

# TC-100D

## UHF SATCOM Power Amplifier



Elbit Systems of America introduces the TC-100D SATCOM Power Amplifier 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 MHz frequency range, the TC-100D PA is designed for the tactical environment. The TC-100D PA is J1TC certified to operate with the AN/PSC-5, AN/PRC-117F and LST-5 Transceivers with only an RF interface.

### Features

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

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## Technical Specifications

The Elbit Systems of America TC-100D SATCOM PA is a 100W power amplifier in the SATCOM uplink band. The TC-100D PA also provides a low noise, high dynamic range 22 dB gain preamplifier in the SATCOM downlink band. The design supports 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 PA is compatible with only an RF connection to standard SATCOM radios having a 2 to 20W 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

## 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

## Temperature Range

- Operation Temperature: -32° to +55°C
- Non operation Temperature: -40° to +71°C



## 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 100W
- Transmit Noise Floor: -170 dBc/Hz @ +5% from Carrier
- Out of Band Spurious: -70 dBc
- Input Impedance: 50  $\Omega$ , VSWR < 1.5:1
- Output Load Impedance: 50  $\Omega$
- 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: 350W Max. – TX mode  
10W Max. – RX mode  
0W – Bypass mode



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