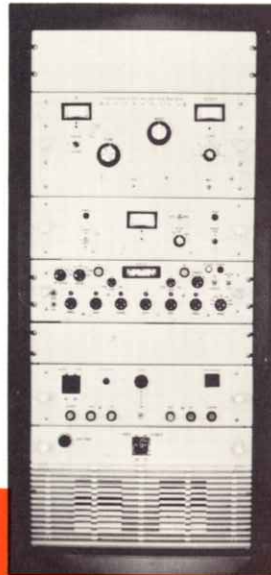


HIGH FREQUENCY SYNTHESIZED TRANSMITTER, 1000 WATTS PEP/AVG

HFT-1KJ2

HFT-1KJ2 in CAB-40
c/w ATS-3 Control Unit



The HFT-1KJ2 is a professional synthesized transmitter that meets all current regulations and quality standards. FCC Type Accepted for Parts 81, 83, 85 and 87, it is designed with the professional radio operator in mind but features many new concepts that make it an extremely simple device to operate and service.

The transmitter is modular in construction and is solid state throughout up to the final tube which is the new ceramic-type 8576. This tube is capable of dissipating enough power to allow the transmitter to operate at a 1000 watt peak and average power output level. Cooling is by forced air and safety interlocks are included for personnel protection.

The driver is the Model MMX-2 exciter which provides between 0 and 150 milliwatts RF drive (continuously adjustable) over the entire frequency spectrum of 2 to 30 MHz. On special order, this range can be extended to 1.6 MHz at the low end. The exciter is fully synthesized and is capable of operating on all modes normally encountered, including two-channel independent sideband, which is standard for this model. No tuning of the exciter is necessary; frequencies are instantly determined by digital selection at the front panel. A multimeter is mounted on the exciter for monitoring the operation of critical circuits.

In the automated version, complete tuning of the transmitter is accomplished in less than five seconds. By simply selecting the frequency and operating mode, and then pressing the tune button, the transmitter is ready for operation. No further tuning or adjustment is necessary. If the Model ATS-3 Antenna Tuning System is used, automated tuning through to a 35-foot vertical antenna is possible. Switchable harmonic filters, such as the Model TFP-1K, are available for additional rejection of unwanted harmonics and spurious.

Revised 1 August 1971



THE TECHNICAL MATERIEL CORPORATION

AND SUBSIDIARIES

TECHNICAL SPECIFICATIONS

FREQUENCY INFORMATION

Range
2 to 30 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
CW(A1); AM(A3); AME(A3H);
USB(A3A,A3J); USB; ISB(A3B)
OPTIONAL:
FSK/FAX

Power Output
1000 Watts PEP and Average
Continuous, key down service
Four level control for pre-setting
power output level.

Output Impedance
50 ohms nominal, unbalanced
70 ohms nominal OPTIONAL

VSWR Rating
Maximum of 2:1 without degrading
transmitter performance. Automatic
protection if VSWR exceeds 3:1.

Carrier Suppression
Continuously adjustable from -55db
to full output; front panel adjust

Tuning
Manual with local control
5-second automation OPTIONAL
Remote Control available on request
Manual override provided all functions

ALDC
Automatic Load and Drive Control
Front panel "attack level" adjust

Metering
Front panel illuminated meters for
monitoring critical circuit operation

Safety Features
Overload and interlock circuits are
provided for protection of personnel
and equipment.

Construction
Exciter and power supply modules are
completely solid state. Ceramic-type
tubes are used in the final RF stage.

DISTORTION AND NOISE

Spurious
Min. 50db down from full PEP output

Hum and Noise
Min. 50db down from full PEP output

Harmonic Suppression
Min. 45db down from full PEP output
for Second Harmonics
For Third and Higher Harmonics, min.
55db below full PEP output.
Filters available for additional rejection

Unwanted Sideband Rejection
Min. 50db below full PEP output

Intermodulation
Distortion products are at least 35db
below either tone of a standard two
tone test at fully rated PEP output

AUDIO

Sideband Response
250-3040 Hz (CCIR)
OPTIONAL:
250-6080 Hz (CCIR)
250-2700 Hz (FCC)
Other bandwidths available on request

Input
Two independent 600-ohm channels
-20 to +5dbm, balanced or unbal.
Low level dynamic microphone
-55db into 47K-ohm; front panel jack

Control
Controlled injection of audio inputs into
either sideband.

KEYING INFORMATION

CW Up to 300 WPM, carrier keying
Dry contact

FSK 50 to 100 baud
Neutral or polar keying

FAX +1 to 10 VDC produces a 800 Hz
linear shift

ENVIRONMENTAL AND INSTALLATION

Operating Conditions
0 to +50°C; up to 95% relative humidity

Primary Power
230 VAC, 50/60 Hz, single phase
Three phase power available on request
Approximately 2750 watts consumption

Size and Weight
Model HFT-1KJ2 (Manual Tuning)
37" high X 22" wide X 28" deep
Model HFTA-1KJ2 (Automated Tuning)
40" high X 22" wide X 28" deep
CAB-40 included with all models.
Approximately 300 lbs. with cabinet

Loose Items
Mating RF 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 in 10^9 stability
Technical Bulletin 6020-3

Model ATS-2A Antenna Tuning System
Manual tuning into a 35-foot vertical
Technical Bulletin 2053-1

Model ATS-3 Antenna Tuning System
Manual or automated tuning of antenna
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 COPC-2 Programmed Control System
Enables programmed remote control
Technical Bulletin 6010-2

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