



Fred Conklin, Engineering Services

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Analog and Digital design:

USB2.0 characterization implementation (with knowledge of USB3.0)

Control system design, Non-linear systems design

Test Fixture, Automated Test, and Data Acquisition System design

Grounding and shielding techniques

Low signal and instrumentation transmission techniques

Altium Designer schematic capture and layout

Orcad schematic capture and layout, PADS, PSpice, GerbTools Designer

VHDL Programmable Logic Design (FPGA and programmable devices)

National Instruments LabWindows and LabView Automated Test and Data Acquisition Systems,

GPIB and Custom Data Acquisition Programs

Embedded Systems (hardware and software - FreeScale, Altera, Cypress, and Xilinx devices)

Mechanical:

Solidworks

ProEngineer

AutoCad

General:

Statistical analysis and process control techniques,

Technical Writing (Procedures and Theories of Operation),

Customer training

Products Developed and Marketed by Engineering Services:

1. **Accessory to convert convection heat wall-furnaces to forced air ventilation**
2. **Portable and detachable crane/hoist to transfer loads up to 1000 pounds to pick-up truck beds**
3. **Series of power monitoring equipment for single and multiple circuit electrical installations**
4. **Emergency power generator capable of delivering 120 VAC/30 amps without the use of fuels that would deplete during periods of emergency or devices that could/would be damaged during a natural disaster**

Partial List of Client Companies (1990 to Present):

Note: This list contains **major** clients during the time periods shown. Client reference contacts available on request

1. General Dynamics OTS

March 2010 – present

Since March 2010, I have provided schematic entry and pcb layout services for a high density, rigid/flex device that was required to meet severe mechanical constraints and survive extreme force (18KG compression, 8KG relaxation, 600G rotation/sheer) maneuvers; provided general statistical analysis of Device Verification Tests (DVT); and revised manufacturing procedures.

7. One Touch Systems, Inc. 1994-1996

40 Airport Parkway
San Jose, Ca. 95110

I was brought in to complete a stalled development project **that required, by contract, delivery of high volume production units within 3 months of my involvement. At the time, no working prototype existed. Contractual obligations were met, allowing One Touch to triple its yearly sales.**

I provided electronic and mechanical designs for second and third generation products. Electronic design included the telephone interface (FCC Part 68), RS485 serial communications port, analog pre-processing for digital audio, digital audio, 80C51 microcontroller, and interface to ISA bus. Mechanical designs included sheet metal chassis, sheet metal covers, injection-molded cases, and injection molded front bezels.

8. Amati Communications Corp. (now a division of Texas Instruments) 1993-1994

3801 Zanker Road
San Jose, Ca. 95134

I designed a GPIB (General Purpose Interface Bus) Automated Test program that controlled a spectrum analyzer, a waveform synthesizer, and a BERT (Bit Error Rate Tester). This program compared measured results against stored acceptance criteria.

I developed and implemented the initial Document Control System and Engineering Change Order Procedures.

I introduced basic inventory and purchasing control procedures and developed a primitive Materials Requirements Planning System based on Microsoft Excel and Access.

9. PolyCom Corporation 1991-1993

2584 Junction Avenue
San Jose, Ca. 95134
(408) 451-9000

I analyzed and debugged the analog and digital sections of the first prototype designs of a full-duplex audio-conference phone. This analysis resulted in **the re-design for ground separation and audio section noise reduction.**

I designed and performed directional echo suppression experiments in an audio anechoic chamber.

10. MetCal, Inc. 1990-1991

1530 O'Brien Drive
Menlo Park, Ca. 94025
(415) 325-3291

I installed and maintained data acquisition/automated test systems and custom test fixtures for measurement of Radio Frequency Power Levels (Kw), Temperature (in an RF Power environment), Strain Gage signals, and Accelerometer signals.

I developed tests of plastics for properties and bonding strength vs. temperature and dwell-time using an Instron Universal Test Machine.