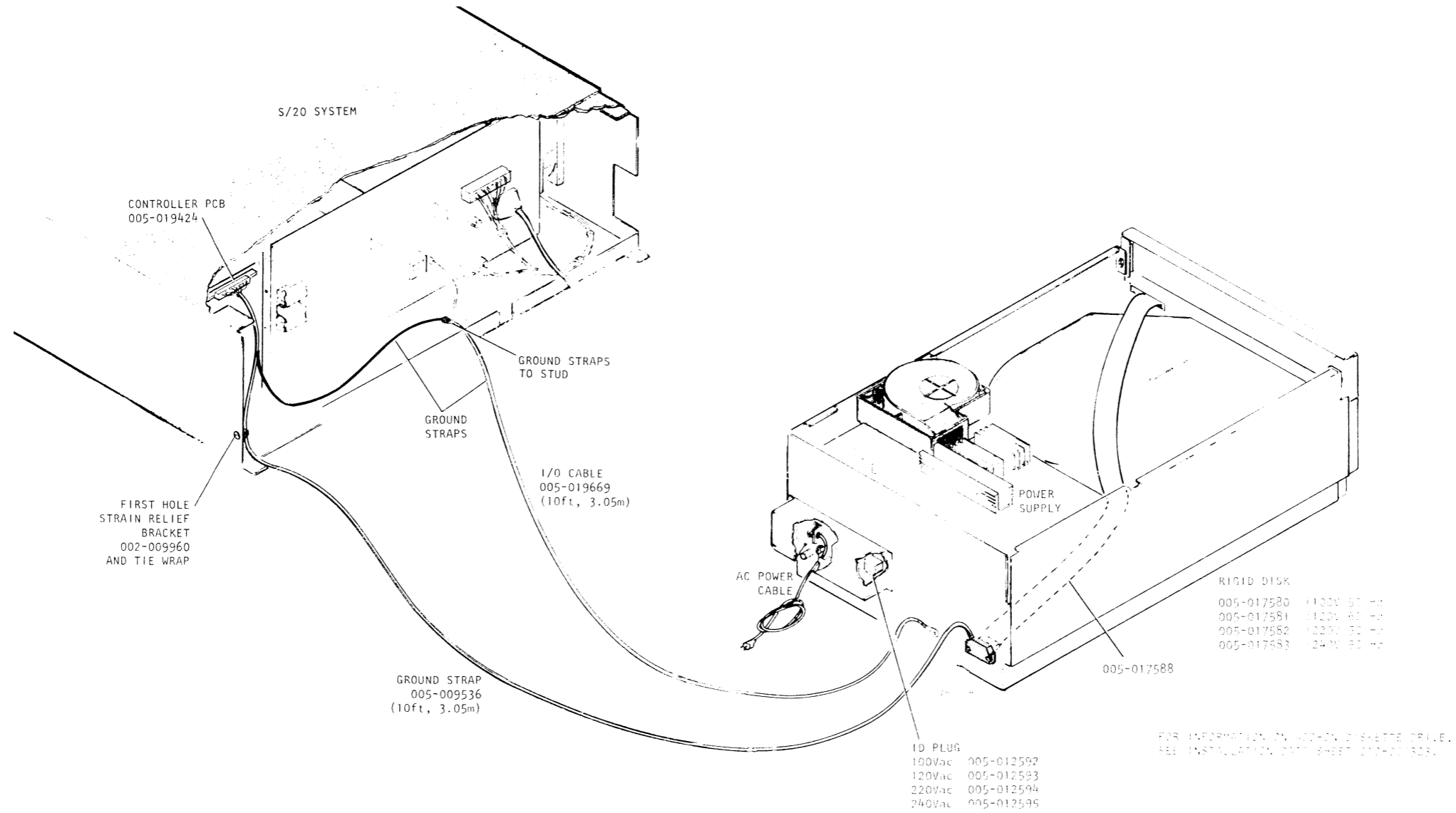
ID-00454

DISK CONTROLLER CAN BE INSTALLED IN ANY SLOTT 3 TO 8 OF MAIN CHASSIS.

BMC CONTROLLER WILL BE INSTALLED IN SLOTT 2

USE BMC CABLE 002-020210.

EXTERNAL CABLING
MODEL 6280



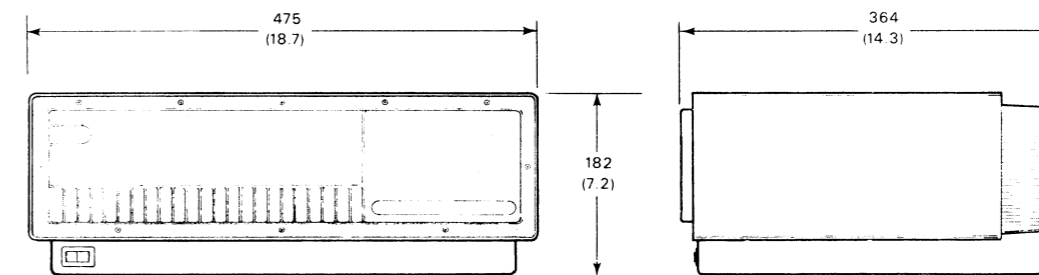
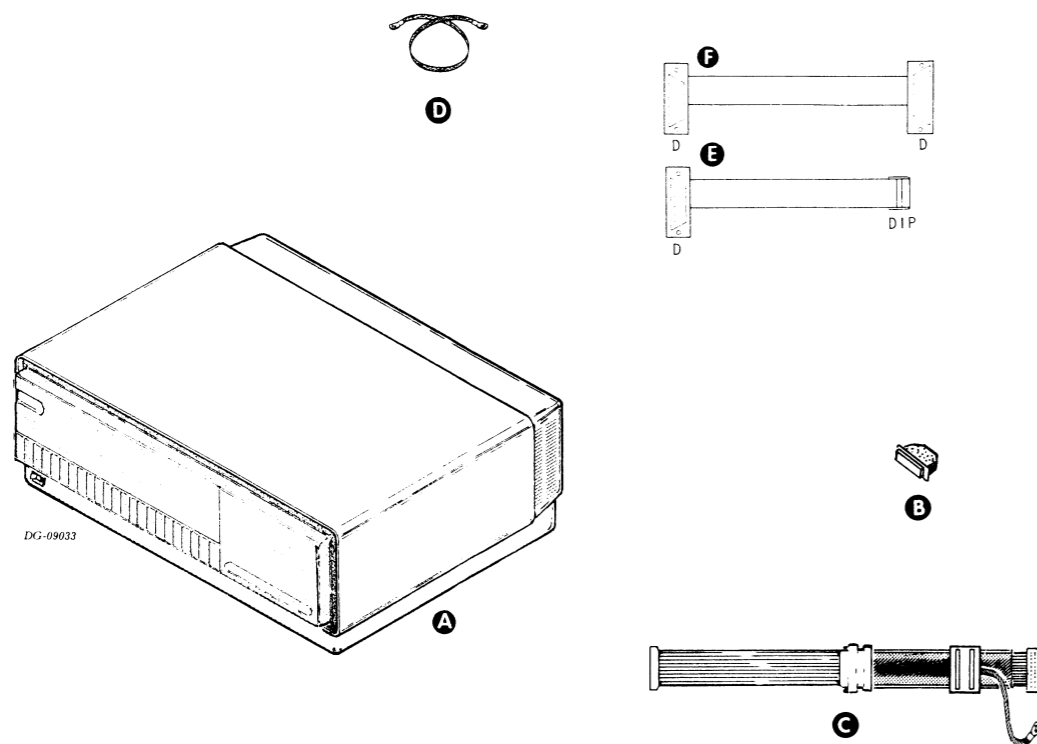
INSTALLATION SPECIFICATIONS

ENTERPRISE / MPT

Table-top Model

6220-TT (5MB),

6222-TT (15MB)



NOTE: VENTILATION CLEARANCE MUST BE 3 INCHES MINIMUM EACH SIDE.

MAJOR COMPONENT

ITEM	COMPONENT	MOUNTING LOCATION	NOTES
A	RIGID DISK DRIVE	FREE-STANDING	
B	TERMINATOR		005-018508

CABLE

ITEM	CABLE	CONNECTING	MAX LG		NOTES
			FT	M	
C	I/O CABLE	CPU TO RIGID DISK DRIVE	10	3	005-019670 ENTERPRISE/MPT
D	I/O CABLE (OUT)	DISK TO PERIPHERAL	10 20 30	3 6 9	005-019643 005-019642 005-019641
E	I/O CABLE	DISK TO DISK	10 20 30	3 6 9	005-019678 005-019677 005-019676
F	GROUND BRAID	DISK TO COMPUTER	10 20 30	3 6 9	005-009536 005-003971 005-020144

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:

Room Temperature (max)	32 C	90 F
Relative Humidity (max)	80% non-condensing	
Altitude	305 to 3048m (-1000 to 10,000ft)	

STORAGE ENVIRONMENT:

Temperature	-40 to 65 C (-40 to 149 F)
Relative Humidity	20-80% non-condensing
Altitude	7600 m (25,000 ft.)

POWER REQUIREMENTS:

(Domestic)				
Voltage	120			
Hz	60			
Amp per Phase	1.52			
Phase	1			
Startup Surge per Phase	9. A			
Surge is .10 sec max	(Export)			
Voltage	100	100	220	240
Hz	60	50	50	50
Amp per Phase	1.9	1.9	.84	.76
Phase	1	1	1	1
Startup Surge per Phase	11.	11.	5.3	4.8
Surge is .10 sec max				

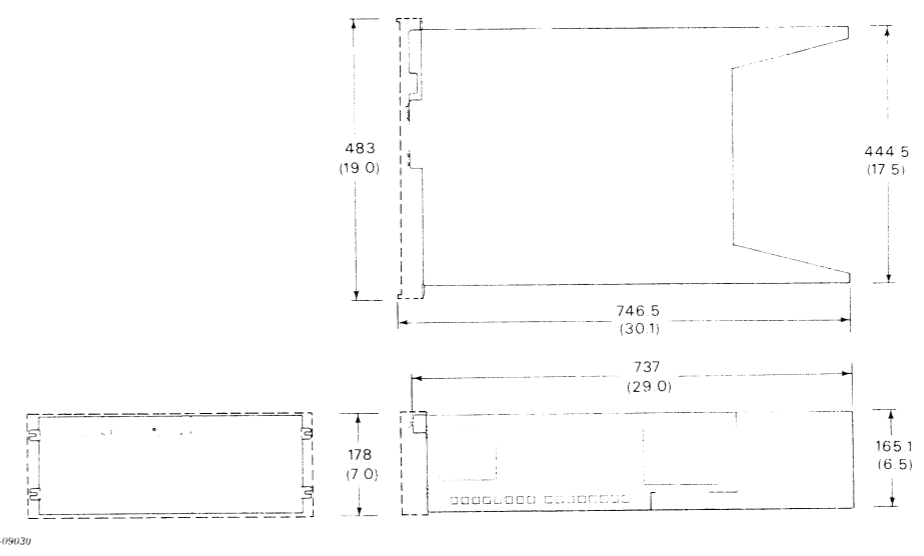
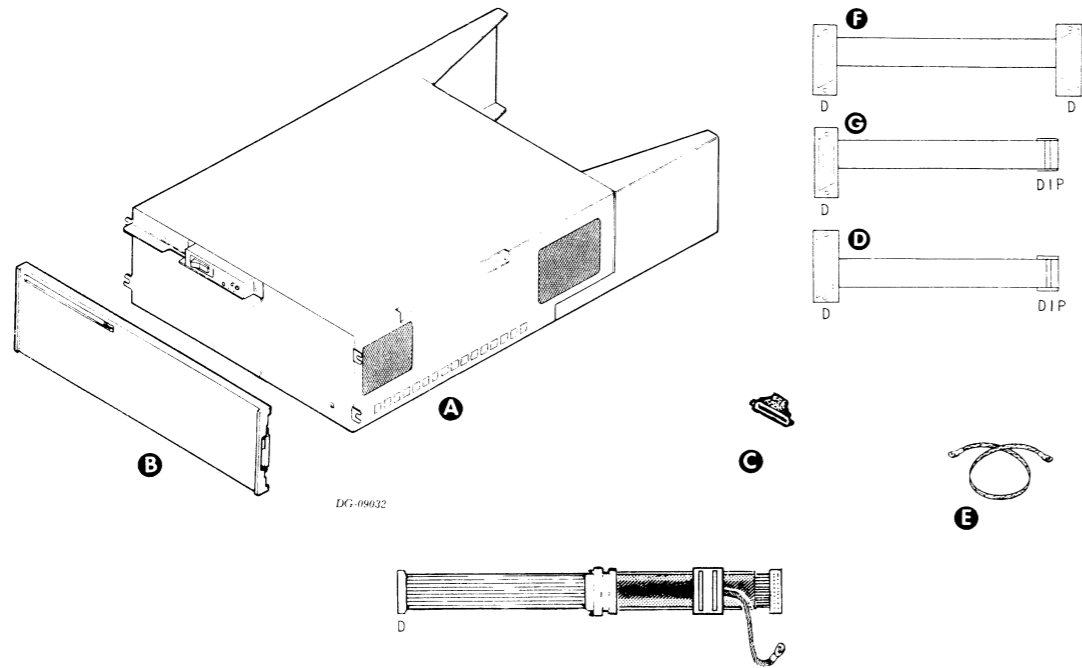
CABLES:

Primary Power	Length	Conn	Mating Conn
Domestic 60Hz	1.8 m (6')	5-15P	5-15R

INSTALLATION SPECIFICATIONS (CONT)

microNOVA without Diskette

Models 6220 (5MB),
6222 (15MB)



MAJOR COMPONENT

ITEM	COMPONENT	MOUNTING LOCATION	NOTES
A	RIGID DISK DRIVE	CABINET	
B	FRONT PANEL	CABINET	005-018787
C	TERMINATOR		005-018508

CABLE

ITEM	CABLE	CONNECTING	LENGTH		NOTES
			FT	M	
D	I/O CABLE	CPU TO RIGID DISK DRIVE OR PERIPHERAL TO RIGID DISK (IN)	10	3	005-018235
			20	6	005-019645
			30	9	005-019644
E	GROUND BRAID	RIGID DRIVE/COMPUTER	10	3	005-009536
F	I/O CABLE DISK TO DISK	OPTIONAL MN BUS CABLE DISK TO DISK	10	3	005-019678
			20	6	005-019677
			30	9	005-019676
G	I/O CABLE (OUT)	OPTIONAL microNOVA BUS CABLE RIGID DISK DRIVE TO PERIPHERAL	10	3	005-019643
			20	6	005-019642
			30	9	005-019641
H	I/O CABLE (IN)	RIGID DISK TO MPT	10	3	005-019670

NOTE: FOR MPT, CS 5, ENTERPRISE SYSTEMS USING MODEL 6220, 6222 REFER TO SHEET 1 CABLE TABLE FOR OPTIONAL CABLE SELECTION.

DIMENSIONS:

	Width	Depth	Height
Millimeters	483	737	178
Inches	19	29	7

SERVICE CLEARANCES:

	Front	Rear
Millimeters	711	586
Inches	28.0	23.0

WEIGHT:

Kilograms	18.6
Pounds	41

HEAT OUTPUT:

	Watts	BTU/hr
100V	181	618
120V	173	590
220V	176	600
240V	173	590

OPERATING ENVIRONMENT:

Temperature (max)	Room 32°C 90°F	Cabinet 43°C 109°F
Relative Humidity (max)	80% non-condensing	
Altitude	305 to 3048m (1000 to 10,000 ft)	

STORAGE ENVIRONMENT:

Temperature	40 to 65°C (-40 to 149°F)
Relative Humidity	20-80% non-condensing
Altitude	7600 m (25,000 ft.)

POWER REQUIREMENTS:

(Domestic)				
Voltage	120			
Hz	60			
Amp per Phase	1.52			
Phase	1			
Startup Surge per Phase	9. A			
Surge is	.10 sec max			
(Export)				
Voltage	100	100	220	240
Hz	60	50	50	50
Amp per Phase	1.9	1.9	.84	.76
Phase	1	1	1	
Startup Surge per Phase	11.	11.	5.3	4.8
Surge is	.10 sec max			

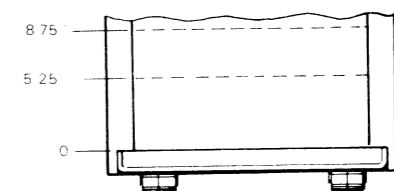
CABLES:

Primary Power	Length	Conn	Mating Conn
Domestic 60Hz	2.3m (7.5 ft)	5-15P	5-15R
Export 50Hz	2.3m (7.5 ft)	6-15P	6-15R

PREFERRED LOCATION:

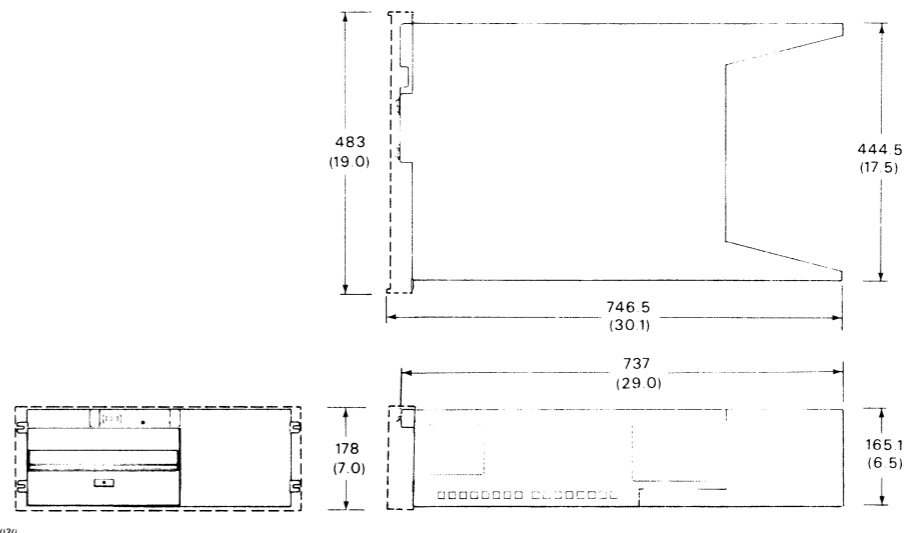
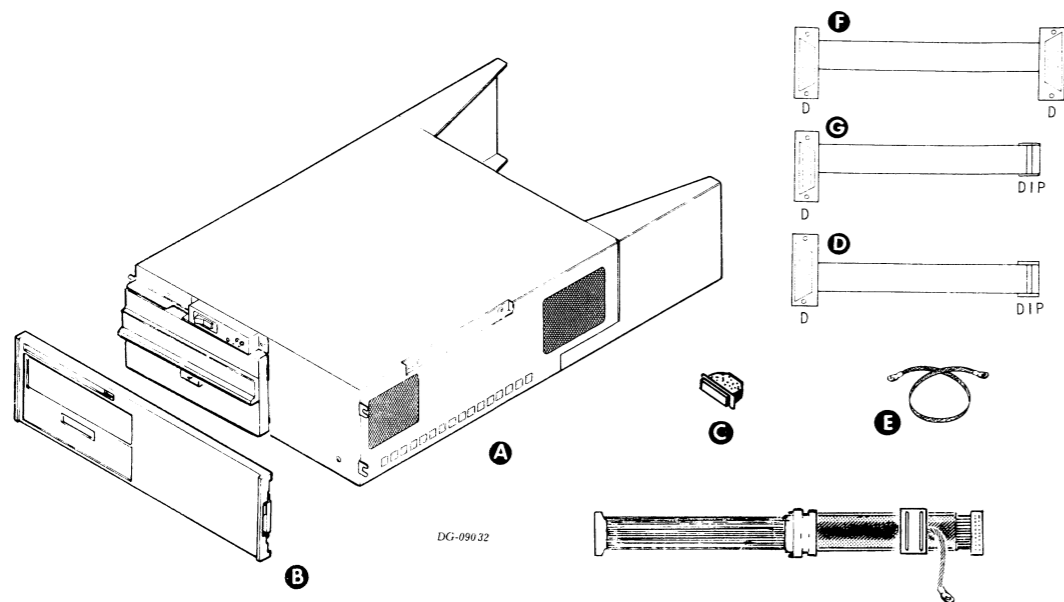
Model 1148 cabinets (see detail) Preferred 8.75 in
Minimum 5.25 in

All other cabinets: No preferred location



INSTALLATION SPECIFICATIONS (CONT)

microNOVA with Diskette
 Model 6220-D (5MB),
 6222-D (15MB)



MAJOR COMPONENT

ITEM	COMPONENT	MOUNTING LOCATION	NOTES
A	RIGID DISK DRIVE	CABINET	
B	FRONT PANEL	CABINET	005-018851
C	TERMINATOR		005-018508

CABLE

ITEM	CABLE	CONNECTING	LENGTH		NOTES
			FT	M	
D	I/O CABLE	CPU TO RIGID DISK DRIVE OR PERIPHERAL TO RIGID DISK (IN)	10	3	005-018235
			20	6	005-019645
			30	9	005-019644
E	GROUND BRAID	RIGID DRIVE/COMPUTER	10	3	005-009536
F	I/O CABLE DISK TO DISK	OPTIONAL MN BUS CABLE DISK TO DISK	10	3	005-019678
			20	6	005-019677
			30	9	005-019676
G	I/O CABLE (OUT)	OPTIONAL microNOVA BUS CABLE RIGID DISK DRIVE TO PERIPHERAL	10	3	005-019643
			20	6	005-019642
			30	9	005-019641
H	I/O CABLE (IN)	RIGID DISK TO MPT	10	3	005-019670

NOTE: FOR MPT, CS/5, ENTERPRISE SYSTEMS USING MODEL 6220, 6222 REFER TO SHEET 1 CABLE TABLE FOR OPTIONAL CABLE SELECTION

DIMENSIONS:

	Width	Depth	Height
Millimeters	483	737	178
Inches	19	29	7

SERVICE CLEARANCES:

	Front	Rear
Millimeters	711	586
Inches	28.0	23.0

WEIGHT:

Kilograms	26.4
Pounds	58

HEAT OUTPUT:

	Watts	BTU/hr
100V	219	747
120V	226	771
220V	230	785
240V	228	778

OPERATING ENVIRONMENT:

Temperature (max)		
Room	32°C	90°F
Cabinet	43°C	109°F
Relative Humidity (max)	80% non-condensing	
Altitude	-305 to 3048m (-1000 to 10,000 ft)	

STORAGE ENVIRONMENT:

TEMPERATURE	-40 to 65°C (-40 to 149°F)
HUMIDITY	20-80% non-condensing
ALTITUDE	7600 m (25,000 ft.)

POWER REQUIREMENTS:

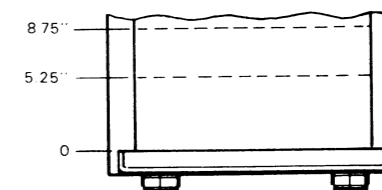
(Domestic)				
Voltage	120			
Hz	60			
Amp per Phase	1.98			
Phase	1			
Startup Surge per Phase 9A				
Surge is .10 sec max				
(Export)				
Voltage	100	100	220	240
Hz	60	50	50	50
Amp per Phase	2.3	2.3	1.1	1.0
Phase	1	1	1	1
Startup Surge per Phase 11.				
Surge is .10 sec max				

CABLES:

Primary Power	Length	Conn	Mating Conn
Domestic 60Hz	2.3m (7.5 ft)	5-15P	5-15R
Export 50Hz	2.3m (7.5 ft)	6-15P	6-15R

PREFERRED LOCATION:
 Model 1148 cabinets (see detail) Preferred 8.75 in
 Minimum 5.25 in

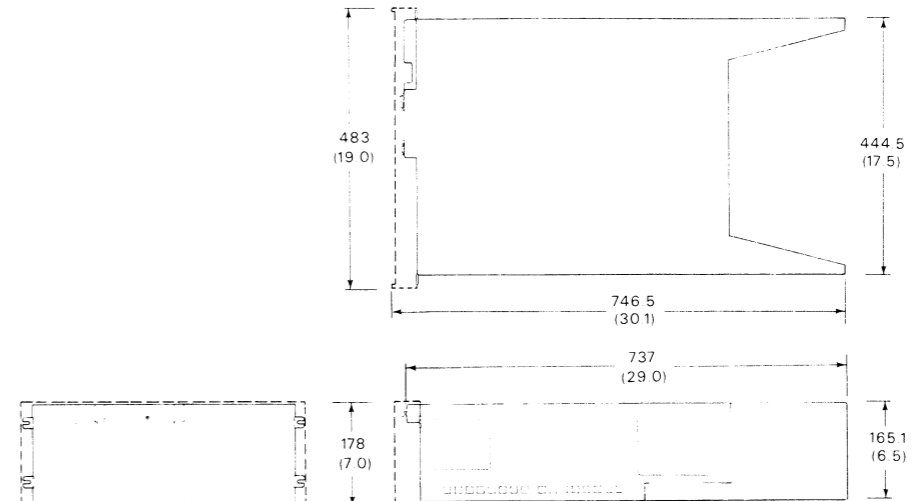
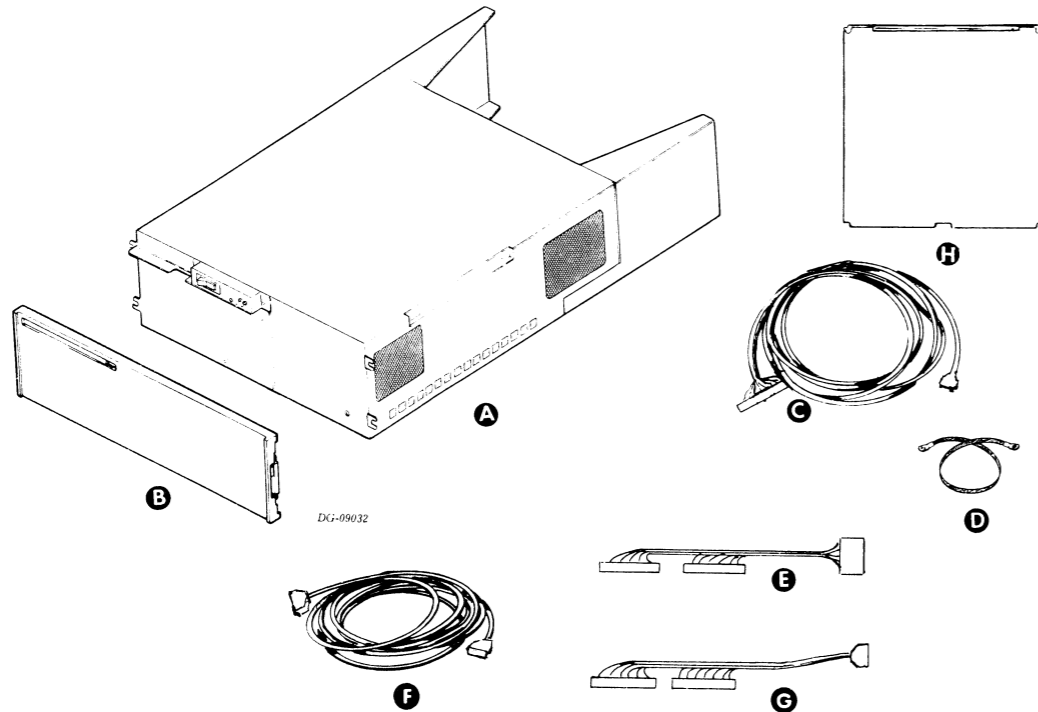
All other cabinets - No preferred location



DG/DISK SUBSYSTEM, MODELS 6220, 6222, 6225, 6227

INSTALLATION SPECIFICATIONS (CONT)

NOVA without Diskette
Models 6225 (5MB),
6227 (15MB)



MAJOR COMPONENT

ITEM	COMPONENT	MOUNTING LOCATION	NOTES
A	RIGID DISK DRIVE	CABINET	
B	FRONT PANEL	CABINET	005 018787 (BLUE) 005-019980 (ET)

CABLE

ITEM	CABLE	CONNECTING	MAX LG		NOTES
			FT	M	
C	I/O CABLE	NON-COMPLIANT CPU CONTROLLER TO RIGID DISK DRIVE	20	6	
D	GROUND BRAID	RIGID DISK DRIVE TO COMPUTER	20	6	
E	INTERNAL CABLE	NON-COMPLIANT CPU CONTROLLER TO DEVICE CONN			

COMPLIANT CABLES

ITEM	CABLE	CONNECTING	MAX LG		NOTES
			FT	M	
F	I/O CABLE	COMPLIANT CPU TO DISK DRIVE	20	6	
G	INTERNAL CABLE	COMPLIANT CPU CONTROLLER TO DEVICE CONN			

ITEM	COMPONENT	CHASSIS	MAX DATA CHANNEL LATENCY (uS)	+5V CURRENT DRAW (AMPS)
H	CONTROLLER PCB	CPU	Infinite	2.5A MAX

REFER TO DISK PRODUCT MASTER
010-000331 FOR CONFIGURATION
AND CABLE 005- NUMBERS.

DIMENSIONS:

	Width	Depth	Height
Millimeters	483	737	178
Inches	19	29	7

SERVICE CLEARANCES:

	Front	Rear
Millimeters	711	586
Inches	28.0	23.0

WEIGHT:

Kilograms	18.6
Pounds	41.0

HEAT OUTPUT:

	Watts	BTU/hr
100V	181	618
120V	173	590
220V	176	600
240V	173	590

OPERATING ENVIRONMENT:

Temperature (max)	Room 32°C 90°F	Cabinet 43°C 109°F
Relative Humidity (max)	80% non-condensing	
Altitude	305 to 3048m (1000 to 10,000 ft)	

STORAGE ENVIRONMENT:

Temperature	-40 to 65°C (-40 to 149°F)
Relative Humidity	20-80% non-condensing
Altitude	7600 m (25,000 ft.)

POWER REQUIREMENTS:

(Domestic)

Voltage	120
Hz	60
Amp per Phase	1.52
Phase	1
Startup Surge per Phase	9. A
Surge is	.10 sec max

(Export)

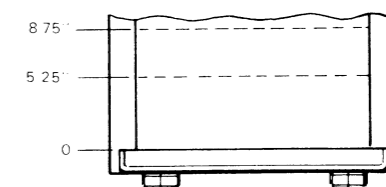
Voltage	100	100	220	240
Hz	60	50	50	50
Amp per Phase	1.9	1.9	84	76
Phase	1	1	1	1
Startup Surge per Phase	11.	11.	5.3	4.8
Surge is	.10 sec max			

CABLES:

Primary Power	Length	Conn	Mating Conn
Domestic 60Hz	2.3m (7.5 ft)	5-15P	5-15R
Export 50Hz	2.3m (7.5 ft)	6-15P	6-15R

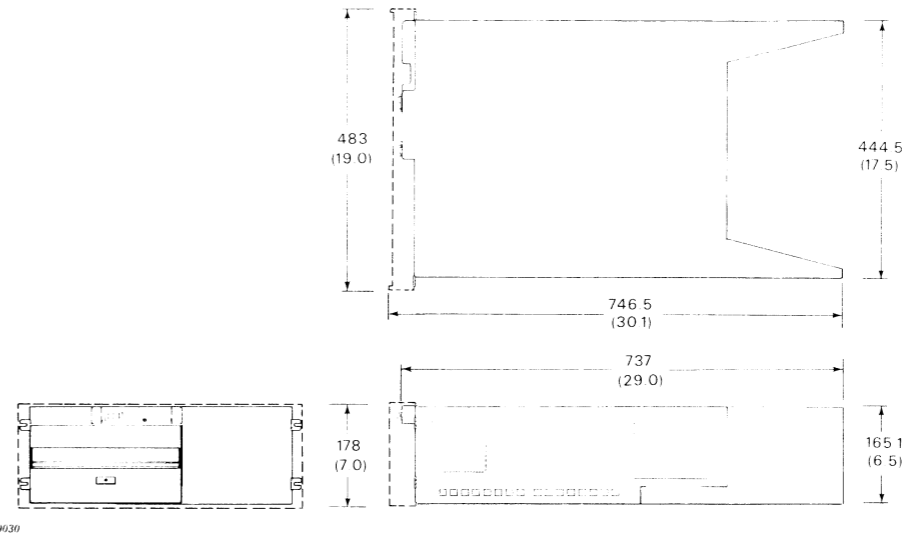
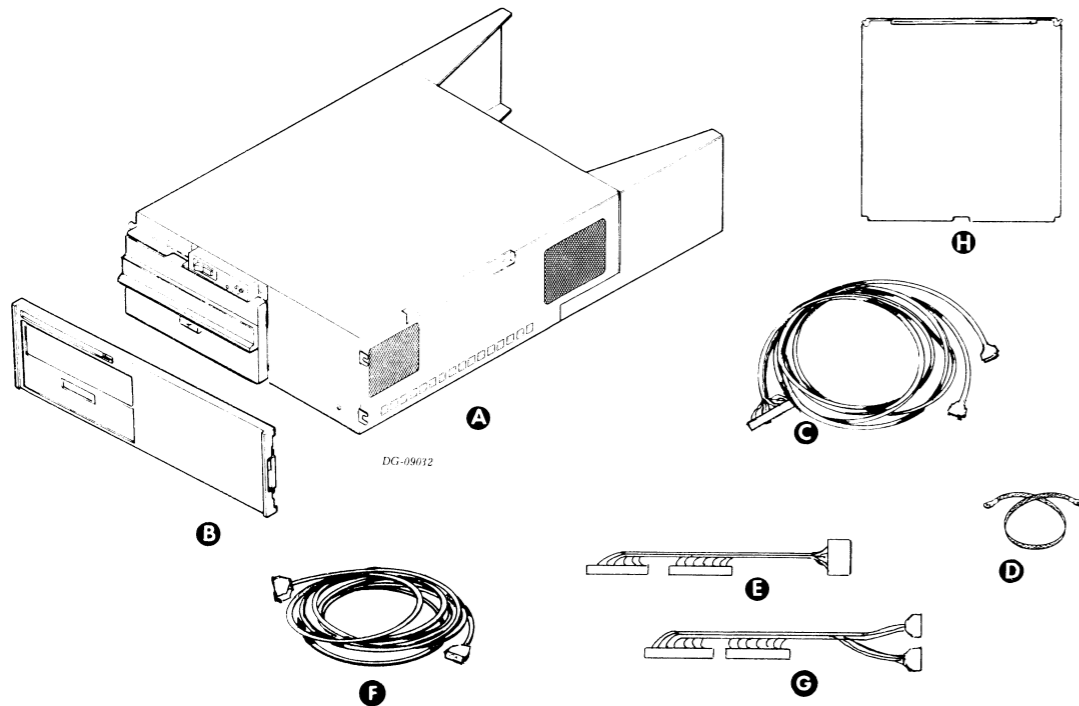
PREFERRED LOCATION:
Model 1148 cabinets (see detail) Preferred 8.75 in
Minimum 5.25 in

All other cabinets No preferred location



INSTALLATION SPECIFICATIONS

NOVA with Diskette
 Models 6225-D (5MB),
 6227-D (15MB)



MAJOR COMPONENT

ITEM	COMPONENT	MOUNTING LOCATION	NOTES
A	RIGID DISK DRIVE	CABINET	
B	FRONT PANEL	CABINET	005-018851 (BLUE) 005-019981 (ET)

CABLE

ITEM	CABLE	CONNECTING	MAX LG		NOTES
			FT	M	
C	I/O CABLE	NON-COMPLIANT CPU CONTROLLER TO RIGID DISK DRIVE	20	6	
D	GROUND BRAID	RIGID DISK DRIVE TO COMPUTER	20	6	
E	INTERNAL CABLE	NON-COMPLIANT CPU CONTROLLER TO DEVICE CONN			

COMPLIANT CABLES

ITEM	CABLE	CONNECTING	MAX LG		NOTES
			FT	M	
F	I/O CABLE	COMPLIANT CPU TO DISK DRIVE	20	6	
G	INTERNAL CABLE	COMPLIANT CPU CONTROLLER TO DEVICE CONN			

ITEM	COMPONENT	CHASSIS	MAX DATA CHANNEL LATENCY (μS)	+5V CURRENT DRAW (AMPS)
H	CONTROLLER PCB	CPU	50μs	2.5A MAX

REFER TO DISK PRODUCT MASTER
 010-000331 FOR CONFIGURATION
 AND CABLE 005- NUMBERS.

DIMENSIONS:

	Width	Depth	Height
Millimeters	483	737	178
Inches	19	29	7

SERVICE CLEARANCES:

	Front	Rear
Millimeters	711	586
Inches	28.0	23.0

WEIGHT:

Kilograms	26.4
Pounds	58

HEAT OUTPUT:

	Watts	BTU/hr
100V	219	747
120V	226	771
220V	230	785
240V	228	778

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 ft)	

STORAGE ENVIRONMENT:

Temperature	-40 to 65°C (-40 to 149°F)
Relative Humidity	20-80% non-condensing
Altitude	7600 m (25,000 ft)

POWER REQUIREMENTS:

(Domestic)				
Voltage	120			
Hz	60			
Amp per Phase	1.98			
Phase				
Startup Surge per Phase 9. A Surge is .10 sec max				
(Export)				
Voltage	100	100	220	240
Hz	60	50	50	50
Amp per Phase	2.3	2.3	1.1	1.0
Phase				
Startup Surge per Phase 11. 11. 5.3 4.8				
Surge is .10 sec max				

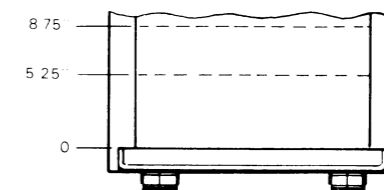
CABLES:

Primary Power	Length	Conn	Mating Conn
Domestic 60Hz	2.3m (7.5 ft)	5-15P	5-15R
Export 50Hz	2.3m (7.5 ft)	5-15P	5-15R

PREFERRED LOCATION:

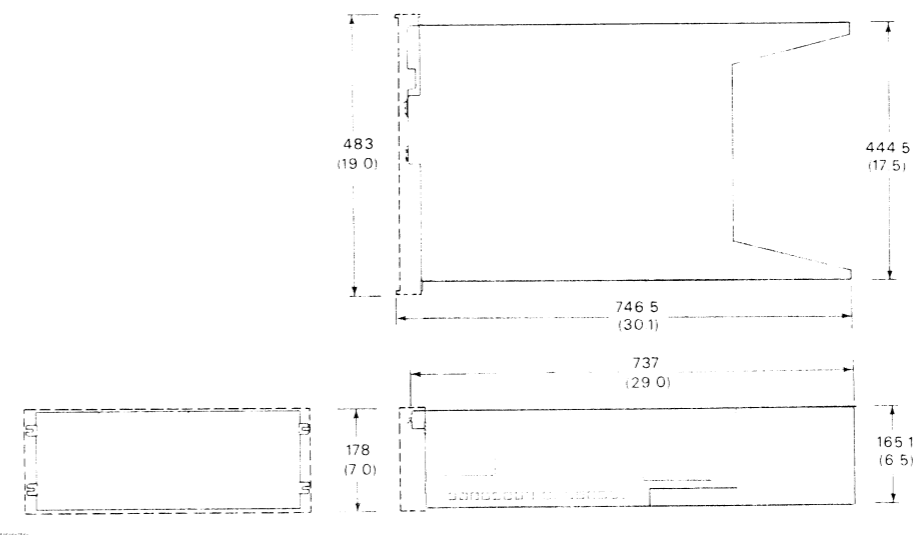
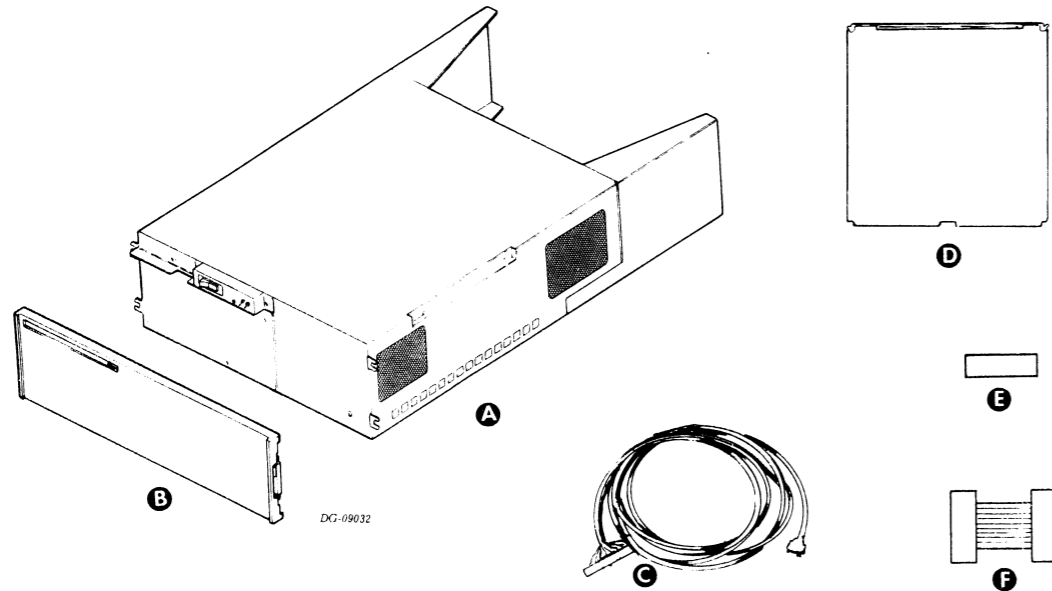
Model 1148 cabinets (see detail) Preferred 8.75 in
 Minimum 5.25 in

All other cabinets No preferred location



INSTALLATION SPECIFICATIONS (CONT)

S20 BMC WITHOUT DISKETTE
MODELS 6224 (15MB),



MAJOR COMPONENT

ITEM	COMPONENT	MOUNTING LOCATION	NOTES
A	RIGID DISK DRIVE	CABINET	
B	FRONT PANEL	CABINET	005-018787 (BLUE) OR 005-019980 (ET)

CABLE

ITEM	CABLE	CONNECTING	MAX LG		NOTES
			FT	M	
C	I/O CABLE	NON-COMPLIANT CPU CONTROLLER TO RIGID DISK DRIVE	10	3	005-019668

ITEM	COMPONENT	CHASSIS	MAX BMC CHANNEL LATENCY (μS)	+5V CURRENT DRAW (AMPS)
D	CONTROLLER PCB 005-019424	CPU OR EXPANSION	50μS	5.6A MAX

COMPLIANT CABLES

ITEM	COMPONENT	NUMBER	NOTES
E	BMC TERMINATOR	005-013419	TERMINATE LAST BMC CTRL
F	BMC CABLE	005-020210	1 DEV CTRL IN MAIN CHASSIS

DIMENSIONS:

	Width	Depth	Height
Millimeters	483	737	178
Inches	19	29	7

SERVICE CLEARANCES:

	Front	Rear
Millimeters	711	586
Inches	28.0	23.0

WEIGHT:

Kilograms	18.6
Pounds	41.0

HEAT OUTPUT:

	Watts	BTU/hr
100V	181	618
120V	173	590
220V	176	600
240V	173	590

OPERATING ENVIRONMENT:

Temperature (max)	Room 32°C 90°F	Cabinet 43°C 109°F
Relative Humidity (max)	80% non-condensing	
Altitude	305 to 3048m (-1000 to 10,000 ft)	

STORAGE ENVIRONMENT:

Temperature	-40 to 65°C (-40 to 149°F)
Relative Humidity	20-80% non-condensing
Altitude	7600 m (25,000 ft.)

POWER REQUIREMENTS:

(Domestic)

Voltage	120
Hz	60
Amp per Phase	1.52
Phase	1
Startup Surge per Phase	9. A
Surge is	.10 sec max

(Export)

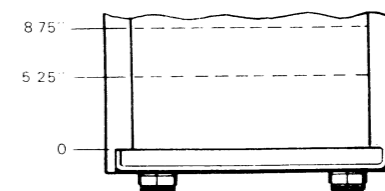
Voltage	100	100	220	240
Hz	60	50	50	50
Amp per Phase	1.9	1.9	84	76
Phase	1	1	1	1
Startup Surge per Phase	11.	11.	5.3	4.8
Surge is	.10 sec max			

CABLES:

Primary Power	Length	Conn	Mating Conn
Domestic 60Hz	2.3m (7.5 ft)	5-15P	5-15R
Export 50Hz	2.3m (7.5 ft)	6-15P	6-15R

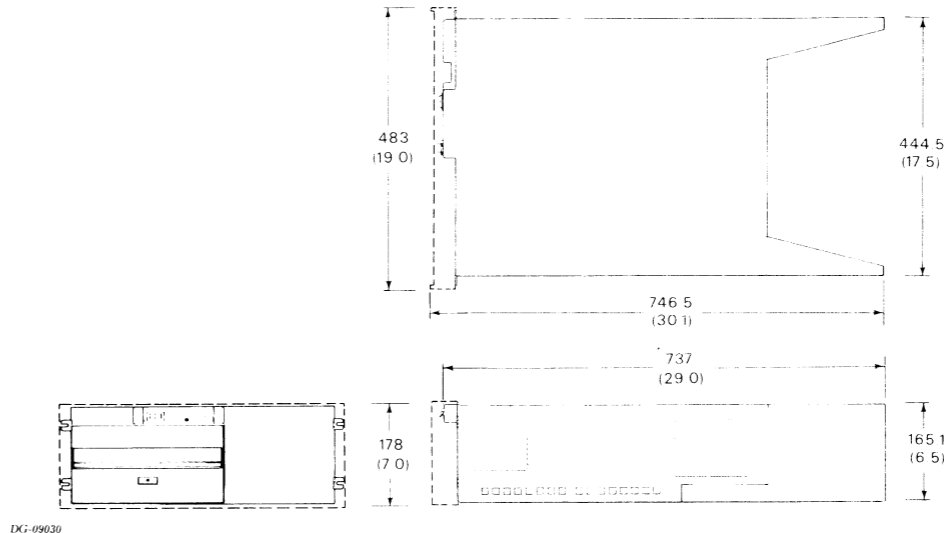
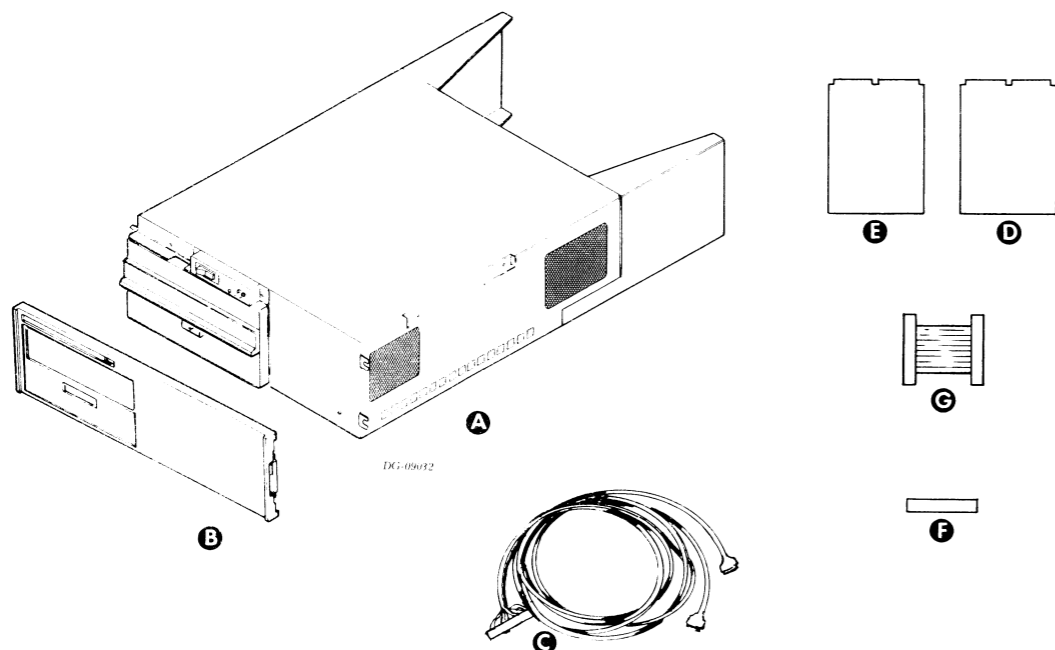
PREFERRED LOCATION:
Model 1148 cabinets (see detail) Preferred 8.75 in
Minimum 5.25 in

All other cabinets - No preferred location



INSTALLATION SPECIFICATIONS

520 BMC WITH DISKETTE
MODELS 6224-D (15MB),



MAJOR COMPONENT

ITEM	COMPONENT	MOUNTING LOCATION	NOTES
A	RIGID DISK DRIVE	CABINET	
B	FRONT PANEL	CABINET	005-018851 (BLUE) 005-019981 (ET)

CABLE

ITEM	CABLE	CONNECTING	MAX LG		NOTES
			FT	M	
C	I/O CABLE	CONTROLLER TO — DISK DRIVES	10	3	005-019668 QTY (2)

ITEM	COMPONENT	CHASSIS	MAX CHANNEL LATENCY (μS)	+5V CURRENT DRAW (AMPS)
D	CONTROLLER PCB - RIGID DISK 005-019424	CPU OR EXPANSION	50μs (BMC)	5.6A MAX
E	CONTROLLER PCB-DISKETTE 005-012708	CPU OR EXPANSION	30μs (DATA CHANNEL)	2.5A MAX

ITEM	COMPONENT	NUMBER	NOTE
F	BMC TERMINATOR	005-013419	TERMINATE LAST BMC CTRLR
G	BMC CABLE	005-020210	1 DEV CTRLR IN MAIN CHASSIS

DIMENSIONS:

	Width	Depth	Height
Millimeters	483	737	178
Inches	19	29	7

SERVICE CLEARANCES:

	Front	Rear
Millimeters	711	586
Inches	28.0	23.0

WEIGHT:

Kilograms	26.4
Pounds	58

HEAT OUTPUT:

	Watts	BTU/hr
100V	219	747
120V	226	771
220V	230	785
240V	228	778

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 ft)	

STORAGE ENVIRONMENT:

Temperature	-40 to 65°C (-40 to 149°F)
Relative Humidity	20-80% non-condensing
Altitude	7600 m (25,000 ft.)

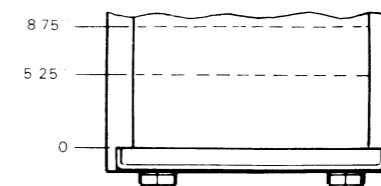
POWER REQUIREMENTS:
(Domestic)

Voltage	120
Hz	60
Amp per Phase	1.98
Phase	
Startup Surge per Phase 9: A	
Surge is .10 sec max	
(Export)	
Voltage	100 100 220 240
Hz	60 50 50 50
Amp per Phase	2.3 2.3 1.1 1.0
Phase	
Startup Surge per Phase 11:	11 5.3 4.8
Surge is .10 sec max	

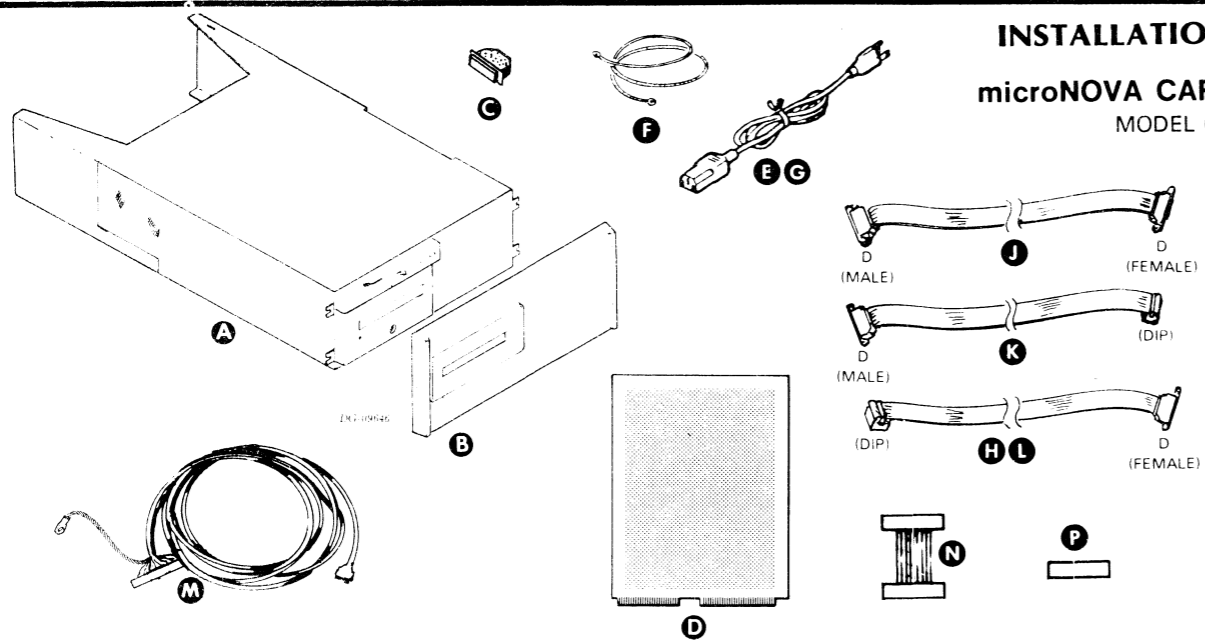
CABLES:

Primary Power	Length	Conn	Mating Conn
Domestic 60Hz	2.3m (7.5 ft)	5-15P	5-15R
Export 50Hz	2.3m (7.5 ft)	5-15P	5-15R

PREFERRED LOCATION:
Model 1148 cabinets (see detail) Preferred 8.75 in
Minimum 5.25 in
All other cabinets - No preferred location



INSTALLATION SPECIFICATIONS
microNOVA CARTRIDGE TAPE DRIVE
 MODEL 6224-C (15MB)



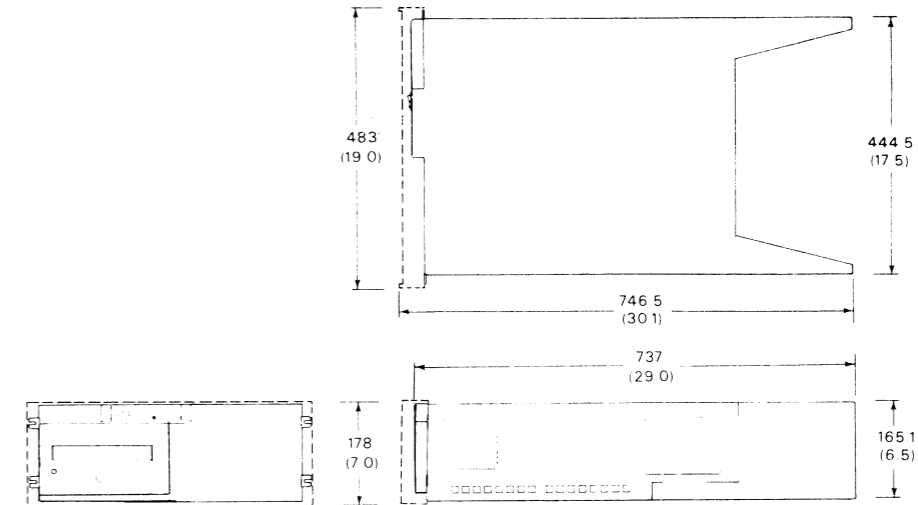
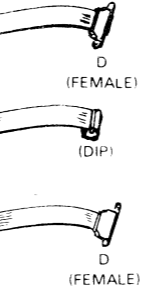
MAJOR COMPONENT

ITEM	COMPONENT	MOUNTING LOCATION	NOTES
A	CTG TAPE DRIVE/DISK	CABINET	
B	FRONT PANEL	CABINET	005-019568 BRN OR 005-019569 BLU
C	TERMINATOR	REAR OF CHASSIS	005-018508
D	DISK CTRL PCB	CPU MAIN OR EXPANSION CHASSIS	005-019424

CABLE

ITEM	CABLE	CONNECTING	LENGTH		NOTES
			FT	M	
E	A/C CORD SET LOW PWR	REAR OF CHASSIS A/C OUTLET	7.5	2.3	109-000719
F	GROUND BRAID	RIGID DRIVE/COMPUTER	10	3	005-009536
G	A/C CORD SET HIGH PWR	REAR OF CHASSIS A/C OUTLET	7.5	2.3	109-000681
H	INT CPU I/O CABLE	COMPLIANT CPU BACKPANEL TO CPU BULKHEAD (OUT. FEMALE)			CPU DES 40-42, 50-69 005-018237
J	I/O CABLE (AR) D-D (CONN)	COMPLIANT CPU/PERIPHERAL (OUT. MALE) -TO- COMPLIANT PERIPHERAL (IN. FEMALE)	10	3	005-019678
			20	6	005-019677
			30	9	005-019676
K	I/O CABLE (AR) D-DIP (CONN)	COMPLIANT PERIPHERAL (OUT. MALE) -TO- NON-COMPLIANT PERIPHERAL (DIP)	10	3	005-019643
			20	6	005-019642
			30	9	005-019641
L	I/O CABLE (AR) DIP-D (CONN)	NON-COMPLIANT CPU/PERIPHERAL (OUT. DIP) -TO- COMPLIANT PERIPHERAL (IN. FEMALE)	10	3	005-018235
			20	6	005-019645
			30	9	005-019644
M	DISK EXT I/O CABLE	DISK CTRL TO RIGID DISK	10	3	005-019668

ITEM	COMPONENT	NUMBER	NOTES
N	BMC TERMINATOR	005-013419	TERMINATE LAST BMC CONTROLLER
P	BMC CABLE BETWEEN CONTROLLER AND DEVICE CONTROLLER(S)	005-020210	1 DEV CTRL IN MAIN CHASSIS
		005-020211	2 DEV CTRLS. 1 IN MAIN CHASSIS
		005-020212	1 DEV CTRL IN EXPANSION CHASSIS
		005-020213	2 DEV CTRLS IN EXPANSION CHASSIS



DIMENSIONS:

	Width	Depth	Height
Millimeters	483	737	178
Inches	19	29	7

SERVICE CLEARANCES:

	Front	Rear
Millimeters	711	586
Inches	28.0	23.0

WEIGHT:

Kilograms	23.4
Pounds	52

HEAT OUTPUT:

	Watts	BTU/hr
100V	171	583
120V	171	583
220V	167	569
240V	182	621

OPERATING ENVIRONMENT:

Temperature (max)	Room 38°C 100°F	Cabinet 43°C 109°F
Relative Humidity (max)	80% non-condensing	
Altitude	-305 to 2438m (-1000 to 8000 ft)	

STORAGE ENVIRONMENT:

TEMPERATURE	-40 to 65°C (-40 to 149°F)
HUMIDITY	10-90% non-condensing
ALTITUDE	7600 m (25 000 ft)

MEDIA ENVIRONMENT:
 IF THE ENVIRONMENTAL TEMPERATURE/RELATIVE HUMIDITY LIMITS OF THIS SUBSYSTEM ARE EXCEEDED (IN PARTICULAR, THE MAXIMUM WET BULB TEMPERATURE OF 26°C) DEGRADED PERFORMANCE CHARACTERISTICS OF THE MEDIA WITH RESPECTS TO DATA ERROR RATES AND TAPE MEDIA WEAR LIFE CAN BE EXPECTED.

POWER REQUIREMENTS:

(Domestic)

Voltage	120 ^{+10%} _{-15%}
Hz	60 ± 3
Amp per Phase	1.5
Phase	1
Startup Surge per Phase	30
Surge is	10 μs

(Export)

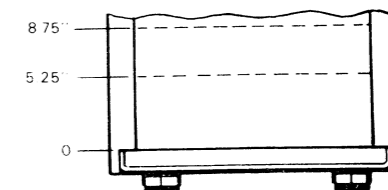
Voltage	100 ^{+10%} _{-15%} 120 ^{+10%} _{-15%} 220 ^{+10%} _{-15%} 240 ^{+10%} _{-15%}
	50 ± 3, 60 ± 3, 50 ± 3, 50 ± 3
Amp per Phase	1.8 1.8 1.8 1.8
Phase	1 1 1 1
Startup Surge per Phase	33 33 15 15
Surge is	10 μs

CABLES:

Primary Power	Length	Conn	Mating Conn
Domestic 60Hz	2.3m (7.5 ft)	5-15P	5-15R
Export 50Hz	2.3m (7.5 ft)	6-15P	6-15R

PREFERRED LOCATION:
 Model 1148 cabinets (see detail) Preferred 8.75 in
 Minimum 5.25 in

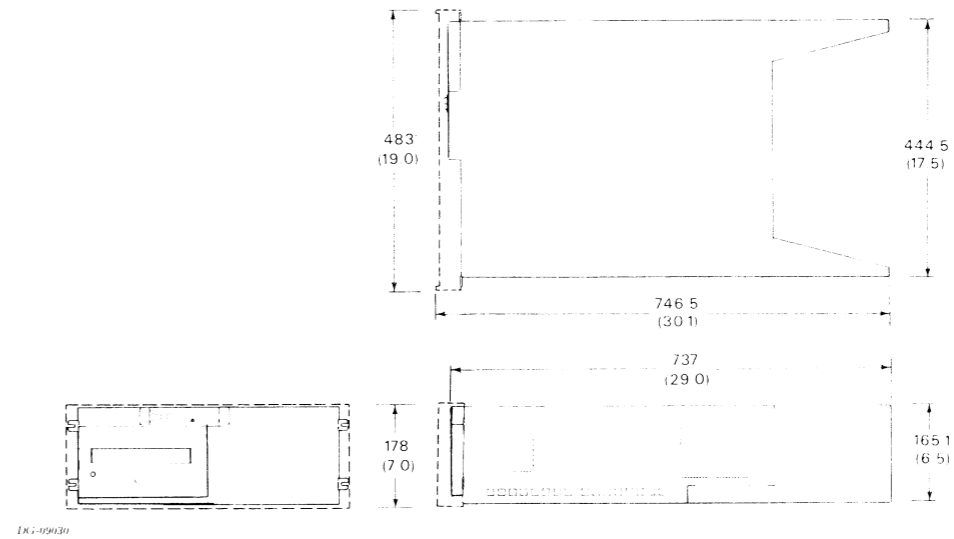
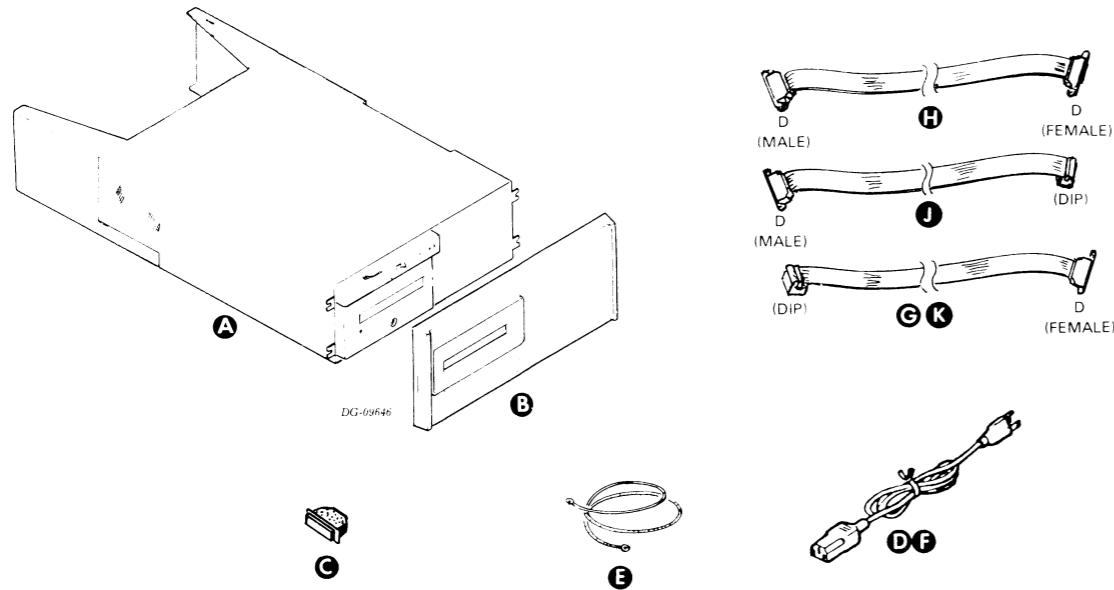
All other cabinets - No preferred location



INSTALLATION SPECIFICATIONS

microNOVA CARTRIDGE TAPE DRIVE

Models 6220-C (5MB),
6222-C (15MB)



MAJOR COMPONENT

ITEM	COMPONENT	MOUNTING LOCATION	NOTES
A	CTG TAPE DRIVE/DISK	CABINET	
B	FRONT PANEL	CABINET	005-019568 BRN OR 005-019569 BLU
C	TERMINATOR	REAR OF CHASSIS	005-018508

CABLE

ITEM	CABLE	CONNECTING	LENGTH		NOTES
			FT	M	
D	A/C CORD SET LOW PWR	REAR OF CHASSIS-A/C OUTLET	7.5	2.3	109-000719
E	GROUND BRAID	RIGID DRIVE/COMPUTER	10	3	005-009536
F	A/C CORD SET HIGH PWR	REAR OF CHASSIS-A/C OUTLET	7.5	2.3	109-000681
G	INT CPU I/O CABLE	COMPLIANT CPU BACKPANEL TO CPU BULKHEAD (OUT. FEMALE)			CPU DES 40-42, 50-69 005-018237
H	I/O CABLE D-D (CONN)	COMPLIANT CPU/PERIPHERAL (OUT. MALE) -TO- COMPLIANT PERIPHERAL (IN. FEMALE)	10	3	005-019678
			20	6	005-019677
			30	9	005-019676
J	I/O CABLE D-DIP (CONN)	COMPLIANT PERIPHERAL (OUT. MALE) -TO- NON-COMPLIANT PERIPHERAL (DIP)	10	3	005-019643
			20	6	005-019642
			30	9	005-019641
K	I/O CABLE DIP-D (CONN)	NON-COMPLIANT CPU/PERIPHERAL (OUT. DIP) -TO- COMPLIANT PERIPHERAL (IN. FEMALE)	10	3	005-018235
			20	6	005-019645
			30	9	005-019644

DIMENSIONS:

	Width	Depth	Height
Millimeters	483	737	178
Inches	19	29	7

SERVICE CLEARANCES:

	Front	Rear
Millimeters	711	586
Inches	28.0	23.0

WEIGHT:

Kilograms	23.4
Pounds	52

HEAT OUTPUT:

	Watts	BTU/hr
100V	171	583
120V	171	583
220V	167	569
240V	182	621

OPERATING ENVIRONMENT:

Temperature (max)	Room 38°C 100°F	Cabinet 43°C 109°F
Relative Humidity (max)	80% non-condensing	
Altitude	-305 to 2438m (-1000 to 8000 ft)	

STORAGE ENVIRONMENT:

TEMPERATURE	-40 to 65°C (-40 to 149°F)
HUMIDITY	10-90% non-condensing
ALTITUDE	7600 m (25,000 ft.)

MEDIA ENVIRONMENT :
IF THE ENVIRONMENTAL TEMPERATURE/RELATIVE HUMIDITY LIMITS OF THIS SUBSYSTEM ARE EXCEEDED (IN PARTICULAR, THE MAXIMUM WET BULB TEMPERATURE OF 26°C) DEGRADED PERFORMANCE CHARACTERISTICS OF THE MEDIA WITH RESPECTS TO DATA ERROR RATES AND TAPE MEDIA WEAR LIFE CAN BE EXPECTED.

POWER REQUIREMENTS:

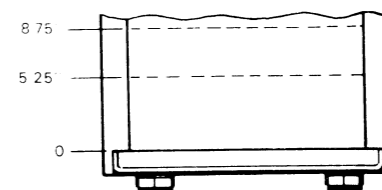
(Domestic)				
Voltage	120			
Hz	60 ± 3			
Amp per Phase	1.5			
Phase	1			
Startup Surge per Phase	30			
Surge is	10 μs			
(Export)				
Voltage	100 ± 10%	120 ± 10%	220 ± 10%	240 ± 10%
	50 ± 3	60 ± 3	50 ± 3	50 ± 3
Amp per Phase	1.8	1.8	1.8	1.8
Phase	1	1	1	1
Startup Surge per Phase	33	33	15	15
Surge is	10 μs			

CABLES:

Primary Power	Length	Conn	Mating Conn
Domestic 60Hz	2.3m (7.5 ft)	5-15P	5-15R
Export 50Hz	2.3m (7.5 ft)	6-15P	6-15R

PREFERRED LOCATION:
Model 1148 cabinets (see detail) Preferred 8.75 in
Minimum 5.25 in

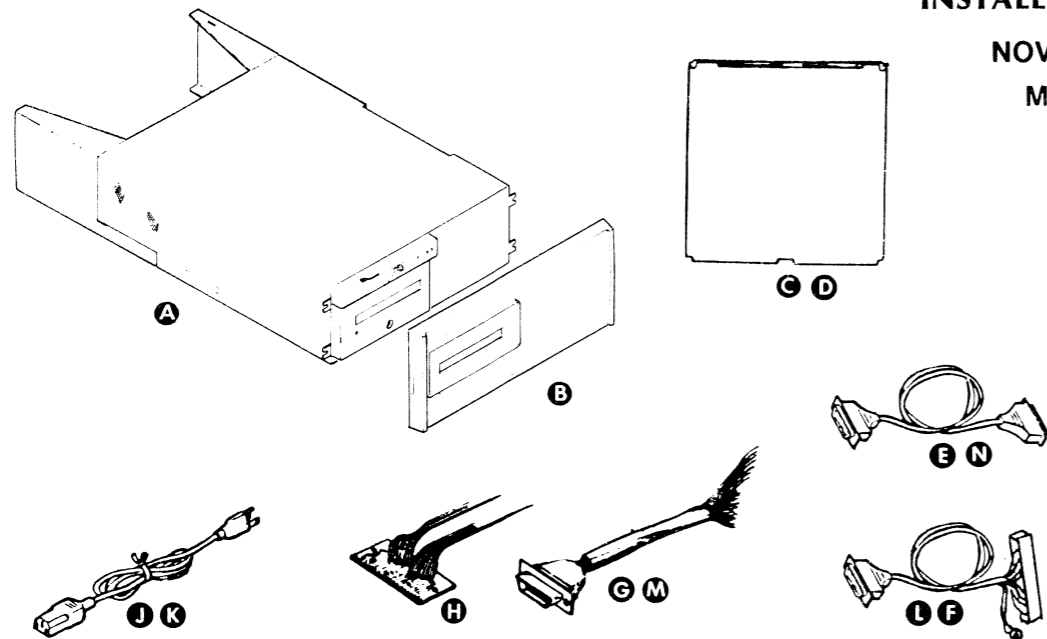
All other cabinets No preferred location



INSTALLATION SPECIFICATIONS (CONT)

NOVA CARTRIDGE TAPE DRIVE

Models 6227-C (15MB),
6225-C (5MB)



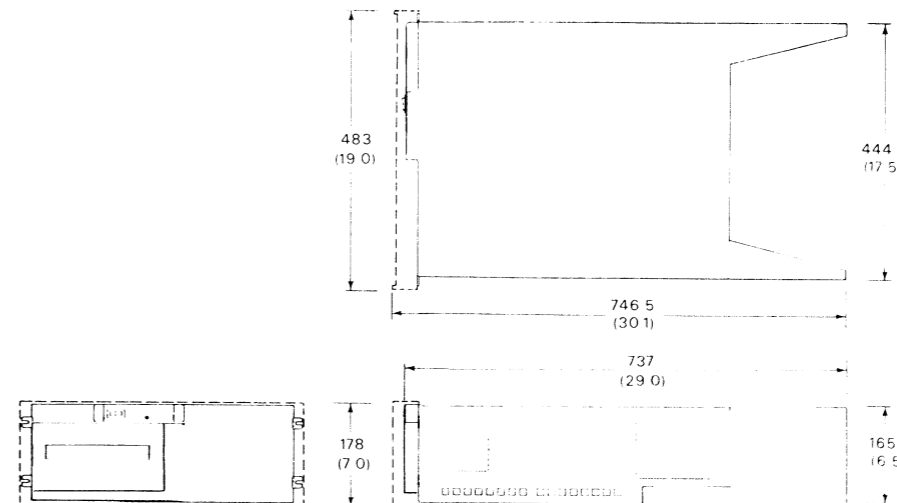
MAJOR COMPONENT

ITEM	COMPONENT	MOUNTING LOCATION	NOTES
A	CTG TAPE DRIVE/DISK	CABINET	
B	FRONT PANEL	CABINET	005-019568 BRN -OR- 005-019569 BLU
C	CONTROLLER PCB (TAPE)	CPU CHASSIS	005-018881
D	CONTRLR PCB (DISK)		005-015551

CABLE

ITEM	CABLE	CONNECTING	MAX LG*		NOTES
			FT	M	
E	I/O CABLE TAPE DR D-D (CONN)	COMPLIANT CPU/PERIPHERAL -TO- COMPLIANT PERIPHERAL	10	3	005-018617
			20	6	005-019421
F	I/O CABLE TAPE DR D-EDGE (CONN)	COMPLIANT PERIPHERAL (D-CONN) -TO- NON-COMPLIANT CPU (EDGE CONN)	10	3	005-018765
			20	6	005-019417
G	INT CPU (TAPE) I/O CABLE DR	COMPLIANT CPU BACKPANEL -TO- CPU BULKHEAD (D-CONN)			005-018382 CPU DES 70-89
H	INT CPU I/O CABLE	NON-COMPLIANT CPU BACKPANEL WIREWRAP/100 PIN BP CONN -TO- PADDLEBOARD			005-001802 CPU DES 05-12
					005-012472 20-22
					005-012496 13
					005-013627 (HDWR KIT) 14
J	A/C CORD SET LOW PWR	REAR OF CHASSIS TO A/C OUTLET	7.5	2.3	109-000719
K	A/C CORD SET HIGH PWR	REAR OF CHASSIS TO A/C OUTLET	7.5	2.3	109-000681
L	I/O CABLE	CONTROLLER TO RIGID DISK DRIVE	10	3	005-018342
M	RIGID DISK INT-CPU I/O CABLE	COMPLIANT CPU BACKPLANE -TO- CPU BULKHEAD (D-CONN)			CPU DES 70-89 005-019499
N	I/O CABLE DISK DRIVE D-D (CONN)	COMPLIANT CPU TO COMPLIANT DISK DRIVE	10	3	005-018482

* PRODUCT SPECIFICATION 118-001744 DOES NOT ALLOW I/O CABLES TO BE ANY LONGER THAN 6 m (20 ft).



DIMENSIONS:

	Width	Depth	Height
Millimeters	483	737	178
Inches	19	29	7

SERVICE CLEARANCES:

	Front	Rear
Millimeters	711	586
Inches	28.0	23.0

WEIGHT:

Kilograms	23.4
Pounds	52

HEAT OUTPUT:

	Watts	BTU/hr
100V	133	454
120V	131	447
220V	125	426
240V	137	467

OPERATING ENVIRONMENT:

Temperature (max)		
Room	32°C	90°F
Cabinet	43°C	109°F
Relative Humidity (max)	80% non-condensing	
Altitude	-305 to 2438m (-1000 to 8000 ft.)	

STORAGE ENVIRONMENT:

Temperature	-40 to 65°C (-40 to 149°F)
Relative Humidity	10-90% non-condensing
Altitude	7600 m (25,000 ft.)

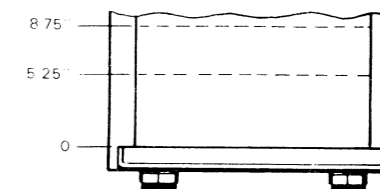
POWER REQUIREMENTS:

(Domestic)				
Voltage	120 ⁺¹⁰ ₋₁₀			
Hz	60 ± 3			
Amp per Phase	1.15			
Phase				
Startup Surge per Phase	30A			
Surge is	10 μs			
(Export)				
Voltage	100 ⁺¹⁰ ₋₁₀	120 ⁺¹⁰ ₋₁₀	220 ⁺¹⁰ ₋₁₀	240 ⁺¹⁰ ₋₁₀
Hz	50 ± 3	60 ± 3	50 ± 3	50 ± 3
Amp per Phase	1.4	1.4	0.6	0.6
Phase				
Startup Surge per Phase	33	33	15	15
Surge is	10 μs			

CABLES:

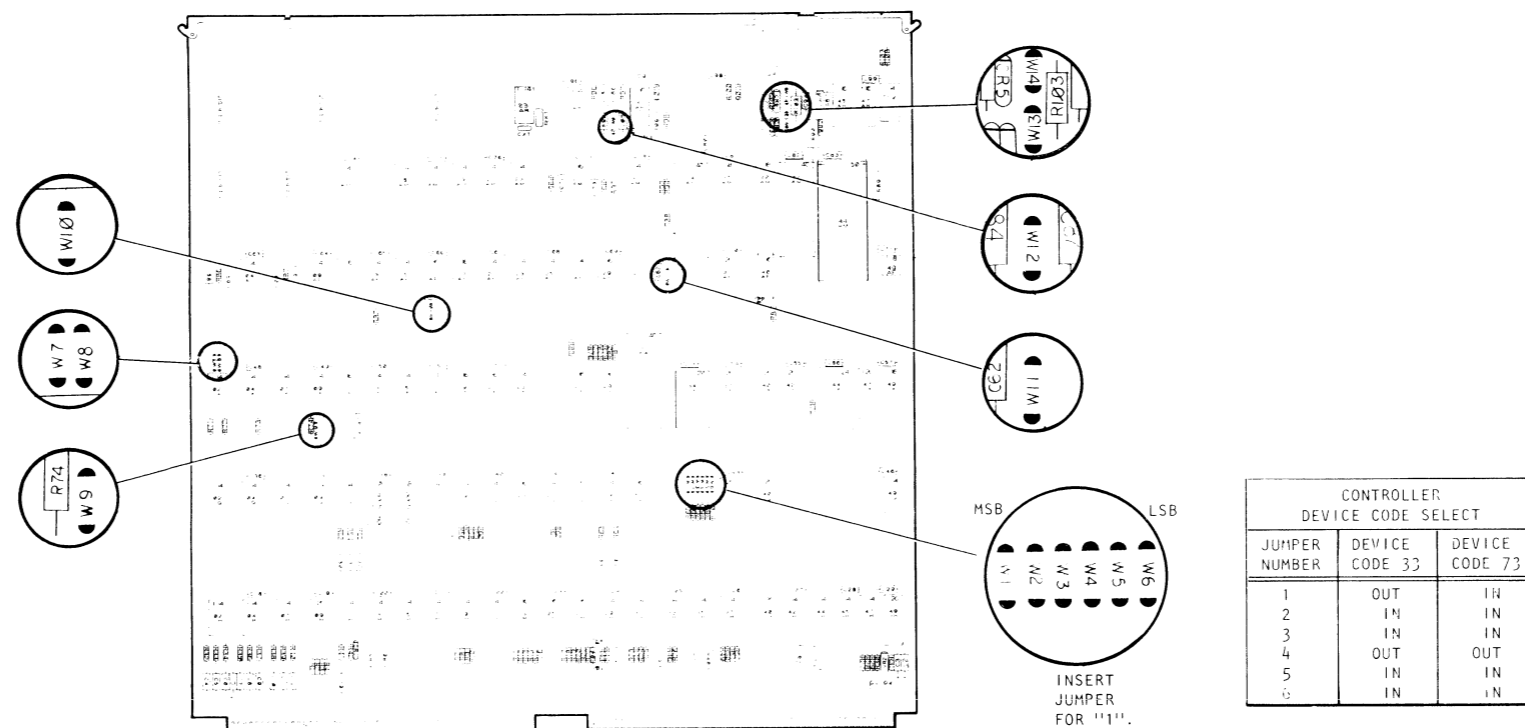
Primary Power	Length	Conn	Mating Conn
Domestic 60Hz	2.3m (7.5 ft)	5-15P	5-15R
Export 50Hz	2.3m (7.5 ft)	6-15P	6-15R

PREFERRED LOCATION:
Model 1148 cabinets (see detail) Preferred 8.75 in
Minimum 5.25 in
All other cabinets - No preferred location



TAILORING JUMPERING

RIGID DISK/DISKETTE CONTROLLER 005-01551
(for NOVA/ECLIPSE systems)

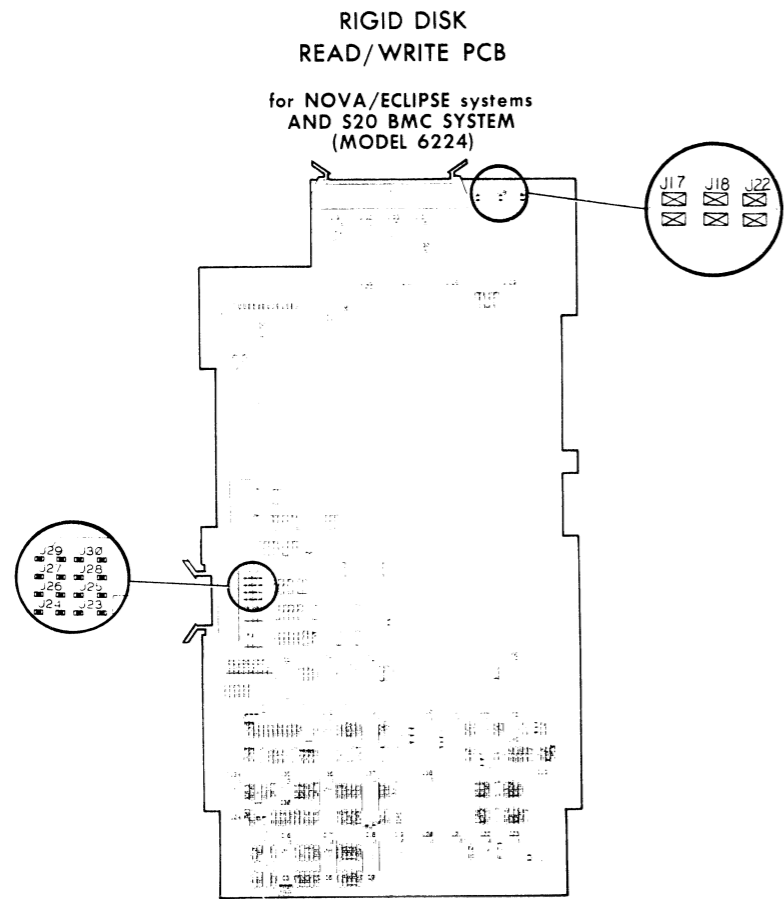


Ref DGC Dwg No 003-001623 Rev 03

JUMPER NOTES:

1. JUMPERS W1 TO W6 ARE DEVICE CODE SELECTION JUMPERS.
2. JUMPERS W11 AND W12 SHOULD BE IN.
3. W14 IS IN FOR ALL CPU'S EXCEPT MV/8000.
4. W13 IS IN FOR MV/8000.
5. IF DISKETTES ARE ATTACHED (NO HARD DISK), W7 IS IN.
6. IF HARD DISK IS 8 INCH DRIVE, W8 IS OUT.
IF HARD DISK IS 14 INCH DRIVE, W8 IS IN.
7. IF ONE DISKETTE AND ONE HARD DISK IS ATTACHED, W9 IS IN.
8. W10 IS OUT.

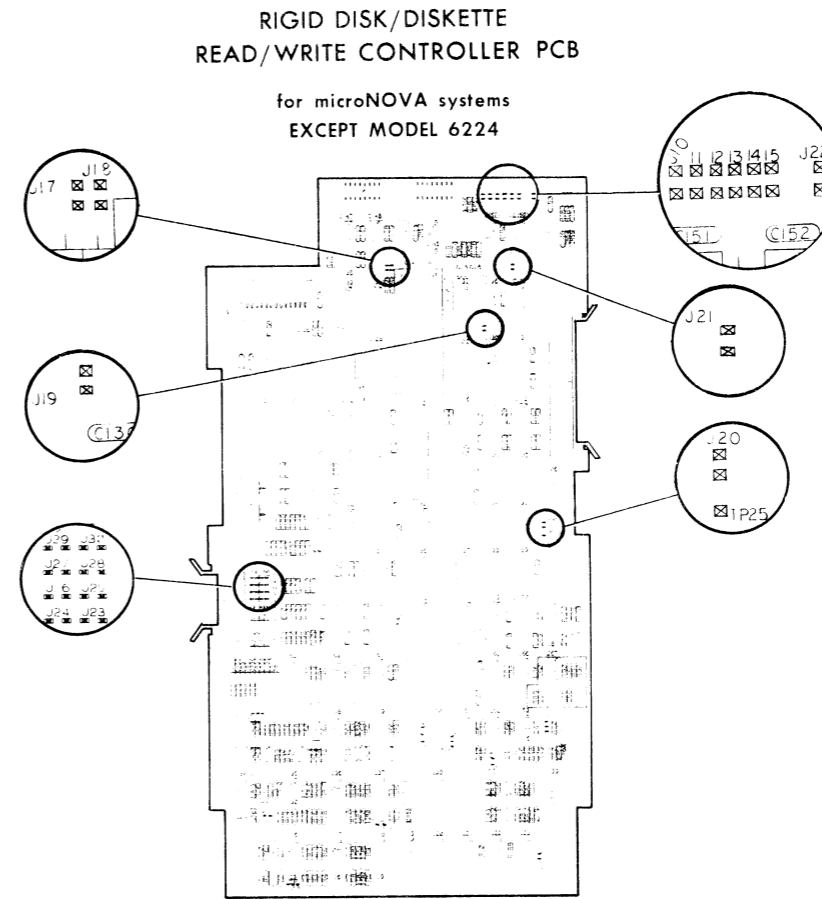
TAILORING (CONT)
JUMPERING



Ref DGC Dwg No 003-001668 Rev 01

DISK CAPACITY	J17	J18	J23	J24	J25	J26	J27	J28	J29	J30
5 MB	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN
15 MB	OUT	IN	OUT	OUT	OUT	OUT	OUT	OUT	OUT	OUT

J22 OUT J22 MAY BE INSERTED TO WRITE PROTECT HARD DISK IF CABLE FROM FRONT PANEL IS DISCONNECTED.



Ref DGC Dwg No 003-001624 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

J17	OUT
J18	IN FLOPPY
J19	RESERVED

J20	IN
J21	IN
J22	OUT

J22 MAY BE INSERTED TO WRITE PROTECT HARD DISK IF CABLE FROM FRONT PANEL PCB IS DISCONNECTED.

TAILORING (CONT)

DISK CONTROLLER BOARD
 MODEL 6224
 005-019424

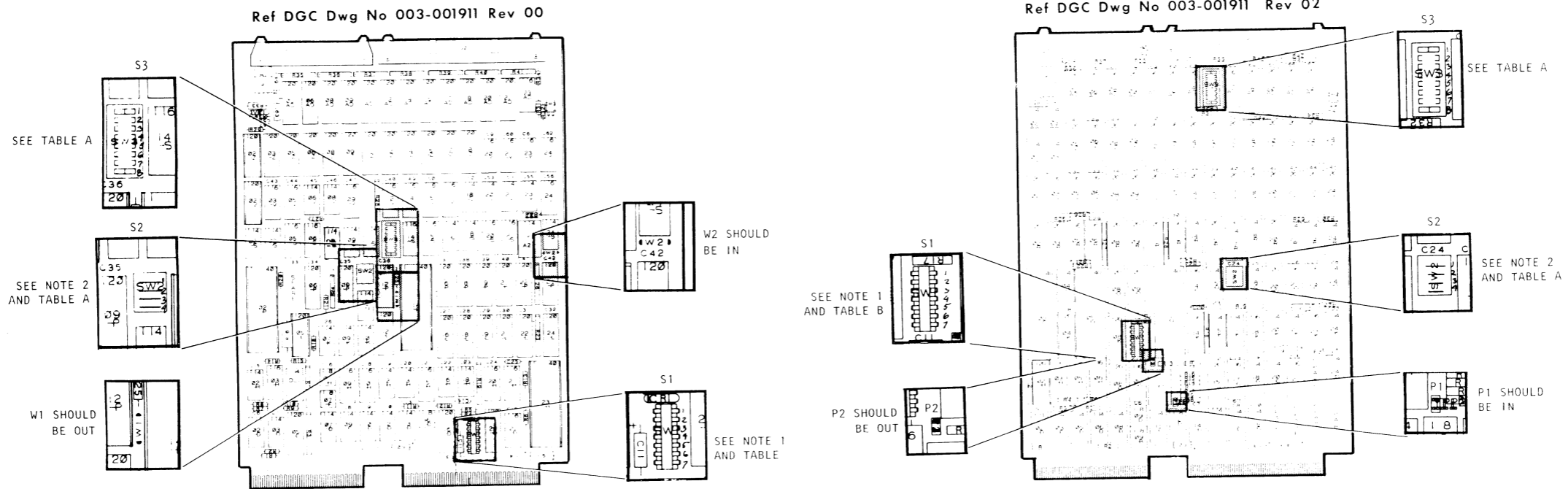


TABLE A

PRIORITY SELECT	S2			S3
	SW4	SW3	SW2	
HSCR7	ON	ON	ON	SW8
HSCR6	ON	ON	-	SW7
HSCR5	ON	-	ON	SW6
HSCR4	ON	-	-	SW5
HSCR3	-	ON	ON	SW4
HSCR2	-	ON	-	SW3
HSCR1	-	-	ON	SW2
HSCRO	-	-	-	SW1

NOTE: TO SELECT BMC PRIORITY LEVEL 0-7, SET SWITCHES 2-4 OF S2 AS SHOWN AND TURN ON ONE SWITCH IN S3 AS INDICATED.

TABLE B

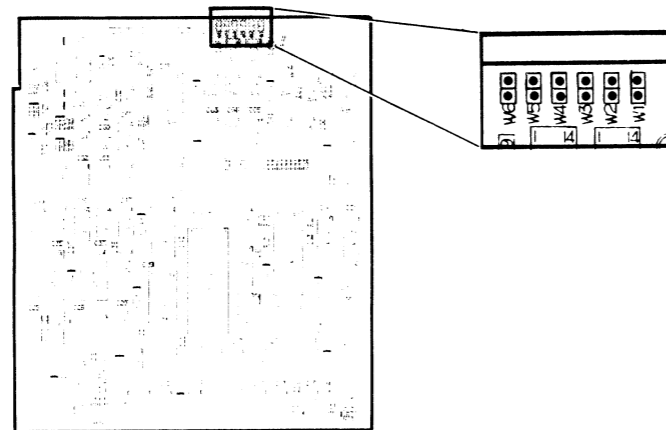
S1	DEVICE CODE (OCTAL)	
	25	65
SW1	OFF	ON
SW2	ON	ON
SW3	OFF	OFF
SW4	ON	ON
SW5	OFF	OFF
SW6	ON	ON

SWITCH NOTES: 1. SW1 TO SW6 OF S1 ARE DEVICE CODE SELECTION SWITCHES CORRESPONDING TO DS0 TO DS5 RESPECTIVELY, SWITCH ON FOR 'A', SW7 NOT USED.
 2. SW1 OF S2 SHOULD BE ON FOR 14" HARD DISK, OFF FOR 8" HARD DISK.

TAILORING (CONT)

JUMPERING

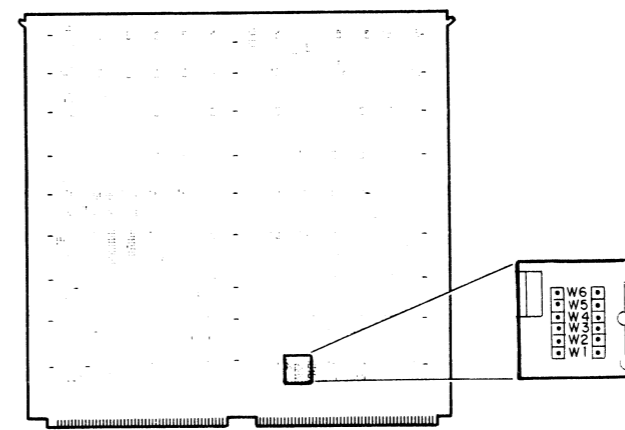
**CARTRIDGE TAPE
CONTROLLER**
(for microNOVA system)



Ref DGC Dwg No 107-001879 Rev 01

CONTROLLER DEVICE CODE SELECT		
JUMPER NUMBER	DEVICE CODE 22	DEVICE CODE 62
1	OUT	IN
2	IN	IN
3	OUT	OUT
4	OUT	OUT
5	IN	IN
6	OUT	OUT

**CARTRIDGE TAPE
CONTROLLER**
(for NOVA/ECLIPSE systems)

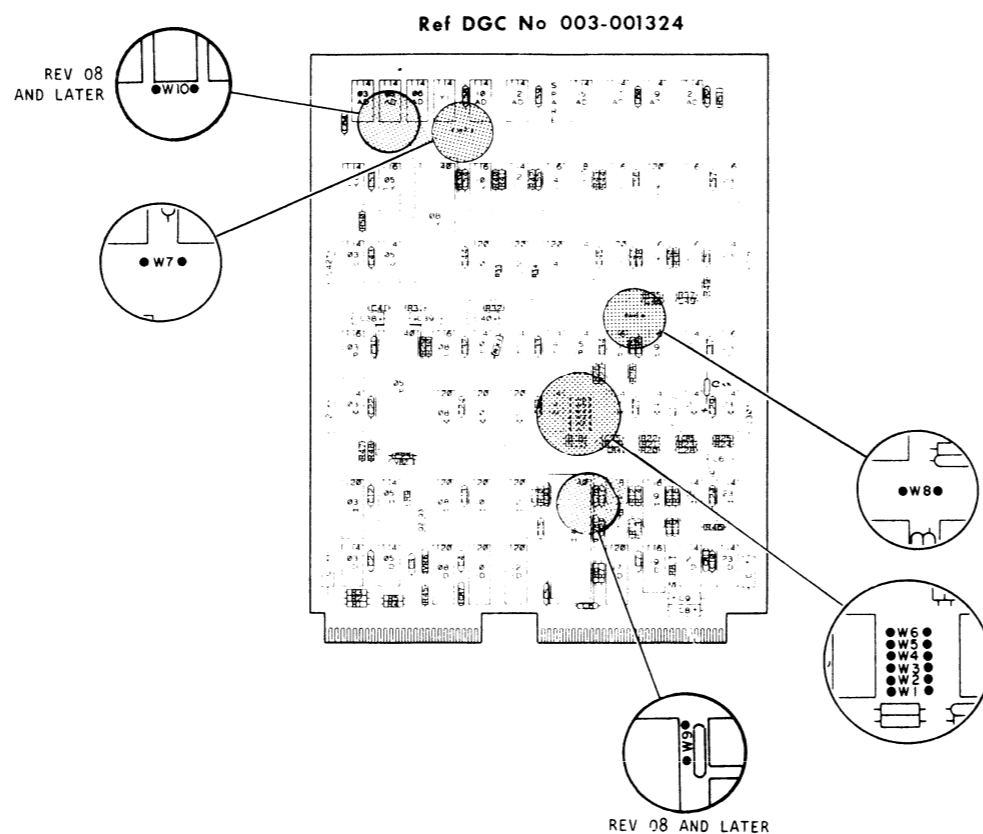


Ref DGC Dwg No 107-001878 Rev 01

CONTROLLER DEVICE CODE SELECT		
JUMPER NUMBER	DEVICE CODE 22	DEVICE CODE 62
1	OUT	IN
2	IN	IN
3	OUT	OUT
4	OUT	OUT
5	IN	IN
6	OUT	OUT

TAILORING (CONT)

DISKETTE CONTROLLER
MODEL 6224-D ONLY



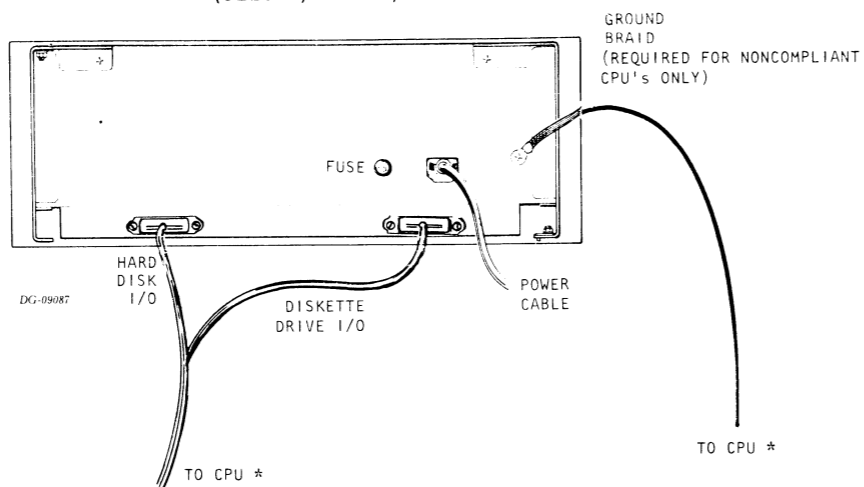
	DEVICE CODE	
	26	66
DS0 — W6	OUT	IN
DS1 — W5	IN	IN
DS2 — W4	OUT	OUT
DS3 — W3	IN	IN
DS4 — W2	IN	IN
DS5 — W1	OUT	OUT

NOTE: W7, W8 AND W10 MUST ALWAYS BE INSTALLED, W9 IS INSERTED WHEN CONTROLLER IS INSTALLED IN +12V CHASSIS (CS/30)

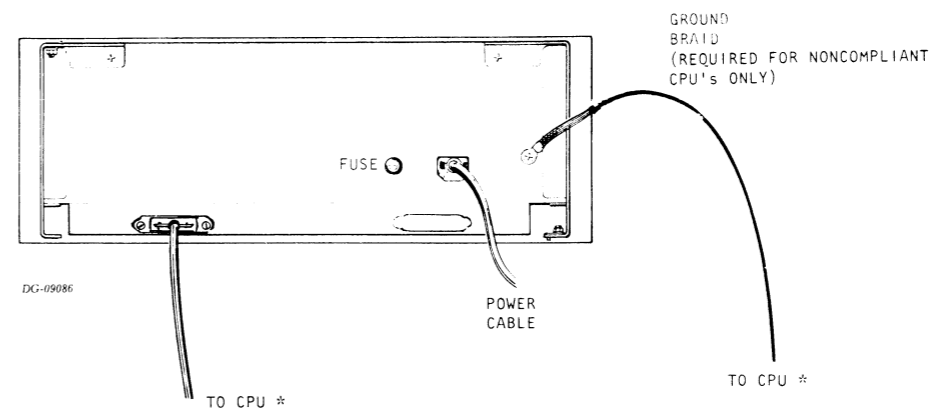
EXTERNAL CABLING

* REFER TO DISK PRODUCT CABLE MASTER 010-000331 FOR CONFIGURATION AND CABLE 005- NUMBERS.

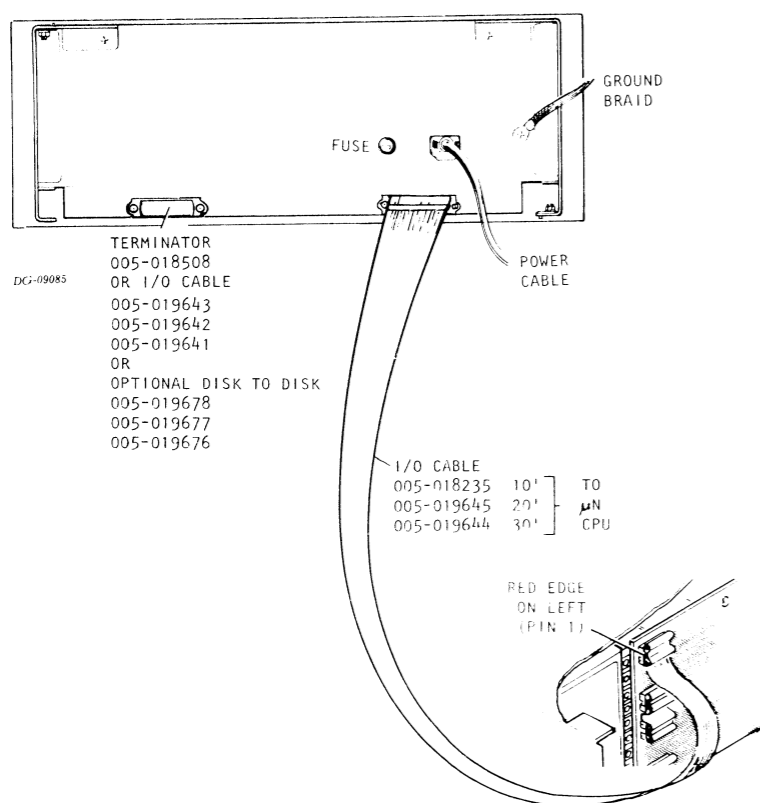
NOVA/ECLIPSE with Diskette (6225-D/6227-D)



NOVA/ECLIPSE without Diskette (6225/6227)



microNOVA with or without Diskette (6220/6220-D/6222/6222-D)



microNOVA with or without Diskette (6220/6220-D/6222/6222-D)

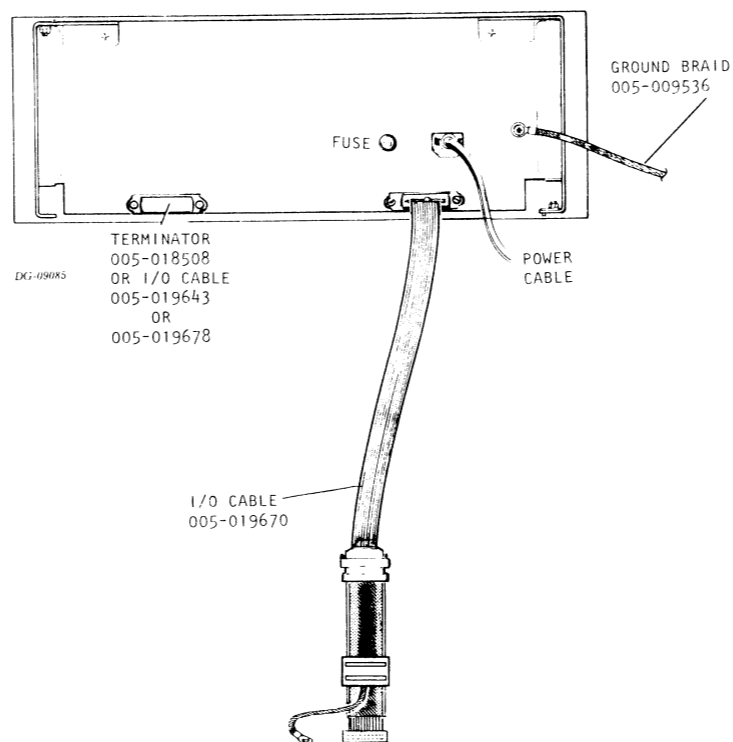
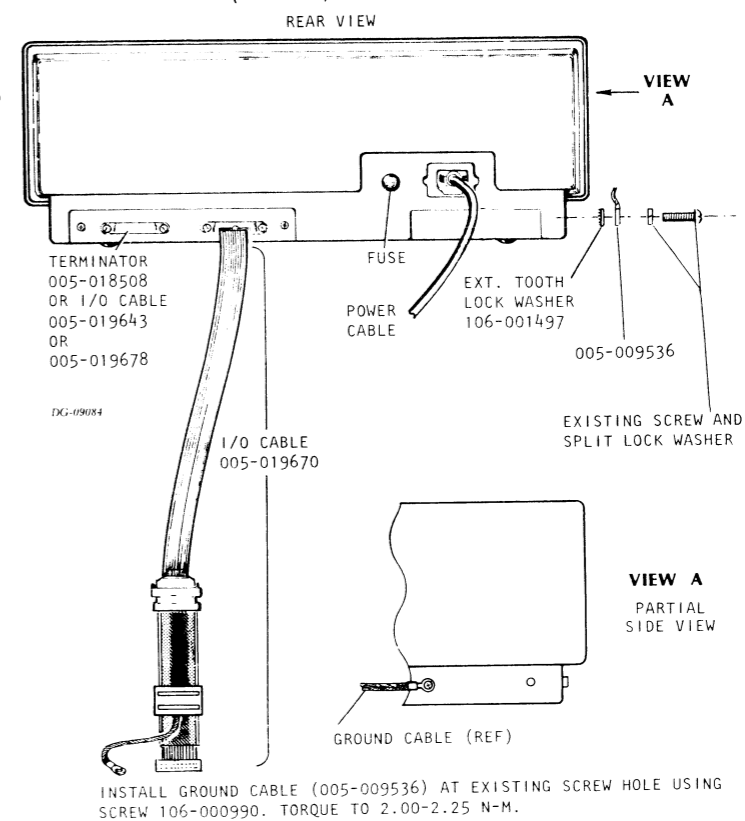


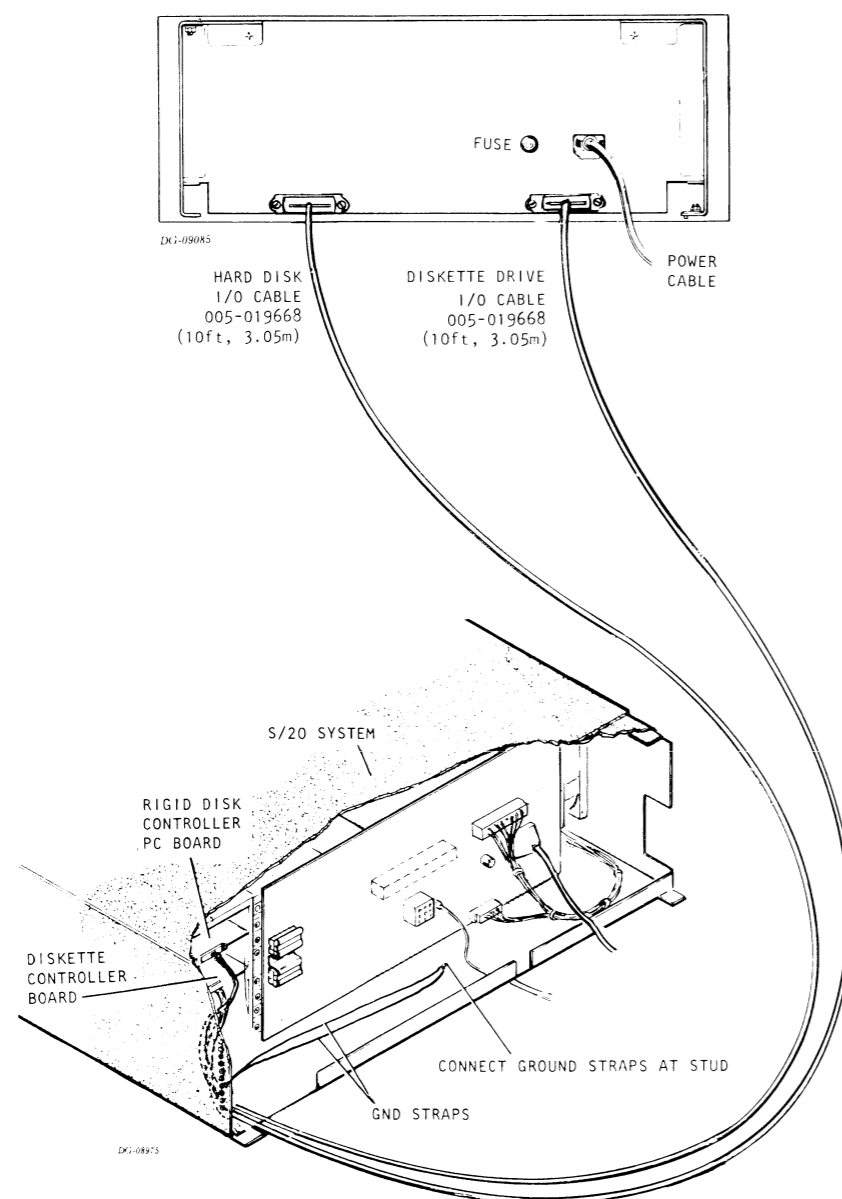
TABLE-TOP to ENTERPRISE /MPT (6220-TT/6222-TT)



* DENOTES EXISTING HARDWARE

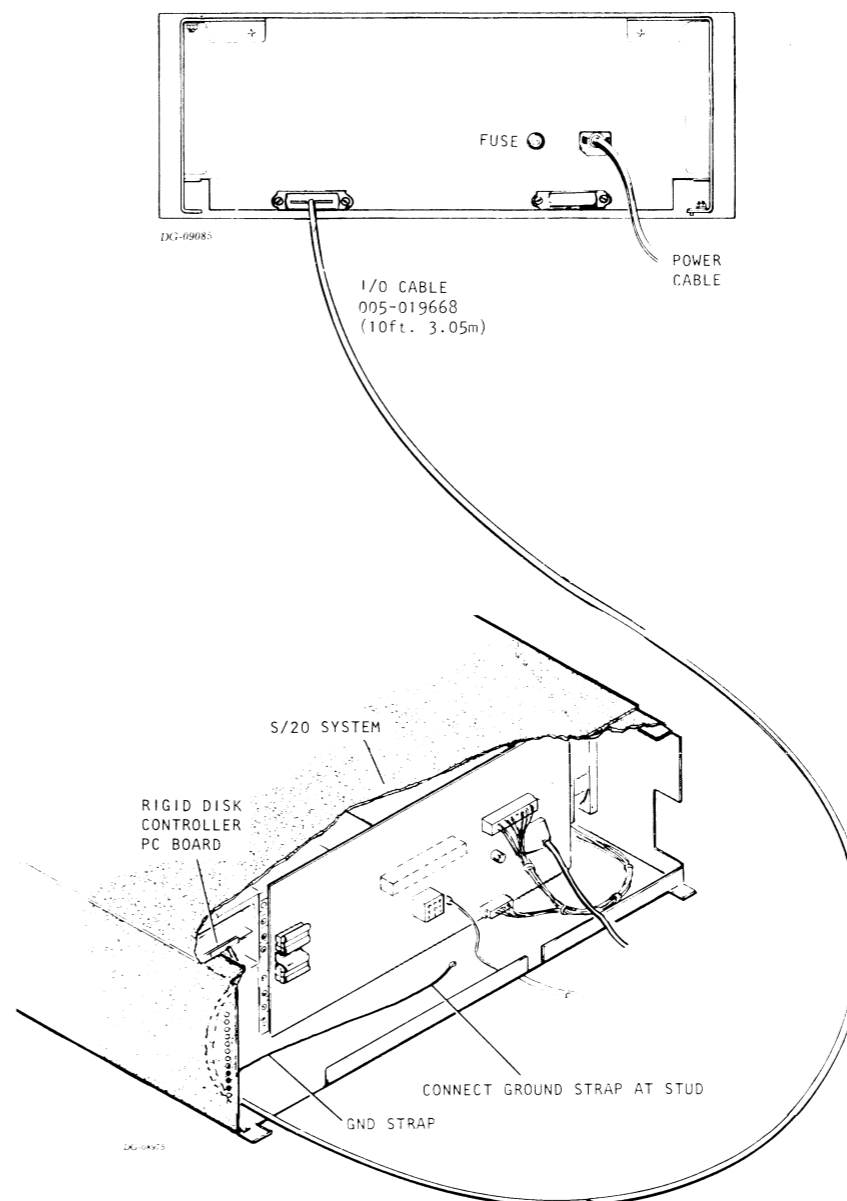
EXTERNAL CABLING

MODEL 6224-D
S/20 BMC WITH DISKETTE



1st HOLE: DISKETTE I/O CABLE
2nd HOLE: HARD DISK I/O CABLE
STRAIN RELIEF BRACKET 002-009960 (QTY 2)
AND TIE WRAP

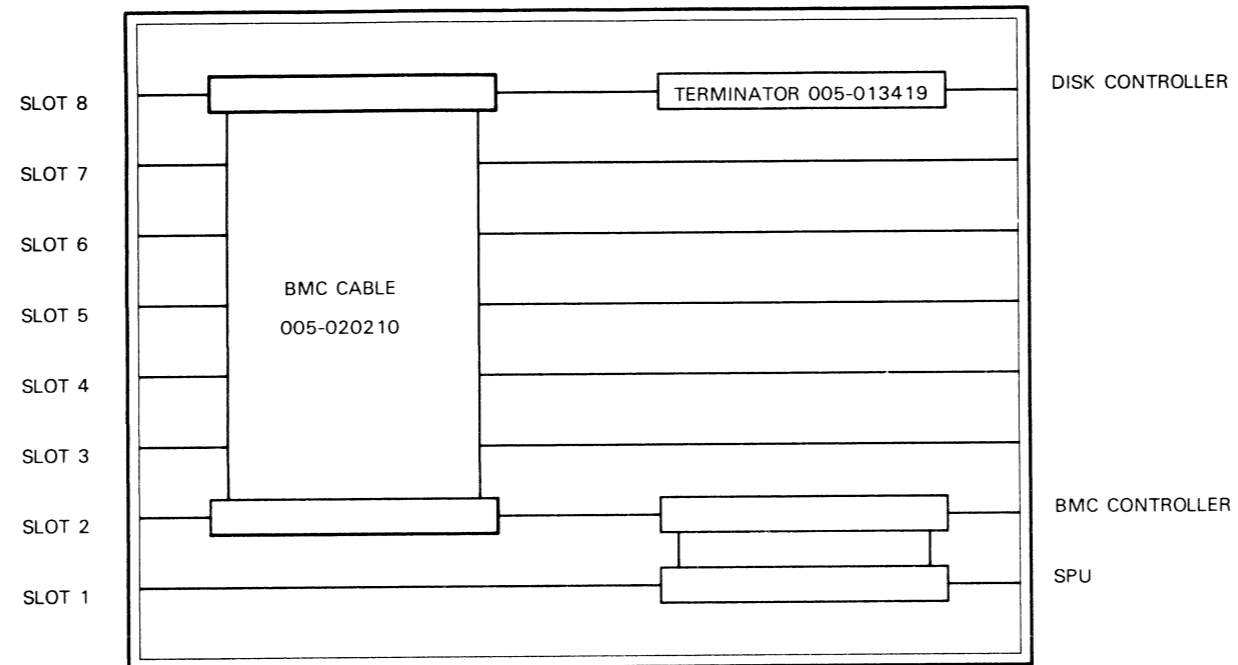
MODEL 6224
S/20 BMC WITHOUT DISKETTE



1st HOLE: STRAIN RELIEF BRACKET 002-009960 AND TIE WRAP

S20 BMC CABLING
FOR MODEL 6224

SEE NOTE



ID-00454

DISK CONTROLLER CAN BE INSTALLED IN ANY
SLOT 3 TO 8 OF MAIN CHASSIS.

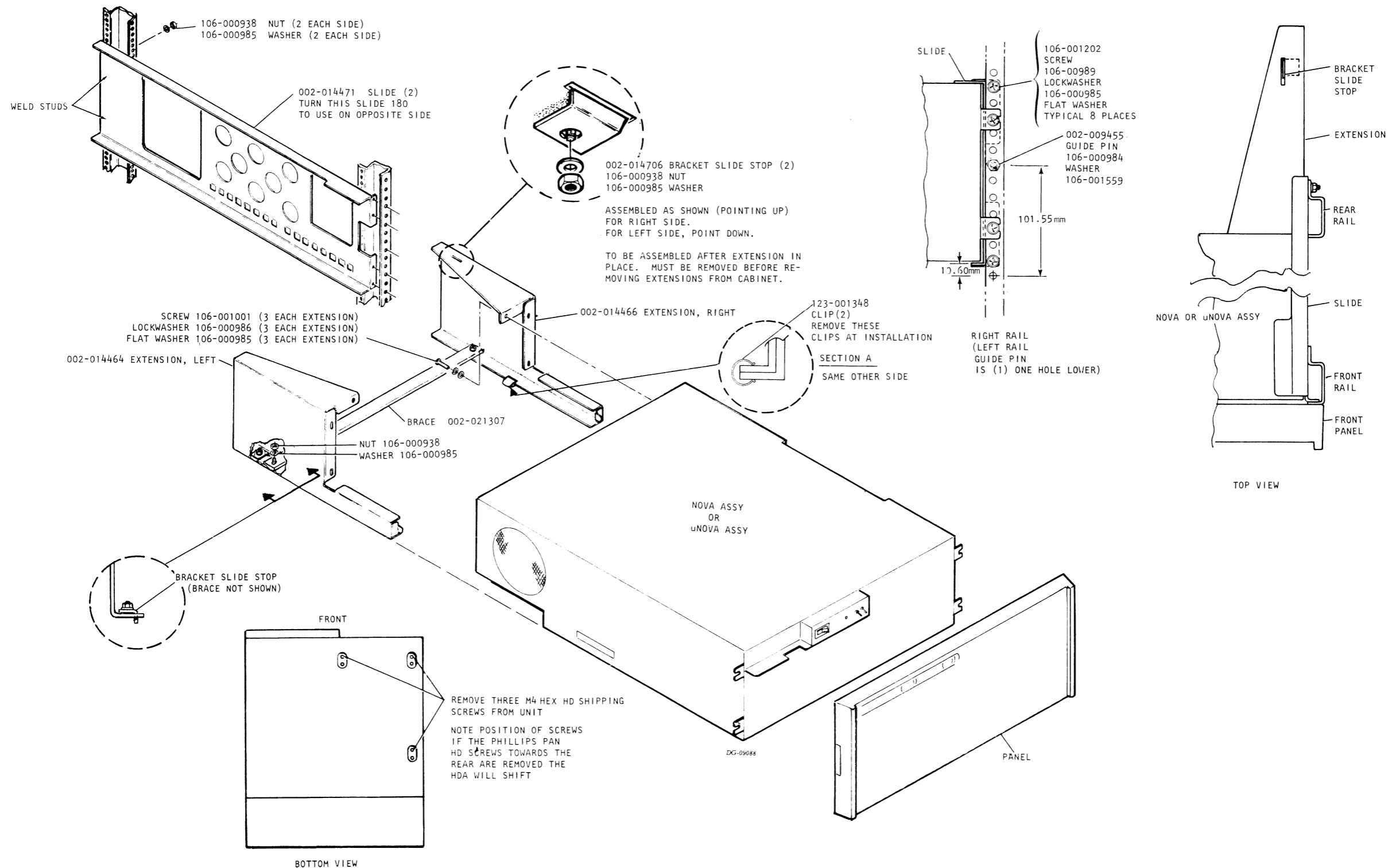
BMC CONTROLLER WILL BE INSTALLED IN SLOT 2

USE BMC CABLE 002-020210.

CABINET MOUNTING

HARDWARE MOUNTING KIT 005-016346

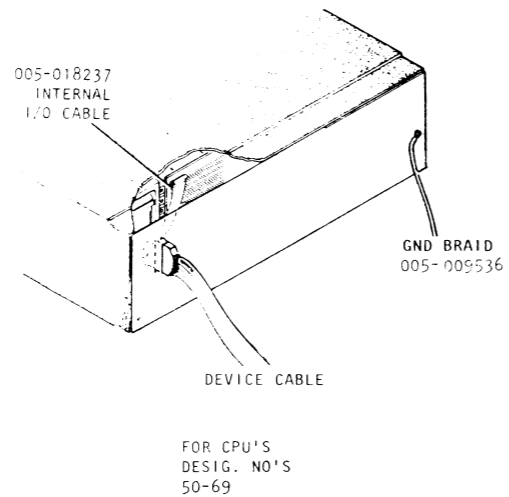
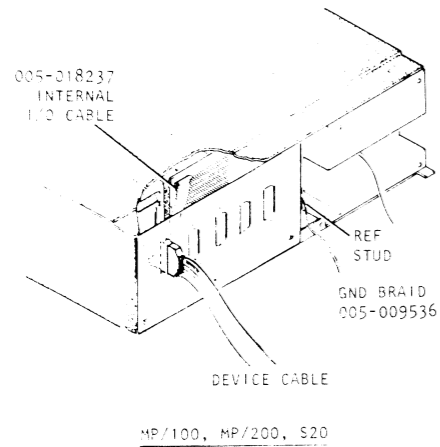
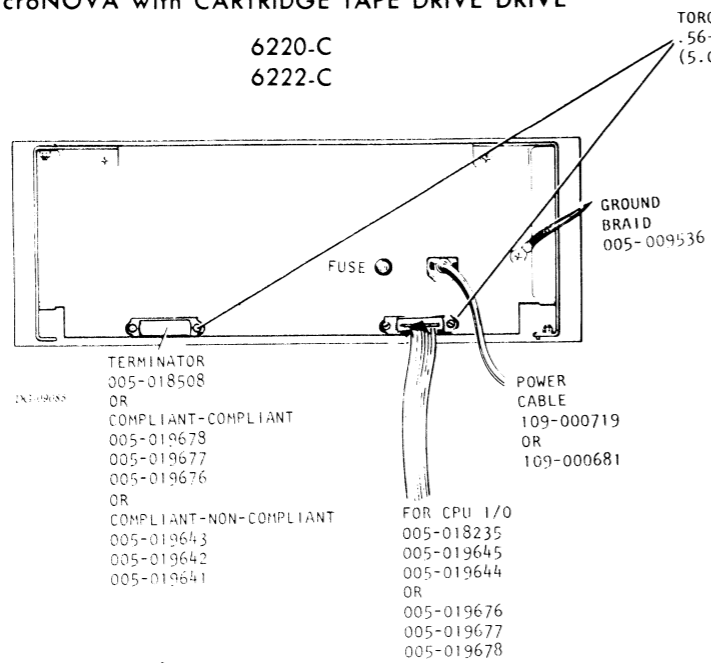
M4 HARDWARE TO BE TORQUED TO 2.14 - 2.32 NM
 M5 HARDWARE TO BE TORQUED TO 4.41 - 4.69 NM.



EXTERNAL CABLING

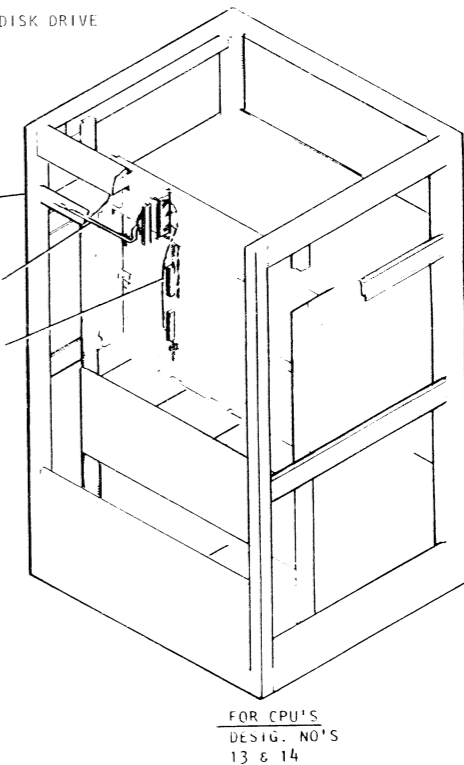
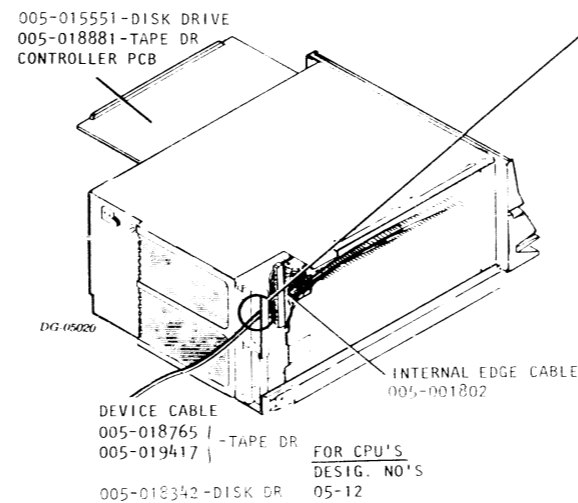
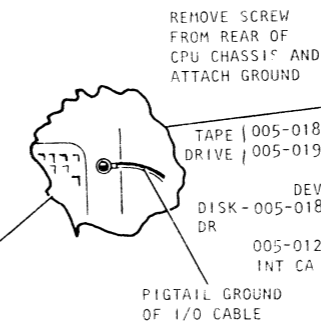
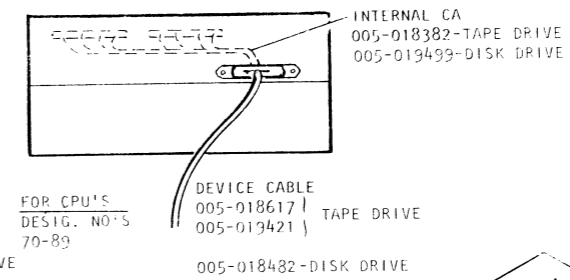
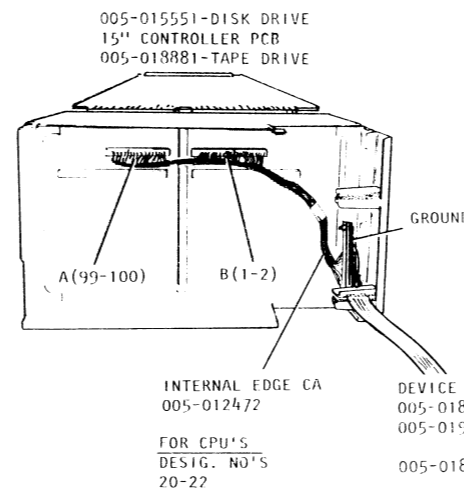
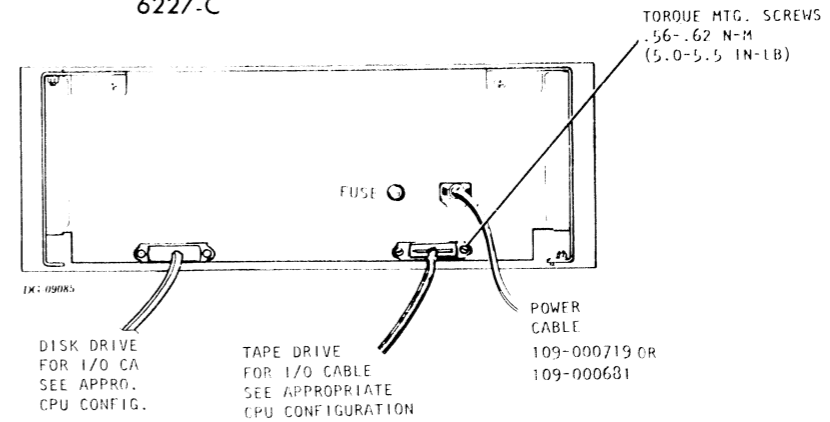
microNOVA with CARTRIDGE TAPE DRIVE DRIVE

6220-C
6222-C



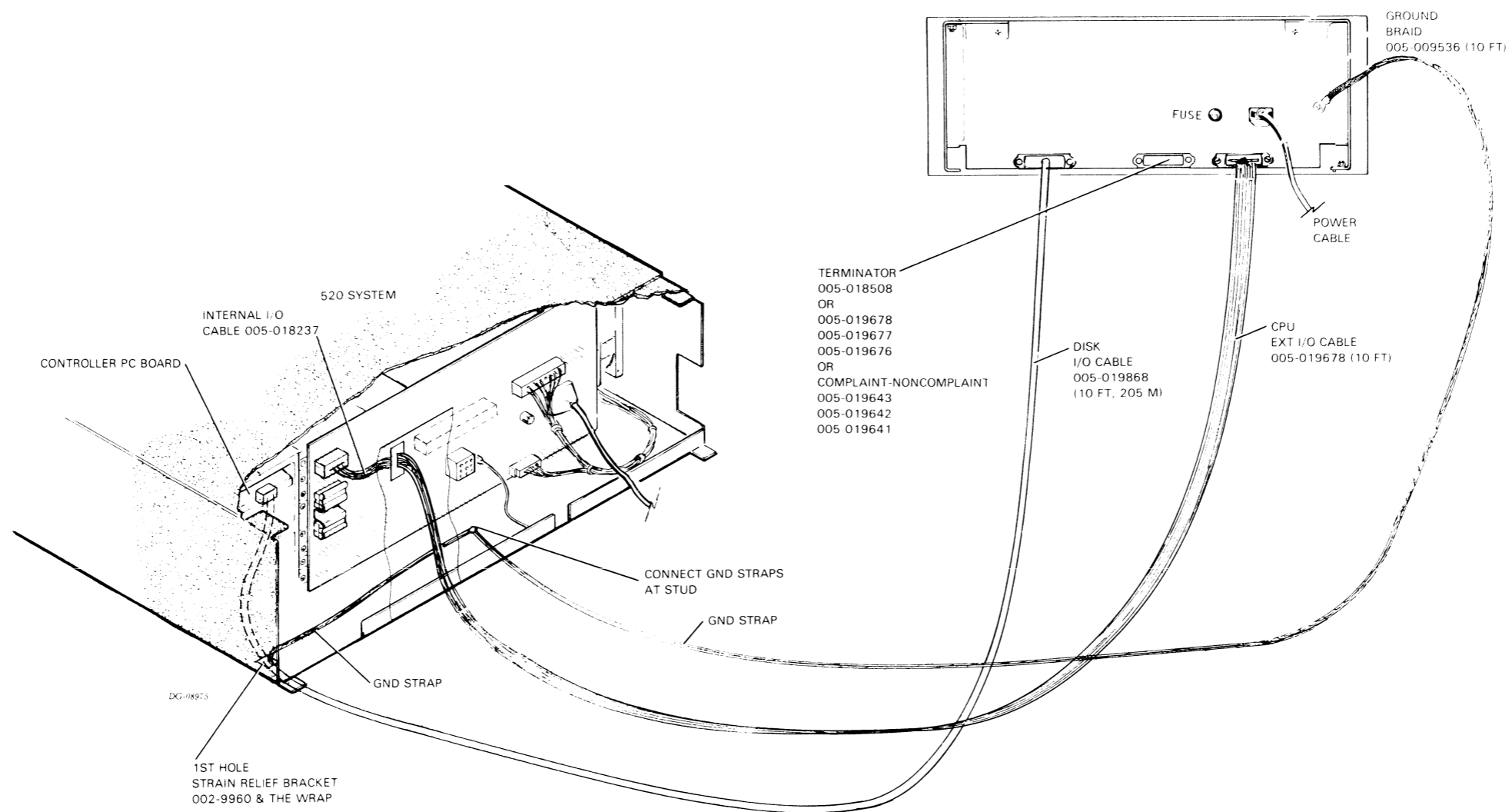
NOVA/ECLIPSE with CARTRIDGE TAPE DRIVE

6225-C
6227-C



EXTERNAL CABLING

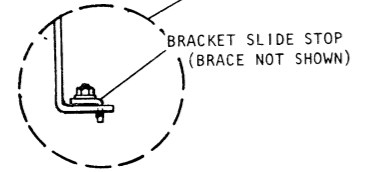
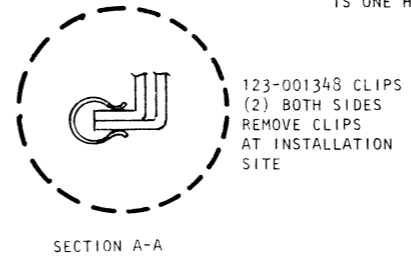
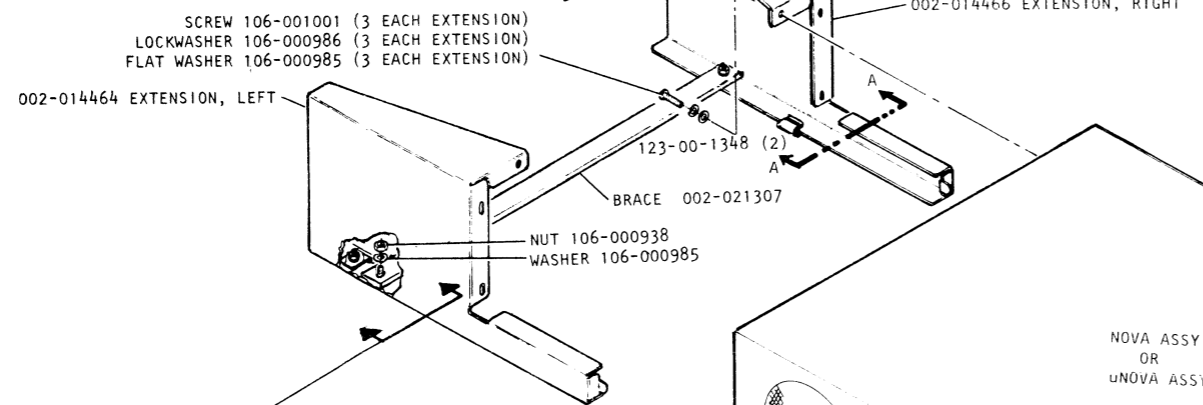
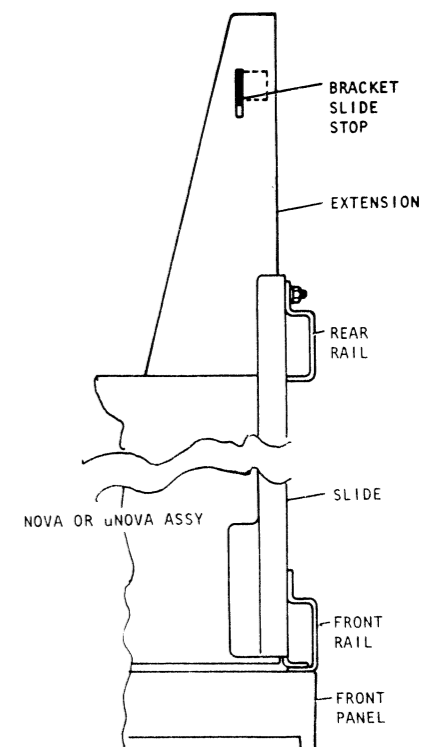
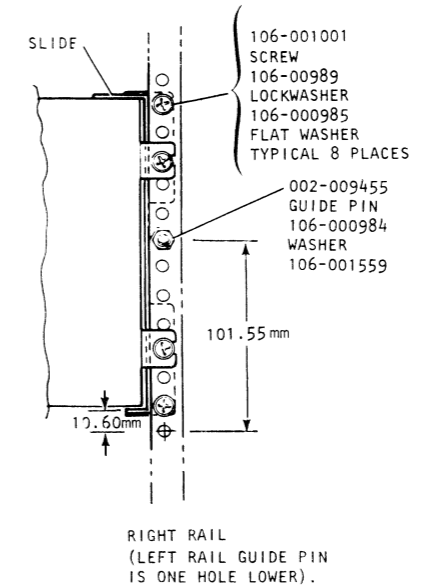
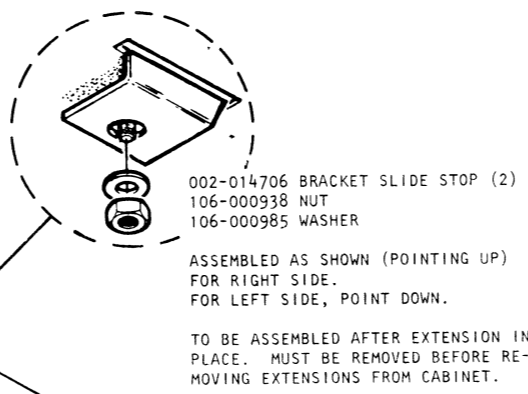
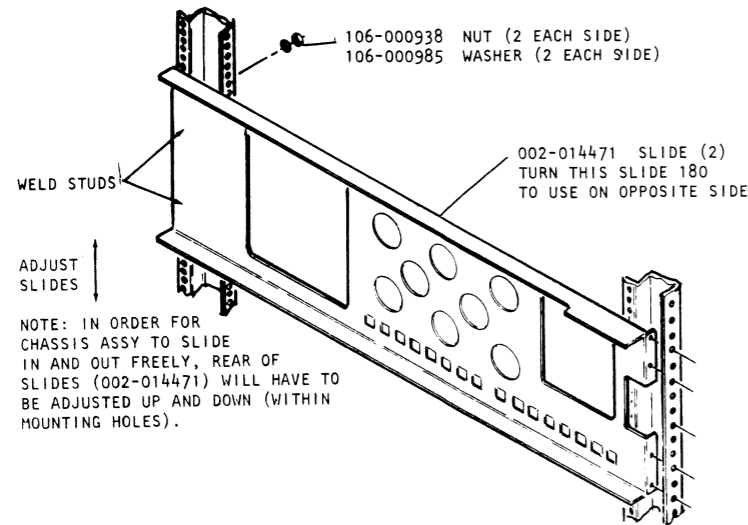
MODEL 6224-C
S20 BMC WITH CARTRIDGE TAPE DRIVE



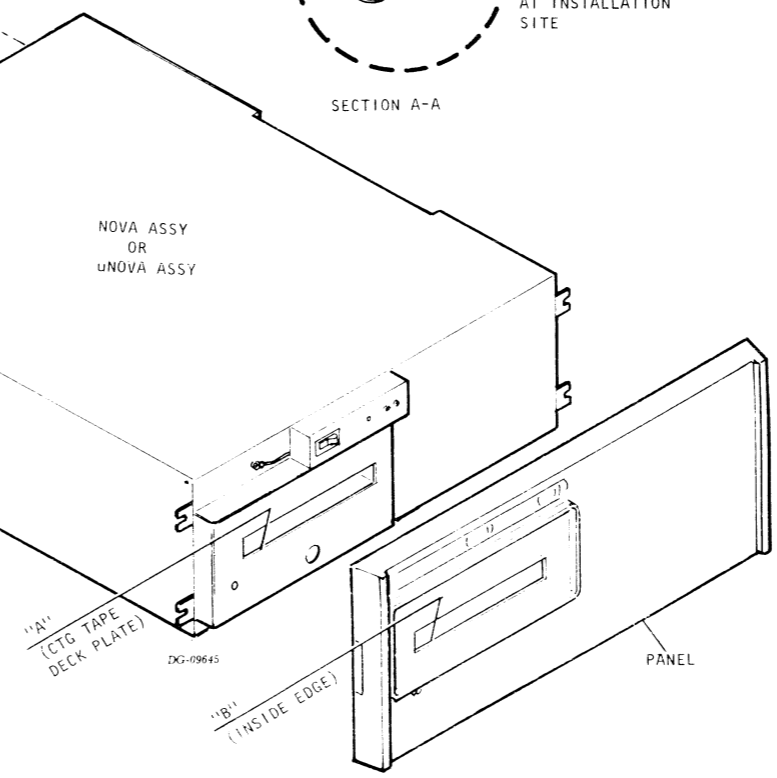
CABINET MOUNTING

HARDWARE MOUNTING KIT 005-016346

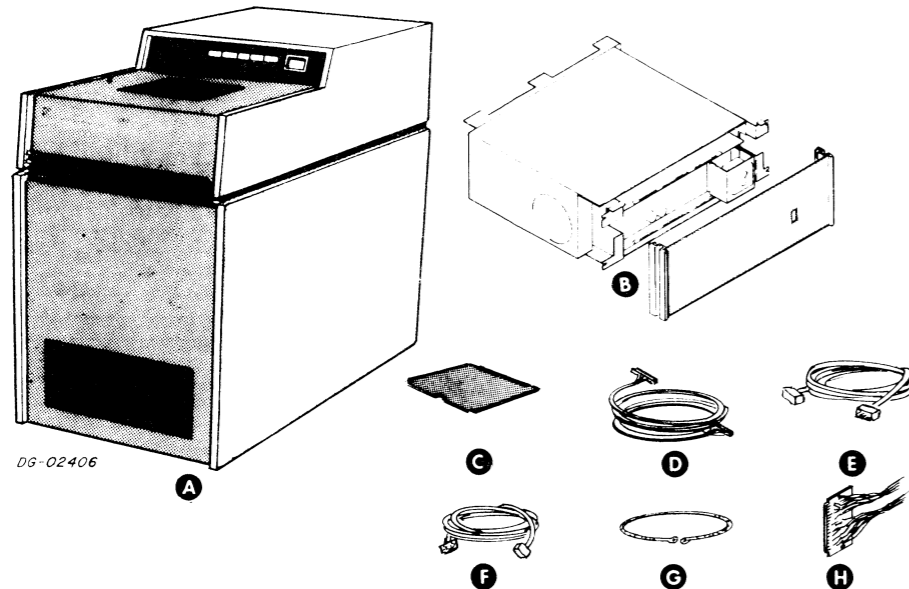
M4 HARDWARE TO BE TORQUED TO 2.14 - 2.32 NM
 M5 HARDWARE TO BE TORQUED TO 4.41 - 4.69 NM.



TAPE CARTRIDGE INSERTION CLEARANCE
 THE CHASSIS ASSEMBLY (SURFACE "A" OF CARTRIDGE TAPE DECK PLATE) MUST BE ALIGNED WITH THE PANEL ASSEMBLY (SURFACE "B", INSIDE EDGE). THIS CAN BE ACHIEVED BY FIRST ASSEMBLING CHASSIS ASSEMBLY AND FRONT PANEL TO RACK AS SHOWN, THEN INSERTING A TAPE CARTRIDGE 118-001742/001743 THRU THE PANEL OPENING. IF CARTRIDGE CLEARANCE AROUND FRONT PANEL IS TOO CLOSE OR CAUSES INTERFERENCE, ALIGN SURFACE "A" AND "B" BY REMOVING PANEL AND SHIFTING CHASSIS ASSEMBLY UP OR DOWN TO DESIRED POSITION.



SUBSYSTEM COMPONENT BREAKDOWN



DG-02406

MAJOR COMPONENT

Item	Component	Mounting Location	Notes
A	90 MEGABYTE DR UNIT	FREE-STANDING	
B	ADAPTER (WITH PANEL)	CABINET	
C	CONTROLLER	COMPUTER CHASSIS	

DG-02672

CABLE

Item	Cable	Connecting	Max Allowed Lg ft / m	Notes
D	DEVICE CABLE (ADAPTER)	COMPUTER and ADAPTER	10 / 3.5	
E	DEVICE CABLE A (DRIVE)	ADAPTER " DRIVE UNIT	30 / 9.1	
F	DEVICE CABLE B (DRIVE)	" " "	30 / 9.1	
G	GROUND STRAP (DRIVE)	" " "	30 / 9.1	
H	INTERNAL CABLE	CONTROLLER " DEVICE CA (ADAPTER)	- / -	

DG-02673

SPECIFICATIONS OF THE CHASSIS-MOUNTED COMPONENTS

Component	Chassis	Slots Required	Max Allowable Data Channel Latency (μsec)	Type of Data Channel Service Desired	Max Allowable Programmed I/O Latency*	Controller's +5 Volt Current Draw (Amps)
Controller	Computer	1	19.8	High Speed, Standard	N.A.	4.0

DG-0192

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.

92 M-BYTE MOVING HEAD SERIES 4231

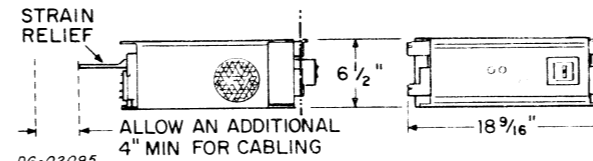
SPECIFICATIONS OF THE CABINET-MOUNTED COMPONENTS

Item	Component	Number in Sub-system	Maximum Operating Temperature		Primary Power			Cabinet Height Required			Weight lbs / kg	Power Dissipation (Max Watts)	Preferred Location or Remarks	Operating Humidity (Relative)	
			Component °F / °C	Media °F / °C	Current Draw (Amp)	Voltage ±ΔV	Frequency ±Δf	Area	in.	cm				min	max
B	Adapter	1	131	55	2.0	120 +5 / -15	50 / 60 ±3	4	7	17.8	30 / 13.6	240		20	90
						240 ±10	50 / 60 ±3								

DG-01914

Voltage	Power Cable Length ft / m	Power Cable Plug	Mating Receptacle on Power Drop	Mating Receptacle in Wall
120V	6 / 1.8	NEMA 5-15P	NEMA 5-15R	NEMA 5-15P
240V	6 / 1.8	NEMA 6-15P	NEMA 6-15R	NEMA 6-15R

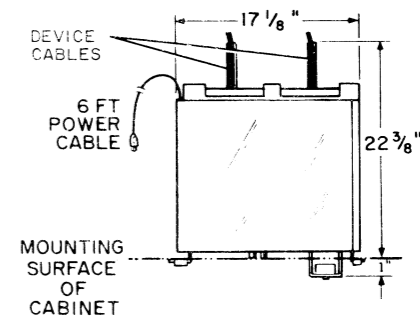
DG-02717



DG-02095

SIDE VIEW

FRONT VIEW

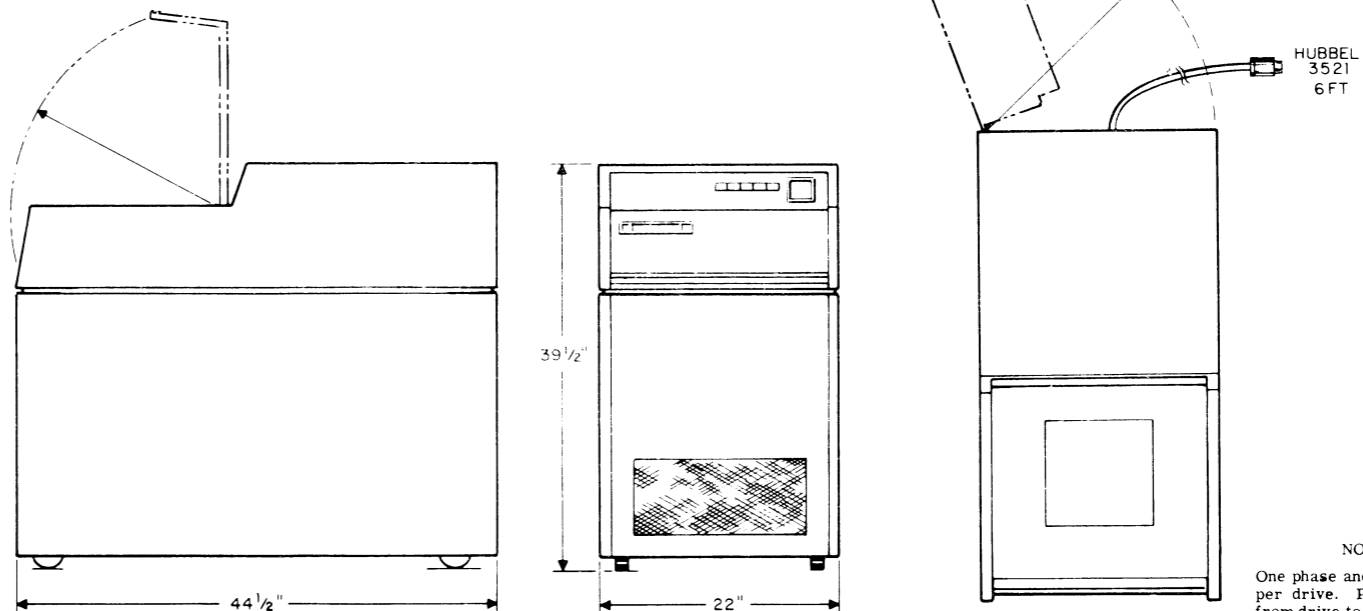


TOP VIEW

SPECIFICATIONS OF THE FREE-STANDING COMPONENTS

Item	Component	Number in Sub-system	Weight		Maximum Allowable Ext Cable Length ft / m	Operating Humidity (Relative)		Maximum Operating Temperature (1)		Power Dissipation (Watts)	BTUs/hr (3.41 x Watts)	Primary Power (2)			Power Cord Length ft / m	Power Cord Connector (HUBBEL)	Mating Power Receptacle (HUBBEL)	
			lbs	kg		min	max	Component °F / °C	Media °F / °C			Current (Amps)	Voltage ±ΔV	Frequency ±Δf				
A	Drive	1-4	700	317	30 / 9.15	20	80	90	120	1300	4550	8.5	208 / 220 ±20	60 ±5	50 ±5	6 / 1.83	3521	3523

- (1) The drive unit and media must be at the same temperature for proper operation.
- (2) Current given is for drive unit when accessing. Surge current is 14.0 amp for 8 seconds, decreasing to 8.0 amp after 24 seconds. Standby current is 2.0 amp.



DG-02094

SIDE VIEW

FRONT VIEW

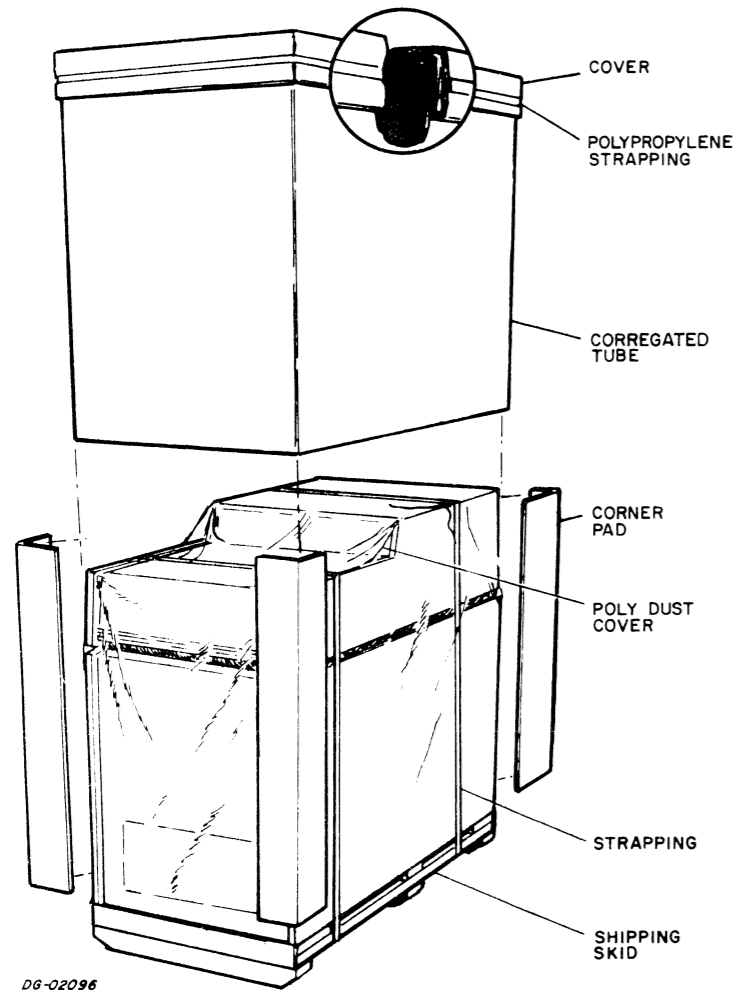
TOP VIEW

NOTE:

One phase and neutral are used per drive. Phases are rotated from drive to drive so that each group of three drives present a balanced three-phase load.

PACKING KIT

THE DRIVE UNIT PACKING KIT



D6-02096

Storage Specifications			Shipping Specifications		
Temperature Range	Relative Humidity	Maximum Period	Temperature Range	Relative Humidity	Maximum Altitude
$^{\circ}\text{F}$ / $^{\circ}\text{C}$	(Non-condensing)		$^{\circ}\text{F}$ / $^{\circ}\text{C}$	(Non-condensing)	
11 to 150.8 -34 to +66	0-85%	90 DAYS	11 to 150.8 -34 to +66	0-85%	15,000 ft

D6-02096

D6-02096

THE ADAPTER PACKING KIT

FOR PACKING PROCEDURE,
SEE 010-000263

Storage Specifications			Shipping Specifications		
Temperature Range	Relative Humidity	Maximum Altitude	Temperature Range	Relative Humidity	Maximum Period
$^{\circ}\text{F}$ / $^{\circ}\text{C}$	(Non-condensing)		$^{\circ}\text{F}$ / $^{\circ}\text{C}$	(Non-condensing)	
-40 to +185 to -40 to +85	0-85%	90 DAYS	-40 to +185 to -40 to +85	0-85%	15000 ft

D6-02062

D6-02063

THE CONTROLLER PACKING KIT

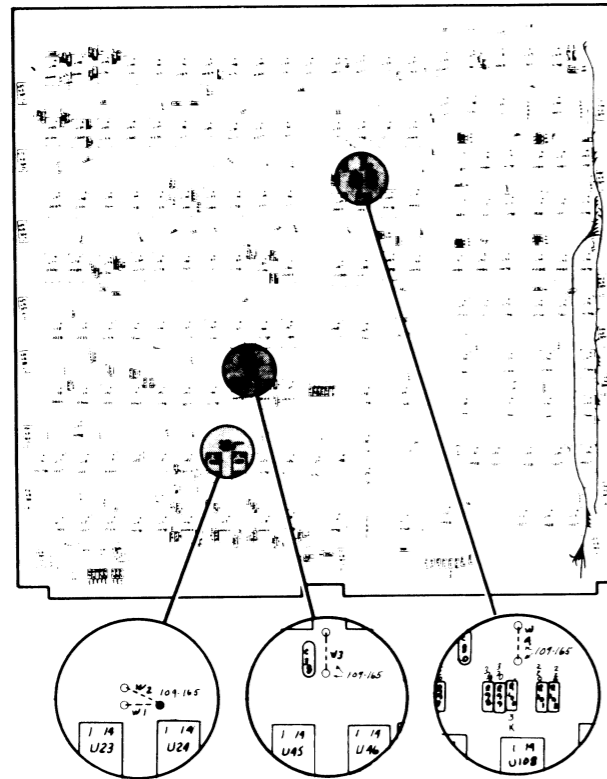
FOR PACKING PROCEDURE,
SEE 010-000262

Storage Specifications			Shipping Specifications		
Temperature Range	Relative Humidity	Maximum Period	Temperature Range	Relative Humidity	Maximum Altitude
$^{\circ}\text{F}$ / $^{\circ}\text{C}$	(Non-condensing)		$^{\circ}\text{F}$ / $^{\circ}\text{C}$	(Non-condensing)	
-40 to +185 to -40 to +85	0-85%	90 DAYS	-40 to +185 to -40 to +85	0-85%	15000 ft

D6-02062

D6-02063

JUMPERING



Ref: DGC 005 000375 REV 00-09

JUMPER POSITION	DEVICE CODE 33	DEVICE CODE 73
W1	Jumper inserted	Jumper removed
W2	Jumper removed	Jumper inserted
W3	Jumper removed	Jumper inserted

For Dual Processor Configuration Jumper W4 is inserted.

DG-02105

INTERNAL CABLING

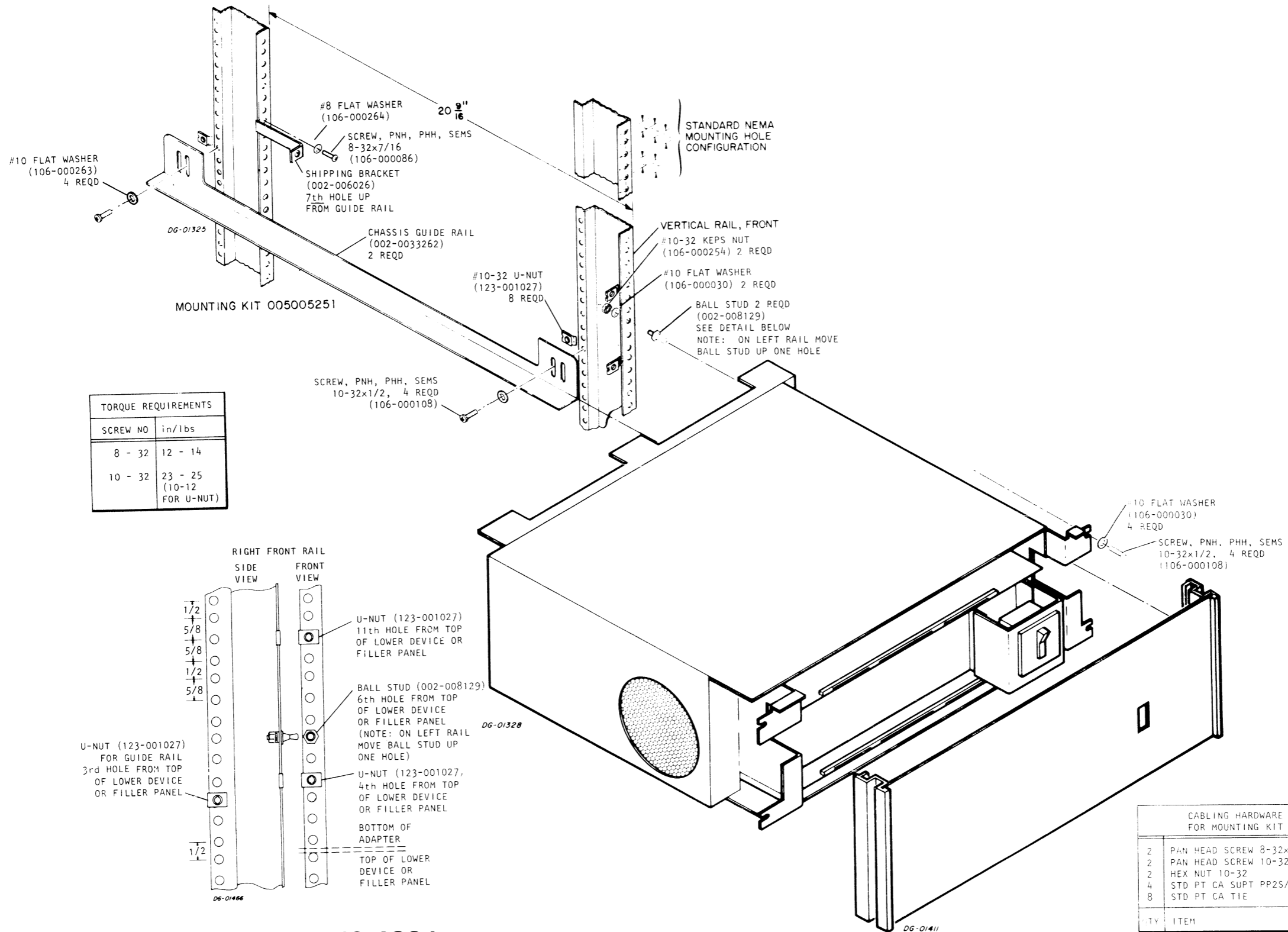
Internal Cable Connections			
Signal Names	Paddleboard Edge Connector Pin Numbers	Destination Pins on Back Panel (NOVA and ECLIPSE Line Computers)	Socket Connector Pin Numbers
GND	A-A8	A99	
GND (not used)	1	A100	
LOAD HEAD	2	A92	
SA0	3	A91	16
SA2	4	A78	30
UNSAFE	5	A77	11
SA4	6	A76	12
SA3	7	A75	6
SECTOR PULSE (not used)	8	A73	4
(not used)	9	A71	2
(not used)	10	A69	
(not used)	11	A67	
(not used)	12	A65	
DATA CLK	13	A63	27
DATA	14	A61	13
FINISH	15	A59	14
DISK SELECT	16	A57	5
DUR	17	A47	26
WRITE GATE	18	A49	33
SEEK ERROR	19	A79	31
RESTORE	20	A81	37
HD ADV	21	A84	17
TAS	22	A83	39
CPU REQUEST	23	A86	40
READ GATE	24	A85	46
(not used)	25	A88	
SA1	26	A87	47
TA256	27	A89	18
(not used)	28	A90	
(not used)	29	B6	
HDI6	30	B11	21
HDI8	31	B13	41
HDI & TAI	32	B15	38
D0	33	B19	42
HD4	34	B23	43
D1	35	B25	20
HD2	36	B27	45
TA2	37	B31	44
TA128	38	B34	15
TA4	39	B36	32
TA32	40	B38	34
+5 REM	41	B40	19
TA64	42	B48	35
TA8	43	B49	36
TA16	44	B51	49
(not used)	45	B52	
ATTN3	46	B53	22
ATTN2	47	B54	29
ATTN0	48	B67	28
ATTN1	49	B69	3
(not used)	50	A3	

NOVA 3 Series Computers	005-1802
NOVA 2, ECLIPSE Series Computers	005-1802
NOVA 820, 1210 and 1220 Computers	005-901
NOVA 840, 1200 and 800 Jumbo Computers	005-386
NOVA 800, 830 and 1200 Computers	005-386
NOVA, SUPERNOVA Computers	005-386

DG-02236

CABINET-MOUNTING

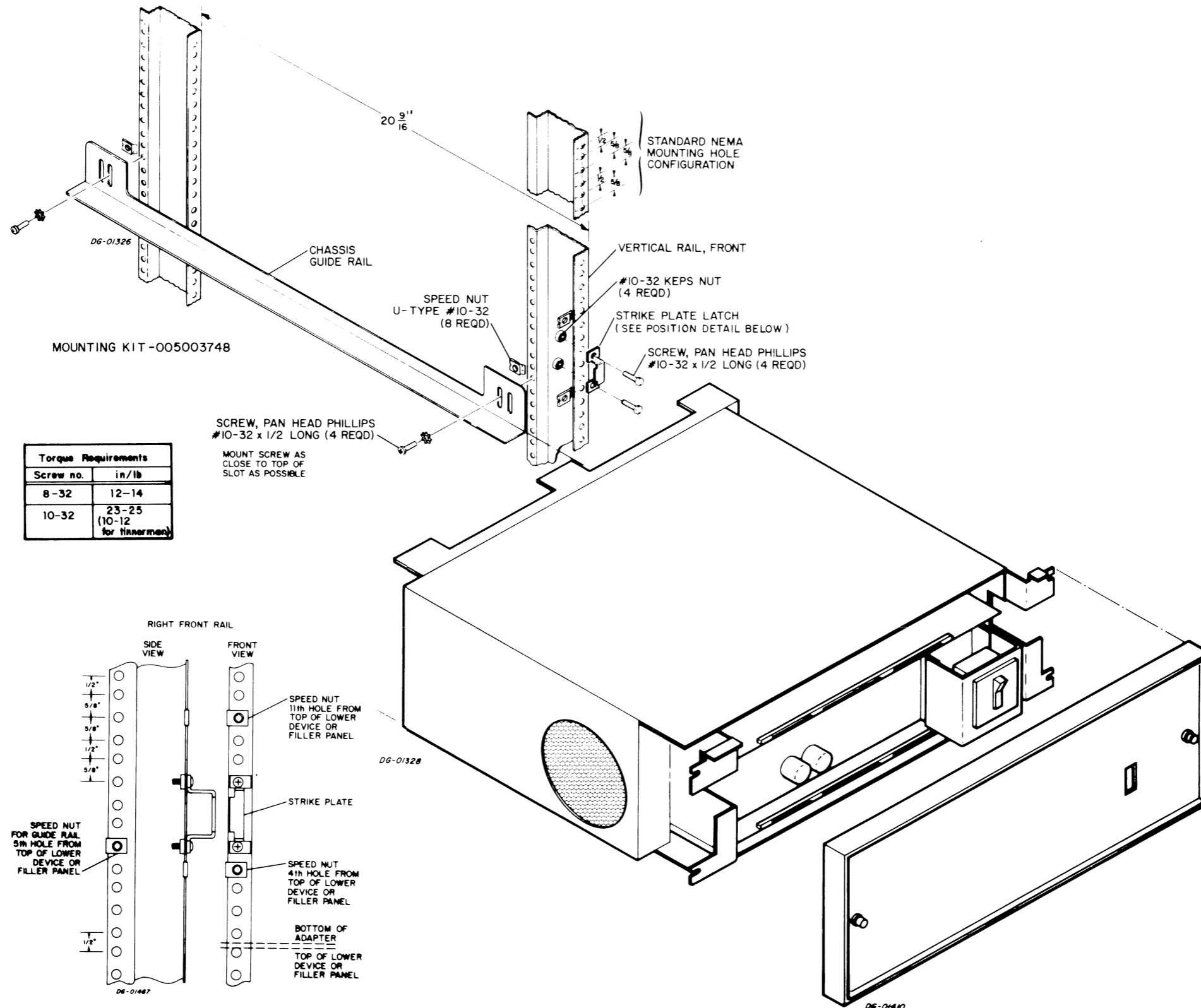
MOUNTING IN THE ECLIPSE-LINE CABINET



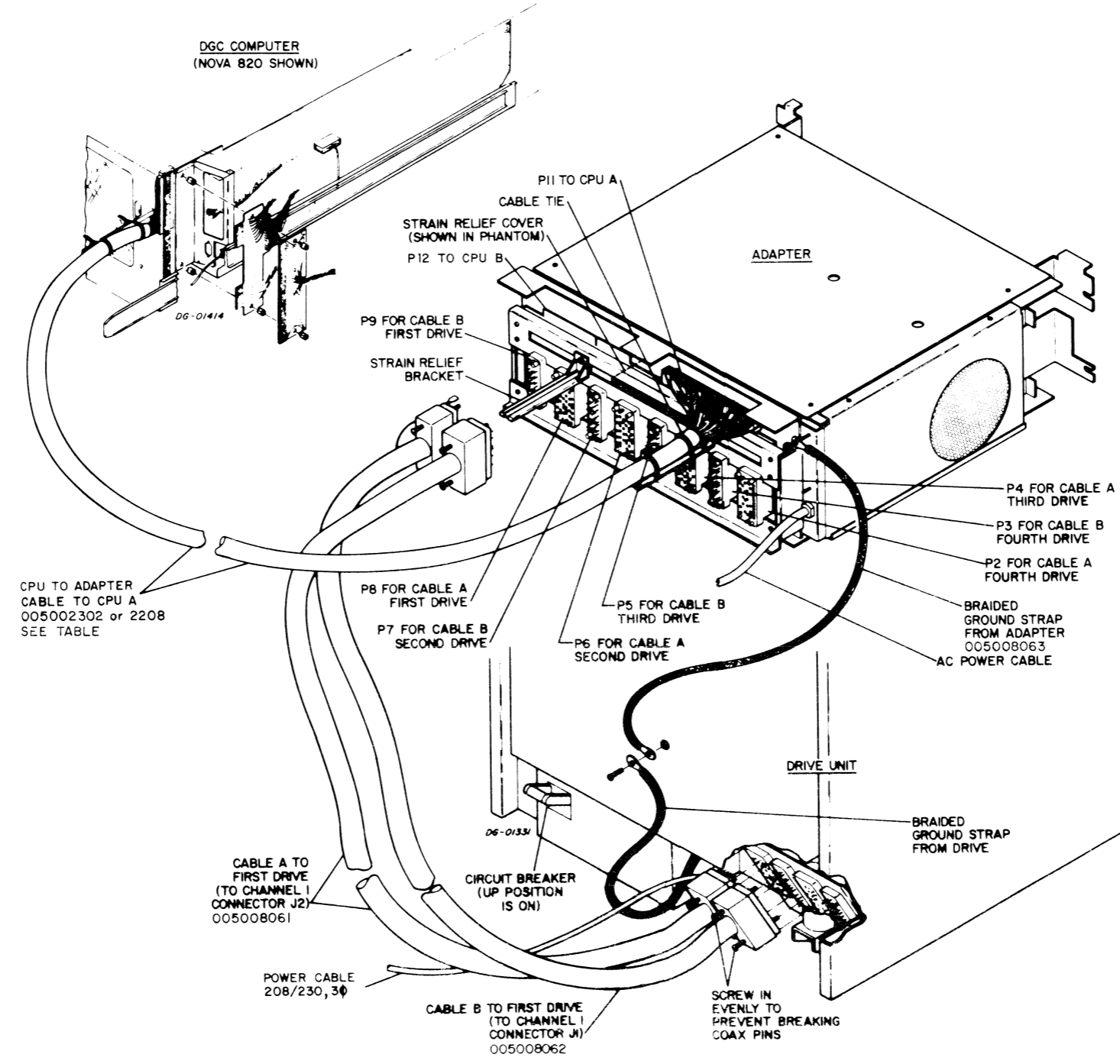
92 M-BYTE MOVING HEAD SERIES 4231

CABINET-MOUNTING (Continued)

MOUNTING IN THE NOVA-LINE CABINET



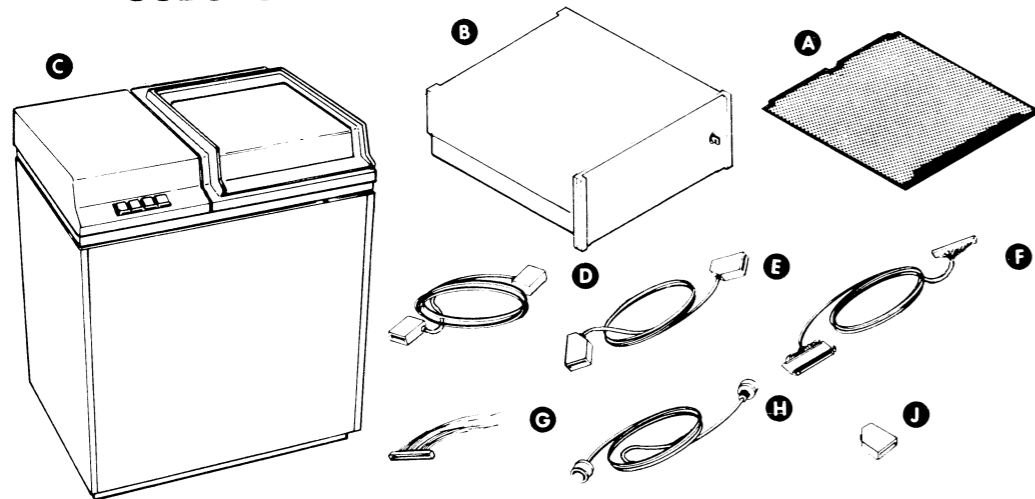
EXTERNAL CABLING



CABLE	CPU DESIGNATORS
005002302	NOVA SNOVA 1200 7 SLOT 800 7 SLOT 1200 17 SLOT 800 17 SLOT 830 840
005002208	1210 1220 820 N2/10 N2/4 ECLIPSE/7 ECLIPSE/16 C/300 NOVA 3/4 NOVA 3/12

92 M-BYTE MOVING HEAD SERIES 4231

SUBSYSTEM COMPONENT BREAKDOWN



DG 02763

MAJOR COMPONENT

Item	Component	Mounting Location	Notes
A	CONTROL	CPU	
B	ADAPTER	CABINET	
C	DRIVE UNIT	FREE STANDING	

CABLE

Item	Cable	Connecting	Max Allowed Lg ft / m	Notes
D	DEVICE CA A	ADAPTER and DRIVE	50 / 15.24	SIGNAL CA CAN ALSO BE DAISY-CHD DC PWR TO DRIVE
E	DEVICE CA B	ADAPTER " DRIVE	50 / 15.24	
F	DEVICE CA (ADAPTER)	CPU " ADAPTER	10 / 3.05	
G	INTERNAL	CONTROLLER " BK OF CPU		
H	DEVICE CA (ADAPTER AC)	ADAPTER " DRIVE UNIT	50 / 15.24	IF 120V AC IS USED THIS CA CANNOT BE DAISY-CHD

TERMINATOR

Item	Terminator	Location	Notes
J	TERMINATOR	SIGNAL OUT CONN OF LAST DRIVE IN CHAIN	

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, Standard	Max Allowable Programmed I/O Latency †	Controller's +5 Volt Current Draw (Amps)
A	CONTROLLER	CPU	1	12.8		N/A	2.75

WARNING

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MOVING HEAD DISK DRIVE SERIES 4046/4057

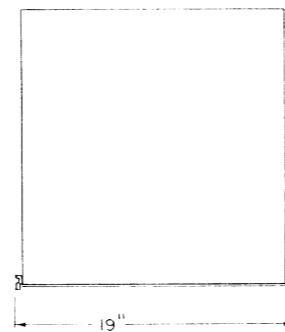
SPECIFICATIONS OF CABINET-MOUNTED COMPONENTS

Item	Component	Number in Sub-system	Maximum Operating Temperature			Primary Power			Cabinet Height Required			Weight lbs / kg	Power Dissipation (Max Watts)	Preferred Location or Remarks	Operating Humidity (Relative)	
			Component °F	Media °F	Media °C	Current (max) Draw (Amp)	Voltage ± ΔV	Frequency	Area	in.	cm				min %	max %
B	ADAPTER	1	/	/	/	2	120	60	4	7	17.78	240	AN EXTRA OUTLET IS NEEDED SINCE AC POWER FOR THE DISC DRIVE IS SUPPLIED THROUGH THE ADAPTER. THE VOLTAGE AT THE EXTRA OUTLET MUST MATCH THAT REQUIRED BY THE DRIVE	/	/	
	ADAPTER	1	/	/	/	1	240	50	4	7	17.78	240		/	/	

DG-01914

Voltage	Power Cable Length		Power Cable Plug	Mating Receptacle on Power Drop	Mating Receptacle in Wall
	ft	m			
120	5	1.524	5-15P	5-15R	5-15R
240	5	1.524	6-15P	6-15R	6-15R
208/230 3 PHASE	10	3.048	L14-30P	L14-30R	L14-30R

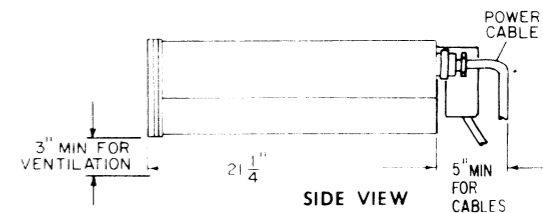
DG 02717



TOP VIEW



FRONT VIEW

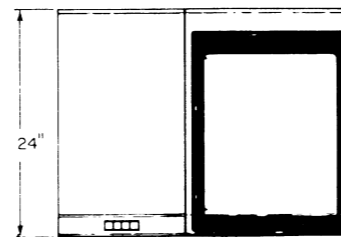


SIDE VIEW

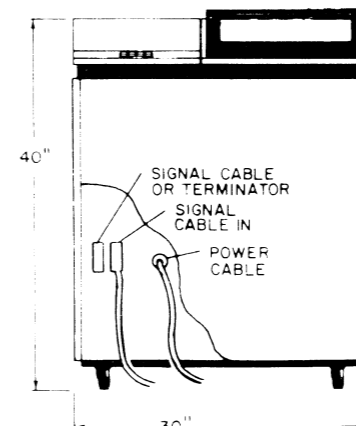
SPECIFICATIONS OF FREE-STANDING COMPONENTS

Item	Component	Number in Sub-system	Weight lbs / kg	Operating Humidity (Relative)		Maximum Operating Temperature			Power Dissipation (Watts)	BTUs/hr (3.41 x Watts)	Primary Power			Power Cable Length ft / m	Power Requirements	
				min	max	Component °F	Media °F	Media °C			Current (Amps)	Voltage ± ΔV	Frequency ± Δf			
C	DRIVE	4	350 / 159	10	80	/	/	/	840	286.4	3.5	20 STRT	230-23	60±0.5	10 / 3.05	AC POWER IS PROVIDED FROM THE ADAPTER. THREE-PHASE POWER IS NEEDED FOR DAISY-CHAIN OPERATION. A SINGLE DRIVE MAY BE RUN FROM SINGLE-PHASE POWER SOURCE.
											3.5	20 STRT	208	50±0.5	10 / 3.05	
											3.5	20 STRT	230	50±0.5	10 / 3.05	
											2.2	380	50±0.5	10 / 3.05		

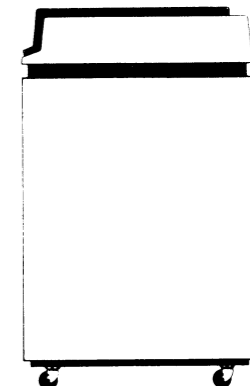
DG-01917



TOP VIEW

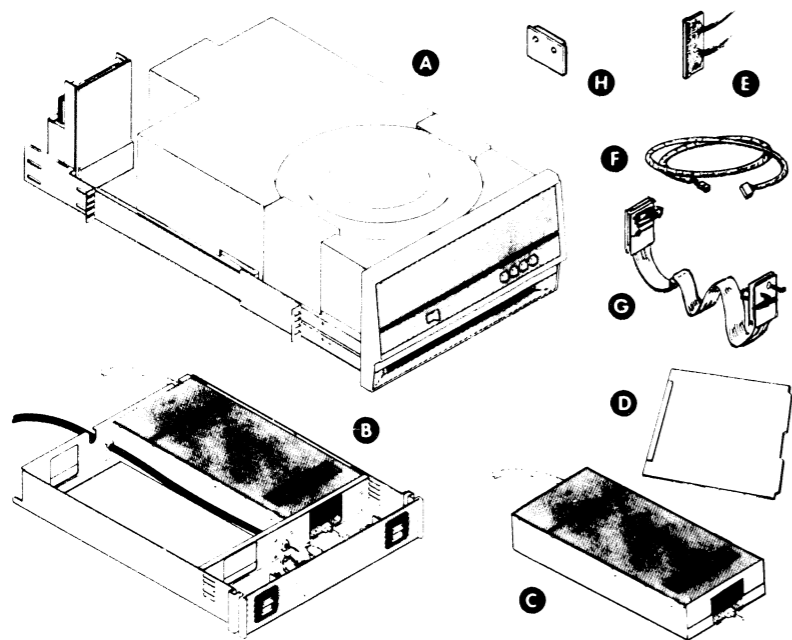


FRONT VIEW



SIDE VIEW

SUBSYSTEM COMPONENT BREAKDOWN



MAJOR COMPONENT

Item	Component	Mounting Location	Notes
A	10M BYTE DISC DRIVE	CABINET	UP TO 4 MAX IN SUBSYSTEM
B	PWR SUPPLY MODULE AND CHASSIS	CABINET	POWERS ONE 10M BYTE DISC DRIVE
C	PWR SUPPLY MODULE	PWR SUPPLY CHASSIS	CHASSIS HAS SPACE AVAILABLE FOR ONE MORE MODULE
D	CONTROLLER	COMPUTER	POWERS ONE 10M BYTE DISC DRIVE
			CONTROLS UP TO 4 DISC DRIVES

CABLE

Item	Cable	Connecting	Max Allowed Lg ft	Notes
E	INTERNAL	COMPUTER B/P and COMPUTER B/P CONN	N/A	VARIES W/COMPUTER WIRE-WRAPPED TO B/P PINS
F	DEVICE	COMPUTER B/P CONN " 10M BYTE DISC DR	2.13	VARIES WITH COMPUTER
G	INTER-DEVICE	10M BYTE DISC DRIVE " 10M BYTE DISC DRIVE		

TERMINATOR

Item	Terminator	Location	Notes
H	SIGNAL BUS TERMINATOR	10M BYTE DISC DRIVE	ONE REQUIRED PER SUBSYSTEM, ON LAST DISC DRIVE

SPECIFICATIONS OF THE CHASSIS-MOUNTED COMPONENTS

Component	Chassis	Slots Required	Max Allowable Data Channel Latency (μ sec)	Type of Data Channel Service Desired	Max Allowable Programmed I/O Latency *	Controller's +5 Volt Current Draw (Amps)
				High Speed	Standard	
CONTROLLER	COMPUTER	1	12.8	x	x	4.0
PS MODULE	PS CHAS	1				

WARNING

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SPECIFICATIONS OF THE CABINET-MOUNTED COMPONENTS

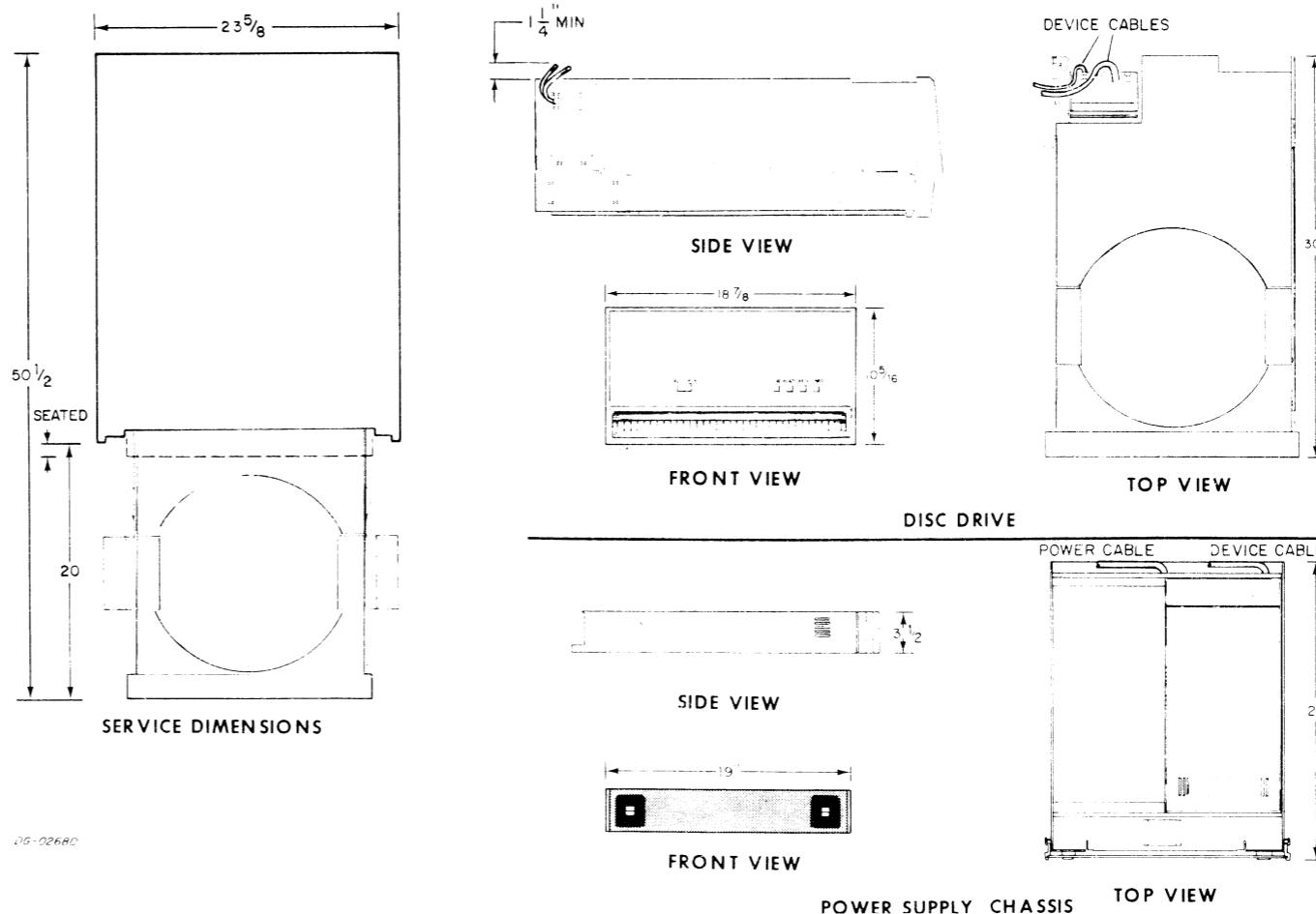
Item	Component	Number in Sub-system	Maximum Operating Temperature		Primary Power			Cabinet Height Required			Weight		Power Dissipation (Max Watts)	Preferred Location or Remarks	Operating Humidity (Relative)			
			Component °F	Media °C	Current (nom. Draw) (Amp)	Voltage ±ΔV	Frequency ±ΔV	Area	in.	cm	lbs	kg			min	%max		
A	4234 DRIVE	1-4	90	32	90	32	5.7	+24 ±1.2	DC	6	10.5	26.6	136	62	*9-14 CABINET MUST BE EQUIPPED WITH ANT-TIP LEGS.	20	80	
							5	-24 ±1.2	DC									
							4	+5 ±0.1	DC									
B,C	MODULE W/ PS CHASSIS	1-2	90	32			5.7	115 ±11	60Hz±1Hz	2	3.5	8.9	36	16	MOUNTS DIRECTLY BELOW * DRIVE; SPACE FOR 1 MORE MOD.	20	80	
							5.6	115 ± 11	50Hz±1Hz									
							2.8	220±22	50Hz±1Hz									
							2.6	220±22	60Hz±1Hz									

DG-C1314

Item	Voltage	Power Cable Length		Power Cable Plug	Mating Receptacle on Power Drop	Mating Receptacle in Wall
		ft	m			
B,C	115 Vac	5	1.52	5-15P	5-15R	5-15R
	220 Vac	5	1.52	6-15P	6-15R	6-15R

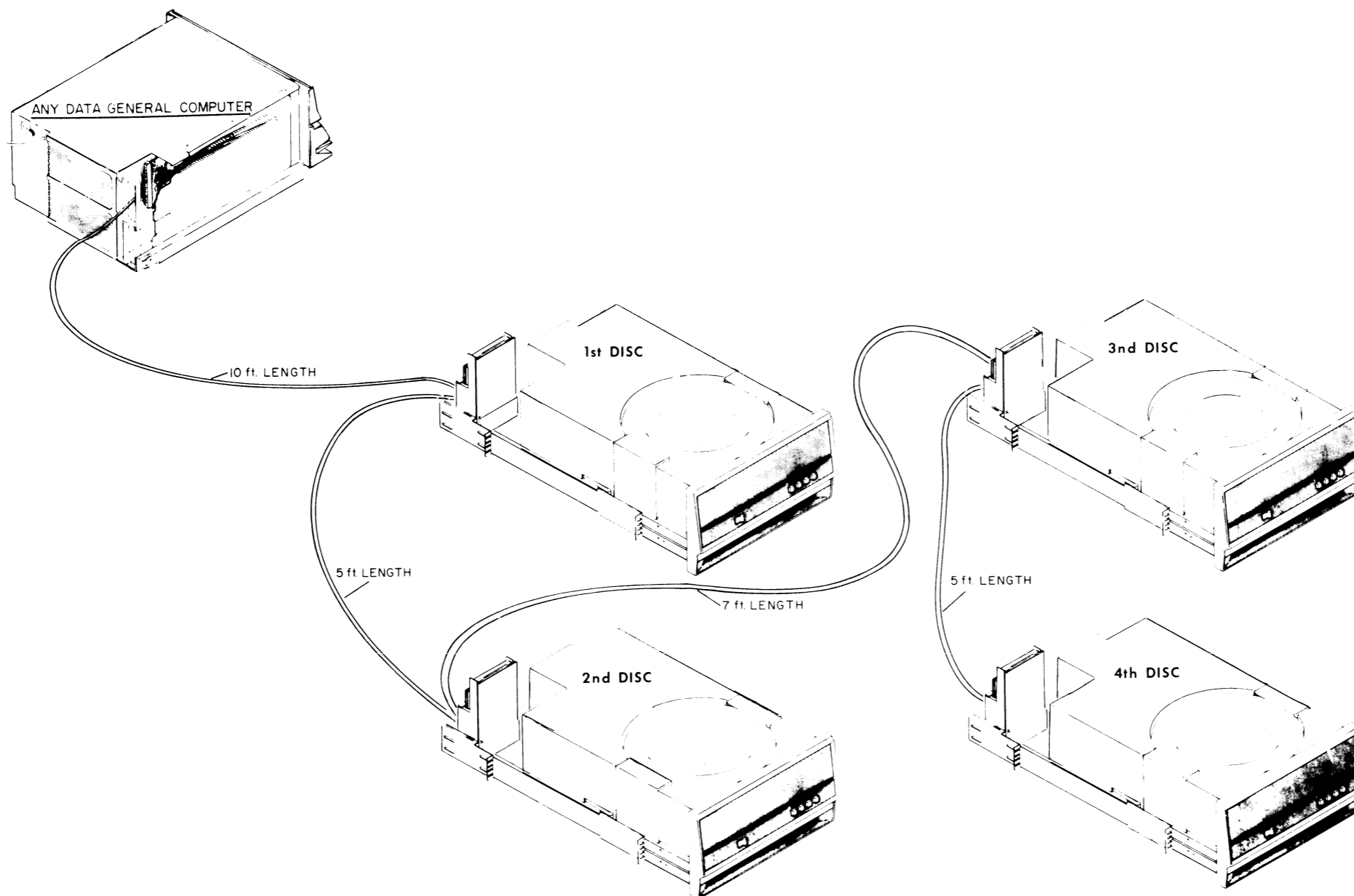
DG-02717

NOTE: CABINET MODIFICATION KIT REQUIRED FOR INSTALLATION IN "OLD STYLE" NOVA CABINETS. REFER TO DGC 010-000056. *SECOND DRIVE MOUNT IN AREA 01-06

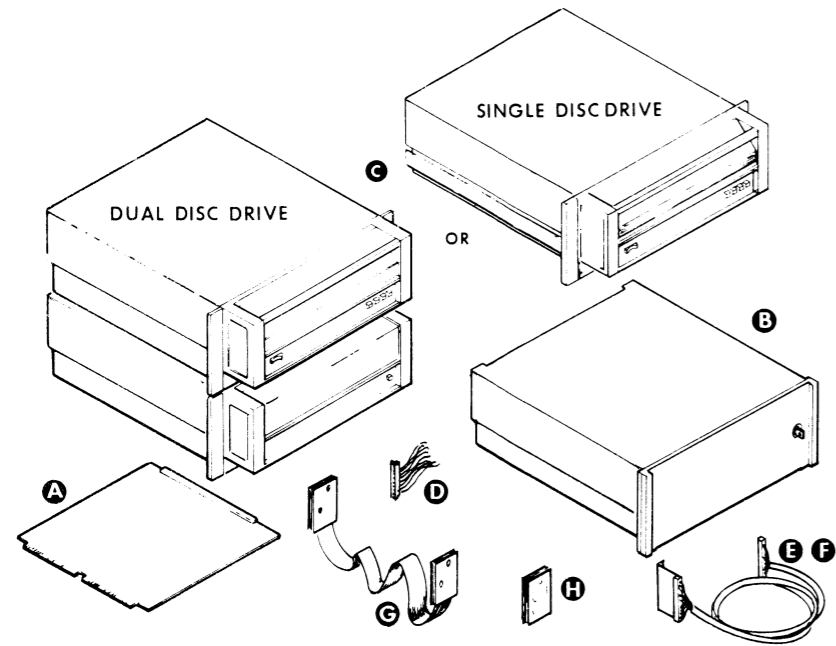


DG-02680

EXTERNAL CABLING



SUBSYSTEM COMPONENT BREAKDOWN



MAJOR COMPONENT

Item	Component	Mounting Location	Notes
A	Controller	CPU	
B	Adapter	Cabinet	
C	Disc Drive(s)	Cabinet	

DG-02672

CABLE

Item	Cable	Connecting	Notes
D	Internal Cable	Back panel and Socket Conn or " " " Paddleboard	
E	Device Cable (Adapter)	CPU (socket conn) " Adapter or CPU (paddlebd) " Adapter	Max Allowed Lngth 25ft (7.61m)
F	Device Cable (Drive)	Adapter " Disc Drive	Max Allowed Lngth, 5ft (1.52 m)
G	Inter-Device Cable	Disc Drive " Disc Drive	

DG-02673

TERMINATOR

Item	Terminator	Location	Notes
H	Disc Unit I/O (pin type)	Last Unit Output Conn	

DG-02674

SPECIFICATIONS OF THE CABINET-MOUNTED COMPONENTS

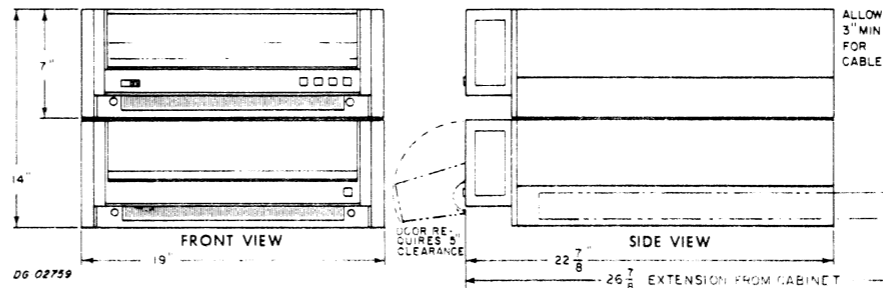
Item	Component	Number in Sub-system	Maximum Operating Temperature			Primary Power			Cabinet Height Required			Weight lbs kg	Power Dissipation (Max Watts)	Max Ext Cable Length ft m	Preferred Location or Remarks	Operating Humidity (Relative)		
			°F	°C	Media °F	Current Load Draw (Amps)	Voltage ±ΔV	Frequency Hz	Area in.	cm	min					max		
B	Adapter - 2 Driver Capacity	1	90	32		2 Max	115 ± 23	47 to 63	4	7	17.78	30	13.6	230	25	7.62	18-24 Preferred Location	
	Adapter - 2 Driver Capacity	1	90	32		1 Max	230 ± 46	47 to 63	4	7	17.78	30	13.6	230	25	7.62		
	Adapter - 4 Driver Capacity	1	90	32		4 Max	115 ± 23	47 to 63	4	7	17.78	55	24.9	460	25	7.62		
	Adapter - 4 Driver Capacity	1	90	32		2 Max	230 ± 46	47 to 63	4	7	17.78	55	24.9	460	25	7.62		
C	Single Disc Drive	4	90	32		N/A	N/A	N/A	4	7	17.78	43	19.3	200	5	1.52		
	Dual Disc Drive	2	90	32		N/A	N/A	N/A	4	7	17.78	86	38.6	400	5	1.52		

DG-01914

Voltage	Power Cable Length		Power Cable Plug	Mating Receptacle on Power Drop	Mating Receptacle in Wall
	ft	m			
115 Vac	5	1.52	5-15P	5-15R	5-15R
220/240 Vac	5	1.52	6-15P	6-15R	6-15R

DG-02717

DRIVE UNIT

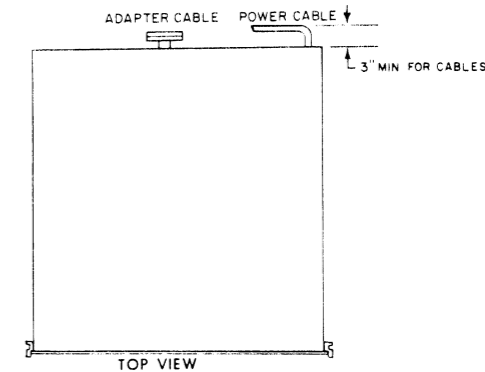
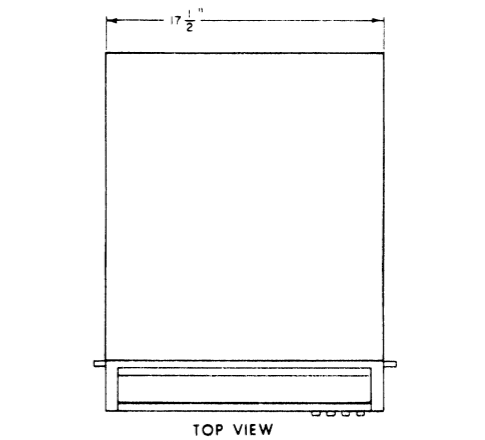


DG-02759

ADAPTER



DG-02760



SPECIFICATIONS OF THE CHASSIS-MOUNTED COMPONENTS

Item	Component	Chassis	Slots Required	Max Allowable Data Channel Latency (μ sec)	Type of Data Channel Service Desired	Controller's +5 Volt Current Draw (Amps)
A	CONTROLLER	COMPUTER	1	28	High Speed Standard	2.5

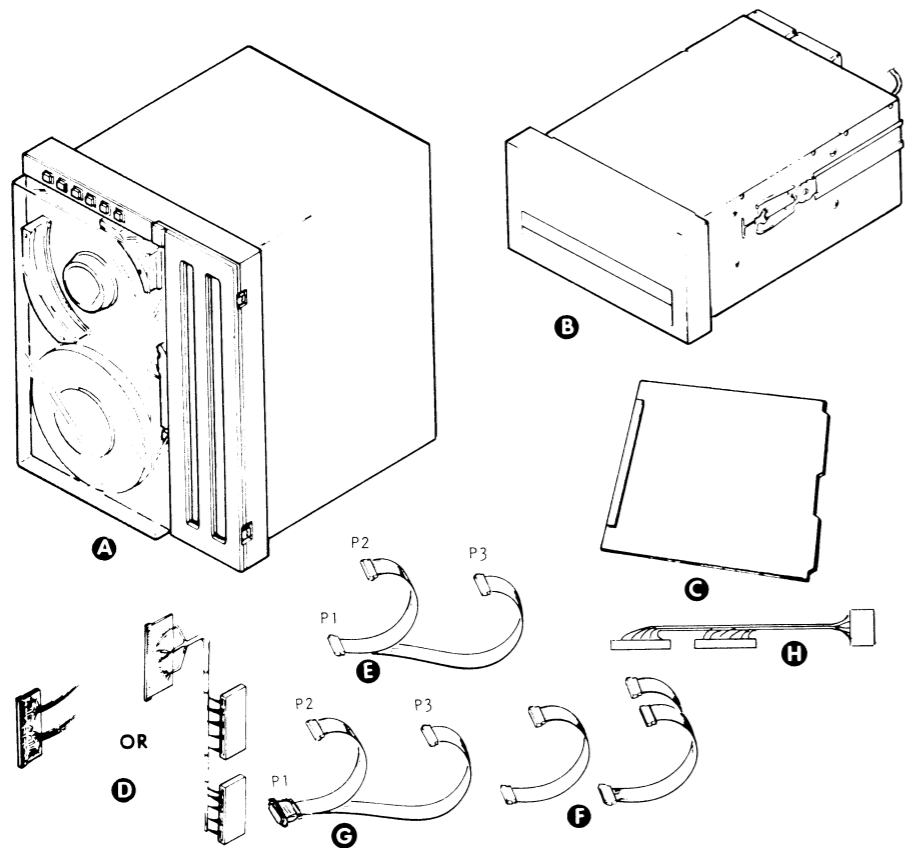
DG-01912

WARNING

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MAGNETIC TAPE STORAGE

COMPONENT BREAKDOWN



MAJOR COMPONENT

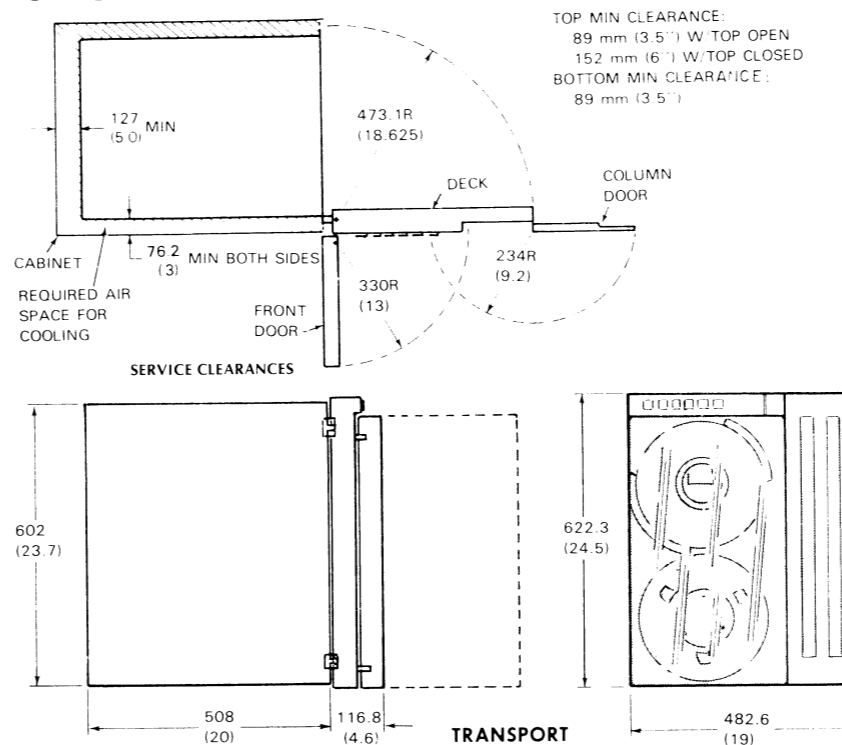
Item	Component	Mounting Location	Notes
A	TAPE TRANSPORT	CABINET	118-001130, 118-001275, 118-001276 118-001277, 118-001278, 118-001279
B	FORMATTER	CABINET	ACCOMMODATES UP TO FOUR TAPE TRANSPORTS, 118-001131
C	TAPE CONTROLLER	COMPUTER CHASSIS	005-017433

CABLE

Item	Cable	Connecting	Max Lg		Notes
			ft	m	
D	INT CABLE	BACKPANEL (CONTROLLER) AND BACK OF CPU CHASSIS	N/A	N/A	
E	FORMATTER CABLE	BACK OF CPU CHASSIS AND FORMATTER	20	6	
F	DEVICE CABLES	FORMATTER AND TAPE TRANSPORT	20	6	
G	COMPLIANT CPU TO FMTR CBL	BACK OF COMP CPU CHASSIS AND FORMATTER	20	6	
H	COMPLIANT CPU INT. CBL.	BACKPANEL (CONTROLLER) AND BACK OF CPU CHASSIS	N/A	N/A	REFER TO 010-000319 FOR CONFIGURATION AND CABLE 005 #S
J	BMC CABLES	CONTROLLER AND BMC			SEE PAGE 4

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



TRANSPORT

DIMENSIONS:	Width	Depth	Height
Millimeters	482.6	624.8	622.3
Inches	19	24.6	24.5

SERVICE CLEARANCES:	Front	Right	Left	Rear
Millimeters	762	76.2	330	127
Inches	30	3	13	5

WEIGHT:	Kilograms	Pounds
	77	170

HEAT OUTPUT:	Watts	BTU/hr
	800	2728

OPERATING ENVIRONMENT:

Temperature (max)	32°C (90°F)
Relatively Humidity	25 - 60%
Altitude	Standard 4307-S -305m to 762m (-1000 to 2500 ft.) 762m to 1982m (2500 to 6500 ft.)

POWER REQUIREMENTS:

(Domestic)	
Voltage	120V ± 10% - 15%
Hz	60
Amp per Phase	6
Phase	1
Startup Surge	21A for 1.5s
(Export)	
Voltage	220 + 10% - 15%, 240 + 10% - 15%
Hz	50, 50
Amp per Phase	3, 3
Phase	1, 1
Startup Surge	10.5A for 1.5s, 10.5A for 1.5s

CABLES:

Length	Conn	Mating Conn
Primary Power		
Domestic 60Hz	1.37m(4.5')	5-15P
Export 50Hz	1.37m(4.5')	5-15R

FORMATTER

DIMENSIONS:	Width	Depth	Height
Millimeters	482.6	650.25	266.7
Inches	19	25.6	10.5

SERVICE CLEARANCES:	Front
Millimeters	610
Inches	24

WEIGHT:	Kilograms	Pounds
	34	75

HEAT OUTPUT:	Watts	BTU/hr
	702	2400

OPERATING ENVIRONMENT:

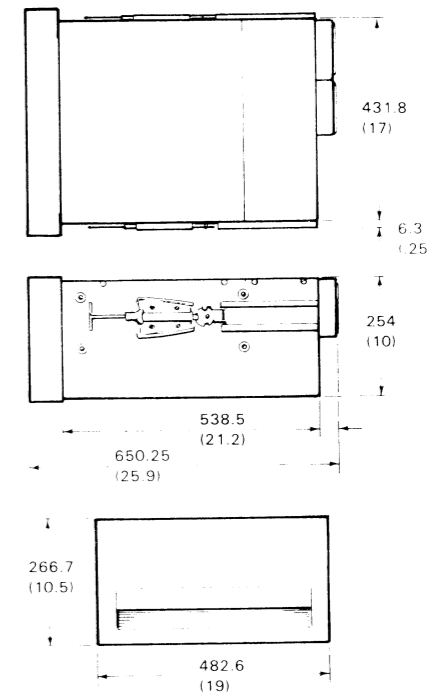
Temperature (max)	35°C (95°F)
Relatively Humidity	10 - 80%
Altitude	3000m (10,000')

POWER REQUIREMENTS:

(Domestic)	
Voltage	120 ± 10% - 15%
Hz	60
Amp per Phase	6
Phase	1
(Export)	
Voltage	220 + 10% - 15%, 240 ± 10% - 15%
Hz	50, 50
Amp per Phase	3, 3
Phase	1, 1

CABLES:

Length	Conn	Mating Conn
Primary Power		
Domestic 60Hz	1.37m(4.5')	6-15P
Export 50Hz	1.37m(4.5')	6-15R



FORMATTER

DIMENSIONS IN MILLIMETERS
INCHES IN PARENTHESIS FOR REFERENCE

CONTROLLER

POWER: 5 AMPS @ 5Vdc

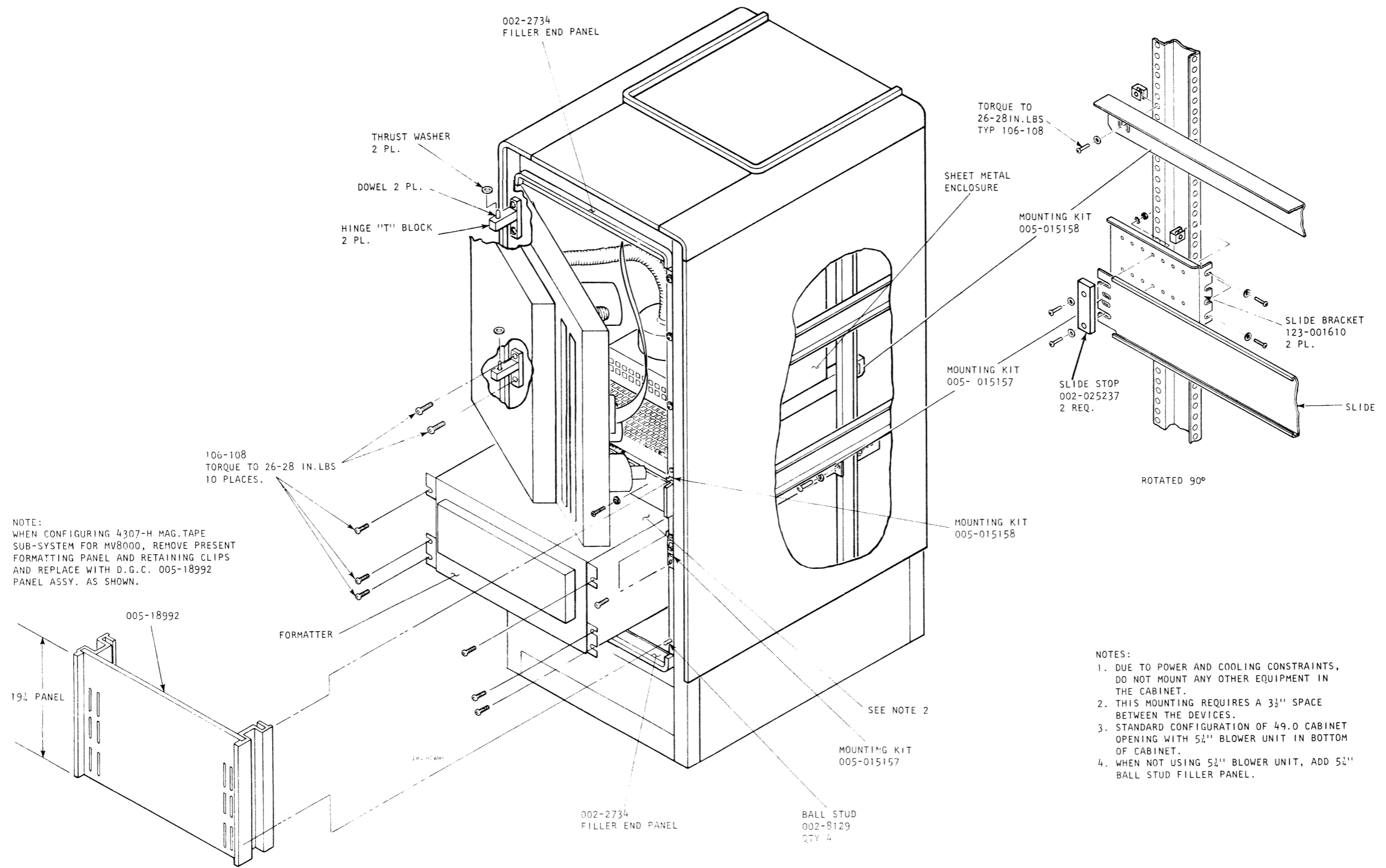
SPACE REQ: 1 CPU slot

DATA CHANNEL REQ: High speed

MAX CHANNEL LATENCY:

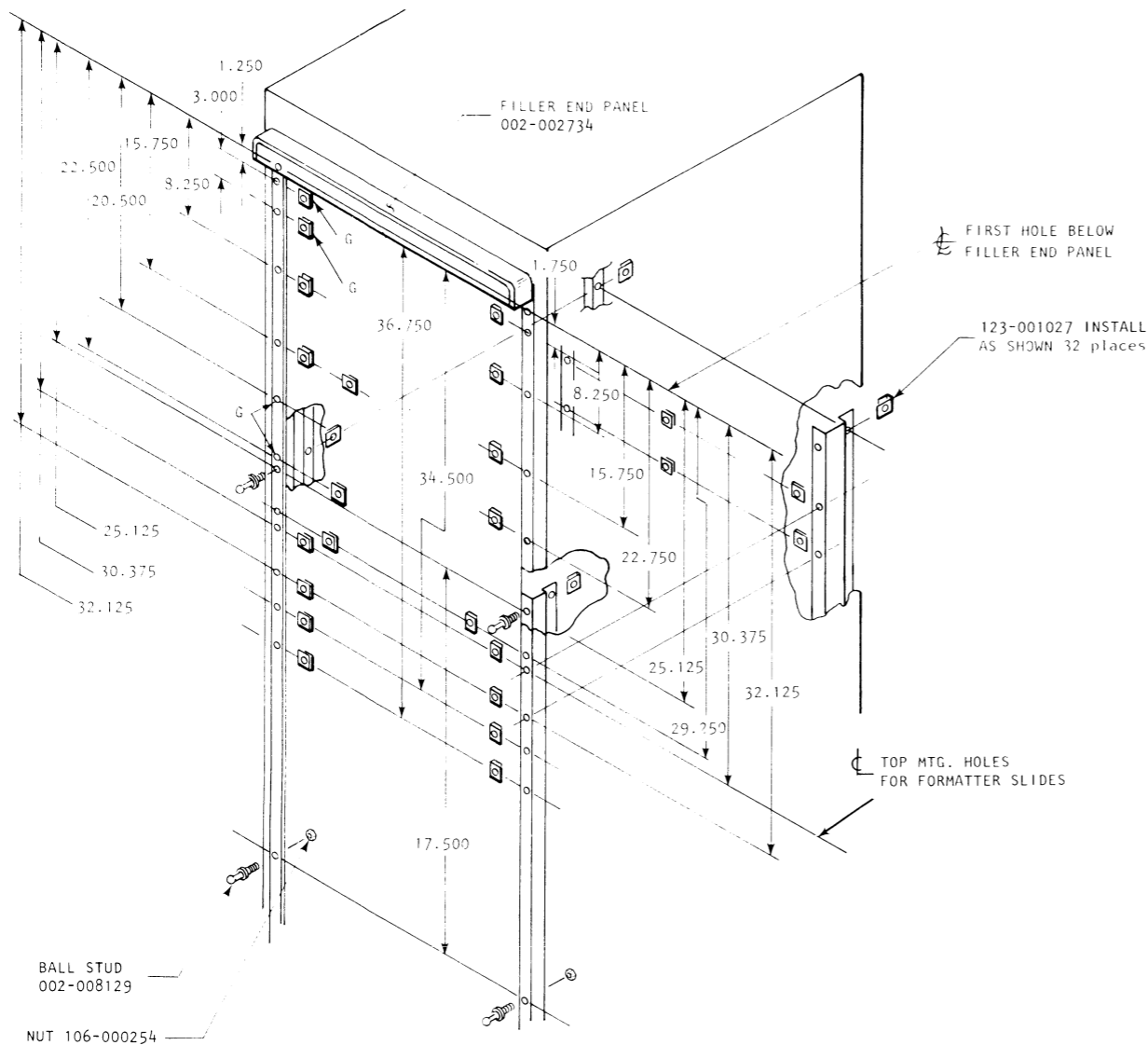
	PF	GCR
Read	7.00 us	80 us
Write	7.80 us	196 us

CABINET MOUNTING



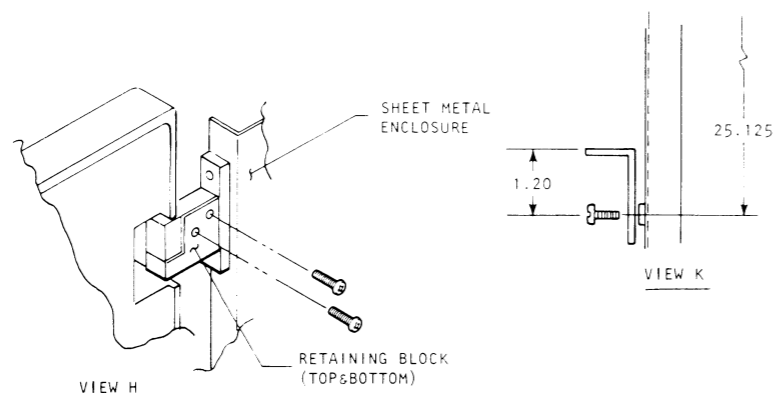
- NOTES:
1. DUE TO POWER AND COOLING CONSTRAINTS, DO NOT MOUNT ANY OTHER EQUIPMENT IN THE CABINET.
 2. THIS MOUNTING REQUIRES A 3 1/2" SPACE BETWEEN THE DEVICES.
 3. STANDARD CONFIGURATION OF 49.0 CABINET OPENING WITH 5 1/2" BLOWER UNIT IN BOTTOM OF CABINET.
 4. WHEN NOT USING 5 1/2" BLOWER UNIT, ADD 5 1/2" BALL STUD FILLER PANEL.

CABINET MOUNTING (Continued) INSTALLATION PROCEDURE

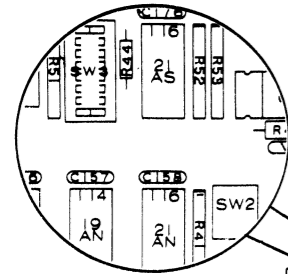


INSTALLATION PROCEDURE

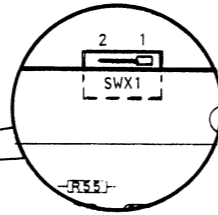
1. REMOVE 123-001027 (NUT CLIPS) FROM MOUNTING KITS 005-015157 AND 005-015158, AND INSTALL ONTO CABINET RAILS PER THE DIMENSIONS AS SHOWN.
2. INSTALL 002-000177 (CHASSIS GUIDE) ONTO INSIDES OF CABINET USING 106-000108 (10-32 x 1/2 PAN HEAD PHILLIPS HEAD SCREW SEMS). INSTALL TO APPROXIMATE DIMENSIONS AS SHOWN. (THESE GUIDES AID IN INSTALLING SHEET METAL TAPE DRIVE ENCLOSURE ONTO VERTICAL RAILS IN CABINET. (SEE VIEW K)
3. TWO PEOPLE SHOULD BE USED WHEN ITEM 3 IS PERFORMED. INSTALLATION OF TAPE DECK INTO CABINET.
 - A. UNFASTEN AIR HOSES FROM DECK CASTING (2 PL)
 - B. DISCONNECT NECESSARY GROUND STRAPS & CABLES FROM DECK CASTING (APPROX. 13 CONNECTIONS).
 - C. REMOVE RETAINING BLOCKS FROM SHEET METAL ENCLOSURE (2 PL) SEE VIEW H.
 - D. LIFT DECK CASTING & PLASTIC DOOR OFF OF HINGE "H" BLOCKS AND PLACE IN A SECURE PLACE SO AS NOT TO SCRATCH OR DAMAGE PLASTIC FRONT DOOR.
 - E. INSTALL SHEET METAL ENCLOSURE ONTO FRONT RAILS OF CABINET & FASTEN SECURELY.
 - F. INSTALL THE 2 HINGE "H" BLOCKS (SEE VIEW H) ONTO ENCLOSURE, WHICH IS NOW MOUNTED INTO CABINET AT LOCATIONS G.
 - G. INSTALL DECK CASTING ONTO HINGE "H" BLOCKS & ADJUST USING BLOCK, MOUNTED ON BACK SIDE OF DECK CASTING. ADD RETAINING BLOCKS.
 - H. REATTACH AIR HOSES, GROUND STRAPS, AND CABLES TO DECK PLATE.
4. INSTALL 002-008129 (BALL STUD) ONTO CABINET AS INDICATED (4 PL) AND HAND TIGHTEN 106-000254 (NUTS)
5. SNAP FRONT PANEL (051-001009) ONTO BALL STUDS AND ADJUST FRONT PANEL TOP EDGE TO ALIGN WITH PROPERTY ZONE UNDER TAPE DECK.
6. FASTEN SECURELY 106-000254 AND REMOVE FRONT PANEL 051-
7. INSTALL SLIDE BRACKETS AND 002-025237 SLIDE STOP ONTO VERTICAL RAILS IN REAR OF CABINET. INSTALL SLIDES ONTO FRONT RAILS & ONTO SLIDE BRACKETS IN BACK. IF NECESSARY ADJUST SO THAT SLIDES MOVE FREELY.
8. INSTALL FORMATTER INTO RACK AND SECURE IT BY USING 6 (106-000103) SCREWS.
9. INSTALL 19" PANEL ONTO FRONT OF CABINET. SO THAT SLOTS IN PANEL WILL BE IN FRONT OF FORMATTER BLACK FILTER.



TAILORING JUMPERING



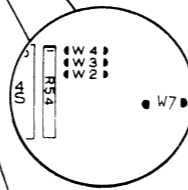
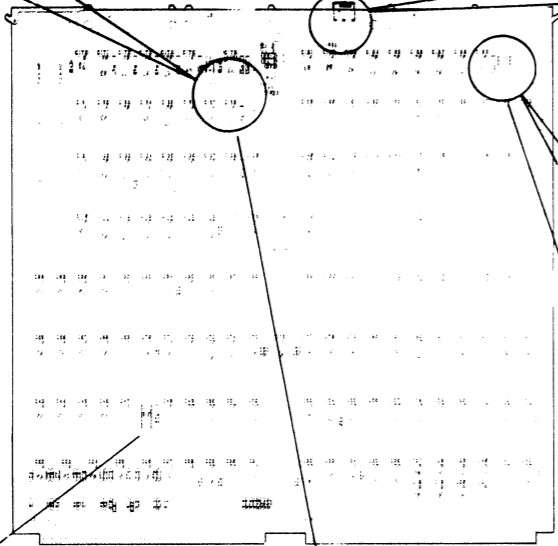
CONTROLLER
Ref DGC Dwg No. 003-001767 Rev 07



SWX1 SWITCH POSITION

DIAGNOSTIC	1
NORMAL OPERATION	2

SWX1 ADDED REV. 06



W7 ADDED ON REV 07

DEVICE CODE	SW1
DC0	S1 MSB
DC1	S3
DC2	S5
DC3	S7
DC4	S4
DC5	S2 CSB
DISABLE	S6

DEVICE CODE 22 IS S3 & S4.
DEVICE CODE 62 IS S1 & S3 & S4.

PRIORITY SELECT	SW3	SW2			
HSCR 7	S4	S4	S3	S2	S1
HSCR 6	S3	S4	-	S2	S1
HSCR 5	S2	S4	S3	-	S1
HSCR 4	S1	S4	-	-	S1
HSCR 3	S5	S4	S3	S2	-
HSCR 2	S6	S4	-	S2	-
HSCR 1	S7	S4	S3	-	-
HSCR 0	S8	S4	-	-	-

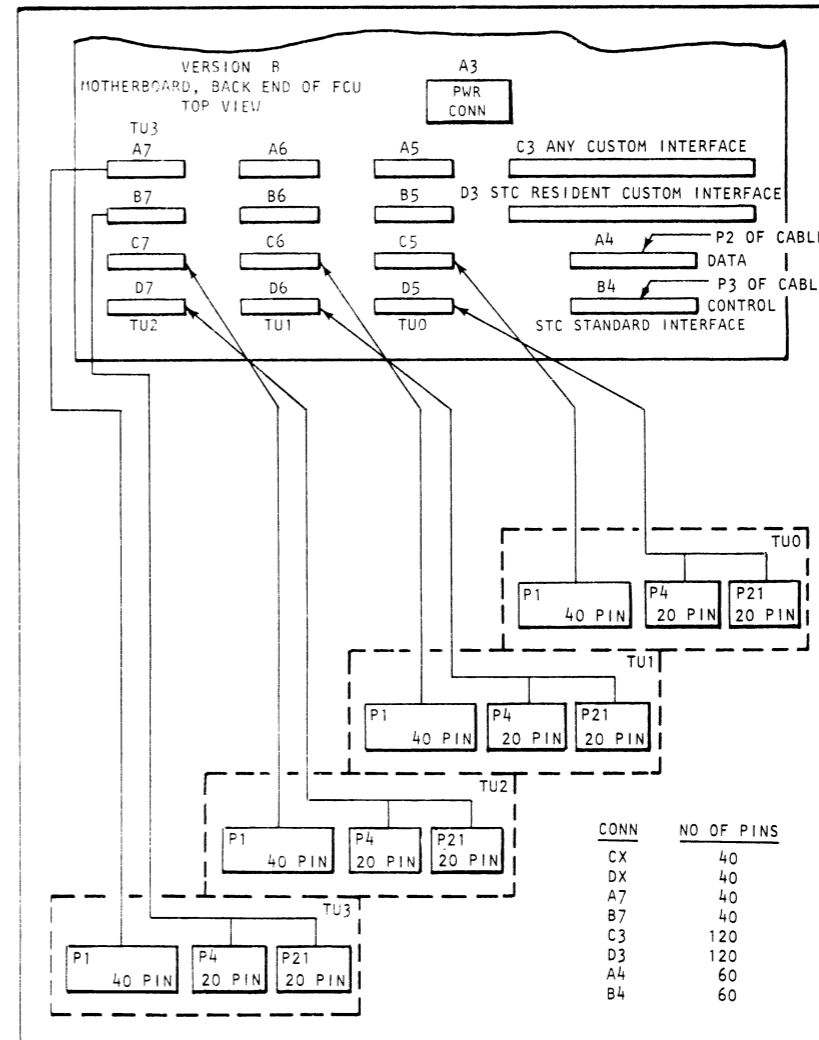
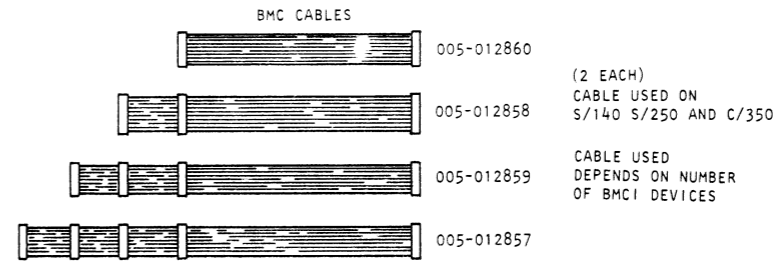
S4 ON SW2 MUST BE ON FOR BMC CHANNEL
S4 ON SW2 MUST BE OFF FOR STANDARD CHANNEL

BMC ONLY

WORDS PER BURST	JUMPERS IN
2	- - -
4	W2 - -
6	- W3 -
8	W2 W3 -

W4 FOR FUTURE USE ONLY.

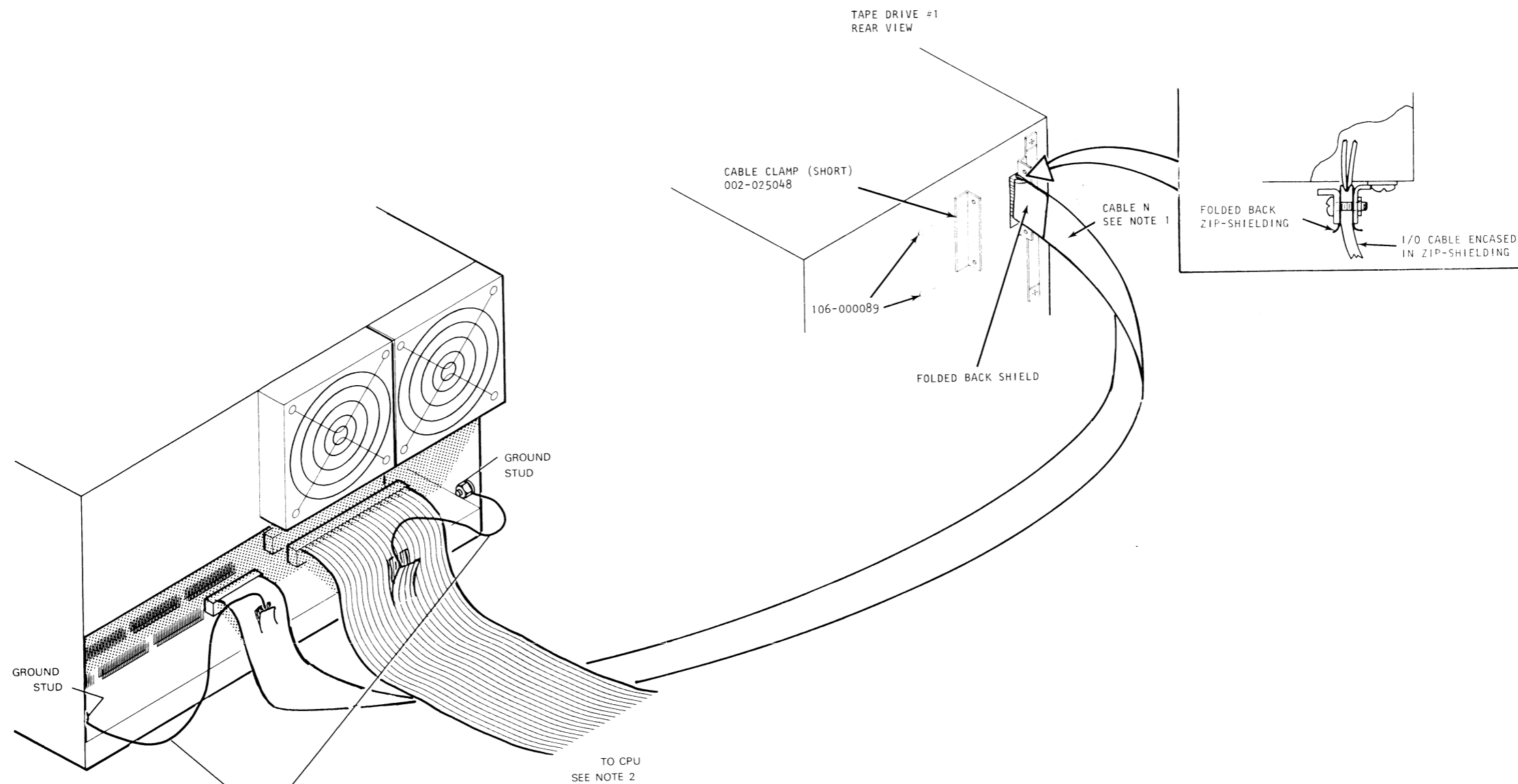
W7 DIAGNOSTIC TEST ONLY
(ALWAYS IN)



P2 OF CABLE (E) OR (H) PAGE 1
P3 OF CABLE (E) OR (H) PAGE 1

CONN	NO OF PINS
CX	40
DX	40
A7	40
B7	40
C3	120
D3	120
A4	60
B4	60

INTERNAL CABLING

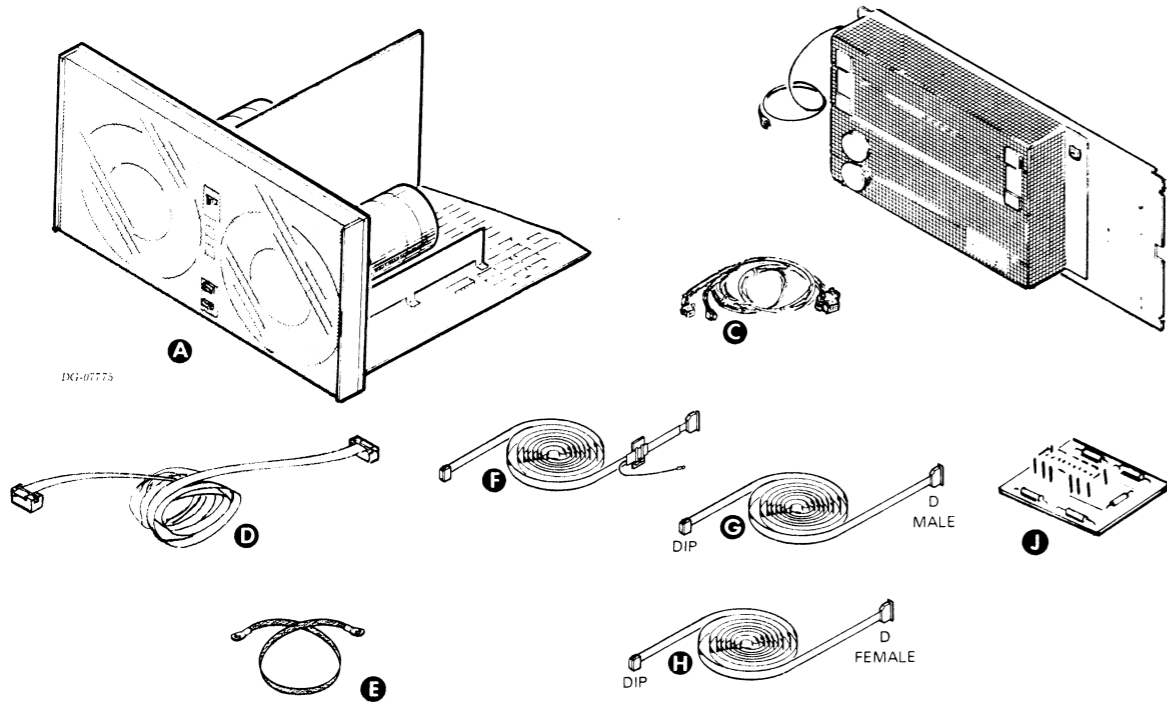


GROUND BRAID FROM CABLE - ATTACH TO EITHER GND STUD.

NOTES:

1. CABLE N IS EQUIPPED WITH BOTH FOLD-BACK SHIELD AND GROUND FOR USE WITH OR WITHOUT CABLE SHIELD CLAMP, AND MUST BE PROPERLY TERMINATED AS SHOWN.
2. REFER TO TAPE PRODUCT MASTER 010-000319 FOR CONFIGURATION AND CABLE 005 NUMBERS.

INSTALLATION SPECIFICATIONS



NOTE: WHEN ASSEMBLING FRONT DOOR ASSEMBLY TO TAPE DECK, REFER TO SECTION 2.12 OF MECHANICAL ADJUSTMENT PROCEDURE 009.000378

MAJOR COMPONENT

ITEM	COMPONENT	MOUNTING LOCATION	NOTES
A	TAPE TRANSPORT	CABINET	005-014353 005-015562
B	POWER SUPPLY	CABINET	005-015704 005-015705

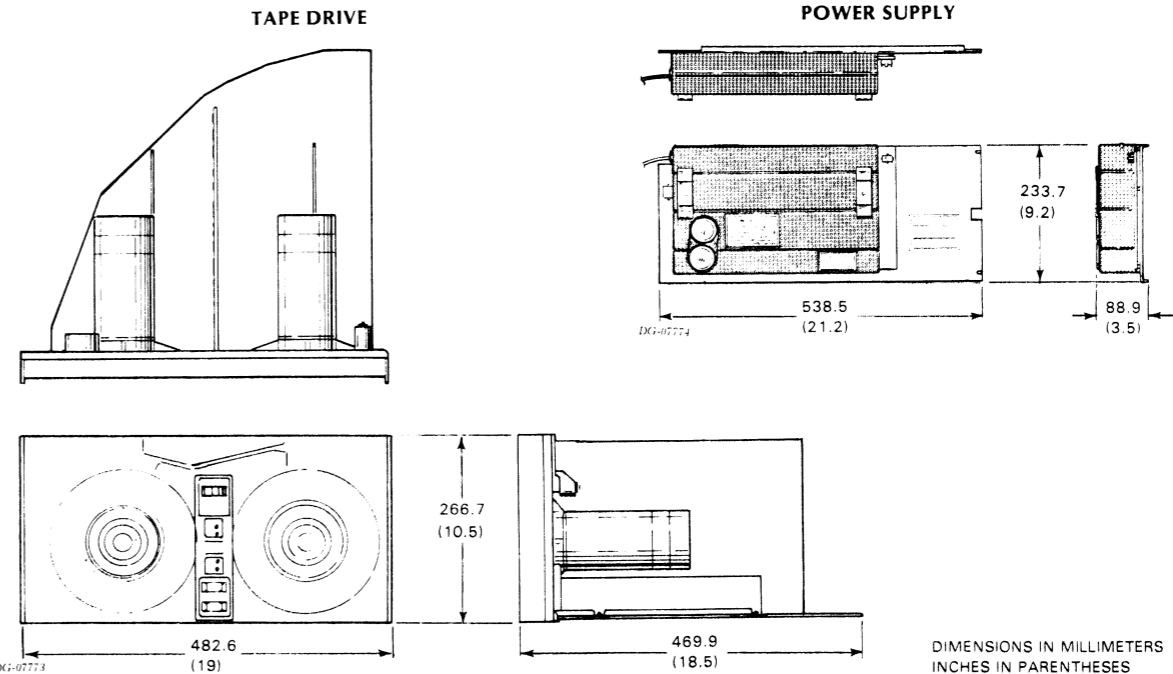
CABLES

ITEM	COMPONENT	CONNECTING	MAX LENGTH		NOTES
			FT	M	
C	POWER CABLE	POWER SUPPLY AND TRANSPORT	/	/	005-014367
D	MICRONOVA I/O CABLE	CPU AND TRANSPORT	/	/	
E	GROUND BRAID	CPU POWER SUPPLY	/	/	
F	I/O CABLE	ENTERPRISE/CS5 CPU TO PERIPHERAL	/	/	
G	I/O CABLE D-DIP	COMPLIANT CPU TO NON-COMPLIANT PERIPHERAL	/	/	
H	I/O CABLE DIP-D	NON-COMPLIANT 6123 TO 6220, 6222	/	/	

MAXIMUM ACCUMULATIVE BUSS LENGTH IS 100 FT. (30M) SEE 010-000344 FOR CONFIGURATION AND 005# S.

TERMINATOR

ITEM	COMPONENT	LOCATION	NOTES
J	PCB TERMINATOR	TRANSPORT/F/C/S PCB	005-008152



DIMENSIONS IN MILLIMETERS
INCHES IN PARENTHESES

DIMENSIONS:	Width	Depth	Height
Power Supply			
Millimeters	88.9	538.5	233.7
Inches	3.5	21.2	9.2
Drive			
Millimeters	482.6	469.9	266.7
Inches	19	18.5	10.5
SERVICE CLEARANCES:	Front	Right	Left
Millimeters	1219.2	482.6	482.6
Inches	48	19	19
WEIGHT:	Power Supply	Drive	
Kilograms	6.8	16	
Pounds	15	35	
HEAT OUTPUT:	Watts	BTU/hr	
	144/220	491/750	AVE/PEAK

POWER REQUIREMENTS:		
(Domestic)		
Voltage		100/120
Hz		50/60
Max Amp per Phase		2
Phase		1
Startup Surge per Phase		35.0
(Export)		
Voltage		220 240
Hz		50 60
Max Amp per Phase		1.5
Phase		1
Startup Surge per Phase		70.0

CABLES:	Length	Conn	Mating Conn
Primary Power			
Domestic 60Hz	2.4m (8')	5-15P	5-15R
Export 50Hz	2.4m (8')	6-15P	6-15R

OPERATING ENVIRONMENT:
 Temperature (max)
 Internal cabinet temp 43° 109.4° F
 Relative Humidity (max) 30% to 80% non condensing
 Altitude -463 to + 3048m (-1,500 to + 10,000ft)
 External Ambient 38 C Max. 100 F

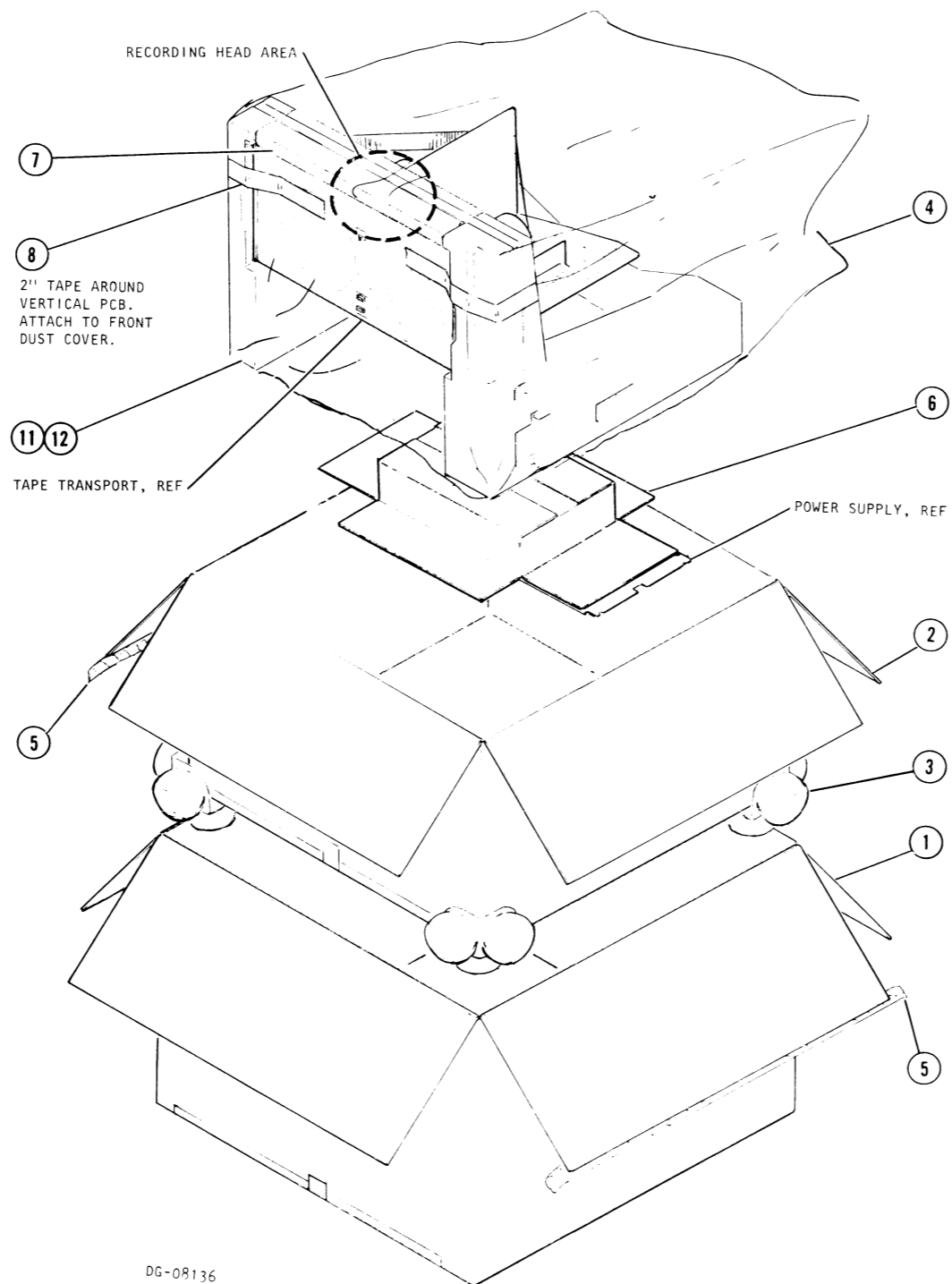
PREFERRED LOCATION:
 Middle of cabinet 10-20
 Short cabinet - Top

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.

PACKAGING

CAUTION
 WHEN REMOVING ASSEMBLY FROM SHIPPING/PACKAGING
 CONTAINER, DO NOT HANDLE ASSEMBLY BY OR NEAR THE
 RECORDING HEAD AREA.



NOTE:
 1. ITEMS 8, 9 and 10 ARE APPLIED TO THE END
 PANEL OF ITEM 1.

ITEM	QTY	DESCRIPTION	PART NUMBER
12	1	R.H. BUILD & SHIP FIXTURE	002-012R11
11	1	L.H. BUILD & SHIP FIXTURE	002-012R10
10	1	DGC SHIPPING LABEL	129-000030
9	1	ENVELOPE, PACKING LIST, C-16	129-000043
8	3 FT	2" SEALING TAPE, P-166	129-000370
7	1	POLYURETHANE FOAM PAD	129-000821
6	1	MODIFIED RSC	129-000612
5	24 FT	3" SEALING TAPE	129-000027
4	1	POLY BAG 24.5 x 24.5 x 44.5	129-000611
3	8	CORNER CUSHIONS	129-000609
2	1	RSC 28.25 x 28.25 x 24.5	129-000608
1	1	RSC 24 x 24 x 20 FOL TOP	129-000607

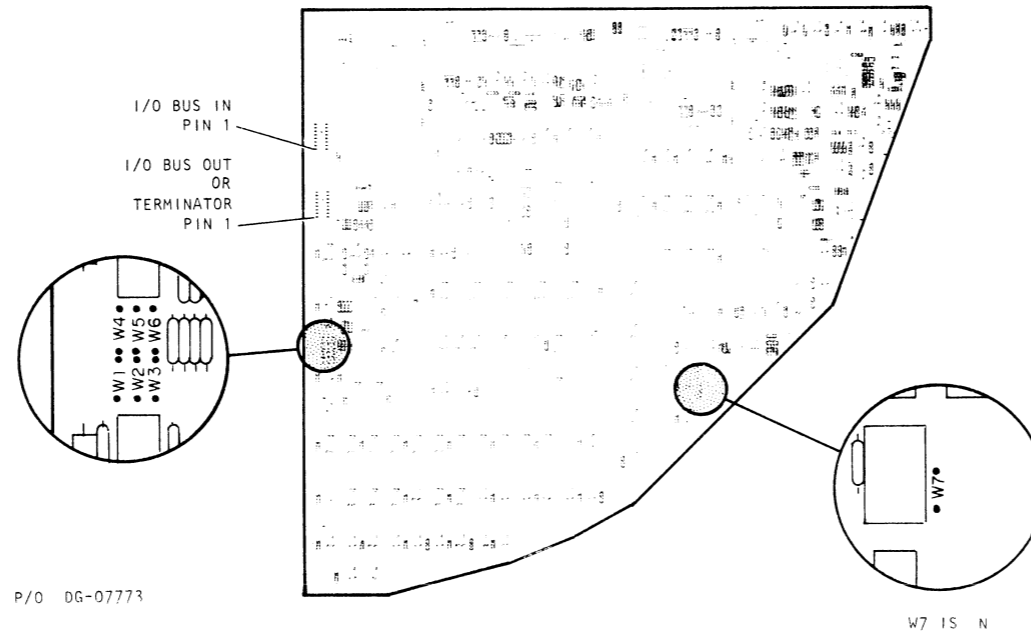
DG-08136

TAPE TRANSPORT, MODEL 6123 (microNOVA)

TAILORING

FORMATTER/CONTROLLER/SERVO PCB

Ref DGC Dwg No 003-001621 Rev 00

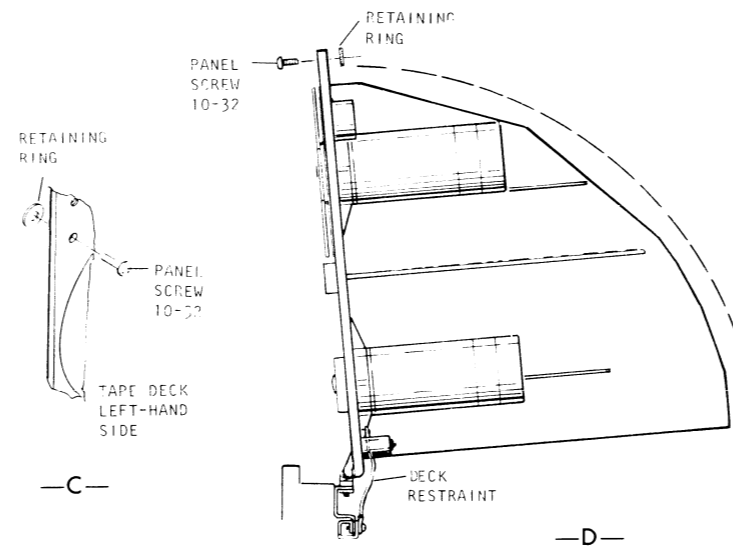
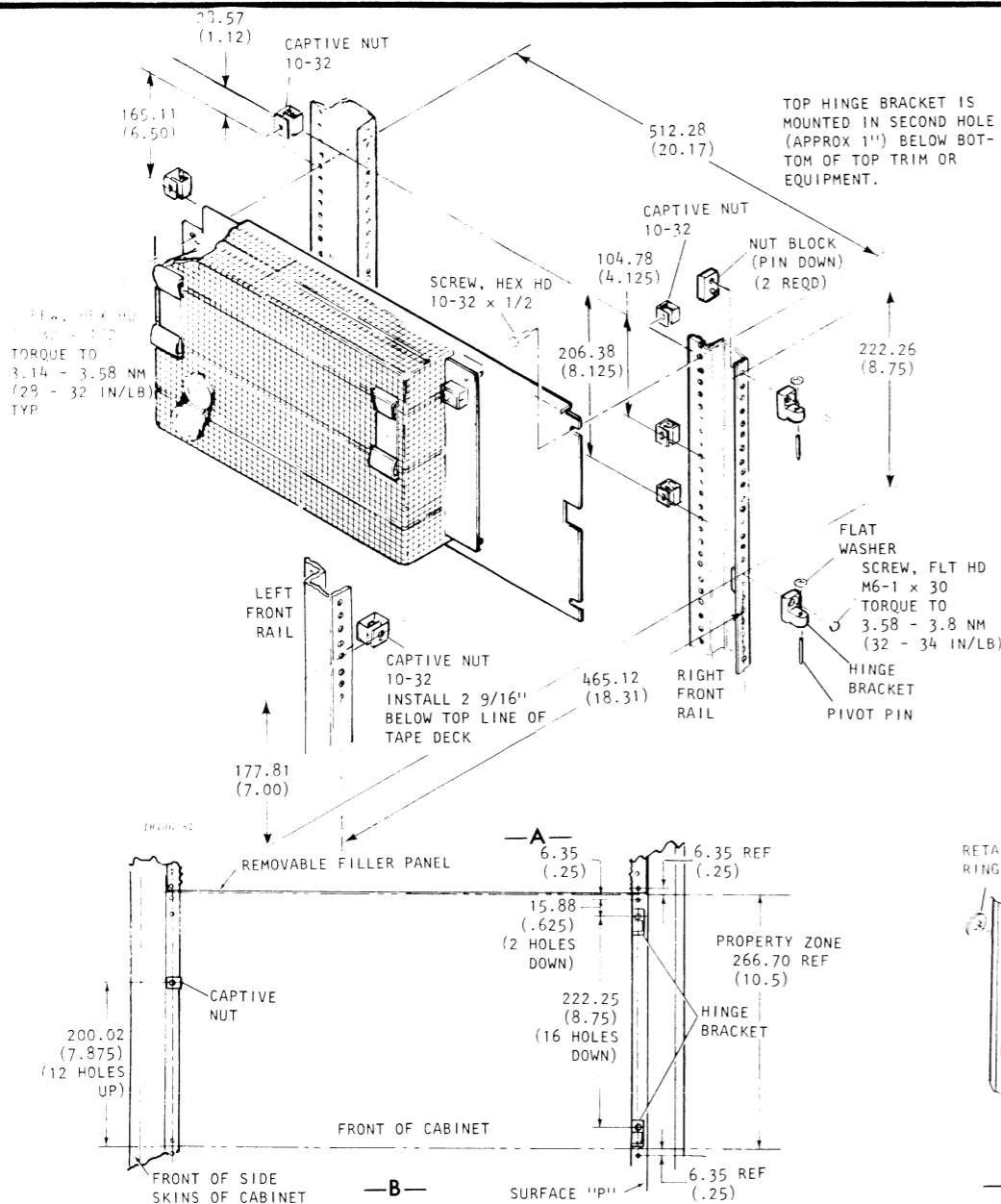
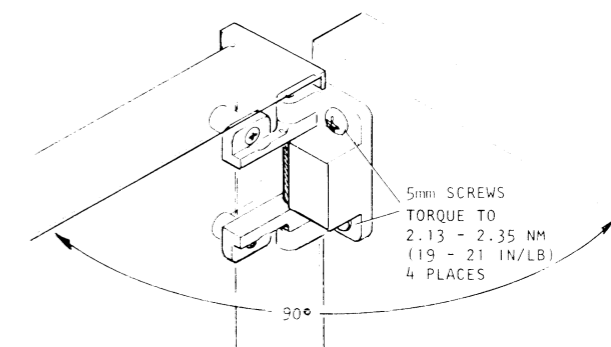
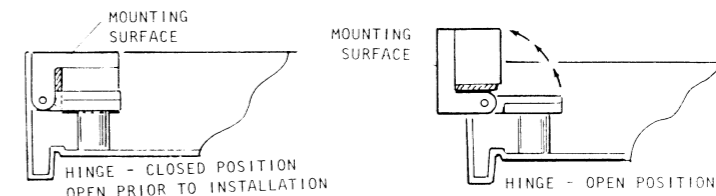
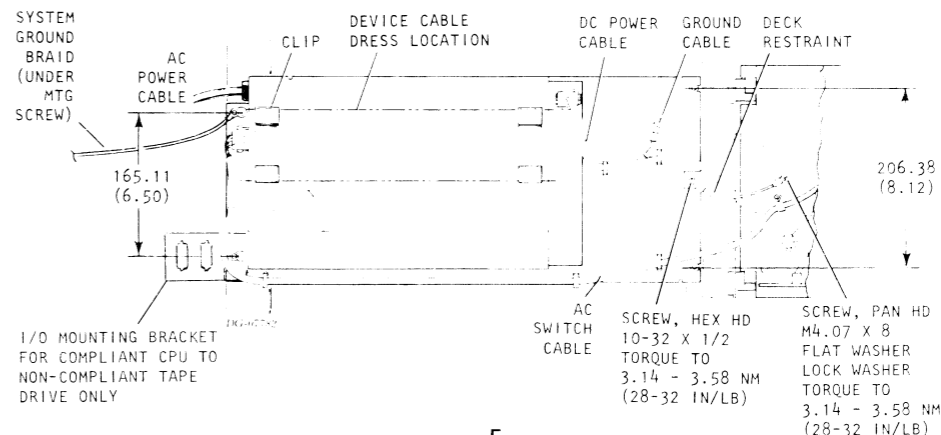


DEVICE SELECT JUMPERS	DEVICE CODE 22	DEVICE CODE 62
W4 HSB	OUT	IN
W5	IN	IN
W6	OUT	OUT
W1	OUT	OUT
W2	IN	IN
W3 LSB	OUT	OUT

RACK MOUNTING STANDARD 1144 CABINET

- 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

CAUTION
DO NOT HANDLE TAPE DECK BY OR NEAR THE RECORDING HEAD AREA WHEN INSTALLING TAPE DECK ONTO PIVOT PINS.



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.

TAPE TRANSPORT, MODEL 6123 (microNOVA)

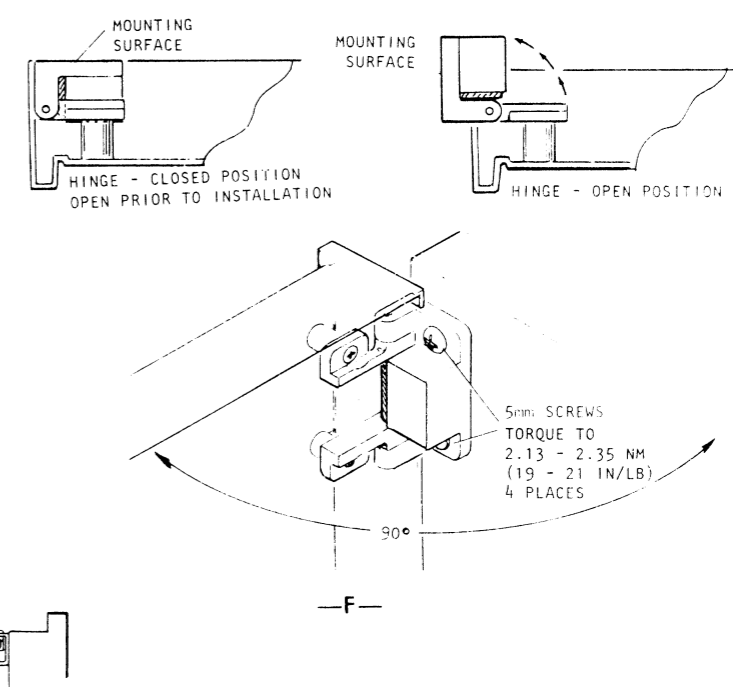
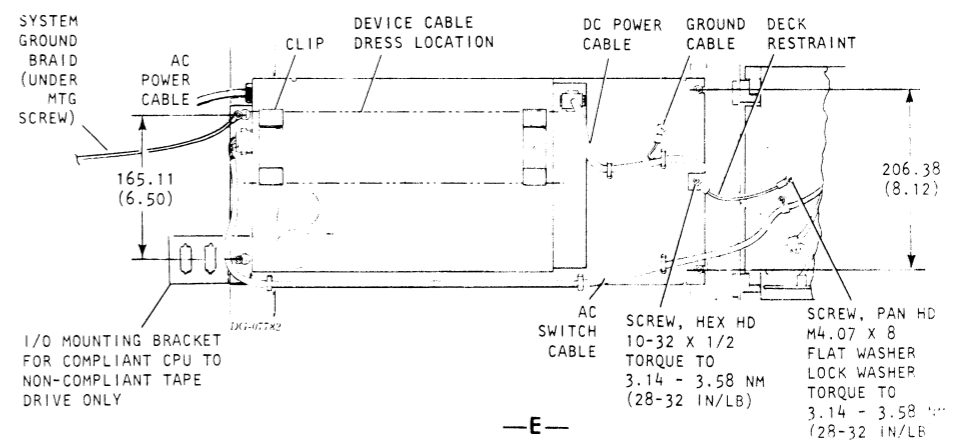
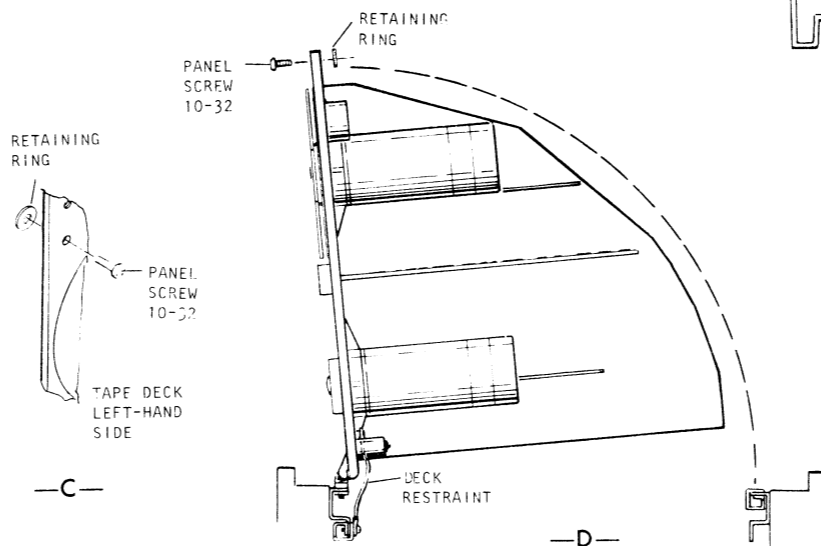
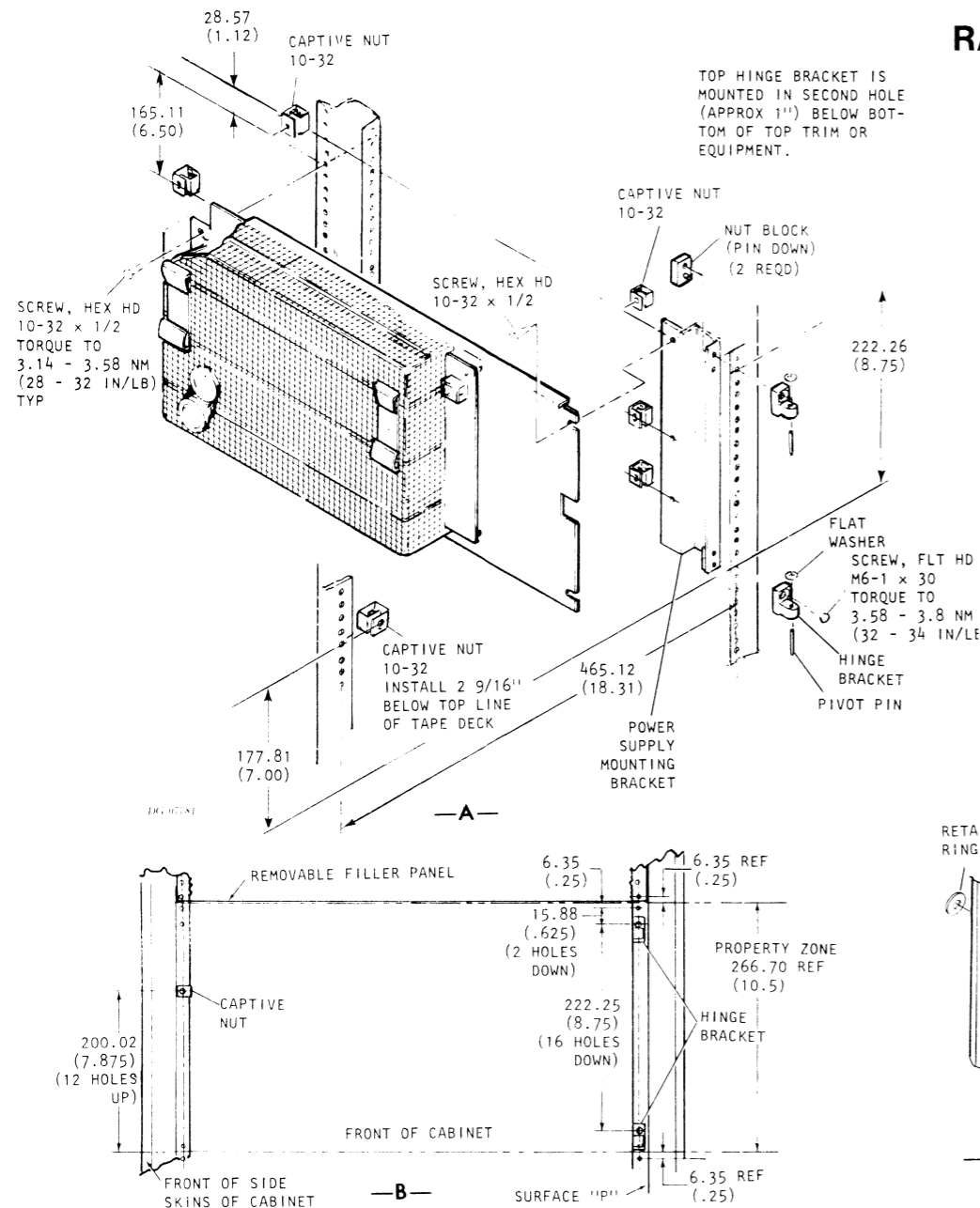
RACK MOUNTING (CONT)

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

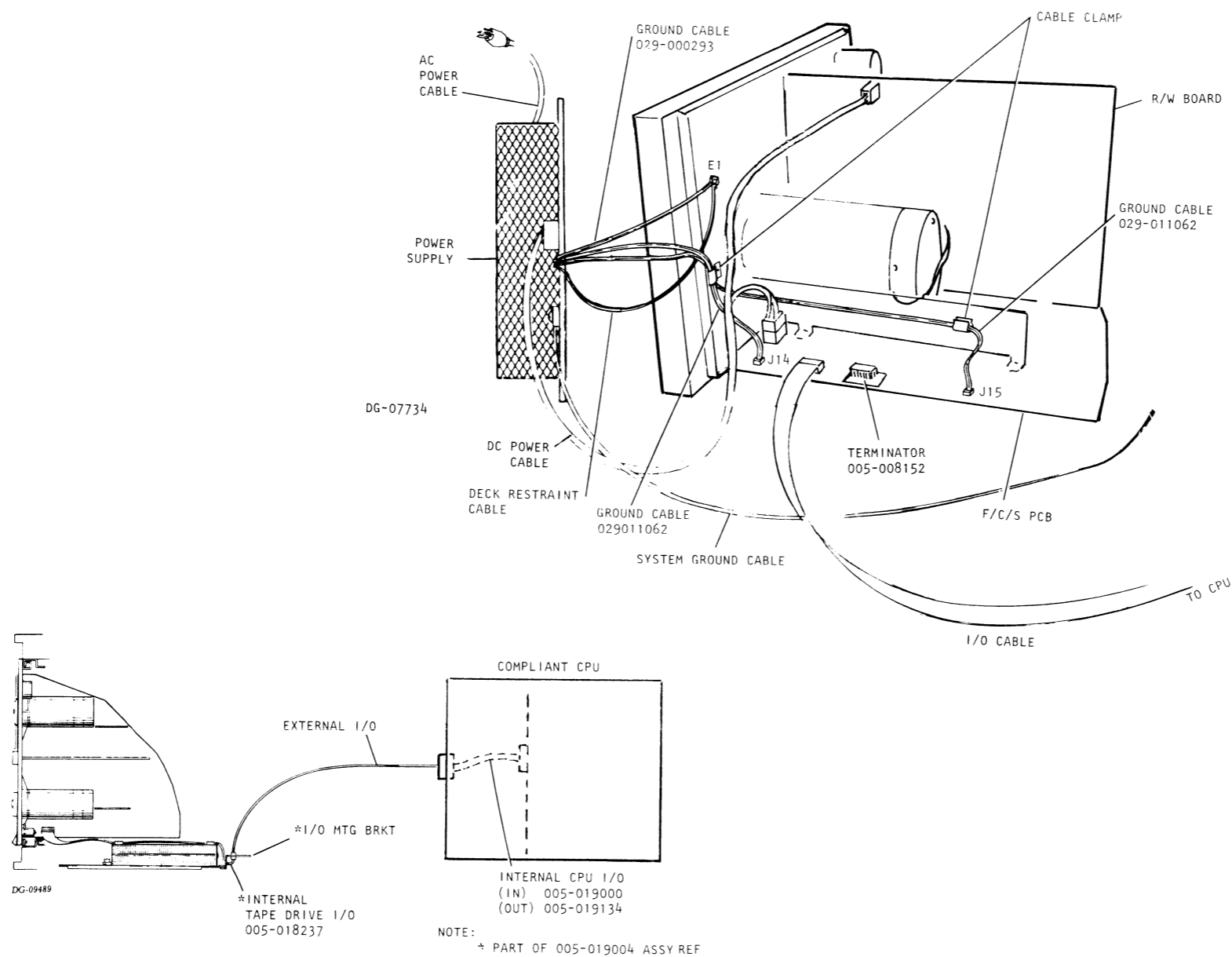
1. 12" SCALE
2. HEX DRIVER, BALL TYPE, 3mm
3. DYKES
4. PLIERS
5. HEX DRIVER, 4mm
6. FLAT BLADE SCREW DRIVER
7. 5/16 SOCKET
8. TORQUE WRENCH



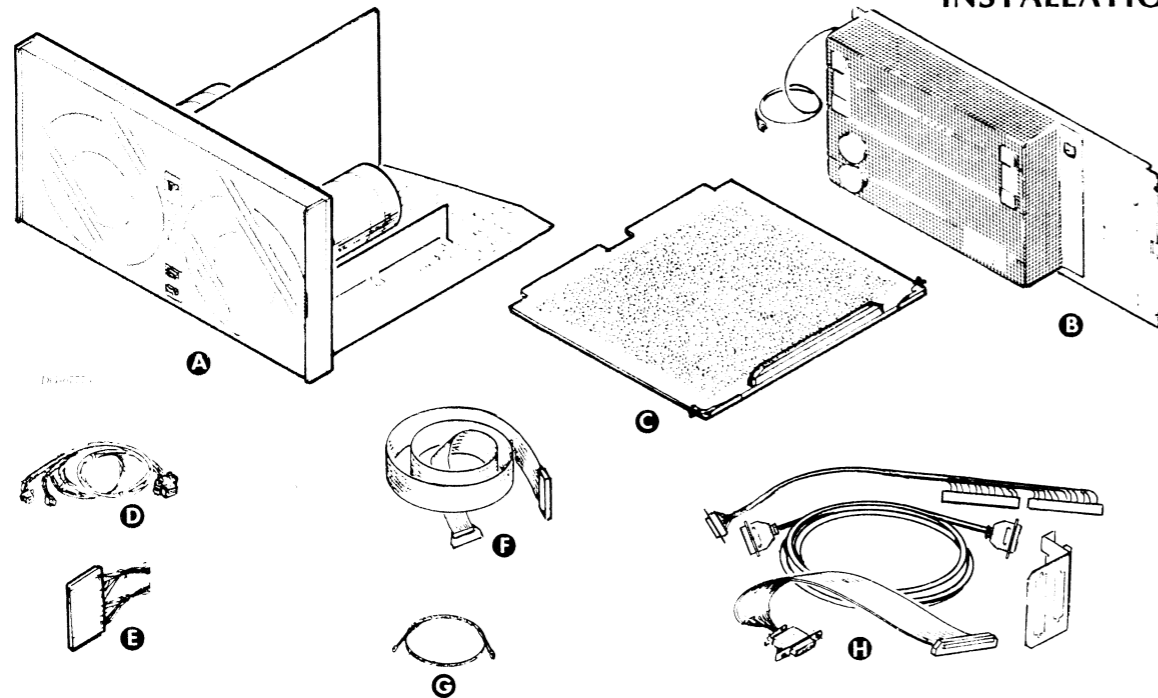
PROCEDURE

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 4mm SCREWS SECURELY.

EXTERNAL CABLING



INSTALLATION SPECIFICATIONS



NOTE: WHEN ASSEMBLING FRONT DOOR ASSEMBLY TO TAPE DECK, REFER TO SECTION 2.12 OF MECHANICAL ADJUSTMENT PROCEDURE 009.000378

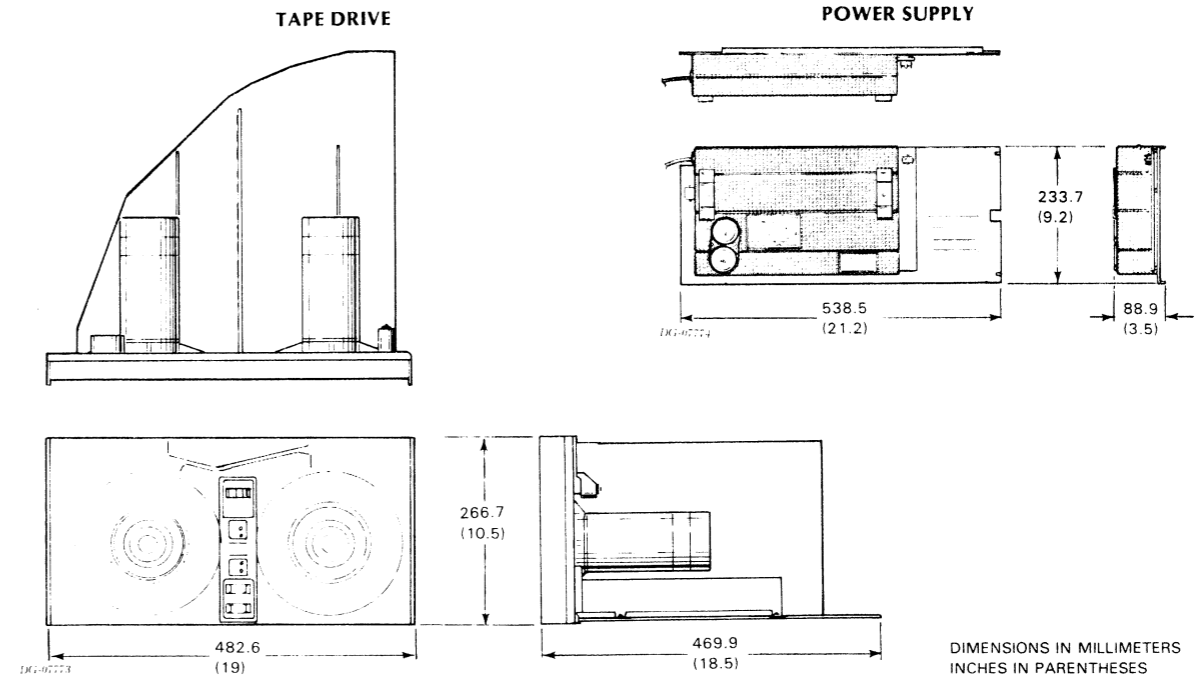
MAJOR COMPONENT

ITEM	COMPONENT	MOUNTING LOCATION	NOTES
A	TAPE TRANSPORT	CABINET	005-015563 005-015564
B	POWER SUPPLY	CABINET	005-015704 005-015705
C	TAPE CONTROLLER	COMPUTER CHASSIS	005-015289

CABLES

ITEM	COMPONENT	CONNECTING	MAX LENGTH		NOTES
			FT	M	
D	POWER CABLE	POWER SUPPLY AND TRANSPORT			005-014367
E	CONTROLLER INT CABLE	B/P AND DEVICE CONNECTOR			REFER TO 010-319 FOR CONFIGURATION AND CABLE 005 NUMBERS
F	DEVICE CABLE	DEVICE CONNECTOR AND TRANSPORT	10	1.53	
G	GROUND BRAID	GND AND POWER SUPPLY	10	3	005-008356
H	I/O BUSS ASSY	COMPLIANT CPU AND NON-COMPLIANT TAPE DRIVE	15	4.6	REFER TO 010-319 FOR CONFIGURATION AND CABLE 005 NUMBERS

ITEM	COMPONENT	CHASSIS	MAX ALLOWABLE DATA CHANNEL LATENCY (u sec)	TYPE OF DCH SERVICE DESIRED	HIGH SP	STAN	CONTROLLER SV CURR DRAW (amp)
C	CONTROLLER	COMPUTER	160 (1600 BPI)	X	X		1.35



DIMENSIONS IN MILLIMETERS
INCHES IN PARENTHESES

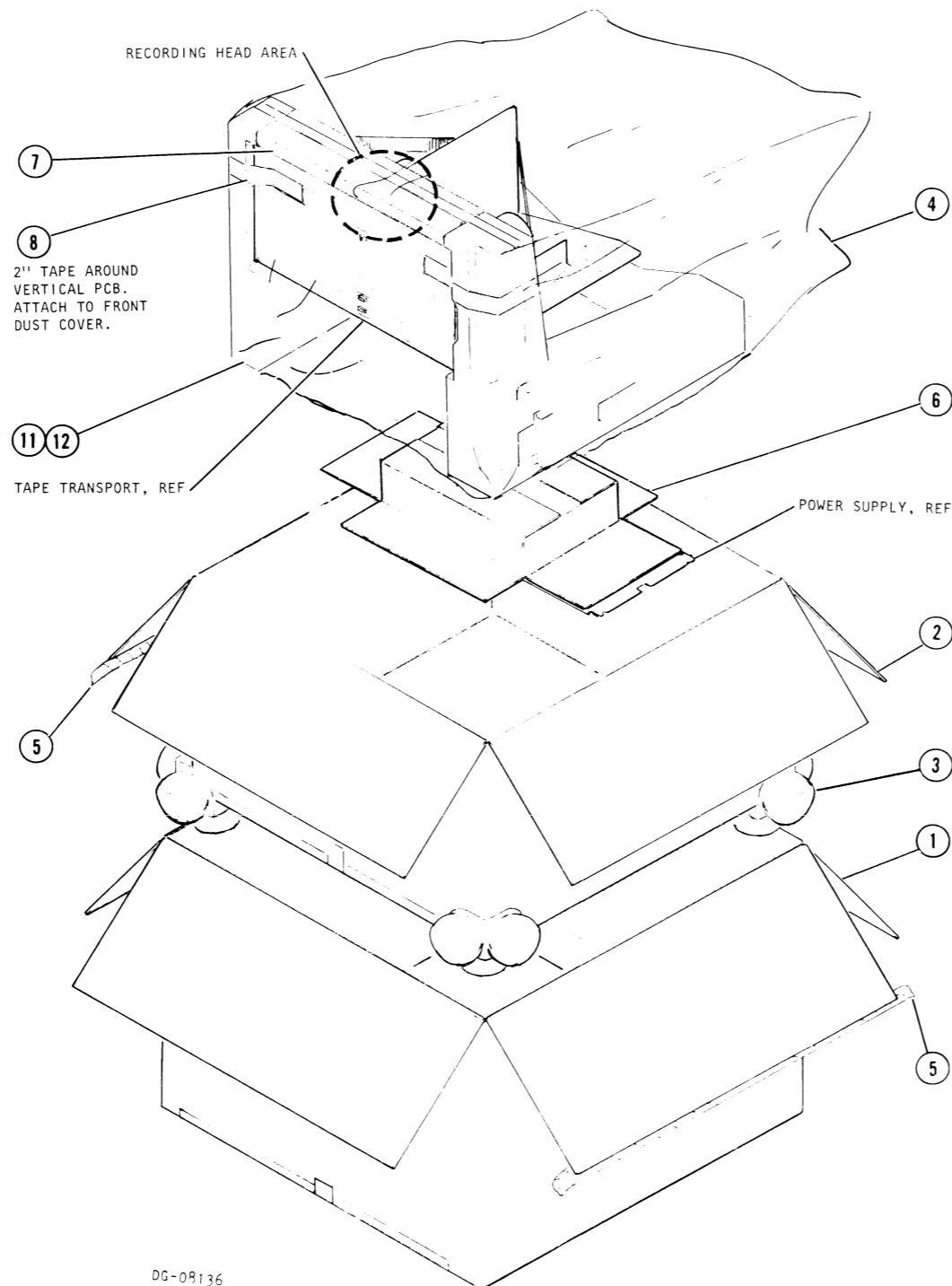
DIMENSIONS:	Width	Depth	Height
Power Supply			
Millimeters	88.9	538.5	233.7
Inches	3.5	21.2	9.2
Drive			
Millimeters	482.6	469.9	266.7
Inches	19	18.5	10.5
SERVICE CLEARANCES:	Front	Right	Left
Millimeters	1219.2	482.6	482.6
Inches	48	19	19
WEIGHT:	Power Supply	Drive	
Kilograms	6.8	16	
Pounds	15	35	
HEAT OUTPUT:	Watts	BTU/hr	AVE/PEAK
	144/220	491/750	
OPERATING ENVIRONMENT:			
Temperature (max)	Internal cabinet temp 55°C 131°F		
Relative Humidity (max)	30% to 80% non-condensing		
Altitude	-463 to +3048m (-1.500 to +10.000ft)		

POWER REQUIREMENTS:	Length	Conn	Mating Conn
(Domestic)			
Voltage			
Hz			
Max Amp per Phase			
Phase			
Startup Surge per Phase			
(Export)			
Voltage			
Hz			
Max Amp per Phase			
Phase			
Startup Surge per Phase			
CABLES:			
Primary Power			
Domestic 60Hz	2.4m (8')	5-15P	5-15R
Export 50Hz	2.4m (8')	6-15P	6-15R
PREFERRED LOCATION:	Middle of cabinet 10-20		
	Short cabinet - Top		

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.

PACKAGING

CAUTION
 WHEN REMOVING ASSEMBLY FROM SHIPPING/PACKAGING
 CONTAINER, DO NOT HANDLE ASSEMBLY BY OR NEAR THE
 RECORDING HEAD AREA.



NOTE:
 1. ITEMS 8, 9 and 10 ARE APPLIED TO THE END
 PANEL OF ITEM 1.

12	1	R.H. BUILD & SHIP FIXTURE	002-012811
11	1	L.H. BUILD & SHIP FIXTURE	002-012810
10	1	DGC SHIPPING LABEL	129-000030
9	1	ENVELOPE, PACKING LIST, C-16	129-000043
8	3 FT	2\"/>	

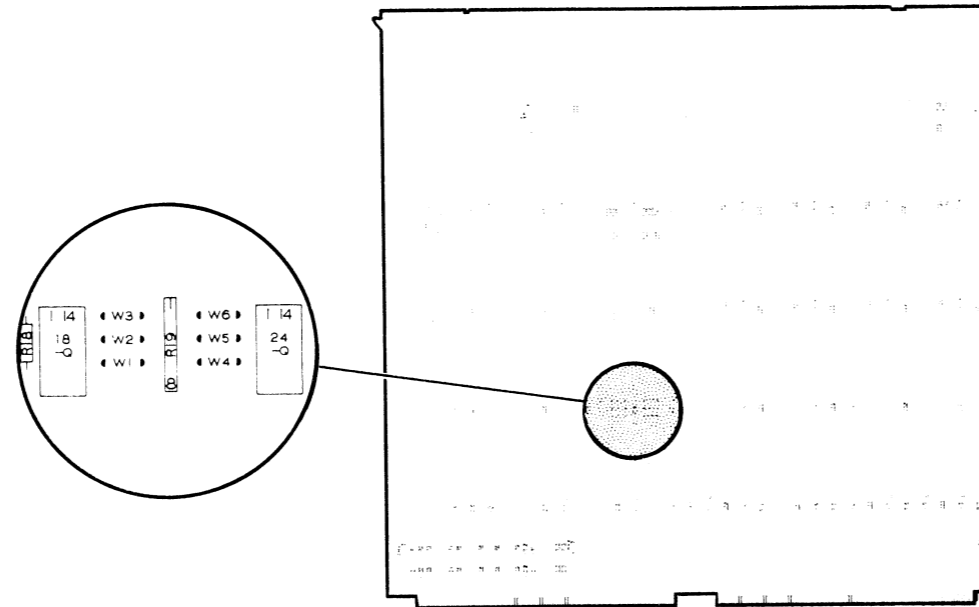
DG-08136

TAPE TRANSPORT, MODEL 6125 (NOVA/ECLIPSE)

TAILORING

MAG TAPE INTERFACE

Ref DGC Dwg 003-001564 Rev 02

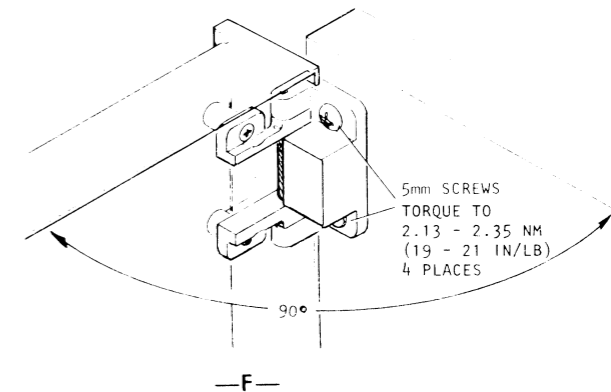
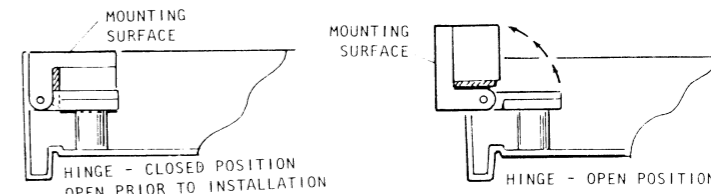
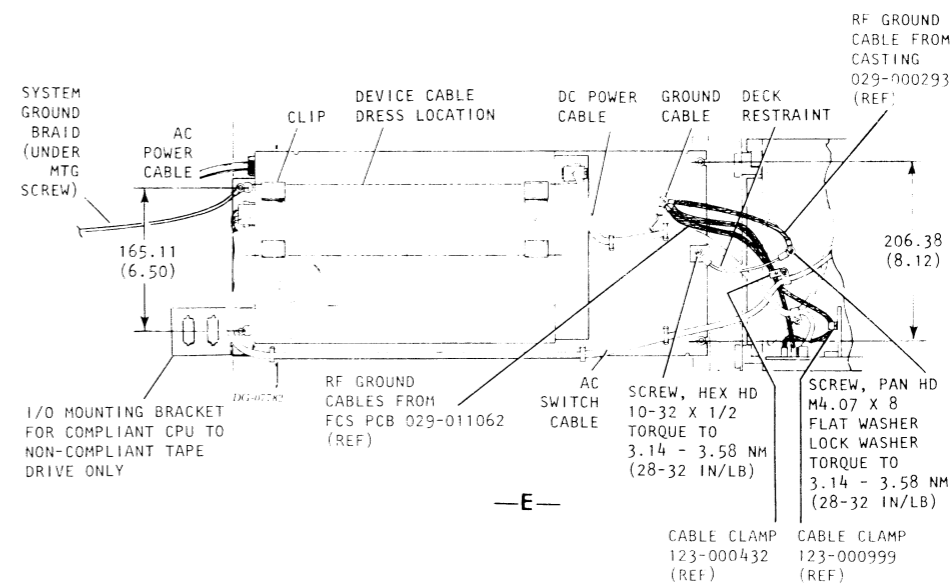
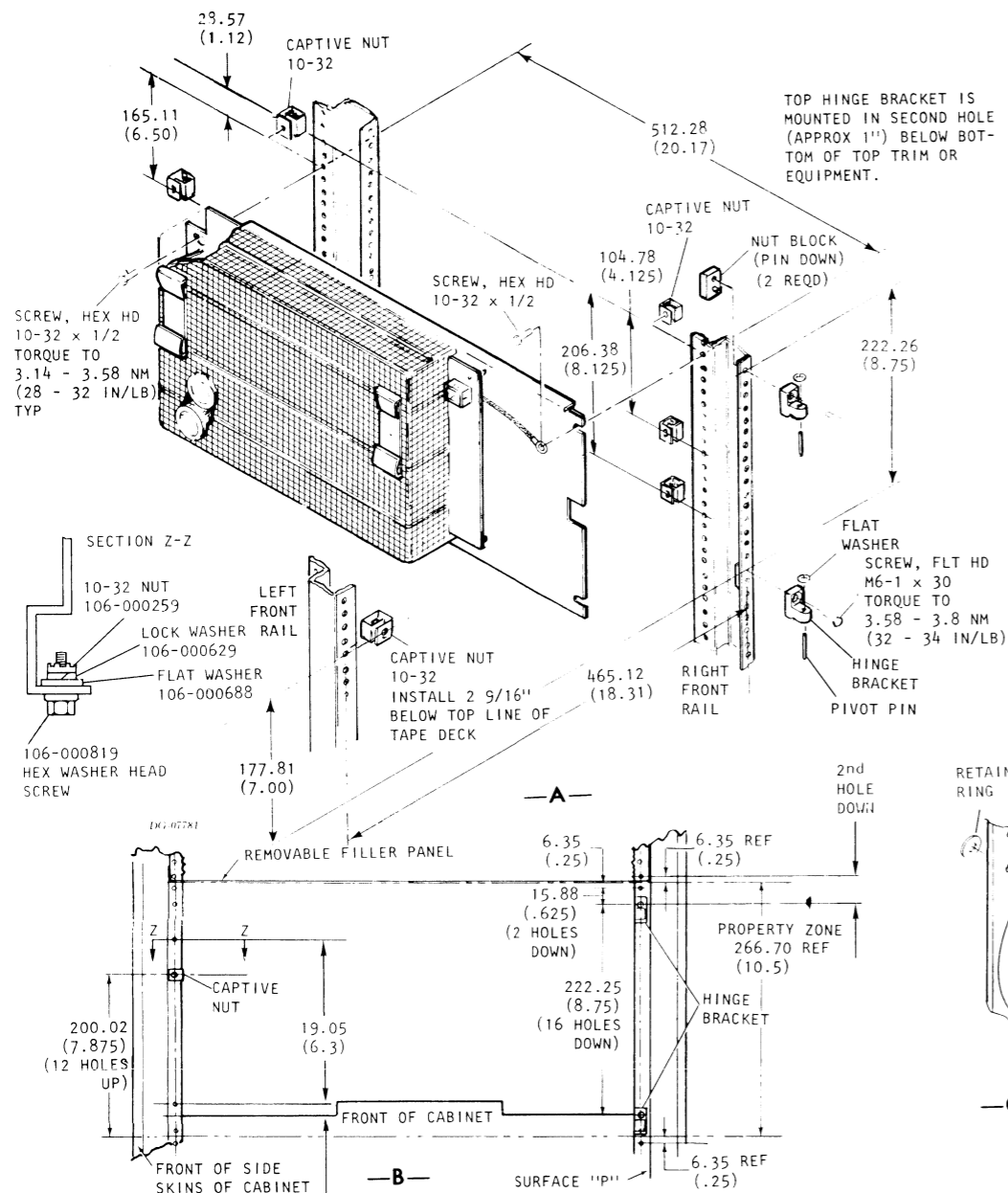


DEVICE SELECT JUMPERS		
REV	REV	(OF BOARD
01	02	ARTWORK)
W2	W0	MSB
W3	W1	
W1	W2	
W4	W3	LSB
W6	W4	
W5	W5	

RACK MOUNTING STANDARD 1144 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. 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.
- 4A. 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).
- 4B. INSTALL HEX WASHER HEAD SCREW (106-000819), FLAT WASHER (106-000688), LOCK WASHER (106-000629), AND 10-32 NUT (106-000259) TO LEFT HAND RAIL OF CABINET. TORQUE TO 3.58-3.8 N/M (31.8-33.8 IN. LBS.)

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 CABLES 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. 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.

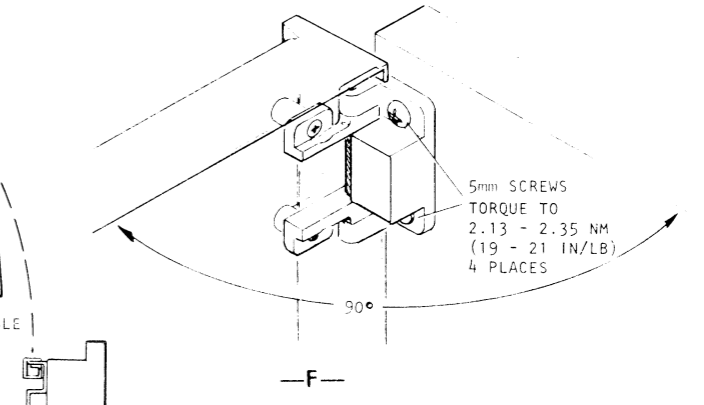
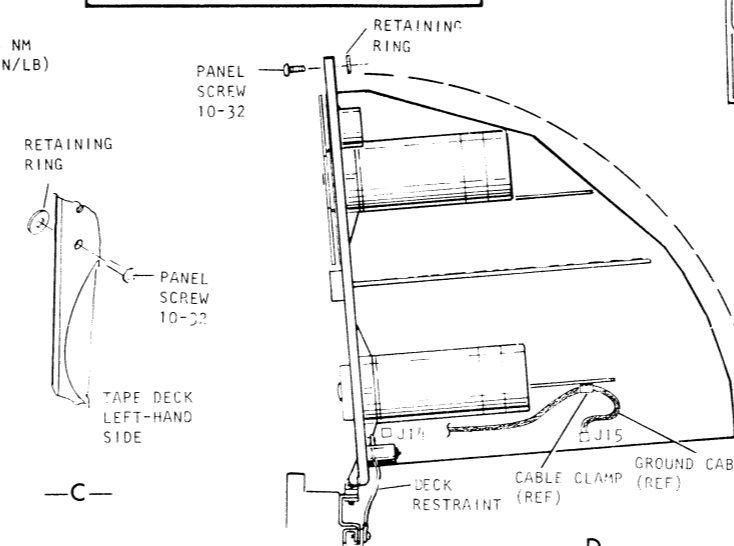
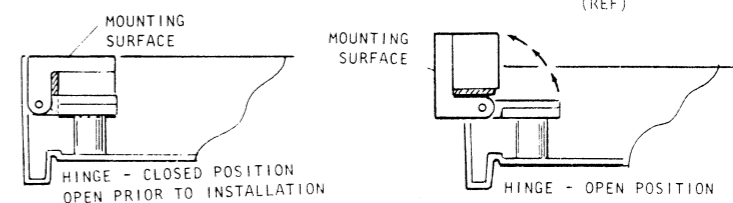
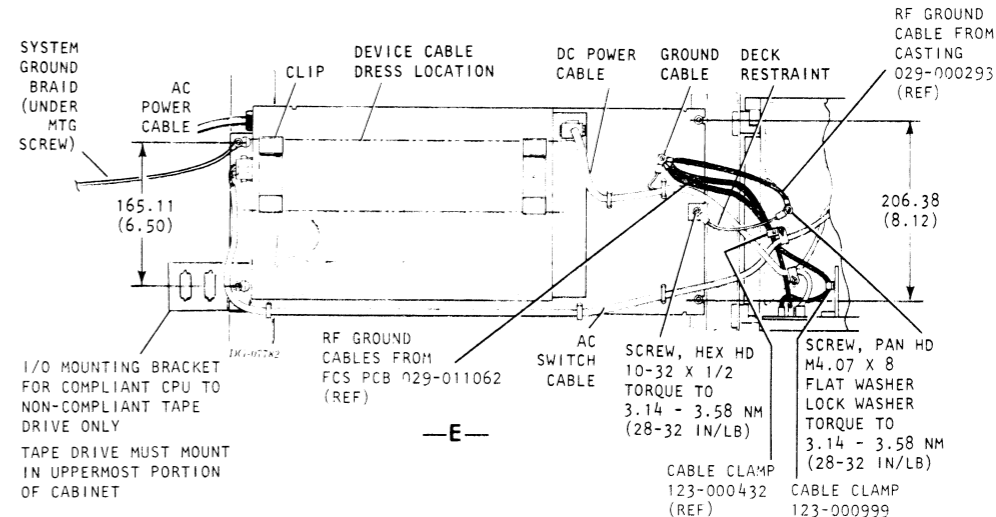
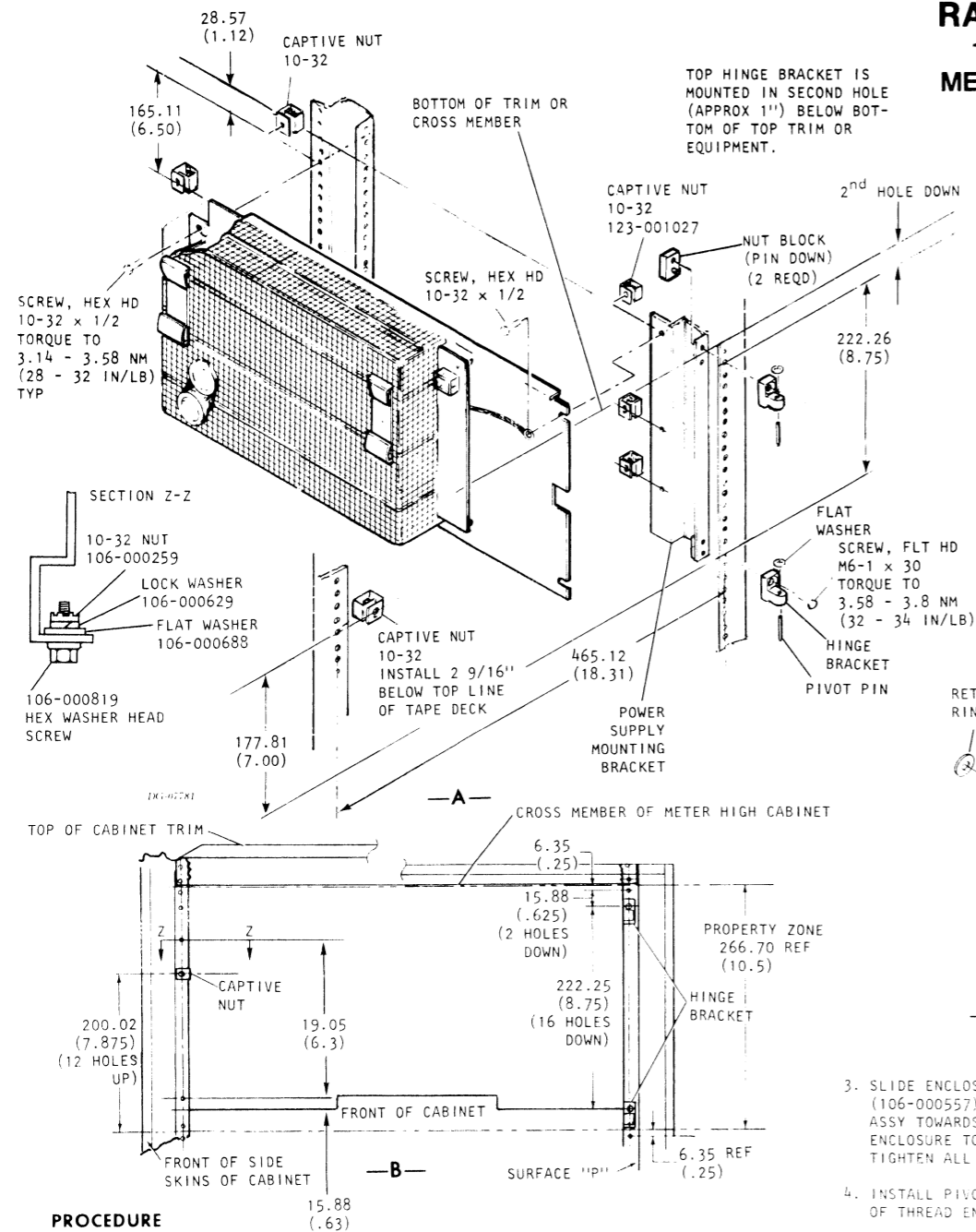
TAPE TRANSPORT, MODEL 6125 (NOVA/ECLIPSE)

RACK MOUNTING (CONT)
1148 HALF-BAY CABINET
METER-HIGH CABINET 1605, 1606

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



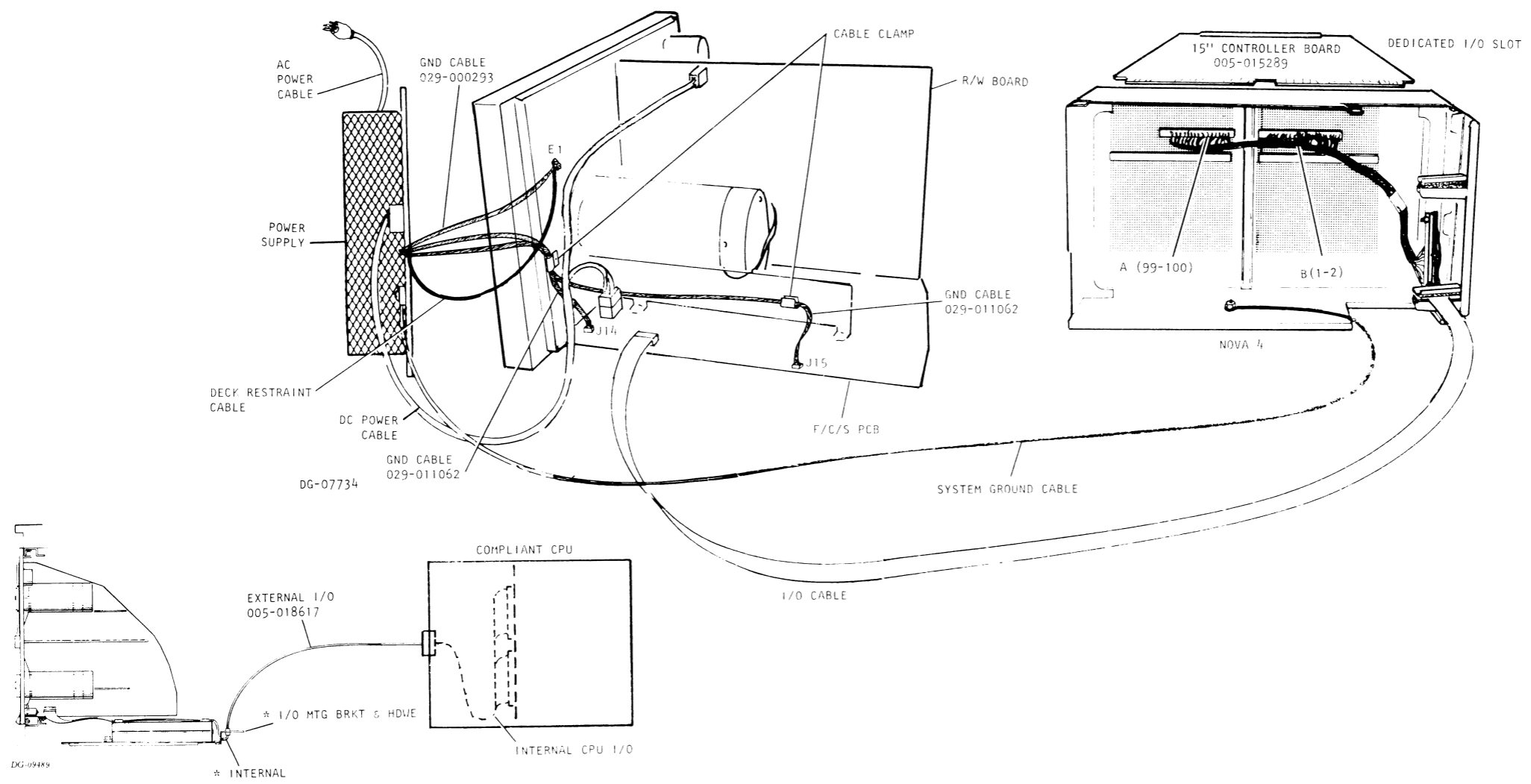
PROCEDURE

1. REMOVE HARDWARE MOUNTING KIT FROM SHIPPING CONTAINER.
2. PROCEDURE FOR LOW BAY 1148 AND METER HIGH 1065 & 1066 CABINETS: INSTALL BRACKET MOUNTING ENCLOSURE (002-022916) TWO PLACES IN FRONT RAILS OF CABINET. ATTACH BRACKET TO LEFT HAND SIDE OF CABINET USING HEX HEAD WASHER SCREWS (106-000819) AND NUT FASTENERS (7 PLS) (123-001027). ATTACH BRACKET TO RIGHT HAND SIDE OF CABINET USING NUT PLATE ASSY (002-012993), HINGE BRACKET (002-011335) AND FLAT HEAD SCREWS (106-001900). TORQUE TO 3.58-3.8 N/M (31.63 IN/LBS). ATTACH NUT FASTENERS (123-001027) SIX PLACES TO BRACKET MOUNTING ENCLOSURE AND ONE PLACE TO FRONT LEFT HAND RAIL OF CABINET. CONTINUE TO NO. 3 FOR FURTHER INSTRUCTIONS.
3. PROCEDURE FOR 1144 CABINET (DISCARD BRACKET MOUNTING ENCLOSURE 002-022916). INSTALL NUT FASTENERS (123-001027) ONTO RAILS IN CABINET 7 PLACES. INSTALL HINGE BRACKET (002-011335) ONTO RIGHT SIDE RAILS OF CABINET USING NUT BLOCK ASSY (002-012993) AND FLAT HEAD SCREW (106-001900) TORQUE TO 3.58-3.80 NEWTON METERS, (31.68-33.63 IN/LBS). INSTALL HEX WASHER HEAD SCREW (106-000819), FLAT WASHER (106-000688), LOCK WASHER (106-000629) AND 10-32 NUT (106-000259) TO LEFT HAND RAIL OF CABINET. TORQUE TO 3.58-3.63 NEWTON METERS, (31.68-33.63 IN/LBS).

3. SLIDE ENCLOSURE ASSY INTO POSITION. INSTALL SIX 10-32 HEX WASHER HEAD SCREWS (106-000557) IN FRONT MOUNTING HOLES, AND TIGHTEN SLIGHTLY. SLIDE ENCLOSURE ASSY TOWARDS FRONT UNTIL 10-32 SCREWS STOP FORWARD MOVEMENT. LEVEL BACK OF ENCLOSURE TO ENSURE THAT IT FALLS WITHIN THE 266.7 (10.5") PROPERTY ZONE. TIGHTEN ALL SCREWS TO (28-32 IN/LBS), 3.14-3.58 N/M.
4. INSTALL PIVOT PIN (002-011619) INTO LOWER RIGHT HINGE BRACKET FOR ABOUT 1/8" OF THREAD ENGAGEMENT. INSTALL WASHER (106-001441) ONTO PIVOT PIN.
5. ASSEMBLE TAPE DECK ONTO PIVOT PIN. (TAPE DECK MUST BE ORIENTED AS SHOWN IN DETAIL D-). SWING TAPE DECK INTO CLOSED POSITION. SECURE TAPE DECK TO LEFT SIDE OF CABINET USING PANEL SCREW AND INSTALL WASHER 106-1805. SLIDE WASHER (106-000141) BETWEEN CASTING AND HINGE BRACKET TOP RIGHT AND INSTALL PIVOT PIN TO HINGE BRACKET. ADJUST TOP RIGHT AND BOTTOM RIGHT PIVOT PINS SO THERE IS ADEQUATE CLEARANCE ON EITHER EQUIPMENT OR FILLER PANELS BELOW THE CASTING OR FILLER PANELS ABOVE THE CASTING.
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 CABLES 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.

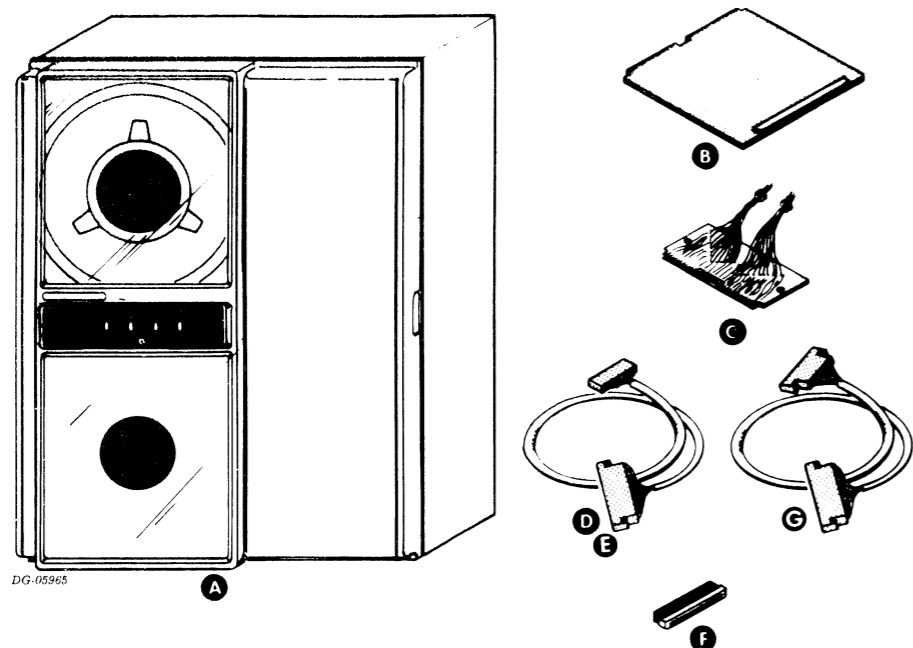
10. INSTALL CABLES AS SHOWN & DRESS ACCORDINGLY SO FORMATTER/CONTROLLER/SERVO/ PCB WILL SWING FREELY AND NOT CATCH OR BIND WHEN TAPE DECK IS SWUNG OPEN.
11. SYSTEMS GROUND MUST BE INSTALLED PRIOR TO STARTING UP OF TAPE DECK UNIT. (DETAIL E)
12. REPLACE FILLER PANEL ABOVE TAPE DECK. ADJUST PIVOT PINS 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.

EXTERNAL CABLING



NOTE:
* PART OF 005-019005 ASSY REF

INSTALLATION SPECIFICATIONS



MAJOR COMPONENT

ITEM	COMPONENT	MOUNTING LOCATION	NOTES
A	TAPE TRANSPORT	CABINET	
B	TAPE CONTROLLER	COMPUTER CHASSIS	

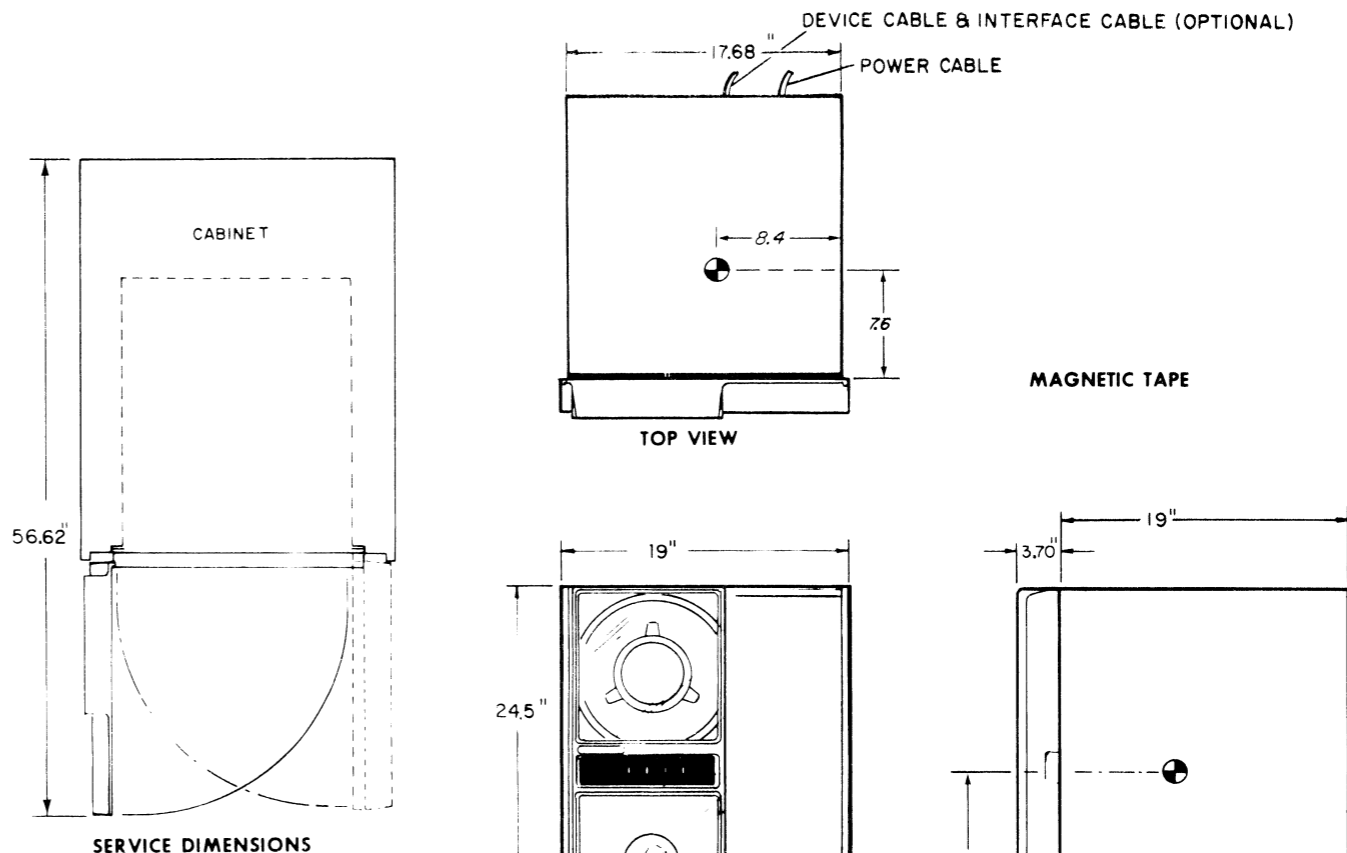
CABLE

ITEM	CABLE	CONNECTING	MAX ALLOWED LG		NOTES
			FT	M	
C	INT CABLE	B/P AND DEVICE CONNECTOR			
D	DEVICE CABLE	DEVICE CONNECTOR AND TRANSPORT			*SUM OF DEVICE AND INTERDEVICE CANNOT EXCEED 80FT. (24.4M)
E	INTERDEVICE CABLE	TRANSPORT AND TRANSPORT			
G	DEVICE CABLE	DEVICE TO TRANSPORT			CONNECTS COMPLIANT TO NON-COMPLIANT TRANSPORTS

TERMINATOR

ITEM	TERMINATOR	LOCATION	NOTES
F	DUAL MODE TERMINATOR	LAST DRIVE	

ITEM	COMPONENT	CHASSIS	SLOTS REQUIRED	MAX ALLOWABLE DATA CHANNEL LATENCY (SEC)	TYPE OF DATA CHANNEL SERVICE DESIRED	CONTROLLER'S +5 V CURRENT DRAW (AMPS)
B	CONTROLLER	COMPUTER	1	PE-60 S NRZI-250 S	HIGH SPEED/STANDARD	X 7



DIMENSIONS:

	Width	Depth	Height
Millimeters	482.6	558.8	62.2
Inches	19.0	22	2.45

SERVICE CLEARANCES:

	Front
Millimeters	482.6
Inches	19.00

WEIGHT:

Kilograms	68
Pounds	150

HEAT OUTPUT:

Watts	800	1100	2728	3751
BTU/hr				

OPERATING ENVIRONMENT:

Temperature (max)	43.3 C	110 F
Relative Humidity (max)	20-80%	
Altitude	8000 FT	

CABLE CONFIGURATION 010-000319

NOTE: THE VACUUM ON THIS UNIT HAS BEEN SET FOR OPERATION AT LOW ALTITUDE AT THE FACTORY. READJUSTMENT FOR HIGH ALTITUDE IS REQUIRED

POWER REQUIREMENTS:

(Domestic)			
Voltage	102-132		
Hz	60+1		
Max Amp per Phase	5.5		
Phase			
Startup Surge per Phase			
(Export)			
Voltage	90-110	187-242	204-264
Hz	50+1	50+1	50+1
Max Amp per Phase	5.5	4	4
Phase			
Startup Surge per Phase			

CABLES:

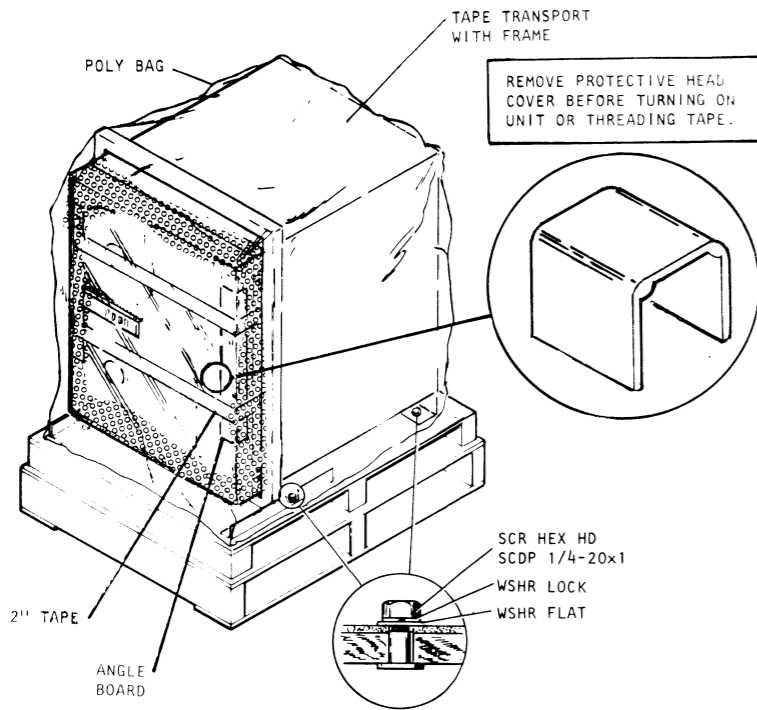
Primary Power	Length	Conn	Mating Conn
Domestic 60Hz	1.8m(6')	5-15P	5-15R
Export 50Hz	1.8m(6')	6-15P	6-15R

PREFERRED LOCATION: TOP OF CABINET
17-30"

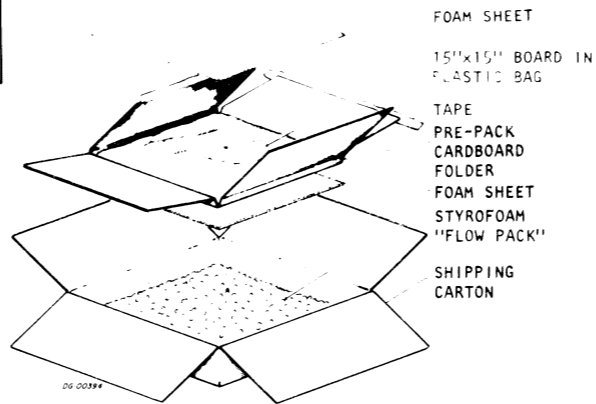
*WHENEVER POSSIBLE LEAVE A 1.75" FILLER PANEL DIRECTLY BELOW THE MTT

SHIPPING

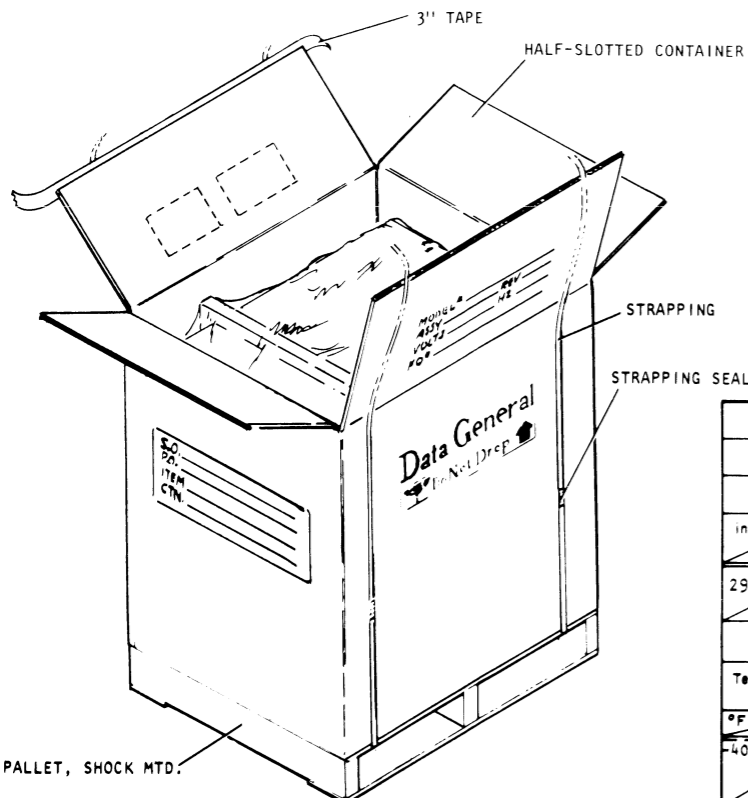
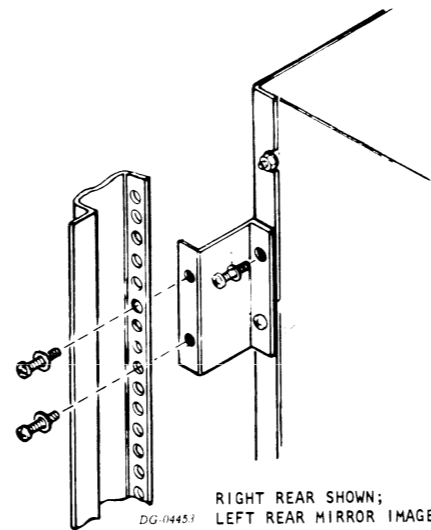
TAPE TRANSPORT



CONTROLLER



MOUNTING SHIPPING BRACKET TO CHASSIS AND RAILS



SHIPPING AND PACKAGE DATA					
Outside Dimensions			Weight (Gross)	Volume	Density
Length	Width	Depth			
in.	in.	in.	lbs.	cu ft.	lbs/cu ft.
cm.	cm.	cm.	kg.	cu m.	kg/cu m.
29.38	23.88	37.50	196	15.23	12.87
74.62	60.65	95.25	88.90	.43	206.74
SHIPPING SPECIFICATIONS			STORAGE SPECIFICATIONS		
Temperature Range	Relative Humidity (Non-condensing)	Maximum Altitude	Temperature Range	Relative Humidity (Non-condensing)	Maximum Period
°F	%	ft.	°F	%	days
-40 to +160	0% / 95%	50,000 ft. / 15,200 m	-40 to +160	0% / 95%	90 days
-40 to +71			-40 to +71		

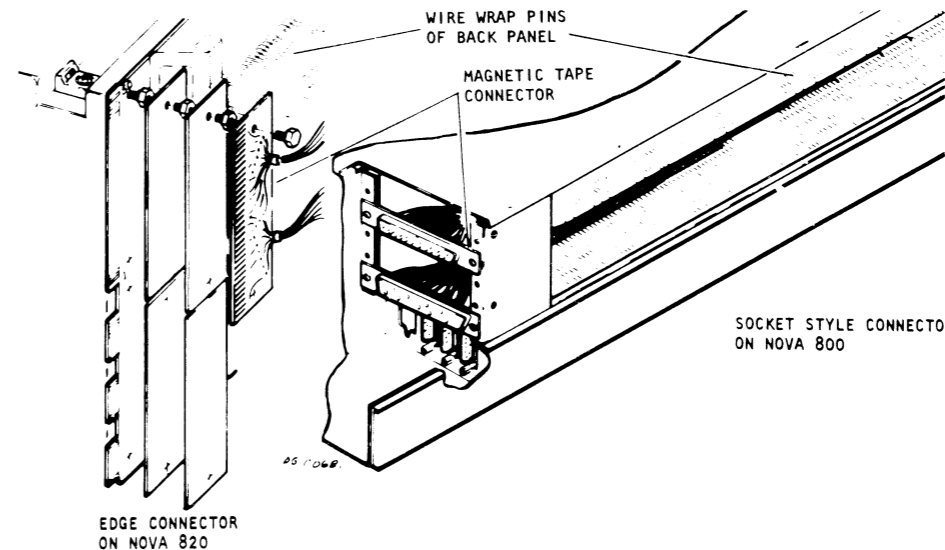
INTERNAL CABLES

INTERNAL CABLE CONNECTION FOR MAGNETIC TAPE SUBSYSTEMS

Destination Pin Numbers for P11 & P14 NOVA 840, 1200 and 800 Jumbo	Computer Back Panel				Socket Connector Pin Numbers
	NOVA 2 & 3	ECLIPSE NOVA 820 1210 & 1220	NOVA 800	NOVA & SUPERNOVA computers	
1	A-1		B2	1-2	50
2		A-71		99-100	
3		B-69		1-2	
4		A-73		99-100	
5		A-57			
6		A-75			
11		A-77			
12		A-76			
13		A-61			
14		A-59			
15		B-34			
16		A-91			
17		A-84			
18		A-89			
19		B-40			
20		B-25			
21		B-11			
22		B-53			
26		A-47			
27		A-63			
28		B-67			
29		B-54			
30		A-78			
31		A-79			
32		B-36			
33		A-49			
34		B-38			
35		B-48			
36		B-49			
37		A-81			
38		B-15			
39		A-83			
40		A-86			
41		B-13			
42		B-19			
43		B-23			
44		B-31			
45		B-27			
46		A-85			
47		A-87			
49		B-51			
		A-92			
		A-69			
		A-67			
		A-65			
		A-88			
		A-90			
		B-6			
		B-52			
		A-3			

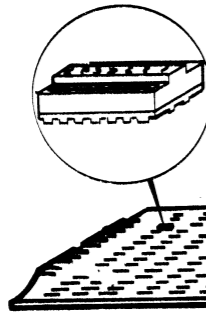
Computer	Internal Cable Part Number
NOVA 2, 3 and ECLIPSE computers	005-1802
NOVA 820, 1210 and 1220	005-1802
NOVA 840, 1200 and 800 Jumbo	005-411 [SLOT 16 ONLY]*
NOVA 800 and 1200	005-386
NOVA SUPERNOVA computers	005-231

* IF NOT IN SLOT 16 USE 005-386



MAGNETIC TAPE DRIVE, SERIES 6026, 6027

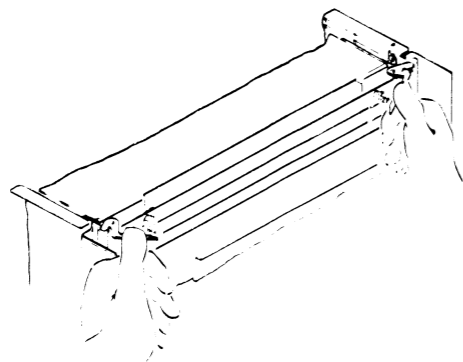
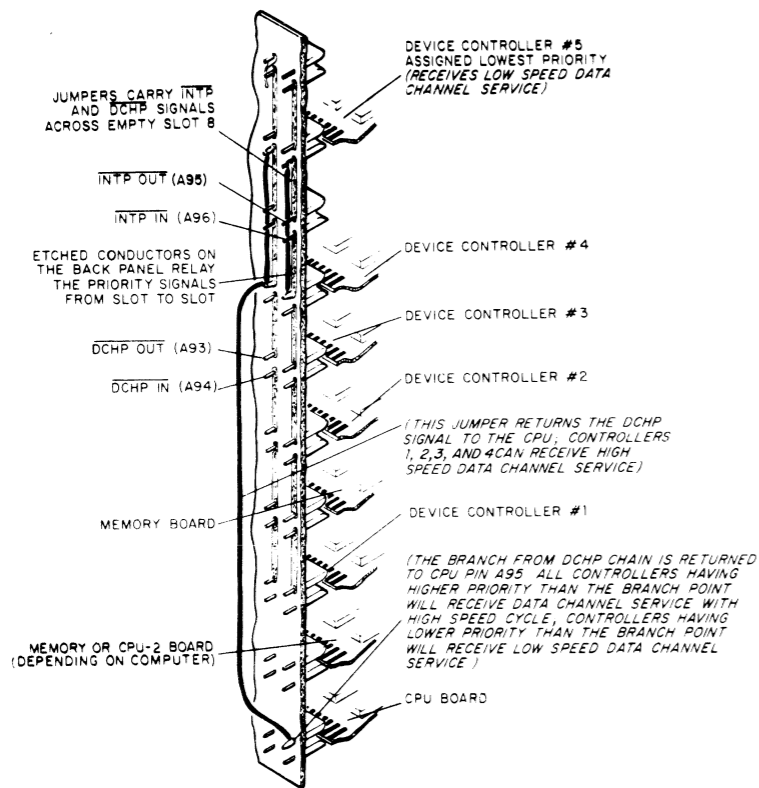
TAILORING



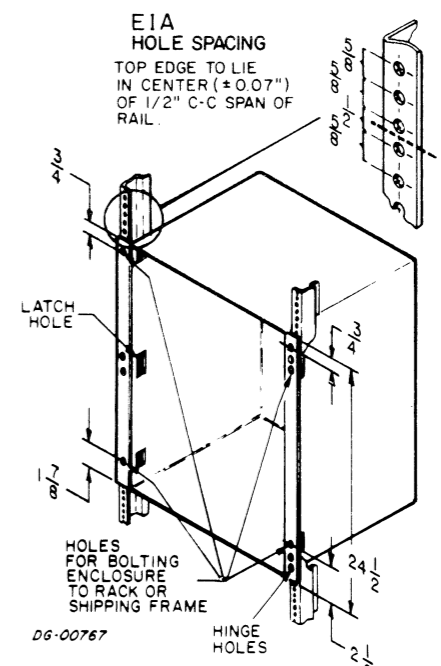
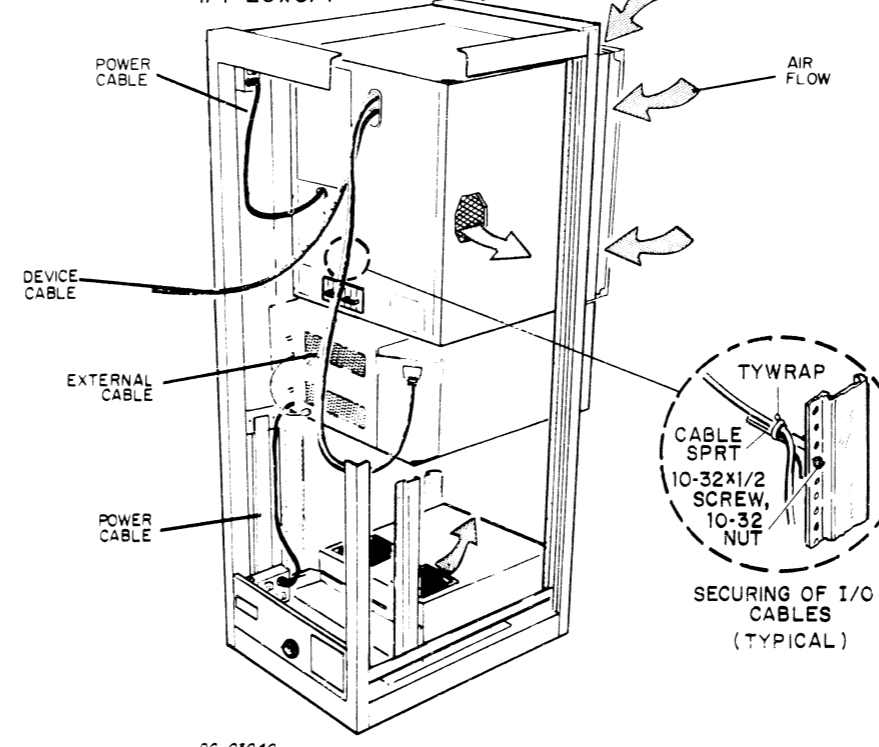
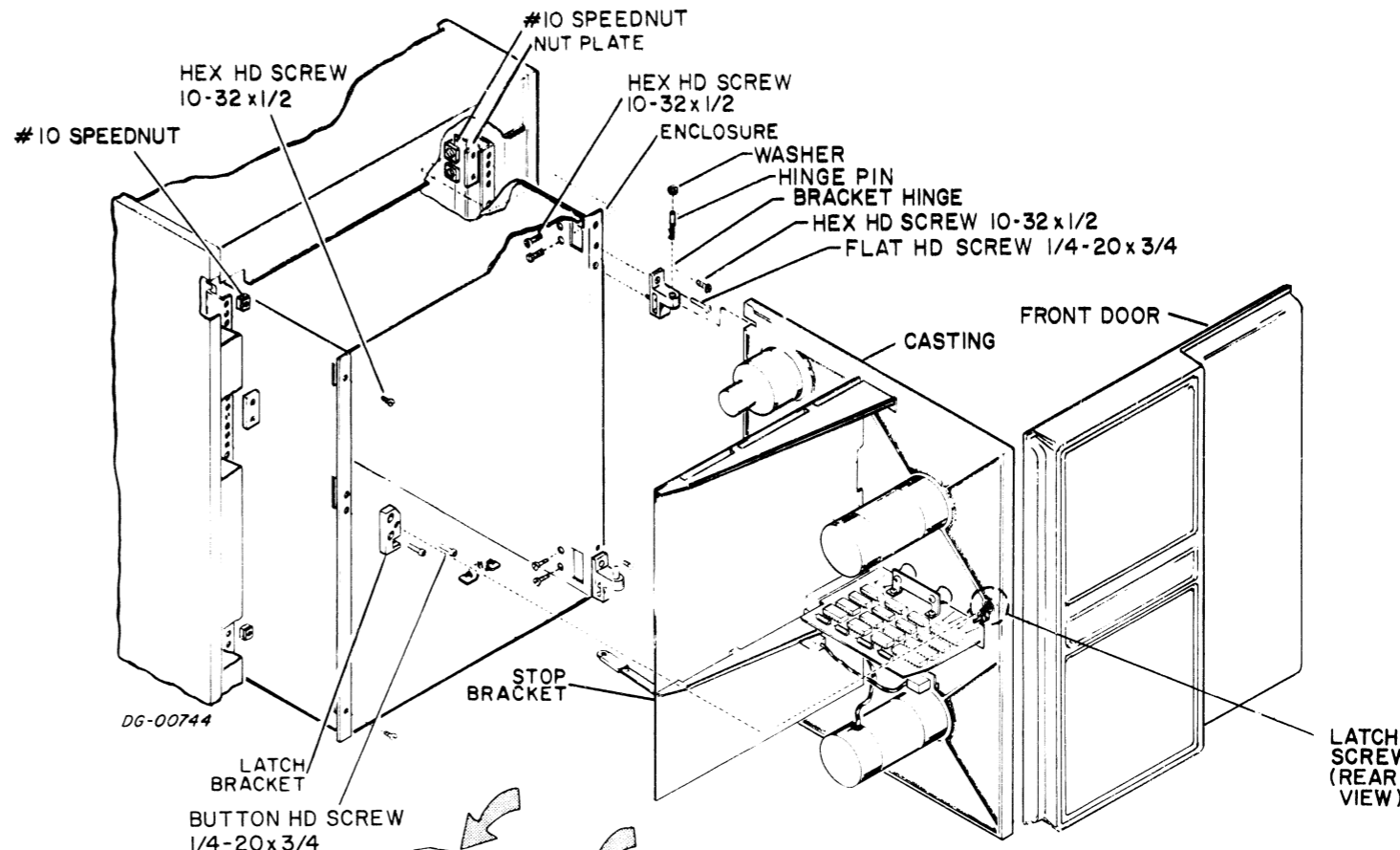
JUMPERS WX1 - WX3 ARE USED FOR FACTORY TEST ONLY. THEY MUST BE IN FOR NORMAL OPERATION.

DEVICE CODE 22₈ (SWITCH No. 2 & 5) = DS1 & DS4.
 DEVICE CODE 62₈ (SWITCH No. 1, 2 & 5) = DS0, DS1, & DS4.

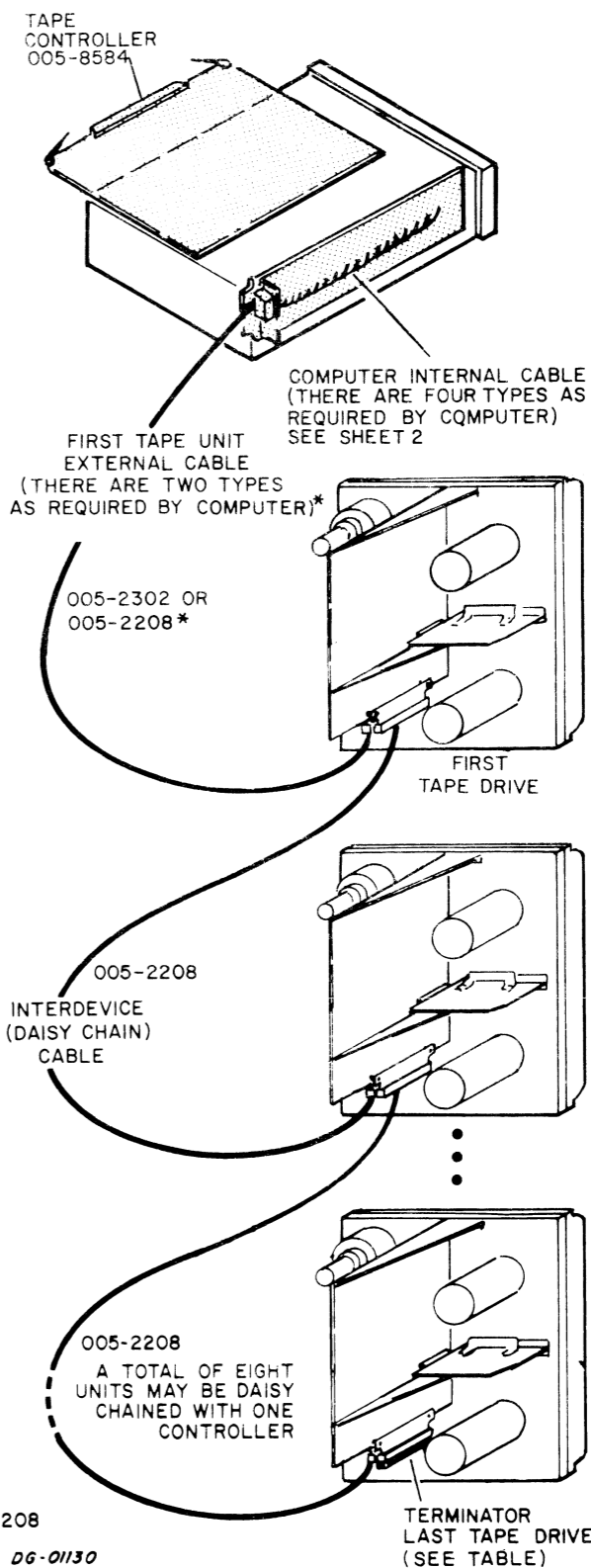
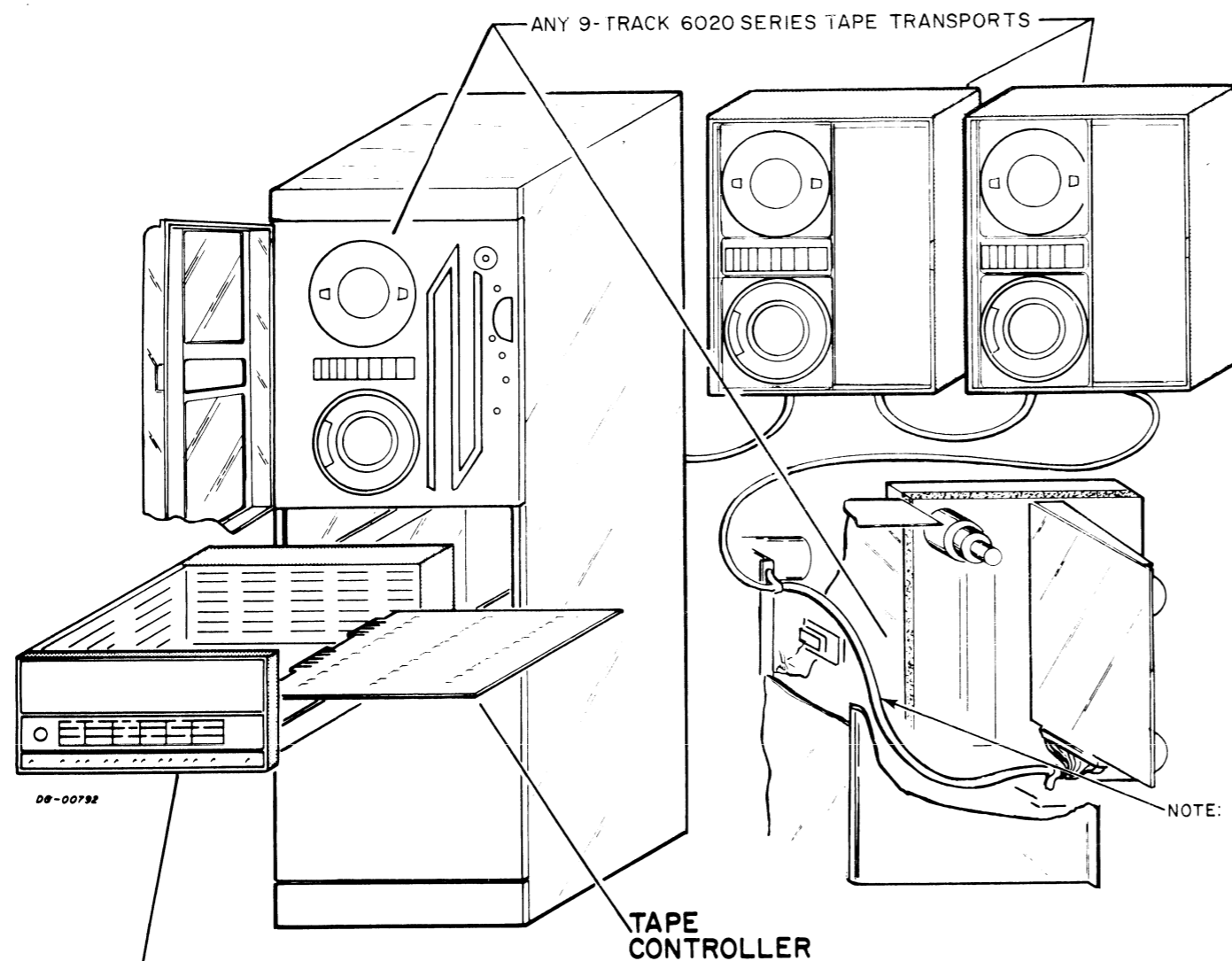
DG-00769



INSTALLATION IN A CABINET



EXTERNAL CABLING

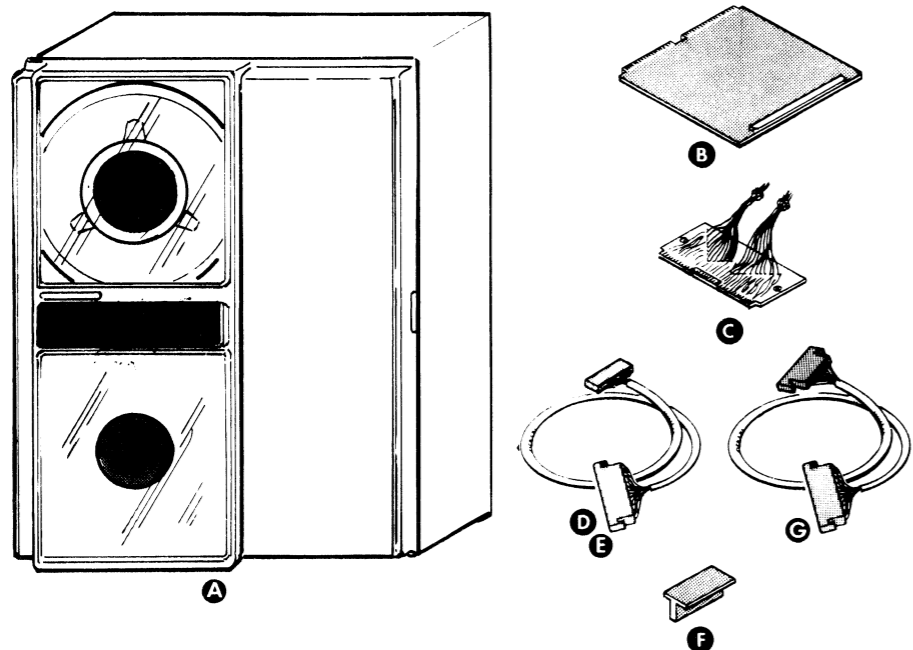


DRIVE ARRAY CONFIGURATION	LAST DRIVE	TERMINATOR
ALL 6027	N/A	005002398
ALL 6026	N/A	005008672
MIXTURE 6027, 6026	6026	005008672

*CPU 2/4, 2/10, 3/4, 3/12,
S/100, S200, S130, S230
C300, C330, USE 005-2208

DG-01130

SUBSYSTEM COMPONENT BREAKDOWN



MAJOR COMPONENT			
Item	Component	Mounting Location	Notes
A	TAPE TRANSPORT	CABINET	
B	TAPE CONTROLLER	COMPUTER CHASSIS	

CABLE				
Item	Cable	Connecting	Max Allowed Lg	Notes
C	INT CABLE	B/P and DEVICE CONNECTOR	ft / m	
D	DEVICE CABLE	DEVICE CONNECTOR " TRANSPORT	*	SUM OF DEVICE AND INTERDEVICE CANNOT EXCEED 50FT
E	INTERDEVICE CABLE	TRANSPORT " TRANSPORT	*	
G	DEVICE CABLE	DEVICE " TRANSPORT 005-18765		CONNECTS COMPLIANT TO NON-COMPLIANT TRANSPORT

TERMINATOR			
Item	Terminator	Location	Notes
F	NRZI TERMINATOR	LAST DRIVE	

SPECIFICATIONS OF THE CHASSIS-MOUNTED COMPONENTS

Item	Component	Chassis	Slots Required	Max Allowable Data Channel Latency (μ sec)	Type of Data Channel Service Desired	Controller's +5 Volt Current Draw (Amps)
B	CONTROLLER	COMPUTER	1	12.5	X High Speed X Standard	3

DG-01912

SPECIFICATIONS OF CABINET-MOUNTED COMPONENTS

Item	Component	Number in Sub-system	Maximum Operating Temperature		Primary Power			Cabinet Height Required			Weight		Power Dissipation Avg/Peak	Preferred Location or Remarks	Operating Humidity (Relative)	
			Component °F	Media °C	Current (AMP)	Voltage	Frequency (Hz)	Area in. cm	lbs kg	min	max					
A	TAPE TRANSPORT		110	90	5.5	100/+10 120/-15	60±1	14	24.5	62.23	150	800/1100	TOP OF CABINET	20	80	
	"		43.3	32.2	5.5	100/+10 120/-15	50±1	"	"	"	68	"	AREA 17-30 *	"	"	
	"		"	"	4	220/+10 240/-15	50±1	"	"	"	"	"	"	"	"	

DG-01914

Voltage	Power Cable Length	Power Cable Plug	Mating Receptacle on Power Drop	Mating Receptacle in Wall
TAPE TRANSPORT 60Hz	6 ft / 2 m	NEMA 5-15P	NEMA 5-15R	NEMA 5-15R
TAPE TRANSPORT 50Hz	6 ft / 2 m	NEMA 6-15P	NEMA 6-15R	NEMA 6-15R

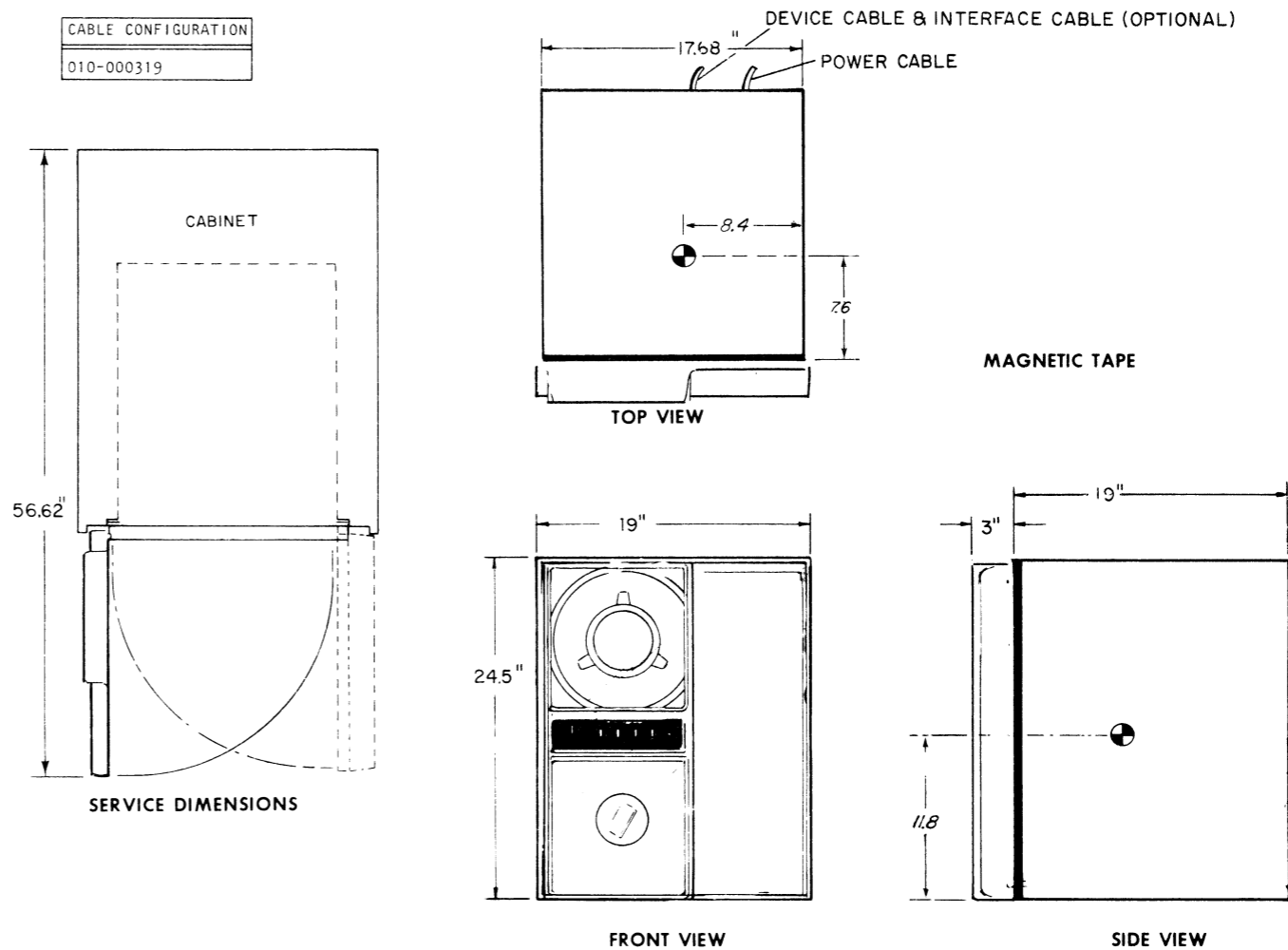
DG-02717

SERVICE CLEARANCES		
	FRONT	LEFT & RIGHT
MM	914.4 36	609.6 24

CABLE CONFIGURATION
D10-000319

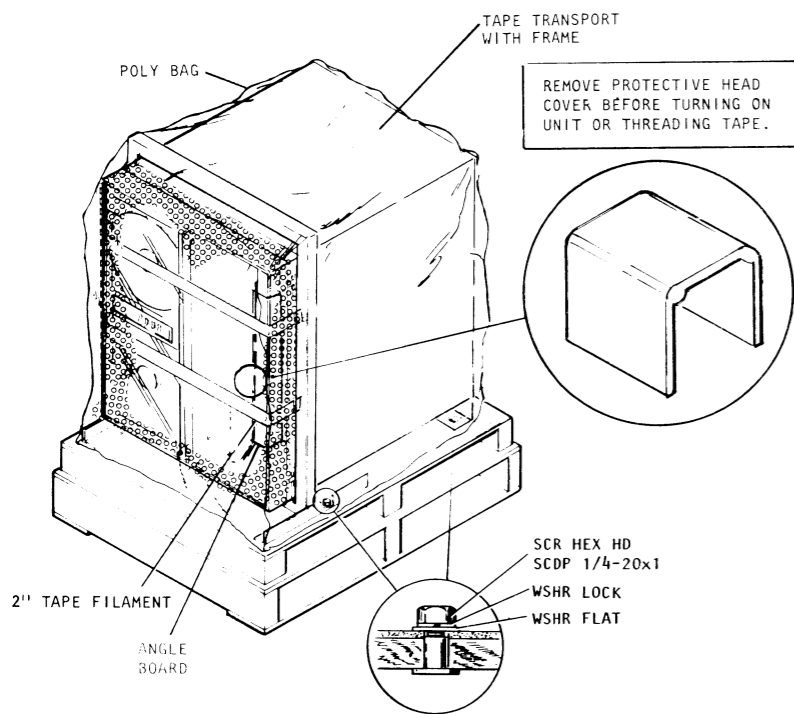
* WHEN EVER POSSIBLE LEAVE A 1.75" FILLER PANEL DIRECTLY BELOW THE MTT

NOTE: THE VACUUM ON THIS UNIT HAS BEEN SET FOR OPERATION AT LOW ALTITUDE AT THE FACTORY. READJUSTMENT FOR HIGH ALTITUDES WILL BE REQUIRED.

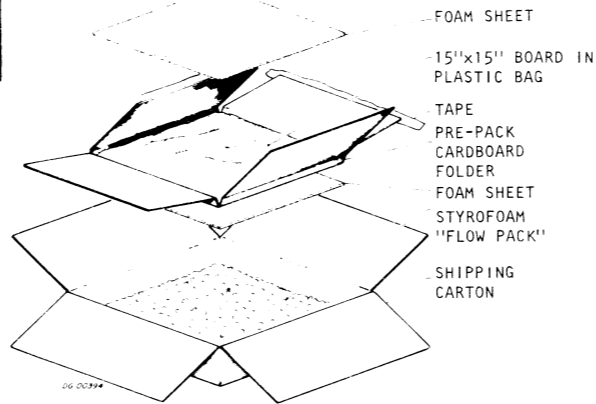


SHIPPING

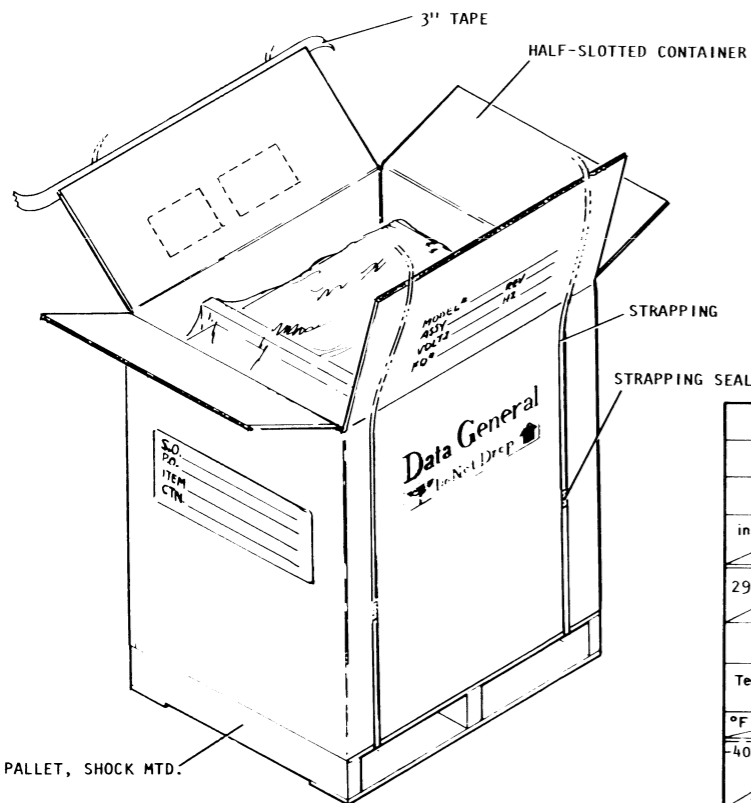
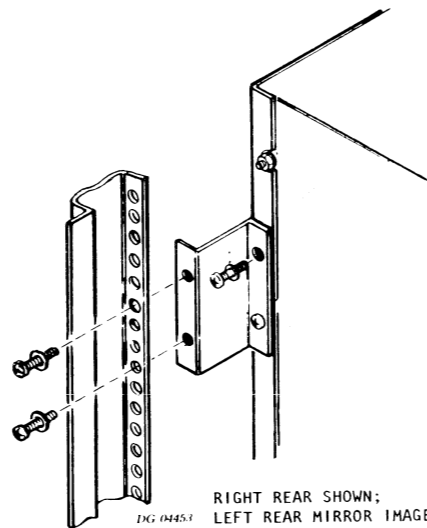
TAPE TRANSPORT



CONTROLLER



MOUNTING SHIPPING BRACKET TO CHASSIS AND RAILS



SHIPPING AND PACKAGE DATA					
Outside Dimensions			Weight (Gross)	Volume	Density
Length	Width	Depth	lbs	cu ft	lbs/cu ft
in.	in.	in.	lbs	cu ft	lbs/cu ft
cm	cm	cm	kg	cu m	kg/cu m
29.38	23.88	37.50	196	15.23	12.87
74.62	60.65	95.25	88.90	.43	206.74
SHIPPING SPECIFICATIONS			STORAGE SPECIFICATIONS		
Temperature Range	Relative Humidity	Maximum Altitude	Temperature Range	Relative Humidity	Maximum Period
°F	(Non-condensing)		°F	(Non-condensing)	
-40 to +160	0%/80%	50,000ft. 15,200m	-40 to +160	0%/30%	90 days
°C			°C		
-40 to +71			-40 to +71		

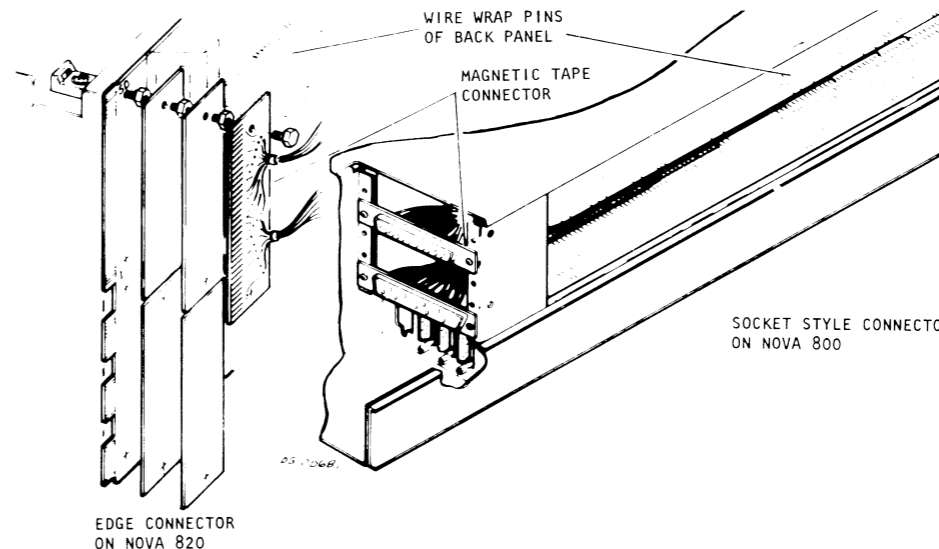
INTERNAL CABLES

INTERNAL CABLE CONNECTION FOR MAGNETIC TAPE SUBSYSTEMS

Signal Name	Partner or Edge Connector Pin Numbers	Destination Pin in Computer Back Panel				Socket Connector Pin Numbers	Destination Pin Numbers for P11 & P14 NOVA 840, 1200 and 800 Jumbo
		NOVA 2 & 3	ECLIPSE NOVA 820 1210 & 1220	NOVA 800 & 1200	NOVA & SUPERNOVA computers		
GND	1		B2	1, 2	50	P11-1	
GND	1		A-1	99, 100	1	P14-1	
9 CHANNEL REWIND T	19		A-71	99, 100	2	P14-16	
RUN	49		B-69	99, 100	3	P11-9	
WRITE RESET	8		A-73	99, 100	4	P14-17	
SEL 1	15		A-77	99, 100	5	P14-4	
WRITE STROBE	7		A-75	99, 100	6	P14-18	
RD EN	5		A-77	99, 100	11	P14-20	
WRITE T	6		A-76	99, 100	12	P14-19	
WBP	14		A-61	99, 100	13	P14-14	
WB6	15		A-59	99, 100	14	P14-3	
WB4	38		B-34	99, 100	15	P11-17	
WB3	3		A-91	99, 100	16	P14-7	
WB2	21		A-84	99, 100	17	P11-7	
RB1	27		A-89	99, 100	18	P14-6	
RB2	41		B-40	99, 100	19	P11-20	
REWINDING	35		B-25	99, 100	20	P11-14	
BOT	30		B-11	99, 100	21	P11-6	
IRG	46		B-53	99, 100	22	P11-11	
SEND CLOCK FOR REV	17		A-47	99, 100	26	P14-6	
TUR	13		A-63	99, 100	27	P14-15	
SEL 2	46		B-67	99, 100	29	P11-10	
SEL 4	47		B-54	99, 100	29	P11-22	
WRITE LOCK	4		A-78	99, 100	30	P14-21	
READ STROBE	19		A-79	99, 100	31	P14-22	
RBP	39		B-36	99, 100	32	P11-18	
EOT	13		A-49	99, 100	33	P14-5	
H1 DENSITY	46		B-38	99, 100	34	P11-19	
DLY 1	42		B-46	99, 100	35	P11-21	
RB5	35		B-49	99, 100	36	P11-23	
WB7	26		A-81	99, 100	37	P14-23	
WB5	32		B-15	99, 100	38	P11-4	
RB4	22		A-83	99, 100	39	P14-11	
RB6	23		A-86	99, 100	40	P11-8	
RB7	31		B-13	99, 100	41	P11-5	
RB8	33		B-19	99, 100	42	P11-3	
RB9	34		B-23	99, 100	43	P11-2	
RB0	37		B-31	99, 100	44	P11-16	
WB1	36		B-27	99, 100	45	P11-15	
WB0	24		A-85	99, 100	46	P14-10	
TERM Pin (not used)	26		A-87	99, 100	47	P14-9	
...	44		B-51	99, 100	49		
...	2		A-92	99, 100			
...	10		A-69	99, 100			
...	11		A-67	99, 100			
...	12		A-65	99, 100			
...	25		A-88	99, 100			
...	28		A-90	99, 100			
...	29		B-6	99, 100			
...	45		B-52	99, 100			
...	48		A-3	99, 100			

Computer	Internal Cable Part Number
NOVA 2, 3 and ECLIPSE computers	005-1802
NOVA 820, 1210 and 1220	005-1802
NOVA 840, 1200 and 800 Jumbo	005-411 (SLOT 16 ONLY)*
NOVA 800 and 1200	005-386
NOVA SUPERNOVA computers	005-231

* IF NOT IN SLOT 16 USE 005-386

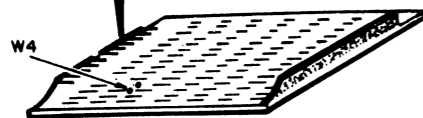


MAGNETIC TAPE DRIVE, SERIES 6020 - 6025

TAILORING

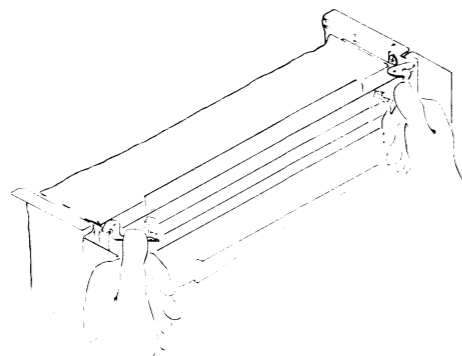
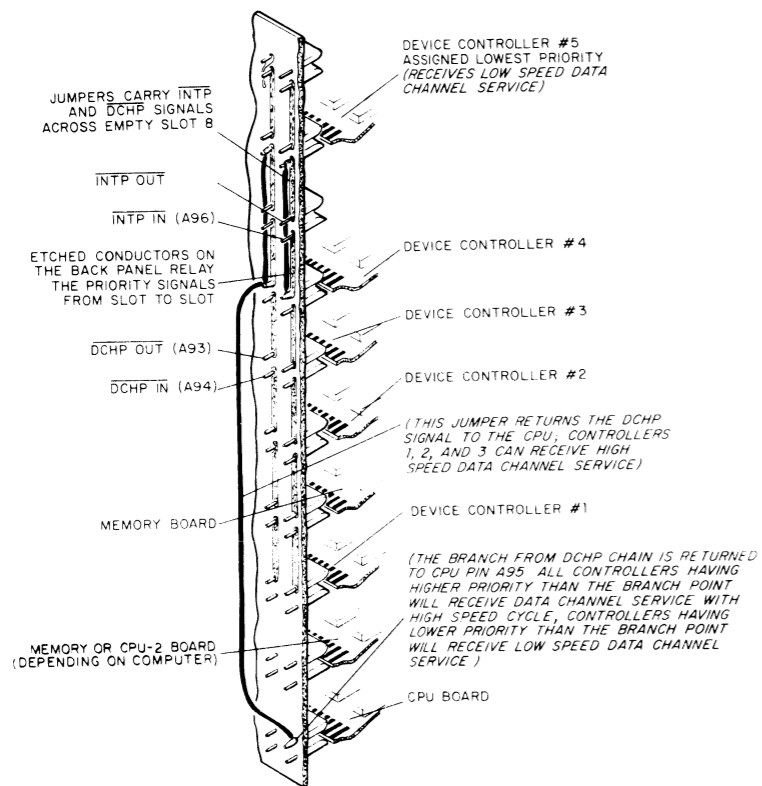


JUMPERS WX1 - WX3 ARE USED FOR FACTORY TEST ONLY. THEY MUST BE IN FOR NORMAL OPERATION.

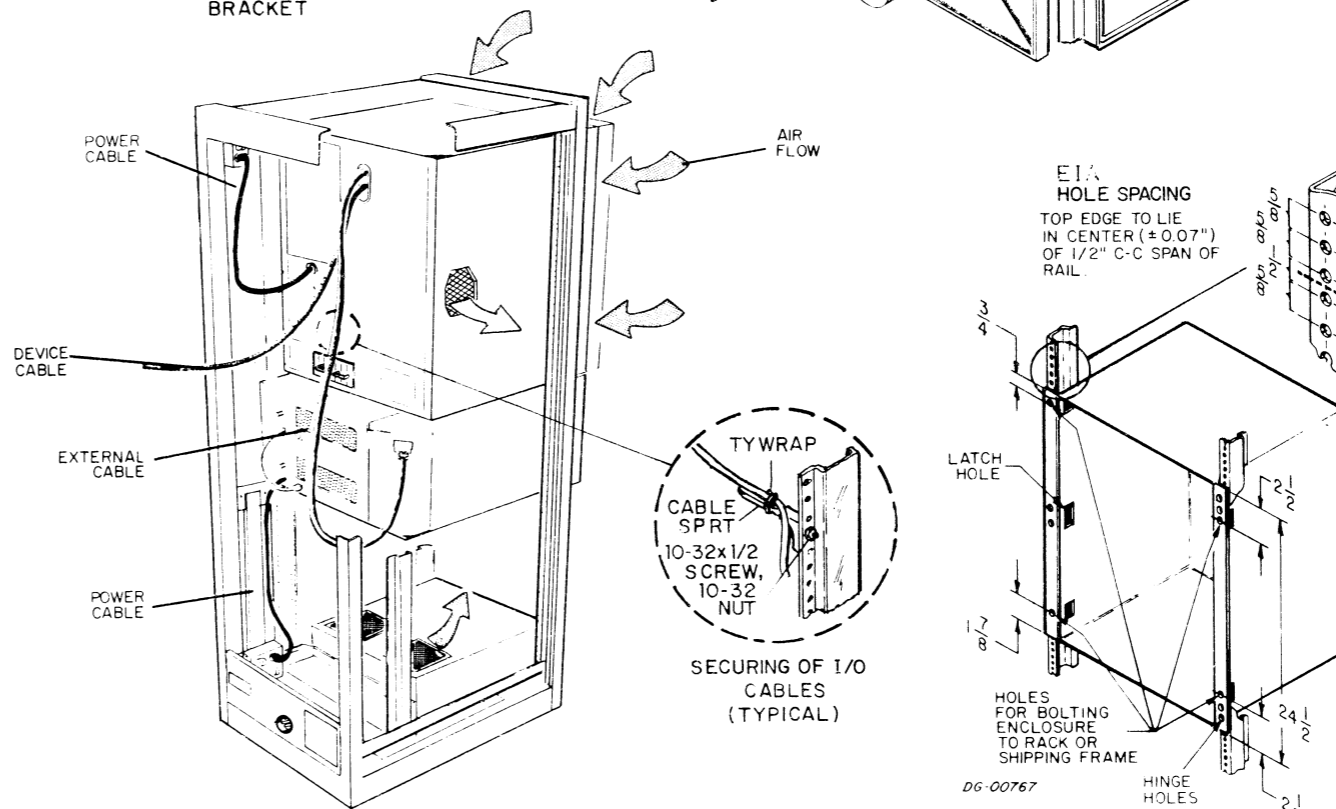
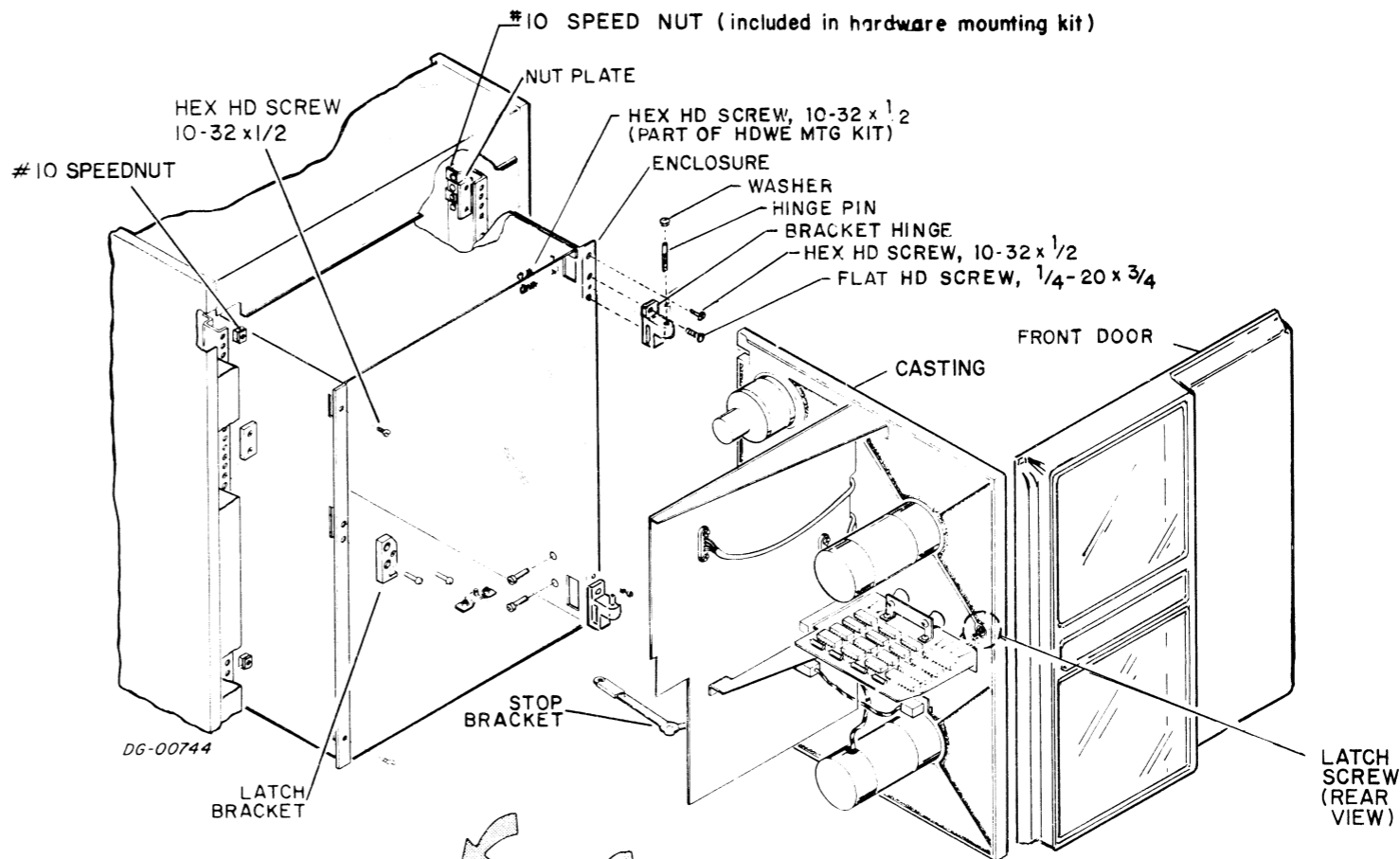


DEVICE CODE 22_B W2 IN W1,3,4 OUT
 DEVICE CODE 62_B W2 OUT W1,W3,W4 IN

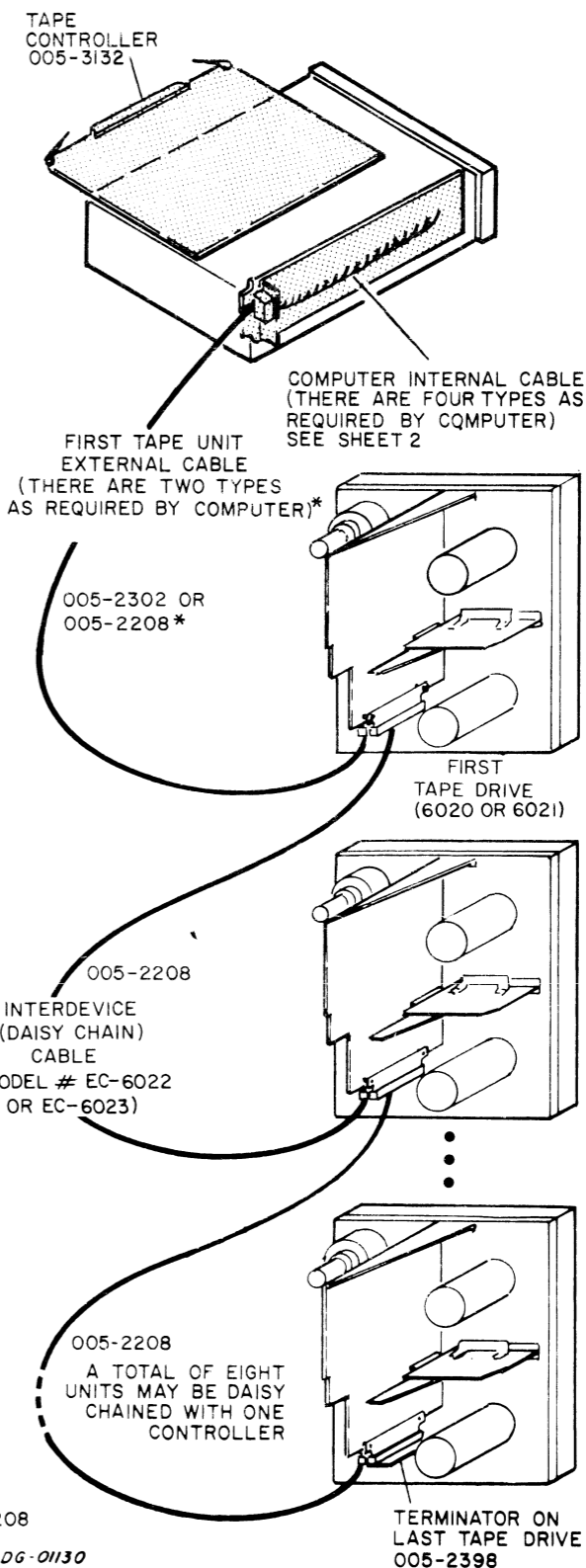
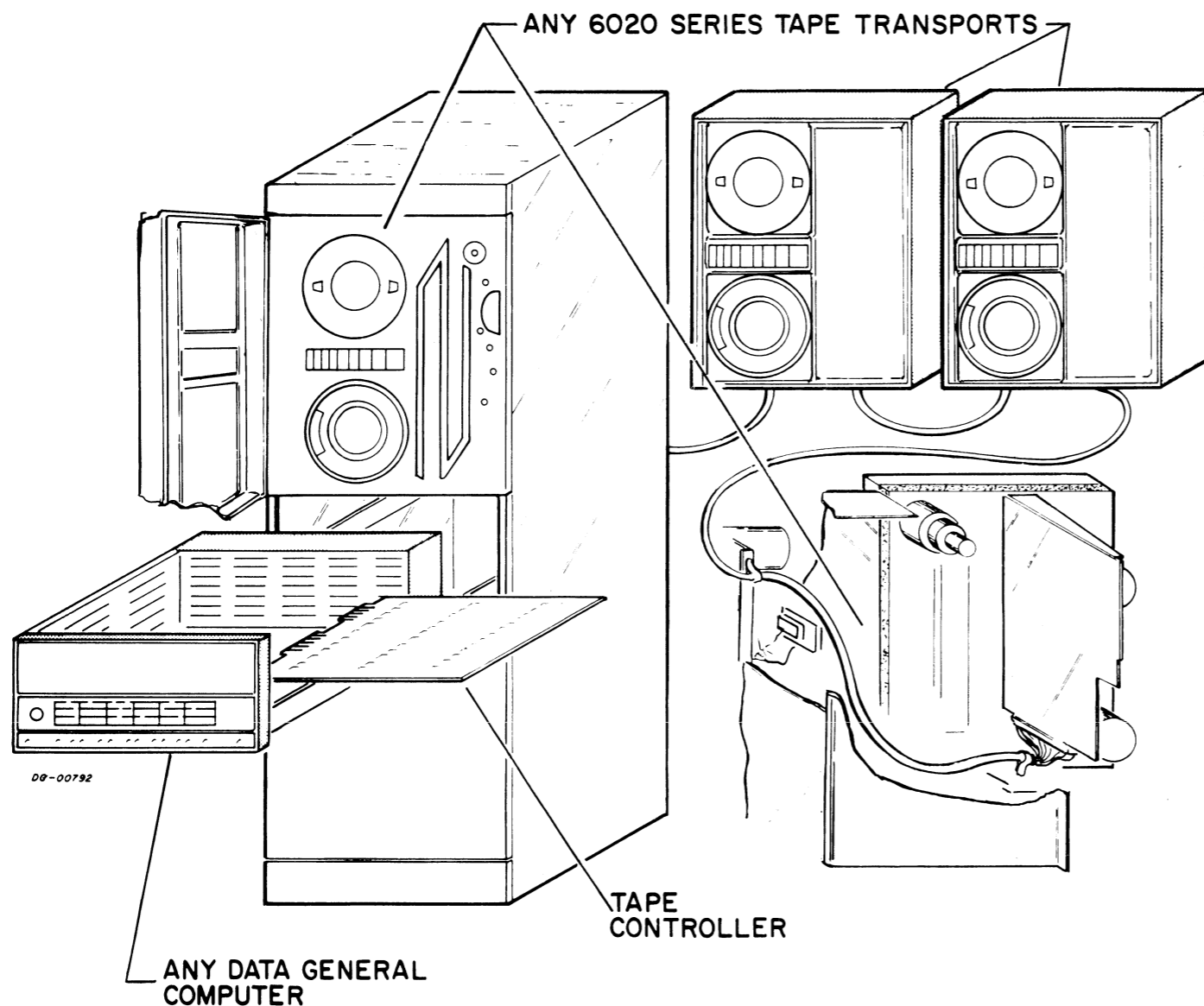
DG-00769



INSTALLATION IN A CABINET



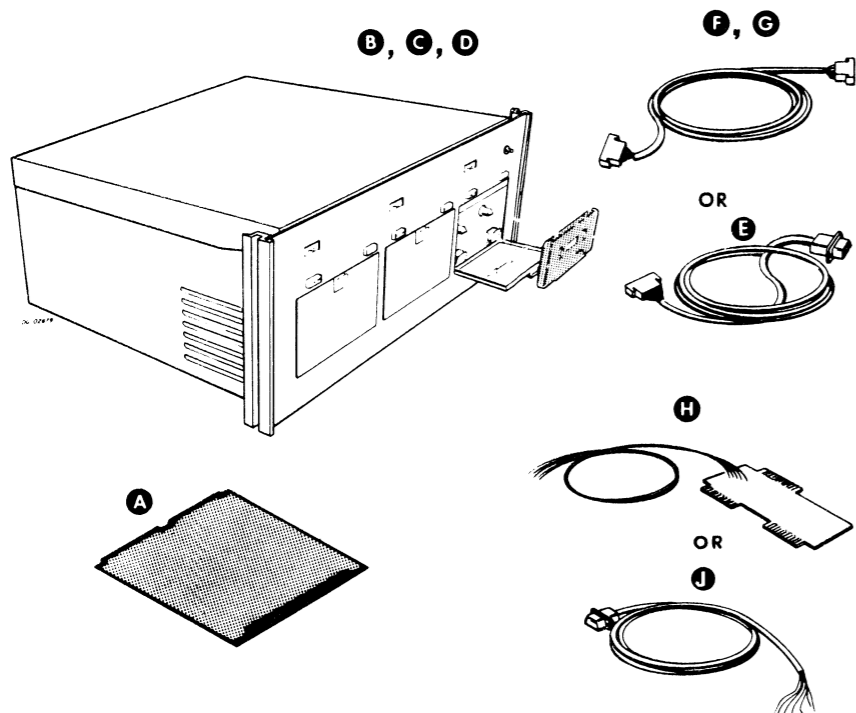
EXTERNAL CABLING



*CPU 2/4, 2/10, 3/4, 3/12, S/100, S200, S130, S230, C300, C330, USE 005-2208

DG-01130

SUBSYSTEM COMPONENT BREAKDOWN



MAJOR COMPONENT

Item	Component	Mounting Location	Notes
A	CONTROL	CPU	
B	1-TRANSPORT CHASSIS 4081	CABINET	
C	2-TRANSPORT CHASSIS 4084	CABINET	
D	3-TRANSPORT CHASSIS 4080	CABINET	

CG-02672
CABLE

Item	Cable	Connecting	Max Allowed Lg ft / m	Notes
E	DEVICE CABLE	CPU and CASSETTE CHASSIS	15 / 4.57	840, 1200 SUPERNOVA, 800, 1200
F	DEVICE CABLE	CPU and CASSETTE CHASSIS	15 / 4.57	1210, 1220, 820, NOVA 2, NOVA 3, ECLIPSE
G	INTER DEVICE CABLE	CASSETTE CHASSIS and CASSETTE CHASSIS	15 / 4.57	
H	INTERNAL CABLE	BACK PANEL CPU and PADDLE BOARD		1210, 1220, 820, NOVA 2, NOVA 3, ECLIPSE
J	INTERNAL CABLE	BACK PANEL CPU and SOCKET CONN		840, 1200 SUPERNOVA, 800, 1200

DG-02673

SPECIFICATIONS OF THE CHASSIS-MOUNTED COMPONENTS

Item	Component	Chassis	Slots Required	Max Allowable Data Channel Latency (μ sec)	Type of Data Channel Service Desired	Controller's +5 Volt Current Draw (Amps)
A	CONTROLLER	COMPUTER	1	28	High Speed, Standard	2.5

DG-01912

SPECIFICATIONS OF THE CABINET-MOUNTED COMPONENTS

Item	Component	Number in Sub-system Up to	Maximum Operating Temperature		Primary Power			Cabinet Height Required			Weight		Power Dissipation (Max Watts)	Preferred Location or Remarks	Operating Humidity (Relative)	
			Component °F / °C	Media °F / °C	Current (nom) Draw (Amp)	Voltage \pm %	Frequency	Area	in.	cm	lbs	kg			min	%max
B	Cassette chassis 1 Transport	8	130 / 55	100 / 38	2 Run / 3.9 Start	115 \pm 10	60 \pm 5Hz	4	7	17.78	42 / 19.05	230	10-20 Preferred Loc.	20	80	
	Cassette chassis 1 Transport	8			2 / 3	115 \pm 10	50 \pm 5Hz	4	7	17.78	42 / 19.05	230				
	Cassette chassis 1 Transport	8			1 / 15	230 \pm 8.7	50 \pm 5Hz	4	7	17.78	42 / 19.05	230				
C	Cassette chassis 2 Transports	4			3 / 4	115 \pm 10	60 \pm 5Hz	4	7	17.78	50 / 22.68	350				
	Cassette chassis 2 Transports	4			3 / 4	115 \pm 10	50 \pm 5Hz	4	7	17.78	50 / 22.68	350				
	Cassette chassis 2 Transports	4			15 / 2	230 \pm 8.7	50 \pm 5Hz	4	7	17.78	50 / 22.68	350				
D	Cassette chassis 3 Transports	2			4 / 5	115 \pm 10	60 \pm 5Hz	4	7	17.78	58 / 26.31	450				
	Cassette chassis 3 Transports	2			4 / 5	115 \pm 10	50 \pm 5Hz	4	7	17.78	58 / 26.31	450				
	Cassette chassis 3 Transports	2			2 / 2.5	230 \pm 8.7	50 \pm 5Hz	4	7	17.78	58 / 26.31	450				

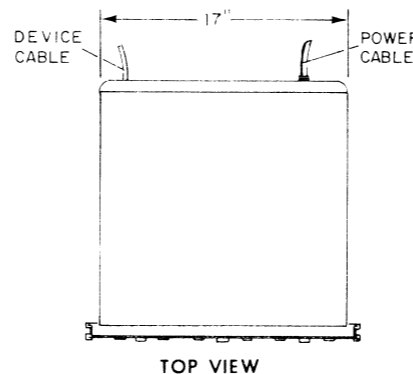
DG-01914

Voltage	Power Cable Length		Power Cable Plug	Mating Receptacle on Power Drop	Mating Receptacle in Wall
	ft	m			
110	5	1.524	5-15P	5-15R	5-15R
230	5	1.524	6-15P	6-15R	6-15R

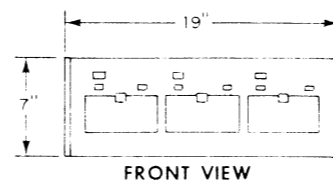
DG-02717

WARNING

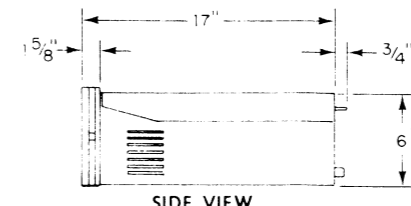
THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY ENERGY AND IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTION MANUAL, MAY CAUSE INTERFERENCE TO RADIO COMMUNICATIONS. AS TEMPORARILY PERMITTED BY REGULATION IT HAS NOT BEEN TESTED FOR COMPLIANCE WITH THE LIMITS FOR CLASS A COMPUTING 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.



CASSETTE



DG-03030



SIDE VIEW

SHIPPING

FOR PACKING PROCEDURE,
SEE 010-000262/263

INTERNAL CABLING

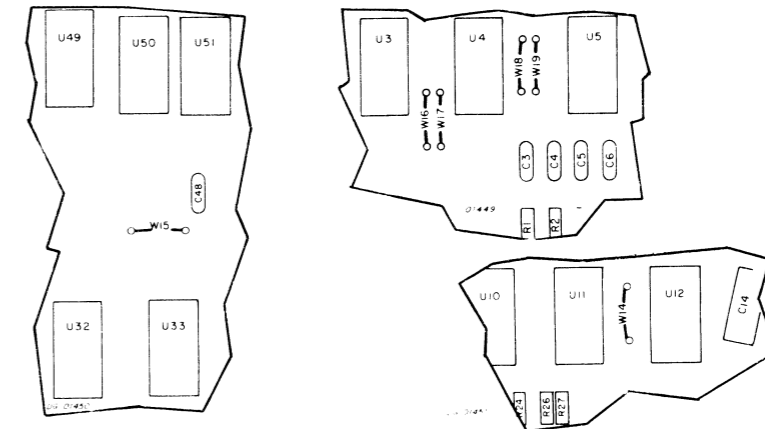
Internal Cable Connections			
Signal Names	Paddleboard Edge Connector Pin Numbers	Destination Pins on Back Panel (NOVA and ECLIPSE Line Computers)	Socket Connector Pin Numbers
CUR	J	A69	1
Rewinding	7	A67	2
W.L.	H	A65	3
BOT	6	A63	4
EOT	5	A61	5
SEL 1	D	A59	6
SEL 2	4	A57	7
SEL 4	2	A49	8
Cas RD DATA	L	A77	9
Cas WT DATA	C	A47	10
Rev	9	A75	11
Rewind Cas	8	A71	12
Writing	K	A73	13
GND	10	A99	14
MOVE	B	A12	15
+5	I & A	A97	16
GND	E & F	A100	18

NOVA 2 ECLIPSE Series Computers	005 003453
NOVA 1210, 1220, 840 Computers	005 003860
NOVA 800, 1200 and SUPERNOVA Computers	005 001167

TAILORING 4077 CONTROLLER

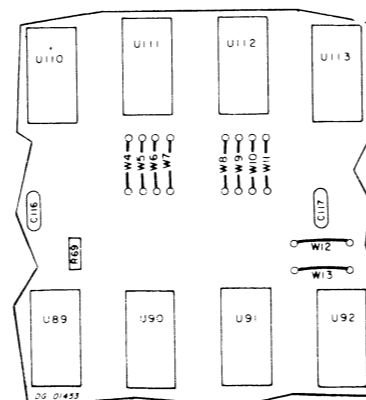
• Device Codes	
Function	Jumpers
Select the primary device codes - 34g for the cassette, 10g for TTI, 11g for TTO, and 13g for RTC	Install jumpers W16, W19 Omit jumpers W14, W15, W17, W18
Select the secondary device codes - 74g for the cassette, 50g for TTI, 51g for TTO, and 53g for RTC	Install jumpers W14, W15, W17, W18 Omit jumpers W16, W19
Select the primary device code - 34g for the cassette, and the secondary device codes - 50g for TTI, 51g for TTO, and 53g for RTC	Install jumpers W15, W17, W19 Omit jumpers W14, W16, W18
Select the secondary device code - 74g for the cassette, and the primary device codes - 10g for TTI, 11g for TTO, and 13g for RTC	Install jumpers W14, W16, W18 Omit jumpers W15, W17, W19

DG-01339 • Ref. DGC 107-000063 REV. 00-06.



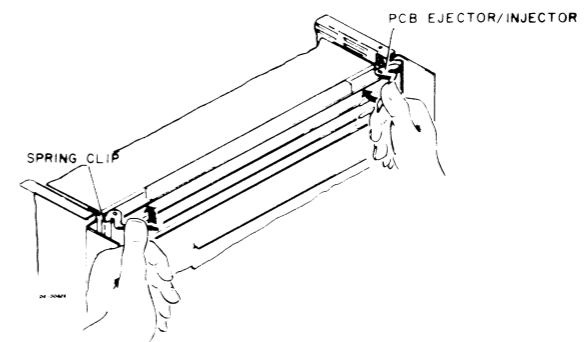
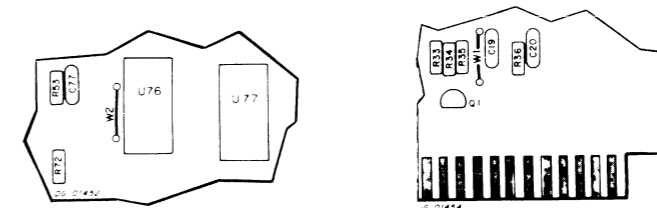
Teletype Baud Rate	
Function	Jumpers
Select 110 baud rate	Install W5, W6, W9, W11, W12* Omit W4, W7, W8, W10, W13*
Select 150 baud rate	Install W4, W5, W6, W7, W10, W11, W12* Omit W8, W9, W13*
Select 300 baud rate	Install W4, W5, W6, W7, W11, W12* Omit W8, W9, W10, W13*
Select 600 baud rate	Install W4, W5, W6, W7, W12* Omit W8, W9, W10, W11, W13*
Select 1200 baud rate	Install W5, W6, W7, W12* Omit W4, W8, W9, W10, W11, W13*
Select 2400 baud rate	Install W6, W7, W12* Omit W4, W5, W8, W9, W10, W11, W13*
Select 4800 baud rate	Install W7, W12 Omit W4, W5, W6, W8, W9, W10, W11, W13*
Select 9600 baud rate	Install W13* Omit W4, W5, W6, W7, W8, W9, W10, W11, W12*

DG-01340
*W12 and W13 are not present in revisions 00-09 of artwork 107-000151.
Rev 107-000151 Revs 00-18



Current or Voltage Loop	
Function	Jumpers
Select the current loop	Install jumpers W1 and W2
Select the EIA voltage loop	Omit jumpers W1 and W2

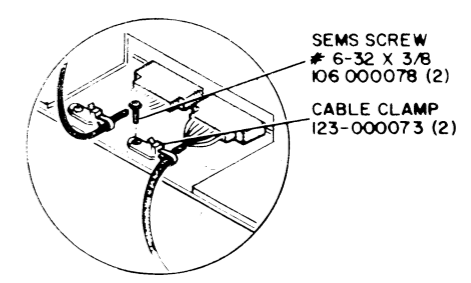
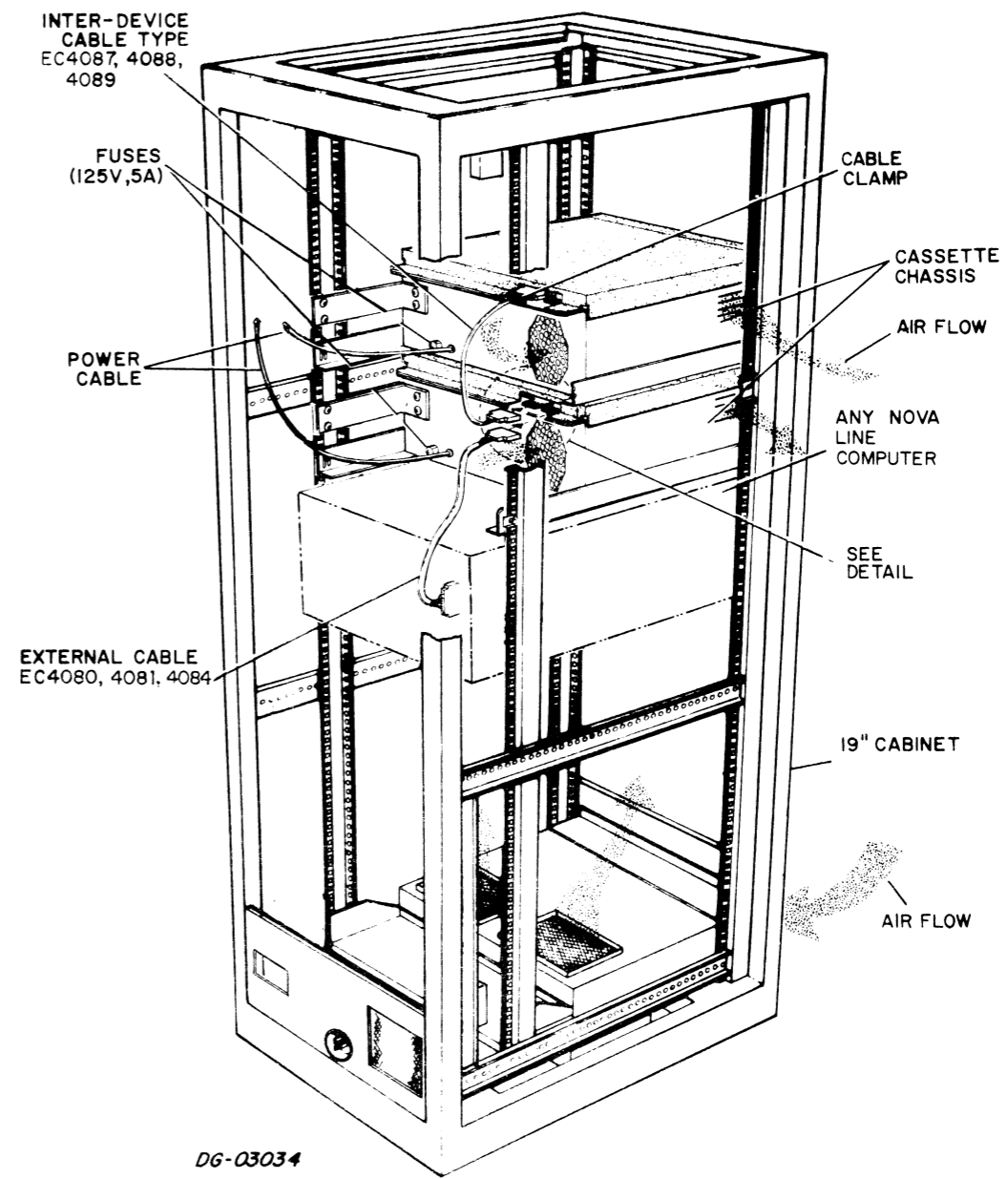
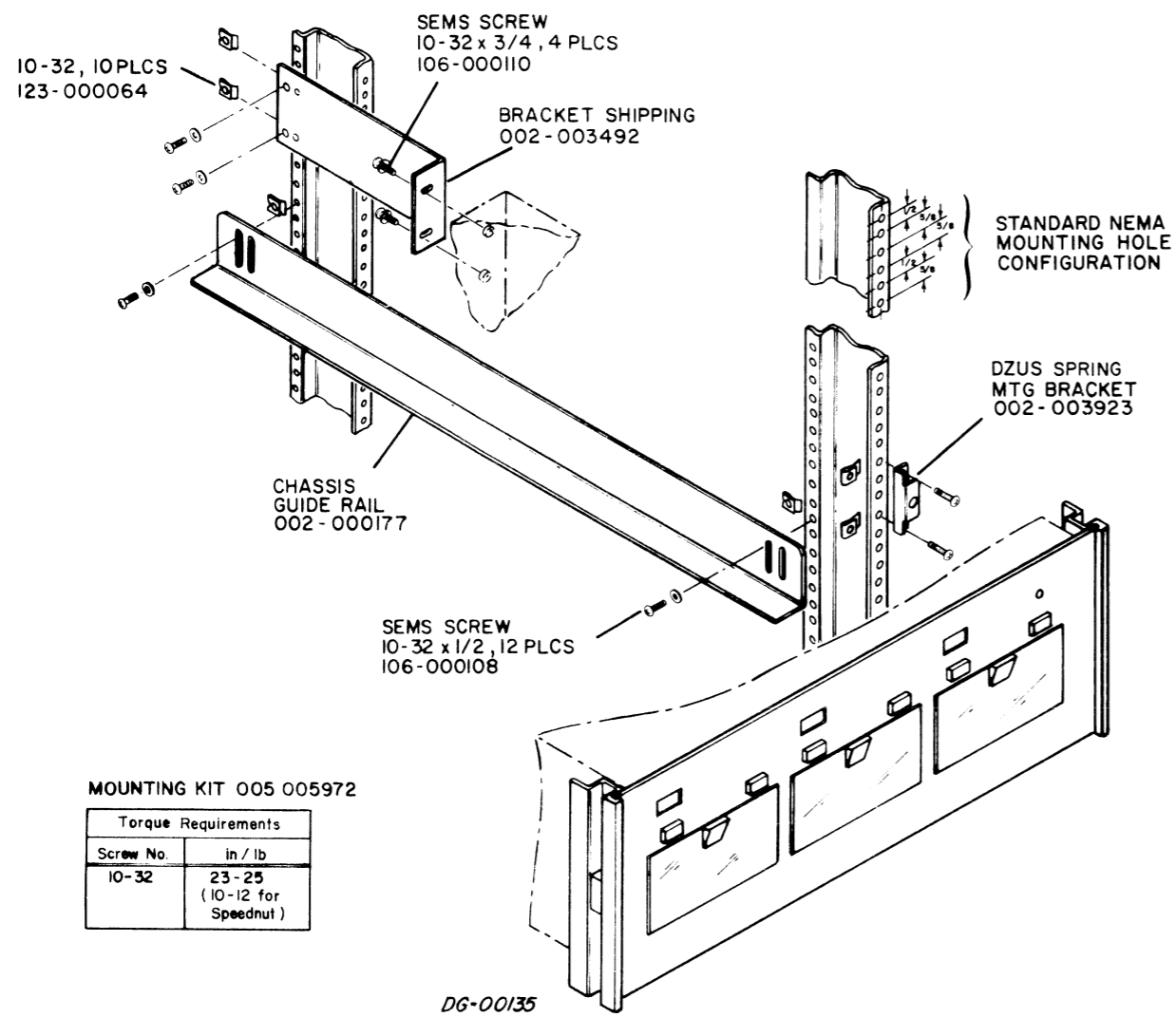
DG-01341 Ref DGC 107-000151 Revs 00-18



INSTALLATION IN A CABINET

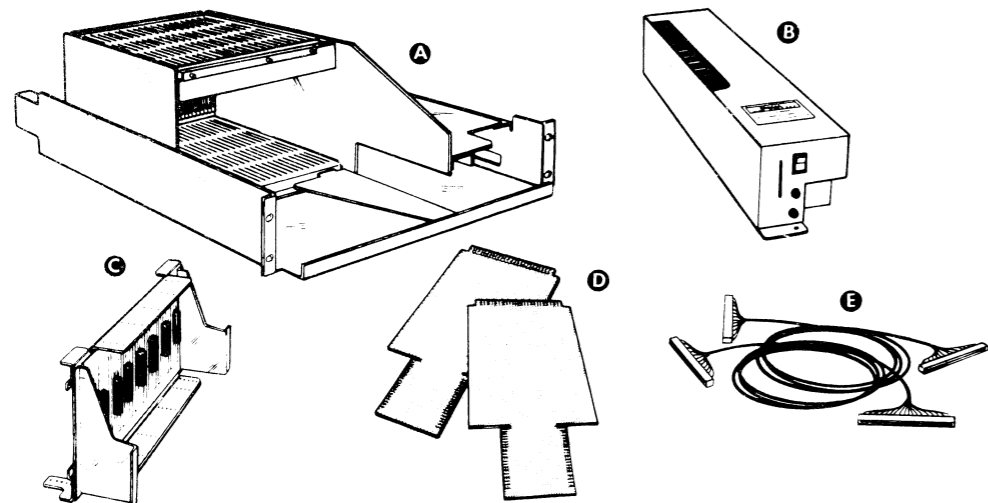
EXTERNAL CABLING

AIR FLOW



NOVA/ECLIPSE SENSOR I/O

SUBSYSTEM COMPONENT BREAKDOWN



MAJOR COMPONENT

Item	Component	Mounting Location	Notes
A	4300 CHASSIS	CABINET	
B	PLUG IN POWER SUPPLY	CHASSIS	MOUNT RIGHT SIDE OF CABINET.
C	TERMINAL PANEL	CABINET (REAR)	MAX 4 PER CABINET.
D	CONTROL CARD	CHASSIS	SLOT 16 or 17 ONLY

D6-02672

CABLE

Item	Cable	Connecting	Max Allowed Lg ft / m	Notes
E	DEVICE CABLE	CPU and 4300 CHASSIS	50 / 15	SUBTRACT 6ft. FROM MAX CABLE LENGTH FOR EACH CONTROL CARD.

D6-02673

CHASSIS SLOT ASSIGNMENTS

Slot	Allowed (Slot Chart)	Assigned	Current Draw		
			+5V	+24V	±21V
0					
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16	CONTROL CARD		3A		
17	CONTROL CARD		3A		

Total Current draw _____
 Max Current Available **12A 3A 2A**
 Current Surplus _____

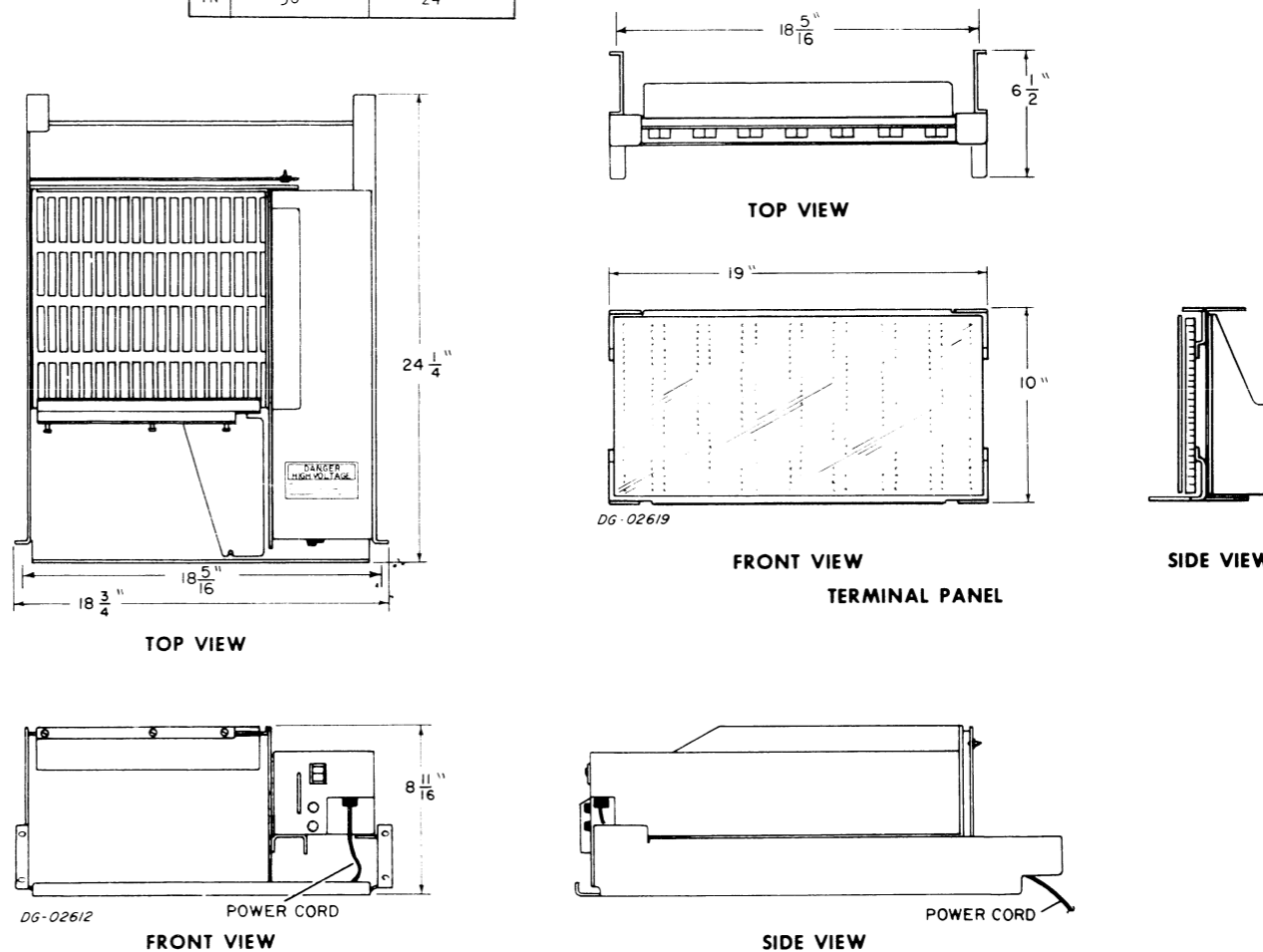
SPECIFICATIONS OF THE CABINET-MOUNTED COMPONENTS

Item	Component	Number in Sub-system	Maximum Operating Temperature		Primary Power			Cabinet Height Required			Weight lbs / kg	Power Dissipation (Max Watts)	Preferred Location or Remarks	Operating Humidity (Relative) min / %max
			Component °C	Media °F / °C	Current (nom) Draw (Amp)	Voltage ±ΔV	Frequency	Area	in.	cm				
AC	CHASSIS & TERM PNL	UP TO 4	131	55	4 ST	+10%	47-63	5	8.75	22.5	60	SEE SHEET 5 and 6	20	
	CHASSIS & TERM PNL	UP TO 4	131	55	3.4 RUN	100-152	47-63	6	10.5	26.7	27.3		400	95
	CHASSIS & TERM PNL	UP TO 4	131	55	3.5 ST	+10%	47-63	5	8.75	22.5	60		20	
	CHASSIS & TERM PNL	UP TO 4	131	55	3 RUN	120-152	47-63	6	10.5	26.7	27.3		400	95
	CHASSIS & TERM PNL	UP TO 4	131	55	1.8 ST	+10%	47-63	5	8.75	22.5	60	20		
	CHASSIS & TERM PNL	UP TO 4	131	55	1.5 RUN	220-152	47-63	6	10.5	26.7	27.3	400	95	
	CHASSIS & TERM PNL	UP TO 4	131	55	1.7 ST	+10%	47-63	5	8.75	22.5	60	20		
	CHASSIS & TERM PNL	UP TO 4	131	55	1.5 RUN	240-152	47-63	6	10.5	26.7	27.3	400	95	

DG-01914

Voltage	Power Cable Length		Power Cable Plug	Mating Receptacle on Power Drop	Mating Receptacle in Wall
	ft	m			
100 Vac	6	1.8			
120 Vac	6	1.8	5-15P	5-15R	5-15R
220 Vac	6	1.8	6-15P	6-15R	6-15R
240 Vac	6	1.8	6-15P	6-15R	6-15R

SERVICE CLEARANCES		
	FRONT & REAR	LEFT & RIGHT
MM	914.6	609.6
IN	36	24



DG-02619

DG-02612

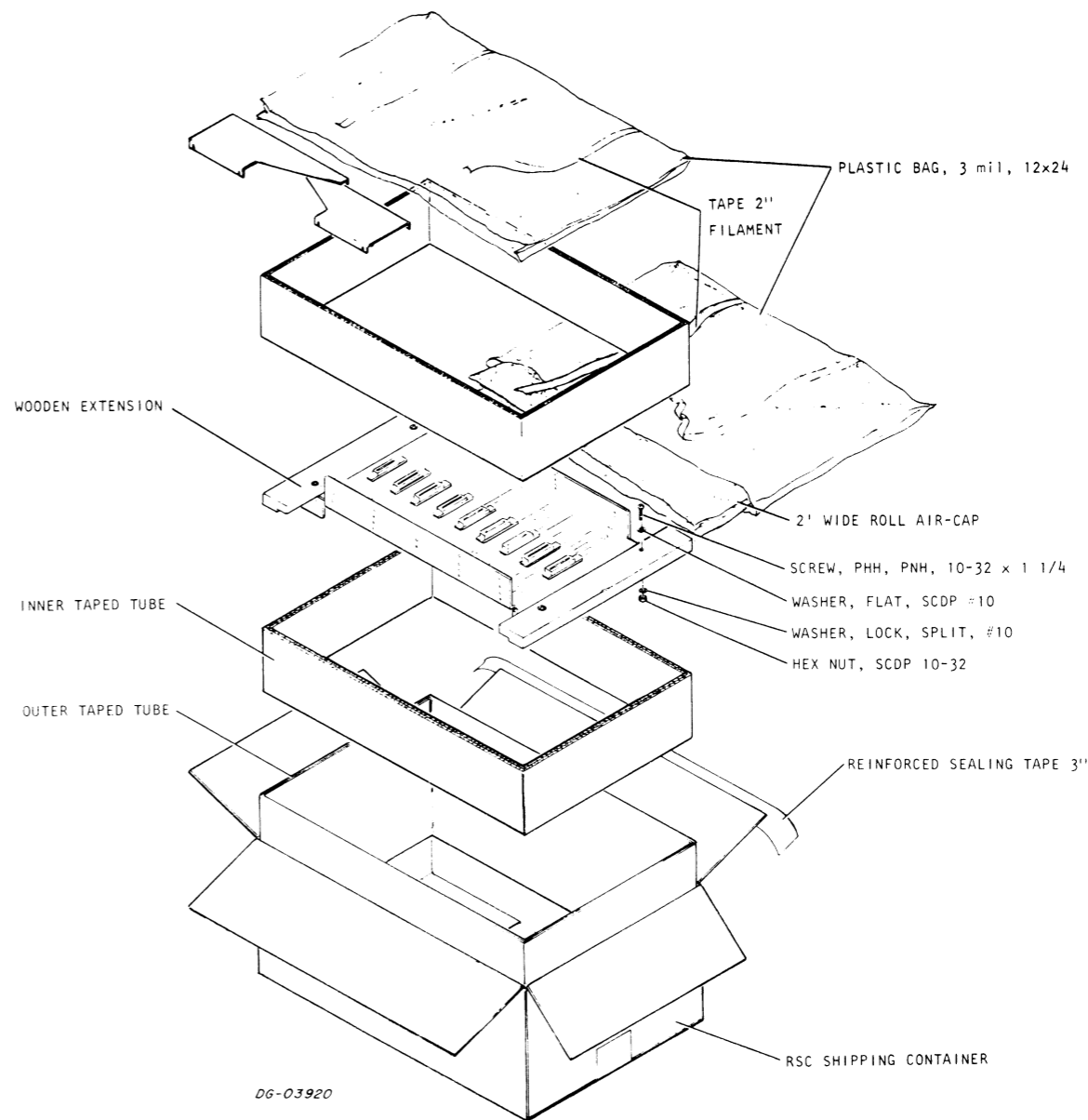
DG/DAC 4300 CHASSIS

SHIPPING

CARD CHASSIS

FOR PACKING PROCEDURE,
SEE 010-000263

TERMINAL PANEL



DG-03920

SHIPPING AND PACKAGE DATA								
Outside Dimensions			Weight (Gross)	Volume	Density			
Length		Width		Depth		lbs.	cu ft	lbs/cu ft
in.	cm	in.	cm	in.	cm			
10	25.4	15.25	38.74	22.12	56.20	8	2	4
						3.6	.06	60

SHIPPING SPECIFICATIONS			STORAGE SPECIFICATIONS		
Temperature Range	Relative Humidity	Maximum Altitude	Temperature Range	Relative Humidity	Maximum Period
$^{\circ}\text{F}$ / $^{\circ}\text{C}$	(Non-condensing)		$^{\circ}\text{F}$ / $^{\circ}\text{C}$	(Non-condensing)	
-40 to +160	0 / 80	50,000 ft. 15,200 m	-40 to +160	0 / 80	90 days
-40 to +71			-40 to +71		

SHIPPING SPECIFICATIONS			STORAGE SPECIFICATIONS		
Temperature Range	Relative Humidity	Maximum Altitude	Temperature Range	Relative Humidity	Maximum Period
$^{\circ}\text{F}$ / $^{\circ}\text{C}$	(Non-condensing)		$^{\circ}\text{F}$ / $^{\circ}\text{C}$	(Non-condensing)	
-40 to +160	0 / 80	50,000 ft. 15,200 m	-40 to +160	0 / 80	90 days
-40 to +71			-40 to +71		

DG-03224

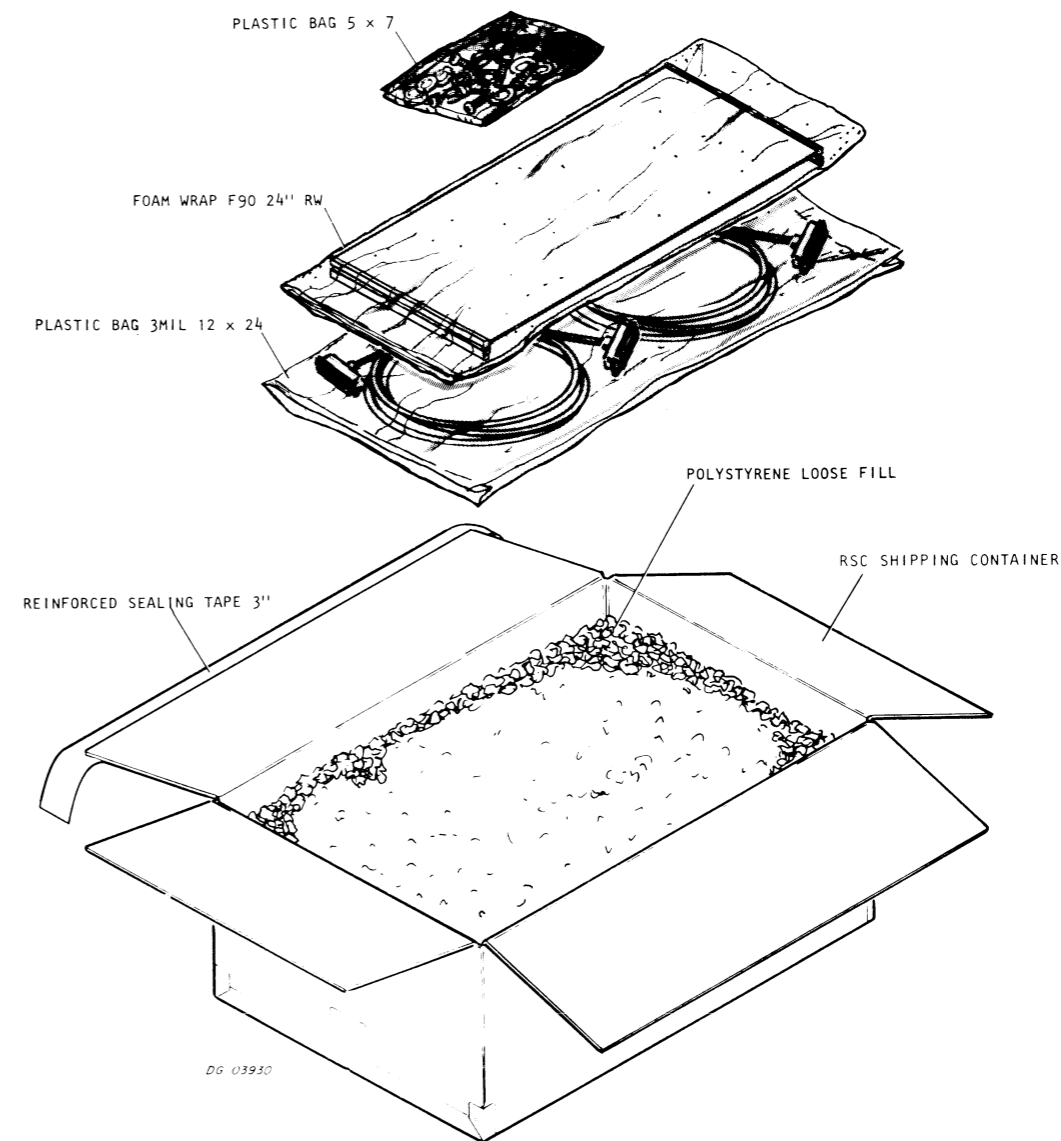
DG-03224

SHIPPING

POWER SUPPLY

FOR PACKING PROCEDURE,
SEE 010-000263

HDWE MTG KIT



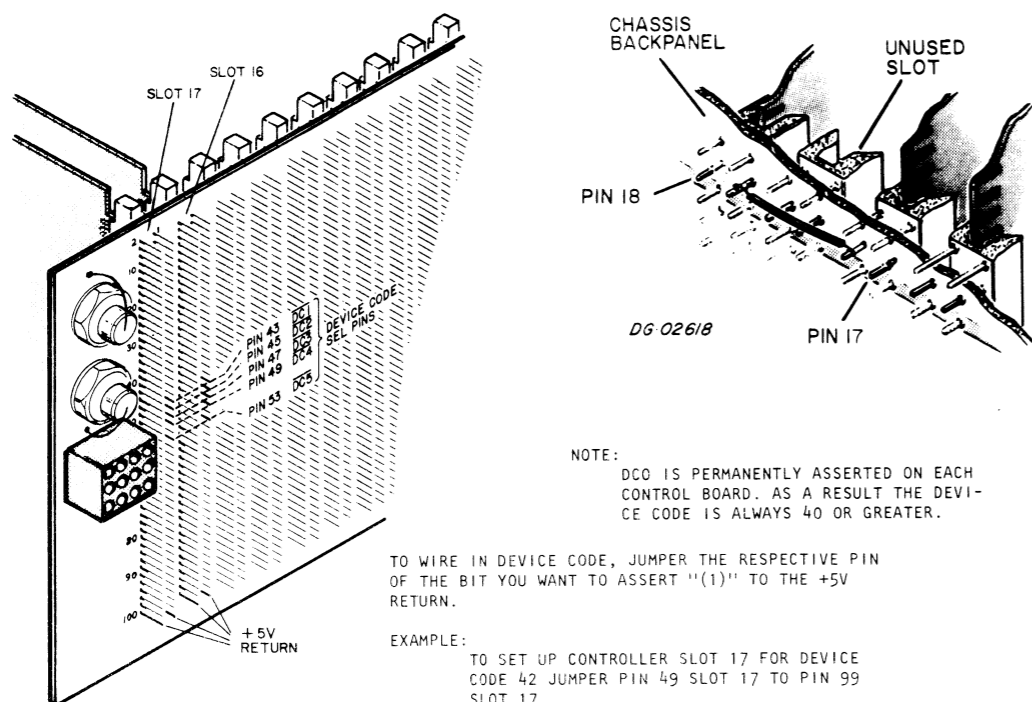
DG 03930

SHIPPING SPECIFICATIONS			STORAGE SPECIFICATIONS		
Temperature Range	Relative Humidity	Maximum Altitude	Temperature Range	Relative Humidity	Maximum Period
$^{\circ}\text{F}$ / $^{\circ}\text{C}$	(Non-condensing)		$^{\circ}\text{F}$ / $^{\circ}\text{C}$	(Non-condensing)	
-40 to +160	0% / 80%	50,000ft. 15,200m	-40 to +160	0% / 30%	90 days
-40 to +71			-40 to +71		

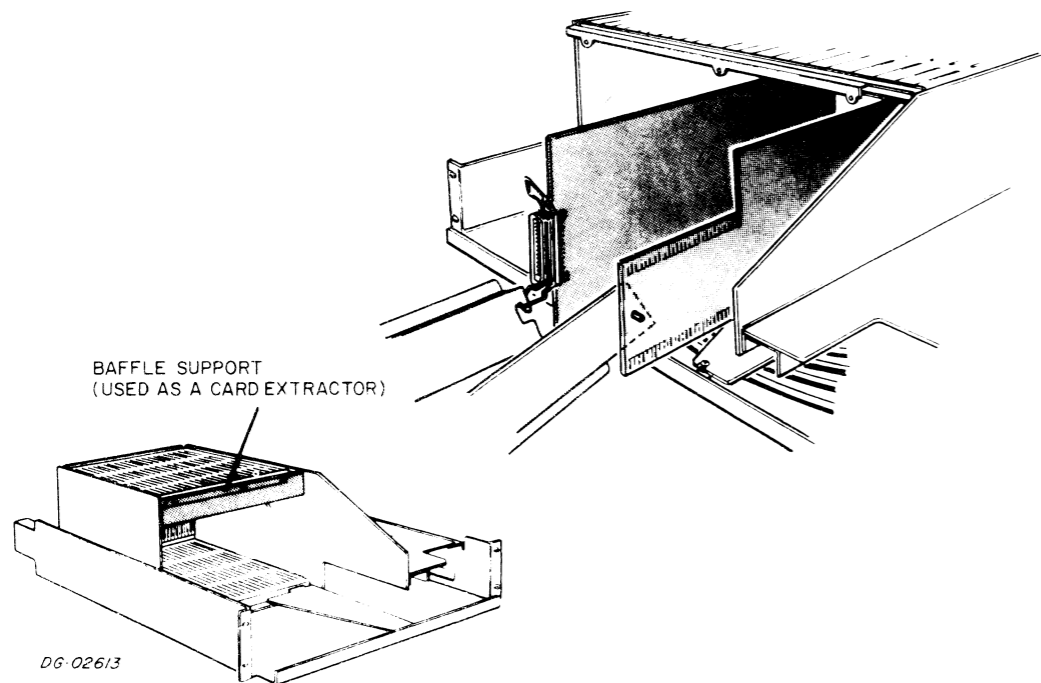
SHIPPING AND PACKAGE DATA								
Outside Dimensions			Weight (Gross)	Volume	Density			
Length	Width	Depth				lbs	cu ft	lbs/cu ft
in.	in.	in.	lbs	cu ft	lbs/cu ft	cm	cm	kg/cu m
cm	cm	cm	kg	cu m	kg/cu m			
21 15/16	14 13/16	10	5	1.88	2.65			
55.72	37.62	25.40	2.25	.05	45			
SHIPPING SPECIFICATIONS				STORAGE SPECIFICATIONS				
Temperature Range	Relative Humidity	Maximum Altitude	Temperature Range	Relative Humidity	Maximum Period			
$^{\circ}\text{F}$ / $^{\circ}\text{C}$	(Non-condensing)		$^{\circ}\text{F}$ / $^{\circ}\text{C}$	(Non-condensing)				
-40 to +160	0% / 80%	50,000ft. 15,200m	-40 to +160	0% / 30%	90 days			
-40 to +71			-40 to +71					

TAILORING

LOGIC BACKPANEL JUMPERING

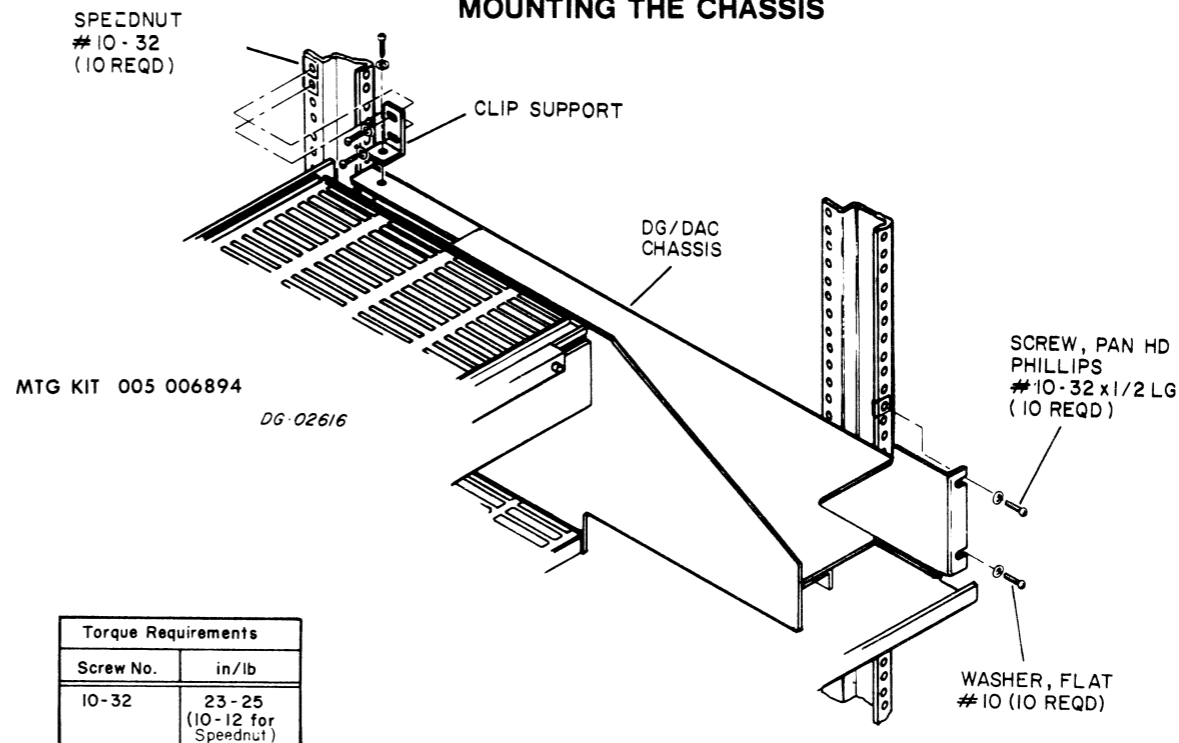


CARD REMOVAL

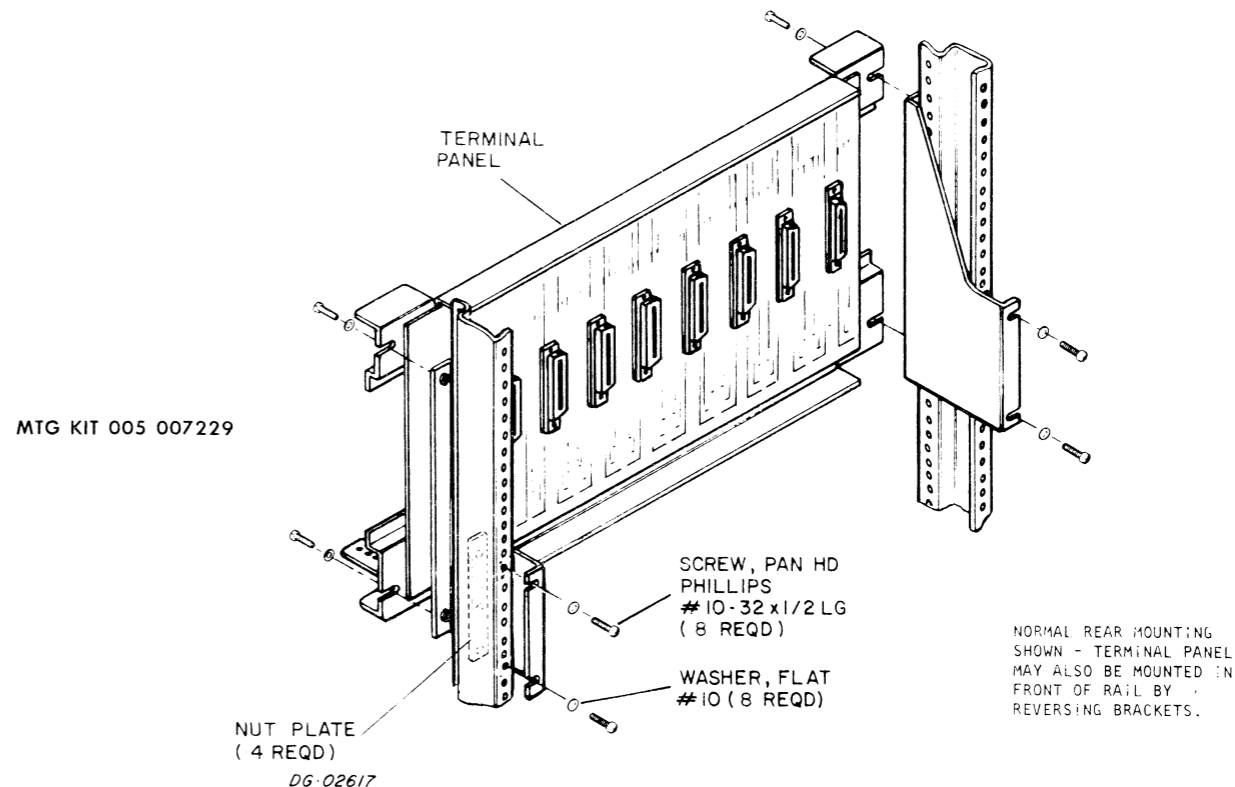


CABINET MOUNTING

MOUNTING THE CHASSIS

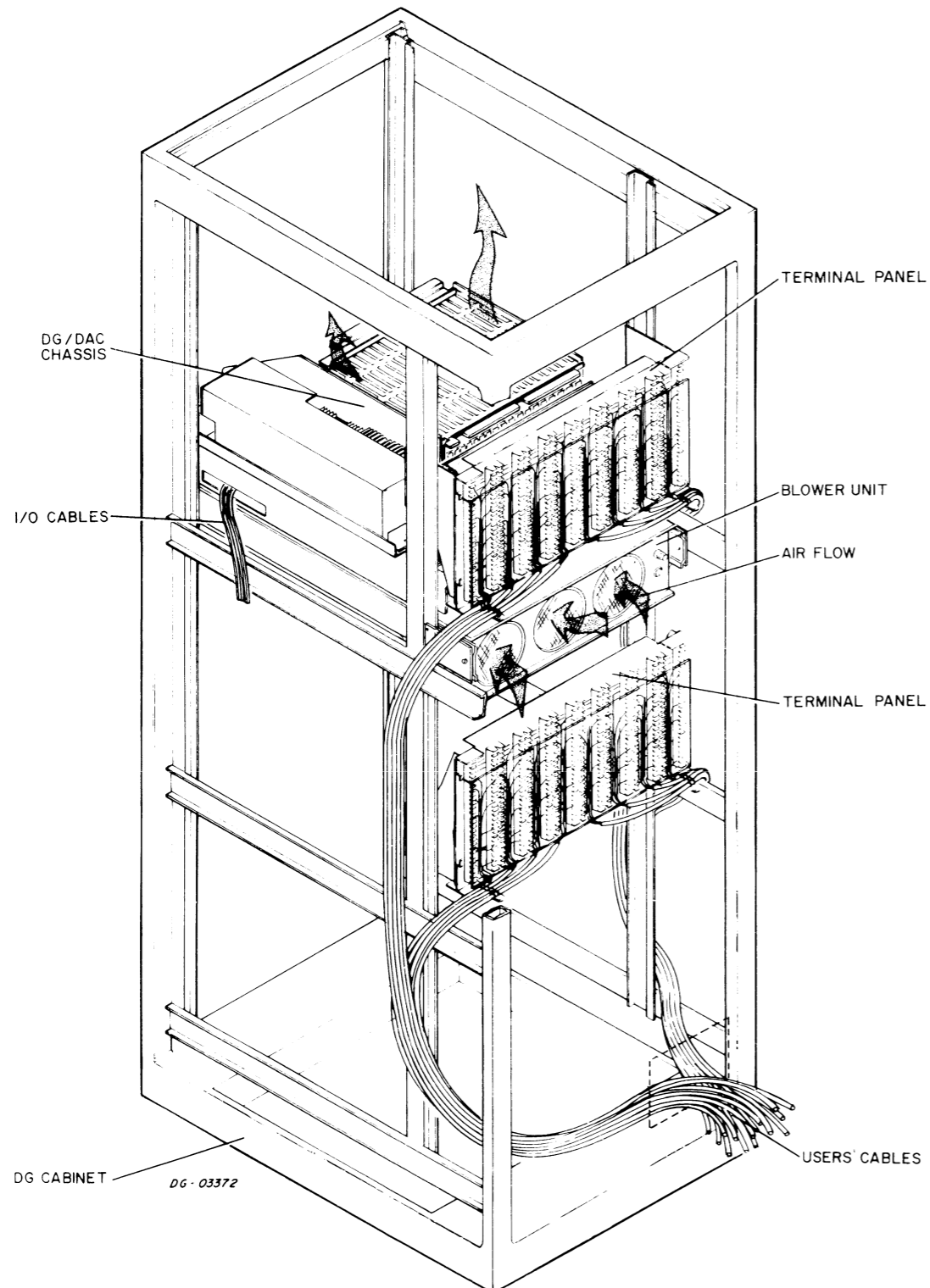


MOUNTING THE TERMINAL PANEL

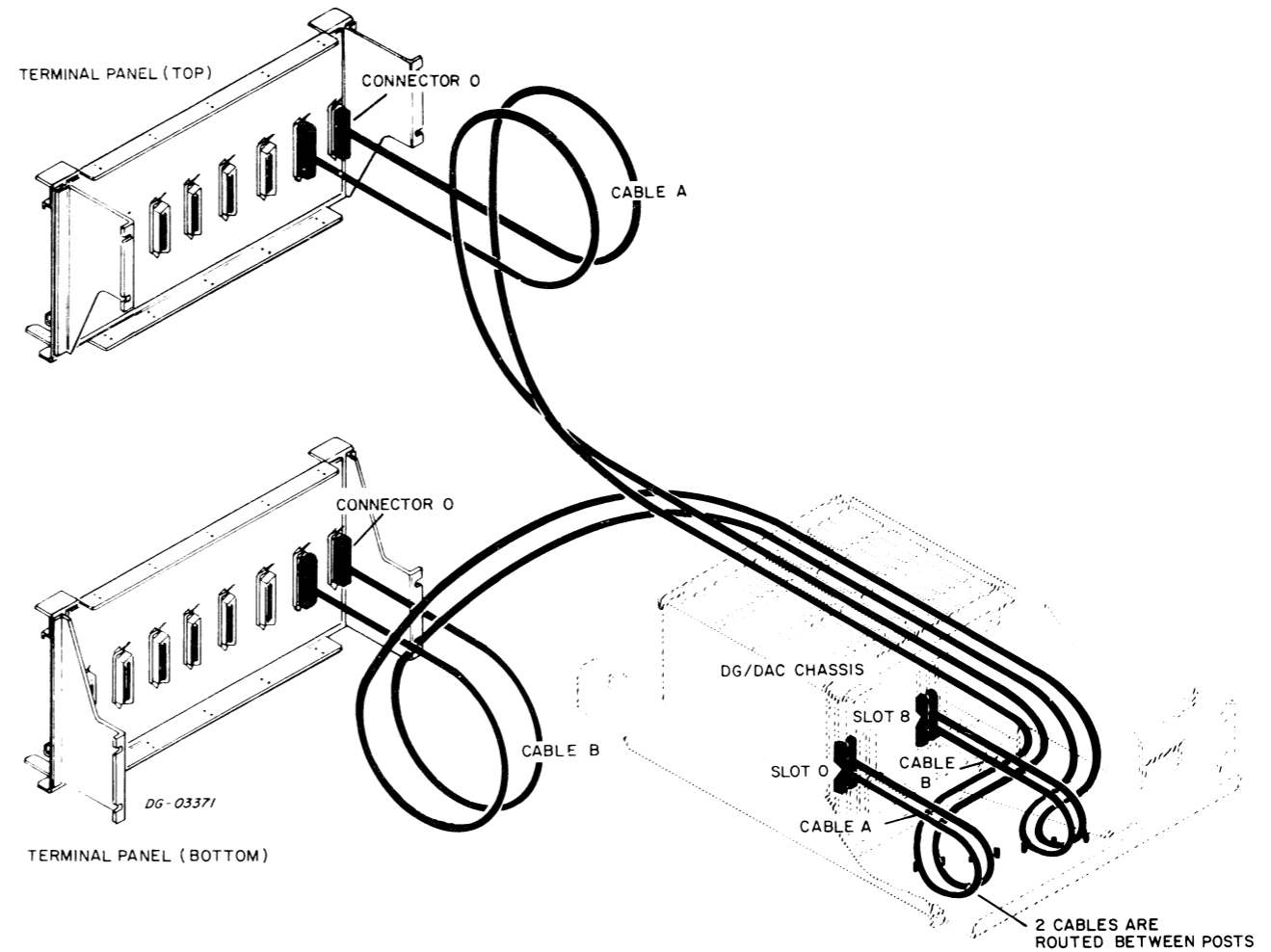


INSTALLATION AND EXTERNAL CABLING

REAR VIEW OF CABINET



FRONT VIEW OF DG/DAC CHASSIS AND TERMINALS.



MAXIMUM POWER DISSIPATION

CONFIGURATION	MAXIMUM POWER DISSIPATION PER CARD		MAXIMUM TOTAL CHASSIS POWER DISSIPATION
	SINGLE SLOT	DOUBLE ² SLOT	
SINGLE CHASSIS, 5 1/4" FREE SPACE ABOVE AND BELOW CHASSIS	2.5W	5.0W	40W
SINGLE CHASSIS, AUX OR CABINET BLOWER DIRECTLY BELOW UNIT	40W	60W	400W
TWO CHASSIS, DIRECTLY ABOVE AUX OR CABINET BLOWER	10 TOP 25 BOTTOM	15 TOP 30 BOTTOM	100 TOP 300 BOTTOM

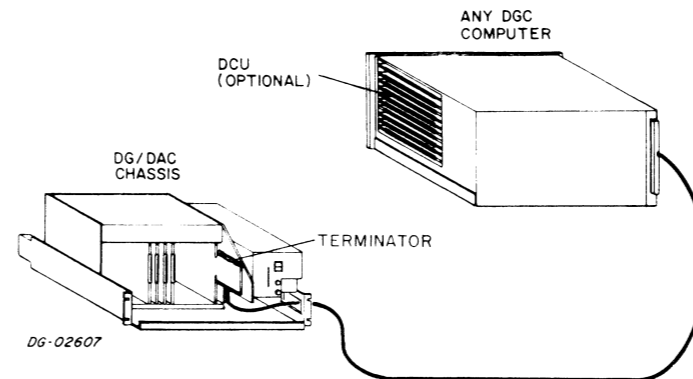
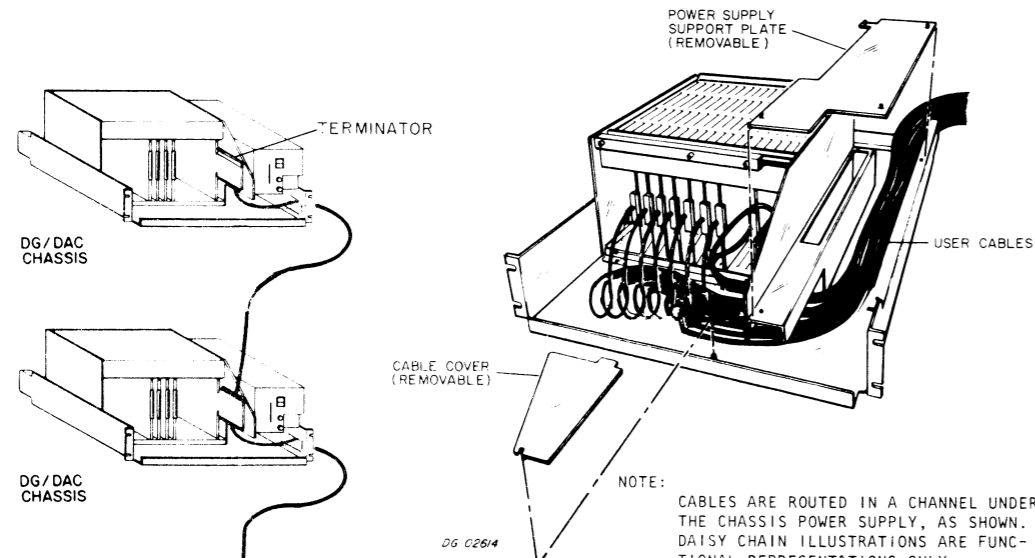
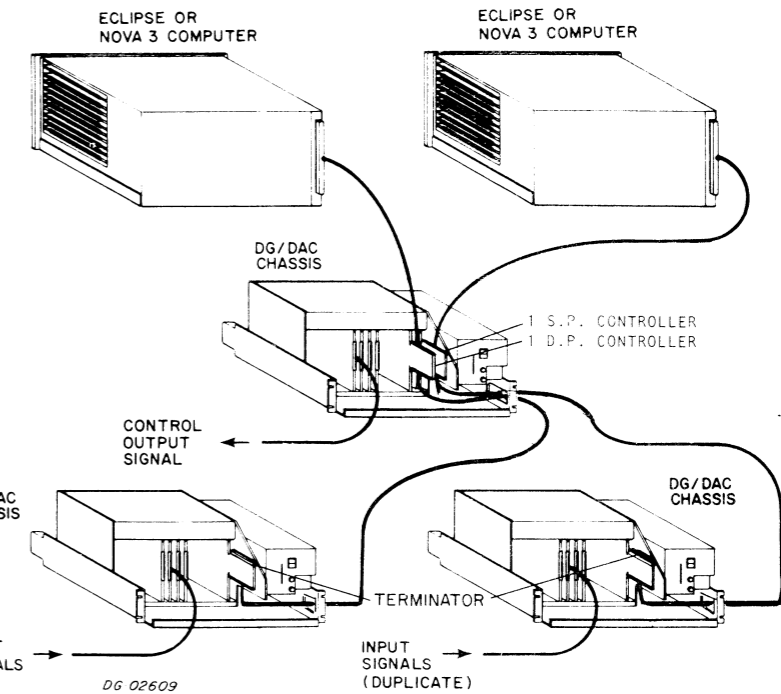
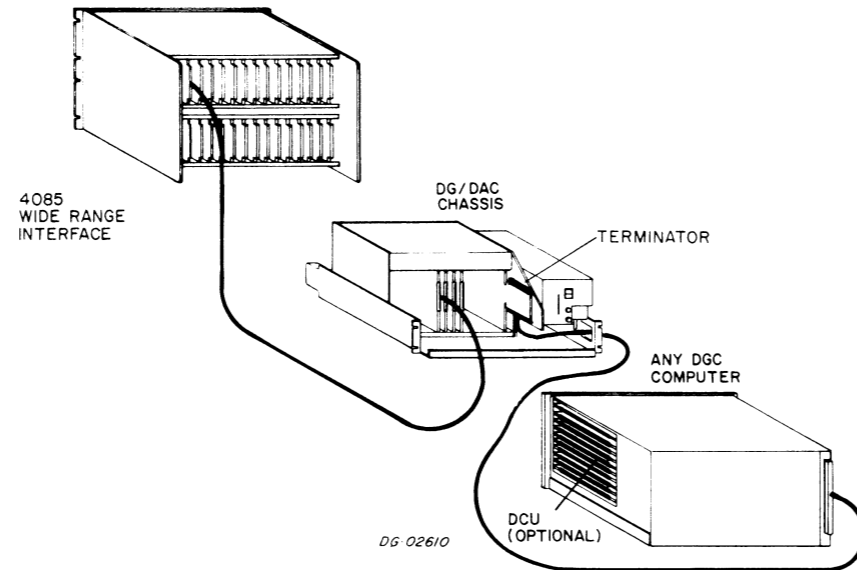
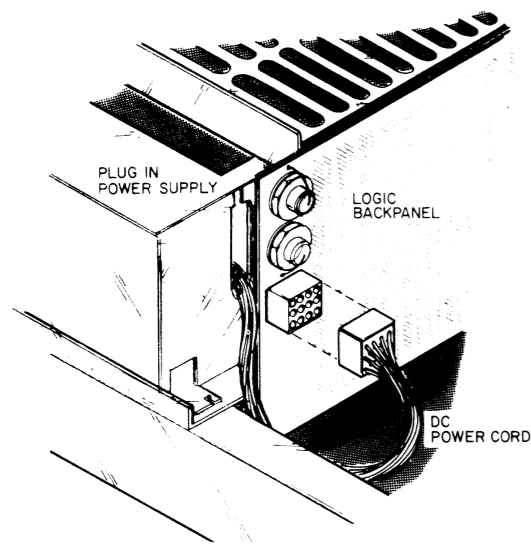
*THE 4294 TRIAC OUTPUT CARD REQUIRES TWO CHASSIS SLOTS.

NOTES

1. REDUCE THE MAXIMUM POWER BY 20% FOR 50Hz BLOWER OPERATION.
2. THE 1079 ENCLOSURE IN ALL CASES REQUIRES AN AUXILIARY BLOWER UNIT.
3. A MINIMUM CLEARANCE OF 5-1/2 in ON TOP OF THE CHASSIS MUST BE PROVIDED FOR AIR FLOW.

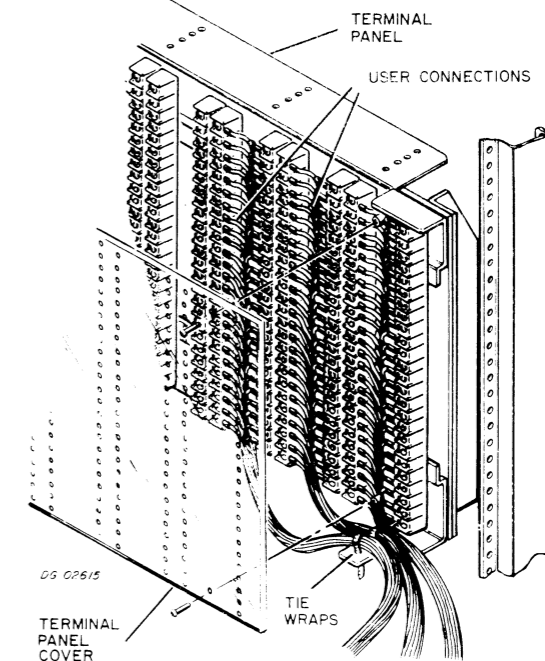
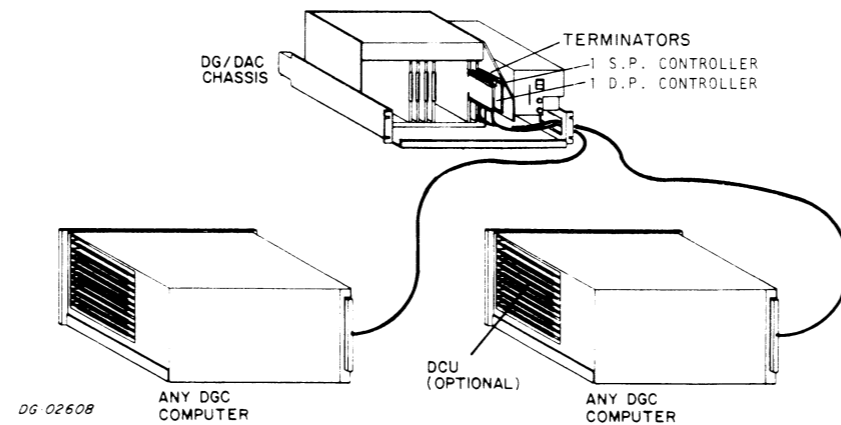
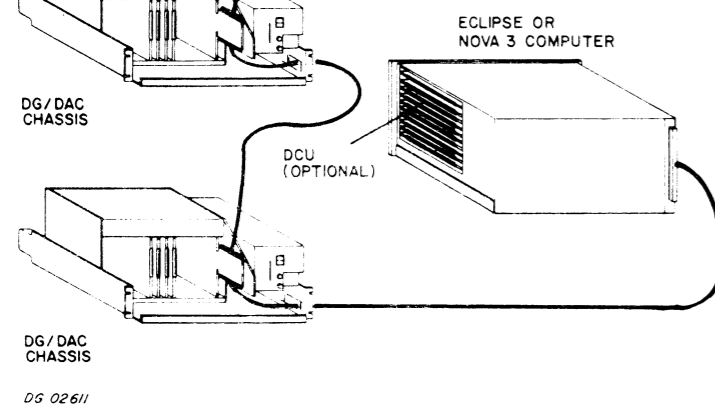
EXTERNAL CABLING

DC POWER SUPPLY TO BACKPANEL



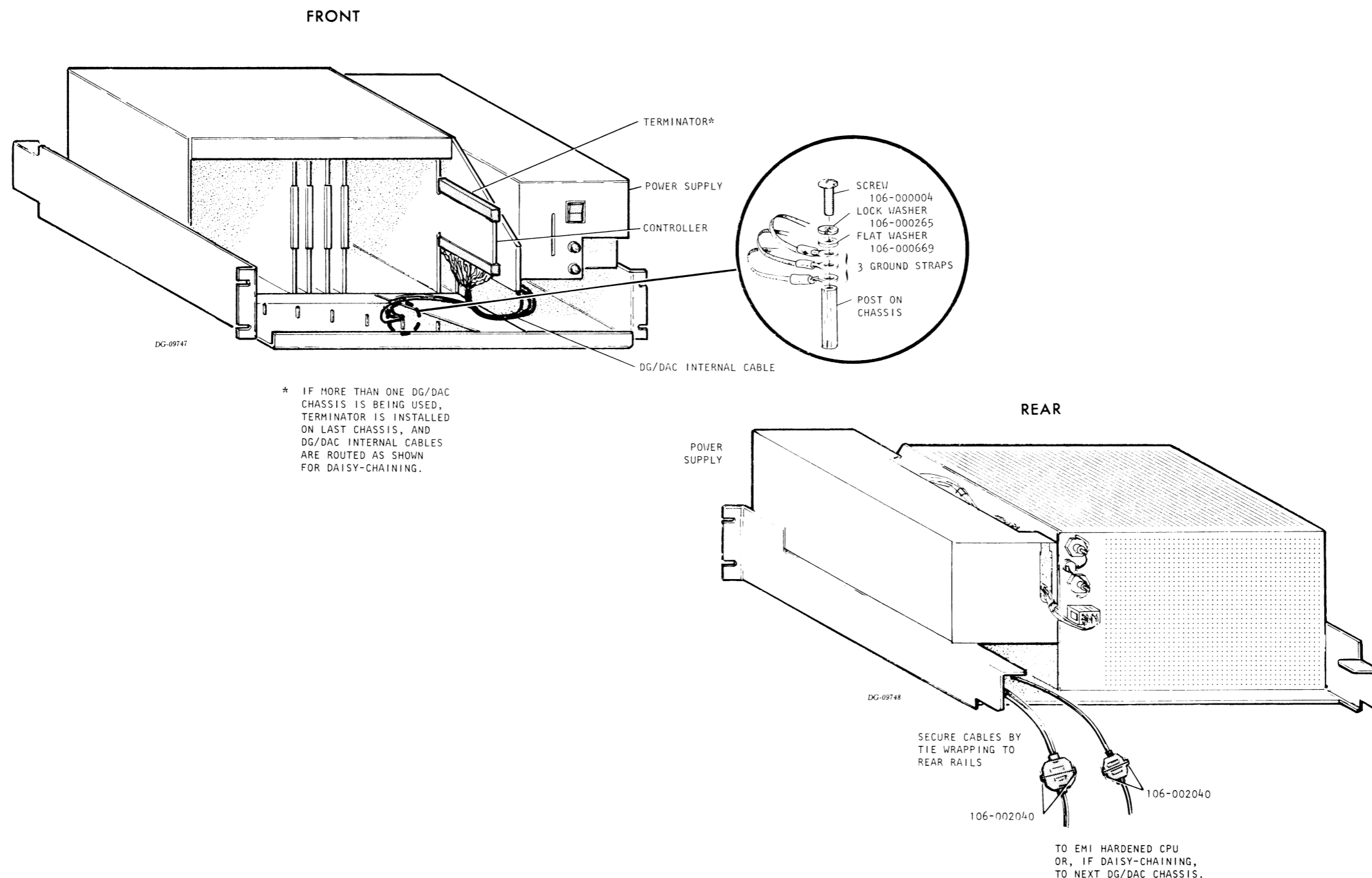
NOTE:
 WHEN USING INTERNAL CABLES 9005-012751 OR 005-012476) INTER-
 FACE TO THE 4300 EXTERNAL CABLE, ENSURE THE FOLLOWING:
 (1) FOR 005-012751, TWISTED PAIR WIRE B-74 TO J1-A, AND
 B-89 TO J1-2 IS REMOVED.
 (2) FOR 005-012476, TWISTED PAIR WIRE B-69 TO J1-A, AND
 B-80 TO J1-1 IS REMOVED.

USER CONNECTIONS

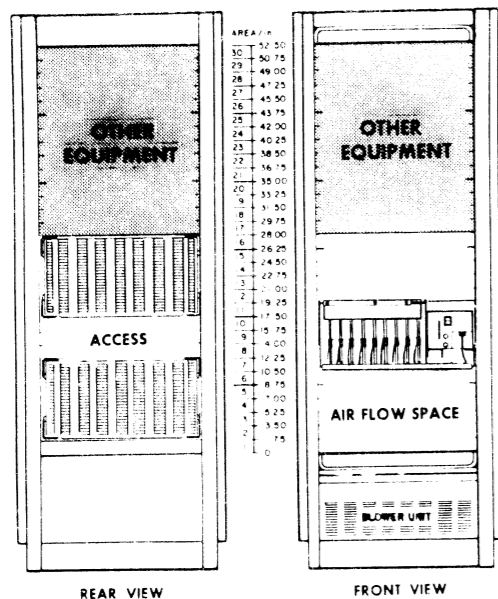


EXTERNAL CABLING (CONT)

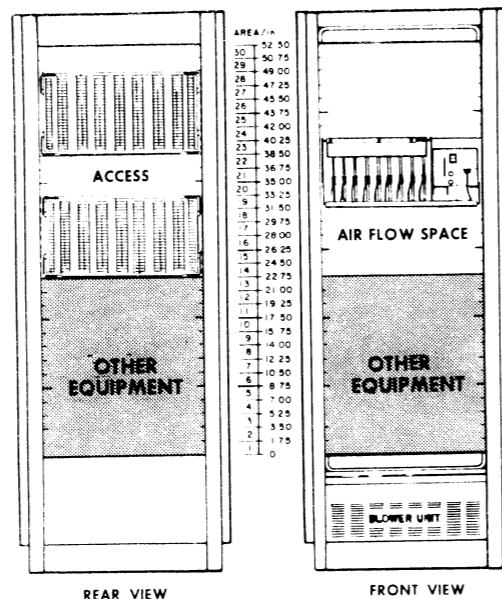
EMI HARDENED PRODUCTS (MV/4000 and S/280)



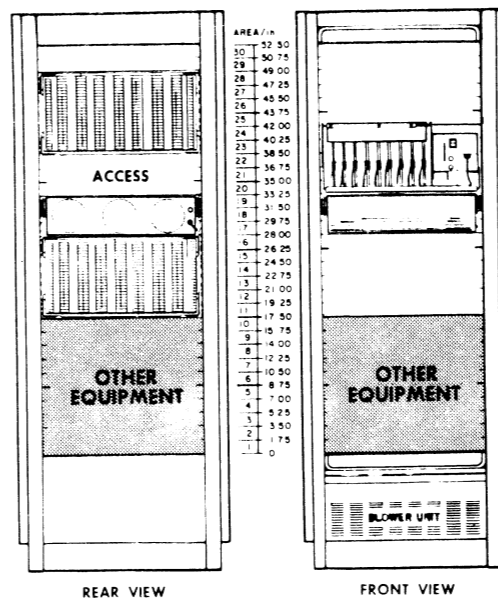
CABINET CONFIGURATIONS



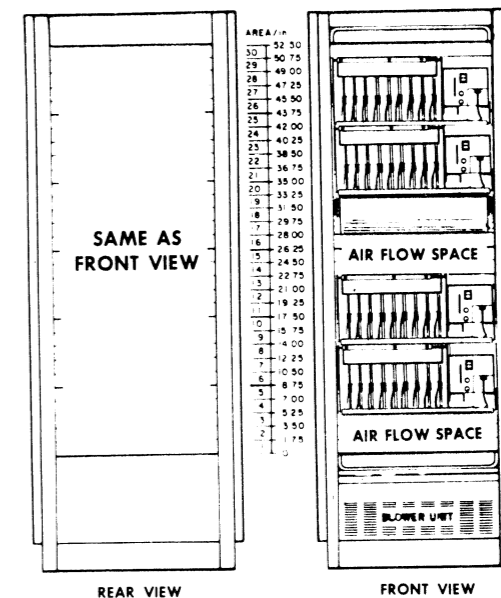
REAR VIEW FRONT VIEW
SINGLE CHASSIS, 5 1/4" FREE SPACE ABOVE AND CABINET BLOWER DIRECTLY BELOW CHASSIS (USE 6ft. I/O CABLES)



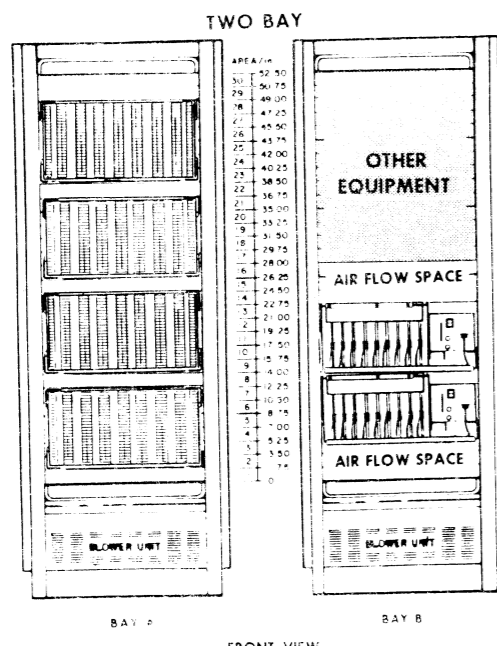
REAR VIEW FRONT VIEW
SINGLE CHASSIS, 5 1/4" FREE SPACE ABOVE AND BELOW CHASSIS (USE 6ft. I/O CABLES)



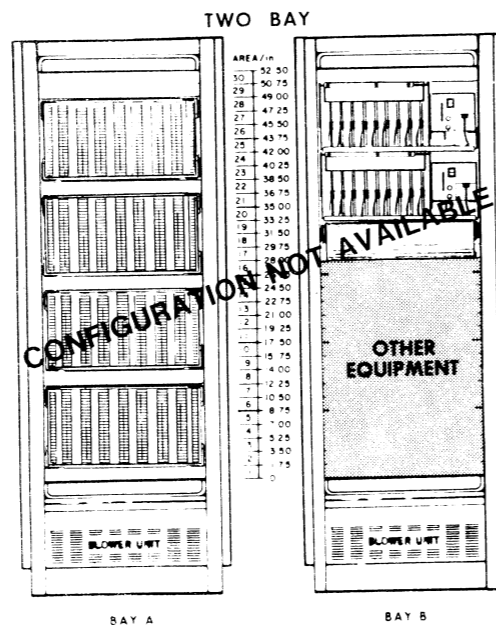
REAR VIEW FRONT VIEW
SINGLE CHASSIS, AUX BLOWER DIRECTLY BELOW UNIT (USE 6ft. I/O CABLES)



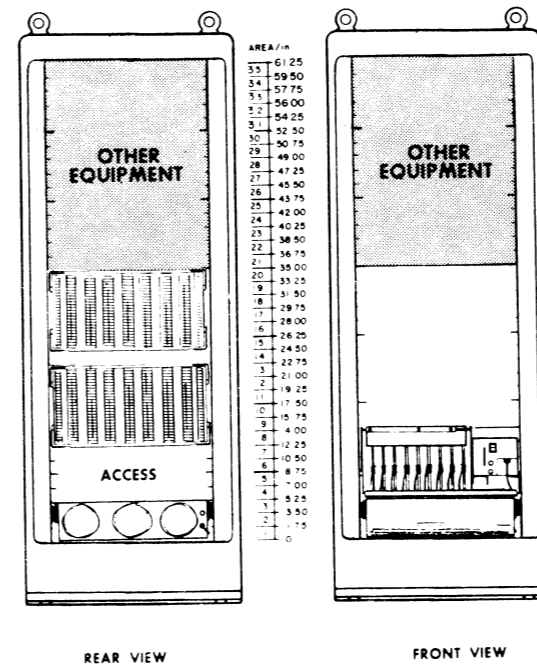
REAR VIEW FRONT VIEW
SAME AS FRONT VIEW
4 CHASSIS, EXTERNAL TERMINAL PANELS. (USE 18ft. I/O CABLES)



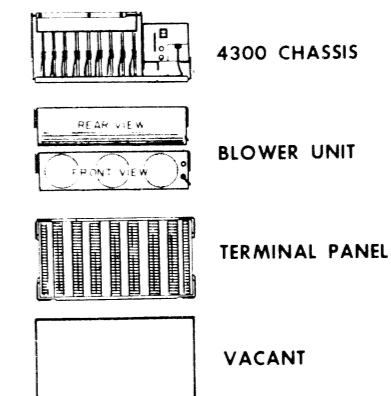
BAY A BAY B
FRONT VIEW
TWO CHASSIS, NO AUX BLOWER UNIT, BOTTOM CHASSIS DIRECTLY ABOVE CABINET BLOWER (USE 10ft. I/O CABLES)



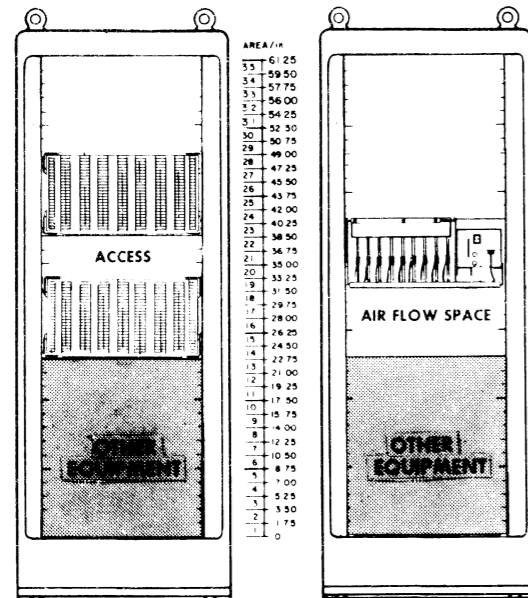
BAY A BAY B
FRONT VIEW
TWO CHASSIS WITH AUX BLOWER UNIT (USE 10ft. I/O CABLES)



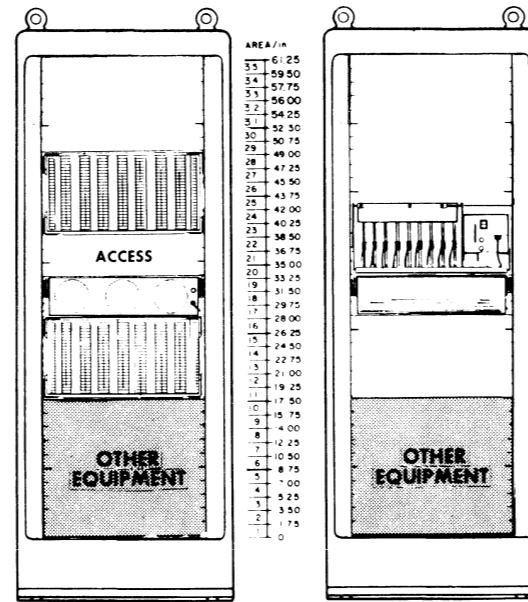
REAR VIEW FRONT VIEW
SINGLE CHASSIS, AUX BLOWER DIRECTLY BELOW UNIT IN 1079 SERIES ENCLOSURES. (USE 6ft. I/O CABLES)



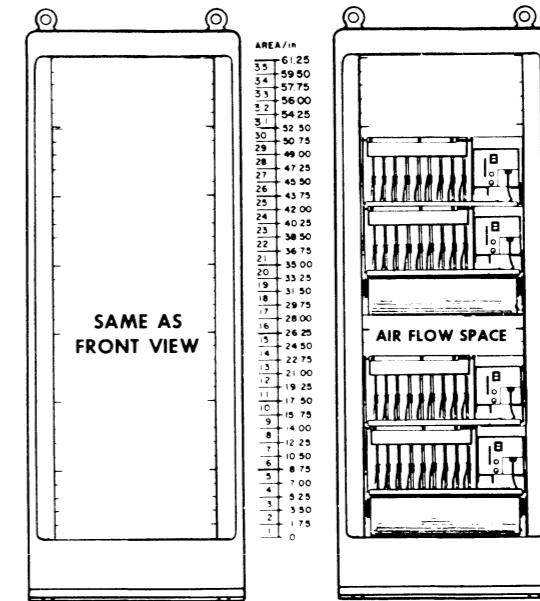
CABINET CONFIGURATION (CONT) 1079 SERIES ENCLOSURES



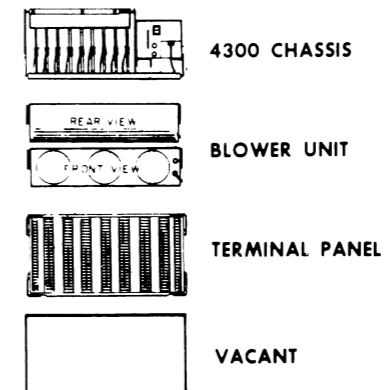
REAR VIEW
SINGLE CHASSIS, 5 1/4" FREE SPACE ABOVE AND BELOW CHASSIS
(USE 6ft. I/O CABLES)



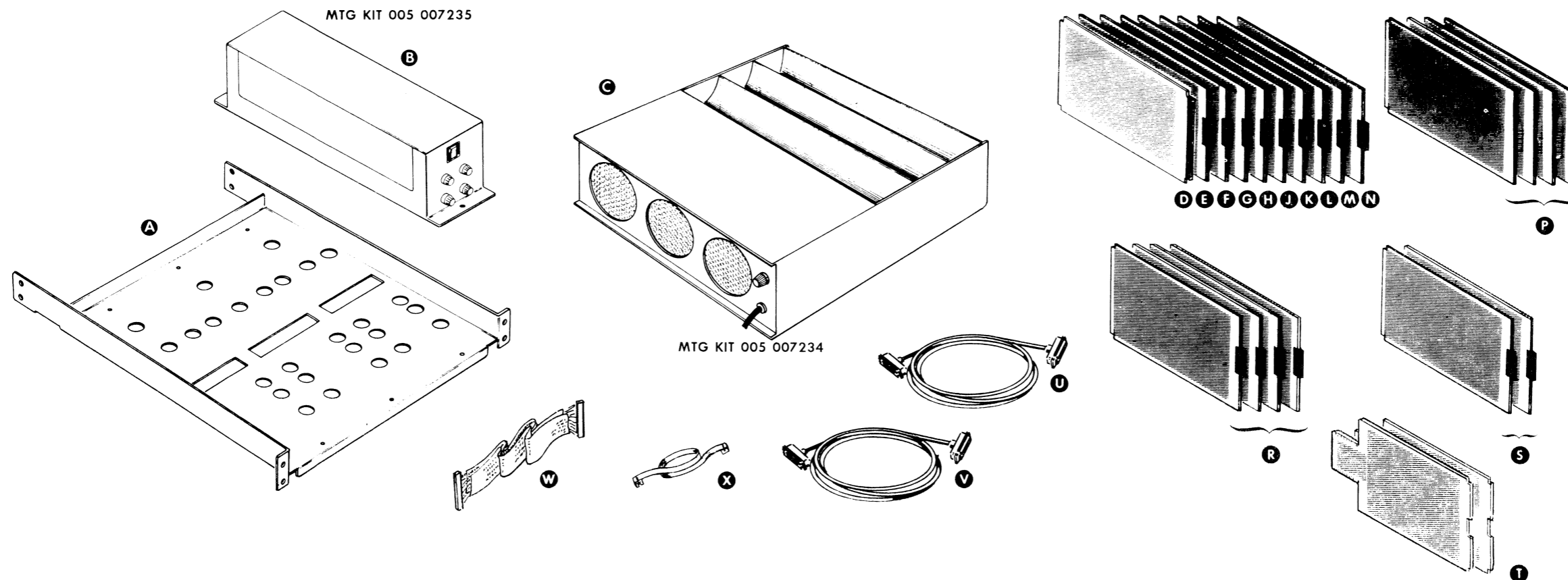
REAR VIEW
SINGLE CHASSIS, AUX BLOWER DIRECTLY BELOW UNIT
(USE 6ft. I/O CABLES)



REAR VIEW
4 CHASSIS, EXTERNAL TERMINAL PANELS.
(USE 18ft. I/O CABLES)



SUBSYSTEM COMPONENT BREAKDOWN



MAJOR COMPONENT

Item	Component	Mounting Location	Notes
A	AUX POWER SUPPLY FRAME	CABINET	
B	AUXILIARY POWER SUPPLY	CHASSIS (PS)	1 TO 3 PER CHASSIS
C	BLOWER UNIT	CABINET	
D	EXTENDER CARD	DG/DAC CHASSIS SLOT 0-17	FOR MAINTENANCE PURPOSES
E	GENERAL PURPOSE WIRING CARD	DG/DAC CHASSIS SLOT 0-15	
F	GENERAL PURPOSE DIGITAL INPUT	DG/DAC CHASSIS SLOT 0-15	
G	TTL DIGITAL INPUT	DG/DAC CHASSIS SLOT 0-15	
H	ISOLATED DC DIGITAL OUTPUT	DG/DAC CHASSIS SLOT 0-15	
J	PULSE DC DIGITAL OUTPUT	DG/DAC CHASSIS SLOT 0-15	
K	ISOLATED AC DIGITAL OUTPUT	DG/DAC CHASSIS SLOT 0-15	
L	FORM "A" RELAY DIGITAL OUTPUT MODULE	DG/DAC CHASSIS SLOT 0-15	
M	FORM "C" RELAY DIGITAL OUTPUT MODULE	DG/DAC CHASSIS SLOT 0-15	
N	TTL DIGITAL OUTPUT MODULE	DG/DAC CHASSIS SLOT 0-15	
P	A/D CONVERTER	SEE NOTE 1	±10V INPUT RANGE
	A/D CONVERTER	SEE NOTE 1	±5V INPUT RANGE
	A/D CONVERTER	SEE NOTE 1	0 to +10V INPUT RANGE
	A/D CONVERTER	SEE NOTE 1	0 to +5V INPUT RANGE

DG-02672

MAJOR COMPONENT

Item	Component	Mounting Location	Notes
R	DIF MUX	SEE NOTE 1	DIF VOLTAGE INPUT JUMPER SELECTOR GAIN
	DIF MUX PROGRAMMABLE GAIN	SEE NOTE 1	DIF VOLTAGE INPUT PROGRAMMABLE GAIN
	CURRENT LOOP MUX	SEE NOTE 1	CURRENT INPUT JUMPER SELECTOR GAIN
	SINGLE ENDED MUX	SEE NOTE 1	SINGLE ENDED INPUT
S	ANALOG VOLTAGE OUTPUT	DG/DAC CHASSIS SLOT 0-15	0-10V, 0-5V, ±10V, ±5V, SWITCH SELECTABLE
	ANALOG CURRENT OUTPUT	DG/DAC CHASSIS SLOT 0-15	0-16mA or 4-20mA JUMPER SELECTABLE
T	NOVA, ECLIPSE LINE DG/DAC CONTROLLER	DG/DAC CHASSIS SLOT 16 OR 17	ITEM W AND I/O BUS TERMINATOR REQUIRED
	MICRONOVA DG/DAC CONTROLLER	DG/DAC CHASSIS SLOT 16 OR 17	ITEM X AND I/O BUS TERMINATOR (111-000804) REQUIRED.

DG-02672

NOTE 1

ONE A/D CARD AND AT LEAST ONE MUX CARD ARE NEEDED FOR AN A/D SUBSYSTEM. ALL MUX CARDS ASSOCIATED WITH AN A/D CARD MUST BE PLACED IN ADJACENT CONSECUTIVE HIGHER NUMBERED CHASSIS SLOTS.

CABLE

Item	Cable	Connecting	Max Allowed Lg ft / N/A / m	Notes
U	ANALOG CABLE	MODULE and TERMINAL PNL		
V	DIGITAL CABLE	MODULE " TERMINAL PNL		
W	NOVA, ECLIPSE LINE I/O CABLE	DG/DAC CONTROLLER " CPU BACKPANEL		
X	MICRONOVA I/O CABLE	DG/DAC CONTROLLER " CPU BACKPANEL		

SPECIFICATIONS OF THE CHASSIS MOUNTED COMPONENTS

Item	Component	No. of Slots Required	+5V Current Draw (Amps)	+24V Current Draw (Amps)	± 21V Current Draw (Amps)	Internal Power Dis (Watts)	External Power Dis (Watts)
G 4291	TTL DIG INPUT	1	.5	-	-	2.5	-
H 4292	ISOL DC DIG OUTPUT	1	.6	-	-	3.0	60 (5)
J 4293	PULSE DC DIG OUTPUT	1	1	-	-	5.0	60 (5)
K 4294	ISOL AC DIG OUTPUT	2	.6	-	-	3.0	38 (6)
L 4296	FORM "A" RELAY DIG OUTPUT MOD.	1	.3	.18	-	5.8	-
M 4297	FORM "C" RELAY DIG OUTPUT MOD.	1	.3	.18	-	5.8	-
N 4299	TTL DIG OUTPUT MOD.	1	.5	-	-	2.5	-
4280	A/D CONVERTER	1	1.1	-	.1	10.5	-
4280 A	A/D CONVERTER	1	1.1	-	.1	10.5	-
4280 B	A/D CONVERTER	1	1.1	-	.1	10.5	-
4280 C	A/D CONVERTER	1	1.1	-	.1	10.5	-
4281	DIF MUX	1	.3	-	.05	3.6	-
4281 G	DIF MUX PROGR GAIN	1	.3	-	.05	3.6	-
R 4281 C	CURRENT LOOP MUX	1	.3	-	.05	3.6	4 (2)
4282	SINGLE ENDED MUX	1	.3	-	.05	3.6	-
4288	ANALOG VOLTAGE OUTPUT	1	.8	-	.16	11.7	3
S 4289	ANALOG CURRENT OUTPUT	1	.8	.08 (1)	.1	11.2	7(3)

- NOTES:
1. WHEN USED AS CURRENT SOURCE.
 2. IF EXTERNAL CURRENT IS KNOWN USE: $P = 200I^2$
 3. IF EXTERNAL VOLTAGE AND CURRENT ARE KNOWN USE: $P = IV$
 4. IF EXTERNAL VOLTAGE IS KNOWN USE: $P = \frac{V \cdot I \cdot K}{1000K}$ K = 1.1 for AC
K = 0.6 for DC
 5. IF EXTERNAL CURRENT IS KNOWN USE: $P = I (1.2 + I)$
 6. IF EXTERNAL CURRENT IS KNOWN USE: $P = 1.2I$
 7. IN ABOVE EQUATIONS I IS IN AMPS, V IS IN VOLTS.

MAXIMUM CURRENT OUTPUT FROM THE CHASSIS POWER SUPPLY CANNOT EXCEED 12A FOR +5V, 3A FOR +24V, AND 2A FOR ± 21V.

DG/DAC SENSOR I/O SUBSYSTEM OPTIONS

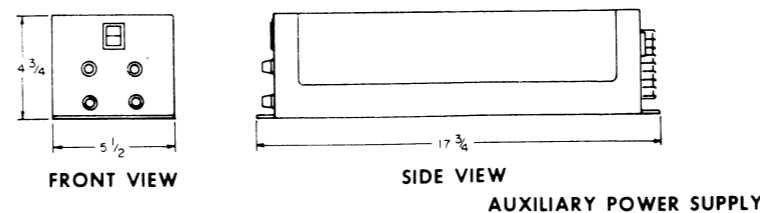
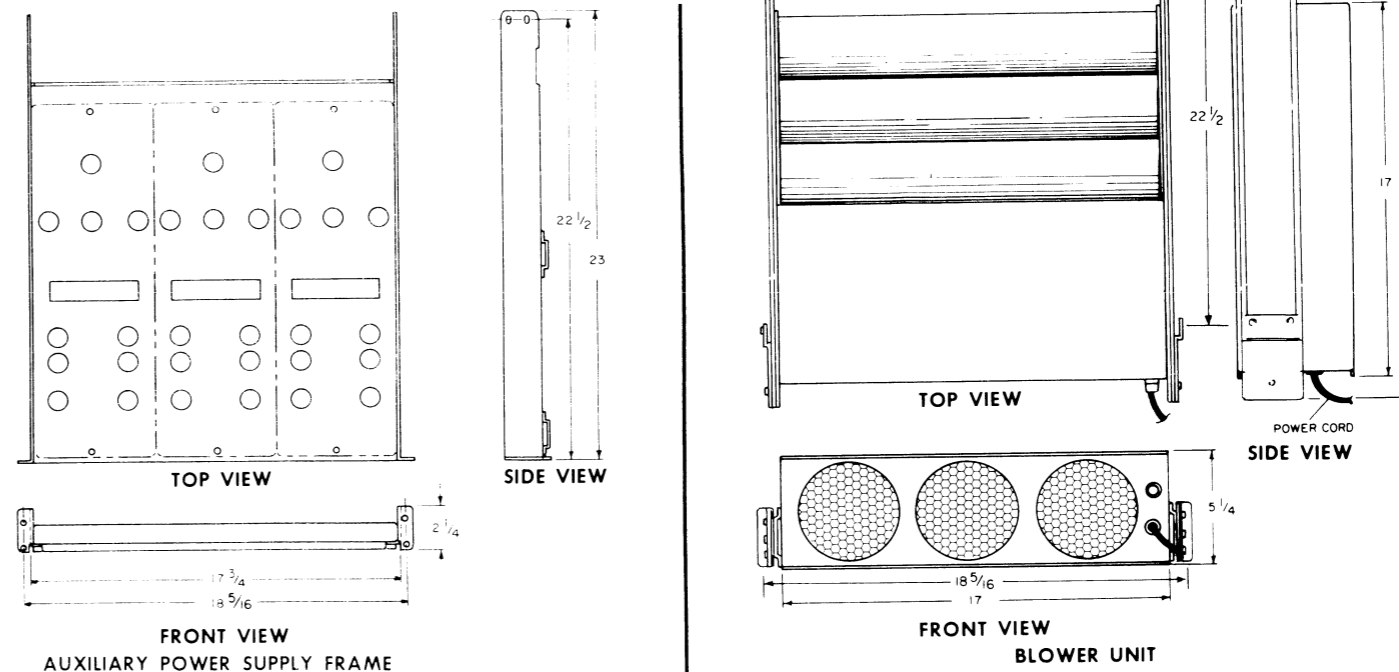
SPECIFICATIONS OF CABINET-MOUNTED COMPONENTS

Item	Component	Number in Sub-system	Maximum Operating Temperature		Primary Power			Cabinet Height Required			Weight lbs	Power Dissipation (Max Watts)	Preferred Location or Remarks	Operating Humidity (Relative)	
			Component °C	Media °F	Current (nom) Draw (Amp)	Voltage ±ΔV% ±10% ±5%	Frequency	Area	in.	cm				min	%max
A	FRAME PWR SUPPLY		125	55				3	5 1/4	13.3				20	90
	AUX POWER SUPPLY		125	55	2.5A MAX	100	47-63	3	5 1/4	13.3	250	1 to 3 AUX POWER SUPPLIES PER AUX P.S. FRAME	20	90	
B	AUX POWER SUPPLY		125	55	2.1A MAX	120	47-63	3	5 1/4	13.3	250	OUTPUT 12Vdc @8Vdc, 24Vdc @4A or 48Vdc @4A UNREGULATED	20	90	
	AUX POWER SUPPLY		125	55	1.0A MAX	240	47-63	3	5 1/4	13.3	250		20	90	
C	BLOWER UNIT		125	55	1.1A MAX	220	47-63	3	5 1/4	13.3	250		20	90	
	BLOWER UNIT		125	55	0.6A	120	47-63	3	5 1/4	13.3	60	DIRECTLY UNDERNEATH DG/DAC CHASSIS	20	90	
	BLOWER UNIT		125	55	0.25A	240	47-63	3	5	13.3	60		20	90	

DG-01914

Voltage	Power Cable Length		Power Cable Plug	Mating Receptacle on Power Drop	Mating Receptacle in Wall
	ft	m			
100V	6	1.8			
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
220V	6	1.8	NEMA 6-15P	NEMA 6-15R	NEMA 6-15R

DG-02717

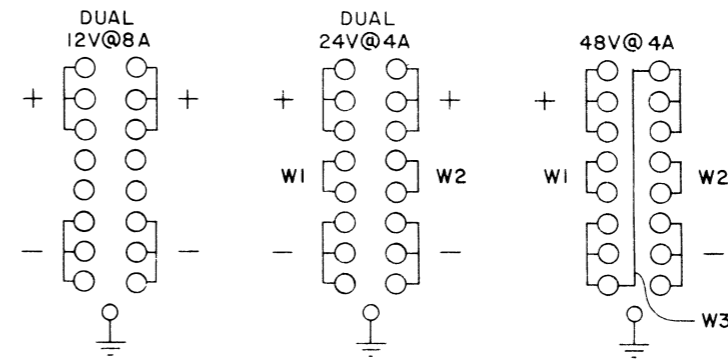
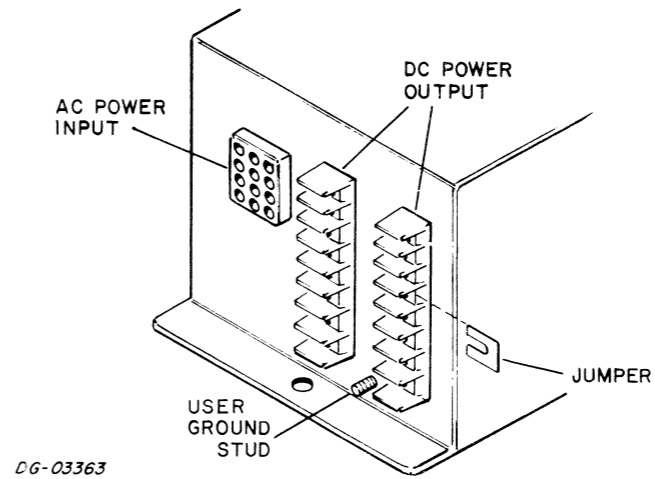


ALL DIMENSIONS IN INCHES

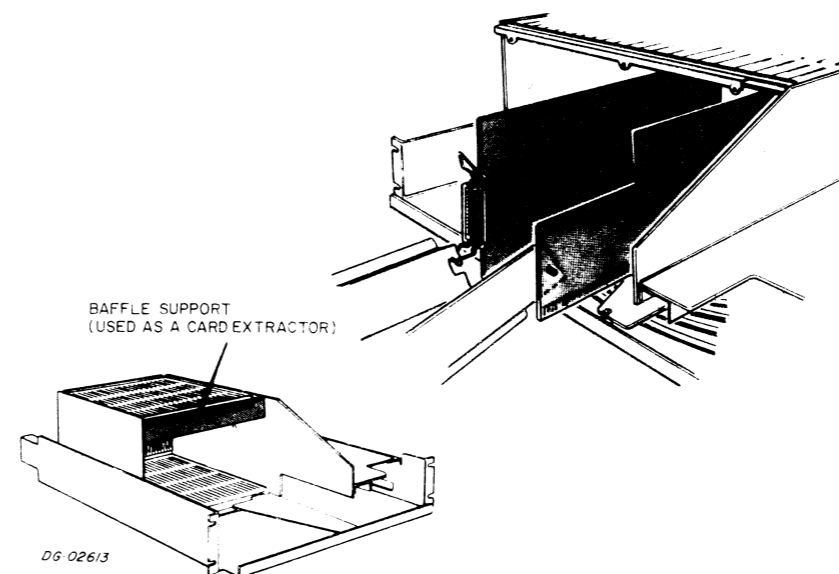
SHIPPING

FOR PACKING PROCEDURE,
SEE 010-000262/263

TAILORING
AUXILIARY POWER SUPPLY JUMPERING

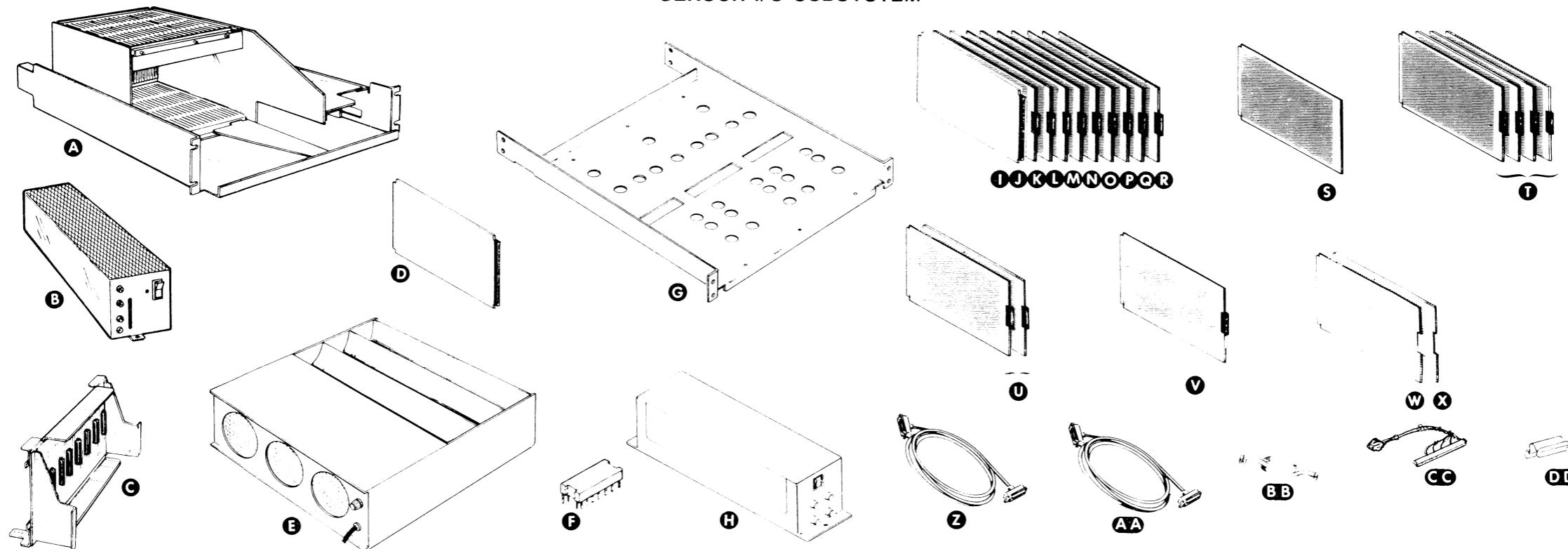


CARD REMOVAL



SUBSYSTEM COMPONENT BREAKDOWN

SENSOR I/O SUBSYSTEM



MAJOR COMPONENT

Item	Component	Mounting Location	Notes
A	4308 CHASSIS	CABINET	
B	POWER SUPPLY	CHASSIS	MOUNTS RIGHT SIDE OF CARD CAGE
C	TERMINAL PANEL	CABINET	MAX 4 PER CABINET
D	CONTROL CARD	CHASSIS SLOT 12 ONLY	
E	BLOWER UNIT *	CABINET	4269 REQUIRED WHEN NOT DIRECTLY ABOVE CABINET BLOWER
F	TERMINATOR	CHASSIS	CHASSIS I/O BUS FIXTURE
G	AUX POWER SUPPLY FRAME	CABINET	4267 OPTION
H	AUXILLIARY POWER SUPPLY *	CHASSIS (PS)	4268 OPTION 1 TO 3 PER CHASSIS
I	EXTENDER CARD	CHASSIS, SLOT 0 - 12	4270-D FOR MAINTENANCE PURPOSES
J	GENERAL PURPOSE WIRING CARD	CHASSIS, SLOT 0 - 11	4271 OPTION
K	GENERAL PURPOSE DIGITAL INPUT	CHASSIS, SLOT 0 - 11	DIGITAL MODULE
L	TTL DIGITAL INPUT	CHASSIS, SLOT 0 - 11	DIGITAL MODULE
M	ISOLATED DC DIGITAL OUTPUT	CHASSIS, SLOT 0 - 11	DIGITAL MODULE
N	PULSE DC DIGITAL OUTPUT	CHASSIS, SLOT 0 - 11	DIGITAL MODULE
O	ISOLATED AC DIGITAL OUTPUT	CHASSIS, SLOT 0 - 11	DIGITAL MODULE REQUIRES 2 SLOTS
P	FORM "A" RELAY DIGITAL OUTPUT MODULE	CHASSIS, SLOT 0 - 11	DIGITAL MODULE
Q	FORM "C" REPLAY DIGITAL OUTPUT MODULE	CHASSIS, SLOT 0 - 11	DIGITAL MODULE
R	TTL DIGITAL OUTPUT MODULE	CHASSIS, SLOT 0 - 11	DIGITAL MODULE

MAJOR COMPONENT

Item	Component	Mounting Location	Notes
S	A/D CONVERTER	SLOT 0-10 SEE NOTE 1	0-10V, 0-5V, 0-10, 0-5V RANGES
T	DIF MUX	SLOT 1-11 SEE NOTE 1	DIF VOLTAGE INPUT JUMPER SELECTOR GAIN
	DIF MUX PROGRAMMABLE GAIN	SLOT 1-11 SEE NOTE 1	DIF VOLTAGE INPUT PROGRAMMABLE GAIN
	CURRENT LOOP MUX	SLOT 1-11 SEE NOTE 1	CURRENT INPUT JUMPER SELECTOR GAIN
	SINGLE ENDED MUX	SLOT 1-11 SEE NOTE 1	SINGLE ENDED INPUT
U	ANALOG VOLTAGE OUTPUT	IDAC CHASSIS SLOT 0 - 11	0-10V, 0-5V, 0-10V, 0-5V JUMPER SELECTABLE
	ANALOG CURRENT OUTPUT	IDAC CHASSIS SLOT 0 - 11	0-16mA or 4-20mA JUMPER SELECTABLE
V	SET POINT MONITOR, MODEL 4283	CHASSIS SLOT 0 - 11	
W	MP100	CHASSIS SLOT 17	
X	MICRONOVA MEMORY OR I/O	CHASSIS SLOTS 13-16	

NOTE 1 ONE A/D CARD AND AT LEAST ONE MUX CARD ARE NEEDED FOR AN A/D SUBSYSTEM. ALL MUX CARDS ASSOCIATED WITH AN A/D CARD MUST BE PLACED IN ADJACENT CONSECUTIVE HIGHER NUMBERED CHASSIS SLOTS. FIRST A/D SHOULD GO IN SLOT 0.

CABLE

Item	Cable	Connecting	Max Lgth		Notes
			FT	M	
Z	ANALOG CABLE	MODULE and TERMINAL PNL			(SEE SHT 3, THIS IDS)
AA	DIGITAL CABLE	MODULE and TERMINAL PNL			(SEE SHT 3, THIS IDS)
BB	I/O CABLE	CPU BACKPANEL and I/O BUS FIXTURE			
CC	I/O CABLE	CONTROLLER and I/O BUS FIXTURE			
DD	JUMPER CABLE	SLOTS 14-15			CONNECTS SLOTS 13, 14 WITH SLOTS 15, 16 AND 17

* REQUIRES MOUNTING KIT 005-007234.

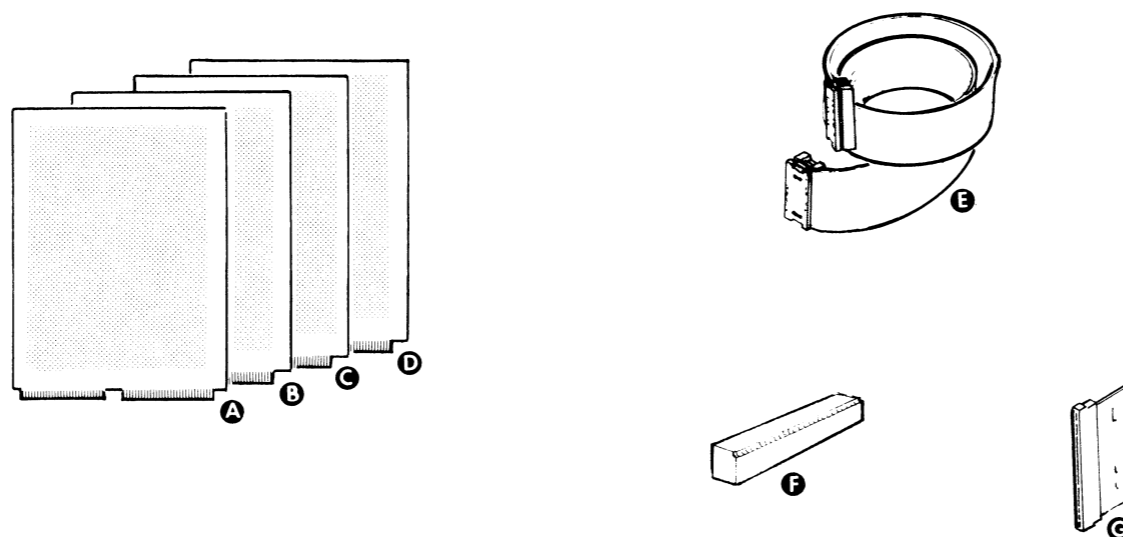
Warning: This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instruction manual, may cause interference to radio communications. As temporarily permitted by regulation it has not been tested for compliance with the limits for Class 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)

OPTIONAL MICRONOVA SENSOR I/O BOARDS

(for microNOVA backpanel section only)

Ref DGC Dwg 010-000237



MAJOR COMPONENTS

ITEM	COMPONENT	MOUNTING LOCATION	SLOTS REQUIRED	DC CURRENT DRAW (AMPS)				
				5V	-5V	12V	15V	-12V
A	A/D CONVERTER • 4223	SLOTS 13-16	1	1.90	0.03	0.07	—	—
B	D/A CONVERTER 4224	SLOTS 13-16	1	2.00	0.03	0.07	—	—
C	DIGITAL I/O INTERFACE 4222	SLOTS 13-16	1	0.80	0.02	0.08	—	—
D	MICROPRODUCTS ANALOG SUBSYSTEM • 4335-S	SLOTS 13-16	1	1.80	0.03	0.05	—	0.075

*A/D BOARDS SHOULD HAVE HIGHEST PRIORITY (CLOSEST TO CPU)

CABLES

ITEM	COMPONENT	CONNECTING	MAX. LENGTH		NOTES
			FT	M	
E	EXTERNAL I/O BUS CABLE	I/O BUS (ON I/O BUS FIXTURE) WITH EXTERNAL I/O DEVICE	100	30	100 FT. MAXIMUM I/O BUS LENGTH
F	CABLE CONNECTOR	I/O BOARD "A" CONNECTOR AND DEVICE			50 PIN (A) EDGE CONNECTOR
G	MICROPRODUCTS ANALOG SUBSYSTEM LOOP-BACK CONNECTOR	DIGITAL OUTPUT PINS TO DIGITAL INPUT AND ANALOG OUTPUT TO ANALOG INPUT CHANNEL			005-014910 USED WITH MICROPRODUCTS ANALOG SUBSYSTEM. USE FOR DIAGNOSTICS ONLY.

INSTALLATION SPECIFICATIONS

CHASSIS SLOT ASSIGNMENTS

SLOT	BOARDS	+5V	-5V	+12V	-12V	±21V	+24V
0							
1							
2							
3							
4	M O D U L E S						
5							
6							
7							
8							
9							
10							
11							
12	CONTROLLER	1.6	-	-	-	.05	-
13	MICRONOVA MEMORIES						
14							
15	OR						
16	I/O						
17	MP/100	2	.1	.3	.1	-	-
TOTAL CURRENT DRAW							
CURRENT AVAILABLE		20A	0.8A	1.5A	0.8A	2A	3A
MIN CURRENT DRAW		2.7	80mA	150mA	NOTE 1	0	0
SURPLUS CURRENT							

NOTES:

1. CURRENT DRAWN FROM -5V AND -12V MUST TOTAL 150 mA.

ANALOG CLUSTER CONFIGURATION

AN ANALOG CLUSTER CONSISTS OF AN A/D BOARD AND ONE OR MORE MUX BOARDS IN CONSECUTIVELY HIGHER SLOTS. THE FIRST CLUSTER MUST START WITH SLOT 0. OTHER BOARDS MUST BE LOCATED TO THE RIGHT OF ALL ANALOG CLUSTERS (TO OPTIMIZE SHIELDING). DO NOT HAVE ANY EMPTY SLOTS BETWEEN ANALOG CLUSTERS. OTHERWISE DATA CHANNEL PRIORITY JUMPERS WILL BE REQUIRED.

SPECIFICATIONS OF THE CHASSIS-MOUNTED COMPONENTS

Item	Component	No. of Slots Required	-5V Current Draw (Amps)	+24V Current Draw (Amps)	±21V Current Draw (Amps)	Internal Power Dis (Watts)	External Power Dis (Watts)
K 4290	GENERAL PURPOSE DIGITAL INPUT	1	.85	-	-	4.25	32 NOTE 4
L 4291	TTL DIGITAL INPUT	1	.5	-	-	2.5	-
M 4292	ISOLATED DC DIGITAL OUTPUT	1	.6	-	-	3.0	60 NOTE 5
N 4293	PULSE DC DIGITAL OUTPUT	1	1	-	-	5.0	60 NOTE 5
O 4294	ISOLATED AC DIGITAL OUTPUT (TRIAC OUTPUT)	2	.6	-	-	3.0	38 NOTE 6
P 4296	FORM "A" RELAY DIGITAL OUTPUT MODULE	1	.3	.18	-	5.8	-
Q 4297	FORM "C" RELAY DIGITAL OUTPUT MODULE	1	.3	.18	-	5.8	-
R 4299	TTL DIGITAL OUTPUT MODULE	1	.5	-	-	2.5	-
S 4280, 4280-A-F, F, G, H, K	A/D CONVERTER	1	1.1	-	.1	10.5	-
4281	DIF MUX	1	.3	-	.05	3.6	-
4281G	DIF MUX PROGRAMMABLE GAIN	1	.3	-	.05	3.6	-
T 4281C	CURRENT LOOP MUX	1	.3	-	.05	3.6	4 NOTE 2
4282	SINGLE-ENDED MUX	1	.3	-	.05	3.6	-
4288	ANALOG VOLTAGE OUTPUT	1	.8	-	.16	11.7	3
U 4289	ANALOG CURRENT OUTPUT	1	.8	.08 NOTE 1	.1	11.2	7 NOTE 3
V 4283	SET POINT MONITOR MODEL	1	1.15	-	.04	8.0	-
W	CONTROLLER	1	1.6	-	.05	9.1	-
X	MP 100	1	2	-	-	15.3	-

NOTES:

1. WHEN USED AS CURRENT SOURCE
2. IF EXTERNAL CURRENT IS KNOWN USE: $P = 200 \text{ ohms} \cdot I^2$
3. IF EXTERNAL VOLTAGE AND CURRENT ARE KNOWN USE: $P = I \cdot V$
4. IF EXTERNAL VOLTAGE IS KNOWN USE: $P = \frac{V^2 \cdot 6}{1000 \text{ ohms} \cdot K}$ K = 1.1 for AC
K = 0.6 for DC
5. IF EXTERNAL CURRENT IS KNOWN USE: $P = 1V \cdot I + I^2 \cdot 1 \text{ ohm}$
6. IF EXTERNAL CURRENT IS KNOWN USE: $P = 1.2V \cdot I$
7. IN ABOVE EQUATIONS I IS IN AMPS, V IS IN VOLTS.

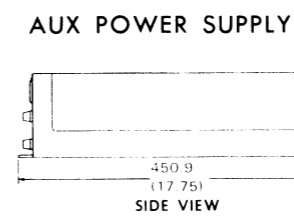
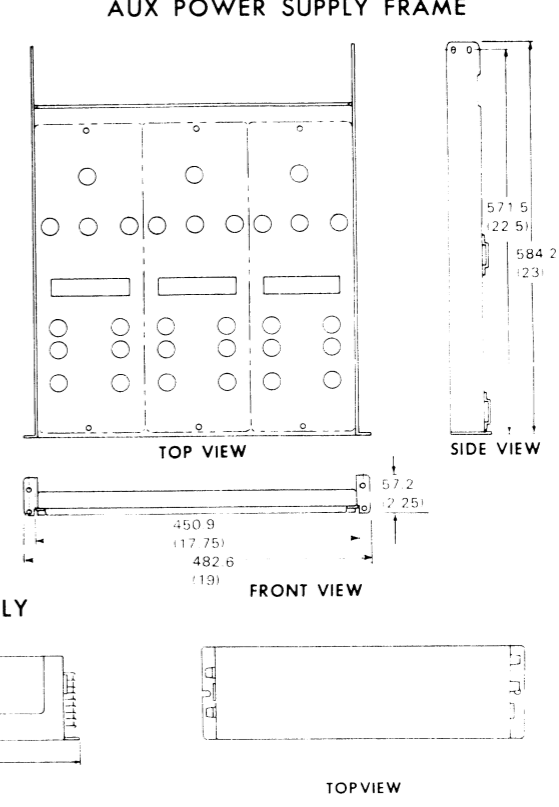
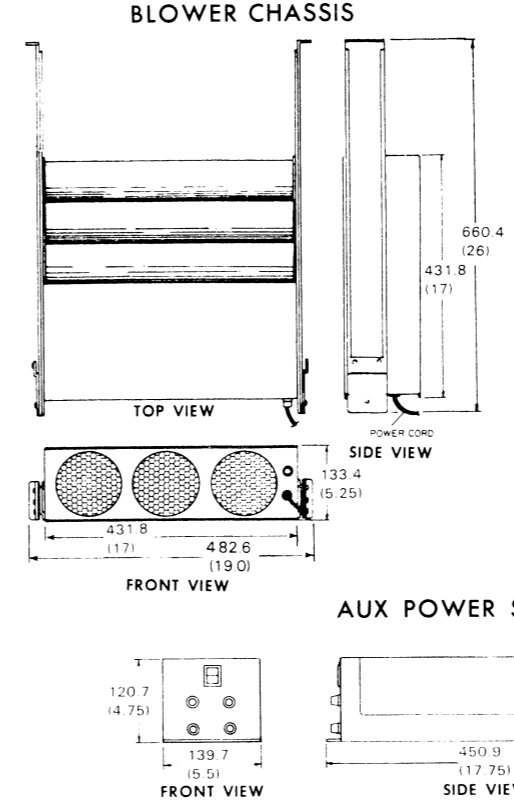
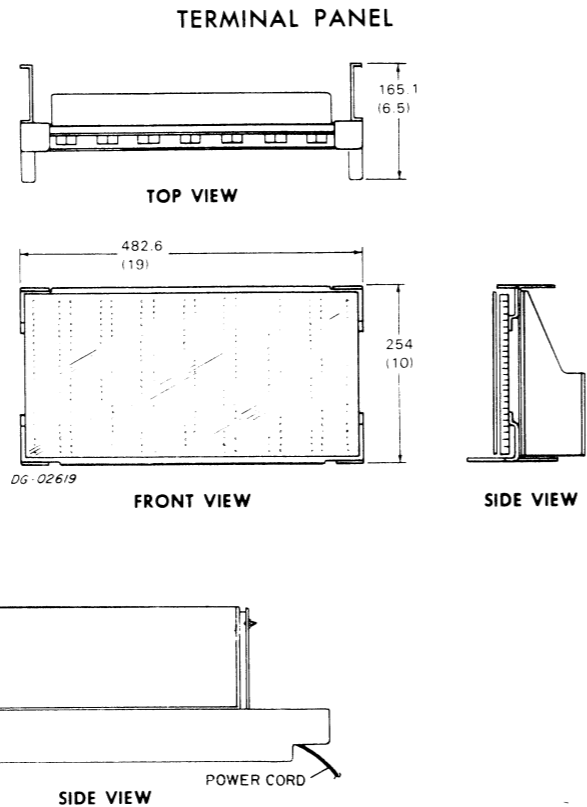
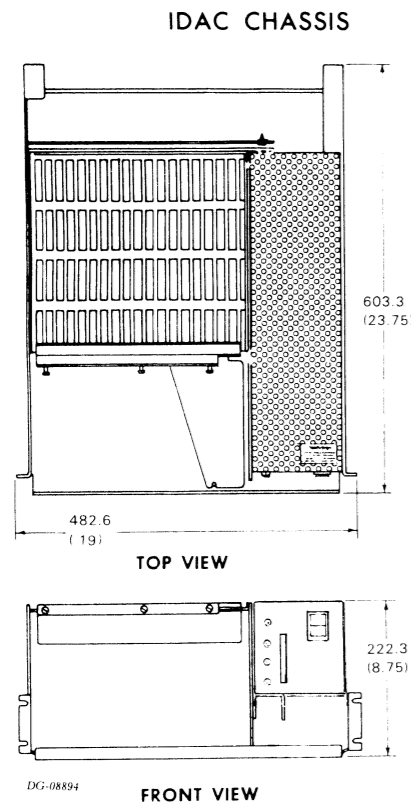
DIGITAL CABLE

Cable	Length	Notes
1101D	1.8m (6ft)	005-007013
1101D-A	7.6m (25ft)	005-007014
1101D-B	30.5m (100ft)	005-007015
1101D-C	3m (10ft)	005-008159
1101D-D	5.5m (18ft)	005-008198

ANALOG CABLE

Cable	Length	Notes
1102D	1.8m (6ft)	005-007016
1102D-A	7.6m (25ft)	005-007017
1102D-B	30.5 (100ft)	005-007018
1102D-C	3m (10ft)	005-008160
1102D-D	5.5m (18ft)	005-008199

INSTALLATION SPECIFICATIONS



IDAC CHASSIS

DIMENSIONS:	Width	Depth	Height
Millimeters	482.6	603.3	222.3
Inches	19	23.75	8.75

POWER SUPPLY	Width	Depth	Height
Millimeters	139.7	508	133.4
Inches	5.5	20.0	5.25

WEIGHT:	Power supply	Chassis & backplane (empty)	Power Supply	Terminal board
	33 lbs / 15kg	18 lbs / 8.2 kg	78 lbs / 35.4 kg	9 lbs / 4.1 kg

HEAT DISSIPATION:
2300 Btu/hr (700 watts) max
IDAC must receive forced air from either the fan module mounted directly below it or a rack blower (with vertically directed air flow no more than 1 foot below)

ENVIRONMENT	Temperature
Operating:	0 to 55 °C (32 to 131 °F)
Storage:	40 to -70 °C (-40 to -185 °F)

Relative Humidity Range	Operating	Storage
10% to 90% non-condensing with no multiplex boards	10% to 85% non-condensing with multiplex boards	10% to 90% non-condensing

Altitude	Operating	Storage
0 to 2450 m (0 to 8000 ft)	0 to 7620 m (0 to 25000 ft)	

SLOTS AVAILABLE	I/O cards	Micro NOVA cards	Controller
	12	5	1

DEVICE CODE
Jumperable from 40 to 76 on controller card

POWER REQUIREMENTS	(Domestic)	(Export)
Voltage	120V ^(+10% -15%)	240V ^(+10% -15%)
Hz	60	50
Amp per Phase	5	2.8
Phase	1	1
Startup Surge per Phase	100A for 8.3 ms	100A for 10 ms

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

POWER SUPPLY OUTPUTS	Voltage	Current
12V	1.5A max	
5V	2.0A max	
5V	0.8A max	
12V	0.8A max	
24V	3A max	
21.5V	2A max	
21.5V	2A max	

TERMINAL BOARD
Accepts 8 cables - 50 screw terminals per cable
Protective plastic cover
Accepts up to 14 AWG wire
Front or rear mount

BLOWER

DIMENSIONS:	Width	Depth	Height
Millimeters	482.6	660.4	133.4
Inches	19	26	5.25

WEIGHT:	Kilograms	Pounds
	6.4	14

HEAT OUTPUT:	Watts	BTU/hr
	60	204.6

OPERATING ENVIRONMENT:	Temperature (max)	Relative Humidity (max)	Altitude
	55 °C (131 °F)	90% non-condensing	3048m (10,000')

POWER REQUIREMENTS:	(Domestic)	(Export)
Voltage	120V ^(+10% -15%)	240V ^(+10% -15%)
Hz	60	50
Amp per Phase	0.6	0.25A
Phase	1	1
Startup Surge per Phase	100A	100A

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

PREFERRED LOCATION:
Below IDAC Chassis

AUXILIARY POWER SUPPLY

DIMENSIONS:	Width	Depth	Height
Millimeters	139.7	450.9	120.7
Inches	5.5	17.75	4.75

FRAME	Width	Depth	Height
Millimeters	482.6	584.2	57.2
Inches	19	23	2.25

WEIGHT:	Power Supply	Frame
Kilograms	10.9	2.4
Pounds	24	

HEAT OUTPUT:	Watts	BTU/hr
	250	852.5

OPERATING ENVIRONMENT:	Temperature (max)	Relative Humidity (max)	Altitude
	55 °C (131 °F)	90% non-condensing	3048m (10,000')

POWER REQUIREMENTS:	(Domestic)	(Export)
Voltage	120V ^(+10% -15%)	240V ^(+10% -15%)
Hz	60	50
Amp per Phase	2.1	1.1
Phase	1	1
Startup Surge per Phase	100A	100A

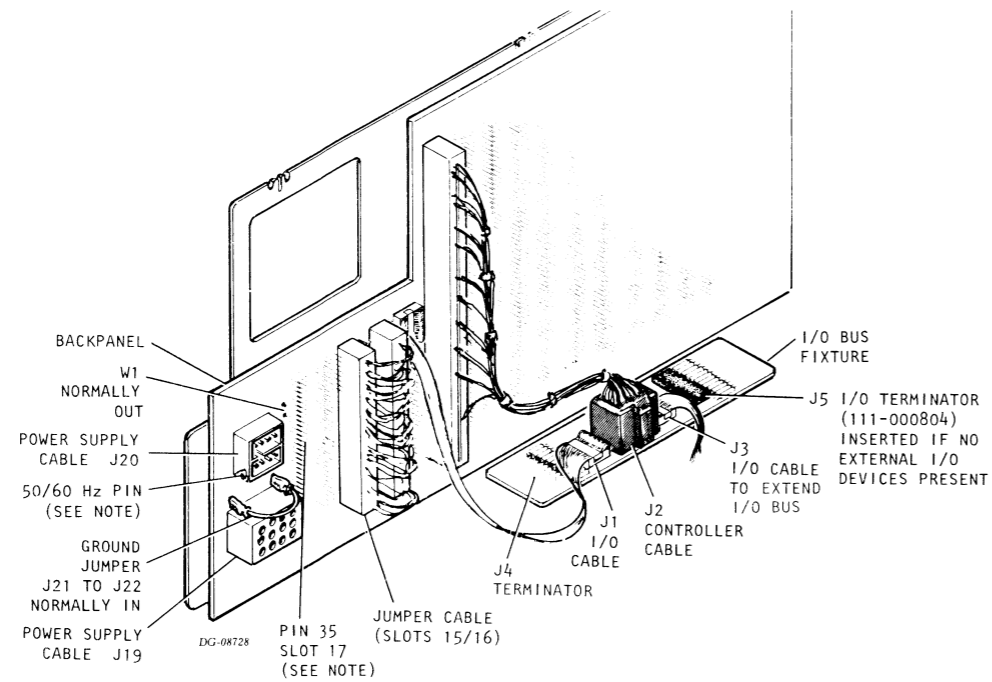
CABLES:	Length	Conn	Mating Conn
Primary Power	1.8m (6')	5-15P	5-15R
Export 50Hz	1.8m (6')	6-15P	6-15R

PREFERRED LOCATION:
Above IDAC Chassis

TAILORING

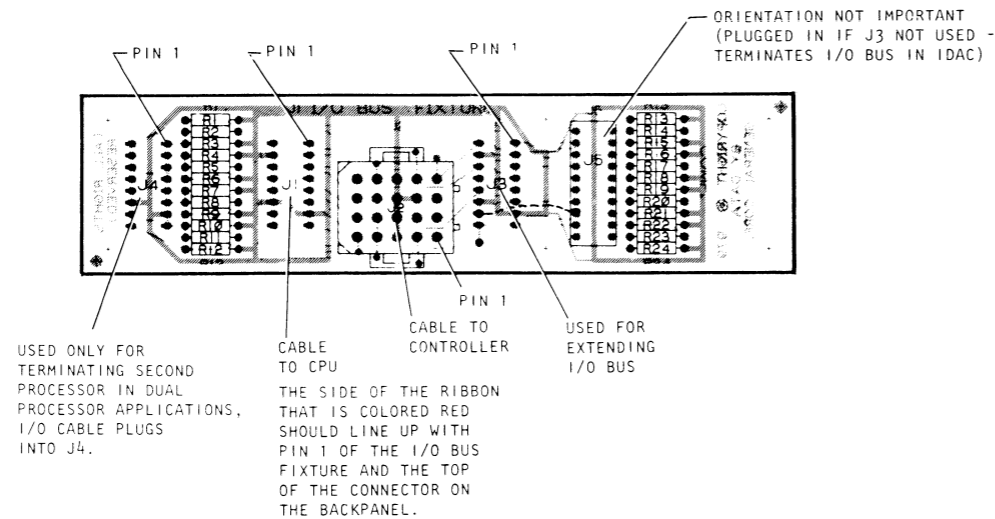
LOGIC BACKPANEL JUMPERING

STANDARD SINGLE-CPU CONFIGURATION

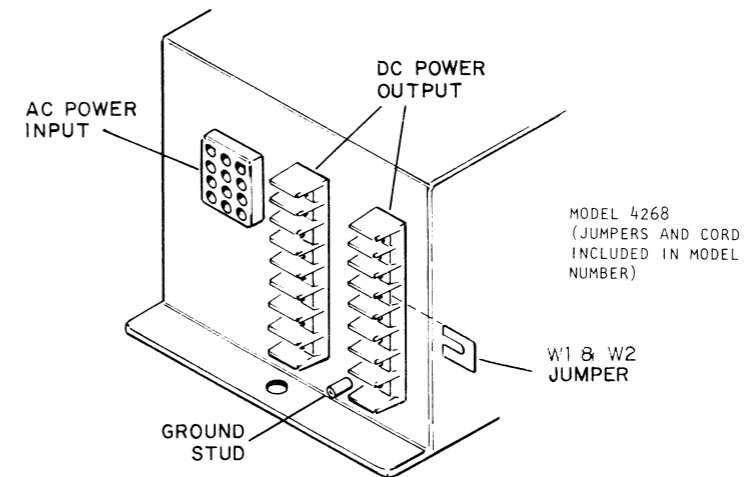


NOTE: WIRE WRAP 50/60 Hz PIN TO PIN 35 OF SLOT 17 FOR SINGLE CPU, IF LINE FREQUENCY USED AS REAL TIME CLOCK.

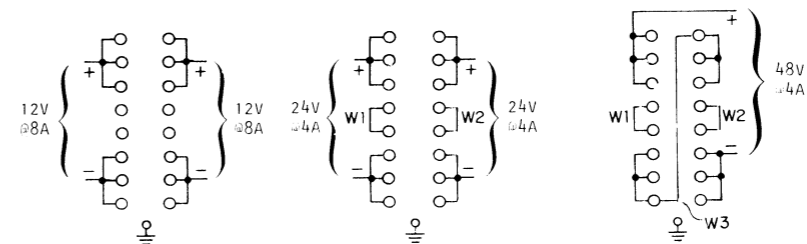
I/O BUS FIXTURE
Ref DGC Dwg No 003-001546 Rev 02



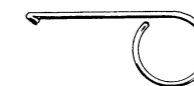
AUXILLIARY POWER SUPPLY (OPTIONAL)



THE AUXILLIARY POWER SUPPLY CAN BE USED BY THE USER FOR POWERING HIS OWN CIRCUITRY. IT MAY BE JUMPED TO PROVIDE THE FOLLOWING OUTPUTS:



CARD REMOVAL



P/N 002-010723

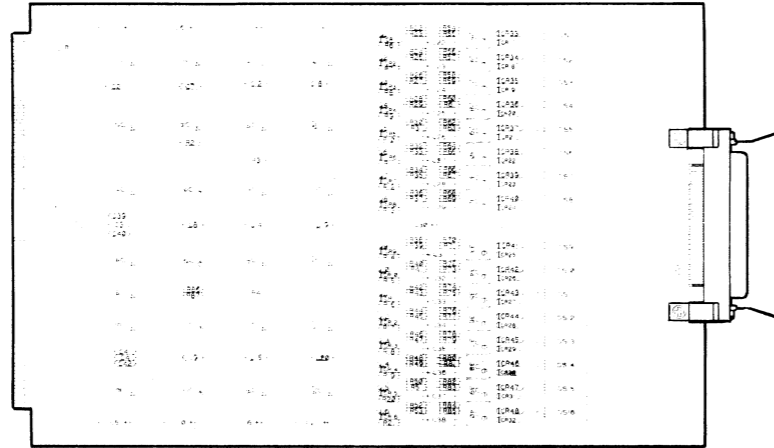
EXTRACTOR TOOL FOR ALL BOARDS

CARD EXTRACTOR HOOKS INTO HOLES PROVIDED ON ALL CARDS. HOLES ON MICRONOVA CARDS ARE LOCATED NEAR CORNERS. HOLES ON I/O BOARDS ARE LOCATED NEAR I/O CONNECTOR.

I/O BOARDS

GENERAL PURPOSE INPUT
MODEL 4290

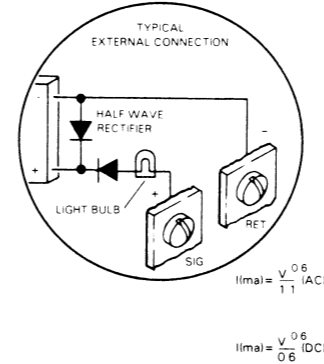
USE DIGITAL CABLE
(SEE PG 3 THIS IDS)
SLOTS 0-11



Ref DGC Dwg 003-000485 Rev 08

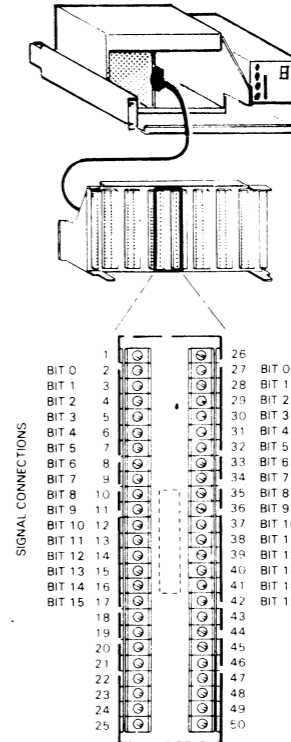
SPECIFICATIONS

NUMBER OF INPUT LINES	16	INTERNAL POWER REQUIREMENT	+5V @ 0.85A
LOGIC 1	5mA, 6V dc, 15Vac MIN	MAX POWER DISSIPATION (INTERNAL AND EXTERNAL)	32W
LOGIC 0	200µA, 1V MAX		
MAX INPUT VOLTAGE	55Vdc, 120Vac		
MAX INPUT CURRENT	30mA		
MAX REVERSE INPUT VOLTAGE	200V		
ISOLATION VOLTAGE	2500V		
INPUT DELAY, TURN ON	15ms - 100ms		
INPUT DELAY, TURN OFF	30ms - 200ms		
INTERRUPT TRIGGER	STATE CHANGE OF ANY INPUT LINE		



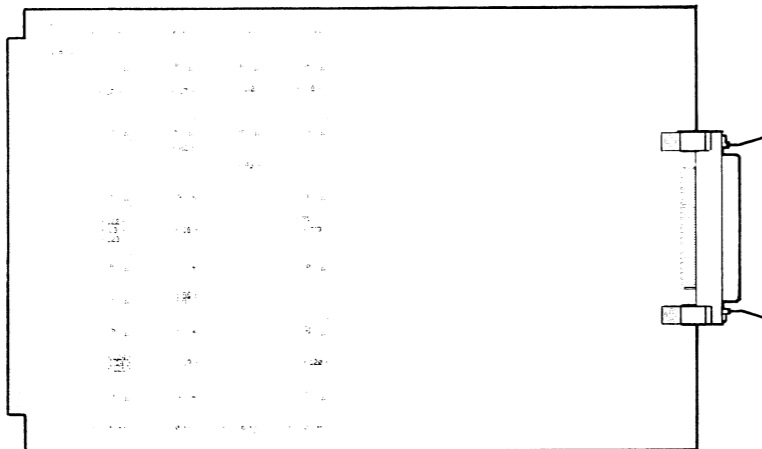
WARNING
HIGH VOLTAGES MAY BE PRESENT.
BEFORE REMOVING CONNECTOR OR CARD,
CUSTOMER EQUIPMENT CONNECTED SHOULD
BE POWERED DOWN WHEN POSSIBLE.
ALWAYS DISCONNECT I/O CABLE BEFORE
EXTRACTING CARD.

EXTERNAL CONNECTIONS



TTL INPUT
MODEL 4291

USE DIGITAL CABLE
(SEE PG 3 THIS IDS)
SLOTS 0-11

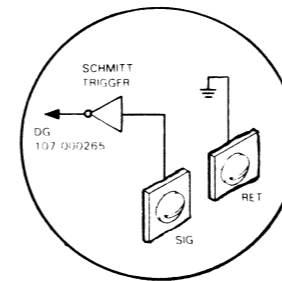


Ref DGC Dwg 003-000623 Rev 04

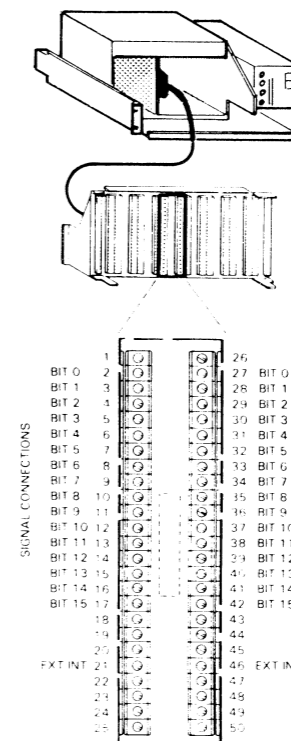
SPECIFICATIONS

NUMBER OF INPUT LINES	16
LOGIC 1	2V MIN
LOGIC 0	0.6V MAX
HYSTERESIS	0.4V MAX
MAX INPUT CURRENTS	40µA - LOGIC 1 2.0mA - LOGIC 0
INTERRUPT TRIGGER	LOW TO HIGH ON EXT INT LINE*
INTERNAL POWER REQUIREMENT	+5V @ 0.5A
MAX POWER DISSIPATION (INTERNAL AND EXTERNAL)	2.5W

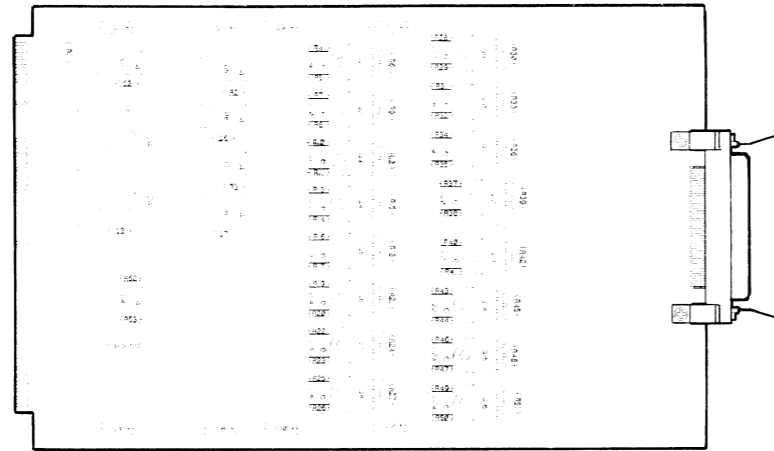
*EXT INT must be high or open ckt to enable non-interrupt operation of module.



EXTERNAL CONNECTIONS



I/O BOARDS (CONT)



Ref DGC Dwg 003-000497 Rev 05

SPECIFICATIONS

NUMBER OF OUTPUT LINES 16
 LOGIC 1 2.5V MAX @ 1.5A
 LOGIC 0 1mA MAX @ 55V
 MAXIMUM APPLIED VOLTAGE +55V -3V
 MAXIMUM OUTPUT LINE CURRENT 1.5A
 DUTY CYCLE 60 MAX @ 1.5A
 TO 100 @ 1.0A

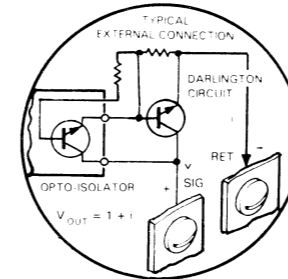
POWER REQUIREMENT +5V @ 0.6A
 MAX POWER DISSIPATION 60W
 (INTERNAL AND EXTERNAL)
 MAXIMUM ON TIME 1sec

ISOLATED OUTPUT

MODEL 4292

USE DIGITAL CABLE
 (SEE PG 3 THIS IDS)

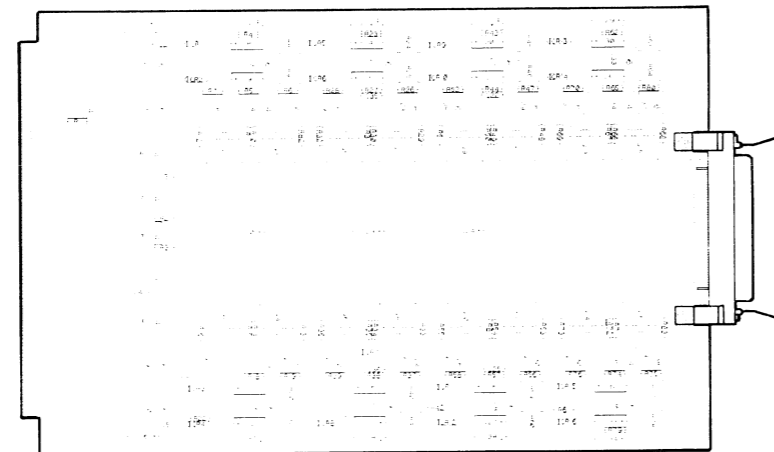
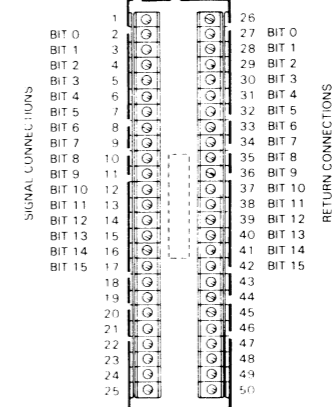
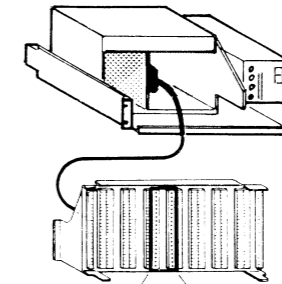
SLOTS 0-11



WARNING

HIGH VOLTAGES MAY BE PRESENT.
 BEFORE REMOVING CONNECTOR OR CARD,
 CUSTOMER EQUIPMENT CONNECTED SHOULD
 BE POWERED DOWN WHEN POSSIBLE.
 ALWAYS DISCONNECT I/O CABLE BEFORE
 EXTRACTING CARD.

EXTERNAL CONNECTIONS



Ref DGC Dwg 003-000508 Rev 07

SPECIFICATIONS

NUMBER OF OUTPUT LINES 16
 LOGIC 1 2.5V MAX @ 1.5A
 LOGIC 0 1mA MAX @ 55V
 MAXIMUM APPLIED VOLTAGE +55V -3V
 MAXIMUM OUTPUT LINE CURRENT 1.5A
 OUTPUT PULSE WIDTH 10ms - 100ms ADJUSTABLE
 DUTY CYCLE 60 MAX @ 1.5A
 TO 100 @ 1.0A

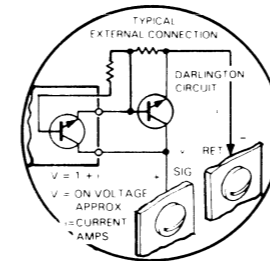
POWER REQUIREMENT +5V @ 1.0A
 MAX POWER DISSIPATION 60W
 (INTERNAL AND EXTERNAL)

PULSE OUTPUT

MODEL 4293

USE DIGITAL CABLE
 (SEE PG 3 THIS IDS)

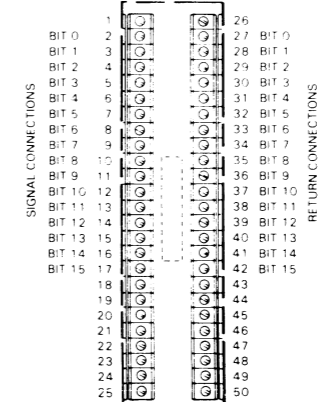
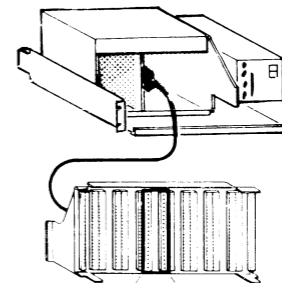
SLOTS 0-11



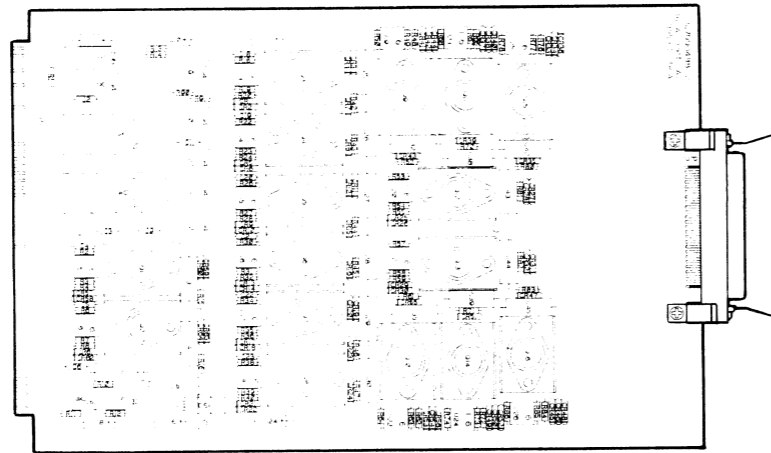
WARNING

HIGH VOLTAGES MAY BE PRESENT.
 BEFORE REMOVING CONNECTOR OR CARD,
 CUSTOMER EQUIPMENT CONNECTED SHOULD
 BE POWERED DOWN WHEN POSSIBLE.
 ALWAYS DISCONNECT I/O CABLE BEFORE
 EXTRACTING CARD.

EXTERNAL CONNECTIONS



I/O BOARDS (CONT)



Ref DGC Dwg 003-000498 Rev 02

SPECIFICATIONS

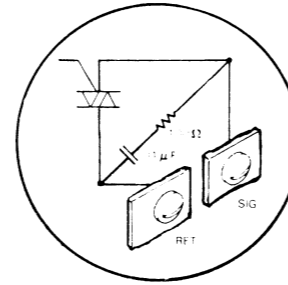
NUMBER OF OUTPUT LINES	16
LOGIC 1	1.2V MAX @ 2A
LOGIC 0	1.5mA MAX @ 130Vac, 60Hz
MAXIMUM APPLIED VOLTAGE	200V PEAK
MAXIMUM OUTPUT LINE CURRENT	2A
SYNC INPUT*	24Vac - 130Vac @ 60Hz Minimum Current 30mA
POWER REQUIREMENTS	+5Vdc @ 0.6A
MAX POWER DISSIPATION (INTERNAL AND EXTERNAL)	41W

*Zero crossing in sync with load supply zero crossing.

TRIAC OUT
MODEL 4294

USE DIGITAL CABLE
(SEE PG 3 THIS IDS)

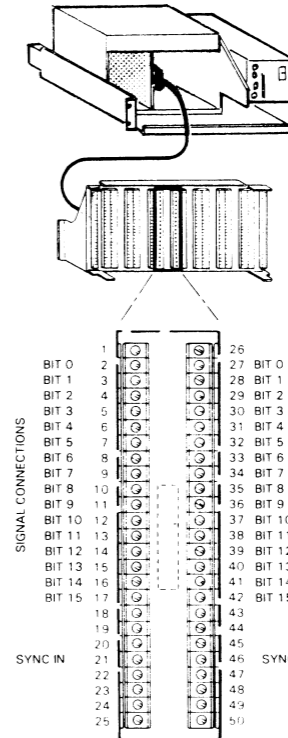
SLOTS 0-11
REQUIRES TWO
CHASSIS SLOTS



WARNING

HIGH VOLTAGES MAY BE PRESENT.
BEFORE REMOVING CONNECTOR OR CARD,
CUSTOMER EQUIPMENT CONNECTED SHOULD
BE POWERED DOWN WHEN POSSIBLE.
ALWAYS DISCONNECT I/O CABLE BEFORE
EXTRACTING CARD.

EXTERNAL CONNECTIONS

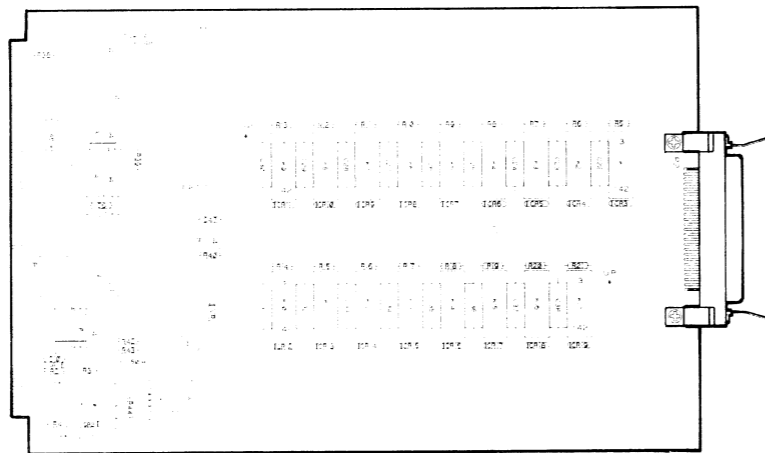


16 RELAYS OUT FORM A

MODEL 4296

USE DIGITAL CABLE
(SEE PG 3 THIS IDS)

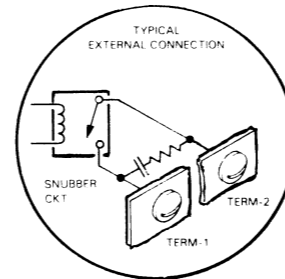
SLOTS 0-11



Ref DGC Dwg 003-000511 Rev 06

SPECIFICATIONS

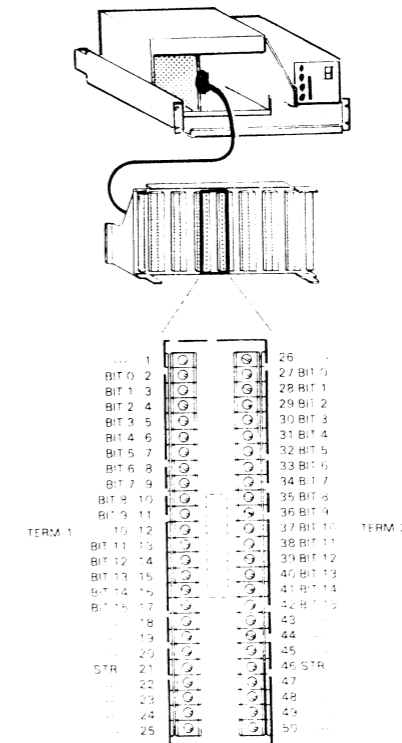
NUMBER OF OUTPUT LINES	16	ISOLATION VOLTAGE	500V
LOGIC 1	CONTACT CLOSED	POWER REQUIREMENTS	5Vdc @ 0.3A
LOGIC 0	CONTACT OPEN		24V @ 0.18A
	1.2mA @ 120Vac 60Hz	MAX POWER DISSIPATION (INTERNAL AND EXTERNAL)	11W
	1.5mA @ 240V 50/60Hz		
MAXIMUM APPLIED VOLTAGE	250V		
MAXIMUM OUTPUT LINE CURRENT	1.2A		
RESPONSE TIME	1.5ms		
START PULSE WIDTH	5ms		
START PULSE DELAY	50ms		
MAXIMUM POWER	28VA		



WARNING

HIGH VOLTAGES MAY BE PRESENT.
BEFORE REMOVING CONNECTOR OR CARD,
CUSTOMER EQUIPMENT CONNECTED SHOULD
BE POWERED DOWN WHEN POSSIBLE.
ALWAYS DISCONNECT I/O CABLE BEFORE
EXTRACTING CARD.

EXTERNAL CONNECTIONS



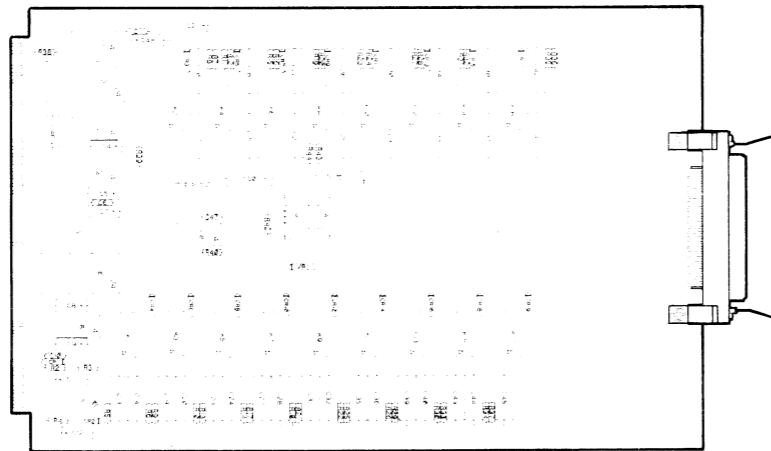
I/O BOARDS (CONT)

16 RELAYS OUT FORM C

MODEL 4297

USE DIGITAL CABLE
(SEE PG 3 THIS IDS)

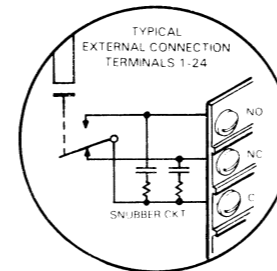
SLOTS 0-11



Ref DGCDwg 003-000513 Rev 07

SPECIFICATIONS

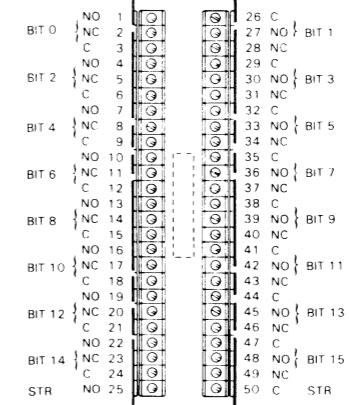
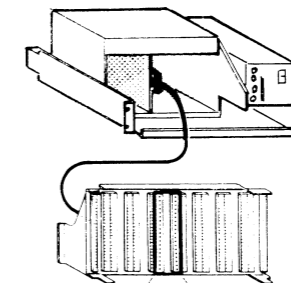
NUMBER OF OUTPUT LINES	16	RESPONSE TIME	1ms
LOGIC 1	N.O. CONTACT CLOSED N.C. CONTACT OPEN	START PULSE WIDTH	50ms
LOGIC 0	N.O. CONTACT OPEN N.C. CONTACT CLOSED	START PULSE DELAY	50ms
LEAKAGE CURRENT THROUGH OPEN CONTACT SNUBBER	0.1mA@120Vac, 60Hz	ISOLATION VOLTAGE	500V
MAXIMUM APPLIED VOLTAGE	100V	POWER REQUIREMENTS	5Vdc @ 0.3A 24Vdc @ 0.18A
MAXIMUM OUTPUT LINE CURRENT	0.25A	MAX POWER DISSIPATION (INTERNAL AND EXTERNAL)	11W
MAX POWER	8V A		



WARNING

HIGH VOLTAGES MAY BE PRESENT.
BEFORE REMOVING CONNECTOR OR CARD,
CUSTOMER EQUIPMENT CONNECTED SHOULD
BE POWERED DOWN WHEN POSSIBLE.
ALWAYS DISCONNECT I/O CABLE BEFORE
EXTRACTING CARD.

EXTERNAL CONNECTIONS

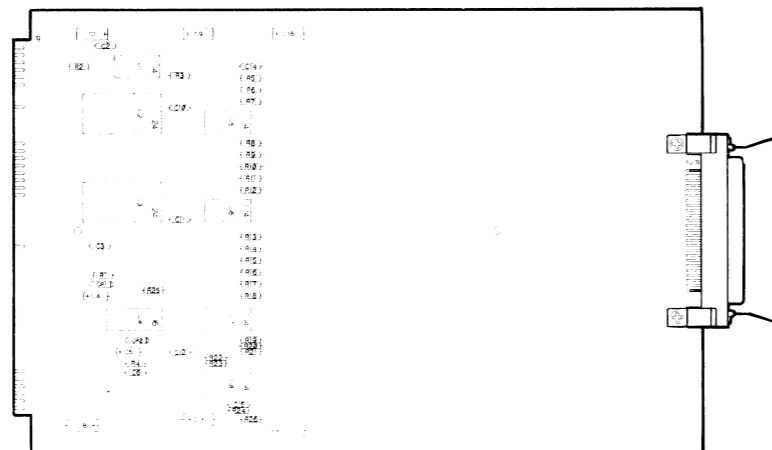


TTL OUTPUT

MODEL 4299

USE DIGITAL CABLE
(SEE PG 3 THIS IDS)

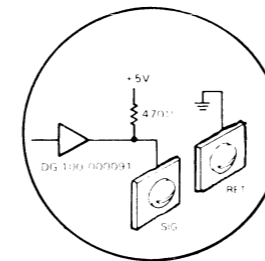
SLOTS 0-11



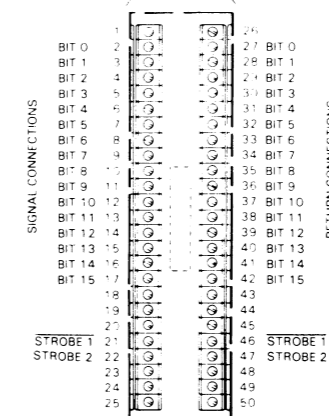
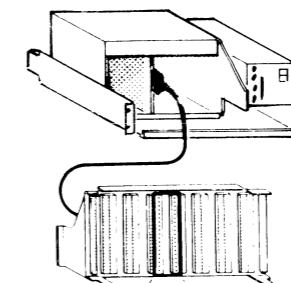
Ref DGC wg 003-000502 Rev 07

SPECIFICATIONS

NUMBER OF OUTPUT LINES	16
LOGIC 1	5V THROUGH 470Ω
LOGIC 0	0.5V @ 20 mA
MAXIMUM APPLIED VOLTAGE	15V
STROBE PULSE WIDTH	7ms
POWER REQUIREMENTS	5Vdc @ 0.5A
MAX POWER DISSIPATION (INTERNAL AND EXTERNAL)	2.5W



EXTERNAL CONNECTIONS

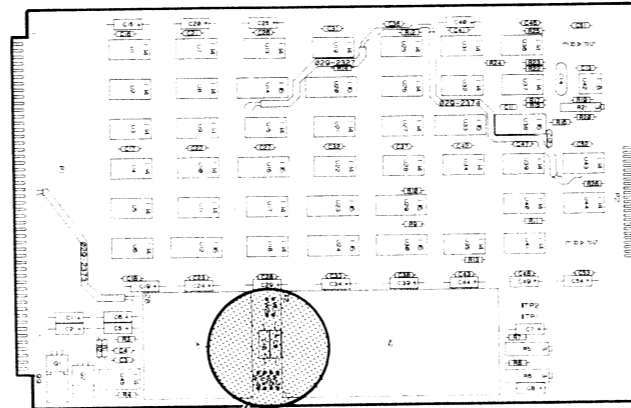


I/O BOARDS (CONT)

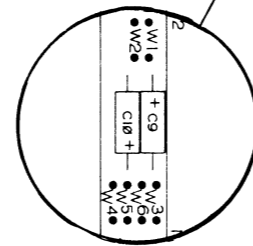
A/D CONVERTER
 MODEL 4280 SERIES
 NO CABLE
 SLOTS 0-11

JUMPERING

CODING & RANGE SELECTION	JUMPERS
TWO'S COMPLEMENT	W2 IN, W1 OUT
STRAIGHT BINARY	W1 IN, W2 OUT
0-5V RANGE	W1, W5, W6 IN, W2-4 OUT
0-10V RANGE	W1, W5 IN, W2-4 & W6 OUT
±5V RANGE	W2, 3 & W5 IN, W1, 4, 6 OUT
±10V RANGE	W2-4 IN, W1, 5, 6 OUT



Ref DGC Dwg 003-000645 Rev 13



BIT	SELECTED OUTPUT RANGE	
	0-5V	0-10V
0	2 5000	5 0000
1	1 2500	2 5000
2	0 6250	1 2500
3	0 3125	0 6250
4	0 1563	0 3125
5	0 0781	0 1563
6	0 0391	0 0781
7	0 0195	0 0391
8	0 0098	0 0195
9	0 0049	0 0098
10	0 0024	0 0049
11	0 0012	0 0024
ALL 0'S	0 0000	0 0000
ALL 1'S	4 9988	9 9976
TOLERANCE	±0 0006	±0 0012

ANALOG CLUSTER NOTE:

(SEE ALSO FOLLOWING TWO PAGES)

EACH A/D CONVERTER MAY HAVE UP TO 11 MUX CARDS ASSOCIATED WITH IT TO FORM AN "ANALOG CLUSTER". MUX'S WITHIN THE CLUSTER MUST HAVE THEIR MUX SELECT CODES SET UP CONTIGUOUSLY FROM 0 - 13g.

SPECIFICATIONS

INPUT VOLTAGE RANGE	± 10V (models 4280, 4280-F) ± 5V (models 4280-A, 4280-G) 0-10V (models 4280-B, 4280-H) 0-5V (models 4280-C, 4280-K)
RESOLUTION	12 BITS INCLUDING SIGN
CODING	2'S COMPLEMENT
ACCURACY	± 0.03% OF FULL SCALE
MAXIMUM CONVERSION TIME	20µSEC
MAXIMUM CONVERSION RATE	25KHz (models 4280, -A, -B, -C) 50KHz (models 4280-F, -G, -H, -K)
MAXIMUM ACQUISITION TIME	5µs
MAXIMUM INPUT VOLTAGE	±15V
INPUT RESISTANCE	50MΩ
NOISE	1mV MAX REFERRED TO INPUT
TEMPERATURE DRIFT	±15ppm (f s) ±25µV degC
OFFSET	25ppm degC
GAIN	0.00040
POWER REQUIREMENTS	5Vdc @ 1.1A +21Vdc @ 45mA -21Vdc @ 70mA
MAX POWER DISSIPATION	7.5W
EXT CLK	P58
RET	P60

OCTAL REPRESENTATION (2'S COMPLEMENT)	SELECTED OUTPUT RANGE	
	±5V*	±10V*
100000	-5 0000	-10 0000
100020	-4 9976	-9 9951
100040	-4 9951	-9 9902
100100	-4 9902	-9 9805
100200	-4 9805	-9 9609
100400	-4 9609	-9 9219
101000	-4 9219	-9 8437
102000	-4 8437	-9 6875
104000	-4 6875	-9 3750
110000	-4 3750	-8 7500
120000	-3 7500	-7 5000
140000	-2 5000	-5 0000
177760	-0 0024	-0 0048
000000	0 0000	0 0000
000020	0 0024	0 0049
000040	0 0049	0 0098
000100	0 0098	0 0195
000200	0 0195	0 0391
000400	0 0391	0 0781
001000	0 0781	0 1563
002000	0 1563	0 3125
004000	0 3125	0 6250
010000	0 6250	1 2500
020000	1 2500	2 5000
040000	2 5000	5 0000
077760	4 9976	9 9951

I/O BOARDS (CONT)

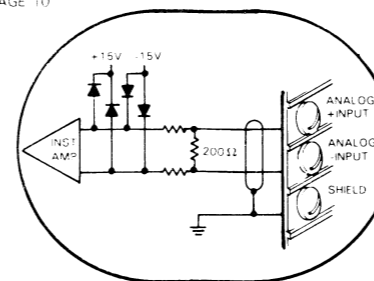
DIFFERENTIAL MULTIPLEXOR

MODEL 4281

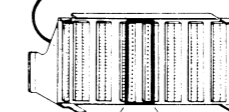
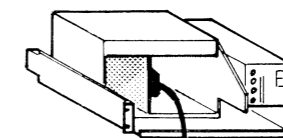
USE ANALOG CABLE
(SEE PG 3 THIS IDS)

SLOTS 1-11

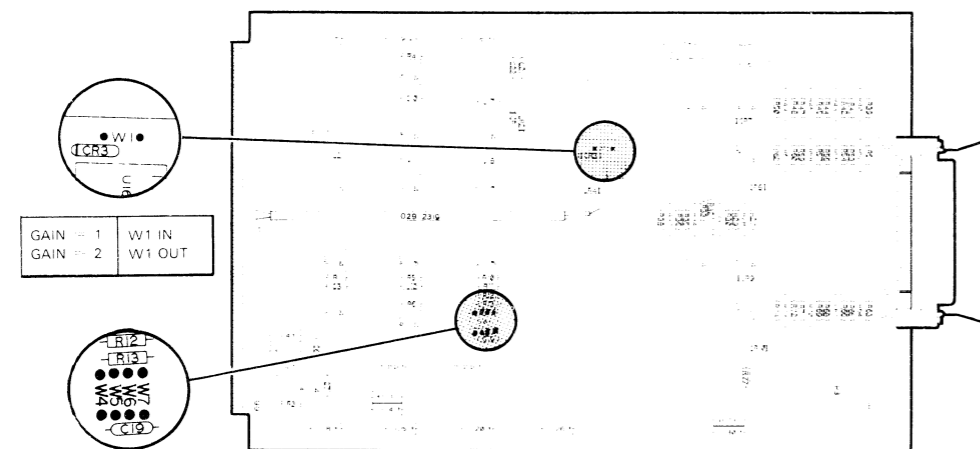
SEE NOTE ON PAGE 10
THIS 010



EXTERNAL CONNECTIONS



ch 0 +INPUT	1	26	ch 1 SHIELD
ch 0 -INPUT	2	27	ch 1 +INPUT
ch 0 SHIELD	3	28	ch 1 -INPUT
ch 2 +INPUT	4	29	ch 3 SHIELD
ch 2 -INPUT	5	30	ch 3 +INPUT
ch 2 SHIELD	6	31	ch 3 -INPUT
ch 4 +INPUT	7	32	ch 5 SHIELD
ch 4 -INPUT	8	33	ch 5 +INPUT
ch 4 SHIELD	9	34	ch 5 -INPUT
ch 6 +INPUT	10	35	ch 7 SHIELD
ch 6 -INPUT	11	36	ch 7 +INPUT
ch 6 SHIELD	12	37	ch 7 -INPUT
ch 8 +INPUT	13	38	ch 9 SHIELD
ch 8 -INPUT	14	39	ch 9 +INPUT
ch 8 SHIELD	15	40	ch 9 -INPUT
ch 10 +INPUT	16	41	ch 11 SHIELD
ch 10 -INPUT	17	42	ch 11 +INPUT
ch 10 SHIELD	18	43	ch 11 -INPUT
ch 12 +INPUT	19	44	ch 13 SHIELD
ch 12 -INPUT	20	45	ch 13 +INPUT
ch 12 SHIELD	21	46	ch 13 -INPUT
ch 14 +INPUT	22	47	ch 15 SHIELD
ch 14 -INPUT	23	48	ch 15 +INPUT
ch 14 SHIELD	24	49	ch 15 -INPUT
	25	50	



Ref DGC Dwg 003-000690 Rev 04

MUX SELECT CODE

CODE	JUMPERS			
	W4	W5	W6	W7
0	IN	IN	IN	IN
1	OUT	IN	IN	IN
2	IN	OUT	IN	IN
13	OUT	IN	OUT	OUT
14	IN	OUT	OUT	OUT
15	OUT	OUT	OUT	OUT

SPECIFICATIONS

NUMBER OF INPUT LINES	16 DIFFERENTIAL	NOISE	50 μ Vrms, 200 μ Vp-p, 10Hz TO 10kHz
MAXIMUM INPUT VOLTAGE	± 15 V	CMRR	70dB TO 500Hz
LINEAR INPUT VOLTAGE RANGE	± 10 V	CROSSTALK	-70dB
SWITCHING AND SETTLING TIME	10 μ s	POWER REQUIREMENTS	+5Vdc @ 0.3A
GAIN	JUMPER SELECTABLE TO 1 OR 2		± 21 Vdc @ 0.05A
INPUT IMPEDANCE	10M Ω SHUNTED BY 20pf	MAX POWER DISSIPATION	3.6W
MAXIMUM BIAS CURRENT	± 200 nA		
MAXIMUM OFFSET CURRENT	± 25 nA		

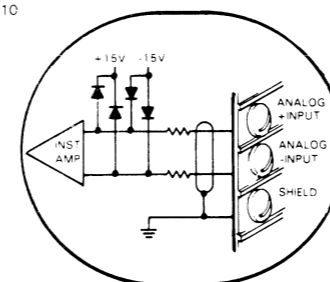
CURRENT-LOOP MULTIPLEXOR

MODEL 4281-C

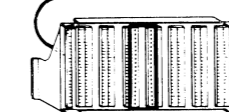
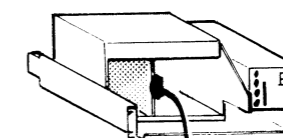
USE ANALOG CABLE
(SEE PG 3 THIS IDS)

SLOTS 1-11

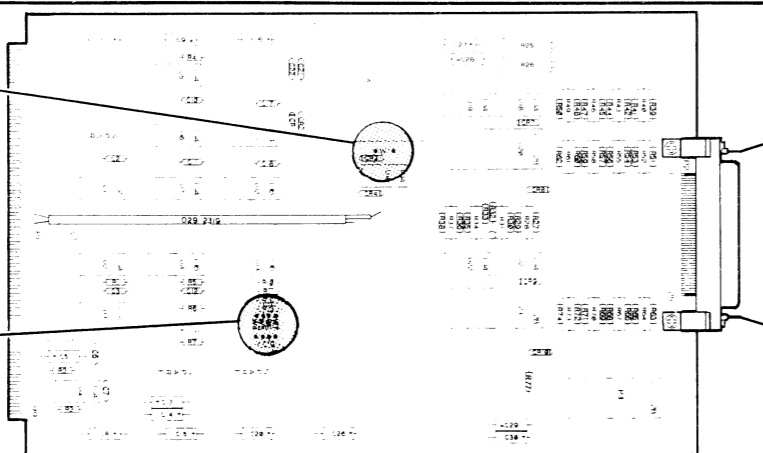
SEE NOTE ON PAGE 10
THIS 010



EXTERNAL CONNECTIONS



ch 0 +INPUT	1	26	ch 1 SHIELD
ch 0 -INPUT	2	27	ch 1 +INPUT
ch 0 SHIELD	3	28	ch 1 -INPUT
ch 2 +INPUT	4	29	ch 3 SHIELD
ch 2 -INPUT	5	30	ch 3 +INPUT
ch 2 SHIELD	6	31	ch 3 -INPUT
ch 4 +INPUT	7	32	ch 5 SHIELD
ch 4 -INPUT	8	33	ch 5 +INPUT
ch 4 SHIELD	9	34	ch 5 -INPUT
ch 6 +INPUT	10	35	ch 7 SHIELD
ch 6 -INPUT	11	36	ch 7 +INPUT
ch 6 SHIELD	12	37	ch 7 -INPUT
ch 8 +INPUT	13	38	ch 9 SHIELD
ch 8 -INPUT	14	39	ch 9 +INPUT
ch 8 SHIELD	15	40	ch 9 -INPUT
ch 10 +INPUT	16	41	ch 11 SHIELD
ch 10 -INPUT	17	42	ch 11 +INPUT
ch 10 SHIELD	18	43	ch 11 -INPUT
ch 12 +INPUT	19	44	ch 13 SHIELD
ch 12 -INPUT	20	45	ch 13 +INPUT
ch 12 SHIELD	21	46	ch 13 -INPUT
ch 14 +INPUT	22	47	ch 15 SHIELD
ch 14 -INPUT	23	48	ch 15 +INPUT
ch 14 SHIELD	24	49	ch 15 -INPUT
	25	50	



Ref DGC Dwg 003-000690 Rev 04

MUX SELECT CODE

CODE	JUMPERS			
	W4	W5	W6	W7
0	IN	IN	IN	IN
1	OUT	IN	IN	IN
2	IN	OUT	IN	IN
13	OUT	IN	OUT	OUT
14	IN	OUT	OUT	OUT
15	OUT	OUT	OUT	OUT

SPECIFICATIONS

NUMBER OF INPUT LINES	16 DIFFERENTIAL	POWER REQUIREMENTS	+5Vdc @ 0.3A
MAXIMUM INPUT CURRENT	± 75 mA		± 21 Vdc @ 0.05A
LINEAR INPUT CURRENT RANGE	± 50 mA	MAX POWER DISSIPATION	7.6W
SWITCHING AND SETTLING TIME	10 μ s	MAXIMUM COMMON MODE VOLTAGE (FOR LINEAR OPERATION)	± 10 V
GAIN	JUMPER SELECTABLE 1 OR 2	MAXIMUM COMMON MODE VOLTAGE (ABSOLUTE)	± 15 V
INPUT IMPEDANCE	200 Ω SHUNTED BY 10pf		
MAXIMUM BIAS CURRENT	400nA		
MAXIMUM OFFSET CURRENT	± 25 nA		
NOISE	50 μ Vrms 10Hz to 10kHz		
CMRR	70dB TO 500Hz		
CROSSTALK	-70dB		

I/O BOARDS (CONT)

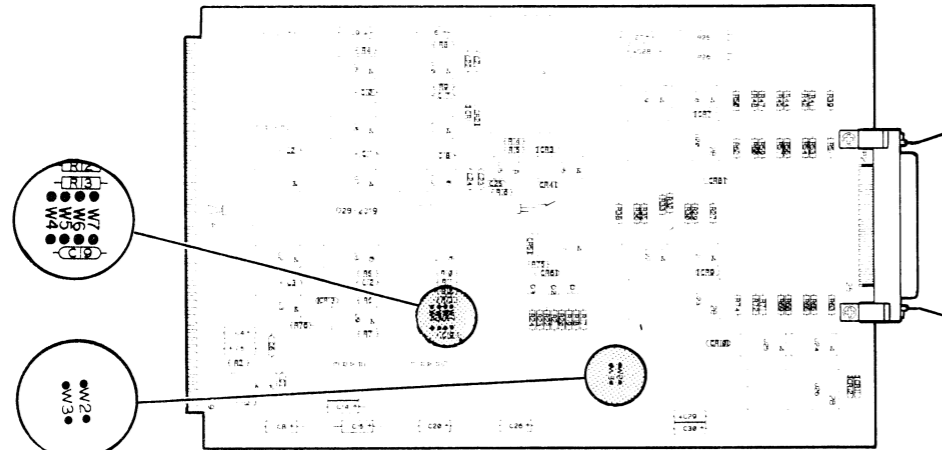
DIFFERENTIAL MULTIPLEXOR, PROGRAMMABLE GAIN

MODEL 4281-G

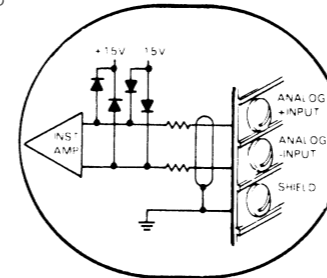
USE ANALOG CABLE
(SEE PG 3 THIS IDS)

SLOTS 1-11

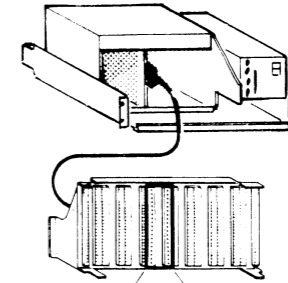
SEE NOTE ON PAGE 10
THIS 010



Ref DGC Dwg 003-000691 Rev 04



EXTERNAL CONNECTIONS



ch 0 +INPUT	1	26	ch 1 SHIELD
ch 0 -INPUT	2	27	ch 1 +INPUT
ch 0 SHIELD	3	28	ch 1 -INPUT
ch 2 +INPUT	4	29	ch 3 SHIELD
ch 2 -INPUT	5	30	ch 3 +INPUT
ch 2 SHIELD	6	31	ch 3 -INPUT
ch 4 +INPUT	7	32	ch 5 SHIELD
ch 4 -INPUT	8	33	ch 5 +INPUT
ch 4 SHIELD	9	34	ch 5 -INPUT
ch 6 +INPUT	10	35	ch 7 SHIELD
ch 6 -INPUT	11	36	ch 7 +INPUT
ch 6 SHIELD	12	37	ch 7 -INPUT
ch 8 +INPUT	13	38	ch 9 SHIELD
ch 8 -INPUT	14	39	ch 9 +INPUT
ch 8 SHIELD	15	40	ch 9 -INPUT
ch 10 +INPUT	16	41	ch 11 SHIELD
ch 10 -INPUT	17	42	ch 11 +INPUT
ch 10 SHIELD	18	43	ch 11 -INPUT
ch 12 +INPUT	19	44	ch 13 SHIELD
ch 12 -INPUT	20	45	ch 13 +INPUT
ch 12 SHIELD	21	46	ch 13 -INPUT
ch 14 +INPUT	22	47	ch 15 SHIELD
ch 14 -INPUT	23	48	ch 15 +INPUT
ch 14 SHIELD	24	49	ch 15 -INPUT
	25	50	

MUX SELECT CODE

CODE	JUMPERS			
	W4	W5	W6	W7
0	IN	IN	IN	IN
1	OUT	IN	IN	IN
2	IN	OUT	IN	IN
.
13	OUT	IN	OUT	OUT
14	IN	OUT	OUT	OUT
15	OUT	OUT	OUT	OUT

USER OPTION

W2 IN, W3 OUT - IF USER
WANTS SELECTED INPUT SIGNAL
SHIELD GROUNDED

W2 & W3 OUT - IF USER WANTS
SELECTED SHIELD NOT CONNECTED
TO IDAC GROUND

W2 OUT & W3 IN - IF USER
WANTS SELECTED SHIELDS DRIVEN
BY COMMON MODE SIGNAL

SPECIFICATIONS

NUMBER OF INPUT LINES	16 DIFFERENTIAL	CMRR	70dB TO 500Hz
MAXIMUM INPUT VOLTAGE	±15V	CROSSTALK	-70dB
LINEAR INPUT VOLTAGE RANGE	±10V	POWER REQUIREMENTS	+5Vdc @ 0.3A ±21Vdc @ 0.05A
SWITCHING AND SETTling TIME	10µs	MAX POWER DISSIPATION	3.6W
GAIN	PROGRAMMABLE 1, 2, 4, 8	XDUCER TEST CURRENT	110µA + 30µA
INPUT IMPEDANCE	10MΩ SHUNTED BY 20pf		
MAXIMUM BIAS CURRENT	±200nA		
MAXIMUM OFFSET CURRENT	±25nA		
NOISE	50µVrms, 10Hz TO 10kHz		

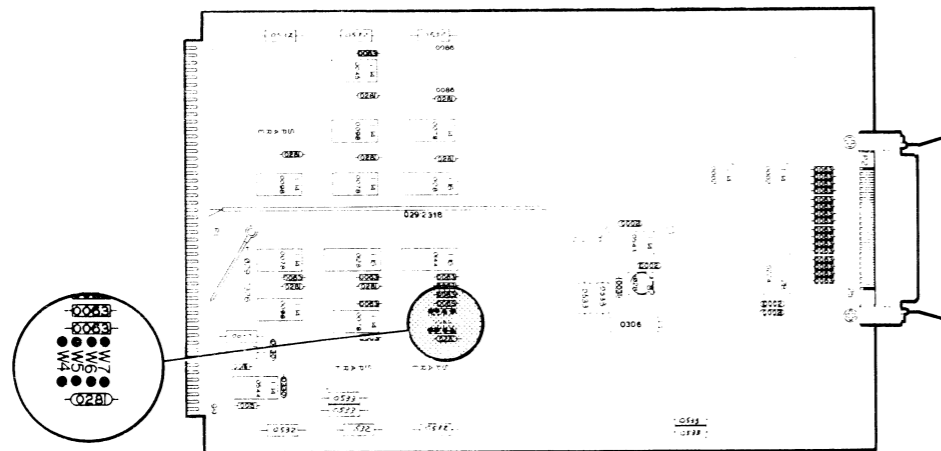
SINGLE-ENDED MULTIPLEXOR

MODEL 4282

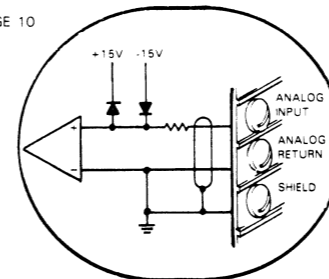
USE ANALOG CABLE
(SEE PG 3 THIS IDS)

SLOTS 1-11

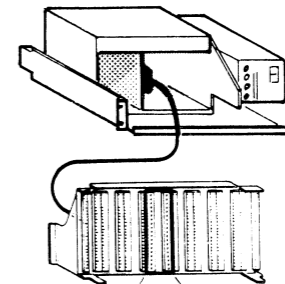
SEE NOTE ON PAGE 10
THIS 010



Ref DGC Dwg 003-000662 Rev 06



EXTERNAL CONNECTIONS



ch 0 input	1	26	ch 1 shield
ch 0 return	2	27	ch 1 input
ch 0 shield	3	28	ch 1 return
ch 2 input	4	29	ch 3 shield
ch 2 return	5	30	ch 3 input
ch 2 shield	6	31	ch 3 return
ch 4 input	7	32	ch 5 shield
ch 4 return	8	33	ch 5 input
ch 4 shield	9	34	ch 5 return
ch 6 input	10	35	ch 7 shield
ch 6 return	11	36	ch 7 input
ch 6 shield	12	37	ch 7 return
ch 8 input	13	38	ch 9 shield
ch 8 return	14	39	ch 9 input
ch 8 shield	15	40	ch 9 return
ch 10 input	16	41	ch 11 shield
ch 10 return	17	42	ch 11 input
ch 10 shield	18	43	ch 11 return
ch 12 input	19	44	ch 13 shield
ch 12 return	20	45	ch 13 input
ch 12 shield	21	46	ch 13 return
ch 14 input	22	47	ch 15 shield
ch 14 return	23	48	ch 15 input
ch 14 shield	24	49	ch 15 return
	25	50	

MUX SELECT CODE

CODE	JUMPERS			
	W4	W5	W6	W7
0	IN	IN	IN	IN
1	OUT	IN	IN	IN
2	IN	OUT	IN	IN
.
13	OUT	IN	OUT	OUT
14	IN	OUT	OUT	OUT
15	OUT	OUT	OUT	OUT

SPECIFICATIONS

NUMBER OF INPUT LINES	16	CMRR	70dB TO 500Hz
MAXIMUM INPUT VOLTAGE	±15V	CROSSTALK	-70dB
LINEAR INPUT VOLTAGE RANGE	±10V	POWER REQUIREMENTS	+5Vdc @ 0.3A ±21Vdc @ 0.05A
SWITCHING AND SETTling TIME	10µs	MAX POWER DISSIPATION	3.6W
GAIN	x1		
INPUT IMPEDANCE	10MΩ SHUNTED BY 10pf		
MAXIMUM BIAS CURRENT	±200nA		
NOISE	50µVrms, 10Hz TO 10kHz		

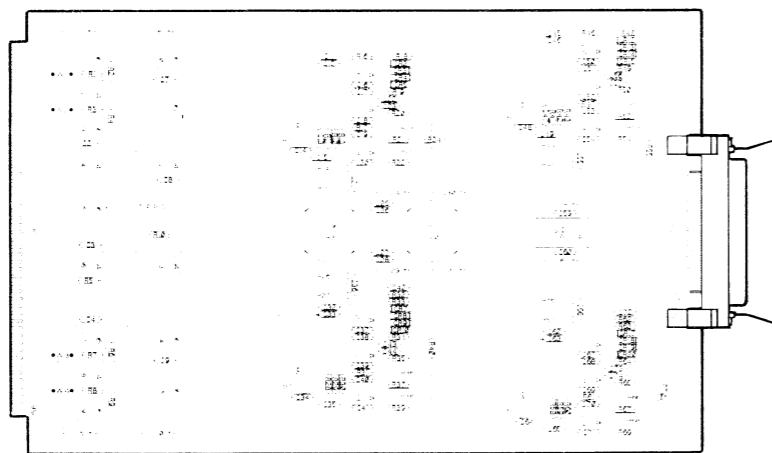
I/O BOARDS (CONT)

ANALOG OUTPUT - VOLTAGE

MODEL 4288 SERIES

USE ANALOG CABLE
(SEE PG 3 THIS IDS)

SLOTS 0-11



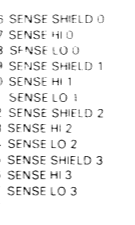
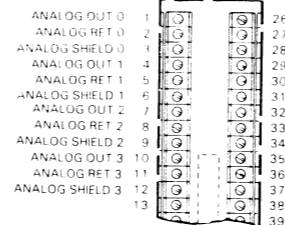
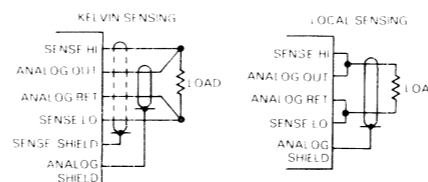
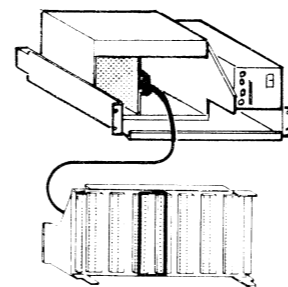
Ref DGC Dwg 003-000661 Rev 09

SPECIFICATIONS

NUMBER OF OUTPUT LINES 4
 OUTPUT VOLTAGE RANGE ±10V (model 4288), ±5V (model 4288-A), 0-10V (model 4288-B)
 MAXIMUM OUTPUT CURRENT 10mA
 RESOLUTION 12 BITS
 ACCURACY ±1/2 LSB
 SETTLING TIME 5µs 0 TO 10V
 (LOCAL SENSING)
 NOISE 200µVrms, 10Hz TO 10kHz
 TEMPERATURE DRIFT ±100ppm/degC
 OUTPUT IMPEDANCE 10Ω
 SENSE HI IMPEDANCE 10MΩ
 SENSE LO IMPEDANCE 5KΩ

COMMON MODE VOLTAGE ±0.5V MAX
 POWER REQUIREMENTS +5Vdc @ 0.8A
 MAX POWER DISSIPATION ±21Vdc @ 0.16mA
 12W (INTERNAL AND EXTERNAL)

EXTERNAL CONNECTIONS



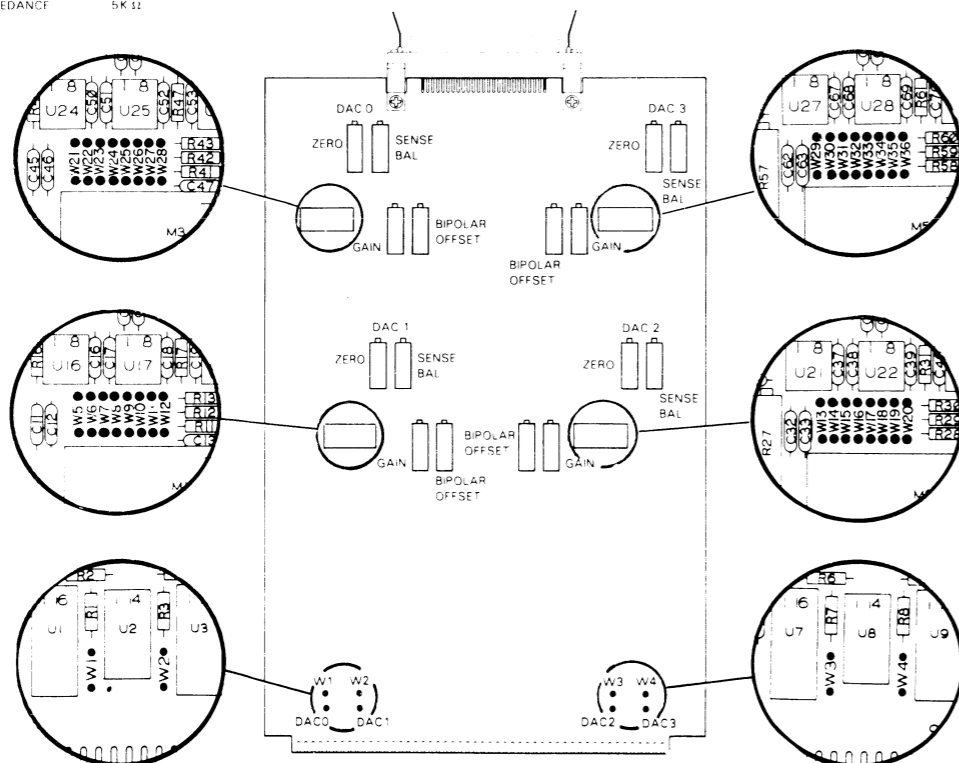
BIT	SELECTED OUTPUT RANGE	
	0-5V	0-10V
0	2.5000	5.0000
1	1.2500	2.5000
2	0.6250	1.2500
3	0.3125	0.6250
4	0.1563	0.3125
5	0.0781	0.1563
6	0.0391	0.0781
7	0.0195	0.0391
8	0.0098	0.0195
9	0.0049	0.0098
10	0.0024	0.0049
11	0.0012	0.0024
ALL 0'S	0.0000	0.0000
ALL 1'S	4.9988	9.9976
TOLERANCE	±0.0006	±0.0012

NOTE

THE 0-5V RANGE IS NOT A FACTORY WIRED AND TESTED OPTION, ALTHOUGH IT, AND THE ±2.5V RANGE MAY BE CUSTOMER SELECTED AND CALIBRATED BY JUMPER SELECTED ON THE CARD

OCTAL REPRESENTATION (2'S COMPLEMENT)	SELECTED OUTPUT RANGE	
	+5V*	±10V*
100000	5.0000	10.0000
100020	-4.9976	9.9951
100040	-4.9951	9.9902
100100	-4.9902	9.9805
100200	-4.9805	9.9609
100400	-4.9609	9.9219
101000	-4.9219	9.8437
102000	-4.8437	9.6875
104000	-4.6875	9.3750
110000	-4.3750	8.7500
120000	-3.7500	7.5000
140000	-2.5000	5.0000
177760	-0.0024	0.0048
000000	0.0000	0.0000
000020	0.0024	0.0049
000040	0.0049	0.0098
000100	0.0098	0.0195
000200	0.0195	0.0391
000400	0.0391	0.0781
001000	0.0781	0.1563
002000	0.1563	0.3125
004000	0.3125	0.6250
010000	0.6250	1.2500
020000	1.2500	2.5000
040000	2.5000	5.0000
077760	4.9976	9.9951

*Tolerances: ±5V Range ±1.2mV ±10V Range ±2.4mV



RANGE	MODEL #	JUMPERS								OUTPUT	
		W1	W21	W22	W23	W24	W25	W26	W27		W28
		W2	W5	W6	W7	W8	W9	W10	W11	W12	0
		W3	W13	W14	W15	W16	W17	W18	W19	W20	1
		W4	W29	W30	W31	W32	W33	W34	W35	W36	2
											3
±10V	4288	IN	OUT	IN	OUT	OUT	OUT	IN	OUT	OUT	
±5V	4288-A	IN	OUT	OUT	IN	OUT	IN	OUT	IN	OUT	
±2.5V	—	IN	OUT	OUT	IN	IN	IN	OUT	IN	IN	
0-10V	4288-B	OUT	OUT	OUT	IN	OUT	OUT	OUT	IN	OUT	
0-5V	—	OUT	OUT	OUT	IN	IN	OUT	OUT	IN	IN	

I/O BOARDS (CONT)

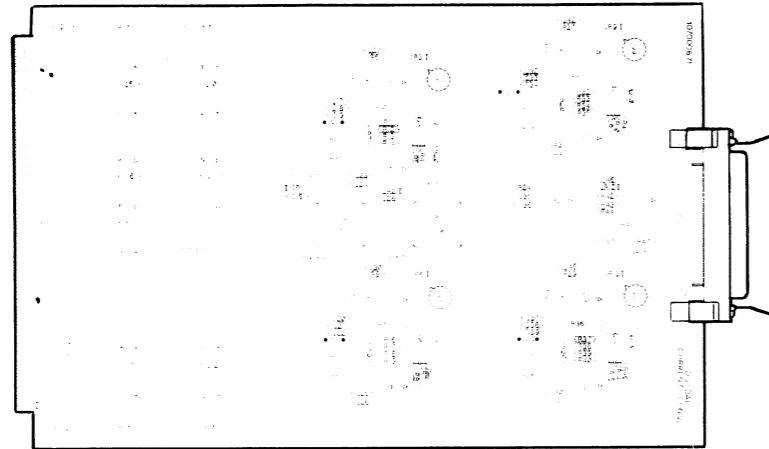
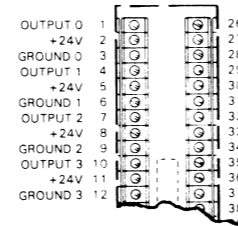
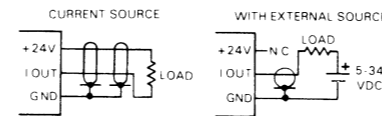
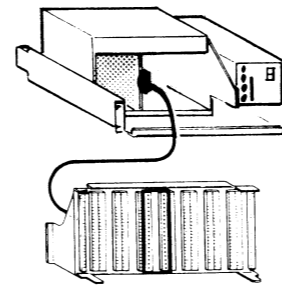
ANALOG OUTPUT - CURRENT

MODEL 4289

USE ANALOG CABLE
(SEE PG 3 THIS IDS)

SLOTS 0-11

EXTERNAL CONNECTIONS

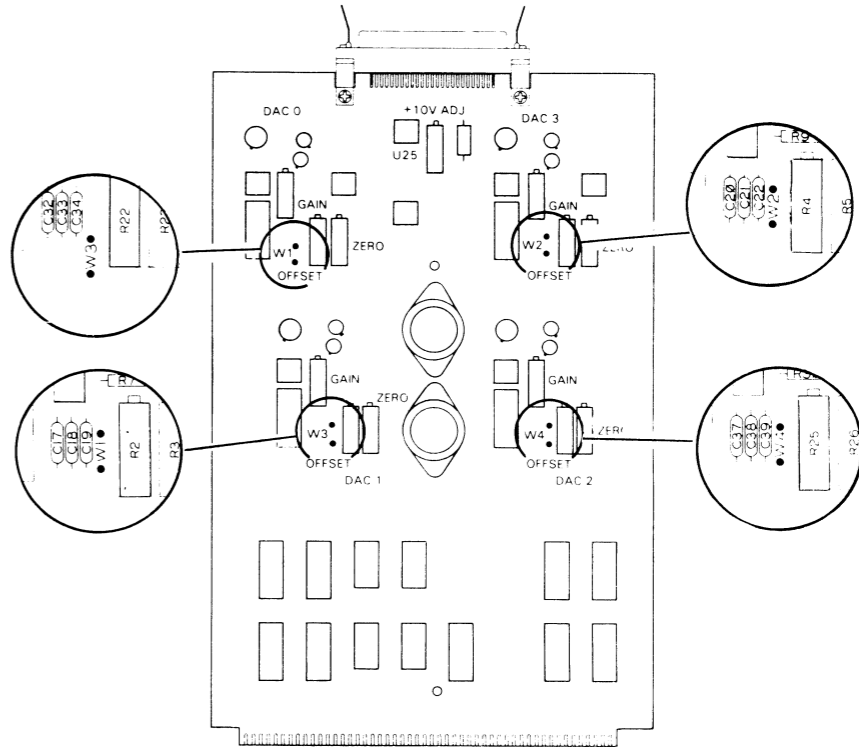


Ref DGC Dwg 003-000671 Rev 03

SPECIFICATIONS

NUMBER OF OUTPUT LINES 4
 OUTPUT CURRENT RANGE 0-16mA 4-20mA, strappable
 MAXIMUM APPLIED VOLTAGE 34V
 RESOLUTION 10 BITS
 ACCURACY ±1LSB
 SETTLING TIME 50µs
 NOISE ±10µA rms, 10Hz TO 10kHz
 TEMPERATURE DRIFT ±100ppm/degC
 OUTPUT ADMITTANCE 2 X 10⁻¹¹ MHO TO 200Hz MIN
 POWER REQUIREMENTS +5Vdc @ 0.8A
 +24Vdc @ 80mA
 When used as source

MAX POWER DISSIPATION 12W
 (INTERNAL AND EXTERNAL)
 COMPLIANCE VOLTAGE +5V MIN, +34V MAX



INSERT JUMPERS W1-4
FOR 4-20mA RANGE

I/O BOARDS (CONT)

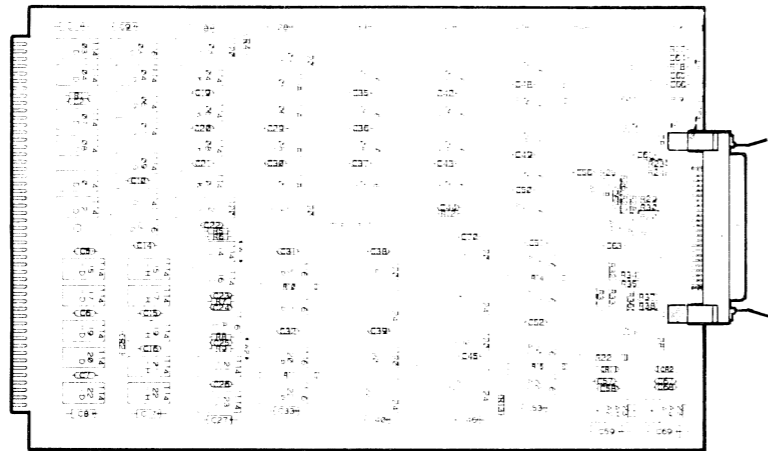
ANALOG SETPOINT MONITOR

MODEL 4283

USE ANALOG CABLE
(SEE PG 3 THIS IDS)

SLOTS 0-11

JUMPERS NORMALLY IN.

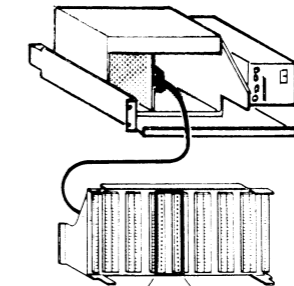


Ref DGC Dwg 003-001646 Rev 02

SPECIFICATIONS

NUMBER OF OUTPUT LINES	16 differential
MAX INPUT VOLTAGE	- 15 V
LINEAR INPUT VOLTAGE	± 5 V
SCAN TIME / SETPOINT LIMIT CHECK	12 μsec
INPUT IMPEDANCE	50 MΩ
BIAS CURRENT	
TYP @ 25 °C	20 nA
MAX @ 55 °C	500 nA
OFFSET CURRENT	
TYP @ 25 °C	20 nA
MAX @ 55 °C	500 nA
POWER REQUIREMENTS	
- 5V	1 A typ
- 21V	45 mA typ
MAX POWER DISSIPATION	8.25 watts

EXTERNAL CONNECTIONS

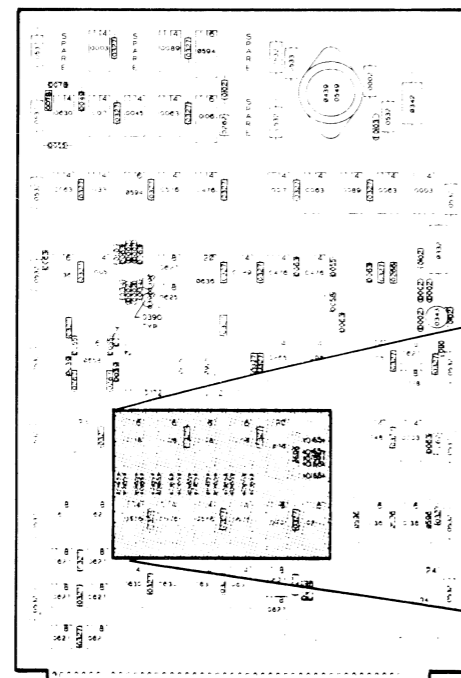


ch 0 input	1	26	ch 1 shield
ch 0 return	2	27	ch 1 input
ch 0 shield	3	28	ch 1 return
ch 2 input	4	29	ch 3 shield
ch 2 return	5	30	ch 3 input
ch 2 shield	6	31	ch 3 return
ch 4 input	7	32	ch 5 shield
ch 4 return	8	33	ch 5 input
ch 4 shield	9	34	ch 5 return
ch 6 input	10	35	ch 7 shield
ch 6 return	11	36	ch 7 input
ch 6 shield	12	37	ch 7 return
ch 8 input	13	38	ch 9 shield
ch 8 return	14	39	ch 9 input
ch 8 shield	15	40	ch 9 return
ch 10 input	16	41	ch 11 shield
ch 10 return	17	42	ch 11 input
ch 10 shield	18	43	ch 11 return
ch 12 input	19	44	ch 13 shield
ch 12 return	20	45	ch 13 input
ch 12 shield	21	46	ch 13 return
ch 14 input	22	47	ch 15 shield
ch 14 return	23	48	ch 15 input
ch 14 shield	24	49	ch 15 return
.....	25	50

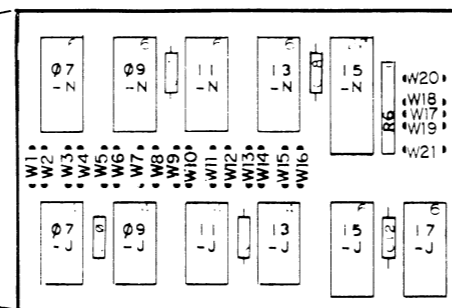
CONTROLLER

NO CABLE

SLOT 12

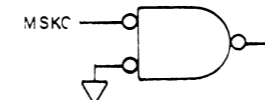


Ref DGC Dwg 003-001548 Rev 01



MASK OUT JUMPERS

W1	DAD0
W2	DAD1
W3	DAD2
W4	DAD3
W5	DAD4
W6	DAD5
W7	DAD6
W8	DAD7
W9	DAD8
W10	DAD9
W11	DAD10
W12	DAD11
W13	DAD12
W14	DAD13
W15	DAD14
W16	DAD15



EXAMPLE : FOR MASK BIT OF 5,
PLUG IN JUMPER W6.

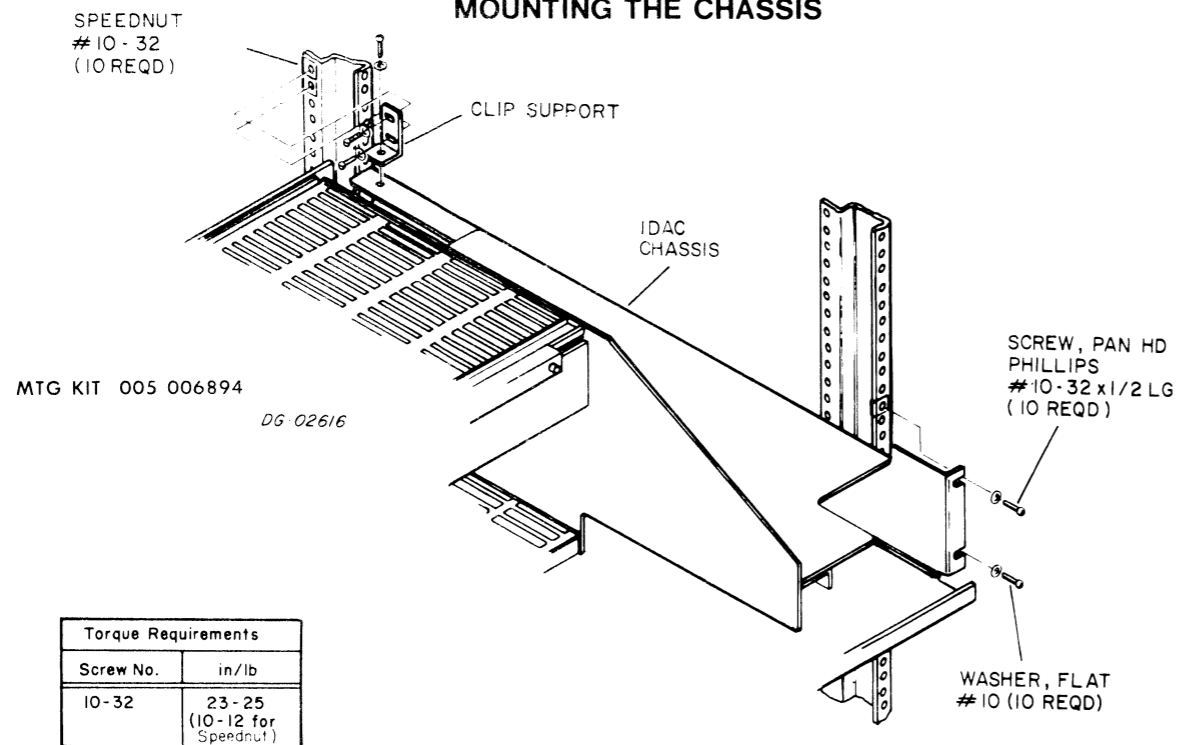
DEVICE CODE JUMPERS

HARD WIRED	DS0	MSB
○ W17 ○	DS1	
○ W18 ○	DS2	
○ W19 ○	DS3	
○ W20 ○	DS4	
○ W21 ○	DS5	

DEVICE CODE IS 4C
AS SHOWN. CAN BE
JUMPED UP TO 76.

CABINET MOUNTING

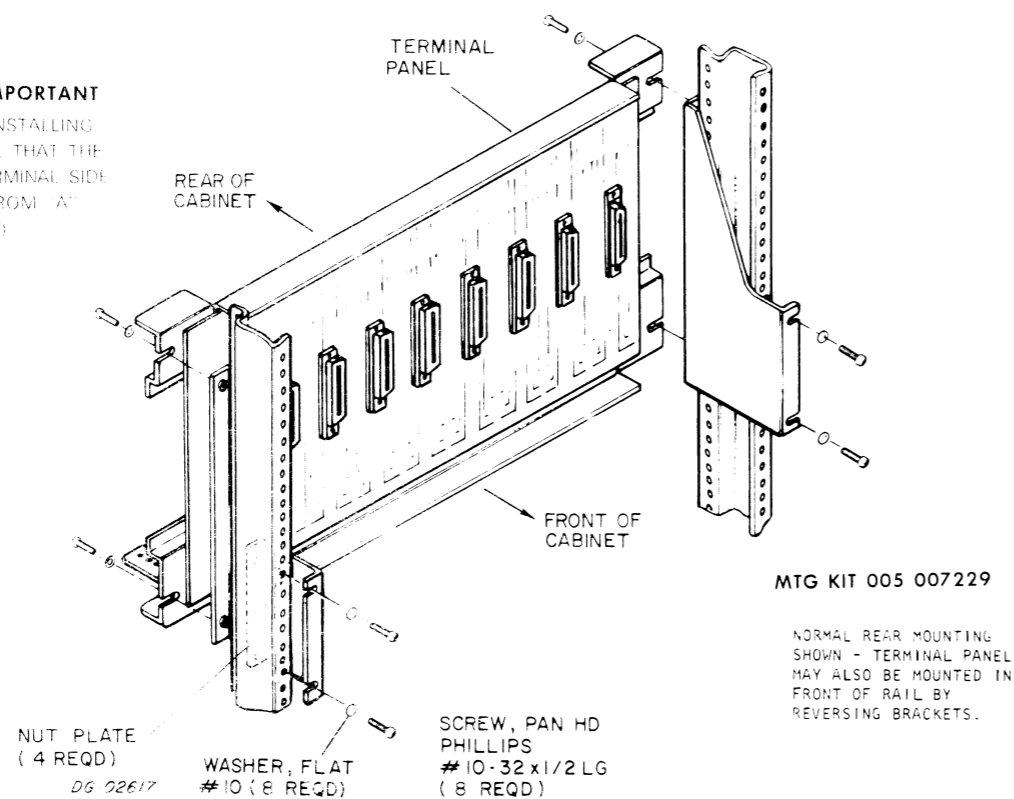
MOUNTING THE CHASSIS



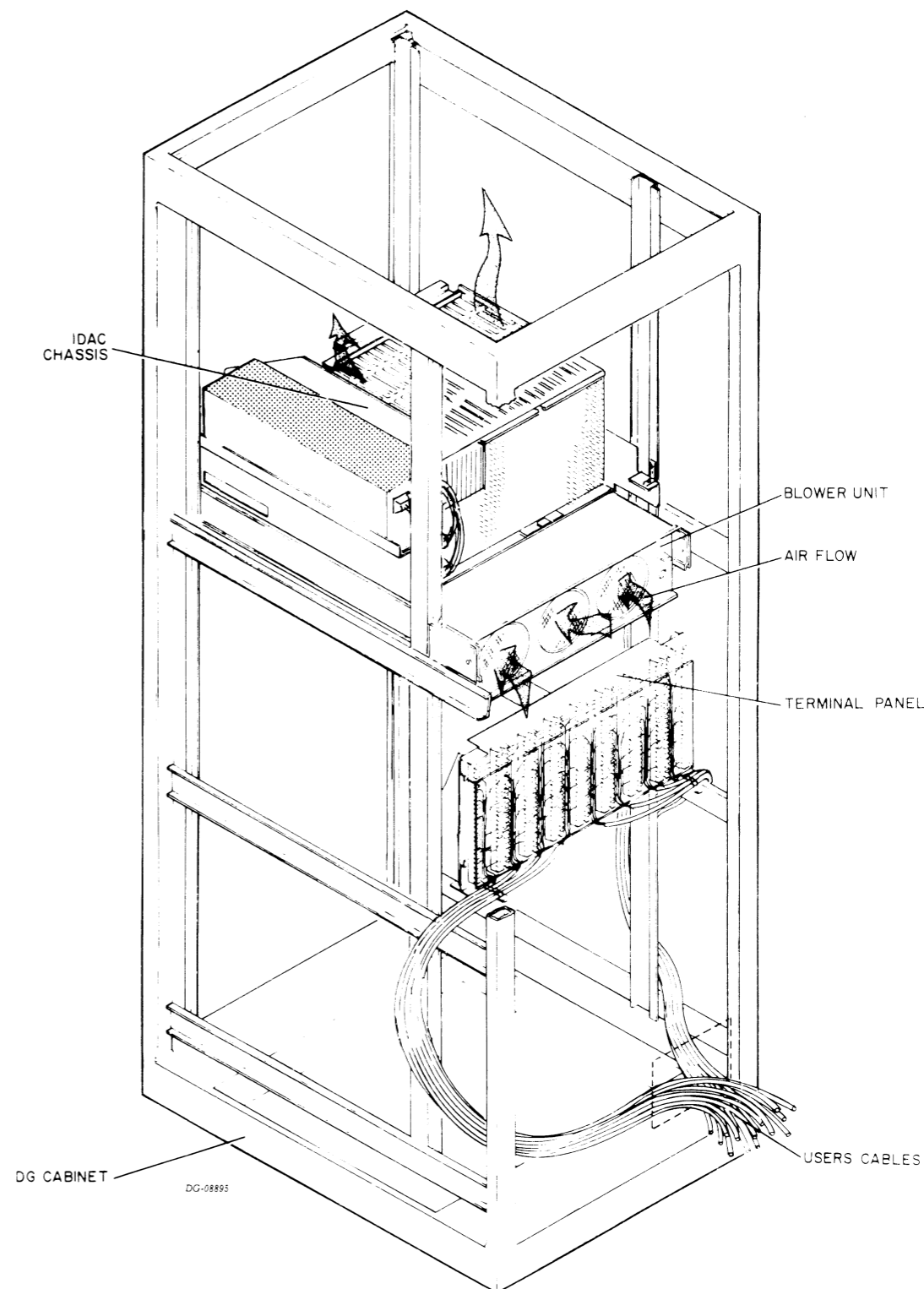
MOUNTING THE TERMINAL PANEL

ORIENTATION IS IMPORTANT

MAKE SURE WHEN INSTALLING THE TERMINAL PANEL THAT THE LETTERS ON THE TERMINAL SIDE OF THE PCB READ FROM 'A' (LEFT) TO 'H' (RIGHT)

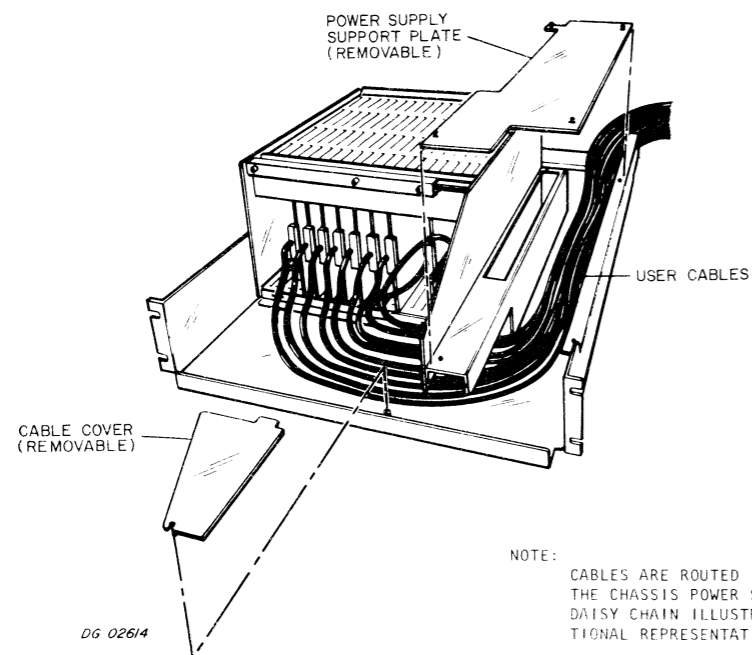


REAR VIEW OF CABINET AIR FLOW



EXTERNAL CABLING

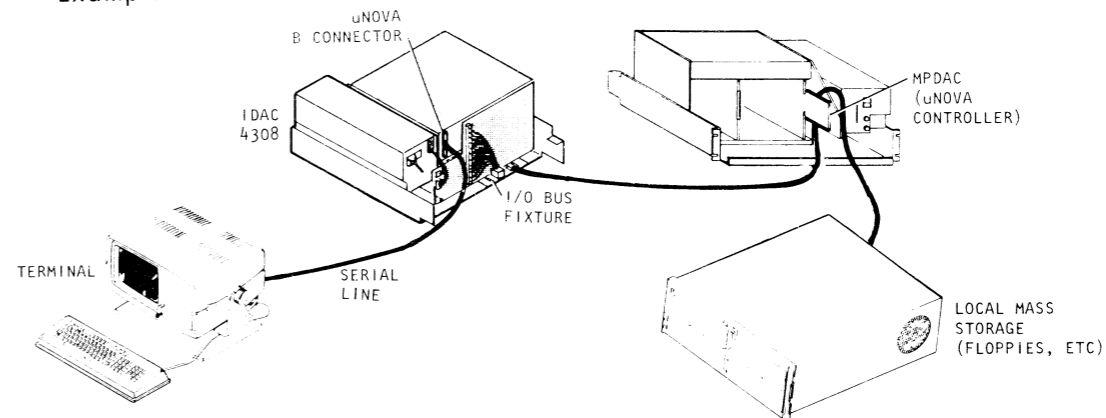
CABLE ROUTING



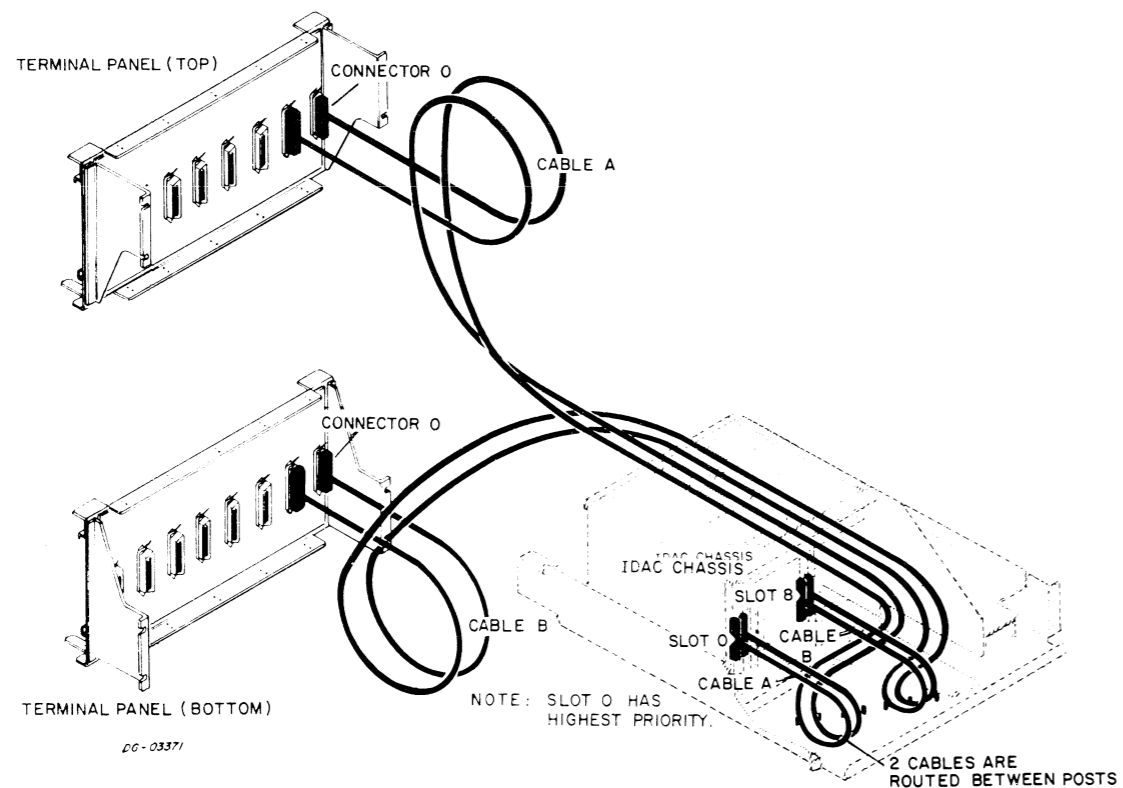
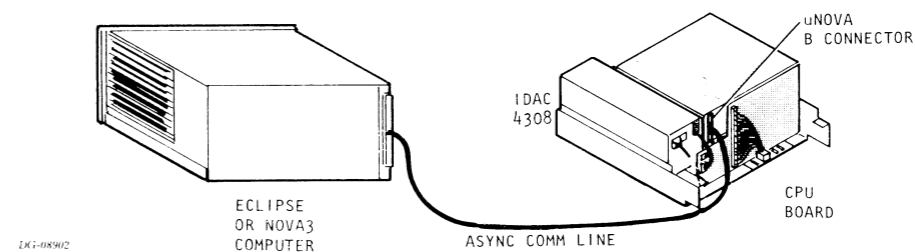
NOTE: CABLES ARE ROUTED IN A CHANNEL UNDER THE CHASSIS POWER SUPPLY, AS SHOWN. DAISY CHAIN ILLUSTRATIONS ARE FUNCTIONAL REPRESENTATIONS ONLY.

CONFIGURING A SYSTEM

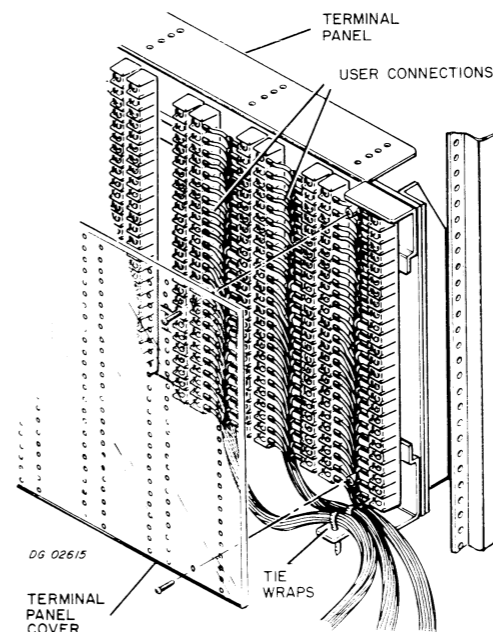
Example 1 Slaved microNOVA DG/DAC



Example 2 Slaved IDAC downline loaded from NOVA or ECLIPSE



USER CONNECTIONS



CONFIGURATION RULES

DEFINITION: DG/DAC IS A GENERIC TERM REFERRING TO IDAC, NEDAC OR MPDAC.

COOLING

ALL DG/DAC CHASSIS MUST HAVE THE AUXILLIARY BLOWER UNIT (MODEL 4269) PLACED DIRECTLY BENEATH THEM.

THE ONLY EXCEPTION TO THIS RULE IS WHEN A DG/DAC IS USED IN ANY 1012 SERIES CABINET. BECAUSE OF THE VERTICAL ORIENTATION OF THE AIR FLOW IN THIS CABINET, ANY DG/DAC CHASSIS MAY BE PLACED DIRECTLY ABOVE THE TERMINAL BOARD(S) WITHOUT USING THE 4269 BLOWER UNIT. ADDITIONAL DG/DAC FAMILY CHASSIS IN A 1012 SERIES CABINET MUST HAVE THE 4269 BLOWER UNIT.

TERMINAL BOARDS

1. THE BACKPANEL OF DG/DAC CHASSIS WILL REMAIN TOTALLY UNCOVERED TO FACILITATE TROUBLE-SHOOTING.
2. THE RULES WILL ALLOW A DG/DAC CHASSIS AND TWO TERMINAL BOARDS TO BE MOUNTED IN 21 INCHES OF SPACE, THUS MAKING IT POSSIBLE TO FIT A CPU (OR OTHER OPTION), A DISK, AND A DG/DAC CHASSIS WITH TWO TERMINAL BOARDS IN ONE FULL-BAY (1012) CABINET. THE CONFIGURATION IS SHOWN IN THE ACCOMPANYING ILLUSTRATION.

ONE TERMINAL BOARD:

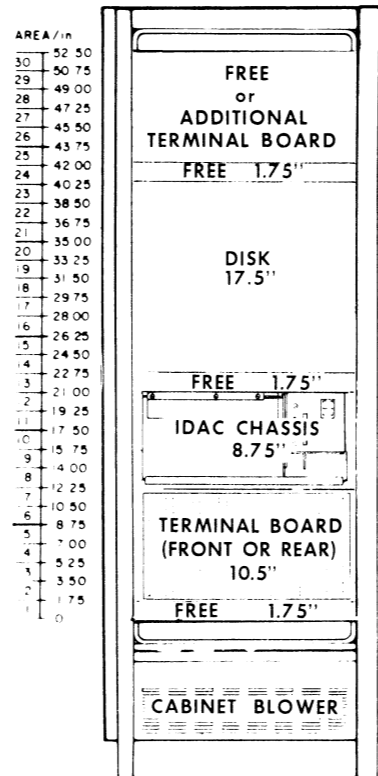
THIS TERMINAL BOARD WILL BE MOUNTED ON THE REAR OF THE CABINET IN THE LOWEST MOUNTING HOLES POSSIBLE (OR OTHER POSITION AS THE CASE MAY WARRANT).

THE EXCEPTION TO THIS RULE IS THE CASE WHERE AN IDAC CHASSIS, AUXILLIARY BLOWER UNIT AND ONE TERMINAL BOARD ARE TO BE PLACED IN AN 1144 "LOW-BOY" CABINET. IN THIS CASE, THE IDAC CHASSIS IS MOUNTED IN THE HIGHEST RACK-MOUNTABLE POSITION, FOLLOWED BY THE AUXILLIARY BLOWER UNIT DIRECTLY BELOW IT. THE TERMINAL BOARD IS THEN MOUNTED ON THE FRONT IN THE HIGHEST POSITION POSSIBLE. WHEN MOUNTED CORRECTLY, IT WILL BUTT UP AGAINST THE RACK MOUNT RAILS OF THE BLOWER UNIT. THIS WILL LEAVE SPACE FOR USER WIRING TO PASS ABOVE AND BELOW THE TERMINAL BOARD. STANDARD FRONT PANELS CANNOT BE USED WITH THIS CONFIGURATION.

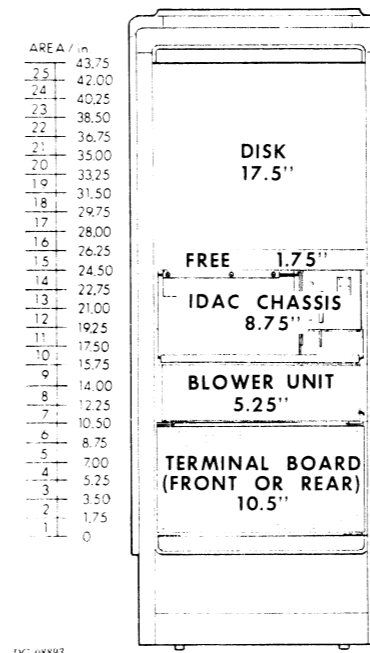
TWO TERMINAL BOARDS:

THESE TERMINAL BOARDS WILL BE MOUNTED OPPOSITE EACH OTHER, ONE ON THE FRONT, AND ONE ON THE REAR OF THE CABINET. IF AN AUXILLIARY BLOWER IS NOT BEING USED, THEY WILL BE MOUNTED 1.75" UP FROM THE LOWEST RACK-MOUNTABLE POSITION TO ALLOW FOR USER WIRING CLEARANCE. (USER WIRES WILL COME UNDER THE FRONT TERMINAL BOARD.) IF AN AUXILLIARY BLOWER IS BEING USED, THEY WILL BE MOUNTED IN THE LOWEST MOUNTING HOLES. (USER WIRING WILL PASS UNDER THE BLOWER AND OVER THE TOP OF THE TERMINAL BOARD.)

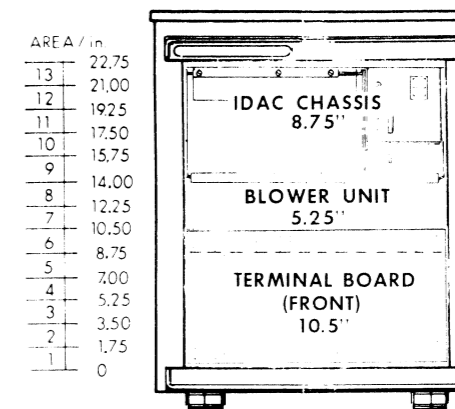
IF ENOUGH SPACE IS AVAILABLE, BOTH TERMINAL BOARDS MAY BE MOUNTED ON THE REAR OF THE CABINET; HOWEVER, COMPLETE REAR ACCESS MUST BE MAINTAINED FOR ALL RACK MOUNTED EQUIPMENT, INCLUDING ALL DG/DAC FAMILY CHASSIS.



TYPICAL 1012 CABINET CONFIGURATION



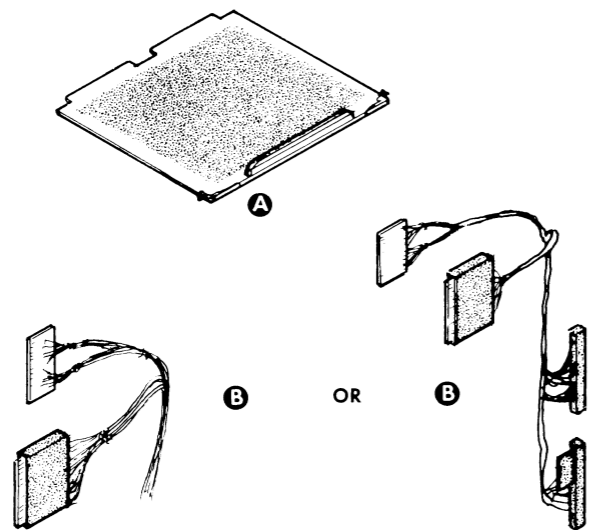
TYPICAL 1144 CABINET CONFIGURATION



1148 CABINET "LOW-BOY" CONFIGURATION

NOTE: TERMINAL BOARD INVADES BLOWER UNIT'S VERTICAL SPACE IN THE FRONT OF THE CABINET.

INSTALLATION SPECIFICATIONS



SIZE: ONE 15 INCH SQUARE BOARD

OPERATING ENVIRONMENT:
 Temperature: 0 to +55 C 32 to 131 F
 Humidity: 95%, non-condensing
 Altitude: 2440 m 8000 ft

POWER: 5.2 amps @ 5VDC

INPUT LOADING:
 A/D: 50 Meg min.
 Digital: 1 TTL load max.

OUTPUT DRIVE:
 D/A: 5 mA max.
 Digital: 2 TTL loads max.

DATA CHANNEL LATENCY (MAX.):
 A/D: 45 uS
 D/A: 10 uS

MAJOR COMPONENT

ITEM	COMPONENT	MOUNTING LOCATION	NOTES
A	MAIN BOARD	CPU CHASSIS	HI-PRIORITY I/O SLOT (NEAR CPU)

CABLE

ITEM	CABLE	CONNECTING	MAX LGTH		NOTES
			FT	M	
B	INTERNAL	BACKPANEL (WW OR PUSH-ON) AND 2 PADDLE-BOARDS	1.5	.46	WW FOR OLD BACKPANELS. PUSH-ON FOR LATER BACKPANELS

SHIPPING

FOR PACKING PROCEDURE,
SEE 010-000262

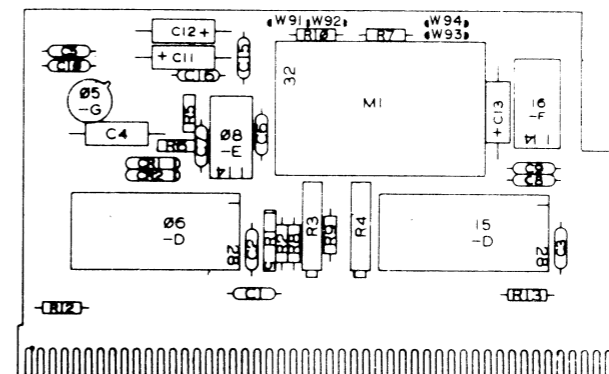
SHIPPING SPECIFICATIONS			STORAGE SPECIFICATIONS		
Temperature Range	Relative Humidity	Maximum Altitude	Temperature Range	Relative Humidity	Maximum Period
$\frac{^{\circ}\text{F}}{^{\circ}\text{C}}$ -13 to +185 -25 to +85	(Non-condensing) 95%	50,000 Ft. 15,200 m	$\frac{^{\circ}\text{F}}{^{\circ}\text{C}}$ -13 to +185 -25 to +85	(Non-condensing) 95%	90 days

DS-03224

TAILORING
JUMPERING

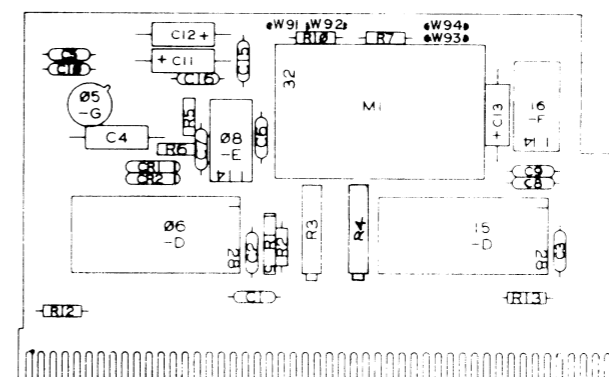
ANALOG PADDLEBOARD - SINGLE-ENDED

Ref DGC No 003-001565



ANALOG PADDLEBOARD - DIFFERENTIAL

Ref DGC No 003-000969



A/D VOLTAGE RANGE SELECT JUMPERS

VOLTAGE RANGE	W91	W92	W93	W94
0 TO +5	OUT	IN	OUT	IN
0 TO +10	OUT	IN	OUT	OUT
-5 TO +5	OUT	IN	IN	OUT
-10 TO +10	IN	OUT	IN	OUT

NOTE: VOLTAGE RANGE IS FACTORY SET.
RE-CALIBRATION IS REQUIRED IF
ALTERED.

INTERNAL CABLING (Cont)

USER SIGNALS

ANALOG PADDLEBOARD INPUTS/OUTPUTS

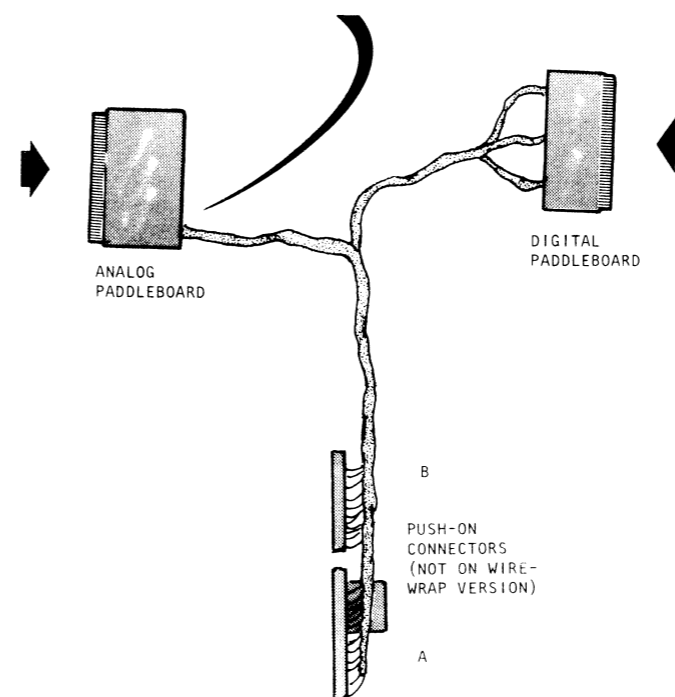
PIN No	SIGNAL NAME (SINGLE-ENDED)	SIGNAL NAME (DIFFERENTIAL)	PIN No	SIGNAL NAME (SINGLE-ENDED)	SIGNAL NAME (DIFFERENTIAL)
A1			A26		
B1			B26		
A2			A27	ANALOG 24	ANALOG 8L
B2			B27	ANALOG 16	ANALOG 8H
A3	ANALOG 8	ANALOG 0L	A28	ANALOG 24 SHIELD	ANALOG 8L SHIELD
B3	ANALOG 0	ANALOG 0H	B28	ANALOG 16 SHIELD	ANALOG 8H SHIELD
A4	ANALOG 8 SHIELD	ANALOG 0L SHIELD	A29	ANALOG 25	ANALOG 9L
B4	ANALOG 0 SHIELD	ANALOG 0H SHIELD	B29	ANALOG 17	ANALOG 9H
A5	ANALOG 9	ANALOG 1L	A30	ANALOG 25 SHIELD	ANALOG 9L SHIELD
B5	ANALOG 1	ANALOG 1H	B30	ANALOG 17 SHIELD	ANALOG 9H SHIELD
A6	ANALOG 9 SHIELD	ANALOG 1L SHIELD	A31	ANALOG 26	ANALOG 10L
B6	ANALOG 1 SHIELD	ANALOG 1H SHIELD	B31	ANALOG 18	ANALOG 10H
A7	ANALOG 10	ANALOG 2L	A32	ANALOG 26 SHIELD	ANALOG 10L SHIELD
B7	ANALOG 2	ANALOG 2H	B32	ANALOG 18 SHIELD	ANALOG 10H SHIELD
A8	ANALOG 10 SHIELD	ANALOG 2L SHIELD	A33	ANALOG 27	ANALOG 11L
B8	ANALOG 2 SHIELD	ANALOG 2H SHIELD	B33	ANALOG 19	ANALOG 11H
A9	ANALOG 11	ANALOG 3L	A34	ANALOG 27 SHIELD	ANALOG 11L SHIELD
B9	ANALOG 3	ANALOG 3H	B34	ANALOG 19 SHIELD	ANALOG 11H SHIELD
A10	ANALOG 11 SHIELD	ANALOG 3L SHIELD	A35	ANALOG 28	ANALOG 12L
B10	ANALOG 3 SHIELD	ANALOG 3H SHIELD	B35	ANALOG 20	ANALOG 12H
A11	ANALOG 12	ANALOG 4L	A36	ANALOG 28 SHIELD	ANALOG 12L SHIELD
B11	ANALOG 4	ANALOG 4H	B36	ANALOG 20 SHIELD	ANALOG 12H SHIELD
A12	ANALOG 12 SHIELD	ANALOG 4L SHIELD	A37	ANALOG 29	ANALOG 13L
B12	ANALOG 4 SHIELD	ANALOG 4H SHIELD	B37	ANALOG 21	ANALOG 13H
A13	ANALOG 13	ANALOG 5L	A38	ANALOG 29 SHIELD	ANALOG 13L SHIELD
B13	ANALOG 5	ANALOG 5H	B38	ANALOG 21 SHIELD	ANALOG 13H SHIELD
A14	ANALOG 13 SHIELD	ANALOG 5L SHIELD	A39	ANALOG 30	ANALOG 14L
B14	ANALOG 5 SHIELD	ANALOG 5H SHIELD	B39	ANALOG 22	ANALOG 14H
A15	ANALOG 14	ANALOG 6L	A40	ANALOG 30 SHIELD	ANALOG 14L SHIELD
B15	ANALOG 6	ANALOG 6H	B40	ANALOG 22 SHIELD	ANALOG 14H SHIELD
A16	ANALOG 14 SHIELD	ANALOG 6L SHIELD	A41	ANALOG 31	ANALOG 15L
B16	ANALOG 6 SHIELD	ANALOG 6H SHIELD	B41	ANALOG 23	ANALOG 15H
A17	ANALOG 15	ANALOG 7L	A42	ANALOG 31 SHIELD	ANALOG 15L SHIELD
B17	ANALOG 7	ANALOG 7H	B42	ANALOG 23 SHIELD	ANALOG 15H SHIELD
A18	ANALOG 15 SHIELD	ANALOG 7L SHIELD	A43		
B18	ANALOG 7 SHIELD	ANALOG 7H SHIELD	B43		
A19			A44		
B19			B44		
A20			A45	Z-PULSE RETURN	
B20			B45	Z-PULSE RETURN	
A21			A46	Z-PULSE OUT	
B21			B46		
A22			A47	DAC Y RETURN	
B22			B47	DAC Y RETURN	
A23			A48	DAC Y OUT	
B23			B48		
A24			A49	DAC X RETURN	
B24			B49	DAC X RETURN	
A25	COMMON REFERENCE		A50	DAC X OUT	
B25	COMMON REFERENCE		B50		

BACKPANEL TO ANALOG PADDLEBOARD INPUT

ANALOG INPUT	BACKPANEL PIN	SIGNAL NAME	ALSO TO A/D OUTPUT PINS:
E3	A65	Z-PULSE RETURN	A45, B45
E4	A67	Z-PULSE OUT	A46
E5	A61	DAC Y RETURN	A47, B47
E6	A63	DAC Y OUT	A48
E7	A57	DAC X RETURN	A49
E8	A59	DAC X OUT	A50
E9	A86	EN 8 (DIFF ONLY)	
	A88	EN 16 (SINGLE-ENDED ONLY)	
E10	A81	ADR 1	
E11	A83	ADR 2	
E12	A85	ADR 4	
E13	A84	EN 0	
E14	A3	+5V	
E15	A75	PB GROUND	
E16	A77	-15V	
E17	A73	+15V	
E18	A87	ADR 8 (SINGLE-ENDED ONLY)	
E19	A78	START ADC	
E20	A92	S/H	
E21	A49	SERIAL DATA	
E22	A47	SERIAL CLOCK	
E23	A76	ADC EOC	

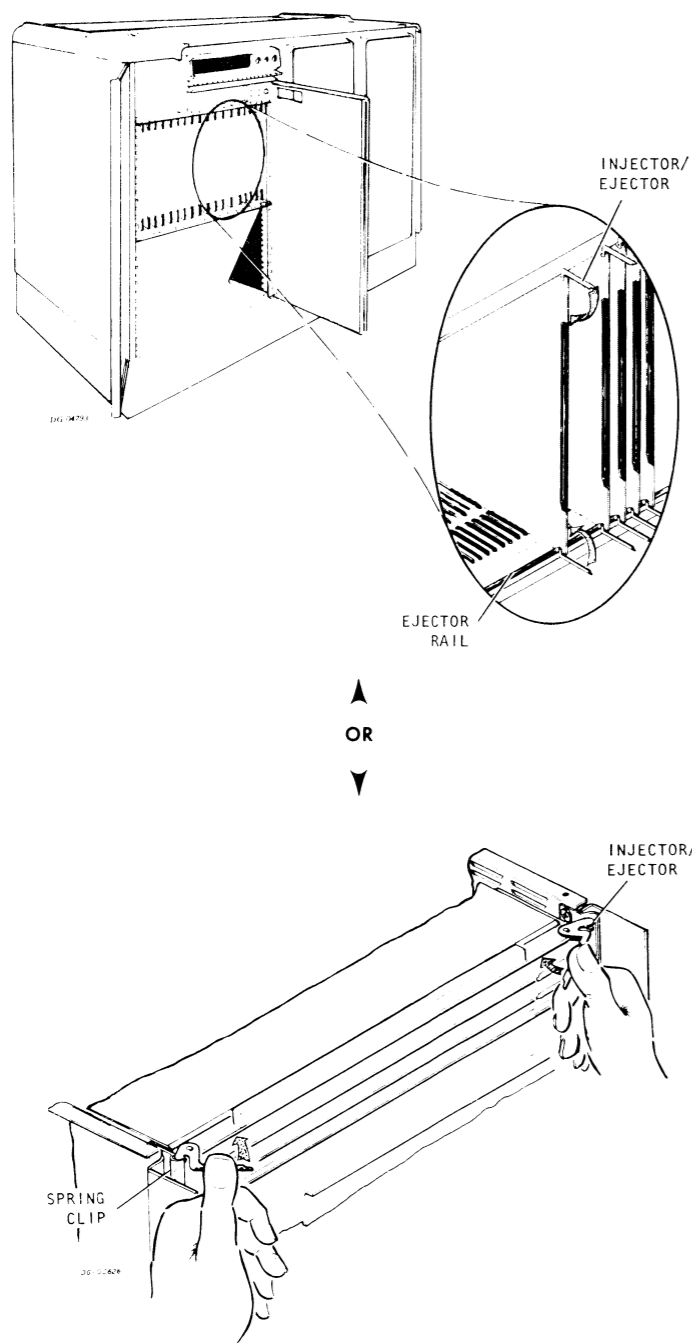
BACKPANEL TO DIGITAL PADDLEBOARD CONNECTIONS

DIGITAL PIN	BACKPANEL PIN	SIGNAL NAME
1	A1	GROUND
**		
50	A2	GROUND
A		
B		
C	B11	EXT INT RQ A
D		
E	B13	EXT CLOCK A
F		
H	B15	INT CLOCK A
J		
K	A91	ADC READY
L		
M	A89	ADC SERIAL DATA
N		
P	A90	ADC CLOCK
R		
S		
T		
U		
V		
W		
X		
Y		
Z		
A		
B		
C	B23	EXT INT RQ D
D		
E	B25	EXT CLOCK D
F		
H	B27	INT CLOCK D
J		
K	B38	DAC OUT VALID
L		
M	B40	DAC DATA READY
N		
P	B19	EXT ERASE IN
R		
S	B31	ERASE
T		
U	B34	NON-STORE
V		
W		
X		
Y		
Z		
AA		
AB		
AC		
AD		
AE		
AF		



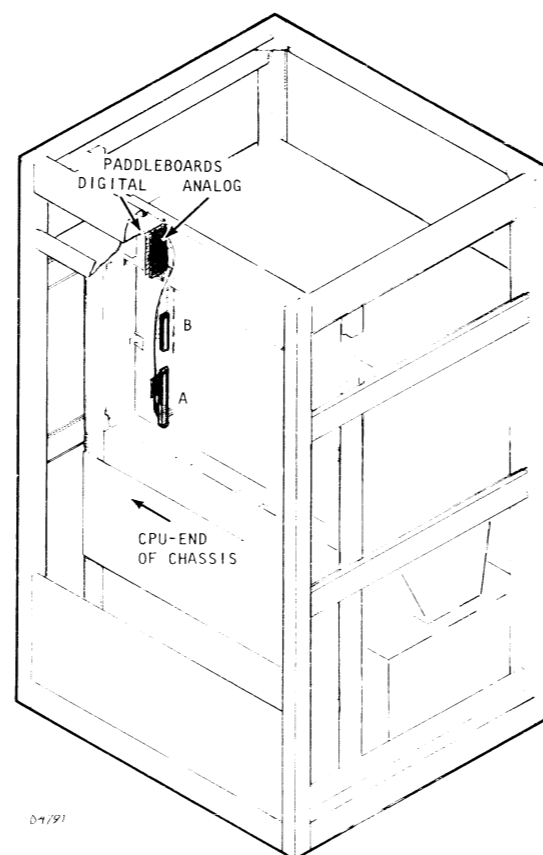
INTERNAL CABLING

INSERTING PC BOARD



PADDLEBOARD AND BACKPANEL CONNECTOR PLACEMENT

NOTE: REFER TO APPROPRIATE CPU INSTALLATION DATA SHEET FOR MOUNTING INSTRUCTIONS FOR OTHER CPU'S.



NOTE: PLACE ANALOG PADDLEBOARD AS FAR TOWARD CPU-END OF CHASSIS AS POSSIBLE.

PLACE "B" BACKPANEL CONNECTOR FLUSH WITH BOTTOM OF "B" CONNECTOR PINS.

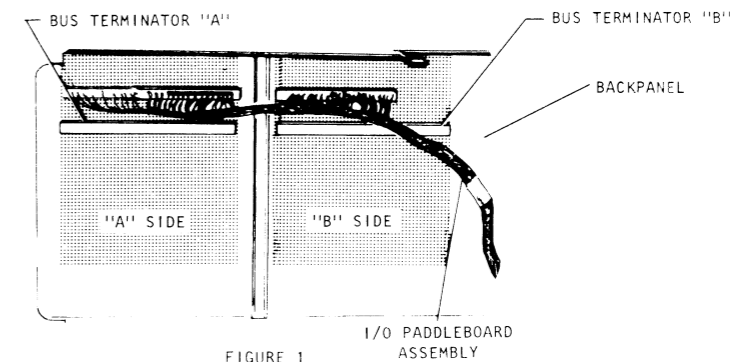


FIGURE 1

OR

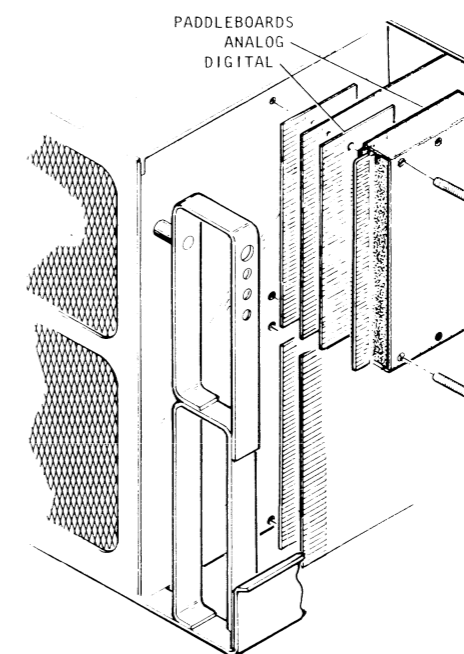
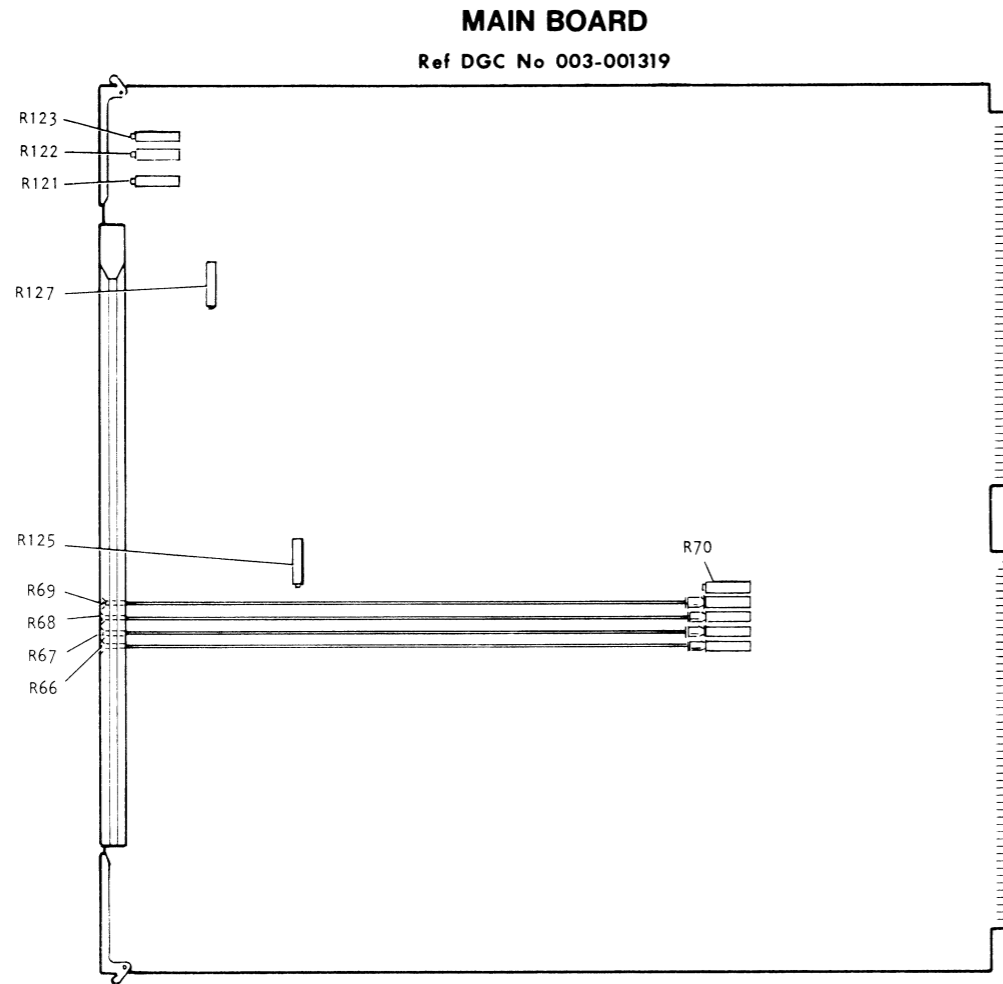


FIGURE 2

NOTE: PLACE ANALOG PADDLEBOARD AT OUTERMOST POSITION OF TOP ROW.(FIGURE 2)

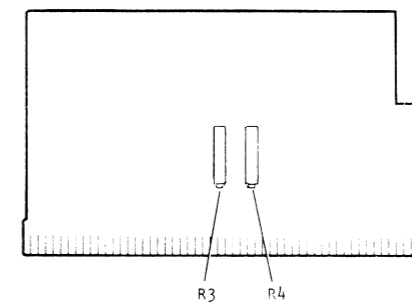
PLACE "B" BACKPANEL CONNECTOR FLUSH WITH LEFTMOST "B" CONNECTOR PINS.(FIGURE 1)

TRIMPOT ADJUSTMENTS



ANALOG PADDLEBOARD

Ref DGC No 003-000969

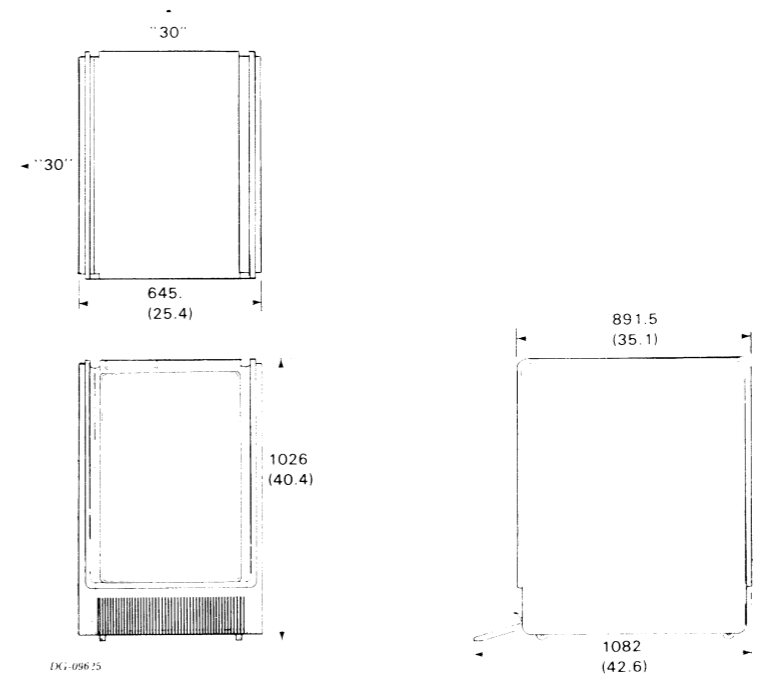
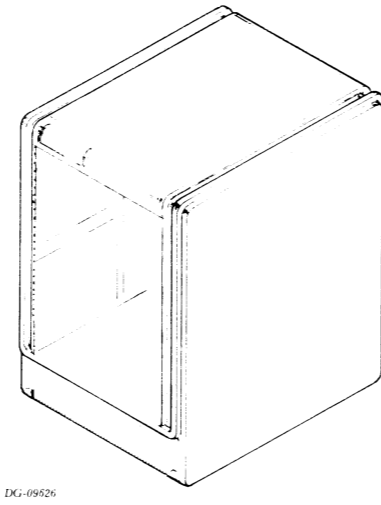
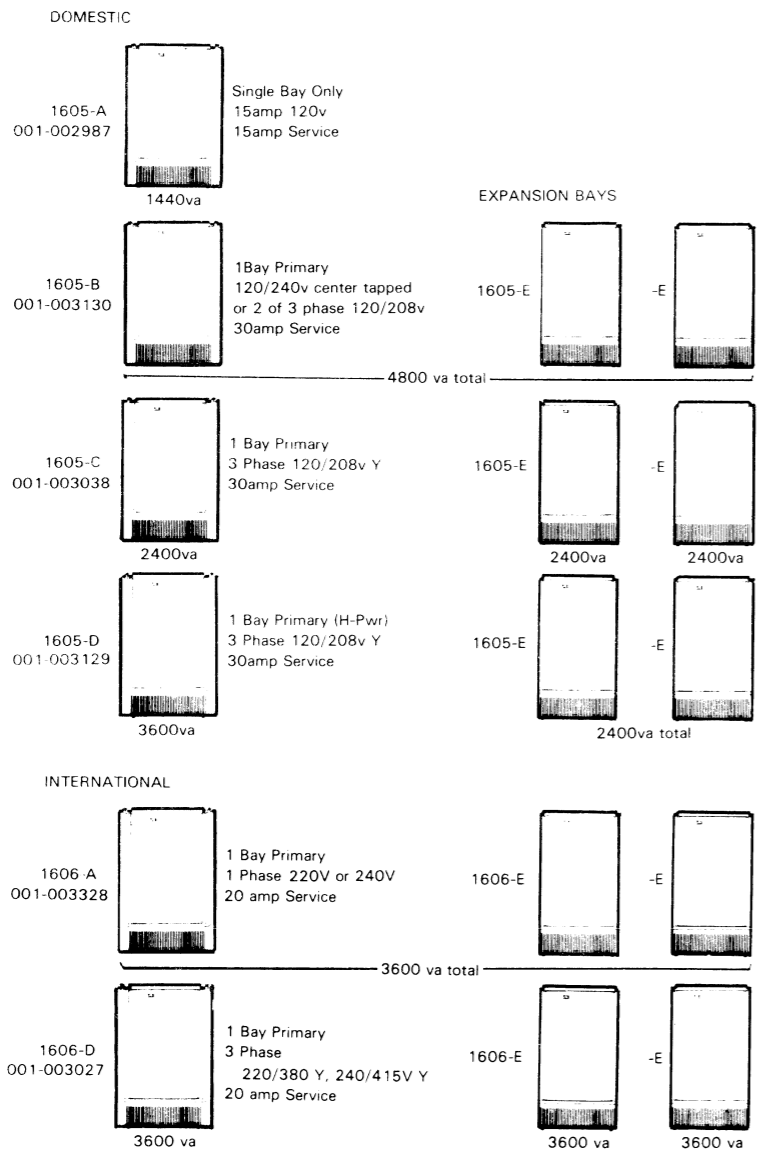


POTENTIOMETER	FUNCTION	NOTE
R66	DAC X OFFSET	CALIBRATION
R67	DAC X GAIN	CALIBRATION
R68	DAC Y OFFSET	CALIBRATION
R69	DAC Y GAIN	CALIBRATION
R70	Z OUT OFFSET	USER ADJUSTMENT - INITIALLY 0 VOLTS
R121	Z OUT PULSE WIDTH	USER ADJUSTMENT - INITIALLY 7.6 μ S
R122	D/A CLOCK PERIOD	USER ADJUSTMENT - INITIALLY 60 kHz
R123	A/D CLOCK PERIOD	USER ADJUSTMENT - INITIALLY 22 kHz
R125	A/D SETTLING TIME	FACTORY ADJUSTMENT - INITIALLY 16 μ S
R127	D/A SETTLING TIME	FACTORY ADJUSTMENT - INITIALLY 8 μ S

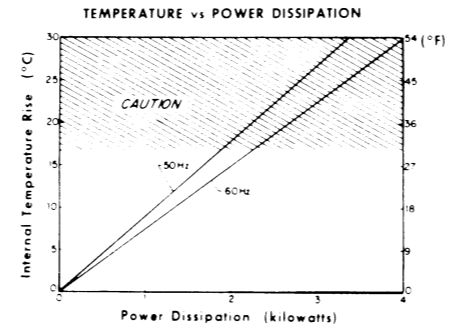
POTENTIOMETER	FUNCTION	NOTE
R3	A/D OFFSET	CALIBRATION
R4	A/D GAIN	CALIBRATION

CABINETS

INSTALLATION SPECIFICATIONS



STD CAPACITY BLOWER 0166



DIMENSIONS:	Width	Depth	Height
Millimeters	645	892	1026
Inches	25.4	35.1	40.4
SERVICE CLEARANCES:	Front	Rear	Left or Right
Millimeters	762	762	762
Inches	30	30	30
WEIGHT:	Empty	Fully Loaded	
Cabinet w/o side panels			
Kilograms	36.3	192.8	
Pounds	80	425	
Side panel kit			
Kilograms	14.5		
Pounds	32		
OPERATING ENVIRONMENT:			
Temperature Range	0 - 55°C (32 - 131°F) See note (1)		
Relative Humidity Range	10 - 90%		
Altitude Range	-305 - 2,440m (-1000 - 8000ft)		

POWER REQUIREMENTS:	See note (2)		
Domestic	(1605 - B only)		
Voltage	120/240		
Hz	47-63		
Amp per Phase	30		
Phase	1 or 2 phases off a 3 phase line		
Export	(1606 - D only)		
Voltage	220/208Y, 240/415Y		
Hz	50		
Amp per Phase	20		
Phase	3		
CABLES:	See note (2)		
COOLING UNITS	See note (1)		
Domestic			
Volts	115		
Hz	60		
Watts	150		
Amp	1.5		
Export			
Volts	220/240		
Hz	50		
Watts	150		
Amp	0.7		
USABLE VERTICAL RACK SPACE	Areas	Inches	mm
	16	28	712

ALL PRIMARY UNITS WILL BE SHIPPED WITH SIDE PANEL KIT.
EXPANSION UNITS WILL BE SHIPPED WITHOUT SIDE PANEL KIT.
EXPANSION UNITS HAVE BUILT-IN 10 SECOND DELAY SEQUENCING.
SIDE PANEL KIT MAY BE DELETED BY ADDING (X) SUFFIX TO MODEL NUMBER.

- NOTES:**
- VOLT AMPS CALCULATED ON BASIS OF 120V X AMPS OR 240V X AMPS. FOR 100V OR 220V SERVICE COUNTRIES, VOLT AMPS SHOULD BE REDUCED ACCORDINGLY; AMPS REMAIN THE SAME
 - AMPS = va/VOLTAGE — (120 OR 240)

- NOTES:**
- SPECS ARE FOR CABINET ONLY. SEE BLOWER CHART FOR TEMPERATURE RISE INSIDE CABINET AS YOU ADD EQUIPMENT. YOU MUST NOT EXCEED MAX ALLOWABLE TEMPERATURE INSIDE THE CABINET FOR ANY PIECE OF EQUIPMENT.
 - FOR COMPLETE POWER REQUIREMENTS DISTRIBUTION IN EACH CABINET SEE 010-322 SHEETS 3, 4, 5 AND 6.

SHIPPING

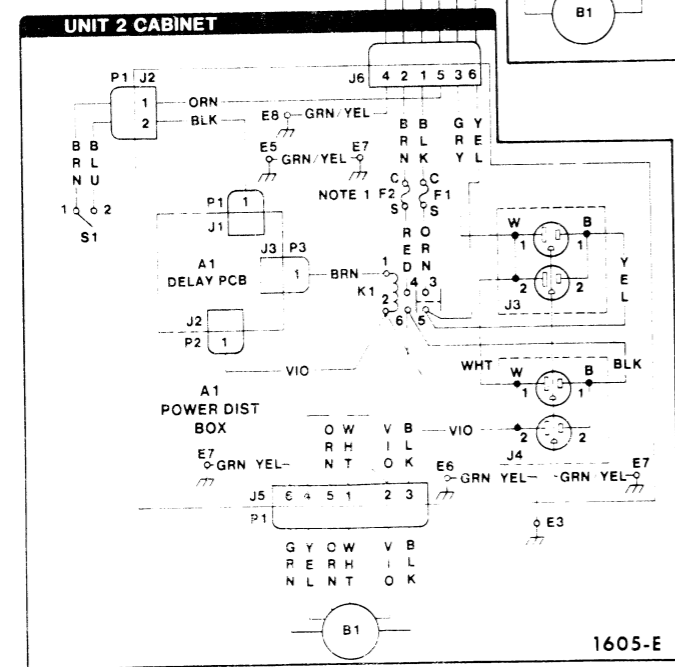
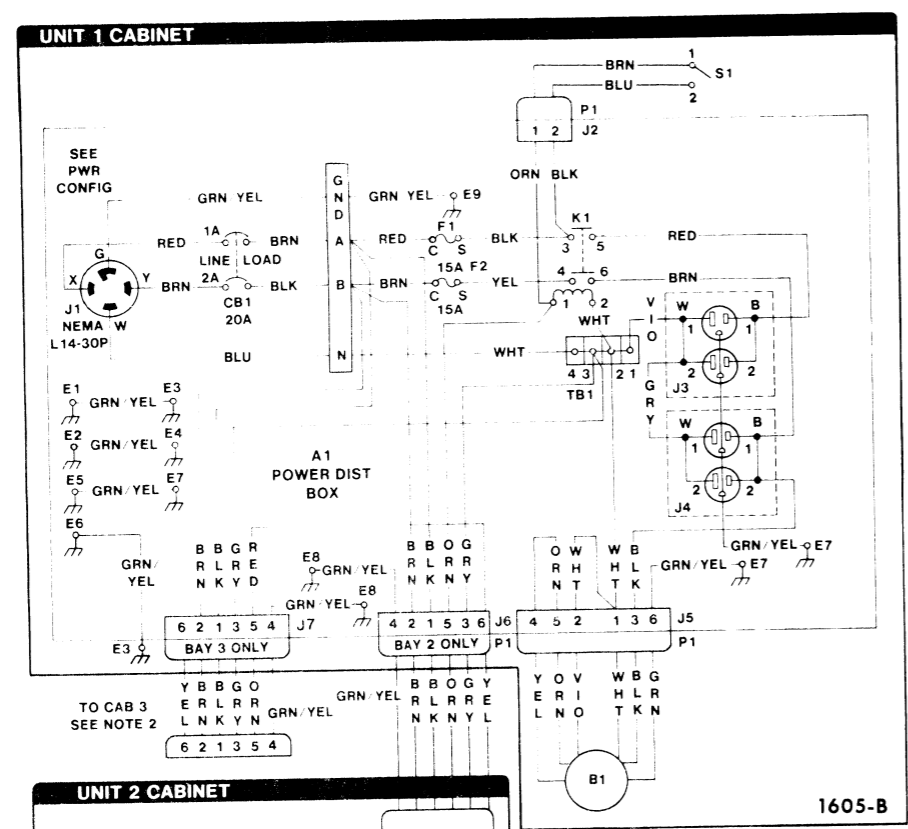
FOR PACKING 1-BAY CABINETS, SEE 010-000328

FOR PACKING 2-BAY CABINETS, SEE 010-000329

FOR PACKING 3-BAY CABINETS, SEE 010-000330

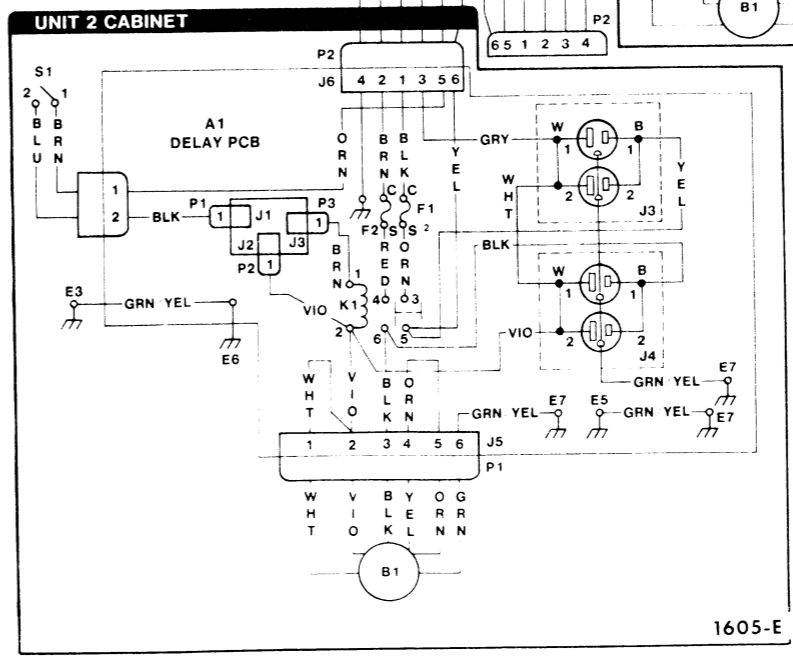
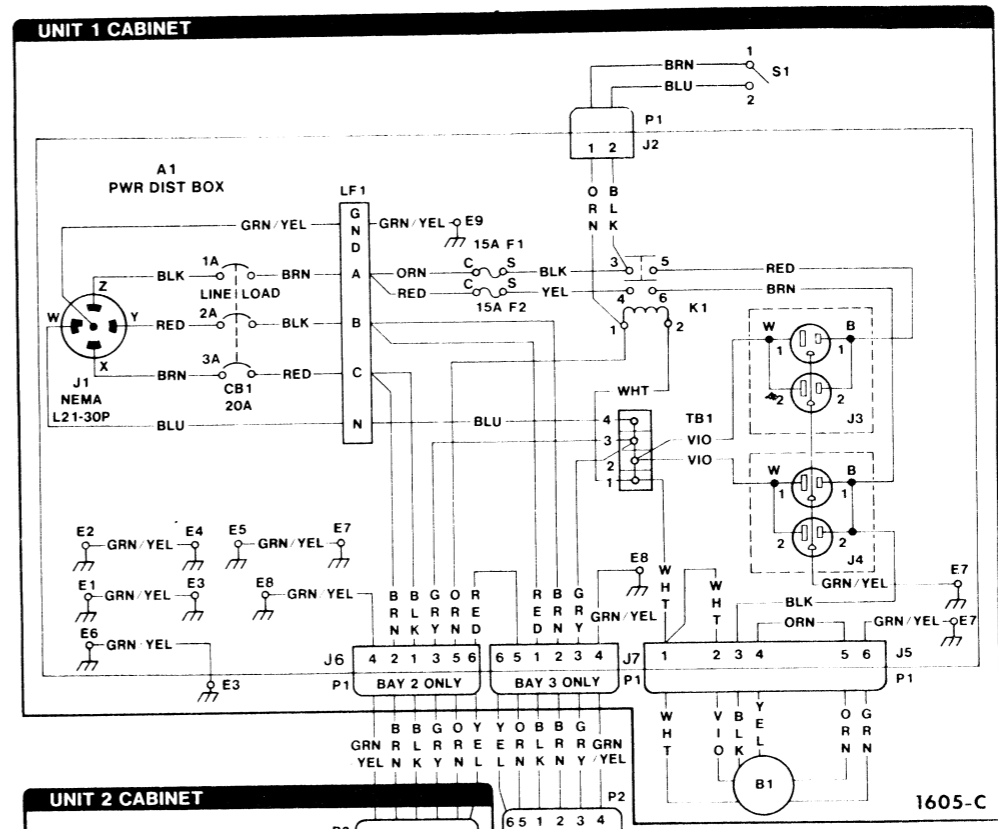
INTERNAL CABLING (CONT)

1605-B (DOMESTIC)
WITH EXPANSION
1605-E



1. POWER CONFIGURATION
FOR 2 PHASES OF A 3 PHASE CONFIGURATION
- J1 CONNECT
W NEUTRAL
X PHASE X
Y PHASE Y
G GND
- FOR 120 / 240 CENTER TAP CONFIG.
- J1 CONNECT
W NEUTRAL
X HOT 1
Y HOT 2
G GND
2. FOR POINT TO POINT WIRING
SEE UNIT 2 CAB.

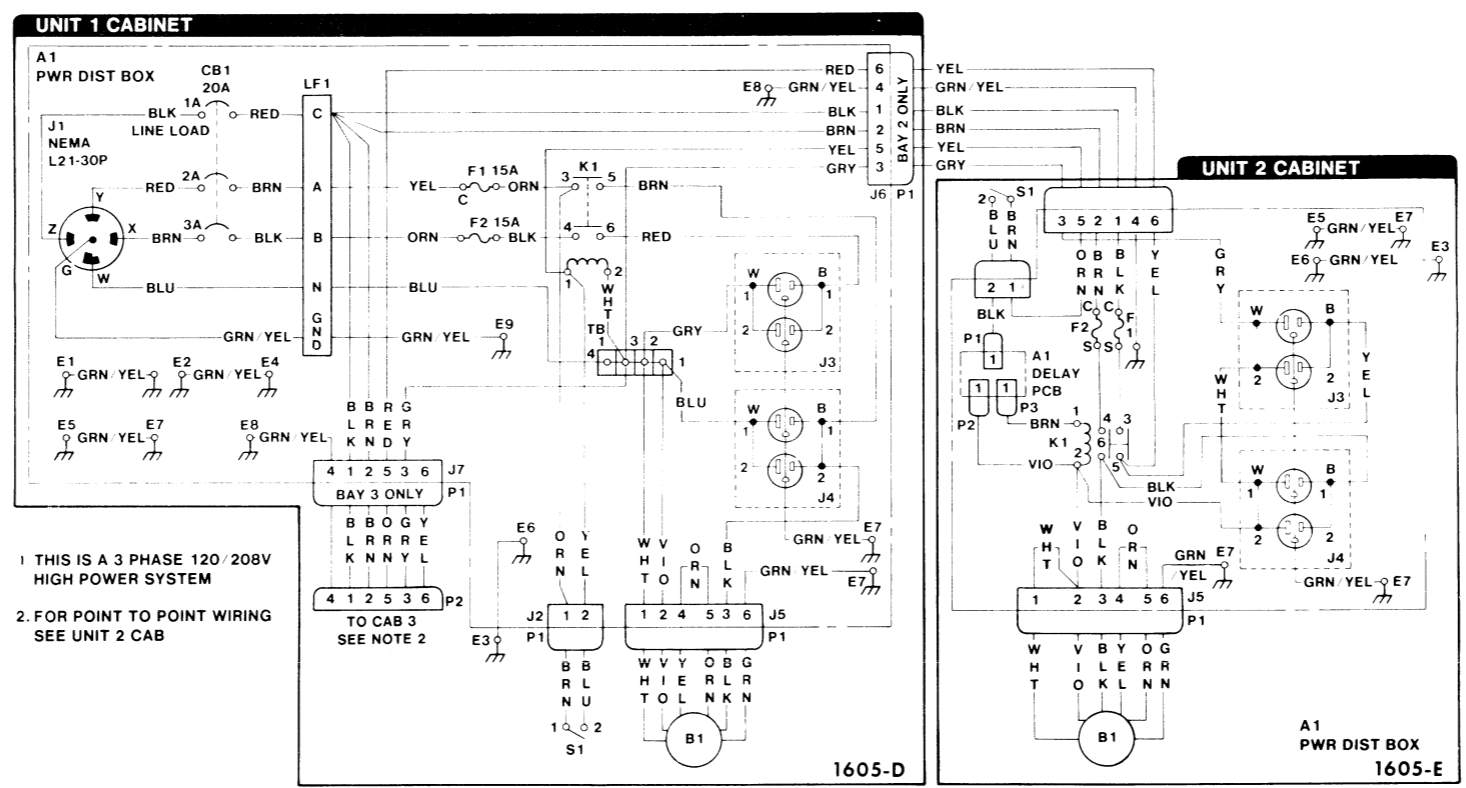
1605-C (DOMESTIC)
WITH EXPANSION
1605-E



1. THIS IS A 3 PHASE
120 / 208V Y SYSTEM
2. FOR POINT TO POINT WIRING
SEE UNIT 2 CABINET

INTERNAL CABLING (CONT)

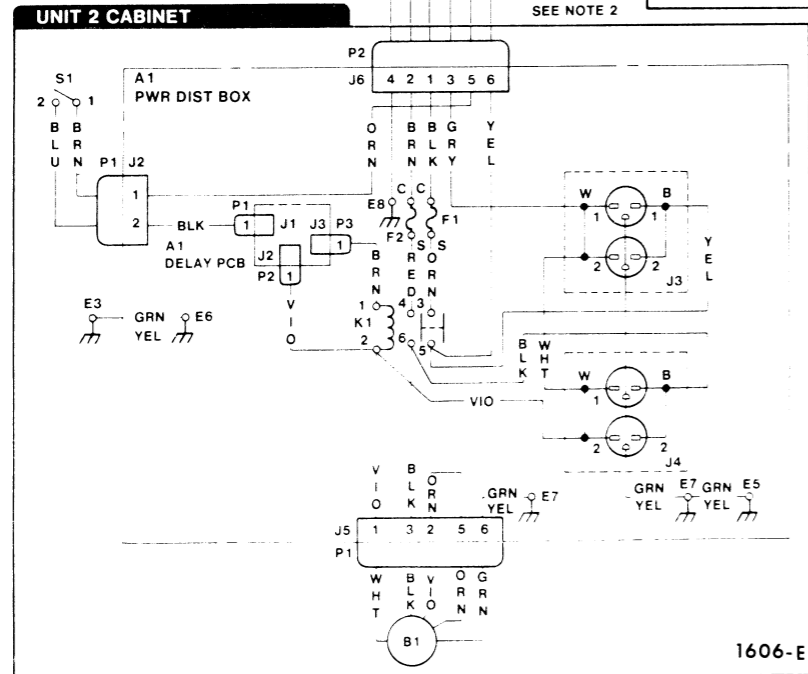
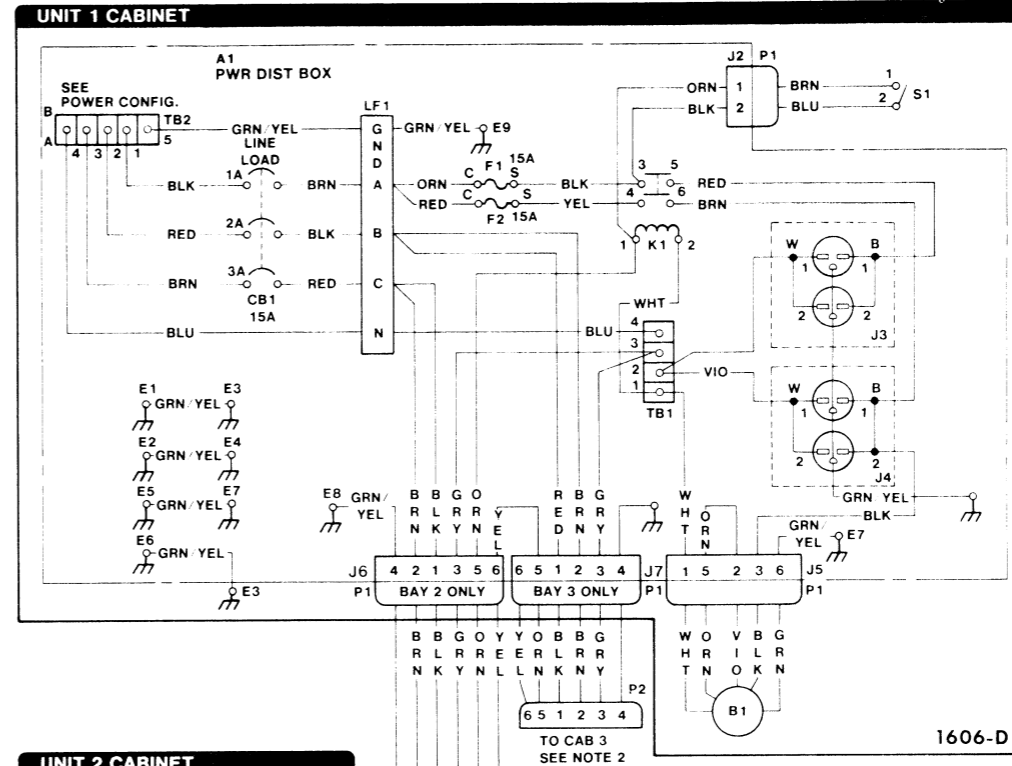
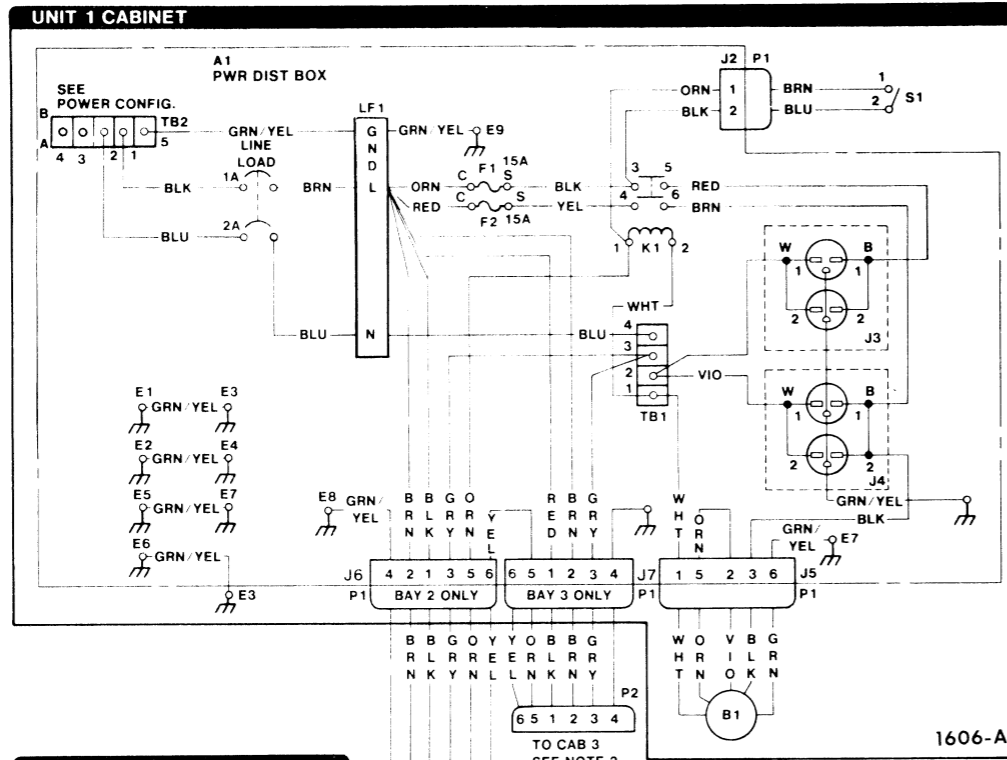
1605-D (DOMESTIC)
WITH EXPANSION
1605-E



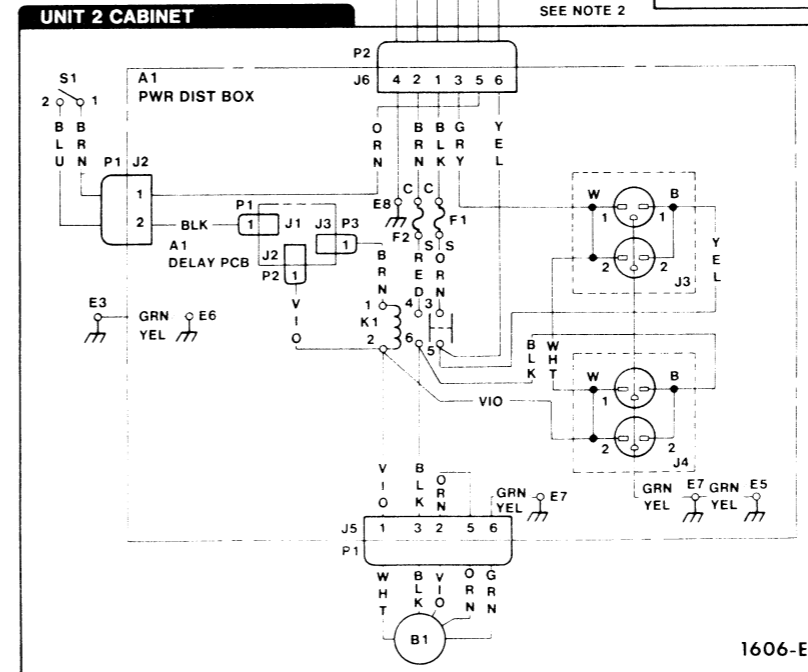
INTERNAL CABLING (CONT)

1606-A (INTERNATIONAL)
WITH EXPANSION
1606-E

1606-D (INTERNATIONAL)
WITH EXPANSION
1606-E



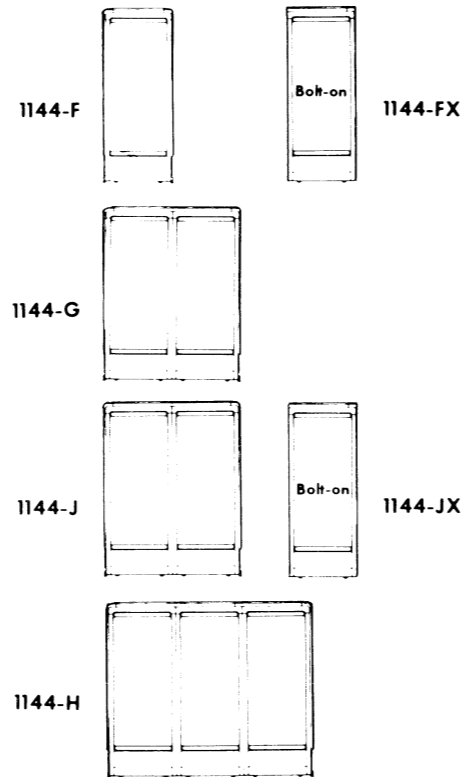
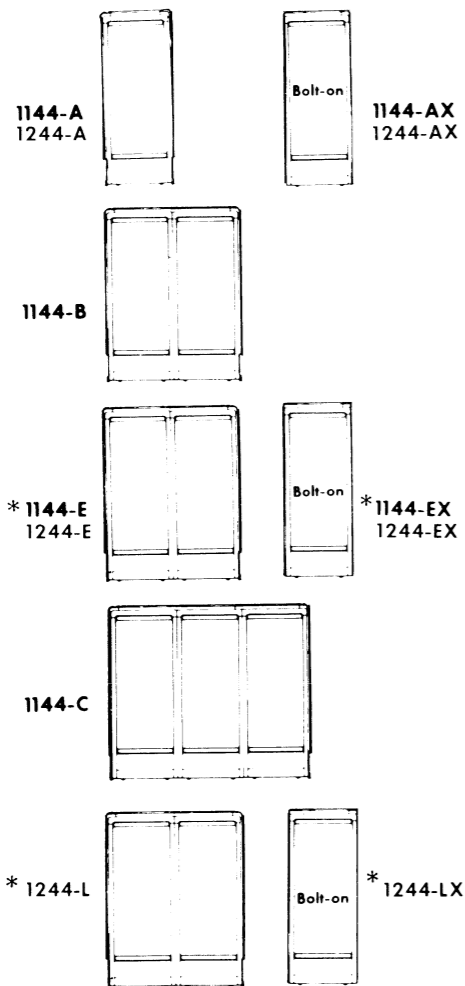
- POWER CONFIG.
- FOR 3 PHASE OPERATION
240 / 415Y
- TB2 CONNECT TO
- 1 - PHASE X
 - 2 - PHASE Z
 - 3 - PHASE Y
 - 4 - NEUTRAL-W
 - 5 - GND
- FOR POINT TO POINT
WIRING
SEE UNIT 2 CABINET



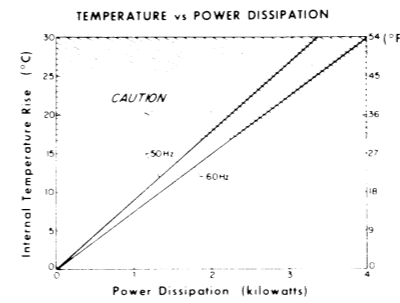
- POWER CONFIG.
- FOR 3 PHASE OPERATION
240 / 415Y
- TB2 CONNECT TO
- 1 - PHASE X
 - 2 - PHASE Z
 - 3 - PHASE Y
 - 4 - NEUTRAL-W
 - 5 - GND
- FOR POINT TO POINT
WIRING
SEE UNIT 2 CABINET

HIGH CAPACITY BLOWER

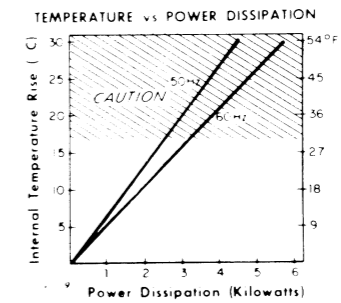
**STANDARD CAPACITY BLOWER
(Low Noise)**



STD CAPACITY BLOWER 0166



HIGH CAPACITY BLOWER 0142/3

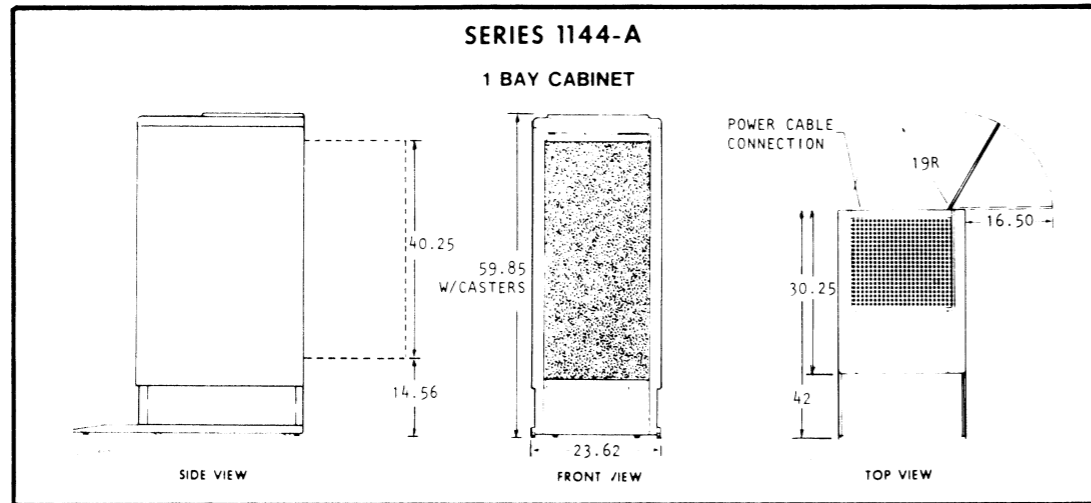


MODEL 1144-AX EXPANSION CABINET WILL EXPAND 1144-A TO 1144-B
 MODEL 1144-AX2 WILL EXPAND 1144 A1/A2/A3/A4 TO 1144-B1/B2/B3/B4
 MODEL 1144-EX EXPANSION CABINET WILL EXPAND 1144-E TO 1144-C
 MODEL 1144-EX2 WILL EXPAND 1144 E1/E2/E3/E4 TO 1144-C1/C2/C3/C4
 MODEL 1144-FX EXPANSION CABINET WILL EXPAND 1144-F TO 1144-G
 MODEL 1144-FX2 WILL EXPAND 1144 F1/F2/F3/F4 TO 1144-G1/G2/G3/G4
 MODEL 1144-JX EXPANSION CABINET WILL EXPAND 1144-J TO 1144 H
 MODEL 1144-JX2 WILL EXPAND 1144 J1/J2/J3/J4 TO 1144-H1/H2/H3/H4

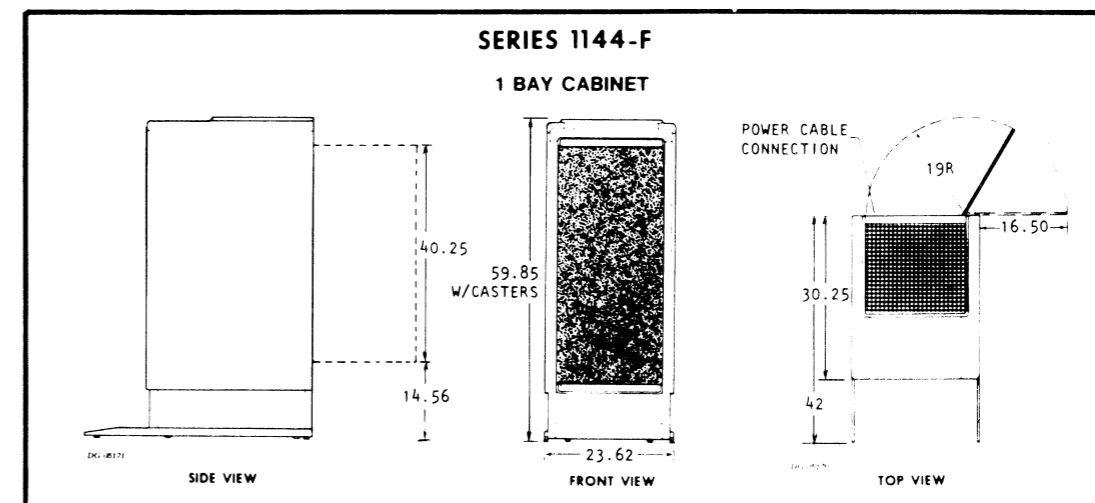
ALL 1244 SERIES THAT ARE ALSO AVAILABLE IN THE 1144 SERIES ARE PHYSICALLY IDENTICAL TO THEIR 1144 COUNTERPARTS EXCEPT IN COLOR

* 1144-E/EX AND 1244 E/EX HAVE ONE POWER DISTRIBUTION BOX SUPPLYING ALL BAYS
 1244-L/LX HAVE INDIVIDUAL POWER DISTRIBUTION BOXES SUPPLYING EACH BAY

DGC CABINETS
SERIES 1144-A thru L
SERIES 1244-A thru L



DGC CABINETS
SERIES 1144-A thru L
SERIES 1244-A thru L



SPECIFICATIONS

1144-A/1244-A (DOMESTIC) HIGH CAPACITY BLOWER
1144-A1, A2, A3, A4/1244-A1, A2, A3, A4 (EXPORT)

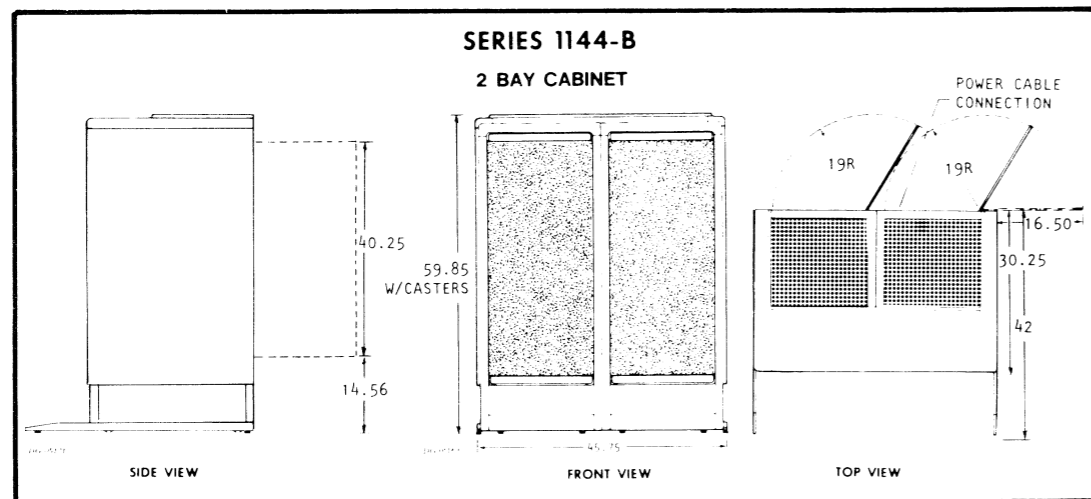
DIMENSIONS:	Width	Depth	Height	COOLING UNIT	HIGH CAPACITY 0143		
	Millimeters	1067	1520			(Domestic)	
	600	1067	1520				
	23.62	42	59.85				
SERVICE CLEARANCES:	Front	Rear	Right	Number	1		
	762	762	762	Volts	115		
	30	30	30	Hz	50/60		
	762	762	762	Watts	200		
	30	30	30	Amp	1.5		
WEIGHT:	Empty	Fully Loaded		(Export)	HIGH CAPACITY 0142		
	100	364				Number	1
	220	800		Volts	200/220/240		
				Hz	50/60		
USABLE VERTICAL RACK SPACE PER BAY:	Area	Inches	Cm.	Watts	220		
	25	43.75	111	Amp	1.2		
POWER REQUIREMENTS:	(Domestic)				CABLES:		
	Primary Power (Supplied on Domestic only)					Domestic L14-30P	Export L6-15P
	2 CKT 120V			(Supplied on Export only)			
	60						
	20/CKT						
(Export)	POWER AVAILABLE				Internal Receptacles	Each	Total (All bays, All recpt)
	200/220/240			Domestic 120V			
	50			Export 200/220/240	15	13.8	
	15						
	1						

SPECIFICATIONS

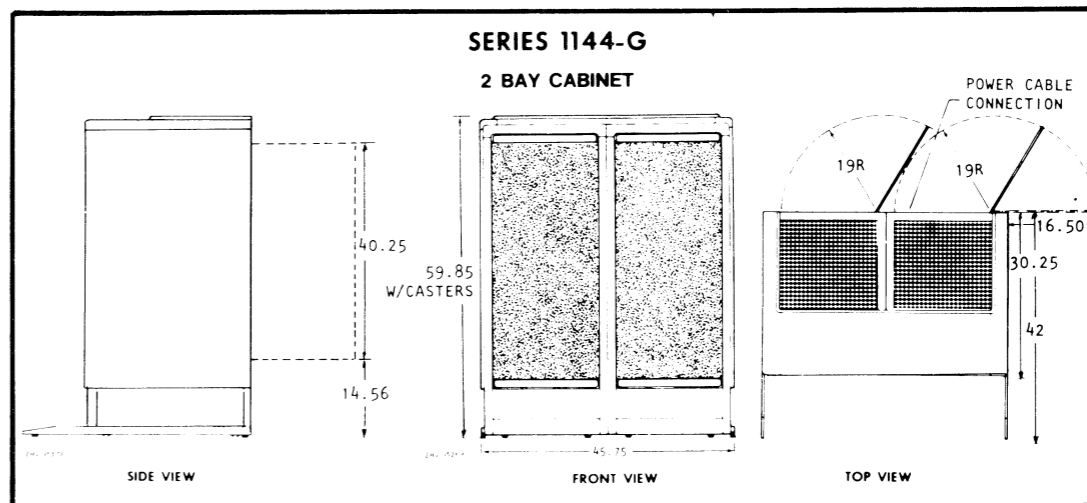
1144-F (Domestic) STD CAPACITY BLOWER (Low Noise)
1144-F1/F2/F3/F4 (Export)

DIMENSIONS:	Width	Depth	Height	COOLING UNIT	STANDARD CAPACITY 0166		
	Millimeters	1067	1520			(Domestic)	
	600	1067	1520				
	23.62	42	59.85				
SERVICE CLEARANCES:	Front	Rear	Right	Number	1		
	762	762	762	Volts	115		
	30	30	30	Hz	50/60		
	762	762	762	Watts	150		
	30	30	30	Amp	1.5		
WEIGHT:	Empty	Fully Loaded		(Export)	STANDARD CAPACITY 0166		
	100	364				Number	1
	220	800		Volts	170-264		
				Hz	50/60		
USABLE VERTICAL RACK SPACE PER BAY:	Area	Inches	Cm.	Watts	150		
	25	43.75	111	Amp	.75		
POWER REQUIREMENTS:	(Domestic)				CABLES:		
	Primary Power (Supplied on Domestic only)					Domestic L14-30P	Export L6-15P
	2 CKT 120V			(Supplied on Export only)			
	60						
	20/CKT						
(Export)	POWER AVAILABLE				Internal Receptacles	Each	Total (All bays, All recpt)
	200/220/240			Domestic 120V			
	50			Export 200/220/240	15	14.25	
	15						
	1						

DGC CABINETS
 SERIES 1144-A thru L
 SERIES 1244-A thru L



DGC CABINETS
 SERIES 1144-A thru L
 SERIES 1244-A thru L



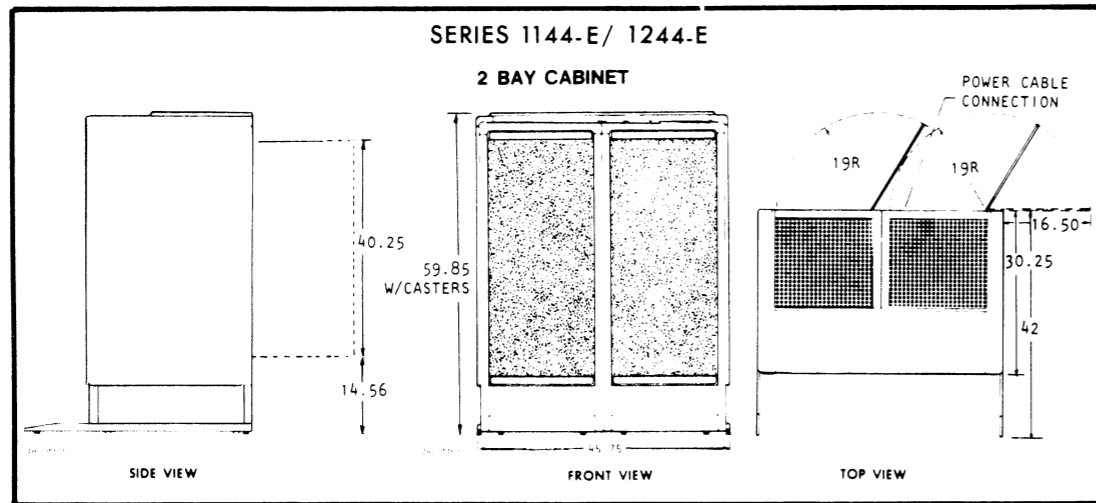
SPECIFICATIONS 1144-B (Domestic) HIGH CAPACITY BLOWER
 1144-B1/B2/B3/B4 (Export)

DIMENSIONS:	Width	Depth	Height	COOLING UNIT	HIGH CAPACITY 0143
Millimeters	1162	1067	1520	(Domestic)	
Inches	45.75	42	59.85		
SERVICE CLEARANCES:	Front	Rear	Right	Number	2
Millimeters	762	762	762	Volts	115
Inches	30	30	30	Hz	50/60
				Watts	220
				Amp	1.5
WEIGHT:	Empty	Fully Loaded		(Export)	HIGH CAPACITY 0142
Kilograms	168	228		Number	2
Pounds	370	1600		Volts	200/220/240
USABLE VERTICAL RACK SPACE PER BAY	Areas	Inches	Cm.	Hz	50/60
	25	43.75	111	Watts	220
				Amp	1.2
POWER REQUIREMENTS:				CABLES:	
(Domestic)				Primary Power (Supplied on Domestic only)	Domestic L14-30P
Voltage	2	CKT 120V		Connector (Supplied on Export only)	Export L6-15P
Hz	60				
Max Amp	20	CKT		POWER AVAILABLE	
Phase				Internal Receptacles	Each Total (All bays, All recpt)
(Export)					
Voltage	200/220/240			Domestic 120V	15 35.0
Hz	50			Export 200/220/240	15 12.6
Max Amp	15				
Phase	1				

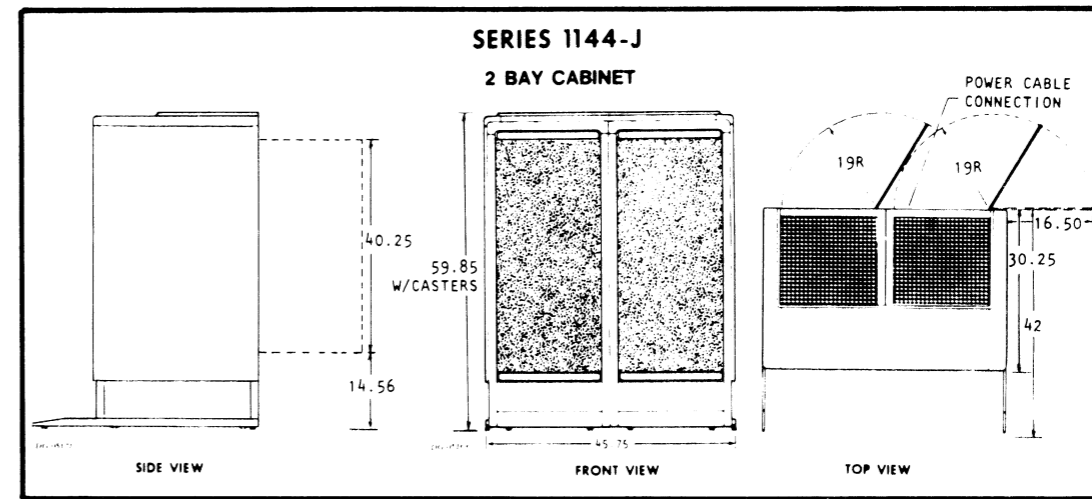
SPECIFICATIONS 1144-G (Domestic) STD CAPACITY BLOWER (Low Noise)
 1144-G1/G2/G3/G4 (Export)

DIMENSIONS:	Width	Depth	Height	COOLING UNIT	STD CAPACITY 0166
Millimeters	1162	1067	1520	(Domestic)	
Inches	45.75	42	59.85		
SERVICE CLEARANCES:	Front	Rear	Right	Number	2
Millimeters	762	762	762	Volts	115
Inches	30	30	30	Hz	50/60
				Watts	150
				Amp	1.5
WEIGHT:	Empty	Fully Loaded		(Export)	
Kilograms	168	228		Number	2
Pounds	370	1600		Volts	170-264
USABLE VERTICAL RACK SPACE PER BAY	Areas	Inches	Cm.	Hz	50/60
	25	43.75	111	Watts	150
				Amp	.75
POWER REQUIREMENTS:				CABLES:	
(Domestic)				Primary Power (Supplied on Domestic only)	Domestic L14-30P
Voltage	2	CKT 120V		Connector (Supplied on Export only)	Export L6-15P
Hz	60				
Max Amp	20	CKT		POWER AVAILABLE	
Phase				Internal Receptacles	Each Total (All bays, All recpt)
(Export)					
Voltage	220/220/240			Domestic 120V	15 37.0
Hz	50			Export 200/220/240	15 13.5
Max Amp	15				
Phase	1				

DGC CABINETS
SERIES 1144-A thru L
SERIES 1244-A thru L



DGC CABINETS
SERIES 1144-A thru L
SERIES 1244-A thru L

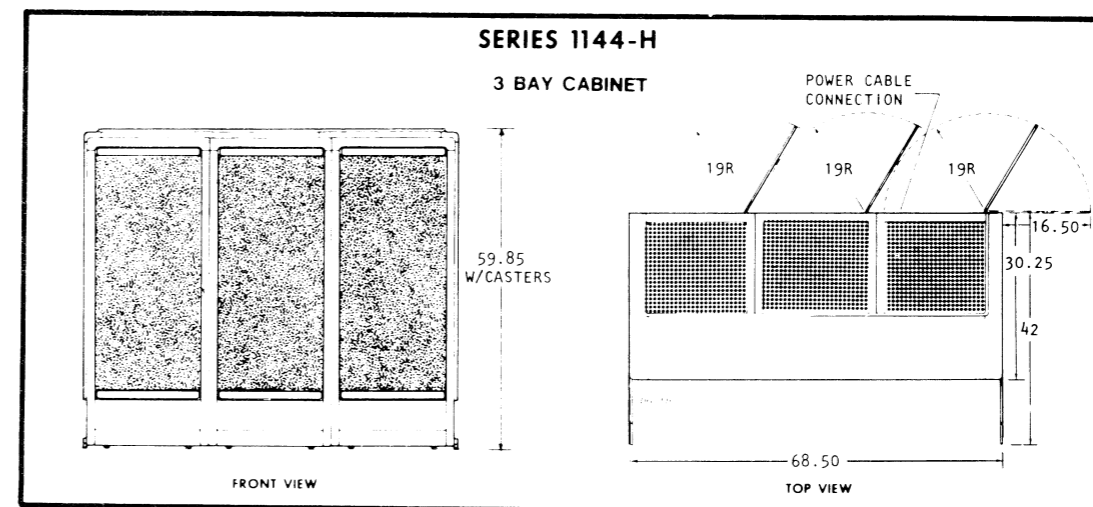
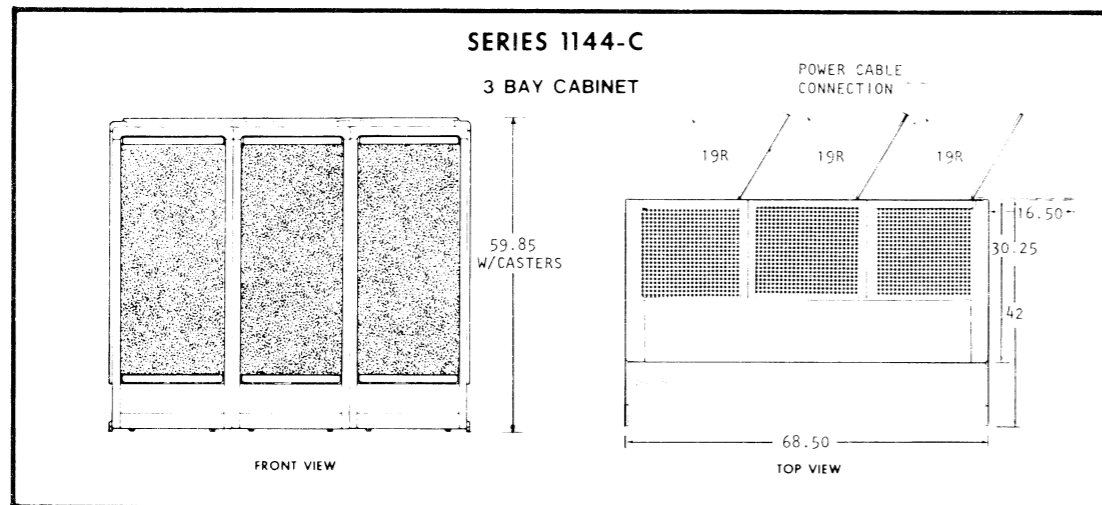


SPECIFICATIONS		1144-E/1244-E (DOMESTIC) HIGH CAPACITY BLOWER 1144-E1, E2, E3, E4/1244-E1, E2, E3, E4 (EXPORT)				
DIMENSIONS:		Width	Depth	Height	COOLING UNIT	HIGH CAPACITY 0143
Millimeters	1162	1067	1520	(Domestic)		
Inches	45.75	42	59.85			
SERVICE CLEARANCES:		Front	Rear	Right	Number	2
Millimeters	762	762	762	Volts	115	
Inches	30	30	30	Hz	50/60	
				Watts	220	
				Amp	2.5	
WEIGHT:		Empty	Fully Loaded	(Export)	HIGH CAPACITY 0142	
Kilograms	168	728		Number	2	
Pounds	370	1600		Volts	200/220/240	
				Hz	50/60	
				Watts	220	
				Amp	1.2	
USABLE VERTICAL RACK SPACE PER BAY		Areas	Inches	Cm.		
	25	43.75	111			
POWER REQUIREMENTS:				CABLES:		
(Domestic)				Primary Power (Supplied on Domestic only)	Domestic L21-30P	Export L6-30P
Voltage	3 CKT 120V			Connector (Supplied on Export only)		
Hz	60					
Max Amp	20/CKT			POWER AVAILABLE		
Phase				Internal Receptacles	Each	Total (All bays, All recpt)
(Export)						
Voltage	200/220/240			Domestic 120V	15	37.5
Hz	50			Export 200/220/240	15	27.6
Max Amp	15					
Phase	1					

SPECIFICATIONS		1144-J (Domestic) STD CAPACITY BLOWER (Low Noise) 1144-J1/J2/J3/J4 (Export)				
DIMENSIONS:		Width	Depth	Height	COOLING UNIT	STD CAPACITY 0166
Millimeters	1162	1067	1520	(Domestic)		
Inches	45.75	42	59.85			
SERVICE CLEARANCES:		Front	Rear	Right	Number	2
Millimeters	762	762	762	Volts	115	
Inches	30	30	30	Hz	50/60	
				Watts	150	
				Amp	1.5	
WEIGHT:		Empty	Fully Loaded	(Export)		
Kilograms	168	728		Number	2	
Pounds	370	1600		Volts	170-264	
				Hz	50/60	
				Watts	150	
				Amp	.75	
USABLE VERTICAL RACK SPACE PER BAY		Areas	Inches	Cm.		
	25	43.75	111			
POWER REQUIREMENTS:				CABLES:		
(Domestic)				Primary Power (Supplied on Domestic only)	Domestic L21-30P	Export L6-30P
Voltage	3 CKT 120V			Connector (Supplied on Export only)		
Hz	60					
Max Amp	20/CKT			POWER AVAILABLE		
Phase				Internal Receptacles	Each	Total (All bays, All recpt)
(Export)						
Voltage	200/220/240			Domestic 120V	15	38.5
Hz	50			Export 200/220/240	15	28.5
Max Amp	15					
Phase	1					

DGC CABINETS
 SERIES 1144-A thru L
 SERIES 1244-A thru L

DGC CABINETS
 SERIES 1144-A thru L
 SERIES 1244-A thru L

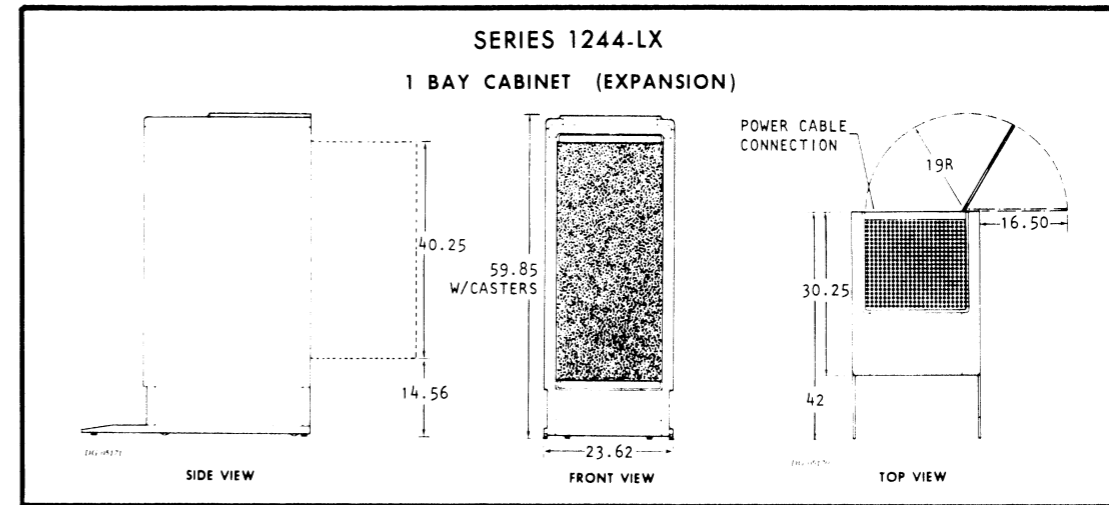
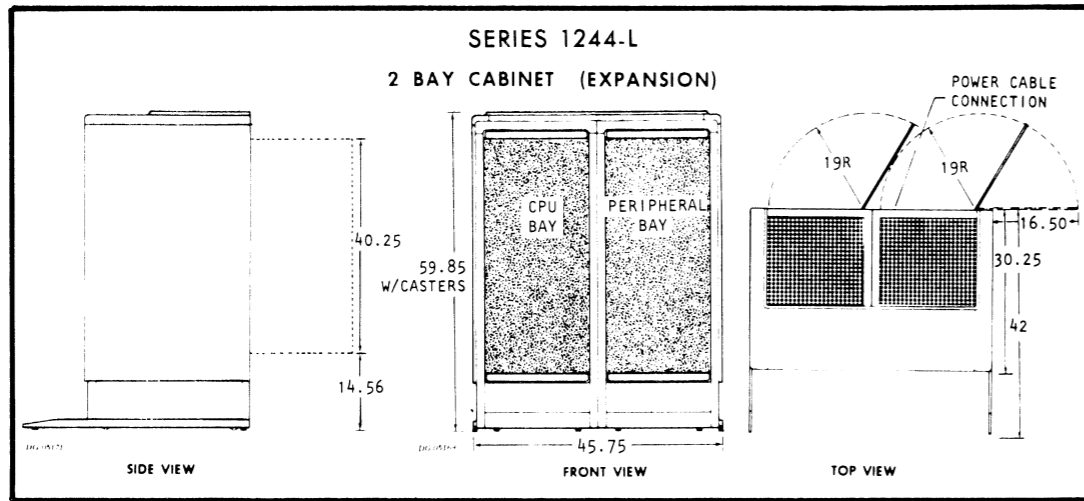


SPECIFICATIONS		1144-C (Domestic) HIGH CAPACITY BLOWER 1144-C1/C2/C3/C4 (Export)			
DIMENSIONS:		Width	Depth	Height	COOLING UNIT
Millimeters	1740	1067	1520	HIGH CAPACITY 0143	
Inches	68.50	42	59.85	(Domestic)	
SERVICE CLEARANCES:		Front	Rear	Right	Number
Millimeters	762	762	762	3	
Inches	30	30	30	115	
WEIGHT:		Empty	Fully Loaded		Hz
Kilograms	236	1092		HIGH CAPACITY 0142	
Pounds	518	2400		(Export)	
USABLE VERTICAL RACK SPACE PER BAY		Areas	Inches	Cm.	Number
	25	43.75	111		3
POWER REQUIREMENTS:					Volts
(Domestic)					200/220/240
Voltage	3 CKT 120V				Hz
Hz	60				50/60
Max Amp	20/CKT				Watts
Phase					220
(Export)					Amp
Voltage	200/220/240				1.2
Hz	50				
Max Amp	15				
Phase	1				
CABLES:					
(Domestic)					
Primary Power (Supplied on Domestic only)		Domestic	Export		
Connector (Supplied on Export only)		L21-30P	L6-30P		
POWER AVAILABLE					
Internal Receptacles		Each	Total (All bays, All recpt)		
Domestic 120V		15	52.5		
Export 200/220/240		15	26.4		

SPECIFICATIONS		1144-H (Domestic) STD CAPACITY BLOWER (Low Noise) 1144-H1/H2/H3/H4 (Export)			
DIMENSIONS:		Width	Depth	Height	COOLING UNIT
Millimeters	1740	1067	1520	STD CAPACITY 0166	
Inches	68.50	42	59.85	(Domestic)	
SERVICE CLEARANCES:		Front	Rear	Right	Number
Millimeters	762	762	762	3	
Inches	30	30	30	115	
WEIGHT:		Empty	Fully Loaded		Hz
Kilograms	236	1092		STD CAPACITY 0166	
Pounds	518	2400		(Export)	
USABLE VERTICAL RACK SPACE PER BAY		Areas	Inches	Cm.	Number
	25	43.75	111		3
POWER REQUIREMENTS:					Volts
(Domestic)					107-264
Voltage	3 CKT 120V				Hz
Hz	60				50/60
Max Amp	20/CKT				Watts
Phase					150
(Export)					Amp
Voltage	200/220/240				1.5
Hz	50				
Max Amp	15				
Phase	1				
CABLES:					
(Domestic)					
Primary Power (Supplied on Domestic only)		Domestic	Export		
Connector (Supplied on Export only)		L21-30P	L6-30P		
POWER AVAILABLE					
Internal Receptacles		Each	Total (All bays, All recpt)		
Domestic 120V		15	55.5		
Export 200/220/240		15	27.75		

DGC CABINETS
 SERIES 1144-A thru L
 SERIES 1244-A thru L

DGC CABINETS
 SERIES 1144-A thru L
 SERIES 1244-A thru L



DIMENSIONS:			
	Width	Depth	Height
Millimeters	116.2	106.7	152
Inches	45.75	42	59.85

WEIGHT:		
	Empty	Fully Loaded
kilograms/pounds	168	728
Pounds	370	1600

DIMENSIONS:			
	Width	Depth	Height
Millimeters	60	106.7	152
Inches	23.62	42	59.85

WEIGHT:		
	Empty	Fully Loaded
kilograms	100	364
Pounds	220	800

USABLE VERTICAL RACK SPACE PER BAY			
Areas	Inches	Cm	
25	43.75	111	

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

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

CABLES:		
	Domestic	Export
Primary Power	L14-30P	L6-15P
(Supplied on Domestic only)		
Connector	(Supplied on Export only)	

POWER AVAILABLE:
 Each Peripheral Bay: See power distribution charts on sheet 14, this I.D.S.

Internal Receptacles	Each	Total (All recpt)
Domestic 120V	15	30.0
Export 200/220/240	15	14.25

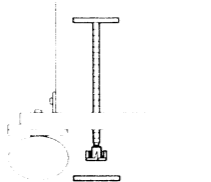
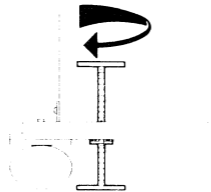
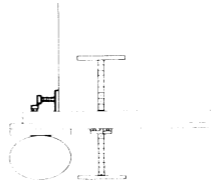
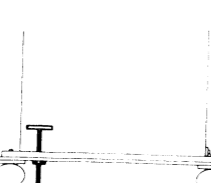
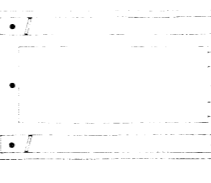
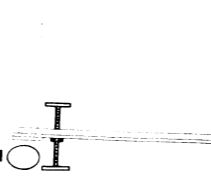
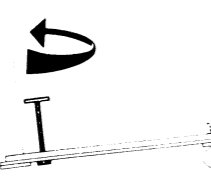
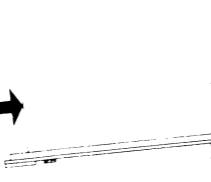
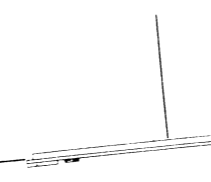
SERVICE CLEARANCES:			
Left	Front	Rear	Right
Millimeters	76.2	48.3	76.2
Inches	30	19	30

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	

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

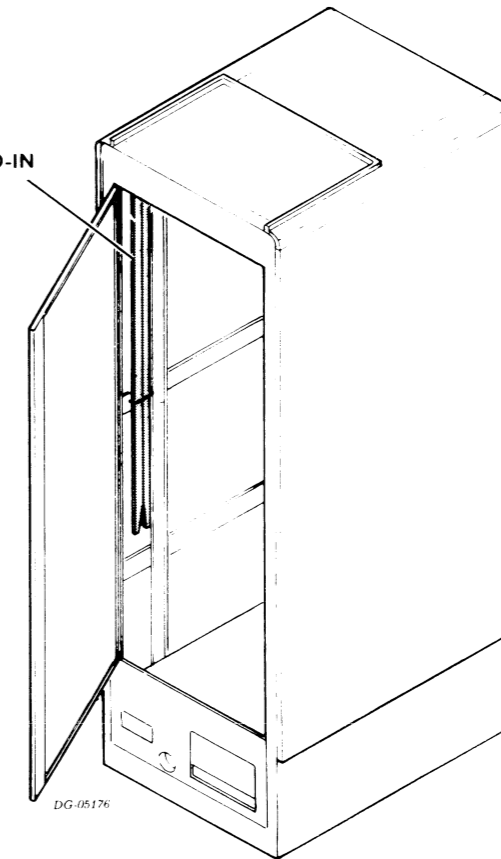
UNLOADING INSTRUCTIONS
 IMPORTANT
 THIS IS A TWO-MAN OPERATION

 <p>1 INSERT 2 JACK SCREWS THROUGH HOLES IN 2 X 4'S ON PALLET. SCREW INTO T-NUTS (BOTH SIDES).</p>	 <p>2 TURN JACK SCREWS INTO PADS ON FLOOR. HOLES IN PADS LINE UP WITH NIPPLES ON JACK SCREWS.</p>	 <p>3 REMOVE 2 SHIPPING BRACKETS FROM END OF MACHINE BEING JACKED.</p>
 <p>4 SIMULTANEOUSLY TURN 2 JACK SCREWS TO RAISE CUSHION MODULE FROM FLOOR.</p>	 <p>5 REMOVE 4 BOLTS FROM CUSHION MODULE.</p>	 <p>6 REMOVE CUSHION MODULE.</p>
 <p>7 SIMULTANEOUSLY TURN 2 JACK SCREWS TO LOWER END OF PALLET TO FLOOR.</p>	 <p>8 HOLD MACHINE IN PLACE AND REMOVE THE 2 REMAINING SHIPPING BRACKETS.</p>	 <p>9 EASE MACHINE OFF PALLET.</p>

DG-08140

ANTI-TIP BARS

ANTI-TIP BARS BOLTED-IN REAR OF CABINET



INTERNAL CABLING

1 BAY CABINET

DOMESTIC 1144-A/1244-A

DOMESTIC 1144-F

STD CAPACITY BLOWER 0166

POWER DISTRIBUTION CHART

MAXIMUM CONDITIONS 200/220/240 Vac 50 Hz	J1	J2	EXP	BLOWER	J3	EXP
PER RECEPTACLE	15A*	15A*	15A	2.5A	15A*	15A
COMBINED OUTLETS	15A*	15A	2.5A	15A*	15A	
TOTAL COMBINED	20A*			20A*		

* DERATE CURRENT DRAW FOR CONTINUOUS USE TO 80% OF MAXIMUM.

EXPORT 1144-A1/A2/A3/A4

EXPORT 1244-A1/A2/A3/A4

HIGH CAPACITY BLOWER 0142

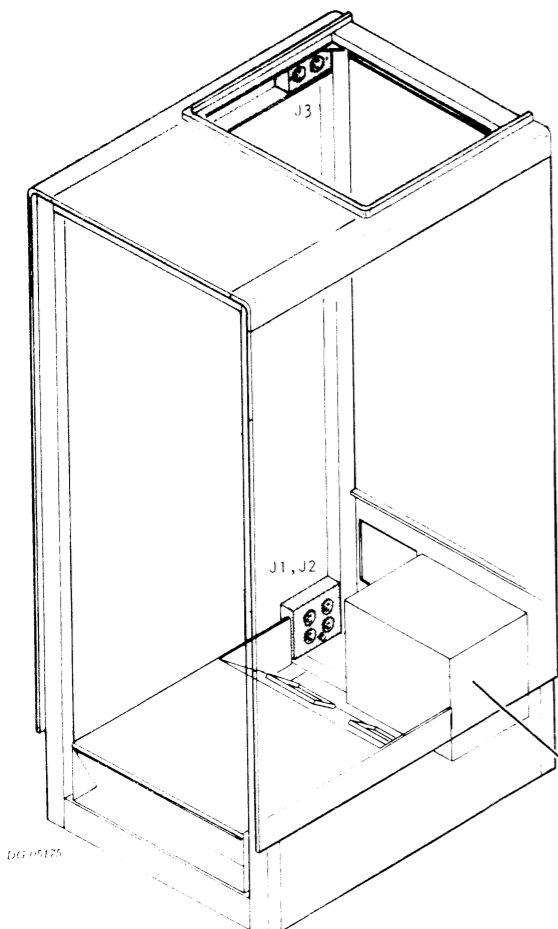
EXPORT 1144-F1/F2/F3/F3/F4

STD CAPACITY BLOWER 0166

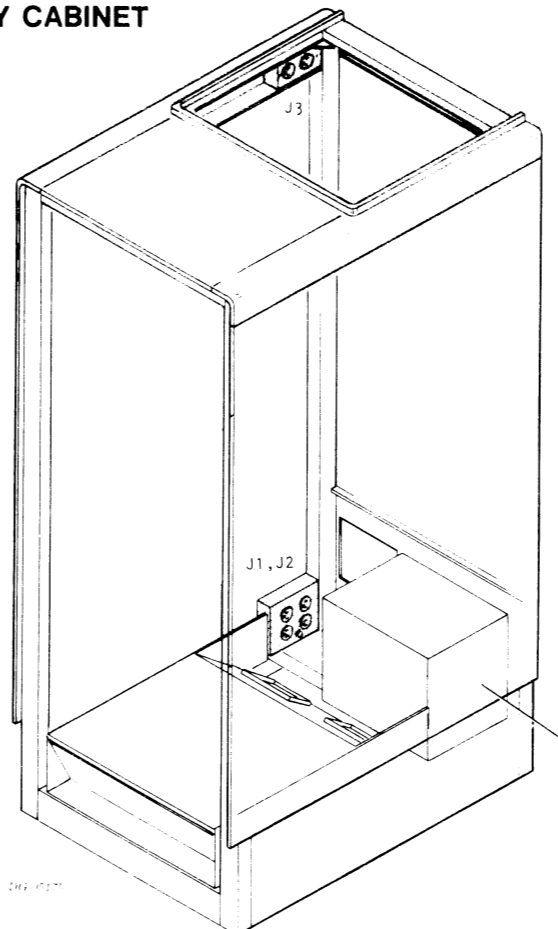
POWER DISTRIBUTION CHART

MAXIMUM CONDITIONS 120 Vac 60 Hz	J1	J2	J3	EXP	BLOWER
PER RECEPTACLE	15A*	15A*	15A*	15A	2.5A
COMBINED OUTLETS	15 A*				2.5A
TOTAL COMBINED	15A*				

* DERATE CURRENT DRAW FOR CONTINUOUS USE TO 80% OF MAXIMUM.



POWER PANEL



POWER PANEL

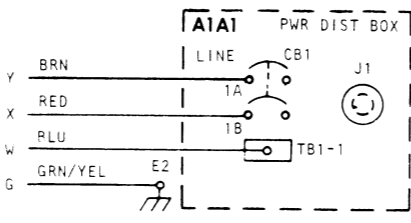
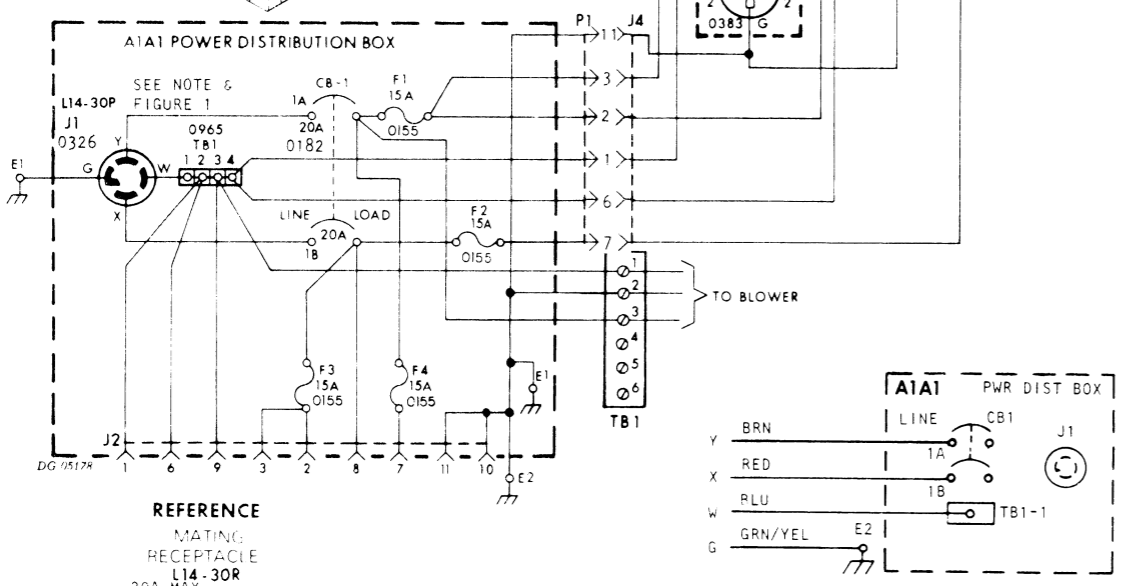


FIGURE 1

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.

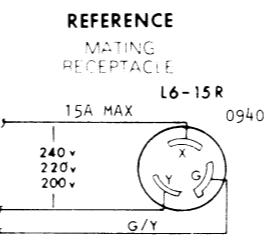
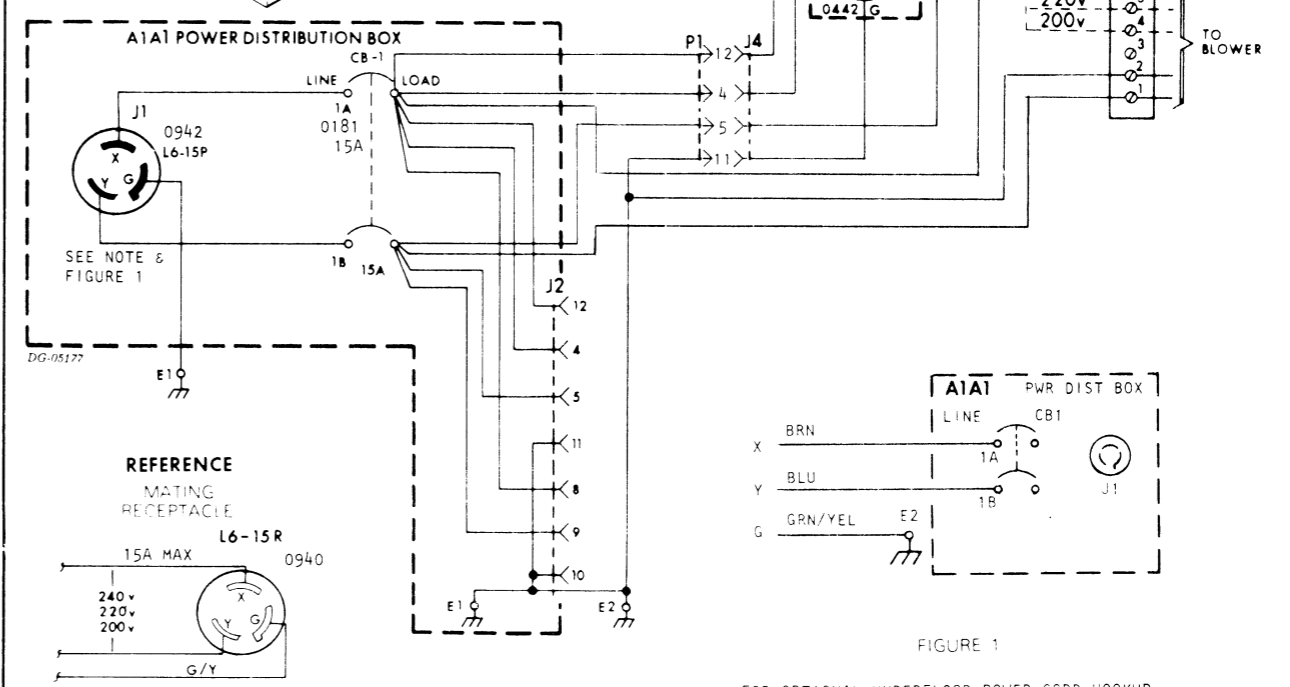


FIGURE 1

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.

INTERNAL CABLING

2 BAY CABINET

DOMESTIC 1144-B
HIGH CAPACITY BLOWER 0143

DOMESTIC 1144-G
STD CAPACITY BLOWER 0166

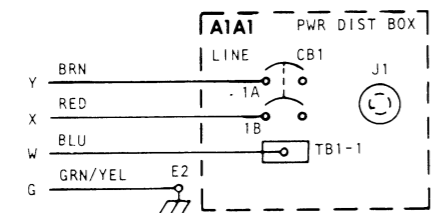
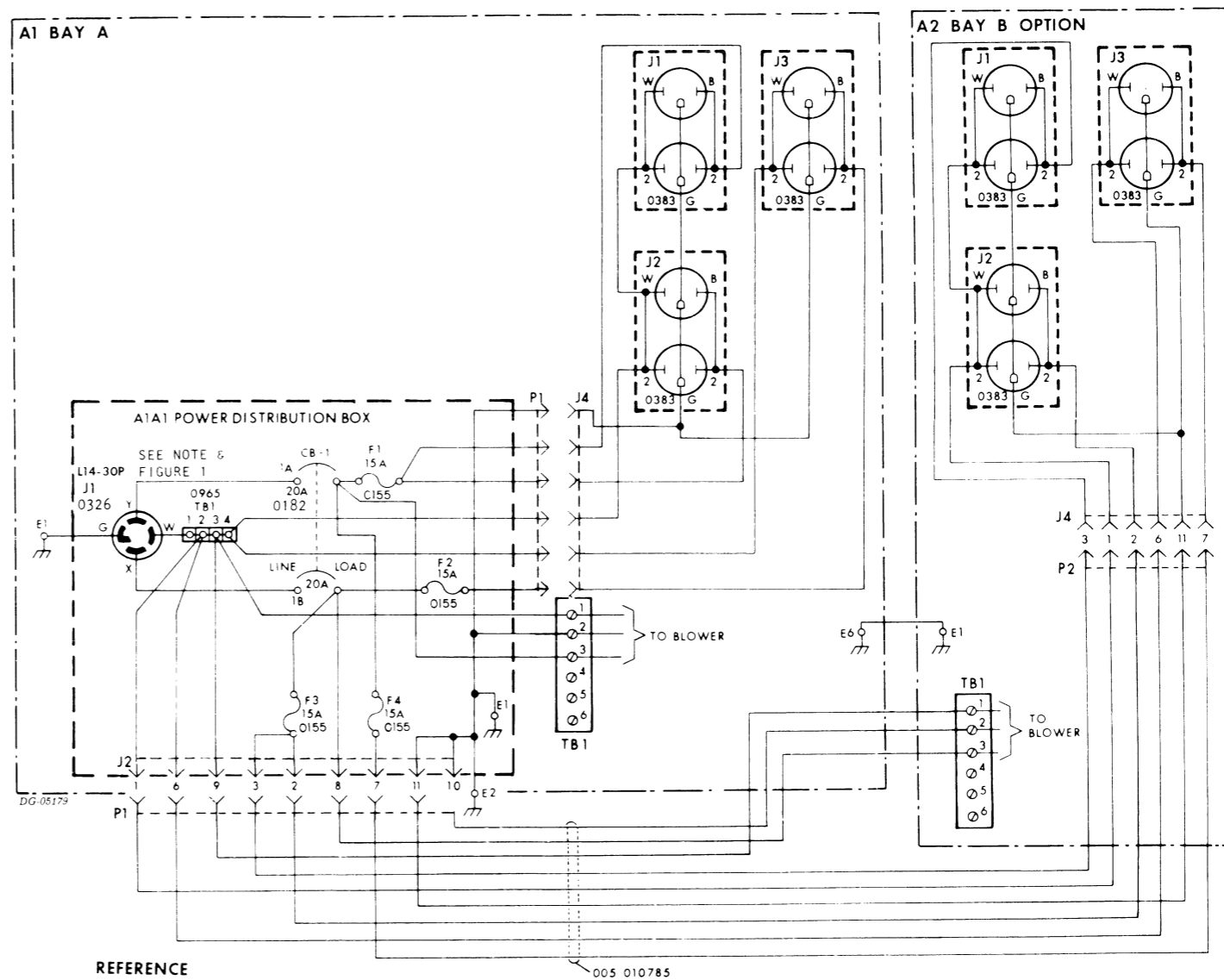
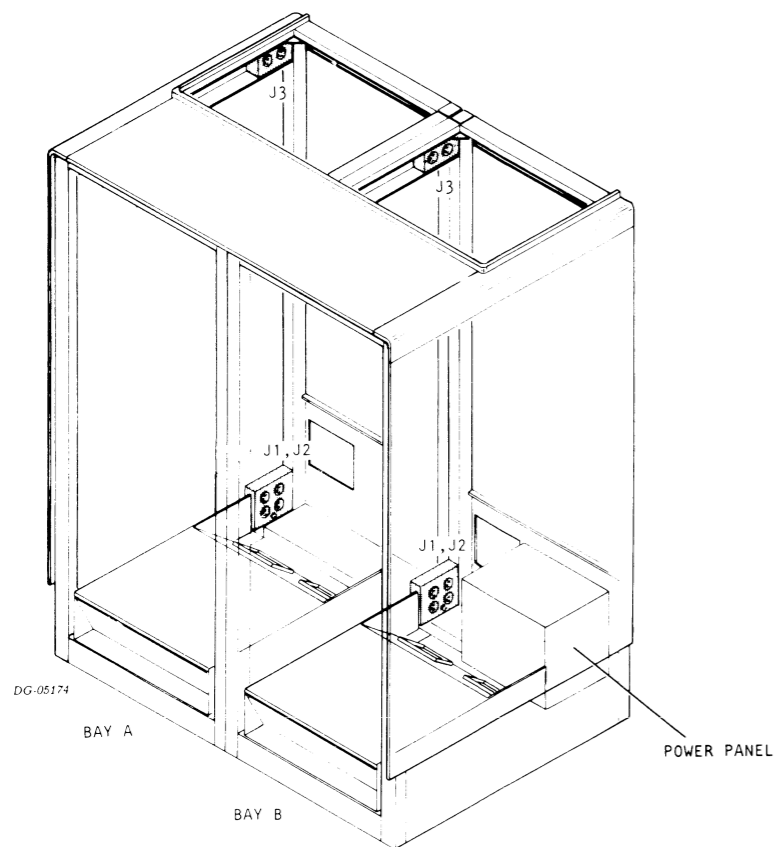
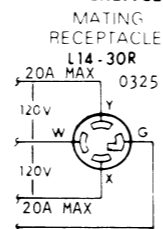


FIGURE 1

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.

REFERENCE



POWER DISTRIBUTION CHART

MAXIMUM CONDITIONS 120 Vac 60 Hz	BAY A		BAY B		BAY A		BAY B	
	J1	J2	J3	BLOWER	J1	J2	J3	BLOWER
PER RECEPTACLE	15A*	15A*	15A*	2.5A	15A*	15A*	15A*	2.5A
COMBINED OUTLETS	15A*		15A*	2.5A	15A*		15A*	2.5A
TOTAL COMBINED	20A*				20A*			

* DERATE CURRENT DRAW FOR CONTINUOUS USE TO 80% OF MAXIMUM

INTERNAL CABLING (Cont)

2 BAY CABINET

EXPORT 1144-B1/B2/B3/B4
HIGH CAPACITY BLOWER
EXPORT 1144-G1/G2/G3/G4
STD CAPACITY BLOWER 0166

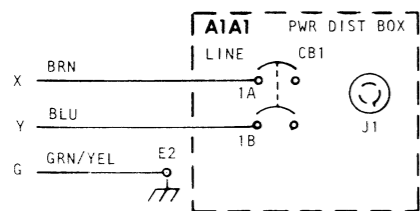
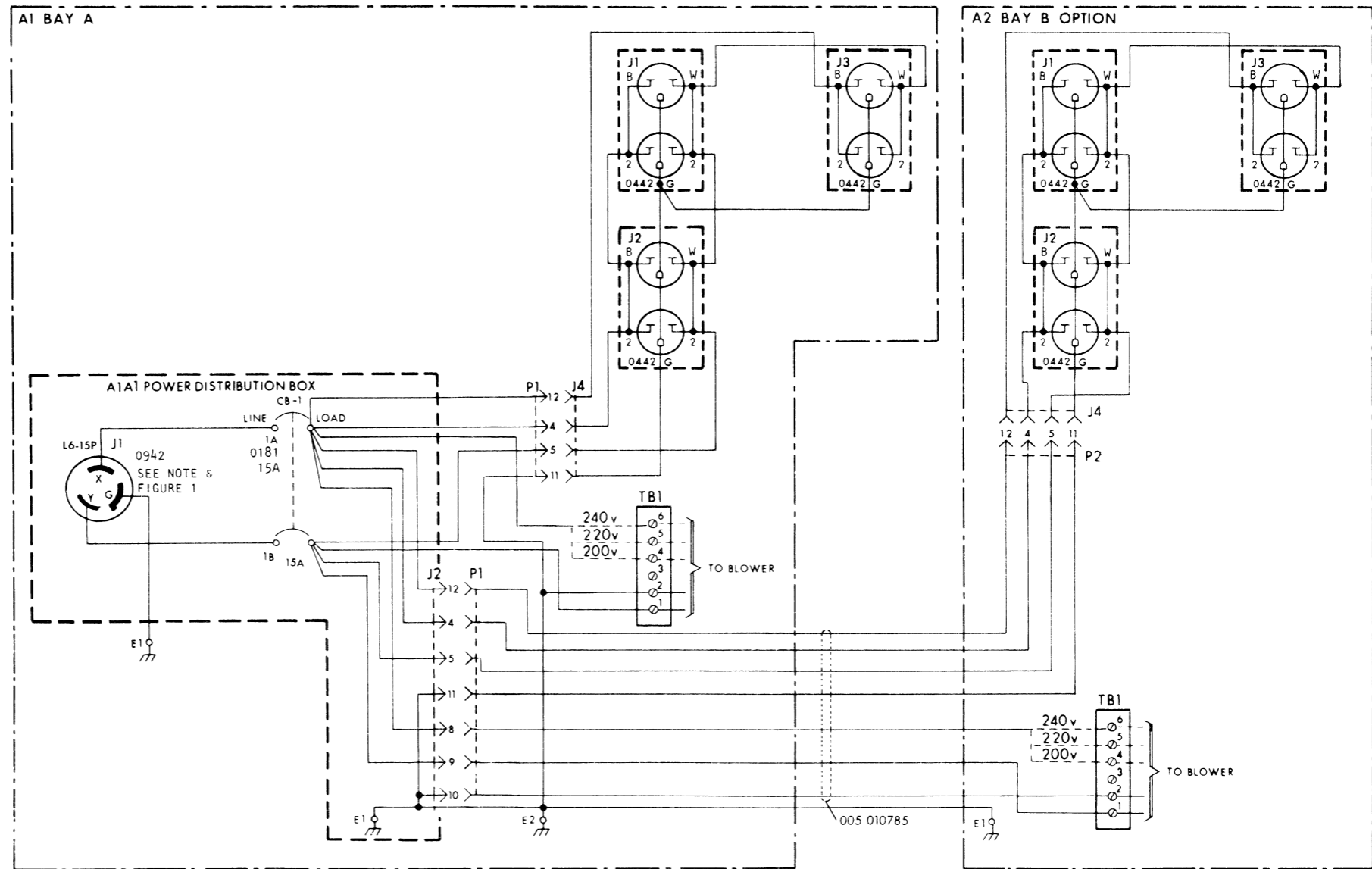
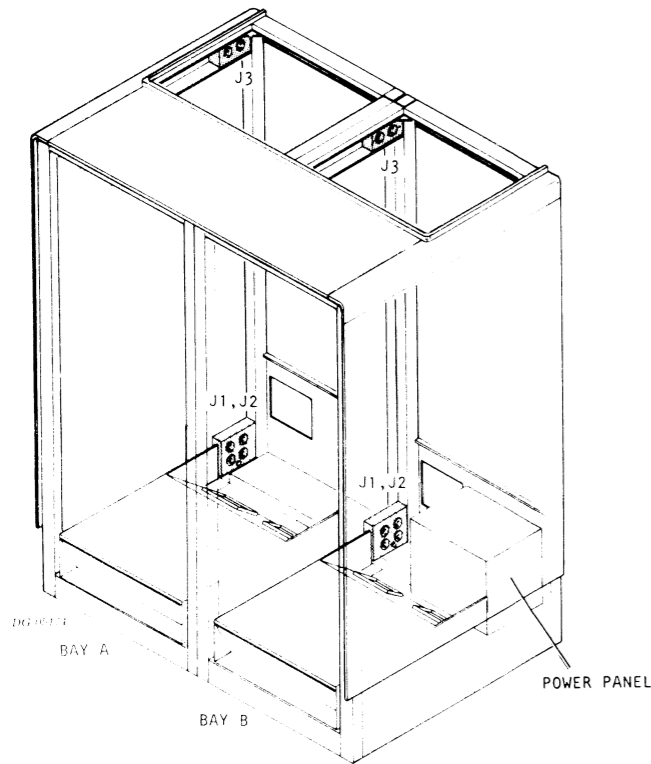
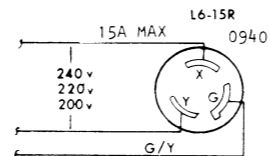


FIGURE 1

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 HOLE.

REFERENCE MATING RECEPTACLE



POWER DISTRIBUTION CHART

MAXIMUM CONDITIONS 200/220/240 Vac 50 Hz	BAY A				BAY B			
	J1	J2	J3	BLOWER	J1	J2	J3	BLOWER
PER RECEPTACLE	15A*	15A*	15A*	2.5A	15A*	15A*	15A*	2.5A
COMBINED OUTLETS	15A*							
TOTAL COMBINED	15A*							

* DERATE CURRENT DRAW FOR CONTINUOUS USE TO 80% OF MAXIMUM.

INTERNAL CABLING

2 BAY CABINET

DOMESTIC 1144-E/1244-E

HIGH CAPACITY BLOWER 0143

DOMESTIC 1144-J

STD CAPACITY BLOWER 0166

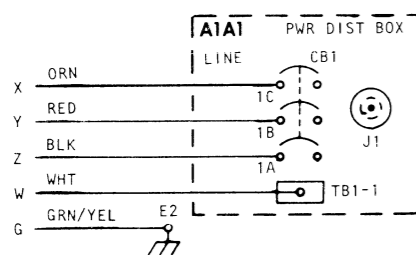
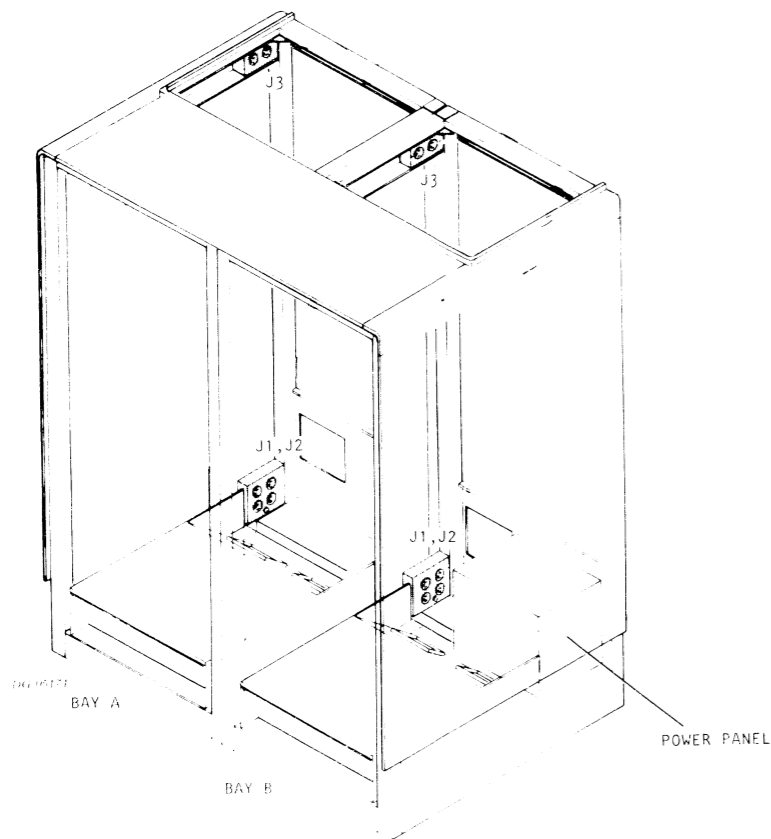
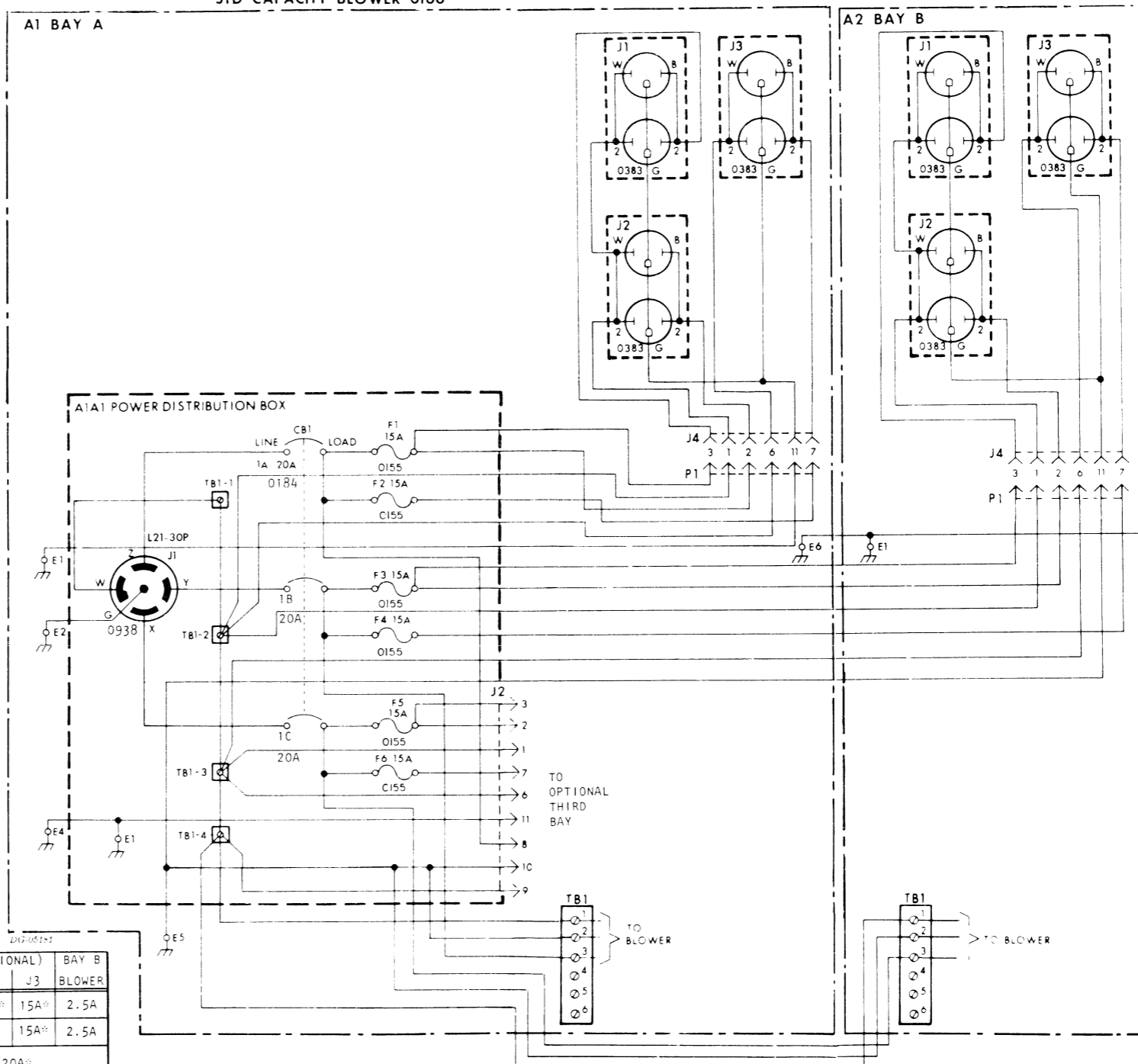
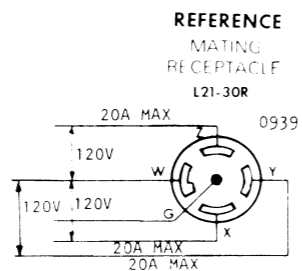


FIGURE 1

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 HOLE.



POWER DISTRIBUTION CHART

MAXIMUM CONDITIONS ± 120 Vac 60 Hz	BAY A				BAY B				EXP (OPTIONAL)			
	J1	J2	J3	BLOWER	J1	J2	J3	BLOWER	J1	J2	J3	BLOWER
PER RECEPTACLE	15A*	15A*	15A*	2.5A	15A*	15A*	15A*	2.5A	15A*	15A*	15A*	2.5A
COMBINED OUTLETS	15A*		15A*	2.5A	15A*		15A*	2.5A	15A*		15A*	2.5A
TOTAL COMBINED	20A*				20A*				20A*			

* DERATE CURRENT DRAW FOR CONTINUOUS USE TO 80% OF MAXIMUM.

INTERNAL CABLING (Cont)

2BAY CABINET

EXPORT 1244-E1/E2/E3/E4

EXPORT 1144-E1/E2/E3/E4

HIGH CAPACITY BLOWER 0142

EXPORT 1144-J1/J2/J3/J4

STD CAPACITY BLOWER 0166

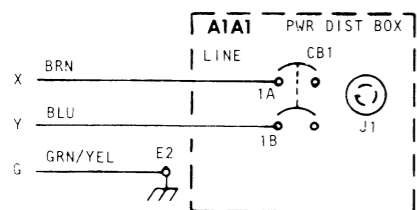
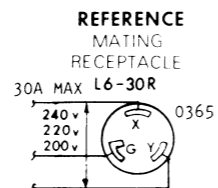
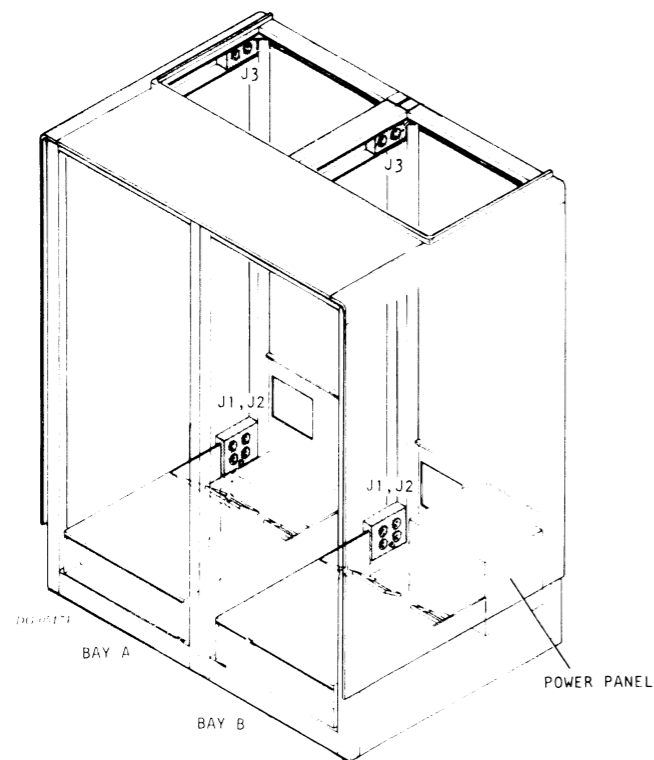
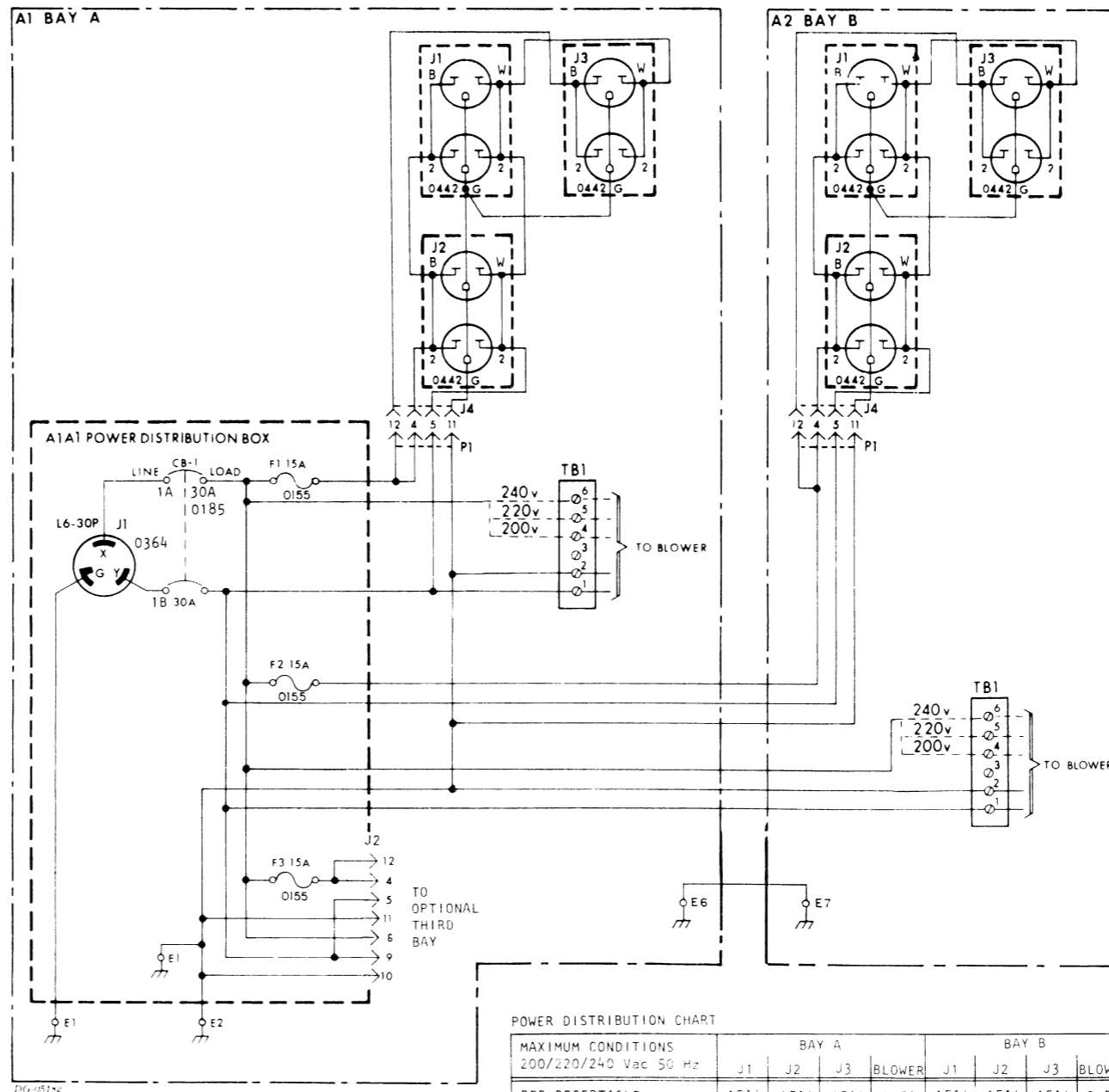


FIGURE 1

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 HOLE.



POWER DISTRIBUTION CHART

MAXIMUM CONDITIONS 200/220/240 Vac 50 Hz	BAY A				BAY B				EXP (OPTIONAL)			
	J1	J2	J3	BLOWER	J1	J2	J3	BLOWER	J1	J2	J3	BLOWER
PER RECEPTACLE	15A*	15A*	15A*	2.5A	15A*	15A*	15A*	2.5A	15A*	15A*	15A*	2.5A
COMBINED OUTLETS	15A*			2.5A	15A*			2.5A	15A*			2.5A
TOTAL COMBINED	30A*											

* DERATE CURRENT DRAW FOR CONTINUOUS USE TO 80% OF MAXIMUM

INTERNAL CABLING (Cont)

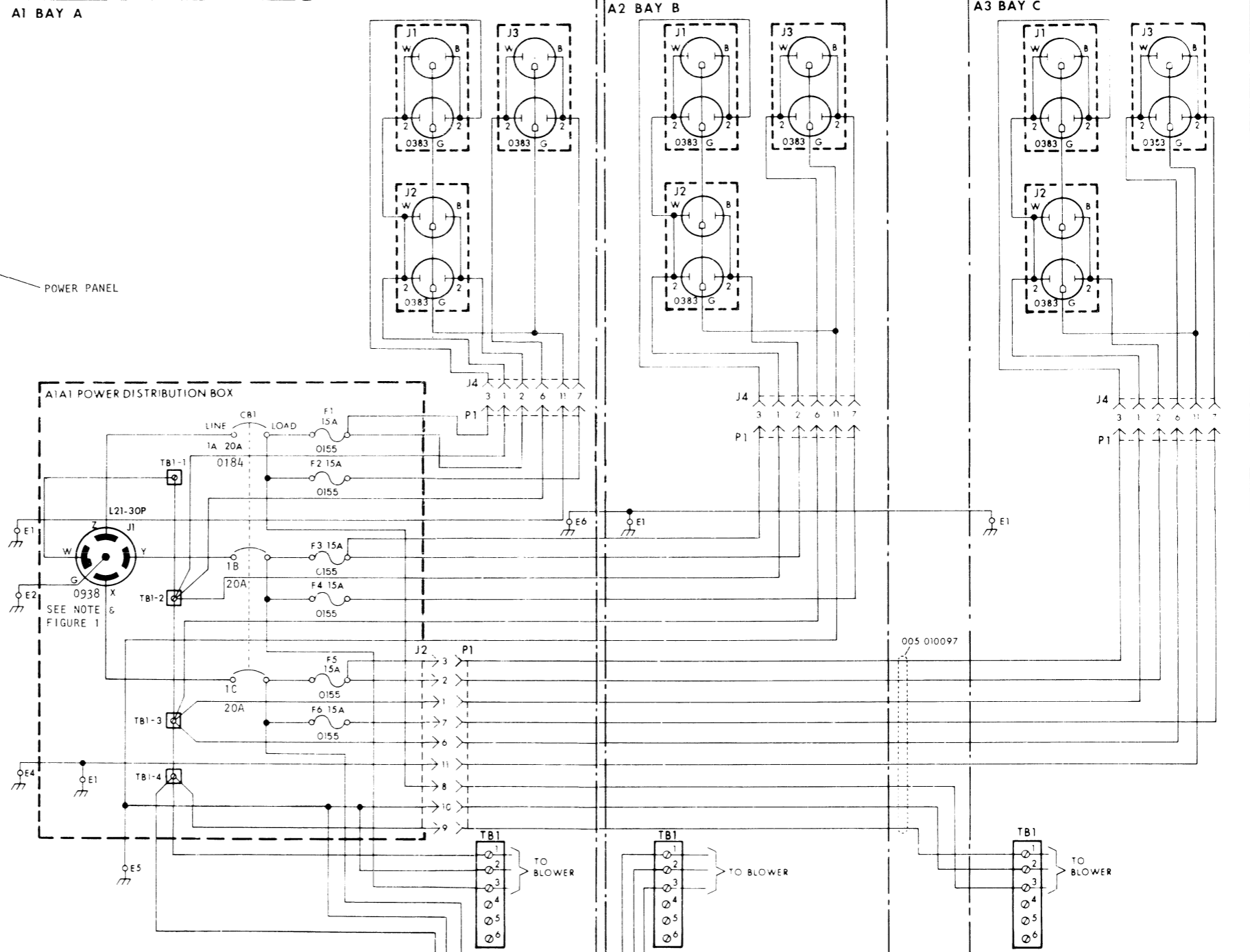
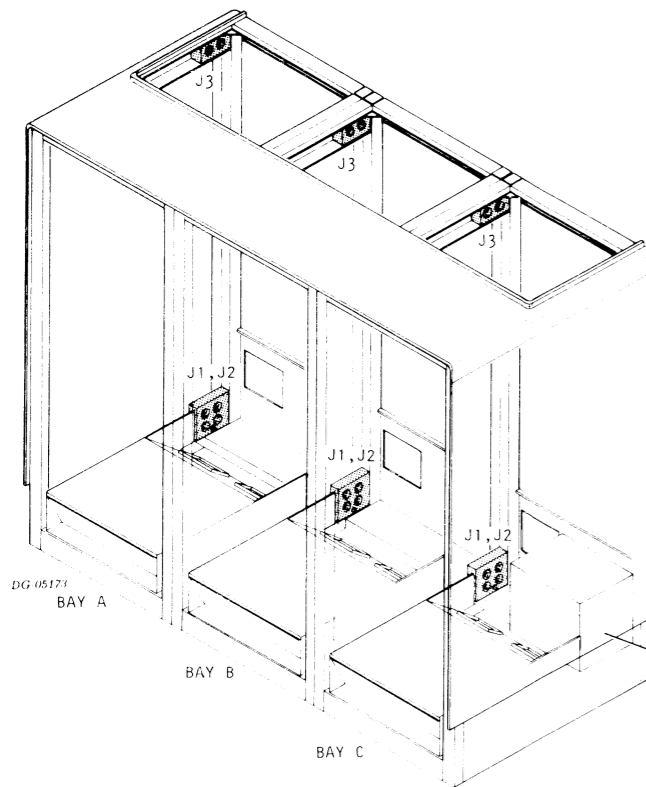
3 BAY CABINET

DOMESTIC 1144-C
HIGH CAPACITY BLOWER 0143
DOMESTIC 1144-H
STD CAPACITY BLOWER 0166

POWER DISTRIBUTION CHART

MAXIMUM CONDITIONS 120 Vac 60 Hz	BAY A				BAY B				BAY C			
	J1	J2	J3	BLOWER	J1	J2	J3	BLOWER	J1	J2	J3	BLOWER
PER RECEPTACLE	15A*	15A*	15A*	2.5A	15A*	15A*	15A*	2.5A	15A*	15A*	15A*	2.5A
COMBINED OUTLETS	15A*			2.5A	15A*			2.5A	15A*			2.5A
TOTAL COMBINED	20A*				20A*				20A*			

* DERATE CURRENT DRAW FOR CONTINUOUS USE TO 80% OF MAXIMUM.



REFERENCE
MATING
RECEPTACLE
L21-30R

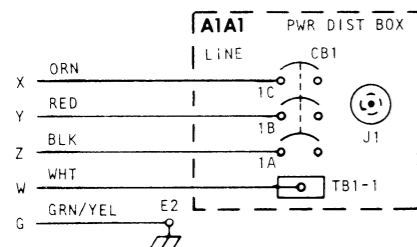
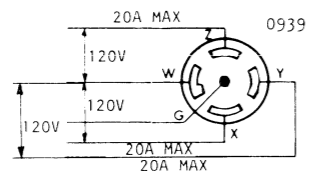


FIGURE 1

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 HOLE.

INTERNAL CABLING (Cont)

3 BAY CABINET

EXPORT 1144-C1/C2/C3/C4
HIGH CAPACITY BLOWER 0142
EXPORT 1144-H1/H2/H3/H4
STD CAPACITY BLOWER 0166

POWER DISTRIBUTION CHART

MAXIMUM CONDITIONS 200/220/240 Vac 50 Hz	BAY A				BAY B				BAY C			
	J1	J2	J3	BLOWER	J1	J2	J3	BLOWER	J1	J2	J3	BLOWER
PER RECEPTACLE	15A*	15A*	15A*	2.5A	15A*	15A*	15A*	2.5A	15A*	15A*	15A*	2.5A
COMBINED OUTLETS	15A*			2.5A	15A*			2.5A	15A*			2.5A
TOTAL COMBINED	30A*											

* DERATE CURRENT DRAW FOR CONTINUOUS
USE TO 80% OF MAXIMUM

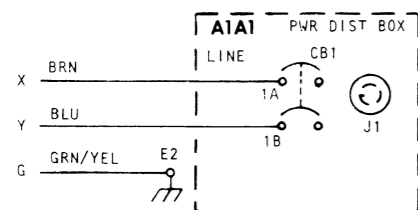
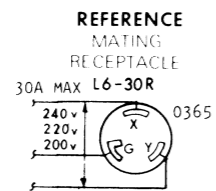
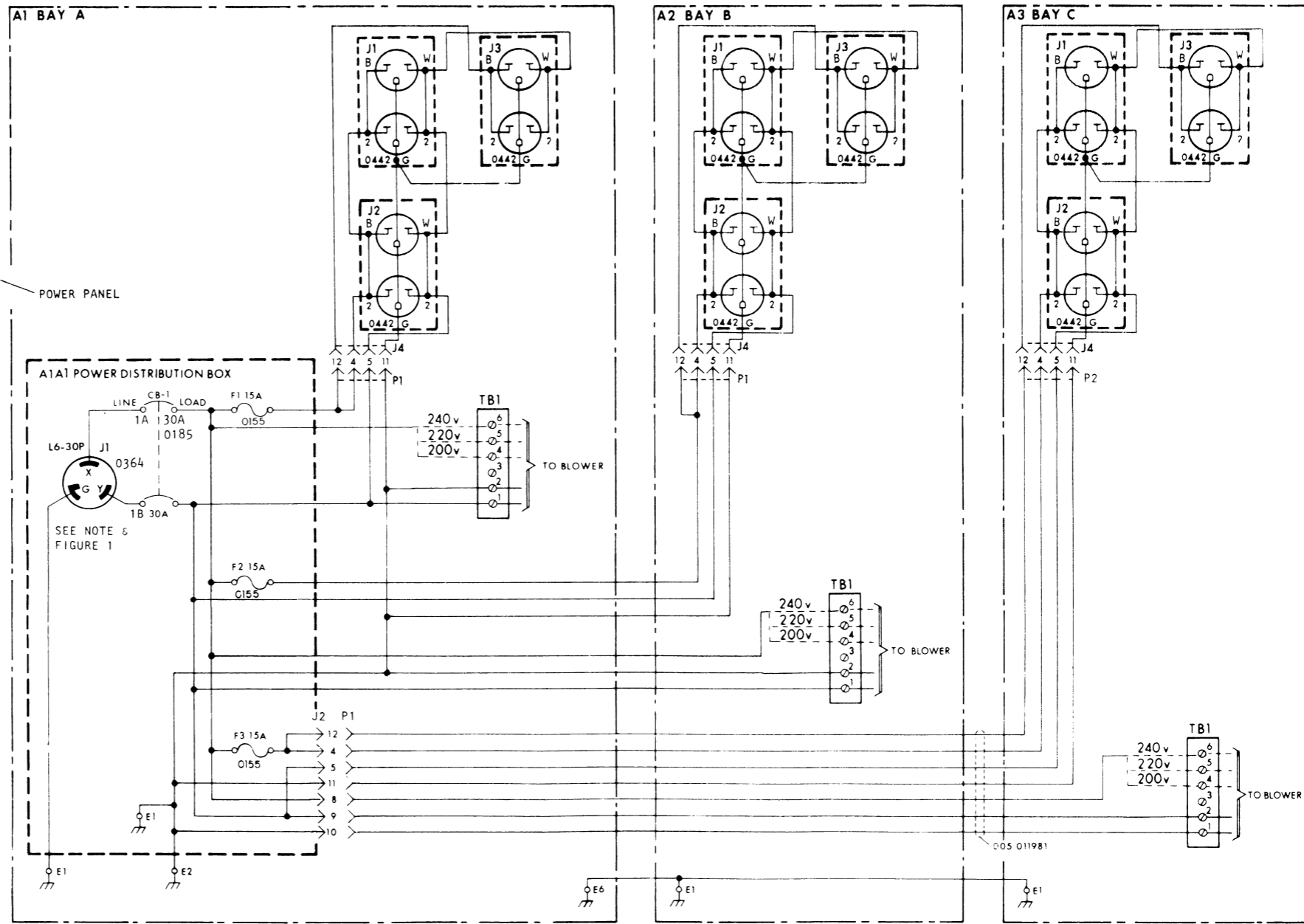
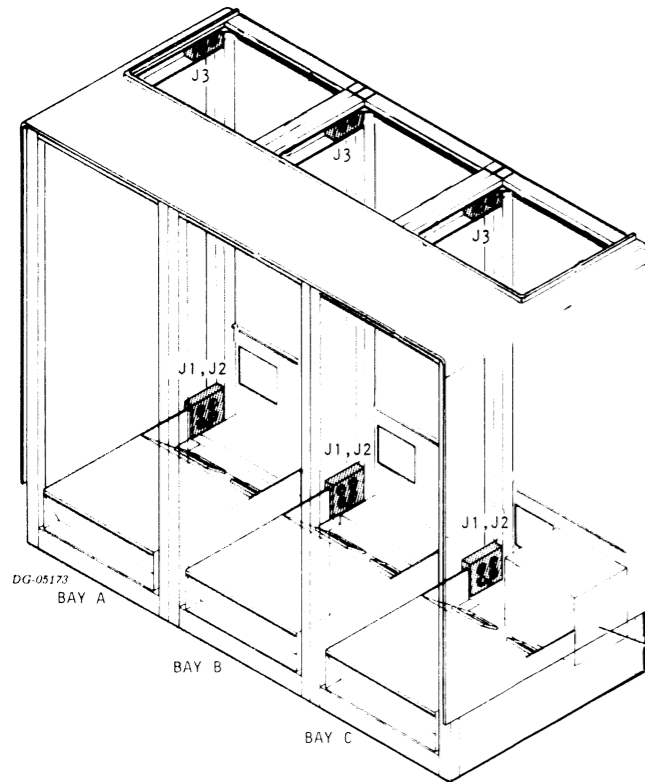


FIGURE 1

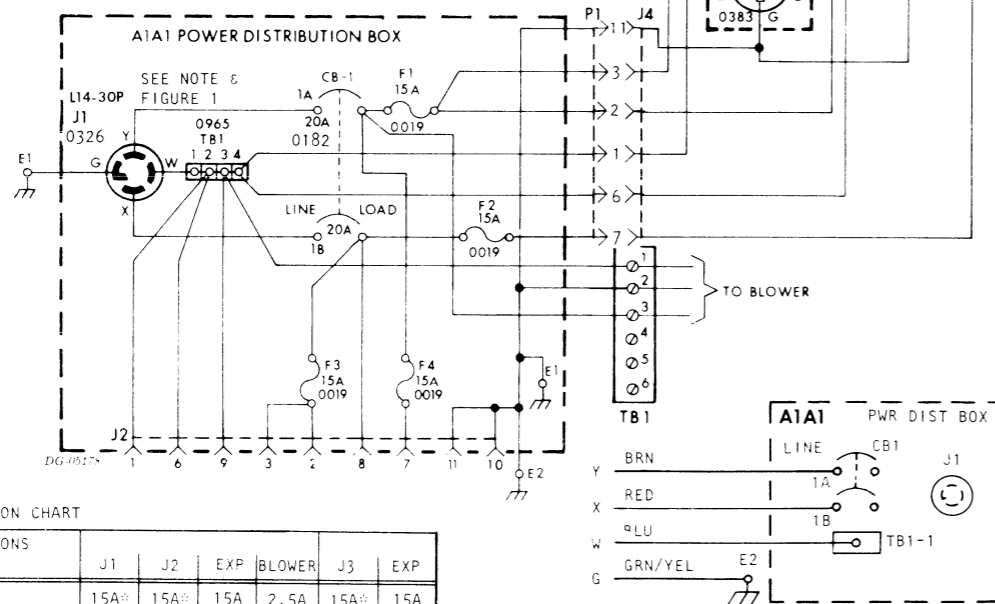
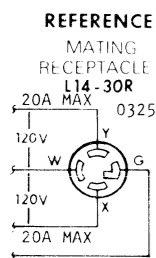
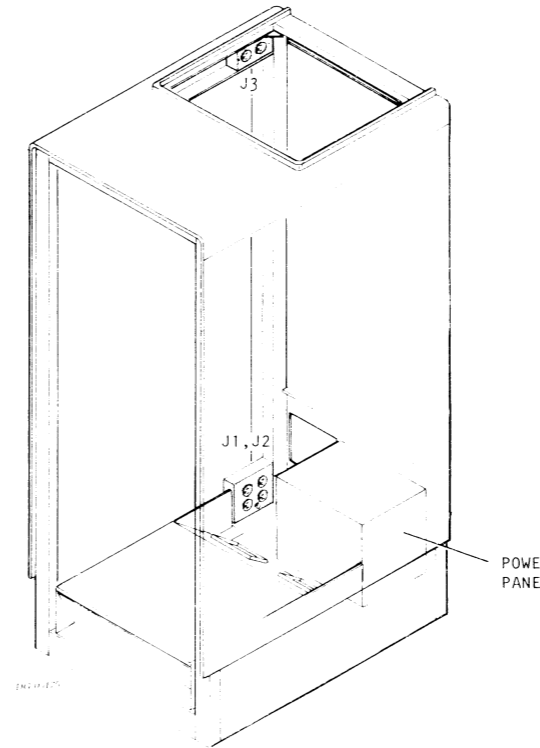
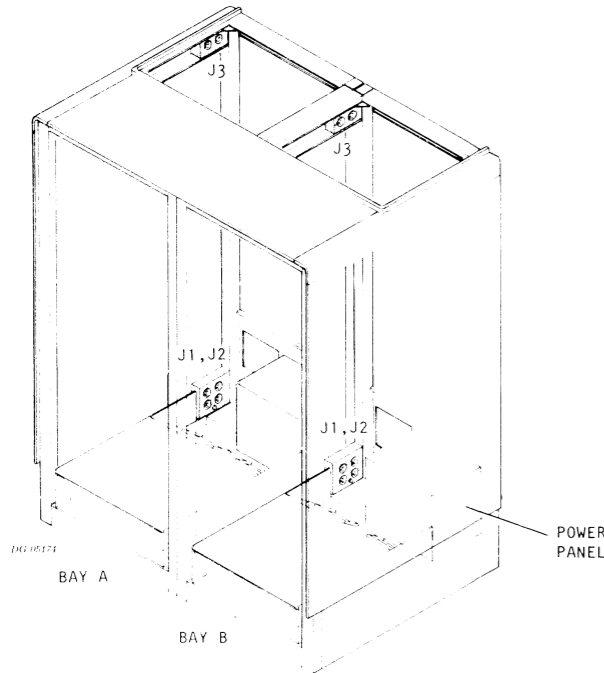
FOR OPTIONAL UNDERFLOOR POWER CORD HOOKUP,
SEE FIGURE 1. JUMPERS ON NEMA CONNECTOR J1
ARE COMPLETELY REMOVED FROM UNIT. CONNECTOR
IS LEFT IN TO BLOCK HOLE.

INTERNAL CABLING (Cont)

DOMESTIC 1244-L

EXPORT 1244-LX

NOTE:
POWER DISTRIBUTION CHART AND WIRING DIAGRAM INDICATE ONE BAY; WIRING AND POWER DISTRIBUTION ARE IDENTICAL FOR EACH EXISTING BAY. BOTH CABINETS ARE AVAILABLE IN DOMESTIC AND EXPORT MODELS.

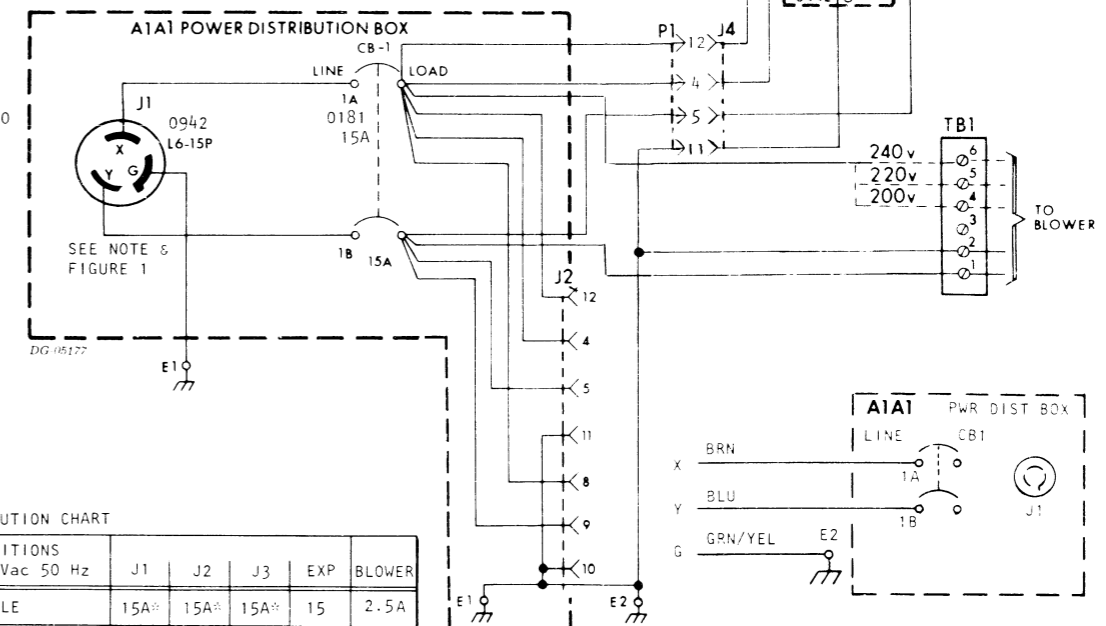
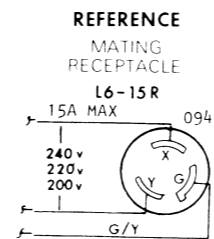


POWER DISTRIBUTION CHART

MAXIMUM CONDITIONS - 120 Vac 60 Hz	J1	J2	EXP	BLOWER	J3	EXP
PER RECEPTACLE	15A*	15A*	15A	2.5A	15A*	15A
COMBINED OUTLETS	15A*	15A	15A	2.5A	15A*	15A
TOTAL COMBINED	20A*				20A*	

* DERATE CURRENT DRAW FOR CONTINUOUS USE TO 80% OF MAXIMUM.

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.



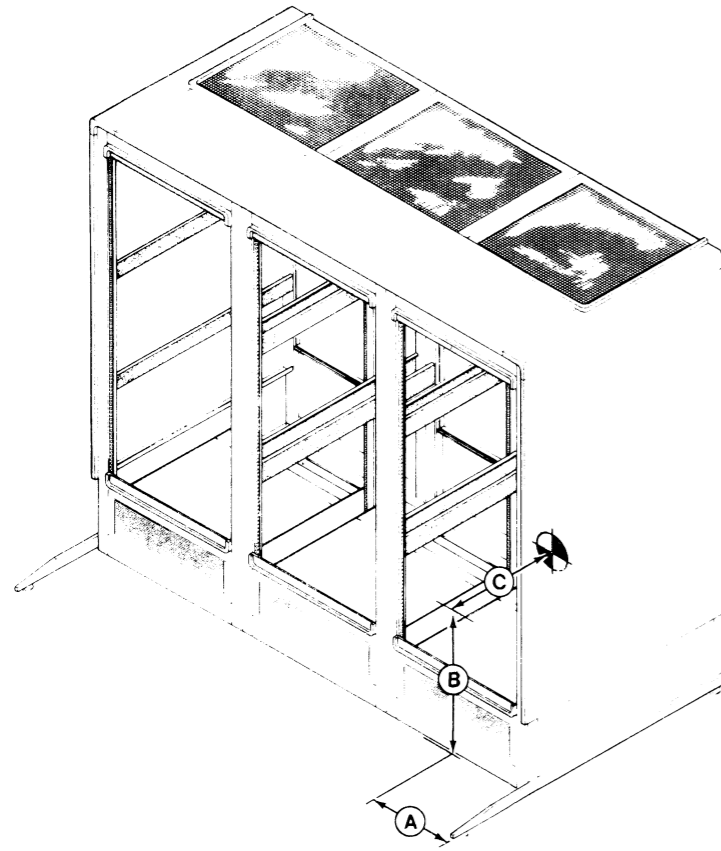
POWER DISTRIBUTION CHART

MAXIMUM CONDITIONS 200/220/240 Vac 50 Hz	J1	J2	J3	EXP	BLOWER
PER RECEPTACLE	15A*	15A*	15A*	15	2.5A
COMBINED OUTLETS	15A*				2.5A
TOTAL COMBINED	15A*				

* DERATE CURRENT DRAW FOR CONTINUOUS USE TO 80% OF MAXIMUM

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.

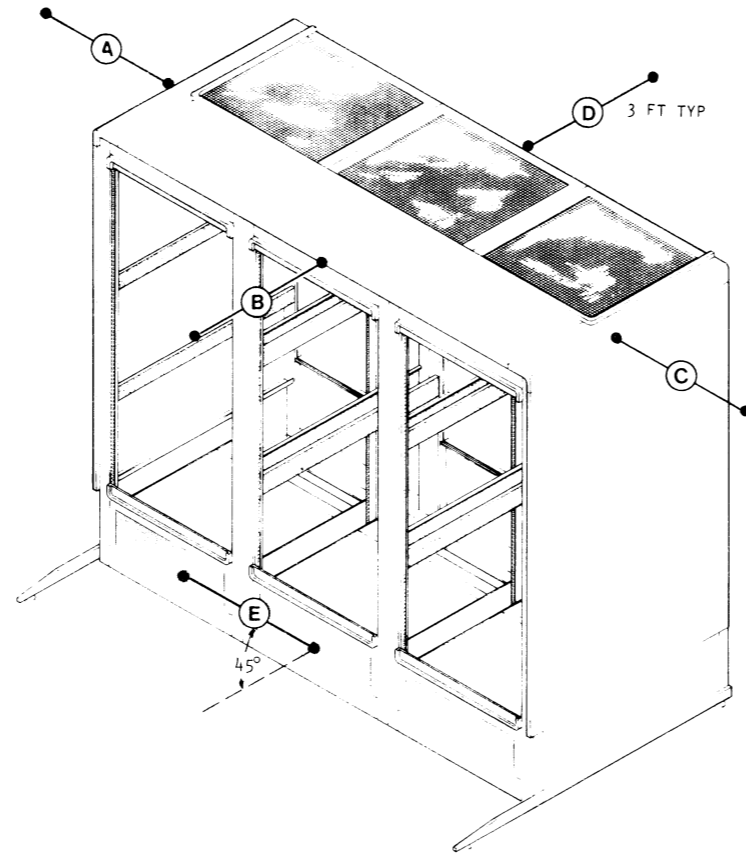
CENTER OF GRAVITY



	A	B	C
1BAY	11	19 3/4	15 1/2
2BAY	22	19 3/4	15 1/2
3BAY	33	19 3/4	15 1/2

DGC 115145

NOISE LEVEL



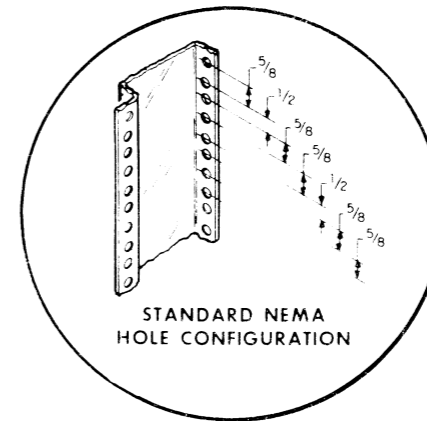
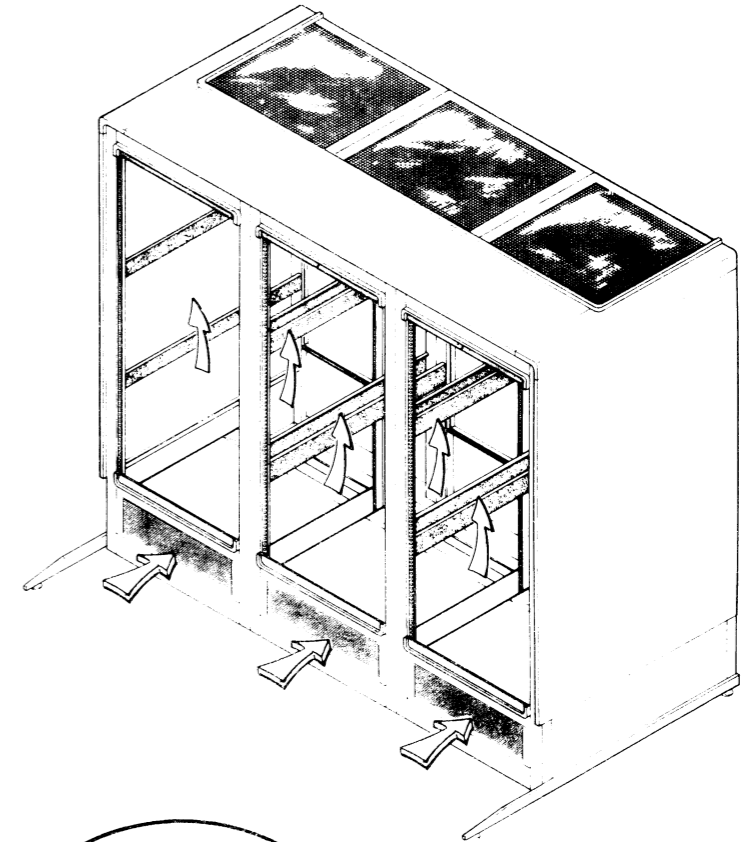
STD CAPACITY BLOWER
APPROX NOISE LEVEL FOR
CABINET COOLING ONLY

	AVERAGE OF READINGS A-E dB(A)	
	60HZ	50HZ
1 BAY	53	49.2
2 BAY	56	52.2
3 BAY	57.9	54.1

HIGH CAPACITY BLOWER
APPROX NOISE LEVEL FOR
CABINET COOLING ONLY

	AVERAGE OF READINGS A-E dB(A)	
	60HZ	50HZ
1 BAY	66.7	59.4
2 BAY	69.3	62.4
3 BAY	71.2	64.2

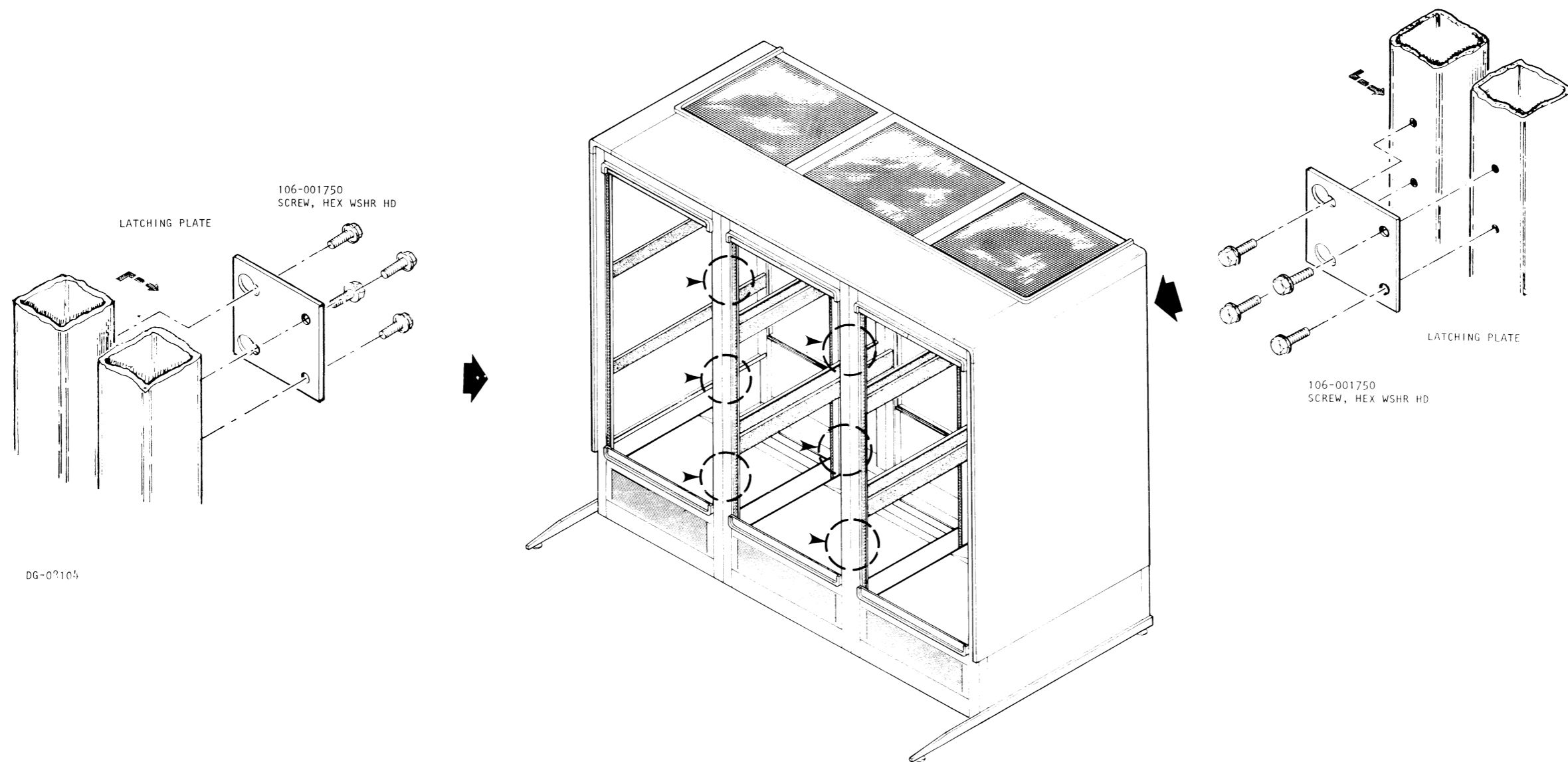
AIR FLOW AND NEMA CONFIGURATION



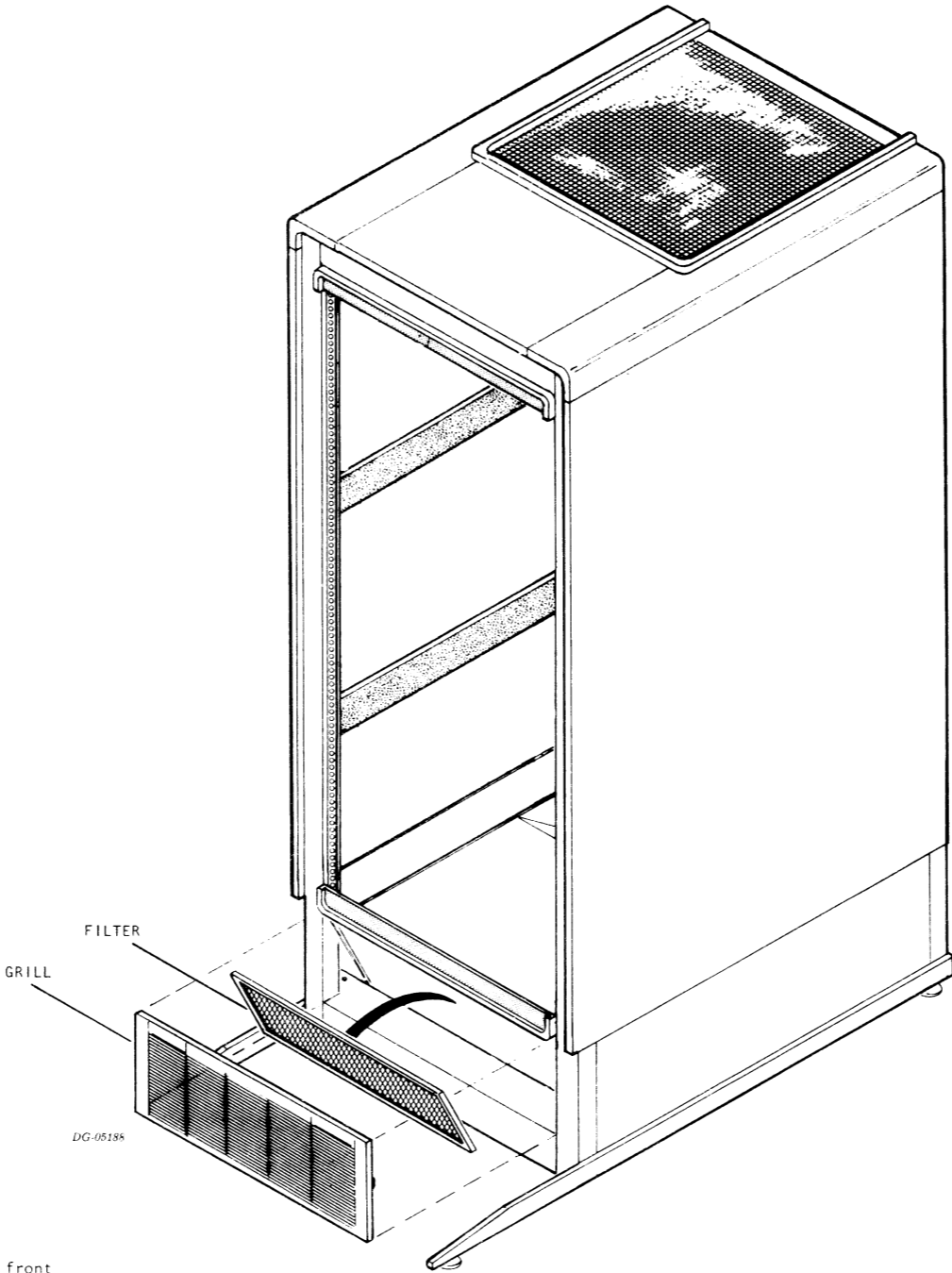
STANDARD NEMA
HOLE CONFIGURATION

DGC 115143

LATCHING PLATE

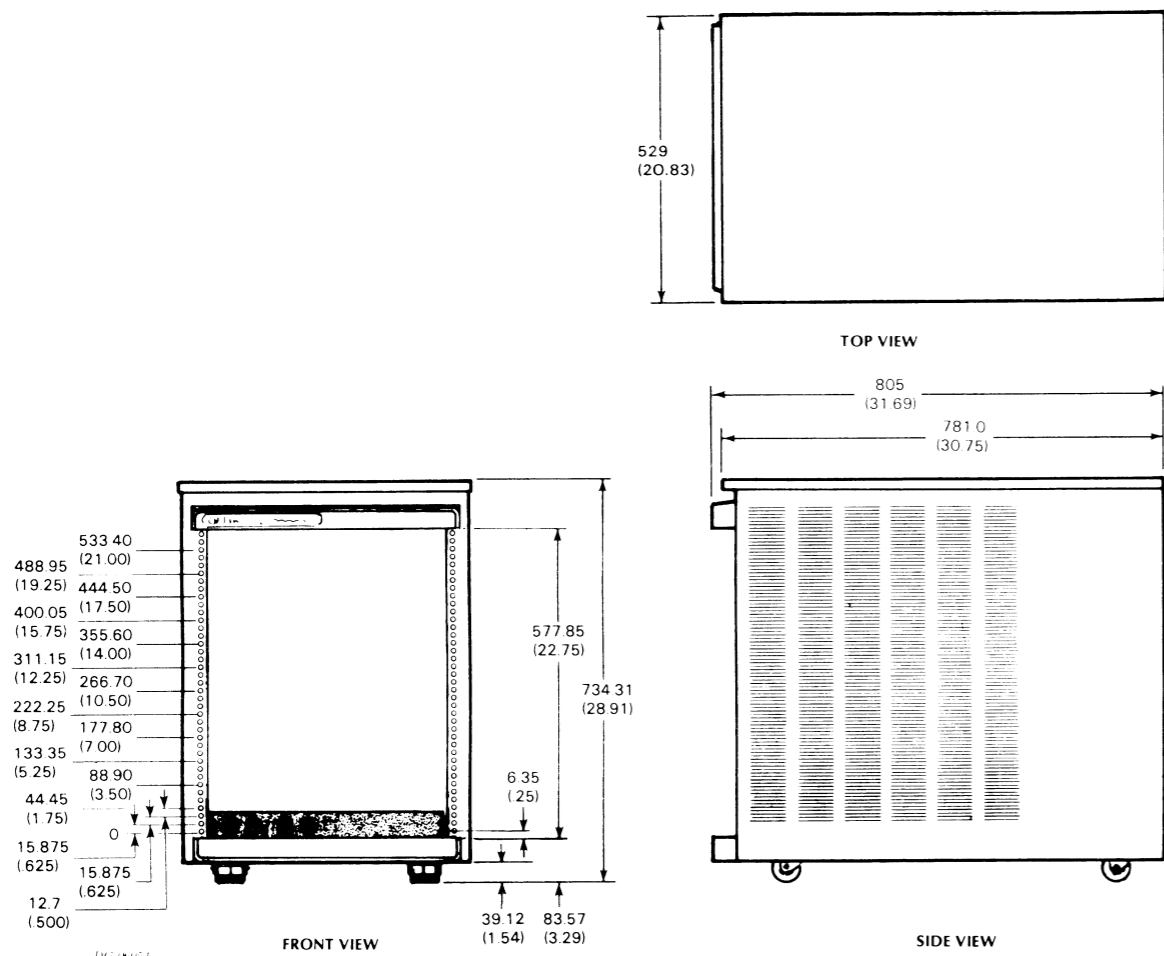


FILTER SERVICING



A viscous impingement filter is located behind the grill in front of each cabinet blower. Adequate equipment cooling is partially dependent upon maintaining a reasonably clean filter. Recommend frequent visual checking of the filter and replacement or cleaning as situation dictates. To clean the filter flush with water, dry, spray with or dip in RP Super-Filter-Coat, allow excess to drain off and reinsert. Certain mild detergents may be used to remove hardened dirt during the cleaning process.

INSTALLATION SPECIFICATIONS



1148-A

CABINET WITH "BENCH" TOP

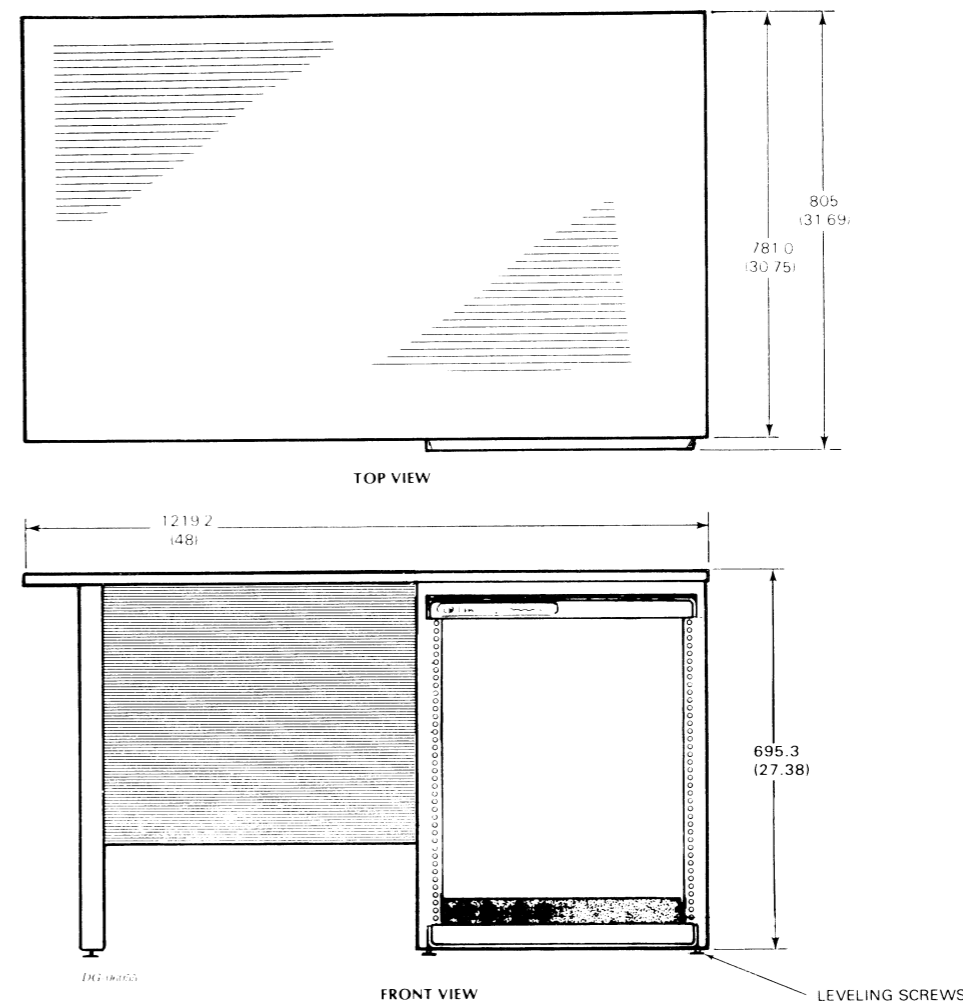
DIMENSIONS:	Width	Depth	Height
Millimeters	529	805	734.3
Inches	(20.8)	31.7	28.9

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:	Length	Conn	Mating Conn
Primary Power			
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)



1148-B

CABINET WITH "DESK" TOP

DIMENSIONS:	Width	Depth	Height
Millimeters	1219.2	805	695.3
Inches	48	31.7	(27.38)

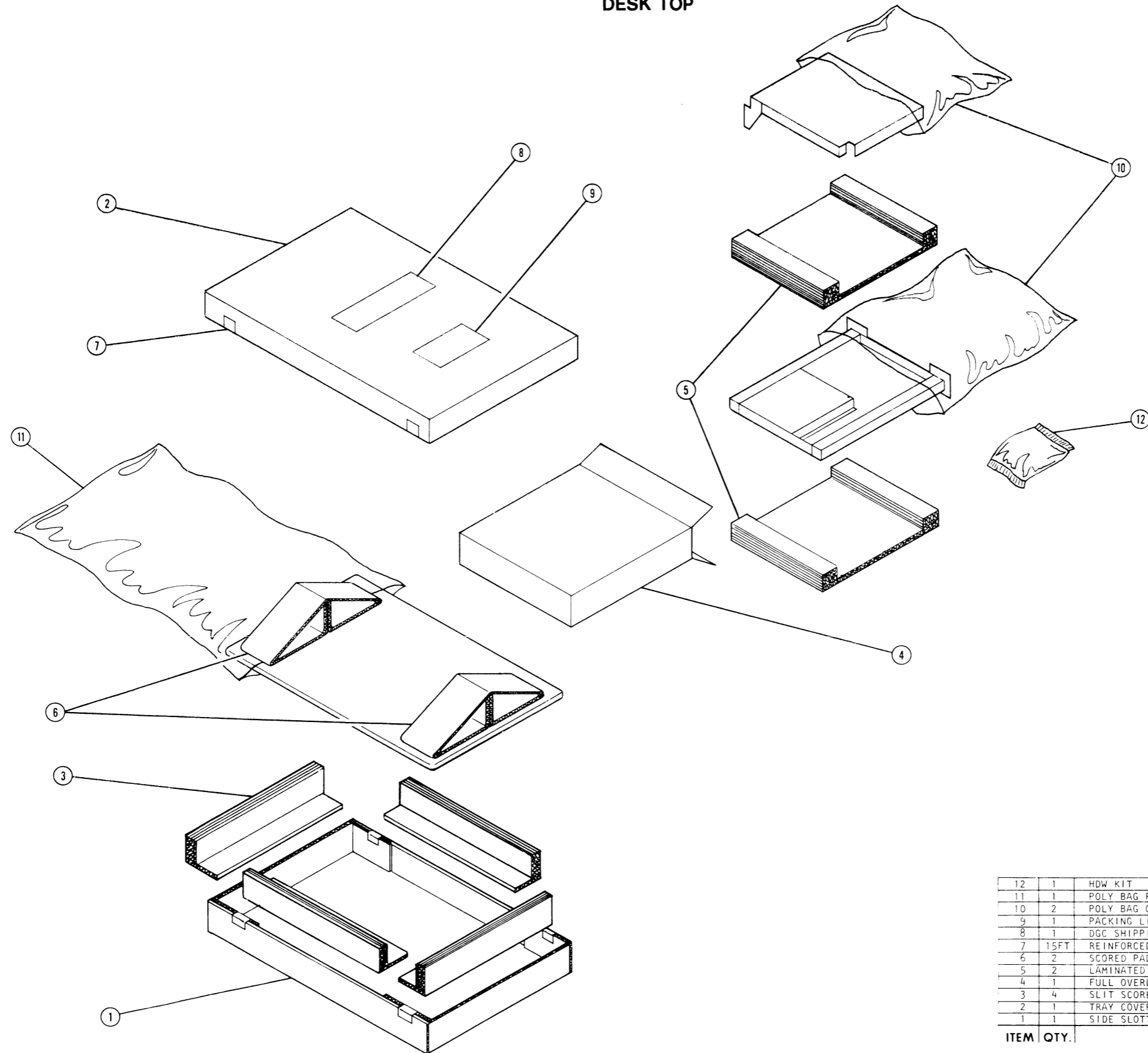
SERVICE CLEARANCES:	Front	Right	Rear
Millimeters	800	152.4	609.6
Inches	31.5	6	24

WEIGHT:	Cabinet	Cab. Top
Kilograms	30.8	19.5
Pounds	68	43

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

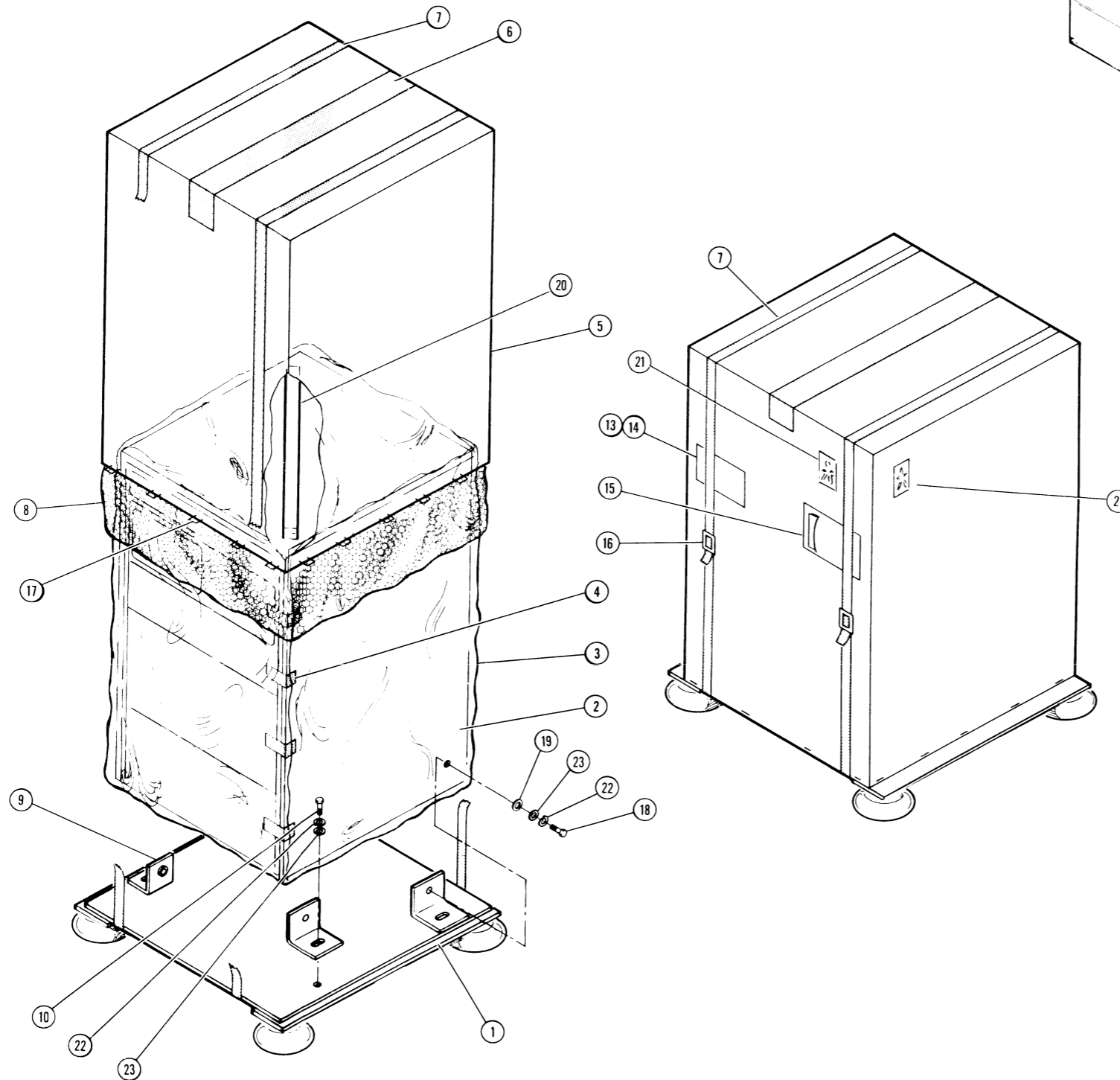
POWER AVAILABLE
 Internal Receptacles 12A (Limited by cable)

SHIPPING
DESK TOP



ITEM	QTY.	DESCRIPTION	PART NO.
12	1	HDW KIT	005-15437
11	1	POLY BAG FLAT	129-454
10	2	POLY BAG GUSSETED	129-456
9	1	PACKING LIST ENVELOPE	129-042
8	1	DGC SHIPPING LABEL	129-030
7	15FT	REINFORCED SEALING TAPE	129-027
6	2	SCORED PAD	129-849
5	2	LAMINATED PAD	129-848
4	1	FULL OVERLAP CONTAINER	129-847
3	4	SLIT SCORED PAD	129-846
2	1	TRAY COVER	129-845
1	1	SIDE SLOTTED TRAY	129-844

SHIPPING (CONT) CABINET



23	8	WASHER, FLAT 5/16	106-001566
22	8	WASHER, LOCK, SPLIT 5/16	106-000808
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 3/4	106-000806
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	1	WASHER, LOCK, SPLIT 5/16	106-000808
11	1	WASHER, FLAT 5/16	106-001566
10	4	SCREW, HEX HEAD, 5/16-18 x 1 1/4	106-000807
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	129-513 OR 129-625
ITEM	QTY	DESCRIPTION	PART NO.

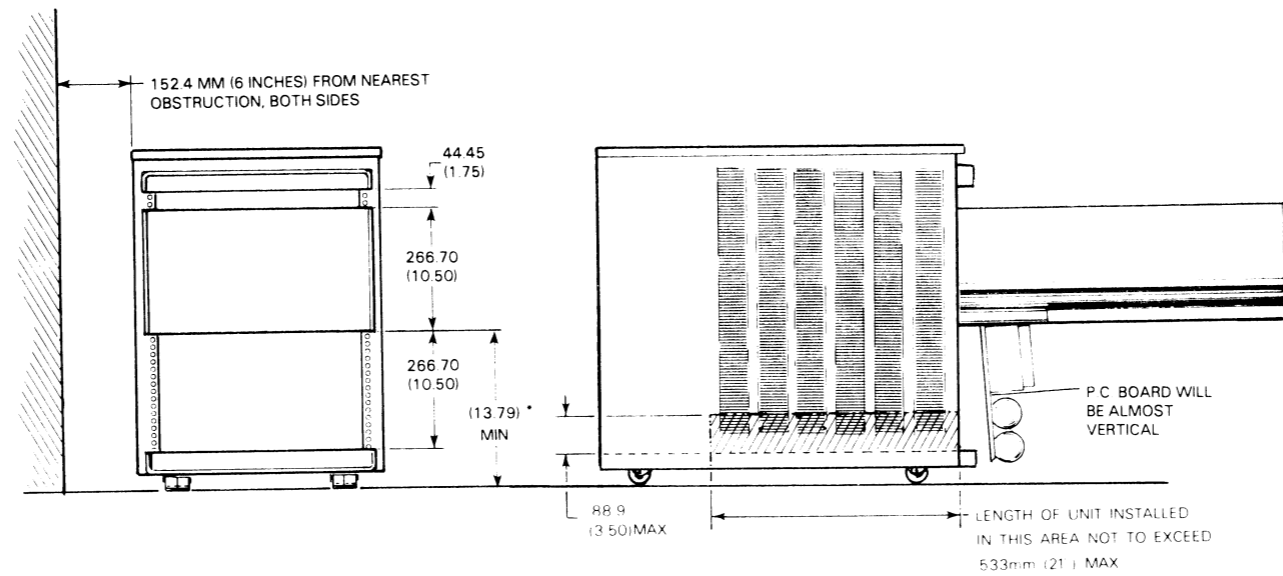
DG-08162

CABINET, SERIES 1148

RACK MOUNTING

SOME CONFIGURATION CONSTRAINTS

EXAMPLE: CARTRIDGE DISCS,
SERIES 6045-6051 and 6070



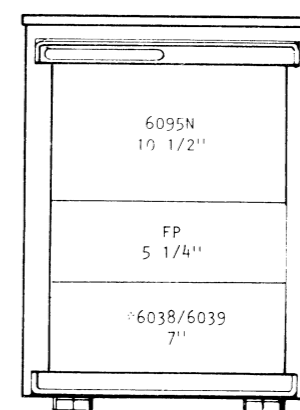
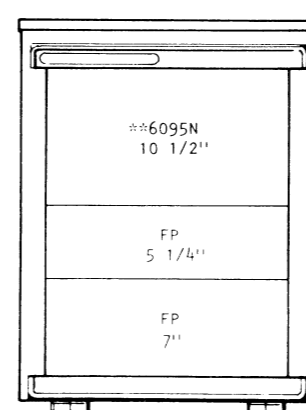
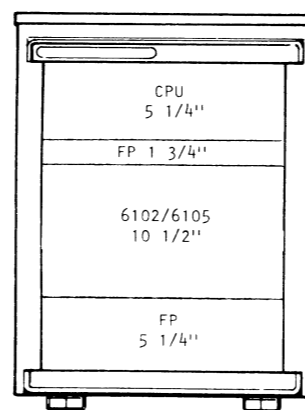
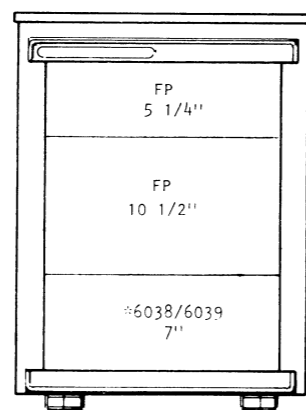
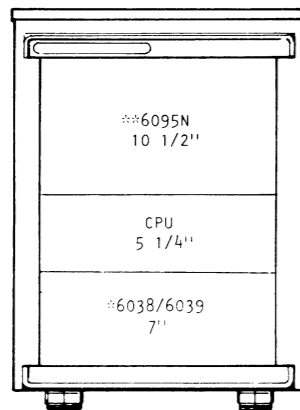
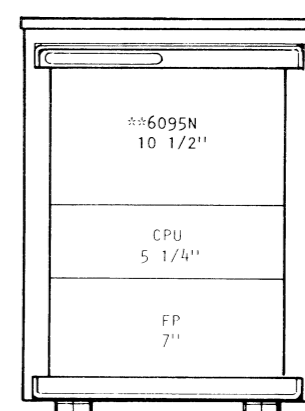
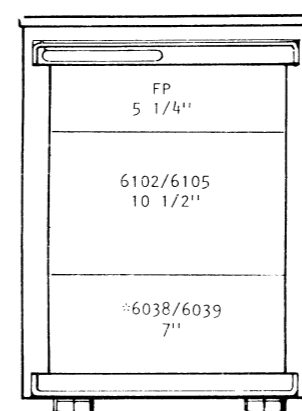
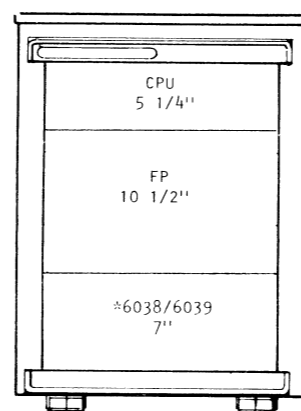
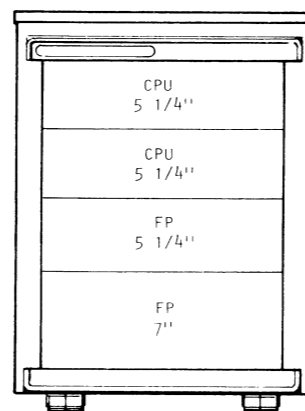
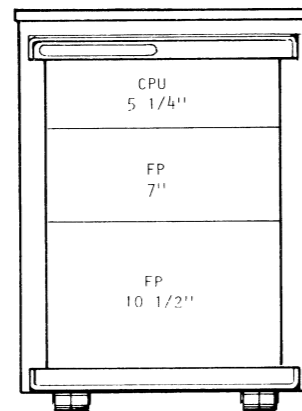
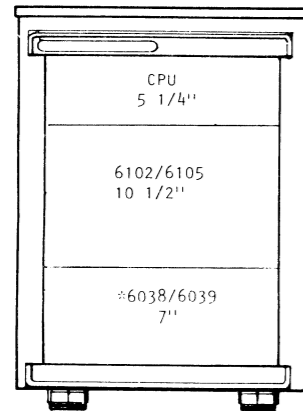
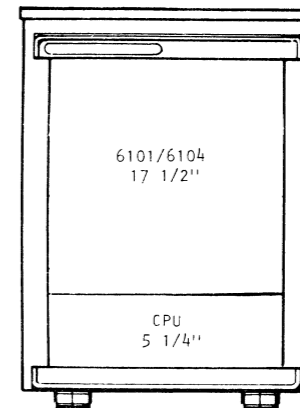
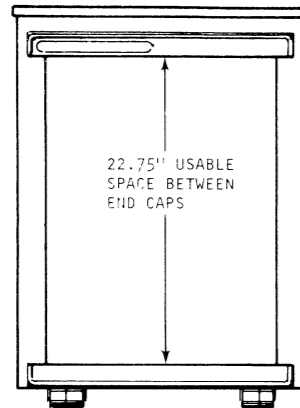
* 13.79" FALLS BETWEEN THE HALF INCH SPACING REQUIRED BY NEMA STANDARDS. HOWEVER, DUE TO TOLERANCES THIS NUMBER IS ONLY AN APPROXIMATION.

DIMENSIONS ARE IN MILLIMETERS. DIMENSIONS IN PARENTHESES ARE INCHES FOR REFERENCE.

RACK MOUNTING (CONT)

ALLOWABLE CABINET CONFIGURATIONS 1148-A / 1148-A2 LOWBOY CABINET

(MP/100 - MP/200)



ALL 1148-A/1148-A2 LOWBOY CABINET CONFIGURATIONS REQUIRE ANTI-TIP LEGS.

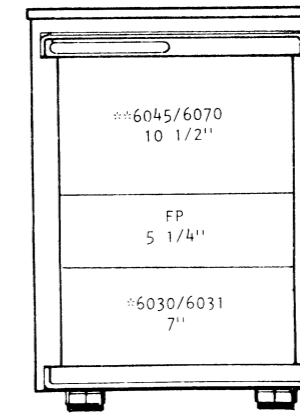
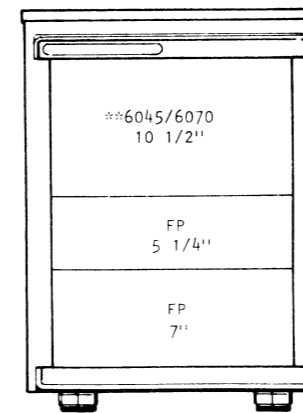
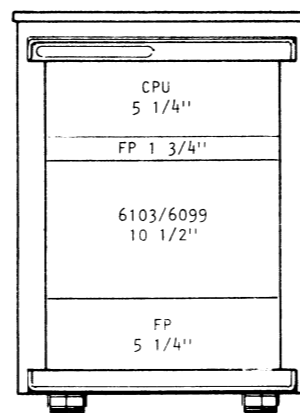
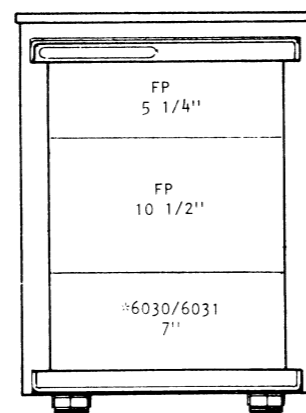
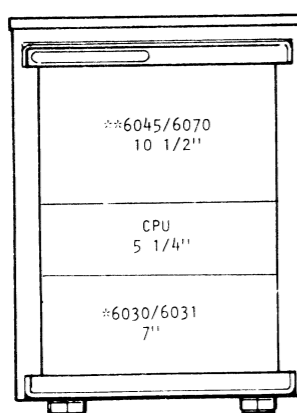
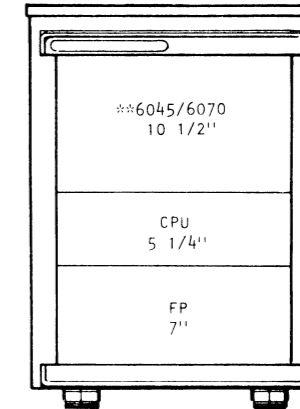
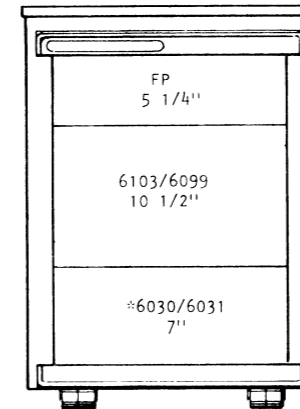
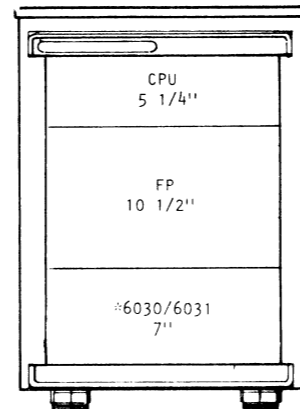
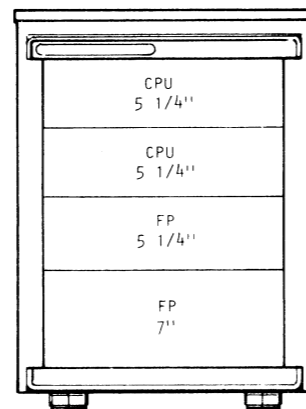
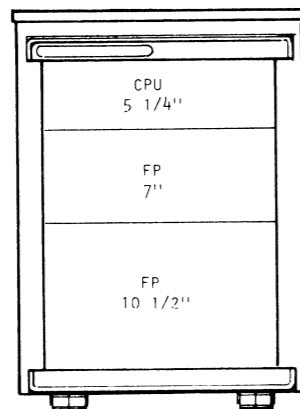
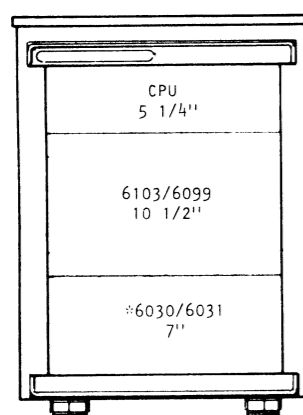
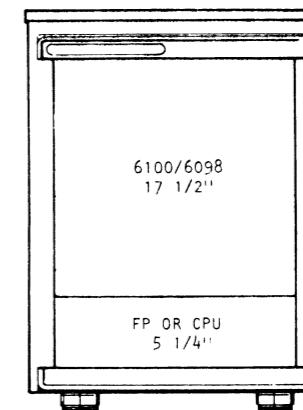
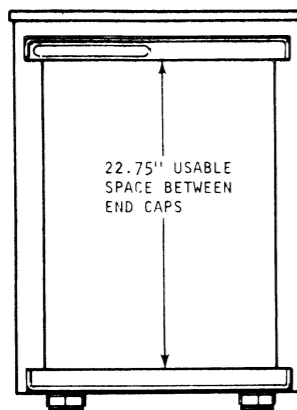
* MAY USE PREFERRED 6096A/6096B. THIS UNIT MAY BE MOVED HIGHER IN CABINET PROVIDED HEAT GENERATING EQUIPMENT IS NOT PLACED UNDER IT.

** CANNOT BE CONFIGURED IN DESK-TOP.

RACK MOUNTING (CONT)

ALLOWABLE CABINET CONFIGURATIONS 1148-A / 1148-A2 LOWBOY CABINET

NOVA 4



ALL 1148-A/1148-A2 LOWBOY CABINET CONFIGURATIONS REQUIRE ANTI-TIP LEGS.

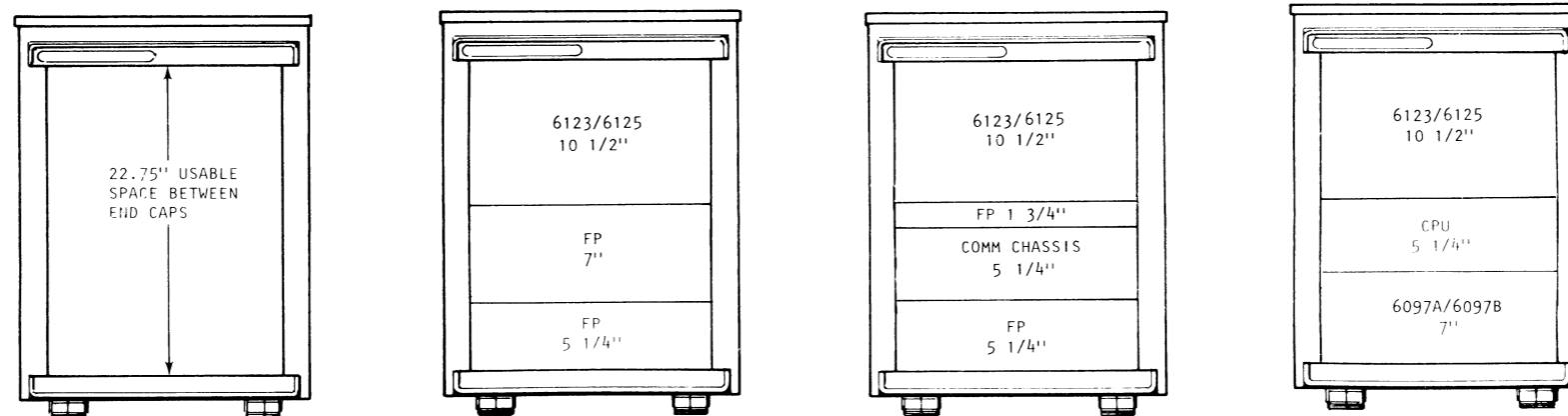
* MAY USE PREFERRED 6096A/6096B. THIS UNIT MAY BE MOVED HIGHER IN CABINET PROVIDED HEAT GENERATING EQUIPMENT IS NOT PLACED UNDER IT.

** CANNOT BE CONFIGURED IN DESK-TOP.

RACK MOUNTING (CONT)

ALLOWABLE CABINET CONFIGURATIONS 1148-A / 1148-A2 LOWBOY CABINET

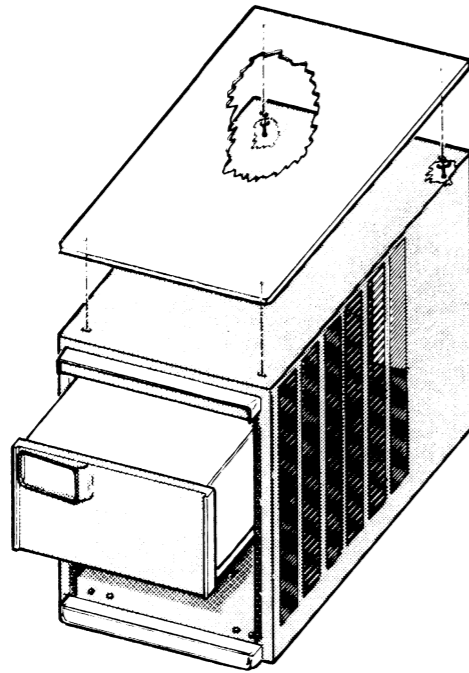
(6123 / 6125 TAPE DRIVES)



ALL 1148-A/1148-A2 LOWBOY CABINET CONFIGURATIONS REQUIRE ANTI-TIP LEGS.

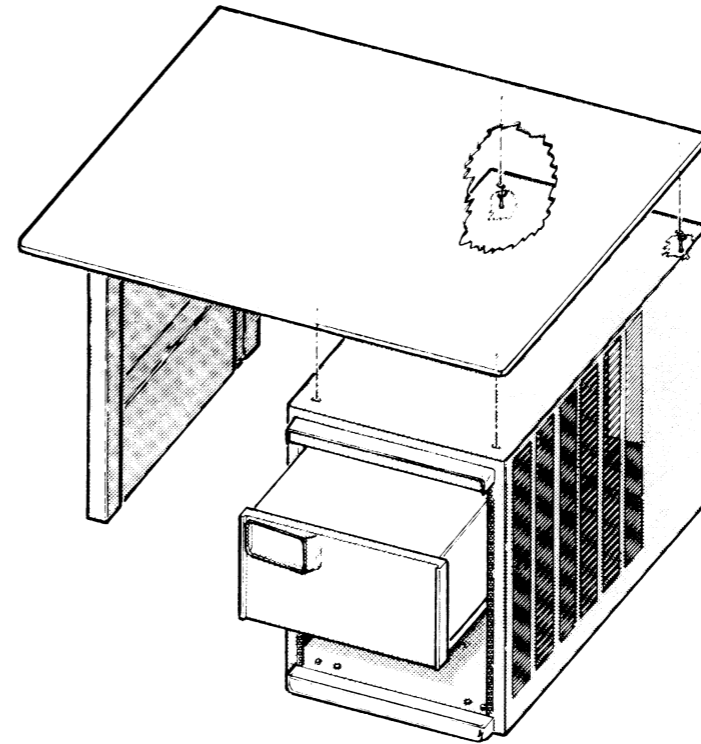
MOUNTING CABINET TOPS

"BENCH" TOP



FOR MOUNTING TOP:
SCREWS, 10 - 32 X 3/4
DGC 106-000353
QTY 4
WASHERS, FLAT, #10
DGC 106-000263
QTY 4

"DESK" or LARGE TABLE TOP

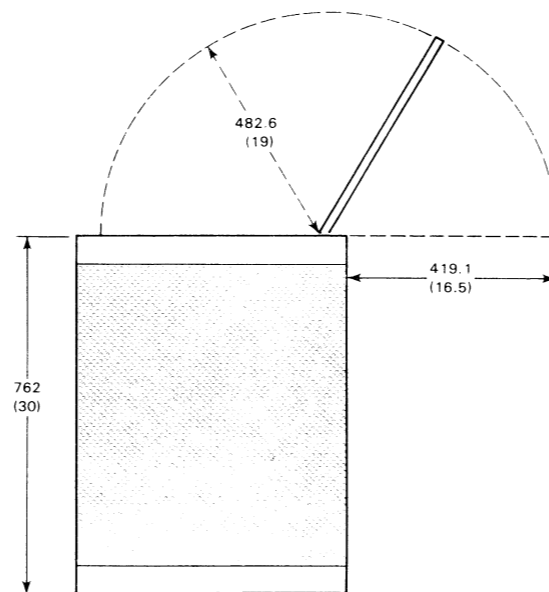


FOR ASSEMBLING AND
MOUNTING TOP:
SCREWS, 10 - 32 X 3/4
DGC 106-000353
QTY 10
WASHERS, FLAT, #10
DGC 106-000263
QTY 10

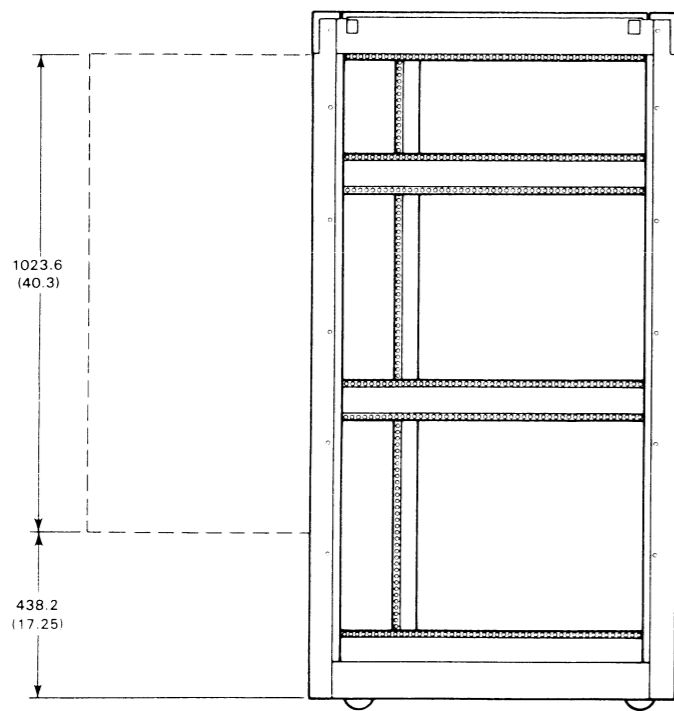
DG-06049

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.

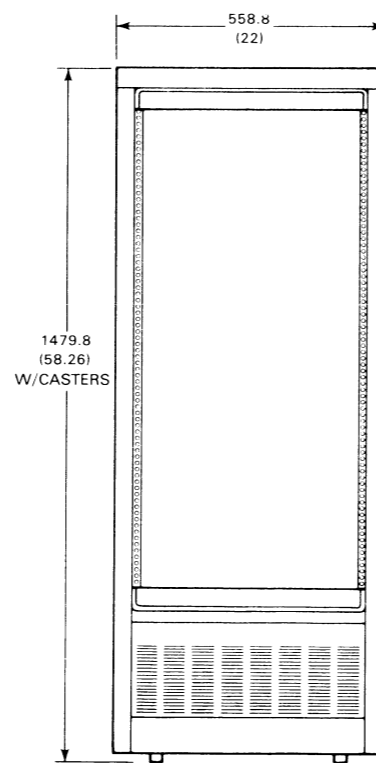
INSTALLATION SPECIFICATIONS



TOP



SIDE



FRONT

DIMENSIONS:	Width	Depth	Height
Millimeters	558.8	762	1479.8
Inches	22	30	58.26

(Including casters)

SERVICE CLEARANCES:	Front	Rear	Right	Left
Millimeters	762	482.6	419.1	419.1
Inches	30	19	16.5	16.5

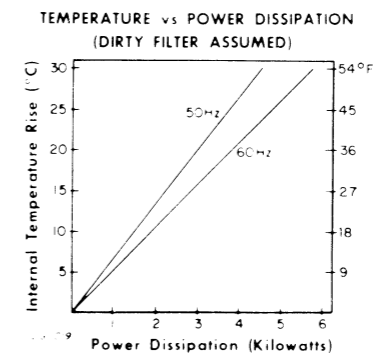
WEIGHT:	Empty
Kilograms	100
Pounds	220

HEAT OUTPUT:	Watts	BTU/hr
	140	477.4

USABLE VERTICAL RACK SPACE PER BAY:	Areas	Inches	CM
	25	43.75	111

POWER REQUIREMENTS:	
(Domestic)	
Voltage	120V (2 CKT)
Hz	60
Max Amp per Phase	15A /CKT
Phase	1
(Export)	
Voltage	200/220/240V
Hz	50
Max Amp per Phase	15
Phase	1

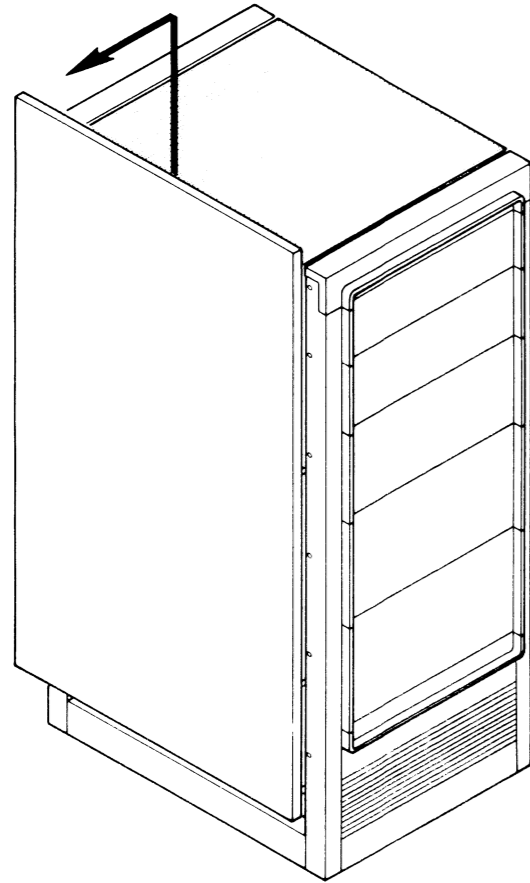
Cooling Unit	
(Domestic)	
Voltage	120V
Hz	60
Amp per Phase	1.5
(Export)	
Voltage	240V
Hz	50
Amp per Phase	.75



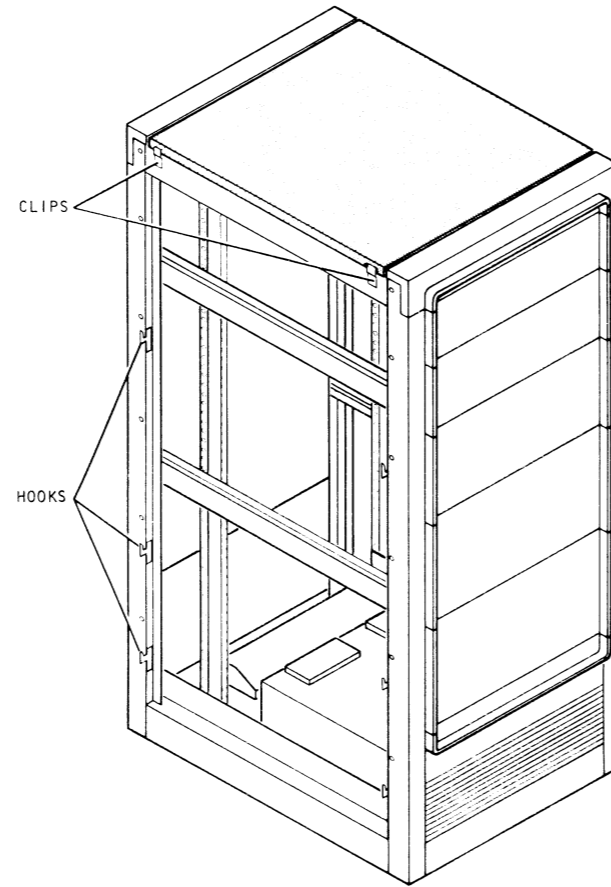
SHIPPING

FOR PACKING PROCEDURE, SEE 010-000266

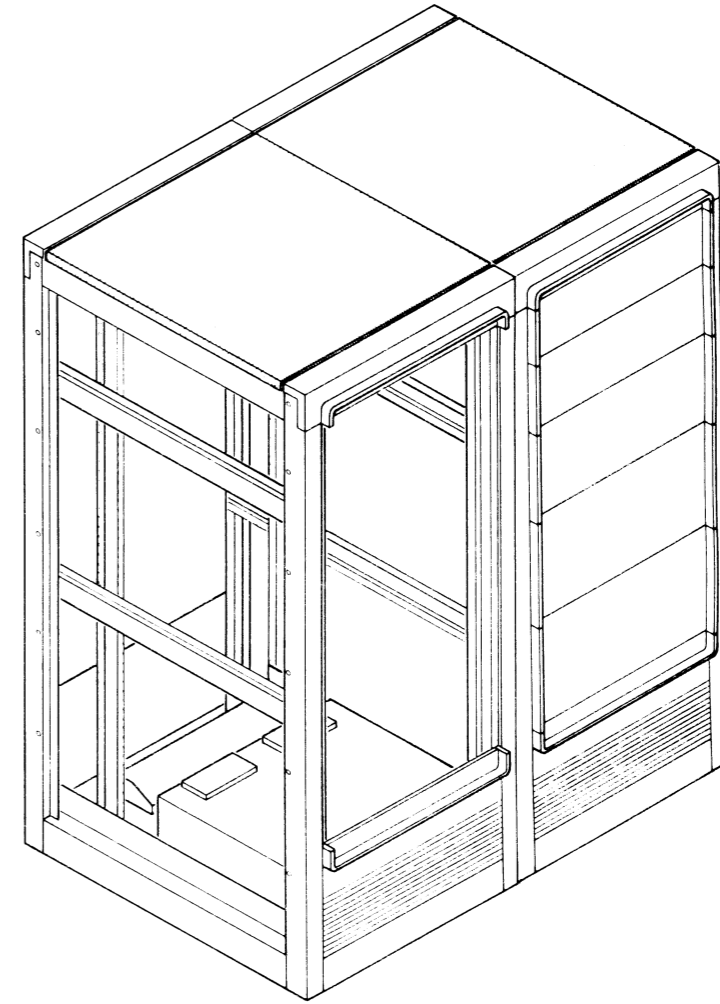
INSTALLING EXPANSION CABINET



1. LIFT UP AND REMOVE PANEL FROM LEFT SIDE OF EXISTING CABINET AND SAVE.

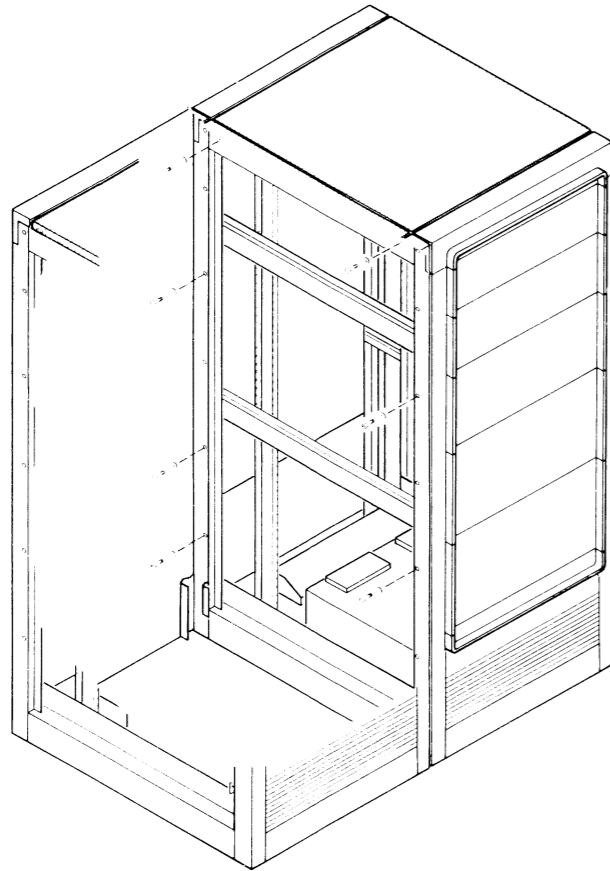


2. REMOVE SIDE PANEL HOOKS AND LIFT-UP CLIPS. SAVE ALL HARDWARE.

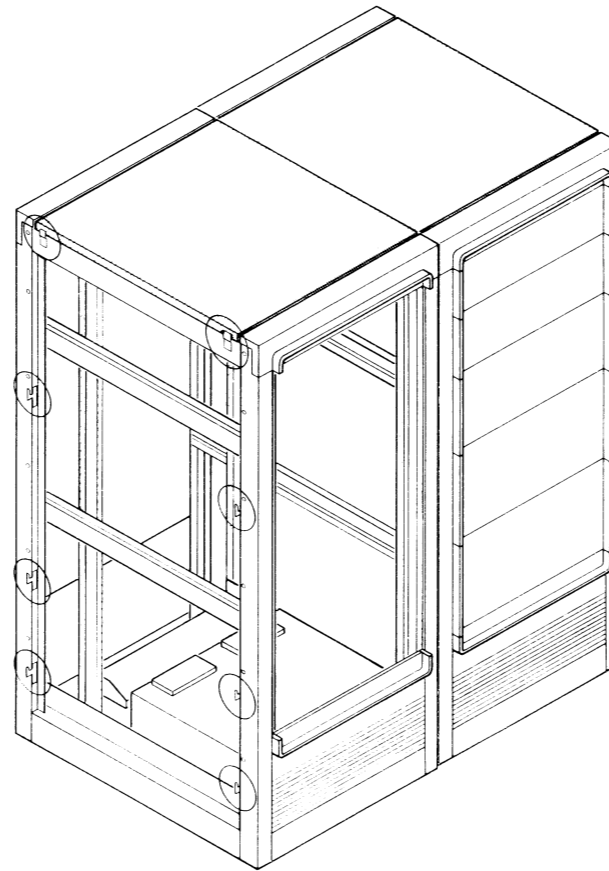


3. MOVE EMPTY EXPANSION CABINET INTO PLACE ON LEFT SIDE OF EXISTING CABINET.

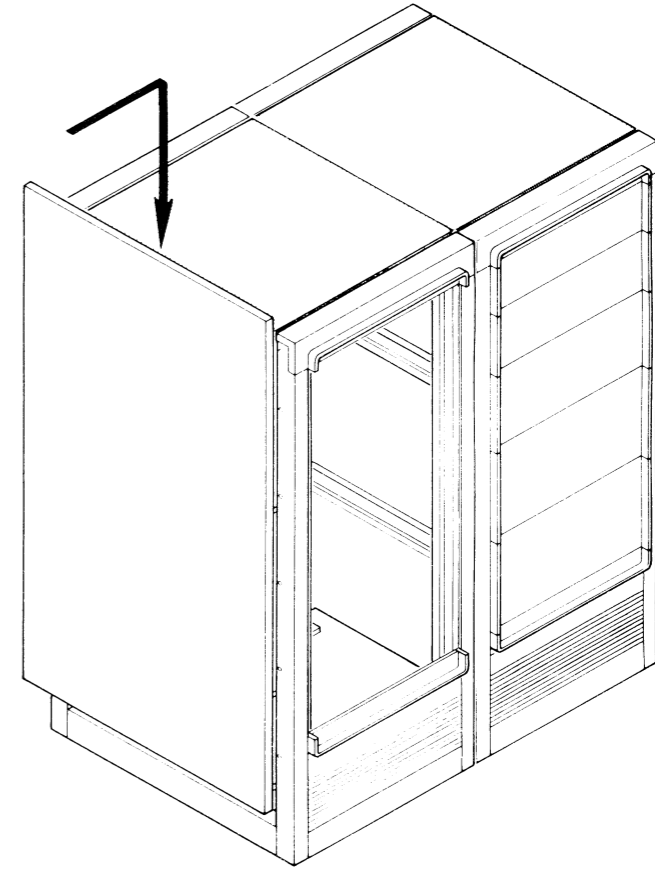
INSTALLING EXPANSION CABINET (CONT)



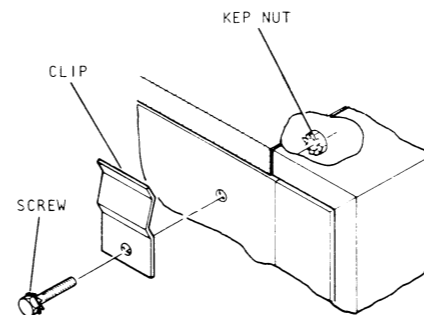
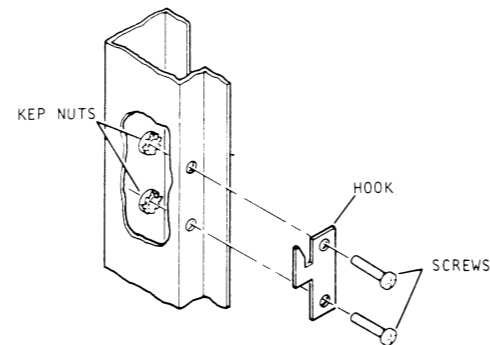
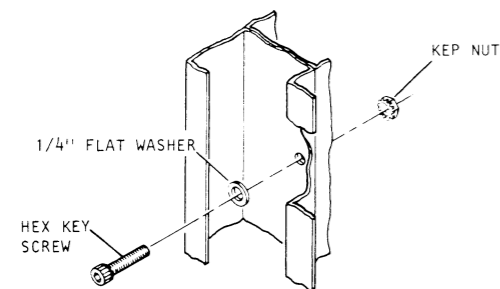
4. BOLT CABINETS TOGETHER AS SHOWN. HARDWARE IS INCLUDED WITH EXPANSION CABINET.



5. INSTALL SIDE PANEL HOOKS AND LIFT-UP CLIPS ON LEFT SIDE OF EXPANSION CABINET.

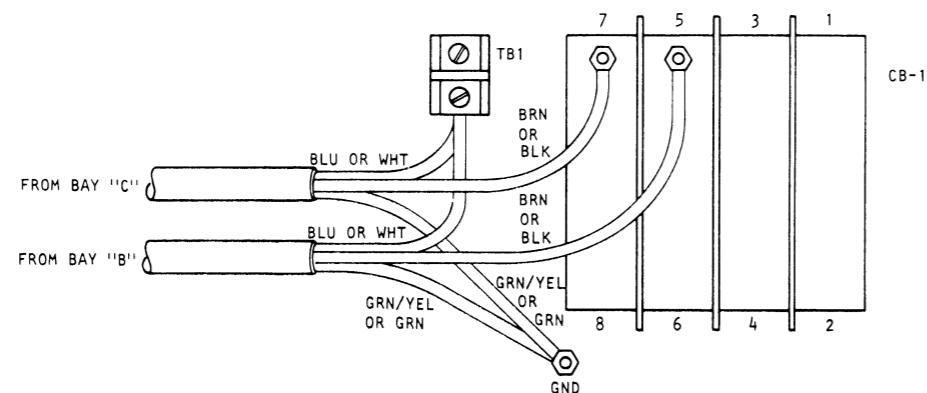


6. INSTALL SIDE PANEL ON LEFT SIDE OF EXPANSION CABINET.



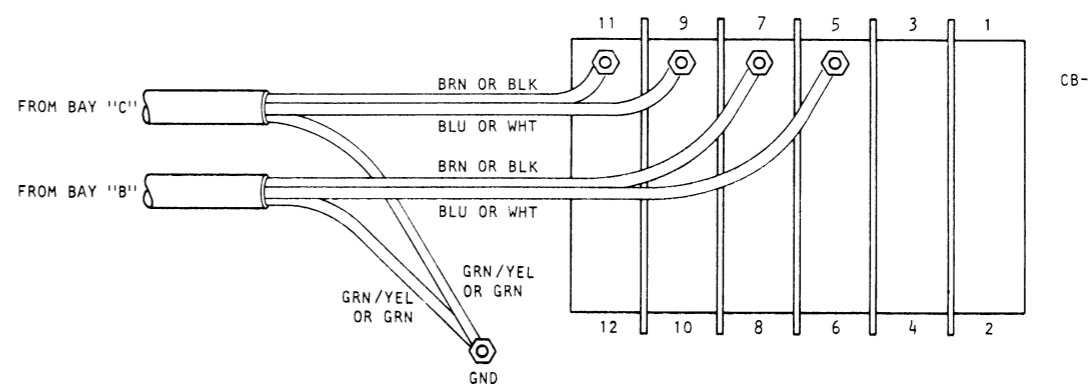
INTERNAL CABLING

(DOMESTIC)



WIRE EXPANSION CABINETS TO CIRCUIT BREAKER IN MAIN CABINET (BAY 'A') AS SHOWN. WIRES FROM MAIN CABINET NOT SHOWN FOR CLARITY.

(EXPORT)

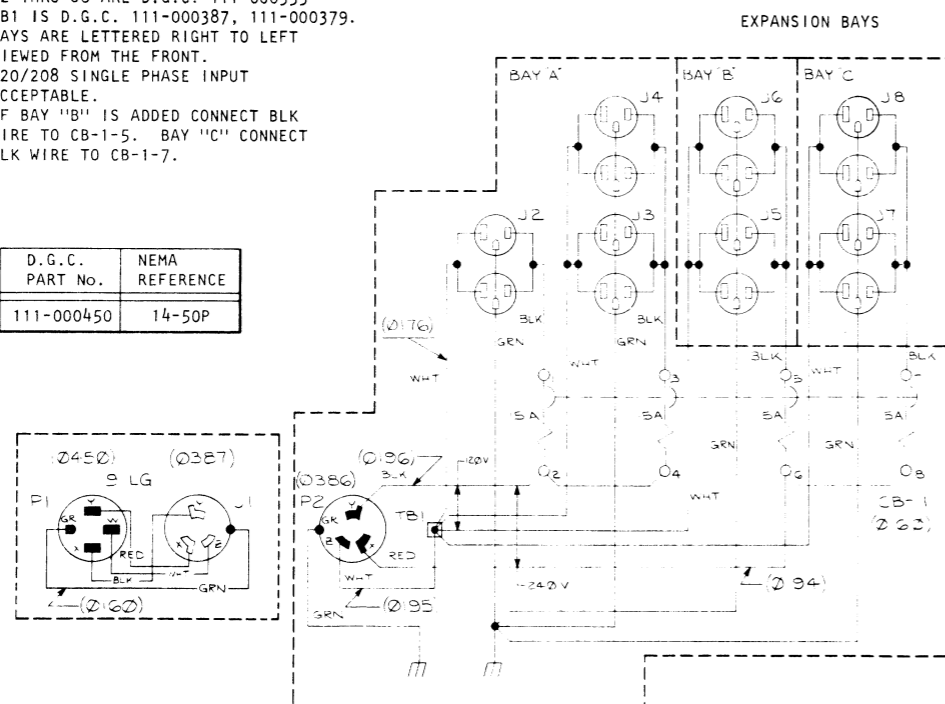


WIRE EXPANSION CABINETS TO CIRCUIT BREAKER IN MAIN CABINET (BAY 'A') AS SHOWN. WIRES FROM MAIN CABINET NOT SHOWN FOR CLARITY.

NOTES:

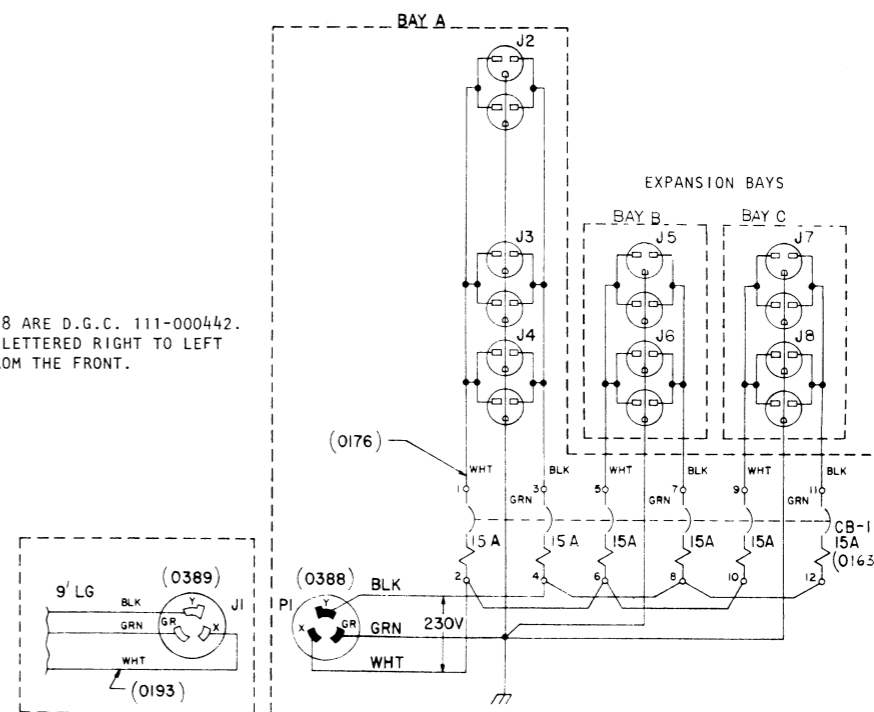
- J2 THRU J8 ARE D.G.C. 111-000333
- TB1 IS D.G.C. 111-000387, 111-000379.
- BAYS ARE LETTERED RIGHT TO LEFT VIEWED FROM THE FRONT.
- 120/208 SINGLE PHASE INPUT ACCEPTABLE.
- IF BAY 'B' IS ADDED CONNECT BLK WIRE TO CB-1-5. BAY 'C' CONNECT BLK WIRE TO CB-1-7.

D.G.C. PART No.	NEMA REFERENCE
111-000450	14-50P

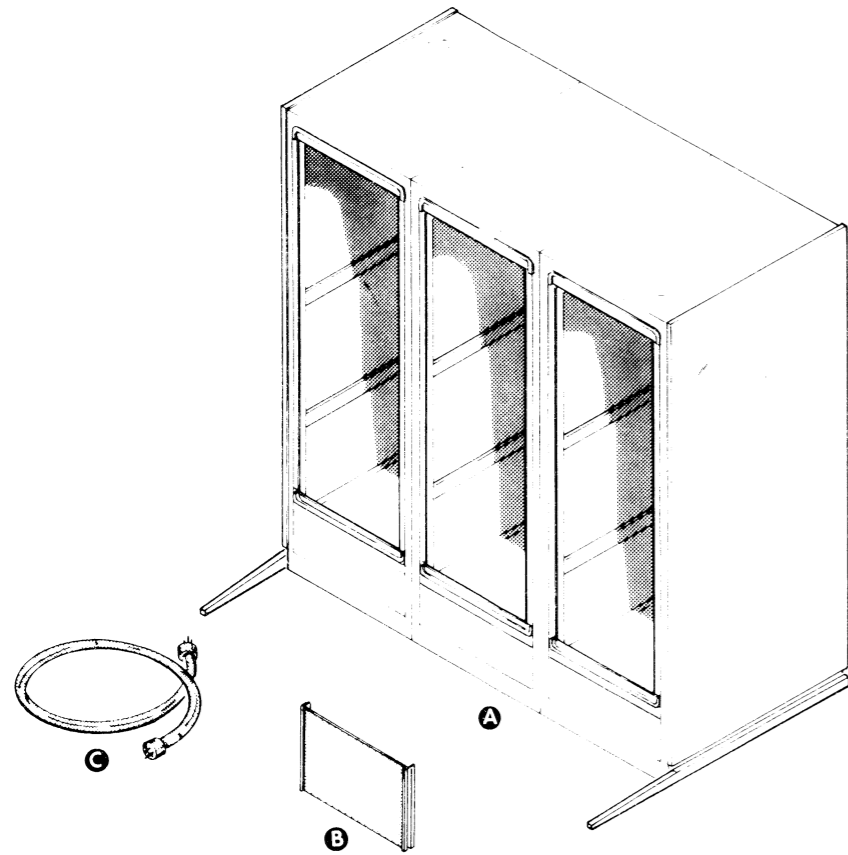


NOTE:
THERE ARE TWO WIRE COLOR CODES IN EFFECT.
THE FOLLOWING COLORS ARE EQUIVALENT
BROWN ———> BLACK
BLUE ———> WHITE
GREEN W/ ———> GREEN
YELLOW STRIPE

- NOTES:
- J2 THRU J8 ARE D.G.C. 111-000442.
 - BAYS ARE LETTERED RIGHT TO LEFT VIEWED FROM THE FRONT.



SUBSYSTEM COMPONENT BREAKDOWN



MAJOR COMPONENT			
Item	Component	Mounting Location	Notes
A	CABINET	FREE-STANDING	
B	FILLER PANEL	CABINET	1.75" = 005-3994 3.50" = 005-3992 5.25" = 005-3995 7.00" = 005-3996 8.75" = 005-3998 10.50" = 005-3997

CABLE				
Item	Cable	Connecting	Max Allowed Lg	Notes
C	POWER CABLE	CABINET and ALL POWER	ft: 2.7 m: 0.8	

CABINET SPECIFICATIONS

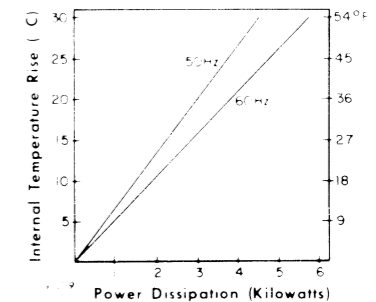
Item	Model	No Bays	SIZE			POWER AVAILABLE AT INTERNAL RECEPTACLES															
			Usable Vertical Space Per Bay			BAY A				BAY B				BAY C				ALL BAYS COMBINED			
			Area	In	Cm	Volts	Hz	Amps (Max)	Receptacles Nema	Volts	Hz	Amps (Max)	Receptacles Nema	Volts	Hz	Amps (Max)	Receptacles Nema	Volts	Hz	Amps (Max)	Receptacles Nema
A	1012K	1	30	52.5	133	120Vac	50/60	16	5-15R							120Vac	50/60	16	5-15R		
	1012K-2	1	30	52.5	133	240/220Vac	50	20	6-15P							220/240Vac	50	20	6-15R		
	1012L	2	30	52.5	133	120Vac	60	50	5-15R	120Vac	60	20	5-15R			120Vac	60	20	5-15R		
	1012L-2	2	30	52.5	133	240/220Vac	50	20	6-15P	240/220Vac	50	15	6-15P			240/220Vac	50	15	6-15R		
	1012M	3	30	52.5	133	120Vac	60	50	5-15R	120Vac	60	20	5-15R	120Vac	60	20	5-15R	120Vac	60	20	5-15R
	1012M-2	3	30	52.5	133	240Vac	50	20	6-15P	240Vac	50	15	6-15P	240Vac	50	15	6-15P	240Vac	50	15	6-15P
	1012N	1	11	19.25	49.2	120Vac	50/60	16	5-15R							120Vac	50/60	16	5-15R		
	1012N-2	1	11	19.25	49.2	220/240Vac	50	20	6-15P							220/240Vac	50	20	6-15R		
	1012P	1	30	52.5	133	120Vac	60	44	5-15R							120Vac	60	44	5-15R		

*VALUES FOR CURRENT ARE REDUCED 20% FROM CONNECTOR RATINGS TO CONFORM WITH UL STANDARDS.
 **FOR RECEPTACLE LAYOUT, SEE "INTERNAL CABLING" SECTION OF THESE DATA SHEETS.

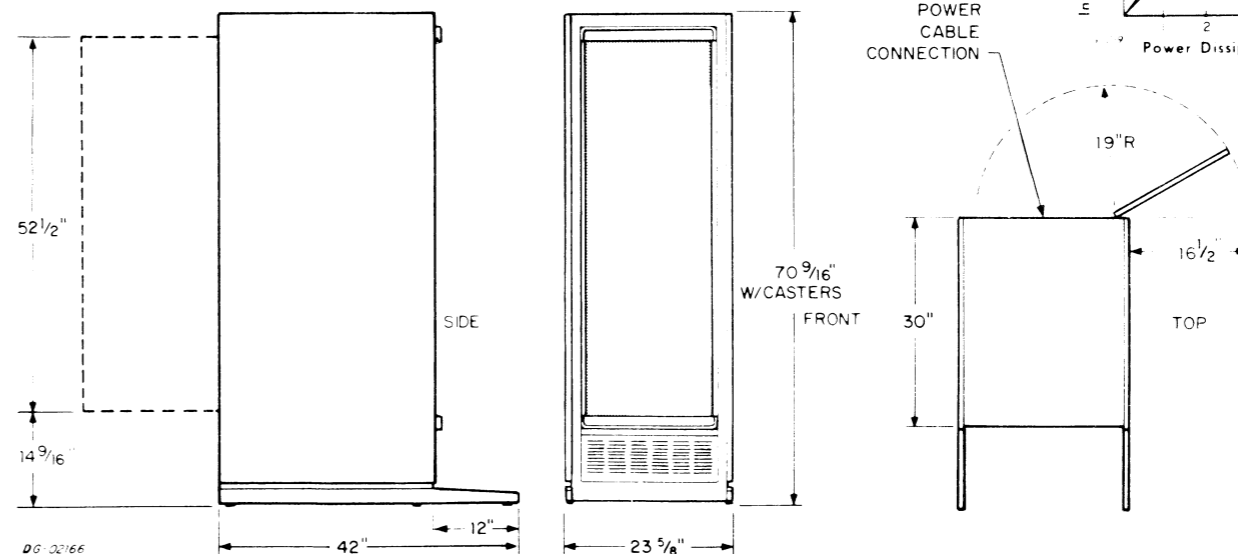
Item	Model	PRIMARY POWER REQUIRED FOR CABINET										WEIGHT				COOLING UNIT			
		POWER					CORD SUPPLIED		MATING RECEPTACLE REQ'D			EMPTY		GROSS, FULLY LOADED		POWER			
		Volts	Hz	Phase	Conductors	Amps	Cable Length ft/in	Cable Connector Nema	Power Drop Nema/Hubbel	Wall Receptacle Nema/Hubbel	Total lb/kg	Per Bay lb/kg	Total lb/kg	Per Bay lb/kg	No Units	Volt	Hz	Amp	Watts
A	1012K	120Vac	50/60	1	2 W/G	20	9/2.74	L5-20P	L5-20R/2313	L5-20R/2310	225/102	225/102	800/364	800/364	1	120	50/60	1.5	140
	1012K-2	240Vac	50	1	2 W/G	20	9/2.74	--	--	--	225/102	225/102	800/364	800/364	1	240	50	.75	140
	1012L	240Vac	60	1	3 W/G	40	9/2.74	14-50P	14-50R/	14-50R/9450	450/204	225/102	1600/728	800/364	2	120	60	1.5	140
	1012L-2	240Vac	50	1	2 W/G	35	9/2.74	--	--	--	450/240	225/102	1600/728	800/364	2	240	50	.75	140
	1012M	240Vac	60	1	3 W/G	40	9/2.74	14-50P	14-50R/	14-50R/9450	675/306	225/102	2400/1092	800/364	3	120	60	1.5	140
	1012M-2	240Vac	50	1	2 W/G	40	9/2.74	--	--	--	675/306	225/102	2400/1092	800/364	3	240	50	.75	140
	1012N	120Vac	50/60	1	2 W/G	16	9/2.74	L5-20P	L5-20R/2313	L5-20R/2310	152/69.1	152/69.1	800/364	800/364	1	120	60	1.5	140
	1012N-2	240Vac	50	1	2 W/G	20	9/2.74	--	--	--	152/69.1	152/69.1	800/364	800/364	1	240	50	.75	140
	1012P	240Vac	60	1	3 W/G	24	9/2.74	L14-30P	L14-30R/2715	L14-30R/2710	225/102	225/102	800/364	800/364	1	120	60	1.5	140

	SERVICE CLEARANCES	
	FRONT	REAR
MM	762	762
IN	30	30

TEMPERATURE vs POWER DISSIPATION
 1012K-1012P CABINETS
 (DIRTY FILTER ASSUMED)

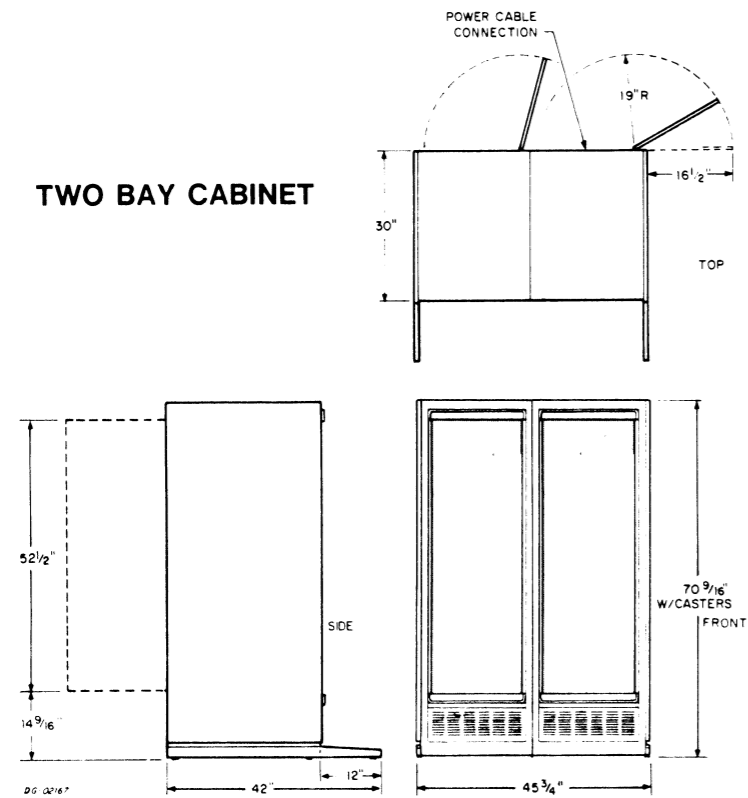


SINGLE BAY CABINET

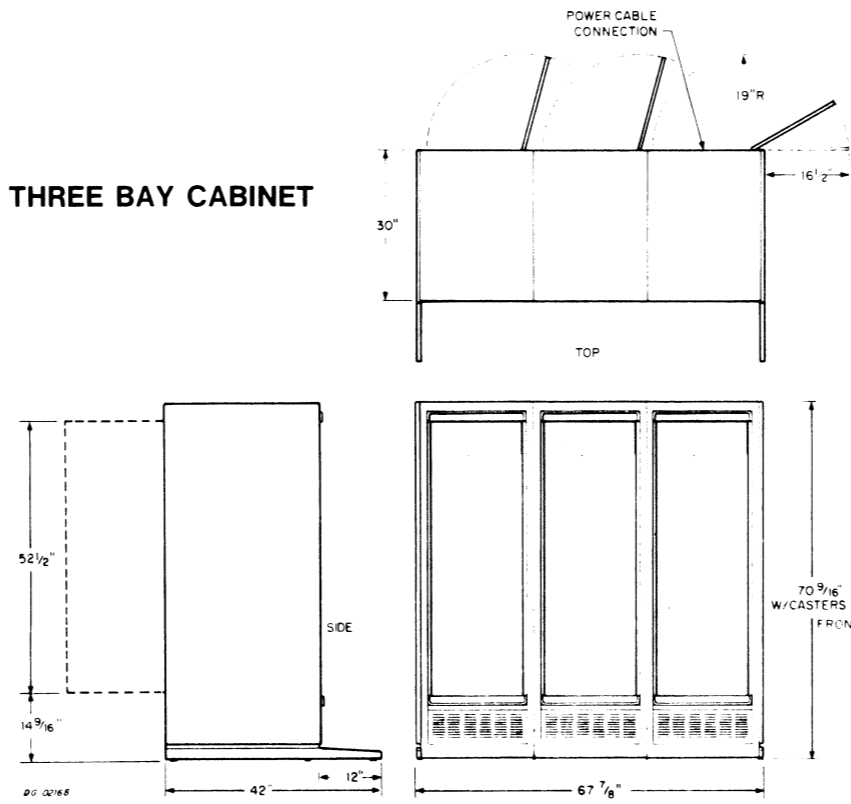


SPECIFICATIONS OF FREE-STANDING COMPONENT (Cont)

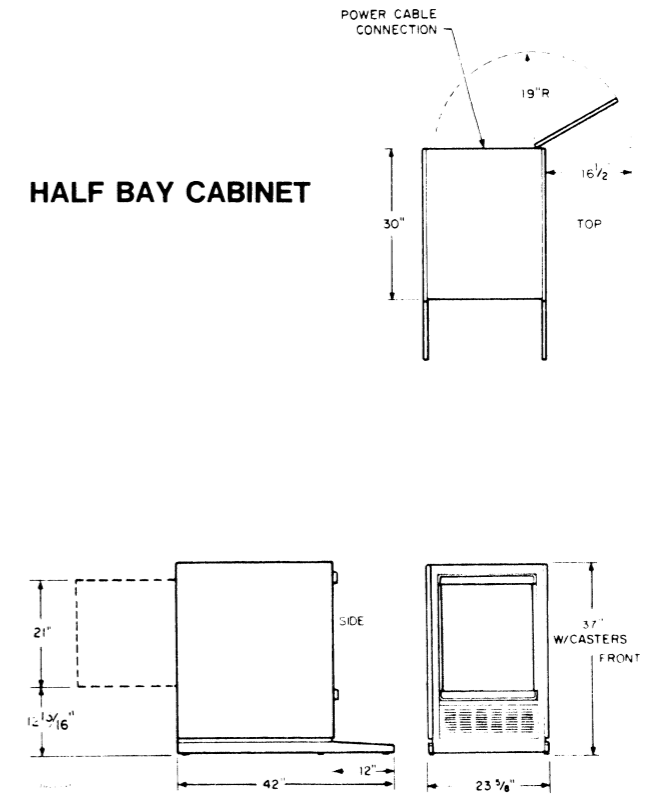
TWO BAY CABINET



THREE BAY CABINET

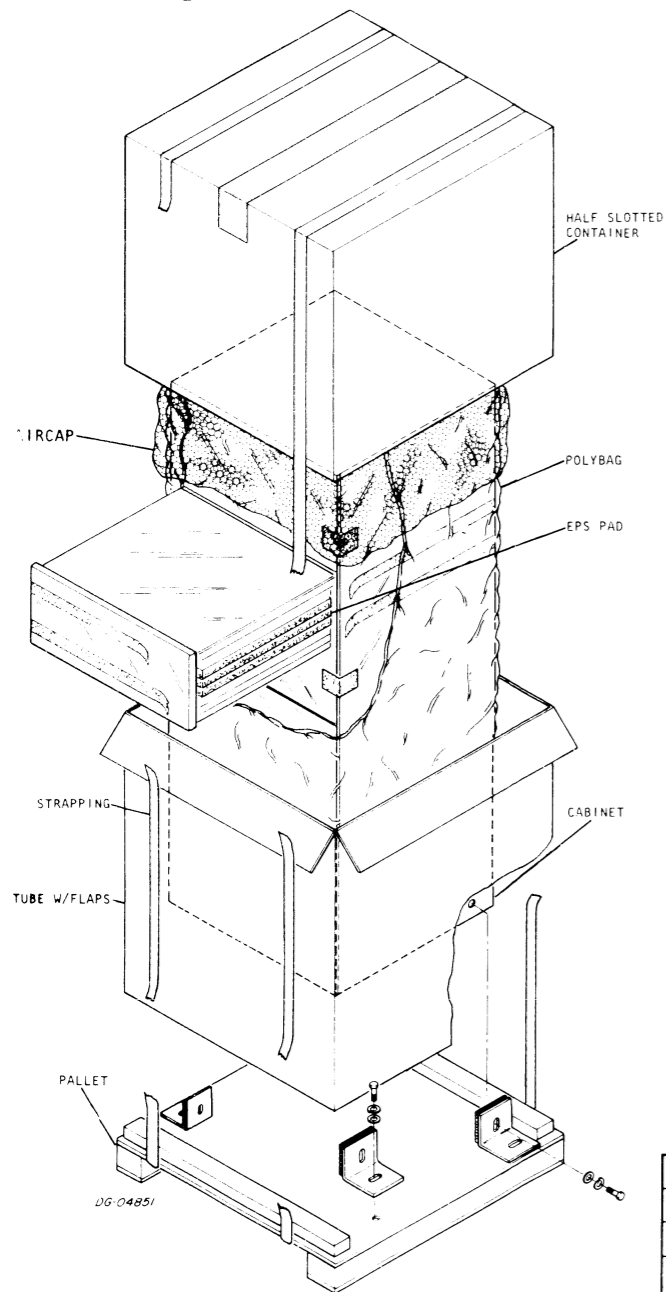


HALF BAY CABINET

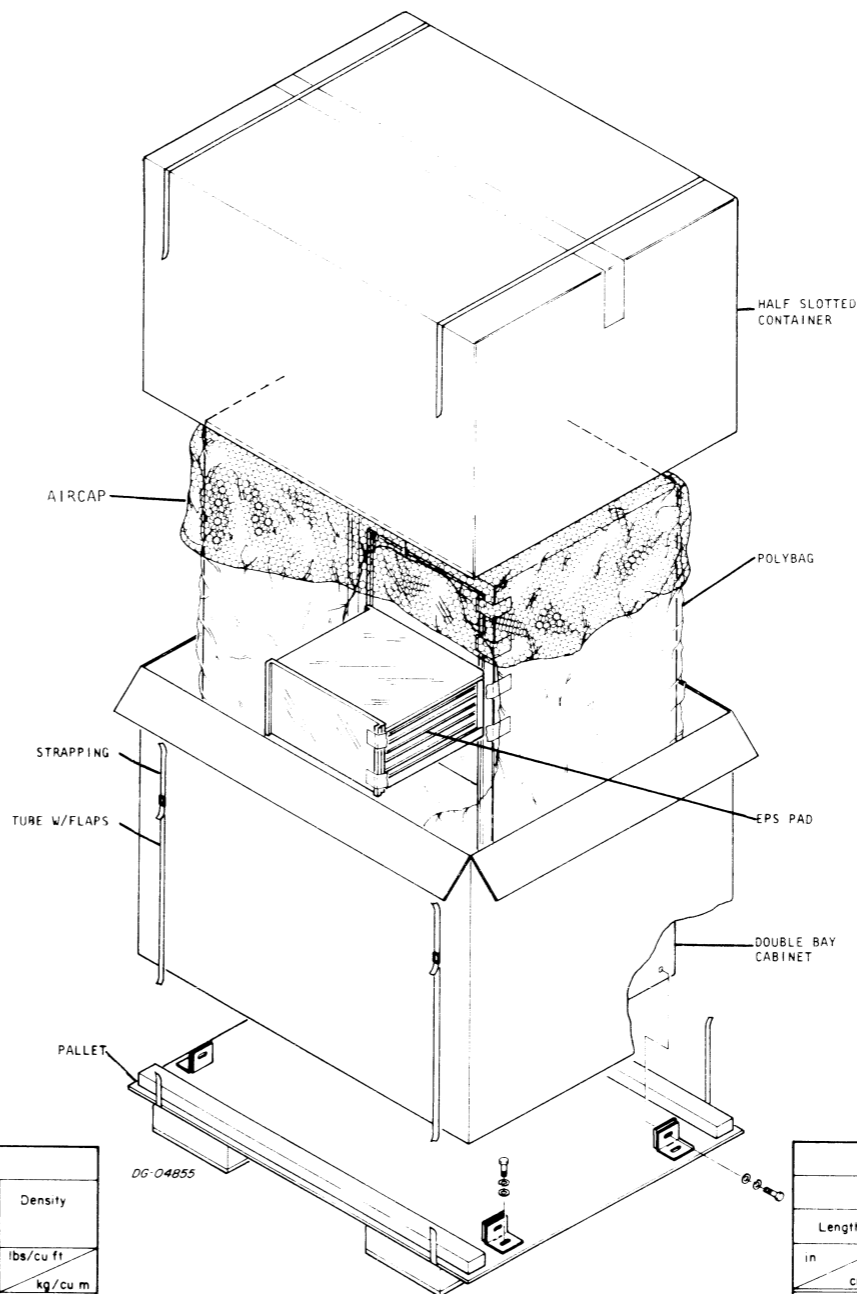


SHIPPING (Cont)

SINGLE BAY CABINET



TWO BAY CABINET

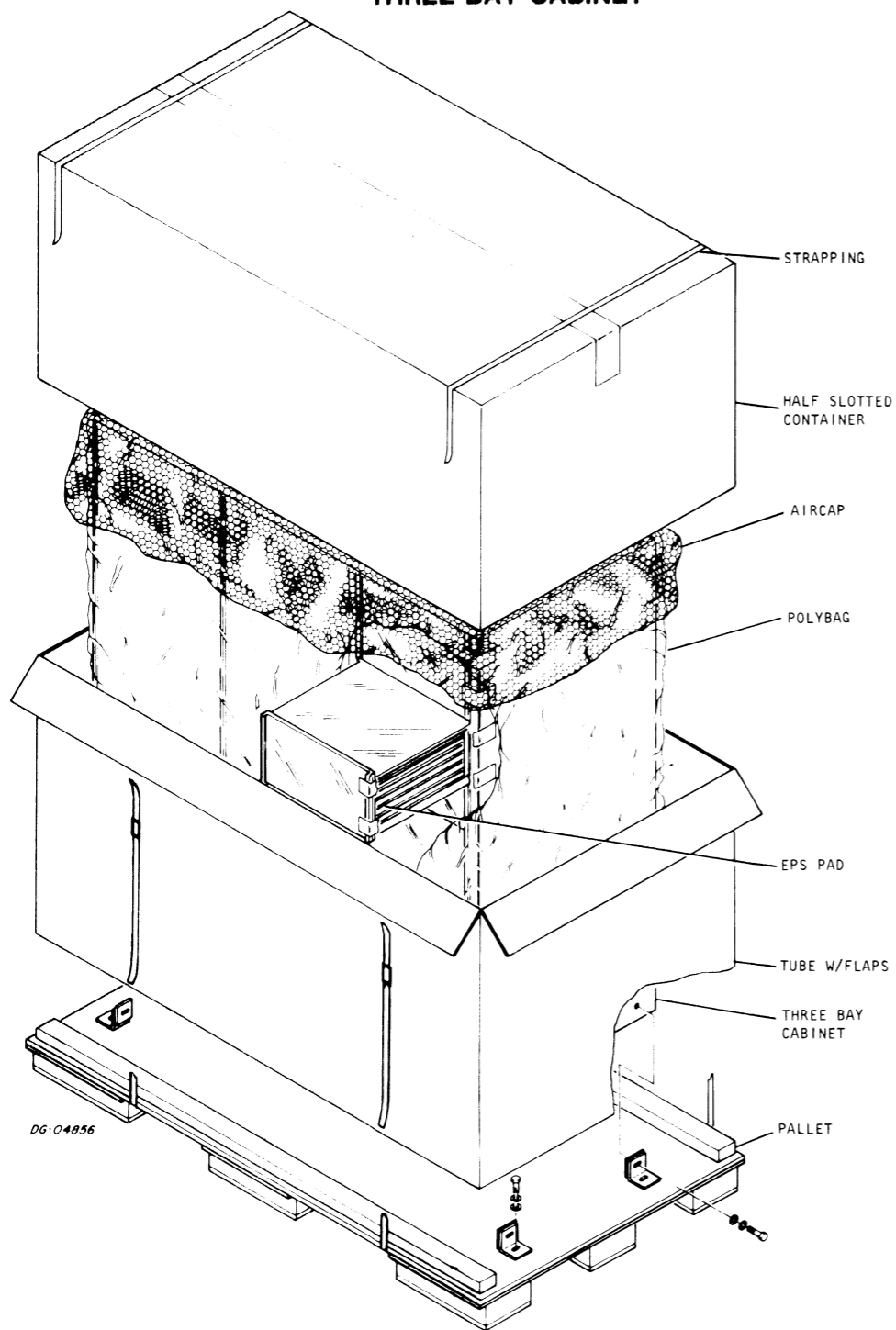


SHIPPING AND PACKAGE DATA					
Outside Dimensions			Weight (Gross)	Volume	Density
Length	Width	Depth			
in	in	in	lbs	cu ft	lbs/cu ft
cm	cm	cm	kg	cu m	kg/cu m
36	44.5	75.5	600	70	8.5
91	113	191	270	2.1	128.5
SHIPPING SPECIFICATIONS			STORAGE SPECIFICATIONS		
Temperature Range	Relative Humidity (Non-condensing)	Maximum Altitude	Temperature Range	Relative Humidity (Non-condensing)	Maximum Period
°F	°C		°F	°C	
-40 to +160	0% / 80%	50,000ft. / 15,200m	-40 to +160	0% / 30%	90 days
-40 to +71			-40 to +71		

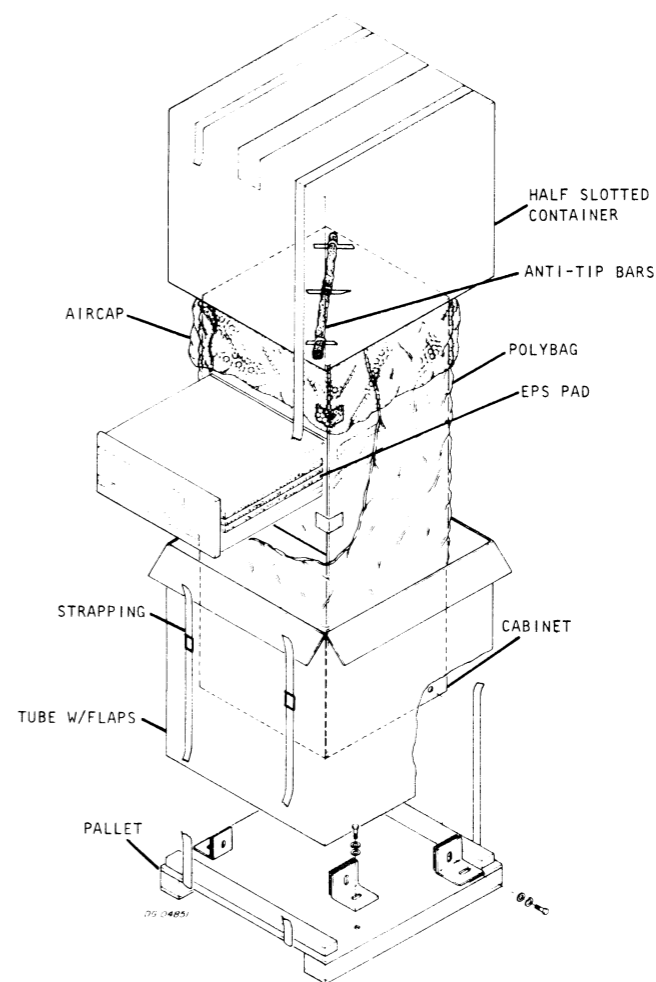
SHIPPING AND PACKAGE DATA					
Outside Dimensions			Weight (Gross)	Volume	Density
Length	Width	Depth			
in	in	in	lbs	cu ft	lbs/cu ft
cm	cm	cm	kg	cu m	kg/cu m
56	44.5	75.5	1000	107	9.34
142	113	191	450	3.21	140
SHIPPING SPECIFICATIONS			STORAGE SPECIFICATIONS		
Temperature Range	Relative Humidity (Non-condensing)	Maximum Altitude	Temperature Range	Relative Humidity (Non-condensing)	Maximum Period
°F	°C		°F	°C	
-40 to +160	0% / 80%	50,000ft. / 15,200m	-40 to +160	0% / 30%	90 days
-40 to +71			-40 to +71		

SHIPPING (Cont)

THREE BAY CABINET



HALF BAY CABINET



SHIPPING AND PACKAGE DATA						
Outside Dimensions			Weight (Gross)		Volume	Density
Length		Width		Depth		
in	cm	in	cm	in	cm	
78	198	44.5	113	75.5	191	13.25
				2000	900	4.53
				151	4.53	198

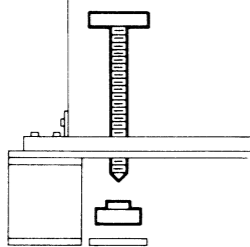
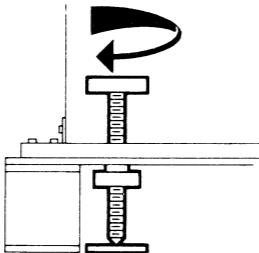
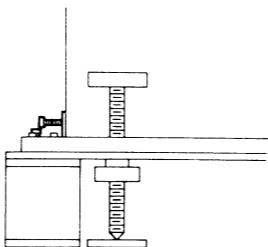
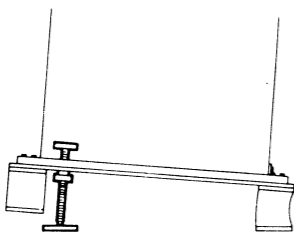
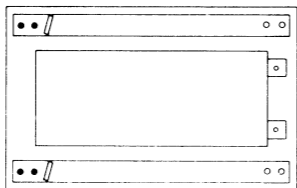
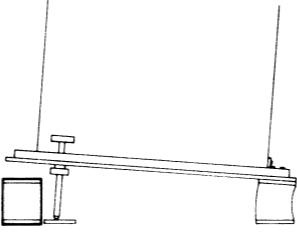
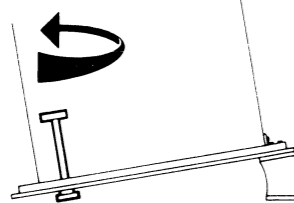
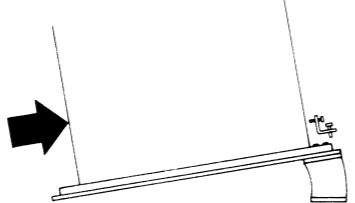
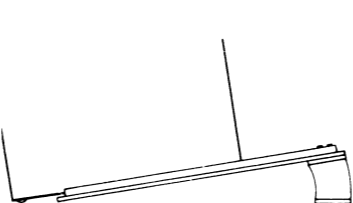
SHIPPING SPECIFICATIONS			STORAGE SPECIFICATIONS		
Temperature Range	Relative Humidity	Maximum Altitude	Temperature Range	Relative Humidity	Maximum Period
°F	(Non-condensing)		°F	(Non-condensing)	
-40 to +160	0%/80%	50,000ft 15,200m	-40 to +160	0%/80%	90 days
-40 to +71			-40 to +71		

SHIPPING AND PACKAGE DATA					
Outside Dimensions			Weight (Gross)	Volume	Density
Length		Width	Depth		
in	cm	in	in	cm	
36.875	93.66	31.25	44.625	113.34	13.50
			400	180	202.6
			29.61	0.8883	

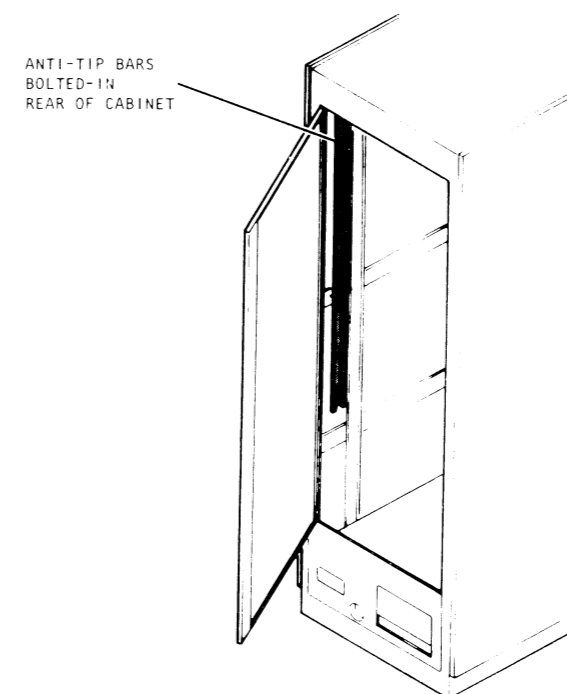
SHIPPING SPECIFICATIONS			STORAGE SPECIFICATIONS		
Temperature Range	Relative Humidity	Maximum Altitude	Temperature Range	Relative Humidity	Maximum Period
°F	(Non-condensing)		°F	(Non-condensing)	
-40 to +160	0%/80%	50,000ft 15,200m	-40 to +160	0%/80%	90 days
-40 to +71			-40 to +71		

SHIPPING (Cont)

UNLOADING INSTRUCTIONS - A 2-MAN OPERATION

 <p>1 INSERT 2 JACK SCREWS THROUGH HOLES IN 2 X 4'S ON PALLET. SCREW INTO T-NUTS (BOTH SIDES).</p>	 <p>2 TURN JACK SCREWS INTO PADS ON FLOOR. HOLES IN PADS LINE UP WITH NIPPLES ON JACK SCREWS.</p>	 <p>3 REMOVE 2 SHIPPING BRACKETS FROM END OF MACHINE BEING JACKED.</p>
 <p>4 SIMULTANEOUSLY TURN 2 JACK SCREWS TO RAISE CUSHION MODULE FROM FLOOR.</p>	 <p>5 REMOVE 4 BOLTS FROM CUSHION MODULE.</p>	 <p>6 REMOVE CUSHION MODULE.</p>
 <p>7 SIMULTANEOUSLY TURN 2 JACK SCREWS TO LOWER END OF PALLET TO FLOOR.</p>	 <p>8 HOLD MACHINE IN PLACE AND REMOVE THE 2 REMAINING SHIPPING BRACKETS.</p>	 <p>9 EASE MACHINE OFF PALLET.</p>

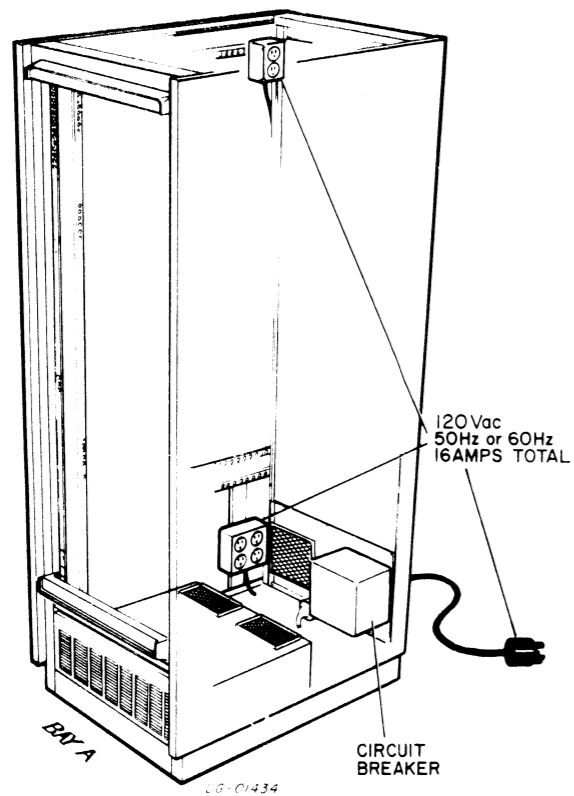
ANTI-TIP BARS



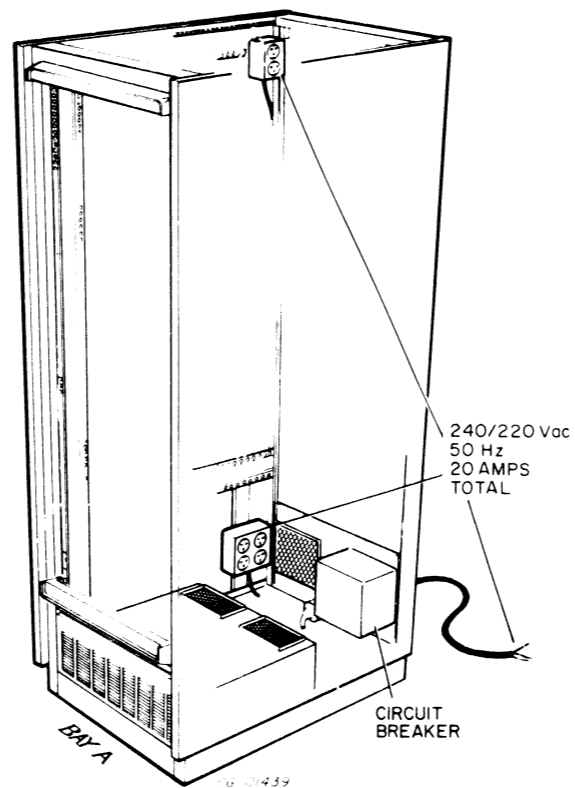
SHIPPING AND PACKAGE DATA					
Outside Dimensions			Weight (Gross)	Volume	Density
Length	Width	Depth			
in.	in.	in.	lbs.	cu ft.	lbs/cu ft.
cm	cm	cm	kg	cu m	kg/cu m
32.25	5.25	50.75	50	4.77	10.48
82	13	129	22.5	0.1431	157

INTERNAL CABLING

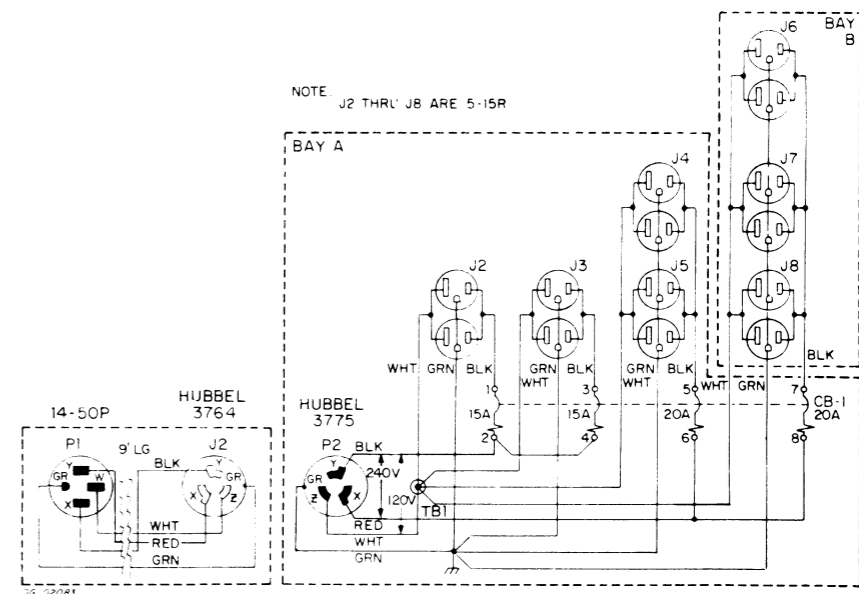
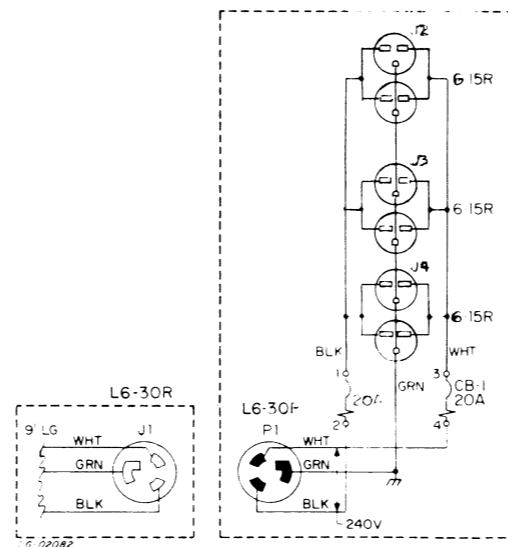
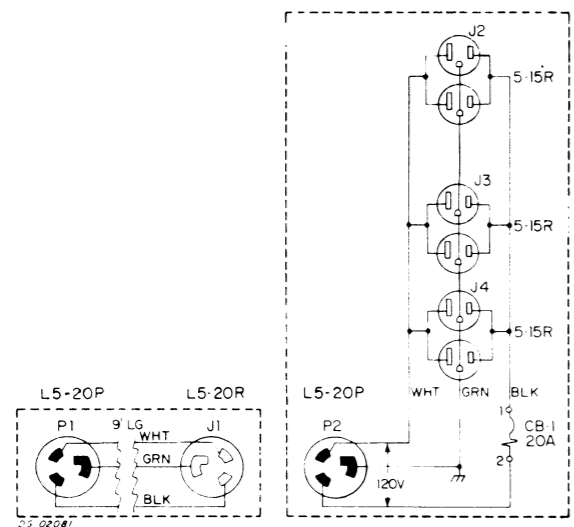
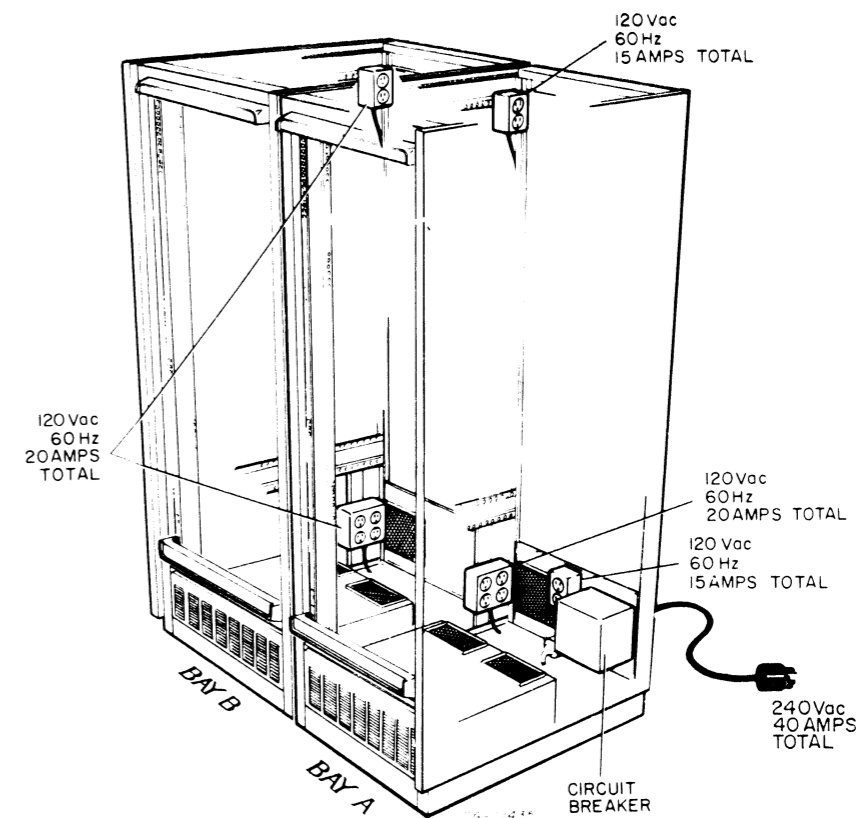
1012K



1012K-2

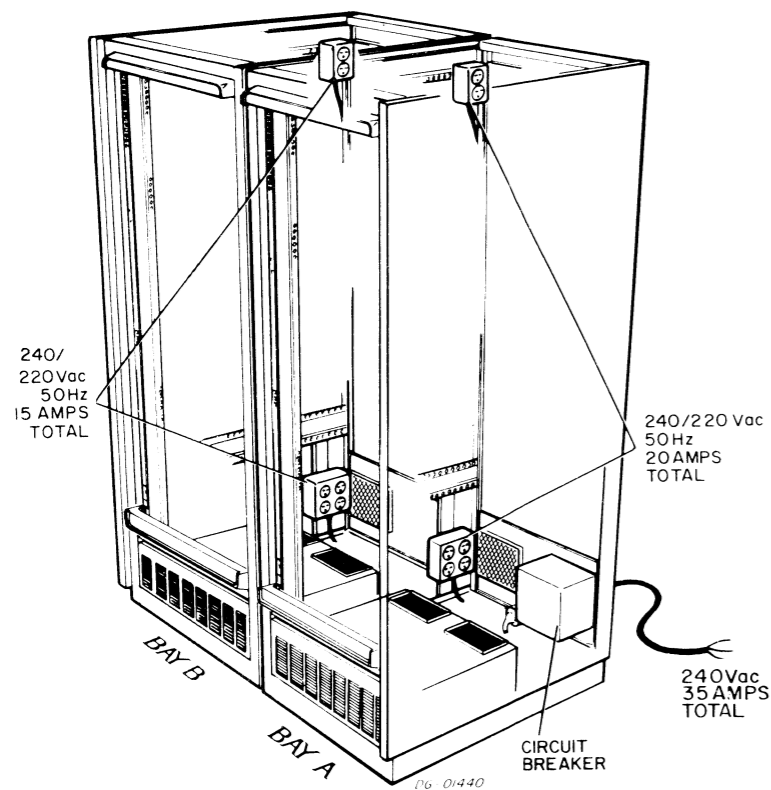


1012L

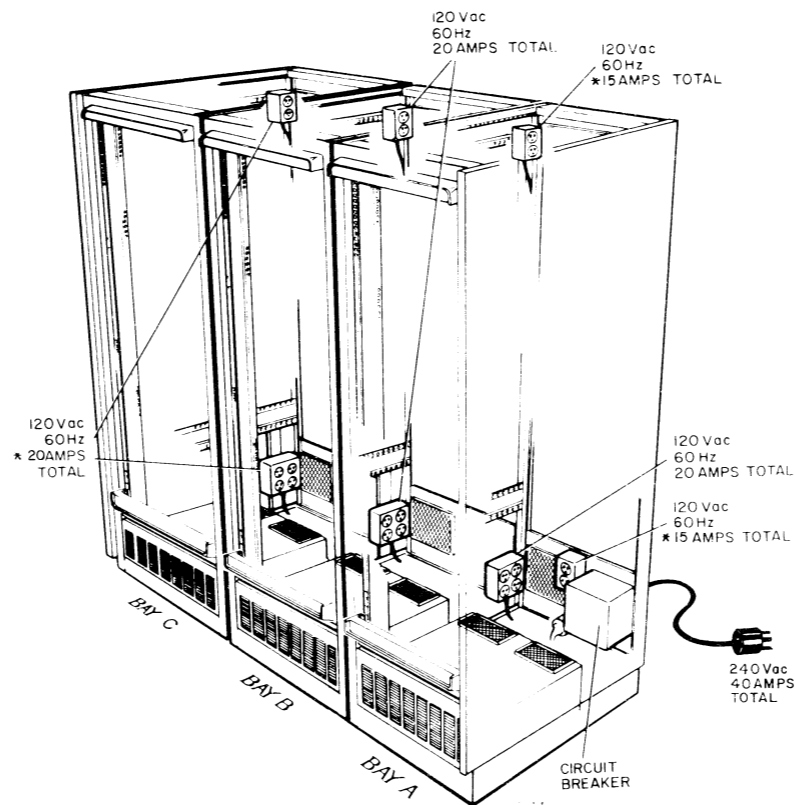


INTERNAL CABLING (Cont)

1012L-2

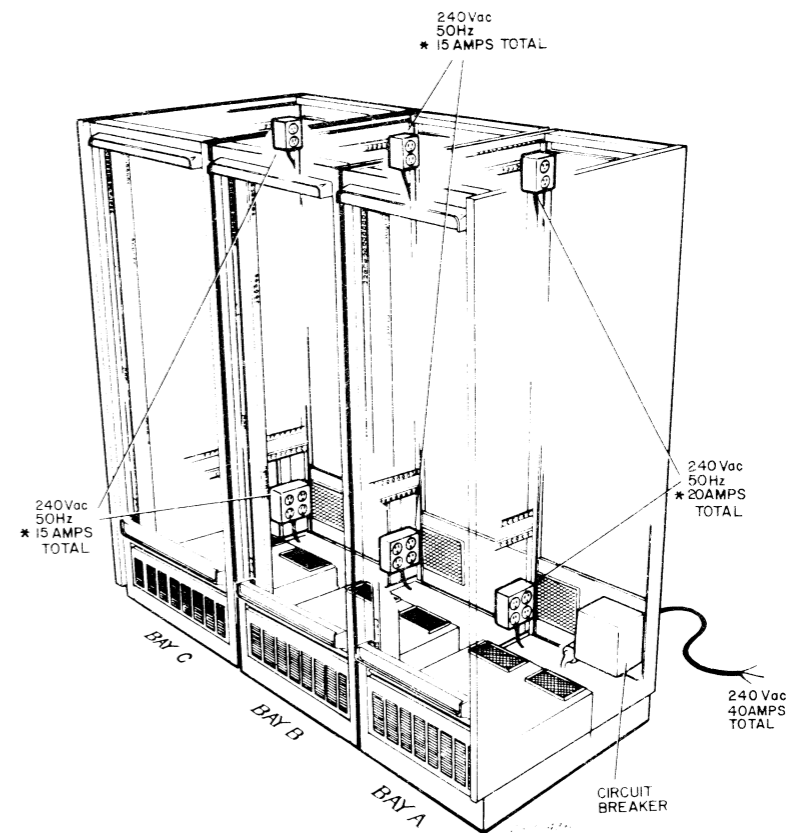


1012M

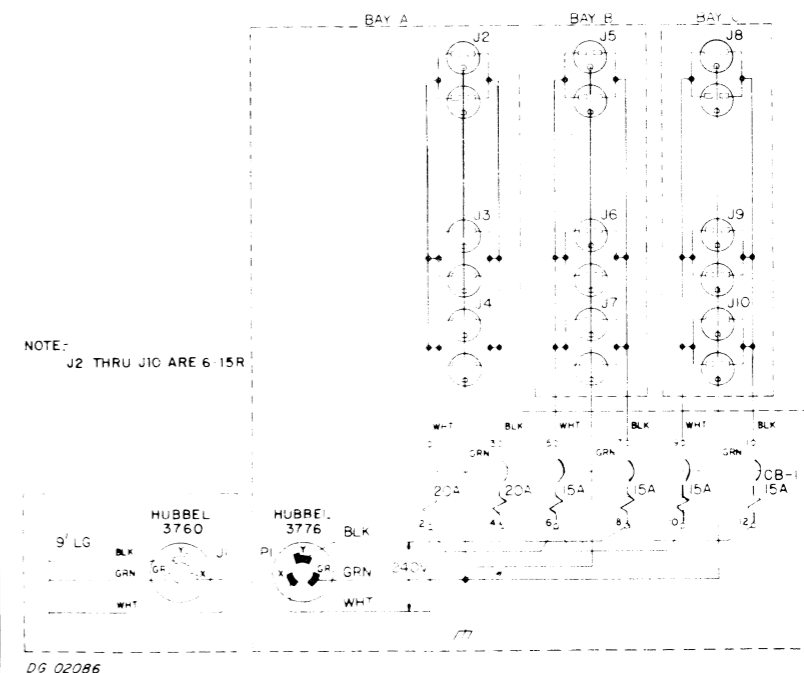
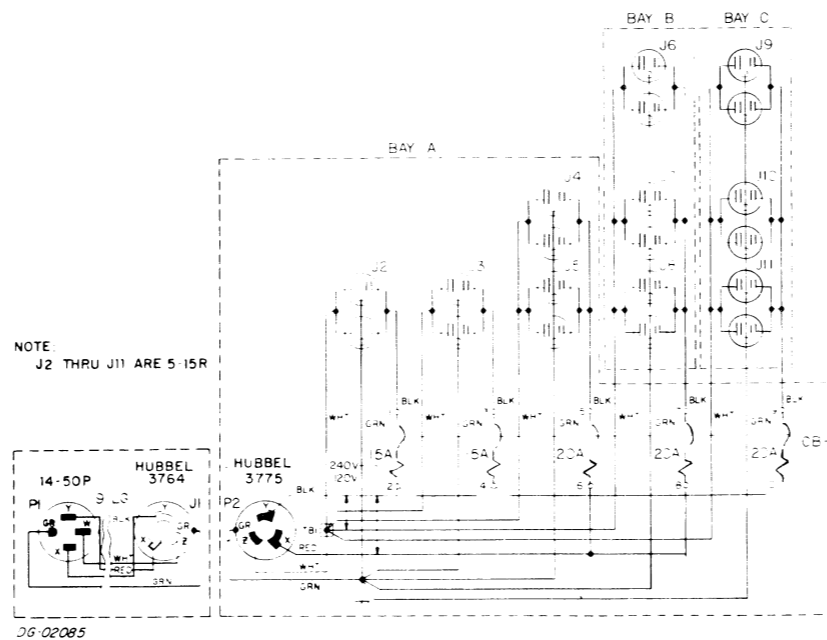
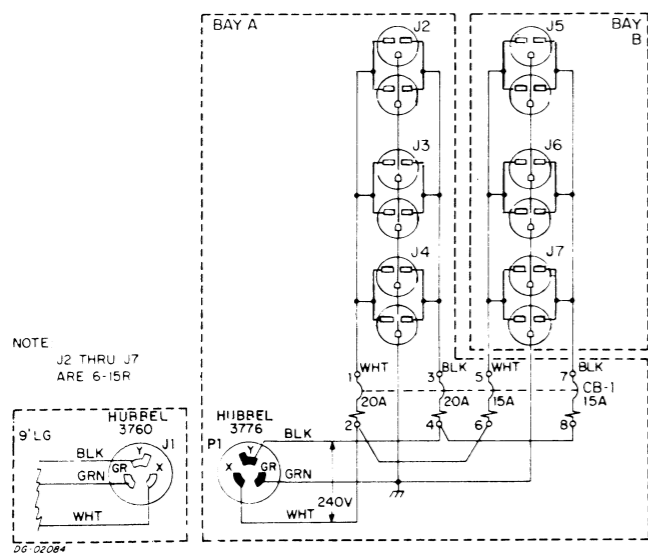


* NOTE: COMBINED TOTAL OF THESE OUTLETS NOT TO EXCEED 40 AMPS.

1012M-2

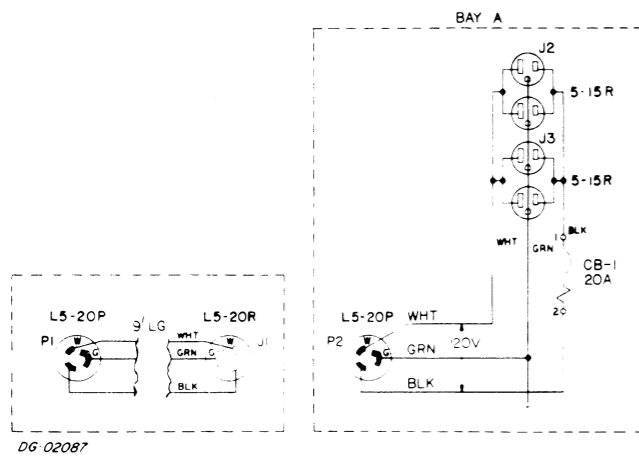
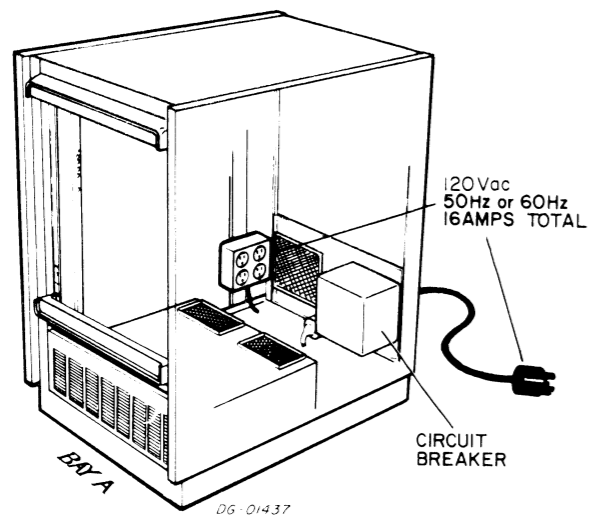


* NOTE: COMBINED TOTAL OF THESE OUTLET NOT TO EXCEED 40 AMPS.

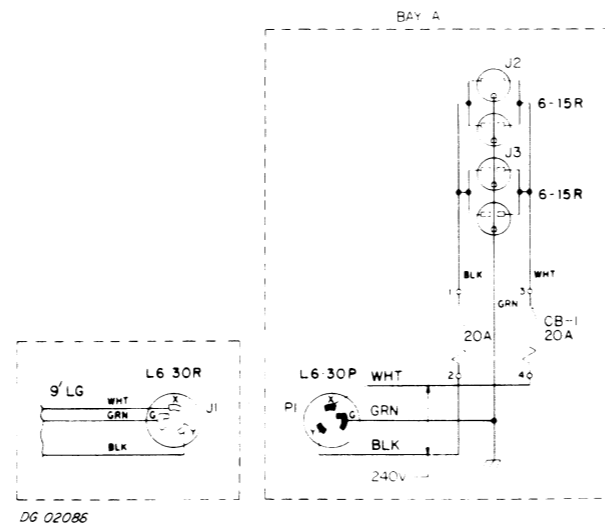
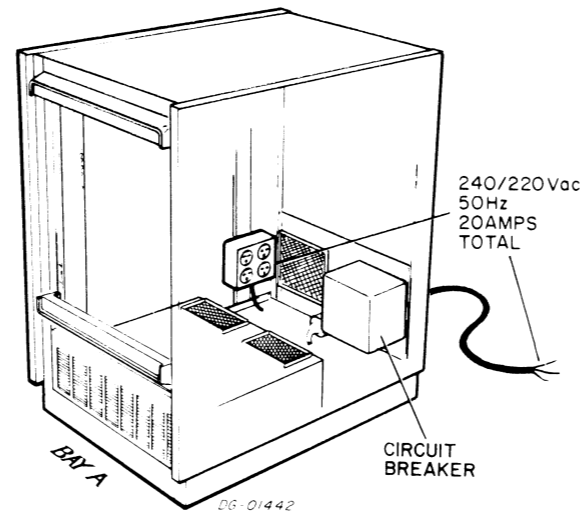


INTERNAL CABLING (Cont)

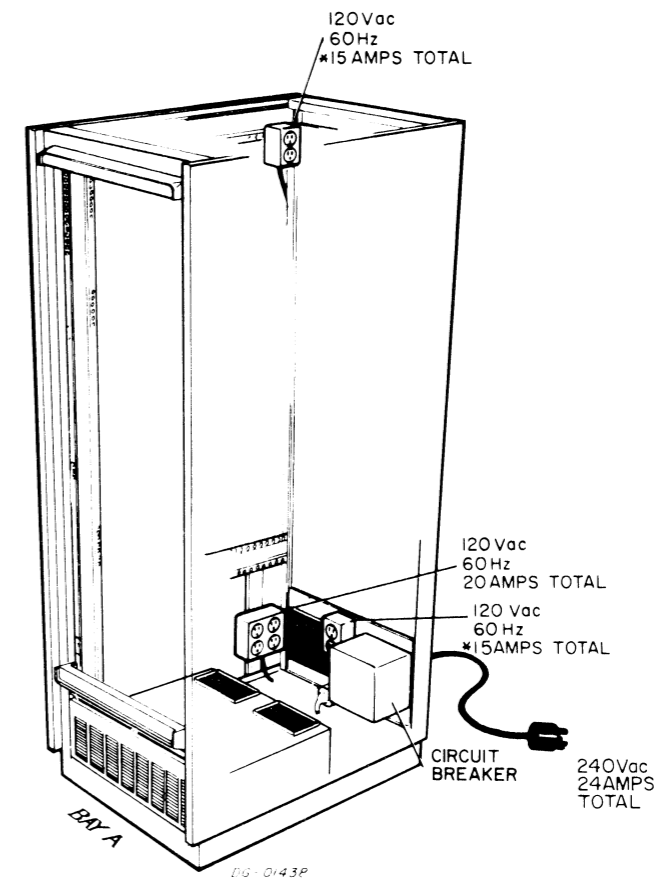
1012N



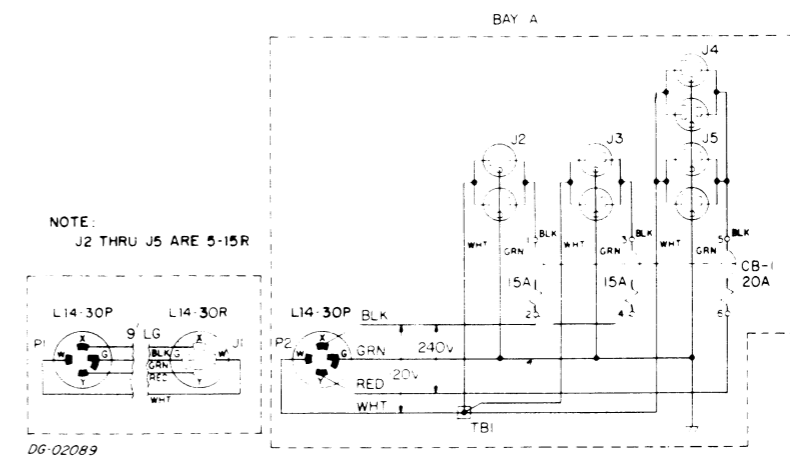
1012N-2



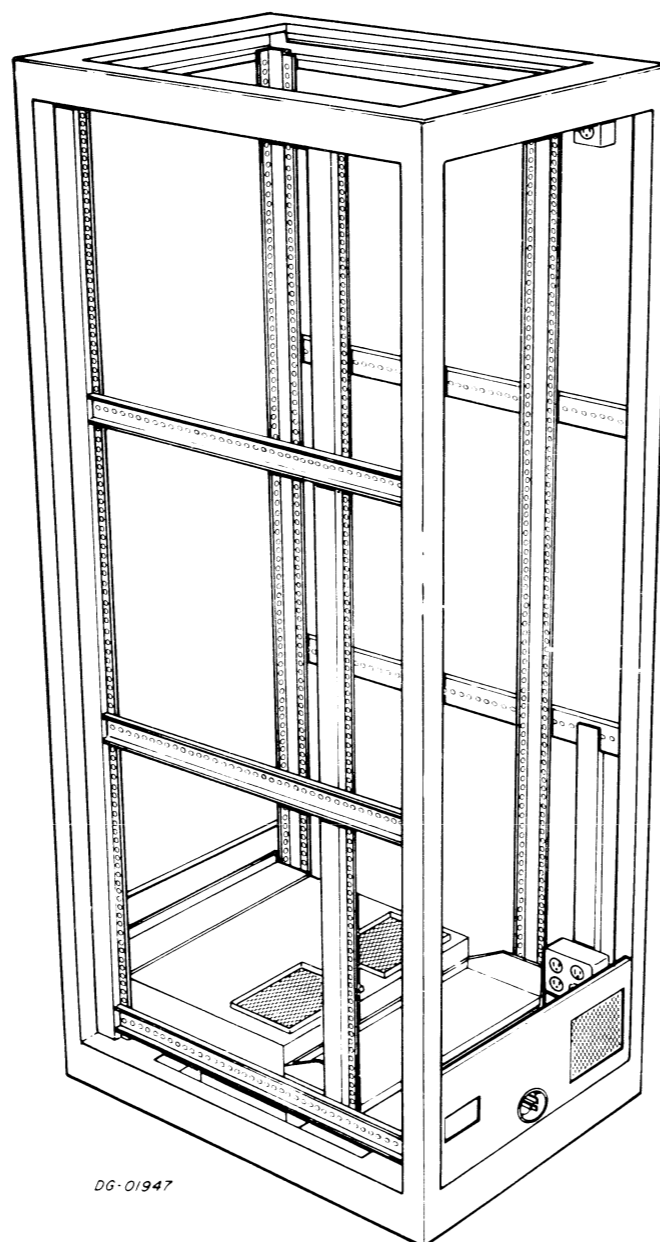
1012P



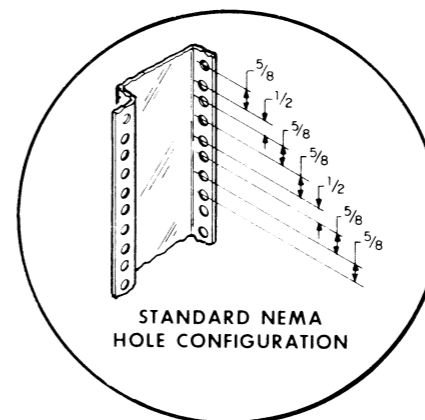
* NOTE: COMBINED TOTAL OF THESE OUTLETS NOT TO EXCEED 24AMPS.



CABINET MOUNTING



DG-01947



SUBSYSTEM COMPONENT BREAKDOWN



DG 02402

A

MAJOR COMPONENT			
Item	Component	Mounting Location	Notes
A	CABINET	FREE-STANDING	

CABINET SPECIFICATIONS

Item	Cabinet	No Bays	NEEDS				CAPACITIES						
			Current Draw (each Cooling Unit) Amps @ Line Voltage		Total Weight of Empty Cabinet		Power Dissipation (each Cooling Unit) in Watts	Maximum User Power	Vertical Area Available per Cabinet			Maximum Weight each Fully Loaded Cabinet/Bay	
					Lbs	Kg			Areas	Inches	Cm	Lbs	Kg
A	1079A		45	240V, 60Hz	540	245	1050W	1.75 kVA	35	61 1/4	155.5	1590	725
	1079A-2		45	220V, 50Hz	540	245	1050W	1.46 kVA	35	61 1/4	155.5	1590	725
	1079B		25	240V, 60Hz	447	202	500W	1.55 kVA	35	61 1/4	155.5	1497	680
	1079B-2		25	220V, 50Hz	447	202	500W	1.30 kVA	35	61 1/4	155.5	1497	680

DG-02090

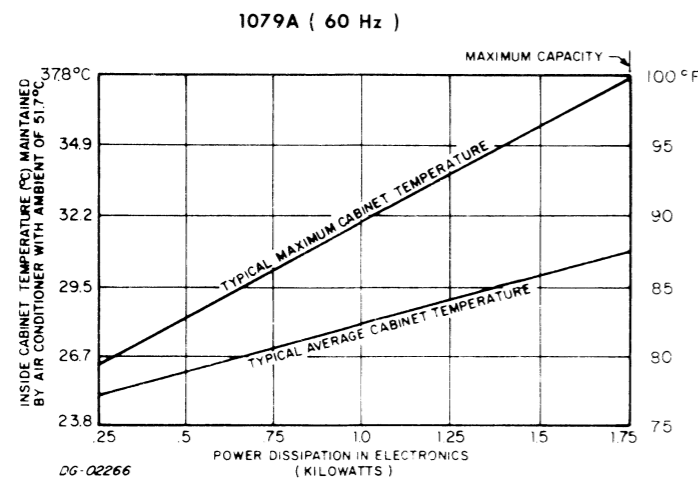
SPECIFICATION OF FREE-STANDING COMPONENTS

SPECIFICATION OF FREE-STANDING COMPONENTS					
Item	Cabinet	Input Power	Input Power Connection	Cooling Unit	Maximum Ambient Temp
A	1079A	240/120V, Single Phase, 4-wire, 60Hz	Terminal Connection at Circuit Breaker	Air Conditioner	125°F * (51.7°C)
	1079A-2	240V, Single Phase, 3-wire, 50Hz	Terminal Connection at Circuit Breaker	Air Conditioner	125°F * (51.7°C)
	1079B	240/120V, Single Phase, 4-wire, 60Hz	Terminal Connection at Circuit Breaker	Heat Exchanger	100°F (37.8°C)
	1079B-2	240V, Single Phase, 3-wire, 50Hz	Terminal Connection at Circuit Breaker	Heat Exchanger	100°F (37.8°C)

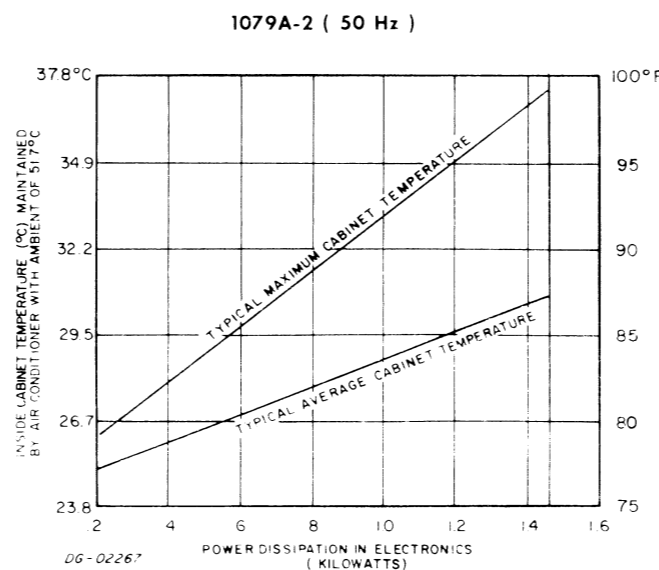
DG-02394

* Decrease maximum operating ambient temperature linearly with altitude at the rate of 2°F per 1000 ft (1.1°C per 304.8m)

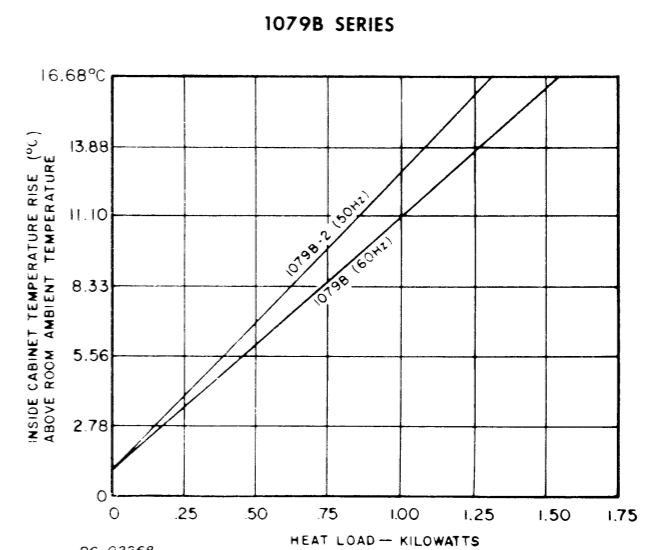
COOLING PERFORMANCE - INTERNAL TEMPERATURE RISE vs. INTERNAL EQUIPMENT POWER DISSIPATION



DG-02266



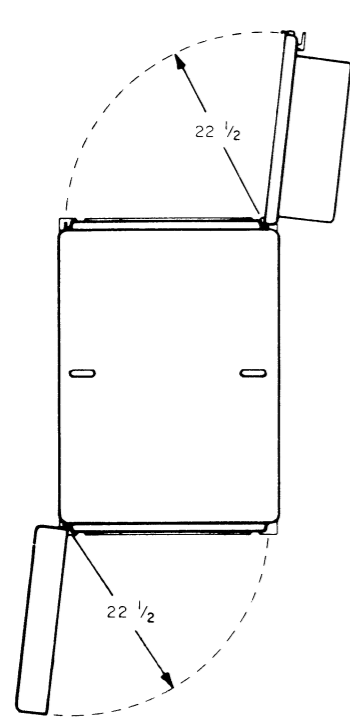
DG-02267



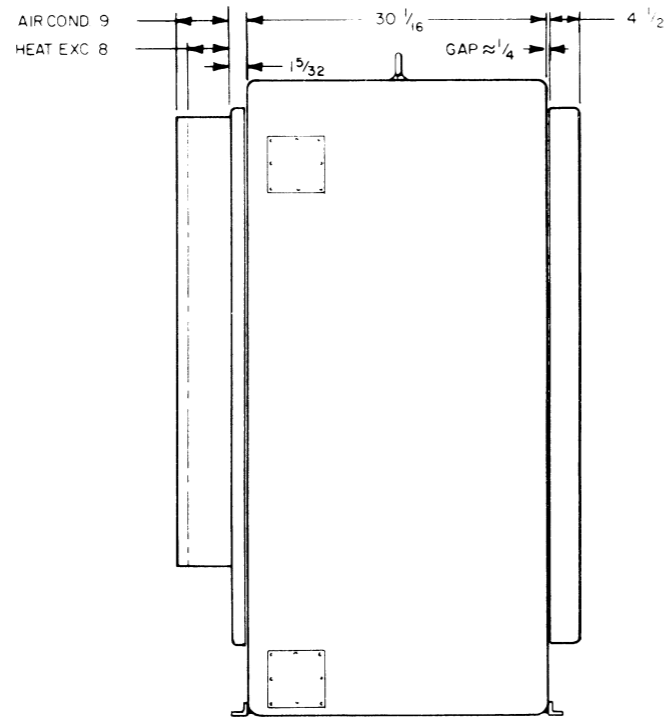
DG-02268

SPECIFICATION OF FREE-STANDING COMPONENTS (CONT'D)

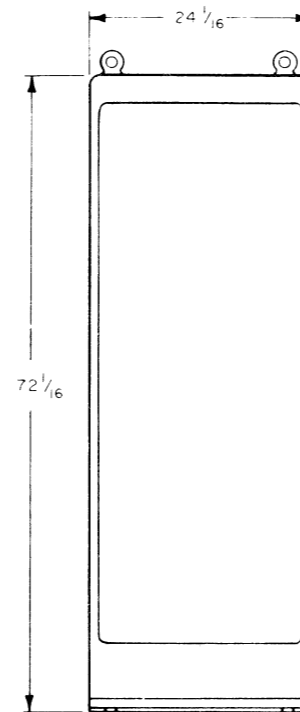
PACKING KIT



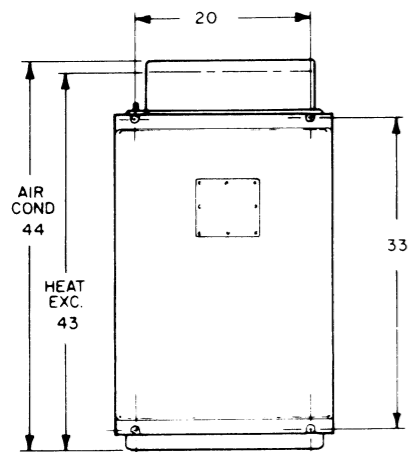
TOP



SIDE

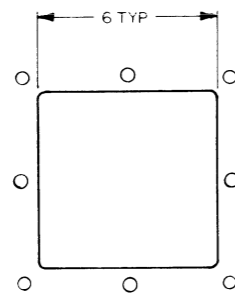


FRONT



DG-02396

BASE

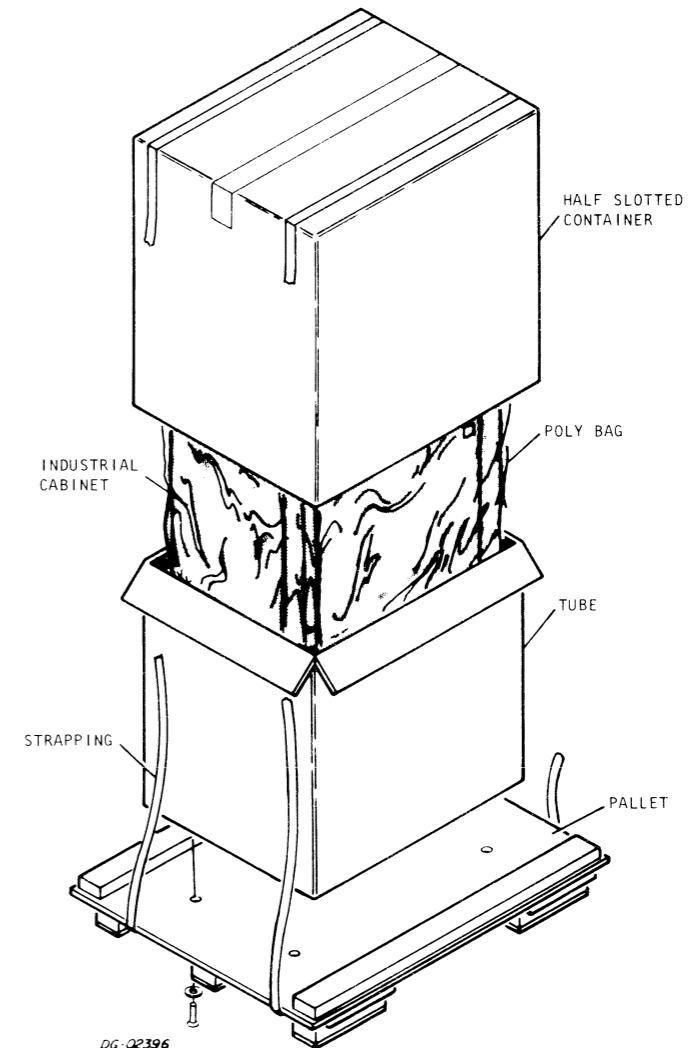


WIREWAY OPENING
(TYPICAL)

VERTICAL RAILS: FACE OF FRONT RAIL TO FACE OF REAR RAILS 26 3/16 INCHES.
STANDARD NEMA MOUNTING HOLE CONFIGURATION.

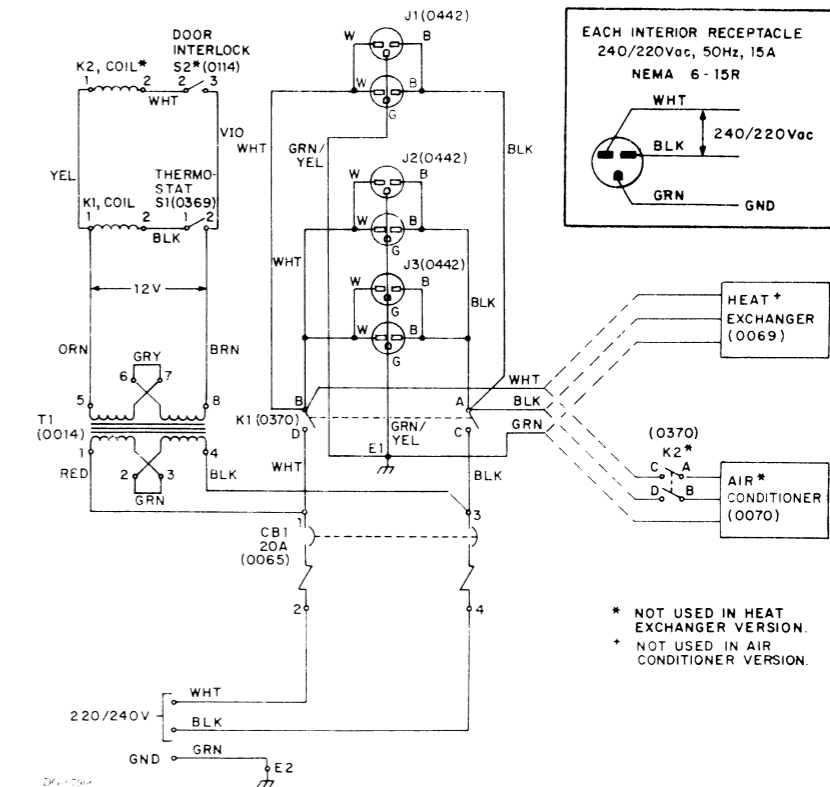
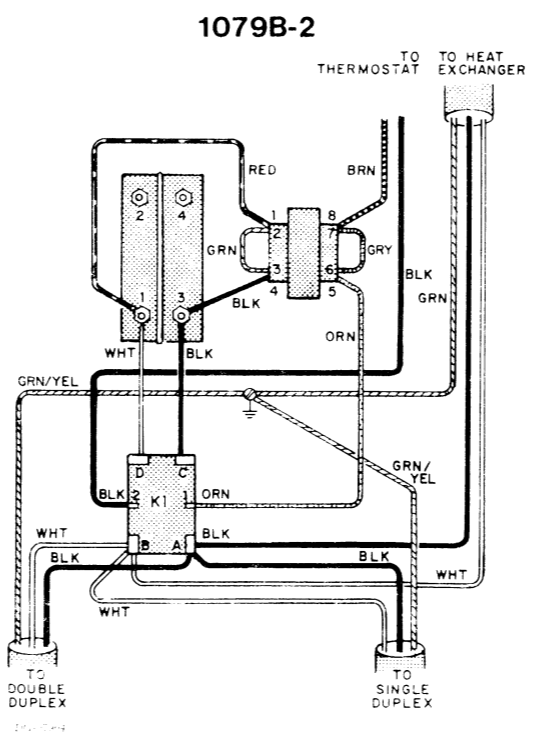
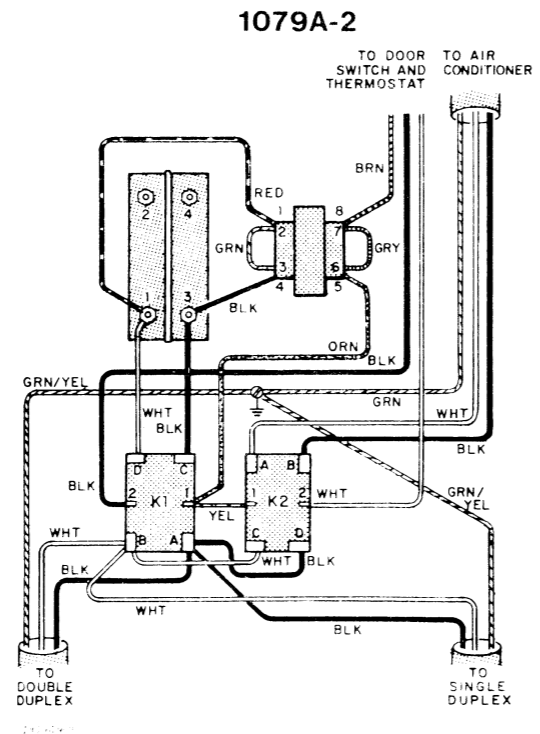
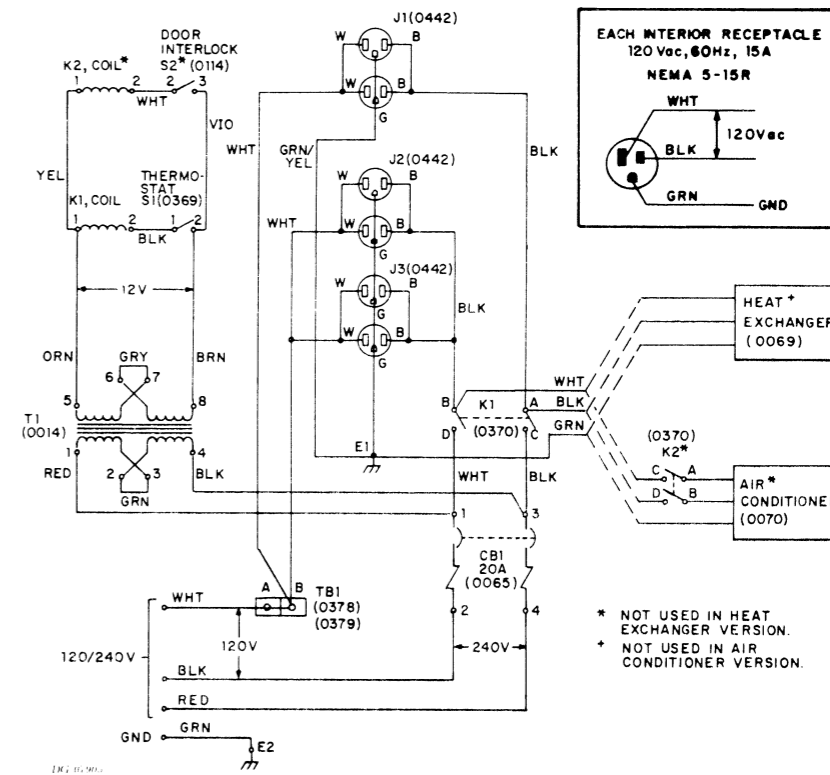
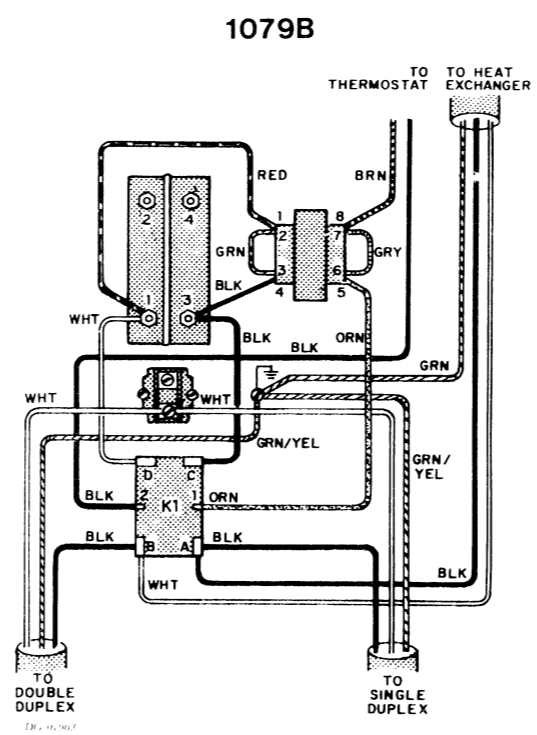
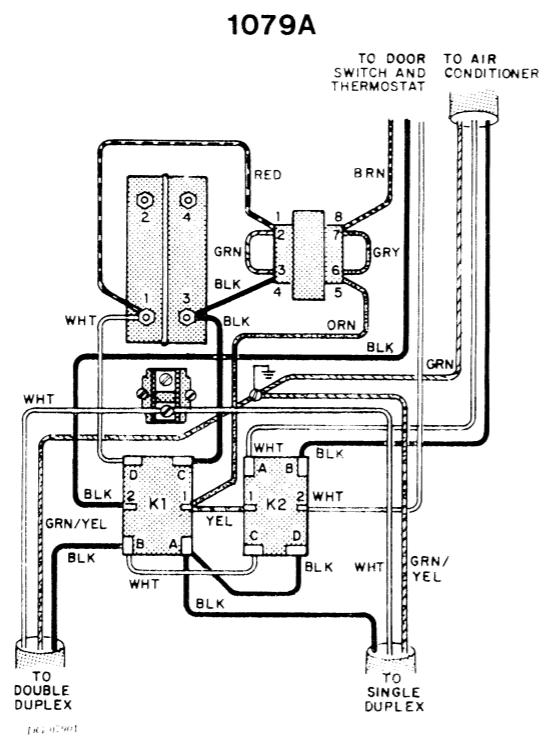
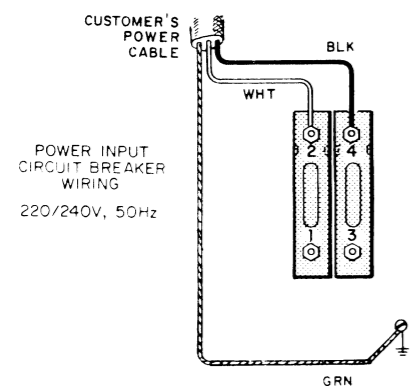
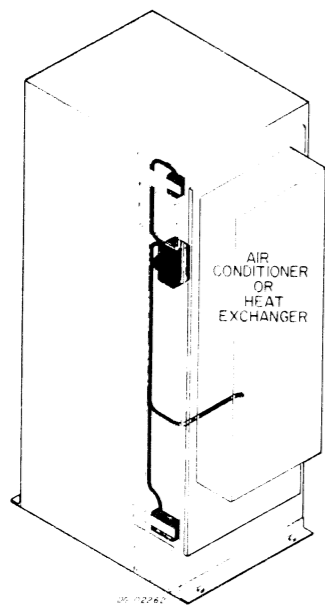
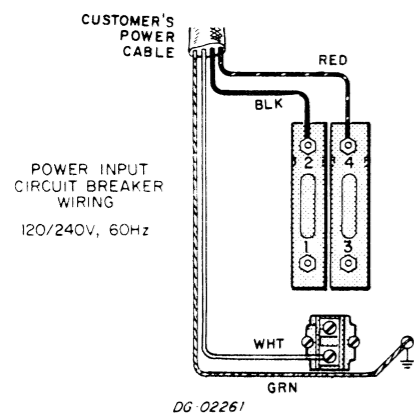
CAUTION: INPUT POWER CABLES MUST NOT PASS THROUGH ANY OPENING CONTAINING SIGNAL CABLES.

INSTALLATION NOTE: AFTER CABLES ARE RUN THROUGH WIREWAY OPENING, PACK REMAINING OPEN AREA WITH MATERIAL SUCH AS FOAM RUBBER, STYROFOAM, ETC.

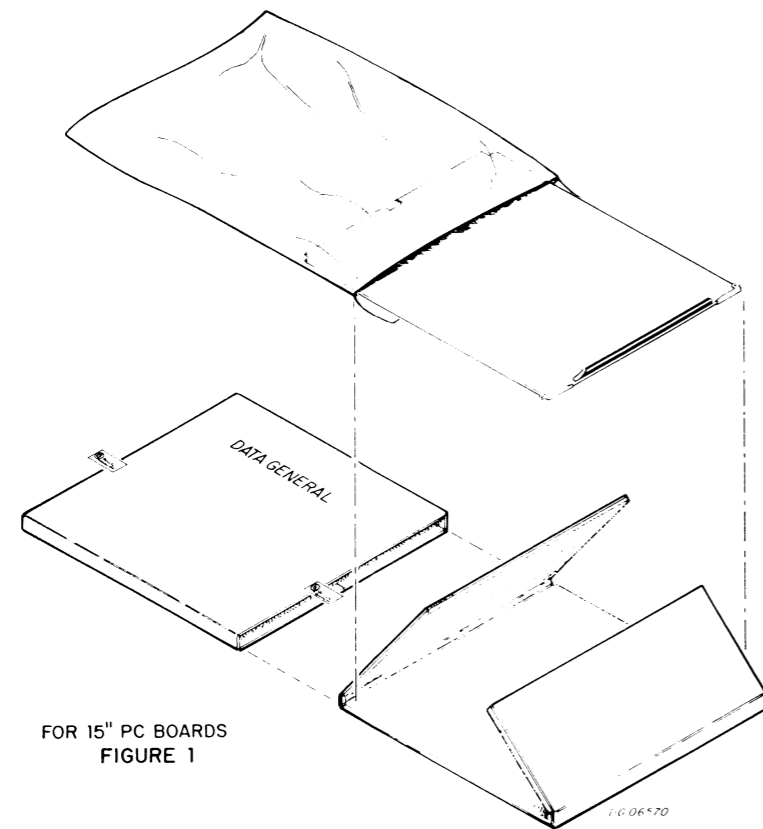


DG-02396

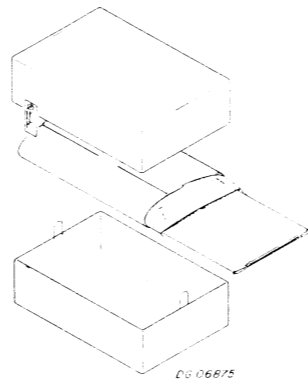
INTERNAL AND EXTERNAL CABLING



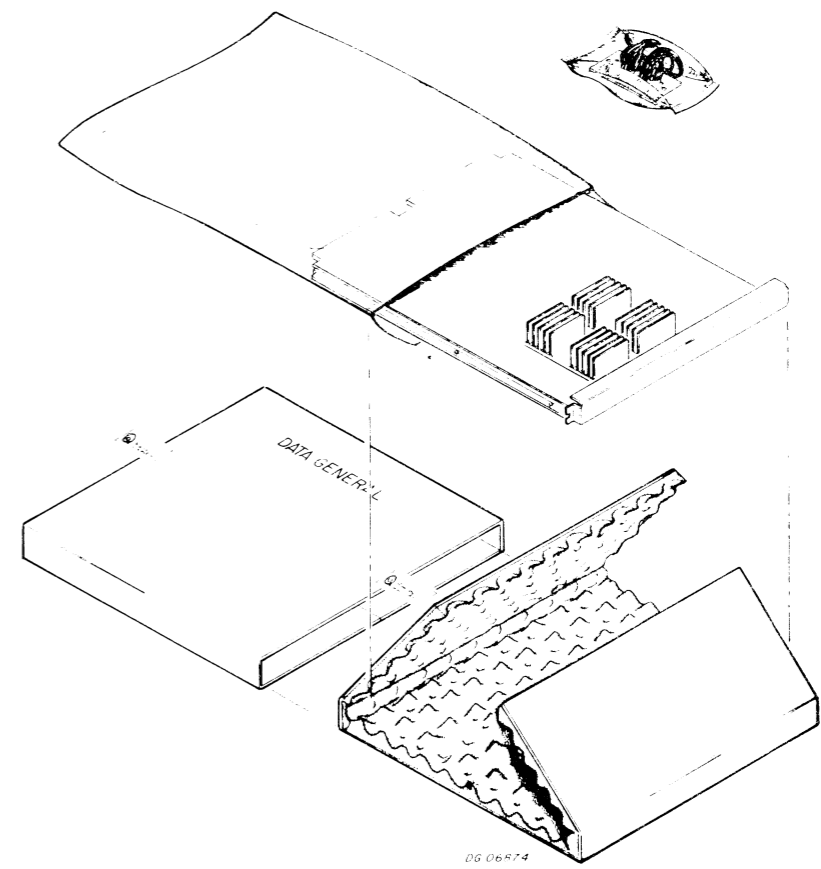
PACKAGING



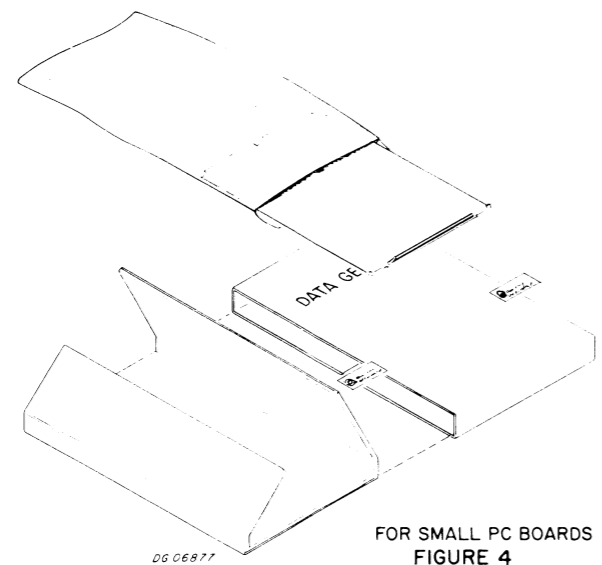
FOR 15" PC BOARDS
FIGURE 1



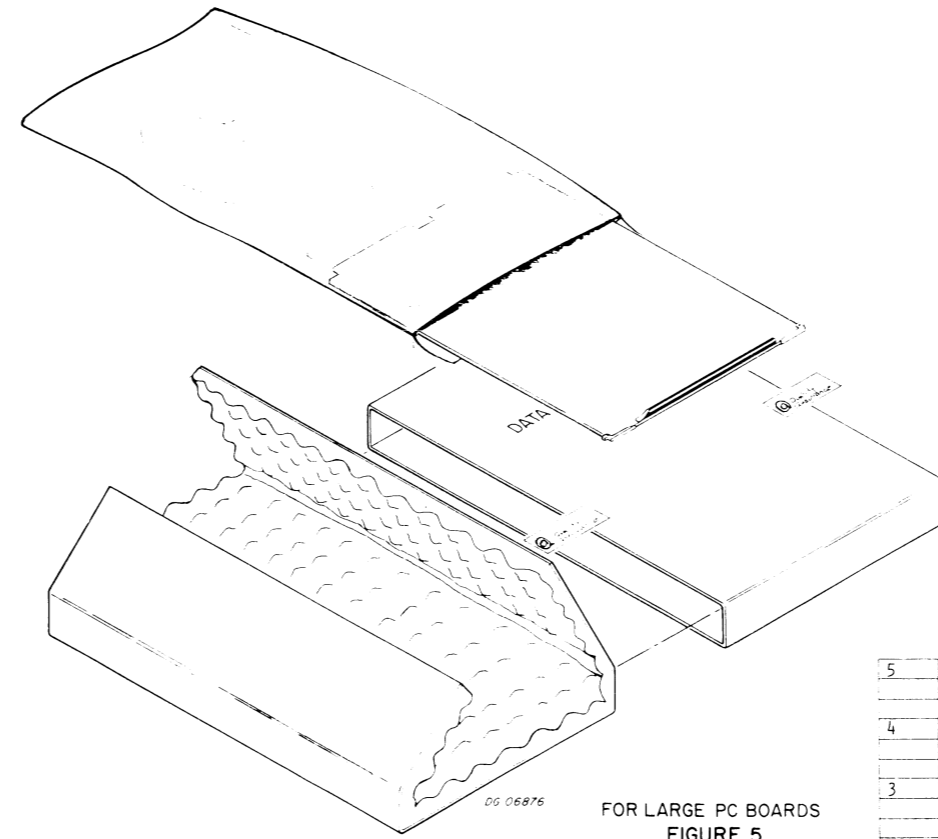
FOR SMALL PC BOARDS
FIGURE 2



FOR 16" PC BOARDS
FIGURE 3



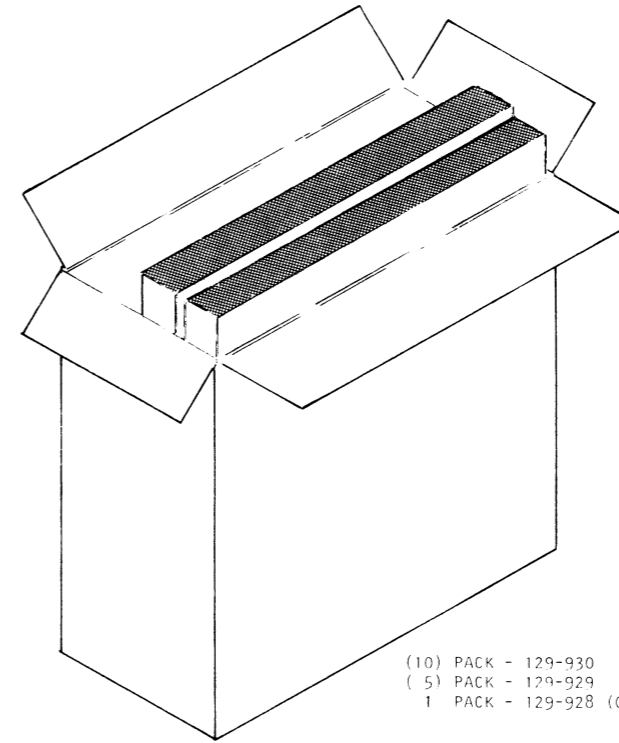
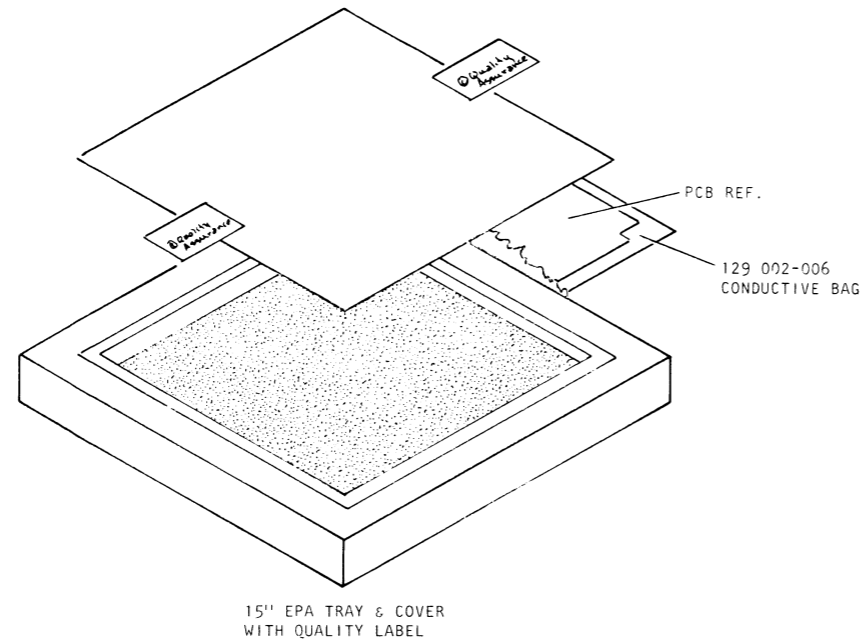
FOR SMALL PC BOARDS
FIGURE 4



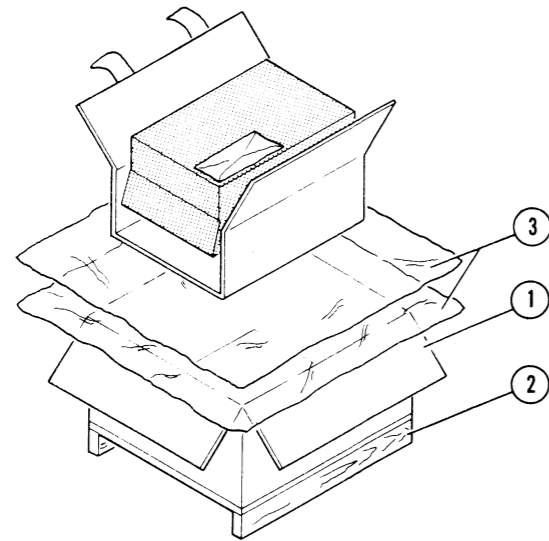
FOR LARGE PC BOARDS
FIGURE 5

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

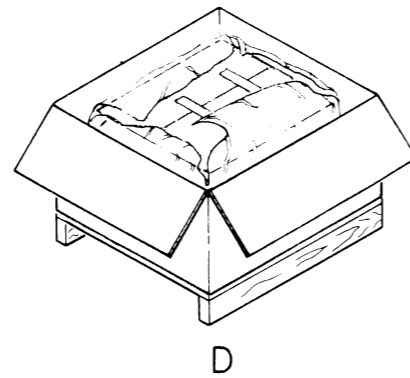
PRINTED CIRCUIT PACKAGING



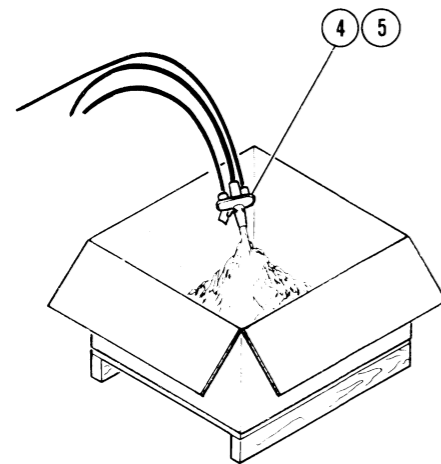
REF	CODE	DWG	NO.	DESCRIPTION	CIRCUIT REFERENCE	TOTAL QTY
	129	000	929	RSC (HOLDS 5 TRAYS)		A/R
	129	000	136	QUALITY ASSURANCE LABEL		2
66	129	000	930	RSC (HOLDS 10 TRAYS)		1
5	129	000	927	COVER		1
2	129	000	939	15" EPA		*10
3	129	000	030	LABEL		1
7	129	000	027	SEALING TAPE		24"
1	129	002	006	CONDUCTIVE BAG 18"x18"	RELEASED ON ECO 15150	*10
ITEM	CODE	DWG	NO.	DESCRIPTION	CIRCUIT REFERENCE	TOTAL QTY



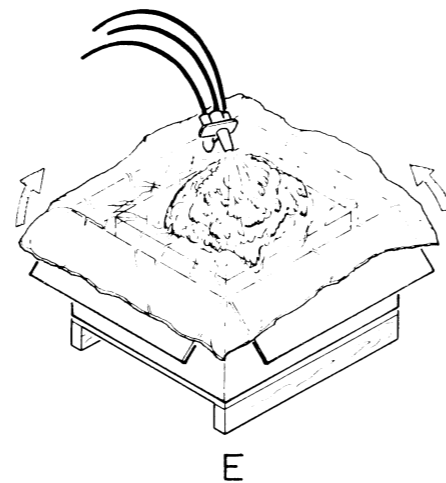
A



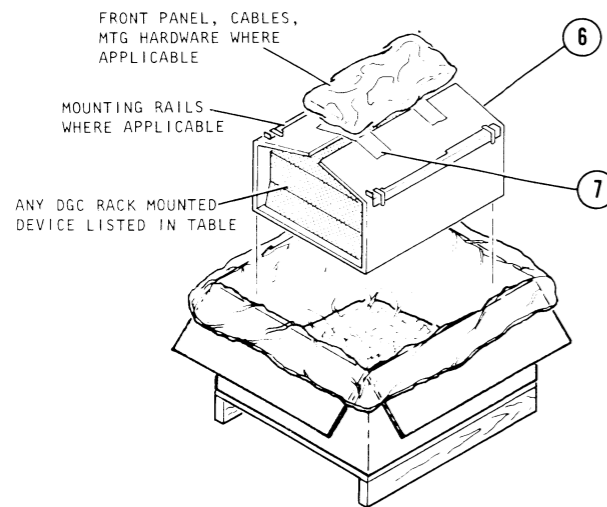
D



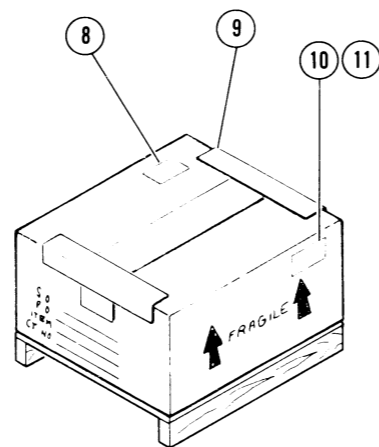
B



E



C



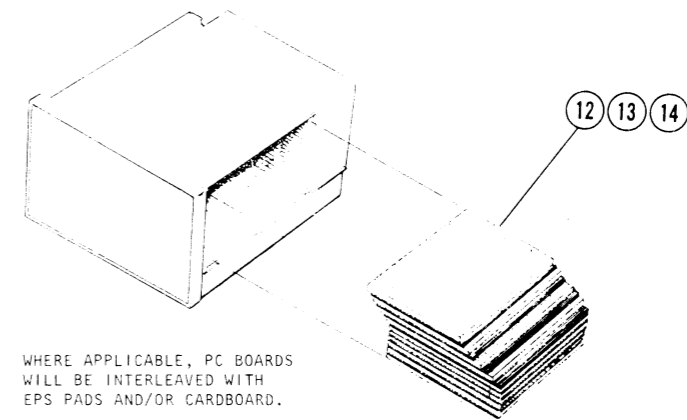
F

FRONT PANEL, CABLES,
MTG HARDWARE WHERE
APPLICABLE

MOUNTING RAILS
WHERE APPLICABLE

ANY DGC RACK MOUNTED
DEVICE LISTED IN TABLE

—DETAIL A—



WHERE APPLICABLE, PC BOARDS
WILL BE INTERLEAVED WITH
EPS PADS AND/OR CARDBOARD.

GENERAL PROCEDURE FOR FOAM-IN-PLACE PACKAGING

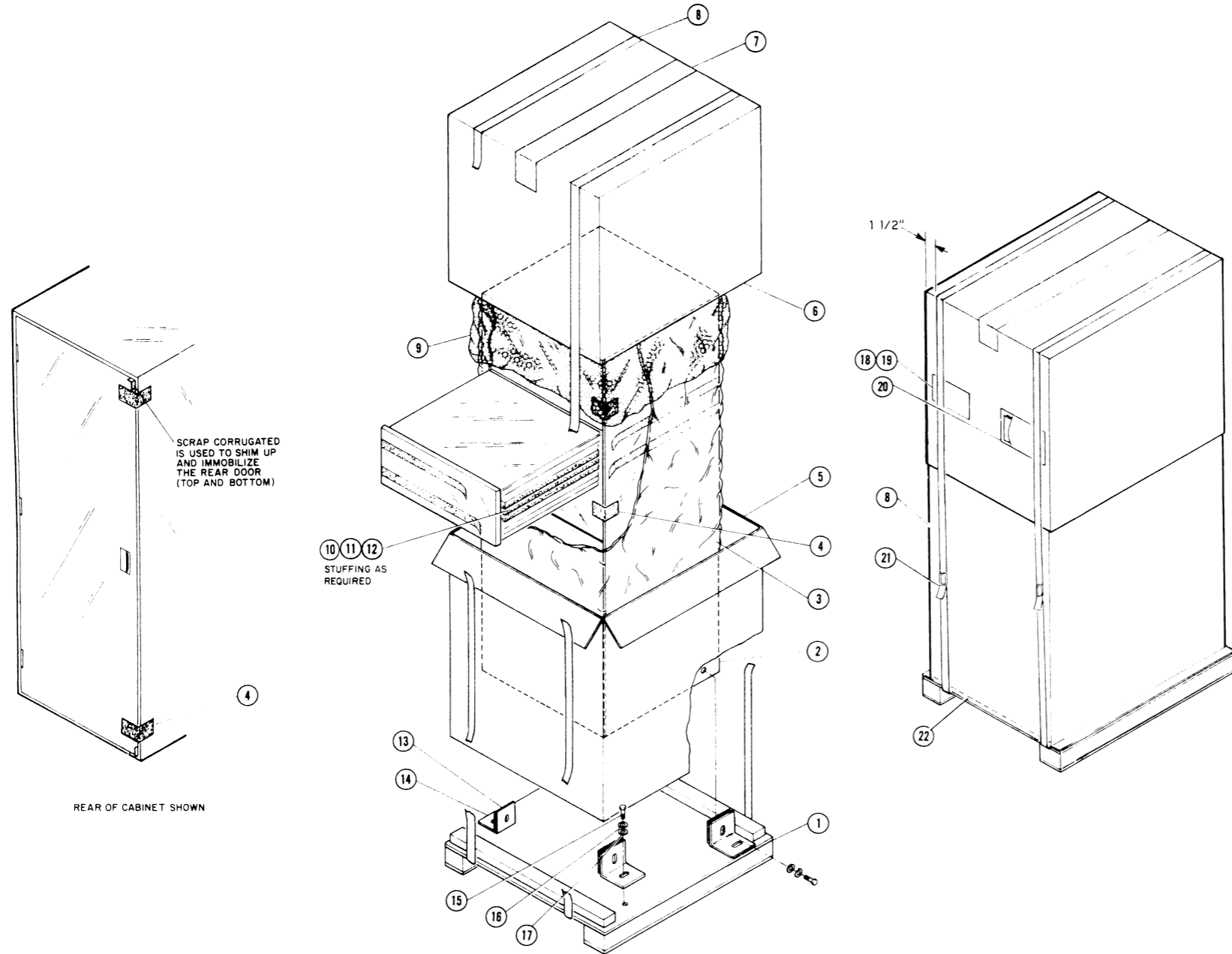
- A. SET UP CARTON.
CUT 2 SHEETS OF POLYETHYLENE FILM 6 FEET LONG.
WRAP PRODUCT IN SLEEVE AND CLOSE WITH PERMACEL TAPE.
- B. SPRAY FOAM INTO BOTTOM OF CARTON TO FORM 4-INCH THICK CUSHION.
- C. AS FOAM RISES, PLACE ONE SHEET OF POLYFILM OVER FOAM,
AND PRODUCT OVER FILM.
- D. WRAP EXCESS FILM AROUND PRODUCT.
- 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	21" RACK MOUNTS	044-000052
	5.25" RACK MOUNTS	044-000053
	10.5" RACK MOUNTS	044-000054
	14" RACK MOUNTS	044-000055
	3.75" RACK MOUNTS	044-000056
	7" RACK MOUNTS	044-000057

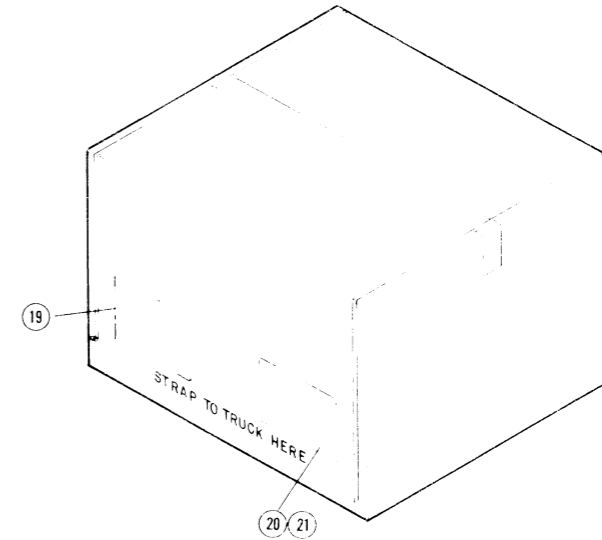
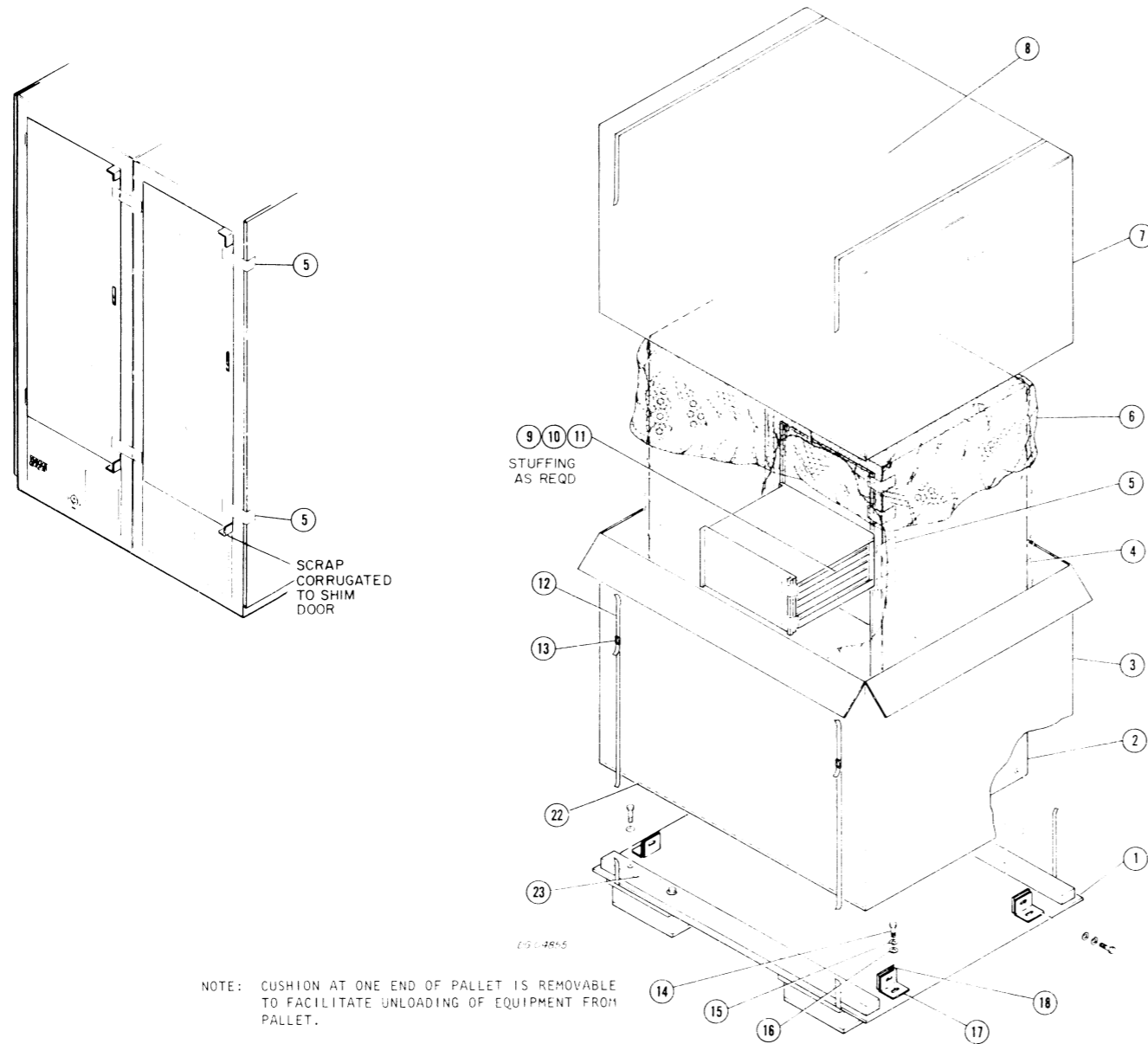
ELEMENTS OF SHIPPING PACKAGE
0441

ITEM	DESCRIPTION	PART NO.							
1	RSC 36 x 27 x 30	129-000324							
2	RSC 36 x 27 x 19.25	129-000318	1	1	1	1	1	1	1
3	PALLET 36 x 27	129-000316							
4	POLYFILM 100"	129-000315	A/R	A/R	A/R	A/R	A/R	A/R	A/R
5	PART 'A' FOAM IN PLACE LB.	129-000319	1.7	1.8	2.25	2	1.6	2.75	
6	PART 'B' FOAM IN PLACE LB.	129-000320	1.7	1.8	2.25	2	1.6	2.75	
7	SLEEVE	129-000326				1			1
8	SLEEVE	129-000321	1	1		1	1		
9	PERMACEL TAPE	129-000026	1FT	1FT	1FT	1FT	1FT	1FT	1FT
10	PKG LIST ENVELOPE	129-000042	1	1	1	1	1	1	1
11	TAPE	129-000027	A/R	A/R	A/R	A/R	A/R	A/R	A/R
12	DGC SHIPPING LABEL	129-000030	1	1	1	1	1	1	1
13	CLEAR SCOTCH TAPE	129-000051	2FT	2FT	2FT	2FT	2FT	2FT	2FT
14	CARDBOARD 14 1/2 x 14 1/2	129-000044	A/R	A/R	A/R	A/R	A/R	A/R	A/R
	EPS PAD 1/2"	129-000052	A/R	A/R	A/R	A/R	A/R	A/R	A/R
	EPS PAD 1"	129-000053	A/R	A/R	A/R	A/R	A/R	A/R	A/R

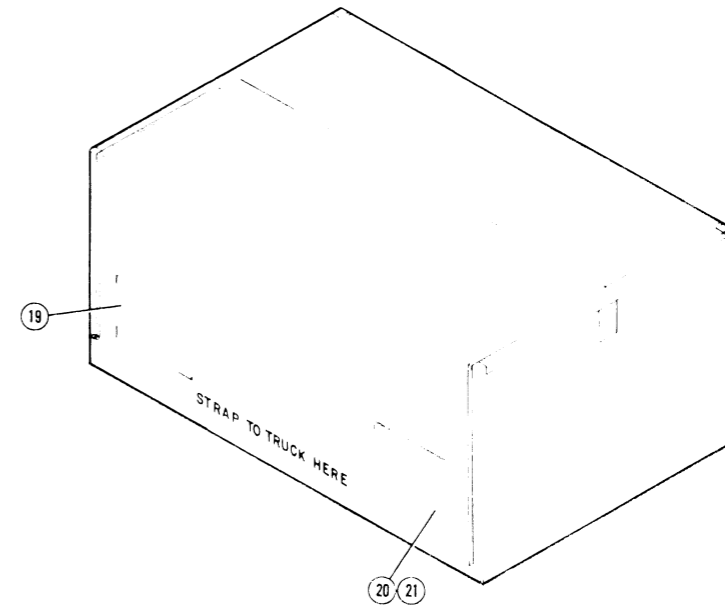
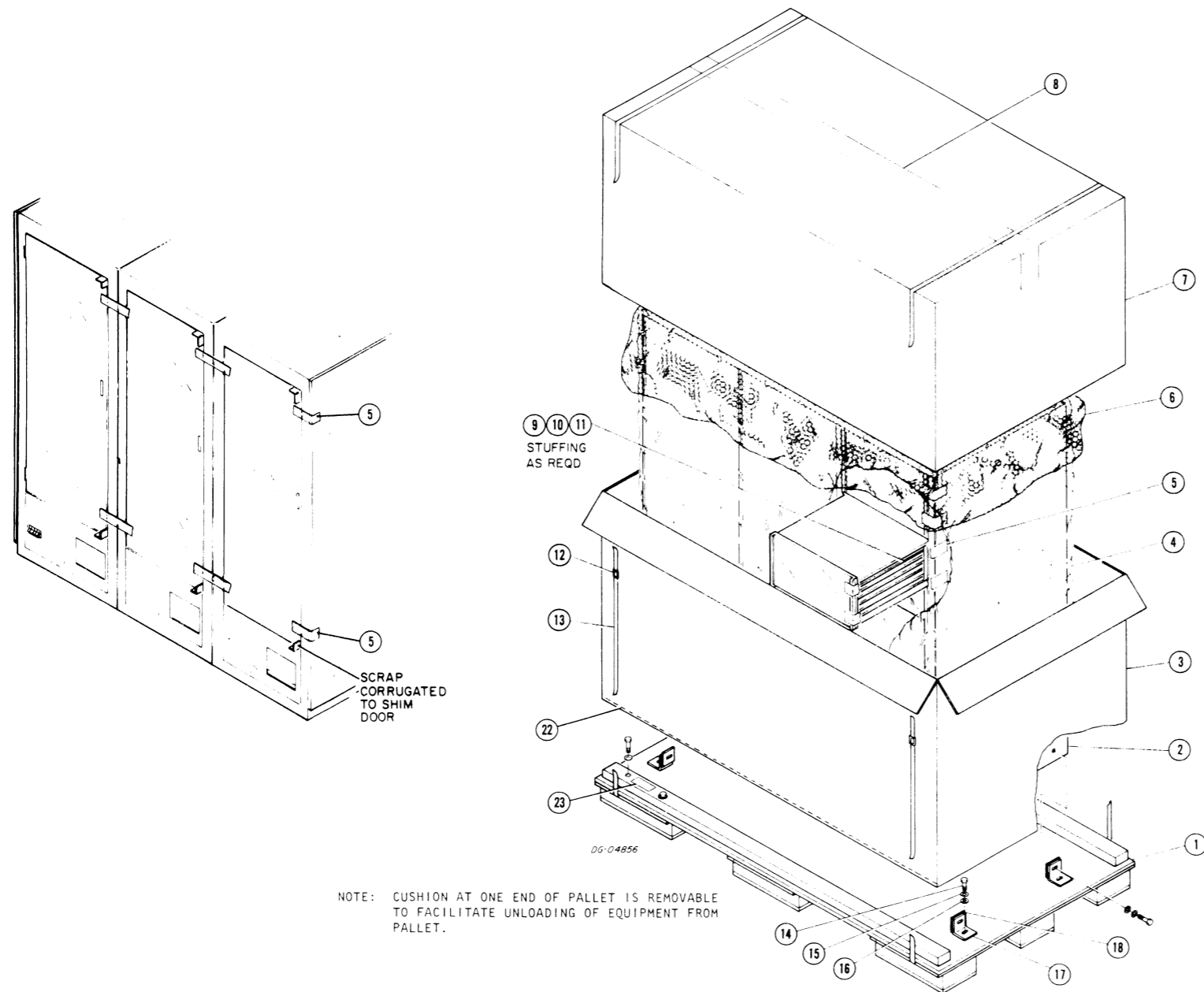
FOAM-IN-PLACE PROCEDURE



ITEM	QTY.	DESCRIPTION	PART NO.
22	A/R	1" CROWN, 1" LEG STAPLE	129-000165
21	2	BUCKLE, AVB-4	129-000025
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	106-000622
15	8	BOLT, HEX. HD. 3/8-16 x 1	106-000618
14	4	BRACKET, SHIPPING	002-005294
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	129-000123
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



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	3	BOLT, HEX. HD. 3/8-16 x 1	106-000613
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 "HC" 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
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
ITEM	QTY	DESCRIPTION	PART NO.

FOLD
TAPE

FOLD
TAPE

FOLD

FOLD



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