

Summary

Electrical Engineering consultant with extensive embedded control and wireless communication system experience. Proficient in both design and leadership roles, from initial product conception through development, release, and manufacturing ramp-up. Motivated, personable, and able to bring a unique perspective to your projects, saving time and money.

Key Projects

Telecom and Wireless

- Wearable Computer with wireless LAN and bar-code scanner
- Integration of CDPD and GSM WAN data transceivers with handheld portable computer
- Minimal component count digital audio delay line for land mobile radio application
- Front-end security system for modem bank to block unauthorized callers
- CPU, Station, and Station interface boards for key telephone system
- Precise Tone Synthesizer for digital telephone system
- 8-port FAX modem board for Interactive Voice Response system

Real-time/Digital/Microcontroller

- Pressure altitude deviation alert for General Aviation application
- I²C-to-RS-232 interface with additional features for remote control application
- Production line functional tester for multiline telephone
- PCM highway frame memory to overcome intrinsic product timing limitations

Software

- Content Management application for data delivery to LED signs via satellite
- Web/SNMP/telnet interface and control system for broadcast satellite components
- Feature extension to portable data capture terminal and companion minicomputer
- Enhancements to power management processor in handheld computer
- Hub/controller for environmental monitoring system, including web interface

Professional Experience

1998–2002 Innovation Design and Solutions, Inc, Centerport, NY
Principal

- Developed Internet interface (web, SNMP, and telnet) for a family of satellite uplink products. A table-driven architecture permitted optimal code reused across the various product family members.
- Created multifunction interface (ADC, clock, GPIO, serial, keyboard I/F) using a single microcontroller, saving six ICs, reducing component cost by 60%. Firmware revision was verified (and auto-upgraded if needed) at system power-on.
- Identified, isolated, and solved an elusive timing problem that was preventing the shipment of 100 digital audio transport/control boards. An analytical strategy, coupled with focused experiments, resolved the issue in a single day, after three weeks had been devoted to the problem by the client.
- Designed a low-cost altitude deviation alert, based on a strain-gauge pressure sensor. A unique architecture permitted use of an on-MCU ADC, reducing cost. (Published in The Atmel Applications Journal, Summer 2003)

**1998–2002 Symbol Technologies, Inc., Holtsville, NY
Senior Project Manager**

- Managed the development of a prototype wearable computer combining wireless networking, VOIP, and mini-web browser, including coordination of industrial design, mechanical, electrical, and software teams. Conducted focus group surveys and presentations to high-level management including board of directors.
- Responsible for feature enhancements of wearable computing system. Provided dual-radio custom version to key account fulfilling \$4.5M contract – customer satisfaction resulted in add-on sales of \$2.7M.
- Directed development of a vehicular computer system providing parcel delivery verification data via terrestrial and satellite wireless networks. Managed subcontracting design firm during its acquisition simultaneously with delivering 1,500 units to customer, meeting initial rollout requirements.

**1995–1998 InterDigital Communications Corp., Melville, NY
Director of Engineering**

- Directed engineering staff during the development and beta deployment of a Wireless Local Loop spread-spectrum telecommunications system. The product included digital, RF, and telecom subsystems.
- Led an internal ‘Skunk Works’ team to rapidly develop and deploy a miniature portable version of a wireless telephony base station intended for exhibition presentations, propagation studies, and demonstrations for investors and technology partners. Met critical trade show deadline by reusing technology from standard version of product.

**1992–1995 Periphonics, Inc., Bohemia, NY
Senior Principal Engineer**

- Lead engineer for the development of a 96-line telephone interactive voice response system implemented with a combination of DSPs, FPGAs, and conventional processors. Performance requirements demanded major architectural changes, yet compatibility with legacy products was preserved.

**1987–1992 Insight Design, Hauppauge, NY
Independent Consultant**

- Developed digital audio delay for a land mobile radio repeater system utilizing low-cost DRAM and CODEC to replace unreliable analog audio delay line IC. Implementation reduced measured likelihood of failure from 40%/year to unmeasurable levels.
- Designed a novel circuit to generate eight telecom precise audio tone pairs (dial tone, busy signal, etc.) using only six dollars worth of components.
- Extended software capability of utility meter-reading system comprised of minicomputer and portable data terminal, automating more than 300,000 meter reads during delay in replacement system rollout.

Education, Licensing, Professional Organizations

- Bachelor of Electrical Engineering, SUNY at Stony Brook, Stony Brook, NY
- Business Management Certificate, CW Post – Long Island University
- Business Across Borders: Asia Pacific – Berlitz
- FCC General Radiotelephone license
- IEEE member since 1983

Personal Interests

- Private Pilot (instrument rated)
- Amateur Radio operator (WA2BUX)
- Recumbent Cyclist