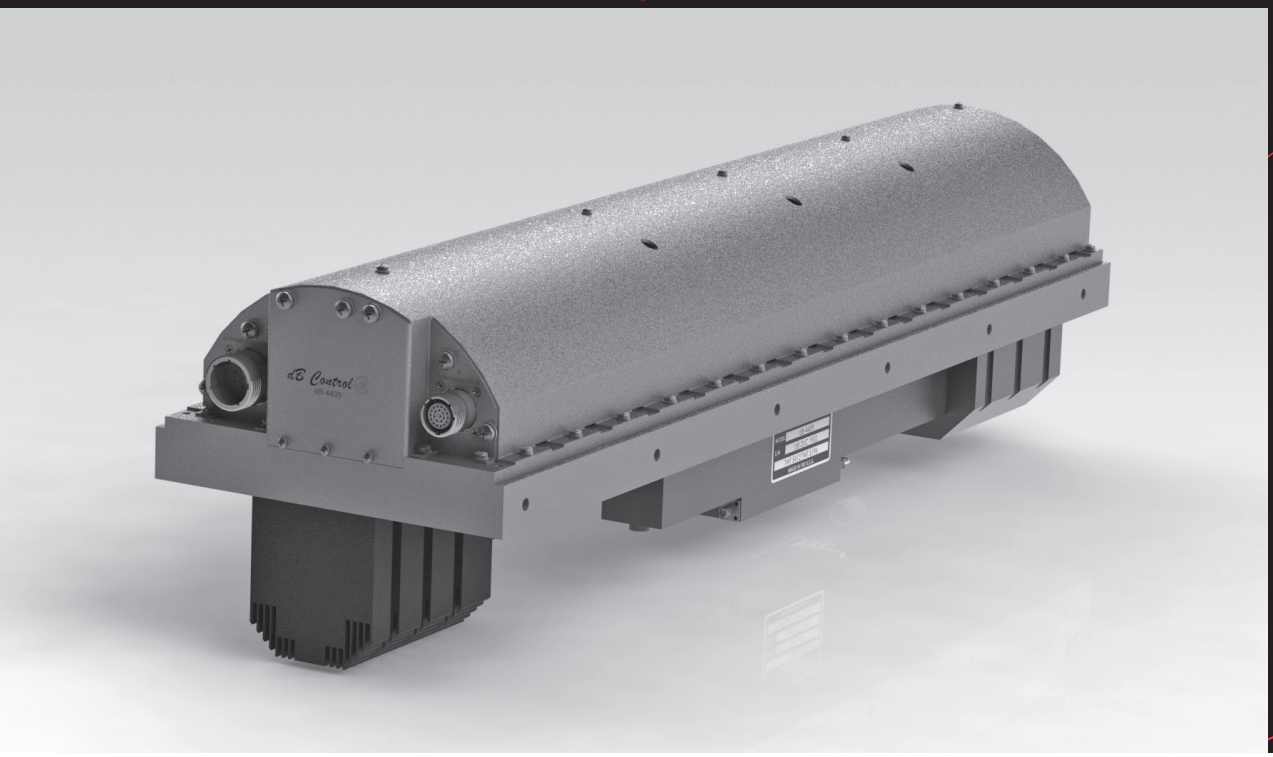
dB Control
Reliability by Design™

dB-4409 TWT Amplifier



The dB-4409 is a 9-inch, pod-mounted, dual-band Traveling Wave Tube Amplifier (TWTA) operating in the 2 to 18 GHz frequency range and providing 300 Watts, continuous wave power. Wide-band, periodic permanent magnet (PPM) - focused, conduction-cooled TWTs are used for power amplification. The dB-4409 features large instantaneous bandwidth and optimal pulse capability. The high-voltage power supply (HVPS) section uses modular architecture and low-noise power supply topology utilizing high-efficiency solid-state power-conversion circuits. The TWTA is designed to operate in a military airborne environment.

Features

- Low- and High-Band TWT Amplifier in a single package
- 2 to 18 GHz, 300 W, CW
- 9-inch Pod-Mounted Package
- Fast Switching Between Bands
- Small Size and Low Weight
- Designed for Military Airborne Applications

Applications

- Electronic Countermeasures
- EW Threat Simulation
- Multi-Band Communication Systems

1120 Auburn Street, Fremont, CA 94538 | Tel: 510.656.2325 | Fax: 510.656.3214

www.dBControl.com

dB-4409 TWT Amplifier Specifications

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Electrical

Frequency Range	2 to 18 GHz in two bands (2-8 GHz and 7.5-18 GHz)
Output Power	300 Watts, CW
Duty Cycle	CW
Gain at Rated Power	55 dB
Spurious	-50 dBc
Input VSWR	2.5:1 (50 Ω Impedance)
Load VSWR	1.5:1
Input Modulation Pulse	TTL, Into 100 Ω
Prime Power	115/200 VAC ± 10%, 400 Hz, 3 Phase
Protection	Helix Over-Current/Arc
	Cathode Over-Voltage
	Over-Temperature (TWT and Power Supply)
	HV Connector Interlock
	Phase Loss
Indicators (TTL Signals)	Warm up, Standby, Operate, Fault

Mechanical

RF Input Connectors	SMA (F) (x2)
RF Output Connectors	SC (F) for 2-8 GHz
	WRD-750 Flange for 7.5-18 GHz
Control	Discrete
Size	Per Outline Drawing
Weight	90 lbs
Cooling	Liquid Through Base Plate

Environmental

Operating Temperature	-40° C to +70° C
Operating Altitude	Up to 55,000 feet ASL
Humidity	Up to 100% RH Non-Condensing
Vibration	6 g RMS, 20-2000 Hz per MIL-STD-810E
Shock	15 g, 11 msec

Options

- Custom Frequency Bands from 2 to 18 GHz
- VSWR Protection
- Other Package Styles
- Different Prime Power
- Custom Interface Protocols
- Integral Forced-Air Cooling
- Modulator for Pulsed Output

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.

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