TMC SPECIFICATION				NO. S 1230
REV: ø A				
COMPILED: VG	CHECKED:	APPD:	SHEET	OF
TITLE:				
6/18/68 jb/				

INSTALLATION AND TEST PROCEDURE

FOR

KIT 333A

TMC SPECIFICATION			NO. S 1230
REV: ø A			
COMPILED: VG	CHECKED:	APPD:	SHEET 1 OF 9
TITLE: KIT 333A			

I. EQUIPMENT AFFECTED:

A. GPT-10K (AN/FRT39 & 39A)

II. PURPOSE:

To provide for a four channel synthesized solid state exciter.

III. MATERIALS SUPPLIED IN KIT:

Item	TMC Part No.	Qty.	Description
1	CHGM-4	1	Unit
2	CMR-4	1	Unit
3	MCP-4	1	Panel Ass'y.
4	LD2324(MS2469)	1	Center Panel
5	MS-157-5	1	Blank Panel
6	CA-1449	1	Cable (Harness)
7	CA-581-1	2	Cable (AC)
8	TK-108-18A	2 Sets	Slides CHGM-4 CMR-1
9	MS-157-4	1	Blank Panel
10	CK-1528		Diagram Wiring
11	MS 2457	4	Extension Brkt. Slide Ret. (Used with Item #8)

IV. TOOLS REQUIRED:
To be supplied by Installing Activity.

1. Screw Driver Set (Phillips)
2. Screw Driver (Blade Type)
3. Open End or Box type Wrenches 5/16, 3/8, 7/16 and 6 or 8 inch adjustable Wrench.
4. Diagonal Cutting Pliers
5. Long Nose Pliers
6. Soldering Iron & Solder

V. PREPARATION:

1. Be sure transmitter power input leads are completely disconnected. For ease of installation it is advisable to remove left side skin and inner shield of transmitter.

2. Remove all front units from auxiliary frame (side-rack), with the exception of the APP-( ) which is located at the bottom of side rack.

3. Mark and identify on frame the positions of the FSA Unit and the VOX Unit slides before removing slide retainers from frame. They will be re-installed in same position after installation of main harness. Remove all other slide retainers from frame.

4. Disconnect all leads from the rear of center panel and #6 &#7 leads at front. Mark and identify for transfer to like positions on new center panel. Remove circuit breaker CB3000 and mount on new center panel. Unsolder leads at Meter Box, warning light etc. noting that new cable will be installed at same terminals.

5. Remove all main harness mounting clamps and transfer to similar positions on new harness.

6. After all leads and cables relative to main harness have been disconnected, proceed to remove center panel and main harness intact from frame.

VI. INSTALLATION OF KIT:

1. Position and mount new center panel.

2. Dress main harness into proper position after routing all branches to respective termination points. Secure main harness to frame with cable clamps.

3. Make all wiring connections previously disconnected such as warning light, meter box leads and buzzer.

4. Using slide retainer reference charts Fig. 1 and Fig. 2, mount slide retainers in proper positions. Reinstallation of the FSA and VOX units at premarked positions will clarify mounting procedure for the remaining units.

VI. (Cont'd.)

5. Install remaining units per Fig. 1 and check alignment of front panels making any necessary adjustments to assure proper operation.

6. Make all main harness connections to respective units per CK-1528. Check all previous wiring and connections at this time prior to connecting power input leads. Apply power and determine that each unit is operative.

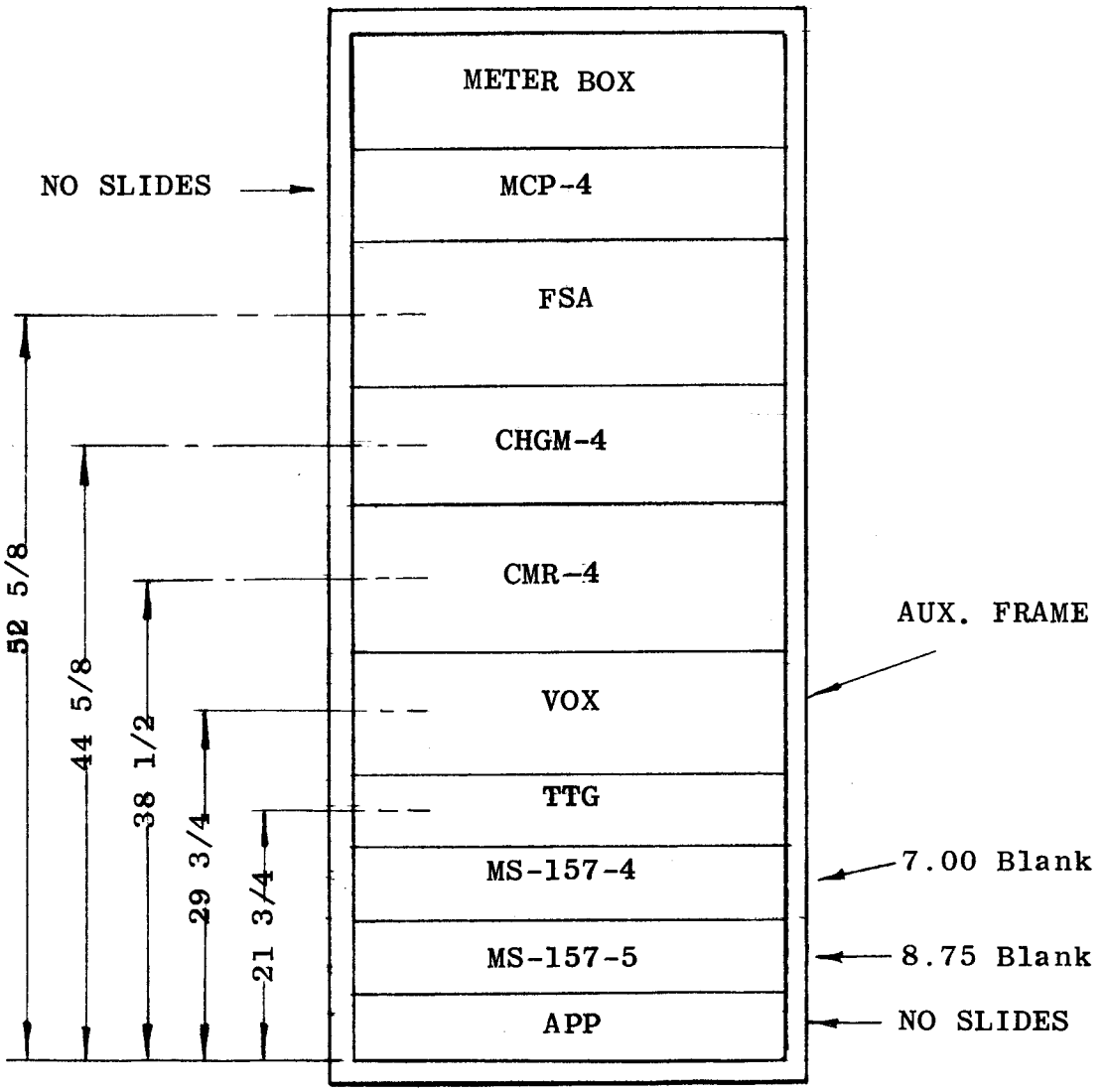
7. Re-mount left inner shield and outer skin to complete installation.

KIT 333A

Fig. 1

SLIDE MTG. CONFIGURATION

All Slide Mounting Dimensions are based on center-line height of each front panel. Determine Slide Mounting position of each unit relative to center-line of panel and compensate difference, if any, with frame mounting reference dimension before mounting the slide retainer in frame.



FRONT VIEW
AUX. FRAME

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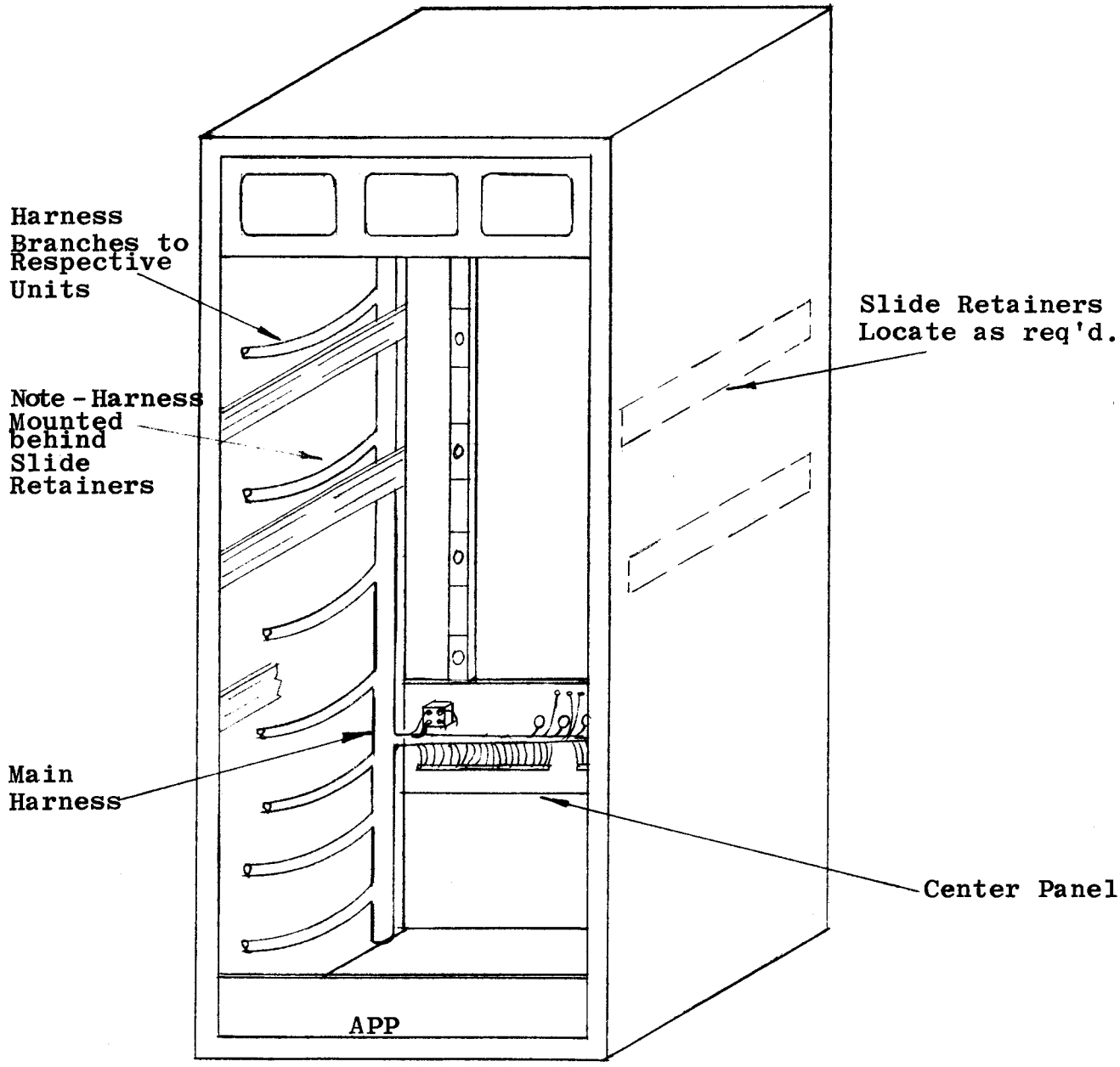
Fig. 2



FRONT VIEW
AUX. FRAME

PRELIMINARY SETTINGS

1. Connect 50Ω dummy load to J123. Monitor with ACVTVM.
2. Turn AC power switch on all units in auxiliary rack to "ON".
3. Two tone generator to "AUDIO TONES" OFF.
4. CMR-( )4 Channel priority controls fully CCW.
5. CMR-( )4 Mode switch to CW.
6. CMR-( )4 Carr. Suppr. switch to "0".
7. CHG-( )4 RF gain fully CCW.
8. MCP-4 monitor selector switch to "EXCTR"
9. RF gain on MCP-4 to fully CCW.
10. All four (4) "LINE-TEST" switches to "TEST".
11. Allow unit to warm up for thirty (30) minutes.
12. Condition SA-2 to receive desired signal.

I. CARRIER SUPPRESSION:

A. Depress CW test key to lock.

B. Adjust RF gain on MCP-4 to full CW.

C. While observing ACVTVM monitoring dummy load, adjust RF gain on CHG-( )4 until a 3.5V level is reached.

D. Adjust SA-2 for full scale deflection.

E. Return CW test key on MCP-4 to neutral. Carrier should be -55db down.

F. Depress test key on MCP-4 to lock.

G. While observing presentation on FSA, adjust carrier suppression on CMR-( )4 to it's various positions. Carrier should be suppressed from full scale by the level shown on the switch, ie: -3, -6, -20, -30, full.

II. ODD ORDER PRODUCT DISTORTION:

A. CMR-( )4 mode switch to "VOX".

B. CMR-( )4 Carr. Suppr. switch to "FULL".

C. Channel A1 "TEST-LINE" switch to "TEST", all others to "LINE".

D. TIG audio tone switch to "TWO TONES".

E. Adjust audio output control on TIG until Channel A1 activity light on CMR-( )4 lights.

F. Adjust RF gain on MCP-4 to full CW.

G. Adjust RF gain on CHG-( )4 until a 3.5V level is observed on ACVTVM monitoring dummy load.

H. Adjust SA-2 for a full scale two tone presentation. Odd order products should be -45db down.

I. Repeat the foregoing for each individual channel.

III. SWITCH FUNCTIONS:

CW -

A. Set mode switch on CMR-( )4 to CW.

B. Set carrier suppression switch on CMR-( )4 to "0".

C. Set RF gain on MCP-4 full CW.

D. Set test key on MCP-4 to lock.

E. Adjust RF gain on CHG-( )4 for a 3V level on ACVTVM.

F. Manipulate CW test key between momentary and neutral.

G. Output as indicated by observing ACVTVM should go ON and OFF with the movement of the test key.

PTT -

A. Set mode switch on CMR-( )4 to PTT.

B. Set carrier suppression switch to "0".

C. Set RF gain on MCP-4 to full CW.

D. On TB3001 (located on center shield) short terminal three (3) to ground.

E. Adjust RF gain on CHG-( )4 until a 3V level is observed on ACVTVM monitoring dummy load.

F. Break and make short on TB3001. Output as indicated on ACVTVM monitoring dummy load should go on and off with the making and breaking of short.

VOX -

A. Mode switch on CMR-( )4 to "VOX".

B. Carr. Suppr. switch on CMR-( )4 to "FULL".

C. Al test line switch on MCP-4 to "TEST" all others to "LINE".

D. Audio tone selector on TTG to two tones.

E. Adjust audio tone level control on TTG until the activity light of Channel Al lights.

F. Adjust Channel Al priority control on CMR-( )4 to full CW.

G. RF gain control on MCP-4 to full CW.

H. Adjust RF gain control on CHG-( )4 until a 3V level is observed on ACVTVM monitoring dummy load.

I. Adjust audio output control on TTG for more or less output alternately. Output as observed on ACVTVM monitoring dummy load should go on and off.

NORM -

A. Mode switch on CMR-( )4 to "NORM."

B. Carr. Suppr. switch on CMR-( )4 to -20.

C. Channel Al priority control on CMR-( )4 to full CW.

D. RF gain on MCP-4 to full CW.

E. TTG audio tone selector to "TONE 2".

F. Increase level of TTG until channel Al activity light, lights.

G. Increase level of RF gain control on CHG-( )4 until a 3.5V level is observed on ACVTVM monitoring dummy load.

H. Decrease level of Channel Al priority control until the level of the tone is 20db above the level of the carrier as observed on SA-2.

I. Decrease level of audio gain on MCP-4. The tone should disappear and the carrier remain as observed on SA-2. Increase audio level of TTG tone will re-appear at same level as was previously set.

REVISION SHEET	THE TECHNICAL MATERIEL CORP. MAMARONECK NEW YORK	S 1230

MODEL _____ PROJECT NO. _____

DATE	REV.	PAGE	EMN #	DESCRIPTION	CHK.	APP.
7/2/68	Ø			ORIGINAL RELEASE FOR PRODUCTION		
11/8/68	A	Sh. 1	19097	Added Item 11, 4 each MS2457		