

Curriculum Vitae

Rob Beck

Full name: Robert David Beck.

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E-mail: rob@2fdesign.co.nz

Date of birth: 24th January 1973.

WORK

Company: Phitek Systems Ltd.



Position: Senior Design Engineer

- Following a downsizing of the component business, I returned to a core engineering role.
- Hardware and Software design and development of products for avionics in flight entertainment systems.
- Detailed hardware design and hardware analysis for aerospace certification (D0160, D6-366540).
- Embedded DSP software; C and ASM (TI c55x, MSP430).
- Embedded Windows mobile software development; C# and VB (.NET).
- USB driver development in C++.
- DSP optimisation and algorithm enhancement.

Position: Applications Engineering Manager

- Design and management of a number of reference designs for active noise rejection (ANR) components including designs for Bluetooth audio, USB audio, and single cell battery systems.
- Management of a hardware and software focussed engineering team varying in size from 2 to 5.
- Acoustic design support.
- Direct customer technical support, and technical sales.

Position: Software Team Leader

- Management of a small software focussed engineering team varying in size from 3 to 4.
- Algorithm development for Phitek's psychoacoustic audio systems.
- PC software development for DSP testing and verification using Microsoft Visual Studio .NET (C++, C# and VB).

Position: DSP Engineer

- Development and deployment of Phitek's psychoacoustic audio system on fixed point DSP's.
- DSP algorithm optimisation.
- PC software development for DSP testing and verification using Microsoft Visual Studio .NET (C++, C# and VB).

Other Activities:

- Training, mentoring and support of hardware and software engineers within Phitek.
- Hardware and software design for ANR headphone testers.
- Acoustic test equipment evaluation and customisation to suit ANR systems.
- Design architect contributor for systems that migrate ANR to alternative systems and platforms.

Website: <http://www.phitek.com>

Company: 2fDesign Ltd. (Self-Employed)



Contracts: Electronics Hardware and Software Design

- **Client: Auckland University of Technology.** Tutor for paper's on iPhone application development.
- **Client: PowerByProxi.** Short term contract to review and recommend improvements to a number of Power by Proxi firmware systems, including wireless communication protocols, and platform selection.
- **Client: Horizon Scales.** Turn-key weigh scale indicator electronics development project which included analog and digital hardware design and embedded C and PC software.
<http://www.horizonscales.com>
- **Client: Telecom/Baycity NZ.** Turn-key CDMA data acquisition modem project. Analog and digital hardware and software design.
<http://www.baycity.co.nz>
- **Client: Postec Data Systems Ltd.** CPLD design (Xilinx) in VHDL for a high speed application.

- **Client: Navman/Talon Technologies.** Prepared and presented a DSP training course based on AD and TI 16-bit DSP's.
- **Client: Memec/Nordic Semiconductors.** Example design for wireless data communication with Nordic VLSI.

Contracts: Database and PC Software Development

- **Client: GEA Niro.** Database development for dairy processing industry. Integrating AutoCAD drawings and drawing objects into an SQL based database.
- **Client: Carter Holt Harvey.** Database development for pulp and paper industry. Integrating AutoCAD drawings and drawing objects into an SQL based database.
- **Client: Carter Holt Harvey.** VB.NET database applications for easy access to the database data.
- **Client: Carter Holt Harvey.** VB.NET design to automatically PDF AutoCAD drawings and create an index to these drawings as an html webpage.

Project: Endurance Diary (Commercial Software)

- Software development of iPhone/iPad/iPod Touch application for endurance athletes. Available for sale on the iPhone app store since November 2009.
- Excerpt from a user review sums up my approach to embedded software development: *"the app is intuitive, easy to use, not bogged down with useless options and, at long last, exactly what I was looking for. Well done!"*
- <http://tinyurl.com/yl7htdg>

Project: Star-Mate (Personal)

- Complete design of a wireless telescope control system for astronomy and astrophotography.

Project: NetFlick (Commercial)

- Complete design of a telecommunications product for the consumer market.

Project: DSP Crossover (Investigation and feasibility study)

- Patented concept for an active audio crossover for use in an high end active speaker system.
- Hardware design using the Sharc DSP from Analog Devices.
- Software design in assembly.
- DSP algorithm development (FIR, FFT, IFFT, DFT, IDFT) using Delphi.

Project: Triathlon Diary (Personal)

- Palm OS application for recording triathlon training.

Other Activities:

- Website design using Macromedia Dreamweaver 4, Flash 5 and CMS sites with Drupal and Joomla.
- CAD Drafting with AutoCAD (2D), Inventor (3D), and Solidworks (3D).

Company: Memec NZ Ltd



Design Focus (Hardware and Software)

- Xilinx CPLD and FPGA design and associated software tools.
- Hitachi microcontrollers H8, H8S, and SH.
- Texas Instruments DSP's. c24x, c5x, c6x, and MSP430 uC.
- TI certified instructor for the TMS320c54x Workshop.
- Atmel AVR, and MicroChip PIC microcontrollers.
- Delphi development for in-house testing.
- Visual basic development for Palm OS.

Other Responsibilities

- Windows NT network administration, installation, and maintenance.
- Memec NZ website design and maintenance.

Company: CWF Hamilton Ltd



Project: WaterJet Controller CT6

- System hardware design based on TMS320c24x DSP micro-controller.
- Prototype software design in C.
- Development / debugging PC software in Delphi.

Company: Fisher & Paykel Ltd



Projects: DishDrawer™ Development Phase 3.

- Embedded system design using a 16bit H8/300H micro-controller.
- Production software design and implementation in C.

DishDrawer™ Development Phase 1 and Phase 2.

- Embedded system design using TMS370 micro-controllers.
- Production software design and implementation in C and assembler.
- Brushless DC motor design and development (hardware and software).
- Switch mode power supply design.

Additional Projects.

- PC based "Smart" tools for DishDrawer™ service, diagnostics, and development in Delphi.
- PC based production line DishDrawer™ tester design and software in Delphi.

Website: <http://www.fp.co.nz>

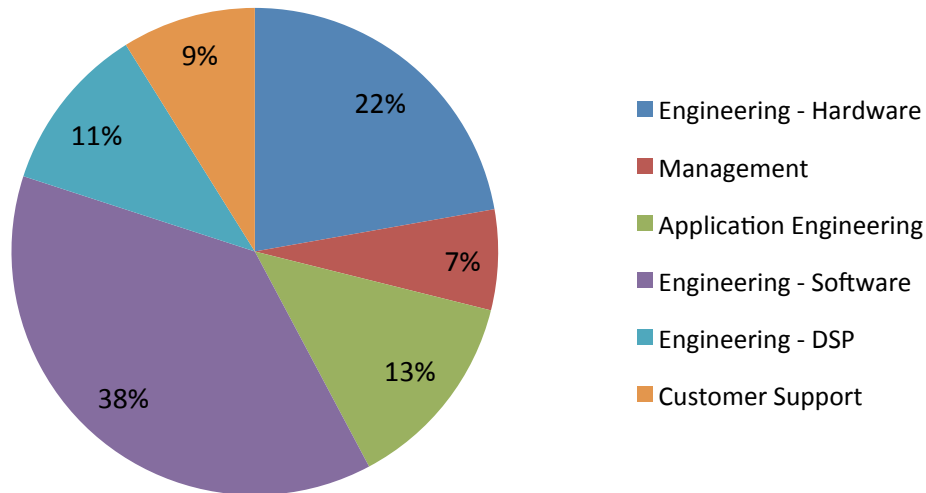
Company: M+H Power Systems.

Activities:

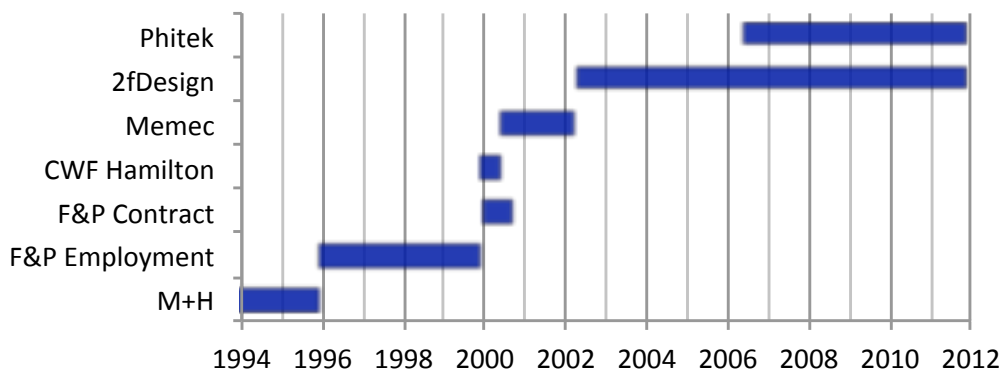
- Hardware and software design of micro-controller based system using 8051 based micro-controller. Software design in pascal and assembler.
- Controlled rectifier system design, single and three phase (up to 40kVA).
- Switch mode rectifier development, and transformer design.
- Servicing and installation of all M+H products, including UPS.

Website: <http://www.mhpower.com.au>

Approximate Career Breakdown:



Career Timeline:



Phitek Systems Ltd: April 2006 - Present.
 Positions: Senior Design Engineer.
 Applications Engineering Manager.
 Software Team Leader.
 DSP Engineer.

2fDesign Ltd (Self-Employed): March 2002 – Present
 Position: Managing Director.

Memec NZ Ltd: May 2000 – March 2002.
 Position: Applications Engineer for New Zealand.

CWF Hamilton: Nov 1999 – May 2000.
 Position: Electronics Design Engineer.

Fisher & Paykel Ltd: Dec 1999 – Aug 2000.
 Contract Software Development (Delphi).

Fisher & Paykel Ltd: Dec 1995 – Nov 1999.
Position: Electronics Development Engineer.

M+H Power Systems Ltd: Nov 1993 – Dec 1995.
Position: Electronics Design Engineer.

IBM Service Plus Ltd: 1993 (Part Time).
Position: Electronics and Mechanical Technician.

Marine Air Systems: Mar - Jun 1993 (Part Time).
Position: CAD contract (Protel).

Grundmann Electronics Ltd: Nov 1992 - Feb 1993 (Full Time Holiday Job).
Position: Electronics and CAD Technician.

EDUCATION

Career Based Training:

- Thales design for aerospace certification: 10 days. LA. October 2011
- TI TMS320c54x Workshop: 4 days. Christchurch. Apr 2001.
- TI DSP/BIOS II Workshop: 4 days. Christchurch. Nov 2000.
- TI TMS320c6x Workshop: 4 days. Adelaide. Aug 2000.
- Xilinx Academy: 6 days. Kuala Lumpur. Apr 2000.
- TI TMS320c24x Workshop: 4 days. Christchurch. Mar 1999.
- Design for EMC : 4 days. Christchurch. May 1996.

Tertiary Education:

Central Institute of Technology 1991 - 1993

Diploma in Electronics and Software Engineering

Year 1	- 1993
Papers	- Power Electronics
	- Industrial Electronics
	- Local Area Networks
	- MicroController Design Project

New Zealand Certificate in Engineering (NZCE) and
National Certificate in Electronics Engineering (NCEE)

Year 2 (Stage 4 and 5) - 1992
Passed all subjects with A or B grades

Year 1 (Stage 3) - 1991
Passed all subjects with A or B grades

External Qualifications:

Electrical Restricted Registration B.

OTHER

Interests and Hobbies:

Family.
Astronomy and Photography.
Endurance Triathlon and Multi-Sport.
Audio engineering.

Significant Achievements:

Completed Ironman New Zealand 2009 and 2011 (3.8km Swim + 180km Cycle + 42.2km Run).
Regular completion of Triathlon events.
Regular completion of Round Lake Taupo Cycle Challenge (160km Cycle).
Married Kathryn January 2006.
Father to Cameron born October 2009.

Referees:

Mark Donaldson
CEO, Phitek Systems Ltd. 2005-2010.
+41 786 124479

I reported to Mark as a direct and indirect report during my roles within Phitek until Mark's departure in 2010.

Robert Beyer
Senior Systems Architect, Phitek Systems Ltd. 2005-2009.
+64 21 723937

I reported to Robert while at Phitek within my role as DSP engineer. Following this role Robert and I worked together on a number of projects within Phitek.

Additional referees can be provided upon request.
Please advise before contacting referees.