

MULTI-CHANNEL SIDEBAND TRANSCEIVER, 350 WATTS

TM-350



The TM-350 Transceiver is an efficient combination of the TM-125 Transceiver driving the TMA-350 Linear Amplifier. Both units are housed in identical cabinets suitable for desk top or vehicle mounting and operate in the 1.6 to 26 MHz frequency range off a 115 VAC power source. Eight simplex, or on special order, eight half-duplex channels can be provided with better than one ppm/ $^{\circ}$ C stability for each channel.

The transmitter provides in excess of 350 watts PEP output from two 8875 tubes in parallel. Like the TM-125, the highly sensitive receive portion provides up to two watts of low distortion audio from a built-in loudspeaker. All circuits are solid state to the final tubes and are designed for rugged service under the most exacting conditions.

Under normal operation, the TMA-350 linear is pre-tuned into the antenna using the drive frequencies provided by the preceding transceiver. Small variable capacitors are adjusted for maximum output with the channel select switch in the same position as found on the transceiver. Using the automatic switching feature, which is available as an option, each turn of the transceiver channel select produces a corresponding change in both the linear and the ATU-350 antenna tuner, if selected. Channel selection is instantaneous as a result.

The controls on the front panels include channel select, AF and RF gain, squelch, clarifier (BFO), mode select, power, and the necessary switches for metering output power and received signal strength. On option, this unit may be equipped for selective calling. The amplifier may be located remotely in its own cabinet and may be inserted or omitted from 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/^oC
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
- Tuning**
Front panel selection of pre-tuned channels with optional auto-switching
- Power Output**
350 watts PEP
- Output Impedance**
Nominal 50 ohms, unbalanced
- Front Panel Controls**
Channel Select Switch(es)
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^oC; up to 95% relative humidity
- Primary Power**
115/230 VAC, 50/60 Hz, single phase
- Cooling**
High capacity forced air; heat sinks
- Size and Weight**
Twin cabinets:
5½" high X 14½" wide X 16" deep
Approximately 80 lbs.
- Shock and Vibration**
Designed for fixed station or mobile use including marine and land mobile.
- Loose Items**
Power Cord
Mating RF Connectors
(2) CAB-20 Desk Top Cabinets
Instruction Manual
Two-foot Control Cable (Auto-switch option only).

RECEIVE SECTION

- Sensitivity**
1.0uv over range for 10db [S+N]/N
- Selectivity**
+/-3db at 3KHz; -60db at 11 KHz
- Automatic Gain Control**
Internal circuits insure a less than 10db change in output for an 80db change in RF over 1uv at the antenna input.
- Output Level**
One watt PEP into internal speaker.
0dbm into 600-ohm balanced line.
- Input Impedance**
50 ohms nominal, unbalanced.

TRANSMIT SECTION

- Signal/Distortion Ratio**
Min. 30db below 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. 40db down from mean power.
- Audio Response**
300-3000 Hz, +/-2db.
- Audio Inputs**
600-ohm line, balanced or unbalanced
-20 to +10dbm.
High/Low Impedance microphone w/PTT

OPTIONAL ACCESSORIES

- Model TMA-1K Linear Amplifier**
Provide 1000 watts PEP output
- Model ATU-350 Antenna Tuning Unit**
Provides antenna matching for TM-350
- 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 Headphone**
- Model MK-1 Microphone**
- Model KY-1 Telegraph Key**
- KIT O-5005-2**
Operating spare parts kit.
- KIT M-5005-2**
Maintenance spare parts kit (6 months)
- Model TOC-7**
Transit Carrying Case, Fiberglass
- Model CAB-40**
4-foot relay rack cabinet, 19" wide
- Model BR-1 RF Bridge**
- Model TG-1 Two Tone Generator**
- Model WT-1 Forward/reflected Wattmeter**

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