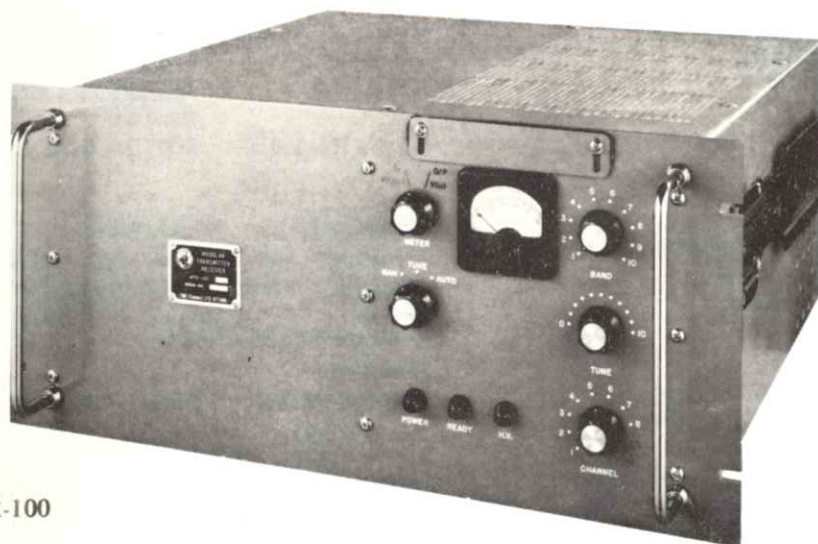


# MARINE RADIO & SUBSCRIBER TRANSMIT-RECEIVE SYSTEMS TMC MODEL MTR-100



TMC  
Technical  
Bulletin

105015

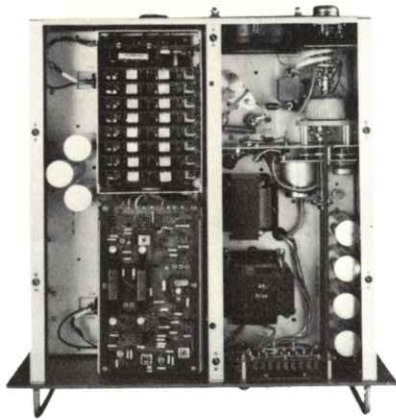


Model MTR-100

The MTR-100 is a 150 watt PEP Transmitter-Receive System designed for small craft and subscriber operation. It is fully automatically tuned by channel selection (up to eight channels) and provides transmission and reception in the AM, SSB and AME modes. It is ideal for use in the transition period from AM (amplitude modulation) to the SSB (single-sideband) means of communication and is fully compatible with these forms of communications. The Model MTR-100 has been fully tested under RS-122 and RS-123 specifications issued by the Department of Communications. It is designed for use with a desk type (telephone) handset, Model DCS-1, capable of hardwire control up to 200 feet.

## TECHNICAL SPECIFICATIONS

Frequency Range	1.6 to 12 MHz
Number of Channels	Eight
Tuning	Each RF assembly can be tuned for any frequency within its range
Frequency Control	Crystal controlled oscillators are used throughout
Modes of Operation	Pilot Carrier (A3A): USB, carrier suppressed 16 $\pm$ 2 db; SSB (A3J): USB, carrier suppressed 40 db; AM (A3): AME (A3H)
IF	455 Hz, nominal, on all bands
Primary Power	115 volts AC, 50-60 Hz, single phase
Power Consumption	400 watts, approximately



Model MTR-100 - cover removed

**Technical Specifications (continued)**

Weight 40 pounds approximately  
 Dimensions: Height: 8-3/4 inches  
 Depth: 18 inches  
 Width: 19 inches

**Receiver Section**  
 Sensitivity: SSB 1.5 microvolts across 50 ohms or an equivalent input power for 12 db SINAD ratio  
 AM (Pilot Carrier) 3.0 microvolts across 50 ohms or an equivalent input power for 12 db SINAD ratio  
 Selectivity SSB (A3J) 2.1 KHz @ 6 db  
 AM (A3) 6.0 KHz @ 6 db  
 Frequency Stability Deviation less than 20 Hz from the recovered audio mean frequency -30°C to + 50°C  
 Audio Output 600 ohms, capable of supplying a nominal  $\pm 0$  dbm into a resistive load  
 Intermodulation Intermodulation products at 1.4 volts peak input at least 20 db below either tone of a standard two tone test  
 Spurious output signals Not exceeding 150 microvolts at any frequency measured at the receiver antenna input

**Transmitter Section**  
 Power Output 150 watts PEP  
 A3H Mode 6 db below rated PEP  
 A3A Mode  $16 \pm 2$  db below rated PEP  
 A3J Mode At least 40 db below power transmitted in USB  
 LSB Suppression  $> 40$  db below power transmitted in USB

Frequency Stability Maximum deviation from Datum frequency, 20 Hz -30°C to + 50°C

Transmit Audio Input 0 dbm  
 Spurious and harmonic output suppression At least 40 db below mean power  
 Residual Noise Level At least 40 db below test modulation  
 Occupied Bandwidth 4.2 KHz, maximum  
 Odd Order Intermodulation/ Distortion Worst products, minimum 40 db below either tone of a standard two tone test at rated PEP  
 Audio Response 300 - 2400 c/s

**Desk Control Set, Model DCS-1**

Provides selection of eight MTR-100 channels remotely. Complete with microphone handset and receiver controls (up to 200 feet). Contains local loudspeaker and amplifier.

**Function:**

Channel Switch Selects 8 channels  
 Mode Switch Select - AM, SSB and Pilot Carrier  
 Clarifier Fine Tunes Receiver min.  $\pm 100$  cycles  
 Volume Control/ On/Off/SW Controls local L/S audio & On-Off function  
 Power From associated MTR-100 transmitter/receiver



Model DCS-1

**TMC (Canada) Limited**

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