Richard E. Kiefer

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EDUCATIONAL BACKGROUND

UNIVERSITY OF COLORADO – School of Engineering

Boulder, Colorado. **MS Electrical Engineering** - December 1977. Masters project report on a high speed PLL for digital data recovery on the Mass Storage Subsystem at IBM.

LAWRENCE INSTITUTE OF TECHNOLOGY

Southfield, Michigan. **BS Electrical Engineering -** June 1970. Emphasis in linear systems, analog circuit design, electromagnetics.

CURRENT WORK EXPERIENCE

***Kiefer Electronic Development**, Boulder, Colorado. [January 1981 - Present].*

Principal, founder. Electronic product development consultancy. Past 12 years – emphasis has been the design of radio frequency products and antennas in the 100 – 1500 MHz range. Some of these include, automotive keyless entry devices, MRI power amplifiers, home arrest systems, electrosurgical generators. Additional earlier experience includes microprocessor hardware and software design with the Motorola and PIC families of processors and single chip microcomputers. Software design experience includes firmware design and coding in assembly language and Forth. Have managed software development using the Excelerator RTS CASE tool. Holder of an Amateur Radio Extra Class license and active in the design of a wide variety of Amateur Radio projects.

For specific examples of completed design projects see www.KED-Wireless.com.

PAST WORK EXPERIENCE

***Armco- Autometrics Division,** Boulder, Colorado. [December 1979 - January 1981].*

Senior Electronic Design Engineer – Design of radio frequency particle size monitor. Designed all RF circuits, digital circuits and Motorola microprocessor firmware. Patent granted on RF to digital conversion technique.

IBM Corporation *– Boulder,* Colorado *[April 1977 – March 1978]*

Electronic Design Engineer – Magnetic recording channel analog circuit design. Design of a 9 MHz PLL using ECL. Design of a bipolar integrated circuit chip. Network analysis and synthesis course on SURGE from Colorado State University.

Otis – Transportation Technology Division, *Denver, Colorado [September 1976 – March 1977]*

Electronic Design Engineer (temporary assignment) – Design and construction of a DSB/SC receiver system for a surface effect horizontal elevator people mover for Duke University.

Hewlett-Packard Corporation, *Loveland, Colorado [November 1972 – June 1974]*

Marketing Engineer – Technical product support for the Loveland Instrument Division. Interface to the field sales force. System configuration and programming of calculator based instrumentation systems.

Martin-Marietta Corporation, *Denver, Colorado [December 1970 – November 1972]*

Junior Electronic Design Engineer – Analog circuit design including phase locked loops, function generators, sample and hold circuits, FET switches, PIN diode modulator drivers for electronic warfare simulators. Delivered hardware to Wright Paterson Air Force Base.

PATENTS

Successive Approximation Envelope Detection for Estimating…. – US Patent 4,475,398, October 9, 1984
Passive Keyless Entry System – US Patent 4,942,393, July 17, 1990
Steering Wheel Centering Device – US Patent 4,893,413, January 16, 1990
Passive Keyless Entry System – US Patent 5,319,364, June 7, 1994
Passive Keyless Entry System – US Patent 5,515,036, May 7, 1996

PUBLICATIONS

EMI Reduction Using Capacitive Filter Connectors, AVX Corporation application note January 1985.
PC-based Programs Aid Analog Circuit Design and Analysis, EDN, April 17, 1986
CAD Tool improves SAW-Stabilized Oscillator Design, Microwaves and RF, December 1992
The EMI Finder, QEX/Communications Quarterly, November/December 2003