ROY F. CLEVELAND, III

103 South Cameron Street
Sterling, Virginia 20164-1916
Telephone: (703) 430-4799, FAX (703) 430-5744
E-mail: royc10@aol.com

SUMMARY

Hardware Engineer seeking a full-time, part time or contract position in a field that will utilize my broad range of experience. Interested in positions that involve new technologies. Experience includes areas of analog, discrete digital and telecom circuit design. Involved in planning and design of custom systems under government contracts. Top Secret-SBI clearances previously held.

NOTABLE ACCOMPLISHMENTS

- Most recently involved in design of SONET STS-3/OC3 communications node/multiplexer.
- Manager/system architect for a group that designed an information collection, storage and retrieval system. System used to warehouse data and included a triple tiered retrieval system to provide near real-time access to archived data. Project included the use of Ethernet and T1 networking technologies.
- Member of joint project proposal team. Significant contributions to top and mid-level block diagrams plus descriptions of proposed system.
- Wrote operations and service manuals for communications systems using Newbridge T1 equipment.
- Member of team providing corrective consulting support to Herndon, VA company. Responsible for correcting defects in analog and digital telephony interface design for PABX satellite extension system.
- Designed and developed analog telephony interface Direct Access Arrangement (DAA) using single IC international impedance matching circuit solution, plus CODEC on a 1.25" X 2" circuit board. Unit was used with a PC104 based DSP motherboard.
- Developed DC to DC switching power supplies, including step up and step down topologies. Wattages from 5W to 500W.
- Specialized in single-chip MC68HC11 microprocessor circuits using tight assembly code for use in various low cost self-contained products.

EMPLOYMENT EXPERIENCE

Senior Hardware Engineer – Pulsecom Inc., Herndon, Va. September 2000 to November 2002
Part of project team designing STS-3/OC3 SONET products. Other responsibilities included writing, checking, and approving ECNs for sustaining engineering and involvement with ISO9000 quality program. Updated obsolete circuitry in T1, HDSL and HDSL2 products. Products are used by Competitive Local Exchange Carriers, and Bell Operating Companies.

Principle Engineer - Sparta Inc., Mc Lean, Va., May 1999 to March 2000
Designed, built, programmed and tested serial protocol converters based on the MC68HC11 micro-controller. Analyzed problems and suggested solutions in Data Access Arrangement (DAA).

Group Leader/Senior Engineer - HDS, Inc. Reston, Va., April 1996 to April 1999
Managed group of three engineers and two technicians assigned to assemble and test Newbridge T1 systems. Designed DC-DC converters for use in Automatic Meter Reading (AMR) system modules. Prepared proposals and Statements of Work (SOW) for government RFPs.

Senior Staff Engineer - Logic Labs, Leesburg, Va., August 1995 to April 1996
Designed an advanced high power, Power Factor Correction Module (PFCM) for use in a distributed fluorescent light ballast system. Designed a high efficiency (>93%) 600 watt PFCM.

Group Leader, Staff and Senior Engineer, HDS, Inc. Reston, Va. October 1980 - August 1995.

Project Leadership:

- Project Manager of six person design group for Data Collection system previously mentioned..
- Project Engineer, X-band microwave intrusion/surveillance system.
- Project Engineer, Microprocessor controlled battery test and charger system. Developed procedures for assembly and testing.

Design Experience:

- Analog and digital circuitry, including differential and low noise applications.
- Interface circuits including SLIC, COIC, 2/4W-E&M, high impedance telephony monitoring applications.
- DC-DC switching converters/battery chargers. Buck, Boost, Flyback, SEPIC.
- AC-DC switching and linear power supplies.
- Microprocessor circuit design and assembly code for embedded applications.
- 900MHz. helical antenna matching network using tapered micro-strip and Teflon-Glass substrate.
- Transmit/Receive switch at low band VHF using PIN diodes.
- Stereo and single channel power amplifiers for special monitoring use.
- Multi-layer PC board layout.

Technical Writing and Instruction:

- Wrote technical proposals, Statements of Work, service and operations manuals
- Member of proposal team for Government RFPs.
- Trained Government field personnel on several systems.

Technical Instructor - Acuity Systems, Inc., Reston, VA., 1979 - 1980,

Developed, structured and wrote sections of a field service manual for the RX-1 Autorefractor, a device for automated measurement of the eye. Taught basic electronics and service courses. Wrote sections of product training manuals.

Biomedical Engineering Coordinator - Fairfax Hospital, Falls Church, VA, 1978 - 1979,

Developed service programs for maintenance of life support equipment used in intensive care areas. Designed and installed new critical care monitoring systems. Developed a plan for shared maintenance services with satellite hospitals. Designed a 40 second digital, delay unit capable of replacing an aging tape loop system used in the coronary care unit.

CONSULTING EXPERIENCE

PC Designs is a Loudoun County business, sole proprietorship, that I started in 1983 to conduct consulting engineering. It has been successful in working with a number of companies. A web site at www.4pcdesigns.com should be visited for additional information on the projects discussed here.

Arius Inc. Frederick, Md. - Designed a custom DAA/CODEC using the CP Clare Litelink™ Chipset. Designed a 4-wire E&M interface, a 6.6 Watt 5V to 3.3V DC to DC converter, including board layout. Performed complete testing and verification.

Intellibit Inc., Herndon, Va. - Designed Subscriber Line Interface circuit (SLIC), a 12V to 120V DC-DC converter for ringer power, and assisted in design of 4-wire E&M circuits for a satellite telephony communications system. Corrected a problem that existed in a 4-wire E&M design. Wrote Acceptance Test Procedure for system based on ITU requirements. Designed and built an E&M test set, delivered to customer.

American Compact Lighting (ACL) - Co-designer of a high efficiency fluorescent ballast capable of efficiencies over 80%. Consulting was done before accepting a position with the company in 1995.

Telemonitor Corp., Herndon Va. - Designed a multi-port analog to digital interface for use with

the existing 80C31 microprocessor product.

PC Designs Mintimer Product - Designed, built, and programmed six special purpose timers. Product was delivered on-time and under budget.

Northwest Extensions, Inc, Combyte USA – Installed Coastcom brand T-1 point to point communication link used as an extension to a Merlin telephone system and for Ethernet LAN.

Innovative Products, Inc., Leesburg, VA – Assisted in the design and created the PC layouts for prototype circuit boards used in the next generation of their main product, the Parrot Messaging Switch Plate.

PC Designs Microprocessor controlled exercise bicycle – A project to learn about using an automobile alternator and microprocessor in a servo loop. Project used an embedded microcontroller and FET load assembly. All design and fabrication was done in spare time.

EDUCATION AND SKILLS:

George Mason University, Fairfax, Va. Undergraduate course in calculus.

Northern Virginia Community College, Annandale, VA. major in Electronics and Computer Technologies. Additional courses In Computer Technology including Introduction to "C" and Structured Programming.

Seminars on microprocessor application, Integrated Services Digital Networks (ISDN), and service schools for medical Critical Care patient monitoring systems.

Proficient in the use of Windows 95/98/2000, DOS, and Macintosh computers, Microsoft Office Suite, FileMaker, Adobe Photoshop and Acrobat, Deneba Canvas, Broderbund PrintMaster, Capilano DesignWorks (schematic entry for the Macintosh or Windows) and Cadence Concept HDL. Familiar with OrCAD 7, SPICE modeling programs such as Micro-Sim (now part of OrCad) and Micro-Cap (Macintosh). Beginner's knowledge of UNIX Korn Shell.

Skilled in the use of hand and power tools, test equipment such as meters, scopes, transmission test sets, logic analyzers, etc.

SECURITY CLEARANCES AND DRUG SCREENING:

US Citizen with previously held Top Secret SCI (non-polygraph) clearances, through previous employer. Worked in classified programs from 1980 through 2000. Have no moral or political objections to drug screening.

MILITARY SERVICE:

1970-1976, US Army National Guard, 151 EVAC Hospital, Washington, DC. Enlistment Term: 6 years. Rank at Discharge: Specialist E5. Type of Discharge: Honorable. Specialties (MOS): Medic/Intensive Care Specialist 91B20, Generator Specialist: 35G20.

VOLUNTEER AND COMMUNITY SERVICE:

Volunteer member of Loudoun Chapter of Mothers Against Drunk Driving. Responsible for maintaining web site at www.maddloudounva.org and assisting in continuing volunteer activities.