

## **Roland DeLuca**

### **3Tronics Technical Services**

410 Maple St Nelson  
BC CANADA  
250-352-3131  
roland@3tronics.com

### **SYNOPSIS**

3Tronics provides electronics product design services specializing in electronic hardware design, and associated software, PCB design, prototype fabrication, manufacturing services, verification and compliance testing, product specification, product commercialization, documentation and project management.

### **PROFESSIONAL EXPERIENCE**

17 years of electronic design, product development and project management experience. Diverse experience in the design and development of electronics systems and components used in communication, automotive, telecom, computer and production environments.

### **EDUCATION / PROFESSIONAL DEVELOPMENT**

Bachelor of Engineering, Sydney University, Major - Electrical Engineering 1985.

Member of the Institute of Engineers, Australia - 1983 - 1988.

Member of the Institute of Electrical Engineers, U.S.A. , from 1990 - Present

Courses / Seminars taken

- Applied Digital Signal Processing, U.B.C
- MicroChip PIC Masters Programs , Phoenix AR.
- Engineer as a Manager, U.B.C.
- Time Management, U.B.C.

### **PRODUCTS DESIGNED**

Graphics LCD display using ATMEL ARM7. Hardware design and software validation.

Audio Modulator using dsPIC

Pump controller with J1587 interface

Power Line Carrier Module for Trailer to Tractor communications using PLC4Trucks technology

Payment assured security system for vehicles using remote control interface and code generator software.

Multiplexed control system for Trucks controlling lights, wipers, fuel sender, switches, Flashers.

Smart LED Vehicle Lamps for Stop/Turn/Tail , Emergency and Warning functions with CPU control

SMPS power supply for LED tail lamp to operate from 8 to 32V.

Data fault monitor for trucks using SAEJ1587 protocol

Automotive RFID security system using passive transponder tags.

Car battery monitor and alarm

Analog C/KU band satellite receiver with SMPS

PAL D cable converter.

FM squared audio satellite receiver including FCC approvals

Isocronous FM data receiver

High speed PLL and data sync circuit.

Elevator security system and RS 232 computer interfaces.

PS2 Computer keyboard emulator for arcade games

Light organ tuned to bass frequencies

Audio controlled light switch

Load Dump tester for automotive transient simulation

High voltage pulse generator for automotive transient simulation

Digital Satellite receiver Integration including FCC-68

## **PAST PROFESSIONAL EXPERIENCE**

### **CONTRACTING**

**3Tronics Technical Services  
July 2002 – Present**

3Tronics provides electronics product design services specializing in electronic hardware design, and associated software, PCB design, prototype fabrication, manufacturing services, verification and compliance testing, product specification, product commercialization, documentation and project management.

- Audio Modulator using dsPIC
- Pump controller with J1587 interface
- PS2 and USB Keyboard emulators
- Embedded firmware development
- Remote VHF Wireless Monitoring System and PC software
- Expert Witness for Patent litigation

### **SENIOR DESIGN ENGINEER**

**Pacific Insight Electronics Corp  
Sept 2004 - Present**

Pacific Insight is a leader in the design and manufacture of electronic components for the automotive, heavy truck, bus and marine industries. My responsibilities include specification, design, testing and production proofing electronic modules used in the above applications. Most of my designs use Microchip PIC microprocessors.

- Graphics LCD display using ATMEL ARM7 Hardware design and software validation
- Intelligent LED lamps
- Multiple single product production testers

### **DESIGN ENGINEER**

**Pacific Insight Electronics Corp.  
July 1997 - July 2002**

- Power Line Carrier Module for Trailer to Tractor communications using PLC4Trucks technology
- Payment assured security system for vehicles using remote control interface and code generator software.
- Multiplexed control system for Trucks controlling lights, wipers, fuel sender, switches, Flashers.
- Smart LED Vehicle Lamps for Stop/Turn/Tail, Emergency and Warning functions with CPU control
- SMPS power supply for LED tail lamp to operate from 8 to 32V.
- Data fault monitor for trucks using SAEJ1587 protocol
- Automotive RFID security system using passive transponder tags.

### **CONSULTING ENGINEER**

**MPR Teltech  
January 1995 - September 1995**

MPR Teltech is a diverse company that provides turnkey communication systems for multinational customers. The contract under which I worked was to supply a complete MPEG Digital Video Satellite ground station including all uplink and receive equipment to our customer, Korean Telecom.

- Integration of 5 circuit boards in the MPEG digital satellite receiver.

- Responsible for external compliance testing of receiver to meet FCC,CSA, Telephone :FCC-68.
- Debugged CPU board prototype after second iteration design changes.
- Managed schematics in ORCAD , controlled procurement of parts for prototypes and production.

**PROJECT ENGINEER**

**Norsat International Inc.  
February 1990 - January 1995**

Norsat are manufacturers and designers of a variety of communication systems. My responsibilities included design, implementation and coordination of the electronics and software for the systems.

- Managed a team of 5 engineers and technicians designing communication equipment for satellite downlink systems.
- Designed an analog satellite receiver and a PAL D cable converter.
- Redesigned an FM squared audio satellite receiver that was too expensive to manufacture and difficult to test reducing the total cost by 30% and securing customer confidence.
- Involved in the design of a low cost consumer satellite receiver.
- Involved in the design, testing and delivery a commercial DMAC satellite receiver for BSB in the UK.
- Managed a team of hardware and software engineers in working on various related products.

**MEMBER OF TECHNICAL STAFF**

**Computer Sciences of Australia  
July 1988 - October 1989**

This organization produced turnkey computer software systems for the banking, defense and manufacturing industries. Responsible for writing program test sets for automatic test equipment and providing support for the development of data bases for equipment and labour costing.

- Participated in a team responsible for preparing turnkey proposal for command and control facility for 5 naval Frigates. Result was a \$120 million contract.
- Developed cost control systems for a multi-million dollar project.
- Developed programs used in short turn around diagnostics for sonar systems on submarines and ships.
- Obtained Australian security clearance for defense related work.

**CALIBRATION ENGINEER**

**Plessey Australia  
April 1987 - June 1988**

This company produced telecommunication equipment, sonar systems, satellite receivers HF and VHF mobile radio for defense and commercial applications.

- Undertook fault diagnostics and repair of all automatic test equipment and electronic controls associated with production and processing equipment.
- Calibrated and repaired electrical measurement instrumentation.
- Maintained electrical calibration standards to military specifications .
- Undertook diagnostics on radio systems.

**ELECTRICAL ENGINEER**

**Computer & Household Intelligence Processes  
1985 - 1986**

This organization manufactures high resolution graphics work stations used in architectural design modeling, computer protocol processing devices, custom control and security systems.

- Designed elevator security systems and RS 232 computer interfaces.
- Supervised and performed all aspects of manufacture of intelligent computer graphics work stations.

## **ASSISTANT ENGINEER**

**Naomi Valley County Council  
1982 - 1983**

Organization undertook the supply of electricity and maintained the distribution grid.

- Undertook high voltage transformer repairs.
- Designed and drafted roadway lighting systems and domestic electrical wiring systems.

## **PERSONAL PROFILE**

Married with two children, Citizen of Canada and Australia.

## **INTERESTS**

Cycling, swimming, hiking, electronics, gardening, guitar, golf

## **ASSETS**

Excellent organization and management skills.

Able to provide and implement pragmatic solutions to complex problems.

Interests in digital signal processing, data base programming, design and construction of electronics for specialized purposes and as hobby, video systems / monitors, Vbasic ,C++ and Stock market.

## **REFERENCES**

Further personal and business references available upon request, in confidence.

This document is expressly NOT in the public domain and remains the sole property of the copyright owner.

Distribution or modification of this document without the knowledge, review, and express permission of the copyright owner is strictly prohibited.

Resume of Roland DeLuca. Copyright  
2002 Roland DeLuca. All rights reserved.

