TMC SPECIFICATION

REV: Ø			NO. S 1209
COMPILED: F. Levi	CHECKED:	APPD:	SHEET 1 OF 20
TITLE:			

NOTE: for SO# 00-270191 ONLY.

TEMPORARY MODIFICATION OF TMC MODEL; GPTR-2.5EE/50, RADIO TRANSMITTER

NOTE: for SO# 00-270191 ONLY.

DESCRIPTION

This modification is a temporary modification to TMC Model; GPTR-2.5EE/50 to include: TMC Model; SBE-10 (Transmitting Mode Selector consisting of; an AO-101-10, Exciter Unit, and an A-1397, Power Supply) in lieu of TMC Model; SMEC-1, Sideband Multi-channel Exciter. This modification also causes the temporary deletion of the remoted mode of operation of the transmitter by the removal of TMC Model; LRCA-1, Remote Control Terminator, and by the disconnection of the remote Transmitter Control Group, TMC Model; TCG( )-1.

MATERIALS SUPPLIED

Part Number	Description	Quantity
AO-101-10	Exciter Unit (p/o SBE-10)	1
A-1397	Power Supply (p/o SBE-10)	1
MS 157-5S	Blank Panel	1
CA 1270	Cable Assembly	1
CA 346-8-0	Cable Assembly, Power (u/o SBE-10)	1
CA 605-6	AC Power Cable Assembly	1
TK 107-18	Slide & Track Set (w/hardware & mounting shims & brackets)	1
SCBP1032BN5	Screws	8
LWE10MRN	External Lock Washers	8
Technical Manual for Transmitting Mode Selector, SBE-8, -9, -10.		2

MODIFICATION PROCEDURE

Step 1: Make sure that all power switches on the transmitter are in the OFF position.

Step 2: Turn off all power on the remote Transmitter Control Group, TCG( )-1.

Step 3: Turn off all power going to the transmitter and the control unit at the main power box.

WARNING: Line voltage will be constantly present on the leads connected to the top of the MAIN POWER switch located in the TCP-1 unless all power to the transmitter is shut off at main power box.

Step 4: Remove the rear and side panels of the transmitter rack by unscrewing the screw on the left, right, and rear panels, and then pulling each panel out 3½ inches and lifting them up (see Fig. 2).

Step 5: Remove the blank panel on the front of the transmitter.

Step 6: Disconnect the LSCA cable from J8005 on the junction box in the transmitter (Fig. 3).

Step 7: Disconnect the LRCA cable from J8004 on the junction box in the transmitter (Fig. 3).

Step 8: Remove the LRCA and its' associated cable from the transmitter rack.

Step 9: Remove the LRCA slide tracks from the transmitter rack.

Step 10: Disconnect the SMEC-1 cable from J8003 and J8012 on the junction box in the transmitter (Fig. 3).

Step 11: Disconnect all cabling from the rear of the SMEC-1.

Step 12: Remove the SMEC-1 from the transmitter rack.

Step 13: (a); Remove all SMEC-1 cabling from the transmitter rack by cutting the lacing cord that secures the cables to the other cables in the transmitter rack. It will be necessary to remove the protective cover on transformer T8000 and disconnect the AC power leads that run from T8000 to the SMEC-1.

OR

(b); Remove the protective cover on transformer T8000 and disconnect the AC power leads that run from T8000 to the SMEC-1. Tape all connectors, fanning strips, and terminal lugs completely so that no part of any of the electrical c ntacts are exposed. It is suggested that a good quality electrical tape be used for this. All ends of the cables must then be secured to the other cables or to the rack with cable clamps or tape.

MODIFICATION PROCEDURE (Cont'd.)

The ends must completely out of the way of all of the units in transmitter rack and away from all cable connections in the rack.

C A U T I O N

We recommend Step 13a in lieu of Step 13b. If Step 13b is used; there is a danger that short circuiting, grounding, and possible damage to the units in the transmitter might occur, especially if the "tying-back" of the cables was not done properly. This may also occur if the ends of the cables were not properly taped and/or if tape was used to secure the cable ends to the other cables in the transmitter rack or the rack itself.

Step 14: Install the A-1397 Power Supply in the empty space left by the removal of the LRCA. Slides are not used on this unit.

Step 15: Attach cable CA605-6 to J401 on the A-1397 (Fig. 4).

Step 16: Wire the other end of CA605-6 to transformer T8000 as shown in Fig. 5.

Step 17: Place the protective cover back on T8000 and secure it to the transformer using the original hardware.

Step 18: Mount the slide portion of TK107-18 (3½ inch Tilt Lock Track and Slide Set) to the AO-101-10 (Exciter Unit, p/o SBE-10) using the 8 SCBP1032BN5 screws and the 8 LWE10MRN external lock washers supplied.

Step 19: Mount the track portion of TK107-18 in the transmitter with the hardware and brackets supplied. The center of the track portion of TK107-18 should be located 3-7/16 inches down from the bottom of the front panel of the TLAA-2.5K (Fig. 6).

Step 20: Install the AO-101-10 (Exciter Unit, p/o SBE-10) in the rack (Fig. 9).

Step 21: Connect the P8043 end of cable CA346-8-0 to J402 on the A-1397 (Fig. 7).

Step 22: Connect the P8042 end of CA346-8-0 to J109 on the AO-101-10 Exciter Unit (Fig. 7).

Step 23: Connect cable CA1270 to the AO-101-10 as shown in Fig. 7.

Step 24: Connect the other end of CA1270 to the junction box in the transmitter as shown in Fig. 7 and Fig. 8.

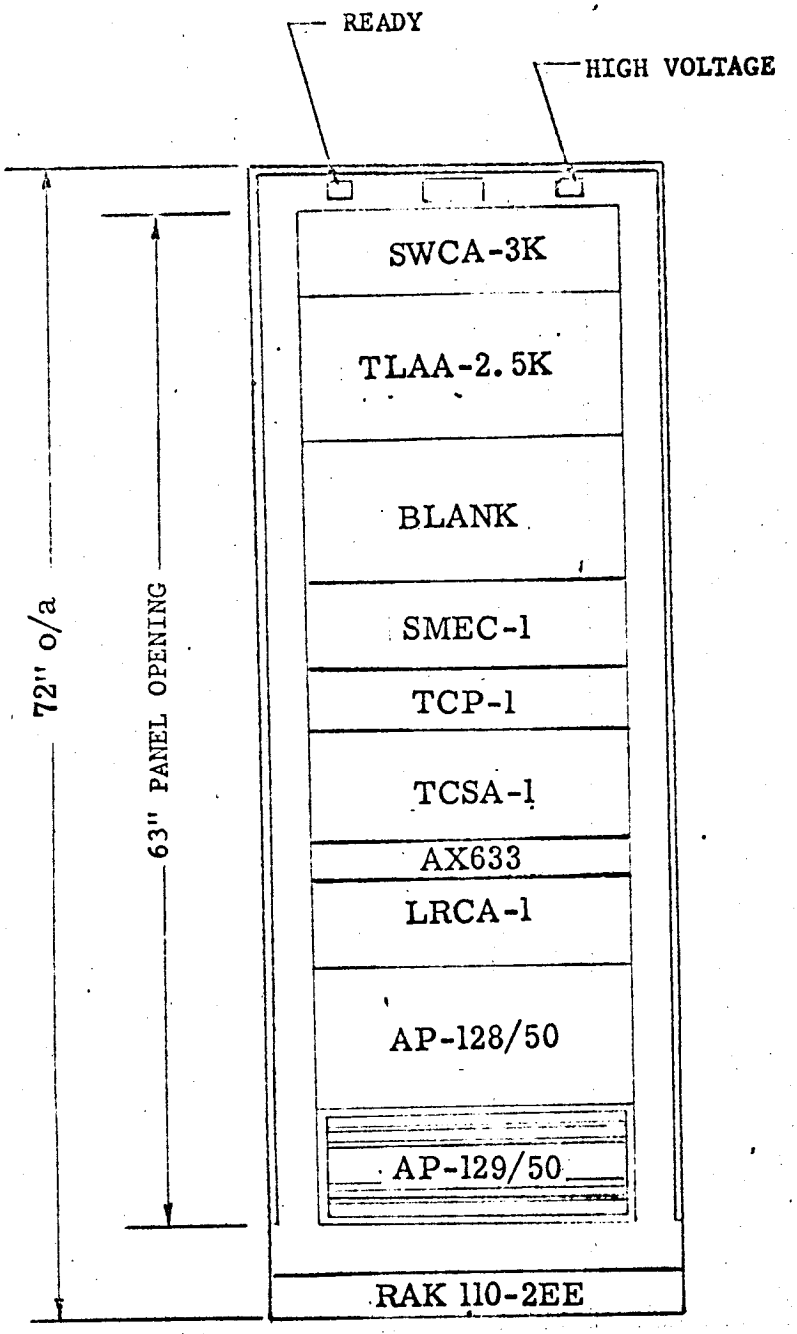
Step 25: Install MS157-5S , blank panel, in the rack as shown in Fig. 9.

MODIFICATION PROCEDURE (Cont'd.)

Step 26: Recheck all wiring per Fig. 5, Fig. 7, and Fig. 8.

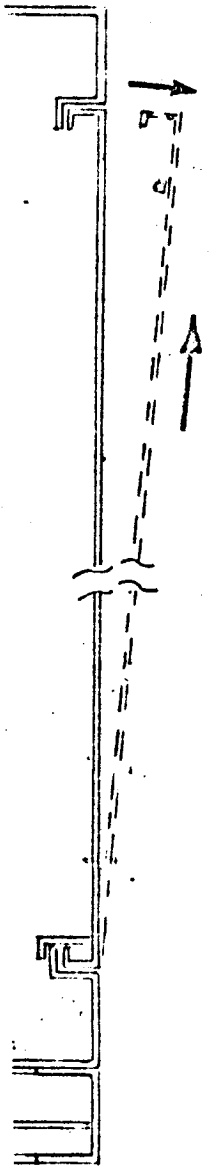
Step 27: Replace the rear and side panels (this step is the reverse of Step 4).

This concludes the modification of the transmitter. The transmitter is now ready for operation and the power going to the transmitter may be turned on at the main power box. Before turning on the transmitter, review the tuning procedures for the modified transmitter contained in this document. The operator should also fully familiarize himself with the new exciter (SBE-10) before operating the transmitter, Two copies of the Technical Manual for Transmitting Mode Selector, SBE-8, -9, -10 are supplied with this modification for this purpose.



TMC MODEL; GPTR-2.5EE/50 RADIO TRANSMITTER

Fig. 1



TO REMOVE, REAR AND SIDE PANELS, PULL PANELS OUT 3½ INCHES AND LIFT UP.

Fig. 2

TMC SPECIFICATION

N . S 1209

REV: Ø

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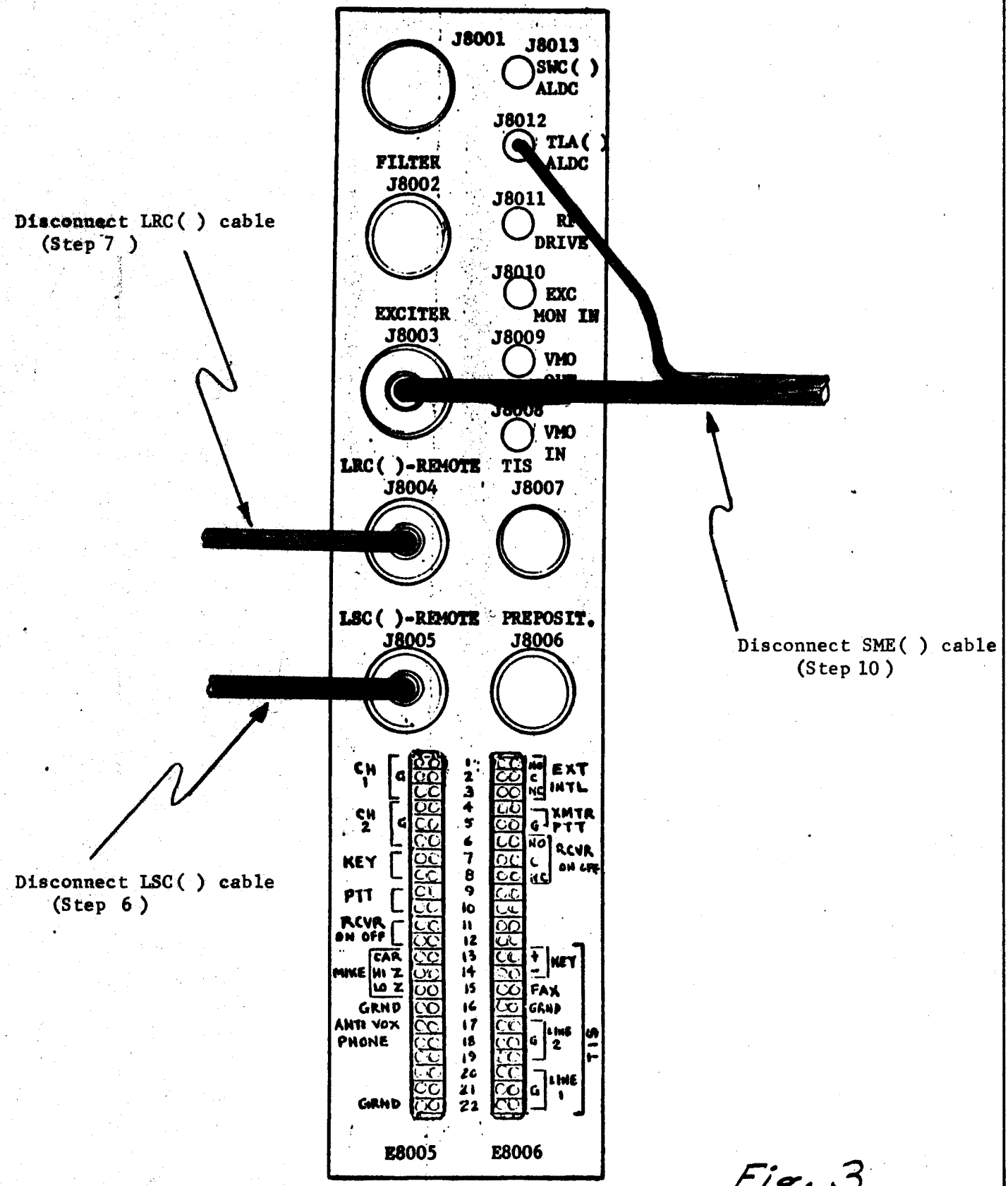
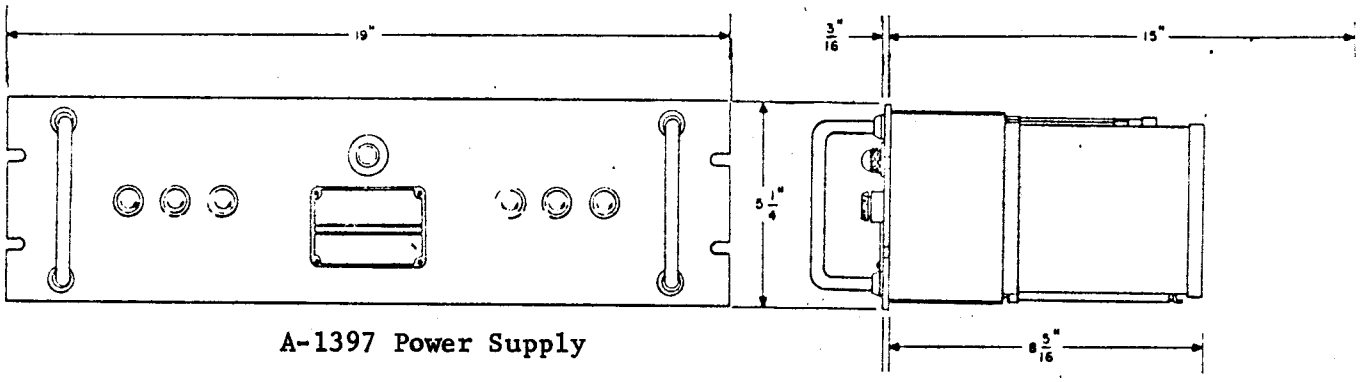
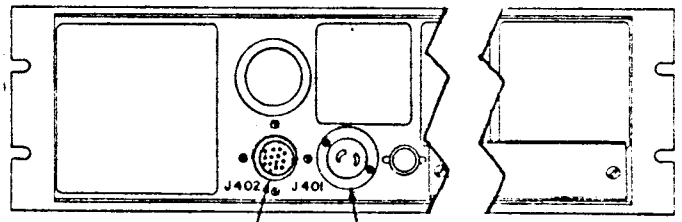


Fig. 3

2M 9-65—AINS.



A-1397 Power Supply



Connect the P8043 end of CA346-8-0 here (Step 21)

Connect CA605-6 here (Step 15)

Fig. 4

TMC SPECIFICATION				NO. S 1209
REV: ø				
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TITLE: TEMPORARY MODIFICATION OF TMC MODEL; GPTR-2.5EE/50, RADIO TRANSMITTER				

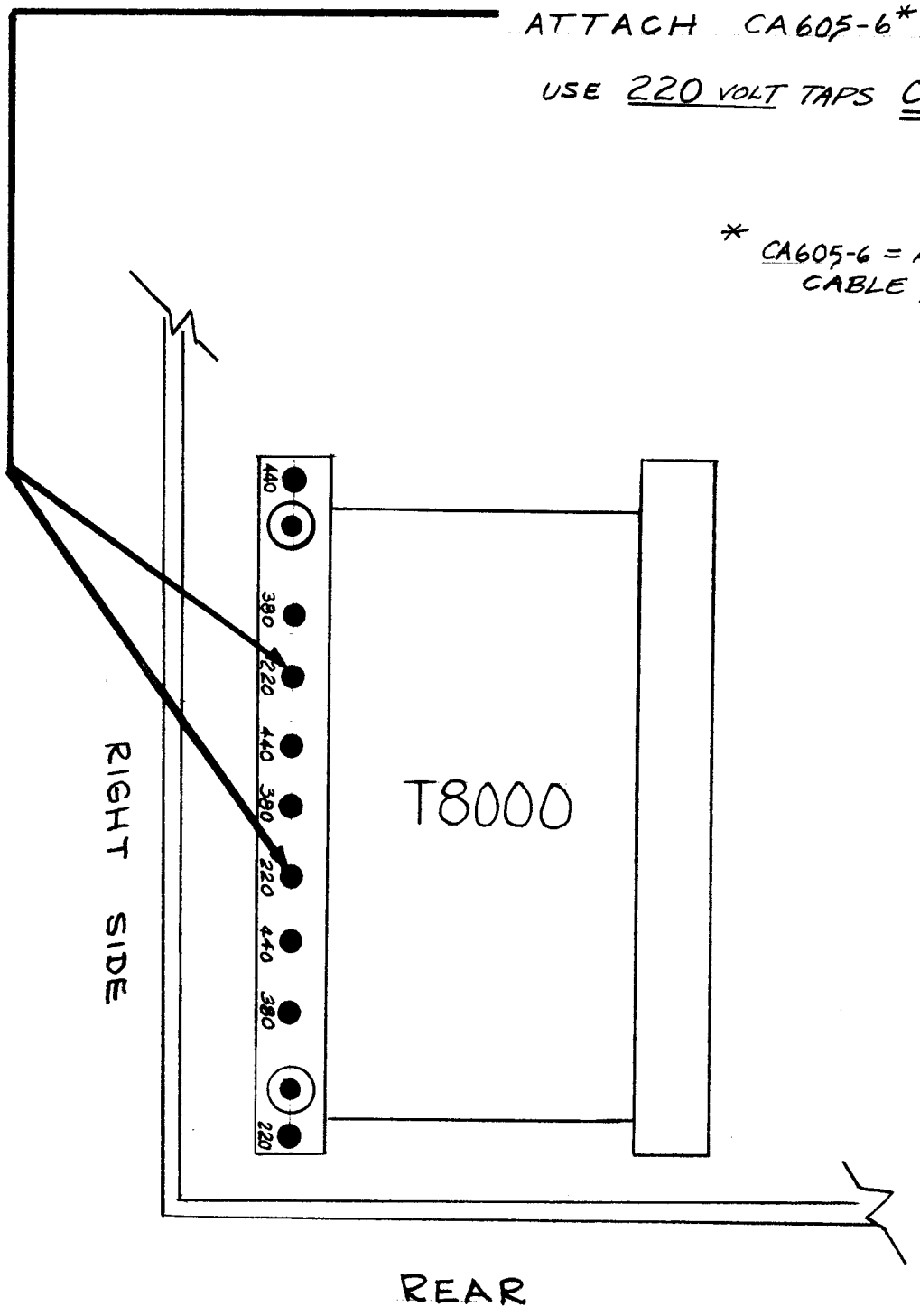

Fig. 5

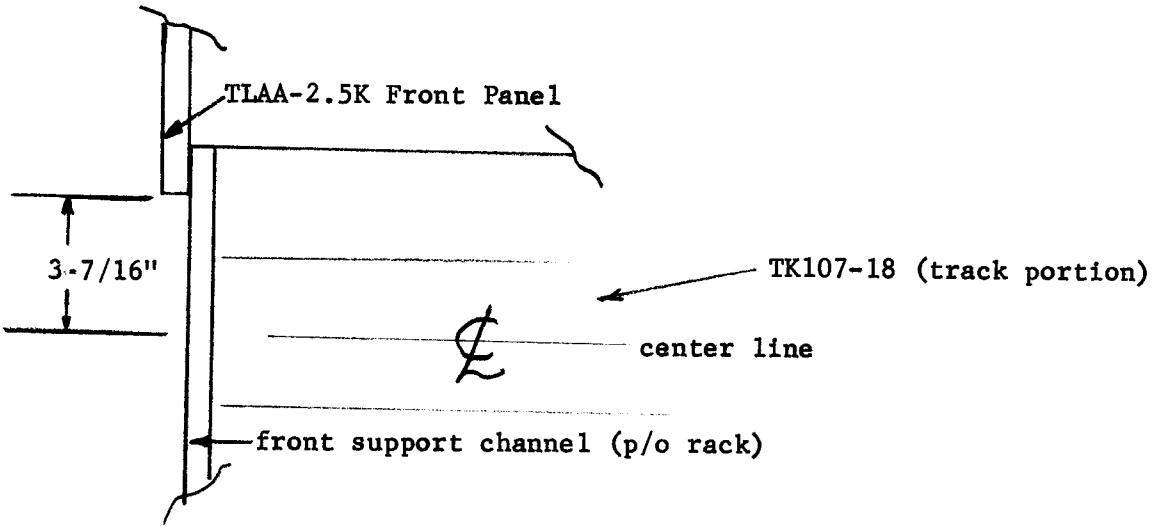

Fig. 6 Mounting of the "track" portion of TK 107-18.

TMC SPECIFICATION

NO. S 1209			
REV: Ø			
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TITLE: TEMPORARY MODIFICATION OF TMC MODEL; GPTR-2.5EE/50, RADIO TRANSMITTER

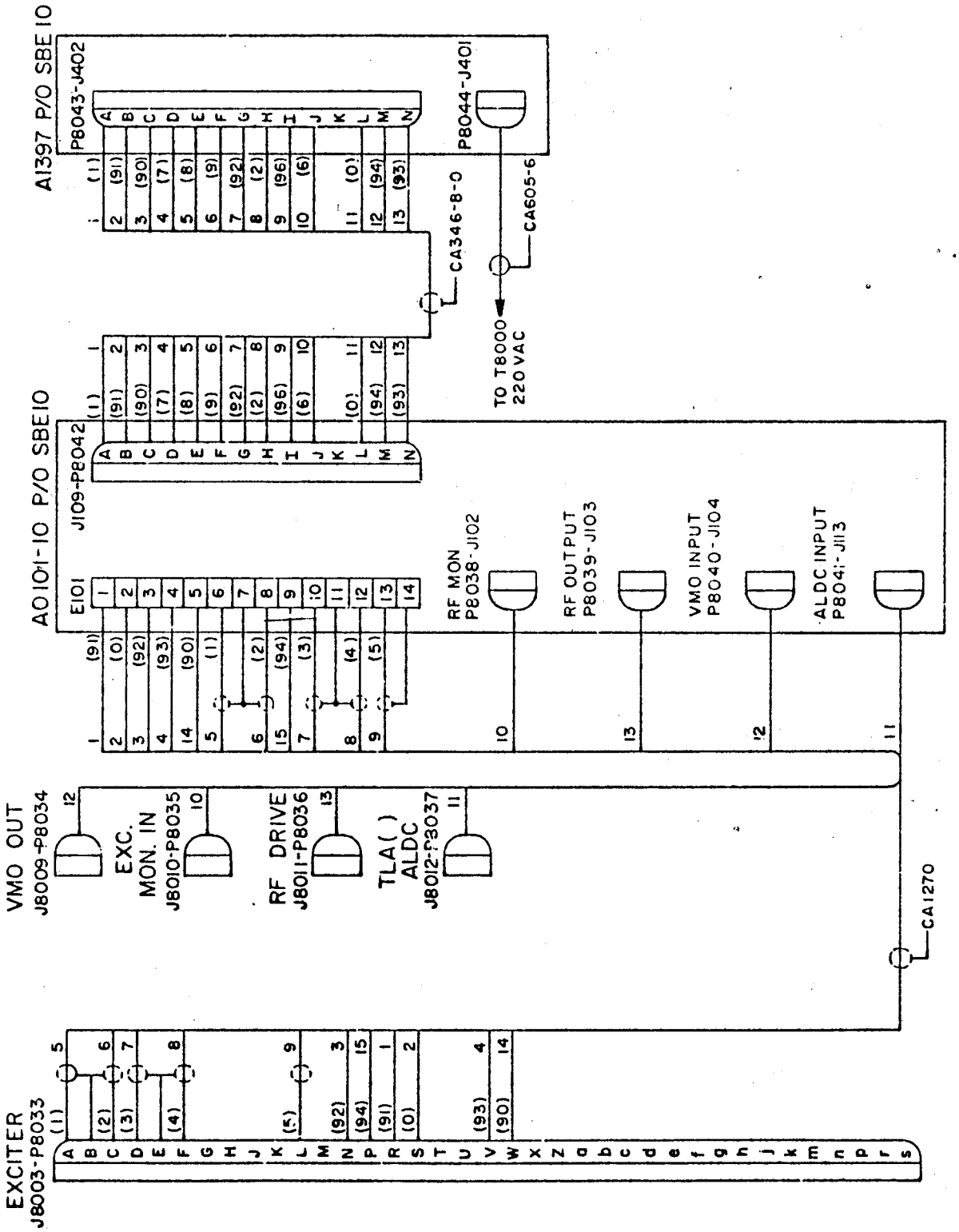

Fig. 7

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NO. S' 1209

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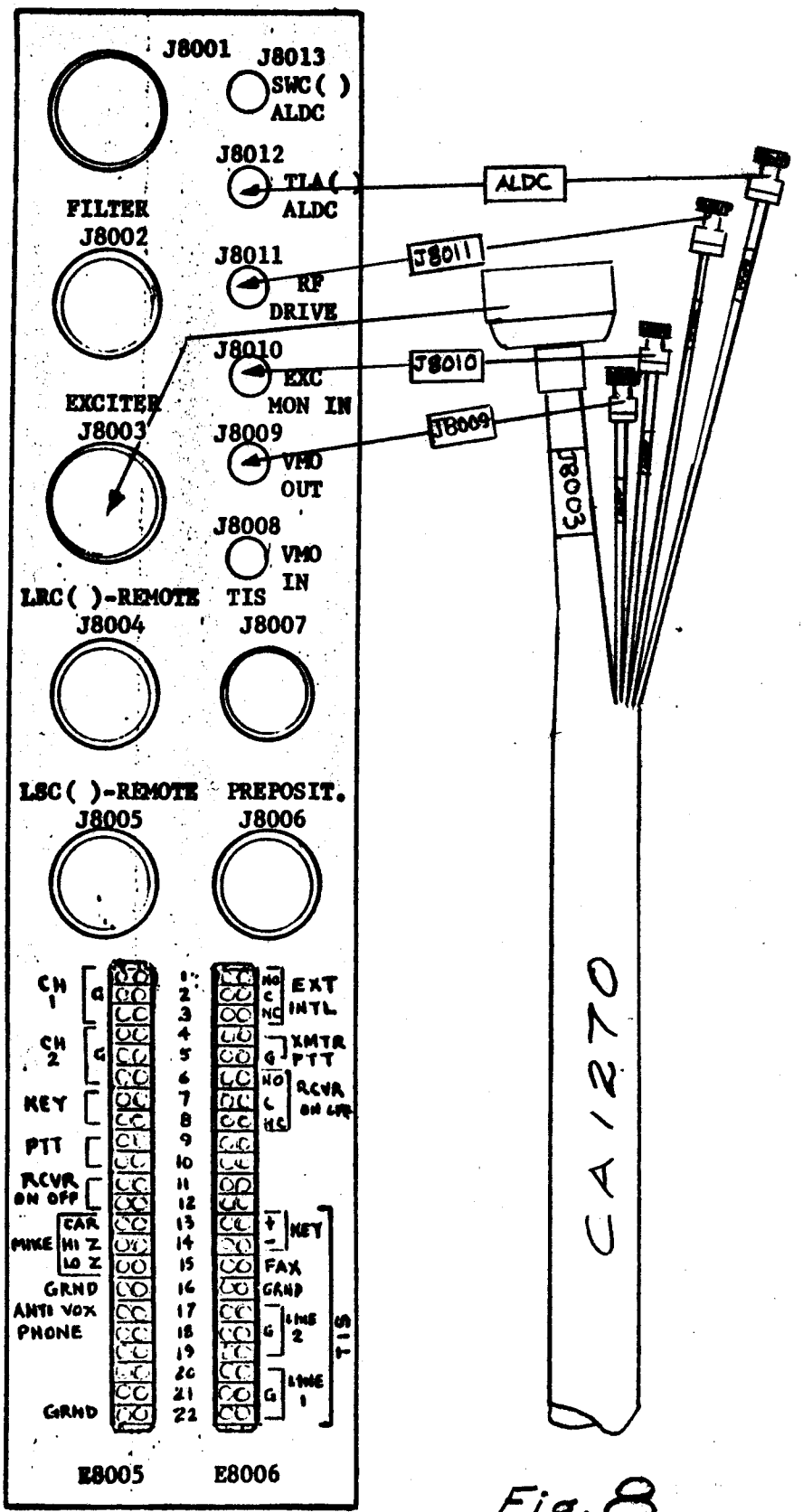


Fig. 8

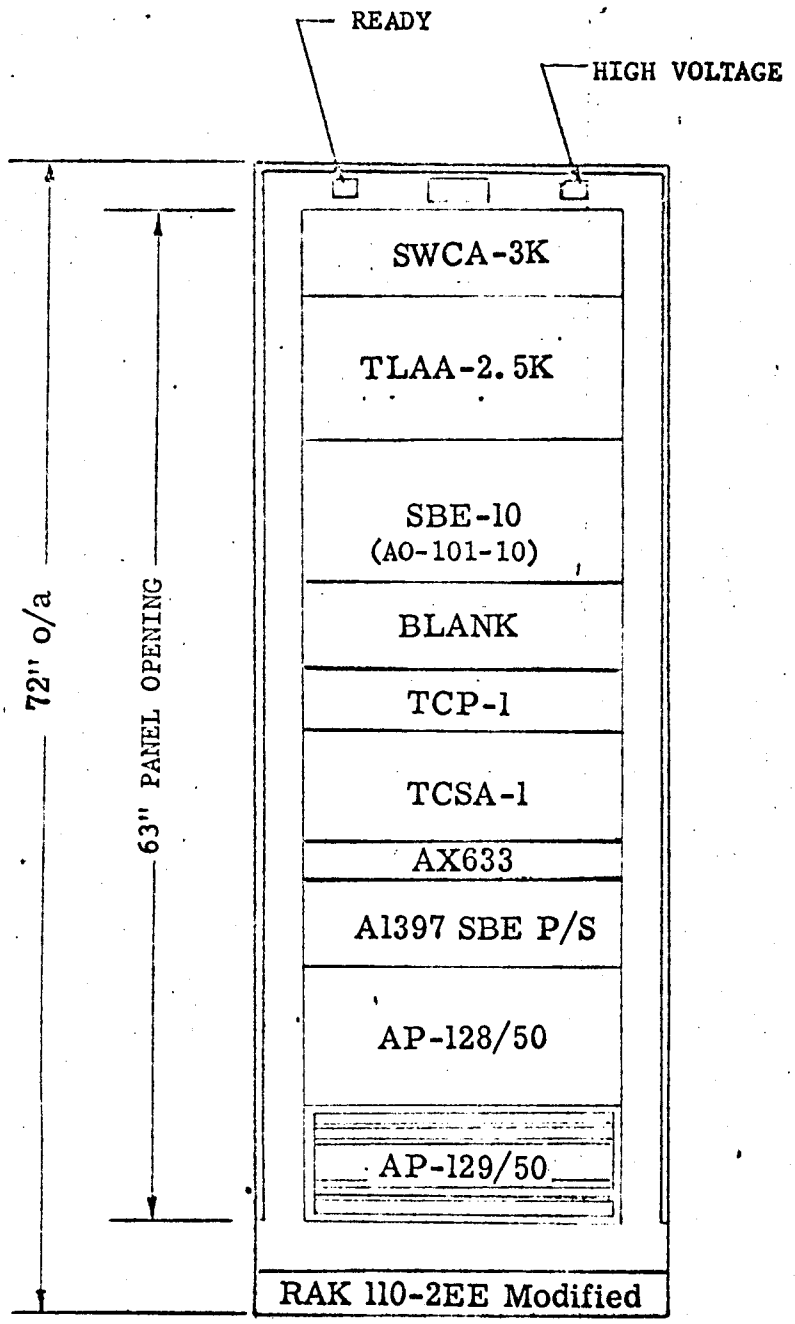


Fig. 9: TRANSMITTER AFTER MODIFICATION

OPERATING PROCEDURE; CONTROL SETTINGS FOR LOCAL SERVO TUNING.

1. Make sure that the HIGH VOLTAGE switch (7) is in the OFF position.

2. Set the MAIN POWER circuit breakers (12) at ON position and allow approximately 1 minute for the filament timer to activate.

3. Set the XMTR TUNING switch (11) at AUTO and the SERVO switch (9) at ON.

NOTE

If manual tuning is desired (overriding the SERVO), set the XMTR TUNING switch (11) at MANUAL. If manual setting of the bandswitches is desired, the SERVO switch (9) must be set at OFF.

4. Set the Power Limit controls (2 and 3) for desired output (controls 2 and 3 are for minimum and maximum power output settings respectively).

5. Select the desired frequency of the SBE-10 and then tune the SBE-10 with carrier only (audio must be disabled) per the procedure given in Section 3 (Operator's Section) of the Technical Manual for Transmitting Mode Selector, SBE-8, -9, -10.

6. Reduce the OUTPUT control (6) to zero.

7. Set the Frequency Selector switch (15) to the band corresponding to the frequency desired.

8. Set the HIGH VOLTAGE switch (7) at ON.

9. Press the TUNE switch (8).

10. Turn the OUTPUT control (6) up gradually to 100 milliwatts output (or to the point where the 2ND AMPL TUNING control (14) starts to turn).

11. Let the transmitter tune itself completely. Allow several seconds for the tuning to take place; the READY lamp (16) will light, indicating the transmitter is ready for operation.

12. Once the READY lamp (16) is lit, reduce the OUTPUT control (6) to zero and insert audio, carrier, etc., depending on the mode of emission desired.

13. Take the OUTPUT control (6) and drive the transmitter to any point up to full output in the mode of emission desired. Refer to Chart I for full output power for various modes of emission.

OPERATING PROCEDURE; FREQUENCY CHANGE AND RETUNING.

1. Turn the HIGH VOLTAGE switch (7) to the OFF position.

2. Select the desired frequency of the SBE-10 and then tune the SBE-10 with carrier only (audio must be disabled) per the procedure given in Section 3 (Operator's Section) of the Technical Manual for Transmitting Mode Selector, SBE-8, -9, -10.

3. Reduce the OUTPUT control (6) to zero.

4. If necessary, change the Frequency Selector switch (15) to the band corresponding to the frequency desired. This step is necessary only if the new frequency does not fall in the range of the position that the Frequency Selector switch (15) is set on.

5. Set the HIGH VOLTAGE switch (7) at ON.

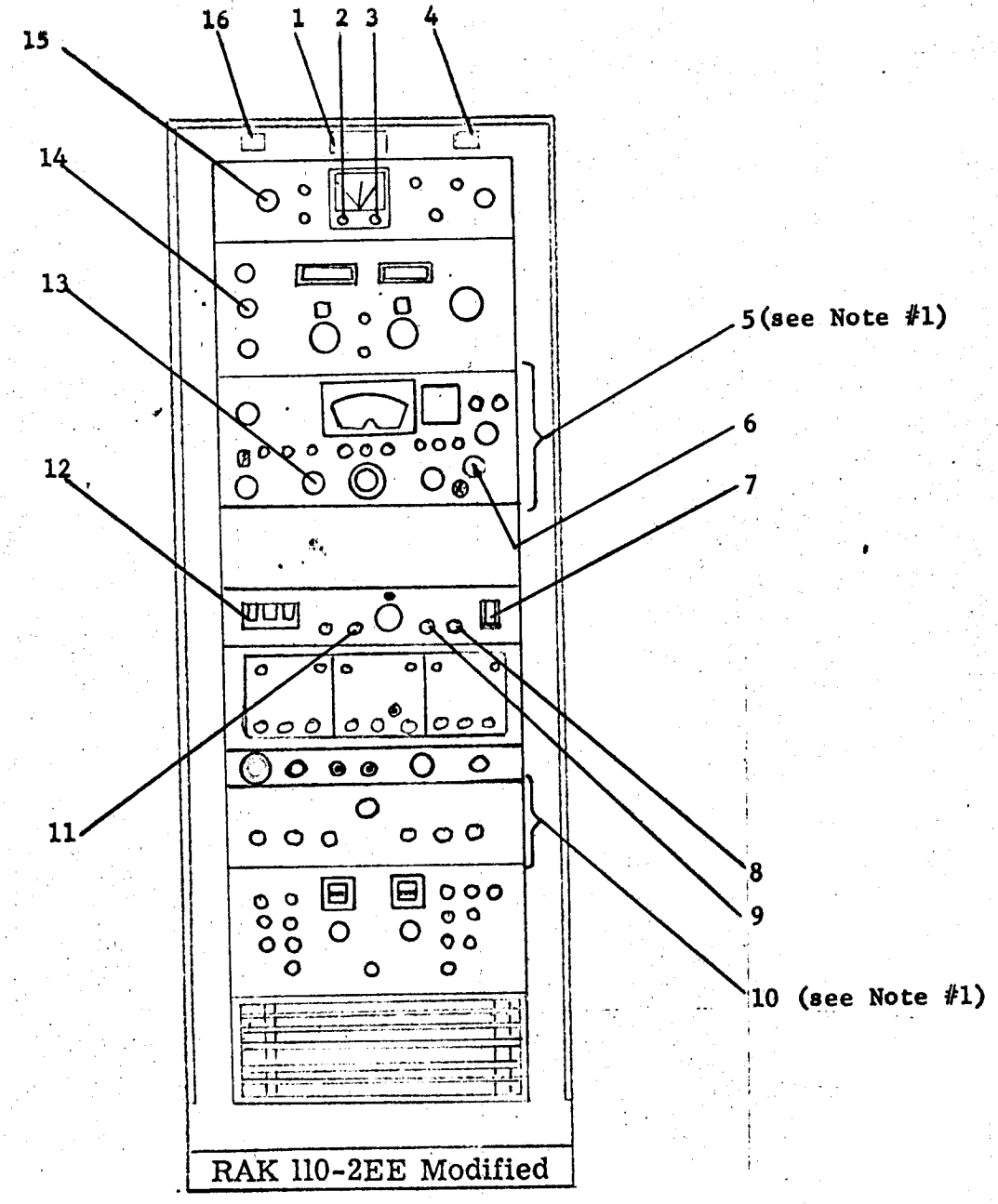
6. Press the TUNE switch (8).

7. Turn the OUTPUT control (6) up gradually to 100 milliwatts output (or to the point where the 2ND AMPL TUNING control (14) starts to turn).

8. Let the transmitter tune itself completely. Allow several seconds for the tuning to take place; the READY lamp (16) will light, indicating the transmitter is ready for operation.

9. Once the READY lamp (16) is lit, reduce the OUTPUT control (6) to zero and insert audio, carrier, etc., depending on the mode of emission desired.

10. Take the OUTPUT control (6) and drive the transmitter to any point up to full output in the mode of emission desired. Refer to Chart I for full output power for various modes of emission.



NOTE #1: Item 5 is TMC Model AO-101-10, Exciter Unit.
Item 10 is TMC Model A-1397, Power Supply.
For specific details on these units, refer to Technical Manual for TRANSMITTING MODE SELECTOR, SBE-8, -9, -10.

Fig. 10

FUNCTIONS OF CONTROLS AND INDICATORS (Fig.10).

ITEM No. (Fig.10)	MODULAR UNIT	DESIGNATION	FUNCTION
1	RAK	TECHNIMATIC lamp	Indicates when primary circuit breaker (12) is set at ON position.
2	SWCA-3K	Power Limit control (no panel designation)	Used for setting minimum RF power output of the transmitter.
3	SWCA-3K	Power Limit control (no panel designation)	Used for setting maximum RF power output of the transmitter.
4	RAK	HIGH VOLTAGE lamp	Indicates when high voltage circuit breaker (7) is set at ON position.
5	SBE-10	AO-101-10 Exciter Unit	Refer to Technical Manual for Transmitting Mode Selector, SBE-8,-9,-10.
6	SBE-10	OUTPUT control	Adjusts output power level of SBE-10.
7	TCP-1	HIGH VOLTAGE switch	Controls application of power to high voltage power supply, AP129/50.
8	TCP-1	TUNE switch	When depressed, initiates automatic tuning and loading.
9	TCP-1	SERVO ON/OFF switch	When set at ON, enables activation of automatic band switching and tuning circuits.
10	SBE-10	A-1397 Power Supply	Refer to Technical Manual for Transmitting Mode Selector, SBE-8,-9,-10.
11	TCP-1	XMTR TUNING AUTO/	When set at AUTO, allows automatic operation of the transmitter; when set at MANUAL, allows the transmitter to be tuned manually.
12	TCP-1	MAIN POWER circuit breaker	Controls application of power to all units of the transmitter.
13	SBE-10	CARRIER INSERT control	Controls the level of carrier insertion.
14	TLAA-2.5K	2ND AMPL TUNING control	Adjusts resonance of the 2nd amplifier.
15.	SWCA-3K	Frequency Selector Switch (no panel designation)	Selects frequencies in the 2 - 30MC range.

FUNCTIONS OF CONTROLS AND INDICATORS (Fig.10) -- Cont'd.

16	RAK	READY lamp	Indicates the transmitter is ready for operation.

CHART I

MODE OF EMISSION	OUTPUT POWER
CW	2.5kW average
FSK	2.5kW average
2 channel	1250 watts average
AME (AM Equivalent)	625 watts average
Multi-channel operation (more than 4 tones)	625 watts average, 2.5kW PEP

NOTE: The kW Output Meter on the SWCA-3K is calibrated to read average power output under multi-tone conditions.

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TMC FORM MLR-1 2-65—AINS.