
AUDIOVISUAL SYSTEM DESCRIPTION NARRATIVES

0) USMS Training Room (C600.H) and Group Rooms (JM630 and 1605)

USMS Training Room C600.H is provided with a dedicated AV closet with AV rack.

Group Rooms JM630 and 1605 will be provided with AV credenzas with integral racks, cooling, and millwork panels.

An instructor's desk will be provided at the front of each training and group room. The instructor's desk will be provided with power, data, and an AV wall plate for the connection of AV devices.

The main display for each room will be an 86" UHD / 4K Aquos Board interactive display with touch screen. A low-profile, swingout mount and recessed mounting backbox will be provided for ease of service. A USB over CAT-6 cable extender will connect the Aquos Board to the instructor's PC.

A 12X zoom pan, tilt, and zoom video camera will be wall mounted above the display. A second 12X zoom pan, tilt, and zoom video camera will be ceiling mounted at the rear of the space to capture the instructor.

For video collaboration use with "Soft Codec" PC applications such as Scopia, WebEx, and Teams, a USB connection will be provided to connect a PC to the room's audio microphone and speaker systems as well as to the video camera system. This USB connection will be located at the instructor's desk for use with either a fixed instructor's PC or a portable laptop computer.

A 10 input X 1 output digital video switcher with integral control system processor and HD Base-T inputs and outputs will be provided for each training room. Inputs to the video system include a cable TV tuner, and two HDMI inputs at the instructor's desk. One HDMI input will be reserved for use with the instructor's PC, the second input will be used for connection of the Barco Clickshare wireless presentation device.

Ceiling speakers will be provided for audio playback, audio teleconferencing, VTC, and video collaboration uses.

A pair of ceiling microphone arrays with Beamtracking technology will be provided for audio capture of participants during audio teleconferencing as well as for video collaboration. A headset wireless microphone will be provided for the instructor for both local amplification in the ceiling speakers as well as for voice capture during conferencing and collaboration uses.

An audio digital signal processor (DSP) will be provided for audio mixing, routing, and audio teleconferencing uses.

A self-contained IR modulator with emitter will be ceiling mounted for assisted listening system use. The system will be compatible with the Courts' standard IR receivers.

Control of the audiovisual system will be via a wired 7" touch panel located at the instructor's desk. The touch panel control system will provide control of commonly used AV features such as system power, source selection, source routing, volume control, as well as camera pan, tilt, and zoom.

1) Courtroom Technology Branch (CTB) Suite C610

The CTB suite includes workstations, a private office, and a video production suite.

A 50" flat panel display with swingout wall mount and associated HDMI input wall plate will be provided near the entry to the suite. Two existing equipment racks used for recording TV broadcasts and for testing video conferencing will be relocated to the open office area.

Office C610.10 will be provided with a 43" flat panel display with swingout wall mount and associated HDMI input wall plate.

The video production suite includes the AV Control / Editing Room C610.01 and the Video Set room C610.03.

The Video Set room will be equipped with a overhead 4' X 4' lighting pipe grid (by the GC) for use with video production lighting fixtures. A flat black curtain with ceiling track will be installed (also by the GC) for use as a backdrop and to provide acoustical absorption. The design intent is to be able to have (2) people (i.e. talent) on camera using a typical (3) camera configuration. The first camera is set with a wide shot of both people / talent and the second and third cameras capture a tight shot of each talent.

The space will be provided with (3) distinct sets or backdrops for video production and photography (in addition to the black curtain). The West wall will be painted chroma-key green (by the GC) for use with virtual or computer generated backdrops. The curtain will cover the green wall when not in use. The North wall set will consist of bookcases (filled with discarded law books) and the DC Courts flags with floor stands to mimic the often used Chief Judge's chambers. The third set on the East

wall consists of a set of hanger brackets and rods for use with (3) different fabric or paper backdrops typical of headshot or portrait photography use.

A professional LED based video lighting system will be provided for video recording. A pair of large, high output “key lights” with RGB color mixing and wireless DMX control will be provided with soft boxes for lighting of the talent’s faces. Six smaller 6500 K (or daylight color) LED fixtures with wireless DMX control will be provided for background, fill, and “hair” light use as needed. An assortment of floor stands, pipe clamps, light modifiers, and other accessories will be provided for positioning and fine tuning of the lighting fixtures. DMX lighting control software, a USB to DMX converter, and associated wireless transmitter will be provided for wireless control of the video lighting fixtures.

As several of the lighting fixtures will be relocated depending on the video set to be used, a 16” W, 6’ high rolling step ladder (similar to those used at large hardware stores) will be provided for stable and frequent access to the overhead light grid.

For filming in the video set room, three UHD / 4K professional video camcorders will be provided with associated studio tripods and dollies. A compact 7” video assist monitor will be provided for each camera. Two of the cameras will be equipped with LCD teleprompters with mirrors for use by talent. The teleprompters will be fed from the editing / teleprompter PC in the control room.

A video production cart with mounting bracket and 24” UHD monitor will be provided for the video set room. A powered speaker will also be attached to the cart for talkback from the video control room. The cameras, video display, speaker, wired microphones, and teleprompters connect to an AV wall plate on the East wall.

A pair of wireless microphones with belt pack transmitters and omnidirectional lavalier (clip-on) microphones will be used for audio capture. A high quality “shotgun” or boom microphone and associated stand will be included for ambient audio capture, backup, and voice over use.

The video recording and editing system will support a UHD / 4K production work flow from the camera through to editing system. Due to the large file requirements for UHD / 4K video content, the Courts may also utilize the system for standard HD (720P, 1080i, 1080P) video content production.

The AV Control / Editing Room will house the video switching and audio mixing equipment as well as a dedicated iMac with a video RAID array for editing and storage of content. An under counter rack with casters and UPS will be provided for AV equipment storage and backup power.

The video switching and recording system will include an (8) input 12G SDI (serial digital interface) video production switcher. Four 12G SDI, solid state video recorders will be provided for recording of each of the (3) cameras as well as a switched video program feed. A pair of 24" UHD displays with a dual grommet mounted desk stand will be configured for viewing of the video program feed and the multiviewer output from the video production switcher.

An (8) input digital audio mixer, a pair of studio monitor speakers, and a studio monitor controller with talkback microphone will be provided for audio mixing and monitoring.

2) Typical Conference Room (C620.09, C630, JM600.10, JM625 and 4600.03)

Each typical conference room is equipped with a 6" poke thru device at the conference table to provide power, data, and AV connections.

A commercial LCD / LED TV with swingout wall mount will be provided for each conference room. Smaller rooms will be equipped with a 65" UHD display, and larger rooms will be equipped with a 75" UHD display as required due to viewing distance.

Inputs to the TV include Cable TV (via Comcast mini-tuner), a wall plate with one HDMI input, and conference tables inputs via an HD Base-T extender. Inputs at the conference table will include (2) HDMI and (1) VGA w/ analog audio. A Barco Clickshare wireless presentation device will be located on the credenza in each conference room and will connect to the HDMI wall plate.

As described above, a speaker soundbar with integral microphone array and USB camera will be mounted below the LCD display. A USB extender will extend the signal to the USB connection to the conference table for video collaboration software use with a portable laptop computer.

The remote control provided with the TV will be used for control of the AV system.

A speaker phone will be provided by the Courts for audio teleconferencing.

3) Typical Lunch Room (C625, JM600.07, 4650) and Office (C640.10, 4600.10 and 4630.04)

A 50" commercial UHD LCD / LED TV with swingout wall mount will be provided for each lunch room and for each office designated to receive a wall mounted display.

Inputs to the TV include Cable TV (via Comcast mini-tuner) and a wall plate with (1) HDMI input. Office wall plates will be located under the desk for connection of the PC to the display as desired.

The remote control provided with the TV will be used for control of the AV system.

4) Reception JM.600a

A 55" commercial UHD LCD / LED TV with swingout wall mount will be provided for the waiting area.

Inputs to the TV include Cable TV (via Comcast mini-tuner) and a wall plate with (1) HDMI input located behind the transaction counter.

The remote control provided with the TV will be used for control of the AV system.

5) Hearing Room JM-30

The Hearing Room will be provided with a dedicated AV closet to house the AV equipment rack.

An 8" poke thru device will be located at each Litigant Table to provide power, data, and AV connections. Additional AV connection plates will be located in the Bench millwork as detailed on the AV system drawings.

An 86" LCD TV will be provided for video teleconferencing (VTC) and evidence presentation uses. The TV will be equipped with a swingout wall mount with a recessed back box. The display will be mounted on the South wall of the Hearing Room for the Judge, Clerk, Witness and both Litigants to both view the display as well as to be seen by the VTC camera located above the display.

A 12X zoom pan, tilt, and zoom video camera will be located above the display and will be provided with a camera extension system to extend the camera video and control signals to the VTC codec located in the equipment rack.

A Court standard, H.323 standards-based VTC system will be provided. The VTC system will be registered to the Court's existing VTC bridge for multi-point VTC calls.

An 8X4 video switcher with integral control system processor and HD Base-T inputs and outputs will be provided. Inputs to the video system include the VTC system, (2) HDMI and (1) VGA input from each Litigant's Table poke thru device, and one HDMI input at the Judge's Bench. These sources will be capable of both local display and of being transmitted to the far site during VTC use.

The audio system provided will be the Court's standard audio system. Ceiling speakers will be provided for the well area and above the Gallery. The Judge will be provided with a control panel providing for both volume control of the Judge's microphone as well as a "husher" button. When activated, the "husher" will flood the Gallery ceiling speakers with pink noise to help conceal bench conferences. A compact, self-powered speaker with integral volume control will be provided under the Judge's Bench.

The Court's standard gooseneck microphones will be provided for the Judge, Clerk, Witness, and Litigant Tables. Two additional "button" microphone will be installed into the front and top of the bench to record bench conferences.

A Court's standard DSP (digital signal processing) system with telephone hybrid will be provided for all audio mixing, routing, and audio teleconferencing. The audio DSP units will include Dante digital audio networking for interconnection as well as to allow for a future, network audio based upgrade to the Central Recording system.

An infrared assistive listening system / interpretation system will be provided with (3) modulators and an emitter panel. Interpreter's microphone inputs will be located at both Litigant's Tables and at the Witness Stand.

A feed from the Clerk's PC will be provided for playback of recorded testimony. A typical CourtSmart control panel with a "cue / playback" switch as well as a headphone output will be provided for use by the Clerk. An audio output will be provided at the Witness Stand for occasional use by a Court Reporter.

Control of the audiovisual system will be via two wired, 9" touch panel located at the Bench. One touch panel will be provided for the Judge and one will be provided for the Clerk.

6) Typical Courtroom

Each Typical Courtroom will be provided with a 1.6", low-profile, FreeAxez raised floor in the Well Area, as well as surface mounted cable raceway management with cable access points in the Bench. Dedicated AV equipment rack rooms are provided to house a dedicated equipment rack for each courtroom.

A floor box (in the raised floor) will be provided at each Litigant Table and Evidence Lectern Location to provide power, data, and AV connections. Two evidence lectern floor boxes will be provided in each courtroom for connection of the lectern at either location.

Additional AV connection plates will be provided in the Bench millwork as detailed on the AV system drawings.

The main video display for the Jury will be a wall mounted, 86” LCD / LED commercial TV located across from the Jury Box. An additional wall mounted, 65” LCD / LED commercial TV will be located behind the Witness Stand for evidence presentation as well as for “virtual witness” use. The “virtual witness” can be used with either the VTC system or a protected witness located in an associated Jury or Attorney / Witness Room. Both of these displays will be provided with a swingout wall mounted and associated recessed back box.

Two 50” LCD / LED commercial TVs will be ceiling mounted above the gallery rail on the left and right side of the Courtroom. A recessed ceiling box with integral pole mount will be provided for each display to conceal the power connection and to house the HD Base-T video receiver.

Additional evidence displays will be provided for the Judge, Witness, Clerk, and Court Reporter. These evidence displays will be 22” LCD touch screens and will allow for touch annotation by each user over the video being displayed. Still frames of the video being displayed, along with any associated annotations, will be capable of being printed out by the evidence printer at the Clerk’s Desk (via the Judge’s or Clerk’s control system touch panels). A USB port will be provided at the Clerk’s Desk to allow images and annotations to be saved to a USB thumb drive for use with a digital evidence archive system (such as JERs).

The evidence displays for the Judge and Witness will be provided with low-profile desk stands to preserve sightlines. The display for the Clerks will be mounted to the video monitor rail provided at the Clerk’s Bench. The Court Reporter’s evidence display will use a table stand for use at the Court Reporter’s desk.

Two wall mounted, 12X zoom, pan, tilt, and zoom (PTZ) video cameras will be provided with one at the front and one at the rear of the Courtroom. The cameras will be used for video teleconferencing (VTC use), protected witness use, and can also be routed to the Judge’s evidence display for their use in observing persons seated in the gallery (as needed).

Wired HDMI and VGA video inputs, transmitted via HD Base-T, will be provided with (2) inputs at the Judge’s Bench, one input at the Clerk’s Bench and one input at each Litigant Table. Additional inputs to the video system include the feed from the Evidence Lectern, the feed from an associated Jury Room, the (2) PTZ video cameras, and the VTC system.

A Court standard, H.323 standards-based VTC system will be provided. The VTC system will be registered to the Court's existing VTC bridge for multi-point VTC calls.

A card-frame video switcher with HD Base-T inputs and outputs will be provided. All video will be capable of both local display and of being transmitted to the far site during VTC use.

A simplified version of the Court's standard evidence lectern will be provided. These lecterns are custom made, and fabrication / shop drawings must be coordinated to ensure that the latest generation of AV equipment is utilized so that the device cut outs and document camera drawing are the appropriate size. The lectern includes a side drawer with a video document camera, a touch panel controller on the surface, and a microphone. Additional cables for the connection of HDMI and VGA inputs from a laptop computer are provided. The touch panel at the evidence lectern is capable of limited control of the Courtroom AV system.

The audio system provided will be the Court's standard audio system. Ceiling speakers will be provided for the Jury Box, well area and above the Gallery. The Judge will be provided with a control panel providing for both volume control of the Judge's microphone as well as a "husher" button. When activated, the "husher" will flood the Jury and Gallery ceiling speakers with pink noise to help conceal bench conferences. A compact, self-powered speaker with integral volume control will be provided under the Judge's Bench.

The Court's standard gooseneck microphones will be provided for the Judge, Clerk, Witness, Litigant Tables, and Evidence Lectern. Two additional "button" microphone will be installed into the front and top of the Bench to record bench conferences.

A Court standard DSP (digital signal processing) system with telephone hybrid will be provided for all audio mixing, routing, and audio teleconferencing. The audio DSP units will include Dante digital audio networking for interconnection as well as to allow for a future, network audio based upgrade to the Central Recording system.

A Court Reporter audio output will be provided for use by a Stenographer. An additional "Press" audio output will be provided at the rear of the Courtroom for future use by the press (as permitted).

An infrared assistive listening system / interpretation system will be provided with (3) modulators and two emitter panels (with one at the front and one at the rear of the Courtroom). Interpreter's microphone inputs will be located at each Litigant's tables, at the gallery rail and at the Witness Stand.

A feed from the Clerk's PC will be provided for playback of recorded testimony. A typical CourtSmart control panel with a "cue / playback" switch as well as a headphone output will be provided for use by the Clerk.

In Courtrooms with an associated Jury Room (CR-131, CR-132, CR-231 and CR-235) a Clerk's Call Light in a small desktop enclosure will be provided at the Clerk's Bench for notification that a Jury in the associated Jury Room requires their attention.

Control of the audiovisual system will be via two wired, 9" touch panel located at the Bench. One touch panel will be provided for the Judge and one will be provided for the Clerk. The touch panel at the evidence lectern will also be capable of limited control of the Courtroom AV system.

7) Typical Jury Room

Each Jury Room will be equipped with a 65" UHD LCD / LED commercial TV with a swing-out wall mount and a recessed back box. Inputs to the TV include a wall plate with (1) HDMI input and (1) VGA input for use with laptop computers (provide by the Courts).

Each Jury Room will support two-way audio and video communication with the associated Courtroom for use with a protected witness who cannot provide testimony in the courtroom. A portable camera and microphone will connect to the wall plate in each Jury Room for use with a protected witness.

Each Jury Room will be provided with a 5" wall mounted touch panel for control of the AV system. The touch panel will be located by the door for itinerant access by the Clerk. Jurors will use the touch panel to alert the Clerk (via the Courtroom Clerk Call Light) that their attention is required by the Jury.

8) Attorney Witness Rooms CR-130b and CR-233b

In the two Courtrooms without dedicated Jury Room (CR-130 and CR-233), a wall plate will be provided for protected witness use in an adjacent Attorney / Witness Rooms for use with a portable TV, microphone, and video camera.

9) Indiana Avenue / 2nd Level Lobby

This Lobby was designed with infrastructure to support temporary AV setups using the Court's existing portable LCD displays on rolling floor stands. An audio system with ceiling speakers and video signal distribution hardware will be installed for simple AV presentation configuration. A portable performance audio system will also be provided for use during large events. An AV closet was constructed in CSA Phase 2A to house the AV rack for this Lobby AV system.

Three poke thru devices will be provided on the IA level and one poke thru device will be provided on the 2nd level. Two poke thru devices, located near the stair landing on the IA level will include an HDMI via HD Base-T input, (2) microphone inputs, (2) HD Base-T outputs for use with portable video displays, and AV Lan connections for use with the touch panel and portable performance audio system (via Dante networking). An AV technical location poke thru device will be provided with HD Base-T input, HD Base-T output, and AV Lan connections for the touch panel and portable audio system. The poke thru located on the 2nd level will provide (2) HD Base-T outputs for use with portable displays, and AV Lan connections for the portable audio system.

A 4X1 video switcher with HD Base-T inputs and output will be located in the AV rack. An HD Base-T distribution amplifier and HD Base-T to HDMI receivers for each planned display location will also be provided.

The lobby will be equipped with a dedicated two channel wireless microphone receiver. Two handheld wireless microphones and two low-profile headset microphones with belt pack transmitters will be provided. A digital audio signal processor will be provided for audio mixing and system tuning.

For larger events with performances or which require multiple microphones, a (16) input portable audio mixer with Dante network card, a (16) input portable stage box with Dante, and (4) self-powered column speakers will be provided (with two speakers each for the IA and 2nd level). The portable audio system will use AV Lan connections to connect via Dante at the poke thru devices.

A wired, 7" touch panel will connect at either the presenter's or AV technical locations for video input switching and audio level control.

10) Group Room 1600 and Chief Judge’s Study 3600.05

Group Room 1600 will be provided with a 3 bay AV credenza with integral equipment racks, cooling, and millwork panels. Two bays of the credenza will be equipped for AV rack equipment, the third bay will be used for general shelving.

The Chief Judge’s Study is provided with a dedicated AV closet with AV rack.

Each room will be provided with a 6” poke thru device with power, data, and AV connections.

A commercial UHD LCD TV with swingout wall mount will be provided for video teleconferencing (VTC) and presentation uses. Due to the large size of the space, Room 1600 will be equipped with an 86” UHD display and the Chief Judge’s Study will receive a 75” UHD LCD.

A 12X zoom pan, tilt, and zoom video camera will be located above the displays and will use a camera extension system to extend the camera video and control signals to the VTC codec located in the equipment rack.

A Court standard, H.323 standards-based VTC system will be provided. The VTC system will be registered to the Court’s existing VTC bridge for multi-point VTC calls.

An 8X4 video switcher with integral control system processor and HD Base-T inputs and outputs will be provided. Inputs to the video system include a cable TV tuner, Barco Clickshare wireless presentation device, the VTC system and poke thru AV HD Base-T inputs. These sources will be capable of both local display and of being transmitted to the far site during VTC use.

The HD Base-T poke thru inputs at each conference table will include dual HDMI and one VGA input each. Both rooms will be equipped with an HDMI wall plate for use with portable video sources (or for the Barco Clickshare in 1600). Group Room 1600 will be provided with an additional presenter’s wall plate with a microphone and HDMI video input at the lectern location.

Ceiling speakers will be provided for audio playback, audio teleconferencing, and VTC uses. Ceiling microphone arrays, with Beamtracking technology will be used for audio capture during audio and video teleconferencing.

A gooseneck microphone will be mounted to the presenter’s podium in Room 1600 for voice reinforcement in the room.

A self-contained IR modulator with emitter will be ceiling mounted for assisted listening system use in Room 1600. The system will be compatible with the Courts' standard IR receivers.

Control of the audiovisual system will be via a wired 9" touch panel located at the conference table in each space (and presenter's podium in Room 1600).

11) Chief Judge's Pantry 3600.04

A 43" commercial UHD LCD / LED TV with swingout wall mount will be provided for the Chief Judge's Pantry. Cable TV will be the only input.

12) 4th Level Lobby 4670.00a

Ceiling speakers will be provided for this lobby and will be integrated into the future Juror's Lounge Paging system (not in scope).

A pair of portable self-powered column speakers with integral mixer will be provided for special events in the lobby.

13) Juror's Branch Reception / Waiting 4670.00b

This space will be equipped with ceiling speakers over the waiting area and an input wall plate for a paging system microphone at the transaction counter. Both the speakers and the paging microphone are intended for use with the future Juror's Lounge paging system (not included in this scope).

14) Sound Masking Systems

Indirect sound masking systems, similar to those provided in Phase 2A, will be provided for several open office areas including C610, JM600, JM610, JM620, 3605, 4605, 4630 and 4670. These masking systems will use several small speakers, located above the ceiling, to produce specially tuned sound masking noise. Speakers are to be located above the workstations and corridors only. A recessed ceiling box will be provided in each office area to provide AC power and to house the masking system power supplies. Each masking system will be capable or control via software and the provided network connection.

End of Narrative