BRUCE A. WAHLER
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SUMMARY

- 30+ years hands-on experience in electrical engineering, focusing on analog/embedded systems development – all in a hands-on, technical lead capacity
- Well versed in hardware, software, and mechanical design; with a proven track record of bringing designs from concept through manufacturing, within schedule and budget constraints, well documented for future support
- Experienced in mixed-discipline technical team management (electrical, software/firmware, mechanical, documentation, support) including hiring, performance reviews, salary evaluations.
- Proficient technical writer: author of concise, readable project proposals, design specifications, and upper management assessments.
- Prime contributor and coordinator of various conceptual and concept-to-design projects
- Able to quickly master hardware architectures, operating systems, development tools, programming languages
- Well versed in C (CCS, IAR, Microsoft, Borland), 80x86 and many MCU assembly languages, HTML
- Familiar with all Microsoft operating systems, including legacy variations: NT/2000/XP, 9x/Me, MS-DOS

EXPERIENCE

Independent Consultant/Contractor
ASHBY SOLUTIONS™, ASHBY, MA — Jan 2000 – Present

- Developed a light source for medical use with a Microchip PIC18F6527 MCU, digital and analog support circuitry. Created schematics in OrCAD Capture, firmware in CCS PIC C, PCB layout in PADS.
- Designed a PIC16F785-based solar battery charger: analog and digital circuitry, firmware in CCS' PICC, schematics and PCB in Altium Designer 2005, cost estimates. Tested and supported the prototype build.
- Created a reference design for an electronic ink display with a 4-bit MCU, analog and digital circuitry, firmware in assembly, documentation, and prototyping with a COB-based driver IC.
- Developed a Microchip PIC18F6621-based medical lamp controller, along with digital/analog support circuitry. Created schematics, fabrication drawings in Protel 2004, product costs, preliminary thermal solution.
- Designed a prototype battery-powered musical instrument with USB: specifications, architecture, competitive evaluation, analog/digital hardware design using PICs, schematics in Protel DXP, some mechanical design.
- Designed motor and sensor systems for a manufacturing system. Evaluated motor technologies (stepper, synchronous, servo) for tradeoffs. Created A/D, motor driver, sensor boards, prototyped using Protel 99SE.
- Developed DAC-based test tool with switching power supply, including architecture, design specifications, schematics/PC board layout, prototype fabrication, Atmel AtMEGA MCU firmware in C, final documentation
- Developed and tested/debugged new test equipment designs, working with Taiwan/PRC design teams.
- Produced architecture and functional specifications, system costs for electronic ink display products
- Completed a PDA-powered IR transceiver design, including dense SMD packaging and PIC firmware in C

Senior Design Engineer
PHILIPS HEALTHCARE, ANDOVER, MA — Jul 2008 – July 2010

- Developed defibrillator and ECG monitor hardware. Created schematics in OrCAD Capture, PCB layout in Altium Designer and Cadence Allegro.
- Managed the outside development of a DSP filtering system for ECG monitoring; and a CPR assistance meter, including testing and certification process.
- Analyzed and debugged issues with EMC, safety, and reliability testing and FDA certification.

Director of New Product Development
EXTECH INSTRUMENTS, WALTHAM, MA — Aug 2007 – Apr 2008

- Worked with Taiwan, Hong Kong, and PRC development groups to create new test and measurement products.
- Managed 6-person team of electrical and mechanical developers, including two employees in Asia. Provided performance reviews, team direction, coaching where necessary.
- Developed hardware and firmware for wireless circuit tester for electricians.

Platform Development Manager
COMPAQ COMPUTER CORP./DIGITAL EQUIPMENT CORP., MARLBOROUGH, MA — May 1997 – Jan 2000

- Armada™ 6500 and M700 technical team leader, working with Taiwan, Korea, Singapore, Houston (TX) teams
- Completed the design phase of the HiNote Ultra 2000™ PC, bringing the system to manufacture
- Worked with chipset, video, audio vendors to correct driver and firmware issues, develop ASIC products
- Provided direction and analysis of future portable PC products

Engineer and Manager, various product development and test groups
NEC COMPUTER SYSTEMS (A.K.A. NEC INFORMATION SYSTEMS), BOXBOROUGH, MA — Feb 1987 – May 1997

- Technical team lead on the design of Image™ and PowerMate™ PCs, including NEC's first US development
- Provided front-end analysis, benchmarking, and design guidelines for PCs (Versa™, Ready™, PowerMate)
- Developed schematics in OrCAD SDT, coordinated PC board layout/manufacturing with outside vendors
- Developed MS-DOS test software for PCs and printers using C, 80x86 assembly, and GW-BASIC
- Provided EMI, ESD, and packaging expertise to convert PC products to new plastic chassis
- Took over a failing docking station development program; successfully completed it in under 2 months
- Developed testing strategies and analyzed failures of third-party LAN, video, audio, and MIDI products
- Produced video and system interrupt diagnostic software in Microsoft C/C++ and 80x86 assembly.
- Led the establishment of NEC's MIPS PC test group, coordinating with the Japanese development team

Staff Engineer/Senior Engineer	SIMPLEX TIME RECORDER, GARDNER, MA	Aug 1982 – Feb 1987
Electrical Engineer	BURROUGHS CORPORATION, ROCHESTER, NY	Dec 1978 – Aug 1982
Associate Engineer	HARRIS CORPORATION, ROCHESTER, NY	Jun 1977 – Oct 1978
Student Engineer	CARBORUNDUM, INC. NIAGARA FALLS, NY	Jun 1976 – Aug 1976
Student Engineer	HOOKER CHEMICAL COMPANY, NIAGARA FALLS, NY	Jun 1975 – Aug 1975

EDUCATION

- BSEE, Clarkson University – graduated with high distinction (3.8+ GPA), Eta Kappa Nu, Phi Kappa Phi
- Completed several management training courses, including the NEC Management Training Program
- Self-taught web programmer fluent in HTML, Javascript, and web page design. Current versions can be seen at: www.ashbysolutions.com