

CHARLES D. THOMPSON

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Extensive experience (33 years) in bringing design concepts from specification to working silicon solutions along with extensive team and project management experience. Inventor/co-inventor on 18 US Patents, 8 additional patent applications filed. Current interests include market identification, product feasibility based on rate-of-return on R&D expenses, and technology risk assessment for high volume products. Defined products for system-level companies as well SOC semiconductor providers ranging from graphics and imaging solutions, RF solutions up to 3.0GHz, and A/D conversion to 22-bits.

WORK EXPERIENCE

3/1/2010 to Present – *Intersil-Zilker, Austin, TX*

Senior Manager, Design Engineering - Engineering management with 11 direct reports involved with new product development of CMOS/BCD digital power products for enterprise server class systems. Also responsible for continuing engineering support on 15 additional digital power products released to production including both silicon and embedded firmware. Activities include engineering project oversight as well as critical technical contributions in digital power system modeling and analysis. Also responsible for contributing input to business plans for new product development. Author of “Zsim” a digital power controller simulator written in C and featuring fast transient response and multiphase current sharing algorithms.

9/26/2006 to 4/28/2010 – *CDT Systems*

Independent Consultant, multiple clients, self-employed --Consulting work includes expert witness testimony, marketing competitive analysis, delta-sigma digital architecture design, technology advisor for client troubleshooting delta-sigma DAC noise, self-funded development of laser position sensor for pulsed laser positioning system, design and prototyping of a power MOSFET pentode emulator.

9/17/2001 to 8/25/2006 - *Silicon Laboratories, Austin, TX*

Design Manager, Broadcast Division – Developed new CMOS mixed-signal product definitions with key customers as well as staffing and scheduling responsibilities. Project leader on the Si221X full diversity XM Satellite Radio tuner chip. Project leader on Hercules terrestrial TV tuner chip. Also responsible for annual capital equipment forecasting and employee annual reviews. Six US patents filed, 3 issued and 3 pending.

9/1995 to 7/2001 – *Maxim Integrated Products, Austin, TX*

Engineering Director, Signal Processing and Conversion Division – Established the Maxim Austin Design Center for Maxim Integrated Products. Direct managerial responsibility of integrated circuit design and layout engineering team. Responsible for product specification, planning, scheduling, quarterly expense forecasting, salary reviews, as well as design team execution.

3/1991 to 08/1995 – *Crystal Semiconductor (Cirrus Logic) Austin, TX*

Design Manager-- Projects included the CS5542 LMS corrected 22-bit tri-level delta-sigma modulator with 120dB dynamic range for CT scanner applications. Published ISSCC paper in 1994. Also managed CS9233 wave table music synthesizer chip and designed master 64 MHz PLL timing generator for the same. Five US patents filed.

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2/1985 to 03/1991 – Motorola Microprocessor Products Group, Austin, TX
Section Manager, Digital Signal Processor Operation – Developed behavioral models for a MASH 3rd order 5-volt delta-sigma modulator including decimation filter architecture and coefficient development for on-board FIR filter. Also developed the architecture and product specification for the DSP56200 cascaded digital adaptive FIR filter chip. Also performed full lab characterization of first silicon for both chips. Five US patents issued.

03/1981 to 02/1985 – Impres, Inc. (venture capital-funded startup) Austin, TX
Vice-President of Engineering – Planned, organized, staffed and directed all hardware development activities. Directed hardware design for the Impres System 600 digital drawing/editing workstation. Projects included image scanners, film scanners, laser printers as well as electrostatic plotter hard copy output devices.

03/1980 to 03/1981 – Omex, Inc. Santa Clara, CA (division bought-out by Impres)
Staff Engineer – Based in Austin. Participated in the development, specification, and circuit design for a high-speed image bus for interconnecting raster-based image systems including printers, mass-storage, film, and paper scanners.

June 26, 1978 to 02/1980 – Data General Corporation, Austin Laboratory, Austin, TX
Design Engineer – Digital design responsibility for medium resolution Z-80 based graphics terminal (model G-250) for Data General mini-computers. Also designed light-pen CRT interface, touch screen circuitry, capacitive keyboard sense amp, and 6502-based video graphics engine.

OTHER ACCOMPLISHMENTS

Inventor / co-inventor on 18 US Patents pertaining to satellite receiver systems, delta-sigma A/D conversion, digital signal processing, DDFS driven RF mixing DAC's, and high-voltage surge protection circuitry. Eight additional US patents pending.

ISSCC Paper presentation - "Digitally Corrected 21-bit Delta-Sigma Modulator"

Five additional papers published since 1986

ISSCC 2008 Paper co-author "A DDFS Driven Mixing DAC with Image and Harmonic Rejection"

EDUCATION and TRAINING

BEE, Georgia Institute of Technology, Atlanta, GA, 1978

Batelle short course "The Engineer as Manager"

Week-long management workshop based on the book "The New Managerial Grid"

ISSCC Gigahertz Radio Front End Workshop, 2003

PERSONAL INTERESTS

Private pilot (instrument-rated) and aircraft owner, golf, water-skiing and boating, music, photography.
References available upon request.