dB Control
a HEICO company
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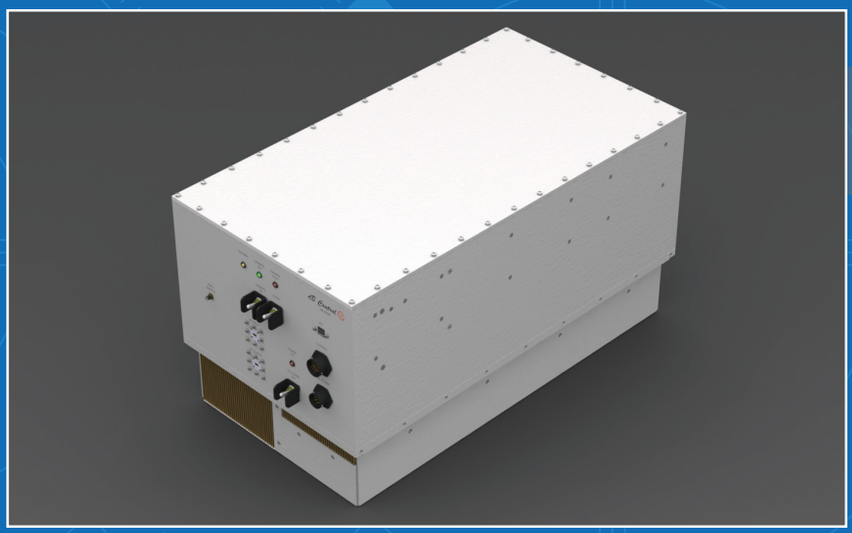
dB-3709I TWT Amplifier



700W Pulsed
34.5 – 35.5 GHz

The dB-3709I is a TWT Amplifier (TWTA) operating in the frequency range of 34.5 to 35.5 GHz providing 700 Watts minimum peak output power at a duty cycle of up to 10%. A wideband, periodic permanent magnet (PPM)-focused, conduction-cooled TWT is used for power amplification. The power supply topology uses proprietary low-noise, high-efficiency designs to operate the RF signal path. An embedded micro-controller provides the interface, control and protection functions and status indication for the TWT Amplifier. Standard interface protocol for remote operation is RS-485. Other protocols such as RS-232, RS-422, Ethernet, or custom interfaces are available as options. The TWT Amplifier is encased in an environmentally sealed package for outdoor and antenna pedestal mounted applications, and uses integral forced-air cooling for thermal management.

Features

- Ka-Band TWTA
- 34.5 to 35.5 GHz, 700 W, 10% duty
- Hub-Mount configuration
- Excellent reliability

Applications

- Radars
- Test and measurement
- Antenna pattern & radar cross-section measurements
- Electronic warfare (EW) simulation

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dB-3709I TWT Amplifier Specifications

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Electrical

Frequency Range	34.5 to 35.5 GHz
Output Power	700 Watts peak min.
Duty Cycle	10% max.
Pulse Operation	PRF: 25 kHz max. Pulse Width: 0.2 to 20 µsec max.
Gain at Rated Power	60 dB min.
Harmonics	-30 dBc min.
Spurious	-50 dBc min.
Input VSWR	2:1 max. (50 Ω Impedance)
Load VSWR	1.3:1 max. for full specification compliance 2.0.1: no damage
Prime Power Input	115/200 VAC, ±10%, 3-Phase, 400 Hz
TWTA Protection	Helix Over-Current, Cathode Over-Voltage, High Reflected RF Power, Over-Temperature, Excessive Duty Cycle, PRF, Pulse Width
Status/Indication	Equipment status, faults
Instrument Control	Local (Front Panel) or Remote
Monitors	Front panel test points

Mechanical

Connectors:	
RF Input	WR-28
RF Output	WR-28
RF Output Sample	Type K (F)
Prime Power	MS3112E-14-5P
Pulse In	MIL Spec Connector
Dimensions	26" (L) x 14" (W) x 14" (H)
Weight	110 lbs. max.
Cooling	Built-in forced air cooling

Environmental

Operating Temperature	-30° C to +55° C, ambient
Operating Altitude	Up to 15,000 feet
Humidity	Up to 100% RH

Options

- Prime power input voltage
- Standard or custom interface protocols
- RF gain control

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) and data link 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**

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