COURTROOM AV SYSTEMS

Extron

INTRODUCTION

Courtrooms are becoming increasingly reliant on the accurate depiction and reproduction of audiovisual evidence during proceedings. This may include presenting visual content via monitors, receiving remote testimony using videoconferencing, playing back audio or other media such as computer-generated demonstrations, and annotating content to emphasize critical information. Additionally, effective sound reinforcement is essential for proper comprehension of arguments, testimonials, and rulings.

Extron has long played an important role in content delivery and communication within courtrooms and ancillary support spaces. We manufacture over 5,000 products , including many that contribute to effective, elegant solutions in justice halls. Key product categories for courtroom AV systems include:

• AV Switching and Distribution
• Control
• Audio
• Video Signal Processing
• AV Connectivity

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AV SWITCHING AND DISTRIBUTION

In a courtroom, the AV distribution system must manage signals from a variety of locations, which can include the counsel tables, lecterns, judge's bench, witness stand, and room cameras. To tie these locations together, twisted pair and fiber technologies are often employed.
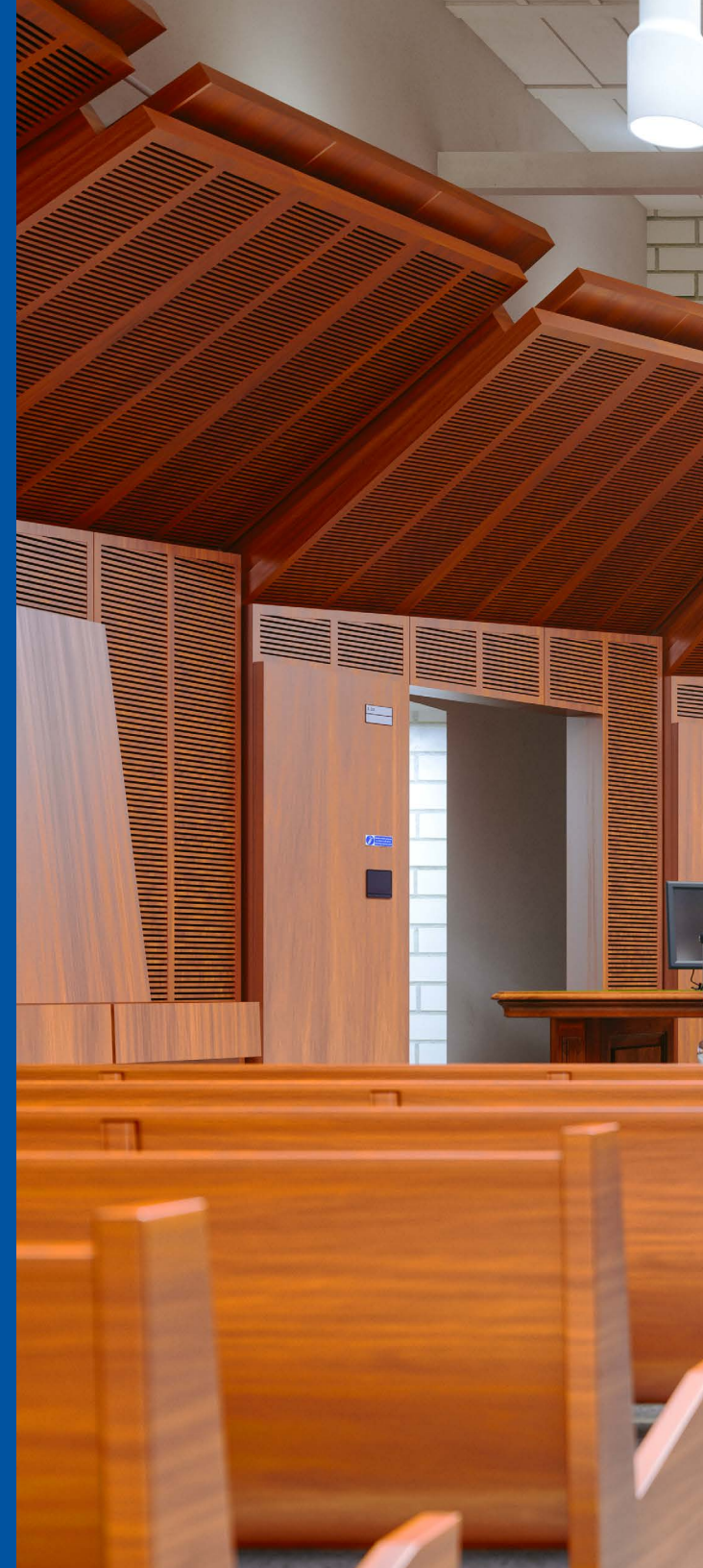
Distribution over twisted pair and fiber optic cabling, in tandem with centralized matrix switching, provides a flexible, expandable system architecture that is reliable and easy to integrate. These capabilities can be combined with other formats and solutions for standard signal types, such as HDMI distribution amplifiers, localized at key locations within the room.

TWISTED PAIR AND FIBER OPTIC DISTRIBUTION
Extron DTP Systems and XTP Systems are ideal for such environments, distributing video at resolutions up to 4K, along with audio, control, and power across common twisted pair cabling at distances up to 330 feet. For longer runs, XTP fiber products can send signals up to six miles.

STREAMING
Another distribution technology that is quickly gaining popularity is AV streaming over an IP network - AVoIP. This powerful versatile and reliable technology can transport media to locations such as overflow rooms for trials. Extron offers H.264 products that meet the needs of a diverse array of applications including signal extension and archiving using SMP Series streaming media encoders and decoders. The NAV Pro AVoIP Series is available for applications that require distribution and switching of ultra-low latency, lossless video, and audio signals over IP networks. Extron streaming solutions support a variety of encryption methodologies, ensuring data integrity and the secure transmission of video and data streams.

CONTROL

System control is an important element for any court environment. It must be dependable, intuitive, and integrate cleanly into the room's design. AV system control should be available in several key locations such as the judge's bench, counsel tables, and lecterns.

Extron offers a comprehensive selection of control and interface options to meet any need. They range from small, physical button panels to customizable touchpanels in a wide variety of sizes that provide for full room control. Capabilities include audio adjustment levels, video preview and switching, lighting, and system/device power.

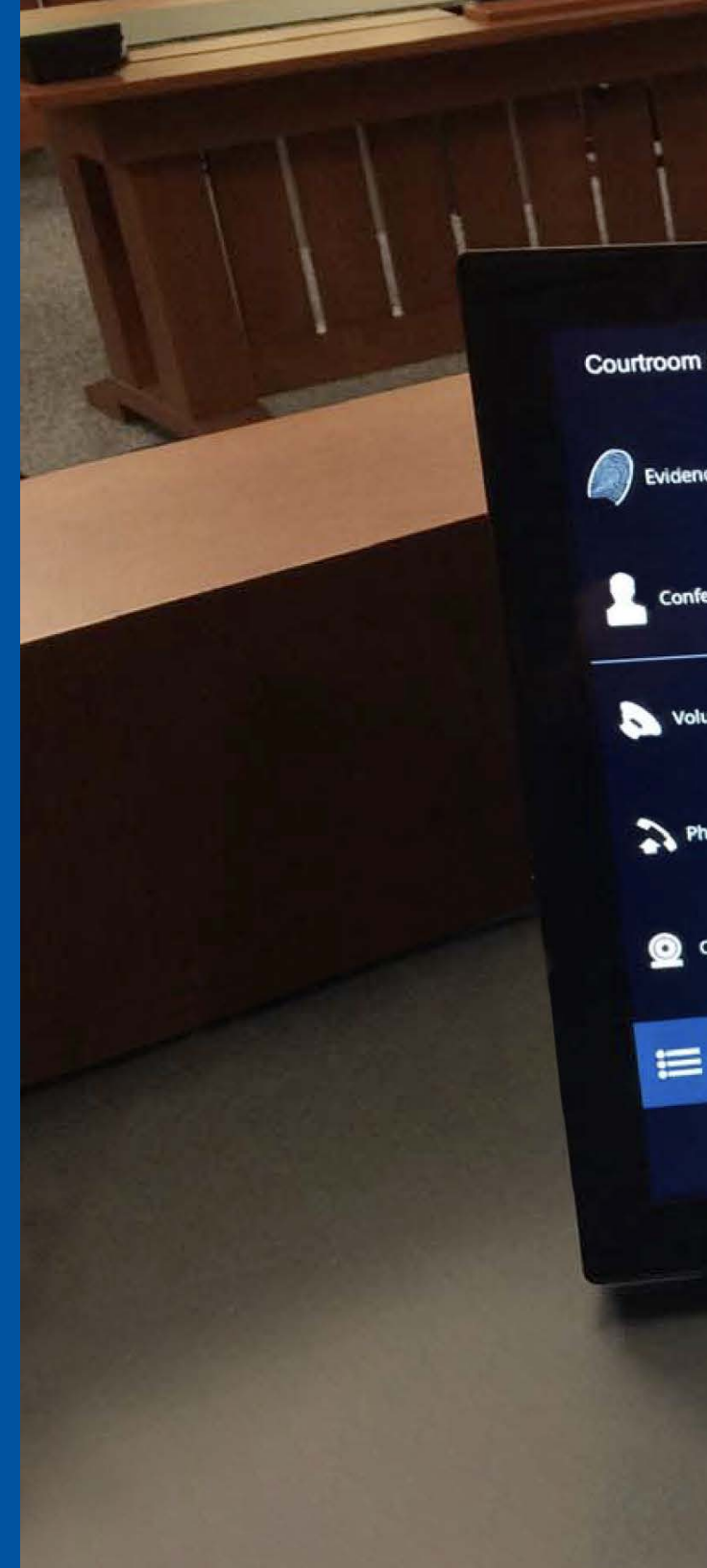### SIMPLE WALL OR LECTERN CONTROL
Extron button panels feature elegant designs that provide the ideal combination of form and function. Offering access to basic system functionality, they feature customizable buttons and are easy to use and configure.

TABLETOP AND WALL MOUNTABLE TOUCHPANELS
Extron TouchLink® Pro touchpanels are available in a variety of form factors and finish options. Sizes range from 3.5" touchpanels for basic control to 17" touchpanels with full video preview capabilities. Whether resting on a tabletop, flush-mounted to a wall, or hidden out of sight until they are needed, TouchLink Pro touchpanels integrate into any room's décor with ease.

ROOM SCHEDULING
Extron offers wall or glass-mountable touchpanels that simplify finding and booking a room. Easily view a room's schedule or make reservations directly on the touchpanel or from any device that connects to a calendar service, such as Microsoft® Exchange, 365™, or Google Calendar™. The TouchLink Wayfinding Interface, in conjunction with the touchpanels, provides a centralized real-time view of room availability and location.

System Settings

5E

ALL STOP

| User Settings | Technician Settings | Video/Audio Switching | Codec Service |

System will automatically shut down at 8 pm

Sidebar

No Noise

With Noise

Startup Page
| Evidence | Conference |
| Volume | Phone |

Save Settings

Recall Settings

Default Volume Page
| Overhead | Classic |

Judge/Clerk Preview Warning
| On | Off |

Judge/Clerk Annotation
| On | Off |

Gallery Big Screens
| On | Off |

Jury Monitors
| On | Off |

Auto Publish Evidence
| On | Off |

Allow Room Monitoring
| On | Off |

Witness Big Screen Controls
| On | Off |

Annotation Bypass
| On | Off |

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Help **?**

System Off ⏻

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Cameras

System

AUDIO

Intelligibility is imperative for demanding environments such as a court of law where every word is important. Effective courtroom audio design requires careful management of sources, processing, amplification, and distribution.

The sound reinforcement system is responsible for creating a level, predictable sound field across the room, improving speech intelligibility, program audio, and other presented material. The system can include one or more audio amplifiers, speakers installed throughout the room, as well as Digital Signal Processing – DSP for the routing and optimization of audio signals. They ensure clear speech and pristine audio playback.

AMPLIFIERS
Extron offers high performance, compact Class D amplifiers with high channel density and industry leading efficiency ratings. They are available in multiple sizes with 8 Ohm, 70 v, and 100 v connections.

AUDIO DSP
Extron ProDSP® processors are available in popular sizes, including 4x4, 6x4, and 12x8, and are expandable up to 60x24. They provide automixing and can feature various combinations of AEC, POTS interfacing, VoIP, local mic/line inputs, USB interfaces for local recording of up to eight audio channels, and networked audio using Dante®.

SPEAKERS
Extron speakers are available in several form factors, including pendant, in-ceiling, surface mount, and soundbar configurations. You decide on the best solution for each courthouse environment. Many models are available in black or white and are paintable to fit in with the surroundings.

VIDEO SIGNAL PROCESSING

In addition to general signal distribution and switching, a courtroom's AV system may require the use of further video signal processing. This can include format conversion or scaling to ensure signal compatibility for optimal source presentation on any size, resolution, or type of display device.

ANNOTATION PROCESSORS

The ability to annotate over video or computer content is a common requirement for most courtrooms. Annotation devices allow one or more users to mark displayed content to emphasize or highlight critical information. Most annotation devices also incorporate a video scaler.

SIGNAL INTEGRITY

Any signal processing performed must maintain the integrity of the original signal. Converting from one format to another must not add artifacts to the signal. Also, scaled video must retain the detail of the original content, whether upscaling sources to higher resolutions or downscaling 4K content for use by HD devices.

Extron offers a comprehensive line of signal processing products that includes signal converters, annotators, and full-featured scalers with logo storage and windowing capabilities. All were designed by Extron from the ground up to ensure the highest quality image presentation throughout the entire signal chain. We have continually refined our technology to keep pace with evolving video formats – from standard definition to high definition signals, and now, 4K. Built on our patented signal processing platforms, Vector™ 4K is the latest generation of Extron scaling engines, specifically engineered for critical-quality 4K video signal processing.

AV CONNECTIVITY

Media has become a prevalent, integral part of courtroom proceedings. The AV system must provide AV, data, and power connectors for laptops and other source devices belonging to the judge, court officers, attorneys, and sworn-in third parties. Each connection point should blend in with the courtroom's décor, maintaining a "hidden in plain sight" yet functional installation.

Extron offers a broad range of modular AV connectivity products that maintain a clean and efficient system design, providing convenient connection points for video, audio, data, and power.

CABLE CUBBY AND HIDEAWAY ENCLOSURES
Cable Cubby® and Hideaway® enclosures allow AV, control, and power connections to remain out of sight when not in use. Available in black anodized, brushed aluminum, and surface-matching finishes, they complement any furniture style and room décor.

RETRACTOR MODULES
Extron Retractor modules eliminate unsightly tangles of cables from the work surface. The patented cable retraction system keeps cables organized and ready at hand. When finished, the press of a button smoothly pulls back the cable and stores it out of sight until needed again.

WALLPLATES
Wall-mount architectural products encompass a diverse group of hardware that facilitates the placement of AV connectivity wherever it is needed. This could be along a floorboard, behind a display, or near the presenter. Wallplates can include an integrated transmitter for signal extension to a remote equipment room or control center.

EXTRON TECHNOLOGIES FOR COURTROOM AV SYSTEMS

With over 5,000 products, we have the right selection to fit the scale and budget of nearly any courtroom project. Extron products switch, distribute, stream, and control AV signals from any source to any destination while maintaining signal integrity. They are carefully engineered to provide best-in-class performance, superior energy efficiency, and exceptional reliability. Each product is designed to integrate seamlessly with other products to create comprehensive AV system solutions.

AV SIGNAL SWITCHING AND DISTRIBUTION

XTP SYSTEMS

A complete AV distribution platform with unmatched performance and powerful integration features that streamline system design and integration. The XTP platform offers fully integrated switching and distribution systems for digital video and audio, supporting local AV connectivity as well as remote devices over shielded CATx and fiber optic cable.

FOX3 SYSTEMS

The industry-leading family of high-performance matrix switchers and extenders for end-to-end digital distribution and switching of 4K/60 video, stereo audio, USB, control, and 3D sync over fiber optic cable. All FOX3 extenders support native 4K/60 4:4:4 resolutions and Deep Color up to 12-bit.

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VIDEO PROCESSORS AND ANNOTATION

Extron simplifies video scaling and content annotation with the industry's most expansive selection of signal processors and scalers. Pixel-perfect image quality is retained from source to display when converting signals to a common format, upscaling or downscaling content, or providing full annotation capabilities over video and computer graphics.

STREAMING

Extron high-performance streaming products capture and encode audio and video signals over IP networks. Their high quality scaling and flexible signal processing facilitates superior display of content to cost-effectively extend presentations to overflow rooms or other locations anywhere on the network.

CONTROL SYSTEMS

Extron control systems provide easy, reliable control and monitoring of courtrooms. Our wide variety of control products includes network-connected control processors, button panels, touchpanels, control software and apps.

AUDIO PRODUCTS

From speakers and amplifiers, to flexible audio DSP matrix processors, the extensive line of Extron audio products lets you create complete audio systems for crystal-clear audio and speech reinforcement. Our Dante®-enabled offerings provide digital audio distribution over local and wide area networks.

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