Sussex County Courthouse

General District Court and Circuit Court – Audio Visual System Upgrades

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Project Overview

This proposal outlines the replacement and modernization of the existing audio visual systems in the General District Court and Circuit Court within the Sussex County Courthouse. The proposed upgrades will provide each courtroom with enhanced display capabilities, wireless content sharing, audio reinforcement, centralized system control, and assisted listening functionality.

Each courtroom will receive a completely independent AV system, including dedicated control, audio processing, and network equipment. This configuration will allow each courtroom to operate independently without relying on the systems or equipment in the adjacent courtroom.

The existing audio visual equipment in each courtroom will be removed and replaced with the new systems described in this proposal.

Both courtrooms will feature Samsung interactive displays positioned near the witness stand or podium to allow presenters to display, annotate, and highlight evidence during proceedings. Content from these displays will be distributed throughout each courtroom using a Crestron NVX AV-over-IP video distribution system, allowing the judge, jury, attorneys, and gallery to view the same information simultaneously.

A Barco ClickShare wireless presentation system will also be provided in each courtroom, allowing attorneys and presenters to share content from their laptops without requiring a physical video connection.

Each courtroom will be equipped with a Crestron 4-Series control system and a 10.1-inch wireless touch panel. This centralized control interface will allow authorized court personnel to operate the AV system, manage display routing, and adjust audio levels from a single interface.

Audio processing and routing will be handled by a Q-SYS Core 24f digital signal processor. Shure gooseneck microphones will be installed at designated speaking positions

throughout each courtroom, with individual mute switches and LED indicators. Microphone audio will be transported over the network using Q-SYS Flex I/O peripherals and distributed through JBL in-ceiling speakers powered by Biamp amplifiers.

Each courtroom will also include a dedicated headphone audio connection at the court reporter position, allowing the court reporter to monitor courtroom audio.

For accessibility and language interpretation, each courtroom will receive a Listen Technologies ListenTALK system. These systems will provide assisted listening for individuals who are hard of hearing, including compatibility with hearing aids through the use of neck loops, as well as support for language interpretation during court proceedings.

General District Court

System Overview

The General District Court will receive three new 65-inch displays, wireless presentation capabilities, a complete microphone and speaker system, and an assisted listening system.

The interactive display located near the witness podium will serve as the primary presentation source. Content displayed on this screen can be distributed to either or both of the additional courtroom displays through the Crestron NVX video distribution system.

A USB connection will also be provided at the equipment rack in the dais to support future audio calling capabilities. Cameras and video conferencing equipment are not included in this scope of work.

Video Displays and Content Sharing

Interactive Display

One (1) 65-inch Samsung interactive display will be installed on the wall near the witness podium. This display will allow presenters to share, annotate, and highlight electronic documents and other evidence using the integrated touch interface. The display's HDMI output will be connected to the Crestron NVX distribution system, allowing its content to be shared with the other displays throughout the courtroom.

Commercial Displays

Two (2) 65-inch Samsung commercial 4K displays will be installed at locations approved by the owner during final engineering. These displays will provide the judge, attorneys, and gallery with clear visibility of the content being presented.

The displays will be installed using two (2) tilting wall mounts and one (1) fixed micro-adjust wall mount, as required for the three display locations.

Wireless Presentation

One (1) Barco ClickShare C-10 wireless presentation system, including two (2) ClickShare USB buttons, will be installed to allow attorneys and presenters to wirelessly share content from their laptops to the courtroom displays.

The ClickShare system will be configured for content sharing only.

Video Distribution

A Crestron NVX AV-over-IP video distribution system will be installed to distribute video throughout the courtroom.

The system will include:

- Two (2) NVX encoders to provide video inputs from the ClickShare system and the HDMI output of the interactive display.
- Three (3) NVX decoders installed behind the three courtroom displays, including the interactive display.

This configuration will allow ClickShare content to be routed to any of the courtroom displays and will also allow content originating from the interactive display to be shared with the other displays.

All displays will be configured with a 1080p EDID to ensure consistent video resolution throughout the distribution system.

Control System

One (1) Crestron 4-Series control system will be installed within the owner-provided equipment rack in the dais. The system will include one (1) 10.1-inch Crestron wireless touch panel to provide centralized control of the courtroom AV system.

The control interface will provide the following functions:

- System power on and off.
- Individual display power on and off.
- Routing of interactive display and ClickShare content to each display.
- Program audio and microphone volume adjustment.

- Microphone mute control.

Two (2) table docks will be provided for the wireless touch panel. One will be located at the prosecutor's desk and the other at the equipment rack. These docks will provide convenient storage and charging locations when the touch panel is not in use.

One (1) wireless access point will be installed to provide a dedicated wireless connection between the touch panel and the control system.

Microphones and Audio Processing

Seven (7) Shure 18-inch gooseneck microphones, each equipped with an individual mute switch and LED indicator, will be permanently flange-mounted at the following locations:

- Three (3) at the judge's dais.
- One (1) at each of the two (2) attorney desks.
- One (1) at each of the two (2) podiums.

Each microphone will include a local mute switch, allowing the individual user to mute their microphone as needed.

Five (5) Q-SYS Flex I/O peripherals will be installed near the microphone locations. These devices will convert the microphone signals to network audio and transport them to the central Q-SYS processor. The Flex I/O peripherals will receive power through the network switch.

One (1) Q-SYS Core 24f digital signal processor will be installed within the owner-provided equipment rack in the dais. The processor will provide microphone mixing, audio processing, and signal routing throughout the courtroom.

A USB connection will also be provided at the equipment rack to allow an owner-provided computer to connect to the audio system for future audio calling applications.

A dedicated headphone audio output will be provided at the court reporter position using a Q-SYS Flex I/O peripheral. This connection will allow the court reporter to monitor the courtroom audio.

Assisted Listening and Interpretation

Listen Technologies ListenTALK Base-8 and Base-4 systems will be installed to provide assisted listening and language interpretation capabilities throughout the courtroom.

The system will receive audio directly from the Q-SYS processor and will include six (6) neck loops for individuals using compatible hearing aids.

Two (2) microphone input/headphone output cables will also be provided for use with the ListenTALK system.

Audio Amplification and Speakers

One (1) Biamp two-channel amplifier will be installed within the equipment rack to power fifteen (15) JBL 6-inch in-ceiling speakers.

The speakers will be distributed throughout the courtroom to provide consistent coverage of microphone and program audio.

Network Infrastructure

One (1) NETGEAR M4250 PoE+ managed network switch will be installed within the equipment rack.

The network switch will be configured to support both the Crestron NVX AV-over-IP video distribution system and the Q-SYS network audio system.

The switch will also provide Power over Ethernet (PoE) to the Q-SYS Flex I/O peripherals and the wireless access point.

Control Interface Review and Approval

A graphical user interface (GUI) review will be required before control system programming begins. The onsite contact will be responsible for providing signed approval or requested revisions before programming begins.

The proposal includes two (2) one-hour review sessions with the Project Manager and Programmer. Additional meetings or support required beyond these included sessions may result in additional charges.

Circuit Court

System Overview

The Circuit Court will receive two new 75-inch displays, a laser projector with a motorized projection screen, wireless presentation capabilities, a complete microphone and speaker system, and an assisted listening system.

The interactive display located near the witness stand will serve as the primary presentation source. Its content will be distributed to the additional courtroom display and projector through the Crestron NVX video distribution system.

An additional standalone interactive display will be installed in the jury room to allow jurors to view and interact with electronic content independently of the courtroom AV system.

Video Displays and Content Sharing

Interactive Display

One (1) 75-inch Samsung interactive display will be installed on the wall near the witness stand.

This display will allow presenters to share, annotate, and highlight electronic documents and other evidence using the integrated touch interface. Content from the interactive display will be distributed through the Crestron NVX system to the additional courtroom display and projector.

Commercial Display

One (1) 75-inch Samsung commercial 4K display will be installed at a location approved by the owner during final engineering.

The display will provide the court with a clear view of the content being presented.

The two courtroom displays will be installed using one (1) tilting wall mount and one (1) fixed micro-adjust wall mount, as required.

Jury Room Interactive Display

One (1) 65-inch Samsung interactive display will be installed within the jury room as a standalone presentation display.

Users will connect their laptops directly to the available connections on the front of the display.

This display will operate independently and will not be connected to the courtroom video distribution or control systems.

Projection System

One (1) Panasonic 5,200-lumen WUXGA laser LCD projector will be ceiling-mounted using a Chief projector mount and adjustable extension column.

The projector will provide large-format viewing of courtroom presentation content.

One (1) Da-Lite Advantage Electrol 110-inch motorized projection screen, measuring approximately 54 inches by 96 inches, will be installed in the ceiling using a recessed mounting configuration.

The projection screen will be raised and lowered through the Crestron control system.

Wireless Presentation

One (1) Barco ClickShare C-10 wireless presentation system, including two (2) ClickShare USB buttons, will be installed to allow attorneys and presenters to wirelessly share laptop content to the courtroom displays and projector.

The ClickShare system will be configured for content sharing only.

Video Distribution

A Crestron NVX AV-over-IP video distribution system will be installed to distribute video throughout the courtroom.

The system will include:

- Two (2) NVX encoders to provide video inputs from the ClickShare system and the HDMI output of the interactive display.
- Three (3) NVX decoders installed at the two (2) courtroom displays and the projector.

This configuration will allow ClickShare content to be routed to any of the courtroom display devices and will also allow content originating from the interactive display to be shared with the additional display and projector.

The displays and projector will be configured with a 1080p EDID to ensure consistent video resolution throughout the distribution system. The projector will display the distributed content in 1080p.

Control System

One (1) Crestron 4-Series control system will be installed within the owner-provided equipment rack.

The system will include one (1) 10.1-inch Crestron wireless touch panel to provide centralized control of the courtroom AV system.

The control interface will provide the following functions:

- System power on and off.
- Individual display and projector power on and off.
- Projection screen raising and lowering.

- Routing of interactive display and ClickShare content to each display and the projector.
- Program audio and microphone volume adjustment.
- Microphone mute control.

Two (2) table docks will be provided for the wireless touch panel. One will be located at the prosecutor's desk and the other at the equipment rack. These docks will provide convenient storage and charging locations when the touch panel is not in use.

One (1) wireless access point will be installed to provide a dedicated wireless connection between the touch panel and the control system.

Microphones and Audio Processing

Seven (7) Shure 18-inch gooseneck microphones, each equipped with an individual mute switch and LED indicator, will be permanently flange-mounted at the following locations:

- One (1) at the judge's position.
- One (1) at the clerk's position.
- One (1) at the witness position.
- Two (2) at the attorney tables.
- One (1) at the jury position.
- One (1) at the court reporter position.

Each microphone will include a local mute switch, allowing the individual user to mute their microphone as needed.

Six (6) Q-SYS Flex I/O peripherals will be installed near the microphone locations. These devices will convert the microphone signals to network audio and transport them to the central Q-SYS processor. The Flex I/O peripherals will receive power through the network switch.

One (1) Q-SYS Core 24f digital signal processor will be installed within the owner-provided equipment rack to provide microphone mixing, audio processing, and signal routing throughout the courtroom.

The court reporter position will include a dedicated microphone connection and headphone audio output. The headphone output will be provided through a Q-SYS Flex I/O peripheral, allowing the court reporter to monitor the courtroom audio.

Assisted Listening and Interpretation

Listen Technologies ListenTALK Base-8 and Base-4 systems will be installed to provide assisted listening and language interpretation capabilities throughout the courtroom.

The system will receive audio directly from the Q-SYS processor and will include six (6) neck loops for individuals using compatible hearing aids.

Two (2) microphone input/headphone output cables will also be provided for use with the ListenTALK system.

Audio Amplification and Speakers

One (1) Biamp two-channel amplifier will be installed within the equipment rack to power twenty (20) JBL 6-inch in-ceiling speakers.

The speakers will be distributed throughout the courtroom to provide consistent coverage of microphone and program audio.

Network Infrastructure

One (1) NETGEAR M4250 PoE+ managed network switch will be installed within the equipment rack.

The network switch will be configured to support both the Crestron NVX AV-over-IP video distribution system and the Q-SYS network audio system.

The switch will also provide Power over Ethernet (PoE) to the Q-SYS Flex I/O peripherals and the wireless access point.

Control Interface Review and Approval

A graphical user interface (GUI) review will be required before control system programming begins.The onsite contact will be responsible for providing signed approval or requested revisions before programming begins.

The proposal includes two (2) one-hour review sessions with the Project Manager and Programmer. Additional meetings or support required beyond these included sessions may result in additional charges.

Project Requirements and Responsibilities

Owner-Provided Infrastructure

The owner will be responsible for providing all required data and electrical connections necessary to support the installation and operation of the AV equipment.

Existing Equipment Removal and Site Restoration

During installation, existing equipment will be removed from the designated mounting locations to accommodate the new AV systems.

Any existing equipment that requires relocation or adjustment will be addressed as necessary to facilitate the installation.

Any paint, patching, or other finish restoration required as a result of equipment removal or installation will be the responsibility of the owner.

Final Engineering and Installation Coordination

Final equipment locations and installation details will be coordinated with the owner during the engineering and project planning process.

The owner will be responsible for reviewing and approving proposed equipment locations and providing the required site infrastructure to support the installation.

- Equipment procurement and installation
- Audio-visual system integration
- Equipment configuration and setup
- Custom control system programming
- System testing and commissioning
- Operational verification
- End-user training

All installed systems will be tested to verify proper operation and integration of the supplied equipment.

PROJECT BUDGET

The total budgetary price for the audio-visual upgrades described in this proposal, including both courtroom systems, is:

TOTAL BUDGETARY PROJECT PRICE: $199,000.00

This amount represents the combined budgetary price for all systems and associated services described in this proposal.

PROJECT ASSUMPTIONS AND RESPONSIBILITIES

The following assumptions and responsibilities apply to the proposed project:

1. **Electrical Requirements:** The Sussex Commonwealth's Attorney's Office shall be responsible for providing the required AC power at all projection screen, projector, display, equipment rack, and other locations necessary to support the installed audio-visual systems.