

MULTI-CHANNEL SIDEBAND TRANSCEIVER

TM-125



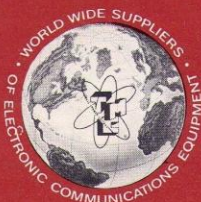
The TM-125 Transceiver is a completely self-contained unit measuring 5½ X 14 X 16 inches and capable of up to eight channels transmit, receive or transceive. In addition, on special order a 16-channel oscillator board can be provided, making possible half-duplex operation (transmit on one frequency and receive on another).

The transmitter provides up to 125 watts peak output from a power amplifier consisting two 6146B tubes in parallel plus a driver over the range of 1.6 to 26 MHz. The tubes have been chosen for their rugged design, reliability, low price and general availability. The highly sensitive receive portion provides up to two peak watts of low distortion audio from a built-in loudspeaker. All circuits are solid state up to the power amplifier.

The unit operates from batteries or DC supply (13.5 design center) or a 115/230 volt AC 50/60 Hz source depending on the power cord used and may be used for either mobile or base station operation. Suitable accessories provide for all necessary uses.

The front panel contains RF and AF gain controls, variable BFO (clarifier), squelch and switches for power, automatic noise limiter, and output power/received signal strength metering.

The TM-125 may be remotely controlled on special order and may also be used with a companion antenna tuner, Model ATU-350 (Bulletin 2054-1). On option, this unit may be equipped for selective calling. The TM-125 can be used to drive a higher power linear amplifier, Model TMA-350 for 350 watts peak output or the Model TMA-1K providing 1000 watts peak output. Each amplifier may be located remotely in its own cabinet and may be omitted or inserted in the transmitter chain as desired.



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THE TECHNICAL MATERIEL CORPORATION

AND SUBSIDIARIES



## TECHNICAL SPECIFICATIONS

### FREQUENCY INFORMATION

- Range**  
1.6 to 26 MHz.
- Stability**  
One part per million/<sup>o</sup>C  
Higher stability available on request.
- Control**  
High frequency crystal oscillators  
OPTIONAL. Ovenized crystal oscillators

### OPERATING PARAMETERS

- Modes**  
CW(A1); AME(A3H) SSB(A3J)
- Channels**  
Up to eight, simplex channels.  
OPTIONAL. Eight half-duplex channels
- Power Output**  
125 watts PEP
- Output Impedance**  
Nominal 50 ohms, unbalanced
- Front Panel Controls**
  - Channel Select Switch
  - RF and AF Gain
  - Variable BFO (Clarifier)
  - Squelch Adjust
  - Mode Select
  - Power/Operate Switch
  - Phone and Key Jacks
  - Automatic Noise Limiter Switch
  - Monitor Meter Switch
- Rear Panel Features**
  - Main Power Input
  - RF Input and Output
  - 600-ohm, 1mw, Audio Output
  - 600-ohm Audio Input
  - Amplifier Control Output
  - Push-To-Talk Line
  - Input Power Fuses

### ENVIRONMENTAL AND INSTALLATION

- Operating Conditions**  
0 to +50<sup>o</sup>C; up to 95% relative humidity
- Primary Power**  
DC (13.5 volts design center)  
115/230 VAC, 50/60 Hz, single phase
- Cooling**  
Convection, heat sinks
- Size and Weight**  
5½" high X 14" wide X 16" deep  
Approximately 35 lbs. (in cabinet)
- Shock and Vibration**  
Designed for fixed station or mobile use  
including maritime and vehicle mobile.
- Loose Items**
  - Power Cord
  - Mating RF Connectors
  - CAB-20 Desk Top Cabinet
  - Instruction Manual

### RECEIVE SECTION

- Sensitivity**  
1.0uv over rane for 10db ½S+N¼/N
- Selectivity**  
+/-3db at 3KHz; -60db at 11 KHz.
- Automatic Gain Control**  
Internal circuits insure a less than 10db  
change in output for an 80 db RF change  
over 1uv at the antenna input.
- Output Level**  
Up to 2 Watts Peak into interal speaker  
0dbm into 600-ohm balanced line
- Input Impedance**  
50 ohms nominal, unbalanced

### TRANSMIT SECTION

- Signal/Distortion Ratio**  
At least 30db down from full PEP output
- Unwanted Sideband Rejection**  
Min. 50db down from full PEP output
- Noise Level**  
Better than 40db below full PEP output
- Spurious Emission**  
Min. 40 db down from mean power
- Audio Response**  
300-3000 Hz, +/-2 db
- Audio Inputs**  
600-ohm line, balanced or unbalanced,  
-20 to +10dbm  
High/Low impedance microphone w/PTT

### OPTIONAL ACCESSORIES

- Model TMA-350 Linear Amplifier**  
Provides 350 watts PEP output with TM-125
- Model TMA-1K Linear Amplifier**  
Provides 1000 watts PEP output.
- Model ATU-250 Antenna Tuning Unit**  
Provides antenna matching for TM-125.
- Model ATU-1K Antenna Tuning Unit**  
Provides antenna matching for TM-1000
- Series VTA Transmitting Antennas**  
Suitable for both receiving and transmitting  
18 or 35-foot aluminum or fiberglass whips.
- Model HP-1 Headphones**
- Model MK-1 Microphone**
- Model KY 1 Telegraph Key**
- KIT O-5005-1**  
Operating spare parts kit.
- KIT M-5005-1**  
Maintenance spare parts kit (6 months)

We reserve the right to  
make engineering changes



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