

EXPERTISE:**Video:**

The strong theoretical and practical video background acquired at Bell Labs has served me well through over 30 years of work in the broadcast field, designing, configuring, installing, interfacing and maintaining virtually every type of equipment. I have specialized in customizing tools for artists, filling in gaps left by manufacturers, enabling disparate devices to be operated as a single resource. This has involved designing and building hardware, such as the first computer-assisted color corrector for telecine (1978 patent), and various digital video translators and machine controllers/interfaces.

Computers:

Programming experience on many platforms: IBM mainframes (Fortran, 1960s); DEC PDP-11s, Intel and Motorola micros (assembler and C, 1970-80s); Macintosh (C, since 1984); SGI workstations (C and UNIX shell, since late 1980s); web (HTML, JavaScript, PHP, CSS). Software for tape editing control, telecine color correction systems, original designs and customization of commercial software; real-time programming, hardware/software integration and device drivers, user interfaces; picture file manipulation and video/graphics interfacing on high-end graphics platforms. System and network configuration and administration on SGI, Mac, Windows machines. Web site designs including static and dynamic pages.

Integration:

Despite my highly technical expertise, I have strong artistic and human sensibilities which focus my efforts on the creative process and the convenience of the user. My ultimate goal is to make tools subservient to the artists, maximize their productivity, and streamline the creation of the final product.

EDUCATION:

- B.S. in Electrical Engineering - The Cooper Union, 1967; Honors: Tau Beta Pi, Eta Kappa Nu
- M.S. in Electrical Engineering - Stanford University, 1968
- Courses at Bell Labs (1969-1971): Transmission Systems Design, Fourier Optics, Human Factors Engineering
- Miscellaneous courses: Yourdon - Structured Programming Methods (1981); SGI - 3D Graphics Processor Maintenance (1991); Softimage - programmers' interface for animation products (1995-6)

EXPERIENCE:**2002 - present: Independent web site designs**

Design and maintenance of web sites for various clients including: donhills.com, mrfwood.com, newyorkcityrocknroll.com, inlivingstereo.com, jefforney.com, natfinkelstein.com, hitdepictures.com, ottosshrunkenhead.com, missgulag.com, dingbatzj.com, secondsmagazine.com, thex-s.com, lihiorbah.com, yaronorbach.com, kalamandrake.com, fishermansburlesque.com, aluckydog.com, sambasset.com and others.

2/06 – present: Consultant – Tobin Productions Inc., NYC

Initial task of installing a Final Cut Pro editing system and integrating it into the facility led to major upgrade of the infrastructure, including installation of routing switchers, patch bays and cabling for analog and digital A/V, control and FireWire signals. Continuing work involves IT issues with Macs and Windows workstations, encoding A/V to various formats for web distribution, and other technical areas.

5/99 - 7/04: Consultant - Du Art Film & Video, NYC

Originally hired to "bring Du Art into the 21st century," I've worked on the computers in the firm's various divisions, including digital graphics, sound and video editing, film scanning and printing, and telecine, primarily in the Du Art Digital department, where SGI, Mac, and Windows/NT systems have been organized to optimize film input/output and graphics operation; goals include efficient data storage and sharing, universal high-speed Internet access, and evaluation, installation, and maintenance of application software.

2/01 - 5/01: Systems Consultant - Blue Inc., Brooklyn NY

Blue Inc., a print/graphics firm, doubled their size and acquired several new Mac and Windows workstations. I designed an Ethernet network to replace their prior AirPort configuration, including a hub, file server, and cables, providing full documentation. The installation was configured, shared resources were set up and tested, and users were trained in new procedures.

10/00 - 3/01: Systems Consultant - Blink.fx, NYC

Following numerous reorganizations of this video facility, a group of about 20 SGI and numerous Mac and Windows servers and workstations were relocated and reconfigured for efficient operation. Operating system and application software was brought up to date, shared resources organized, distributed rendering implemented and users trained. I also worked with the staff on HiDef I/O and HIPPI installations on SGI Onyx2 machines.

8/98 - 4/99: Independent development (at Post Perfect, NYC)

Designed software to port animations created in AJW Maya to DL Inferno platform; familiarity with Maya, Inferno operation and file formats, and Maya's MEL scripting language. Upgraded IRIX OS and network.

4/96 - 2/98: MTV Networks (DTV Lab, the R&D section of MTV Networks)

Staff position, Senior Video/Computer Engineer, continuing work begun as a consultant; responsible for all computer graphics-video system integration, video/graphics hardware interfacing, custom computer programming as required (Softimage); set up, tested, calibrated several motion-capture systems for use on real-time body-sensor motion-capture pilot programs; implemented live control of on-screen Beavis & Butt-head characters with Mike Judge using data-gloves; set up live MIDI control of 3D graphics from synthesizer keyboard, explored "visual music", relations between aural and visual stimuli.

4/92 - 1/96: Independent consultant - Projects for various clients:

- **MTV Networks:** upgraded design of audio/video infrastructure in the Digital TV Lab; provided system administration and programming support as required on SGI and Mac systems;
- **Post Perfect:** OS and graphics application installation/upgrade; custom scripts to aid in system management; configured modems on networked SGI systems;
- **Advanced MultiMedia Systems:** created a program to control the camera, color-filter-wheel, and film transport in an automatic film-to-graphics-file transfer system for demo at SIGGRAPH, consisting of an Oxberry printer, a Hi-Res solid state pickup, and an SGI graphics workstation.

10/90 - 3/92: Limelite Video, New York, NY

Software design and system administration on a network of 3D/Graphics workstations in NYC and Miami offices. Programs to: manipulate objects in 3D animations; control 3D rendering; automate transfer of images from 3D systems to digital disk recorders and videotape; transfer files between NYC and Miami computers (pre-Internet); translate data from 3D animation program into commands for Grass Valley Kaleidoscope; 3D animation production aids, such as rendering process monitoring, maintenance and allocation of disk space, conversion of picture files between different formats.

5/89 - 8/90: Avid Technology, Inc., Burlington, MA

Software and engineering consultant. Created Macintosh software modules for the Avid/1 Media Composer nonlinear video editing system - (1) for output of Edit Decision Lists (EDLs), compatible with the videotape editing systems of most major manufacturers; and (2) for direct control of SONY videotape machines using SONY Remote Protocol via the Macintosh SIO ports. Also created a standalone Mac program for exchange of EDLs between Mac and industry edit system disk formats (EDLxfer, still in use today).

7/88 - 3/89: A. F. Associates, Northvale, NJ

Consultant for A.F.A. at GTG East in Arlington VA, home of "USA Today - The Television Show", during installation of the \$18 million facility; responsible for optimization of the entire graphics area, including video timing and alignment, complete cabling documentation. Equipment included: Quantel HARRY, Paintboxes, and Digital Still Stores, Central Lending Library System; Abekas A-64 DDR, and A-53D DVM; Chyron SuperScribe character generators; four-channel Grass Valley Kaleidoscope and KADENZA digital switcher; ElectroGIG 3D graphics system; Grass Valley System 51 and SONY BVE-900 Editing Systems, controlling BVW-75, VPR-3, BVU-950 tape machines.

10/87 - 5/88: Teletronics, 231 East 55 Street, New York NY 10022

Designed and built a computer-based device which automatically generated an EDL by detecting discontinuities at video cuts in the VITC of original source material recorded onto an edited rough cut tape.

9/87 - 10/87: Post Perfect, 220 East 42 Street, New York NY 10017

Free-lance engineer, responsible for the alignment of all video levels and timing in the 2D graphics department, and final checkout of all inter-machine remote controls and synchronization. Occasional free-lance work through 1992 on SGI 3D/Graphics systems.

10/86 - 8/87: Charlex, 2 West 45 Street, New York NY 10036

Free-lance engineer, responsible for general plant maintenance coverage, including daily camera alignment. Simultaneous engineering projects included re-programming, configuration and wiring of two LSI-11 based video editing computer systems ("CMX clones"), and interfacing of Quantel HARRY and GVG Kaleidoscope.

2/82 - 9/87: Robert Lund Associates, Inc. - President

RLA was a closely held corporation consisting of Robert Lund, and one business partner who handled all administrative and financial matters. The company developed custom hardware and software for the videotape post-production industry. All design and implementation was done by me. Projects included:

- Digital Video Format Converter (DVFC), a 1-rack-unit box to convert Quantel digital video format to standard CCIR 601 (SMPTE RP 125) digital video format, and vice-versa.
- A Multibus computer system functioning as an intelligent A/V switcher interface and preview switcher (equivalent to CMX switcher I/F). Off-the-shelf 68000 processor and communications boards, custom timing and hardware interfacing board, and custom ROM-based software.
- Modified software for CMX 3400 videotape editing systems, providing direct serial control of intelligent (Ampex VPR-3) videotape machines without CMX interfaces.
- Re-Programming of Z-80 based switcher interface (mostly C-language) for AMPEX Corporation to provide control of non-AMPEX switchers from AMPEX "ACE" videotape editing system.
- Custom LSI-11 (C and assembler) and Z-80 (assembler) software for a computer-assisted telecine color correction system, including preservation of 3:2 pull-down consistency on tape.

- Substantial portion of the design and implementation of RLA videotape editing system.

2/72 - 1/82: Teletronics, 231 East 55 Street, New York NY 10022

Responsibilities:

1972-1982: Management, upgrade/customization, and maintenance of all computer-assisted video systems. The world's first CMX editing systems, including the System 600 non-linear system (years ahead of its time), required considerable software upgrades to meet the needs of a totally new class of operators.

1976-1979: Manager of Computer Systems Engineering - Design and implementation of custom software and hardware for in-house systems, including CMX-compatible editing systems. Design and programming of the first computerized film-to-tape color correction systems - U.S. Patents [4096523 \(1978\)](#) and [4272780 \(1981\)](#).

1980-1982: Director of Development Engineering - Supervision of four project engineers, and all engineering projects including studio layout and design of custom equipment.

* Custom software, primarily for CMX & Mach One editing systems, was sold to a number of non-NYC facilities (to avoid Teletronics competitors) on a freelance basis, e.g. L.A., Boston, Virginia

6/67 - 1/72: Bell Telephone Laboratories, Holmdel, NJ

Member of Technical Staff in Picturephone Systems Engineering Division. Conducted subjective tests to determine quality requirements on telephone transmission lines to be used for Picturephone. Subsequently measured transmission performance of sample telephone lines in New York City, and correlated these measurements with the subjective test results. Data were analyzed using FORTRAN programs on an IBM System 370. Studied various proposed encoding schemes for color Picturephone, and designed and built a laboratory for subjective testing of color Picturephone parameters.

1965-67: L & L - Eastern Effects (part-time and summers)

As a draftsman/engineer's aide during my last two years of college, I disassembled an Oxberry animation stand and made drawings of every part, which were supplied to our in-house machine shop to build "clones." In addition, an electrical control system was designed and built to automate camera and table moves to aid in creating animated sequences.

OTHER:

1979 - 1990: Chairman of Society of Motion Picture and Television Engineers SubGroup on Editing Procedures; responsible for development of standards (syntax, disk formats, etc.) for interchange of editing data between videotape editing systems; wrote (with group) several basic standards later issued by SMPTE. Also participated in the VRRT group which standardized serial control protocol for all industry devices.

10/89 - 5/98: System Operator of the Bulletin Board System of the NY Macintosh Users' Group. Responsibilities included: configuring user interface (designing menus), generating and maintaining Libraries of Public Domain software for download access by members, maintaining roster of callers; extensive system customization and fine-tuning to optimize operation (Volunteer-of-the-month, July 1990); conversion to GUI client program and integration with world-wide network of Mac BBS hosts and discussion conferences.