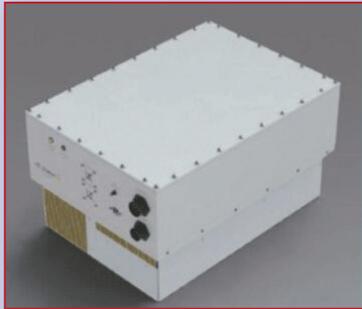


FAB S and LAB S

dB Control: Reliability by Design



Despite the advances in solid-state technology, many high-power applications remain out of reach and still require tube amplifiers. Only a handful of companies have the heritage and expertise to supply these high-voltage products. dB Control is one of the few, formed in 1990 to repair high-voltage power supplies used on the B-52 long-range bomber. Using this experience, the company expanded its products and services to design and manufacture high-power traveling wave tube amplifiers (TWTAs), microwave power modules (MPM), full transmitters with modulators and power supplies.

The TWTAs cover bands from 1 to 96 GHz and support pulsed or CW operation. The MPM family, with a modular design for dense packaging and easy customization, covers bands from 2 to 46 GHz. To complement power amplifiers, dB Control added to its portfolio with the acquisition of TTT-Cubed in 2019, offering custom instantaneous frequency measurement, frequency-locked oscillator, digital control, antenna control and other integrated subassemblies.

Most of dB Control's business serves the U.S. defense market, its products supporting radar, electronic countermeasures and data links. It continues to serve the military's repair depots, repairing or replacing TWTAs, power supplies, printed circuit board assemblies and potted modules. dB Control also applies its high-voltage expertise to commercial systems, providing contract manufacturing of X-ray tubes, power supplies and custom assemblies. Among its specialized capabilities, the firm manufactures custom high-voltage connectors and cable assemblies and both low- and high-voltage transformers, performing the winding, vacuum/pressure encapsulation and high potential (hi-pot) and high altitude testing. To ensure its high-voltage products perform at high altitude

without failure, dB Control has developed proprietary materials and mixtures for potting and encapsulation, which also enable dense packaging while maintaining reliability.

With its long heritage supporting defense programs, dB Control's culture and capabilities ensure products are designed and manufactured to withstand harsh environments, whether in the air, on a ship or on land. Its 40,000 square foot facility in Silicon Valley houses design, manufacturing and an extensive test capability, including temperature, altitude, thermal shock, vibration and highly accelerated life testing (HALT). The company is ISO 9001:2015 certified and designs to the AS-9100 quality standard; assembly personnel are certified to the individual processes they perform.

dB Control's suppliers include the leading TWT manufacturers. They supply tubes to its custom specifications: tight limits on current and heater voltages. The company screens incoming TWTs to verify data sheet parameters, then tests hi-pot leakage on all leads. After final electrical test and environmental stress screening, the TWT parameters are retested to ensure no adverse changes. To provide programs with additional confidence in reliability, dB Control can develop a highly accelerated stress screen (HASS) for production HPAs.

Underlying its 30-year tenure is dB Control's expertise in high-voltage electronics and commitment to reliability, reflected by its many subsystems serving on such platforms as the Global Hawk UAV, Fire Scout helicopter and SPQ-9B shipborne radar. Programs have achieved power amplifier MTBFs greater than 12,000 hours, from a population of 400 units in the field. To dB Control, reliability is not an option — it is a requirement.

www.dbcontrol.com