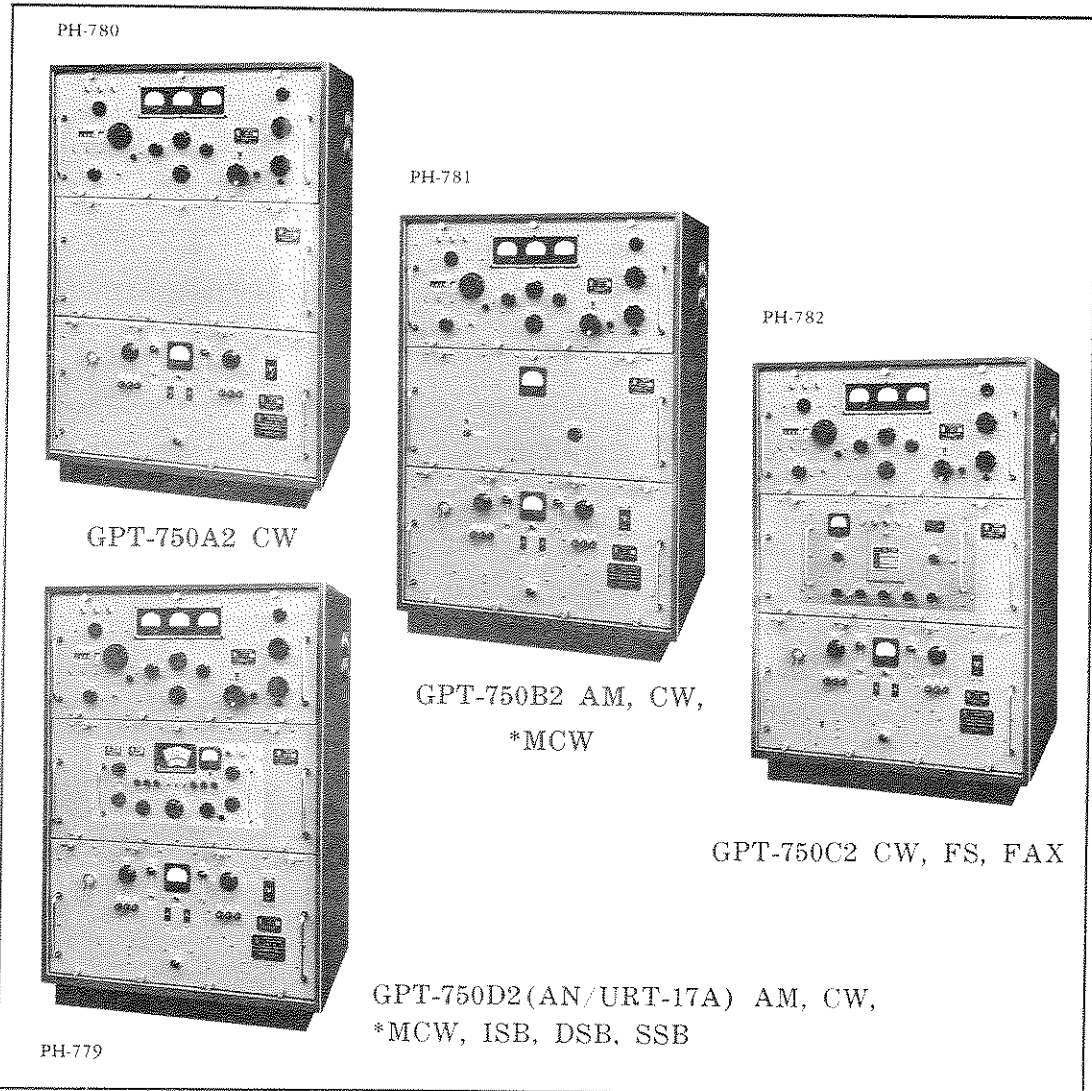


SALES SERVICE BULLETIN NUMBER 227

Radio Transmitter, Model GPT-750()2
Transmitting Set, Radio AN/URT-17()

NEW



The GPT-750()2 is a fully bandswitched, continuously tuneable (2 to 32 Mc) Radio Transmitter providing 750 watts single sideband, 750 watts high level AM and 1000 watts CW.

The building block concept makes this transmitter versatile, easy to install, operate and maintain. These features have made the GPT-750 one of the most wanted transmitters in the field and the new GPT-750()2 is receiving even greater acceptance by the Army, Navy, Air Force and commercial services for fixed station, mobile and shipboard operation.

TECHNICAL SPECIFICATIONS:

FREQUENCY RANGE: 2 to 32 Mc, bandswitched.
 POWER RATING: 1000 watts output, CW or FS
 750 watts output, radio telephone
 750 watts output, PEP, single sideband

(All on continuous commercial service)

OPERATION MODES:

MODEL	EMISSION							
	AM	CW	MCW	FAX	FS	ISB	DSB	SSB
GPT-750A2		x						
GPT-750B2	x	x	x*					
GPT-750C2		x		x	x			
GPT-750D2	x	x	x*			x	x	x

*Using external source of keying tone such as supplied by the TMC Model RTC, Remote Control Amplifier.

HARMONIC SUPPRESSION: 2nd at least 40 db down
 3rd at least 50 db down

DISTORTION: High Level AM—less than 10%.
 SSB—signal/distortion ratio:
 750 watts PEP—35 db below either tone of a standard two-tone test.
 500 watts PEP—40 db below either tone of a standard two-tone test.

MODULATION CHARACTERISTICS: Capable of 100% sine wave plate modulation.

CARRIER SUPPRESSION: At least 55 db down from PEP level.

NOISE LEVEL: Better than 40 db down.

FREQUENCY RESPONSE: Uniform with ± 1.5 db from 100 to 5000 cps. (High level AM)
 Uniform with ± 1.5 db from 350 to 3300 cps. (SSB, Low level AM)

FREQUENCY CONTROL: Built-in high stability master oscillator plus provision for 2 temperature controlled crystal positions and one non-temperature controlled crystal position.
 10 crystal positions in the SBE and 3 in the XFK (oven-controlled)

OUTPUT IMPEDANCE: 30 to 1000 ohms at angle 0°
 (equivalent SWR=1)
 50 to 700 ohms at angle $\pm 45^\circ$
 (equivalent SWR=4/1) all unbalanced to ground.

STABILITY: VMO—Better than 20 PPM for 30° change in ambient
SBE—Crystal controlled—1 part in 10⁶

AUDIO INPUTS: 1. 600 ohms balanced or carbon microphone.
2. Low level microphone with SBE or RTC.

Available as an accessory is a 12 volt, 20A DC supply for energizing a carbon mike designed for use in a remote phone system. TMC Part A-1504-12.

TUNING: All tuning and band switching from front panel (no plug-in components).

COOLING: Forced filtered air (two separate blowers).

OVERLOAD & BIAS PROTECTION: Automatic protection.

TEMPERATURE HUMIDITY: Designed to operate in any ambient temperature between the limits of 0 and 50 degrees C. for any value of relative humidity up to 95%.

TUBE COMPLEMENT:

<u>RTF CHASSIS</u>	<u>RTP SUPPLY</u>	<u>RTM MODULATOR</u>	<u>RTS-2 DRAWER</u>
2 each 5D22	2 each 872A*	2 each 810	1 each 5R4
1 each 6146	2 each 5R4GY	2 each 6L6	1 each OA2
1 each 6BF5	1 each 6X4	1 each 12AT7	
2 each 6AH6	2 each OB2	1 each OA3	
2 each 12AT7	4 each OA2	1 each 5R4GY	
2 each OA2			
3 each 12AU7			
1 each 6C4			
1 each 6BE6			
1 each 6AB4			

*Type 4B32 may be substituted

For SBE tube complement see service bulletin No. 195C.
For XFK tube complement see bulletin No. 118.

AVERAGE PLATE EFFICIENCY: GPT-750A,B,C2—better than 70%
GPT-750D2—better than 50%

PRIMARY POWER: 115/230 volts, 50/60 cps, 1Ø, approximately 2600 watts at P.F.=.87 for full CCS output.

M.O. BYPASS SWITCH: A new feature of the GPT-750()2 is the M.O. BYPASS/NORMAL switch. In the M.O. BYPASS position this switch permits continued operation of the M.O. Oven elements when the balance of the transmitter is in the POWER OFF condition.

ACCESSIBILITY: Tube changes and repairs accomplished from the front of the equipment.
Slide-out drawers permit easy access to all components.

RUGGEDNESS: Transmitter is designed for mobile application with the addition of shock mounts. (See IN-1088 on last page.)

CABINET: Reinforced steel.

COLOR: Cabinet TMC Blue
Panels TMC Grey

SIZE: Height: 46 $\frac{7}{8}$ " without base or mounts
 49 $\frac{7}{8}$ " with base
 49 $\frac{3}{8}$ " with shock mounts
 Width: 34"
 Depth: 27"

SHIPPING WEIGHT AND CUBES: GPT-750A2 1190 lbs.
 66 cubic feet
 GPT-750B2 1415 lbs.
 81 cubic feet
 GPT-750C2 1404 lbs.
 81 cubic feet
 GPT-750D2 1425 lbs.
 81 cubic feet

COMPONENTS & CONSTRUCTION: Equipment manufactured in accordance with JAN specifications wherever practicable.

<ul style="list-style-type: none"> For CW emission use Model GPT-750A2 which consists of: 		
Model CAB-7	(CY-2660/URT-17A)	Cabinet, Electrical Equipment
" RTF-2	(AM-2271/URT-17A)	Amplifier, Oscillator
" RTY-2	()	Blank Panel
" RTP-2	(PP-2396/URT-17A)	Power Supply
<ul style="list-style-type: none"> For CW, AM, *MCW emission use Model GPT-750B2 which consists of: 		
Model CAB-7	(CY-2660/URT-17A)	Cabinet, Electrical Equipment
" RTF-2	(AM-2271/URT-17A)	Amplifier, Oscillator
" RTM-2	()	Modulator-Power Supply
" RTP-2	(PP-2396/URT-17A)	Power Supply
<ul style="list-style-type: none"> For CW, FAX, FS emission use GPT-750C2 which consists of: 		
Model CAB-7	(CY-2660/URT-17A)	Cabinet, Electrical Equipment
" RTF-2	(AM-2271/URT-17A)	Amplifier, Oscillator
" RTX-2	()	Drawer, Electrical Equipment
" XFK	(C-2749/URT)	Control, Electrical Equipment
" RTP-2	(PP-2396/URT-17A)	Power Supply
<ul style="list-style-type: none"> For CW, *MCW, SSB, ISB, DSB, Low level AM emission use GPT-750D2 (AN/URT-17A) which consists of: 		
Model CAB-7	(CY-2660/URT-17A)	Cabinet, Electrical Equipment
" RTF-2	(AM-2271/URT-17A)	Amplifier, Oscillator
" RTS-2	(MT-2193/URT-17A)	Drawer, Electrical Equipment
" A-1516	(0-503A/URA-23)	Oscillator, Radio Frequency
" RTP-2	(PP-2396/URT-17A)	Power Supply

*Using external source of keying tone such as supplied by the TMC Model RTC, Remote Control Amplifier.

ORDERING INFORMATION

The transmitters as shown on the front page of this bulletin are furnished complete with one set of operating tubes, two instruction manuals, and a 3 inch high base. For shock mounting the base is removed and the unit should be ordered as; "GPT-750()2 with 6 point shock mounting as per IN-1088". For only four shock mounts on the bottom of the unit, order as; "GPT-750()2 with 4 point shock mounting as per IN-1088". (See last page)

ACCESSORY EQUIPMENT AVAILABLE

Coaxial Antenna Switching Relays, Models TRL-3 and TRL-4.

Use TRL-3 for transmission lines of 50 ohms characteristic impedance.

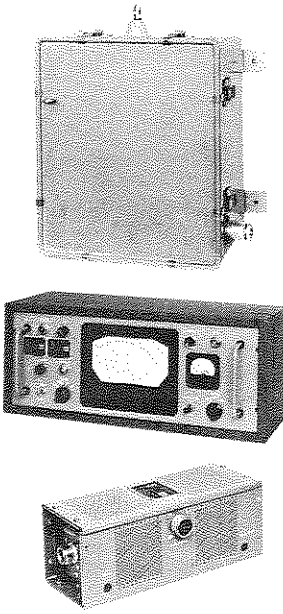
Use TRL-4 for transmission lines of 70 ohms characteristic impedance.

Both relays feature a second relay which acts to delay the application of or remove the high voltage from the plates of the transmitter finals before the antenna circuit is switched. This arrangement greatly increases the contact life of the coaxial relay.

Installation of the TRL-3 or TRL-4 assembly is made on the rear of the CAB-7 cabinet.

DYNAMIC MICROPHONES: MK—102—Electrovoice 605
MK—103—Shure 51

ANTENNA TUNING SYSTEM, MODEL ATS-2 (AN/URA-27)



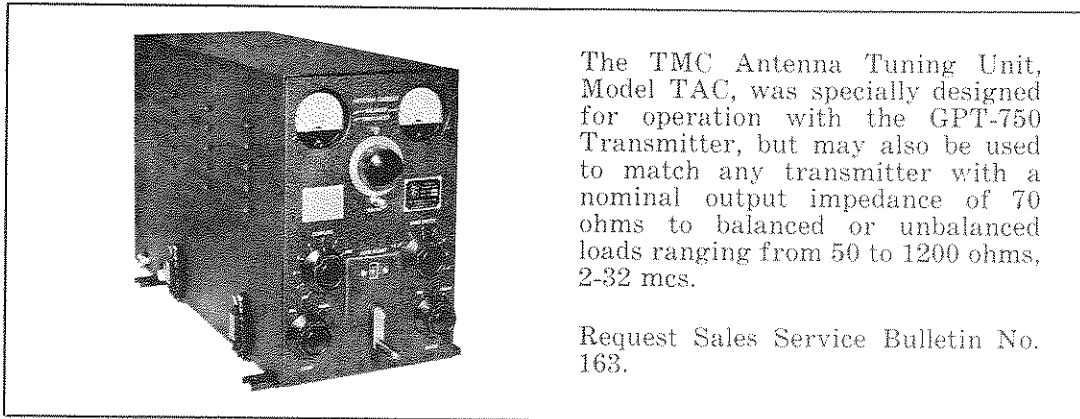
The TMC Model ATS-2 Antenna Tuning System consists of three units:

1. R. F. TUNER, Remotely controlled
2. CONTROL MONITOR
3. DIRECTIONAL COUPLER

and is a remote controlled antenna coupler designed to couple the output of any radio transmitter, up to 1000 watts power output, with an unbalanced output of 50 or 70 ohms, to a 35 ft. whip antenna over the frequency range 2 to 30 mcs.

Request Sales Service Bulletin No. 235

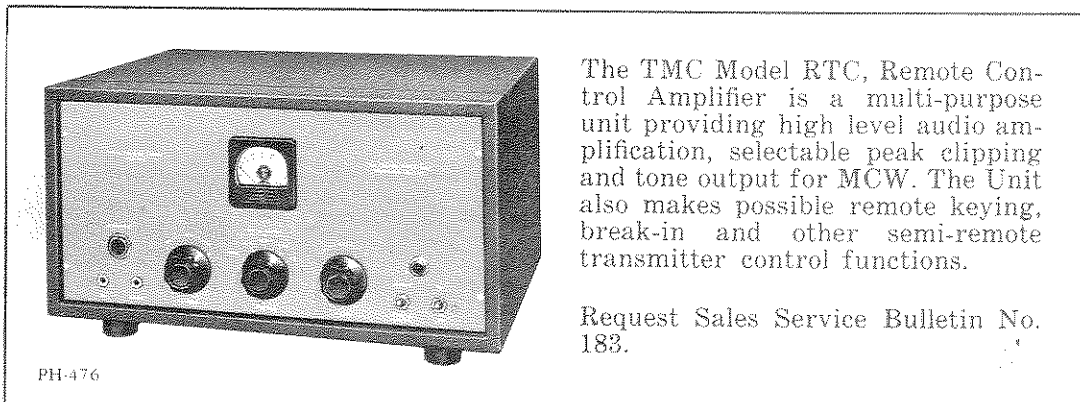
ANTENNA TUNING UNIT, MODEL TAC
(CU-658/UR)



The TMC Antenna Tuning Unit, Model TAC, was specially designed for operation with the GPT-750 Transmitter, but may also be used to match any transmitter with a nominal output impedance of 70 ohms to balanced or unbalanced loads ranging from 50 to 1200 ohms, 2-32 mcs.

Request Sales Service Bulletin No. 163.

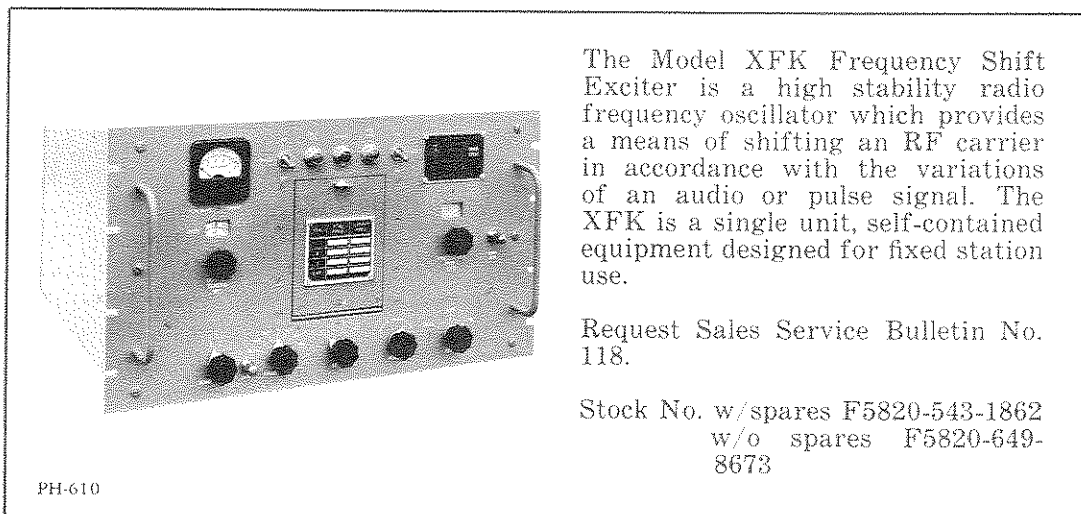
REMOTE CONTROL AMPLIFIER, MODEL RTC



The TMC Model RTC, Remote Control Amplifier is a multi-purpose unit providing high level audio amplification, selectable peak clipping and tone output for MCW. The Unit also makes possible remote keying, break-in and other semi-remote transmitter control functions.

Request Sales Service Bulletin No. 183.

FREQUENCY SHIFT EXCITER, MODEL XFK
(C-2749/URT)

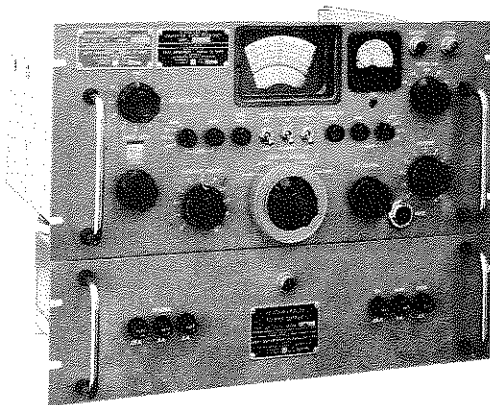


The Model XFK Frequency Shift Exciter is a high stability radio frequency oscillator which provides a means of shifting an RF carrier in accordance with the variations of an audio or pulse signal. The XFK is a single unit, self-contained equipment designed for fixed station use.

Request Sales Service Bulletin No. 118.

Stock No. w/spares F5820-543-1862
w/o spares F5820-649-8673

MODE SELECTOR, TRANSMITTING MODEL
SBE-2
MODULATOR, POWER SUPPLY GROUP
(AN/URA-23A)



Stock No. w/spares F5820-543-1491
w/o spares F5820-681-9611
PH-693

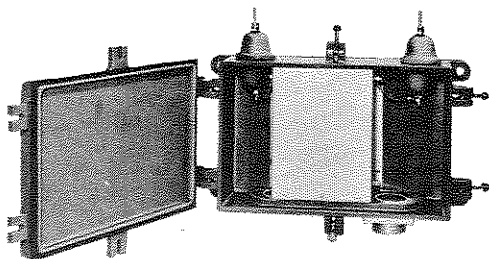
The Model SBE-2 consists of two units:

1. 0-503A/URA-23 Oscillator, Radio Frequency. TMC No. A-1516
2. PP-1769/URA-23 Power Supply. TMC No. A-1397.

The TMC Model SBE-2, Mode Selector, Transmitting, is a universal exciter permitting the transmission of any intelligence on Single or Double Sideband, with or without carrier.

Request Sales Service Bulletin No. 195C.

BROADBAND TRANSMITTING COUPLER, MODEL
TRC-3500 (CU-729/URT)



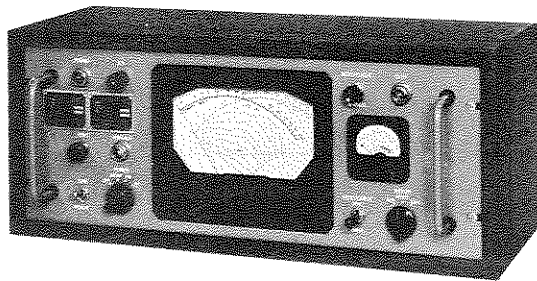
PH-433

Use of a TRC Series coupler will permit the impedance matching of an unbalanced 72 ohm coaxial cable to a balanced 600 ohm rhombic antenna. The TMC Model TRC-3500 will handle RF power level up to 3500 watts.

Request Sales Service Bulletin No. 218.

Stock No. w/o spares F5985-624-0400

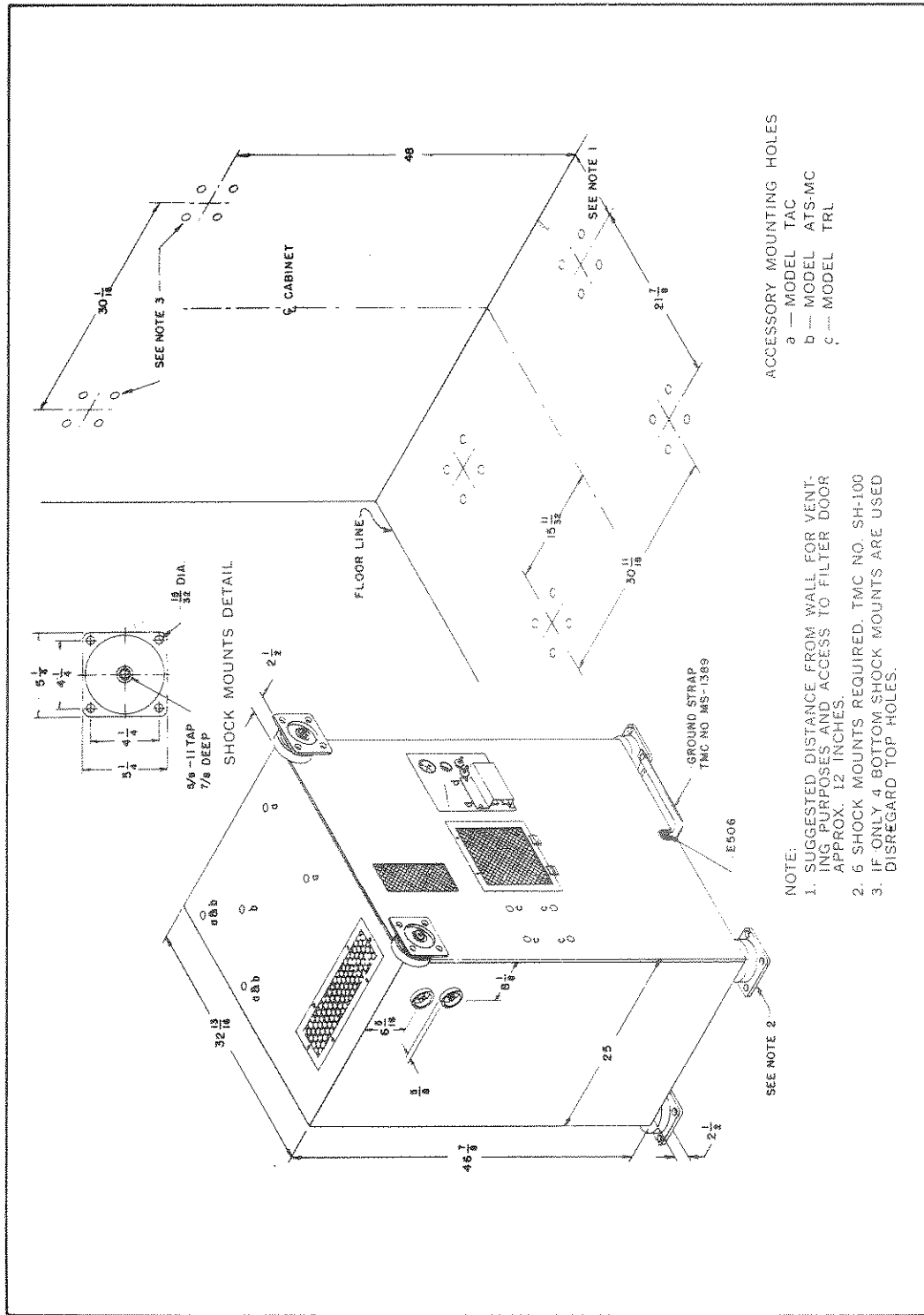
STANDING WAVE RATIO INDICATOR MODEL SWR-1K



PH-941

The TMC Model SWR-1K Standing Wave Ratio Indicator provides an accurate indication of the standing wave ratio over the frequency range of 2 to 32 megacycles, up to 1KW input for either 50 or 70 ohm transmission lines. The unique design of the instrument permits simultaneous indication of forward RF power, reflected RF power and direct readings of standing wave ratio.

Request Sales Service Bulletin No. 234.



NOTE:

1. SUGGESTED DISTANCE FROM WALL FOR VENTILATING PURPOSES AND ACCESS TO FILTER DOOR APPROX. 12 INCHES.
2. 6 SHOCK MOUNTS REQUIRED, TMC NO. SH-100
3. IF ONLY 4 BOTTOM SHOCK MOUNTS ARE USED DISREGARD TOP HOLES.

ACCESSORY MOUNTING HOLES
 a — MODEL TAC
 b — MODEL ATS-MC
 c — MODEL TRL

Shock Mounting Details

IN-1088

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