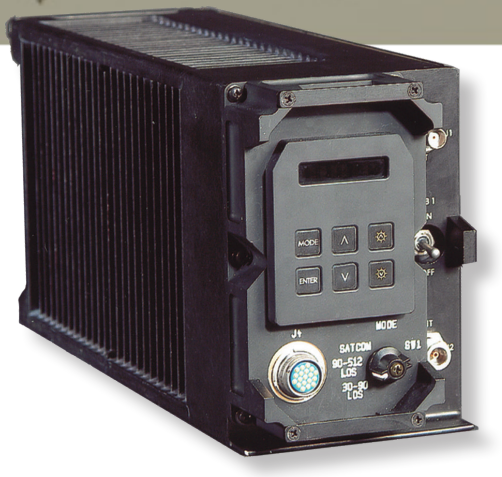
TC-150M

Multi-Band Power Amplifier



The lightweight, rugged, reliable TC-150M Multi-Band Power Amplifer from Elbit Systems of America is designed for continuous operation in the tactical environment. The TC-150M PA has a unique RF interface which allows Multi-Band radios to operate seamlessly under all stressing waveforms without the requirement of a data interface for frequency tuning information from the radio. This very compact amplifier is designed to operate remotely at the antenna supporting 100% duty cycle, convection cooled, Multi-Band 30-512MHz, 50W LOS, and 150W SATCOM/DAMA.

Features

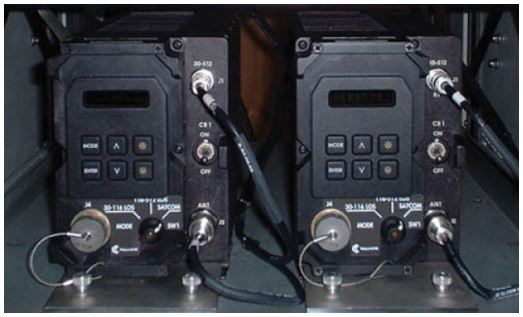
- Supports V/UHF/SATCOM/DAMA/ECCM waveforms
- 30-512MHz frequency coverage
- Remote control interface
- Selectable output power
- Internal Bias T capabilities
- DC supplied over coax capable
- Internal RX preamp (operator selectable)
- AM-7175/URC form fit

Elbit Systems of America

TC-150M

Multi-Band Power Amplifier

The Elbit Systems of America TC-150M Multi-Band Power Amplifier is a 150W Max PA in the SATCOM uplink band and a 50W PA in the LOS mode over the entire 30 to 512 MHz frequency range. The TC-150M Multi-Band PA is designed for continuous operation in a tactical environment; it is housed in a rugged, waterproof case and is capable of operation in vehicles, shelters, transit cases, racks or on the ground at the antenna base. The TC-150M Multi-Band PA requires only an RF connection, to standard Multi-Band and SATCOM R/Ts with a nominal 10W RF output. ALC maintains the output to the selected level. The power amplifier is compliant with MIL-STD-188-181A, MIL-STD-188-182A and MIL-STD-188-183A. DC Power may be selected to provide an output to operate a remote Rx Preamp taking the place of a legacy standalone Bias T.



Technical Specifications

Physical Description

- Height: 7.0 in.
- Width: 5.0 in.
- Depth: 15.0 in.
- Weight: <15 lbs.
- Finish: Black Anodize
- Chassis: Aluminum 6061 T-6

Environment Specifications

- Operating Temp: -40°C to +50°C, continuous TX at Full PWR.
- Up to +71degC with reduced PWR.
- Non-operating Temp: -46°C to +71°C
- Altitude:
  - Operating: 20,000 ft.
  - Non-operating: 40,000 ft.
- Humidity: 100% Condensing
- Leakage: 1 meter for 30 minutes
- Vibration: Random Vibration 10Hz to 2000Hz, 3 axis
- Operating Shock: 40G 1/2 sine in 11ms in 3 axis
- MIL-STD-810, MIL-STD-461, MIL-STD-704, MIL-STD-1275

Front Panel Indicators/Control

- Full Function Key Panel
- Remote Control Interface: RS-232
- Alphanumeric LED Display
- Power Level and Fault Level indications for the following: (Overtemp, Power Supply, RF Input, DC Input, Bias T and Out of Band)

Electrical Specifications

- Frequency Range: 30 - 512 MHz
- Duty Cycle: Continuous
- Input Impedance: 50 Ω Nominal
- Transmit Mode Characteristics
- RF Input Power LOS: 10W-1/3 dB(8 to 20W) for full range power
- RF Input Power SATCOM: 20W-2/5 dB(13 to 22W) for full rated power
- RX Output Power
  - LOS: 50W
  - SATCOM: 100W
  - SATCOM Special: 150W
  - Output into VSWR:4:1 Max
- Out of Band Spurious:-70 dBc
- Noise Spectral Denisty: -130 dBc/Hz + 10MHz or 10% from carrier
- PTT: RF Input Sense; TX Mode=1-25W; RX Mode:<200mW

Receive Mode Characteristics

- SATCOM Frequency Rang: 240 - 270 MHz
- Pre-amp Gain: 20 dB Min
- PA Bypass Insertion Loss: 0.6 dB Typical
- PA Bypass Impedance: 50 Ω Nominal, 2:1 VSWR Max, 1.5:1 typical

Primary Power

- Voltage: 18-32VDC
- Current: 15 A Max
- RX: 30W Max
- TX: 420W Max

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