

BC Systems

Custom Designed Solutions for Powering Military Electronics

BC Systems, a women-owned business, develops power systems for the US military by implementing modern technology and innovative packaging to design superior, reliable, and cost-effective products. The firm specializes in producing lightweight, compact form factor, and high-power density supplies for ground-based, airborne, and naval applications. A specialty market for power supplies targeted by BC Systems is radar. BC Systems power supplies are used in fixed ground, vehicle, airborne, and shipboard radars. The power supplies are also used to power electronics systems in missiles and missile warning countermeasures to name a few other applications. By delivering high-power supplies with small footprints and lighter weights, this allows aircraft and missile manufacturers to include additional technology in its enclosure.

BC systems' prowess in designing and manufacturing light weight power systems was highlighted when they were nominated by Boeing as Supplier of the Year for Innovation in developing the BC-800, an AC to DC supply that provides 800 Watts steady-state, 1200 Watts peak and weighs only 3lbs. That is a power density of 267W constant and 400W peak per pound, a record in the industry. The BC-800 was tailored for a missile systems applications.

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The highly experienced engineers at BC Systems develop these reliable power supply devices in-house. Their extensive expertise in EMI/RFI and environmental standards has produced designs qualified for radiation-hardened designs for single event upset and space applications. Proficient in power factor correction (PFC), the firm designs systems with a high-power density that is much smaller than a conventional power supply. The uniquely designed power supply units manufactured in-house, range from 100W to 32kW and are lighter than industry standards.



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Rugged and highly reliable power supplies for military equipment are crucial in implementing a strategy for the success of military mission critical operations. The proliferation of next-gen military technology on the battlefield has increased the need for lightweight power supplies with high power densities.

While the military equipment market has various solution providers, collaborating with a reliable and highly innovative business is vital, given the criticality of military missions. BC Systems designs, develops, and manufactures switching power supplies and power control products for major defense contractors and US military markets, with over 38 years of experience in this market.

With comprehensive in-house capabilities, BC systems is well-equipped to precisely conduct each process in the product lifecycle. Due to the rugged nature of military operations, the firm conducts thermal analysis to ensure junction temperatures of semiconductor components can withstand the harsh environments the power supplies will operate in. The design team also analyzes performance through accurate computer simulation to verify the design can withstand severe shocks and vibration loads. It also develops automated test equipment to enable the individual sub-assembly line's testing for high-volume production.

Drawing parallels to the battlefield, BC Systems stakes full responsibility for every aspect of product development with each operation done in-house. Unlike the competition that also makes commercial products, BC systems is focused on producing reliable, efficient, and light-weight products for the US military. **AD**