THE TECHNICAL MATERIEL CORPORATION

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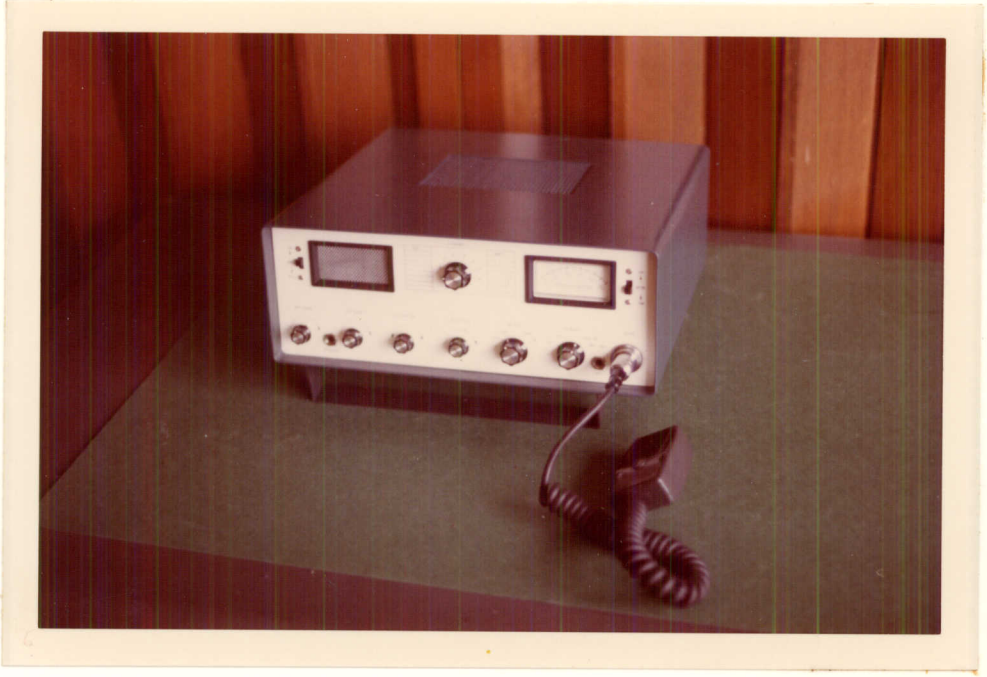

The "TM" Series

** Transceivers
** Receivers
** Transmitters
** Amplifiers
** Exciters
** Antennas
** Antenna Tuners
** Accessories

TM-125 TRANSCEIVER

The TM SERIES meets the demand for quality HF-SSB communications in a compatible group of simple, dependable, low-maintenance products - ideal for the broad requirements of the maritime, land mobile, and emergency services.

The basic unit of the TM SERIES is the TM-125 TRANSCEIVER. Providing 125 watts PEP power output in the frequency range 1.6-26MHz, the TM-125 is completely solid-state up to the high level RF output stage. Up to eight, crystal-controlled channels are available with each channel operating CW(A1), AME(A3H)*, LSB or USB(A3A,A3J) - channels and modes selectable from the front panel. Since the transceiver is housed in a rugged, steel cabinet and operates from either a 12VDC or 115/230VAC source, it is completely mobile and can be mounted in vehicles, aircraft or ships. The TM-125 is frequency stable to ±50Hz and is available with oscillator ovens to meet more stringent fixed station requirements. The unit complies with both CCIR and FCC Regulations for the type of services specified by the customer.

The TM-350 and TM-1000 TRANSCEIVERS use the companion LINEAR AMPLIFIERS, TMA-350 and TMA-1000, respectively, with the TM-125. Housed in separate cabinets and slaved to the TM-125, the linears provide either 350 watts PEP or 1000 watts PEP power output to the antenna.

The TMR-1 RECEIVER provides monitoring of eight, discrete channels. Identical in size to the TM-125 TRANSCEIVER, it operates off a 12-volt DC supply and is capable of monitoring time signals, weather broadcasts, or other public service traffic.

The TME-1 is a 125 watt PEP TRANSMITTER which operates as a multi-channel exciter when more than a few milliwatts of RF is required to drive a linear amplifier. An automatic level control is provided to stabilize the output and to insure maximum intelligibility of the received signal.

Accessories to the TM Series include the following:

TMW Series	Whip Antennas	HS Series	Handsets
TMT Series	Antenna Tuners	MK Series	Microphones
KIT Series	Spares and Mounting Brackets	KY Series	Morse Keys
TOC Series	Carrying Cases		

* Operating in AME Mode, power output 35 watts Average.

TECHNICAL SPECIFICATIONS

Transceivers

Power Output	TM-125 125 watts PEP TM-350 350 watts PEP TM-1000 1000 watts PEP
Frequency Range	1.6-26MHz
Number of Channels	Up to Eight
Frequency Control	Crystal-controlled oscillators; Oscillator ovens available as options.
Modes of Operation	CW, AME, LSB and USB
VOX Operation	VOX operation with handset available as an option.
Front Panel Controls	Channel Selection Switch Noise Limiter Meter Switch (RF Input/Output) Receive AF Gain Receive RF Gain Receive Clarifier Receive Squelch Mode Switch Power Switch PTT Microphone Connector, Morse Key, and Phone Jack.
Audio Output	One watt to built-in loudspeaker with bridging to phone jack. 600-ohm, 1mw available at rear.
Sidetone Monitor	CW sidetone monitor provided automatically when switched to CW Mode.
Input Power	12-14VDC, negative ground 115/230VAC, 50/60Hz, Single Phase

Transmit Automatic Level Control		No front panel transmit audio level or RF Gain controls are used. Automatic level control used and pre-set.
Rear Panel Features		Battery or AC Input External Speaker Plug for Optional VOX and Handset 600-ohm Line Output RF Input for Receive RF Output (50 ohms) to Linear Amplifier (TMA) or Antenna Tuner (TMT) with Transmit/ Receive switching for Transceiver operation.
Cooling		Heat Sink and vent cooling
Environmental		-30^{o} to $+50^{o}$C operational; up to 95% Relative Humidity.
Shock and Vibration		Designed for Maritime and Vehicle mobile operation as well as base station usage.
Size and Weight		5¼" High; 14" Wide; 13½" Deep. Approximately 40 pounds in weight (Transceiver less Linear Amplifiers)

Receiver and Receiver Section of Transceiver

Sensitivity	SSB	1.0uv for 10db SINAD ratio
	AM	3.0uv for 10db SINAD ratio
Selectivity		±3db at 4KHz, less than -60db at 11KHz.
AGC		Internal AGC circuits insures less than 10db output change for an 80db RF increase over 1uv at the antenna input.
Output Level		1 watt PEP into internal speaker; 0dbm into 600-ohm balanced line
Input Impedance		50 ohms

Transmitter and Transmitter Section of Transceiver

Output Impedance	Nominal 50 ohms unbalanced
Signal/Distortion Ratio	Distortion products at least 30db down from full PEP output
Unwanted Sideband Rejection	At least 50db down at full PEP output
Noise Level	Better than 40db below PEP
Spurious Emission	At least 40db down from mean output power level Meets CCIR recommendations.

Carrier Insertion	Automatically pre-set at -6db from PEP for AME Mode; at -16 ±2db for SSB; and below -40db for SSB(A3J) Mode
Audio Response	±2db, 300 to 3000Hz
Audio Input	-20 to +10dbm at 600 ohm balanced or unbalanced input. High or low impedance microphone with PTT
Overload Limit	Built-in circuits to minimize distortion during high modulation peaks.

TM-350 TRANSCEIVER

Specifications and panel design subject to change without notice unless contractually confirmed in advance.