

TC-100D

UHF SATCOM Power Amplifier



The Elbit Systems of America C4I Solutions TC-100D PA introduces a low noise, compact, reliable amplifier with the ability to operate remotely at the antenna using a DC Power Inserter. Providing up to 100 Watts PEP and average RF output power in 8 selectable steps over the 290 to 320 frequency range, the TC-100D is designed for the tactical environment. Housed in a rugged, weatherproof case, it is capable of operation in vehicles, shelters, aircraft, transit cases, and racks or on the ground at the base of antennas.



Features

- 292-318 MHz transit mode
- 243-270 MHz receive mode
- Selectable, 8 steps; 10 to 100 watt output power
- 22 dB gain preamp w/ 3 dB noise figure (typical)
- DAMA compliance
- DC supplied over coax capable
- Multiple mounting configurations

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Technical Description

The Elbit Systems of America C4I Solutions TC-100D SATCOM PA is a 100 watt power amplifier in the SATCOM uplink band. The TC-100D also provides a low noise, high dynamic range 22 dB gain preamplifier in the SATCOM downlink band. The TC-100D HPA is designed for continuous operation in a tactical environment; it is housed in a rugged, weatherproof case and is capable of operation in vehicles, shelters, aircraft, transit cases and racks or on the ground at the base of the antenna mast. The TC-100D HPA is compatible with only an RF connection to standard SATCOM radios having a 2 to 20 watt RF output. ALC maintains the output to the selected level. DC power may be supplied through the RF cable using a Bias T or through an external connector.

Physical Description

Height	5.0 in.
Width	7.0 in.
Depth	14.0 in.
Weight	<15 lbs.
Finish	Black Anodize

Electrical Specifications

Frequency Range

TX	292 to 318 MHz
RX	243 to 270 MHz
Duty Cycle	Continuous
RF Input Power	2 to 20W
RF Output Power	Selectable, 8 steps; 10 to 100 W
Transmit Noise Floor	-170 dBc/Hz @ +5% from Carrier

Out of Band Spurious	-70 dBc
Input Impedance	50 Ω , VSWR < 1.5:1
Output Load Impedance	50 Ω
Output into VSWR	4:1 Max, no degradation in incident power
RX Preamp Gain	22 dB typical
RX Preamp Noise Figure	3.0 dB typical
Bypass Insertion Loss	0.5 dB typical 30-512 MHz
Primary Power	24-32 VDC
Power Consumption	350 watts max. – TX mode 10 watts max. –RX mode 0 watts Bypass mode

Environment & EMI Specifications

MIL-STD-810
ADS-37A-PRF
MIL-STD-461
MIL-STD-1275

Front Panel Indicators

VSWR Fault
DC Power On
TX Mode



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