

## Resume' of Frank D. Holden

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### **Objective:**

Electronic Engineering / Technical Career / Contracting / Management

- +10 years as an Electrical Engineer.
- Leadership skills include experience as a team leader, supervisor, mentor and project manager. Capable of working in a leadership, team or independent position with hands on approach to projects.
- Software skills: ACAD, MATHCAD, LABTECH, VISIO, HTML, DOS, Excel, Windows, Internet, PLC Programming (Bailey Symphony, Allen Bradley RS Logix series) and Gate Array Programming.
- Excerpts from written reviews by supervisors at the following companies:
  - Novellus Systems --- "...Frank's creativity & judgment performance consistently exceeds expectations...inventive solutions...fresh point of view..."
  - ACS Communications --- "...Excellent project manager and creative engineer...relates well to all levels within an organization..."
  - Flexible Manufacturing Systems --- "...great job...ability to organize & supervise have been a big help...completing on short schedule...thanks for the extra effort..."
  - Diasonics --- "...a most reliable engineer...completing the most difficult design faced by any engineer at Diasonics...demonstrated ability to pick up the stride very quickly...works within extreme time constants...without sacrificing quality..."
  - Hawaiian Electric & Light Company--- "Excellent Instrument & Control experience in a combined cycle plant; works well with other crafts and is respected as a resource"

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### **Employment Experience:**

#### **Consulting Engineer** *Self Employed, Kona Engineering, Big Island, HI. 3/93 - Present*

Circuit design and construction of high voltage radio frequency test systems, very low noise pre-amps, underwater hydrophones, A/D converters, communication modulators and de-modulators, controller for E-Cell Electro deionization Systems for Ultra-pure Water, control circuits for proprietary high power laser systems. Servicing of local cable broadcast station's video equipment. Designed closed loop control electronics for disk drives.

#### **Journeyman Instrument/Control Technician** *Hawaiian Electric and Light Company, Keahole Power Plant, Big Island, HI. 04/05 – 02/09*

Performed predictive, preventive and corrective maintenance on all pneumatic, hydraulic, mechanical and electronic instrumentation and control systems, including all computer control systems. Programmed and modified a variety of PLC systems for turbines, diesel and auxiliary systems. Troubleshoot and upgraded instruments and control systems. Programmed and installed new instruments and controls. Calibrated instruments to stay in compliance with the Department of Health.

#### **Instrument/Control Technician** *Hamakua Energy Partners, Big Island, HI. 6/00 – 04/05*

Assisted in the start-up of this 60 Mega Watt power generation utility plant during the construction phase. Troubleshoot and maintain 480 VAC 3 phase electrical systems, pumps, motors, motor controlled valves, electronic instruments, pneumatic/hydraulic computer controlled systems, computer networks, gas fired and steam turbines. Responsibilities included plant operations, design of graphic interfaces for computer control of plant functions, data collection, tagout/lockout, adjustments of tunables on Netcon/Bailey DCS and water quality analysis. Involved in the training of new Control Technicians.

#### **Electronics Technician** *W.M. Keck Observatory, Kamuela, HI. 4/95 - 3/99*

Was responsible for fabrication, installation and troubleshooting telescope control and communication systems. These systems include very low noise optical sensor arrays, astronomical instruments, high-powered motor drives, servo systems, data acquisition, PC and VME computer systems. Created drawings with ACAD and VISIO. Repaired and maintained all radio communications equipment for the observatory.

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**Electrical Engineer**      *Metricom, Inc., Los Gatos, CA.*      7/91 - 2/93

Planned and managed projects/schedules, supervised technicians. Designed VHF radio communication circuits for a portable spread-spectrum radio product. Circuit designed impedance matching circuits, crystal oscillators and battery charging circuits. Responsibilities included performing accelerated environmental testing for humidity, temperature and vibration. System testing of wireless network communication circuits, packet error rates, software protocols. Designed an optically isolated communications circuit for power utility pole top radios that provided high voltage and lightning strike protection to equipment and operators.

**Electrical Engineer**      *Novellus Sys. Inc., San Jose, CA .*      7/89 - 7/91

Managed projects and schedules, supervised technicians and services of independent contractors. Responsibilities included circuit design and construction test fixtures for 10,000 watt RF signal sources and transmission systems. Designed 220 volt three phase electrical systems, RF impedance matching circuits, analog and digital control systems. Wrote software code for PLC (programmable logic controller). Contracted as an independent consultant for Novellus in 1994 to design and build high powered test systems.

**Project Manager/R&D Engineer**      *ACS Comm., Scotts Valley, CA.*      8/88 -6/89

Managed product development budgets/schedules, manufacturing cost projections and setup of a complete engineering development lab. Developed an optical, infrared wireless telecommunication headset. Circuit design included radio frequency crystal modulators, de-modulators, compressors, expanders and low noise pre-amps. Acted as an independent consultant to ACS through 1991.

**Electrical Engineer**      *Flexible Mfg. Systems, Los Gatos, CA.*      5/84 - 8/88

Managed projects and supervised technicians. Completed circuit design and implementation of a gyroscopic navigation system for a mobile clean room robot, a multiple-channel ultrasonic guidance system, an optical high powered infrared digital communications link, CPU system board, signal processing boards, VME bus digital and analog I/O boards, servo motor controllers.

**Electrical Engineer**      *Diasonics, Milpitas, CA.*      3/80 - 5/84

Managed scheduling, cost estimation, documentation: supervised technicians, draft persons and assemblers. Designed servo controller electronics for DC three phase brushless motors, RF 400 volt transmitter, and keyboard controller, Doppler audio processor that measured blood flow direction/velocity and a network communication controller hub. Circuit design included analog filters, linear broadband phase shifters, use of power FETs and transistors.

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**Research Technician**      *Searle Ultrasound. Mt. Prospect, IL.*      6/75 - 3/80

Assisted in the design of a phased array medical ultra-sound scanner. Prototyped low noise pre-amps, video, high voltage circuits to 30,000 volts, high-speed critical system timing circuits, radio frequency transmitters and PCB layout.

### **Education:**

PLC RS Logix 5000 Training Course

Electrical Safety 70E with Arc Flash Protection

Power Plant Water Chemistry Course

Power Plant Water Treatment Systems Course

Power Plant Operations Course

Power Plant Auxiliary Systems Course

Gas Turbines and Diesel Engine Course

LM2500 Gas Turbine Basic Operators Course

Bailey DCS (Distributed Control Systems) Course

President of the Capitol Toastmasters

Business Management, GPA 4.0 (A); Harper College, Palatine, IL

Associate of Applied Science Degree in Electronics Technology  
GPA 3.2 (B+). Prairie State College, Chicago Heights, IL.

First Class Radiotelephone License  
Issued by the Federal Communications Commission.