

John Peterson

Experienced Embedded Development Engineer

Lansdale, PA - Email me on Indeed: [indeed.com/r/John-Peterson/0bb6ac104a9a9cb2](https://www.indeed.com/r/John-Peterson/0bb6ac104a9a9cb2)

Over twenty years of engineering design experience with embedded microprocessor hardware, firmware, and software. Proficient in C and assembly language. Strong communications skills to produce technical manuals, documentation, and training materials.

Authorized to work in the US for any employer

WORK EXPERIENCE

Lead Development Engineer

ABB Inc, R&D North American Technology Center - Bethlehem, PA - September 2009 to Present

Lead US group as part of international team of application function developers for protective relays. Platform is PowerPC based, real-time system designed around the IEC

61850 protective relay interface standard.

- Responsible for all aspects of development including: proposal, specification, implementation, module testing using MATLAB, integration testing, and final documentation
- Participate in international design reviews with teams from US, Finland, India, and China
- Provide training for the development process locally

Was also Lead SW engineer for development of 5407 ColdFire based protective relay for Canadian power utility.

- Presented software architecture to help win contract
- Responsible for developing and deploying new code releases
- Maintained lists of reported bugs and requested changes

Senior Development Engineer

ABB Inc, R&D North American Technology Center - June 1999 to August 2009

Worked on design team for new embedded 860 PowerPC C++ based product platform.

- Worked with contractor to design system architecture
- Specified and coded system interface to DSP

Additional projects and duties included:

- Developed algorithm for high-impedance fault detection using data recorded during testing at various power utilities
- Led US technical team on joint software development effort with ABB European divisions
- Supervised teams of junior engineers and technicians working on quarterly legacy product firmware upgrades
- Responsible for documenting that software releases were performed according to our standard procedures

Development Engineer

ABB Inc, R&D North American Technology Center - February 1997 to May 1999

Maintained and enhanced real-time embedded protective relay product. Platform was Motorola 68332 with Analog Devices 2181 DSP

- Programmed in assembly and C

- Supervised teams of junior engineers and technicians working on quarterly product firmware upgrades

Maintained and enhanced relay platform based on HC16 processor.

- Wrote communications interface and auto-reclosing function in C language.

Additional projects included:

- Represented US on international design team for 700K gate ASIC including an ARM processor
- Wrote design specifications and test plans for protective relays

Application Engineer

ABB Inc, R&D North American Technology Center - February 1996 to February 1997

Responded to customer questions over the telephone concerning protective relay testing and installation

- Verified and debugged reported problems and suggested solutions and product enhancements to Development Engineering
- Performed product demonstrations of digital protective relays and SCADA systems to new and potential customers
- Prepared specifications for new microprocessor-based products
- Wrote and maintained application notes and instruction manuals

Product Engineer

General Electric Company - Malvern, PA - 1992 to 1995

Provided engineering support for digital products from Manufacturing and returns from the field to diagnose problems, increase throughput, and improve quality

- Produced and performed 1-day hands-on training courses for digital protective relays at customer sites
- Presided over digital relay portion of annual relay testing workshops held at three universities
- Maintained and improved instruction manuals using customer feedback
- Wrote technical upgrade procedures and service advice for customer use
- Responded to customer questions over the telephone concerning protective relay testing and installation

Senior Hardware Engineer

UNISYS Corporation - Paoli, PA - 1984 to 1990

Designed Intel 80186 microprocessor based PC board for mail parcel sorting machine.

- Generated schematics, parts lists, and net lists on CAE system
- Developed firmware for board prototypes in C and assembly language
- Prototyped gate array using Altera EPLD
- Provided hardware support for hardware/software integration
- Diagnosed problems in PC boards from Manufacturing and from the field

Student Trainee

U.S. Army Satellite Communications Agency - Fort Monmouth, NJ - 1980 to 1983

Designed Motorola 6800 processor based system to control waveguide switches.

- Laid out and hand-routed interface PC boards
- Wrote system software in assembly language
- Populated PC boards and built interface cables
- Performed various tests on satellite simulators

EDUCATION

Master of Science in Electrical Engineering

Villanova University - Villanova, PA
1988

Bachelor of Science in Electrical Engineering

Drexel University - Philadelphia, PA
1984

PATENTS

Dynamic Energy Threshold Calculation for High Impedance Fault Detection (#7085659)

August 2006

DSP Implementation of High Impedance Fault Algorithms (#7272515)

September 2007

Method and System for Through Fault Detection in Electrical Devices (#8451574)

May 2013

ADDITIONAL INFORMATION

SKILLS: Programming in C and assembly language for real-time embedded systems. Hands-on experience with debuggers, analyzers, oscilloscopes, and meters. Proficient using Office Word, Excel, PowerPoint, and Visio. Extensive contact with the customer providing phone support, on-site training, acceptance testing, and detailed technical written procedures. Capable of producing product documentation and instruction manuals. Extensive knowledge of power systems and protective relaying.