

Position Title: Embedded Digital Engineer
Reports to: Vice President of Engineering



Position Overview:

Lab X Technologies, LLC is a leading engineering design partner specializing in audio/video systems for the professional, commercial, and residential Audio/Video markets. This position reports to the Vice President of Engineering and will play a significant role in the continued growth of the company as an industry engineering leader. The position will require close interaction with clients (marketing and design personnel) and other Lab X design team members.

The position of Embedded Digital Engineer requires a wide breadth of expertise incorporating expertise in embedded software/firmware, “gateway” (FPGA HDL and specialized firmware), and hardware development.

The primary purpose of this position is to develop embedded application software/firmware, gateway, and digital hardware systems for our client’s high performance audio network connectivity, digital signal processing (DSP), and embedded Ethernet networked audio/video products.

Essential Job Functions:

- Overall Design
 - Development of Lab X Intellectual Property (IP) for emerging AVB (Audio Video Bridging) standards.
 - Contribute product concepts for internal and client development
 - Work closely with client development and/or marketing teams
 - Translate client requirements into product specifications
 - Develop conceptual system designs
- Gateway (FPGA HDL and specialized firmware)
 - Identify and elicit requirements to determine partitioning and selection of appropriate programmable logic devices (FPGAs, CPLDs)
 - Design HDL code and synthesis for programmable logic devices
 - Generation of test benches for simulation of gateway designs
- Software
 - Development of conceptual embedded software system architecture
 - Participate in the design, plan, and implement software used in embedded systems
 - Identify and elicit requirements from client and tracks those requirements are being addressed throughout the software design.
 - Represent needs and concerns of software engineering in the hardware design.
- Firmware
 - Embedded firmware design and coding for general purpose microcontrollers
 - DSP experience (preferably for Analog Devices’ SHARC or Blackfin processors)
 - Code management (handling of code releases, version control)

NOTE: This job description is not intended to be all-inclusive. Employee may perform other related duties as negotiated to meet the ongoing needs of the organization.

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- Hardware
 - Specify, design, and develop digital audio platforms
 - Debug initial target hardware platforms
 - Select components and assemblies
 - Schematic capture
 - BOM management
- Project
 - Provide time and material estimates for projects, including task breakdown and job quote generation
 - Participate in project management by providing status on tasks and revising current time to completion
 - Oversee prototype development (support outside PCB layout, BOM management, contract manufacturing, part sample procurement)
 - Design evaluation

Requirements:

- Bachelor's degree in Computer Engineering or Electrical Engineering (Associate degrees with extensive experience may also be considered)
- 3 years minimum experience in embedded system design of gateway, software/firmware, and hardware

Other Skills / Abilities:

- Experience with embedded Linux
- Familiarity with Ethernet protocols
- Detail oriented
- Results oriented with the ability to be self directed
- Proficiency with Linux tools
- Proficiency with MS Office tools (Word, Excel, PowerPoint, Visio)

Desirable Additional Skills:

- Personal interest / experience in audio (musician, live sound, recording, etc.)

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