

**Job Title:** Entry Level - Jr. Firmware Engineer  
**Department:** Power Division  
**Location:** Hackettstown, NJ

**Position Summary:**

Astrodyne TDI is Looking for a Junior Firmware Engineer with an EE or CS background or field of study that is interested in embedded FW and HW design. An ideal candidate would have an aptitude for problem solving in the digital and analog realms. The candidate will have experience with or even a general curiosity of IOT or robotic control devices in the hobbyist space can translate well into the entry level FW engineering positions. Moderate use of any program language\ IDE would indicate aptitude for this technology. We are willing to train for this position, the candidate must have the raw talent to build on and the drive to learn and execute well while working in a fast paced/hands on environment.

**Job Responsibilities:**

- Act as an individual contributor maintaining\ creating new firmware\software for 8/16/32bit microcontrollers
- Writing firmware “C” in bare-metal applications using non-blocking state machine methodology
- Debugging by use of in-circuit debuggers as well as, logic analyzers, UART terminals, LED\signal toggles, etc....
- Provide advice and guidance to other teams in the operation, maintenance and troubleshooting of our designs.
- Work with power supply engineers to troubleshoot and solve the system level problems
- Carry out and document system design verification, system characterization and validation testing.
- Prepare status reports and presentations for both internal and external company use.

**Qualifications:**

A Bachelor’s Degree in Electrical, Computer Science or pertinent experience is required. A minimum of 1-3 years’ of hands-on experience developing and troubleshooting hardware or software (preferably both, could be hobbyist work). Knowledge of microcontroller hardware\ system on chip (SoC) peripherals and how to configure and make use of them in our designs and programming languages C, C#, Java, javascript, HTML. Experience with “Git” or source control repository systems is a plus and knowledge of real time control concepts, particulars related to power equipment. The candidate should be familiar with communication protocols (CAN, TCP/IP, USB, SPI, I2C, & UART) as implemented in real-time applications.

**Other Knowledge and key attributes:**

- Troubleshooting skills – natural aptitude in diagnostics \ problem solving.
- Hands-on bread boarding skills and circuit prototyping skills
- Knowledge of common digital and analog circuitry
- Use of middleware tool chains such as LWIP, emWin, STCubeF4, Microchip MLA, TI-RTOS , TI Tiva-ware
- Experience in creation of documentation associated with firmware requirements
  - E.g. Product specifications, API’s, user manuals, block diagrams, data models

**Personal Attributes:**

- Innovative, creative type with a resourceful “Can-do” attitude
- Highly motivated, self-starter with great interpersonal skills.
- Strong collaborator that respects, the needs and contributions of others
- Requires little coaching; competent in presenting to small groups
- Comfortable working in a fast-paced, constantly-changing environment
- Organized, dedicated to follow-through

**Due to Military affiliations, we are unable to sponsor candidates who require a Visa. Candidates MUST be a US Citizen or a Permanent Resident/Green Card Holder.**

Astrodyne TDI provides equal employment opportunities to all employees and applicants. Our culture is one that provides opportunities for employee involvement, growth, and development. Astrodyne TDI offers competitive salary, paid time off, robust healthcare benefits, and 401(k).

**To Apply:** Please email your resume and cover letter to [Lindsay.Varnum@astrodynetdi.com](mailto:Lindsay.Varnum@astrodynetdi.com).