

# Mobile Communications

# MASTR® III BASE STATION SYSTEMS COMBINATION PACKAGE

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T/R SHELF	LBI-38637
SYSTEM MODULE	LBI-38764
POWER MODULE	LBI-38752



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# INTRODUCTION

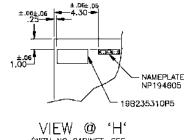
This manual contains information for the MASTR III Station including application information, cable diagrams and a parts list for the cabinet hardware. For additional information refer to the following manuals:

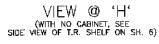
LBI-38636	Installation	How to install including Interconnection Diagrams.
TBD	Installation	Installation, Configuration and Checkout for EDACS Basic and Level 1 System.
LBI-38754	VHF RF Package	Information on the VHF frequency equipment.
LBI-38675	UHF RF Package	Information on the UHF frequency equipment.
LBI-39025	800 MHz RF Package	Information on the 800 MHz frequency equipment.
LBI-38983	Antenna Systems	Information on typical antenna system installations.
LBI-38812	<b>EDACS System Panel</b>	Information on the panel used in EDACS applications.
LBI-38894	GETC	Information on the GETC equipment.
LBI-38625	Charger/Emer. Power	Information on the battery charger and emergency power equipment.

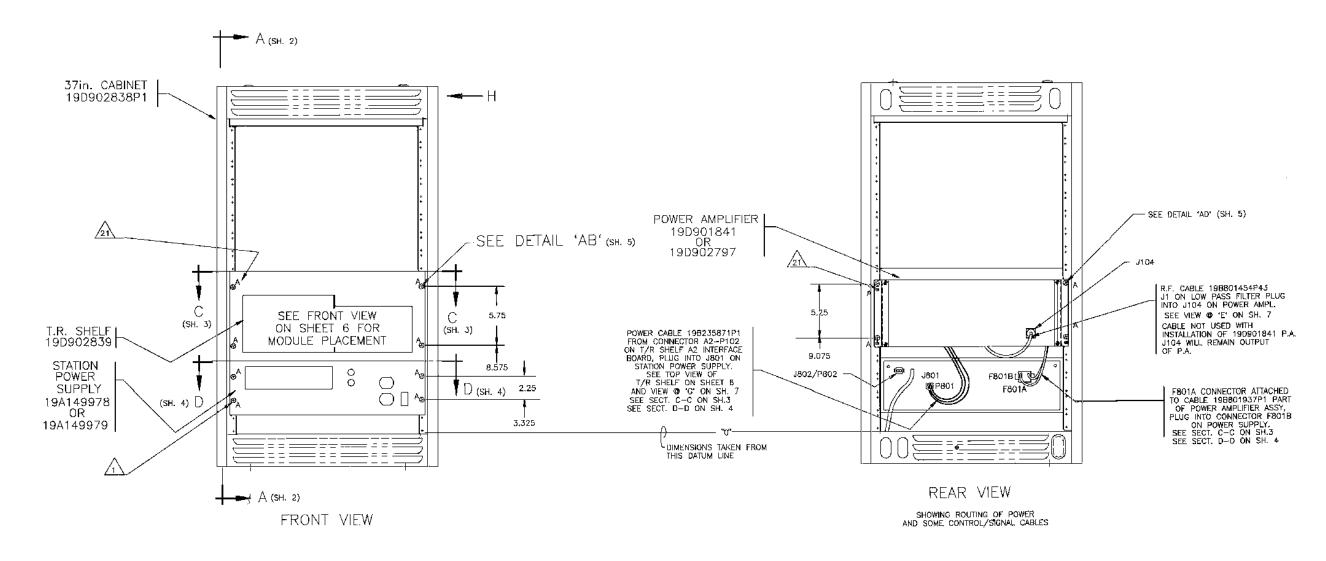
# **APPLICATIONS**

OPTION NUMBER	APPLICATION ASSEMBLY	DESCRIPTION
SXCAIS	19D902845P1	Installation of one MASTR III station in a 37" indoor cabinet.
SXRB1J	19D902845P2	Installation of T/R shelf for MASTR III station.
SXSU3A	19D902845P3	Installation of coax switch.
SXDU1J SXDU1K SXDU1M	19D902845P4	Installation of VHF (150-162 MHz) duplexer. Installation of VHF (162-174 MHz) duplexer. Installation of UHF (450-470 MHz) duplexer.
SXCH1L/M	19D901845P5	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 Relay Kit.
SXMK3C	19D902845P8	Installation of auxiliary receiver in a 37" or 69" cabinet.
SXMD3J	19D902845P9	Installation of GETC shelf in a 69" indoor cabinet.
SXVG3E SXVG3F	19D902845P11	Installation of GETC shelf for a E/E Voice Guard/Aegis repeater and remote/repeater in a 37" or 69" indoor cabinet.
SXVV1N SXVW1J SXVV1M	19D902845P12	Installation of E/D module (non-1027 version) in a 37" or 69" indoor cabinet.
SXVG3C SXVG3D	19D902845P13	Installation of E/D module (1027 version) in a 37" or 69" indoor cabinet.
SXDE5B	19D902845P14	Installation of transmit data board.
SXAP3K	19D902845P16	Installation of multi-station in a 69" or 83" indoor cabinet or open rail rack.
SXMNEY SXMD3M	19D902845P21 19D902845P22	Installation in 69" indoor cabinet or open rail rack. Installation of simulcast stations.
SXMD1S	19D902845P23	Installation and modification instructions for RIC telephone interconnect.
	19D902845P24	Modification for station receiver voting for RS-232.

LBI-38775 ASSEMBLY DIAGRAM







37in. HIGH INDOOR FIXED LAND CABINET WITH

(1) MASTR III TRANSMIT/RECEIVE 800Mhz. BASE STATION

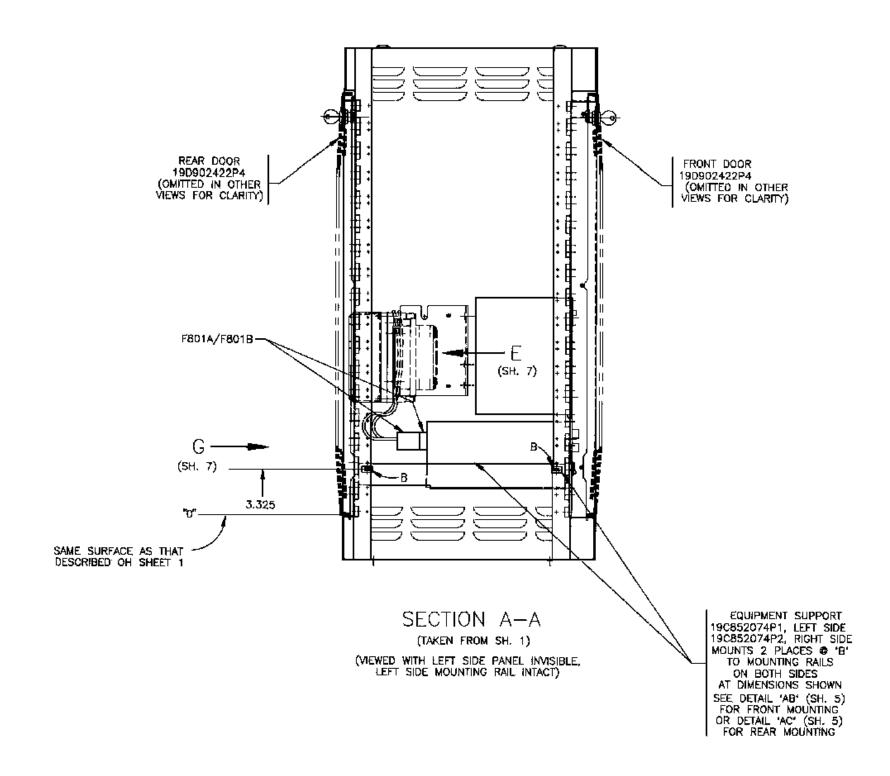
#### **MASTR III STATION** 19D902845P1

(19D902845, Sh. 1, Rev. 4)

NOTES: ITEMS REFERENCING THIS CALLOUT ARE CALLED FOR ON HARDWARE KIT P.L. 344A3450G1.

INSTALL CABLES AS SHOWN AND INTERCONNECT IN ACCORDANCE WITH INTERCONNECT DIAGRAM 19D903635.

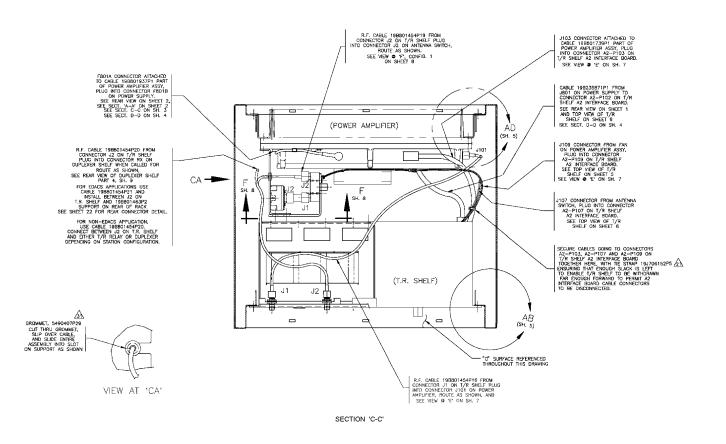
items referencing this callout are called for on hardware kit P.L. 344a345062.

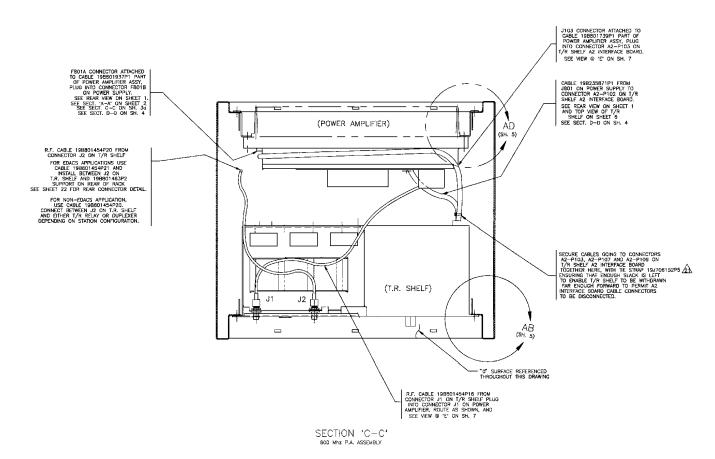


#### **MASTR III STATION**

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

LBI-38775 ASSEMBLY DIAGRAM



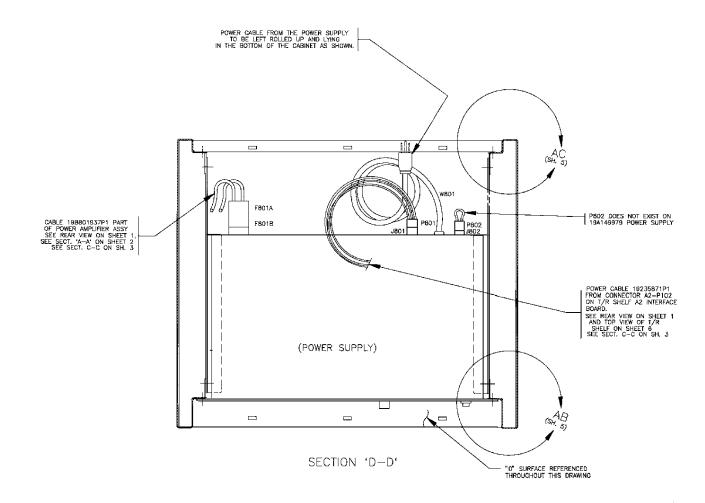


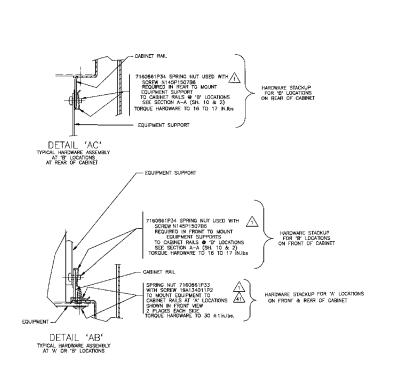
#### **MASTR III STATION**

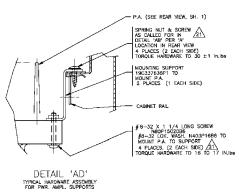
(19D902845, Sh. 3, Rev. 3)

#### **MASTR III STATION**

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







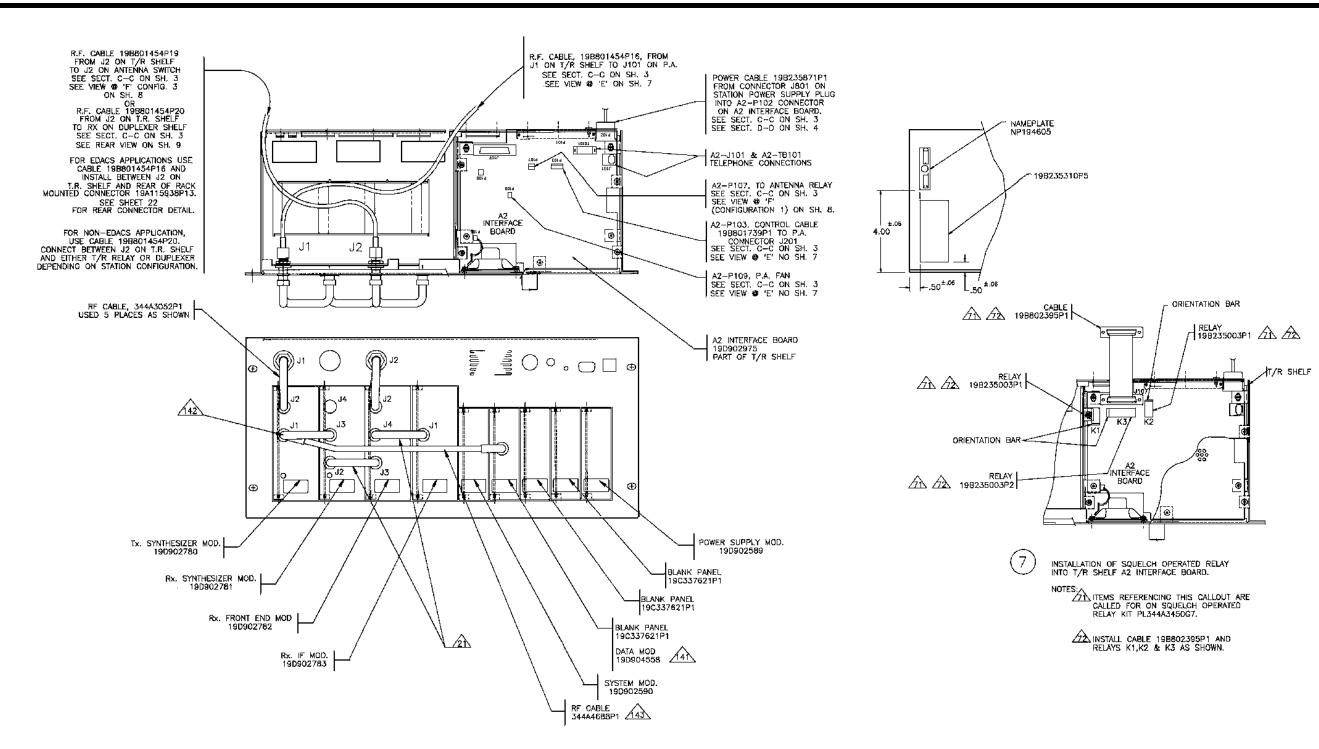
**MASTR III STATION** 

(19D902845, Sh. 4, Rev. 1)

MASTR III STATION

(19D902845, Sh. 5, Rev. 3)

LBI-38775 ASSEMBLY DIAGRAM



**MASTR III STATION** 19D902845P2, P7 & P14

(19D902845, Sh. 6, Rev. 5)

ASSEMBLY OF T/R SHELF FOR THE MASTR III INDOOR CABINET APPLICATION.

INSTALL, R.F. CABLE 344A3052P3, IF SUPPLIED.

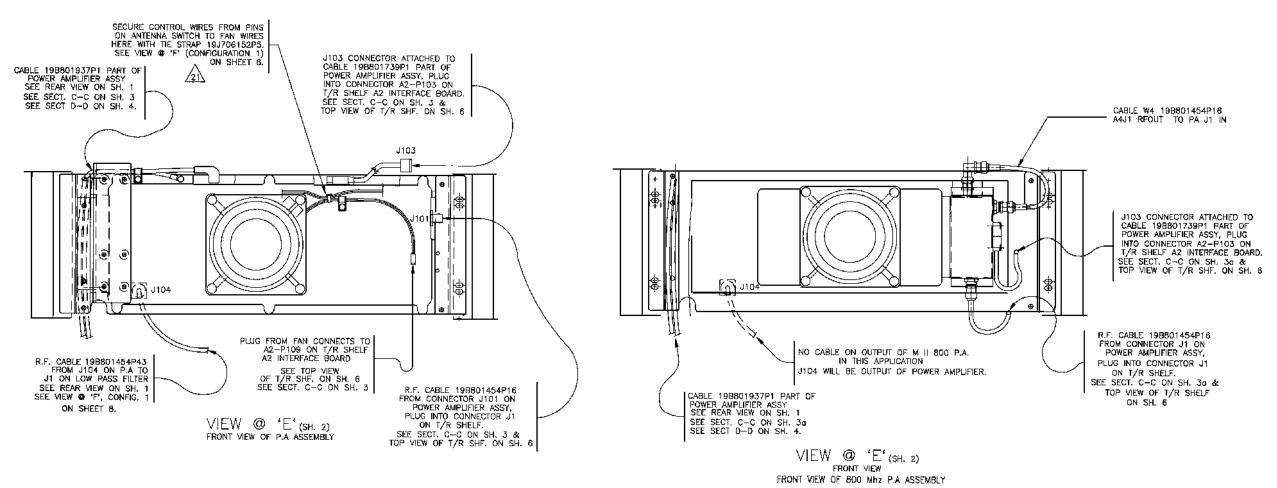
INSTALLATION OF DATA MODULE.

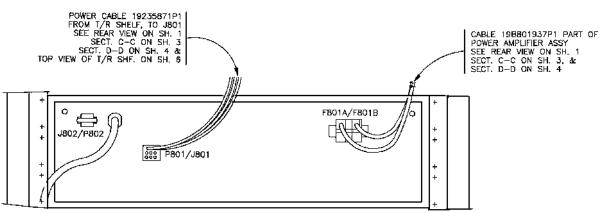
NOTES:

141 INSTALL DATA MODULE IN SLOT AS SHOWN.

42 DELETE RF CABLE 344A3052P1 FROM TX SYN MOD. TO RX SYN MOD.

CONNECT 344A4688P1 RF CABLE FROM TX SYN MOD TO DATA MODULE AS SHOWN

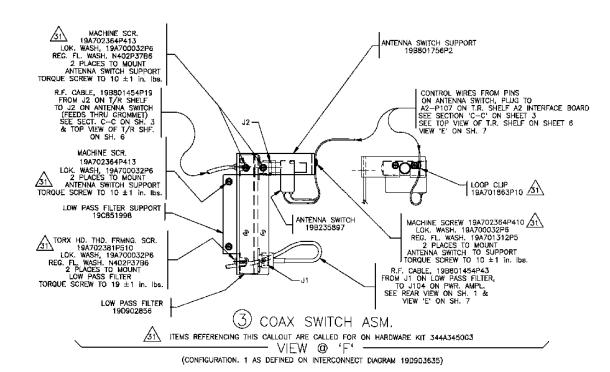


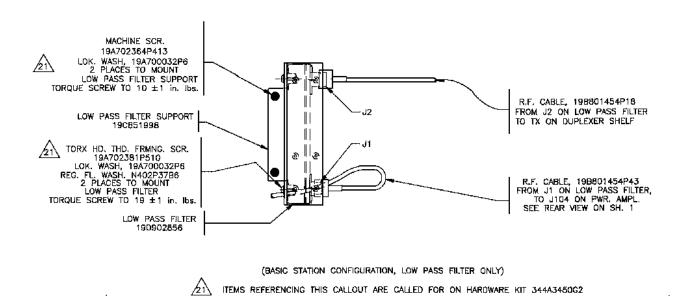


VIEW @ 'G' (SH. 2)
REAR VIEW OF STATION POWER SUPPLY
SHOWING WIRING FROM OTHER UNITS

#### **MASTR III STATION**

(19D902845, Sh. 7, Rev. 4)





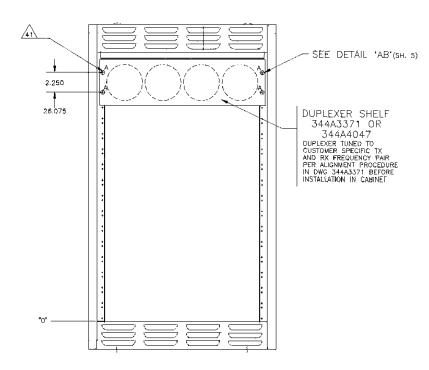
CONFIGURATION, 3 AS DEFINED ON INTERCONNECT DIAGRAM 19D903635)

### MASTR III STATION 19D902845P3

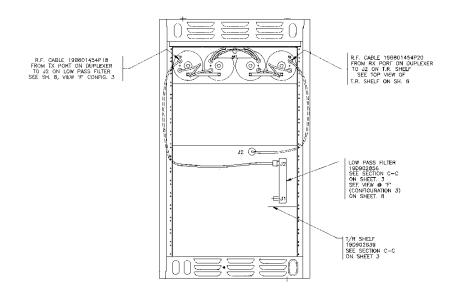
(19D902845, Sh. 8, Rev. 5)

# MASTR III STATION 19D902854P4

(19D902845, Sh. 9, Rev. 3)



FRONT VIFW



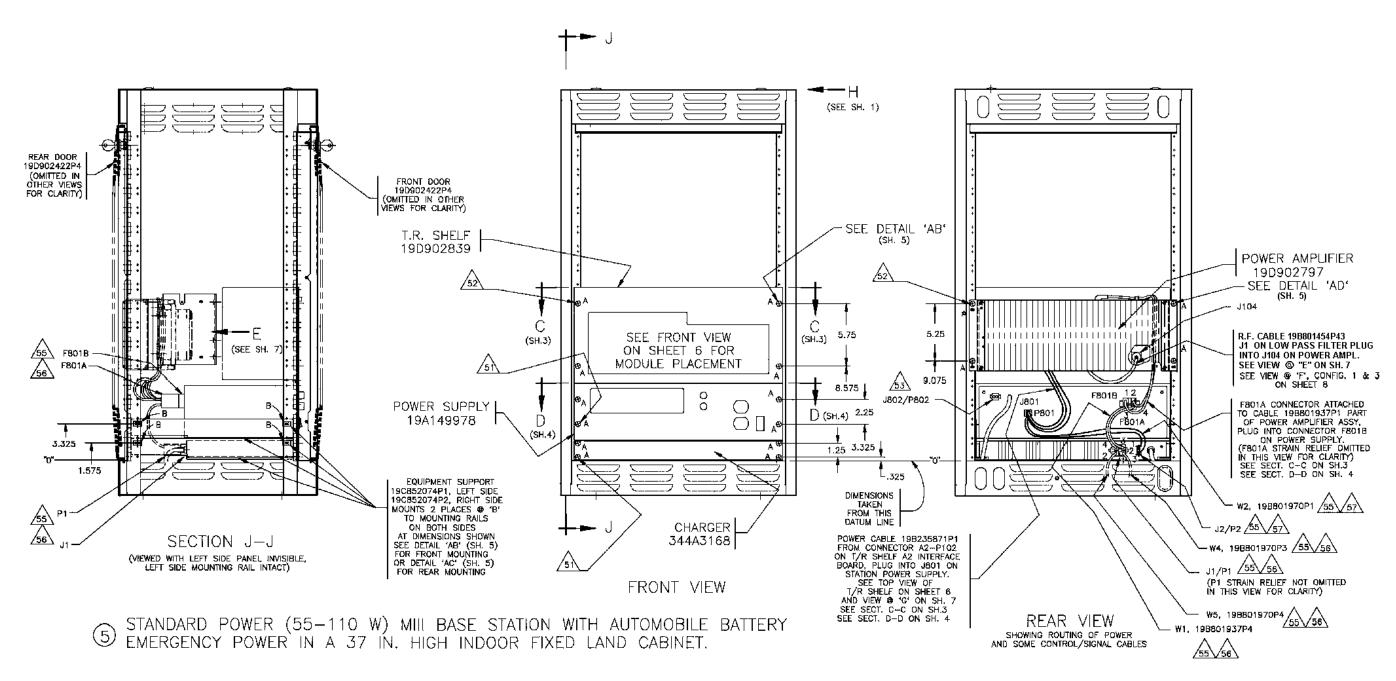
REAR VIEW

(4) 37in.HIGH INDOOR FIXED LAND CABINET MASTR II STATION WITH DUPLEXER SHELF

IES:

AT ITEMS REFERENCING THIS CALLOUT ARE CALLED FOR ON HARDWARE KIT PLI. 344/3450024.

2. INSTALL CABLES AS SHOWN AND INTERCONNECT IN ACCORDANCE WITH INTERCONNECT DIAGRAM 150903635 (CONFIGURATION 3)



NOTES:

151 ITEMS REFERENCING THIS CALLOUT ARE CALLED FOR ON HARDWARE KIF PL344A3450G1

152 ITEMS REFERENCING THIS CALLOUT ARE CALLED FOR ON HARDWARE KIT PL344A3450G2

53 REMOVE P802 FROM J802 ON POWER SUPPLY 19A149978.

54. INSTALL CABLES AS SHOWN AND INTERCONNECT IN ACCORDANCE WITH INTERCONNECT DIAGRAM 190903635, SEE ALSO NOTES 55, 56, & 57.

INTERCONNECTION OF CABLES IN NOTES 56 & 57 TO BE CONSISTENT WITH INTERCONNECT DRAWING 190903635.

56

REMOVE F801A OF PA LEAD ASSEMBLY 19B801937P1 FROM F801B OF POWER SUPPLY. REMOVE STRAIN RELIEFS FROM F801A AND FROM 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 F801A. 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 F801A. PLUG P1 OF W1 INTO J1 OF THE CHARGER. PLUG F801A INTO F801B OF THE POWER SUPPLY. CABLES W4 AND W5 ARE TO BE LEFT ROLLED UP AND LYING ON THE FLOOR OF THE CABINET.

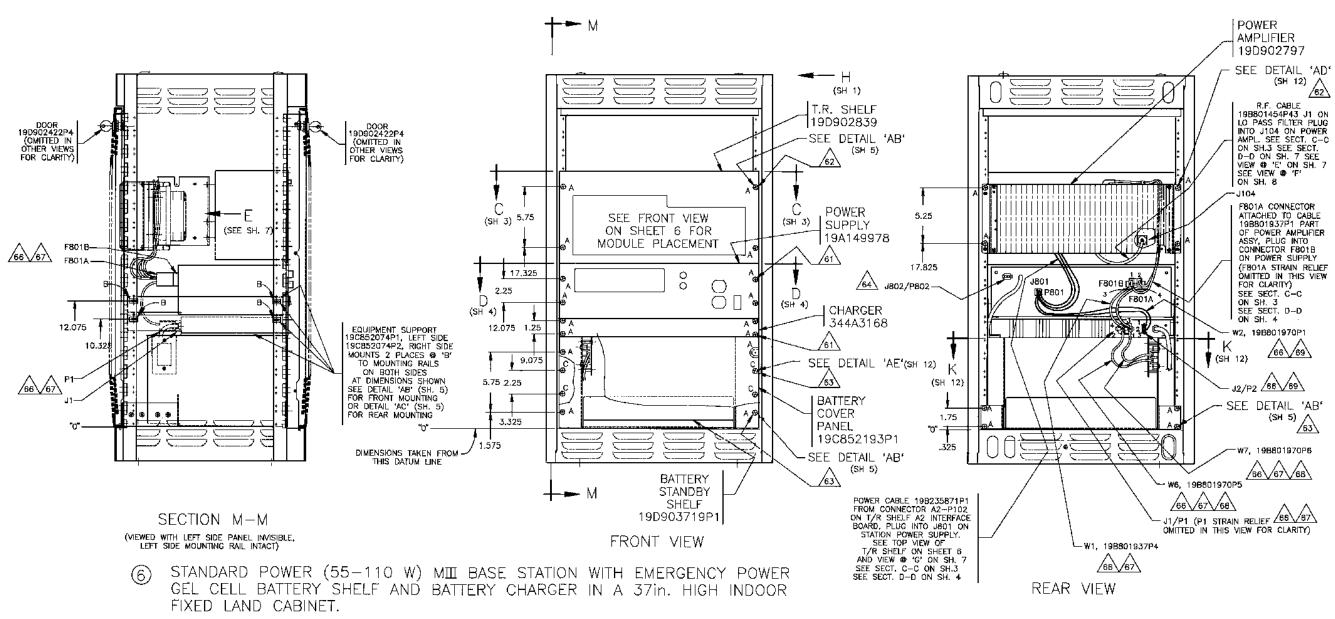
<u>/57</u>

PLUG P2 OF W2 INTO J2 ON THE CHARGER, INSERT THE ORANGE WIRE OF W2 INTO THE NUMBER 8 CAVITY OF P801 OF CABLE ASSEMBLY 198235671P1, INSERT THE BLACK WIRE OF W2 INTO THE NUMBER 9 CAVITY OF P801 OF CABLE ASSEMBLY 198235871P1.

#### MASTR III STATION 19D902845P5

(19D902845, Sh. 10, Rev. 1)

LBI-38775 ASSEMBLY DIAGRAM



NOTES;

61\ ITEMS REFERENCING THIS CALLOUT ARE CALLED FOR ON HARDWARE KIT PL344A345DG1.
62\ ITEMS REFERENCING THIS CALLOUT ARE CALLED FOR ON HARDWARE KIT PL344A3450G2.

items referencing this callout are called for on hardware kit pl344a3450g5.

REMOVE PB02 FROM J802 ON POWER SUPPLY 19A14997B.

65. INSTALL CABLES AS SHOWN AND INTERCONNECT IN ACCORDANCE WITH INTERCONNECT DIAGRAM 190903635. SEE ALSO NOTES 66, 67, 68 & 69.

INTERCONNECTION OF CABLES IN NOTES 67, 68 & 69 TO BE CONSISTENT WITH INTERCONNECTION DRAWING 19D903635.



REMOVE STRAIN RELIEFS FROM F801A OF THE PA LEAD ASSEMBLY, 198801937P1, AND FROM P1 OF W1 (198801937P4).
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 (198801970P5) INTO THE NUMBER 1 CAVITY OF P1 OF W1.
INSERT THE HERMAPHRODITIC CONTACT OF W7 (198801970P6) INTO THE NUMBER 2 CAVITY OF P1 OF W1.
REINSTAIL 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.



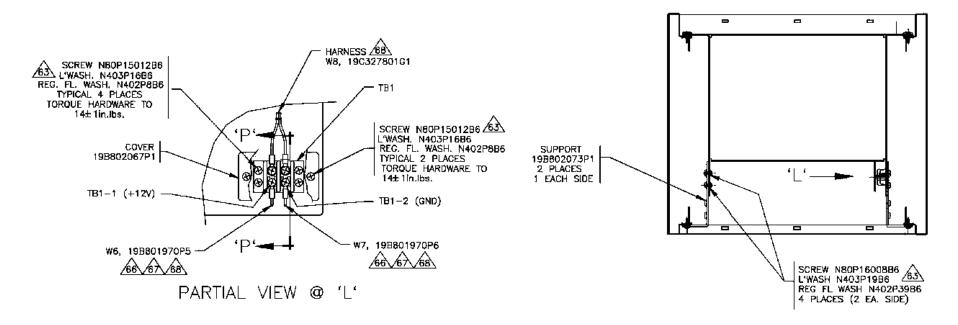
CONNECT W6 TO THE "+12V" TERMINAL OF THE W8 (19C327801C1)
TERMINAL BOARD. (TB1-1)
CONNECT W7 TO THE "GND" TERMINAL OF THE W8 (19C327801G1)
TERMINAL BOARD. (TB1-2)



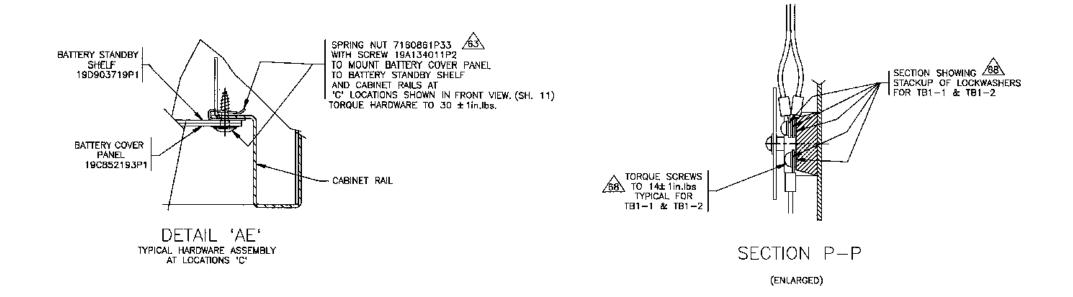
PLUG P2 OF W2 (198801970P1) INTO J2 ON THE ON THE CHARGER. INSERT THE ORANGE WIRE OF W2 INTO THE NUMBER 8 CAVITY OF P801 OF CABLE ASSEMBLY 198235871P1. INSERT THE BLACK WIRE OF W2 INTO THE NUMBER 9 CAVITY OF P801 OF CABLE ASSEMBLY 198235871P1.

# MASTR III STATION 19D902845P6

(19D902845, Sh. 11, Rev. 1)

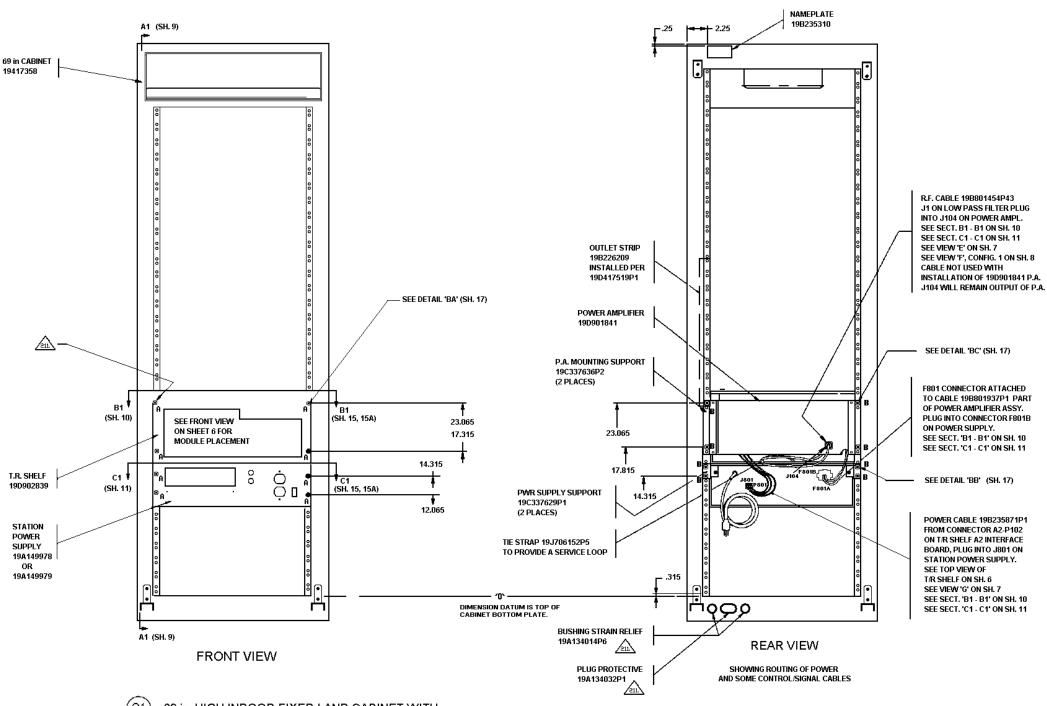


SECTION K-K



#### **MASTR III STATION**

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



69 in. HIGH INDOOR FIXED LAND CABINET WITH (1) MASTR III TRANSMIT/RECEIVE BASE STATION

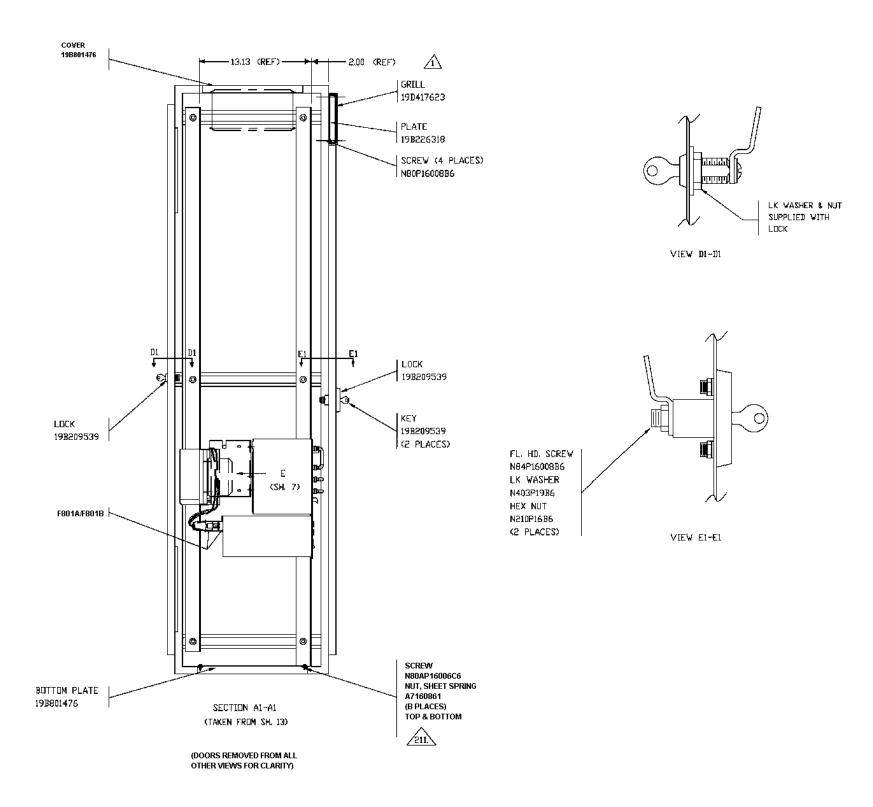
ITEMS REFERENCING THIS CALLOUT ARE CALLED FOR ON HARDWARE KIT P.L. 344A3450G21.

212. INSTALL CABLES AS SHOWN AND INTERCONNECT IN ACCORDANCE WITH INTERCONNECT DIAGRAM 19D903635.

213. IF ADDITIONAL CONVENTIONAL STATION IS SUPPLIED TO BE MOUNTED IN CABINET, MOUNT FIRST STATION AS SHOWN AND SECOND STATION 3 RACK UNITS ABOVE FIRST STATION.

**MASTR III STATION** 19D902845P21

(19D902845, Sh. 13, Rev. 2)



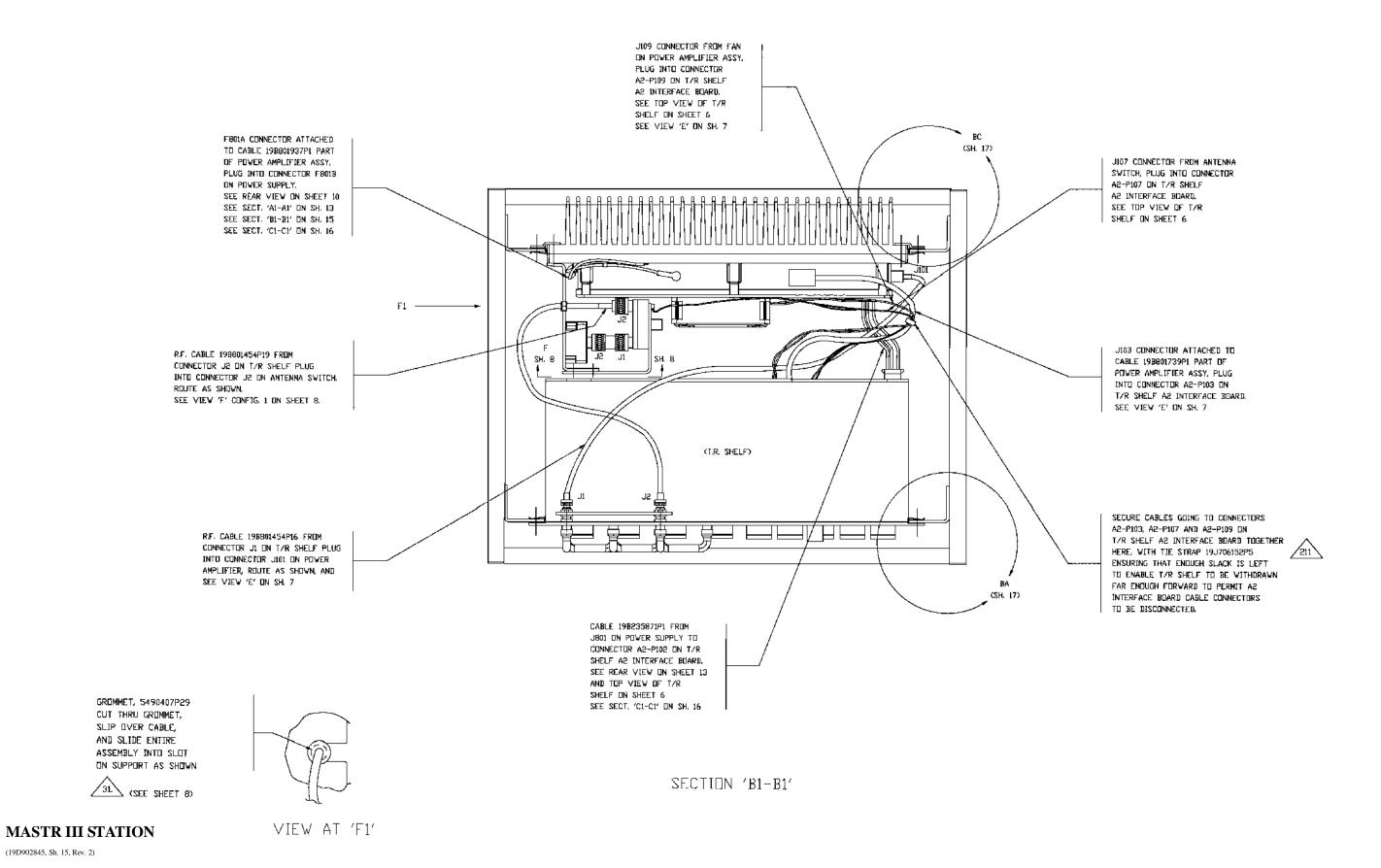
NOTES:

IF ERICSSON NAMEPLATE IS SUPPLIED, RETURN GE NAMEPLATE TO STOCK OR DISCARD.

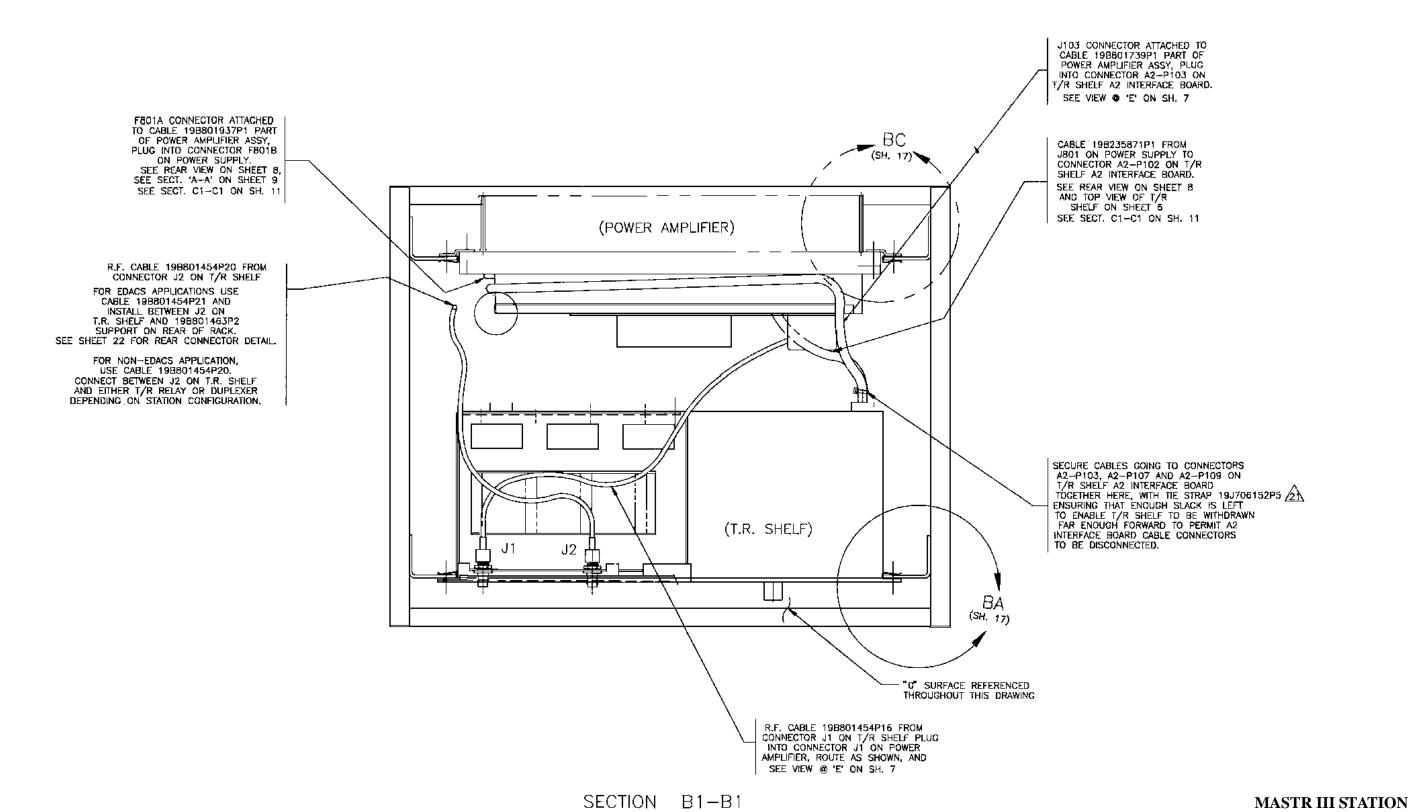
## **MASTR III STATION**

(19D902845, Sh. 14, Rev. 3)

LBI-38775 ASSEMBLY DIAGRAM

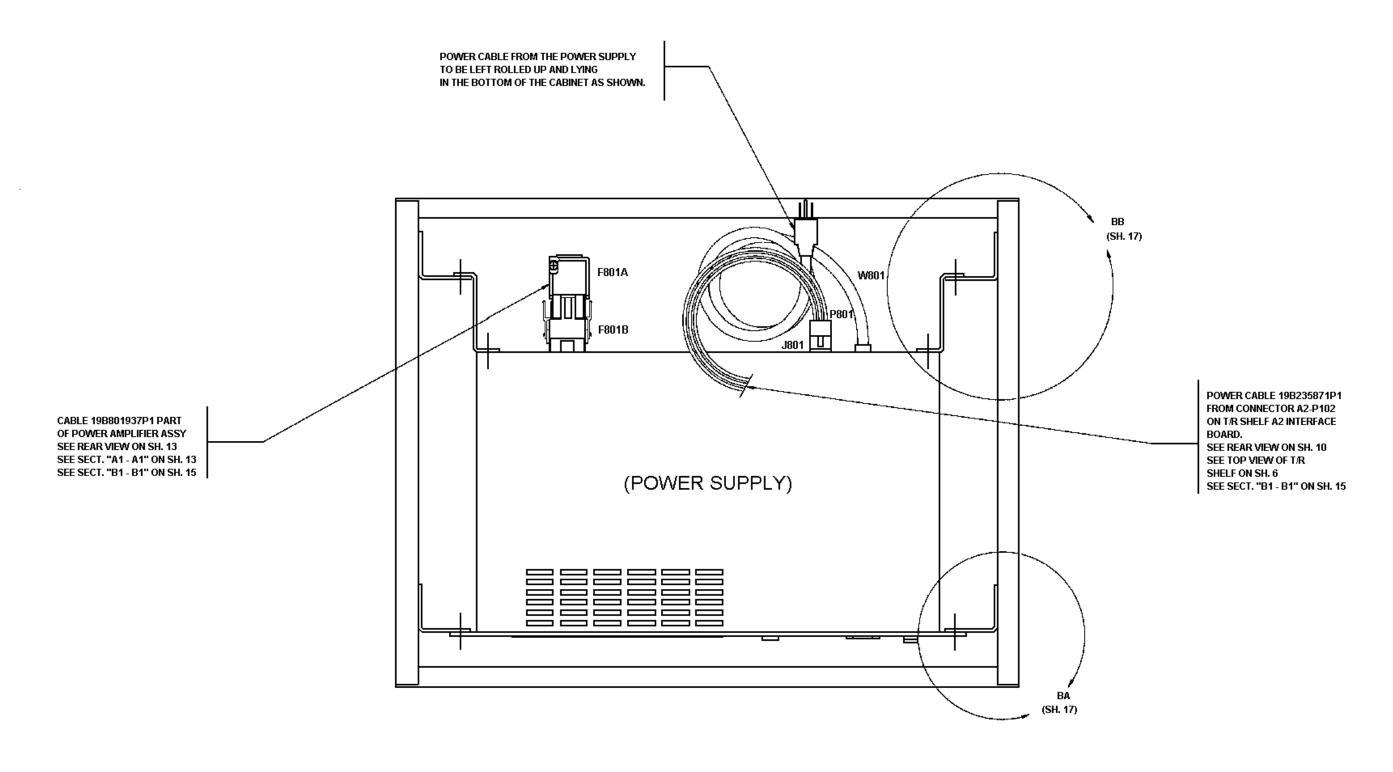


14



800 MHz PA ASSEMBLY

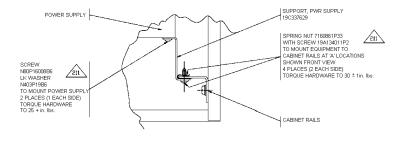
19D902845, Sh. 15A, Rev. 2)



SECTION 'C1 - C1'

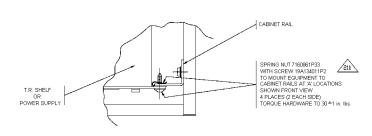
#### **MASTR III STATION**

(19D902845, Sh. 16, Rev. 1)



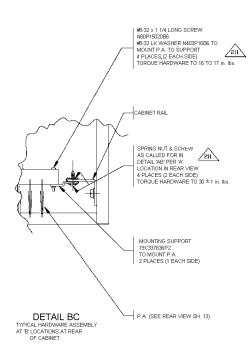
#### DETAIL BB

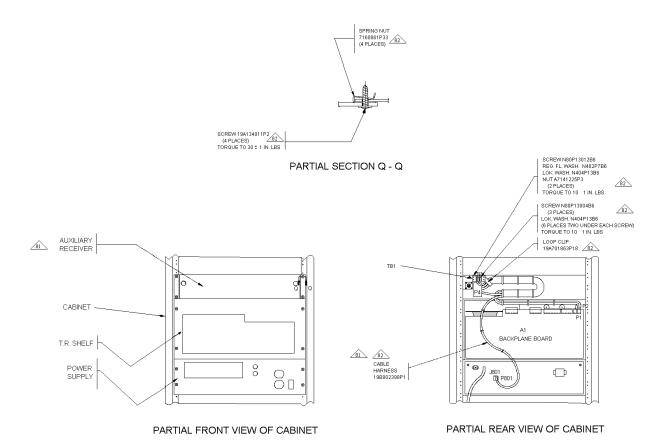
TYPICAL HARDWARE ASSEMBLY AT B' LOCATIONS AT REAR



DETAIL BA

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





# 8 37 AND 69 INCH. HIGH INDOOR FIXED LAND CABINETS MASTR III STATION WITH AUXILIARY RECEIVER.

NOTES:

| INSTALL THE AUXILIARY RECEIVER SHELF AND CABLE HARNESS 1980027989T AS SHOWN, INTERCONNECT IN ACCORDANCE WITH INTERCONNECT DIAGRAM 198002439.
| ITEMS REFERENCING THE CALLOUT ARE CALLED FOR ON HARDWARE KIT PL3448345008.

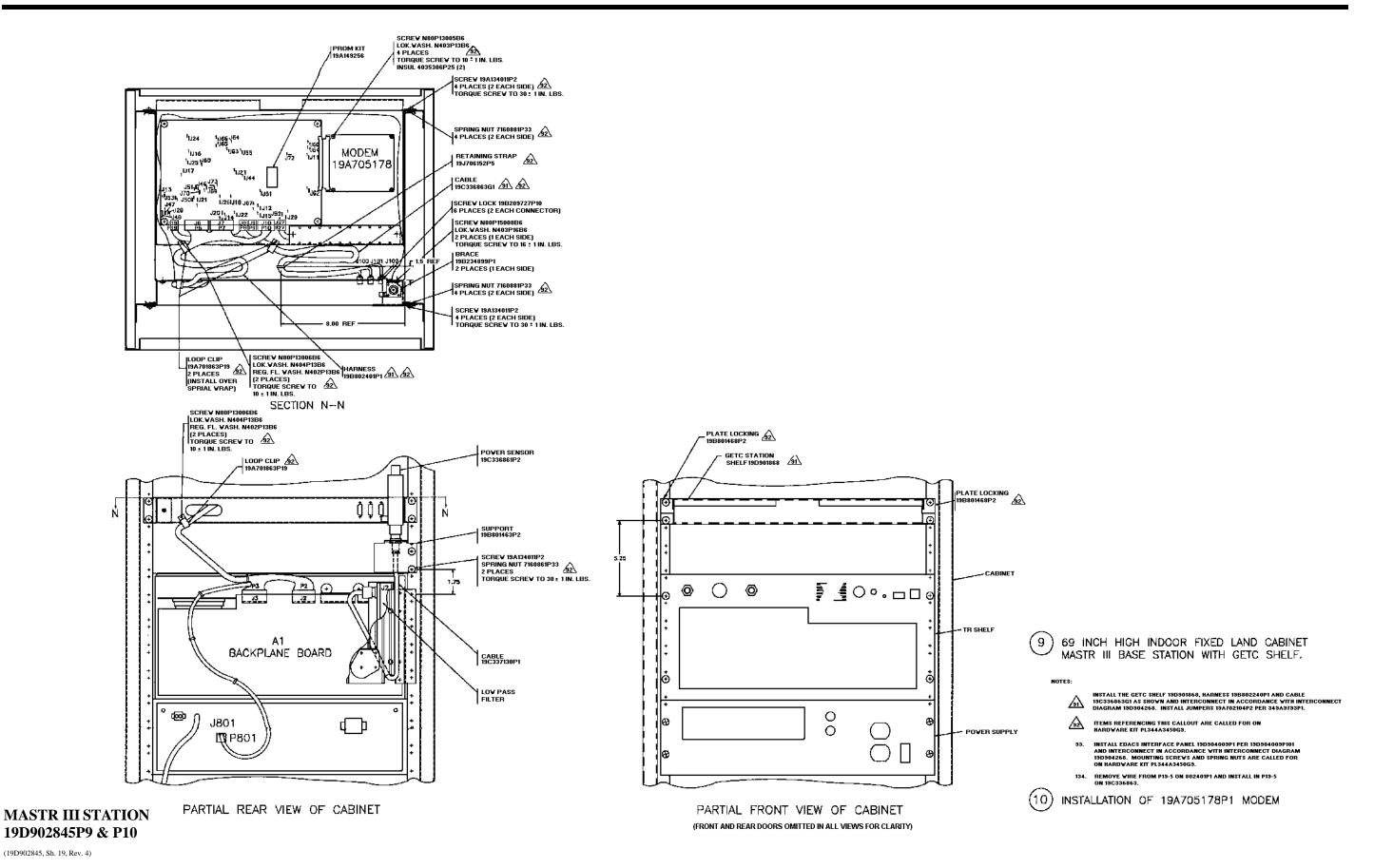
#### **MASTR III STATION**

(19D902845, Sh. 17, Rev. 1)

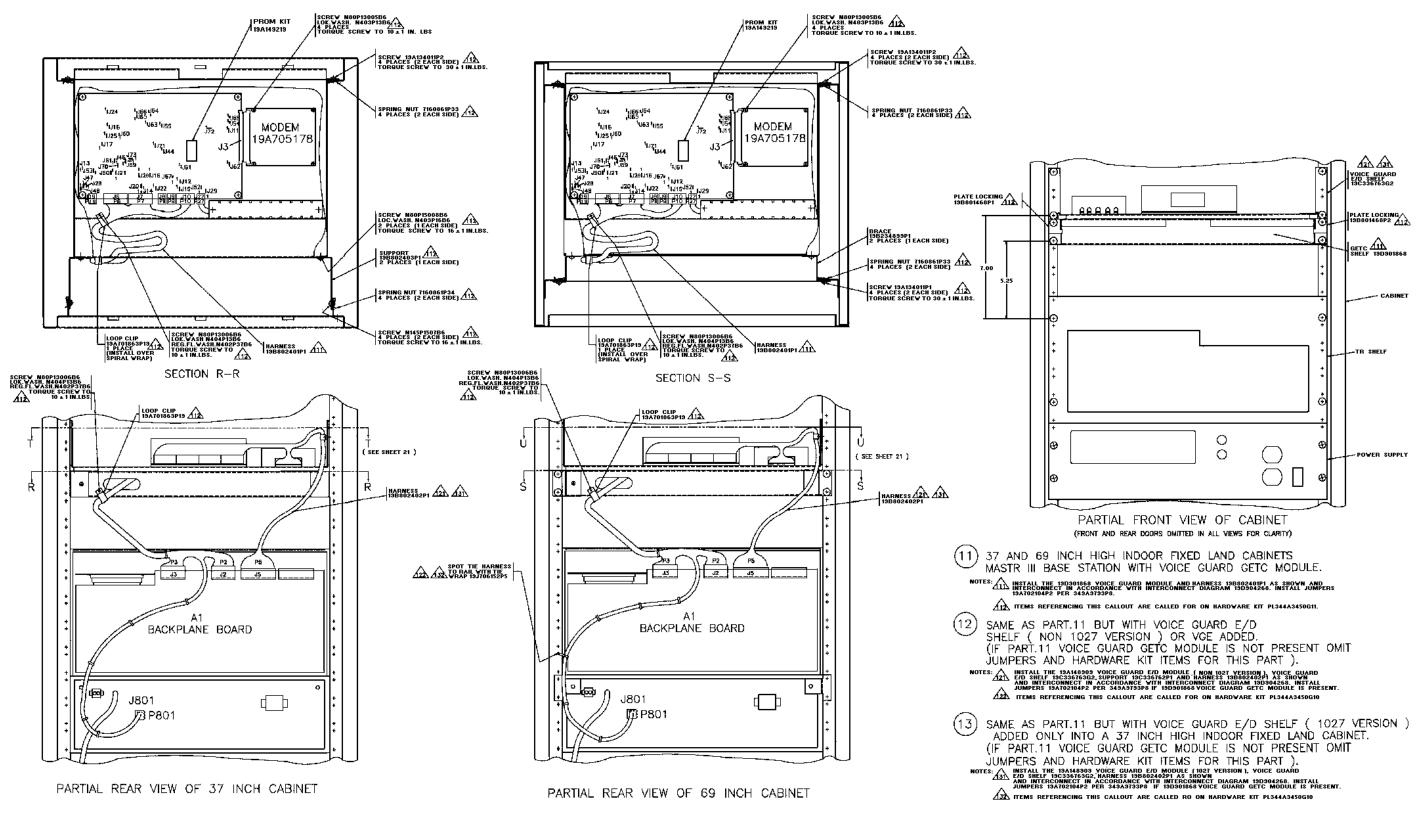
# MASTR III STATION 19D902845P8

(19D902845, Sh. 18, Rev. 2)

LBI-38775 ASSEMBLY DIAGRAM



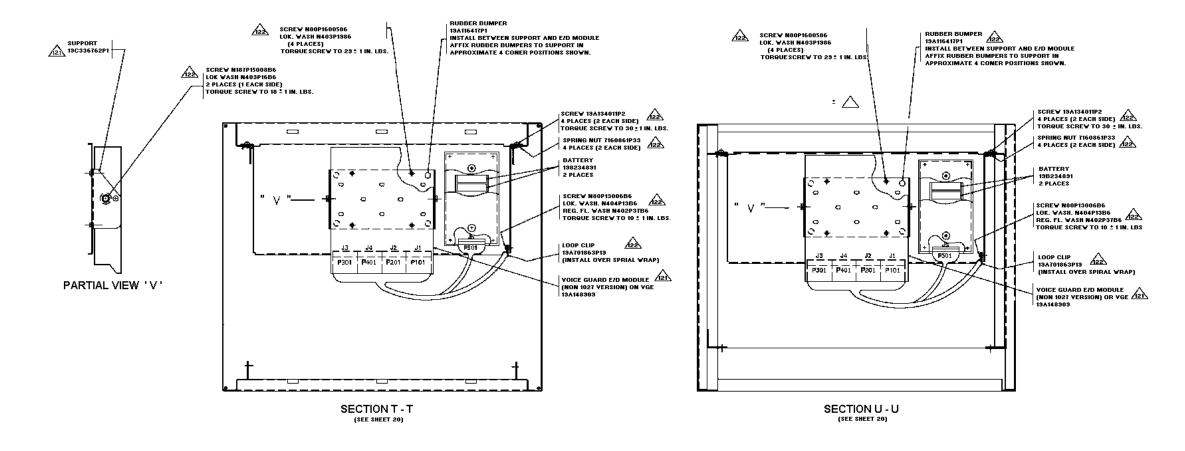
18

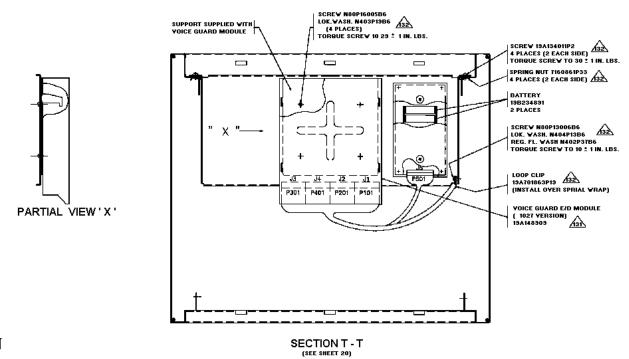


#### MASTR III STATION 19D902845P11 - P13

(19D902845, Sh. 20, Rev. 3)

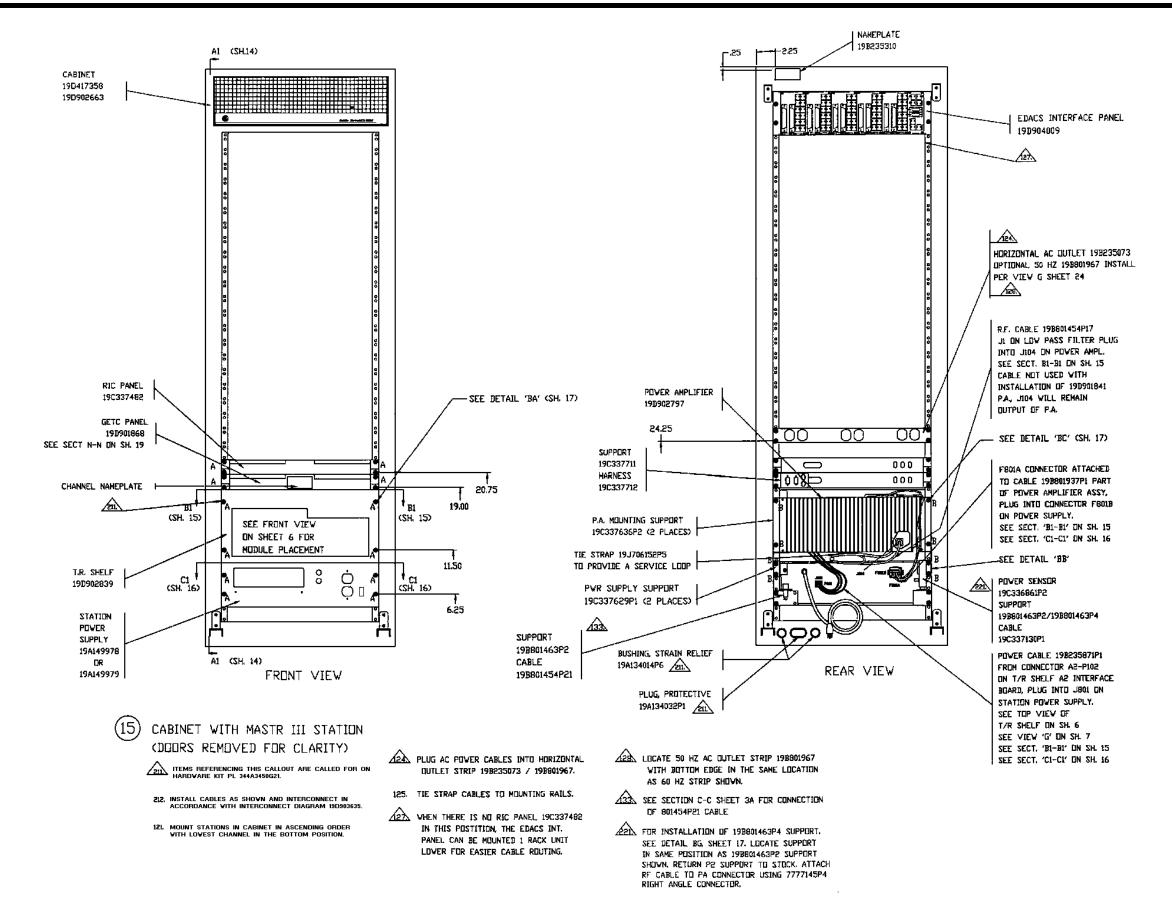
LBI-38775 ASSEMBLY DIAGRAM





**MASTR III STATION** 

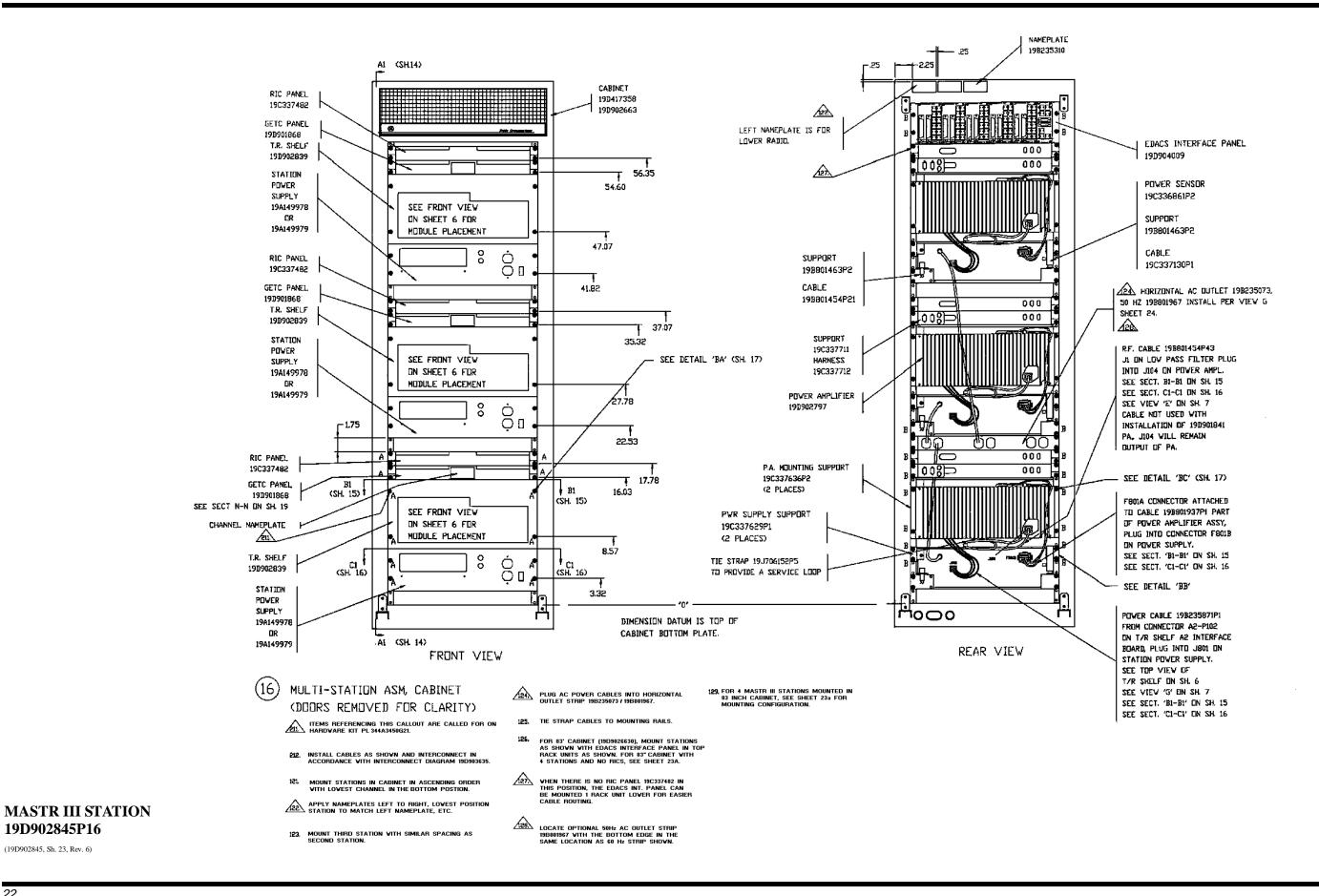
(19D902845, Sh. 21, Rev. 2)



MASTR III STATION 19D902845P15

(19D902845, Sh. 22, Rev. 5)

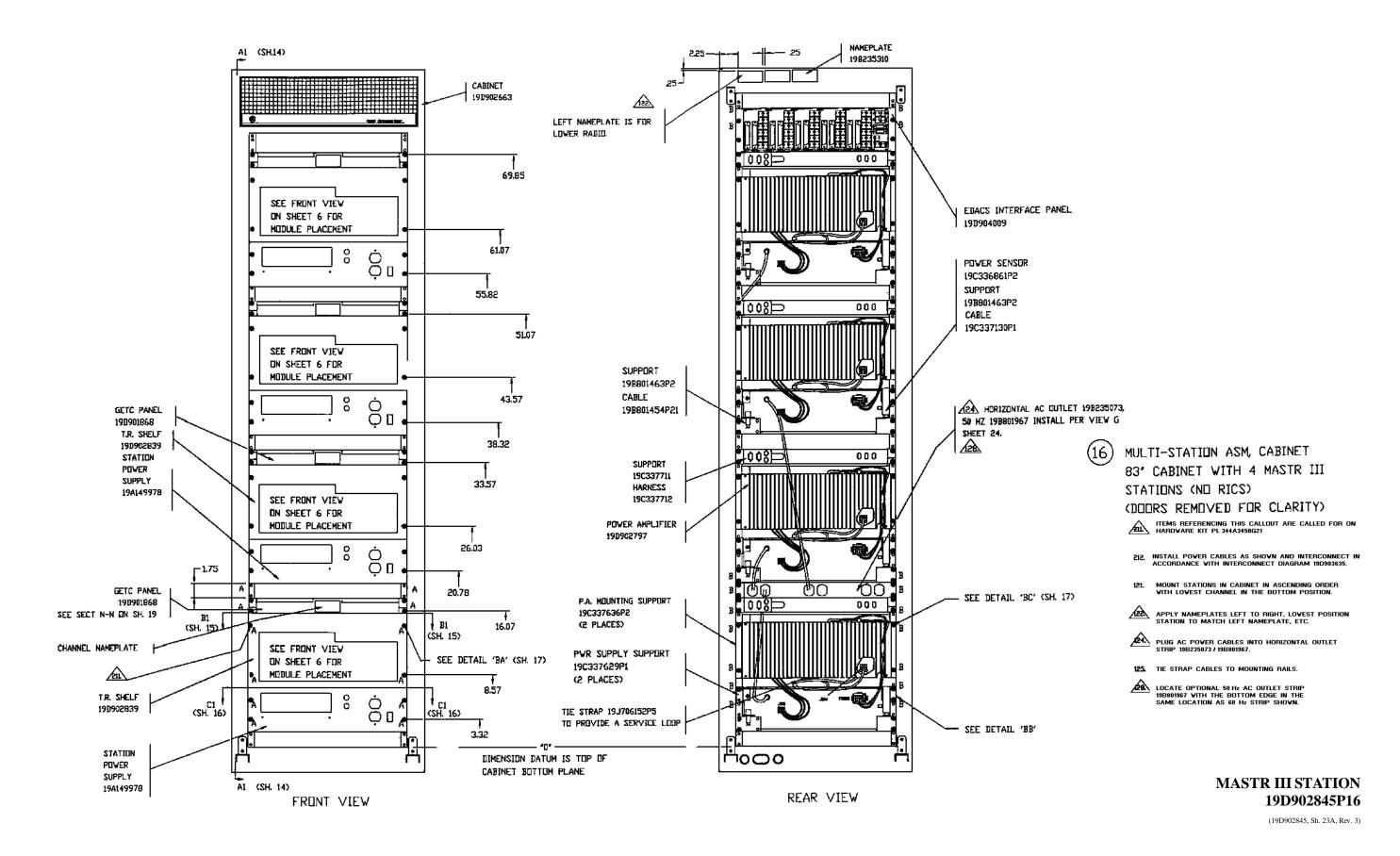
LBI-38775 ASSEMBLY DIAGRAM



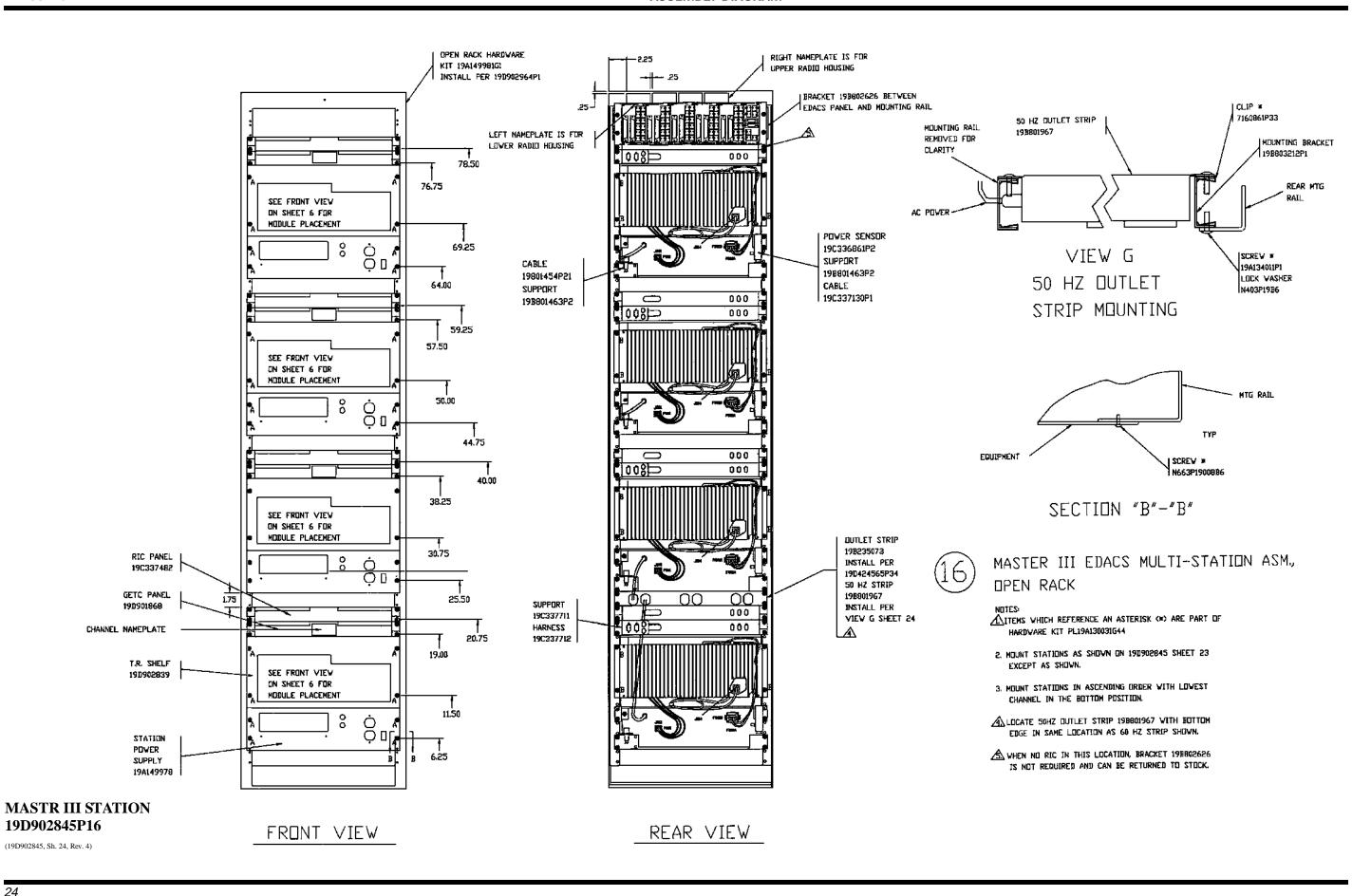
(19D902845, Sh. 23, Rev. 6)

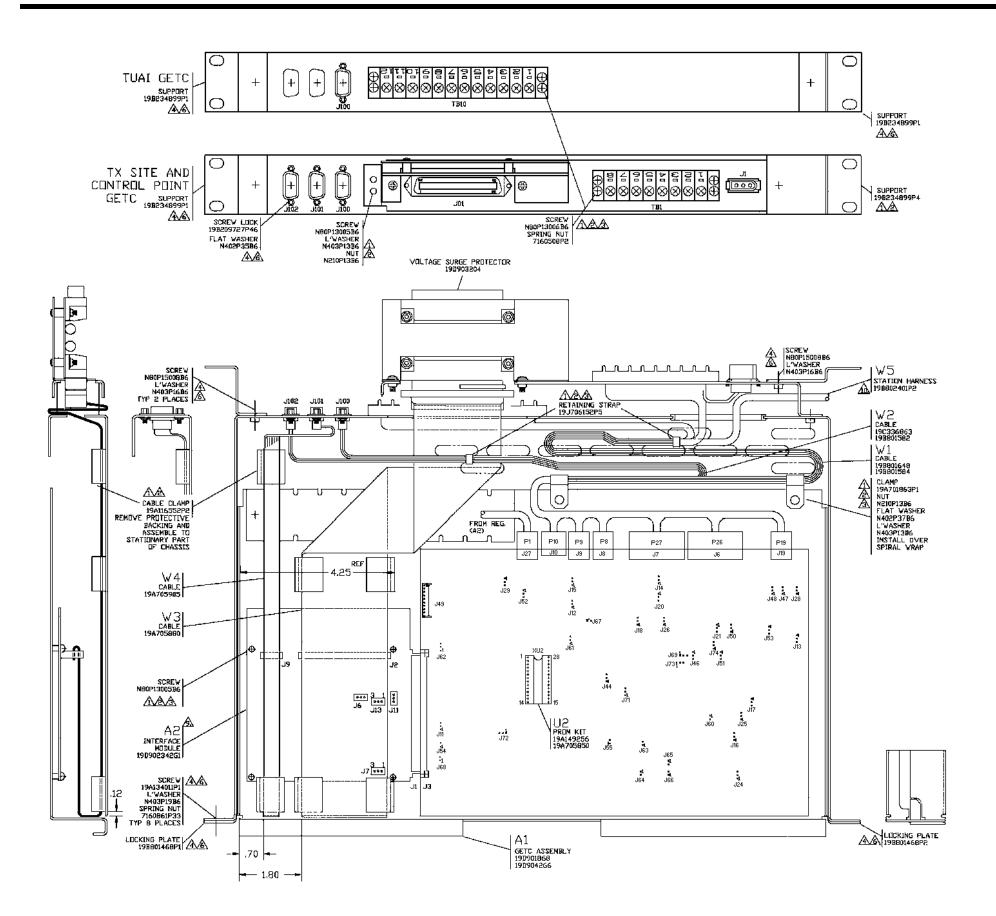
19D902845P16

22



LBI-38775 ASSEMBLY DIAGRAM





#### DETAIL SIMULCAST GETC FOR STATION RACK-UP SEE SHEET 28

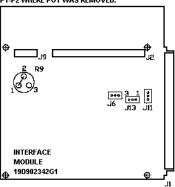
#### NOTES:

PART OF HARDWARE KIT PL19A149821G1
PART OF HARDWARE KIT PL19A149821G2
PART OF HARDWARE KIT PL19A130031G30
PART OF HARDWARE KIT PL19A130031G40
PART OF HARDWARE KIT PL19A130031G41

7. SEE DRAWING 349A9793P2 FOR JUMPER CONFIGURATION

8. THESE INSTRUCTIONS SUPERCEDE GETC ASSEMBLY INSTRUCTIONS SHOWN ON APPLICATION ASSEMBLY 19D417483.

APPLICATION ASSEMBLY 19D417483
REMOVE R9 FROM INTFC MODULE
(19D902342G1). INSTALL WIRE FROM
P1-P2 WHERE POT WAS REMOVED.



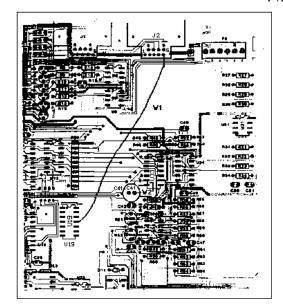
Δì

REMOVE WIRES FROM P19-5 AND P19-3 ON THE 19B802401P2 HARNESS, AND INSTALL IN P19-5 AND P19-3 OF 19C336863G1 HARNESS.

#### **MASTR III STATION**

(19D902845, Sh. 25, Rev. 2)

# MODIFICATION INSTRUCTION



1) CUT PATTERN AT J2 PIN 9; U19 PIN 11, AND U33 PIN 6.

2) CONNECT WI FROM JZ PIN 9 TO UI9 PIN II.

3) CONNECT W2 FROM U33 PIN 6 TO U33 PIN 7.

4) CUT THE LOCAL PTT LINE ON THE 193802401P1 HARNESS AT P7 PIN 8 ON THE GETC.

5) MATERIAL SUPPLIED IN 349A9784G1 MDD KIT.

19A115594P2 -.75 SECURE CABLE TO SHELF HARNESS 1**908**52467 J101 J100 CABLE 190336905 (CABLE) P41 (BOARD) P3 12 (CABLE) P40 (BOARD) P5 19C337482P9 RIC 190851587G1 SHELF

GROMMET

# (23) INSTALLATION INSTRUCTION

- 1) AFTER MODIFYING THE RIC, CONNECT P100 OF CABLE 19C336905 TO JL
- 2) INSERT RED, BLACK, AND SHIELD FROM CABLE 190336905 INTO THE SLOTS OF J5 OF THE MASTER III RIC CABLES AS FOLLOWS:

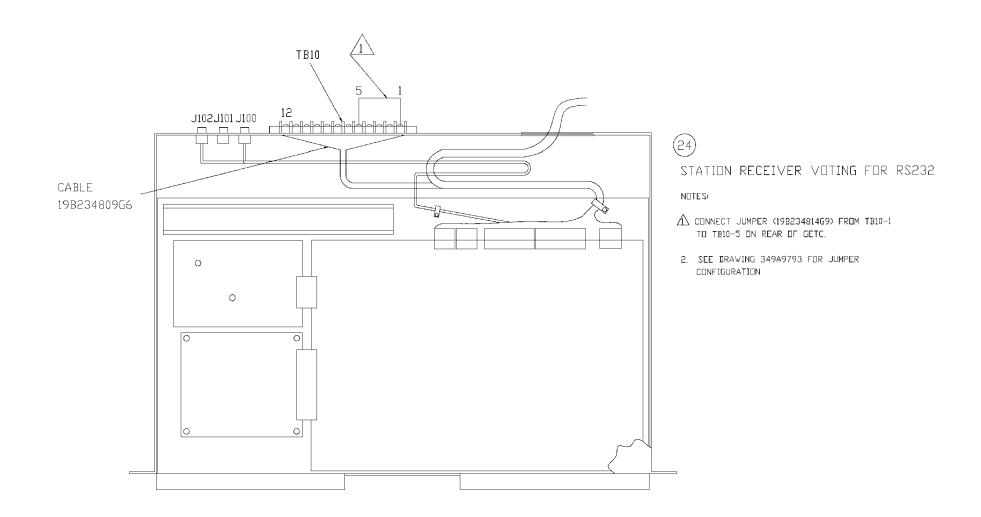
RED - PIN 4 BLACK - PIN 5 SHIELD - PIN 6

- 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 190852467 HARNESS AND 190336905 CABLE ON E3 USING #6 HARDWARE.

RIC

## MASTR III STATION 19D902845P23

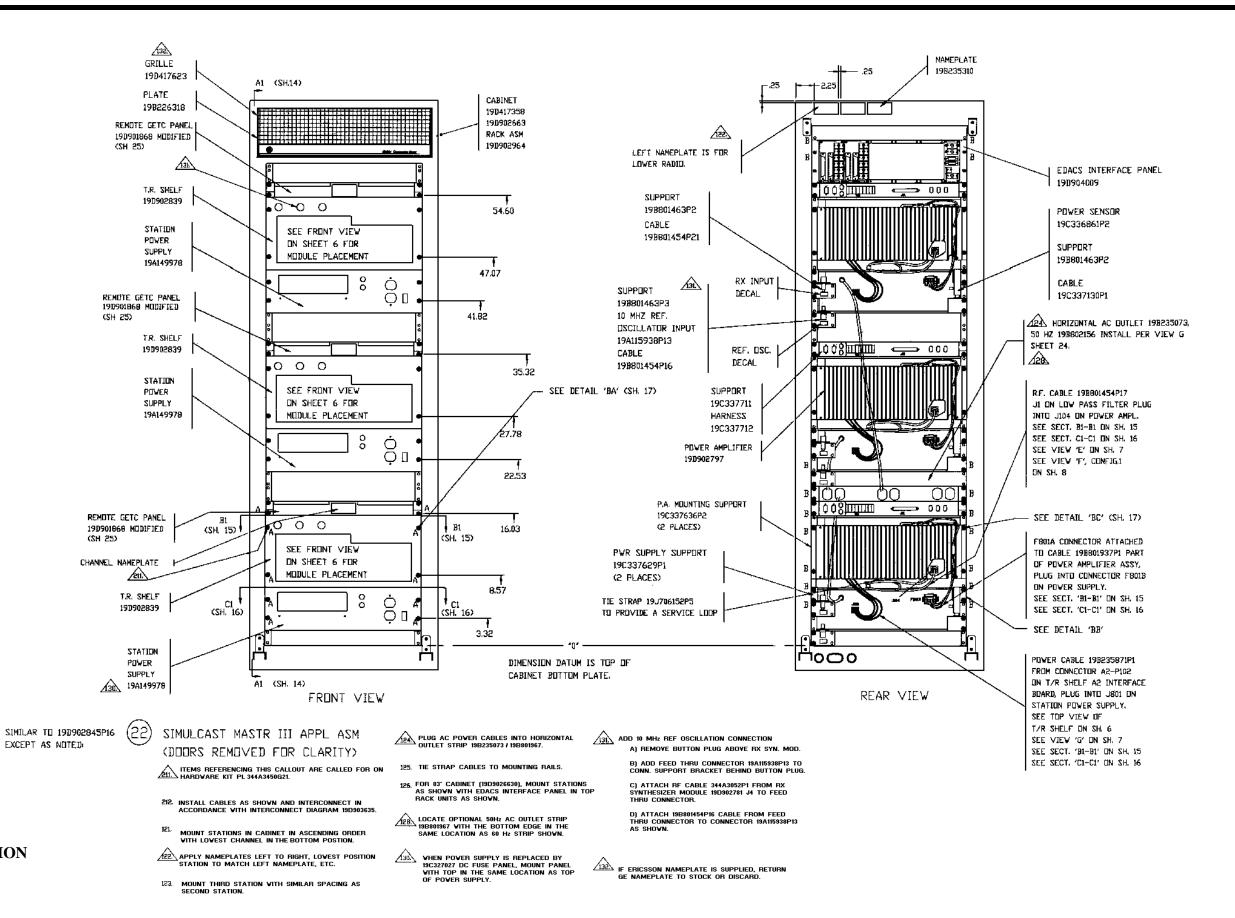
(19D902845, Sh. 26, Rev. 5)



# MASTR III STATION 19D902845P24

(19D902845, Sh. 27, Rev. 30)

LBI-38775 ASSEMBLY DIAGRAM

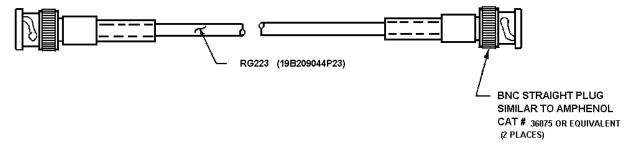


**MASTR III STATION** 

19D902845P22

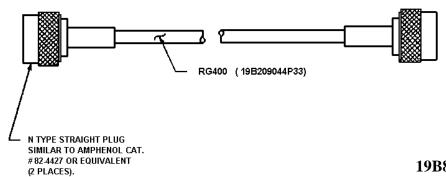
(19D902845, Sh. 28, Rev. 1)

CABLE DIAGRAMS LBI-38775



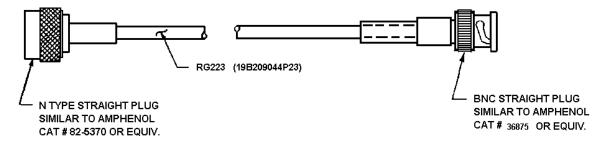
#### 19B801454P16

(19B801454, Sh. 10, Rev. 9)



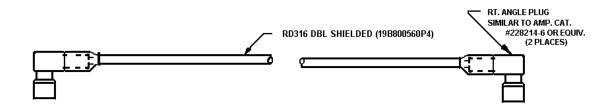
#### 19B801454P17 & P18

(19B801454, Sh. 11, Rev. 9)



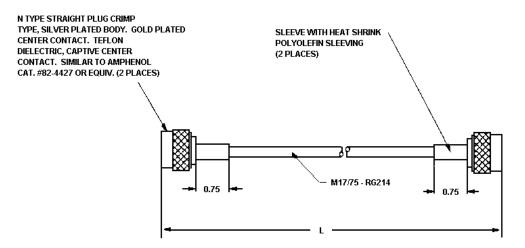
## 19B801454P19 & P20

(19B801454, Sh. 12, Rev. 9)



#### 19B801454P24

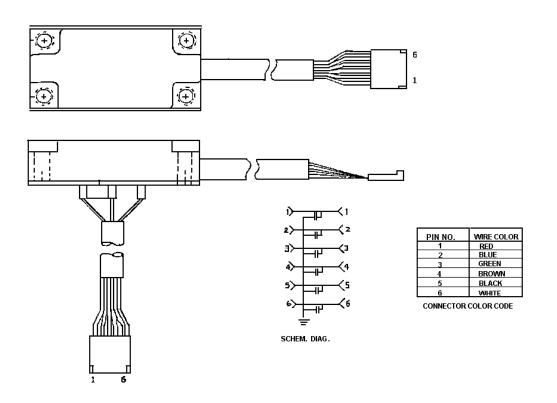
(19D801454, Sh. 15, Rev. 11)



#### 19B801454P43

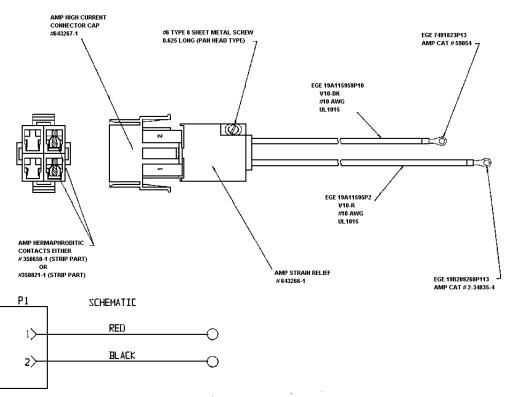
(19B801454, Sh. 23, Rev. 20

LBI-38775 CABLE DIAGRAMS



## CONTROL CABLE ASSEMBLY (part of Power Amplifier) - 19B801739P1

(19B801739, Sh. 1, Rev. 2)

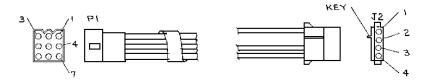


**POWER CABLE (part of Power Amplifier) - 19B801937P1** 

(19B80937, Sh. 1, Rev. 1)

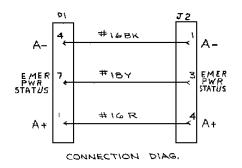
19B235871P1

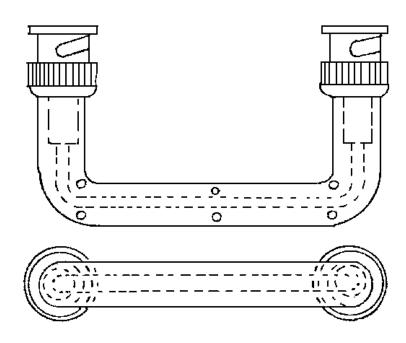
(19B235871, Sh. 1, Rev. 2)



#### CONNECTIONS CHART

FROM	CON	TXXT	сани н	DUSING	WIRE TYPE	9	CQ7,	TOAT	СОИИ	11002111G
P1-4	MOLEX	# 7740	03-09	*TA2.	IBAIIGBEO PIO ULIOIS #IGANG COLOR BLACK		06190 611119 61808	1 -1 OR	4 POS	424-0 ITION
PI-T			₽L! 9 POS		19A11688AP4 UL1015#18AWG COLOR YELLOW	J 2-3	CONT	ET	RECER	YACLE
PI-I					19A116850PZ UL1015 <sup>#</sup>  GAWG COLOR RED	JZ-4				





344A3052P1

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

PARTS LIST LBI-38775

# MASTR III STATION ISSUE 2

0)///50:	D4.D= :::	DE008:33:			
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.			
	19D417623G2	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.			
		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.			
		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).			

<sup>\*</sup>COMPONENTS, ADDED, DELETED OR CHANGED BY PRODUCTION CHANGES