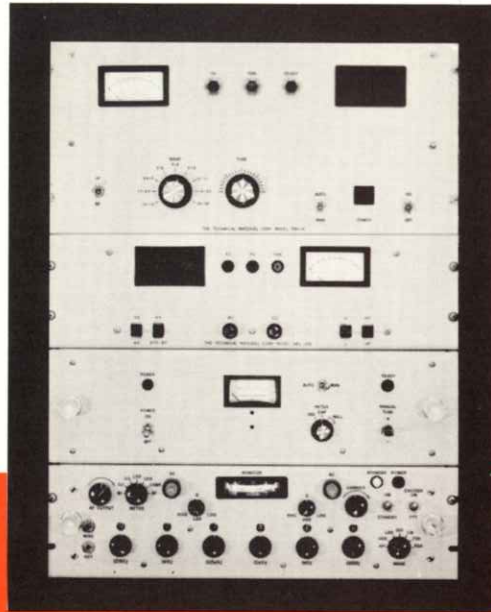


GENERAL PURPOSE H.F. TRANSMITTER, 1000 WATTS PEP

# GPT-1KJ

GPT-1KJ in CAB-30  
c/w ATS-3 Control



The GPT-1KJ Synthesized Transmitter is the newest addition to the TMC family of high frequency commercial transmitters. It is synthesized, solid state up to the final tubes, and very compact considering the 1000 watt peak power output it provides.

The transmitter is basically three interconnected units: the widely accepted MMX synthesized exciter; the new HFL-100 broadbanded intermediate amplifier; and the TMA-1K final amplifier. As a unit, the transmitter is capable of operating in all modes normally found in the high frequency range. The MMX is identical to the model used in the HFT-1KJ series that has been type accepted for maritime service. The two linears are the latest versions of two previous amplifier designs in wide use today throughout the world.

The GPT-1KJ can be equipped on special order for completely automated tuning to any selected frequency in the 1.6 to 26 MHz frequency range. Accurate, reliable servo motors and amplifiers are added to the final amplifier which derives bandswitch information directly from the MMX exciter. The tuning sequence is started when the first digit on the MMX is selected. By the time the frequency and mode selection is completed, the transmitter is tuned and ready for operation. This simple procedure ensures that even the most inexperienced personnel will be able to operate the equipment with almost no training.

The ATS-3 Antenna Tuning System is available for matching the transmitter output into a 35-foot vertical antenna, and the TFP-1K Filter Panel can be used to further suppress unwanted harmonics or spurious. Both accessories can be automated to follow the preceding linear and are used when a completely automated system is desired.

Revised 1 August 1971



THE TECHNICAL MATERIEL CORPORATION

AND SUBSIDIARIES

## TECHNICAL SPECIFICATIONS

### FREQUENCY INFORMATION

- Range**  
1.6 to 26 MHz  
1.6 to 30 MHz OPTIONAL
- Stability**  
One part in  $10^8$  per day  
One part in  $10^9$  OPTIONAL
- Presentation**  
Direct reading, digital

### OPERATING PARAMETERS

- Modes**  
Model GPT-1KJ2  
CW(A1); AM(A3); AME(A3H);  
USB(A3A,A3J); LSB; ISB(A3B)  
OPTIONAL: FSK/FAX
- Model GPT-1KJ3  
CW(A1); AME(A3H); USB(A3A,A3J)  
OPTIONAL: AM(A3); LSB; ISB(A3B)  
FSK/FAX
- Carrier Suppression**  
Continuously adjustable from -55db  
to full output by front panel adjust
- Power Output**  
1000 Watts PEP  
500 Watts Average
- Output Impedance**  
50 ohms nominal, unbalanced
- VSWR Rating**  
Maximum of 2:1 without degrading  
transmitter performance.
- Tuning**  
Manual with local control  
Nom. 3-second automation OPTIONAL  
Remote Control available on request  
Manual override provided all functions
- Metering**  
Front panel meters for monitoring the  
operation of critical circuits.
- Safety Features**  
Overload and interlock circuits are  
provided for protection of personnel  
and equipment
- Construction**  
Exciter and power supply modules are  
completely solid state. Amplifiers are  
solid state to the final RF stages.

### DISTORTION AND NOISE

- Spurious**  
Min. 50db down from full PEP output
- Hum and Noise**  
Min. 50db down from full PEP output
- Harmonic Suppression**  
Second Harmonics  
Min. 40db down from full PEP output  
Third and Higher Harmonics  
Min. 50db down from full PEP output  
Filters are available for additional suppr.
- Intermodulation**  
Distortion products are min. 30db  
below either tone of a standard two  
tone test at full rated PEP output.

### AUDIO

- Sideband Response**  
Model GPT-1KJ2  
250-3040 Hz (CCIR)  
250-6080 Hz (CCIR)  
Model GPT-1KJ3  
250-2700 Hz (FCC)  
250-3040 Hz (CCIR)  
Other bandwidths available on request
- Input**  
Independent 600-ohm channel(s)  
-20 to +5dbm, balanced or unbalanced  
Low level dynamic microphone  
-55db into 47K-ohm; front panel jack

### KEYING INFORMATION

- CW** Up to 300 WPM carrier keying  
Dry contact
- FSK** 50 to 100 baud  
Polar or neutral keying
- FAX** +1 to 10 VDC produces a 800 Hz  
linear shift

### ENVIRONMENTAL AND INSTALLATION

- Operating Conditions**  
0 to +50°C; up to 90% relative humidity
- Primary Power**  
115/230 VAC, 50/60 Hz, single phase
- Size and Weight**  
22" high X 21" wide X 18" deep  
Approximately 140 lbs.
- Loose Items**  
RF mating connectors  
All interconnect cables  
Base-mounted CAB-40 equipment rack  
Two copies of Instruction Manual

### OPTIONAL ACCESSORIES

- Model CSS-2 Primary Frequency Standard  
Provides one part  $10^9$  stability  
Technical Bulletin 6020-3
- Model ATS-3 Antenna Tuning System  
Manual or automated antenna tuning  
Technical Bulletin 2053-2
- Model TFP-1K Harmonic Filter Panel  
Provides additional 25db RF rejection  
Technical Bulletin 2046-1
- Model TIS-3D Audio Tone Keyer  
Enables FSK/FAX(A7J) operation  
Sales Bulletin 2025A
- Model LPF-1K Low Pass RF Filter  
Provides additional 25db RF suppression  
Technical Bulletin 2045-1
- Model DAC-10/-11 Antenna Coupler  
Dipole or long wire antenna couplers  
Technical Bulletin 2052

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