

# JAMES R WEBB

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## VIDEO PRODUCT DEVELOPMENT

Develop and standardize control and communication interfaces of computer products.

### Projects & Operations

- |                        |                                      |                            |
|------------------------|--------------------------------------|----------------------------|
| • Product Conception   | • Standards Committee Representation | • Planning and Development |
| • Design Modeling      | • Team Building & Leadership         | • Process Improvement      |
| • Technical Training   | • Engineering Analysis & Design      | • Witness of Fact          |
| • Patent Collaboration |                                      | • Expert Witness           |

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### CONTRIBUTIONS TO THE INDUSTRY

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- Proposed to Genesis Microchip a Digital Desktop Device Interface that became DisplayPort™
- Chair, editor, contributor to the DisplayPort™, DisplayID, E-EDID, MCCS, DPMS, DDC, GTF, CVT standards
- First microprocessor-based consumer Color Monitor with bidirectional control interface and Electronic ID
- Invented ‘Dome Switch’ push button keyboard widely used in electronic computers today
- 20+ issued patents in the United States

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### PROFESSIONAL OVERVIEW

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**President / Founder / Owner, DISPLAY LABORATORIES INC., ESTES PARK, CO** 1986-Present

- › Product design of mass-produced Computer Displays, technical transfer, and engineering training of major OEM manufacturers in Japan, Taiwan, and Korea
- › Display controller chips with computer readable Electronic ID
- › Automated factory alignment system with vision capabilities

**Reviewed Patents for invalidity, non-infringement contentions, and prior art** 2015, 2018

- › Mondis Technology Ltd. vs. LG Electronics Inc.

**Served as Defendant’s “Witness of Fact” in Patent Infringement Case,** 2009-2012

- › Mondis Technology Ltd. vs. Chimei Innolux Corporation
- › Testified in United States District Court for the Eastern District of Texas
- › Deposed at Cooley LLC in Broomfield, Colorado
- › Reviewed patent claims for invalidity and non-infringement contentions

**Member of VESA (see Additional Professional Activities below)** 2001-2010

- › Contributed technical content for DisplayPort and other standards

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- Staff / Marketing Department for Display Products,** GENESIS MICROCHIP INC., ALVISO, CA 2000-2004
- › Prepared and presented product proposals for video processors and display controllers to LG, Samsung, SONY, and Philips
  - › Identified requirements, designed and prepared material for patents for the following:
    - › Digital Video Processing IC for warping and correcting image timing in displays and projectors.
    - › Digital Multi-Frequency Clock Synthesizer (all digital PLL)
    - › Digital Desktop Device Interface (became DisplayPort™)
- President / Director of Advanced Development,** DATA RAY CORPORATION, BROOMFIELD, CO 1983-1985
- › Tripled annual sales to over \$3 million
  - › Developed a line of high-resolution color and B/W monitors for use in medical imaging and computers.
- Vice President of Sales and Engineering,** DATA RAY CORPORATION, BOULDER, CO 1977-1982
- › Negotiated sale of the company to Nippon Chemicon in 1982
  - › Developed the first commercial 1000-line monitor for word processing
  - › Developed video control for Hughes Light Valve Projectors, IMAX
- Sr. Engineer,** BALL AEROSPACE, BOULDER, CO 1976-1977
- › Wrote the proposal for the Hubble Space Telescope serial communication link controller
- Staff Engineer,** NCR DATA PATHING INC., SUNNYVALE, CA 1974-1976
- › Designed SDLC computer communication link over phone lines, 64 Kbps “modem” to remote display terminals
- President,** COMMODORE ENG. CORP., PALO ALTO, CA 1972-1974
- › Product design of electronic calculators sold by Commodore Business Machines
  - › Designed and put into production the first pocket calculator to sell for under \$5
- Engineer,** COLORADO INSTRUMENTS INC., BROOMFIELD, CO 1971-1972
- › Invented and developed the now ubiquitous “Dome Switch” push button computer keyboard
- USARP Scientific Station Leader - Winter 1970,** NIST Research Station, McMurdo, Antarctica 1969-1971
- › United States Antarctic Research Program, Station Leader for the 1970 Scientific Winter Over Team
  - › Built and manned a new NBS-NIST building on Arrival Heights at McMurdo Sound on Ross Island
  - › Monitored solar flare, ionospheric and magnetospheric propagation effects on radio communications

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## EDUCATION

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### **Bachelor of Science Degree in Applied Mathematics,**

- › College of Engineering, University of Colorado, Boulder, CO 1964-1969  
I majored in applied mathematics with a minor in physics.  
Courses included undergraduate Electrical Engineering and graduate-level digital circuits for computers.

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## PUBLICATIONS

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Articles printed in trade journals and other professional forms.

- › Information Display 1996 Manufacturing Benefits of Microprocessor-Controlled Monitors
- › ELECTRONICS 1970 "Capacitive (impulse) Keys Make Reliable Keyboard,"

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## PAPERS GIVEN

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Papers presented at Trade Shows.

- › ADEAC 2006 Invited Paper: E-DDC & DDC/CI - Identifying and Controlling Displays
- › ADEAC 2005 Requirements of Plug and Play, Tutorial
- › SID 2004 Invited Paper: Sinusoidal Deflection on a CRT/CPT: Finally, a Reality
- › SID 1998 Invited Paper: Application of Sub-Pixel Edge Detection to Generate Flash Correction Waveforms
- › SID 1996 Digital Dynamic Convergence for CRT-Based Display Monitors
- › SID 1994 A Non-impact High Resolution Geometry Alignment System for Monitor Production
- › SID 1994 Micro-Chip Architecture for Full Digital Control of Geometry, Convergence and Colorimetry in CRT Monitors
- › SID 1994 Firmware for Continuous Frequency CRT Monitors
- › SID 1994 CRT Display Inspection with a Solid State Camera - 3D Modeling and Parallax Correction

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## SEMINARS PRESENTED

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Product Design Team Training

- › DisplayPort 1.1a Training Seminar Presented to Engineers @ TI France  
(3 Day)
- › CRT Display Design Seminar Presented to Engineers @ SONY  
(3 Day)

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## ADDITIONAL PROFESSIONAL ACTIVITIES

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### VESA

- › 4/2009-5/2010 Vice Chair Board of Directors
- › 4/2008-3/2009 Secretary-Treasurer
- › 4/2006-3/2008 Vice Chair Board of Directors
- › 4/2001-10/2009 Chair Display Systems Committee
- › 2/2000-3/2001 Vice Chair Display Systems Committee

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### VESA STANDARDS

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I acted as chair, editor, and/or contributor to these standards:

- › DisplayPort, DisplayID, E-EDID, MCCS, DPMS, DDC, GTF, CVT

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### PATENTS AND APPLICATIONS

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#### › USA

#### Other countries on request

|                       |            |                                                                                                         |
|-----------------------|------------|---------------------------------------------------------------------------------------------------------|
| US7262563             | 08/28/2007 | Method and apparatus for providing a dynamic rotational alignment of a cathode ray tube raster          |
| US Pub<br>20060028401 | 02/09/2006 | Method and apparatus for correcting errors in displays<br>Continuation of 20040100421                   |
| US Pub<br>20040100421 | 05/27/2004 | Method and apparatus for correcting errors in displays                                                  |
| US6686707             | 04/03/2004 | Method and apparatus for providing a dynamic rotational alignment of a cathode ray tube raster          |
| US6437829             | 08/20/2002 | Alignment of cathode ray tube displays using a video graphics controller                                |
| US6285397             | 09/04/2001 | Alignment of cathode ray tube video displays using a host computer processor                            |
| US6281950             | 08/28/2001 | High speed digital zone control                                                                         |
| US6130505             | 10/10/2000 | Automatic alignment of cathode ray tube video displays in local magnetic fields                         |
| US6052146             | 04/18/2000 | Alignment of a video monitor using an on-screen display chip and a gain matrix table                    |
| US6014168             | 01/11/2000 | Screen mapping of a cathode ray tube                                                                    |
| US5969486             | 10/19/1999 | Detecting horizontal blanking time in cathode ray tube devices                                          |
| US5896170             | 04/20/1999 | Dynamic alignment of a cathode ray tube raster                                                          |
| US5825414             | 10/20/1998 | Method and apparatus for making corrections in a video monitor during horizontal scan                   |
| US5739870             | 04/14/1998 | Math engine for generating font gradients                                                               |
| US5657079             | 08/12/1997 | Correction for monitor refraction using empirically derived data                                        |
| US5510833             | 04/23/1996 | Method and apparatus for transforming coordinate systems in an automated video monitor alignment system |

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|           |            |                                                                                        |
|-----------|------------|----------------------------------------------------------------------------------------|
| US5504521 | 04/02/1996 | Method and apparatus for making corrections in a video monitor during horizontal scan  |
| US5216504 | 06/01/1993 | Automatic precision video monitor alignment system                                     |
| US4614899 | 09/30/1986 | Voltage regulator for pulsed voltage power supplies                                    |
| US3749859 | 07/31/1973 | Keyboard switch assembly with improved hermetically sealed diaphragm contact structure |
| US3710209 | 01/09/1973 | Variable Capacitor Switch                                                              |
| US3653038 | 03/28/1972 | Capacitive electric signal device and keyboard                                         |