

## dB-4410 TWT Amplifier



The dB-4410 Traveling Wave Tube (TWT) Amplifier provides 300 watts CW output power in the 7.5 to 18 GHz frequency band. Large instantaneous bandwidth, excellent RF performance and small size and weight make this product highly suitable for applications such as multi-band, high data rate airborne communication systems, electronic countermeasure systems and radar threat simulators. A high power TWT is used as the power amplifying device. Some of the unique features of dB-4410 are output power switching into an internal high power termination for test purposes, extensive built in test (BIT) capability, standard interface protocol, RF monitoring and low intermodulation products. dB-4410 is qualified for military airborne applications.

### Features

- Wide Bandwidth
- TWT Gain Linearization for X/Ku Band Data Links
- Very low Phase Noise and Spurious
- Modular construction
- High Reliability
- MIL-STD-461E and MIL-STD 704 Compliant
- Qualified for military Airborne environment

### Applications

- Airborne Data Links
- Electronic Countermeasure (ECM) Transmitters
- Electronic Warfare (EW) Threat Simulators
- Manned and Unmanned platforms

# dB-4410 TWT Amplifier Specifications

**Reliability by Design™**

## Electrical

Frequency Range	7.5 to 18 GHz
Bandwidth	Instantaneous
Output Power	300 Watts CW, min.
Gain at Rated Power	57 dB min. (with solid state driver)
AM to PM Conversion	6° per dB
Spurious	-45 dBc
Input/Output VSWR	2.0:1
Load VSWR	1.5:1
Prime Power	115/200 VAC ± 10%, 400 Hz, 3 Phase
TWTA Protection	Over-Temperature Helix Over-Current/Arc Cathode Over-Voltage High-Reflected Power (VSWR) Input Phase Loss
Indicators	Status; Fault (TTL Signals) (RS-422 Option)
RF Sample	-60 dBc
Interface Control	Discrete (RS-422 Option)

## Mechanical

Input Power Connector	MS3112E14-5P
RF Input	Precision TNC (F)
RF Output	WRD-750
Size:	10.71" (W) x 8.89" (H) x 19.33" (D)
Weight	70 lbs max.
Cooling	Liquid Cooling

## Environmental

Operating Temperature	-30° C to +60° C, ambient
Storage Temperature	-57° C to +85° C
Operating Altitude	Up to 75,000 feet
Humidity	Up to 100% RH
Random Vibration	4.4 g RMS, 25 to 2000 Hz
Shock	15 g, 11 msec, terminal-peak sawtooth

## Options

- Custom Frequency Bands
- Different Prime Power Inputs
- Any Standard or Custom Interface Protocols
- Gain Equalizer and/or Ku Band
- Gain Equalizer for TWT
- PIN Diode Modulator at RF Input

## About dB Control

Established in 1990, dB Control designs and manufactures high-power microwave amplifiers, radar and ECM transmitters, high- and low-voltage power supplies, modulators and custom assemblies for military and commercial applications. The company's high-power amplifiers use solid state, as well as vacuum, electronics devices and cover the 1 to 95 GHz frequency range. The modularity of dB Control's designs enable rapid configuration of custom products for a variety of platforms, from ground-based to high-altitude military manned and unmanned aircraft. dB Control's modern 40,000-square foot facility in Fremont, California, includes a high-voltage laboratory for manufacturing and testing transformers, inductors and integrated assemblies of up to 120 kV, RF/microwave test instruments for complete product characterization and environmental test capabilities for temperature, altitude, vibration and shock.

**dB Control** 