

**Don Brown**

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**SKILLS**

Electronics Digital and Analog Design Engineer with Java, C/C++ Software Design and programming skills. 94GHz Millimeter Wave radar systems. Microprocessor system Architecture; Discrete/ASIC random logic/finite state machines, ASIC Gate Array design. Intel 80x86 and AMD 29000 RISC microprocessor families. Programmable logic, CAD tools: Schematic Capture, Logic Simulation, AC/DC loading analysis. Commercial/Industrial/Mil-Spec, research & development, production. Individual and team contributor. IBM/Personal Computer Systems and Networks; Specification, Sales, Installation, Maintenance and Support services (consultancy).

Radar System design, C/C++, Java, etc Programming. '386 Personal Computer designs. AMD 29000-based VME and Multibus processor single board computer designs. VHDL/HDL Altera/Cypress/AMD FPGA: ASIC-LSI Logic-Design. PC/Network System Installations.

**EXPERIENCE**

**SR. PRINCIPAL H/W DESIGN ENGINEER**

1997 - Present **BAE SYSTEMS, Inc.**, Los Angeles, CA;

Digital, Analog, Software Design, and Radar Systems Analysis and development. Designed and developed FMCW G4 Processor-based digital Radar Signal Processor system. Developed 94 GHz Millimeter Wave Radar components. Provided complete Millimeter Wave Radar System support and maintenance including calibration, characterization, and designs, including numerous field operations using radar system for testing and demonstrations. Managed Radar development laboratory that performed radar system integration, including antenna propagation testing range.

Designed and Developed C software for target Infineon CAN Bus microcontroller for a navigation sensor unit interface. Designed Embedded PowerPC 603e and Analog Devices DSP21060 - based circuit boards with PCI interfaces and VME backplane for "VITAL" system. Altera 7K/8K/9K/10K FPGA designs. designs. Employed High Level C or C++ Design Tools to generate VHDL or gate level hardware Logic designs. Ran Functional Verification of VHDL designs.

**PRINCIPAL ENGINEER**

1996 - 1997 **Medea Corp.**, Westlake Village, CA;

Designed Embedded 186-based hardware controller for a RAID IDE Video Disk system. Altera 8K/10K FPGA design.

**SR. ELECTRONIC ENGINEER**

**PRINCIPAL ENGINEER**

1994 - 1996 **StreamLogic Corp., (formerly Micropolis Corp.)**, Chatsworth, CA;

Developed C++ Device Driver for JPEG compression system in Digital Video Recorder (Embedded IDT R3000 MIPS CPU). Streaming Video Server Architecture (Video-on-Demand); Embedded Intel 80186 hardware system. PCI-bus board design. Intel 960RP/PCI -based embedded streaming video engine. Serial Storage Architecture Switch Matrix 200 Mhz designs; enables 2 to hundreds of Disk Drives or other data sources to be combined into a massive non-blocking switch matrix that provides many gigabytes/second storage retrieval capabilities for Internet, Video, and large data-base access.

### **SR. ELECTRONIC ENGINEER**

1993 - 1994 *Vista Controls Corp.*, Valencia, CA; Project Lead.  
Product Management and design of Military product based upon 29000 microprocessor. VHDL designs.

### **SELF-EMPLOYED CONTRACTOR/CONSULTANT**

1990 - 1993 *Don Brown Associates*, Agoura Hills, CA  
Clients: Vista Controls Corp.; Villamar Inc.; Westrex; Micropolis Corp.  
Projects: AMD 29000/20 VME Mil-Spec Fire Control System Controller SBC. EuroCard IUA (Image Understanding Architecture) 40 MHz Control Unit for Parallel Processor Array; (DARPA funding). SUN SPARC interface design (SBus). ASIC Design-LSI Logic. PC Sales and Service Consulting to the general public.

### **SR. HARDWARE ENGINEER**

1988 - 1990 *Zymed Inc.*, Camarillo, CA  
Designed AMD 29000/25 RISC-based computer board; Architectural and detailed circuit design. (Medical Electronics) Developed Cardiac Arrhythmia monitoring Acquisition board; Cartridge Tape controller; A/D acquisition interface; custom HP Laser Jet interface; Low-level Head electronics; Backplane design; Auxiliary data bus design.

### **ASSOC. MEMBER TECHNICAL STAFF**

1988 - 1988 *Teradata Corp.*, Los Angeles, CA  
Intel 80386 and 80486 CPU architecture issues for Data Base Machine.

### **SENIOR DESIGN ENGINEER**

1985 - 1988 *Cordata Technologies Inc.*, Newbury Park, CA  
Digital and Analog Hardware Designs and software utilities. Designed Intel-based 80386 20 MHz IBM compatible Personal Computer, VGA/EGA video display and Hard Disk controller Board. Designed various software debugging and analysis software.

### **SENIOR DESIGN ENGINEER**

1980 - 1985 *United Technologies Corp (Formerly Lexar Corp.)*, Westlake Village, CA  
Designed Digital PBX Processor System and components. Intel 80286 8 MHz CPU Processor board design; Intel 80186 CPU based SCSI Controller board; DRAM memory board w/ECC; DMA Channel controller/serial board; 38-slot two-way redundant backplane cage; SCSI floppy/hard disk module. Developed and programmed device driver and board/system diagnostic software. Intel based development environment. Designed Software Performance Metric Bus Analyzer.

### **SENIOR PROJECT ENGINEER**

1979 - 1980 *System Development Corp.*, Santa Monica, CA  
Designed 8086 communications Controller board for Records Manager office product; Managed Communications Cryptography project and received outstanding performance award as Project Manager in formulating BSC key distribution system for CRYPTOCOMPONENT product; designed 8088-based Controller of NBS DES (Data Encryption Standard); X.25/Ethernet communications protocols studies.

### **ENGINEER SPECIALIST**

1976 - 1979 *Litton Guidance & Control Systems*, Woodland Hills, CA  
F-18 program - Inertial Navigation Platform Electronics. Designed gyro electronics; Quantizer, Heater temperature controller, Motor spin controller; Analog & Digital mixed design; Precise temperature compensation. Designed elements of signal processing and control circuitry for a NMR (Nuclear Magnetic Resonance) gyroscope (IR&D).

### **SENIOR ELECTRONICS ENGINEER**

1974 - 1976 ***American Science and Engineering, Inc.***, Cambridge, MA  
Analog and Digital Designs. Designed circuitry for NASA HEAO-B orbiting X-Ray telescope satellite. Performed logic simulation of digital circuitry on IBM 360. Designed signal processing electronics for an X-Ray airport inspection system. Designed digital sections of a Remote Electric Meter Reader Transponder for Electric Power Management System, including the ASIC version of the digital electronics.

### **SENIOR ELECTRONICS ENGINEER**

1973 - 1974 ***Real Time Technology, Inc.***, Norwood, MA  
Analog and Digital Designs. Designed analog front end filtering and gain circuitry and digital sections of a seismic data collection instruments. Designed VLF seismic frequency Elliptic active filter. Designed digital system programmer of battery-operated digital tape recorder and radio receiver.

### **ENGINEER**

1970 - 1973 ***Technical Communication Corp.***, Lexington, MA  
Analog Circuit Design. Designed and manufactured voice and data scrambling products for radio and telephone communications, including FAX scrambling. Installed and interfaced products with radios both in factory and in field sites. Composed and published customer service, installation, and instruction manuals. Conducted FCC field strength measurements of radio equipment.

### **ADVANCED RESEARCH ENGINEER**

1965 - 1970 ***Sylvania Electronic Systems, Applied Research Labs.***, Waltham and Needham, MA  
R&D engineering; Analytical and Experimental applied research for special-purpose information systems. Phase-Locked Loop research; Digital data processors development; VHF R.F. microcircuit design, Computer data interfacing and displays, wide-band coaxial cable communications studies, and Human Factors instrumentation and research for U.S Air Force and U.S Post Office departments, high frequency radio receiver and transmitter design, and wide bandwidth analog to digital sampling circuit development. RF and Analog design of portions of an UHF Troposcatter Analyzer System, and power fault monitoring electronics of a transportable Loran-C transmitter engineering model.

### **SENIOR ELECTRONIC ENGINEER**

1961 - 1965 ***Columbia University Hudson Labs.***, Artemis System Group, Dobbs Ferry, NY  
Analog and Digital Design. Designed HF radio long-distance (500 nautical miles) FSK coded-pulse oceanographic timing system including ship-based high-powered pulsed radio transmitter station and shore-based receiver and cross-correlation processor. Designed and installed an analog coordinate conversion computer with a Loran-C receiver that provided real-time geographic helm readout of ships position on the high seas. Included search operations aboard U.S Navy ship for missing submarine "Thresher" in North Atlantic. Analytical research for U.S. Naval Research Labs. Artemis project for long-range oceanographic sound ray propagation and signal processing.

### **PROJECT OFFICER (1<sup>st</sup> Lt. USAF on Active Duty)**

1958 - 1960 ***Rome Air Development Center, Electronic Warfare Labs.***, Griffiss Air Force Base, Rome, NY  
Electronic Warfare R&D classified projects. Electronic Countermeasures (ECM) devices and systems program technical administration. Included Ground Based X-Band Radar Jamming Systems, Advanced X-Band waveguide T-R switch research, over the horizon long distance radar jamming systems research and secure communications systems ECM research.

### **ENGINEER**

1956 - 1958 ***Sperry Gyroscope Company, Airborne Radar Department***, Great Neck, Long Island, NY  
Radar Electronics Analog and Digital Design. Airborne Radar Beacon System timing circuits design. Digital & analog circuitry.

### **RADAR TECHNICIAN**

1953 **Grumman Aircraft Engineering Corporation**, Bethpage, Long Island, NY  
Pre-installation testing, Installation, and Post-installation First-flight Checkout of Search and Rescue Airborne Radar in newly manufactured Grumman "Albatross" amphibian aircraft.

### **RADIO ELECTRONICS TECHNICIAN**

1952 **ERCO Radio Company**, Garden City, Long Island, NY  
Manufacturing of and testing of Low Frequency to VHF radio components and equipment.

## **EDUCATION/COURSES**

AB (Liberal Arts) **Columbia University, Columbia College**, New York, NY 1956

BSEE **Columbia University, School of Engineering**, New York, NY 1957

MSEE **Northeastern University**, Boston, MA 1968

Statistical communications theory; signal processing and analysis; communications and radar networks and systems. Emphasis on the systems aspects of radar engineering, including antennas, low-noise receivers, high-power transmitters, range, angle, and Doppler tracking systems, search radar systems, mathematical descriptions throughout with principles of radar detection theory, matched filter and correlation receiver design, radar ambiguity function, radar uncertainty principles, radar waveform synthesis, fundamental accuracy limits, generalized tracking problems.

### **Other Courses and Education:**

**California State University Northridge**: Computer Science Department, Enrolled as a candidate for MS in Computer Science (since 1998).

**University of Southern California**: Digital Signal Processing telecast of MIT Center for Advanced Engineering.

**Syracuse University**, Syracuse, N. Y.: Electrical Engineering Graduate studies

**Columbia University School of Engineering Graduate School**, New York, NY: Electrical Engineering Graduate studies

**Pierce College**, Canoga Park: Microprocessor system design.

**Intel Factory Seminars**: 80386, 80286, and 8086 system design.

**Learning Tree University**: C/C++ Programming.('91-'96)

**Altera Factory Training** : 10K Design.

**Cypress Factory Training** : VHDL Design.