

Resume' of Experience—W. Howard Speegle

Notable accomplishments in motion control (since 1980)

- Developed **machine vision system** for manufacturing inspection in 1980.
- Developed **high-speed precision pick-and-place assembly robot** in 1981.
- Developed software package for **high speed servo system** to provide additional features as well as enhanced ease of use in 1982.
- Developed method to provide a **1024x768** high resolution display for very low resolution **military infrared sensor** in 1983.
- Developed **world's first complete multi-axis, multi-protocol servo controller** on a PC plug-in card in 1985. This basic design is in use in over 45 countries and continues to be the primary product line of DIVA Automation after 20 years and tens of thousands of units sold.
- Developed **robust macro programming language** (DiMAC) for motion control that has flourished for more than 20 years and is the basis for all DIVA products.
- **Founded Precision MicroControl Corp.** in 1986 and served as President and VP Engineering. Developed first products, first accounts, hired staff, including replacement president.
- Developed **industry-first programmable encoder interpolation** product in 1993.
- Developed **electronic limit switch** for protection of mechanical stages using motor current sensing technique in 1993.
- Developed **integrated six-axis piezo controller** with LVDT position feedback in 1993.
- Developed **multiple-axis stored program controller for piezoelectric actuators** with **integrated arbitrary function generator** in 1993.
- Developed position-to-digital **LVDT interface with 10 nm resolution over 6 mm.**
- **Founded Automation Modules, Inc.,** in 1995 and served as President and VP Engineering. Developed first products and first accounts.
- Developed high speed controls for **commercial textile screen printing machine.**
- Developed **industry-leading tension controller** for fabrication of extremely small fiberglass fishing rods in 1997.

W. H. Speegle dba DIVA Automation

- Developed high-accuracy, high-performance **8-channel DSP interface** for use in wind shear visualization system.
- **Founded DIVA Automation** in 1998 and continue to serve as President and chief technical officer, personally responsible for development of numerous embedded computer products related to motion control.
- Developed system for **simultaneous control of 1024 stepper motors** in 1999.
- Developed **world's smallest full-featured stored-program servo controller** with integrated driver in 2002.
- Developed **dual operating system** for simultaneous control of motion through remote host or local controls. (SOS--Stand-alone Operating System) in 2004.
- Developed **closed loop** control for **piezoelectric** actuators with 10 nm resolution in 2007.

Experience

Rocket Scientist	1958-59	von Braun's team (pre-NASA)
Digital Flight Control Engineer	1959-60	General Electric Co.
Digital Systems Test Engineer	1960-64	Martin-Marietta Corp.
Satellite Systems Engineer	1964-65	RCA Corporation
Digital Systems Engineer	1965-72	Harris Government Systems
Materiel Manager	1972-73	Litton Industries
Manager, Computer Department	1973-74	Pacesetter Systems
President, VP Engineering	1974-85	Mesa Microsystems, Inc.
President, VP Engineering	1985-88	Precision MicroControl Corp.
President, VP Engineering	1988-92	Omega Automation
President, VP Engineering	1992-95	DIVA Corporation
President, VP Engineering	1995-98	Automation Modules, Inc.
President, VP Engineering	1998-present	DIVA Automation

Education

B.S. Physics & Mathematics (honors), 1958, Berry College, Rome, GA, USA
Diploma in Logic Design, in-house course by M.I.T., 1959
Computer programming course, Monroe Computer, 1960
Correspondence course in Business Management, 1962
Company course in logic design, Martin-Marietta, 1962
Diploma in Project Management, Harris Government Systems, 1966
Company course in BASIC language, Litton Industries, 1972
Company course in RPG, Litton Industries, 1972
Certificate in Digital Signal Processing, 1984
B.S. Computer Science (by GRE test) 1979, State University of New York