

TC-150M

Multi-Band Power Amplifier

**Reliable,
Compact
Power
Amplifier**



The **Talla-Com TC-150M Multi-Band PA** supports voice and data communications on V/UHF/SATCOM/DAMA and ECCM waveforms. All in a lightweight, hermetically sealed, rugged package, supporting 100% duty cycle, convection cooled, Multi-Band 30 - 512 MHz, 50W LOS and 150W SATCOM/DAMA.

Unique

The TC-150M unique RF interface 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 simplifies integration and the concern of supporting operation with different types of radios.

Features

- 30-512 MHz frequency coverage
- Selectable output power
- Supports multiple ECCM wave forms
- Full function remote control interface
- Internal Bias T capability
- DC supplied over coax capable
- AM-7175/URC form fit
- DAMA compliance
- Internal RX preamp (operator selectable)

● **Multi-Band (30-512 MHz) PA**

● **Compact Design**

● **Rugged Black Anodized Chassis**



Technical Description

The Talla-Com TC-150M Multi-Band Power Amplifier (MBPA) is a 150-Watt Maximum Power Amplifier in the SATCOM uplink band and a 50-Watt Power Amplifier 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 10 watt 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.

Physical Description

Height	7.0 in.
Width	5.0 in.
Depth	15.0 in.
Weight	<15 lb. (3.6 kg.)
Finish	Black anodize
Chassis Material	Aluminum 6061 T-6

Environment Specifications

Operating Temperature	-40°C to +45°C
Non-operating Temperature	-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 10 Hz to 2000Hz, 3 axis
Operating Shock	40G half sine in 11ms in 3 axis

MIL-STD-810, MIL-STD-461, MIL-STD-704, MIL-STD-1275

* Specifications subject to change without notice 4.14.05

Front Panel Indicators/Control

Full Function Key Panel Control

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

General Characteristics

Frequency Range	30 - 512 MHz
Duty Cycle	Continuous
Input Impedance	50 Ω Nominal

Transmit Mode Characteristics

RF Input Power LOS	10 W-1/3 dB (8W-20W) for full range power
RF Input Power SATCOM	20 W-2/5 dB (13W-22W) for full rated power
RF Output Power	

LOS	50 watts
SATCOM	100 watts
SATCOM Special	150 watts
Output into VSWR	4:1 Max
Out of Band Spurious	-70 dBc
TX Noise Floor	-160 dBc/Hz@+5% from carrier
Noise Spectral Density	130 dBm/Hz Max

PTT	RF Input Sense; TX Mode=1W-25W; RX Mode:<200mW
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Receive Mode Characteristics

SATCOM Frequency Range	240-270 MHz
Pre-Amp Gain	20 dB Min
Noise Figure	2.5 dB Typical
PA Bypass Insertion Loss	0.6 dB Typical
PA Bypass Impedance	50 Ω Nominal, 2:1 VSWR MAX

Primary Power

Voltage	24-30VDC, 28-30VDC SATCOM
Current	15 A Max
RX	30 watts Max
TX	420 watts Max