



Position: Electrical Hardware Engineer

Department: Engineering

Location: Santa Ana, CA

FLSA Status: Exempt, Full-Time

Job Summary:

The Electrical Hardware Engineer is responsible for the design, development, and testing of electronic hardware systems used in advanced timing and synchronization products. This role supports mission-critical applications across aerospace and defense sectors by contributing to high-reliability, board-level designs and hardware platforms. It involves collaboration with cross-functional teams to ensure seamless integration with firmware and software components, from prototype to production.

This position may involve access to information subject to U.S. export control regulations, including the International Traffic in Arms Regulations (ITAR). Applicants must be U.S. persons as defined by these regulations (U.S. citizen, lawful permanent resident, or protected individual as defined by 8 U.S.C. 1324b(a)(3)).

Key Responsibilities:

- Design and develop circuit boards and electronic systems for time and frequency synchronization devices.
- Generate and maintain detailed schematics and PCB layouts using tools such as Altium Designer or OrCAD.
- Perform hands-on prototyping, testing, and validation of hardware designs, ensuring compliance with performance and reliability requirements.
- Develop specifications and interface documents for hardware subsystems and system-level integration.
- Support development and configuration of programmable logic devices such as FPGAs and CPLDs.
- Collaborate with systems, firmware, and software engineers to define requirements, resolve issues, and optimize performance.
- Use lab instrumentation (oscilloscopes, logic analyzers, signal generators, multimeters, etc.) to debug, test, and characterize electronic hardware.
- Document designs, revisions, and procedures in accordance with internal processes and customer/industry standards.
- Participate in design reviews, risk assessments, and product lifecycle activities to support product quality and regulatory compliance.
- Stay informed on component availability, obsolescence, and evolving hardware design trends.



Key Qualifications:

- 5 - 10+ years of experience in electrical hardware design, preferably in aerospace, defense, or precision electronics environments.
- Bachelor's degree in Electrical Engineering or a closely related field.
- Proficiency in schematic capture and PCB layout tools such as Altium Designer, OrCAD, or equivalent.
- Hands-on experience with FPGA/CPLD development and integration.
- Strong knowledge of analog and digital circuit design, signal integrity, and power systems.
- Familiarity with EMI/EMC considerations and product compliance standards.
- Background in system or project engineering, including cross-discipline collaboration.
- Skilled in the use of test and measurement equipment and debugging methodologies.
- Effective problem-solving and communication skills.
- Experience working within structured engineering processes, including configuration control, documentation standards, and version control systems (e.g., Git/SVN) is preferred.
- Applicants must be eligible to obtain and maintain a U.S. government security clearance. Prior clearance is not required but may be preferred for certain programs.
- Experience working in an ITAR-regulated environment or with U.S. defense contractors is a plus. Understanding of documentation and compliance requirements under export regulations is strongly preferred.

Physical Requirements:

- Ability to sit or stand at a workbench or desk for extended periods.
- Occasional lifting of up to 30 lbs. for equipment setup or testing.
- Frequent use of hand tools, test equipment, and computer hardware/software.
- Visual acuity sufficient to inspect circuit boards, read schematics, and operate electronic instruments.
- Clear verbal and written communication in-person and over phone/video for technical discussions and documentation.

Additional Information:

The Key Responsibilities are an outline of the general nature and level of work performed by individuals assigned to this position. It is not intended to be an exhaustive list of all duties, responsibilities, and qualifications. The company may amend or modify duties based on business needs in accordance with applicable California labor laws. Reasonable accommodations may be made for qualified individuals with disabilities.



Equal Opportunity Employer Statement:

Brandywine Communications is an Equal Opportunity Employer. We are committed to providing equal employment opportunities to all employees and applicants without regard to race, color, religion, sex, (including pregnancy, childbirth, and related medical conditions), sexual orientation, gender identity or expression, national origin, ancestry, age, physical or mental disability, medical condition, genetic information, marital status, military or veteran status, or any other characteristic protected by federal, state, or local laws.

Brandywine Communications strives to create a workplace that is inclusive, respectful, and reflective of the diverse communities we serve. We are committed to providing reasonable accommodations for qualified individuals with disabilities in accordance with applicable laws. If you require accommodation during any part of the application or hiring process, please contact Human Resources at hr@brandywinecomm.com.