

50 Watt DBS-Band Antenna Mount High Power Amplifier



FEATURES

- No Shelter Required
- Short Waveguide Run
- Low Cost Installation

The **XTD-50DBS** is a compact, antenna-mountable, traveling wave tube amplifier designed for low-cost installation and long life.

Intended for outdoor operation, the self-contained **XTD-50DBS** eliminates the need for a separate amplifier shelter. In addition, the distance between the amplifier and the antenna feed horn can be short, thus eliminating long waveguide runs and their associated RF losses.

RF filters and cooling systems are all self-contained within the package.

A high frequency resonant conversion power supply is used that accepts a wide range of prime power (100 to 260 VAC.)

A remote external controller is available to operate the **XTD-50DBS** amplifier from a user-selected location. Depending upon user requirements, these high power amplifiers can be configured for single-thread, redundant, or phase-combined configurations.

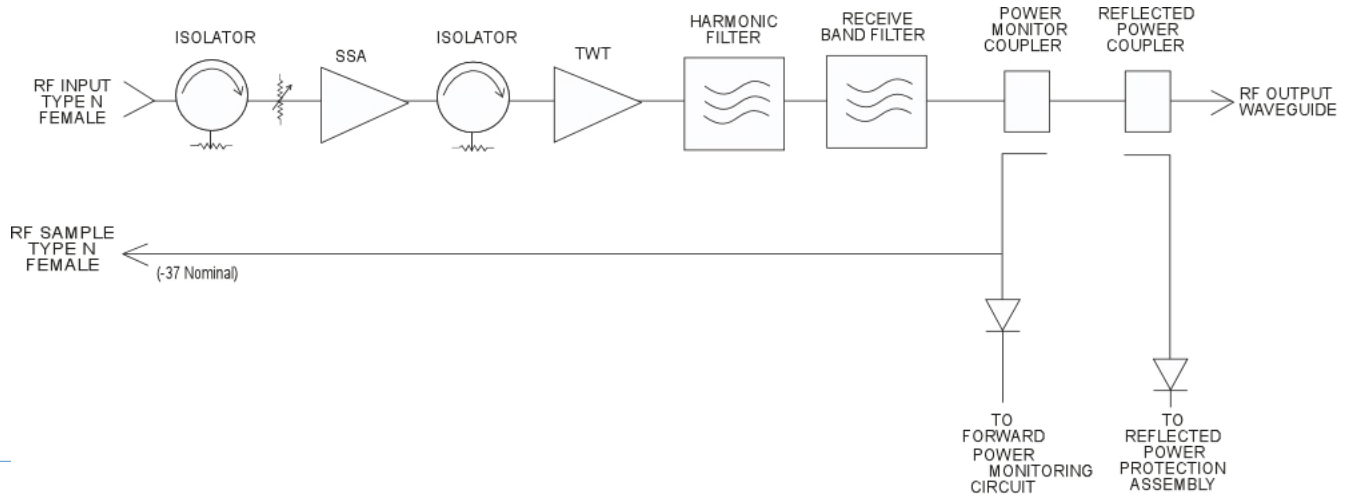
Mounting brackets are supplied to mount the high power amplifier to most popular antennas.



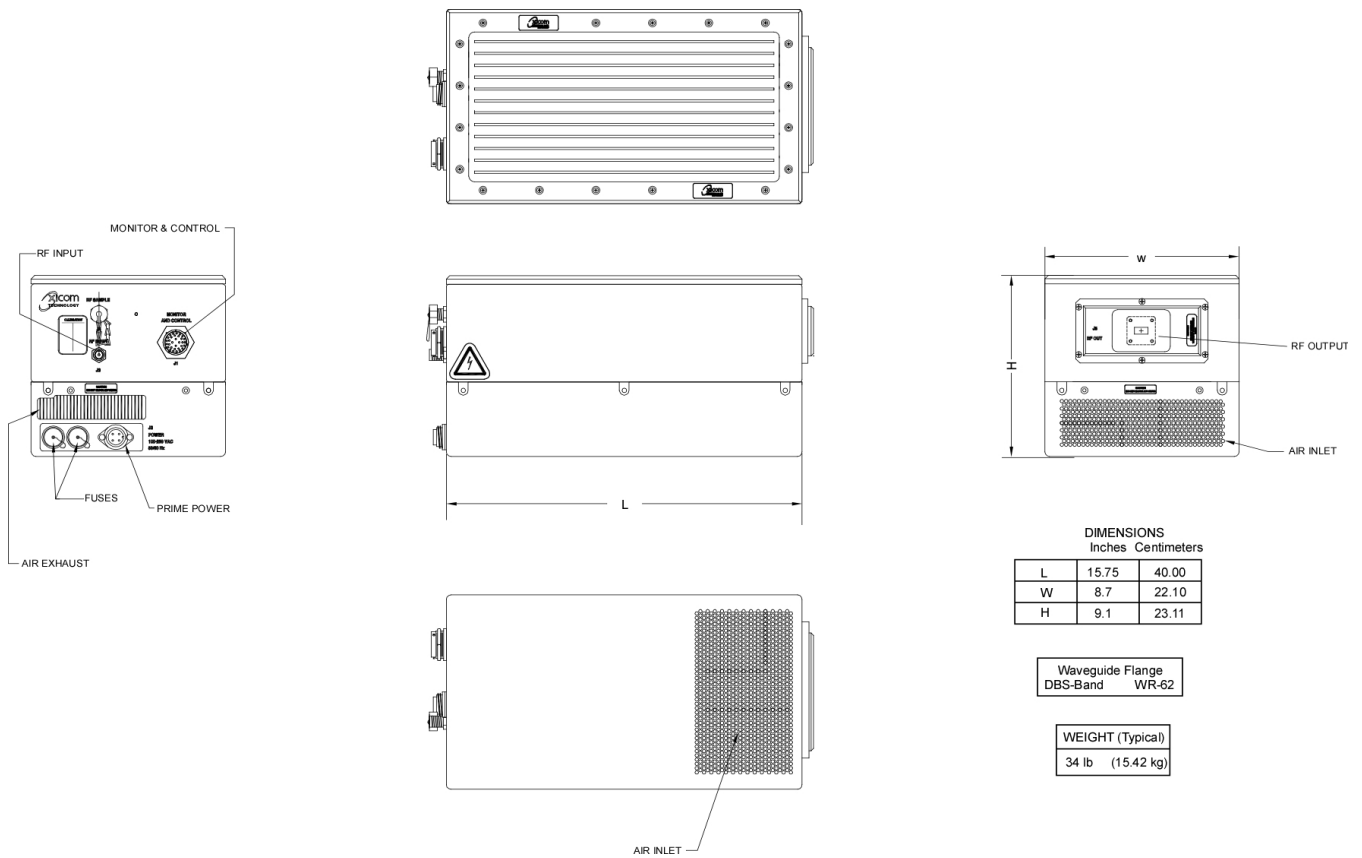
PERFORMANCE SPECIFICATION

Parameters	XTD-50DBS
FREQUENCY RANGE (extended frequency range available)	17.3 to 18.1 GHz (17.3 to 18.4 GHz)
OUTPUT POWER	
Traveling Wave Tube	50W
Rated Power @ Amplifier Flange (minimum)	40W
GAIN	
Large Signal (minimum)	63 dB
Small Signal (minimum)	68 dB
Attenuator Range (continuous)	20 dB
Maximum SSG Variation Over	
Any Narrow Band	1.2 dB per 80 MHz
Slope, max.	± 0.04 dB/MHz
Stability, 24 hr. (maximum)	± 0.25 dB
Stability, Temperature (maximum)	± 1.0 dB over temperature range at any frequency
INTERMODULATION (maximum) with two equal carriers	-15 dBc @ 4dB total output backoff
HARMONIC OUTPUT (maximum)	-60 dBc
AM/PM Conversion (maximum)	2.5 deg/dB at 6 dB below rated output power
NOISE POWER (maximum)	
Transmit Band	-70 dBW/ 4 kHz
Receive Band	-150 dBW/4 kHz 10.95 to 12.75 GHz
GROUP DELAY (maximum)	
Bandwidth	Any 80 MHz
Linear	± 0.01 nS/MHz
Parabolic	± 0.005 nS/MHz ²
Ripple	0.5 nS/Pk-Pk
RESIDUAL AM NOISE (maximum)	-50 dBc to 10 kHz -20 (1.5 + logf) dBc 10 to 500 kHz -85 dBc above 500 kHz
PHASE NOISE (maximum)	10 dB below IESS phase noise profile AC fundamental -50 dBc Sum of all spurs -47 dBc
VSWR	
Input (maximum)	1.3:1
Output (maximum)	2.2:1

BLOCK DIAGRAM



OUTLINE DRAWING



PRIME POWER

100 to 260 VAC
47 to 63 Hz, Single Phase
1300 VA Maximum
0.95 Minimum Prime Power Factor



ENVIRONMENT

NONOPERATING TEMPERATURE RANGE	-50°C to +70°C
OPERATING TEMPERATURE RANGE	-40°C to +60°C (2°C/1000 Feet Derating)
HUMIDITY	Up to 100% Condensing
ALTITUDE	10,000 Feet MSL Max.
SHOCK AND VIBRATION	Normal Transportation
COOLING	Forced Air

INTERFACE

Type	Function	
LOCAL CONTROL	Prime Power ON/OFF Power Supply ON/OFF	Local/Remote HV ON/OFF
LOCAL STATUS	Tri-Color LED: Fault: Red HV ON: Green	Standby: Continuous Amber FTD: Flashing Amber
REMOTE CONTROL	HV ON/OFF RF Attenuation (w/preamp) Heater Standby	RF Inhibit (HV OFF) Fault Reset
REMOTE STATUS	HV ON RF Output Power Reflected Power Filament Time Delay Helix Voltage	Heater/Beam Hours Fault Identification TWT Temperature Helix Current
FORM C DRY CONTACT CLOSURE	Summary Fault	
RF MONITOR PORT	-37 dB Coupling Value (approx.)	

OPTIONS

- Remote External Controller
- Serial or Discrete Interfaces
- 1:1, 1:2, 1:N Redundancy
- Variable Phase Combined
- Extended Frequency Coverage

Headquarters

Comtech Xicom Technology, Inc.
3550 Bassett Street
Santa Clara, CA 95054
USA

Phone: +1-408-213-3000

Fax: +1-408-213-3001

email: sales@xicomtech.com

Web: www.xicomtech.com

Europe Sales Office

Comtech Xicom Technology Europe, LTD
4 Portland Business Center
Manor House Lane
Datchet
Berkshire SL3 9EG
United Kingdom

Phone: +011 44 (0) 1753 549 999

Fax: +011 44 (0) 1753 549 997

email: sales@xicomeurope.com

Web: www.xicomtech.com

Asia Sales Office

Comtech Xicom Technology
150 Cecil Street
#08-02
Singapore 069543

Phone: +011 65 6325 1953

Fax: +011 65 6325 1950

email: asiasales@xicomtech.com

Web: www.xicomtech.com