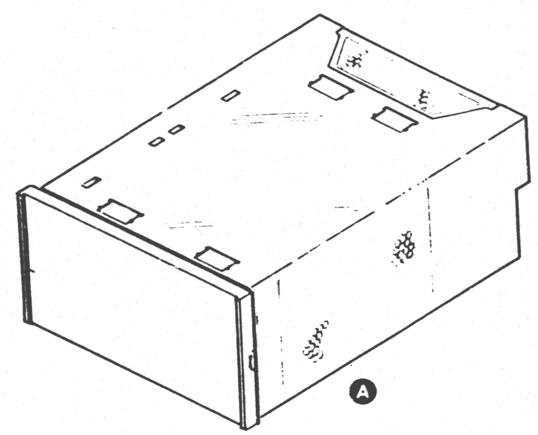
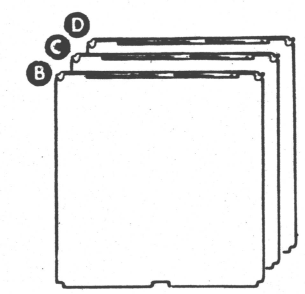
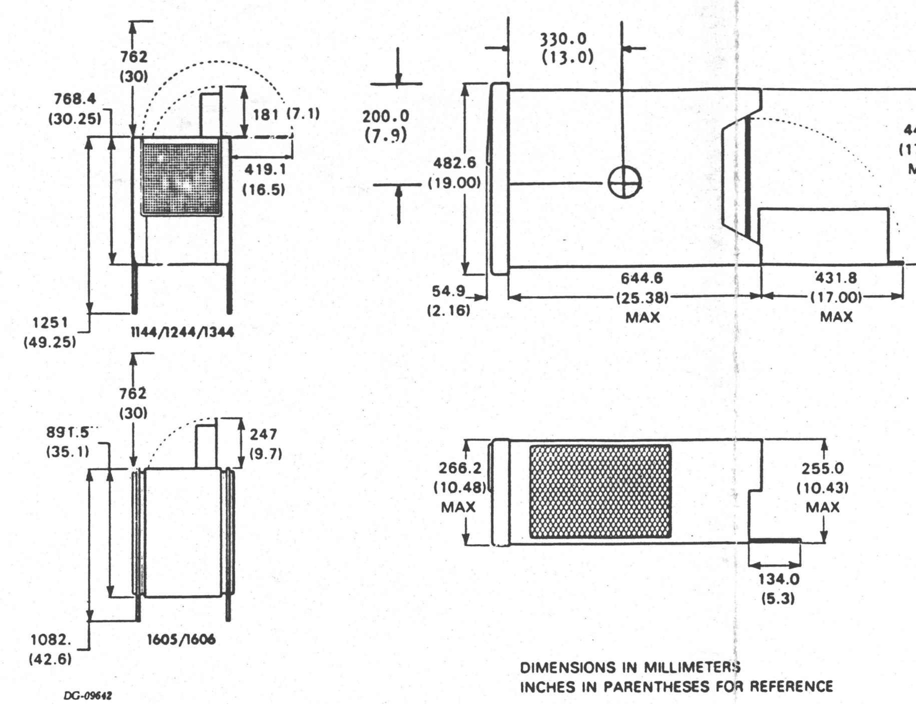
INSTALLATION SPECIFICATIONS





	Component	Mounting Location
A	16-SLOT CHASSIS	CABINET
B	CPU	16-SLOT CHASSIS
C	MEMORY	16-SLOT CHASSIS
D	FLOATING POINT UNIT (FPU)	16-SLOT CHASSIS

SERVICE DIMENSIONS



DIMENSIONS IN MILLIMETERS
INCHES IN PARENTHESES FOR REFERENCE

SLOT	ALLOWED (SLOT CHART)	ASSIGNED	+5 CURRENT DRAW	+12 CURRENT DRAW	-5 CURRENT DRAW	WATTS
16	I/O					
15	I/O					
14	I/O					
13	I/O					
12	I/O					
11	MEM. OR I/O					
10						
9						
8						
7						
6						
5						
4						
3	MEM. OR I/O					
2	MEM OR FPU	NOTE 2,3				
1	CPU	NOTE 1				
0	POW SUPPLY					

TOTAL +5 CURRENT DRAW ____ A
MAX +5 CURRENT AVAILABLE 120 A
+5 CURRENT SURPLUS ____ A
MINIMUM +5 CURRENT 6 A

TOTAL +12 CURRENT DRAW ____ A
MAX +12 CURRENT AVAILABLE 12.5 A
+12 CURRENT SURPLUS ____ A
MINIMUM +12 CURRENT 0 A

TOTAL -5 CURRENT DRAW ____ A *
MAX -5 CURRENT AVAILABLE 6 A
-5 CURRENT SURPLUS ____ A
MINIMUM -5 CURRENT 0 A

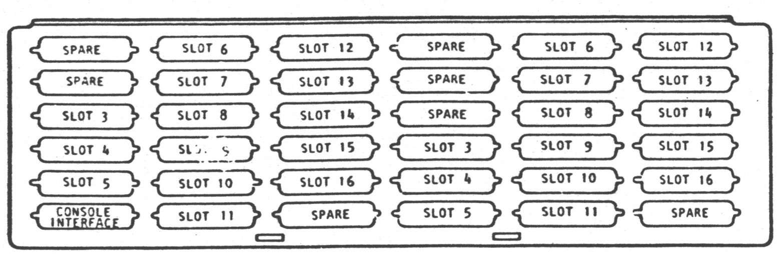
*SEE SHEET 9 THIS IDS FOR MORE DETAILS.

-1 (JAPAN) MODEL LIMITED TO 110 AMPS +5V AND 550 WATTS TOTAL POWER OUTPUT.

NOTES:

1. NOVA 4/S and NOVA 4/X 13.5A
   NOVA 4/C 8A
2. MEMORY (NOVA 4/S & 4/X only)
   w/BATTERY BACKUP OPTION PRESENT 4.4A
   w/o BATTERY BACKUP OPTION PRESENT 5.6A
3. FLOATING POINT UNIT 15A
4. MAXIMUM 4 MEMORY BOARDS PER SYSTEM.
5. MAXIMUM 10 I/O BOARDS CONNECTED TO I/O BUS W/O A BUS REPEATER.
6. PUSH-ON TERMINATORS ON TOP MEMORY SLOT FOR NOVA 4/S & 4/X.
7. PUSH ON TERMINATORS ON SLOT 2 FOR NOVA 4/C

STANDARD ASSIGNMENT FOR BACKPANEL TO BULKHEAD INTERNAL CABLES



DIMENSIONS:	Width	Depth	Height
Millimeters	482.6	699.5	266.3
Inches	19.00	27.54	10.48

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

WEIGHT:	Empty	Fully Loaded
Kilograms	30.6	46.5
Pounds	67.5	102.5

HEAT OUTPUT:	Watts	BTU/hr
	1150	3921.5

OPERATING ENVIRONMENT:
Temperature Range 0 - 55°C (32 - 131°F)
Relative Humidity Range 10 - 90%
Altitude Range -305 - 2438m (-1000 - 8,000 ft)

STORAGE ENVIRONMENT:
Temperature Range -40 -65°C (-40 -149°F)
Relative Humidity Range 10 - 90%
Altitude Range 0 - 7620m (0 - 25,000 ft)

FOR PACKING PROCEDURE, SEE 010-000263

POWER REQUIREMENTS:

(Domestic)

Voltage	120V (- 10% -15%)
Hz	47-63
Max Amp per Phase	2A
Phase	
Startup Surge per Phase	17 A (typical) for .35 sec

(Export)

Voltage	100 ± 10%	220/240 (-10% -15%)
Hz	47-63	47-63
Max Amp per Phase	15A	8A
Phase	1	1
Startup Surge per Phase	14 A (typ) for .35 sec	34 A (typ) for .10 sec

CORDSET

Supply	Part No.
100V	109 - 719
120V	109 - 719
220/240	109 - 708

CABLES:

Primary Power	Length	Wall Conn	Cordset Conn	Cordset Connector (CPU)
Domestic	1.8M(6')	5-15R	5-15P	CEE-22
Export	1.8M(6')	6-15R	6-15P	CEE-22 (10 AMPS)

Warning: This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instruction manual, may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device 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.

REV	00
ECO	P274
APP	M.R.E.
DATE	[illegible]

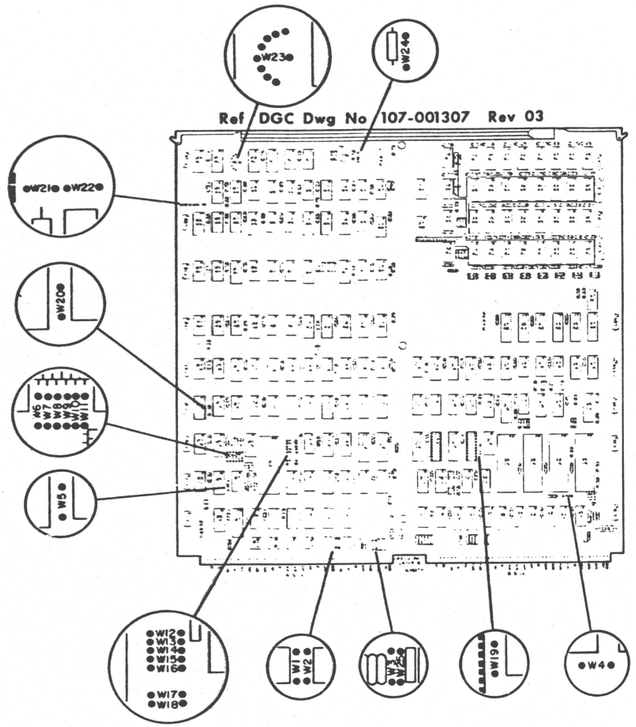
DRAWN [illegible] CHECKED ENGINEER
APPROVED [illegible]
FIRST USED ON 005020190
CODE IDENT 34984

TITLE INSTALLATION DATA SHEET
NOVA 4 16-SLOT

DATA GENERAL CORPORATION
WESTBORO, MASSACHUSETTS 01580

SIZE C CODE 010 DRAWING NUMBER 000359 REV. 00

TAILORING
CPU JUMPERING
NOVA 4/C



DEVICE CODE JUMPERS FOR FRONT PANEL AUTOMATIC PROGRAM LOAD

SELECT THE PROGRAM LOAD DEVICE CODE BY INSTALLING JUMPERS W11, W8, W6, W7, W9, W10, AS FOLLOWS:

JUMPER OUT = 1 JUMPER IN = 0

EXAMPLE JUMPERING FOR DEVICE CODE 27_8:

W11	W8	W6	W7	W9	W10
IN	OUT	IN	OUT	OUT	OUT

W4 IS NOT INSERTED IF THE PROGRAM LOAD DEVICE IS A HIGH SPEED DEVICE, OTHERWISE IT IS INSERTED.

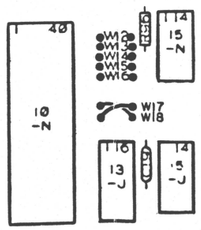
TYPE OF TRANSMISSION JUMPERS

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

* JUMPER 25 IS INSERTED IF THE SYSTEM TERMINAL IS A TELETYPE, OTHERWISE IT IS NOT INSERTED.

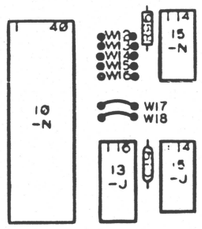
* JUMPERS W17 AND W18 MUST ALSO BE INSERTED AS SHOWN BELOW.

20MA CURRENT LOOP

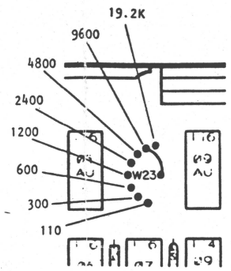


JUMPERS W17 AND W18 MUST NOT TOUCH!

EIA RS232-C



W23 IS INSERTED TO DETERMINE THE BAUD RATE AS SHOWN BELOW:
(9600 SHOWN)



W22 IS NEVER INSERTED.

THE FOLLOWING JUMPERS ARE ALWAYS INSERTED:

W5
W19
W20
W21
W24

STOP BIT JUMPERS

NUMBER OF STOP BITS	W15 JUMPER POSITION
1	IN
2	OUT

PARITY JUMPERS

TYPE OF PARITY	JUMPER POSITION W12	W16
EVEN	OUT	IN
ODD	IN	IN
NONE	OUT	OUT

CHARACTER LENGTH JUMPERS

CHARACTER LENGTH	JUMPER POSITION W13	W14
5 BITS	IN	IN
6 BITS	OUT	IN
7 BITS	IN	OUT
8 BITS	OUT	OUT

CPU/MEMORY LOADS

VOLTAGE	DESCRIPTION	CURRENT DRAW
+5V	SYSTEM WITHOUT BATTERY BACKUP	8.0A
+5V	SYSTEM WITH BATTERY BACKUP	7.5A
+5V MEM		0.5A
+12V MEM		0.7A
+15V		0.04A

BRUNING 40-526 50856

013-000840

REV													
ECO													
APP													
DATE													

DRAWN
CHECKED
ENGINEER

APPROVED
FIRST USED ON
CODE IDENT 34984

TITLE
INSTALLATION DATA SHEET
NOVA 4 16-SLOT

DATA GENERAL CORPORATION
WESTBORO, MASSACHUSETTS 01580

SIZE	CODE	DRAWING NUMBER	REV.
C	010	000359	00

TAILORING (CONT)

CPU JUMPERING
NOVA 4/S OR 4/X

BAUD RATE JUMPERS

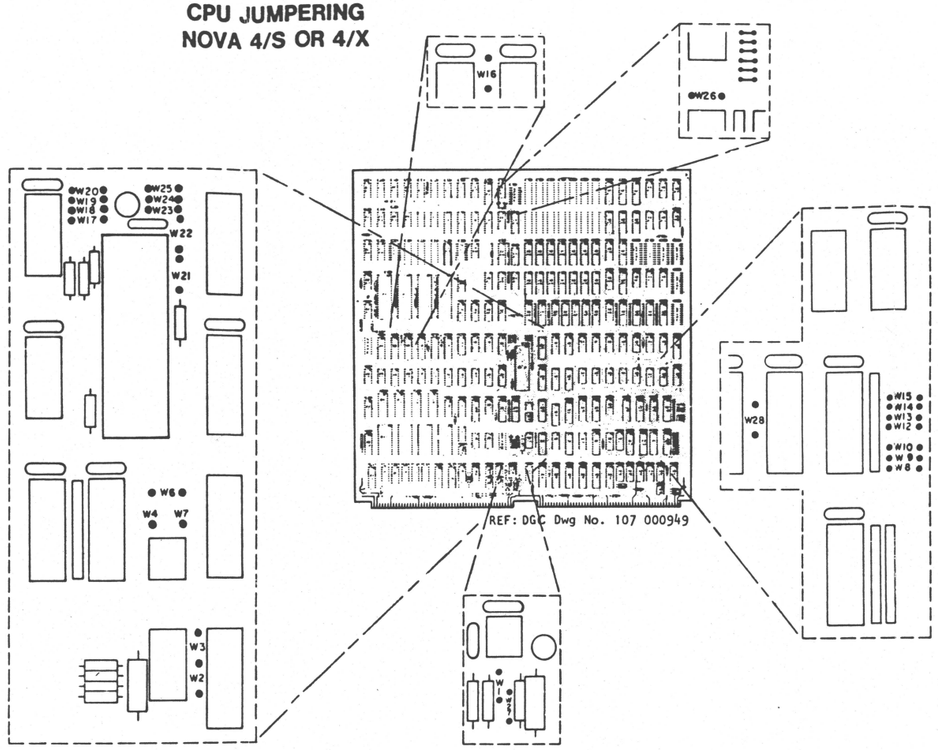
BAUD RATE	JUMPER POSITION W17	W18	W19	W20	W27
50	IN	IN	OUT	IN	OUT
75	IN	IN	OUT	OUT	OUT
110	OUT	OUT	OUT	OUT	IN
134.5	IN	OUT	IN	IN	OUT
150	OUT	OUT	OUT	IN	OUT
200	IN	OUT	IN	OUT	OUT
300	OUT	OUT	IN	OUT	OUT
600	IN	OUT	OUT	IN	OUT
1200	OUT	IN	OUT	OUT	OUT
1600	OUT	IN	OUT	IN	OUT
2400	OUT	OUT	IN	IN	OUT
4800	OUT	IN	IN	OUT	OUT
9600	OUT	IN	IN	IN	OUT
19200	IN	IN	IN	OUT	OUT

PARITY JUMPERS

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

CHARACTER LENGTH JUMPERS

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



TYPE OF TRANSMISSION JUMPERS

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

STOP BIT JUMPERS

NUMBER OF STOP BITS	W23 JUMPER POSITION
1	IN
2	OUT

REAL TIME CLOCK JUMPER

	W28
RTC ENABLED	IN
RTC DISABLED	OUT

DEVICE CODE JUMPERS FOR FRONT PANEL AUTOMATIC PROGRAM LOAD

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

JUMPER IN = 1 JUMPER OUT = 0

EXAMPLE JUMPERING FOR DEVICE CODE 27 :
8

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

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

NOTE: JUMPERS W16 AND W26 ARE ALWAYS INSERTED. JUMPERS W5 AND W11 DO NOT EXIST.

+5V CURRENT DRAW = 13.5A

REV																DRAWN		APPROVED	
ECO																CHECKED		FIRST USED ON	
APP																ENGINEER		CODE IDENT 34984	
DATE																			

TITLE
INSTALLATION DATA SHEET
NOVA 4 16-SLOT

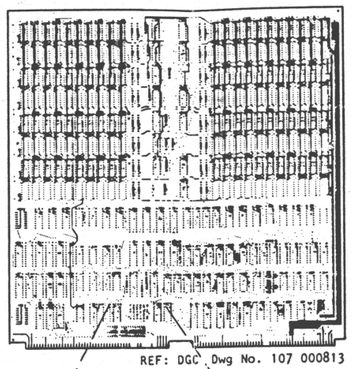
DATA GENERAL CORPORATION
WESTBORO, MASSACHUSETTS 01580

SIZE	CODE	DRAWING NUMBER	REV
C	010	000359	00

013-000840
BRUNING 40-526 50856

TAILORING (CONT)

MEMORY JUMPERING
NOVA 4/S AND 4/X



REF: DGC Dwg No. 107 000813

NOVA 4/X MEMORY BOARD SELECT JUMPERS

ADDRESS RANGE	JUMPERS INSERTED* BOARD SIZE 256KBYTES	128KBYTES	64KBYTES
0377777-0300000-	NONE	W8	W8 W10
0277777-0200000-			W8 W9
0177777-0100000-		W7	W7 W10
0077777-0000000-			W7 W9

*NOTE: JUMPERS W1, W3, AND W5 ARE ALWAYS INSERTED.
JUMPERS W2, W4, AND W6 ARE NEVER INSERTED.

NOVA 4/S MEMORY BOARD SELECT JUMPERS

ADDRESS RANGE	JUMPERS INSERTED* BOARD SIZE 64 KBYTES	32KBYTES
0077777-0040000-	W7 W9	W7 W9 W12
0037777-0000000-		W7 W9 W11

NOTE: JUMPERS W1, W3, AND W5 ARE ALWAYS INSERTED;
JUMPERS W2, W4, AND W6 ARE NEVER INSERTED.

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

MEMORY LOADS

VOLTAGE	DESCRIPTION	CURRENT DRAW
+5V	SYSTEM WITH BATTERY BACKUP	4.4A
+5V	SYSTEM WITHOUT BATTERY BACKUP	5.6A
+5V MEM		1.2A
+12V MEM	FIRST BOARD IN HASSIS	2.3A
+12V MEM	EACH ADDITIONAL BOARD	0.3A

REV	ECO	APP	DATE

DRAWN | CHECKED | ENGINEER

APPROVED | FIRST USED ON | CODE IDENT 34984

TITLE: INSTALLATION DATA SHEET
NOVA 4 16-SLOT

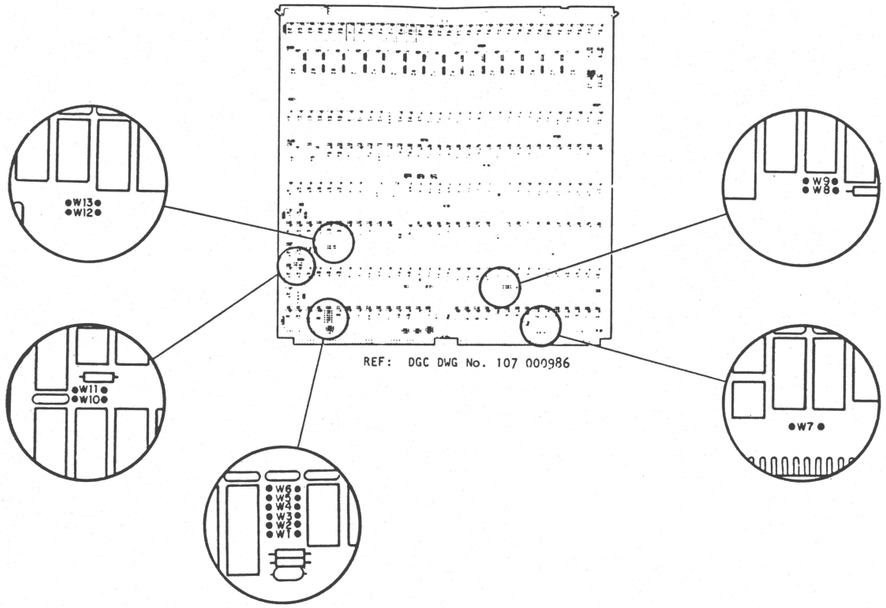
DATA GENERAL CORPORATION
WESTBORO, MASSACHUSETTS 01580

SIZE C | CODE 010 | DRAWING NUMBER 000359 | REV. 00

013-000840 BRUNING 40-526 50856

TAILORING (CONT)

FLOATING POINT UNIT JUMPERING



REF: DGC DWG No. 107 000986

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

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

REV	ECO	APP	DATE

DRAWN | APPROVED
CHECKED | FIRST USED ON
ENGINEER | CODE IDENT 34984

TITLE: INSTALLATION DATA SHEET
NOVA 4 16-SLOT

DATA GENERAL CORPORATION
WESTBORO, MASSACHUSETTS 01580

SIZE	CODE	DRAWING NUMBER	REV.
C	010	000359	00

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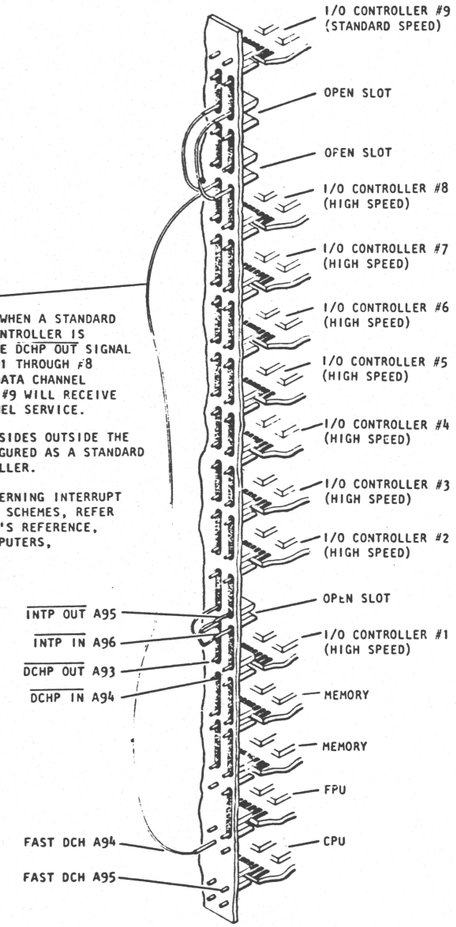
TAILORING (CONT)

BACKPANEL JUMPERING

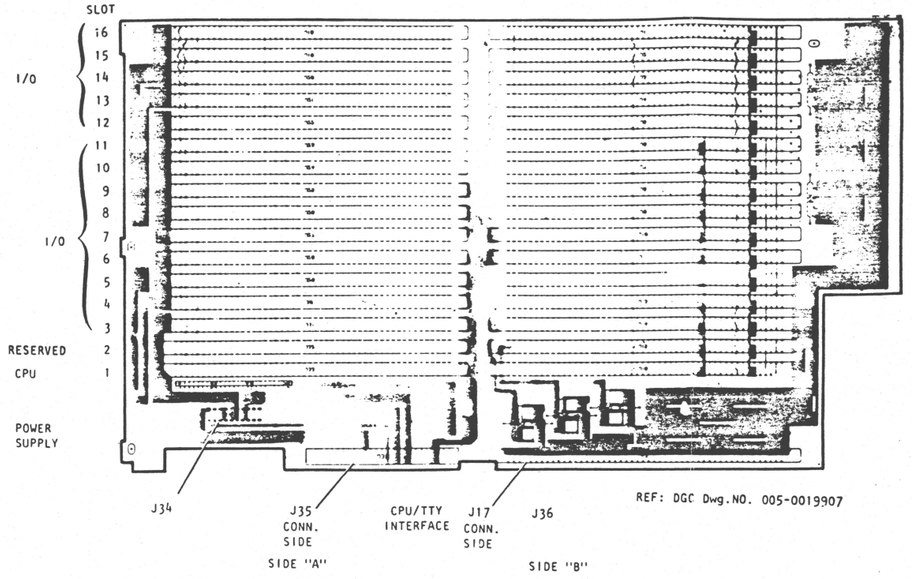


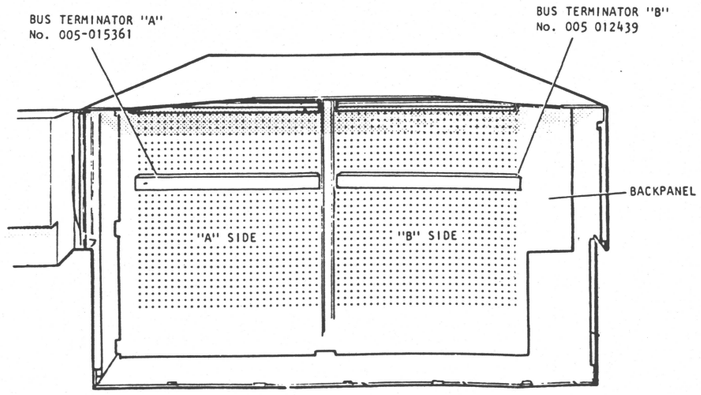
NO JUMPERS NEEDED EXCEPT FOR OPEN SLOTS AND STANDARD SPEED DATA CHANNEL I/O CONTROLLERS.

WHEN A 4C PROCESSOR IS USED IN THIS CHASSIS, THE END OF THE INTP PRIORITY NETWORK CLOSEST TO THE PROCESSOR (HIGHEST PRIORITY) MUST BE CONNECTED TO THE NEAREST GROUND (PIN A99 OR A100).

INTERNAL CABLING

BACKPANEL CONNECTORS





REV	DRAWN	APPROVED	TITLE: INSTALLATION DATA SHEET NOVA 4 16-SLOT
ECO	CHECKED	FIRST USED ON	
APP	ENGINEER	CODE IDENT 34984	
DATE			

DATA GENERAL CORPORATION
WESTBORO, MASSACHUSETTS 01580

SIZE	CODE	DRAWING NUMBER	REV.
C	010	000359	00

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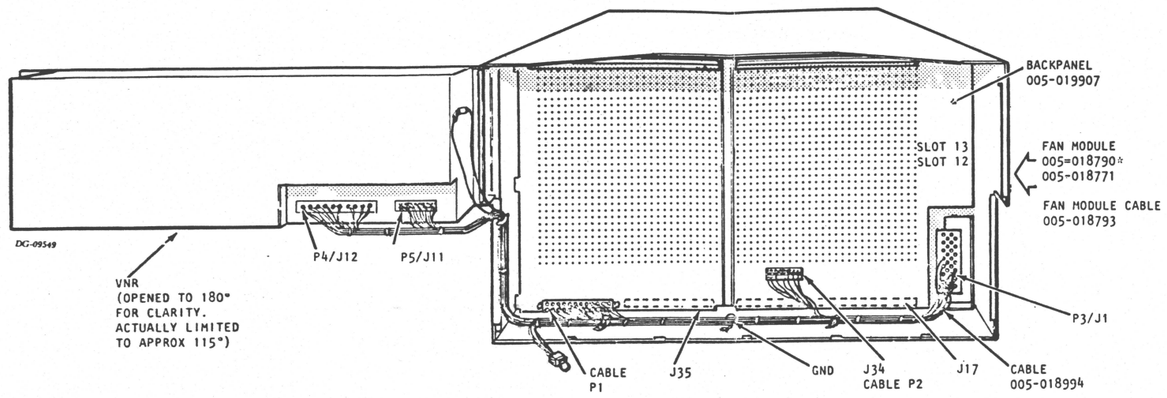
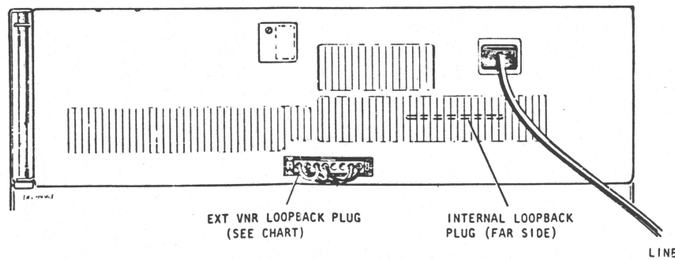
INTERNAL CABLING

BACKPANEL, EXPANSION CHASSIS



*FAN MODULE 005-018790 (INDICATES 100V MODULE (100V FAN 115-000287); FAN MODULE 005-018771 INDICATES 120, 220/240V MODULE (120/240 FAN 115-000163).

VNR CHASSIS



LINE CORD
109-000719 (100, 120V)
109-000703 (220/240V)

AC VOLTS IN	EXTERNAL LOOPBACK PLUG	INTERNAL LOOPBACK PLUG	VNR ASSY.NO.
100 V	005-018774	005-018772	005-019979
120 V	005-018774	005-018772	005-019978
220/240V	005-018986	005-018773	005-019990

NOTE: TO INSURE PROPER SYSTEM, VERIFY THAT INTERNAL AND EXTERNAL LOOPBACK PLUG VOLTAGE LABELS MATCH THE SYSTEM OPERATING VOLTAGE.

WARNING:

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

REV	ECO	APP	DATE

DRAWN | CHECKED | ENGINEER

APPROVED | FIRST USED ON | CODE IDENT 34984

TITLE
INSTALLATION DATA SHEET
NOVA 4 16-SLOT

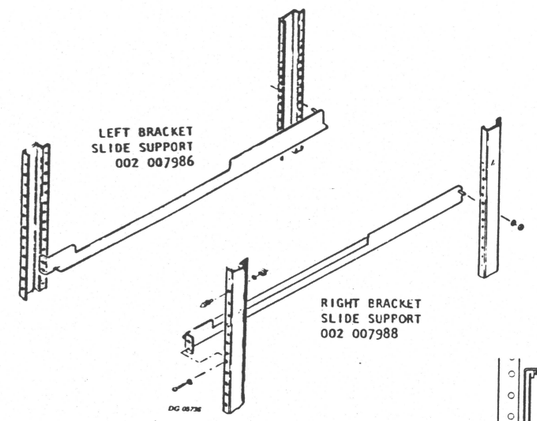
DATA GENERAL CORPORATION
WESTBORO, MASSACHUSETTS 01580

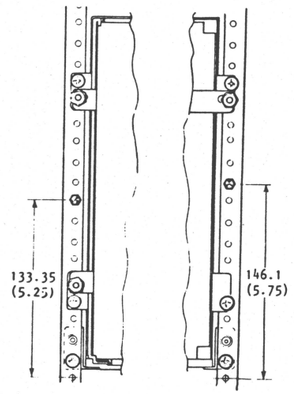
SIZE	CODE	DRAWING NUMBER	REV.
C	010	000359	00

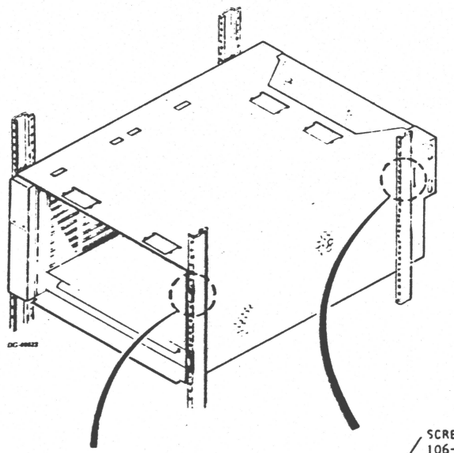
013-000840
BRUNING 40-526 50856

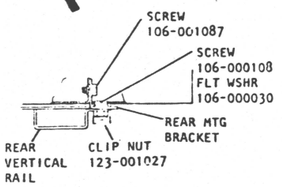
CABINET MOUNTING

HARDWARE MOUNTING KIT 005-019199

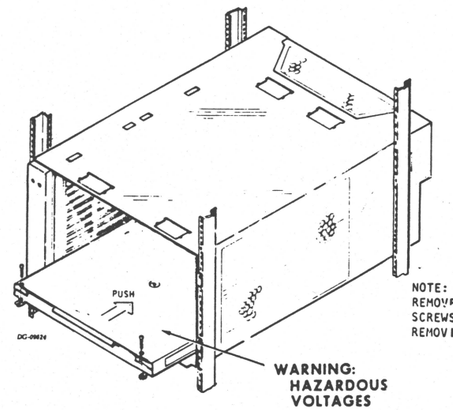






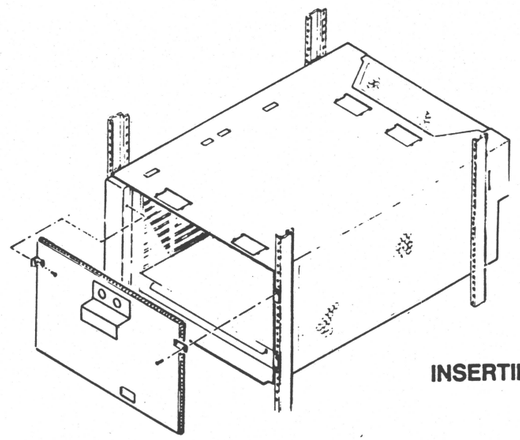


INSERTING POWER SUPPLY

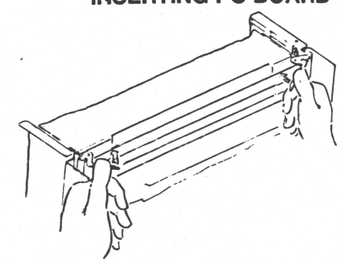


NOTE:
REMOVE GROUND STRAP AND MOUNTING SCREWS ATTACHED TO CHASSIS BEFORE REMOVING POWER SUPPLY.

INSTALLING RFI SHIELD



INSERTING PC BOARD



REV	DRAWN	APPROVED	TITLE: INSTALLATION DATA SHEET NOVA 4 16-SLOT
ECO	CHECKED	FIRST USED ON	
APP	ENGINEER	CODE IDENT 34984	
DATE			

DATA GENERAL CORPORATION
WESTBORO, MASSACHUSETTS 01580

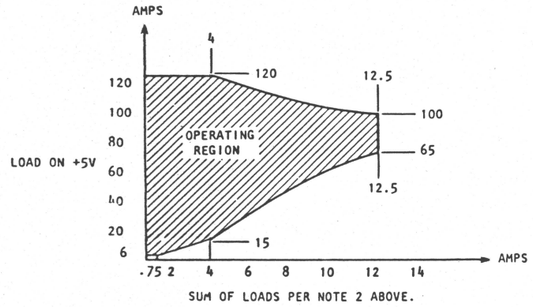
SIZE	CODE	DRAWING NUMBER	REV.
C	010	000359	00

013-000840 BRUNING 40-526 50856

16-SLOT CHASSIS LOAD BALANCING RULES

WITH BATTERY BACKUP:

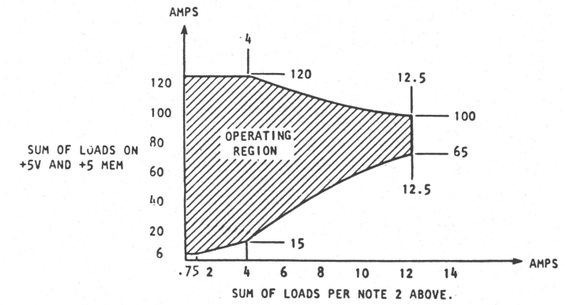
1. THE LOAD OF -5V MUST NOT EXCEED 3.0 AMPS.
2. THE SUM OF THE LOADS ON +12V, +12 MEM, +15V AND 0.55 (SUM OF CURRENT FROM +5 MEM AND -5 MEM) MUST NOT EXCEED 12.5 AMPS.
3. THE LOAD ON -5 MEM MUST NOT EXCEED 0.3 AMPS
4. THE LOAD ON +5 MEM MUST NOT EXCEED 4.5 AMPS AND MUST BE AT LEAST 0.25 AMPS
5. THE LOAD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



SUM OF LOADS PER NOTE 2 ABOVE.

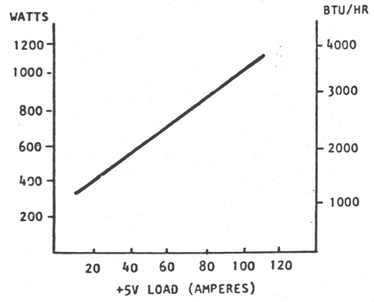
WITHOUT BATTERY BACKUP:

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



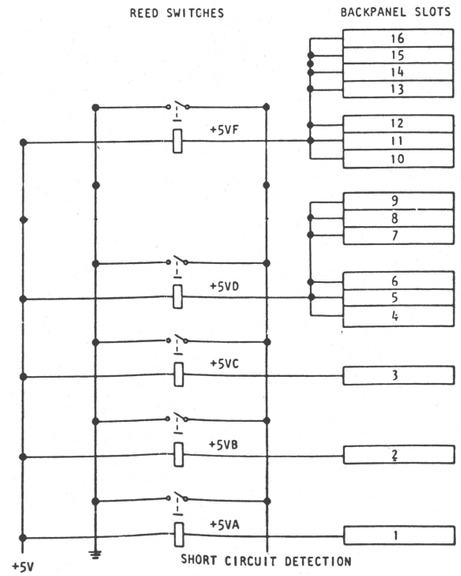
SUM OF LOADS PER NOTE 2 ABOVE.

POWER CONSUMPTION vs LOADING



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

SLOT LOADING RESTRICTIONS



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

REV														
ECO														
APP														
DATE														

DRAWN | CHECKED | ENGINEER

APPROVED | FIRST USED ON | CODE IDENT 34984

TITLE
INSTALLATION DATA SHEET
NOVA 4 16-SLOT

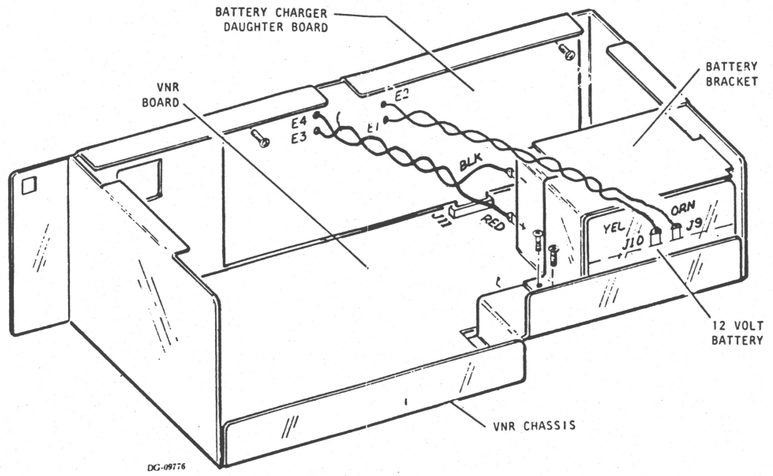
DATA GENERAL CORPORATION
WESTBORO, MASSACHUSETTS 01580

SIZE	CODE	DRAWING NUMBER	REV.
C	010	000359	00

SHEET 9 OF 10

013-000840
BRUNING 40-526 50856

BATTERY BACKUP



ASSYS:
1) VNR 005-019978
005-019979
005-019980

2) BATTERY CHARGER PCB 005-021061
" KIT 005-020103

STEPS:
1) INSTALL DAUGHTER BOARD IN J11 OR VNR BOARD
2) INSTALL BATTERY AND BRACKET
3 CONNECT 018-1605 WIRE JUMPER KIT AS SHOWN

REV	DRAWN	APPROVED	
ECO	CHECKED	FIRST USED ON	
APP	ENGINEER	CODE IDENT 34984	
DATE			

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