



Overview

The Courtroom of the Future relies on a fiber infrastructure to ensure that future upgrades to the AV system can use the existing cabling. It provides a model that can be readily adapted to various applications such as municipal, county, district, or superior courts. The AV system provides a modern means of presenting and storing evidence so that time required for a court proceeding is reduced, thus allowing for more cases to be handled without having to expand physical court facilities. By integrating videoconferencing systems into the court, remotely located experts can contribute to the case. Additionally, videoconference capabilities allow for video arraignment, with the defendant held in a more secure location.

Needs Assessment

Staffing

The judge and clerk are responsible for managing the courtroom. They both need touchpanel displays with video confidence feedback to control and manage content throughout the proceedings. The clerk may be required to display recorded evidence from his or her workstation PC. Either the judge or the clerk may restrict viewing of the evidence to the jury and audience, by muting the video signal to specific displays.

Display Requirements

Displays are required for the jury box, such as found in a federal bankruptcy court, so that each juror may have an unobstructed view of the evidence being presented or of testimony from a remote witness. The prosecution and defense tables have two monitors each: one for displaying evidence and the other for viewing information from the videoconference system. A projection system may also be used to display information.

Sources and Connectivity

Laptops, PCs, paper documents, and video presentations are the primary content used to introduce and show evidence to the judge and/or jury. Electronic evidence is submitted through a central evidence center, and may require annotation or markup to highlight specific details. A touchpad and keyboard for annotating evidence is provided at the lectern, the defense table, and the prosecution table. Different annotation colors are used at each location.

Special Requirements

A fiber optic infrastructure and switching system is used for the distribution of all video signals. The use of a fiber optic infrastructure "future-proofs" the system, ensuring future video resolutions and rates are supported. In a larger courthouse, switching systems for multiple courtrooms can be consolidated into a central equipment room to simplify cabling and reduce costs.

System Design Solution

Display Systems

Eight LCD HDTV displays are required in the jury box to display electronic evidence and other content. Two displays each are located at the prosecution and defense tables to display electronic evidence and for viewing remote testimonies via the video conference system. Two large LCD displays are located near the judge and witness box for viewing electronic evidence and a remote witness. A projection system is also available for displaying electronic evidence. Three large LCD displays are provided for the gallery to view electronic evidence and any remote testimony.

Sources and Connectivity

Laptop connections are provided at the prosecution and defense tables. Lectern equipment includes a PC, document camera, and a DVD/VCT combination player for presenting evidence. An Extron **Annotator** is installed in the lectern for marking up electronic images.

Switching and Signal Management

An Extron **SMX FOX** 16x16 Fiber Optic Switcher Board is the heart of the switching and distribution system. All video signals are converted to a fiber optic signal using the appropriate **FOX Series** Fiber Optic Transmitter, and routed to an input on the SMX FOX fiber optic board. The board is installed in an **SMX System MultiMatrix™** enclosure in the equipment room. Larger courthouses use multiple SMX FOX boards, one for each courtroom. A FOX Series Matrix Switcher can be substituted for the SMX System MultiMatrix to provide up to a 320x320 fiber optic matrix. If a larger fiber optic matrix is required, the **Matrix 1k** program can accommodate matrix switcher sizes up to 1000x1000 or larger.

A **FOX DA8 Plus** Fiber Optic Distribution Amplifier provides the video signals for the jury box monitors.

Signal Distribution and Extension

Extron **FOX Series** and **FOXBOX Series** Fiber Optic Extenders are used extensively to interface sources and displays to the fiber optic infrastructure.

Extron **FOX USB Extenders** provide a convenient connection point for a touchpanel and keyboard at both the defense and prosecution tables for using the Extron Annotator to present evidence. The Annotator is configured so that a different color is used for marking up electronic images based on the location — yellow for lectern, red for defense, and green for prosecution.

