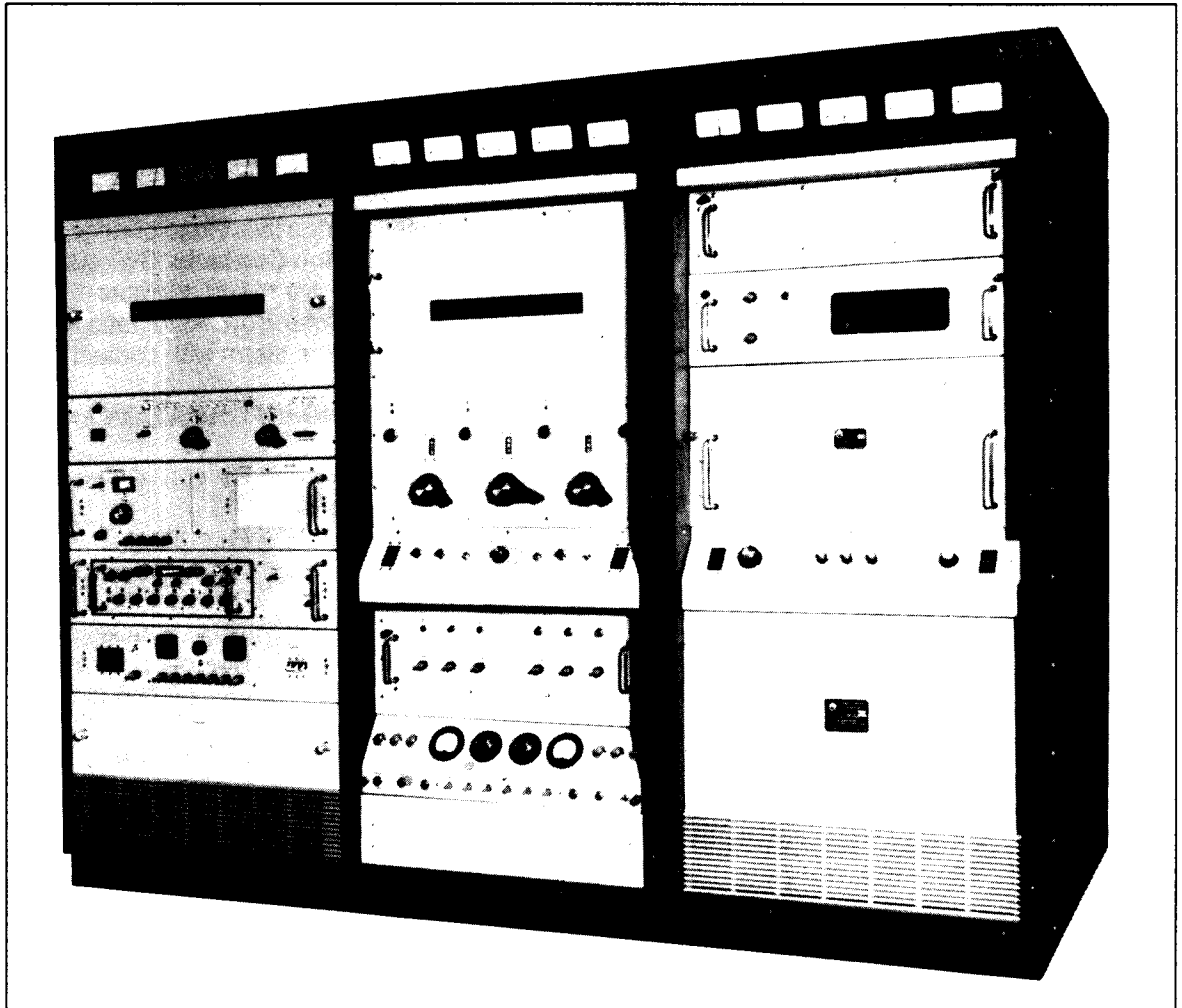


HF 40KW General Purpose Transmitter

Model GPT-40K

Product Bulletin 102011

- **Synthesized**
- **2 to 30MHz**
- **All Modes**
- **40KW PEP**
- **Modular**
- **Field-Proven**
- **Automated**



The Model GPT-40K transmitter is designed for general purpose applications that require full-frequency, long-haul communications at RF power levels in excess of forty kilowatts. Currently installed worldwide, the GPT-40K is actively providing reliable service from shore installations, transportable communications shelters, and fixed ground stations. Compact and rugged, the GPT-40K is one of the most efficient 40KW transmitters available on the world market today. It is equipped with all standard operating modes used in broadcast and point-to-point transmis-

sion, including AM, AME, USB, LSB, CW, FSK, FAX and two-channel ISB. With the synthesized SBG-5 exciter, the transmitter operates in the four-channel ISB mode with DCA-type equalized filters used in the transmission of data. RF output power is conservatively rated at 40KW PEP/20KW average.

The GPT-40K is configured in three racks of interconnected modules that are isolated from each other to prevent coupling of unwanted energy and degrading of the output signal. The modular construction of the GPT-40K - basic to all TMC

transmitter designs - simplifies routine servicing by enabling the technician to access all major components from the front. In addition, the GPT-40K is designed to continuously monitor the performance of the complete transmitter system, including its associated antenna. Microprocessor-based circuits sense any abnormalities and an automatic response is taken to protect the system without operator-intervention. This built-in protection is a trademark of TMC designs and guarantees the low-cost, reliable operation that TMC transmitters provide.

THE TECHNICAL MATERIEL CORPORATION

COMMUNICATIONS ENGINEERS

GENERAL

Frequency Range 2-30MHz

Frequency Entry Front-panel select, digital display

Frequency Stability 1 part in 10^7 /day/ 15°C change

Frequency Selection Direct synthesis in 100Hz steps

Tuning Front-panel control, bandswitched

Optional: Automated with manual override

Operating Modes CW(A1), AME(A3H), AM(A3),

USB/LSB(A3A,A3J), 2ISB(A3B), FSK(F1), FAX(F4)

Optional: 4ISB(A9B) with SBG-5 exciter

Output Impedance 50 ohms unbalanced, 3-1/8" EIA

Optional: 600 ohms balanced, twin bowls

Power Output 40KW PEP/20KW Average

Power Output Preset Four levels, preset by operator

RF PARAMETERS

Sideband Rejection 500Hz tone 50dB below PEP

Spurious Signals Minimum 60dB below PEP(CCITT)

Distortion (Intermod) 35dB below either tone of a two-tone test at rated PEP

Optional: Solidstate IPA with IMD 40dB below peak

Residual Noise/Hum Minimum 50dB below PEP

Carrier Suppression -6/-20/-30/-55dB(full)/variable

Harmonic Suppression 45dB below PEP (second order)

Optional: Internal RF filter for added suppression

AUDIO and KEYING PARAMETERS

Sideband Response 250-3040Hz, +/-1.5dB CCIR

Optional: 6KHz CCIR, 3KHz equalized, others

Audio Input Twin 600-ohm, rear panel, +10dBm microphone preamplifier, front panel

Keying Inputs

CW Key jack, front panel, 200 baud

FSK Rear panel, 200 baud, +/-42.5/85/170/425Hz shifts, 20ma/60ma/50V/100V, dry contact

POWER SUPPLY

Primary Power 195-240VAC, 3-phase, 50/60Hz 50KW/0.97pf input power

Optional: 390-480VAC; Other ratings are available.

Power Supply Components Totally solid state

ENVIRONMENTAL

Operating 0°C to $+55^\circ\text{C}$, 90% R.H.

Storage -30°C to $+75^\circ\text{C}$; 90% R.H.

Cooling Filtered forced air; 2400cfm

Size and Weight 85H x 120W x 44D inches

(216H x 305W x 112D cm); 5400 lbs. (2455Kg.)

SPECIAL FEATURES

Safety High-voltage interlocked with fuse, overload, and alarm status indications

Metering Continuous front-panel display of transmitter performance to the module level; BITE optional.

ALDC Automatic load and drive control to improve linearity, limit distortion and provide relatively constant output during input/load changes

Bandswitch Contacts Self-cleaning contacts are provided. No rolling contacts

VSWR Protection Automatic if mismatch exceeds 3:1. Audible alarm with contact closure

ORDERING INFORMATION and ACCESSORIES

GPT-40K HF 40KW General Purpose Transmitter

Options:

/B	Four-channel ISB operation
/H	Harmonic output filter (internal)
/M	BITE monitoring and analysis
/Q	3KHz equalized filter operation
/R	Remote control interface
/W	6KHz CCIR sideband operation

Technical manual and installation hardware included. Spare parts are available in standard and custom kits.

RMC-10	Remote Monitor/Control Center
TCR-4	Transmitter Remote Control Unit
TCS-12	Transmitter Remote Control Terminal
TER-25K	Antenna Terminator/Dummy Load
TMA-40K	Balanced Output Meter Assembly Provides RF metering of current in each side of a 600-ohm balance output line
TRC-20K	Transmitting Antenna Coupler (BALUN)

MMX Series exciters are used unless otherwise noted.

Specifications are subject to change without notice - Please verify accuracy with TMC's Customer Service.

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