Charles Poynton

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Objective

Provide technical leadership to bring computing technology and accurate color to video. Apply video technology – particularly digital video interfaces, high-definition television, emerging display technology, and accurate color – to computing.

Books

A Technical Introduction to Digital Video (New York: John Wiley & Sons, 1996). I wrote, designed, illustrated, and typeset this book; it is now in its fourth printing.

Digital Video and HDTV Algorithms and Interfaces (San Francisco: Morgan Kaufmann, 2002; in press). This book is scheduled to be published in January, 2002.

Experience

Free lance contracting, 1996–present.

Since completing my first book, I have been engaged in short-term and long-term consulting contracts. I have assisted manufacturers of integrated circuits to apply video technology – particularly digital video interfaces, high-definition television, emerging display technology, and accurate color – to their products. I have assisted manufacturers of studio video and broadcast equipment to adopt digital video, high definition television, and Internet technology. I have worked with digital imaging and display companies to implement color management and color calibration.

Sun Microsystems Computer Corporation, Mountain View, California, 1988–1994. Staff Engineer.

Color Management – Conceived and executed the strategy that brought color management technology to Sun. Investigated color technology, provided technical leadership to Sun's technical, business and contract teams. Worked closely with Kodak to define APIs, profile format, and color data interchange standards. Provided industry leadership to achieve agreement on an industry standard for color device profiles. Key contributor to the inclusion of accurate color capability in the TIFF 6.0, JPEG, and JFIF image interchange standards.

Digital Video Standards – Major contributor to SMPTE standards for digital video, digital film, and high-definition television (HDTV). Document editor responsible for the SMPTE 274M standard for 1920×1080 high definition television. Member of the Working Group on Colorimetry, working to establish standards for wide-gamut color image exchange in HDTV, video, and print. Founding chairman of SMPTE's Working Group on Digital Pictures; responsible for developing the SMPTE 268M (DPX) standard for the exchange of digital film. Major contributor to the Working Group on Television Signal Technology.

High-Definition Television (HDTV) – Responded to DARPA's 1989 Request for Proposals for a High Resolution (High-Definition Television) Workstation. With Glenn Reitmeier of David Sarnoff Research Center, conceived the system architecture and wrote the system specification. Provided technological leadership to the design and implementation team. Wrote interface standards for HDTV video standards. Specified the prototype 1920×1080, 72 Hz non-interlaced display that evolved into the commercial Sony GDM-W900 monitor.

Low-cost Video Interface – Developed product architecture and provided technological leadership for the product team designing, building and marketing a low-cost video capture device for SBus.

Poynton Vector Corporation, Ottawa, Canada, 1982–1988. Founder and principal.

Performed contracts for the specification, design, development, implementation, testing, and installation of special-purpose studio-quality digital video equipment.

NASA, Johnston Space Center, Houston, Texas, 1982–86.
Specified, designed and built the digital video processing equipment used at JSC to convert field-sequential video from the Space Shuttle into NTSC for processing, recording, and distribution. This equipment processed Space Shuttle video about 50 milliseconds before it was displayed at Mission Control.

National Research Council of Canada, Ottawa, Canada, 1986. Designed and built interface equipment to capture video from CanadArm into a general-purpose minicomputer, for algorithm development.

Vertigo Computer Imagery, Vancouver, Canada, 1986–87.
Designed and built codec equipment to convert component analog video to component digital video (SMPTE RP 125), to interface Vertigo's hardware to broadcast video plant equipment.

Hewlett-Packard Labs, Palo Alto, California, 1985–87.
Performed consulting on the integration of video and computer graphics. Designed an experimental multi-port framestore system.

Ross Video, Ottawa, Canada, 1988.
Consulting to investigate the use of DSP and RISC computing technology in pattern generators for digital video production switchers.

Digital Video Systems, Toronto, Canada, 1979–1981. Hardware/Software Engineer.

Designed and wrote microcode to control the highly successful DPS-1 framestore synchronizer. Applied DSP theory to characterize the adaptive comb filter and chroma decoder used in that product.

Ontario College of Art, Toronto, Canada, 1976–1978. Faculty member.

Taught full-course *Electronics for Art*, for 2 years.

Awards	Fellow of the Society of Motion Picture and Television Engineers (SMPTE), 1992.
	David Sarnoff Gold Medal, awarded by SMPTE in 1993 for significant contributions to the integration of digital video and computing technologies.
	Honorary Member of BKSTS, 1999.
Education	B.A. (Mathematics and Computer Science) from Queen's University at Kingston, Ontario, Canada, 1976.
Publications	List available on request.