

future
The Future of Mobile Radio

MASTR® III Base Station Application/Assembly Diagrams

TABLE OF CONTENTS

<u>Title</u>	<u>Publication</u>
T/R SHELF	LBI-38637
SYSTEM MODULE (<i>Earlier</i>)	LBI-38764
SYSTEM MODULE (<i>Later</i>)	LBI-39176
POWER MODULE	LBI-38752

TABLE OF CONTENTS

TABLE OF CONTENTS	
	<i>Page</i>
SAFETY INFORMATION	3
INTRODUCTION	4
APPLICATIONS	5
APPLICATION ASSEMBLY DIAGRAMS	7
37" INDOOR CABINET 19D902845P1	7
T/R SHELF, SQUELCH OPERATED RELAY, DATA MODULE, AMPLIFIER MODULE & TRANSMIT ONLY STATION 19D902845P2, P7, P14, P19 & P32	13
COAX SWITCH ASSEMBLY 19D902845P3	15
37" INDOOR CABINET WITH DUPLEXER SHELF 19D902845P4	16
37" INDOOR CABINET WITH AUTOMOBILE BATTERY EMERGENCY POWER 19D902845P5	17
37" INDOOR CABINET WITH GEL CELL BATTERY EMERGENCY POWER 19D902845P6	18
69" INDOOR CABINET WITH ONE STATION 19D902845P21	20
MASTR III STATION WITH MASTR II AUXILIARY RECEIVER 19D902845P8	24
MASTR III TX P.A. aa57-HRB 10426	25
MASTR III STATION WITH MASTR III MULTIPLE RECEIVER 19D902845P10	27
69" INDOOR CABINET WITH GETC SHELF 19D902845P9	28
MASTR III BASE STATION WITH VOICE GUARD GETC MODULE 19D902845P11-P13	29
EDACS CABINET WITH ONE STATION 19D902845P15	31
EDACS CABINET WITH MULTI-STATIONS 19D902845P16	32
EDACS MULTI-STATION CABINET WITH SIM SHELF 19D902845P17	34
MULTI-STATION ASSEMBLY 19D902845P16	35
EXTERNAL REFERENCE OSCILLATOR/DISTRIBUTION AMPLIFIER OPTION 19D902845P18	36
RS-232 SIMULCAST GETC 19D902845P22	37
RIC EQUIPMENT 19D902845P23	38
STATION RECEIVER VOTING FOR RS-232 19D902845P24	39
EDACS SIMULCAST STATION 19D902845P22 & P33	40
45" WEATHER PROOF CABINET 19D902845P25	41
MODEM VOTING & CNI INSTALLATION 19D902845P26 & P27	42
3 EDACS ADVANTAGE STATIONS 19D902845P29	43
3/5 CHANNEL EDACS SYSTEM - COMBINER/MULTICOUPLER CHANNEL 4 & 5 19D902845P28 & P30	44
3/4 CHANNEL EDACS SYSTEM - COMBINER AND MULTICOUPLER 19D902845P33	45
GPS SIMULCAST STATION GETC 19D902845P33	46
HARNES 19C337792P1	47
19B801454P16 & P17	48
19B801454P17 & P18	48
19B801454P19 & P20	48
19B801454P24	48
CONTROL CABLE ASSEMBLY (PART OF POWER AMPLIFIER) 19B801739P1	48
POWER CABLE (PART OF POWER AMPLIFIER) 19B801937P1	49
19B235871P1	49
344A3052P1	49
CONTROL EXTENDER BOARD 188D5338G1	50
RF EXTENDER BOARD 188D5338G2	50
MULTI PURPOSE MODULE 193D1094G1	51
GROUNDING STRAP INSTALLATION INSTRUCTIONS	52

This manual is published by **M/A-COM Private Radio Systems, Inc.**, without any warranty. Improvements and changes to this manual necessitated by typographical errors, inaccuracies of current information, or improvements to programs and/or equipment, may be made by **M/A-COM Private Radio Systems, Inc.**, at any time and without notice. Such changes will be incorporated into new editions of this manual. No part of this manual may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying and recording, for any purpose, without the express written permission of **M/A-COM Private Radio Systems, Inc.**

Copyright© 1992-2002, M/A-COM Private Radio Systems, Inc. All rights reserved.

SAFETY INFORMATION

- The means of disconnecting power from a station cabinet is the cabinet power supply plug.
- When conducting repair/maintenance, disconnect the cabinet power supply plug from the AC source.
- In European applications, equipment must be installed in a closed cabinet.
- Only replace components with components specified by M/A-COM Private Radio Systems.



The **ESD** symbol calls attention to procedures, practices, or the like, which could expose equipment to the effects of **Electro-Static Discharge**. Proper precautions must be taken to prevent ESD when handling circuit modules.



CAUTION – This radio contains components that can be damaged by the effects of Electrostatic Discharge (ESD). Be sure to use proper precautions when disassembling this equipment.

ESD CAUTION:

When operating the MASTR III System module, ESD precautions must be observed to insure that the unit continues to function correctly. Due to ESD sensitive components, an ESD event could cause the MASTR III to operate improperly. To prevent this from occurring, ESD precautions are required. These precautions would include but are not limited to:

- The use of an ESD wrist strap connected to any attachable metallic surface on the rack chassis, housing the MASTR III equipment.

The ESD caution is being provided to avoid inducing an equipment malfunction by an ESD event. If an ESD induced malfunction occurs, there will be no permanent damage to the unit, but manual reset will be necessary.

INTRODUCTION

This manual (LBI-38775) contains information for the MASTR III Base Station, including application information, cable diagrams and parts list for the cabinet hardware. For additional information refer to the following manuals:

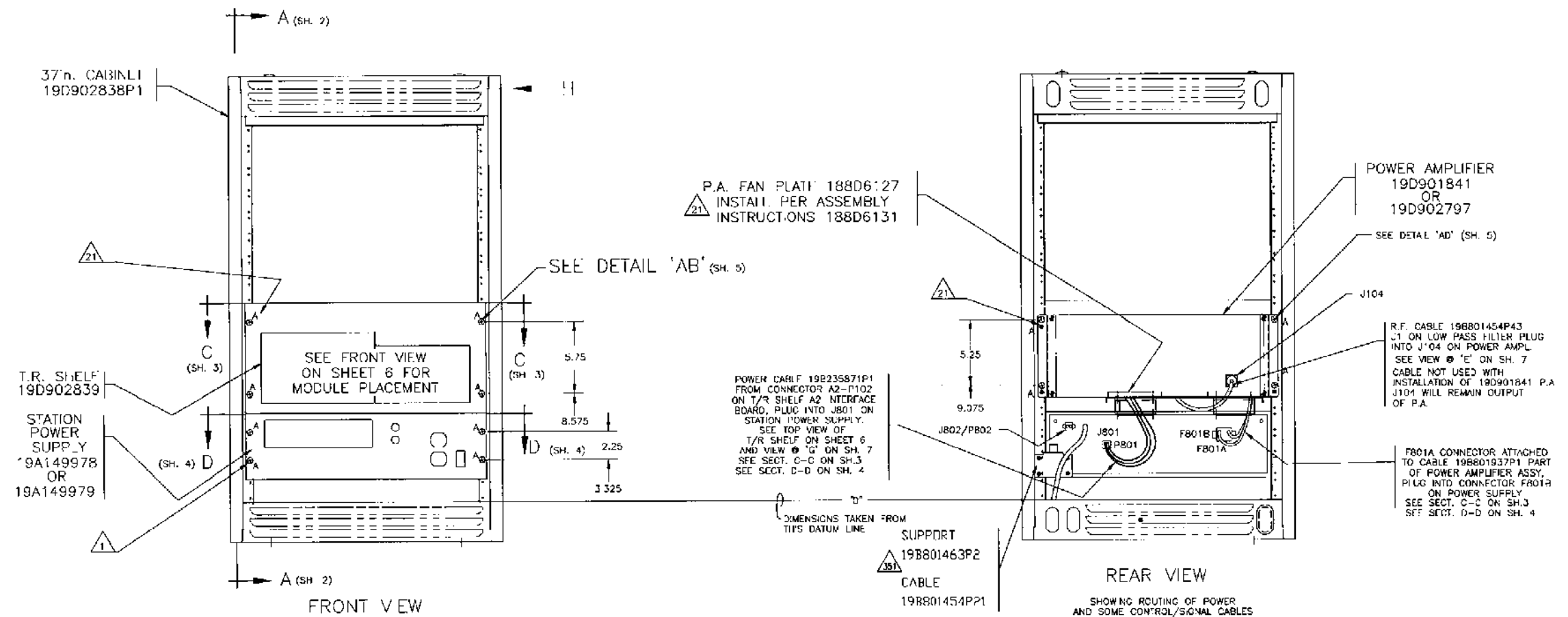
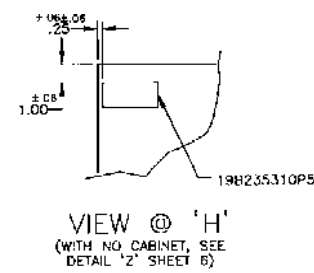
<u>MANUAL NUMBER</u>	<u>TITLE</u>	<u>COMMENTS</u>
LBI-38636	Installation	How to install including Interconnection Diagrams.
AE/LZT 123 3242/1	Installation	Installation, Configuration and Checkout for EDACS Basic or Level 1 Systems.
LBI-38754	VHF RF Package	Information on the VHF equipment.
LBI-38675	UHF RF Package	Information on the UHF equipment.
LBI-39025	800 MHz RF Package	Information on the 800 MHz equipment.
LBI-38983	Antenna System	Information on typical antenna system installations.
LBI-38812	EDACS Interface Panels	Information on the panel used in EDACS applications.
LBI-38894	GETC	Information on the GETC equipment
LBI-38625	Charger/Emergency power	Information on the battery charger and emergency power equipment.
LBI-38805	RF Test Fixture	Information on the RF Test Fixture

APPLICATIONS

<u>OPTION NUMBER</u>	<u>APPLICATION ASSEMBLY</u>	<u>DESCRIPTION</u>
SXCAIS	19D902845P1	Installation of One MASTR III Station in a 37" Indoor Cabinet
SXRB1J	19D902845P2	Installation of R/R Shelf for MASTR III Station.
SXSU3A	19D902845P3	Installation of Coax Switch.
SXDU1J	19D902845P4	Installation UHF (150-162 MHz) Duplexer
SXDU1K		Installation UHF (152-174 MHz) Duplexer
SXDU1M		Installation UHF (450-470 MHz) Duplexer
SXCH1L/M	19D902845P5	Installation of Battery Charger with Automobile Battery Emergency Power in a 37" Indoor Cabinet.
SXCH1R SXCH3A	19D902845P6	Installation of Battery Charger with Gel Cell Battery Emergency Power in a 37" Indoor cabinet.
SXSU3D	19D902845P7	Installation of SOR (Squelch O perated R elay) Kit.
SXMK3C	19D902845P8	Installation of MASTR II Auxiliary Receiver in a 37" or 69" Cabinet.
SXCP5T SXMD3J	19D902845P9	Installation of GETC Shelf in a 69" Indoor Cabinet.
SXMIL3S	19D902845P10	Installation of MASTR III auxiliary Receiver in a 37" or 69" Cabinet
SXVG3E SXVG3F	19D902845P11	Installation of GETC Shelf for an E/E Voice Guard/Aegis Repeater and Remote/Repeater in a 37" or 69" Indoor Cabinet.
SXVV1N SXVV1M SXVV1S SXVW1J	19D902845P12	Installation of E/D Module (non-1027 version) in a 37" or 69" Indoor Cabinet (Aegis Remote/Remote/Repeat MASTR III).
SXVG3C SXVG3D	19D902845P13	Installation of E/D module (1027 version) in a 37" or 69" Indoor Cabinet (Remote E/D & Remote/Repeat).
SXDE5B	19D902845P14	Installation of Transmit Data Board.
SXAP3K	19D902845P16	Installation of Multi-Stations in a 69" or 83" Indoor Cabinet or Open Rail Rack.

INTRODUCTION & APPLICATIONS

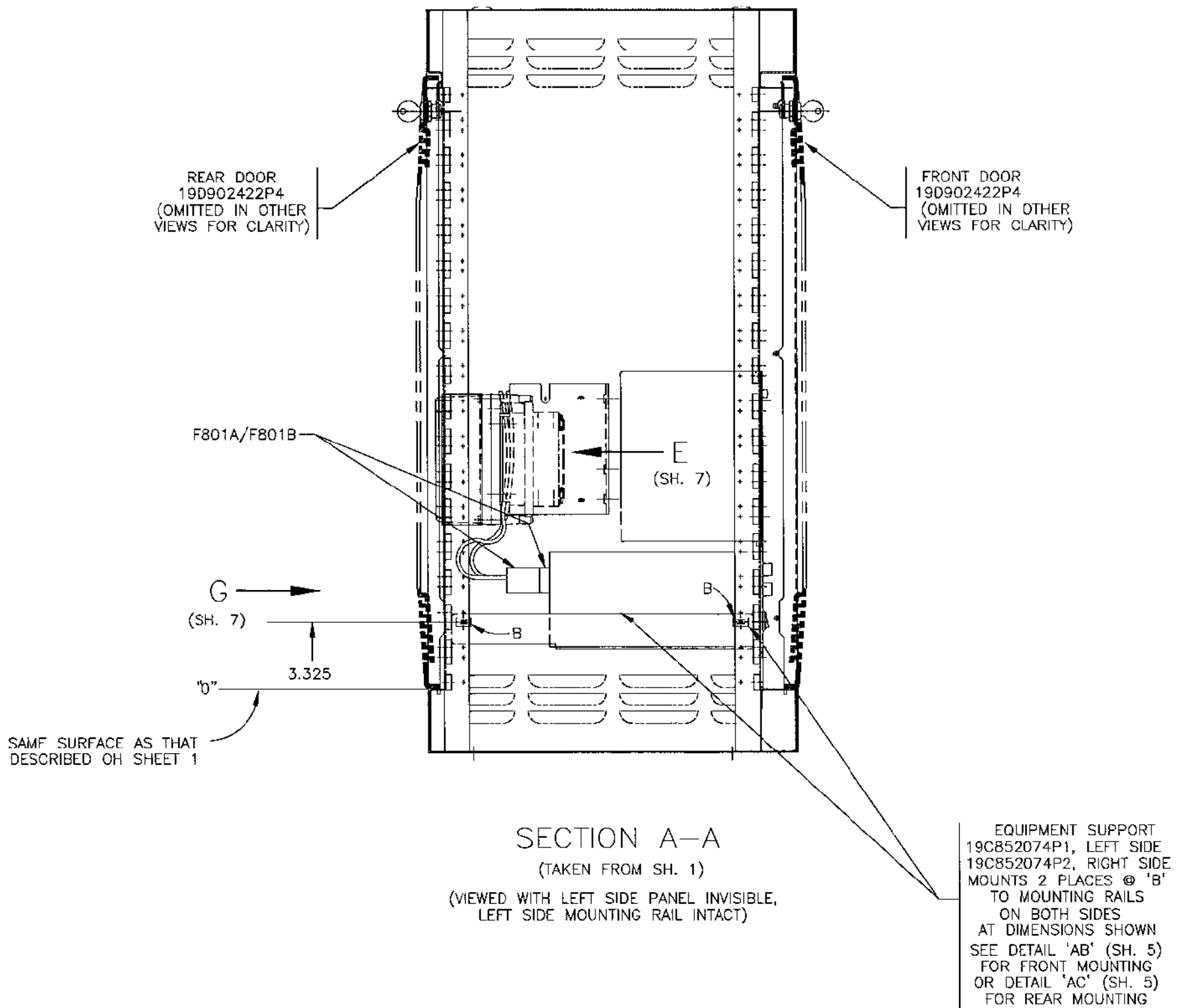
<u>OPTION NUMBER</u>	<u>APPLICATION ASSEMBLY</u>	<u>DESCRIPTION</u>
	19D902845P21	Installation in 69" Indoor Cabinet or Open Rail Rack.
SXMD3M	19D902845P22	Installation for Simulcast Stations.
SXMD1S	19D902845P23	Installation and Modifications Instruction for RIC Telephone Interconnect.
SXVT1B	19D902845P24	Modification for Station Receiver Voting for RS-232.
SXCA1X	19D902845P25	Installation in 45" Weatherproof Cabinet.
SXVT1L	19D902845P26	Modem Voting Installation.
SXCP5T	19D902845P27	CNI Installation.
SXFN1A		2-Speed Fan (110 VAC).
SXFA1L		2-Speed Fan (230 VAC).
SXCY1S	19D902845P17	MASTR III with SIM Shelf.
	19D902845P18	MASTR III Reference Oscillator/Distribution Amplifier.



- ③ RX ANT CABLE W/O RELAY/DX
- ① 37in. HIGH CABINET WITH
(1) MASTR II TRANSMIT/RECEIVE STATION

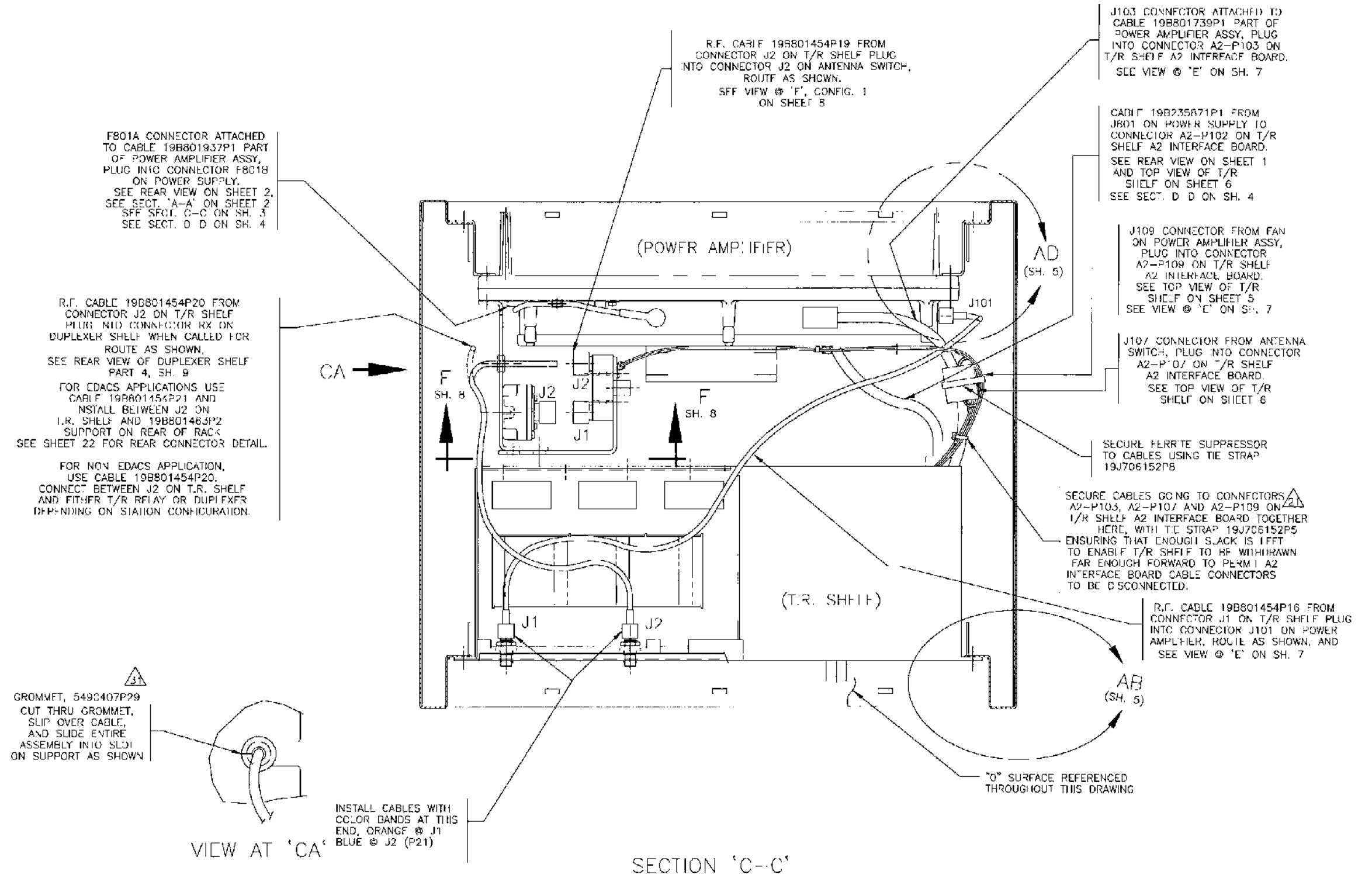
37" INDOOR CABINET
19D902845P1

(19D902845, Sh. 1, Rev. 12)



37" INDOOR CABINET
19D902845P1

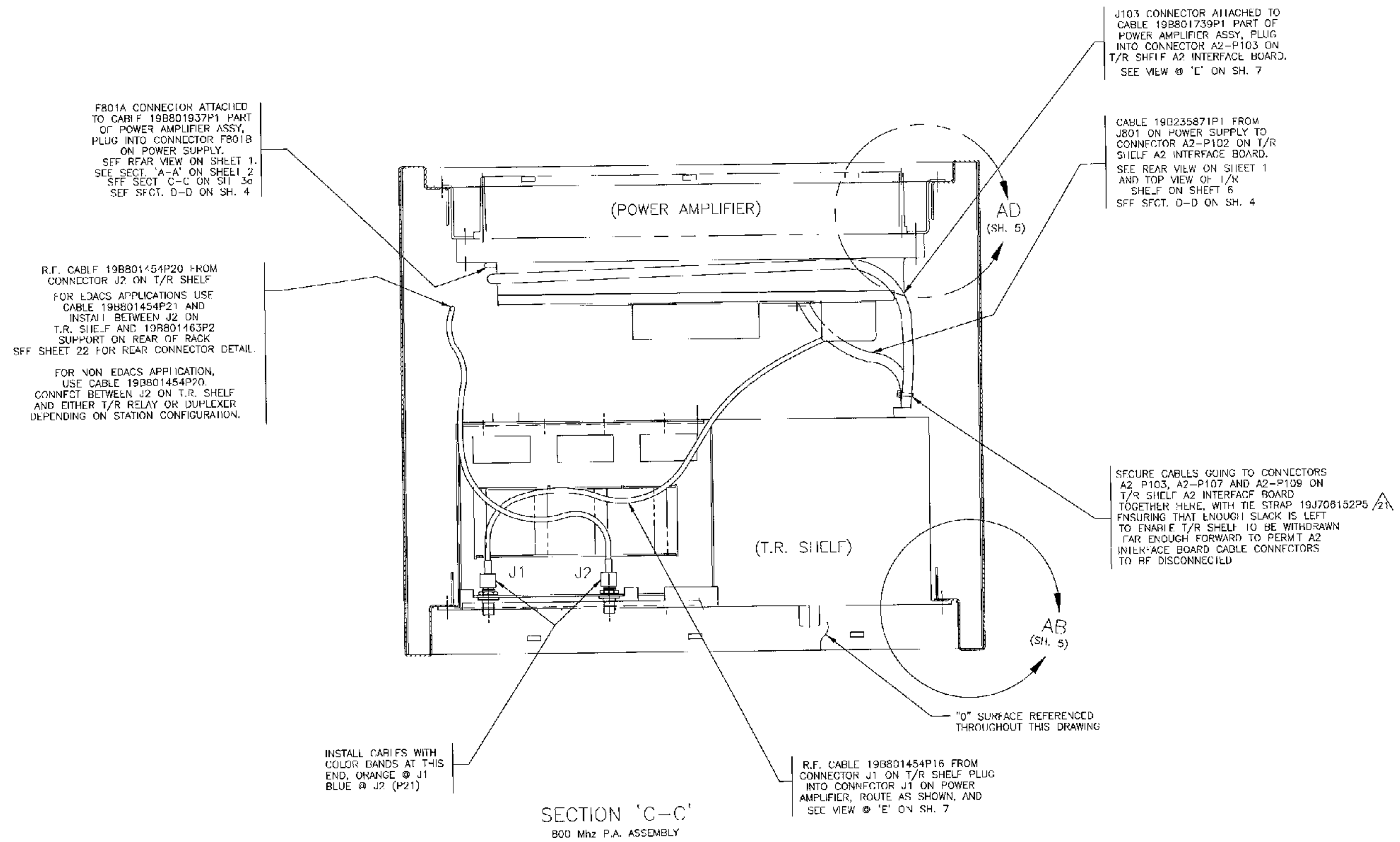
(19D902845, Sh. 2, Rev. 3)



37" INDOOR CABINET 19D902845P1

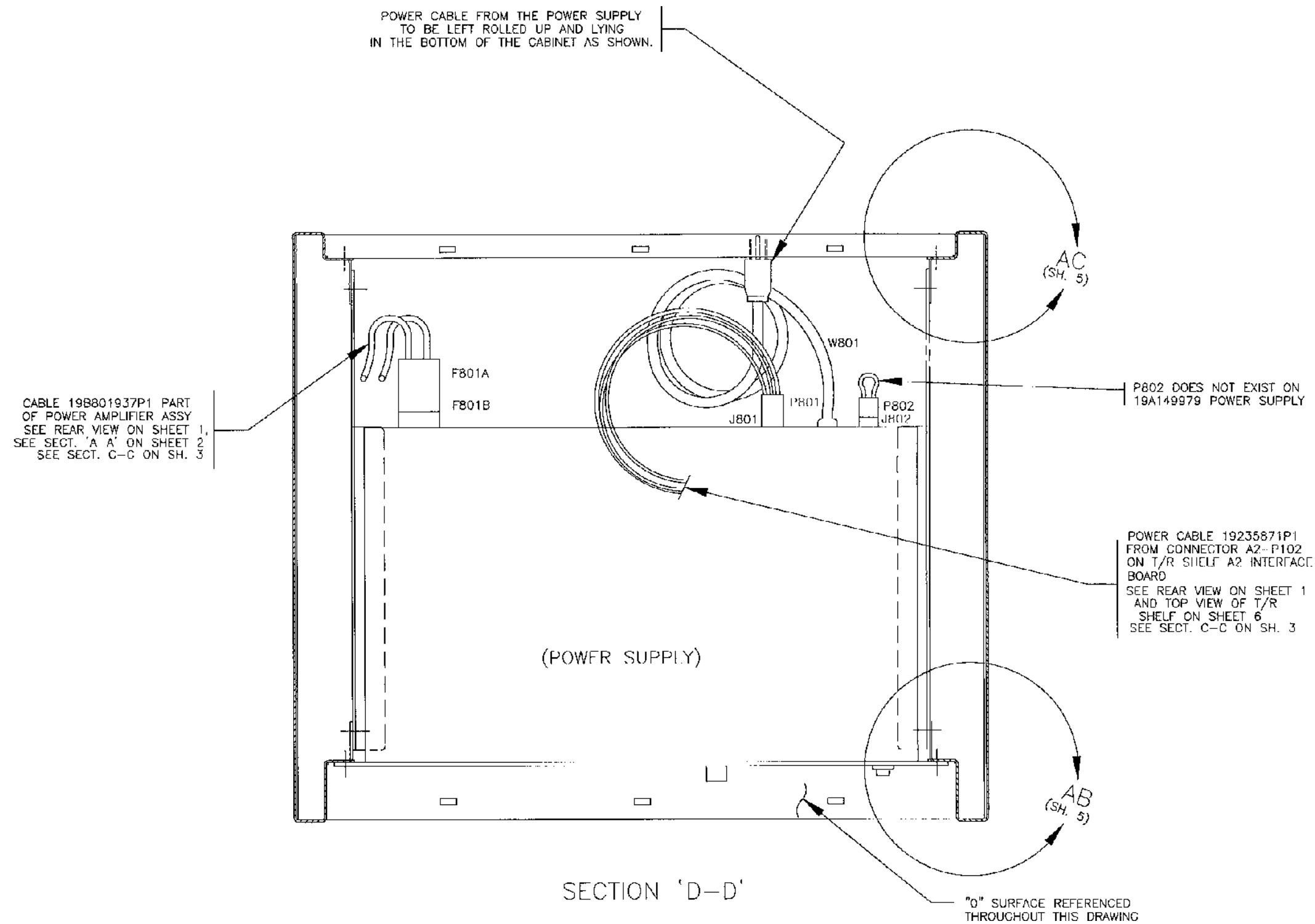
(19D902845, Sh. 3, Rev. 7)

APPLICATION ASSEMBLY DIAGRAM



37" INDOOR CABINET
19D902845P1

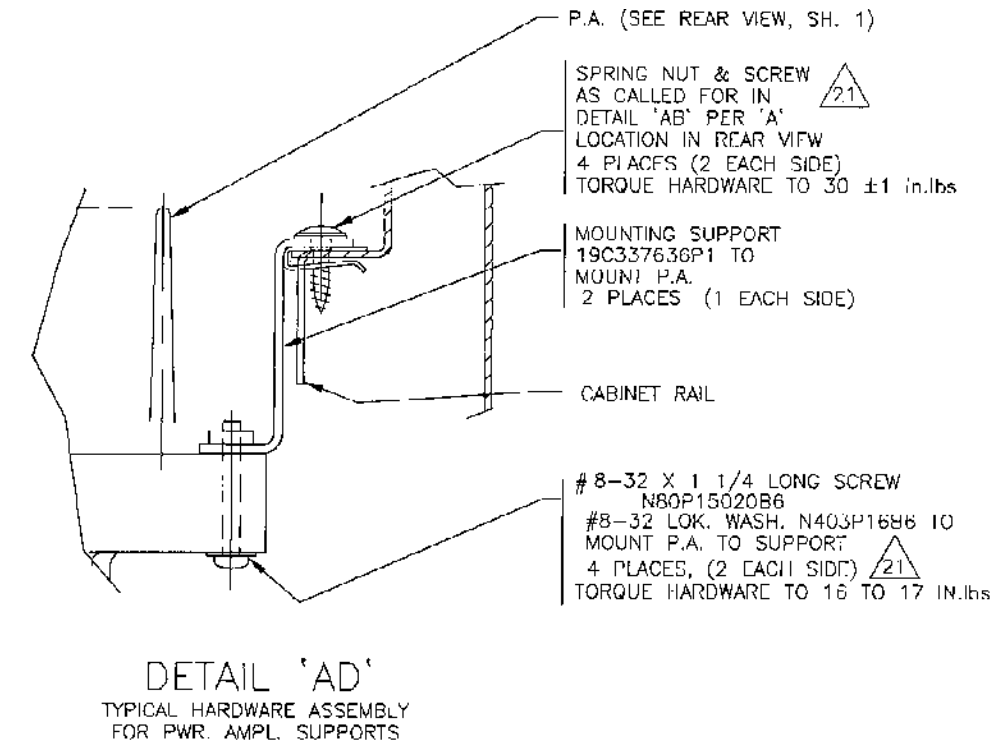
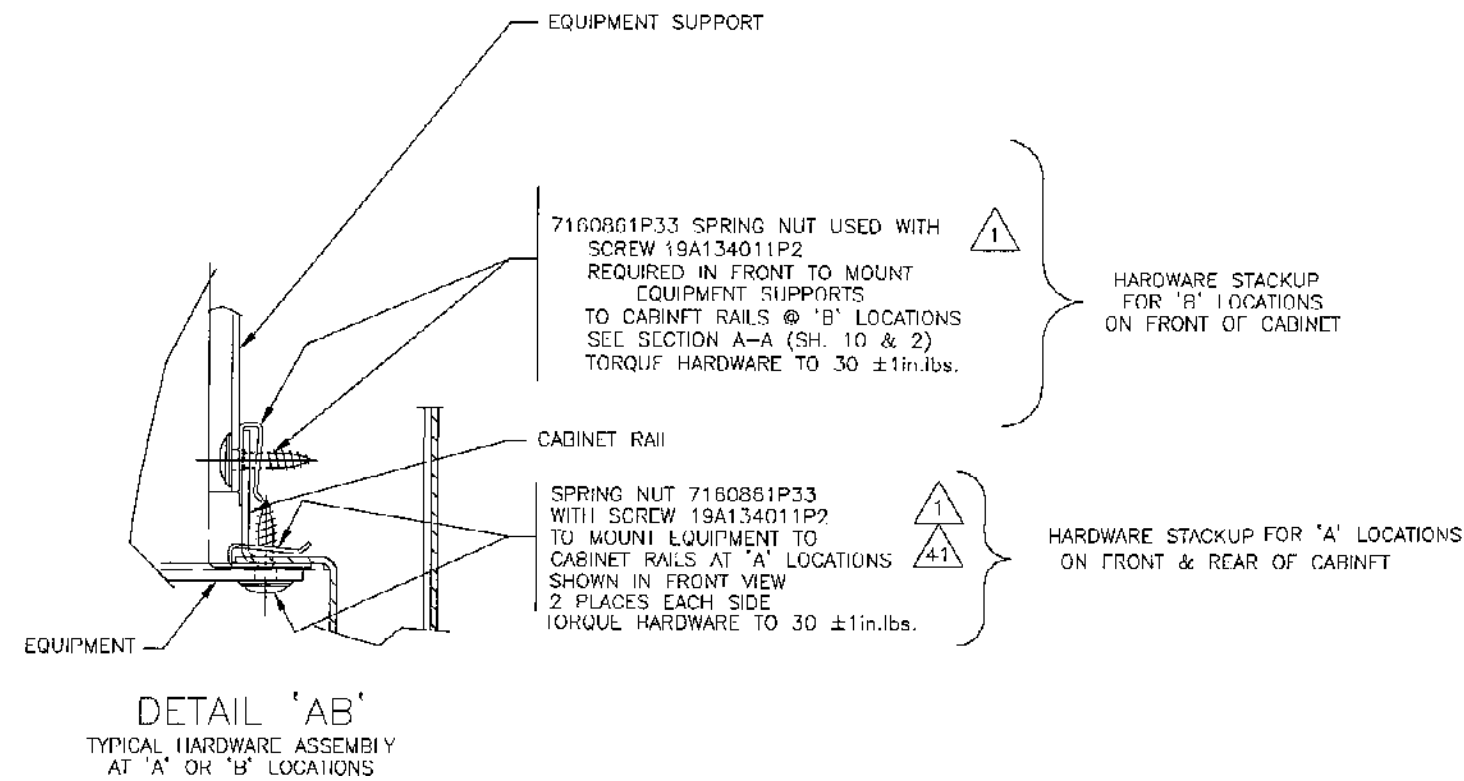
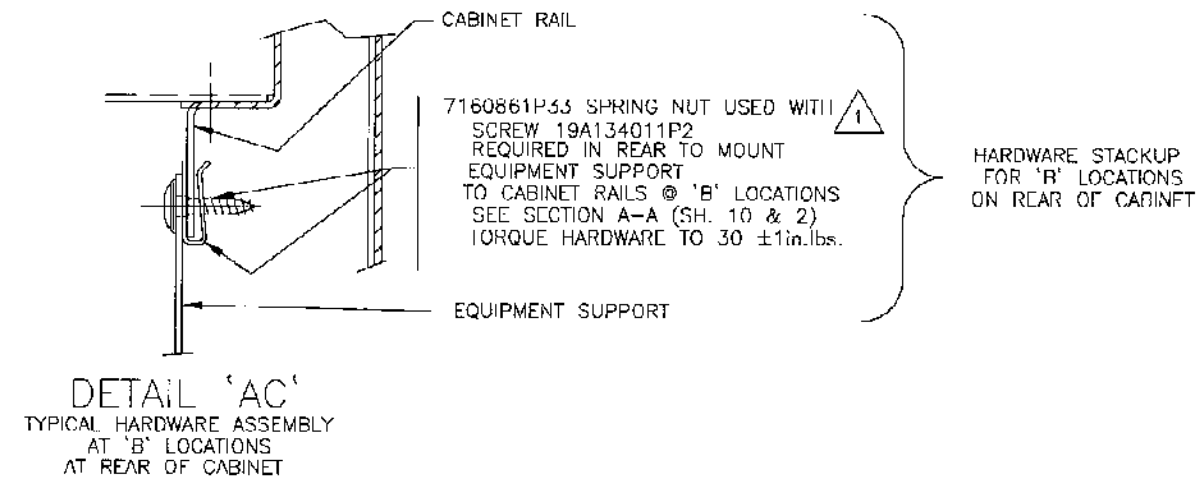
(19D902845, Sh. 3A, Rev. 4)



37" INDOOR CABINET
19D902845P1

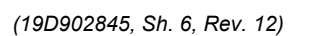
(19D902845, Sh. 4, Rev. 2)

APPLICATION ASSEMBLY DIAGRAM

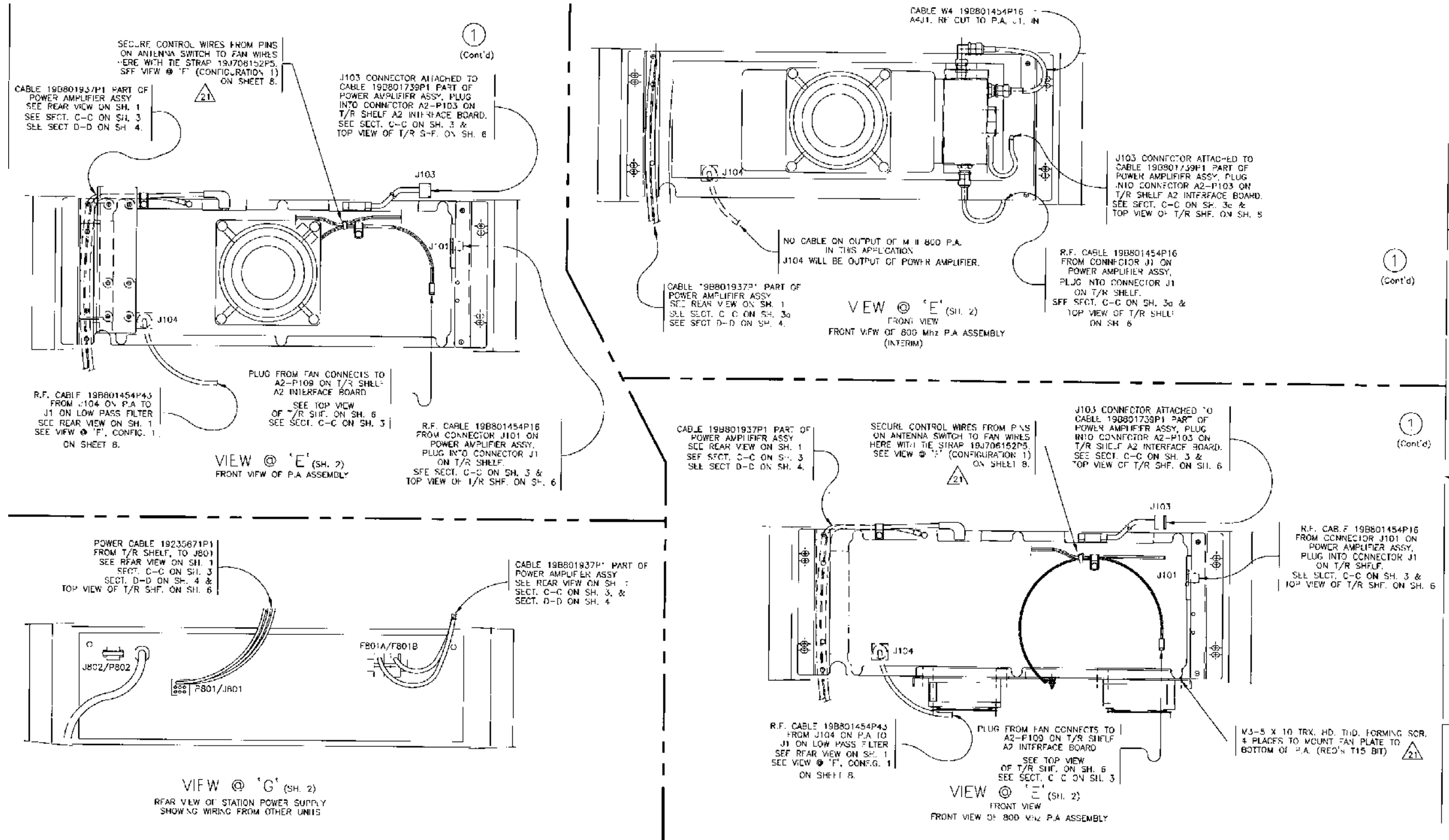


**37" INDOOR CABINET
19D902845P1**

(19D902845, Sh. 5, Rev. 5)

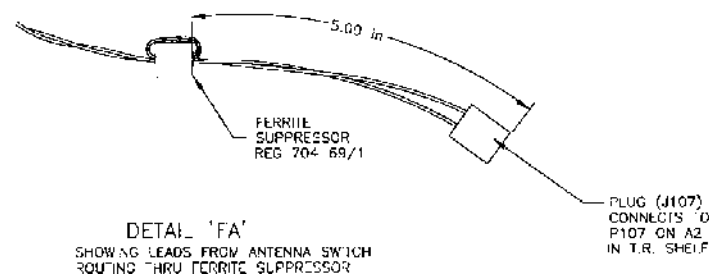
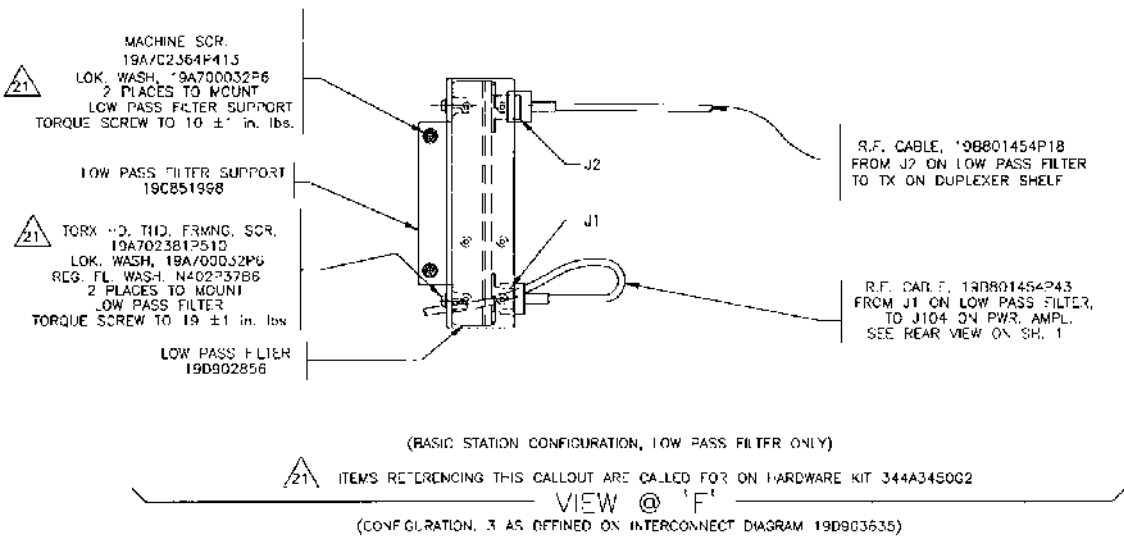
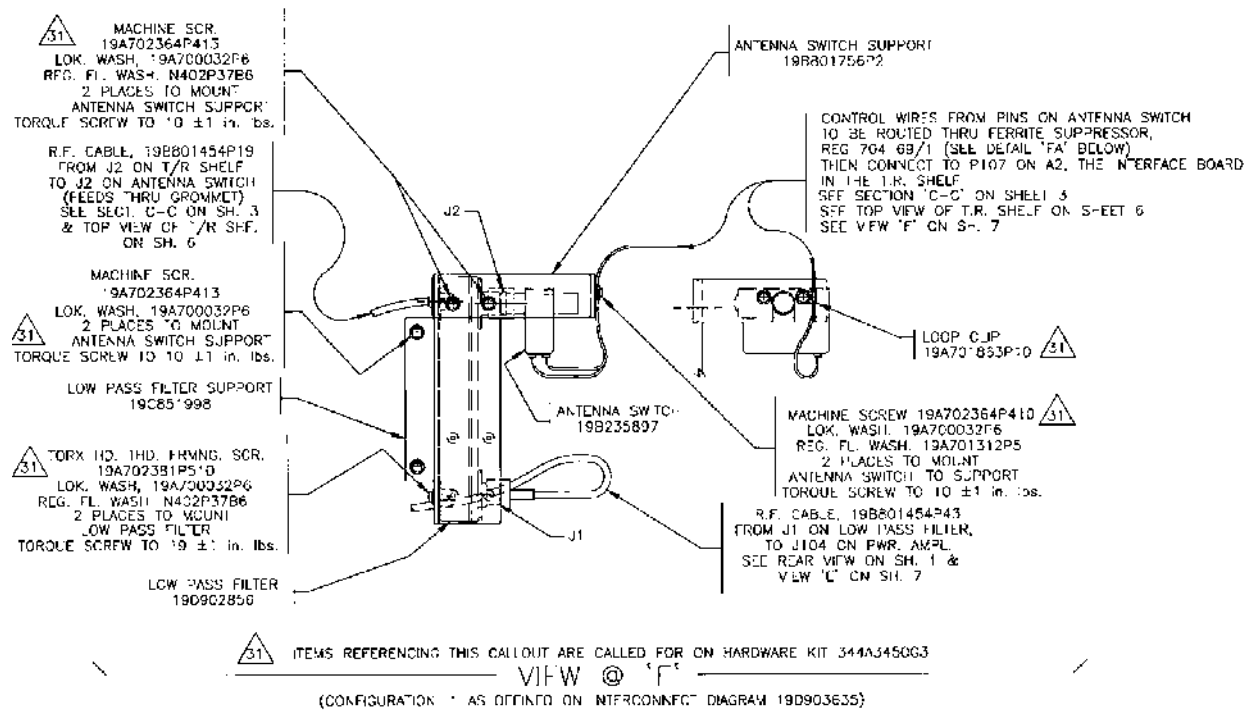


APPLICATION ASSEMBLY DIAGRAM



T/R SHELF, SQUELCH OPERATED RELAY, DATA MODULE, AMPLIFIER MODULE & TRANSMIT ONLY STATION
19D902845P2, P7, P14, P19 & P32

(19D902845, Sh. 7, Rev. 7)

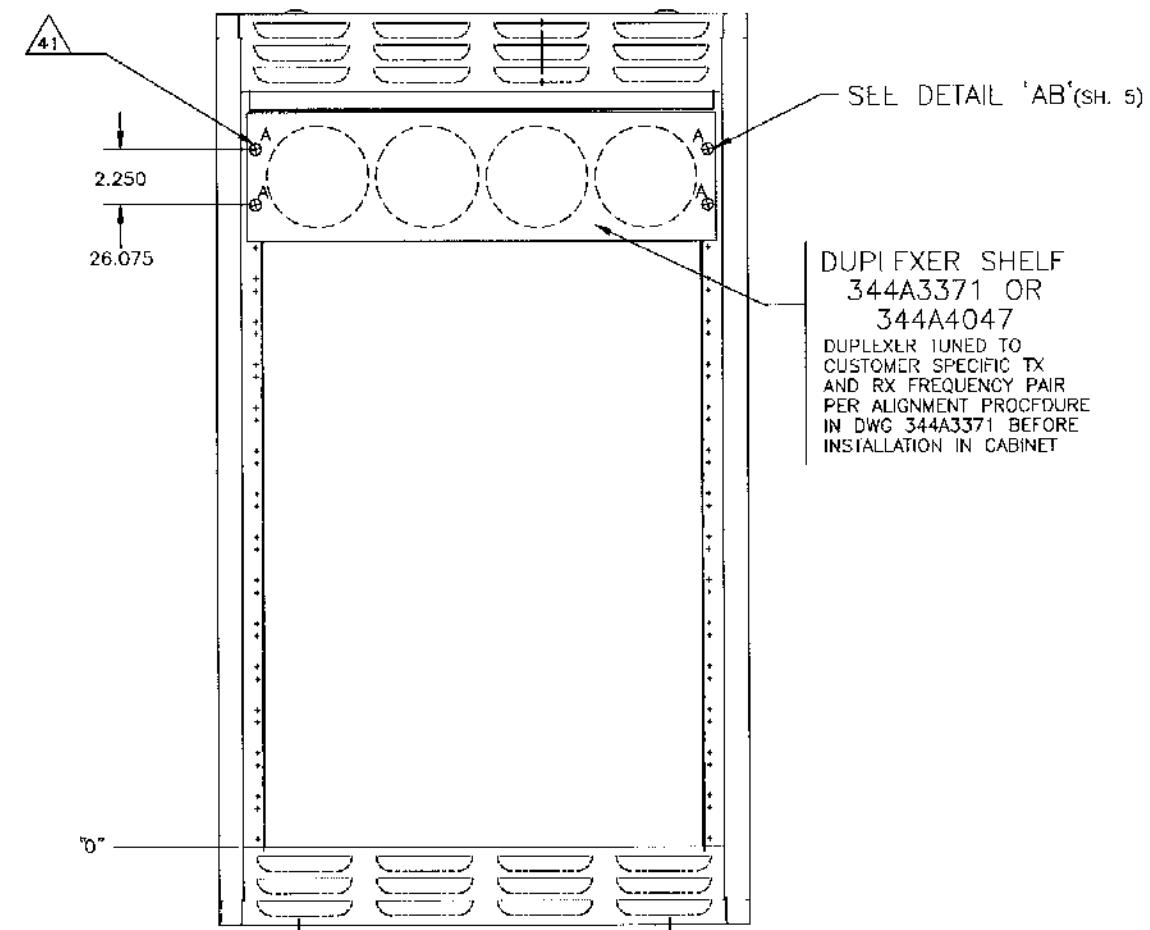


③ ANTENNA RELAY ASM.

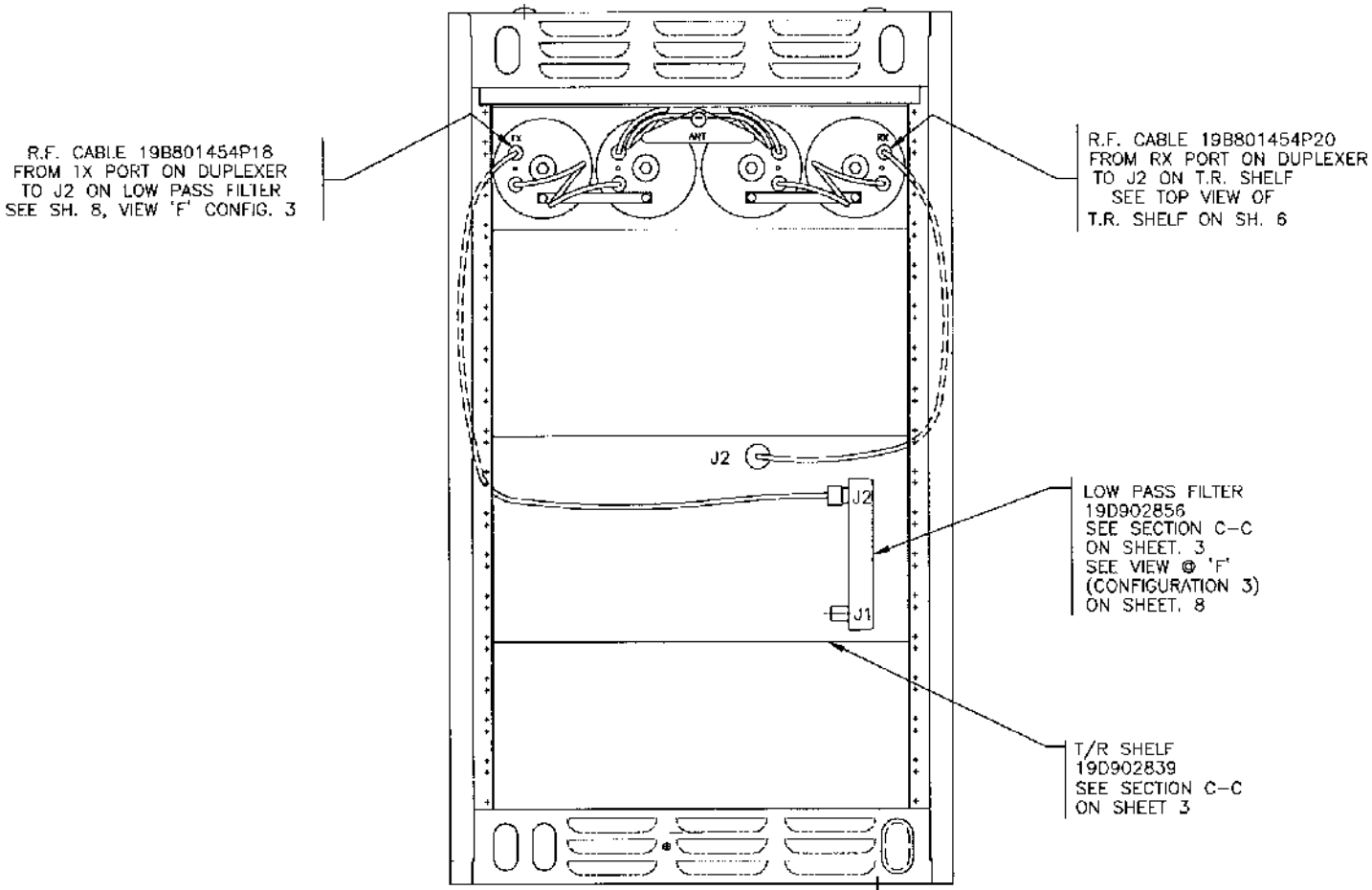
COAX SWITCH ASSEMBLY 19D902845P3

(19D902845, Sh. 8, Rev. 8)

APPLICATION ASSEMBLY DIAGRAM



FRONT VIEW



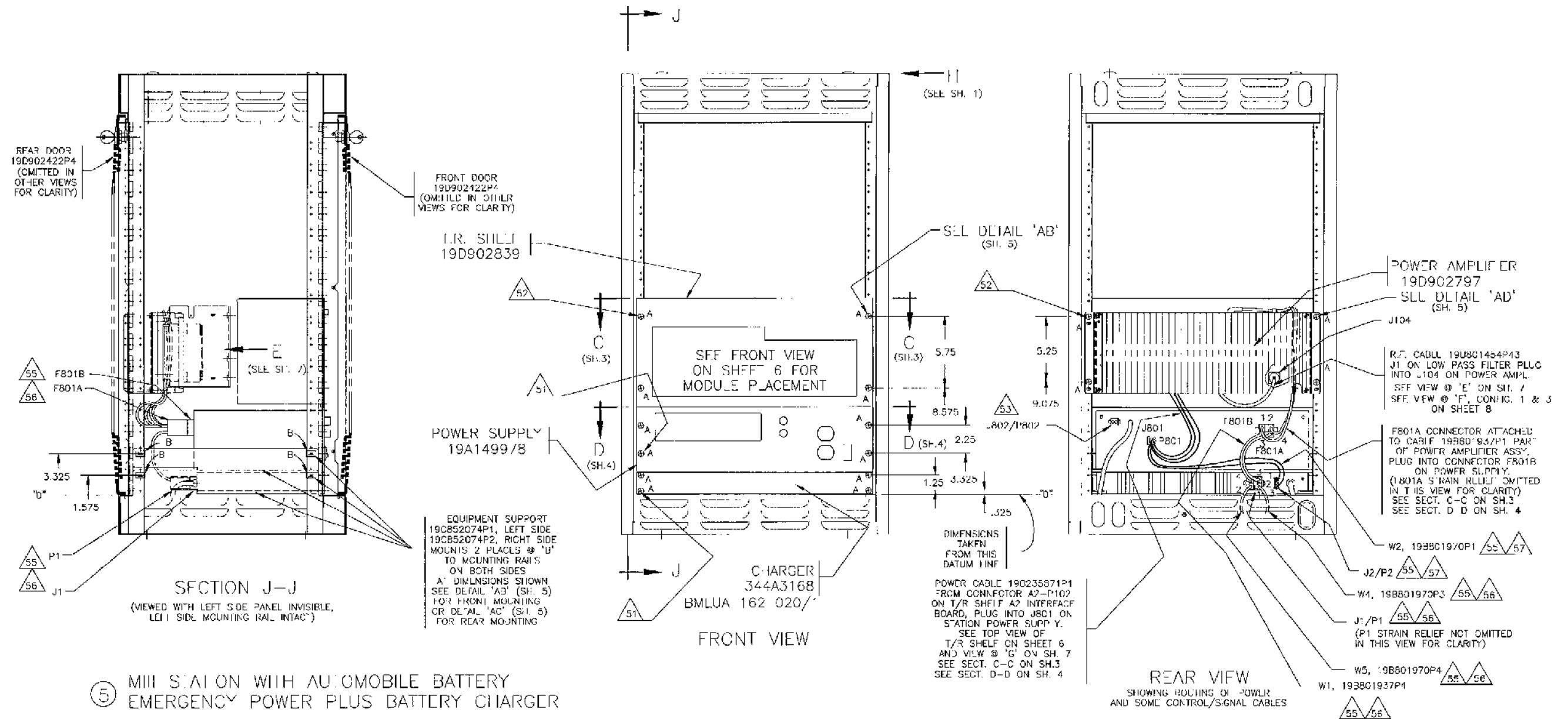
REAR VIEW

④ MASTR III STATION WITH DUPLEXER SHELF

- NOTES:
- 41 ITEMS REFERENCING THIS CALLOUT ARE CALLED FOR
ON HARDWARE KIT P.L. 344A3450G4.
2. INSTALL CABLES AS SHOWN AND INTERCONNECT IN
ACCORDANCE WITH INTERCONNECT DIAGRAM
19D903635 (CONFIGURATION 3)

37" INDOOR CABINET WITH DUPLEXER SHELF
19D902845P4

(19D902845, Sh. 9, Rev. 4)



NOTES:

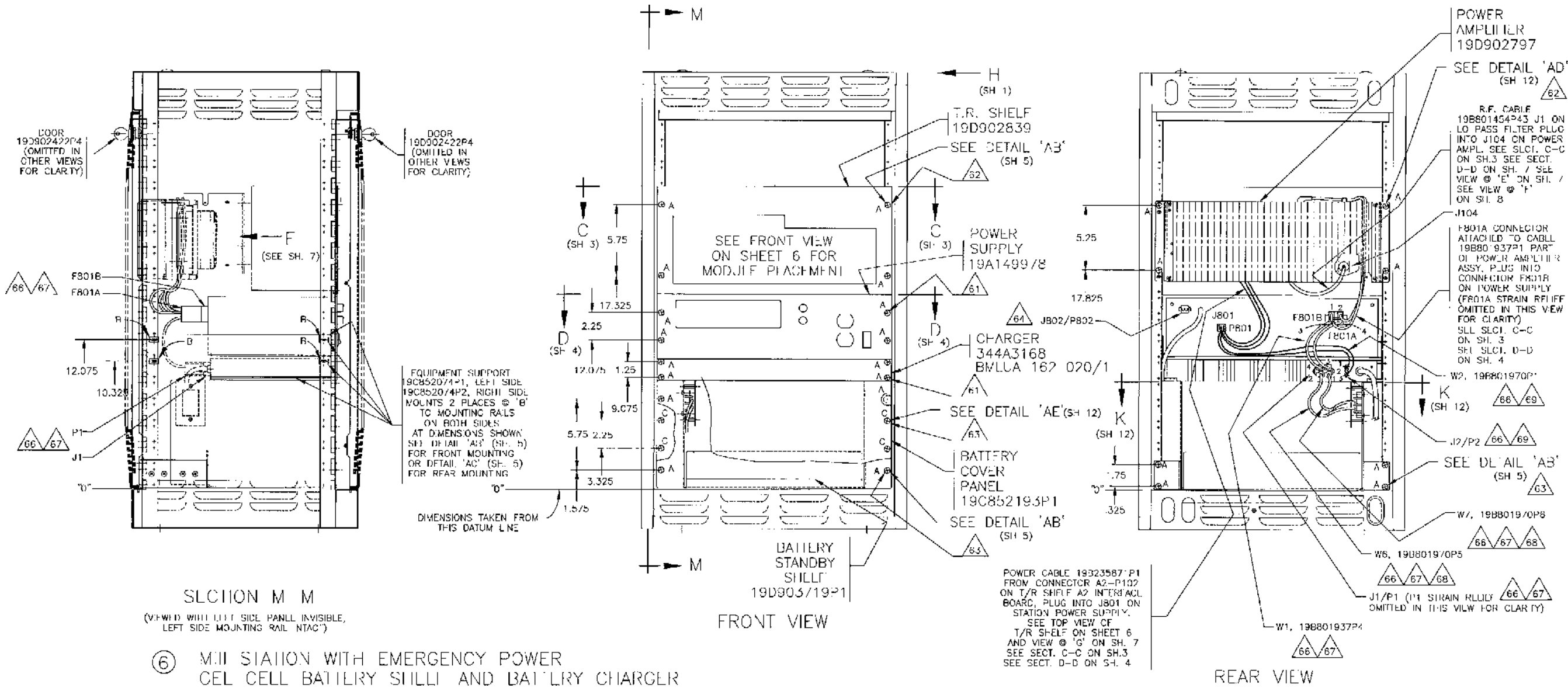
51. ITEMS REFERRING THIS CALLOUT ARE CALLED FOR ON HARDWARE KIT PL344A3450G1
52. ITEMS REFERRING THIS CALLOUT ARE CALLED FOR ON HARDWARE KIT P1344A3450G2
53. REMOVE P802 FROM J802 ON POWER SUPPLY 79A149978.
54. INITIAL CABLES AS SHOWN AND INTERCONNECT IN ACCORDANCE WITH INTERCONNECT DIAGRAM 19D903635. SEE ALSO NOTES 55, 56, & 57.
55. INTERCONNECTION OF CABLES IN NOTES 56 & 57 TO BE CONSISTENT WITH INTERCONNECT DRAWING 19D903635.

56. REMOVE FE01A OF PA LEAD ASSEMBLY 19B801937P1 FROM F801B OF POWER SUPPLY. REMOVE STRAIN RELIEFS 1RCM 1801A AND 1RCM P1 OF W1.
INSERT THE BROWN WIRE OF W1 INTO THE NUMBER 3 CAVITY OF F801A.
INSERT THE BLACK WIRE OF W1 INTO THE NUMBER 4 CAVITY OF 1801A.
INSERT THE CONTACT END OF W4 INTO THE NUMBER 1 CAVITY OF P1 OF W1.
INSERT THE CONTACT END OF W5 INTO THE NUMBER 2 CAVITY OF P1 OF W1.
REINSTALL STRAIN RELIEFS FOR P1 OF W1 AND 1801A.
PLUG P1 OF W1 INTO J1 OF THE CHARGER.
PLUG F801A INTO 1801B OF THE POWER SUPPLY.
CABLES W4 AND W5 ARE TO BE LEFT ROLLED UP AND LYING ON THE FLOOR OF THE CABINET.
57. PLUG P2 OF W2 INTO J2 ON THE CHARGER.
INSERT THE ORANGE WIRE OF W2 INTO THE NUMBER 8 CAVITY OF F801 OF CABLE ASSEMBLY 19B235871P1.
INSERT THE BLACK WIRE OF W2 INTO THE NUMBER 9 CAVITY OF P801 OF CABLE ASSEMBLY 19B235871P1.

-  FOR 13 INCH DEEP CABINET MOUNTING, USE REAR SUPPORTS 19B226160 SUPPLIED WITH HARDWARE KIT 341A3696C1. RETURN ANY UNUSED SUPPORTS TO STOCK.

37" INDOOR CABINET WITH AUTOMOBILE BATTERY EMERGENCY POWER
19D902845P5

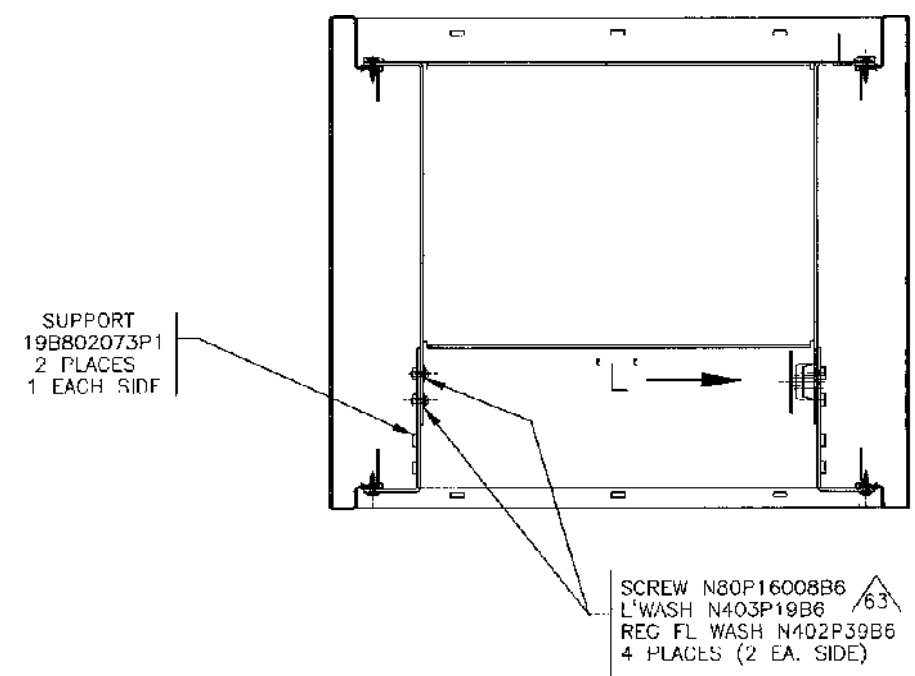
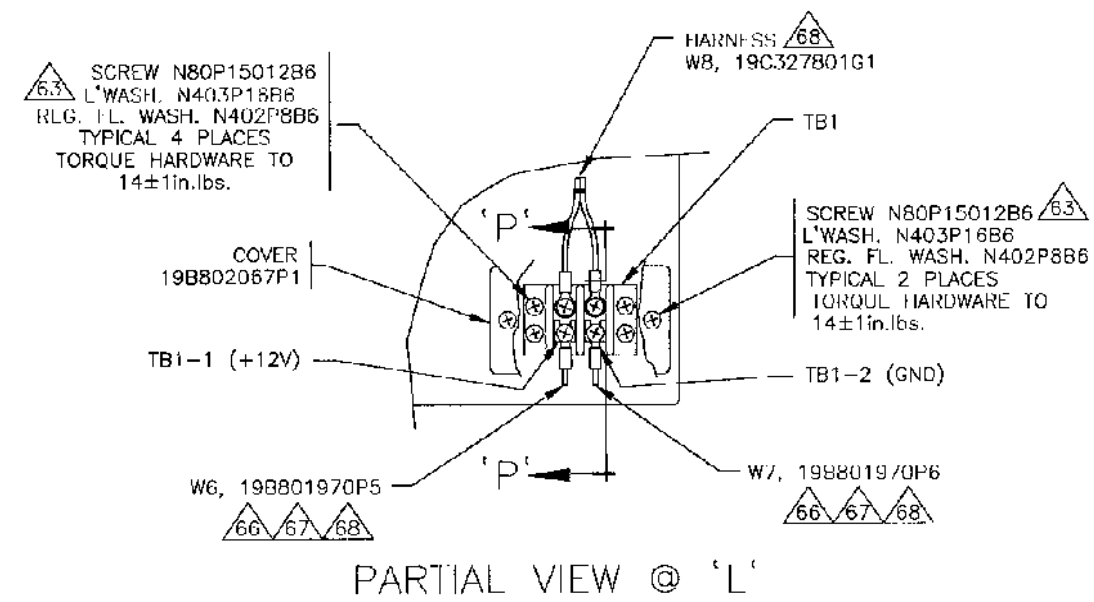
(19D902845, Sh. 10, Rev. 3)



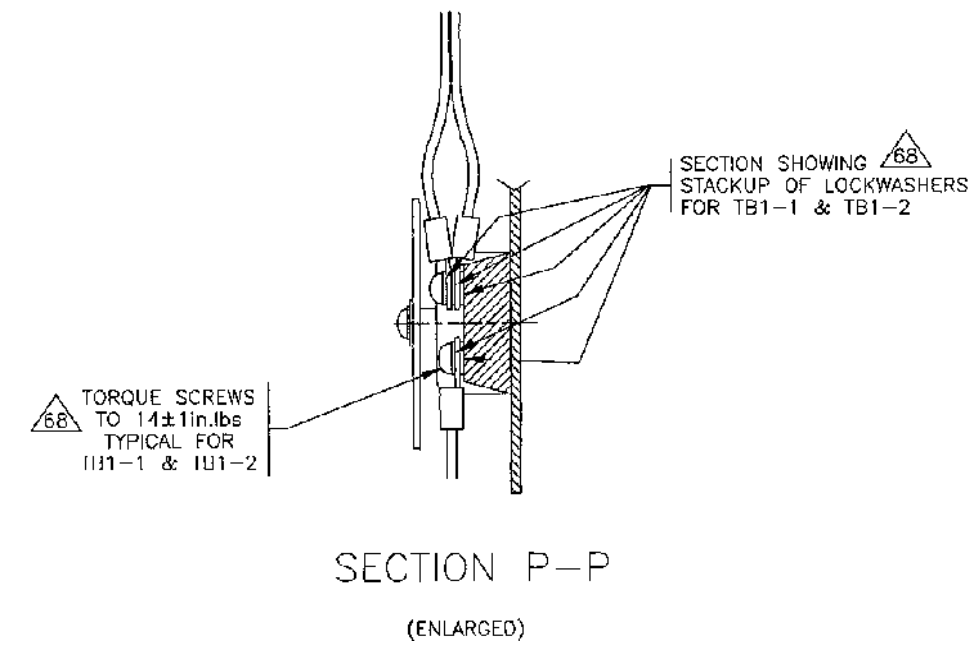
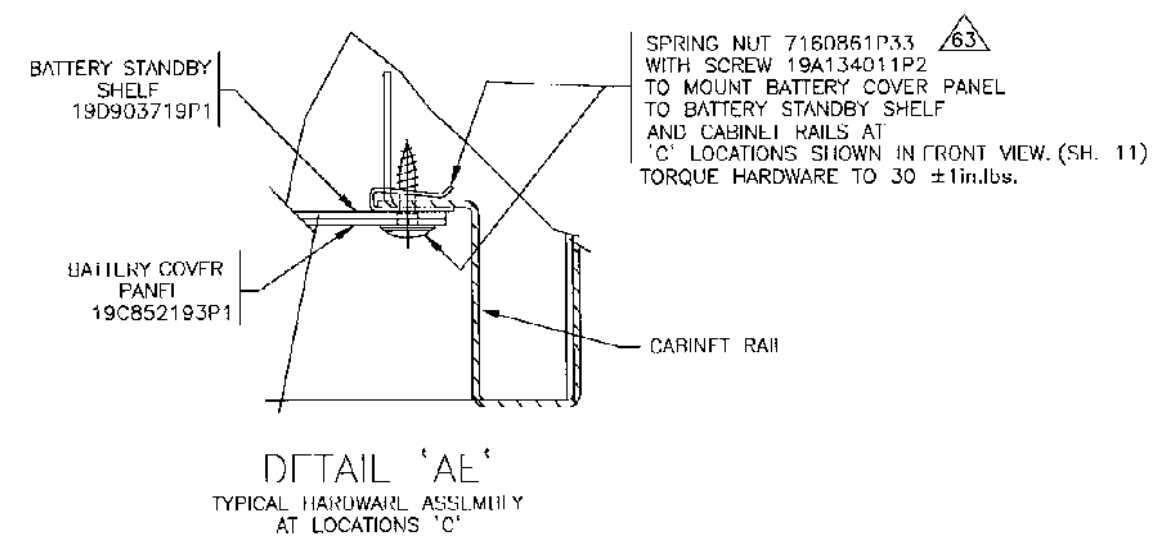
- NOTES:
- 61. ITEMS REFERENCING THIS CALLOUT ARE CALLED FOR ON HARDWARE KIT PL344A3450G1.
 - 62. ITEMS REFERENCING THIS CALLOUT ARE CALLED FOR ON HARDWARE KIT PL344A3450G2.
 - 63. ITEMS REFERENCING THIS CALLOUT ARE CALLED FOR ON HARDWARE KIT PL344A3450G3.
 - 64. REMOVE P802 FROM J802 ON POWER SUPPLY 19A149978.
 - 65. INSTALL CABLES AS SHOWN AND INTERCONNECT IN ACCORDANCE WITH INTERCONNECT DIAGRAM 19D903635. SEE ALSO NOTES 66, 67, 68 & 69.
 - 66. INTERCONNECTION OF CABLES IN NOTES 67, 68 & 69 TO BE CONSISTENT WITH INTERCONNECTION DRAWING 19D903635.
 - 67. REMOVE STRAIN RELIEFS FROM F801A OF THE PA LEAD ASSEMBLY, 19B801937P1, AND FROM P1 OF W1 (19B801937P4). INSERT THE BROWN WIRE OF W1 INTO THE NUMBER 3 CAVITY OF F801A. INSERT THE BLACK WIRE OF W1 INTO THE NUMBER 4 CAVITY OF F801A. INSERT THE HERMAPHRODITIC CONTACT OF W6 (19B801970P5) INTO THE NUMBER 1 CAVITY OF P1 OF W1. INSERT THE HERMAPHRODITIC CONTACT OF W7 (19B801970P6) INTO THE NUMBER 2 CAVITY OF P1 OF W1. REMOVE STRAIN RELIEFS FOR P1 OF W1 AND F801A OF THE PA LEAD ASSEMBLY. PLUG P1 OF W1 INTO J1 OF THE CHARGER. PLUG F801A INTO F801B OF THE POWER SUPPLY.
 - 68. CONNECT W6 TO THE "1.2V" TERMINAL OF THE W8 (19C327801G1) TERMINAL BOARD. (TB1-1) CONNECT W7 TO THE "GND" TERMINAL OF THE W8 (19C327801G1) TERMINAL BOARD. (TB1-2)
 - 69. PLUG P2 OF W2 (19B801970P1) INTO J2 ON THE CHARGER. INSERT THE ORANGE WIRE OF W2 INTO THE NUMBER 8 CAVITY OF P801 OF CABLE ASSEMBLY 19B235871P1. INSERT THE BLACK WIRE OF W2 INTO THE NUMBER 9 CAVITY OF P801 OF CABLE ASSEMBLY 19B235871P1.

37" INDOOR CABINET WITH GEL CELL BATTERY EMERGENCY POWER
19D902845P6

(19D902845, Sh. 11, Rev. 2)



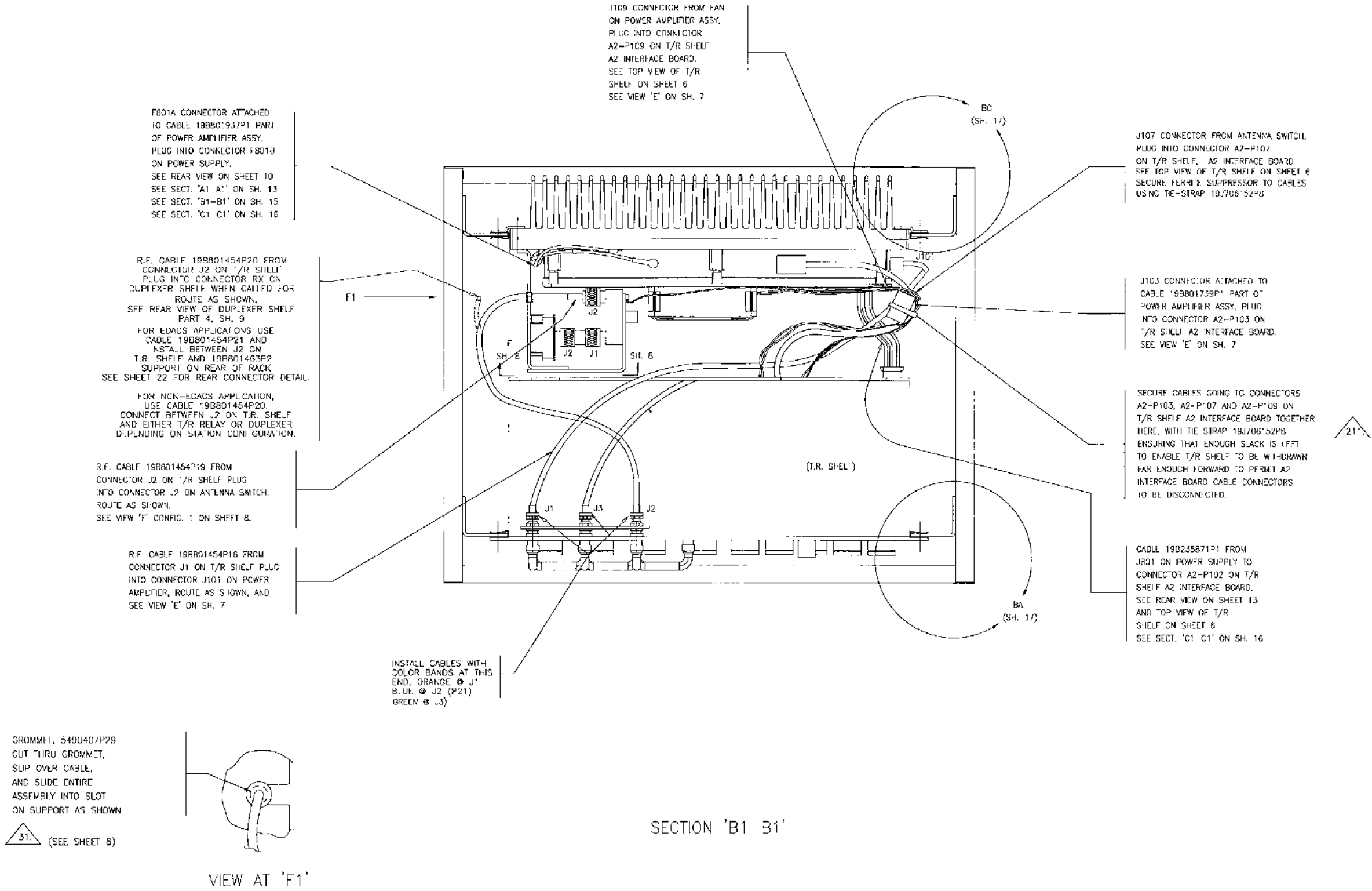
SECTION K-K



37" INDOOR CABINET WITH GEL CELL BATTERY EMERGENCY POWER
19D902845P6

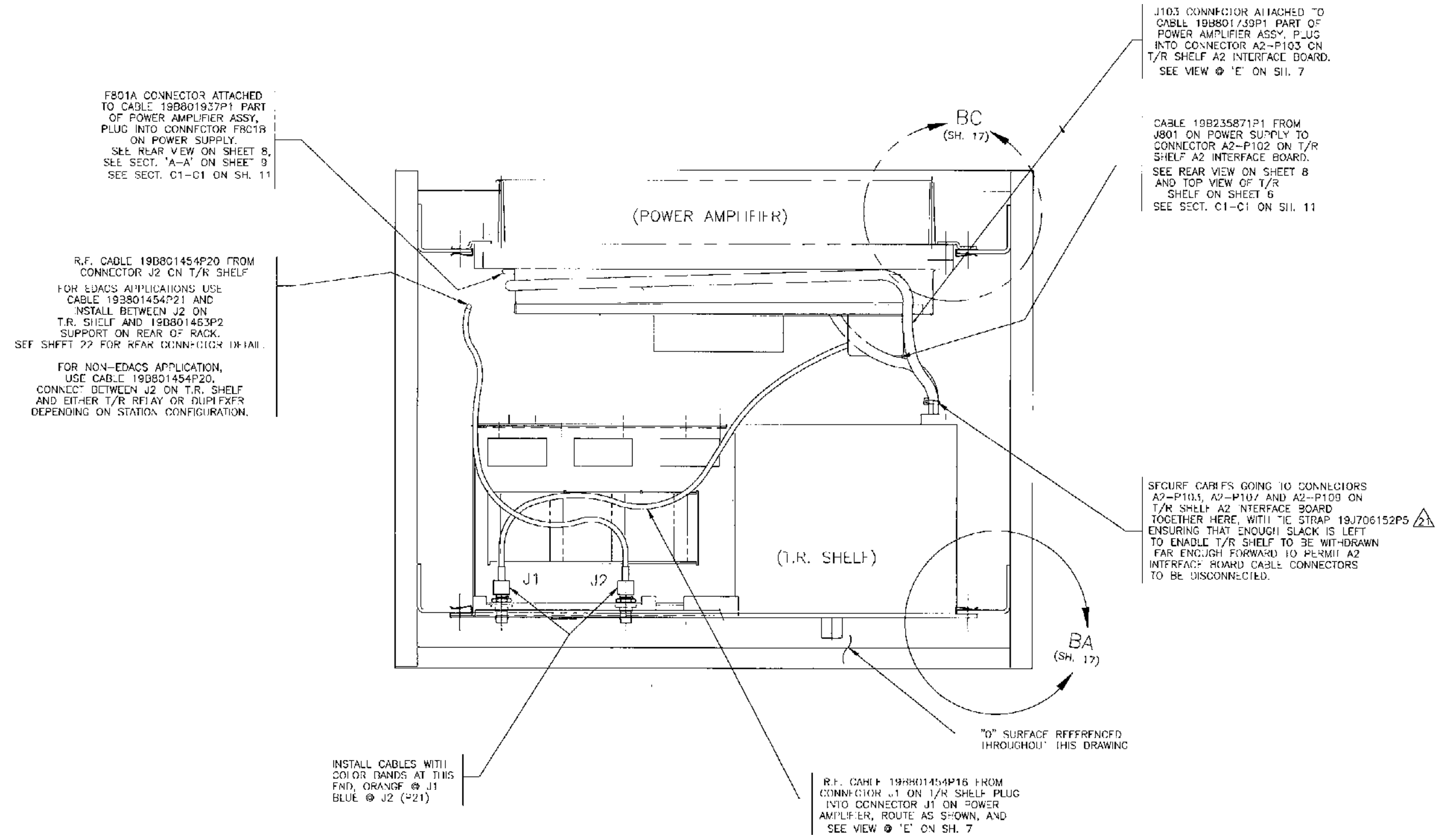
(19D902845, Sh. 12, Rev. 2)

APPLICATION ASSEMBLY DIAGRAM



69" INDOOR CABINET WITH ONE STATION
19D902845P21

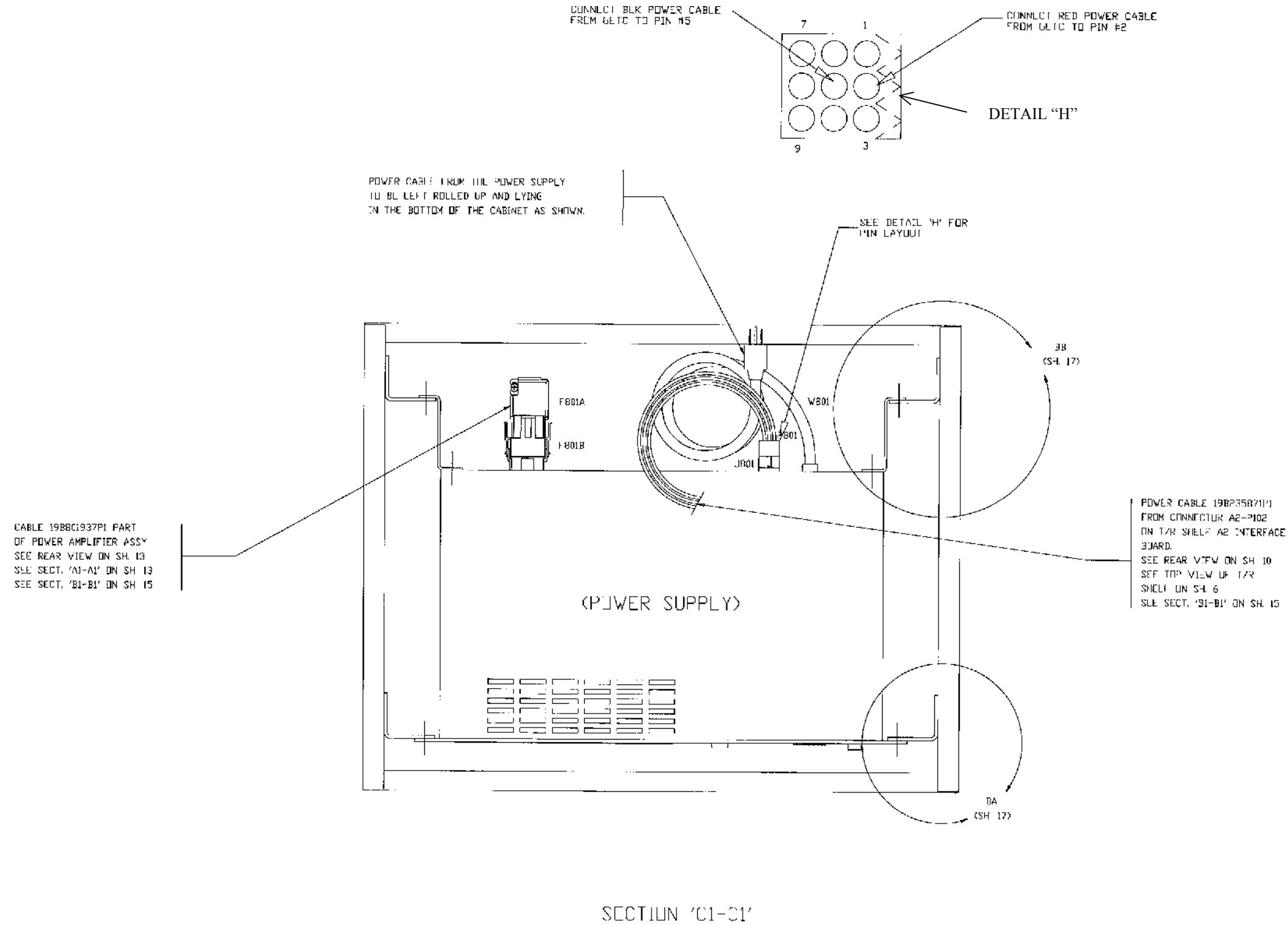
(19D902845, Sh. 15, Rev. 6)



69" INDOOR CABINET WITH ONE STATION
19D902845P21

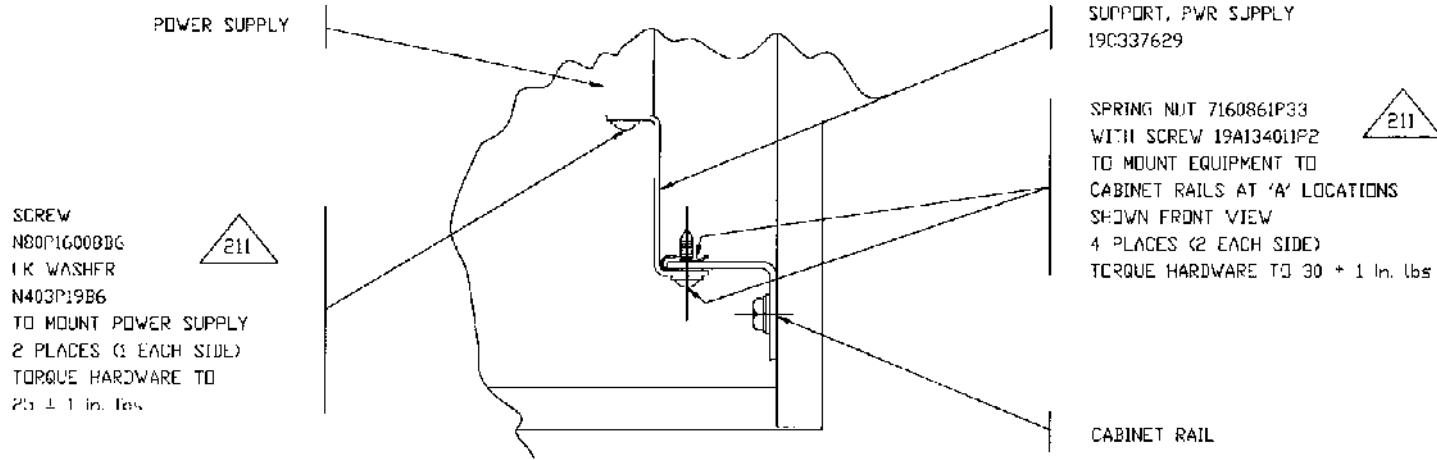
(19D902845, Sh. 15A, Rev. 4)

APPLICATION ASSEMBLY DIAGRAM

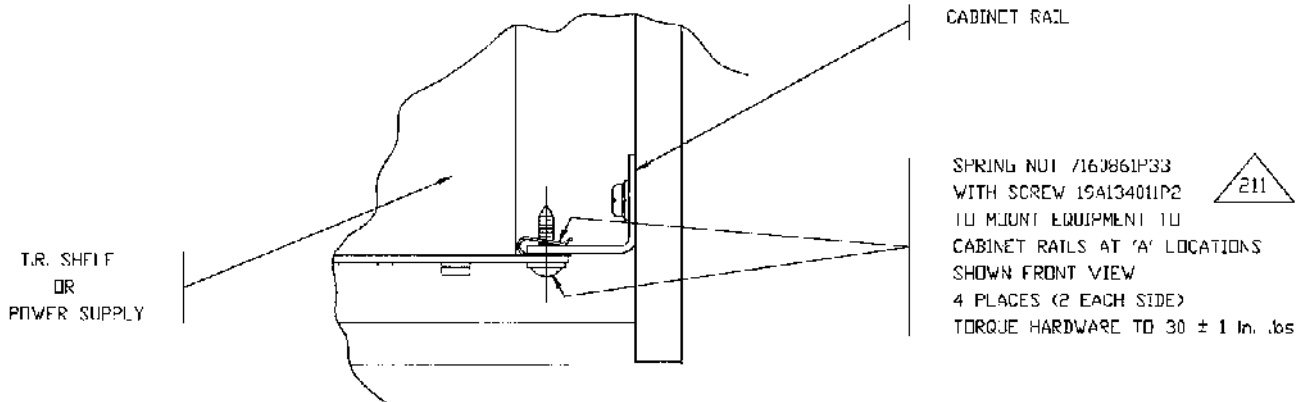


69" INDOOR CABINET WITH ONE STATION
19D902845P21

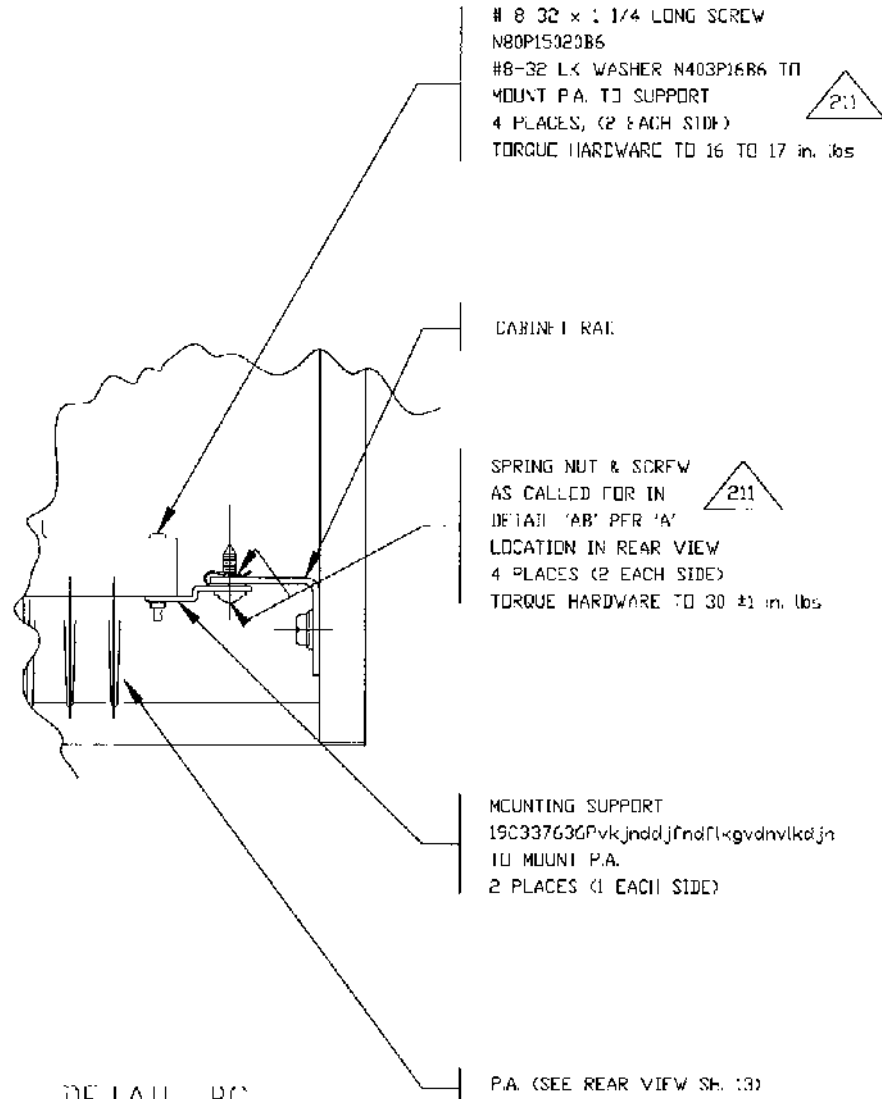
(19D902845, Sh. 16, Rev. 3)



DETAIL BB
TYPICAL HARDWARE ASSEMBLY
AT 'B' LOCATIONS AT REAR
OF CABINET.

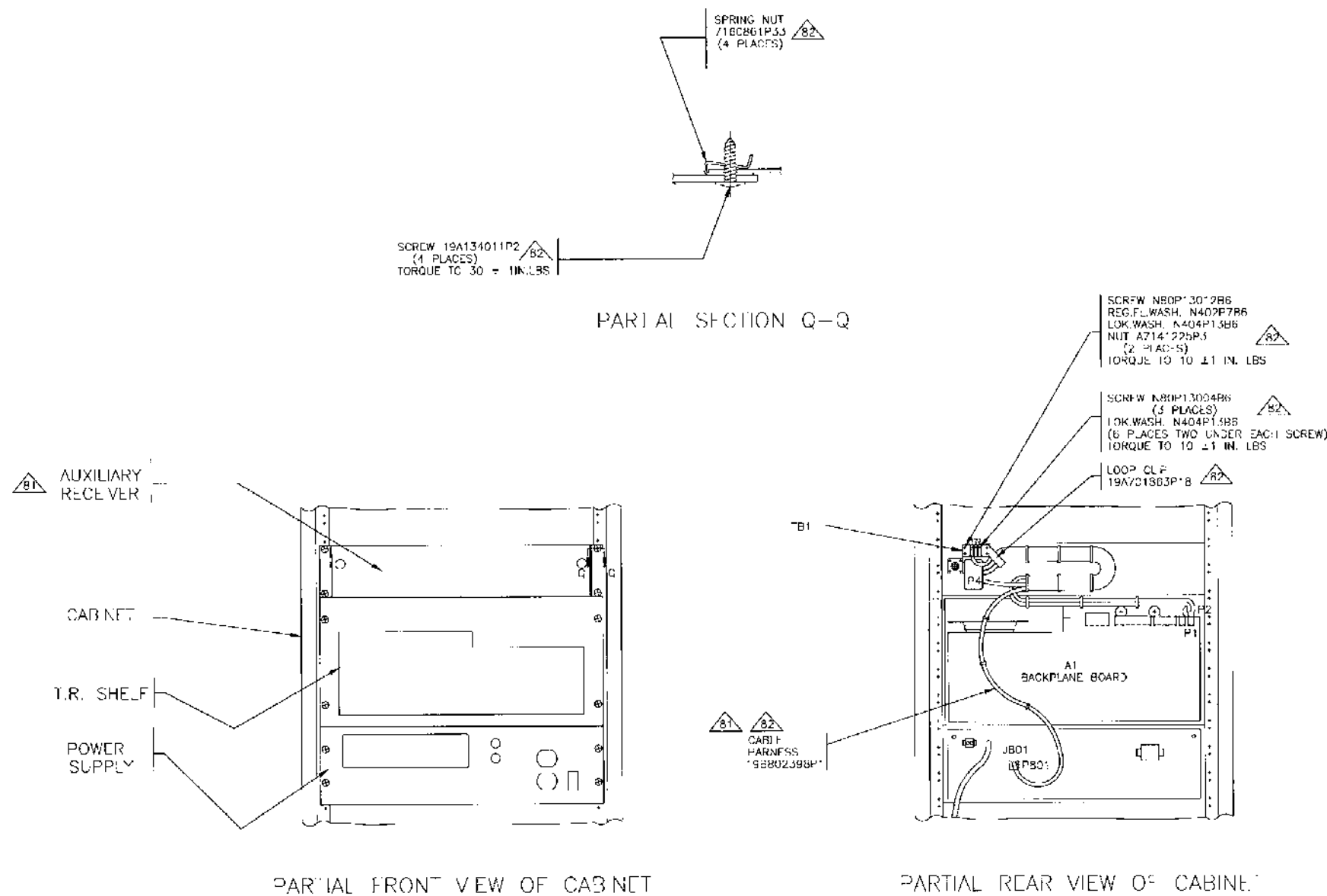


DETAIL BA
TYPICAL HARDWARE ASSEMBLY
AT 'A' LOCATIONS AT FRONT
OF CABINET.



DETAIL BC
TYPICAL HARDWARE ASSEMBLY
AT 'B' LOCATIONS AT REAR
OF CABINET.

APPLICATION ASSEMBLY DIAGRAM

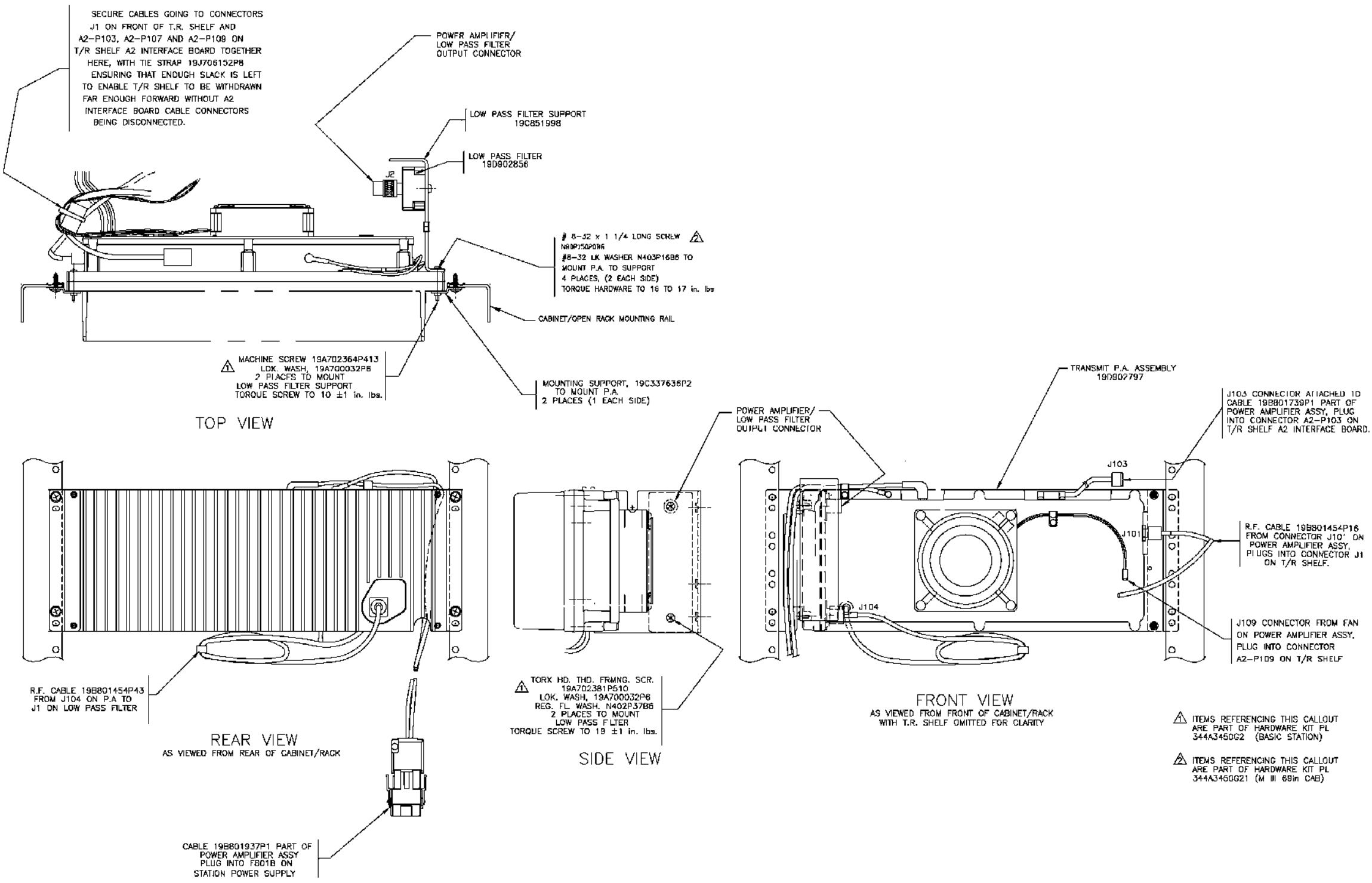


⑧ MASTR III STATION WITH MASTR II AUXILIARY RECEIVER SETUP

- NOTES:
- $\triangle 81$ INSTALL THE AUXILIARY RECEIVER SHELF AND CABLE HARNESS 19B802398P1 AS SHOWN. INTERCONNECT IN ACCORDANCE WITH INTERCONNECT DIAGRAM 19B802439.
 - $\triangle 82$ ITEMS REFERENCING THIS CALLOUT ARE CALLED FOR ON HARDWARE KIT PL344A3450G8.

MASTR III STATION WITH
MASTR II AUXILIARY RECEIVER
19D902845P8

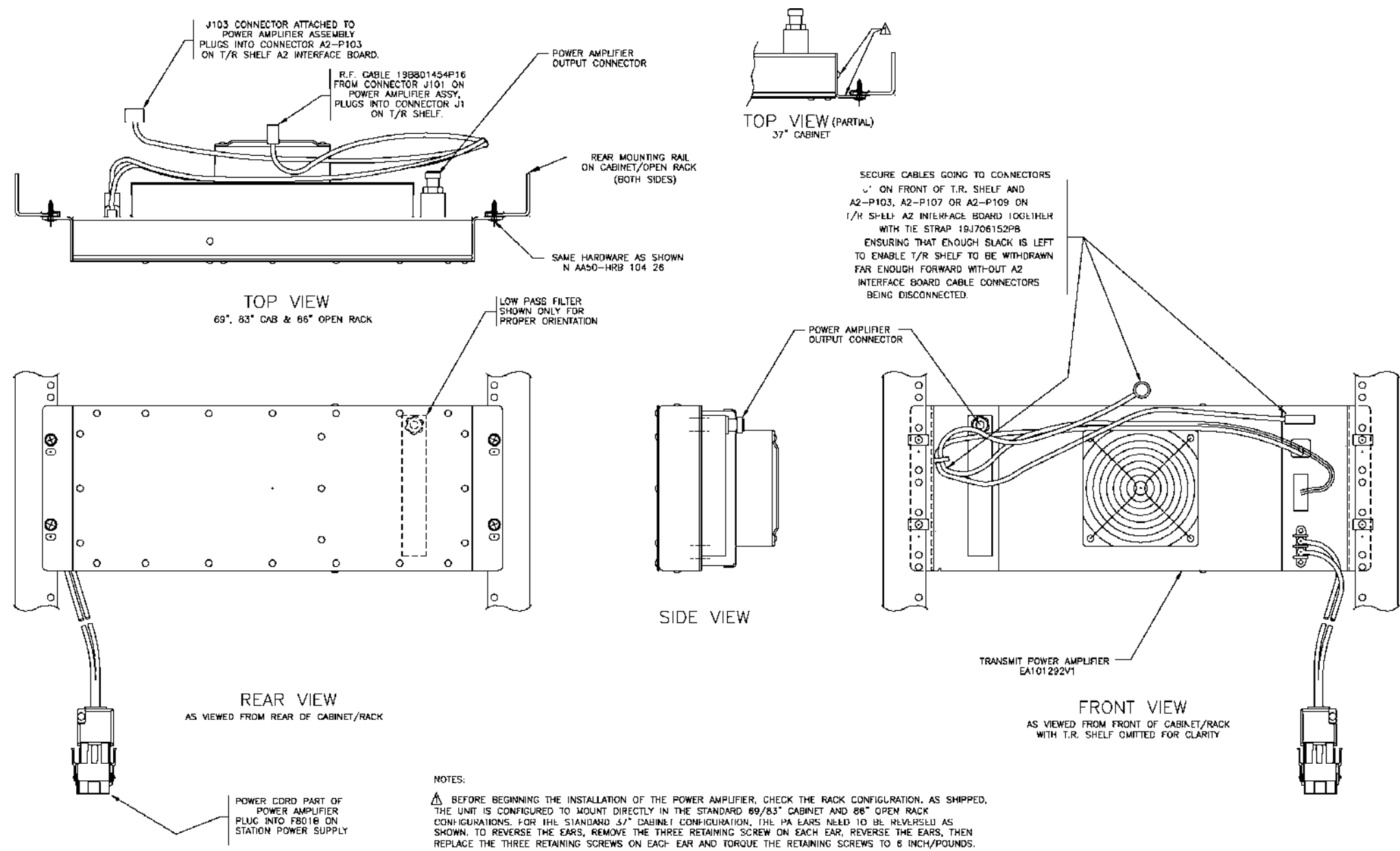
(19D902845, Sh. 18, Rev. 4)



MASTR III TX P.A.
AA57-HRB 10426
Sheet 1 of 2

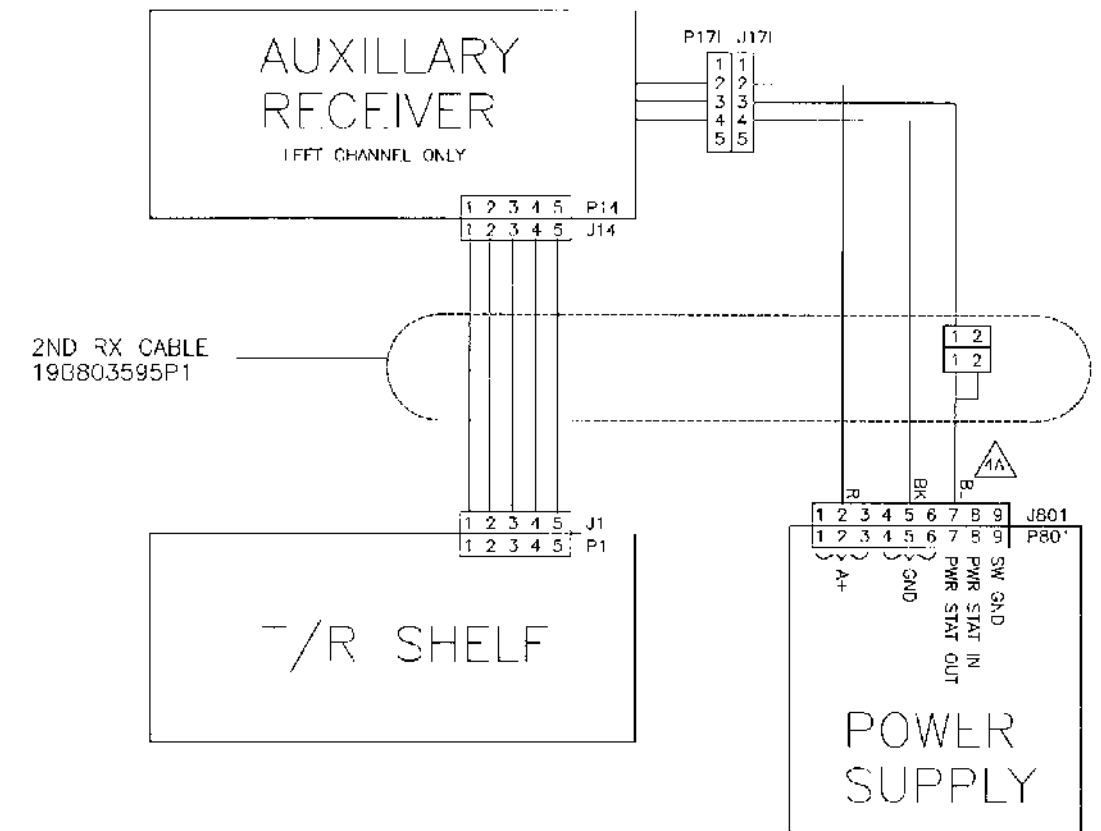
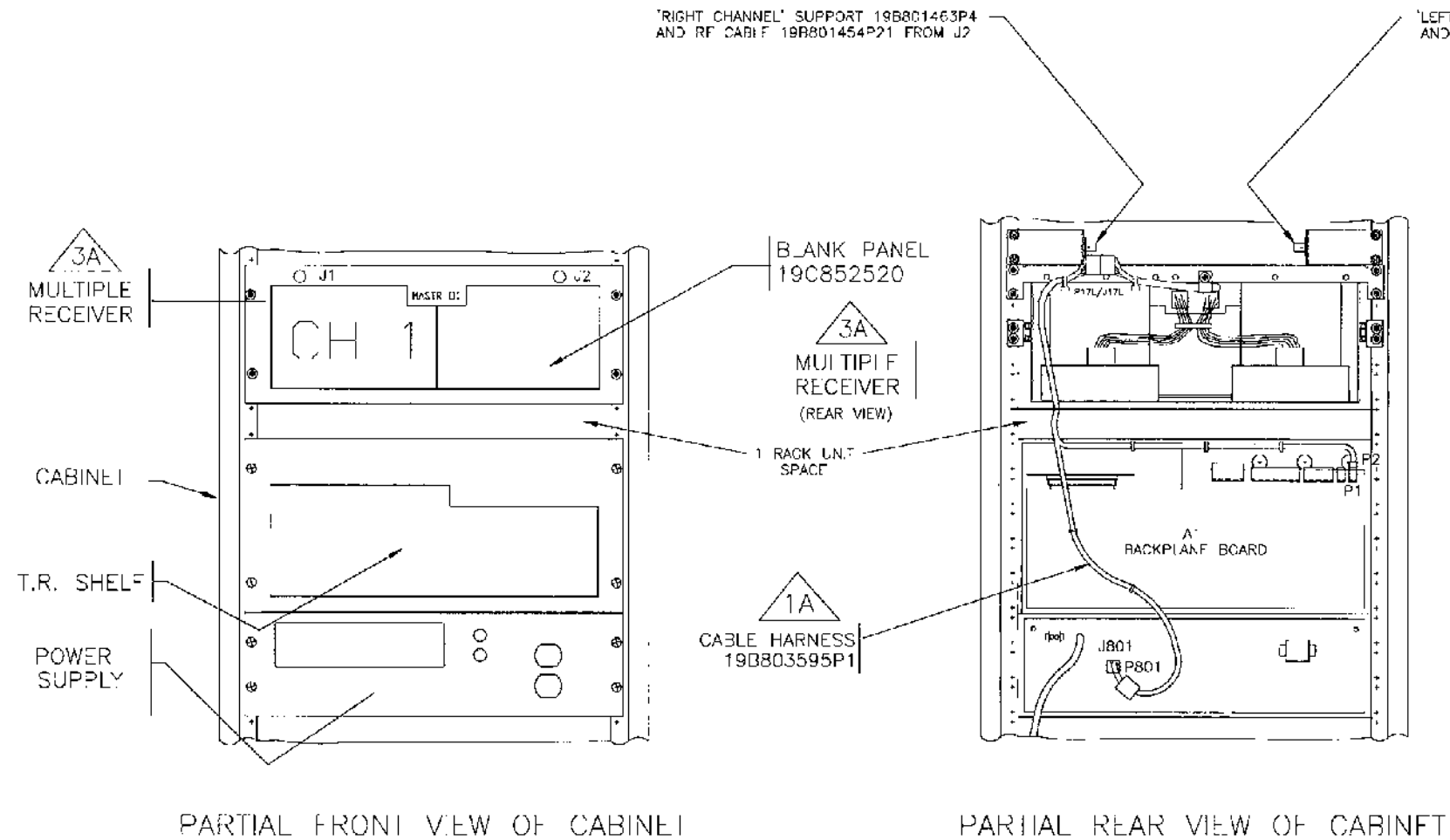
(AA57-HRB 10426 Rev C)

APPLICATION ASSEMBLY DIAGRAM



MASTR III TX P.A.
AA57-HRB 10426
Sheet 2 of 2

(AA57-HRB 10426 Rev C)



INTERCONNECT DIAGRAM FOR MULTIPLE RECEIVER IN 2ND RECEIVER FUNCTION

⑩ MASTR II STATION WITH MASTR III AUXILLARY RECEIVER SETUP.

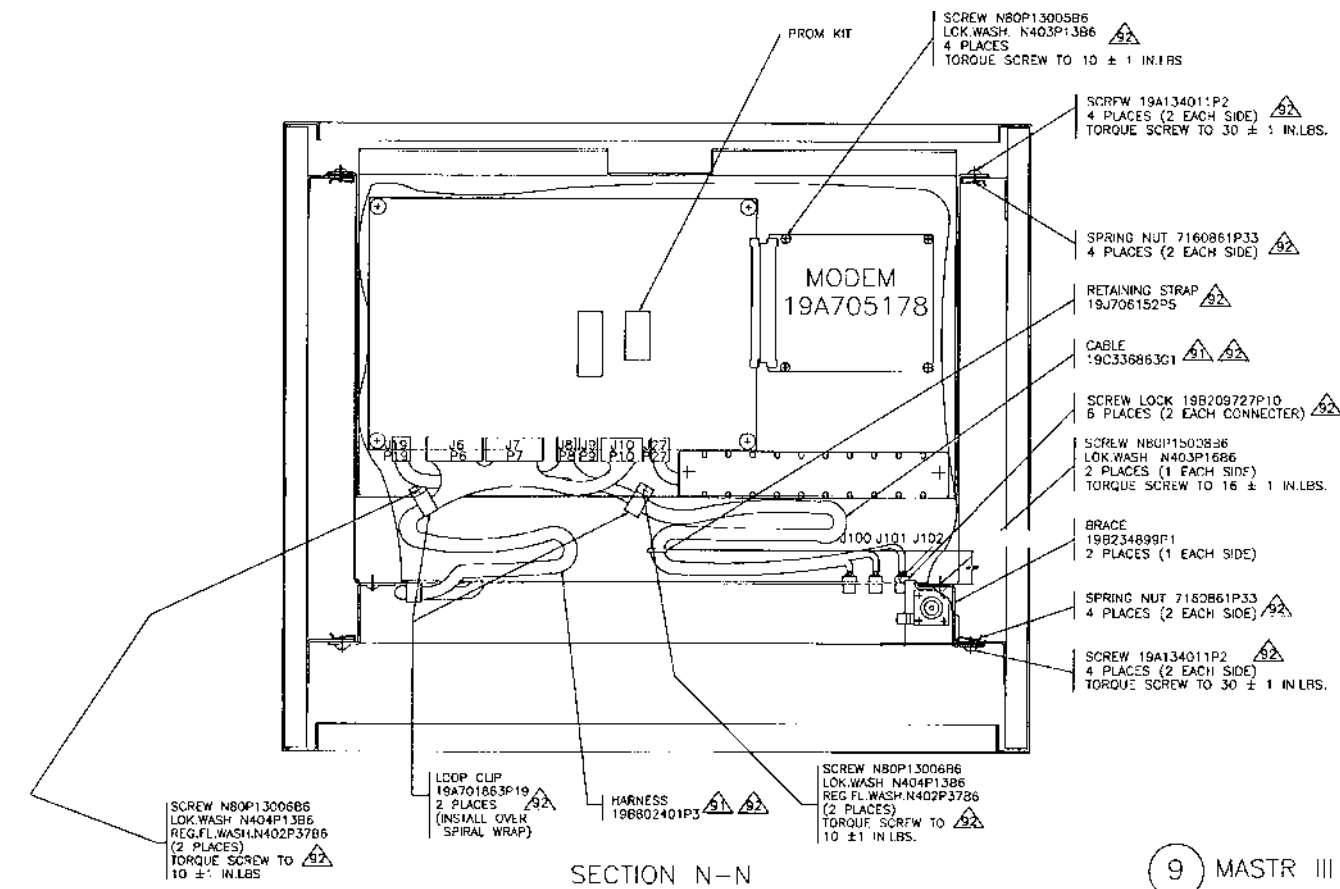
NOTES:

- 1A INSTALL THE MULTIPLE RECEIVER SHELF AND CABLE HARNESS 19D803595P1 AS SHOWN.
- 3A FOR RECEIVER MOUNTING INFORMATION, SEE 188D5450 SHEET 2, FIG. 1.
- 4A DEPENDING ON THE APPLICATION A YELLOW WIRE MAY BE INSTALLED IN J801-7. IF PRESENT, IT WILL BE NECESSARY TO CRIMP THE YELLOW AND BLUE WIRES TOGETHER BEFORE INSTALLATION INTO J801-7.
- 5A CONNECT RF CABLE FROM LEFT CHANNEL SUPPORT TO J1 AND FROM RIGHT CHANNEL SUPPORT TO J2 FOR EACH SHELF APPLICATION.

**MASTR III STATION WITH
MASTR III MULTIPLE RECEIVER
19D902845P10**

(19D902845, Sh. 18A, Rev. 6)

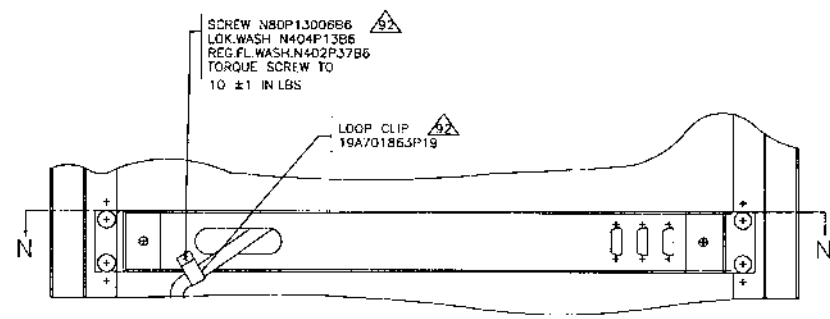
APPLICATION ASSEMBLY DIAGRAM



9 MASTR III STATION WITH GETC SHELF.

NOTES.

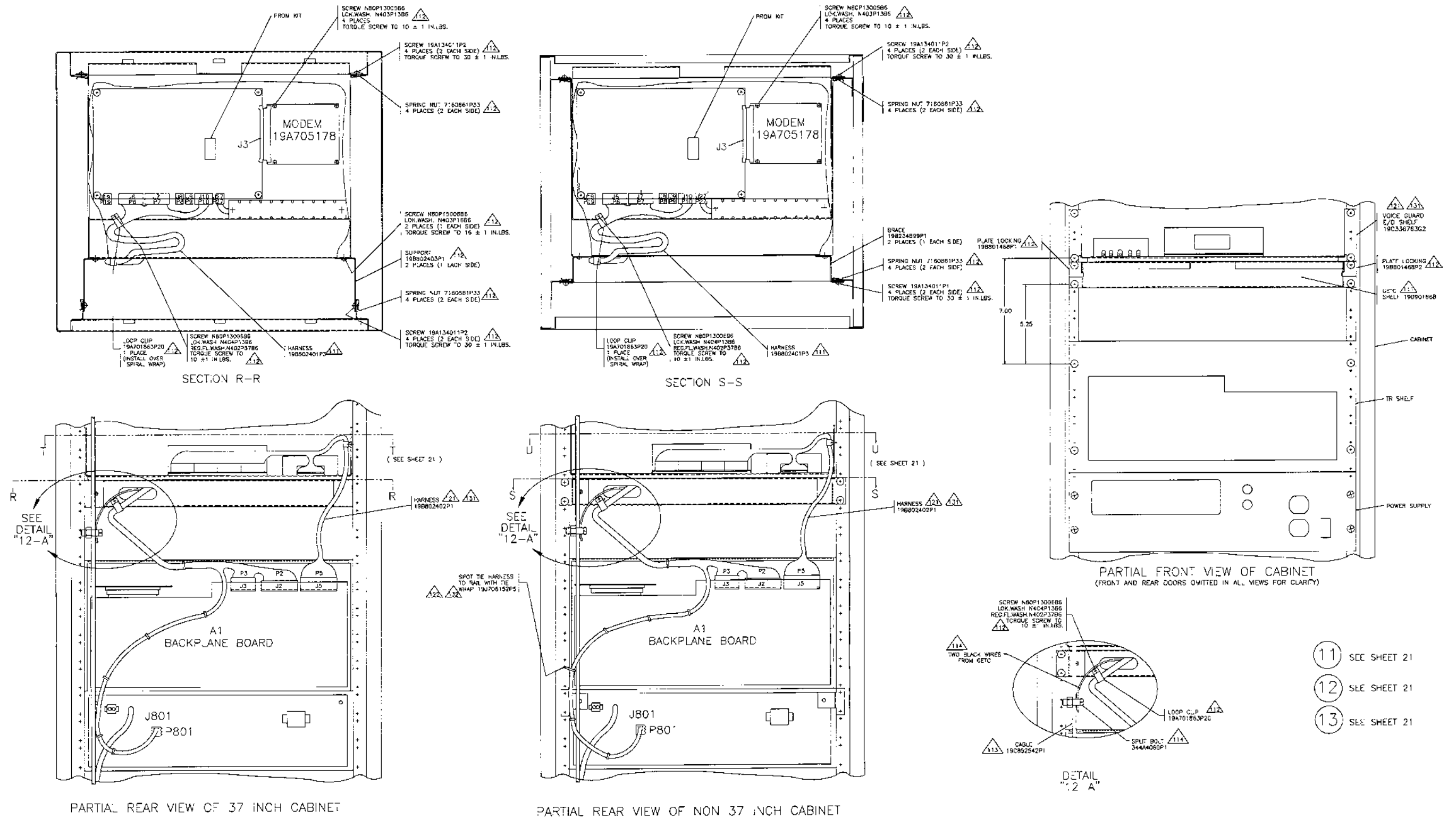
91. INSTALL THE GETC SHELF 19D90186B, HARNESS 19B802401P3 AND CABLE 19C336863G1 AS SHOWN AND INTERCONNECT IN ACCORDANCE WITH INTERCONNECT DIAGRAM 19D904268. 19B802401P3 HARNESS MUST BE MODIFIED FOR USE WITH BACKPLANE 19D902947G1 REV.B OR EARLIER.
92. ITEMS REFERENCING THIS CALLOUT ARE CALLED FOR ON HARDWARE KIT PL344A345009.
93. INSTALL EDACS INTERFACE PANEL 19D904009P1 PER 19D904009P101 AND INTERCONNECT IN ACCORDANCE WITH INTERCONNECT DIAGRAM 19D904268. MOUNTING SCREWS AND SPRING NUTS ARE CALLED FOR ON HARDWARE KIT PL344A345009.
134. REMOVE WIRE FROM P19-5 ON 802401P1 AND INSTALL IN P19-5 ON 19C336863.
135. INSTALL JUMPERS PER THE EDACS 9600 BAUD STATION SAT SITE (P-1) CHART FOR THE 18806500 GETC IN THE RELEASE NOTES CALLED FOR WITH THE PROM SEE 19D01570 FOR GETC JUMPER AND FILTER LOCATIONS.
136. RETURN ROA 117 2237/1 HS FILTER TO STOCK IF OTHER HS FILTER IS APPLIED.
137. UNLESS OTHER LABELS ARE CALLED FOR, AFFIX LABELS "WIDEBAND STATION" AND "19D01583G1" OR IF THE STATION IS NARROW BAND 4800 BAUD, AFFIX LABEL "NB 4800 BAUD STA" AND "19D01583G4" IN FRONT LEFT CORNER OF GETC. JUST ABOVE THE BOARD NUMBER. LABELS ARE 0.156 X 1.25 BLACK LETTERS ON WHITE BACKGROUND EQUIVALENT TO LABELS MADE ON ZEBRA LABELLER.



PARTIAL REAR VIEW OF CABINET

69" INDOOR CABINET WITH GETC SHELF
19D902845P9

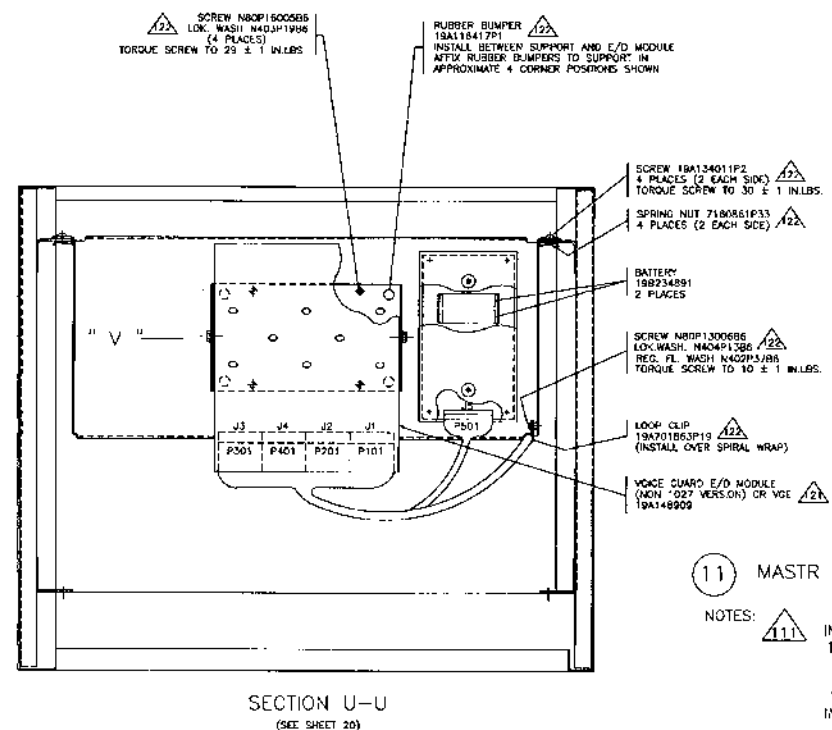
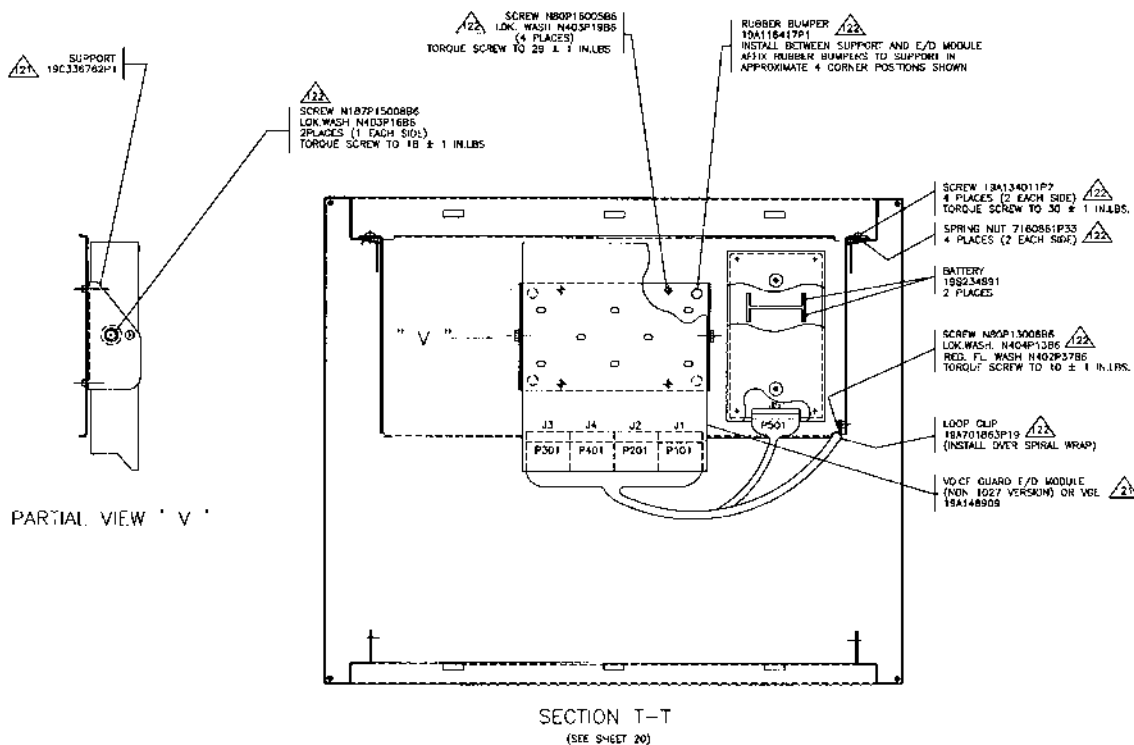
(19D902845, Sh. 19, Rev. 12)



**MASTR III BASE STATION WITH
VOICE GUARD GETC MODULE
19D902845P11-P13**

(19D902845, Sh. 20, Rev. 11)

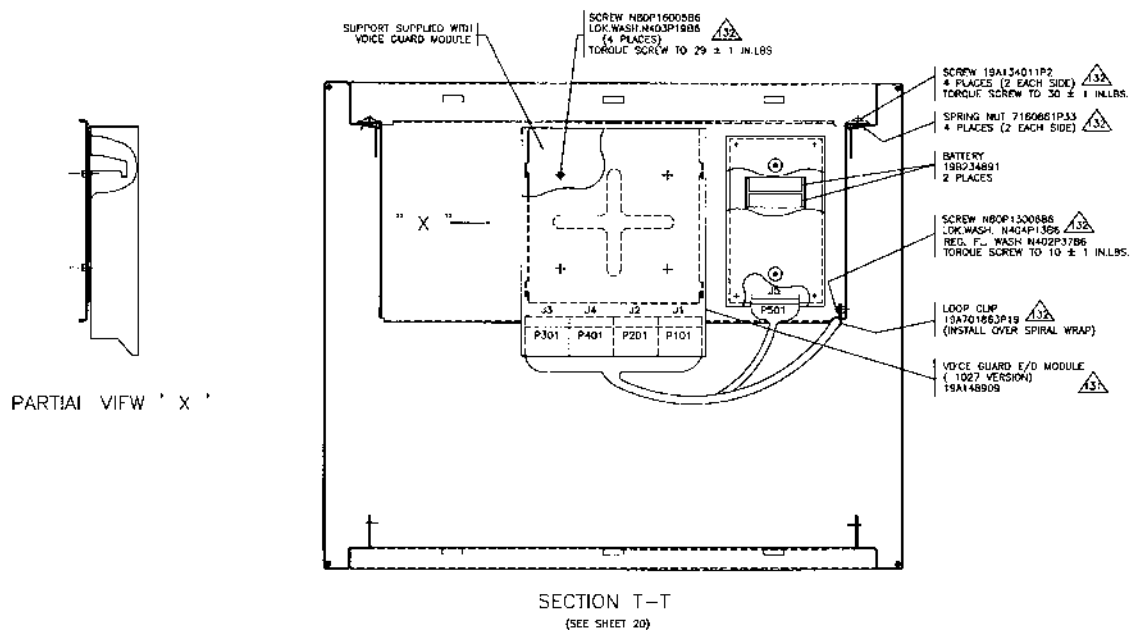
APPLICATION ASSEMBLY DIAGRAM



FREQ. BAND (Mhz)	INJ. SIDE	INV RX DATA POLARITY
136-150.8	HIGH	NO
150.8-174	LOW	YES
380-403	HIGH	NO
403-425	HIGH	NO
410-430	HIGH	NO
425-450	HIGH	NO
450-470	LOW	YES
470-494	LOW	YES
494-512	LOW	YES
800	LOW	YES

11 MASTR III STATION WITH VOICE GUARD GETC MODULE.

- NOTES:
- 111 INSTALL THE 19D901868 GETC SHELF AND HARNESS 19B802401P3, MODIFIED AS SHOWN ON THE INTERCONNECT DIAGRAM 19D902468. CUT GREEN WIRE CONNECTED TO GETC CONNECTOR P19-PIN 5 FOR ALL VERSIONS OF VOICE GUARD. INSTALL JUMPERS 19A702104P2 PER 350A1922P8. SEE 193D1570 FOR GETC JUMPER AND FILTER LOCATIONS.
 - 112 ITEMS REFERENCING THIS CALLOUT ARE CALLED FOR ON HARDWARE KIT 344A3450G11.
 - 113 REMOVE ONE END OF CABLE 19C852542P1 AND CUT CABLE TO LENGTH. REPLACE CABLE END.
 - 114 INSTALL SPLIT BOLT AS SHOWN, CONNECTING MAIN CABLE TO TWO BLACK WIRES FROM GETC



12 SAME AS PART.11 BUT WITH VOICE GUARD E/D SHELF (NON 1027 VERSION) OR VGE ADDED. (IF PART.11 VOICE GUARD GETC MODULE IS NOT PRESENT OMIT JUMPERS AND HARDWARE KIT ITEMS FOR THIS PART).

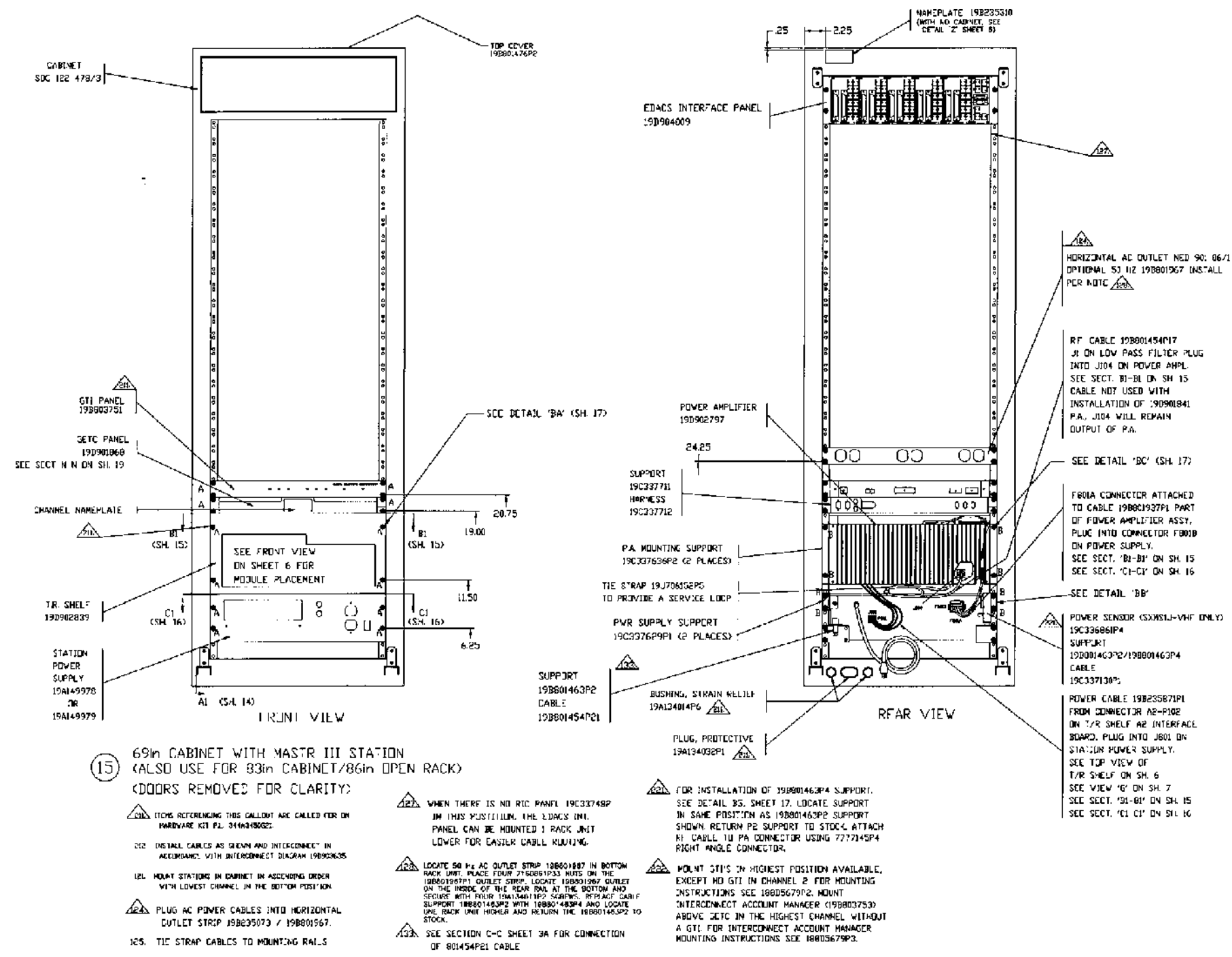
- NOTES:
- 121 INSTALL THE 19A148909 VOICE GUARD E/D MODULE (NON 1027 VERSION) MODIFIED PER 350A1557, VOICE GUARD E/D SHELF 19C336763G2 SUPPORT 19C336762P1 AND HARNESS 19B802402P1, MODIFIED AS SHOWN ON THE INTERCONNECT DIAGRAM 19D904268. INSTALL JUMPERS 19A702104P2 PER 350A1922P8. CUT THE PATTERNS AT JP1 AND JP2 ON THE MASTR III BACKPLANE (19D902947G1). CUT THE W-R-Y WIRE AT GETC CONNECTOR P7, PIN 11 AND W-R-BK WIRE AT P6, PIN 5. VOICE GUARD E/D MODULE MUST BE PROGRAMMED TO REVERSE RECEIVE DATA POLARITY IF BAND SPLIT USES HIGH SIDE INJECTION (SEE TABLE ON SH. 21). SEE 193D1570 FOR GETC JUMPER AND FILTER LOCATIONS
 - 122 ITEMS REFERENCING THIS CALLOUT ARE CALLED FOR ON HARDWARE KIT 344A3450G10

13 SAME AS PART.11 BUT WITH VOICE GUARD E/D SHELF (1027 VERSION) ADDED ONLY INTO A 37 INCH HIGH INDOOR FIXED LAND CABINET. (IF PART.11 VOICE GUARD GETC MODULE IS NOT PRESENT OMIT JUMPERS AND HARDWARE KIT ITEMS FOR THIS PART).

- NOTES:
- 131 INSTALL THE 19A148909 VOICE GUARD E/D MODULE (1027 VERSION) MODIFIED PER 350A1557, VOICE GUARD E/D SHELF 19C336763G2 AND HARNESS 19B802402P1, MODIFIED AS SHOWN INTERCONNECT DIAGRAM ON THE 19D904268. INSTALL JUMPERS 19A702104P2 PER 350A1922P8. CUT PATTERNS AT JP1 AND JP2 ON THE MASTR III BACKPLANE (19D902947G1). CUT THE W-R-Y ATGETC CONNECTOR P7, PIN 11 AND W-R-BK WIRE AT P6, PIN 5. VOICE GUARD E/D MODULE MUST BE PROGRAMMED TO REVERSE RECEIVE DATA POLARITY IF BAND SPLIT USES HIGH SIDE INJECTION (SEE TABLE IN SH. 21). SEE 193D1570 FOR GETC JUMPER AND FILTER LOCATIONS
 - 132 ITEMS REFERENCING THIS CALLOUT ARE CALLED FOR ON HARDWARE KIT 344A3450G10

MASTR III BASE STATION WITH
VOICE GUARD GETC MODULE
19D902845P11-P13

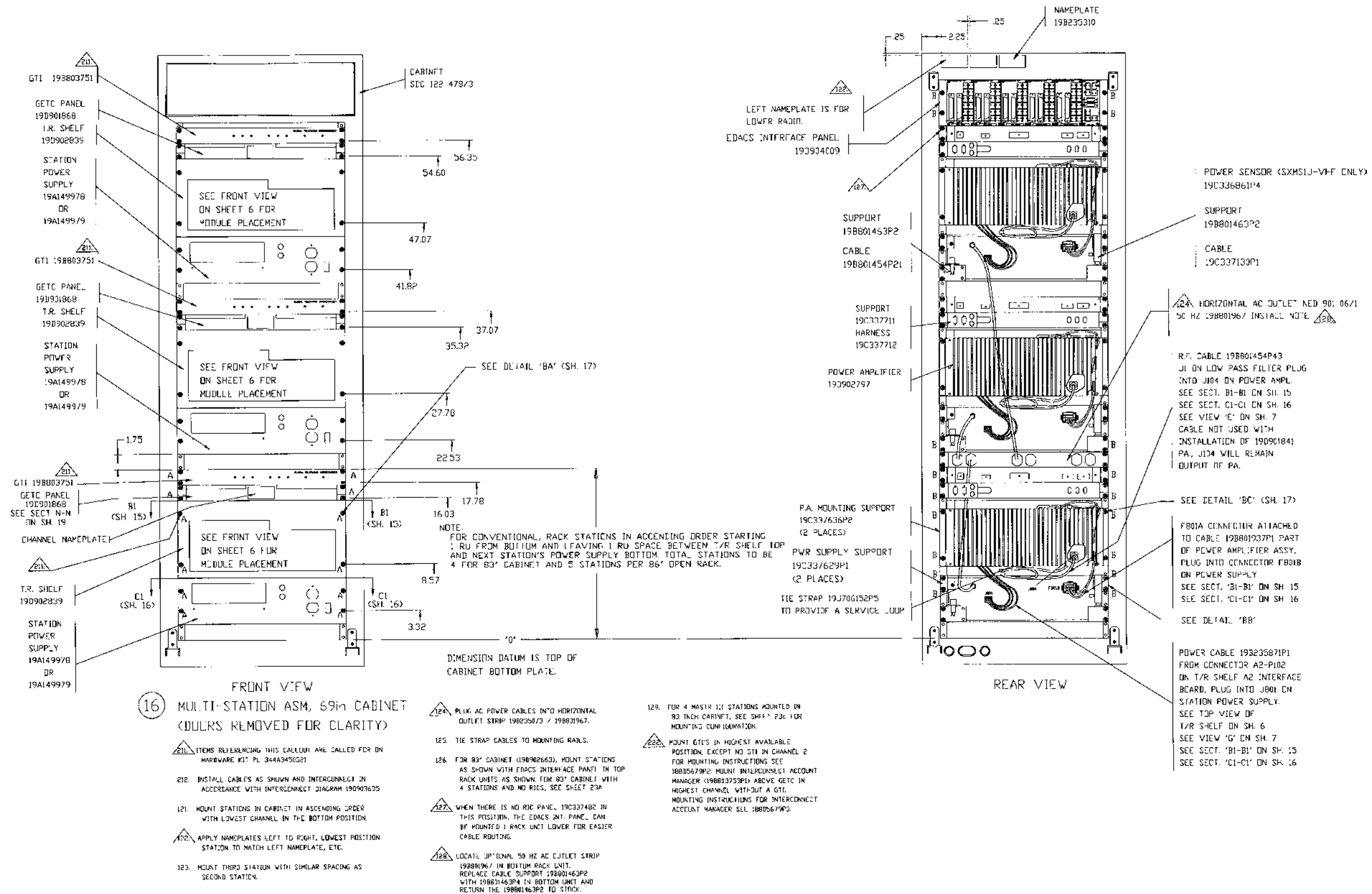
(19D902845, Sh. 21, Rev. 4)



EDACS CABINET WITH ONE STATION
19D902845P15

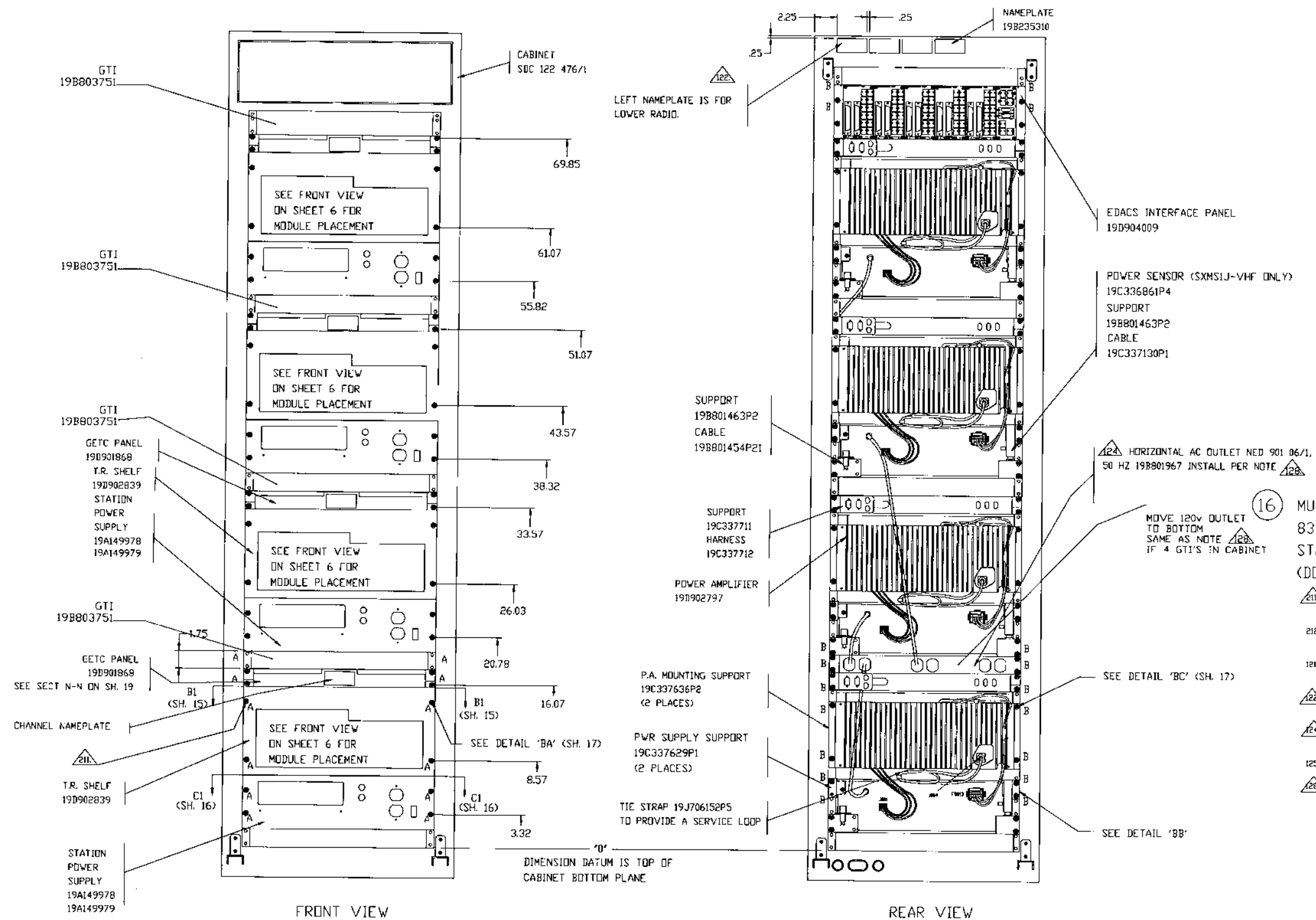
(19D902845, Sh. 22, Rev. 12)

APPLICATION ASSEMBLY DIAGRAM



EDACS CABINET WITH MULTI-STATIONS
19D902845P16

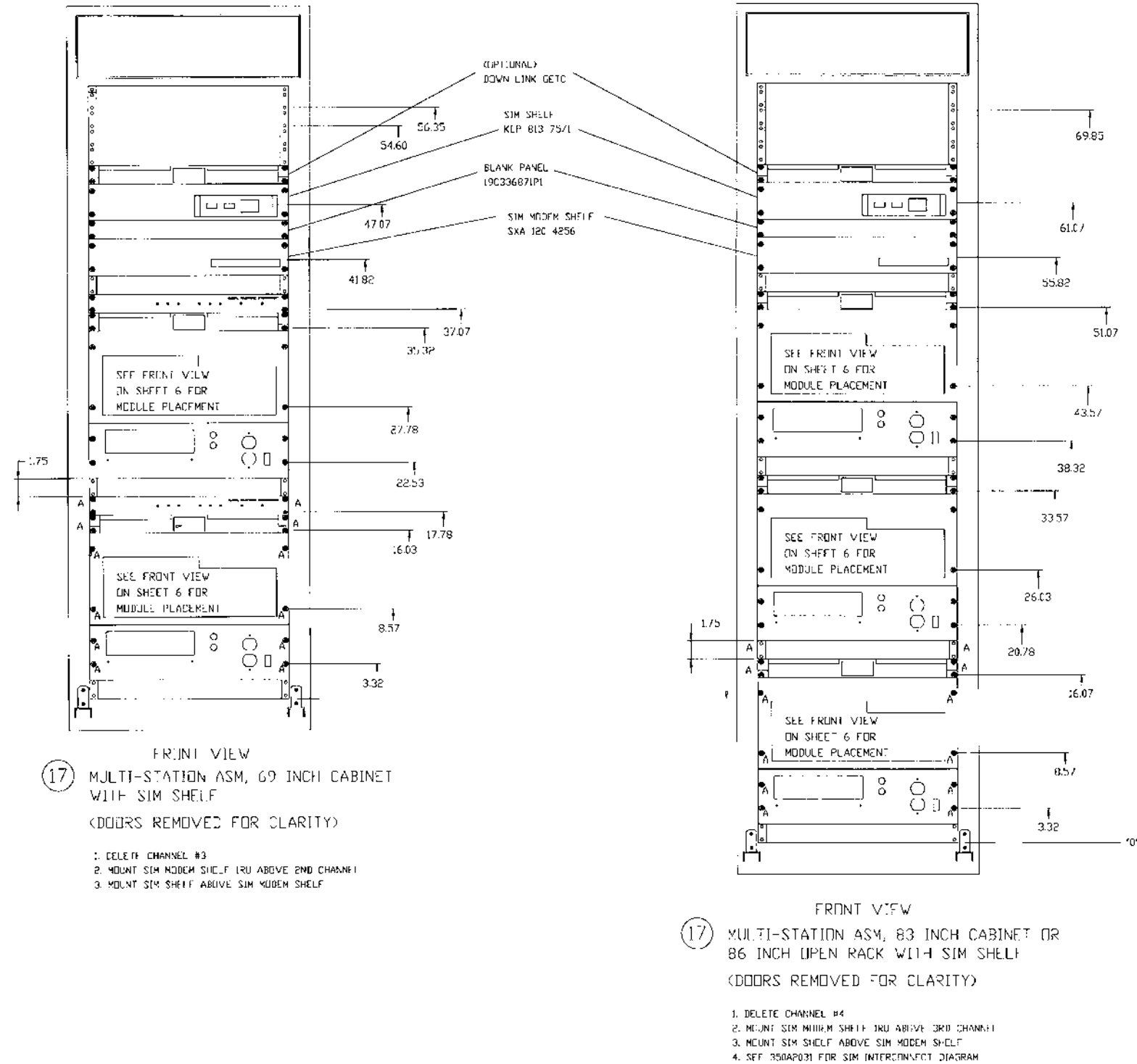
(19D902845, Sh. 23, Rev. 11)



EDACS CABINET WITH MULTI-STATIONS

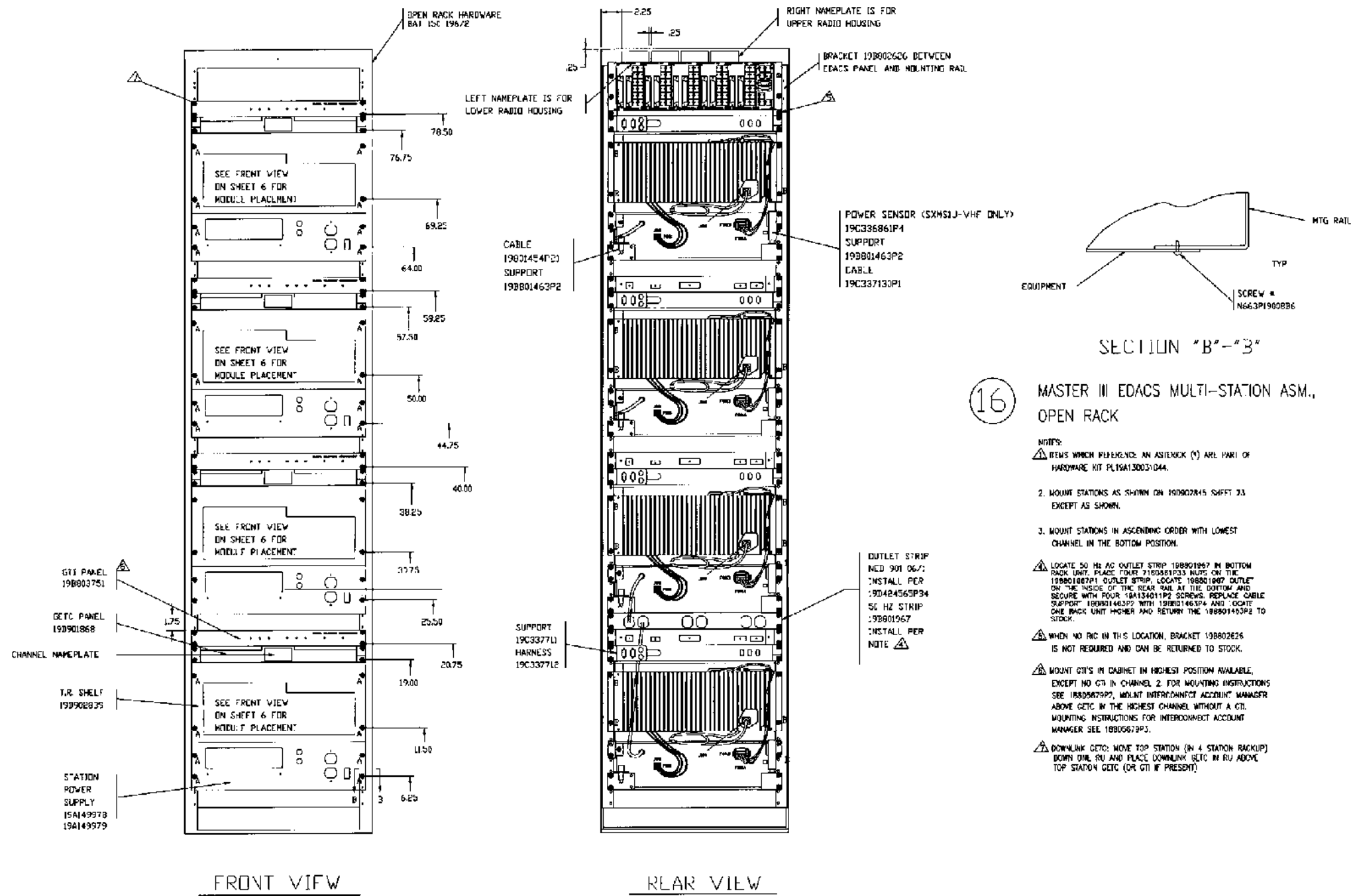
19D902845P16

(19D902845, Sh. 23A, Rev. 7)



EDACS MULTI-STATION CABINET WITH SIM SHELF
19D902845P17

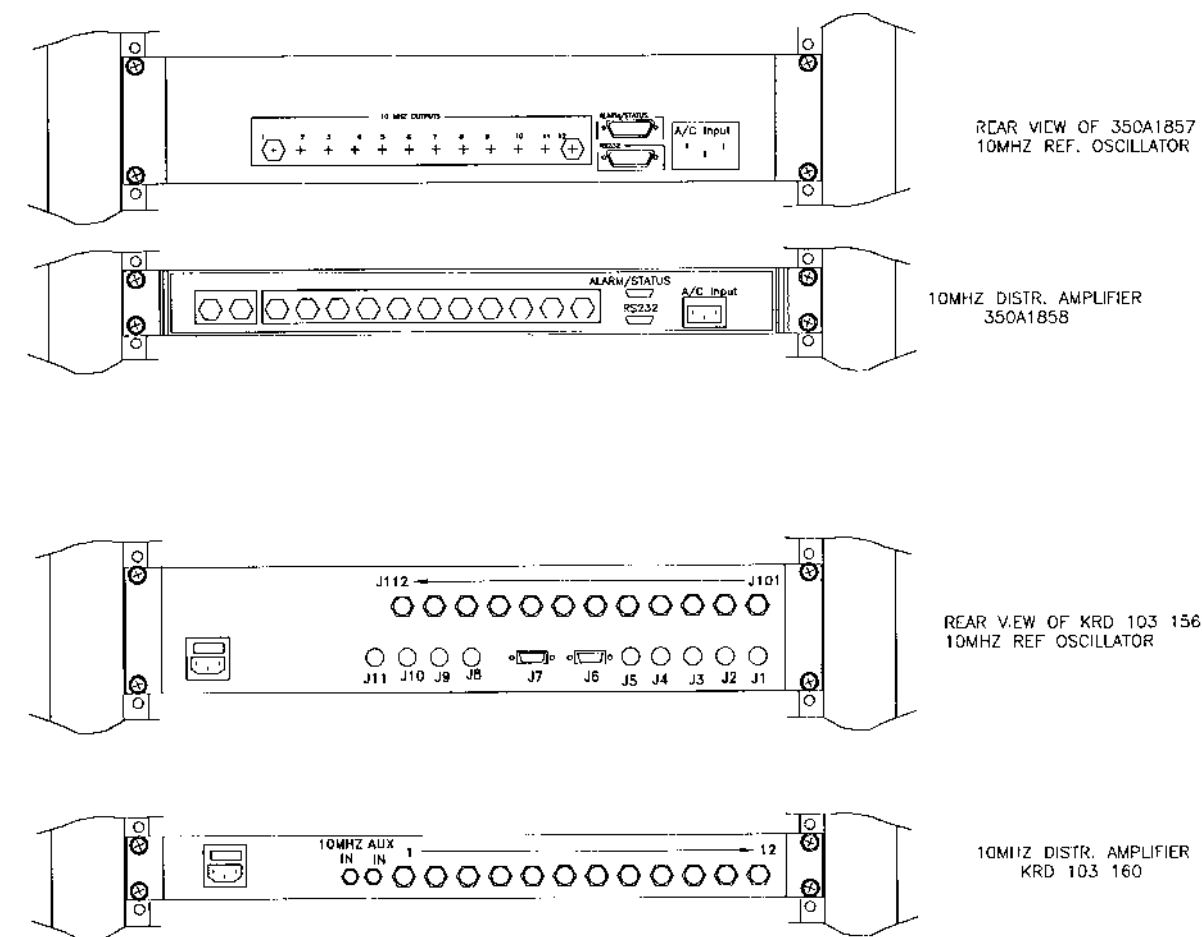
(19D902845, Sh. 23D, Rev. 2)



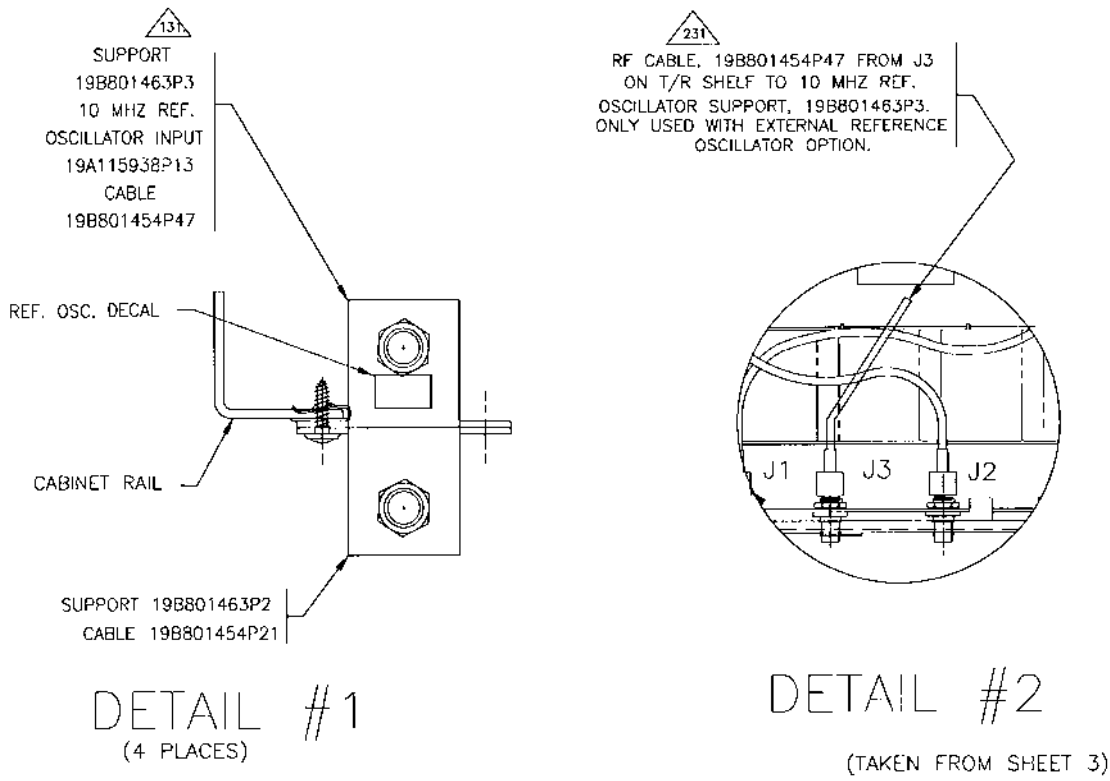
MULTI-STATION ASSEMBLY
19D902845P16

(19D902845, Sh. 24, Rev. 10)

APPLICATION ASSEMBLY DIAGRAM



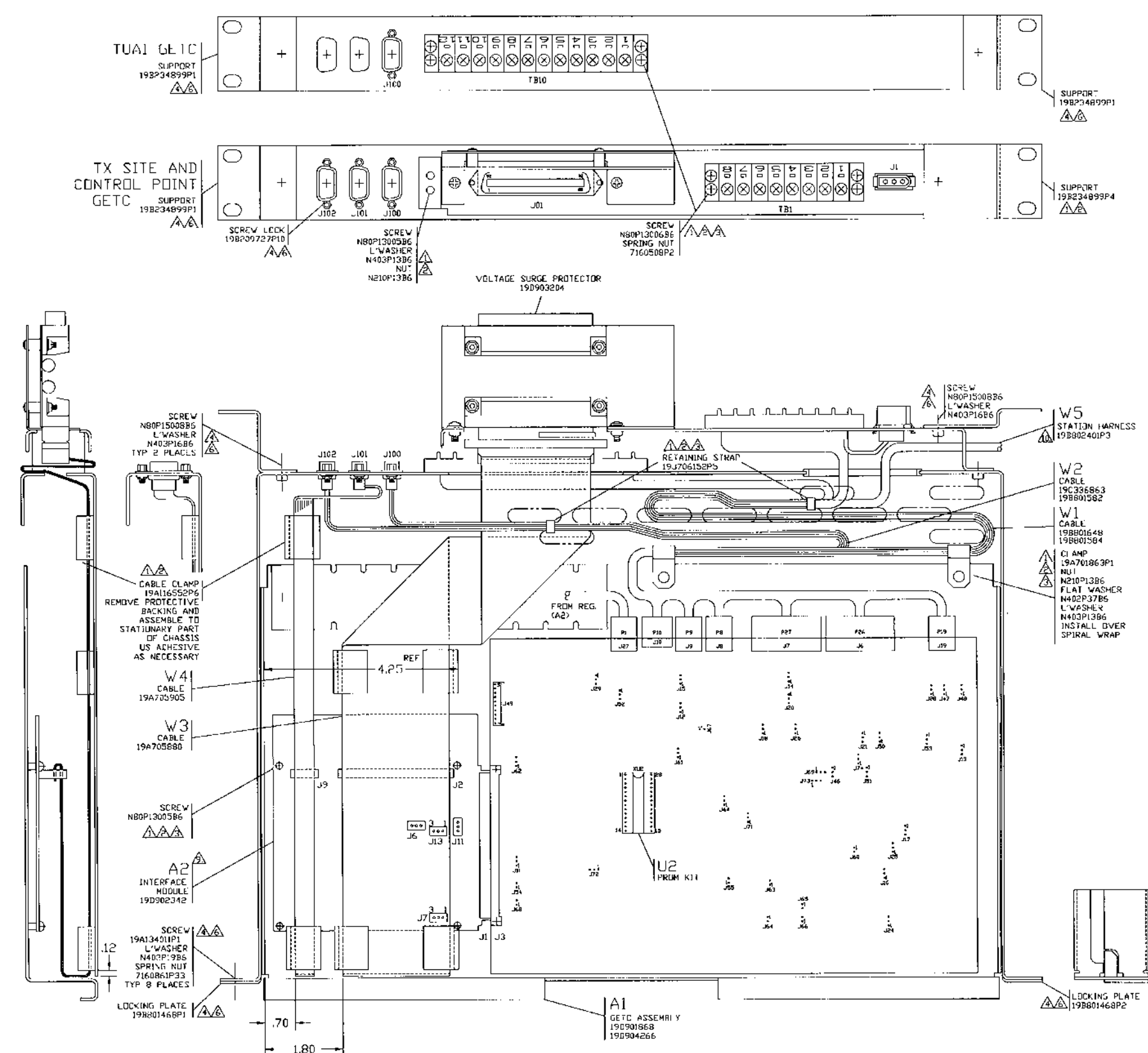
18 EXTERNAL REFERENCE OSC/DISTRIBUTION AMP
FOR NARROWBAND SYSTEMS
IF SIM/SITE SENTRY/SURECALL
MOUNT IN VACANT SPACE
IN TOP OF CABINET OR
ADJACENT CABINET



- 31** EXT REFERENCE
OSCILLATOR CONNECTION.
- 131** ADD 10 MHZ REF OSCILLATOR CONNECTION AT J3
A) REMOVE BUTTON PLUG ABOVE RX SYN. MOD.
B) ADD FEED THRU CONNECTOR 19A115938P13 TO
CONN SUPPORT BRACKET BEHIND BUTTON PLUG.
C) ATTACH RF CABLE 344A3052P1 FROM RX
SYNTHESIZER MODULE 19D902781 J4 TO FEED
THRU CONNECTOR.
D) MOUNT FEED THRU CONNECTOR 19A115938P13
TO SUPPORT 19B801463P3 AS SHOWN IN DETAIL #1
E) ATTACH 19B801454P47 CABLE FROM FEED
THRU CONNECTOR TO CONNECTOR 19A115938P13
AS SHOWN.
- 231** ONLY USED WITH EXTERNAL REFERENCE OSCILLATOR OPTION.

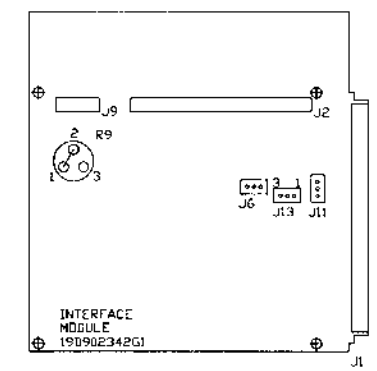
EXTERNAL REFERENCE OSCILLATOR/DISTRIBUTION AMPLIFIER FOR NARROW BAND SYSTEMS 19D902845P18 & P31

(19D902845, Sh. 24A, Rev. 4)



22 RS232 SIMULCAST STATION GETC APPL ASM

- NOTES:
- ▲ PART OF HARDWARE KIT PL19A149821G1
 - ▲ PART OF HARDWARE KIT PL19A149821G2
 - ▲ PART OF HARDWARE KIT PL19A149821G3
 - ▲ PART OF HARDWARE KIT PL19A130031G30
 - ▲ PART OF HARDWARE KIT PL19A130031G40
 - ▲ PART OF HARDWARE KIT PL19A130031G41
 - 1. SEE DRAWING 349A9/93P2 FOR JUMPER CONFIGURATION
 - 2. THESE INSTRUCTIONS SUPERCEDE GETC ASSEMBLY INSTRUCTIONS SHOWN ON APPLICATION ASSEMBLY 19D41/483
 - ▲ REMOVE R9 FROM INTFC MODULE (19D902342G1). INSTALL WIRE FROM P1-P2 WHERE POT WAS REMOVED.

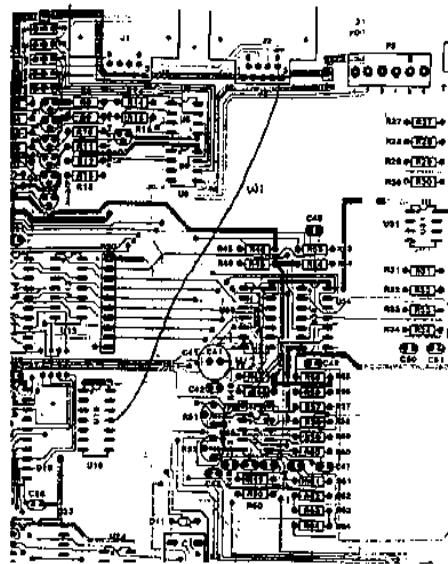


- ▲ REMOVE THE CONTACTS FROM P19-3, P19-5 OF THE 19B802401 HARNESS, AND INSTALL IN P19-3 AND P19-5 OF THE 19C336863G1 HARNESS.
- REMOVE THE CONTACTS FROM P27-6, P27-8, P27-9 AND P26-16 OF THE 19B802401 HARNESS.
- INSTALL THE CONTACTS FROM THE 19B801648 HARNESS INTO THE 19B802401 HARNESS PER THE 188D5025 INTERCONNECT DIAGRAM.
- ▲ REMOVE C10 FROM INTFC MODULE (19D902342G1). INSTALL BYPASS WIRE IN PLACE OF C10
- ▲ REMOVE T1 FROM INTFC MODULE (19D902342G1). INSTALL TWO (2) BYPASS WIRES AS FOLLOWS: T1-1 TO T1-6 & T1-3 TO T1-4

RS-232 SIMULCAST GETC
19D902845P22

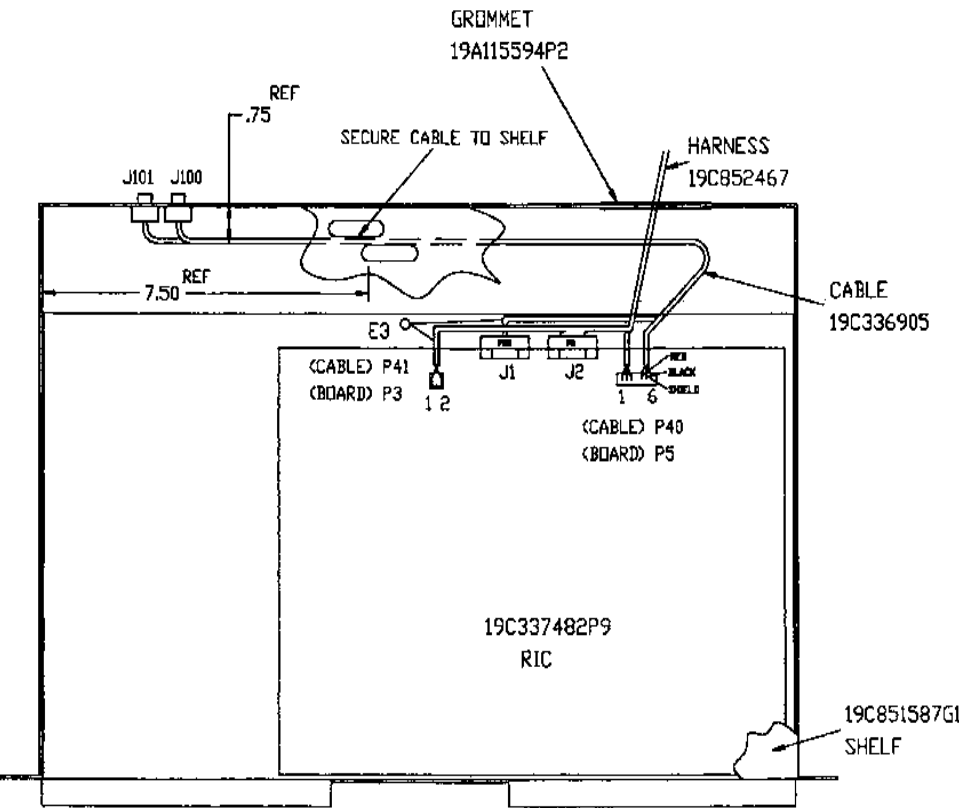
(19D902845, Sh. 25, Rev. 10)

MODIFICATION INSTRUCTION



RIC

- 1) CUT PATTERN AT J2 PIN 9; U19 PIN 11, AND U33 PIN 6.
- 2) CONNECT W1 FROM J2 PIN 9 TO U19 PIN 11.
- 3) CONNECT W2 FROM U33 PIN 6 TO U33 PIN 7.
- 4) CUT THE LOCAL PTT LINE ON THE 19B802401P1 HARNESS AT P7 PIN 8 ON THE GETC.
- 5) MATERIAL SUPPLIED IN 349A9784G1 MOD KIT.



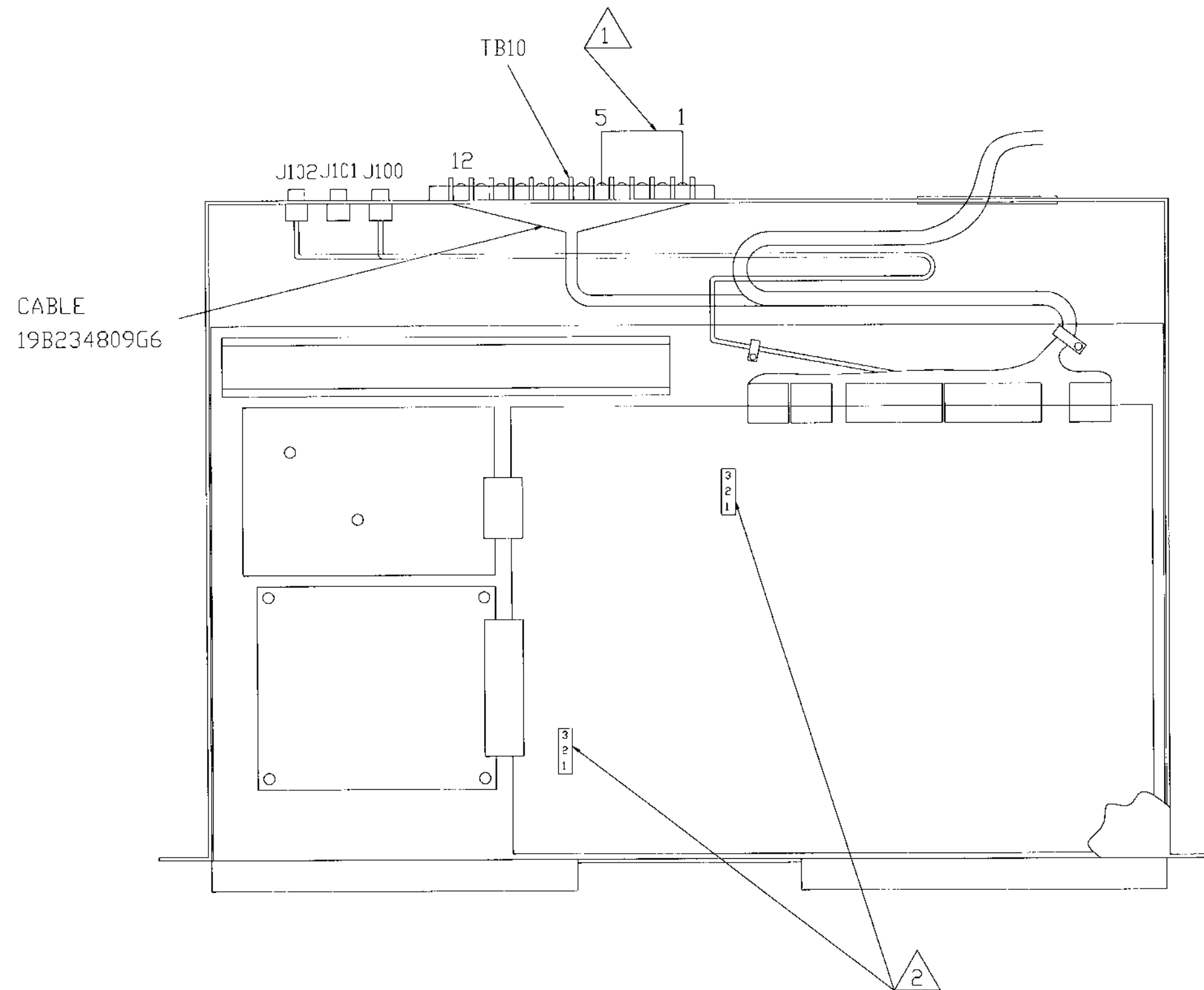
23 RIC APPLICATION ASSEMBLY

- 1) AFTER MODIFYING THE RIC, CONNECT P100 OF CABLE 19C336905 TO J1.
- 2) INSERT RED, BLACK, AND SHIELD FROM CABLE 19C336905 INTO THE SLOTS OF J5 OF THE MASTER III RIC CABLES AS FOLLOWS:

RED - PIN 4
BLACK - PIN 5
SHIELD - PIN 6
- 3) CONNECT P2 OF MASTER III RIC CABLE TO J2 ON THE RIC.
- 4) CONNECT J3 OF MASTER III RIC CABLE TO P3 ON THE RIC.
- 5) INSTALL GROUND LUGS FROM 19C852467 HARNESS AND 19C336905 CABLE ON E3 USING #6 HARDWARE.

RIC EQUIPMENT
19D902845P23

(19D902845, Sh. 26, Rev. 6)



STATION RECEIVER VOTING FOR RS232

NOTES:

△ CONNECT JUMPER (19B234814G9) FROM TB10-1 TO TB10-5 ON REAR OF GETC.

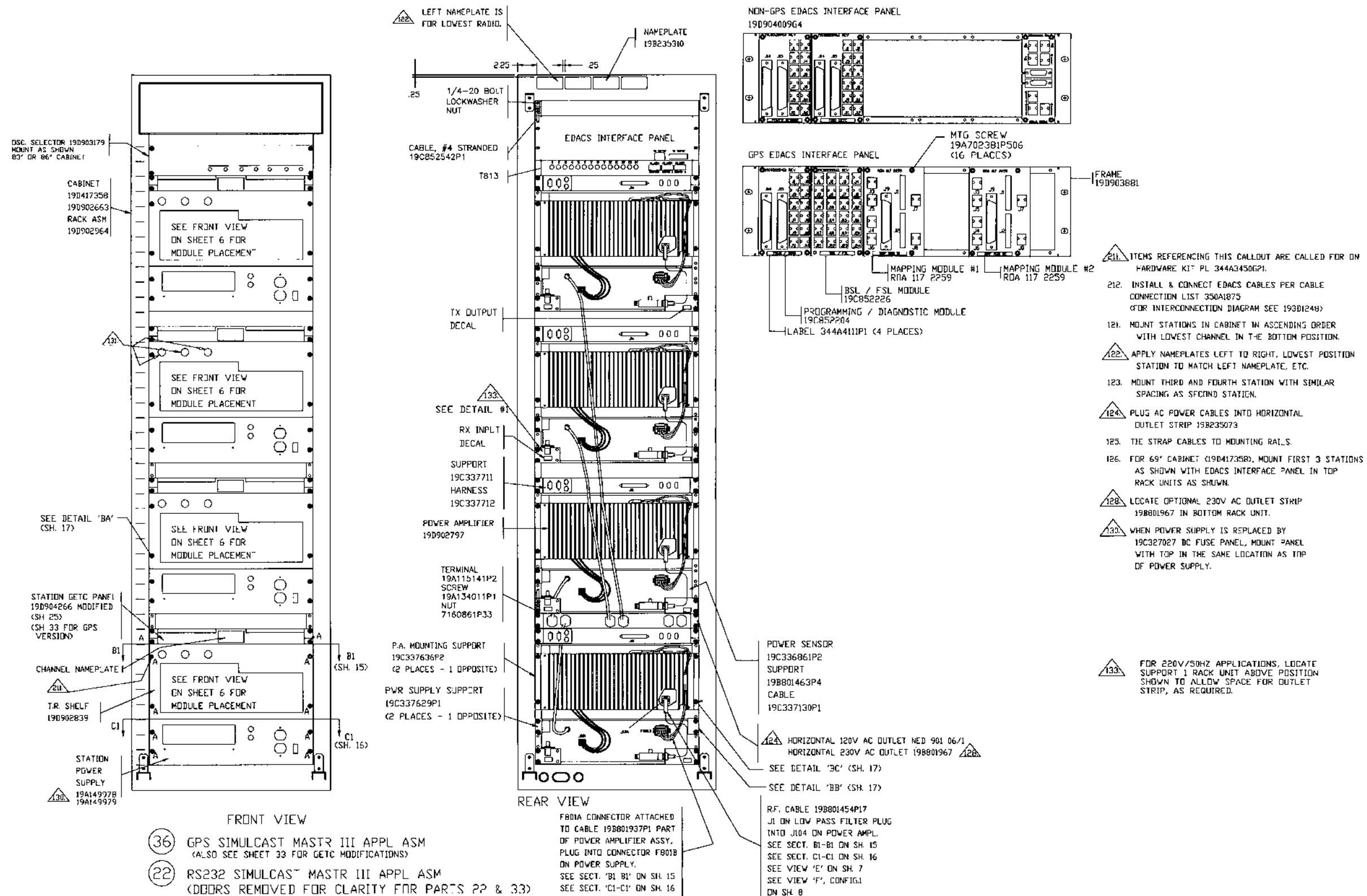
△ SET GETC JUMPERS TO:

J11 ON PINS 2 AND 3
AND J12 ON PINS 2 AND 3

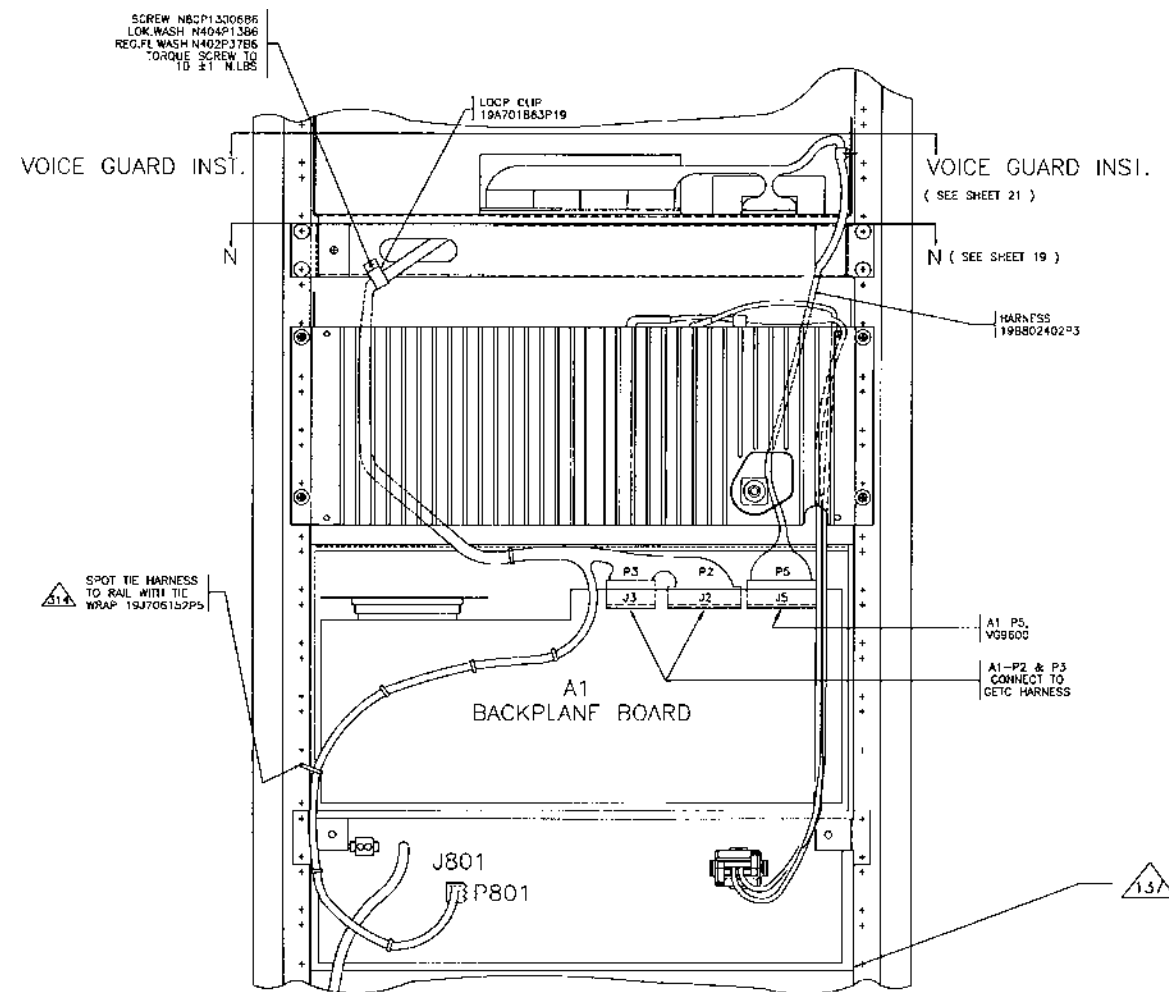
STATION RECEIVER VOTING FOR RS-232
19D902845P24

(19ED902845, Sh. 27, Rev. 4)

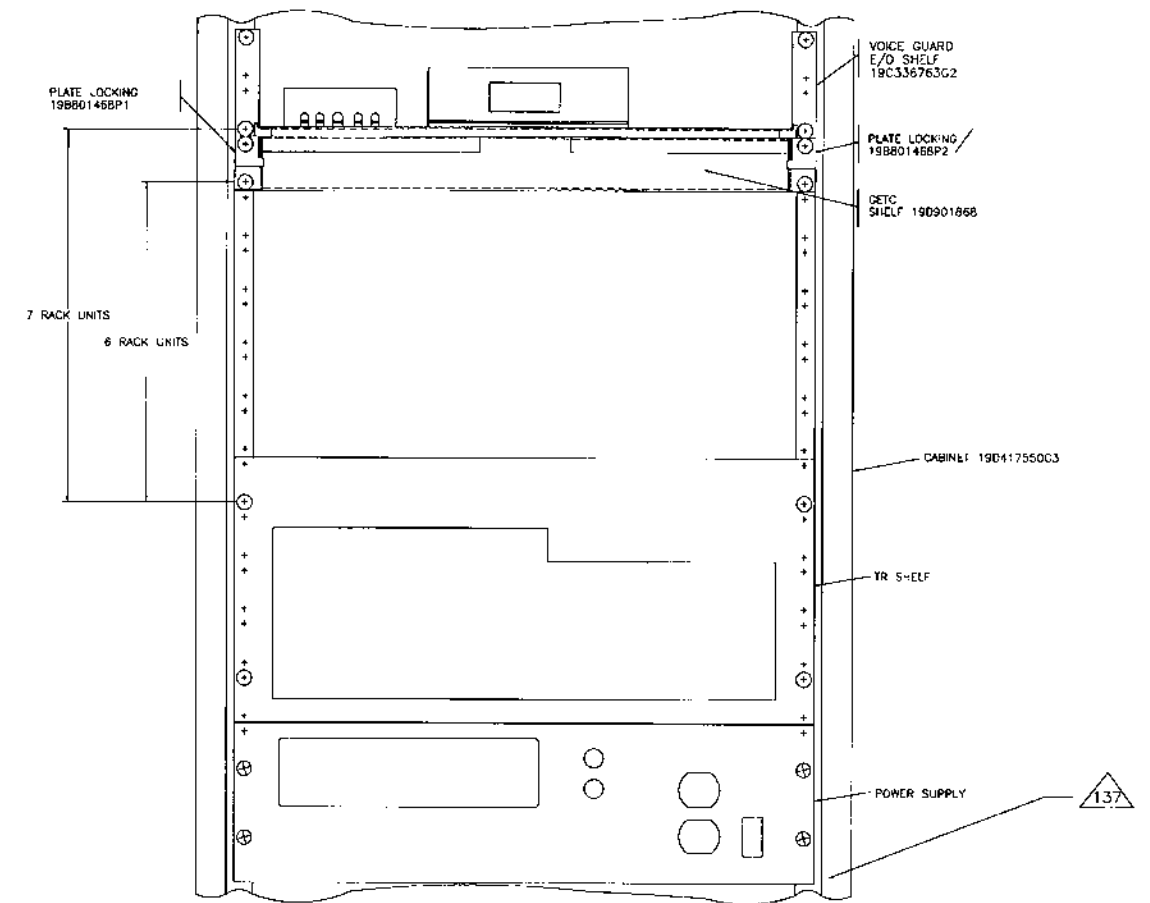
APPLICATION ASSEMBLY DIAGRAM

EDACS SIMULCAST STATION
19D902845P22 & P33

(19D902845, Sh. 28, Rev. 8)



PARTIAL REAR VIEW OF 45 INCH CABINET



PARTIAL FRONT VIEW OF CABINET
(FRONT AND REAR DOORS OMITTED IN ALL VIEWS FOR CLARITY)

25 45 INCH WEATHERPROOF CABINET

NOTES:

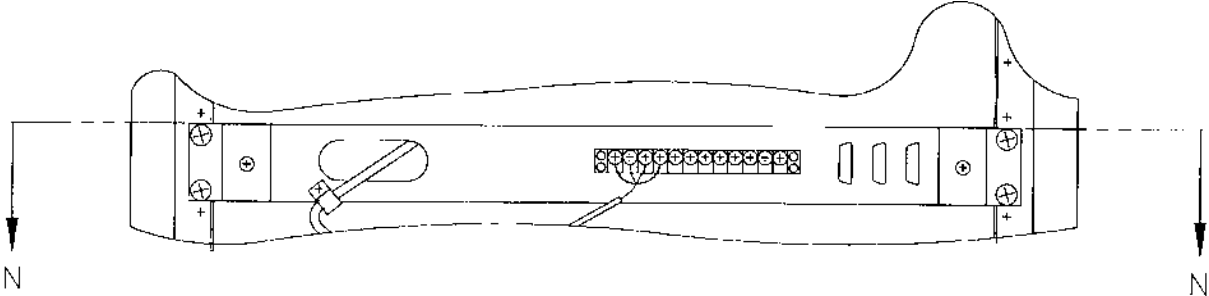
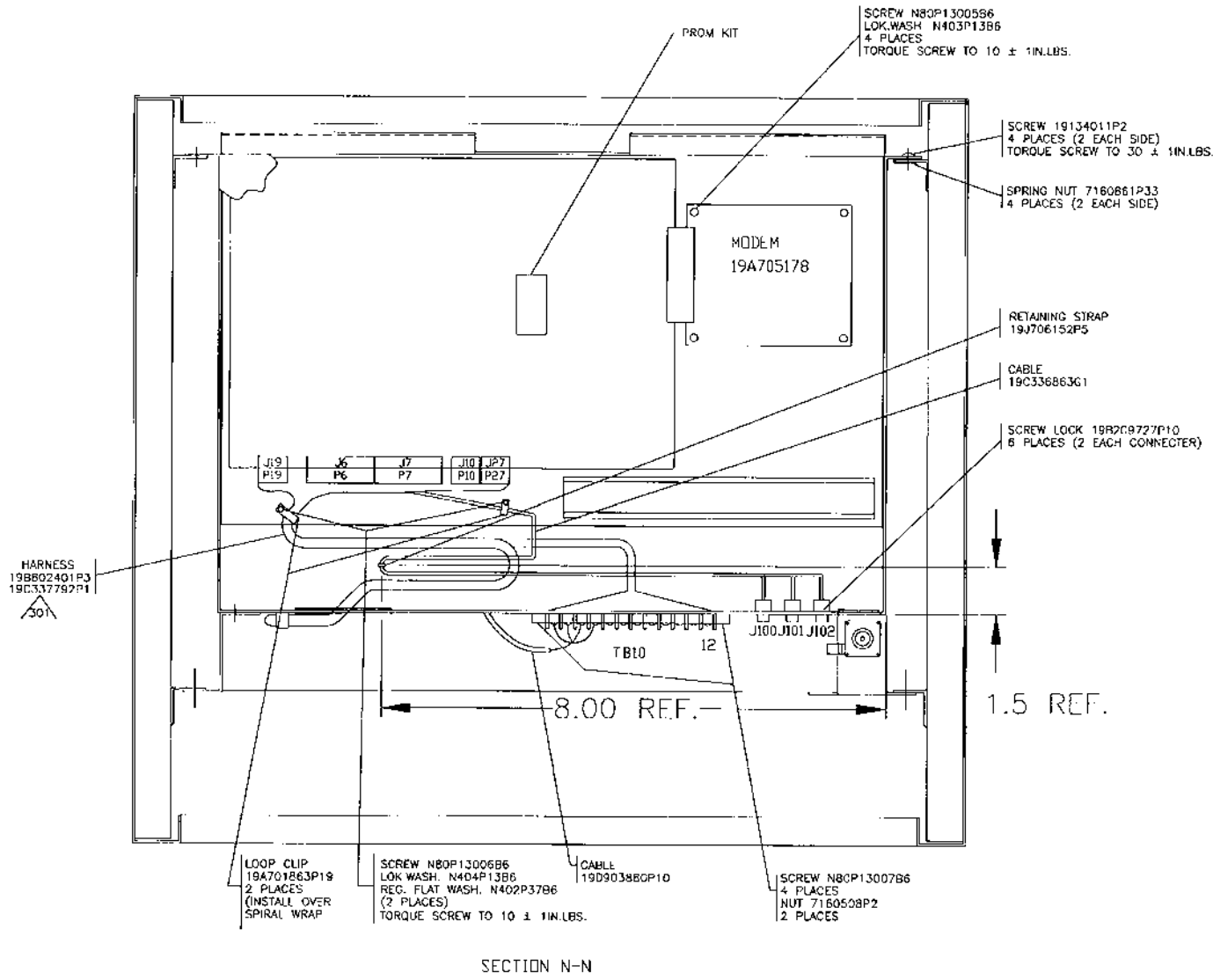
133. MOUNT PA AND TR SHELVES SIMILAR TO 19D902845P1 SHEET 1 EXCEPT AS POSITIONED ABOVE.
134. MOUNT DUPLEXER SHELF (344A3371 OR 344A4047) ABOVE VOICE GUARD SHELF OR IN VOICE GUARD LOCATION IF VG IS NOT PRESENT (SIMILAR TO 19D902845P4 SHEET 9).
135. MOUNT AUTOMOBILE BATTERY EMERGENCY POWER SIMILAR TO 19D902845P5 SHEET 10.
136. MOUNT GEL CELL BATTERY SHELF AND CHARGER SIMILAR TO 19D902845P6 SHEET 11.

137. LOCATE BOTTOM OF POWER SUPPLY 6 RACK UNITS ABOVE THE BOTTOM OF THE CABINET. THIS DIMENSION MAY BE CHANGED DEPENDING ON OPTIONS BEING ADDED ABOVE AND BELOW THE TR/PA/POWER SUPPLY GROUP (6 RACK UNITS ARE THE MINIMUM NECESSARY FOR THE ADDITION OF GEL CELL BATTERIES AND CHARGER).

45" WEATHER PROOF CABINET 19D902845P25

(19D902845, Sh. 29, Rev. 3)

APPLICATION ASSEMBLY DIAGRAM



PARTIAL REAR VIEW OF CABINET

P26 MODEM VOTING INSTALLATION

301 REMOVE CONTACTS FROM J26-6,7,8,9 OF THE 19B802401 HARNESS. REMOVE CONTACTS FROM HEADER P26 ON 19C337792P1 HARNESS AND INSTALL IN 19B802401 HARNESS PER 19B803755 INTERCONNECT DIAGRAM.

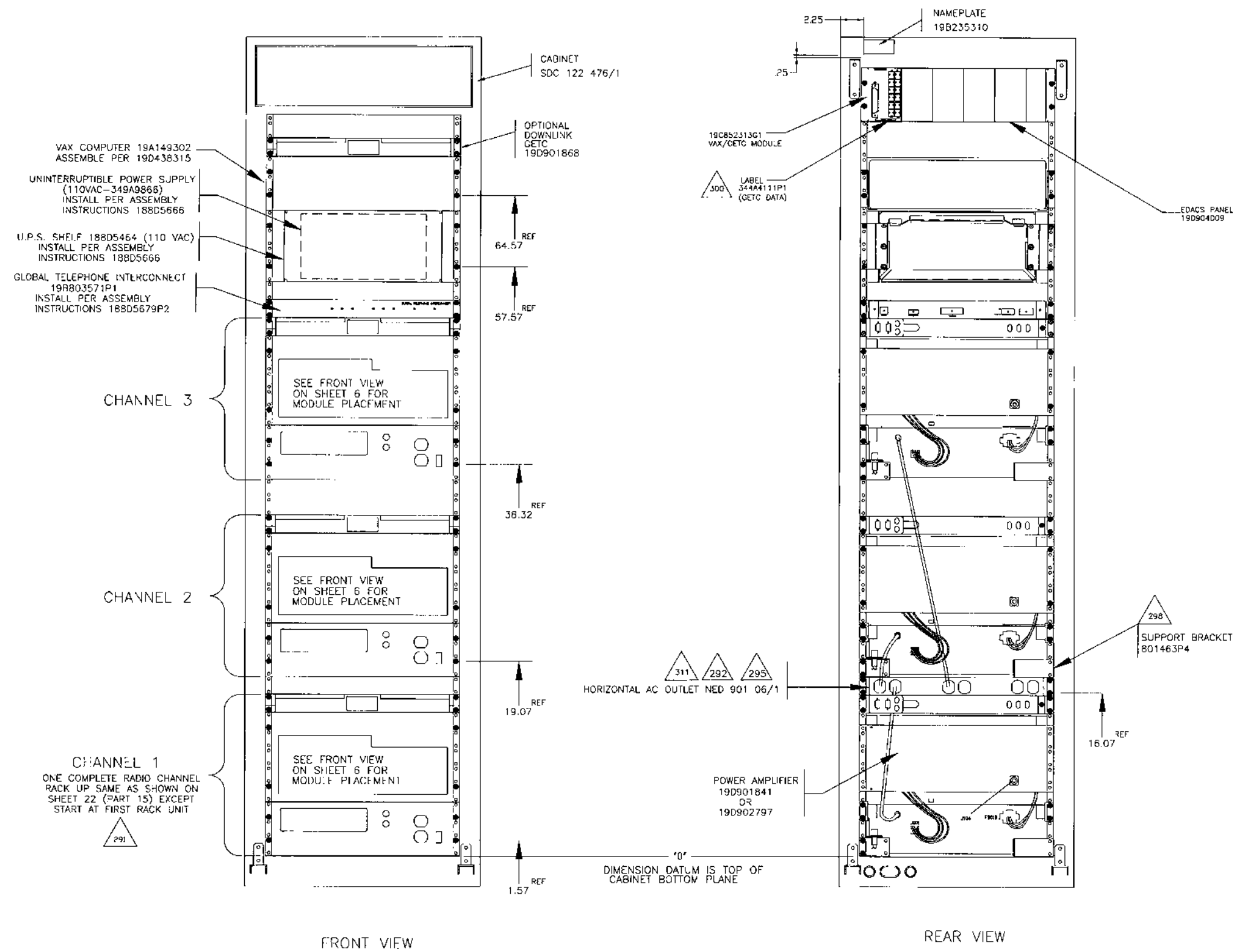
P27 CNI INSTALLATION

301 REMOVE CONTACTS FROM J26 6,7,8,9 OF THE 19B802401 HARNESS. REMOVE CONTACTS FROM HEADER P26 ON 19C337792P1 HARNESS AND INSTALL IN 19B802401 HARNESS PER 19B803755 INTERCONNECT DIAGRAM. CONNECT RJ-12 CONNECTOR END OF 19D903880P10 TO MASTRIII INTERFACE BOARD J109. CONNECT SPADE LUGS OF 19D903880P10 TO TB10 ON THE BACK OF THE OFGETC HOUSING AS FOLLOWS:

WIRE COLOR	W BL	O-W	W-O	BL-W
TB10	1	2	3	4

MODEM VOTING & CNI INSTALLATION
19D902845P26 & P27

(19D902845, Sh. 30, Rev.8)

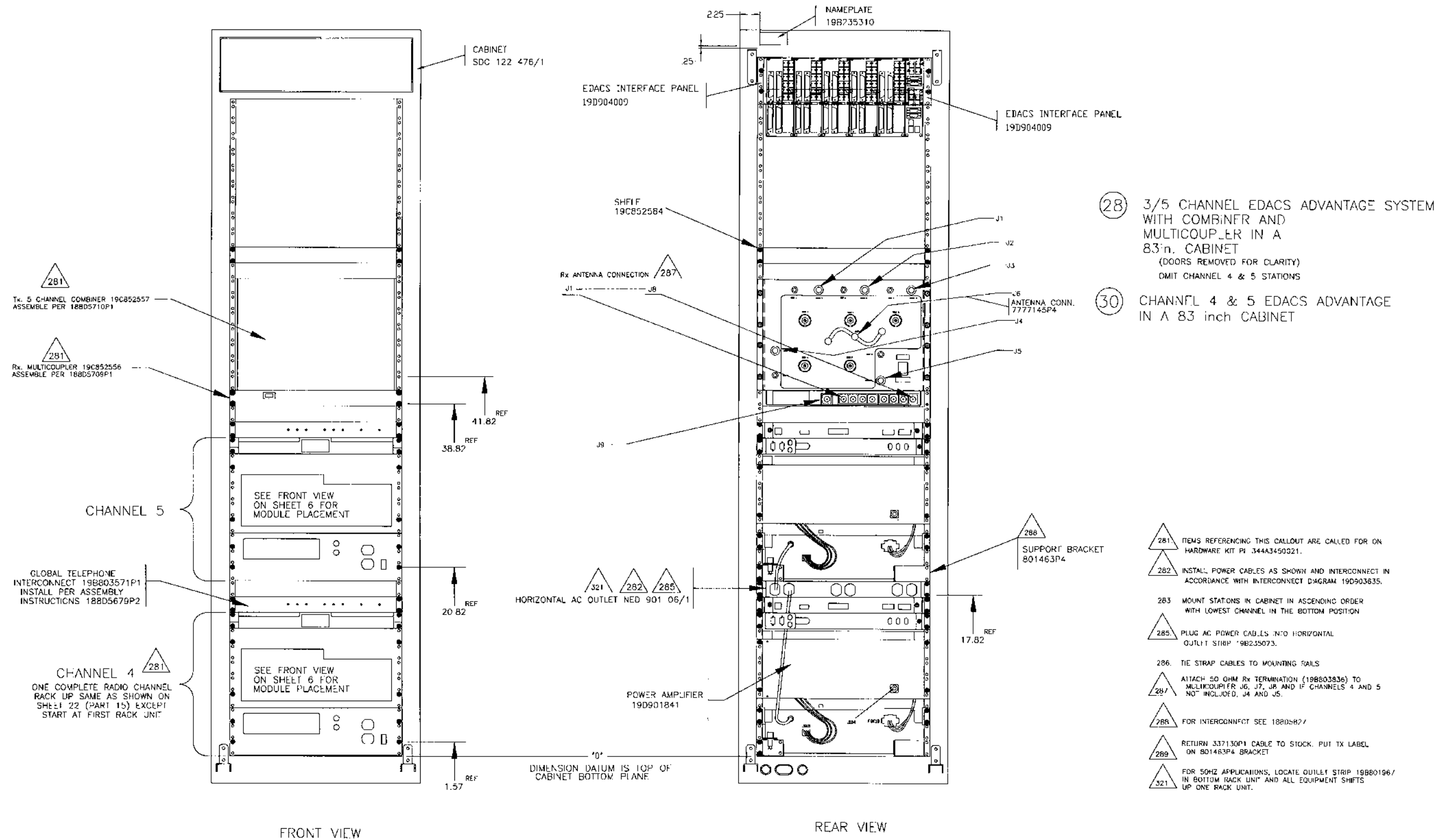


29 3 EDACS ADVANTAGE STATIONS IN A 83in. CABINET (DOORS REMOVED FOR CLARITY)

- 291. ITEMS REFERENCING THIS CALLOUT ARE CALLED FOR ON HARDWARE KIT PL 344A3450G21.
- 292. INSTALL POWER CABLES AS SHOWN AND INTERCONNECT IN ACCORDANCE WITH INTERCONNECT DIAGRAM 19D903635.
- 293. MOUNT STATIONS IN CABINET IN ASCENDING ORDER WITH LOWEST CHANNEL IN THE BOTTOM POSITION.
- 295. PLUG AC POWER CABLES INTO HORIZONTAL OUTLET STRIP 19B235073
- 296. TIE STRAP CABLES TO MOUNTING RAILS.
- 297. FOR INTERCONNECT, SEE 188D5821.
- 298. RETURN 337130P1 CABLE TO STOCK. PUT TX LABEL ON 801463P4 BRACKET
- 299. PLUG COMPUTER POWER CABLE INTO UPS. PLUG UPS POWER CABLE INTO POWER STRIP.
- 300. REMOVE AND DISCARD MODULE IN THIS LOCATION WHEN VAX COMPUTER IS PRESENT
- 311. FOR 50HZ APPLICATIONS, LOCATE OUTLET STRIP 19B801967 IN BOTTOM RACK UNIT AND ALL EQUIPMENT SHIFTS UP ONE RACK UNIT.

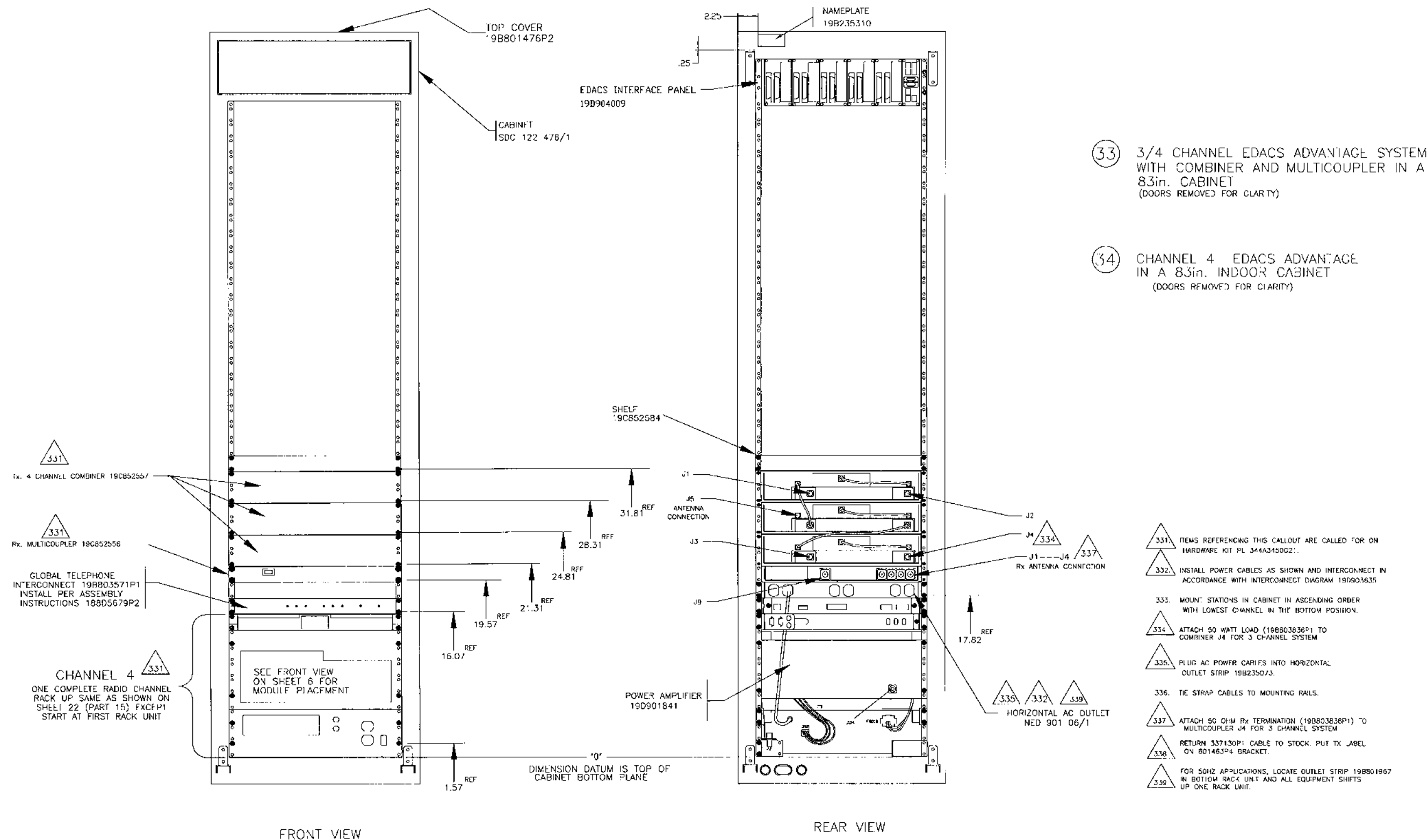
3 EDACS ADVANTAGE STATIONS
19D902845P29

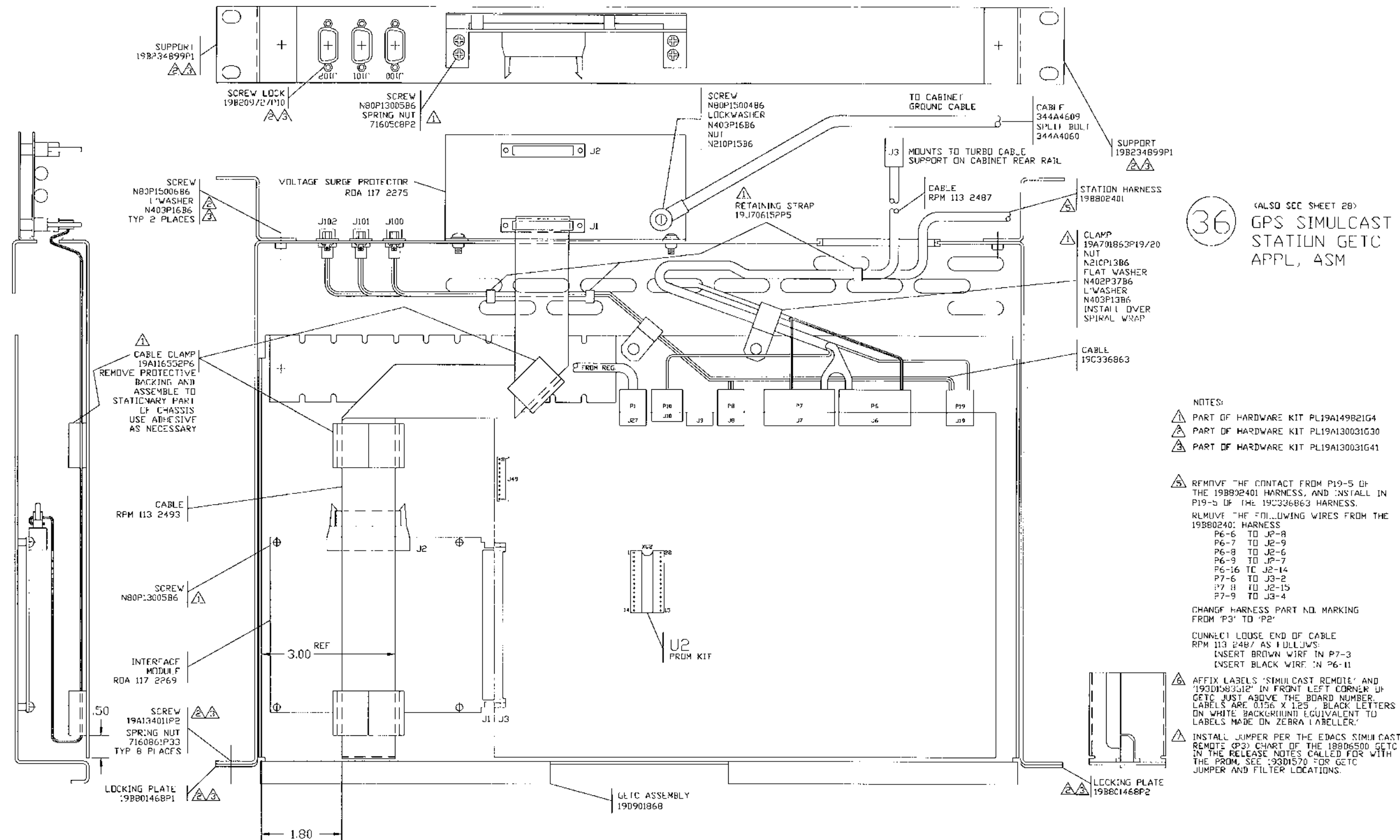
(19D902845, Sh. 31, Rev. 7)



3/5 CHANNEL EDACS SYSTEM WITH COMBINER AND MULTICOUPLER CHANNEL 4 & 5 19D902845P28 & P30

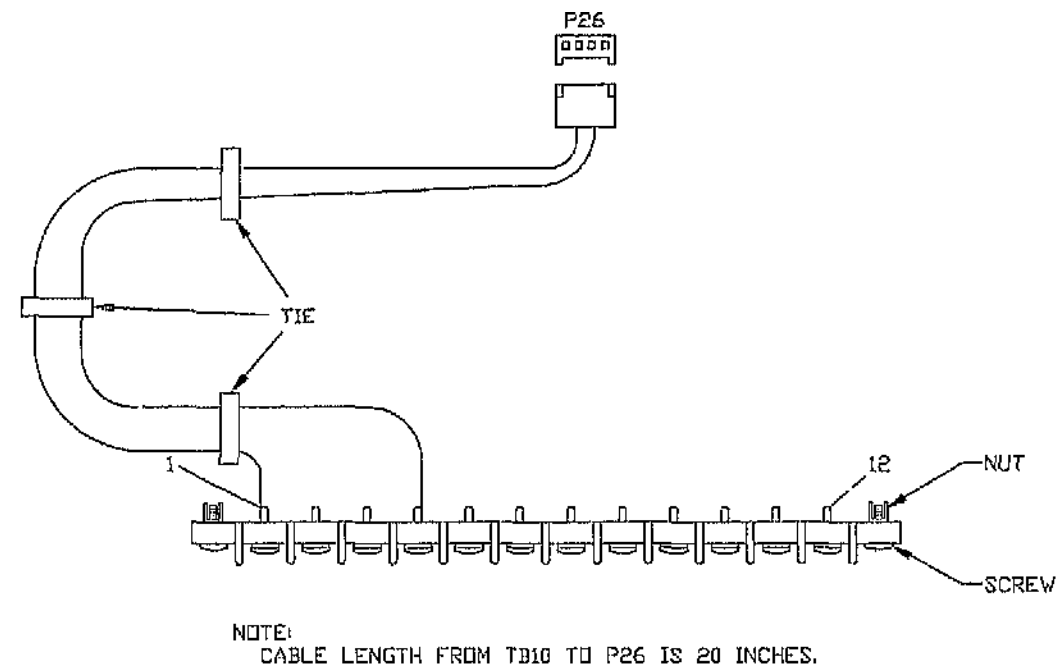
(19D902845, Sh. 32, Rev. 6)





**GPS SIMULCAST STATION GETC
19D902845P33**

(19D902845, Sh. 33, Rev. 8)



P26		TB10
1	W-O	1
2	O-W	2
3	W-BL	3
4	BL-W	4

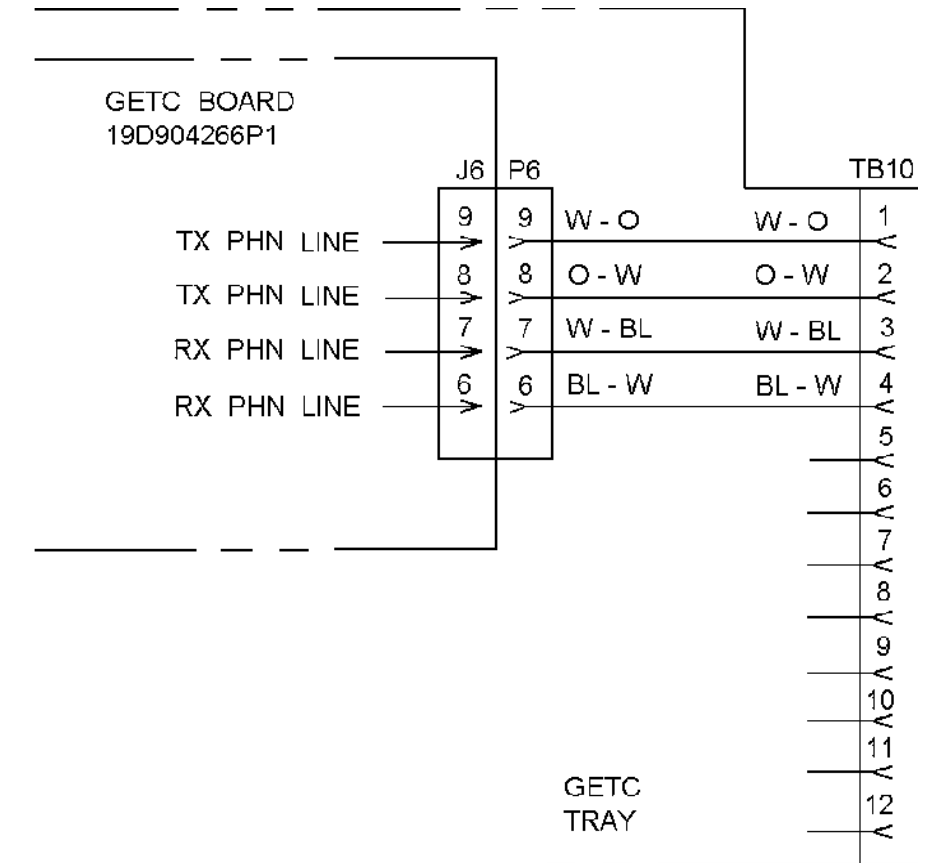
J26
HOUSING
PART NO. 19A700041P30
SIMILAR TO MOLEX CAT.NO.
22-01-2045
CONTACT#4#24 PART NO.
19A704779P26, SIMILAR TO
MOLEX CAT. NO. 08-55-0101
OR EQUIVALENTS

1

MATERIAL LIST:		
MODEM VOTING HARNESS		
19C301086P8	TB	1
N80P13007B6	SCR, MACH	4
7160508P2	NUT, SH	2
C&M CAT# 19523	WIRE, STRD	4
19A704779P26	CNT, CRMP	4
19A700041P30	HEADER	1

TB10

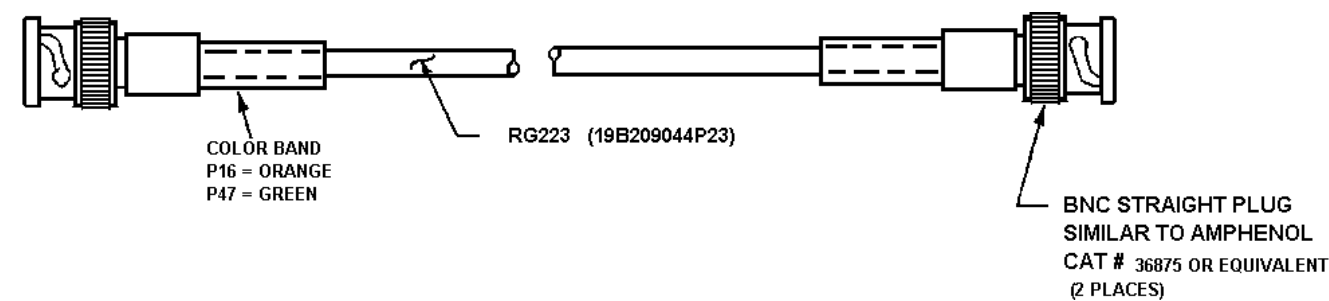
P26



GETC
TRAY

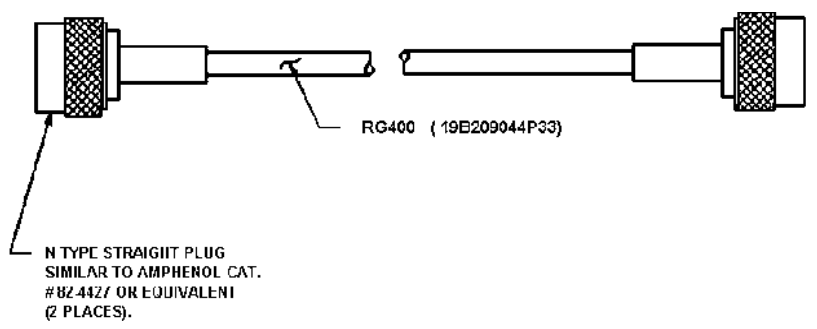
HARNESS
19C337792P1

(19C337792, Sh. 1, Rev. 2)
(19B803755, Sh. 1, Rev. 3)



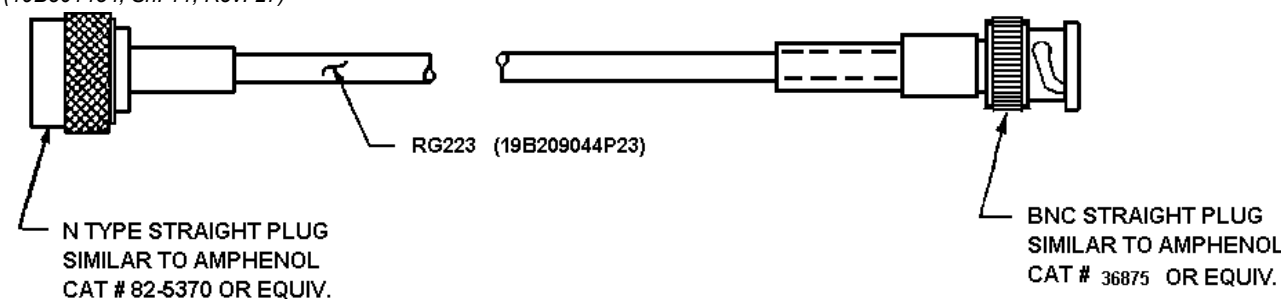
19B801454P16 & P17

(19B801454, Sh. 10, Rev. 27)



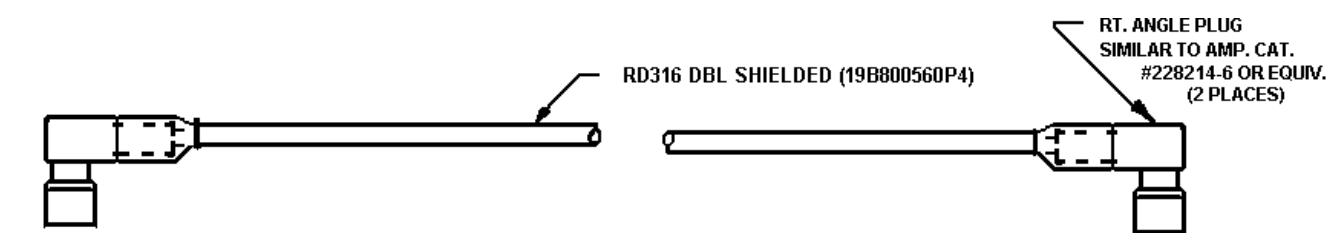
19B801454P17 & P18

(19B801454, Sh. 11, Rev. 27)



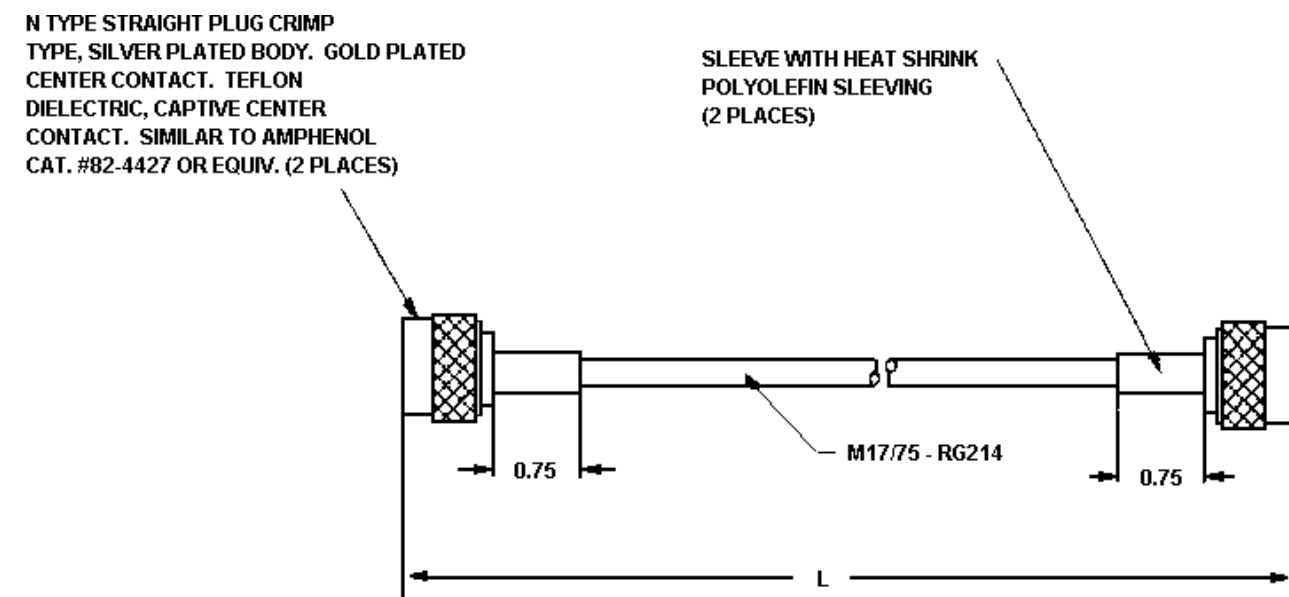
19B801454P19 & P20

(19B801454, Sh. 12, Rev. 27)



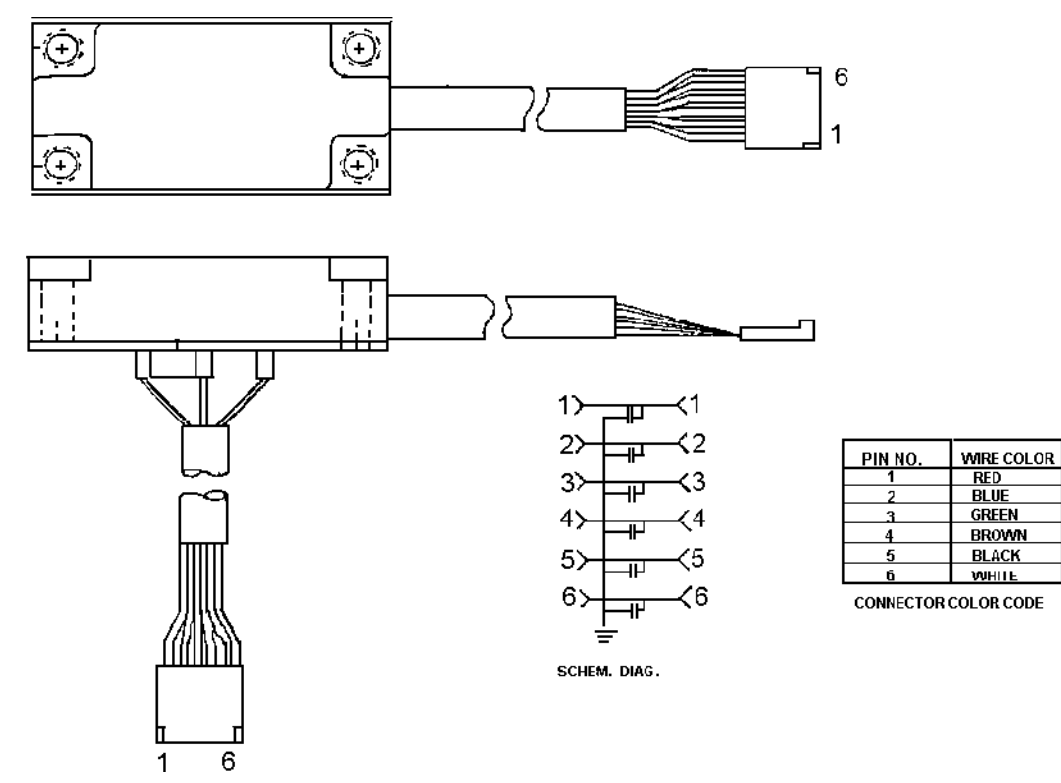
19B801454P24

(19B801454, Sh. 15, Rev. 27)



19B801454P43

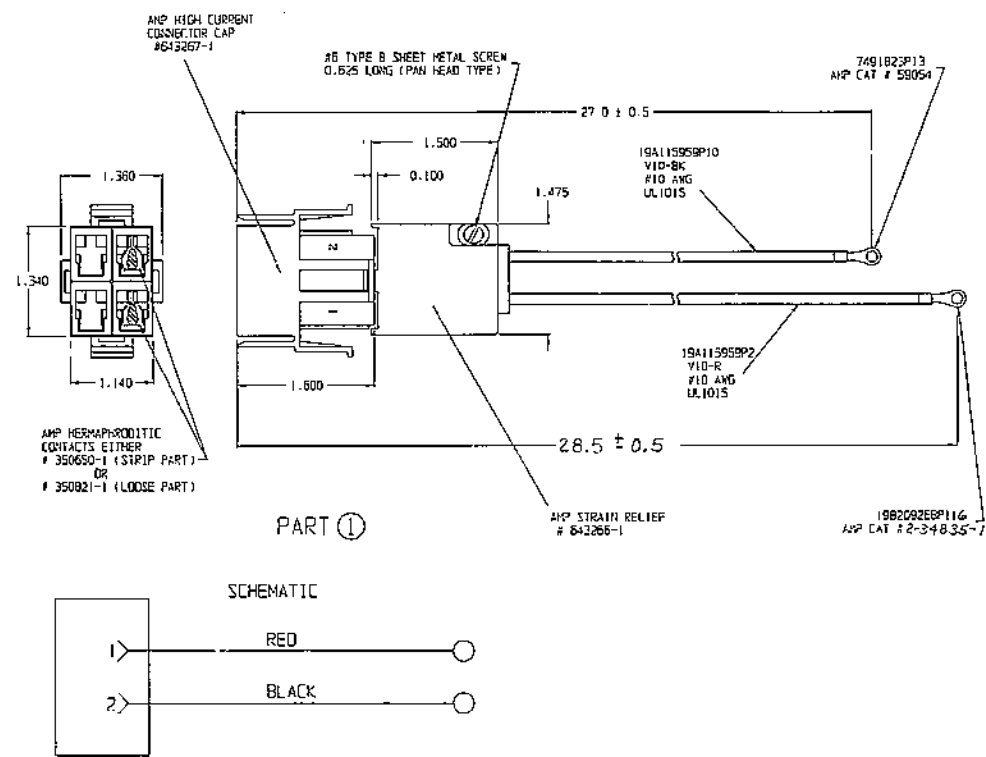
(19B801454, Sh. 23, Rev. 27)



CONTROL CABLE ASSEMBLY (PART OF POWER AMPLIFIER)

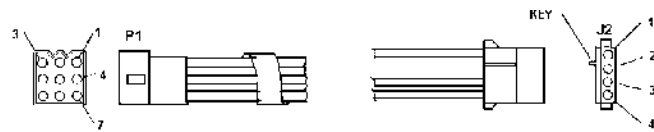
19B801739P1

(19B801739, Sh 1, Rev. 2)

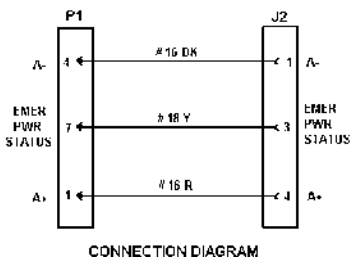


POWER CABLE (PART OF POWER AMPLIFIER)
19B801937P1

(19B801937, Sh. 1, Rev. 2)

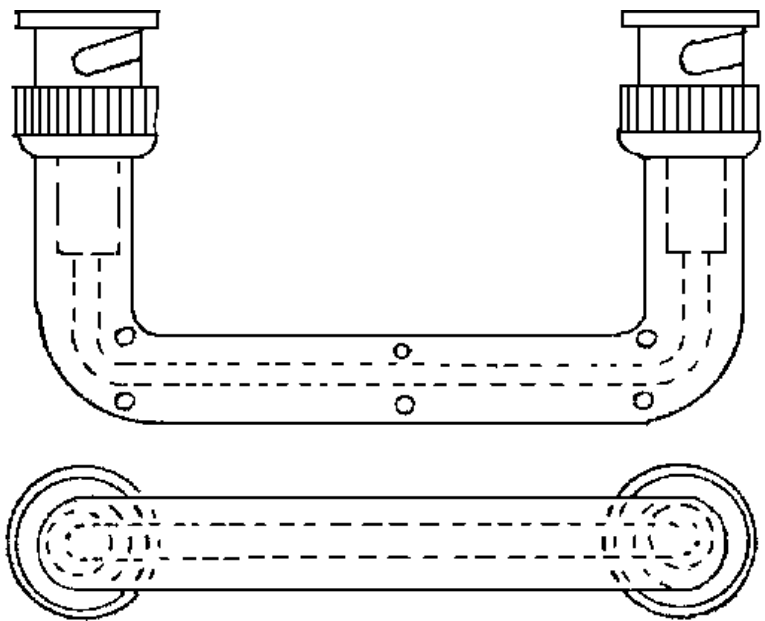


CONNECTIONS CHART						
FROM	CONTACT	CONN HOUSING	WIRE TYPE	TO	CONTACT	CONN HOUSING
P1 - 4	19B209288P2 MOLEX CAT# 02 - 09 - 2101	19B209288P4 MOLEX CAT# 02 - 09 - 2092 9 POSITION PLUG	19A116850P10 UL1015 #16 AWG COLOR BLACK	J2 - 1	AMP CAT# 51117 - 1 OR 50819 - 1 SOCKET CONTACTS	AMP CAT# 1 - 19B424 U 4 POSITION RECEPTACLE
P1 - 7			19A11688AP4 III 1815 #18 AWG COI OR YELLOW	J2 - 3		
P1 - 1			19A116850P2 III 1015 #16 AWG COLOR RED	J2 - 4		



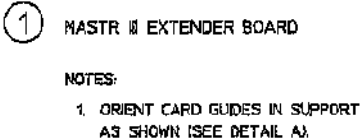
19B235871P1

(19B237871, Sh. 1, Rev. 2)

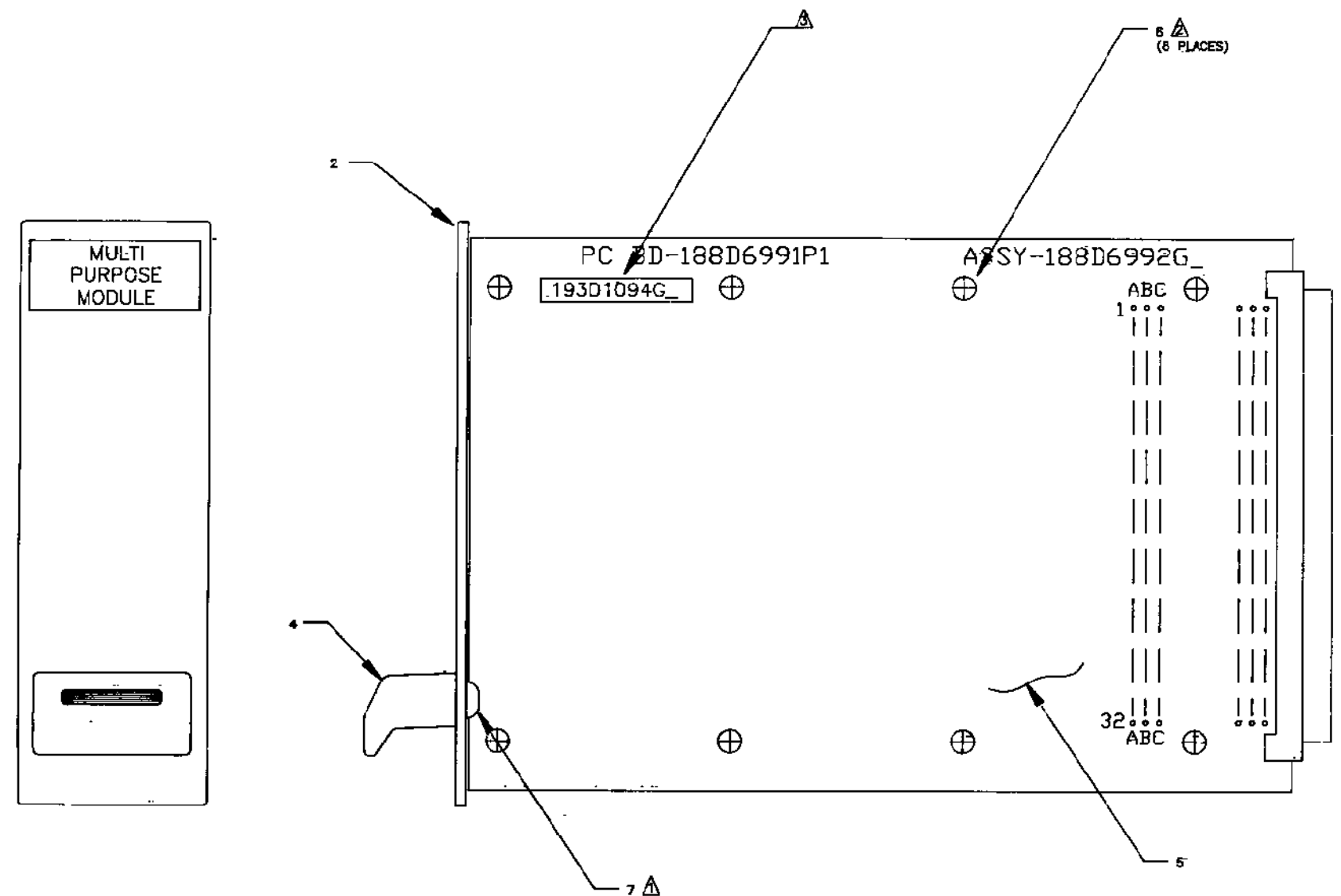


344A3052P1

(344A3052, Sh. 1, Rev. 2)



(188D5338, Sh. 1, Rev. 2)



① (FOR GROUP 1)

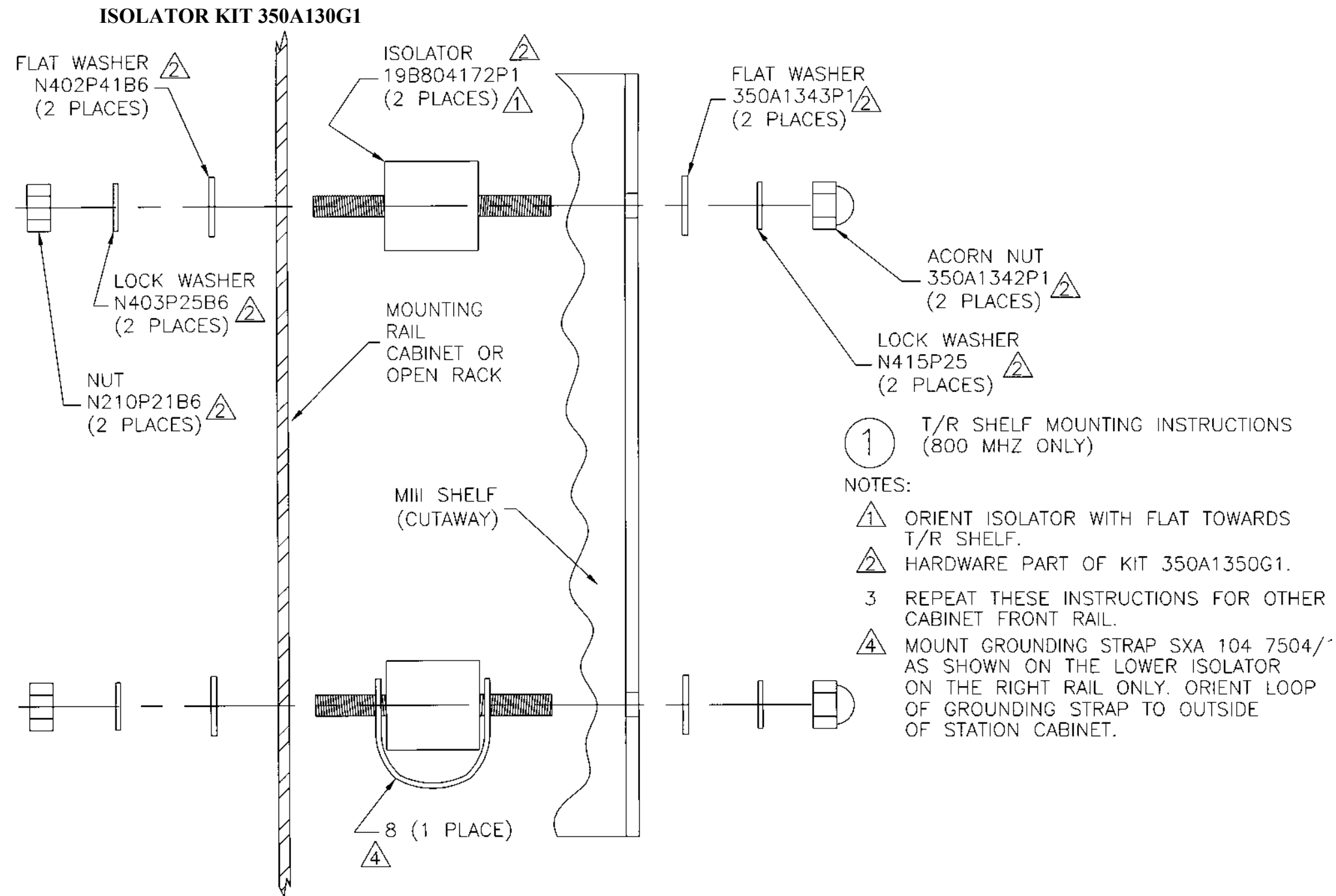
NOTES:

-  TORQUE 20 ± 1.3 INCH POUNDS.
-  TORQUE 10.0 ± 1.3 INCH POUNDS.
-  MARK AS SHOWN WITH APPLICABLE GROUP NUMBER PER 18A115740P1.

MULTI PURPOSE MODULE 193D1094G1

(193D1094, Sh. 1, Rev.0)

GROUNDING STRAP INSTALLATION INSTRUCTIONS



The MASTR III 800 MHz T/R shelf is mounted in the station cabinet using Isolator Kit 350A1350G1, which provides rubber isolators, needed at 800 MHz to dampen vibrations. This kit also provides grounding strap SXA 104 7504/1. This grounding strap is used with the lower isolator on the right rail only. As shown above, this strap (Item 8) slips over each end of the isolator studs with the loop oriented toward the outside cabinet wall.

GROUNDING STRAP INSTALLATION INSTRUCTIONS

(19B803970, Rev. 3)

PARTS LIST
MASTR III STATION

Issue 4

SYMBOL	PART NO.	DESCRIPTION
		----- 37" CABINET -----
	19D902838P1	37-inch Cabinet.
	19C852074P1	Equipment support rail (left side).
	19C852074P2	Equipment support rail (right side).
	344A3450G1	Hardware Kit.
	344A3450G2	Hardware Kit.
	19D902422P4	Rear Door.
	19D902422P4	Front Door.
	19J706152P5	Tie Strap.
	5491682P4	Key, sim to Yale & Towne #BF-10A
	5490407P29	Grommet.
		----- 69" CABINET -----
	19D417358G3	69-inch Cabinet.
	19D417623G4	Grill, Label.
	19A130031G12	Hardware Kit.
	19B226318P2	Plate.
	19B801476P1	Cover.
	19B801476P2	Cover.
	19B209539P1	Lock, rim.
	19B209539P2	Lock, rim.
	19B209539P3	Key, lock, rim.
	344A3450G21	Hardware Kit.
	5490407P29	Grommet.
	19C320895G12	Fan 120 VAC.
	19C320895G15	Fan 230 VAC.
		----- 83" CABINET -----
	19D902663G1	83-inch Cabinet.
	19C337428G1	Door.
	19C337428G2	Door.
	19B801476P1	Cover.
	19B801476P2	Cover.
	19B209539P2	Lock, rim.
	19B209239P2	Lock, rim.
	19B209539P3	Key, lock, rim.
	19B226318P2	Plate.
	344A2450P21	Hardware Kit.
	19C320895G12	Fan 120 VAC.
	19C320895G15	Fan 230 VAC.
		----- CABLES -----
	19B235871P1	Power Cable: Station Power Supply (J801) to T/R Shelf (A2-P102).
	19B801454P17	RF Cable: Low Pass Filter (J1) to Power Amplifier (J104). Replaced by 19B801454P43.
	19B801454P20	RF Cable: T/R Shelf (J2) to Duplexer Shelf (J2) (Used when Duplexer is installed).
	19B801454P19	RF Cable: T/R Shelf (J2) to Antenna Switch (J2).
	19B801454P16	RF Cable: T/R Shelf (J1) to Power Amplifier (J101).
	19B801454P43	RF Cable: Low Pass Filter (J1) to Power Amplifier (J104).

*COMPONENTS ADDED, DELETED OR CHANGED BY PRODUCTION CHANGES

