

INSTRUCTIONS
 FOR
 INTERNAL CARD EDGE METERING KITS
 (OPTION 9560, 9594 AND 9605)
 (FOR MASTR® II STATIONS)

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DESCRIPTION

The internal card edge metering kits contain a 19D417760G1 Card Edge Meter that plugs into the Station Control Shelf and a Switch 19B226293G1 Assembly with associated wiring to meter the transmitter and receiver test points. Refer to chart below.

OPTION NO.	DESCRIPTION
9560	METER MODULE for continuous duty, low and medium power stations. Provides a vertical meter panel, interconnecting harness and built-in transmitter and receiver metering switches. (for factory installation only.)
9594	METER MODULE, same as Option 9560 except for Intermittent Duty Stations.
9605	METER MODULE for the 44-inch Desk Mate and Pole Mount 800 MHz Stations. Provides a vertical meter panel, interconnecting harness and built-in transmitter and receiver metering switches.

OPERATION

(Refer to Figure 1)

When S1 on the Meter Module is in the down "EXT" position, the meter functions as a 10 Volt full scale meter at J1 with respect to chassis ground. With S1 in the up "INT" position the meter operates in

conjunction with S2 on the Meter Module where down "Transmitter" or up "Receiver" function can be selected. S2 on the Meter Module also operates in conjunction with "Receiver" (S1) and "Transmitter" (S2), which are both 12 position switches located on the Radio Panel Door. The functions of S1 and S2 are labeled on the top cover of the Receiver/Exciter, refer to Figure 2.

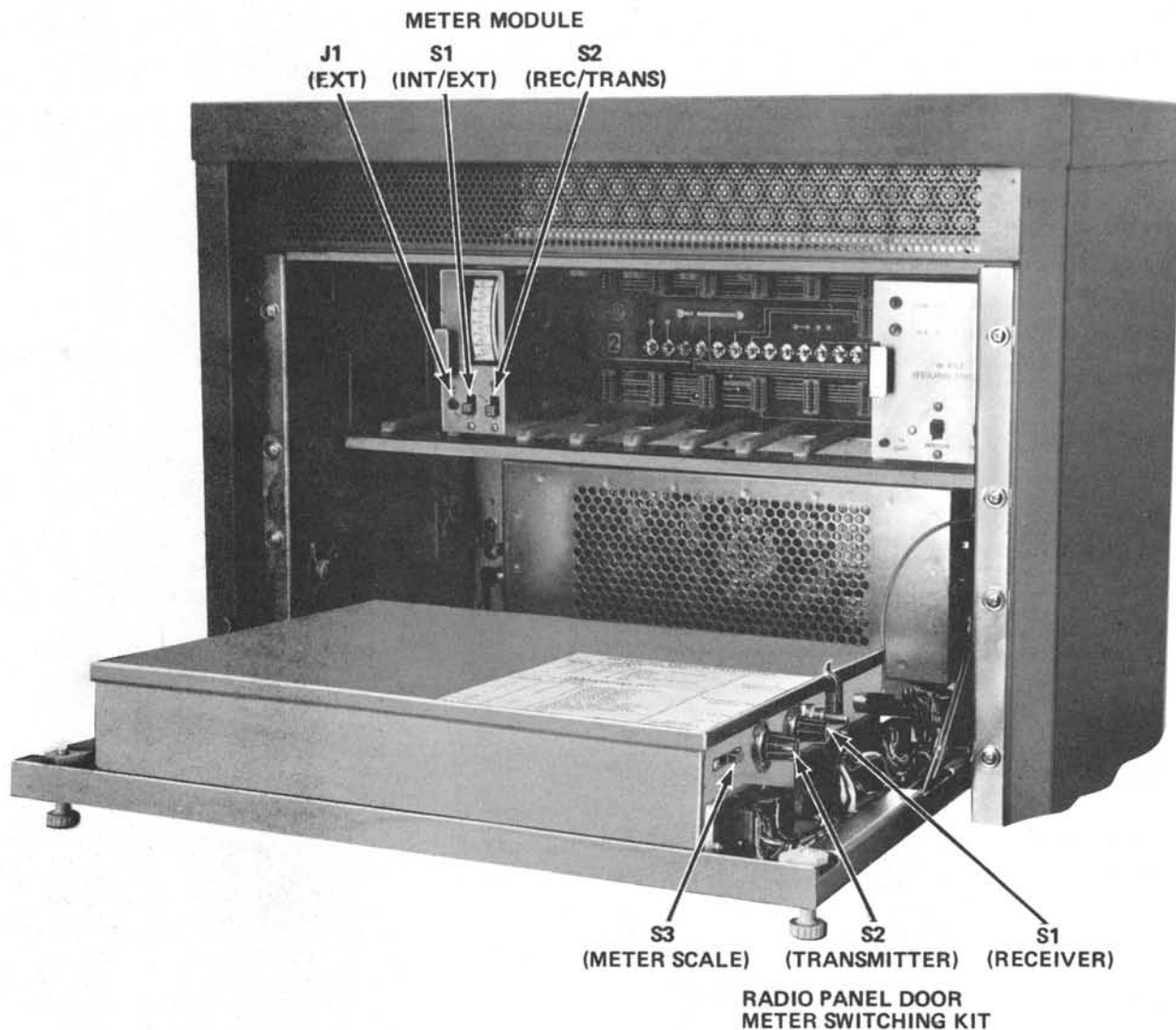


Figure 1 - Internal Card Edge Metering

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WORLD HEADQUARTERS • LYNCHBURG, VIRGINIA 24502 U.S.A.

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METERING SWITCH POSITIONS		
RECEIVER TEST		
SWITCH POSITION	TEST SET SWITCH POSITION	FUNCTION
1	A	FM DET
2	B	IF AMPL
3	C	MULT 1
4	D	MULT 2
5	F	LB, HB-NOISE BLANKER UHF-MULT 3
6		OFF
TRANSMITTER TEST		
SWITCH POSITION	TEST SET SWITCH POSITION	FUNCTION
1	A	EXCITER MOD 1
2	B	EXCITER MOD 2 (MULT1UHF)
3	C	EXCITER MULT 1 (MULT2UHF)
4	D	EXCITER MULT 2 (MULT3UHF)
5	F	EXCITER MULT 3 (MULT4UHF)
6	G	EXCITER AMPL <small>NOT PRESENT ON MID-BAND</small>
7	C	UHF- AMPL2 LB, HB-PA PWR CONT VOLT
8	D	PA AMPL 1 DRIVE
9	F	PA DRIVER CURRENT
10	G	PA CURRENT
11		PA A+
12		OFF

N.P.276480

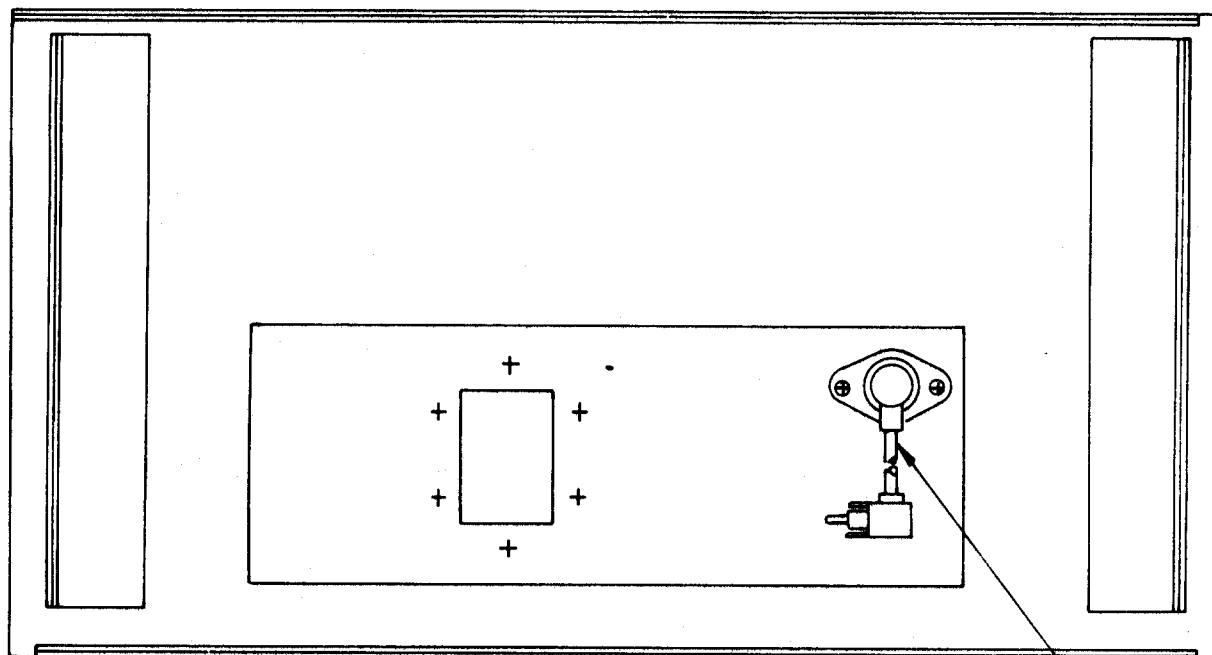
RECEIVER
SWITCHTRANSMITTER
SWITCHIV
METER SCALE

3V

METER
SENSITIVITY

(NP276480, Rev. 7)

Figure 2 - Metering Label that appears on the Radio Panel Door

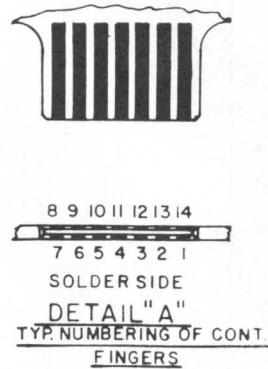
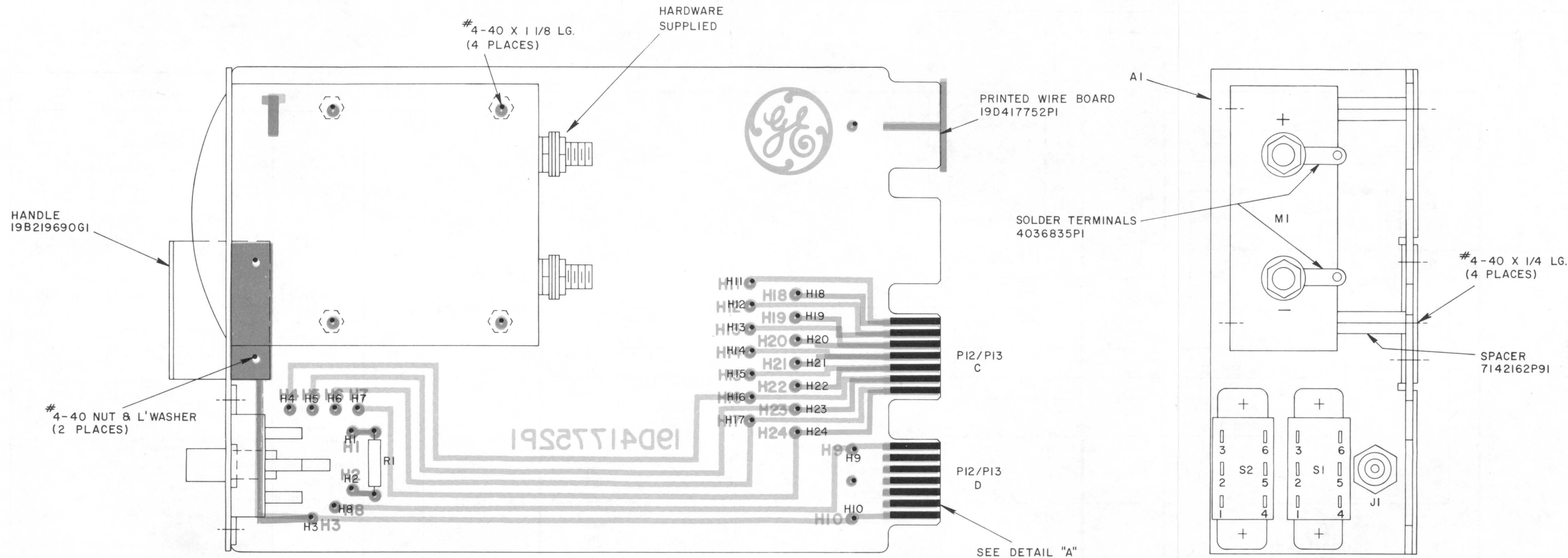


WI (5491689PI04)
RF CABLE

(19B227702, Rev. 0)

OUTLINE DIAGRAM

PA COVER 19B227194G1

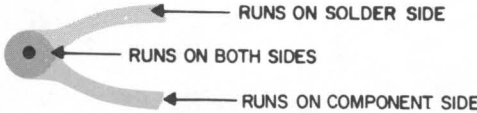


CONNECTIONS CHART		
FROM	TO	WIRE
AI, SI-1	H2	SF24 G
AI, SI-2	MI (+)	SF24 R
AI, SI-4	H3	SF24 BR
AI, SI-5	MI (-)	SF24 BK
AI, S2-1	H7	SF24 O
AI, S2-3	H5	SF24 W-O-G
AI, S2-4	H4	SF24 W-BR-R
AI, S2-6	H6	SF24 BK
AI, J1	H1	SF24 R
MI (+)	MI (-)	C1

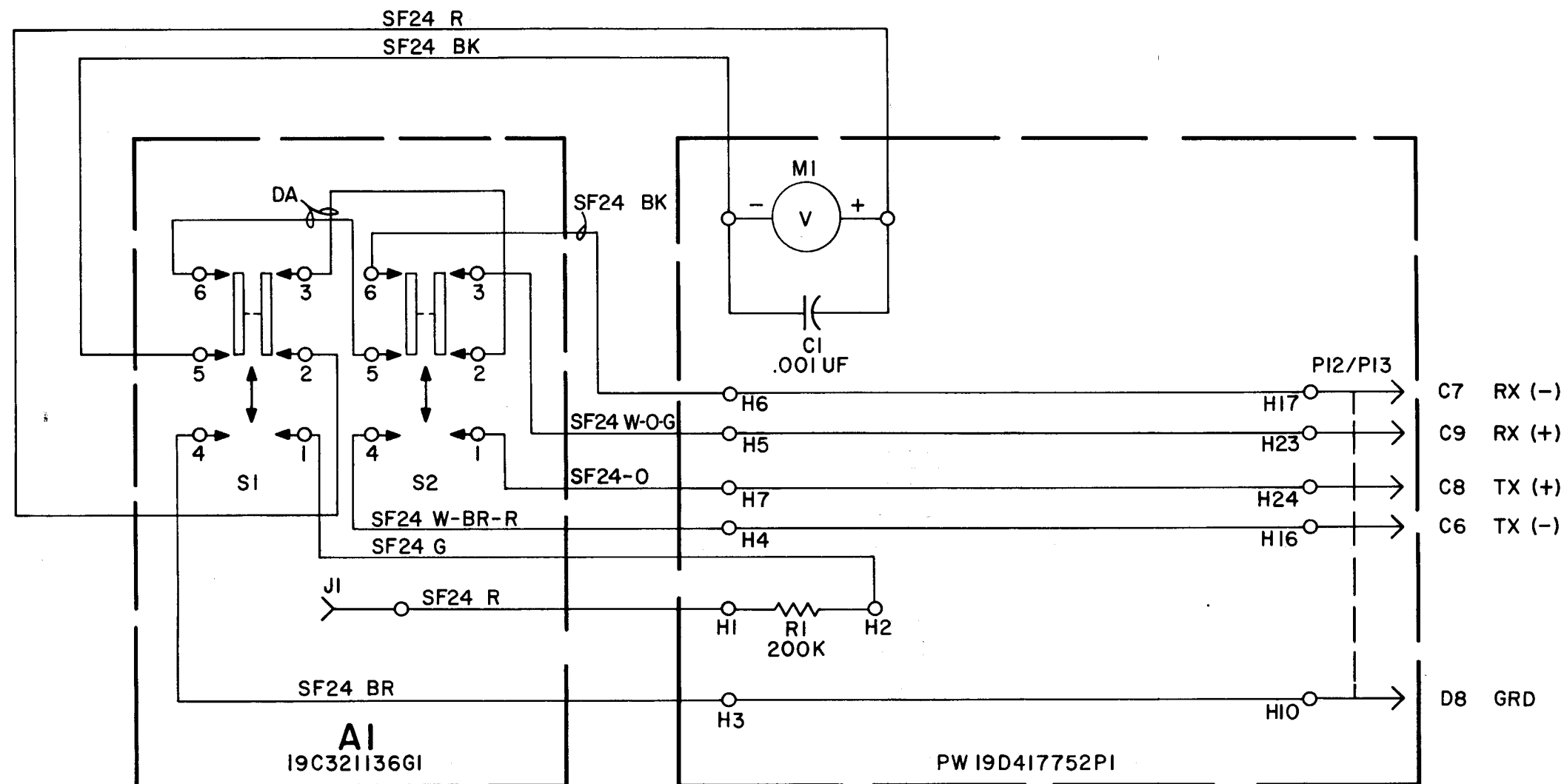
REFER TO WIRING DIAG. FOR ABOVE CONNECTIONS

(19D423274, Rev. 0)
(19D417752, Sh. 2, Rev. 1)
(19D417752, Sh. 3, Rev. 1)

NOTES:
I. CHANGES ON CONNECTIONS CHART MAY CHANGE
DRAWING 19C321142.



OUTLINE DIAGRAM
METER MODULE



SEE APPLICABLE PRODUCTION CHANGE SHEETS IN INSTRUCTION BOOK SECTION DEALING WITH THIS UNIT, FOR DESCRIPTION OF CHANGES UNDER EACH REVISION LETTER.

THIS ELEM DIAG APPLIES TO	
MODEL NO	REV LETTER
PL19D417760G1	

ALL RESISTORS ARE 1/2 WATT UNLESS OTHERWISE SPECIFIED AND RESISTOR VALUES IN OHMS UNLESS FOLLOWED BY K=1000 OHMS OR MEG = 1,000,000 OHMS. CAPACITOR VALUES IN PICO FARADS (EQUAL TO MICROMICROFARADS) UNLESS FOLLOWED BY UF = MICROFARADS.

IN ORDER TO RETAIN RATED EQUIPMENT PERFORMANCE, REPLACEMENT OF ANY SERVICE PART SHOULD BE MADE ONLY WITH A COMPONENT HAVING THE SPECIFICATIONS SHOWN ON THE PARTS LIST FOR THAT PART.

SERVICE SHEET

METER MODULE 19D417760G1

PARTS LIST

LBI-4849

METER MODULE
19D417760G1

SYMBOL	GE PART NO.	DESCRIPTION
A1		SWITCH PANEL 19C321136G1
J1	5490384P2	----- JACKS AND RECEPTACLES ----- Jack, tip: red nylon; sim to EF Johnson 105-252-1.
S1 and S2	19B209261P21	----- SWITCHES ----- Slide: DPDT, 2 poles, 2 positions, .5 amp VDC or 3 amps VAC at 125 v; sim to Switchcraft 11A-1433.
C1	5494481P11	----- CAPACITORS ----- Ceramic disc: 1000 pf $\pm 20\%$, 1000 VDCW; sim to RMC Type JF Discap.
M1	19A134036P1	----- METERS ----- Panel, DC: -10/0/50 μ a movement; sim to GE 50-185113DRDR1JSH.
R1	19C314256P32003	----- RESISTORS ----- Metal film: 200,000 ohms $\pm 1\%$, 1/2 w.
	4036835P1	----- MISCELLANEOUS ----- Terminal, solderless: sim to Shakeproof 2118- 10-01-252CN. (Used with M1).
	19B219690G1	Handle assembly.

*COMPONENTS ADDED, DELETED OR CHANGED BY PRODUCTION CHANGES

PARTS LIST

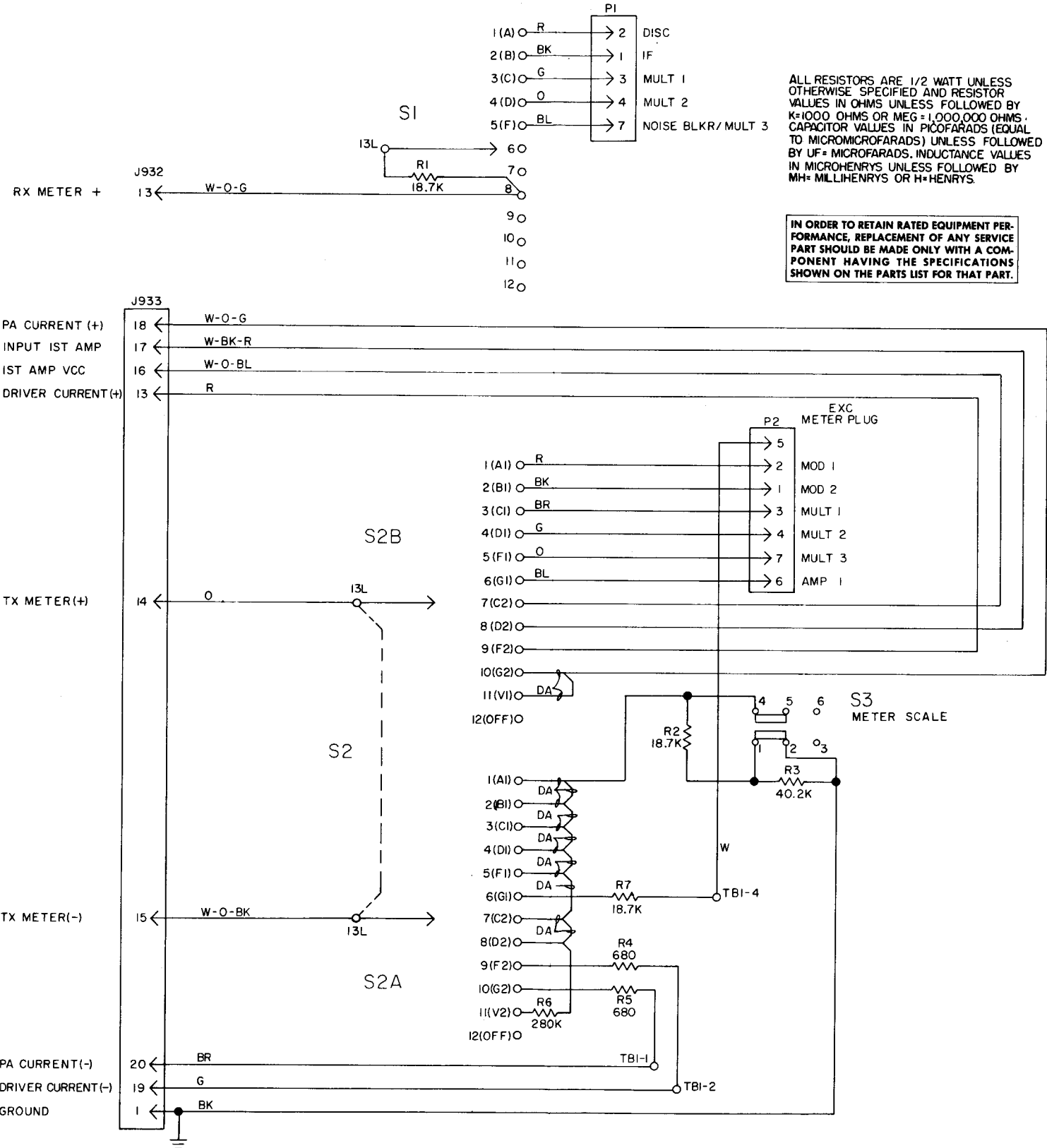
LBI4846A

METERING KIT
19B226293G1 STANDARD
19B226293G4 800 MHz SOLID STATE
ISSUE 2

SYMBOL	GE PART NO.	DESCRIPTION
----- PLUGS -----		
P1 and P2	19B219534P1	Connector: 9 pin, male.
----- RESISTORS -----		
R1 and R2	19C314256P31872	Metal film: 18.7K ohms $\pm 1\%$, 1/2 w.
R3	19C314256P34022	Metal film: 40.2K ohms $\pm 1\%$, 1/2 w.
R4 and R5	19A700106P59	Composition: 680 ohms $\pm 5\%$, 1/4 w.
R6	19C314256P22803	Metal film: 280K ohms $\pm 1\%$, 1/4 w.
R7	19C314256P31872	Metal film: 18.7K ohms $\pm 1\%$, 1/2 w.
----- SWITCHES -----		
S1	5495454P39	Rotary: 1 section, 1 pole, 2 to 12 position (adj stop), non-shorting contacts, 2 amps at 25 VDC or 1 amp at 110 VAC; sim to Oak Type A.
S2	5495454P38	Rotary: 2 sections, 2 poles, 2 to 12 position (adj stop), non-shorting contacts, 2 amps at 25 VDC or 1 amp at 110 VAC; sim to Oak Type A.
S3	19B209261P8	Slide: DPDT, 2 poles, 2 positions, .5 amp VDC or 3 amps VAC at 125 v; sim to Switchcraft 46206L.
----- TERMINAL BOARDS -----		
TB1	7487424P18	Miniature, phen: 3 terminals.
----- CABLES -----		
W1	HARNESS ASSEMBLY 19B226293G2 (Includes P1, R1, S1)	
W2	HARNESS ASSEMBLY 19B226293G3 (Includes P2, R6, S2)	
----- MISCELLANEOUS -----		
	7165075P2	Hex nut, brass: No. 3/8-32. (Used with S1 & S2).
	7115130P9	Lockwasher, internal tooth: No. 3/8; sim to Shakeproof 1220-2. (Used with S1 & S2).
	19B209532P1	Knob, screw on. (Used with S1 & S2).
	19A116552P1	Cable clip.

*COMPONENTS ADDED, DELETED OR CHANGED BY PRODUCTION CHANGES

LBI4848

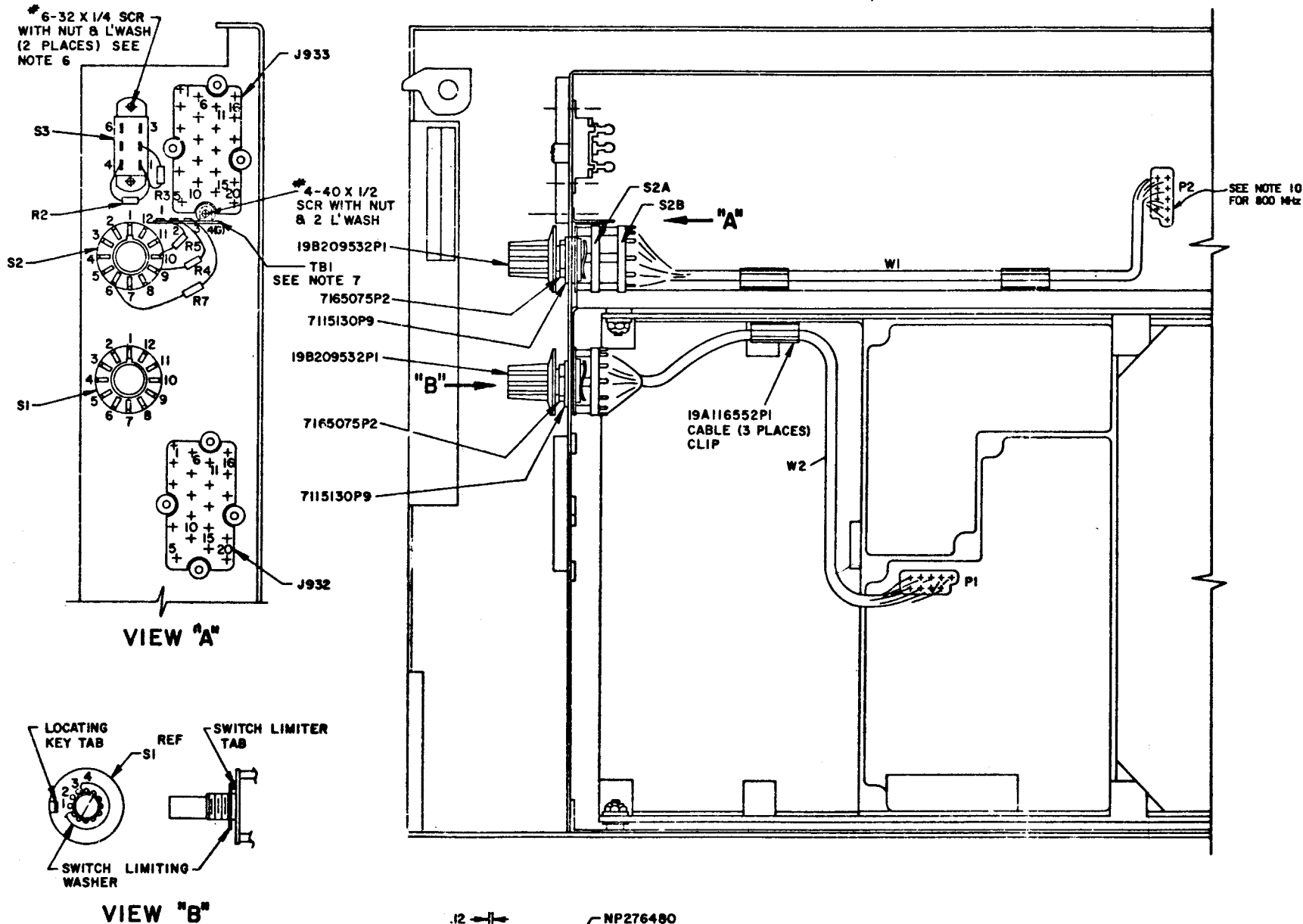


NOTES:
1- ALL WIRES ARE SF24 UNLESS OTHERWISE NOTED.

(19D417597, Rev. 4)

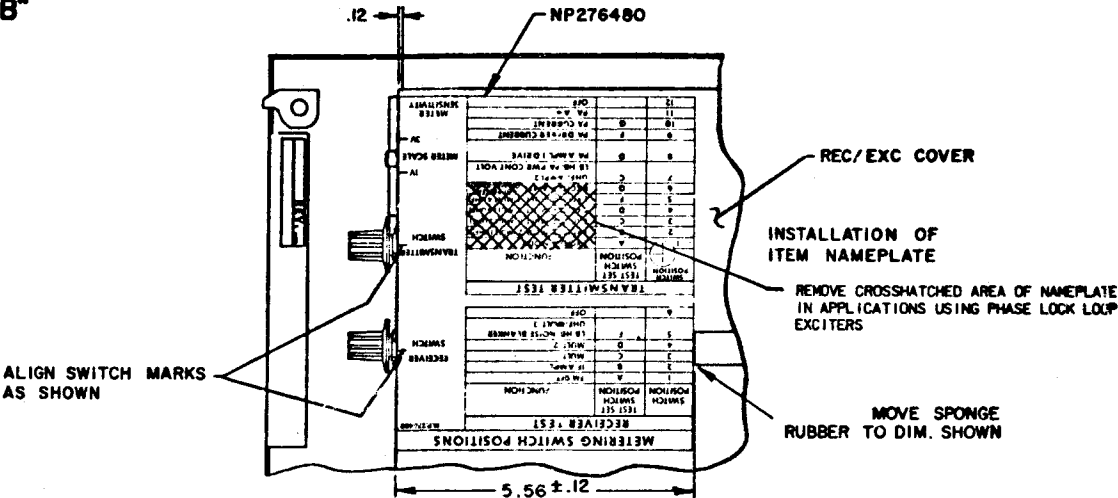
SERVICE SHEET

METER SWITCHING KIT
19B226293G1



THESE INSTALLATION INSTRUCTIONS COVER THE APPLICATION OF THE METER SWITCHING KIT (PL19B226293G1) TO THE REC/EXC DOOR (PL19D417262)

1. REMOVE AND DISCARD PLUG BUTTONS AND PLATE NECESSARY FOR INSTALLATION OF S1, S2, S3. RETAIN #6-32 X 1/4 SCREWS FOR INSTALLING S3.
 2. BEFORE INSERTING S1 INTO CHASSIS; WITH SWITCH IN ITS FULL COUNTERCLOCKWISE POSITION; INSERT TAB OF SWITCH LIMITING WASHER INTO THE FOURTH HOLE CLOCKWISE FROM THE LOCATING KEY TAB OF THE SWITCH; AS SHOWN IN DETAIL B.
 3. INSTALL S1 WITH HARDWARE SUPPLIED. ORIENT AS SHOWN. ROUTE CABLE W2 AS INDICATED. PLUG P1 INTO I.F.A.S. BOARD IN AREA DESIGNATED IF BOARD IS PRESENT.
 4. ASSEMBLE DIALFACE TO KNOB. SEATING 4 GUIDES ON DIALFACE INTO OPENING AT LARGE END OF KNOB. PLACE KNOB ON SHAFT OF S1 WITH SWITCH IN ITS FULL COUNTERCLOCKWISE POSITION. ALIGN POSITION NUMBER 1 ON KNOB DIALFACE WITH LOCATING KEY TAB. TIGHTEN KNOB SECURELY USING NUT IN OUTER END OF KNOB. INSERT KNOB BUTTON INTO END OF KNOB. UNTIL FLUSH W/END OF KNOB. SEE VIEW B.
 5. CLIP TAB OFF OF LIMITING WASHER THEN, INSTALL S2 WITH HARDWARE SUPPLIED. ORIENT AS SHOWN. ROUTE CABLE W1 AS INDICATED. PLUG P2 INTO EXCITER BOARD IF PRESENT. THEN, WITH SWITCH IN ITS FULL COUNTERCLOCKWISE POSITION, PLACE KNOB ON SHAFT. ALIGN POSITION NUMBER 1 ON KNOB DIALFACE WITH SWITCH LOCATING KEY TAB. TIGHTEN KNOB SECURELY. INSERT KNOB BUTTON. IN APPLICATIONS USING PHASE LOCK LOOP EXCITERS, CUT W1 OFF AT TERMINALS OF S2 & DISCARD.
 6. INSTALL S3 WITH ADDITIONAL HARDWARE SUPPLIED. ORIENT AS SHOWN.
 7. REMOVE & DISCARD GUIDE PIN AT THIS LOCATION. THEN INSTALL TBI WITH #4-40 X 1/2 HARDWARE SUPPLIED. ORIENT AS SHOWN.
 8. INSTALL AND SOLDER R2 BETWEEN S3-4 AND S3-1 AS SHOWN. INSTALL AND SOLDER R3 BETWEEN S3-1 AND S3-2 AS SHOWN.
 9. INSTALL AND SOLDER R5 BETWEEN TBI-1 AND S2A-10 AS SHOWN. INSTALL AND SOLDER R4 R4 BETWEEN TBI-2 AND S2A-9 AS SHOWN. INSTALL AND SOLDER R7 BETWEEN TBI-4 AND S2A-6 AS SHOWN.
- MAKE THE FOLLOWING CONNECTIONS FROM S1. CONNECT WOG WIRE TO J932-13.
- MAKE THE FOLLOWING CONNECTIONS FROM S2.
- CONNECT BK WIRE FROM J933-1 TO S3-2
 - CONNECT G WIRE FROM J933-19 TO TBI-2
 - CONNECT BR WIRE FROM J933-20 TO TBI-1
 - CONNECT WOKB WIRE TO J933-15
 - CONNECT O WIRE TO J933-14
 - CONNECT WOKL WIRE TO J933-16
 - CONNECT WOKR WIRE TO J933-17
 - CONNECT WOG WIRE TO J933-18
 - CONNECT W WIRE TO TBI-4
 - CONNECT DA WIRE FROM S2A-1 TO S3-4
 - CONNECT R WIRE TO J933-13
10. WHEN MOUNTING THE 800 MHz EXCITER, THE CAN OR COVER DOES NOT HAVE A HOLE FOR P2; USE CLAMP 19A116552P1 TO SECURE P2 & W1 ON TOP OF THE COVER.



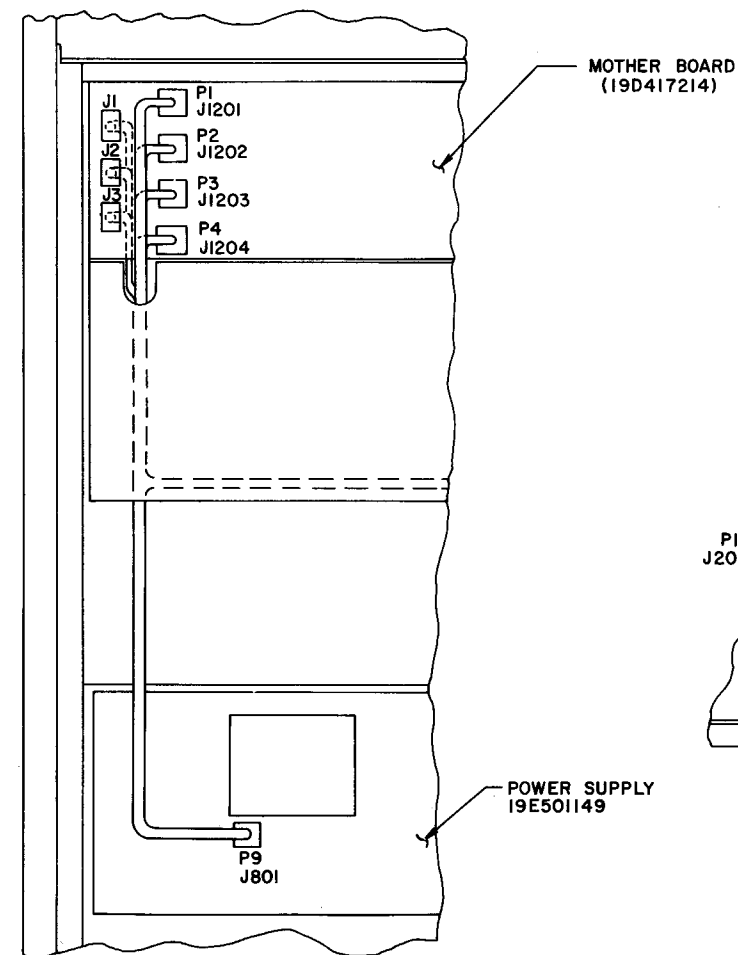
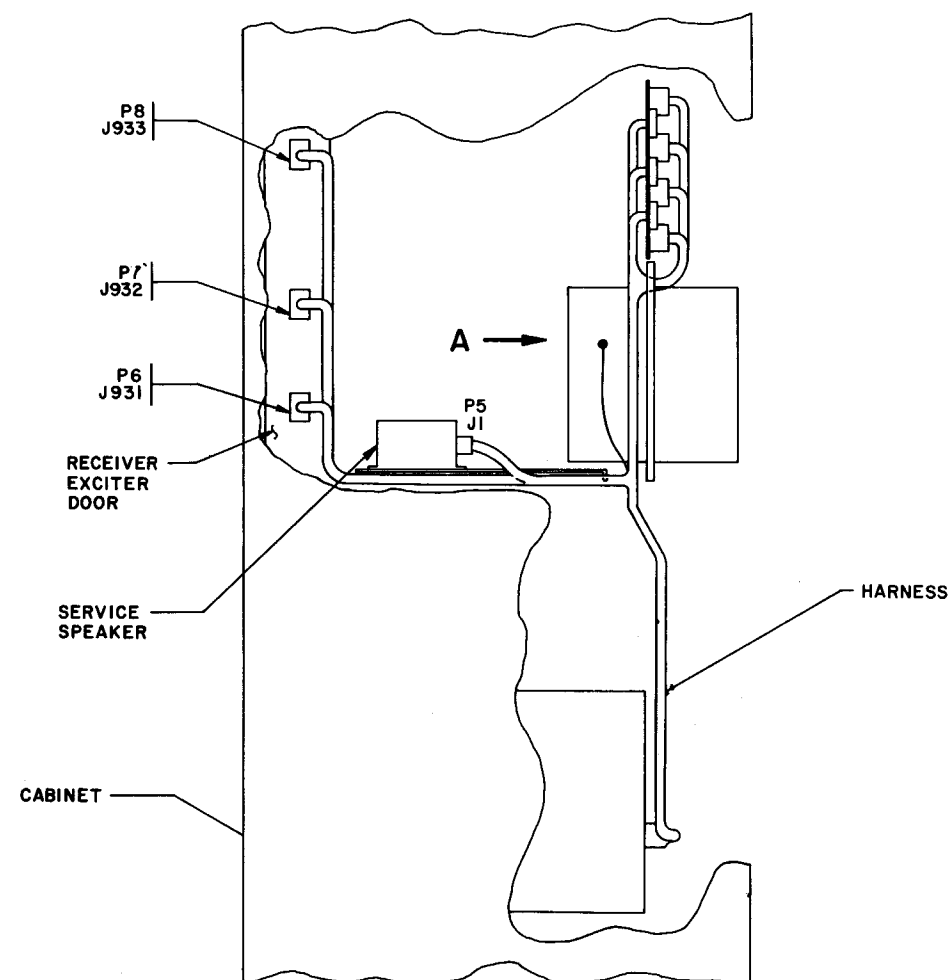
INSTALLATION INSTRUCTIONS

METER SWITCHING KIT 19B226293G1

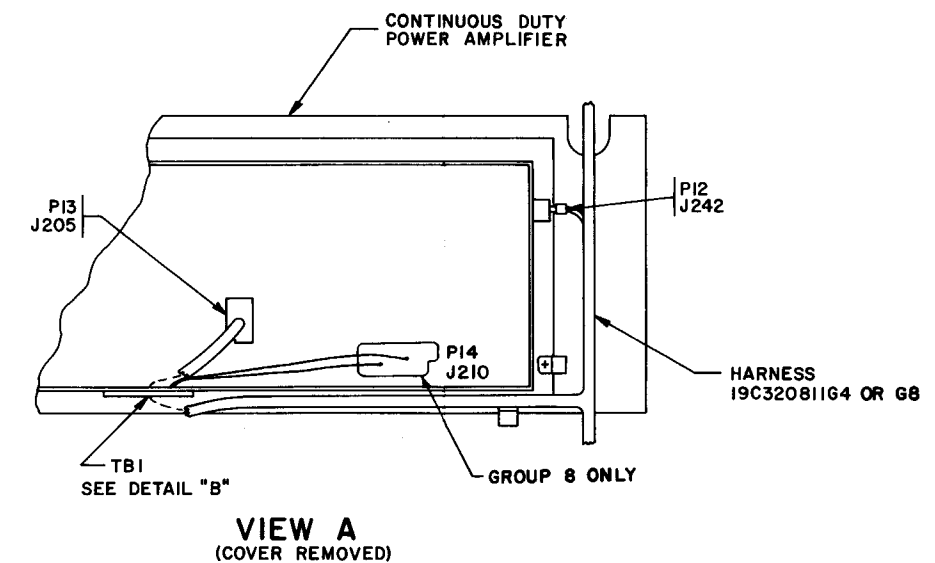
1 THESE INSTRUCTIONS COVER THE INSTALLATION OF HARNESS 19C320811G4 OR G8 IN MASTR II STATIONS.

INSTRUCTIONS FOR INSTALLING HARNESS 19C320811G4 OR G8

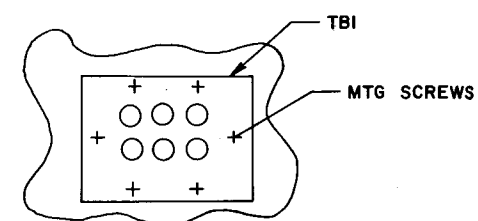
1. REMOVE EXISTING HARNESS.
2. INSTALL HARNESS (PL19C320811G4 OR G8) AS SHOWN.
3. REMOVE COVER FROM POWER AMPL TO EXPOSE J205 & J210.
4. REMOVE MTG SCREWS AND COVER PLATE FROM POWER AMPL. (SEE VIEW A). INSTALL TBI USING SAME SCREWS.



REAR VIEW



VIEW A
(COVER REMOVED)



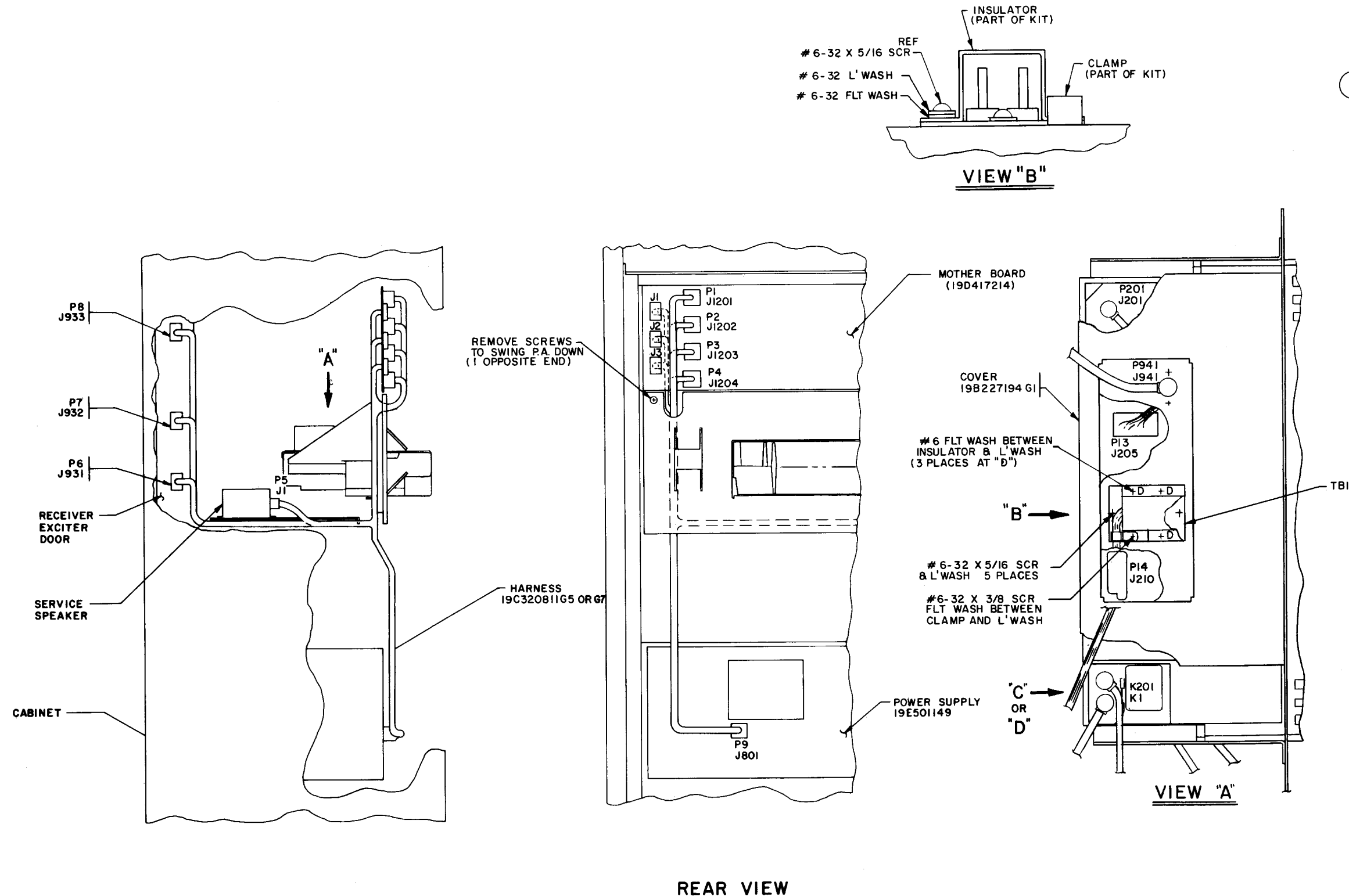
DETAIL B

(19D417656, Rev. 4)

INSTALLATION INSTRUCTIONS

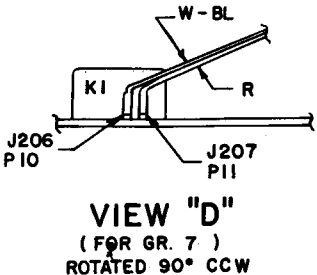
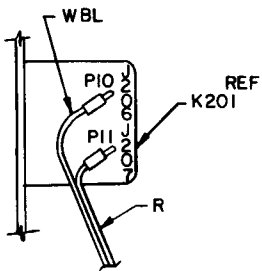
CONTINUOUS DUTY STATION
HARNESS 19C320811G4

INSTALLATION INSTRUCTIONS
INTERMITTANT DUTY STATION
HARNESS 19C320811G5



1 THESE INSTRUCTIONS COVER THE INSTALLATION OF THE 19C320811G5 OR G7 METERING HARNESS, 19A130914G1 INSTALLATION KIT & THE 19B227194G1 PA COVER IN THE INTERMITTENT DUTY MASTR II STATION.

- PROCEDURES:
1. REMOVE 2 SCREWS AND SWING P.A. DOWN.
 2. REMOVE EXISTING HARNESS.
 3. REMOVE EXISTING P.A. COVER.
 4. INSTALL 19C320811G5 OR G7 HARNESS, MOUNT TBI AND 19B227194 INSULATOR ON 19B227194G1 COVER AS SHOWN USING PARTS FROM INSTALLATION KIT.
 5. PLUG P13 INTO J205 AND P201 INTO J201, AND P14 INTO J210.
 6. INSTALL COVER ON P.A. AND PLUG P941 INTO J941.
 7. PLUG P10 (WBL WIRE) ONTO J206 AND P11 (R WIRE) ONTO J207.
 8. HINGE P.A. UP AND REINSTALL 2 SCREWS TO SECURE IN POSITION.

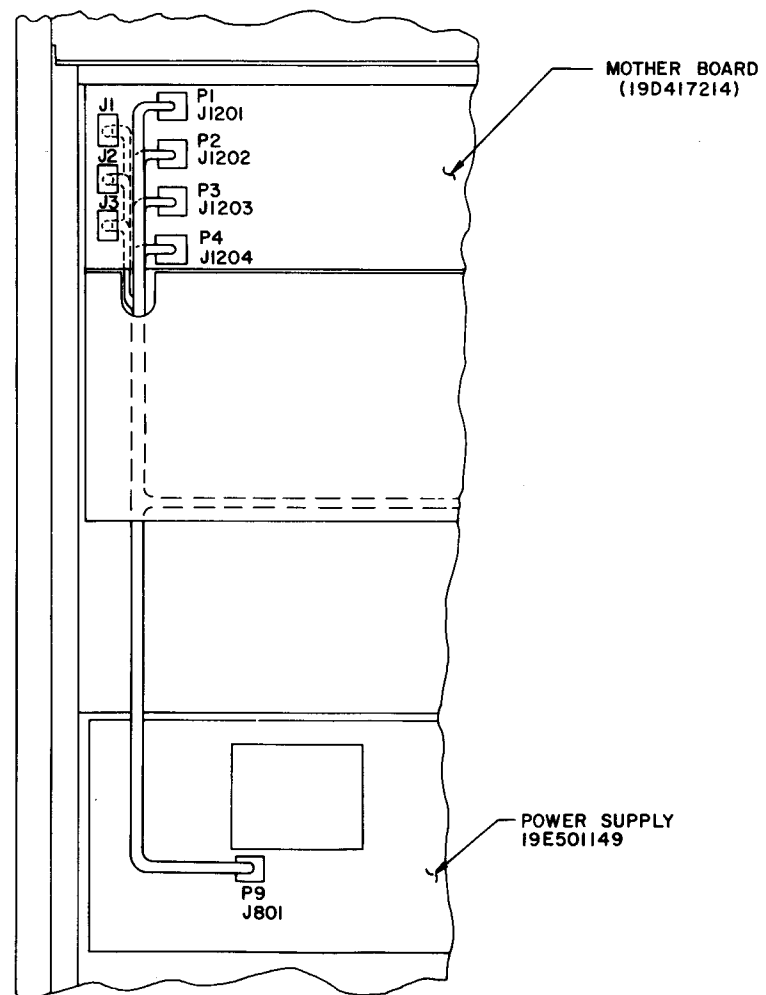
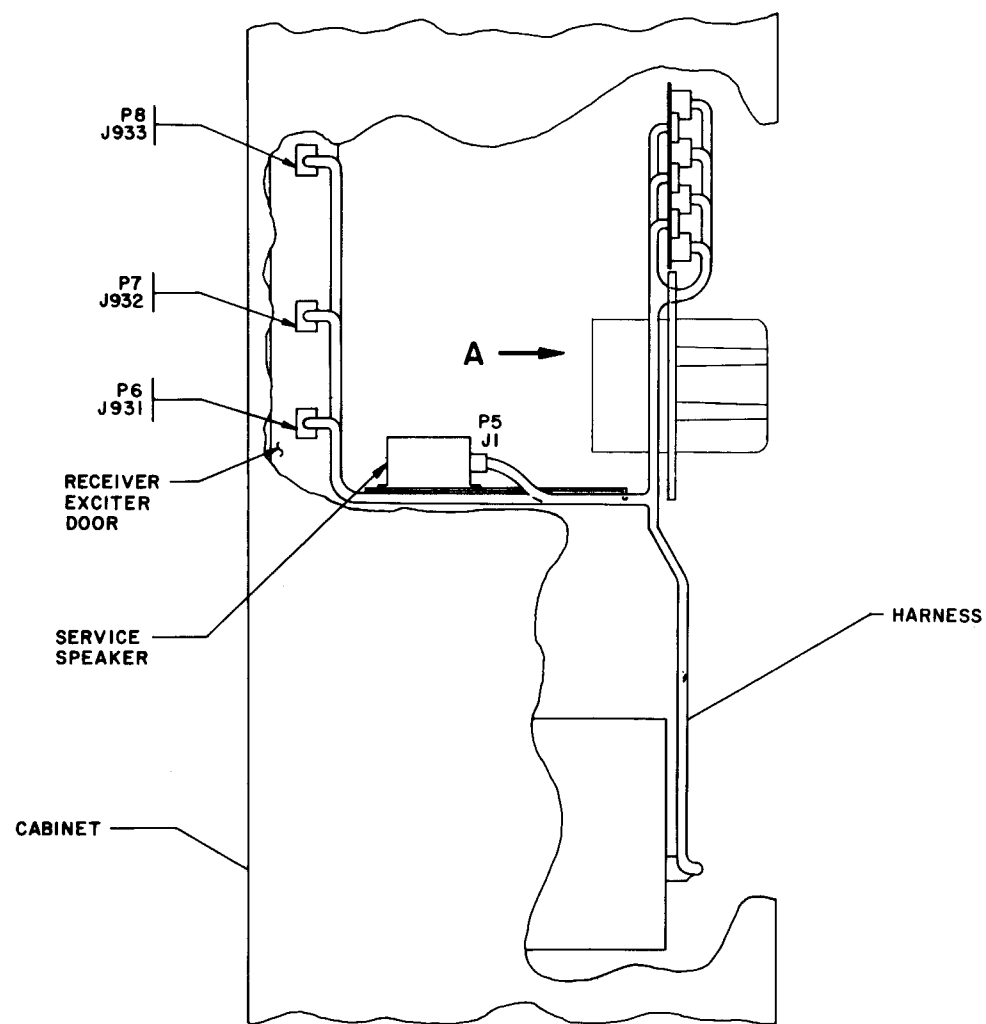


(19D423676, Rev. 3)

1 THESE INSTRUCTIONS COVER THE INSTALLATION OF HARNESS 19C320811G6 IN MASTR II STATIONS

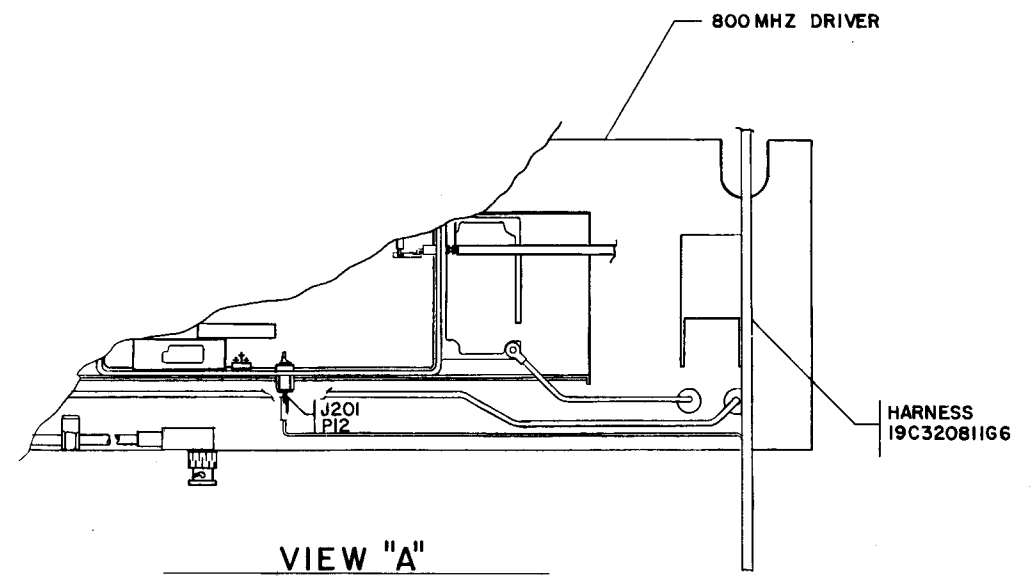
INSTRUCTIONS FOR INSTALLING HARNESS 19C320811G6

1. REMOVE EXISTING HARNESS.
2. INSTALL HARNESS (PL19C320811G6) AS SHOWN.



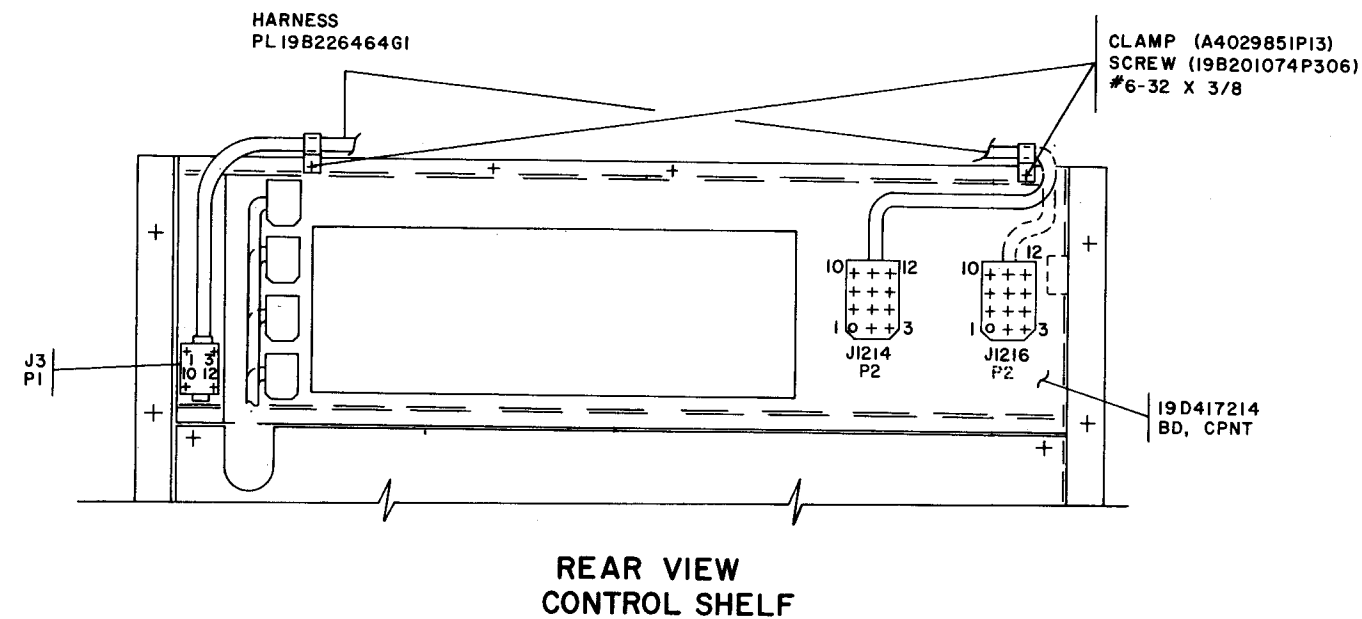
REAR VIEW

(19D424592, Rev. 1)



INSTALLATION INSTRUCTIONS

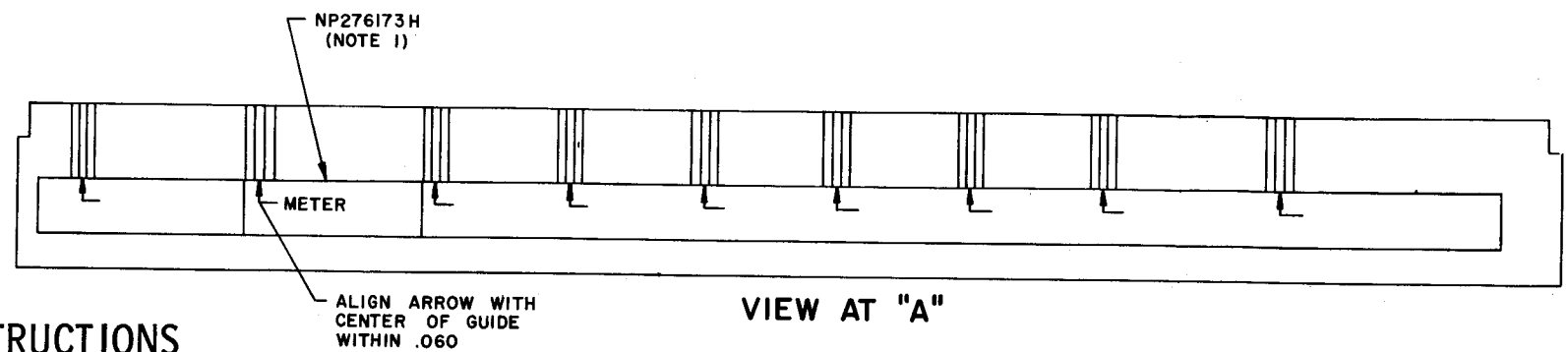
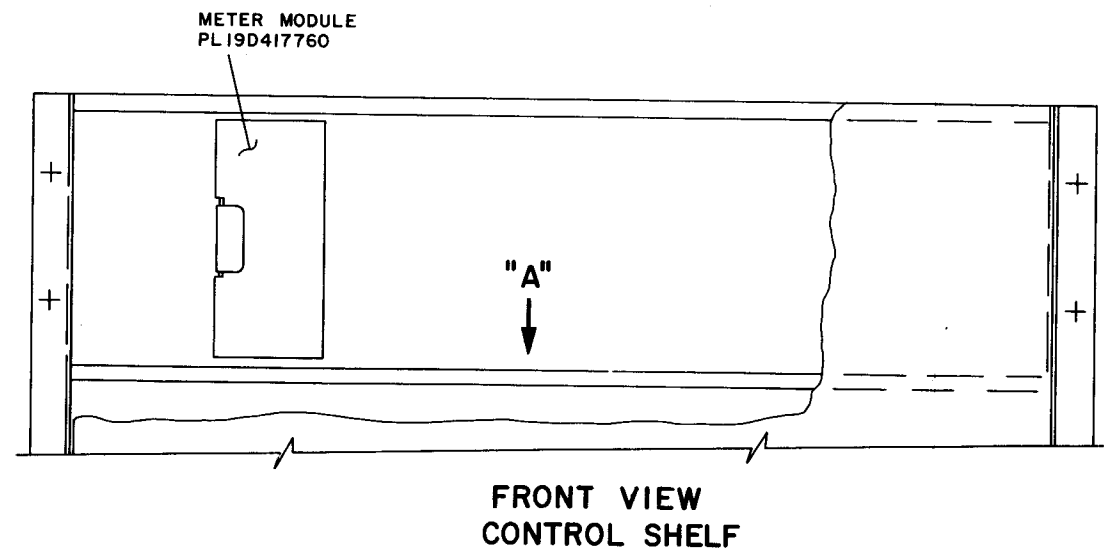
800 MHz MASTR II STATION
HARNESS 19C320811G6



1 THESE INSTRUCTIONS COVER THE MODIFICATION OF THE CONTROL SHELF FOR INSTALLATION OF THE METER MODULE PL19D417760G1

INSTRUCTIONS:

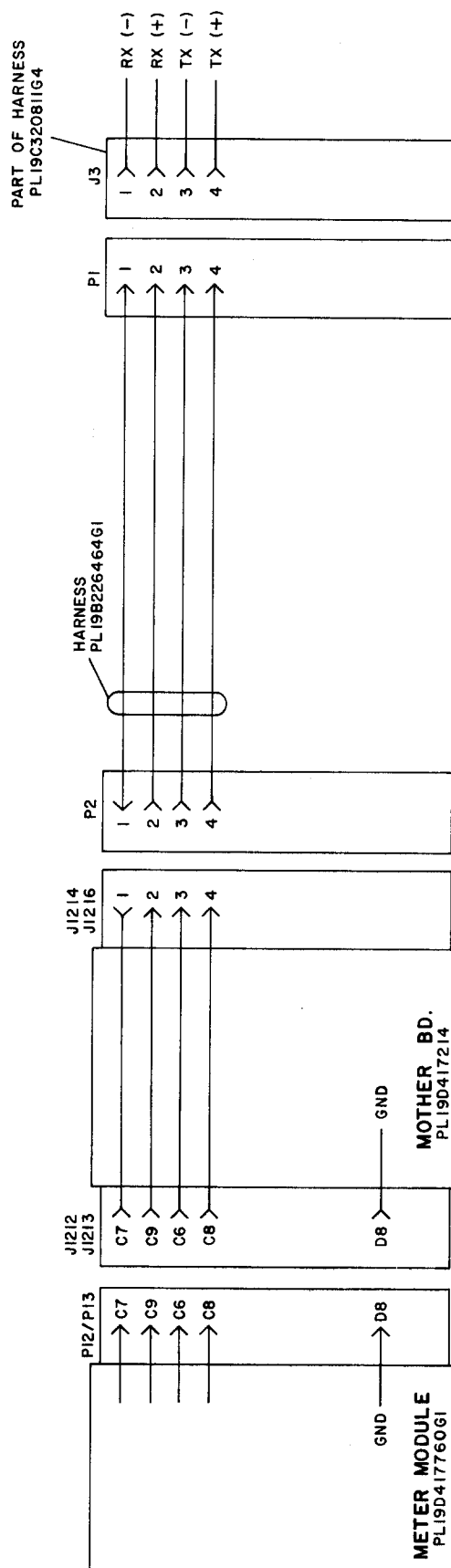
1. AFFIX NAMEPLATE NP276173H TO SHELF AS SHOWN IN FRONT OF SLOT IN WHICH MODULE IS TO BE INSTALLED.
2. INSTALL MODULE IN FIRST POSITION FROM LEFT IN SHELF.
3. INSTALL HARNESS AS FOLLOWS:
 - A. INSTALL HARNESS (19B226464G1) AS SHOWN. INSTALL P2 OF HARNESS ON J1214 ON COMPONENT BOARD (19D417214) IF MODULE IS INSTALLED IN SECOND SLOT FROM LEFT IN CONTROL SHELF, OR ON J1216 IF MODULE IS INSTALLED IN FIRST SLOT ON LEFT IN CONTROL SHELF.
 - B. INSTALL P1 OF HARNESS ON J3 OF STATION HARNESS (19C320811)
 - C. INSTALL CABLE CLAMPS (A402985IP13) AS SHOWN. REMOVE AND DISCARD THE TWO SCREWS PRESENT AT LOCATIONS WHERE CLAMPS ARE TO BE MOUNTED AND MOUNT CLAMPS USING THE TWO SCREWS (19B201074P306) SUPPLIED.
4. TEST PER 19A129945.



INSTALLATION INSTRUCTIONS

METER MODULE 19D417760G1

(19D417758, Rev. 4)



(19C321141, Rev. 1)

INTERCONNECTION DIAGRAM

END OF DOCUMENT

METER MODULE