

dB-4410 TWT Amplifier



300W CW
7.5 – 18 GHz



The dB-4410 traveling wave tube amplifier (TWTA) 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 include its ability to switch output power into an internal high-power termination (for test purposes); extensive built-in test (BIT) capabilities; standard interface protocol; RF monitoring and low intermodulation products. dB-4410 is qualified for military airborne applications.

Features

- 7.5 to 18 GHz, 300 W, CW
- Wide bandwidth
- TWT gain linearization for X/Ku Band Data Links
- Very low phase noise and spurious
- Liquid cooling
- Modular construction
- Excellent reliability
- MIL-STD-461E and MIL-STD 704 compliant
- Qualified for extreme military airborne environments

Applications

- Airborne Data Links
- Electronic countermeasures (ECM)
- Electronic warfare (EW) simulation
- Manned and unmanned platforms

dB-4410 TWT Amplifier Specifications

Reliability by Design®

Electrical

Frequency Range	7.5 to 18 GHz
Output Power	300 Watts CW, min.
Gain at Rated Power	57 dB min.
Spurious	-45 dBc
Input/Output VSWR	2.0:1 max.
Load VSWR	1.5:1 max. for full specification compliance 2.0:1 max. no damage
Prime Power Input	115/200 VAC, $\pm 10\%$, 400 Hz, 3-Phase
TWTA Protection	Over-Temperature, Helix Over-Current, Cathode Over-Voltage, High Reflected RF Power (VSWR), Input Phase Loss
Status/Indication	Equipment status, faults
RF Sample	-60 dBc
Interface Control	Discrete (or RS-422 option)

Mechanical

Connectors:	
Input Power Connector	MS3112E14-5P
RF Input	Precision TNC (F)
RF Output	WRD-750 Flange
Dimensions	19.33" (L) x 10.71" (W) x 8.89" (H)
Weight	70 lbs. max.
Cooling	Liquid cooling (or conduction and air cooled option)

Environmental

Operating Temperature	-40° 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
- PIN diode modulator at RF input

Specifications subject to change without notice.



About dB Control

Established in 1990, dB Control Corp., a subsidiary of the Electronic Technologies Group (ETG) of HEICO Corp., supplies mission-critical, often sole-source, products worldwide to military organizations, as well as to major defense contractors and commercial manufacturers. dB Control designs and manufactures reliable high-power TWT Amplifiers (TWTAs), microwave power modules (MPMs), transmitters and power supplies with modulators for radar, electronic countermeasures (ECM), data links, and communications applications. The company's high-power amplifiers use solid state, as well as vacuum electron devices and cover the 1 to 50 GHz frequency range. The modularity of dB Control's designs enables rapid configuration of custom products for a variety of platforms, including ground-based and high-altitude military manned and unmanned aircraft. dB Control has an outstanding record of successfully repairing, refurbishing and replacing tightly packaged high-voltage transformers, assemblies and power supplies. The company offers specialized contract manufacturing, transformer winding and testing, full vacuum encapsulation, pressure cure, conformal coating and repair depot services from its modern 52,100-square-foot facilities in Fremont, California. www.dBControl.com

dB Control
a HEICO company
Reliability by Design®