



#### PURPOSE

Provides 120 watts PEP for USB, LSB, AME or CW modes of operation with 6 preset channels any where in the frequency range of 1.6 to 23 mHz.

This transceiver, Model TTR-500, can be used as a low level transmitter or as a driver to an associated LPA-2, 2 kw PEP linear power amplifier.

#### APPLICATION

- . Harbor Control
- . Ship-to-Shore Phone
- . Mobile Use
- . Telephone Extension Service
- . Tactical Voice Circuit

#### FEATURES

- . Solid State (Less Final)
- . 1.6 - 23 mHz
- . Oven Crystal Control
- . USB, LSB, AME, CW

#### DISCUSSION

Model TTR-500 transceiver utilizes the latest techniques in solid state circuits to provide a compact transceiver that can be used by itself for low power communications application or in conjunction with an associated linear amplifier for higher power service.

A low impedance dynamic microphone is provided for voice operation of the unit with options and accessories to provide voice operated relay or phonepatch operation.

## COMMON TECHNICAL SPECIFICATIONS

FREQUENCY RANGE:	6 preset channels anywhere from 1.6 to 23 mHz.
MODES OF OPERATION:	USB, LSB, AME and CW.
FREQUENCY CONTROL AND STABILITY:	Absolute stability of $\pm 50$ Hz from assigned transmitter. Frequency within the operating range of 1.6 to 23 mHz.
TUNING:	Front panel switches provides selection of anyone of 6 transceiver channels. Output tuning circuit will match into a load of up to 2:1 VSWR.
HUM AND NOISE LEVEL:	Better than 50 db below full PEP output.
METERING:	Front panel meter monitors output RF and audio input.
SAFETY FEATURES:	<ol style="list-style-type: none"><li>1. Transformer primary fused.</li><li>2. Oven supply lines fused.</li><li>3. Transformer and oven supply lines used.</li></ol>
INSTALLATION DATA:	Weight: Approximately 65 lbs. Size: 8 3/4" x 19" x 17"
PRIMARY POWER:	115/230 volts AC $\pm 10\%$ , 50/60 Hz, 1 phase or 12/24/32 volts DC.
POWER REQUIREMENTS:	<ol style="list-style-type: none"><li>1. Transmit 230 watts, keyed down.</li><li>2. Receive 25 watts (including oven).</li></ol>
LOOSE ITEMS:	Handset with cradle.
COMPONENTS AND CONSTRUCTION:	All equipment manufactured in accordance with JAN/MIL specifications wherever practicable.
 <u>RECEIVER SPECIFICATIONS</u>	
INPUT IMPEDANCE:	Nominal 50 ohms with maximum 2:1 VSWR.
SENSITIVITY:	1 uv for 15 db, signal + noise-to-noise ratio.
INTERMODULATION:	Intermodulation distortion products are down a minimum of 35 db from PEP with 100 microvolts at the antennas.
IF SELECTIVITY:	$\pm 3$ db 350-3000 Hz.
AGC CHARACTERISTICS:	Delayed AGC. Output rise less than 12 db for an 80 db antenna rise from 1 uv at the antenna input.

RECEIVER SPECIFICATIONS (Con't)

AUDIO OUTPUT LEVEL:

1. 1 milliwatt into 600 ohm line available for headset, extended service, or telephone handset.
2. 500 milliwatts into 3.2 ohm speaker.

TRANSMITTER SPECIFICATIONS

POWER OUTPUT:

120 watts PEP output (voice duty cycle only) for SSB operation. Reduced power for AME and CW.

OUTPUT IMPEDANCE:

Nominal 50 ohms into a load with up to 2:1 VSWR.

SIGNAL/DISTORTION RATIO:

Distortion products are at least 30 db down from full PEP output.

UNWANTED SIDEBAND REJECTION:

At least 50 db down at full PEP output.

SPURIOUS AND HARMONIC SUPPRESSION:

1. For frequency 50-150% from assigned frequency - down 25 db.
2. For frequency 150-250% - down 35 db.
3. For frequency greater than 250% from the assigned frequency - down 60 db.

CARRIER INSERTION:

Front panel control for carrier settings of -5 db for AME modes and -40 db for SSB modes.

ALDC:

Provisions are included for the acceptance of an externally generated ALDC voltage.

AUDIO INPUT:

Low impedance mike with push-to-talk or VOX operation (see Options/Accessories).

OPTIONS/ACCESSORIES

(Priced Separately)

VOX

A separate unit with VOX operation with a squelch is available.

ANTENNA COUPLER:

An antenna coupler is available to meet a 10' or a 35' antenna.

PHONEPATCH:

A 2-4 wire converter is available.

