MARK L ATHERTON
PO Box 30022
Christchurch, New Zealand
021 032 4446 (m) or 03 337 6632 (h)
mark [at] iDesigNZ [dot] org

SUMMARY

Interested in contributing to projects that can utilize my broad range of skills and enthusiasm. Experience includes Electrical Engineering, Software Engineering and Management. Component level and system level experience with a wide range of contemporary embedded controllers, peripherals and associated signal conditioning.

Excellent written and oral communication. Able to translate complex *engineer speak* for a wider audience. Ability to understand needs of audience outside of the engineering arena. "Roll yer sleeves up, get the job done" attitude along with an appropriate sense of urgency. BSEE equiv and NZ Permanent Resident.

Made significant contributions to US patents 6211940, 5757465, 5710752, 5608805 & 5544140. Team received a technical Oscar from the ***Academy of Motion Picture Arts and Sciences*** for work on Dolby Digital sound on film project. Also a technical Emmy from the ***Academy of Television Arts and Sciences*** for work on the Dolby Digital on DVD project. Won a ***Star*** award at National Association of Broadcasters 2002 for component level design of a base band (1.5GB/s) HDTV monitor product (10 awards are presented annually from 5000 products).

EXPERIENCE

Integrated DesigNZ, Christchurch, Managing Director (11/04 to date)
Providing contract design solutions to the electronics and software industries. Work to date includes design of a multi-processor mixed technology embedded Linux navigation system, evaluation and cost reduction of UHF telemetry system and production engineering of an optical acquisition system.

EDAC Ltd, Christchurch, NZ, Engineering Manager (3/05 to 2/08)
Technical lead involved with all aspect of product design and development for a small, diverse engineering design group involved in the wireless and telemetry arena. Activities include Software, Hardware, RF and Mechanical design. Provided technical/marketing interfaces along with mentoring.

Aceeca Ltd, Christchurch, NZ, Senior Design Engineer (03/04 to 12/04)
Detailed design and implementation of a low power hand held FFT analyser. Based around a Rugged Palm, this plug in module housed a 75MHz ADSP2189 DSP, Compact Flash, ADC, Analogue signal conditioning, PLL clock synthesis and Control interface to the Palm. Designed all Hardware, DSP software (assembler) and Palm Software (C, PalmOS).

Wohler Technologies, South San Francisco CA: Senior Engineer (06/00 to 03/04)
Involved with product definition, detailed design and implementation of complex multi-processor software and hardware systems (professional digital audio and video monitor systems.) Transfer of products from Engineering into Manufacturing along with product roll out and initial customer interface. Preparation and sign-off of design documentation. Designed and introduced two significant new product ranges and developed one new technology including an Embedded TCP/IP based audio alarm system and an Embedded multi-channel audio monitor with HD-SDI (SMPTE 299) sub-systems.

Dolby Laboratories Inc., San Francisco CA: Senior Digital Broadcast Engineer (02/98 - 04/00)
Provided technical leadership in the development of ATSC compliant MPEG2 / Dolby Digital test streams for testing latest generation consumer HDTV receivers. Specified, procured and configured $250k test equipment as part of a new department. Located and initiated contract with an external software house to prepare required test material.

Dolby Laboratories Inc., San Francisco CA: Senior Engineer (promotion) (10/96 - 02/98)
Prepared product definition and managed a multi US$ million audio hard disk recorder project. Managed and provided detailed technical leadership for a team of six software and hardware engineers to develop product. Target system was a multi-processor Motorola DSP farm with multiple user interfaces. Initial product definition remained intact through to product release in 2000, where it is now the main mastering system used in the authoring of Dolby Digital movie soundtracks worldwide.

Dolby Laboratories Inc, San Francisco CA: Project Engineer A (05/94 - 10/96)
Prepared product definition, designed hardware, software and project managed three software and hardware engineers for the reference professional Dolby Digital decoder (DP562). Prepared product definition, designed hardware and project managed (software and hardware) for the reference professional Dolby Digital DVD decoder (DP524). Dolby Laboratories received a technical Emmy for the Dolby Digital on DVD project and my team attended the award ceremony in New York in 1999.

Dolby Laboratories Inc, San Francisco CA: Project Engineer A (promotion) (04/90 - 05/94)
Architect for the Dolby Digital (film) project. Involved with almost all aspects of the system. Designed most of the initial hardware for the system along with driver software and graphical user interfaces (GUIs) for the mastering and camera systems (around 10,000 lines of ‘C’ each). Five Patents were awarded by the US patent office for this work. Dolby received a technical Oscar for this project and my team attended the award ceremony in Los Angeles in 1997.

See: US Patent 5,544,140 - Storage medium and apparatus … by oversampling
See: US Patent 5,608,805 - Dynamic loader
See: US Patent 5,710,752 - Apparatus using one optical sensor to recover…
See: US Patent 5,757,465 - Storage medium … in two dimensions
See: US Patent 6,211,940 - Selecting analog or digital motion picture sound tracks

Dolby Laboratories Inc., London, England: Product Development Engineer (02/88 - 04/90)
Designed and implemented software and hardware for the company’s first auto aligning Dolby Noise Reduction system (MT24). Designed and developed a single threaded cooperative multitasking environment as part of this project. Project complexity around 10,000 lines of ***C*** and ***assembler***. Product sales exceeded US$1.5M during its lifetime.

Fisher Controls, London, England: Section Leader (promotion) (05/87 - 02/88)
Provided technical leadership developing software and hardware for a safety critical Nuclear Reactor system. Led a team of four software and hardware design engineers with this very first deliverable software project for the company contracted by Rolls Royce and Associates.

Fisher Controls, London, England: Senior Engineer (promotion) (02/85 - 05/87)
Provided technical leadership and support to the Nuclear Reactor design and test group. See above for more details.

Muirhead Data Communications, London, England: Design Engineer (05/84 - 02/85)
Participated in the design of software and hardware for a multi-processor wirephoto system. The host system was a PDP11/23 attached to a 12 processor image acquisition subsystem each with a 6809 microprocessor. Data transfer was via a high speed 16 bit DMA channel.

Ministry Of Defence, Kent, England: Professional Technology Officer, Grade 4,(09/79 - 05/84)
Designed and constructed custom microprocessor controlled test equipment. Mainly 8080 assembler using Intel ISIS II O/S. Managed two technicians.

Ministry of Defence, Kent, England: Technical Apprentice (09/75 - 09/79)
Competed for and won an elite four year indentured electronic & technical apprenticeship (120 applicants, 20 positions). The four years were split equally between practical training at the apprentice centre and academic studies at Bromley College of Technology.

EDUCATION - summary
BSEE equivalent - Bachelor's Degree in Electrical Engineering Technology 1986, required as part of my 'Green Card' work permit application processed by the US Immigration and Naturalization Service in 1991.

Personal
I am a social animal, and adore smart, funny people. I regularly seem to be setting single friends up on dates and similar sorts of mischief. I have many and varied hobbies: I have been helping at the Ferrymead Radio Preservation Society that supports a volunteer run Museum and Radio Station.

While living in the USA, I supported National Public Radio and contributed by helping with live on-air fund raising. I currently have about 40 hours live on-air experience. KALW has a regular audience size of about 100,000 of which 10,000 are paid up supporters; this is a tiny station by local [San Francisco] standards. I am told I have a good on–air persona, but I doubt that I will ever be rich enough to be able to afford a career in broadcast radio.

I have carried out several projects with the [San Francisco] Parks Service leading tours of a historic WWII Nike Missile site. Also have given occasional lectures at a local [San Francisco] technical college on the subject of real world software engineering as well as the Canterbury Professional Audio Association on audio related matters.

Amateur radio has played a significant part of my upbringing and have made many life-long friends through this hobby. The last 10 years have seen a sad decline of the hobby, mainly due to the Internet and Cellular telephony.

I have made recent contributions to the New Zealand satellite "KiwiSAT" including the complete design and implementation of the UHF telemetry / traffic receiver for the spacecraft, along with initial work on Imaging and significant refinements of the VHF downlink transmitter.

I really would like to make the time to build another two-person hovercraft so I can get back into this amphibious hobby. I also loved SCUBA diving [while in the UK] and managed to make it to a junior teaching/training grade.

I also support several NZ based non-profit technology organizations by re-directing usable materials that would otherwise be scrapped. This is done with great deal of help from industry contacts.

I am told that I am a flexible person, and my general view of the work world is "keep the customer happy, do good stuff, have fun doing it".