

- American Film Institute
Silver Theater
Silver Spring, MD** Ongoing project to complete installation and troubleshoot video production systems in this multi-use complex originally opened in 2003. Main production systems include 64x64 multi-format routing, SD and HD VTRs, digital production switcher and audio mixer, multiple cameras, intercom and audio record/editing room. Project has included completing interfaces with adjoining "black box" theater, conference rooms and film theaters utilizing film and digital cinema equipment, Crestron control and Media Matrix systems.
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- Australian Broadcasting
Corp.
Washington, DC** 2004: Design and installation of Washington bureau for Australian Broadcasting. Systems include Avid and linear component edit rooms (BetaSP and SX), central machine room with 32x32 SDI/analog router, satellite downlink, Pathfire, Telestream Clipmail and house CATV. Also audio booth and radio production studio.
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- CBS Television
New York, NY** Support engineer for 1998 Olympic Winter Games in Nagano, Japan. Responsibilities included troubleshooting and repair of video/audio/control systems for serial digital IBC facility comprising two master controls, studio, audio and 9 linear edit bays.
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- Discovery
Communications
(The Discovery Channel,
Learning Channel,
Animal Planet,
and others...)
Bethesda, MD** 1998 - 2003: Consulting, design and installation for extensive multi-format, dual-standard integrated facility for all Discovery technical operations in Bethesda, comprising 35 Avid edit rooms, 3 linear online suites, 2 graphics suites and over 100 VTRs. All equipment mainframes and VTRs housed in a comprehensive Equipment Center containing 83 racks. Design activities ranged from spec floorplans and architectural recommendations to complete audio/video system design and supervision of all technical installation.
- Following initial installation:** Many Avids upgraded to XL or Symphony, utilizing SDI video and digital audio (AES and embedded). Addition of Avid DS High-Definition system (including 5.1 surround monitoring and Dolby-E). Addition of Quantel Editbox suite. Addition of two Audio Post rooms built around Pro Tools 5 w/internal video, Pro Control, DAT, DA-88, DBeta, 5.1 surround. Installation of numerous additional processing and routing systems, upgrade of plant sync infrastructure, expansion of digital video capabilities... Facility decommissioned in 2003 due to relocation.
- 1997: Discovery Images Global Library: Design and installation of video/audio/control for Cinebase digital archiving system comprising multiple digital and analog Betacams (NTSC & PAL), Alchemist standards converter, 32x32 multi-level router and associated SGI workstations. (This system was moved into 1998 facility.)
- 1996: Discovery International Networks: Design and installation of machine room and edit bays for 8 Avid systems with 24 mixed VTRs, routing, monitoring and computer hardware management. NTSC and PAL operation.
- 1995: Design and installation of 14 Avid offline suites with interchangeable VTR racks and local signal routing in each room. Design and installation of central machine room serving 3 Avid systems with multiple VTRs, routing, monitoring and computer hardware management. Design and installation of enhanced Avid offline suite with extensive audio and patching facilities (Discovery Films).
- All pre-1998 Avid systems incorporated modular interconnection for VTRs (composite and component video, 4-channel audio and control) via custom connector panels and harnesses, allowing sharing of VTRs between suites.
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- Defense Logistics
Agency
Ft. Belvoir, VA** 2004: Complete rebuild of control room serving multi-camera auditorium for live satellite presentations. System includes For-A digital switcher, digital robotic cameras, Pinnacle Deko CG, Digital Betacam and DVCPRO VTRs, two Avid non-linear editors and existing Sierra Video analog router. Also included are ties to building CATV, auditorium booth and distance learning department.
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<p>Fast Cuts, Inc. Washington, DC</p>	<p>1995/96: Design and installation of new post-production complex comprising one serial component digital edit suite (Digital Betacam/Grass Valley/Zaxcom), redesign of two existing analog component suites, redesign of 2D and 3D graphics suites and central machine room. Systems included several small routers and extensive patching for analog & serial digital video and analog & AES digital audio.</p> <p>LTS handled all video, audio and control design, technical (symmetrical) power system design, edit suite and console layout, and advised architect on building construction issues including acoustics, materials, HVAC, power and floorplans.</p> <p>Previous: Ongoing troubleshooting, maintenance and modifications on two component Betacam A/B Roll systems incorporating CMX, Calaway, Ampex Vista, GVG 100C, Abekas A53-D, ADO 100, Scribe, GVG router, SGI graphics workstations, video and audio patching.</p> <hr/>
<p>Federal Aviation Administration Washington, DC</p>	<p>2003 and ongoing: Complete rebuild of control room serving multi-camera studio and auditorium. New infrastructure includes 32x32 SDI and analog audio routing, and Synergy digital production switcher. System utilizes Betacam and Digital-S VTRs, studio and robotic cameras/CCUs, intercom/IFB and extensive external feeds for satellite and telephone signals.</p> <p>Maintained previous system which included GVG switcher and DVE, Chyron Maxine, Leitch Stillfile, GVG & Dubner graphics.</p> <hr/>
<p>Georgetown Post Washington, DC</p>	<p>2003 and ongoing: Move and rebuild of multi-room post facility. Comprises seven edit rooms (originally populated with three Avid Symphony/Adrenaline, one HD-capable Avid DS/Nitris), two audio suites, central machine room, voice booth, graphics systems. Additional equipment includes Avid Unity, Digital Betacam, DVCPRO HD, ISDN, Telestream Clipmail, misc. patching and routing. Ongoing changes include addition of several Final Cut systems for SD and HD use.</p> <hr/>
<p>Horizon Entertainment Rockville, MD</p>	<p>2005 and ongoing: Installation of three Final Cut edit systems, equipment rack with VTRs and patching. 2007 addition of Final Cut HD system with DVCPROHD VTR, monitoring, etc.</p> <hr/>
<p>International Monetary Fund Washington, DC</p>	<p>2003: Installation of upgraded Avid Symphony with Digital Betacam VTR.</p> <p>Ongoing: Designed and installed general-purpose dubbing and editing system, including Betacam VTRs, production switcher, small router, audio processing, and VHS dub rack.</p> <hr/>
<p>Magnet Interactive Studios, Inc. Washington, DC</p>	<p>1996: Designed and installed interconnection for component video graphics and multimedia systems incorporating SGI and Mac platforms, Betacam, Abekas A65 DDR, Radius Video Visions, routing switcher, patching and monitoring.</p> <hr/>
<p>National Association of Home Builders Washington, DC</p>	<p>Installation of multi-room editing facility for NAHB internal production and cable programming (HGTV). Systems comprised four non-linear edit suites (Avid and Final Cut), audio room, central machine room, digital and analog router and VTRs. This project was installation-only (design by NAHB's engineer).</p> <hr/>
<p>National Geographic Society Washington, DC</p>	<p>2006: Design and installation of HD "front-end" for the NGS Digital Media Group archiving system. Equipment includes HD VTRs in DVCPRO, HDCam, D5 and HDV formats, 32x32 HD router, Teranex converter, Avid and Final Cut HD systems, patching and monitoring. Integrated with existing SD dub system.</p> <hr/>
<p>National Science Foundation Arlington, VA</p>	<p>2005: Evaluation and improvements to audio systems in several conference rooms used for meetings and press briefings. Addition of telephone hybrid with mix-minus for call-ins. Additional recommendations for system expansion.</p> <p>2006: Consultation for installation of SD/HD studio and editing system (in progress).</p> <hr/>

<p>The Network Group / Wingspan Network Bethesda, MD</p>	<p>1997/8: Design and installation of central machine room and suites for dual-standard digital online edit and Bosch/DaVinci telecine system. LTS handled all video/audio/control systems, technical (symmetrical) power and architectural/HVAC consulting. Facility also housed seven non-linear editing systems from EMC2, Avid and Media100.</p> <p>Move and integration of several audio post-production systems (Sadie and Waveframe) into acquired existing facility, including rewiring of patchbays, tie lines and machine room rebuild.</p> <p>Previous: Designed and installed component Betacam A/B Roll system incorporating Abekas A34 Solo, color correction, extensive patching and routing. Project encompassed video/audio/control, architectural/acoustic modifications, AC power, console design.</p> <p>Installed and maintained Marconi Digital Line Array Telecine and associated equipment for 16 and 35mm film transfer to component Betacam.</p> <p>Designed NTSC/PAL standards conversion system for installation at remote location.</p>
<p>ORF Austrian Radio & Television Washington, DC</p>	<p>2005: Rebuild of Washington bureau for Austrian Radio & TV (in conjunction with equipment vendor Washington Professional Systems). Systems include two Avid Newscutter edit rooms, BetaSP and SX VTRs, central machine room with Avid Unity Lanshare, 16x16 SDI/analog router, satellite downlink, Pathfire and CBS Newspath servers.</p>
<p>Roar Productions Columbia, MD</p>	<p>1980 - 1995: Designed and built two multitrack music studios for original Roar Productions, Columbia, MD.</p> <p>16-track studio built around Neotek Series II console, MCI JH-24 16-track, Otari MX5050 8-track (including custom-built autolocator), dbx noise reduction, misc. outboard gear.</p> <p>24-track studio built around Neotek Elan console, Ampex ATR-124, Otari MTR-10, misc. outboard gear. Studio design included architectural, acoustic, electrical/lighting and HVAC plans, in addition to studio wiring, custom interface panels and control room furnishings.</p> <p>Supervised re-installation of (reduced) audio facilities at Spicer Productions, Baltimore, MD (1995) and move back to Columbia (2002)</p>
<p>The Smithsonian Institution Washington, DC</p>	<p>National Musuem of American History: Designed and installed video and audio viewing/dubbing racks for NMAH Archive Center.</p> <p>National Musuem of Natural History: Designed and installed video and audio viewing/dubbing racks for NMNH Human Studies Film Archives.</p> <p>National Musuem of Natural History: Installation of A/V systems in conference/lecture room.</p> <p>National Musuem of the American Indian: Designed and installed video and audio viewing/dubbing racks and researcher viewing stations for NMAI Archive Center.</p> <p>Smithsonian: Designed and installed video and audio viewing/dubbing racks for Smithsonian Archive Center.</p>
<p>The Teaching Co. Chantilly, VA</p>	<p>2002: Move and rebuild of production facility for commercial taping and post-production of college lectures. Systems include 25' x 30' three-camera studio, digital production switcher, 20 analog and digital VTRs, seven non-linear edit suites, monitor routing and comprehensive patching facilities. Ongoing support and expansion.</p>
<p>Telemundo (ZGS Broadcast) Shirlington, VA</p>	<p>Move and rebuild of small master control for regional cable channel, Telemundo TV64. Design and build-out of live news studio and control room. Systems utilize Betacam and DVCPRO VTRs, DDR (spot playback), routing switcher, master control swtcher, Video Toaster II, analog audio.</p> <p>Also design for sister stations WTMU (Boston), WRIW (Providence), WRDM (Hartford), WTMO (Orlando), and WWDT (Naples).</p>
<p>TV One Network Silver Spring, MD</p>	<p>2006: Design and installation of edit/dub/QC system for in-house operations. Includes two Avids, Dbeta, IMX and XDCam VTRs, 16x16 SDI router, patching and monitoring. Also includes KVM switching for access to several computers and QC servers.</p>

U.S. Census Bureau Complete rebuild of post-production facility including Avid non-linear, S-VHS editing, dubbing and patching and monitoring for numerous VTRs in three rooms. Second Avid added, Suitland, MD continuing changes. Change to Avid Adrenalines and Unity in 2003. Complete relocation/rebuild of facility in 2007.

U.S. Secret Service 2004: Rebuild of large multi-format dub system with 32x32 router, connection to edit rooms and studio control, router interface integration.. Washington, DC

Rebuild of Video Forensics Lab, incorporating large video/audio router, many small-format VCRs, computer workstations and monitoring facilities for examination of crime-scene recordings.

Non-linear Edit System Integration

Installations typically include integration of non-linear editing products (Avid, etc.) with VTRs, audio equipment and monitoring via patchbays, routing switchers or hard-wired. May utilize composite or component analog video, digital video, analog or digital audio, with VTRs of all formats and audio devices including mixer, DAT, DA-88, CD, etc.

Systems installed since 1993 include:

Amtrak, Wash DC / Wilmington, DE (Avid/hardwire); CNN (Larry King Live), Wash DC (Avid/hardwire); Richfield Productions, Wash DC (two Avid/patch); Cactus Productions, Cheverly, MD (Avid/patch); Glen Percy Productions, Wash DC (Avid/patch); MQN Productions, Bethesda, MD (Avid/router); Silver Ridge Productions, Vienna, VA (Avid/patch); Struble Oppel Donovan, Wash DC (Avid/router); Ehrens Motion & Music, Bethesda, MD (VideoVision/router); Engine Pictures, Wash DC (Avid/patch); O'Keefe Communications, Wash DC (two Media100/hardwire); Ogilvy Public Relations, Wash DC (two Avid/hardwire); The Johnson Group, McLean, VA (Avid/patch); RedEye Post, Alexandria, VA (two SD/HD Final Cut and one Avid/patch); Williams Gerard, Arlington, VA (Avid/hardwire); Sutherland Media, Wash, DC (Avid/hardwire); Knight Ridder Tribune, Wash, DC (two Final Cut/patch); Icon Communications, Alexandria, VA (Final Cut/patch); Caragol Wells Productions (HD Final Cut/hardwire)