

TC-100D

UHF SATCOM Power Amplifier

**Reliable,
Compact
Power
Amplifier**



The **Talla-Com TC-100D SATCOM PA** provides up to 100 watts PEP and Average RF output power in 8 selectable steps over the 290 to 320 MHz frequency range for UHF SATCOM and DAMA applications. The TC-100D HPA is JITC certified to operate with the AN/PSC-5, AN/PRC-117F and LST-5 Transceivers with only an RF interface.

Low Noise Preamp

The TC-100D HPA provides a low noise preamp for the 243 to 270 MHz SATCOM receive frequency range.

Compact, Reliable

This compact, reliable amplifier is designed to operate remotely at the antenna using a DC Power Inserter (Bias T).

Features

- 292-318 MHz transmit 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)
- DC supplied over coax capable
- DAMA compliance
- Multiple mounting configurations
- Size: 7"W x 5"H x 14"D
- Weight: <15 lbs.

**Rugged Black
Anodized Chassis**

Compact Design

**Selectable
Output
Power**



Technical Description

The Talla-Com 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 lb.
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

* Specifications subject to change without notice 4.14.05

Electrical Specifications

Frequency Range

TX 292 to 318 MHz

RX 243 to 270 MHz

Duty Cycle Continuous

RF Input Power 2 to 20 watts

RF Output Power Selectable, 8 steps:
10 to 100 watts

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 – 32VDC

Power Consumption 350 watts Max – TX mode
10 watts Max – RX mode
0 watts Bypass mode

