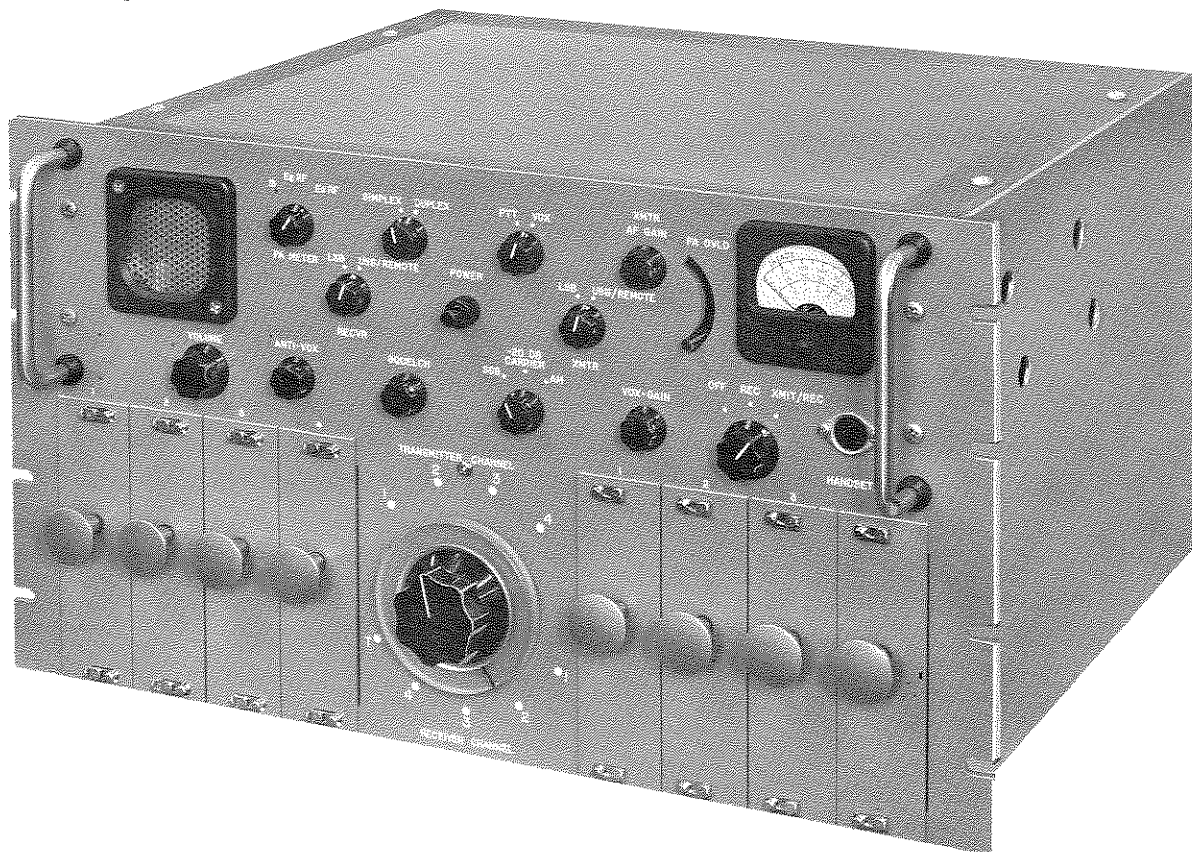


TECHNICAL BULLETIN NUMBER 1004A

Transistorized SSB Transmitter/Receiver

Model TTR-10

Model TTR-40



Technical Materiel Corporation Models TTR-10 and TTR-40 are four channel transistorized SSB transmitter/receivers that may be used on separate frequencies in duplex operation or on one frequency on simplex circuits.

Frequency range from 2-32 mcs is provided with simple front panel control selection of any of four preset frequencies for SSB Upper or Lower, AM equivalent or CW operating modes for 100 watt PEP output with TTR-10 or 35 watt PEP output with TTR-40.

Mobile installations, such as yachts, harbor craft and vehicles are easily transformed to SSB operation by this light transistorized unit. Low current drain, low heat, a wide variety of power supplies, remote channel selection, voice operated relay control and long term trouble free operation are other important features of this unit. Fixed station use, such as tactical voice circuits, civil defense command and emergency posts, pipeline operations, shore-harbor circuits and telephone extension circuits are accommodated by AC power supplies available for this unit and are but a part of the service that these models are designed for.

Transistorized SSB Transmitter/Receiver

Models TTR contains a unique input circuit that creates a much higher average level of power in the speech envelope, making the transmitter considerably more efficient than others with higher PEP ratings. This circuit also prevents overload of the final amplifier. Carrier control is provided for compatible AM mode of operation.

Ordering information for Technical Materiel Corporation Models TTR is set forth below to allow customer selection of models, power supplies, and frequency range of transmit and receive modules. Additionally, a prepaid postage form is attached for your convenience in planning the position of the modules.

TTR-10	A	1234	ABCD
	POWER SUPPLY	RECEIVE MODULES	TRANSMIT MODULES AND AMPLIFIERS
TTR-10 is the basic 100 watt unit.	A. AC supply (TTR-10)	1. 2-4 mcs	A. 2-4 mcs
	B. DC supply (TTR-10)	2. 4-8 mcs	B. 4-8 mcs
		3. 8-16 mcs	C. 8-16 mcs
		4. 16-32 mcs	D. 16-32 mcs
TTR-40 is the basic 35 watt unit.	C. AC supply (TTR-40)		
	D. DC supply (TTR-40)		

It is possible, by using the above method, to select any transmitter/receiver combination. As an example, to order a 100 watt unit with DC supply having two modules in the 2-4 mc range, 1 module in the 4-8 mc range, and 1 module in the 8-16 mc range, you would order a TTR-10-B-1123-AABC.

Oven crystals to provide high stability are featured as optional equipment and are priced separately. These oven crystals, when ordered, will be supplied to operate from the same primary source used for the power supply unless other voltages are specified.

COMMON SPECIFICATIONS FOR MODELS TTR-10 and TTR-40

FREQUENCY RANGE:	2-32 mcs. Four fixed tuned channels in any combination of the following bands: 2-4, 4-8, 8-16, 16-32 mcs.
FREQUENCY CONTROL:	<ol style="list-style-type: none"> 1. The transmitter and receiver modules are crystal controlled, with front panel selection of one of two crystals, as standard equipment. 2. Oven control stability of 1 part in 10^6 or better can be provided at slightly additional cost.
TUNING:	Front panel switches provide selection of any one of four transmit and receive channels separately or ganged.
MODES OF OPERATION:	Front panel selectable SSB (upper or lower), Compatible AM and CW. Simplex operation by use of coaxial antenna transfer relay, or duplex operation can be accommodated with separate antennas.
FREQUENCY RESPONSE:	± 2 db 300 to 3300 cps (mechanical filter).

TMC Model TTR-10 and TTR-40

NOISE LEVEL:	Better than 40 db below full PEP.
METERING:	Front panel meter monitors PA plate current, PA drive and RF output.
MECHANICAL:	Standard 19" relay rack mount for cabinet or portable case.
POWER SUPPLIES: (plug-in)	<ol style="list-style-type: none">1. AC power supply for operation on 115 or 208, 230v AC \pm 10%, 50 to 400 cps or2. 12/24v DC3. Other DC supplies available on request.
SAFETY FEATURES:	<ol style="list-style-type: none">1. PA magnetic operated overload switch on front panel.2. All DC operating voltages fused.3. Transformer primary fused.4. Oven supply lines fused.
DIMENSIONS:	10½" h \times 19" w \times 16½" d.
WEIGHT:	TTR-10 Approximately 65 lbs. TTR-40 Approximately 40 lbs.

RECEIVER SPECIFICATIONS

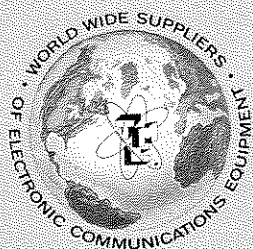
INPUT IMPEDANCE:	Nominal 50 ohms unbalanced.
SENSITIVITY:	1 uv for 15 db, signal + noise to noise ratio.
SELECTIVITY:	Nominal 3.0 kc USB or LSB.
IMAGE REJECTION:	Minimum 50 db from 2-28 mcs; minimum of 40 db 28-32 mcs.
INTERMODULATION:	Intermodulation products are down a minimum of 40 db from PEP of a two tone test with 100 microvolts at the antenna.
SQUELCH:	Threshold adjustable squelch. AGC activated relay has contacts brought to rear panel for remote indication of receiver signal activity.
AF OUTPUT:	1 milliwatt into 600 ohm line available for headset, extended service or telephone handset. 500 milliwatts into built-in 4 ohm speaker with gain control.
AGC:	Delayed AGC.
SPEECH CLARIFIER:	Manually controlled frequency adjustment.

Transistorized SSB Transmitter/Receiver

TRANSMITTER SPECIFICATIONS

OUTPUT IMPEDANCE:	Nominal 50 ohms unbalanced with VSWR of 2:1 maximum.
POWER OUTPUT:	TTR-10 A minimum of 100 watts PEP. TTR-40 A minimum of 35 watts PEP from 2-12 mcs, reduced power from 12-32 mcs.
CARRIER SUPPRESSION:	0 to 50 db below full PEP output.
SPURIOUS & HARMONIC OUTPUT:	50 db minimum below full PEP output.
UNWANTED SIDEBAND REJECTION:	At least 60 db below full PEP output.
DISTORTION PRODUCTS:	35 db minimum below full PEP output.
AUDIO INPUT:	600 ohm, -20 dbm, balanced and center tapped telephone handset, carbon mike, hi and lo Z mike.
AF RESPONSE:	Nominal 3 kc at 3 db points. ± 2 db 300 to 3300 cps.
OVERLOAD LIMIT:	Special built-in circuitry minimizes overloading of transmitter.
VOICE OPERATED RELAY:	Voice operated relay with adjustable VOX and anti-VOX controls available behind front panel door.
ACCESSORY EQUIPMENT: (Priced Separately)	
DC REMOTE CONTROL	Telephone-type desk set with 6 push-buttons. Allows selection of any one of four send/receive channels, plus transmitter and receiver sideband selection. A small speaker to monitor the selected receive channel is incorporated in the desk-set.
TMC MODEL SMC-1	Provides for remote operation of the TTR-10 and TTR-40 over standard telephone cables.

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AND ITS SUBSIDIARIES . . .

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TMC Systems, (Florida), Inc., Pompano Beach, Fla.
TMC Power Distribution, Inc., Alexandria, Va.
TMC Systems, A. G., Luzern, Switzerland
TMC Research Inc., San Luis Obispo

FREQUENCY RANGES

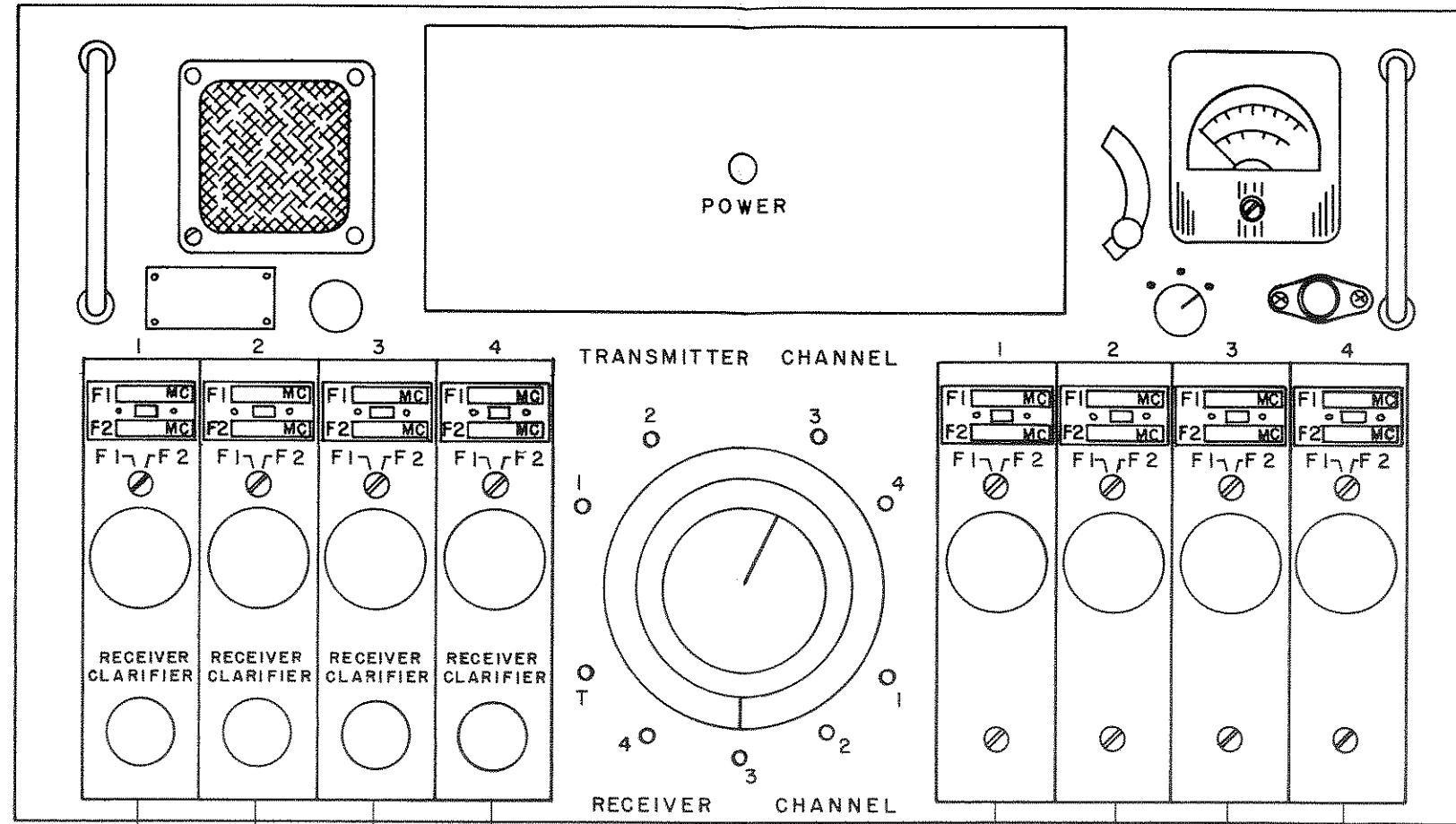
FREQUENCY RANGES ARE DIVIDED INTO FOUR OCTAVES BETWEEN 2 AND 32 MEGACYCLES. THE RANGES ARE:

- 2- 4 MC
- 4- 8 MC
- 8-16 MC
- 16-32 MC

THESE RANGES SHOULD BE USED IN THE SPECIFICATIONS FOR CONVERTER MODULES. TO CONFORM TO RIGID FREQUENCY TOLERANCES OF THE GENEVA CONVENTION, OVEN CONTROL CRYSTALS ARE RECOMMENDED. THE UNITS HOWEVER ARE SUPPLIED WITHOUT OVENS IF THE CUSTOMER SO DESIRES. PLEASE INDICATE YOUR CHOICE:

OVEN CONTROL YES

NO



The Technical Materiel Corporation
Model TTR-10/40.

CABINET INFORMATION

(CHECK ONE)

- RELAY RACK MTG WITHOUT SLIDES
- RELAY RACK MTG WITH SLIDES
- CABINET MTG
- CABINET MTG (VEHICULAR INSTALLATION)

POWER SUPPLY

- 115 V AC SINGLE PHASE
- 208 V AC SINGLE PHASE
- 230 V AC SINGLE PHASE
- 12 V DC
- 24 V DC
- OTHER DC SUPPLIES AVAILABLE ON REQUEST.

RECEIVER CONVERTER MODULE CHANNEL 1	RECEIVER CONVERTER MODULE CHANNEL 2	RECEIVER CONVERTER MODULE CHANNEL 3	RECEIVER CONVERTER MODULE CHANNEL 4	TRANSMITTER EXCITER MODULE CHANNEL 1	TRANSMITTER EXCITER MODULE CHANNEL 2	TRANSMITTER EXCITER MODULE CHANNEL 3	TRANSMITTER EXCITER MODULE CHANNEL 4
SPECIFICATION							
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