TC-150M

Multi-Band Power Amplifier

The lightweight, rugged, reliable TC-150M Multi-Band Power Amplifier from Elbit Systems of America C4I Solutions is designed for continuous operation in the tactical environment. The TC-150M's unique RF interface it 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. It is housed in a rugged, compact, waterproof case. And weighing less than 15 pounds, it is operational in vehicles, shelters, transit vehicles, transit cases, racks, or the base of an antenna base.

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

Technical Description

The Elbit Systems of America C4I Solutions TC-150M Multi-Band Power Amplifier (MBPA) 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.

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

Electrical Specifications

General Characteristics

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 Range	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

Primary Power

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

Environment Specifications

Operating Temperature		-40°C to -45°C
Non-operating Temperature		-46°C to -71°C
Atitude	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:

(Overtempo, Power Supply, RF Input, DC Input, Bias T and Out of Band)

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