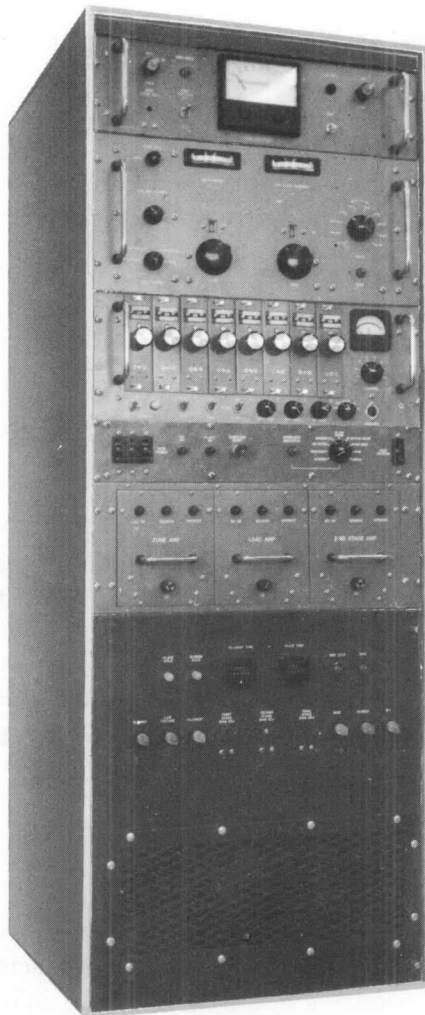




TECHNICAL BULLETIN NUMBER 1019B

TechniMatic* Tuned Sideband Transmitter
TMC Model TSTA-2.5K



The new model TSTA-2.5K transmitter described in this bulletin is a completely self contained unit in a standard 6 foot rack, which will deliver 2500 watts PEP in linear service or 2500 watts continuous duty Keydown for CW or FSK service.

This transmitter is completely "in station" automatic. After the transmitter is turned on, selection of any one of eight frequencies is accomplished in ten seconds average by simply turning a switch.

*Trademark applied for.

REVISED MAY, 1965

Sideband Transmitter

The exciter and power supply are completely solid state. Many additional features are incorporated such as, voice processing for higher average level, automatic compensation for power distribution between carrier and sideband intelligence, and complete and simple accessibility to all components.

Push-to-talk operation is available with an optional microphone, or when combined with an optional SMR receiver can be used as a simplex transceiver.

Remote control can also be accomplished at additional cost.

TECHNICAL SPECIFICATIONS, TMC MODEL TSTA-2.5K

FREQUENCY RANGE:	2 to 32 mcs.
MODES OF OPERATION:	CW, FSK*, FAX*, AM Equivalent, USB and LSB. (*with external exciter)
POWER OUTPUT:	2500 watts PEP in SSB and AM equivalent Modes, 2500 watts average under locked key conditions for FSK and CW Modes
OUTPUT IMPEDANCE:	50 ohms unbalanced. Tuning network will match a load with VSWR up to 2:1.
FREQUENCY STABILITY:	Crystal controlled, 1 part in 10^6 , after equipment warmup.
INTERMODULATION DISTORTION:	Distortion products are at least 35 db below either tone of a two tone test at full PEP output from 2 to 32 mcs.
UNWANTED SIDEBAND REJECTION:	A signal at 500 cps is at least 60 db down from full PEP in the unwanted sideband.
SPURIOUS SIGNALS:	All spurious signals are at least 55 db below full PEP output.
NOISE LEVEL:	Noise level is at least 55 db down from either tone of a two tone test.

TMC Model TSTA-2.5K

CARRIER INSERTION:	—6, —20 and —50 db from full output.
HARMONIC SUPPRESSION:	2nd harmonics are at least 40 db below full PEP output. 3rd harmonics are at least 50 db below full PEP output.
AUDIO RESPONSE:	± 2 db, 300-3300 cps mechanical filter provided as standard. ± 2 db 250-3000 cps crystal filter can be provided at a slight increase in cost.
AUDIO INPUT:	1. 600 ohm balanced, —10 to —20 dbm input. —20 dbm input will provide full RF output. 2. Carbon microphone 3. High impedance at —55 db below 1 milliwatt.
MANUAL OVERRIDE:	All TechniMatiC* tuning controls can be manually controlled from the front of the equipment.
ALDC:	The Automatic Load and Drive Control improves linearity, limits distortion and maintains a relatively constant output level during high peaks of modulation or load changes. The front panel control allows adjustment of the level at which the ALDC takes effect or switching off the ALDC as desired.
VOICE OPERATED RELAY:	Voice control which includes anti-trip feature, adjustable gain and squelch is provided.
METERING:	Front panel meters provide indications of the operation of all critical circuits.
ENVIRONMENTAL CONDITIONS:	Designed to operate in any ambient temperature between 0 and 50° C, and any value of humidity up to 90%.
COOLING:	Air-cooled.
SAFETY FEATURES:	Interlocks are provided in all high voltage circuits to protect personnel.
INSTALLATION DATA:	Weight: Approximately 700 lbs. Size: 69" high \times 24½" wide \times 30" deep.

Sideband Transmitter

PRIMARY POWER: 210/220/240/420/440/480 volt AC, 50/60 cycles, three phase. Primary of power transformer may be connected to either Delta or Wye power source.

POWER REQUIREMENTS: Under steady state conditions, in SSB mode with full PEP output, transmitter requires approximately 3,700 watts. Under steady state conditions, in CW mode with 2,500 watts (average) output, transmitter requires approximately 5,000 watts.

INSTRUCTION BOOK: TMC IN 1019

LOOSE ITEMS: Two instruction books and mating RF connectors are provided.

COMPONENTS AND CONSTRUCTION: All equipment manufactured in accordance with JAN/MIL specifications wherever practicable.

OPTIONS/ACCESSORIES: (Priced separately)
TechniMatiC* control consisting of desk set with pushbutton selection of 8 channels and sideband. Has built-in speaker and push-to-talk handset.

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