

DESIGN REPORT

OHND-15-06-DCA

For

United States District Court, Northern District of Ohio

Akron Courtroom 530

Cleveland Courtrooms 15A, 15B, 17A, 18B, 19A & 19B

Toledo Courtroom 204

HD Video Systems Upgrade Phase 1

DIVISION 27 - MEDIA TECHNOLOGY EQUIPMENT

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DIVISION 00 – CONTRACT REQUIREMENTS

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SECTION 00 01 15 – LIST OF DRAWINGS

SECTION 000115 - LIST OF DRAWINGS

PART 1 - GENERAL

1.1 LIST OF DRAWINGS

Drawing Number	Drawing Title
TA001	Legend 1
TA002	Keyed Notes
TA003	Legend 3
TA004	Legend 4
TA005	Legend 5
TA006	Legend 6
TA007	Legend 7
TA008	Legend 8
TA101	Floorplan of Akron Courtroom 530
TA602	Akron Courtroom 530 Video System Functional Requirements
TA603	Akron Courtroom 530 Control & Power Functional Requirements
TA702	Akron Courtroom 530 Plate 2
TA704	Akron Courtroom 530 Plate 4
TA706	Akron Courtroom 530 Plate 6
TA708	Akron Courtroom 530 Plate 8
TA710	Akron Courtroom 530 Plate 10
TA726	Akron Courtroom 530 Plate 26
TA728	Akron Courtroom 530 Plate 28
TA744	Akron Courtroom 530 Plate 44

TA748	Akron Courtroom 530 Plate 48
TA754	Akron Courtroom 530 Plate 54
TA782	Akron Courtroom 530 Plate 82
TA792	Akron Courtroom 530 Plate 92
TA101b	Floorplan of Cleveland Courtroom 15B (similar to 15A)
TA101c	Floorplan of Cleveland Courtroom 18B (similar to 17A)
TA101d	Floorplan of Cleveland Courtroom 19A
TA101e	Floorplan of Cleveland Courtroom 19B
TA602	Cleveland Courtrooms Video System Functional Requirements
TA603	Cleveland Courtrooms Control & Power Functional Requirements
TA702	Cleveland Courtrooms Plate 2
TA704	Cleveland Courtrooms Plate 4
TA706	Cleveland Courtrooms Plate 6
TA708	Cleveland Courtrooms Plate 8
TA752	Cleveland Courtrooms Plate 52
TA756	Cleveland Courtrooms Plate 56
TA782	Cleveland Courtrooms Plate 82
TA792	Cleveland Courtrooms Plate 92
TA101f	Floorplan of Toledo Courtroom 204
TA602	Toledo Courtroom 204 Video System Functional Requirements
TA603	Toledo Courtroom 204 Control & Power Functional Requirements
TA702	Toledo Courtroom 204 Plate 2
TA704	Toledo Courtroom 204 Plate 4
TA706	Toledo Courtroom 204 Plate 6
TA708	Toledo Courtroom 204 Plate 8

TA726	Toledo Courtroom 204 Plate 26
TA754	Toledo Courtroom 204 Plate 54
TA782	Toledo Courtroom 204 Plate 82
TA792	Toledo Courtroom 204 Plate 92

1.2 RELATED DOCUMENTS

- A. Refer to Schedule D for Project Drawings.

1.3 DESIGN CONSIDERATION

- A. The Specification text has been provided as a functional description and definition of the performance characteristics of the required systems. For specific system design information, refer to the Functional Design Intent drawings included herein for signal path and feature requirements. The Design Intent drawings *do not* represent wiring diagrams. For inclusion/exclusion of equipment types, items, and quantities, refer to the Equipment Schedule, Schedule B – Schedule B-1, (Recommended Brands and Models). The Drawings take the following precedents and have the following functions.
1. Legends: Legends are used only to identify symbols used on the plans. Not all symbols shown will be used on the project.
 2. Floor plans show approximate device locations and the needed connections and functions at those locations. The device locations and signal types are specific to this project and all items shown are required at those locations. Plate numbers and general locations are shown on these drawings. Devices shown on these plans override the Functional Requirements Drawings.
 3. Plate drawings show exact custom-built plate requirements related to the locations shown on the Floor and Ceiling plans. Plates are numbered and the numbers are shown on the Floor and Ceiling plans. Refer to the Legends for specific symbols indicating locations for plates. The Technical Media Systems Contractor (TMSC) shall verify plates per overall requirements and submit with shop drawings as indicated herein with fabrication details and any changes needed to comply with Design Intent.
 4. Signal drawings indicate custom-built plates that are used for signaling systems and may have custom electronics and/or relay devices associated with them. Signaling locations are shown on the Floor and Ceiling plans. Plates are numbered and the numbers are shown on the Floor and Ceiling plans. Refer to the Legends for specific symbols indicating locations for plates.
 5. Rack drawings indicate possible equipment configurations in mountable frames. Equipment shown is based on primary equipment examples listed in Schedule B – Schedule B-1. Final rack drawings provided by the TMSC shall be adjusted to exact equipment provided, proper venting, and coordination with other devices, and cable management in the rear of racks.
 6. Functional Requirements Drawings show basic signal flow requirements to portray Design Intent. These drawings shall *not* be used for calculating input and/or output quantities. Many functional requirements of the overall design cannot be illustrated in flow drawings and the TMSC shall consider written specifications contained herein for the system engineering and hardware programming to accomplish needed function. Quantities indicated in the Equipment Schedule, Schedule B, and indicated on the Floor and Ceiling plans take precedence.

7. TMSC shall verify Control screen layouts per overall requirements and submit with shop drawings as indicated herein with any changes needed to comply with Design Intent.
 8. When included information is in conflict, submit an RFI to Court's Representative for clarification.
- B. Quantity requirements and feature locations are driven by floor and ceiling plans and equipment Schedule B. The single line drawings are not intended to show wiring connections, they are provided for signal flow intent only.

1.4 INTENT OF DRAWINGS

- A. The TMSC shall provide and install all connections to all locations on the floor and ceiling plan(s) as indicated by letter and symbol codes that shall be considered part of this contract. Functions coded by letters and symbols and shown on legend sheets shall be made working components of the system and the system shall be engineered to accomplish these requirements as needed.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION – LIST OF DRAWINGS

SECTION 00 01 20 – LIST OF SCHEDULES

SECTION 000120 - LIST OF SCHEDULES

PART 1 - GENERAL

- 1.1 The following is a list of Schedules used to summarize project scope. The complete set of Contract Documents (Drawings and Specifications) contain other requirements that shall be included in Project Scope along with the Scheduled information.
- 1.2 SCHEDULE A – EQUIPMENT LIST/INFORMATION
- 1.3 SCHEDULE B – B-1/BID FORM
- 1.4 SCHEDULE C – CONTROL PANELS (NOT USED)
- 1.5 SCHEDULE D – LIST OF PROJECT DRAWINGS

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION – LIST OF SCHEDULES

- A. The Bidder agrees to assume all increases in labor rates and/or material prices that may develop during the life of this Contract.
- B. By submitting a bid, the TMSC agrees to furnish all materials, equipment, tools, accessories, miscellaneous parts, transportation, shipping, all applicable value-added rates, fees, permit costs, taxes, and incidentals necessary for the completion of the Work.
- C. Communications concerning this Bid shall be directed to the Owner and copied to the Court's Representative.

SECTION 00 24 00 – PROCUREMENT SCOPES

SECTION 002400 - PROCUREMENT SCOPES

PART 1 - GENERAL

1.1 SUMMARY

- A. The contractor shall procure, install, configure and test complete and operational high definition video evidence presentation and video conference systems as listed and described.
- B. *IMPORTANT: The contractor shall program and merge the new control hardware provided under this contract for the video evidence and video conference systems with the existing audio and signaling systems that are currently operational in the project courtrooms. The existing systems are operating on either existing Crestron or AMX control systems depending on the courtroom. At the conclusion of this project, all courtrooms shall be operating from a single brand of product, whether there are multiple engines operating in “slave” mode or not. All existing control system functions and programming that provide all audio, signaling and other controls that are not being replaced are to remain functional.*

PART 2 - PRODUCTS

2.1 PRODUCTS

- A. Products shall be as defined as new product, reused or Client Furnished Equipment as listed. All other products used other than miscellaneous parts, accessories, and installation supplies shall be listed and provided to the Court's Representative for review.

PART 3 - EXECUTION (NOT USED)

END OF SECTION – PROCUREMENT SCOPES

SECTION 00 26 00 – PROCUREMENT SUBSTITUTION PROCEDURES

SECTION 002600 - PROCUREMENT SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 SUBSTITUTIONS

- A. The Court's Representative requires selected manufacturer's original specification tests. The Court's Representative shall evaluate and accept or reject all substitutions.
- B. Prior approval of substitutions for specified materials, equipment, and systems shall be obtained from the Court's Representative. Submit requests for approval of substitutions in writing to the Court's Representative using the Substitution Request Form supplied in this specification (Section 006325) or fill in the "Substitution" column in the Schedule B – B-1 / Bid Form. Substitutions must be approved in writing or they will not be considered as accepted under this contract.
- C. Where model numbers have been discontinued or are no longer available, provide direct updated replacement models that provide identical or better specifications, and notify the Court's Representative of the change. Where no direct replacement is available, contact the Court's Representative for direction before ordering any replacement equipment. TMSC is responsible for any variation in physical characteristics of any substitutions that may affect physical installation or change in specifications that may affect Design Intent features.
- D. Equipment brand, model, and quantity are delineated in the B-1/Bid Form (Schedule B). Brands and models listed are products that meet or exceed the project requirements. Equal or equivalent products are acceptable as well, but must be either submitted during the bid process in the column provided on the B-1 bid form or in writing using the Substitution Request Form (Section 006325).
- E. Changing specified equipment to a different brand/model/type in the submittals without a formal change or substitution request accompanying the submittal will not be considered an acceptable change/substitution; even if the "new equipment" is not commented on by the Court's Representative in the submittal review. A "no comment" or "no changes required at this time" type of submittal review response from the Court's Representative shall NOT be considered an approval of the equipment that varies from the specified equipment.

PART 2 - PRODUCTS

2.1 REQUIREMENTS

- A. Where specific equipment is described, it is not the intention to discriminate against the products or other manufacturers, but rather to establish a standard of quality and feature performance. All proposed substitutions shall be submitted by filling in the "Substitution" column in the B-1 / Bid Form (Schedule B) or as a Request for Substitution on the form provided in Section 006325. Many components have been selected due to physical dimensions and/or other characteristics. Coordination with the providers of millwork, etc. may have been accomplished with specific brand/models prior to issue of this specification. For compatibility reasons, it is mandatory that all substitutions be reviewed by the Court's Representative prior to change.

- B. Electronic component models proposed as substitutions must have been commercially available for at least three (3) months prior to bid.
- C. All equipment and material provided by the TMSC shall be new.
- D. All equipment must be UL listed or built to UL standards.

PART 3 - EXECUTION

3.1 ACCEPTANCE

- A. Prior acceptance of substitutions for specified materials, equipment, and systems shall be obtained from the Court's Representative. Submit requests for substitutions in writing (Refer to Section 006325). Substitutions must be accepted in writing to be considered part of this contract.

END OF SECTION – PROCUREMENT SUBSTITUTION PROCEDURES

SECTION 00 31 00 – AVAILABLE PROJECT INFORMATION

SECTION 003100 - AVAILABLE PROJECT INFORMATION

PART 1 - GENERAL

1.1 PROJECT AREA HISTORY

- A. All drawings, files and other historic data pertaining to technology for the project areas in possession of the Court in will be made available to the TMSC prior to the start of work.

PART 2 - PRODUCTS

2.1 CLIENT FURNISHED EQUIPMENT (CFE)

- A. Refer to Section 016400 "Client Furnished Equipment (CFE)."

PART 3 - EXECUTION

3.1 EQUIPMENT PROVIDED BY OTHERS

- A. All equipment provided by others to be re-installed shall be fully tested prior to re-use.

END OF SECTION – AVAILABLE PROJECT INFORMATION

SECTION 00 31 13 – PRELIMINARY SCHEDULE

SECTION 003113 - PRELIMINARY SCHEDULE

PART 1 - GENERAL

1.1 SCHEDULE

- A. See attachment “RFQ Solicitation Number OHND-15-06-DCA” dated August 19, 2015.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION – PRELIMINARY SCHEDULE

SECTION 00 41 00 – BID FORMS

SECTION 004100 - BID FORMS

PART 1 - GENERAL

1.1 BID FORM

- A. Schedule B – B-1/ Bid Form will be provided to the bidders in Excel format. Bids must be submitted on completed spreadsheets in Excel format. PDF files will not be accepted.
- B. See Section 002113 "Instructions to Bidders."

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION – BID FORMS

SECTION 00 63 13 – REQUEST FOR INTERPRETATION/INFORMATION FORM (RFI)

Replicate Forms as Required.

Project: United States District Court, Northern District of Ohio

RFI Number:

Courthouse Address:

Submitted on:

To Court's Representative:
Contract Date:

Submitted by:

Reason for Request:

- Insufficient Information
- Engineering Conflict
- Alternative Proposal
- Other

Action Requested:

- Clarification
- Direction
- Approval

Probable Effect:

- Increase Cost
- Increase Time / Labor
- No Change
- Decrease Cost
- Decrease Time / Labor

Reference drawing number and/or specification section the request pertains to:

Information Needed/Recommended Solution:

Response Requested By (Date): _____

Signed: _____

Response from Court's Representative: To be provided on in written format on separate form.

END OF SECTION – REQUEST FOR INTERPRETATION/INFORMATION FORM (RFI)

SECTION 00 63 19 – CLARIFICATION FORM

Replicate Forms as Required.

Project: United States District Court, Northern District of Ohio Clarification Number:

Courthouse Address: Submitted on:

To Court's Representative: Submitted by:
Contract Date:

1.
2.
3.
4.
5.

END OF SECTION – CLARIFICATION FORM

SECTION 00 63 25 – SUBSTITUTION REQUEST FORM (CONSTRUCTION)

Replicate Forms as Required.

Project: United States District Court, Northern District of Ohio Request Number:
 Court Address: Date of Request:
 Contractor: To Court's Representative:
 Requested By:

#	Specified Item	Proposed Substitution	Will substitution in any way negatively impact system? Y/N If yes, explain
1			
2			
3			
4			
5			

State the reason for the unavailability of the specified item. Provide such additional data and information as may be necessary to establish the acceptability of the proposed substitution.

1. _____
2. _____
3. _____
4. _____

Method Specified	Proposed Alternate Method	Reason for change

END OF SECTION – SUBSTITUTION REQUEST FORM (CONSTRUCTION)

SECTION 00 63 44 – ENGINEERING PROOF OF DESIGN (EPOD) FORM

Replicate Forms as Required.

Project:	United States District Court, Northern District of Ohio	EPOD#:
Reference Drawing:		Date:
Submitted by:		Court's Representative:

Submit an itemized list of items identified that will prevent or change the nature of the Design Intent as described in the specification. Submit RFCs and/or RFIs separately and reference them here.

Item #1

Reason for item:

List of revised equipment:

List of equipment not used:

Description of item:

END OF SECTION – ENGINEERING PROOF OF DESIGN (EPOD) FORM

SECTION 00 63 57 – CHANGE ORDER REQUEST FORM (RFC)

Replicate Form as Required

Project: United States District Court, Northern District of Ohio Request Number:
 Court Address: Date of Request:
 Contractor: To Court's Representative:
 Requested By:
 Reason for Request:

List of materials (credited) and cost:

Item (Brand and Model)	Qty	List	Cost	Subtotal
Total				

List of labor (credited) and cost:

Hours	Number of People	Cost per Hour	Subtotal
Total			

Total Cost for this Change: \$ _____

Project Deadline will be extended by: _____ days _____ hours

Signed: _____

END OF SECTION – CHANGE ORDER REQUEST FORM (RFC)

SECTION 00 91 13 – ADDENDA

ADDENDUM #

To: All Plan Holders for:

UNITED STATES DISTRICT COURT, NORTHERN DISTRICT OF OHIO

Final Design Report issued: July 31, 2015

NOTICE TO ALL BIDDERS

The following changes shall be made to the specification:

END OF SECTION – ADDENDA

DIVISION 01 – GENERAL REQUIREMENTS

SECTION 01 10 00 – SUMMARY OF WORK

SECTION 011000 - SUMMARY OF WORK

PART 1 - GENERAL

1.1 DOCUMENT QUICK REFERENCE GUIDE

- A. The following list highlights frequently referenced sections of this Design Report. This list is not exhaustive and does not represent all contract requirements contained in this document, its appendices, or change orders associated with this project. The TMSC is responsible for completing all contract requirements associated with this project. This following list has been included only to assist the reader in navigating this document.
1. The TMSC or bidder must use the Request for Interpretation/Information (RFI) and Request for Change (RFC) forms contained in this document. These forms must be used even if the requests are sent via email. The RFI form is found in Section 006313. The RFC form is found in Section 006357.
 2. The Engineering Proof of Design (EPOD) form, found in Section 006344, is to be filled out and submitted according to the submittal instructions found in Section 013300.
 3. Floor plans, ceiling plans and connection plate configurations are to be included in shop drawing submittals as defined in Section 013300, 2.02.
 4. Specific training submittals are required and early planning is needed. See Sections 017900, 011216, and 013300 for specific requirements.
 5. There are updated requirements for UTP and STP cable testing. Refer to the tools, procedures, and reports required in Sections 013300 and 017500.
 6. Section 274116 provides the majority of project specific information regarding the customized system functionality.

1.2 BASIS OF DESIGN

- A. The basis of the design is formulated on the requirements of the Tenant, past projects in the District, constraint within the project area and the Courtroom Technology Manual.

1.3 OBJECT OF PROJECT

- A. The Object of the Project is to provide an operating system described in these documents that is trouble free and engineered suitably so that room users can easily use it.
- B. General: Comply with all Contract Documents, including conduit/wiring study and project schedule.

1.4 STATEMENT OF WORK

- A. Provide materials and labor necessary to accomplish the Work indicated on the Drawings, Schedules, and specified herein to assemble the video, audio, and control related equipment into operational systems, making all interconnections, performing all tests and adjustments, and providing documentation as required for a complete installation.

- B. The TMSC shall remove and replace all existing carpet where it is installed over header duct, cell ducts, and/or junction boxes. Remove sub-floor hatches, covers and lids as needed to access cable pathways.
- C. The TMSC shall restore finish hardware and surfaces to original condition if damaged during installation including painting, wall, millwork, furniture, and ceiling modifications and attachments.
- D. The TMSC shall be responsible for painting surfaces that are identified in the specification (for example mounts that are required but not in an acceptable color).
- E. The TMSC shall provide a one-year warranty at no cost to the government in the base bid and shall provide two additional one-year options (for a total of three years from the Systems' Final Acceptance Date) to extend the warranty at the prices offered in the Schedule B-1.
- F. The completed cost/price schedule shall contain separate totals as described herein and on the schedule(s). The base bid and options shall be as follows:

Base Bid:	Akron Courtroom 530 with built in cameras and built in VTC Akron Courtroom 530 with mini-evidence camera Cleveland Courtroom 19A with built in cameras; VTC ready Cleveland Courtroom 18B with built in cameras; VTC ready Cleveland Courtroom 15B with built in cameras; VTC ready Cleveland Courtrooms single shared/movable codec Cleveland Courtrooms single shared/movable mini-evidence camera Toledo Courtroom 204 with built in cameras and built in VTC Toledo Courtroom 204 with mini-evidence camera
Bid Option 1:	Cleveland Courtroom 19B with built in cameras; VTC ready
Bid Option 2:	Cleveland Courtroom 17A with built in cameras; VTC ready
Bid Option 3:	Cleveland Courtroom 15A with built in cameras; VTC ready

PART 1 - PRODUCTS

1.1 STATEMENT OF WORK

- A. Unless noted otherwise, the Work shall include everything necessary or incidental to complete the installation including receptacle plates, wire, electrical boxes, racks, mounts, etc. The Building Owner shall provide conduit and AC power circuits with grounds. The TMSC shall coordinate such excluded equipment with the Building Owner and Building Owner Representatives. The TMSC shall furnish all necessary information to ensure that a proper audio/visual system will be installed.
- B. The TMSC shall remove and replace all existing carpet where it is installed over header duct, cell ducts and/or junction boxes. Remove sub-floor hatches, covers, and lids s needed to access cable pathways.
- C. The TMSC shall be responsible for the testing of any existing material or equipment to be reused prior to the installation or addition of any new equipment. The TMSC shall be responsible for documenting, in a letter to the Owner and Court's Representative any abnormalities or malfunctions with the existing material or equipment that is to be reused. The TMSC shall be responsible for obtaining a written acknowledgement of the letter from the Owner prior to beginning work. Any re-installed material or equipment that is found to be defective by the

Owner or Court's Representative during project closeout, without such testing and acknowledgement, shall be replaced under this contract at no additional cost to the project.

PART 2 - EXECUTION

2.1 INSTALLATION

- A. The TMSC shall restore all exposed hardware and surfaces to original condition if damaged during installation including painting, wall, millwork, furniture, and ceiling modifications and attachments. Note that it may be necessary to hire or reimburse a GSA contractor or other contractor where construction work is involved.
- B. The TMSC shall provide a one-year warranty at no cost to the government.
- C. The TMSC shall provide a system configured and installed for simplicity of operation and low maintenance, with user-friendly controls.

END OF SECTION – SUMMARY OF WORK

SECTION 01 11 16 – WORK BY OWNER

SECTION 011116 - WORK BY OWNER

PART 1 - GENERAL

1.1 INFRASTRUCTURE

- A. The TMSC shall use chase ways provided by others for installation. Where chases are shared, use area designated for work. The TMSC shall risk tear-out without additional compensation if cables are installed in non-authorized chase ways. If designated chase ways have been used by other trades, notify the Court's Representative in writing immediately upon discovery. The TMSC shall not disturb cables of other trades without permission from the Owner or Court's Representative.

1.2 LAN CONNECTIONS

- A. The Owner shall provide an active building LAN connection for the rack location(s) and active voice connections as required.

PART 2 - PRODUCTS

2.1 CLIENT FURNISHED EQUIPMENT

- A. Scheduling of the cleaning and delivery of any Client Furnished Equipment will be facilitated by the Owner, but will require proactive involvement on the part of the TMSC.

PART 3 - EXECUTION (NOT USED)

END OF SECTION – WORK BY OWNER

SECTION 01 12 16 – WORK SEQUENCE

SECTION 011216 - WORK SEQUENCE

PART 1 - GENERAL

1.1 SEQUENCING AND SCHEDULING

- A. TMSC to prepare for approval by the Court and the Court's Representative a construction schedule that describes the sequence and phasing of the construction work in order for the Court to make internal arrangements to maintain service to the public and performance of their responsibilities.
- B. The TMSC shall comply with all scheduled on-site and off-site times as outlined in the project schedule. Any scheduling changes that need to be made shall be submitted to the Court's Representative in writing in a timely manner. The Court's Representative will coordinate site availability times.
- C. The TMSC shall not leave the site prior to the time outlined in the project schedule. Any change in departure times or completion times shall be submitted to the Court's Representative in a timely manner.
- D. Any alterations or modifications of the Work performed under this contract shall be made only by written agreement between the TMSC and the Court's Representative and shall be made prior to commencement of the altered or modified Work. No claim for any additional Work or materials shall be allowed unless pre-authorized by written agreement prior to commencement of said Work. The Court shall have final approval of all alterations or modifications.

PART 2 - PRODUCTS

2.1 REQUESTS FOR QUOTE

- A. Any Requests for Quote presented to the TMSC for the project prior to equipment ordering shall be quoted for material credits based on line item quotes in the BAFO. Restocking charges shall not apply to any changes prior to equipment ordering. Appropriate labor should also be credited. Equipment ordering time frame shall be based on Submittals. See Section 013300 "Submittal Procedures" for requirements.

2.2 EQUIPMENT PREPARATION

- A. Except for the Toledo Courtroom, the TMSC shall install all equipment and other rack items in the main racks in their facility prior to shipping to the site. The Toledo location must share a one rack for both the audio and video systems.

PART 3 - EXECUTION

3.1 PRE-INSTALLATION

- A. It is **required** that the TMSC shall conduct a preliminary walk-through inspection and meeting prior to the project start up. This site visit would occur after project award and must be coordinated with the Court's Representative.

END OF SECTION – WORK SEQUENCE

SECTION 01 14 13 – ACCESS TO SITE

SECTION 011413 - ACCESS TO SITE

PART 1 - GENERAL

1.1 ACCESS TO SITE

- A. The TMSC shall coordinate all working hours and access with Owner and building security personnel. Arrangements for access afterhours shall be made in advance by the TMSC.
- B. The TMSC is responsible for arranging internet access themselves. There may not be access to the building LAN during the installation phase and the TMSC shall not plan on government assistance.

1.2 IDENTIFICATION

- A. The TMSC's installation team shall wear at all times a photographic identification as issued by the building security personnel. The TMSC shall coordinate acquiring identification from the appropriate authorities prior to the start of Work. The project schedule shall not be delayed due to delays in processing building access or obtaining acceptable identification.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION – ACCESS TO SITE

SECTION 01 14 16 – COORDINATION WITH OCCUPANTS

SECTION 011416 - COORDINATION WITH OCCUPANTS

PART 1 - GENERAL

1.1 COORDINATION WITH TENANT AND COURT'S REPRESENTATIVE

- A. The TMSC shall at all times communicate to the Court's Representative all site issues that impact the project in any way other than what has been established. Such communication shall be conveyed in written format, via either e-mail, fax, or regular mail. The RFI form shall be used for all such communication (see Section 006313).
- B. The TMSC shall not take direction from the client or their agents at the site in any way that may cause a change of defined scope, a cost or credit to the project, add additional labor, or delay the project. All issues that arise are to be brought to the attention of the Court's Representative at once for resolution. Inform the Court's Representative via phone or email that an RFI is pending. Responding to the client on site without pursuing an RFI and the repercussions of the actions shall in no way be compensated. The TMSC is given the right to contact the Court's Representative at once in order for clarification.
- C. The TMSC shall only use the RFI process (see Section 006313) to solicit information from the Court's Representative. All RFI's are to be sent to the Court's Representative. Email RFI's are suitable if submitted in a written format agreed with the RFI completed RFI form attached to the email. All RFI's shall be numbered in a sequential order beginning at 1. Any other methods of submitting formal requests will go unanswered. When on site, notify the Court's Representative via email or telephone call that a time-sensitive RFI is pending.
- D. The TMSC's lead installer shall at all times provide and keep possession of an active cell phone which shall be left on from 8:00 AM to 5:30 PM local time M-F and on weekends if site work is underway. The phone number of the cell phone shall be provided to the Court contact and the Court's Representative at the Installation Kick Off meeting of the first day on-site. Any change to the phone number or site lead shall be communicated to the Court contact and the Court's Representative immediately.

1.2 COORDINATION WITH OCCUPANTS

- A. TMSC to prepare, for approval by the Court's Representative, a construction schedule that coordinates with the TMSC and describes the sequence and phasing of the construction work in order for the Court to make internal arrangements to maintain service to the public and performance of their responsibilities.

1.3 OCCUPANCY REQUIREMENTS

- A. The Owner will occupy the site and existing building during the entire construction period. Cooperate with the Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with the operations. The Owner reserves the right to occupy and to place and install equipment in completed areas of the building prior to Substantial Completion, provided such occupancy does not interfere with completion of the Work. Such placing of equipment and partial occupancy shall not constitute acceptance of the total Work.

1.4 CONTRACTOR USE OF PREMISES

- A. Use of Premises: During the construction period, the Contractor shall have use of the premises for construction operations, including use of the site, only as approved by the Owner.
- B. Limitations: The Contractor's use of the premises is limited only by the Owner's right to continue operations within the building and site.
- C. Use of the Site and Building: Limit use of the premises to work in areas indicated. Confine operations to areas within construction limits indicated. Do not disturb portions of the building beyond the areas in which the Work is indicated.
- D. Owner Occupancy: Allow for Owner occupancy, day-to-day operations, and use by the public.
- E. Driveways and Entrances: Keep driveways and entrances serving the premises clear and available to the Owner, the Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on site.
 - 1. Take all precautions necessary to protect the building and its occupants during the construction period.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION – COORDINATION WITH OCCUPANTS

SECTION 01 14 19 – USE OF SITE

SECTION 011419 - USE OF SITE

PART 1 - GENERAL

1.1 USE OF SITE

- A. The TMSC shall maintain at all times professional working conditions at the site.
- B. The TMSC shall not interfere with operations of building tenants. Where services need to be disrupted, the TMSC shall coordinate a time with the owner suitable to the tenants.
- C. The TMSC shall coordinate all planned impact and air-borne noise intrusions with the building owner or the tenant. Sound and vibrations that are found to disturb any building tenant shall cease immediately. The TMSC shall immediately contact the Court POC for resolution. The TMSC shall not proceed with problematic work until the issue is resolved.
- D. The TMSC shall maintain the facilities both at the TMSC's workplace and at the job site to store this material with adequate security and with insurance coverage to prevent loss due to theft, vandalism, failure of building systems and all insurable conditions. At the completion of the Work, the TMSC shall dismantle this storage facility and if a building space, return it to its normal state. The TMSC shall remove from the site all construction equipment, surplus materials, supplies, and rubbish used or created as part of this Work and as required.

PART 2 - PRODUCTS

2.1 CONSTRUCTION HAZARDS

- A. During business hours, all ladders and equipment carts in use will be marked with red or yellow/black striped hazard tape. At no time during business hours shall fire exits be blocked by installation equipment or materials. Ladders, equipment, and equipment carts shall not be left unattended and accessible at any time during business hours. Un-spoiled wire, cable, and fish tape shall not be left in hallways or other rooms and shall never be left unattended. Where large quantities of cable are on the floor, they shall be marked by orange safety cones.

PART 3 - EXECUTION

3.1 CONFINED SPACES

- A. The TMSC shall be allowed to remove lids, wall segments, tiles, doors, and grills to work in confined spaces. The TMSC shall be solely responsible for any damage done to building materials and shall replace all materials where they have been removed or displaced for access.

3.2 CONTINUITY OF SERVICE

- A. Scheduling: All necessary interruptions required for installation of the Media Systems or its provisions shall be scheduled ten (10) days in advance with the Owner. No interruptions will be permitted without the Owner's explicit permission. Interruptions shall be arranged during hours and days that least inconveniences the operation of the existing facility and each interruption shall be as short as possible.
- B. Temporary Service: Temporary connections shall be made as required to provide continuity of existing service to areas not affected by construction. Temporary provisions shall be made where interruptions cannot be tolerated.

3.3 CONSTRUCTION PROCEDURES

- A. Construction Debris: Clear away all debris and surplus materials resulting from Work and operations on a daily basis. Clearing shall comply with notes outlined in Continuity of Service above.
- B. Incidental Damage: The TMSC shall replace or repair all damage to the building or its contents as a result of Work performed in fulfilling the contract or warranty. Refinish and restore to their original condition all equipment and furniture that has sustained damage to the manufacturer's prime and finish coats.

3.4 SECURITY

- A. The TMSC shall provide to the Court's Representative a list of all workers that will be present at the site at any time. The TMSC shall coordinate with the Owner all issues concerning badges, keys, access, etc. Installation shall occur after normal business hours ONLY with permission from the Owner. It shall be the TMSC's responsibility to secure all equipment and tools at the installation site prior to turning them over to the Owner.

END OF SECTION – USE OF SITE

SECTION 01 18 00 – PROJECT UTILITY SOURCES

SECTION 011800 - PROJECT UTILITY SOURCES

PART 1 - GENERAL

1.1 TEMPORARY UTILITIES

- A. The TMSC shall be responsible for providing all utility services to any temporary facilities and shall not share services with primary building.
- B. Where active low or high voltage lines must be interrupted for work, the TMSC will install bypass equipment and signals to allow the tenants to continue use as needed.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION – PROJECT UTILITY SOURCES

SECTION 01 23 00 – OPTIONS (ALTERNATES)

SECTION 012300 - OPTIONS (ALTERNATES)

PART 1 - GENERAL

1.1 SUMMARY

- A. Each proposal under an Option shall include work of all trades as they may be affected and all adjustments to accommodate the changes shall be made. All work shall meet the requirements of drawings and specifications. In submitting the Proposal and in accomplishing the Work, provisions for future completion shall be made, unless otherwise stated. All work shall be provided in accordance with appropriate details and specification sections.

PART 2 - PRODUCTS

2.1 PRICING

- A. Pricing on products in options shall be held at BID or BAFO Values until the period to award the options expires or until the shop drawings are reviewed for overall and general compliance to the specification whichever comes later.

PART 3 - EXECUTION (NOT USED)

END OF SECTION – OPTIONS (ALTERNATES)

SECTION 01 25 00 – SUBSTITUTION PROCEDURES

SECTION 012500 - SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 SUBSTITUTIONS DURING BIDDING

- A. Refer to Section 002600 "Procurement Substitutions."

1.2 SUBSTITUTIONS AFTER AWARD

- A. The Court's Representative requires selected manufacturer's original specification tests. The Court's Representative shall evaluate and accept or reject all substitutions.
- B. Prior approval of substitutions for specified materials, equipment, and systems shall be obtained from the Court's Representative. Submit requests for approval of substitutions in writing to the Court's Representative using the Substitution Request Form supplied in this specification (Refer to Section 006325). Substitutions must be approved in writing or they will not be considered as accepted under this contract.
- C. Equipment brand, model, and quantity are delineated in the TMSC's Best and Final Offer. Brands listed are products that meet or exceed the project requirements. Equal or equivalent products are acceptable as well but must be submitted in writing using the Substitution Request Form (Section 006325).
- D. Changing specified equipment to a different brand/model/type in the submittals without a formal change or substitution request accompanying the submittal will not be considered an acceptable change/substitution; even if the "new equipment" is not commented on by the Court's Representative in the submittal review. A "no comment" or "no changes required at this time" type of submittal review response from the Court's Representative shall NOT be considered an approval of the equipment that varies from the specified equipment.

PART 2 - PRODUCTS

2.1 REQUIREMENTS

- A. Where specific equipment is described, it is not the intention to discriminate against the products or other manufacturers, but rather to establish a standard of quality and feature performance. All proposed substitutions shall be submitted as a Request for Substitution on the form provided in Section 006325. Many components have been selected due to physical dimensions and/or other characteristics. Coordination with the providers of millwork, etc. may have been accomplished with specific brand/models prior to issue of this specification. For compatibility reasons, it is mandatory that all substitutions be reviewed by the Court's prior to change.
- B. Electronic component models proposed as substitutions must have been commercially available for at least three (3) months prior to bid.
- C. All equipment and material provided by the TMSC shall be new.

D. All equipment must be UL listed or built to UL standards.

2.2 DISCONTINUED PRODUCTS

A. Refer to Section 012663 "Change Order Requests Procedures."

PART 3 - EXECUTION

3.1 ACCEPTANCE

A. Prior acceptance of substitutions for specified materials, equipment, and systems shall be obtained from the Court's Representative. Submit requests for substitutions in writing (Refer to Section 006325). Substitutions must be accepted in writing to be considered part of this contract.

END OF SECTION – SUBSTITUTION PROCEDURES

SECTION 01 26 13 – REQUESTS FOR INTERPRETATION PROCEDURES

SECTION 012613 - REQUESTS FOR INTERPRETATION PROCEDURES

PART 1 - GENERAL (NOT USED)

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 FORMS

- A. All requests for Interpretation (RFI) shall be submitted on the form provided in Section 006313 in this specification to the Court's Representative. Email RFI's are suitable if submitted in a written format agreed with the RFI completed RFI form attached to the email. All RFI's shall be numbered in a sequential order beginning at 1. Any other methods of submitting formal requests will go unanswered.

END OF SECTION – REQUESTS FOR INTERPRETATION PROCEDURES

SECTION 01 26 39 – FIELD ORDERS PROCEDURES

SECTION 012639 - FIELD ORDERS PROCEDURES

PART 1 - GENERAL

1.1 GENERAL INSTALLATION REQUIREMENTS

- A. The TMSC shall at all times communicate to the Court's Representative all site issues that impact the project in any way other than what has been established. Such communication shall be conveyed in written format, via either e-mail, fax, or regular mail. The RFI form shall be used for all such communication (see Section 006313).
- B. The TMSC shall not take direction from the client or their agents at the site in any way that may cause a change of defined scope, a cost or credit to the project, add additional labor, or delay the project. All issues that arise are to be brought to the attention of the Court's Representative at once for resolution. Inform the Court's Representative via phone or email that an RFI is pending. Responding to the client on site without pursuing an RFI and the repercussions of the actions shall in no way be compensated. The TMSC is given the right to contact the Court's Representative at once in order for clarification.
- C. The TMSC shall only use the RFI process (see Section 006313) to solicit information from the Court's Representative. All RFI's are to be sent to the Court's Representative. Email RFI's are suitable if submitted in a written format agreed with the RFI completed RFI form attached to the email. All RFI's shall be numbered in a sequential order beginning at 1. Any other methods of submitting formal requests will go unanswered.
- D. Any alterations or modifications of the Work performed under this contract shall be made only by written agreement between the TMSC and the Court's Representative and shall be made prior to commencement of the altered or modified Work. No claim for any additional Work or materials shall be allowed unless pre-authorized by written agreement prior to commencement of said Work. Verbal approvals will not be considered valid.
- E. All Change Order requests and quotes shall be provided directly to the Court's Representative and shall be received within five (5) business days of receipt of the request from the Court's Representative. All change order requests shall be numbered and completed properly (see Section 006357).

1.2 PROJECT DIRECTION

- A. The TMSC shall not take project direction from any individual or group other than the Court's Representative. Where the user gives the TMSC direction the TMSC shall contact the Court's Representative immediately before performing any Work.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 AVAILABILITY

- A. The TMSC's lead installer shall at all times provide and keep possession of an active cell phone which shall be left on from 8:00 AM to 5:30 PM local time Monday through Friday and on weekends if site work is underway. The phone number of the cell phone shall be provided to the Court contact and the Court's Representative at the Installation Kick Off Meeting or the first day on-site. Any change to the phone number or site lead shall be communicated to the Court's Representative immediately.

END OF SECTION – FIELD ORDER PROCEDURES

SECTION 01 26 53 – REQUEST FOR QUOTE (RFQ) PROCEDURES

SECTION 012653 - REQUEST FOR QUOTE (RFQ) PROCEDURES

PART 1 - GENERAL

1.1 REQUESTS FOR QUOTES

- A. The Court's Representative shall retain the right to ask for project related quotations at any time during the open project period.
- B. Any alterations or modifications of the Work performed under this contract shall be made only by written agreement between the TMSC and the Court shall be made prior to commencement of the altered or modified Work. No claim for any additional Work or materials shall be allowed unless pre-authorized by written agreement prior to commencement of said Work. Verbal approvals will not be considered valid.
- C. Changes made after contract execution shall not be included in the Substantial Completion consideration unless the change or changes directly affect the original Design Intent and/or function of the original system requirements.
- D. Work quoted shall not be executed nor shall materials quoted be purchased until the Court has provided written authorization of the change in time and expense.
- E. The TMSC shall not be compensated for any out of scope work performed, materials purchased, or additional time or expenses unless prior written authorization of the actual expenses is given from the Court.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 QUOTE PROCESS

- A. All RFQ's will be issued by the Court's Representative.
- B. All quotes shall be provided directly to the Court's Representative and shall be received within five (5) business days of receipt of the request from the Court's Representative unless otherwise noted on RFQ.
- C. All quotes shall be numbered and issued in an easy to understand spreadsheet showing unit prices and a break out and explanation of travel and labor.
- D. Any RFQ requesting a credit that are presented to the TMSC for the project prior to the equipment being ordered shall be quoted based on line item quotes in the BAFO plus applicable labor. Restocking charges shall not apply to any changes prior to equipment ordering. The equipment ordering timeframe shall be based on Submittals (see Section 013300) for requirements.

- E. Work quoted shall not be executed nor shall materials quoted be purchased until the Court has provided written authorization of the change in time and expense.
- F. The TMSC shall not be compensated for any out of scope work performed, materials purchased, or additional time or expenses unless prior written authorization of the actual expenses is given from the Court.

END OF SECTION – REQUEST FOR QUOTE (RFQ) PROCEDURES

SECTION 01 26 63 – CHANGE ORDER REQUEST PROCEDURES

SECTION 012663 - CHANGE ORDER REQUEST PROCEDURES

PART 1 - GENERAL

1.1 ALTERATIONS OR MODIFICATIONS

- A. Any alterations or modifications of the Work performed under this contract shall be made only by written agreement between the TMSC and the Court's Representative with agreement from the Court. This agreement shall be made prior to commencement of the altered or modified Work. No claim for any additional Work or materials shall be allowed unless pre-authorized by written agreement prior to the commencement of said Work. The Tenant shall have final approval of all alterations or modifications. Verbal approvals will not be considered valid.

PART 2 - PRODUCTS

2.1 DISCONTINUED PRODUCTS

- A. Where model numbers have been discontinued or are no longer available, provide a direct updated replacement model that provides identical or better specifications, and notify the Court's Representative of the Change. Where no direct replacement is available contact the Court's Representative for direction before ordering any replacement equipment. The TMSC is responsible for any variation in physical characteristics of any substitutions that may affect physical installation or change in specifications that may affect the Design Intent features.

PART 3 - EXECUTION

3.1 REQUEST FOR CHANGE AFTER THE AWARD

- A. All change order requests shall be provided directly to the Court's Representative and shall be received within five (5) business days of receipt of the request by the Court's Representative. All change order requests shall be numbered sequentially and completed properly using the Change Order Request Form in Section 006357.
- B. All Requests for Change (RFCs) shall originate with the TMSC and shall be submitted on the attached form (Section 006357 "Request for Change Form") to the Court's Representative prior to processing. The form shall be complete, accurate, and hold the stated values for thirty (30) days from date of issue. RFCs may be submitted under only two circumstances:
 - 1. The official scope of the Project has altered since adoption of the last addendum that affects the TMSC's cost for time and/or materials.
 - 2. Identification of a Design or Specification discrepancy not previously corrected.
- C. Submitted RFCs for other purposes shall become void.

- D. RFCs shall be submitted to the Court's Representative through written authorization prior to performing any work or ordering any materials contained within the RFC. The TMSC is not guaranteed any compensation for work done or materials acquired prior to the receipt of written approval from the Court.

END OF SECTION – CHANGE ORDER REQUEST PROCEDURES

SECTION 01 30 00 – ADMINISTRATIVE REQUIREMENTS

SECTION 013000 - ADMINISTRATIVE REQUIREMENTS

PART 1 - GENERAL

1.1 CONTRACT ADMINISTRATION

- A. The TMSC shall be under the direct administration of The Courts. The Court's Representative therefore shall be the TMSC's first contact in any communication regarding issues related to the specification and the contractors' responsibilities. The Court's Representative may recommend to The Courts that the Work be stopped if, in the Court's Representative's opinion, the work is not being performed satisfactorily. Should The Courts issue an Order to Cease Work, and Work performed after the Order to Cease Work has been issued shall not qualify for compensation.
- B. The Court's Representative shall oversee the Work for the Government, and may furnish supervision of the daily construction activities. The Government shall have override power to superintend and direct the Work, and the TMSC shall perform all of the Work herein specified to the Government's entire satisfaction, acceptance. Where direction from the Government conflicts with the TMSC's understanding of the Work Scope, the Court's Representative shall be contacted first as noted above.
- C. The TMSC shall at all times communicate to the Court's Representative all site issues that impact the project in any way other than what has been established. Such communication shall be conveyed in written format, via either e-mail, fax, or regular mail. The RFI form shall be used for all such communication (see Section 006313).
- D. The TMSC shall not take direction from the client or their agents at the site in any way that may cause a change of defined scope, a cost or credit to the project, add additional labor, or delay the project. All issues that arise are to be brought to the attention of the Court's Representative at once for resolution. Inform the Court's Representative via phone or email that an RFI is pending. Responding to the client on site without pursuing an RFI and the repercussions of the actions shall in no way can be compensated. The TMSC is given the right to contact the Court's Representative at once in order for clarification.
- E. The TMSC shall only use the RFI process (see Section 006313) to solicit information from the Court's Representative. All RFI's are to be sent to the Court's Representative. Email RFI's are suitable if submitted in a written format agreed with the RFI completed RFI form attached to the email. All RFI's shall be numbered in a sequential order beginning at 1. Any other methods of submitting formal requests will go unanswered.

1.2 TMSC AVAILABILITY

- A. The TMSC's lead installer shall at all times provide and keep possession of an active cell phone which shall be left on from 8:00 AM to 5:30 PM local time Monday through Friday or on weekends if site work is underway. The phone number of the cell phone shall be provided to the Court contact and the Court's Representative at the Installation Kick-Off Meeting or the first day on-site. Any change to the phone number or site lead shall be communicated to the Court contact and the Court's Representative immediately.

1.3 SIGNAGE

- A. TMSC may not display their name or logo in any room but the non-occupied rack rooms with the exception of the control panel help screens.

PART 2 - PRODUCTS

2.1 PERMITS, LICENSE INSPECTIONS AND FEES

- A. Refer to Section 014123 "Regulatory Requirements Fees" and Section 014126 "Regulatory Requirements Permits."

2.2 RECORD DOCUMENTS

- A. Provide Record Documents as indicated in Section 017800 "Closeout Submittals."

PART 3 - EXECUTION

3.1 RIGHT OF WAYS

- A. The TMSC shall maintain all working areas in conditions that do not hamper any other trades at any time. The TMSC shall maintain all working areas in conditions that do not hamper the Owner or Tenant's use of the space during agreed on times and as outlined in the project schedule.
- B. The TMSC shall clean up all working areas prior to departure from the site for any period of time.
- C. The TMSC shall not leave materials in spaces where materials may be damaged or individuals may be harmed by tools or equipment.
- D. Where other trades hamper the TMSC work, the TMSC shall notify the Court's Representative immediately for a resolution.

3.2 FIELD ORDER / CHANGE ORDER / CHANGE ORDER REQUEST

- A. Refer to Section 012613 "Requests for Interpretation" for Request for Interpretation procedures.
- B. Refer to Section 012663 "Change Order Requests" for Change Order procedures.
- C. Refer to Section 012639 "Field Order Procedures" for Field Order procedures.

3.3 PROJECT DOCUMENTATION

- A. Conduits and electrical infrastructure: Immediately after the letter of award or completion of infrastructure installation, the TMSC shall arrange with the Court to visit the site for the purpose of locating all existing conduit runs, junction boxes, and electrical outlets. During the site visit the TMSC shall verify and inspect all

necessary conduits and outlets. Following the site visit the TMSC shall provide submittals to the Court's Representative as defined in Section 013300 "Submittal Procedures." The TMSC shall also submit a list of any conduits, boxes, and power changes necessary for installation of audio – video systems in each designated room. If no changes are necessary, the TMSC shall submit a statement in writing that the infrastructure is complete and ready for the equipment installation and that no changes are necessary for the equipment installation.

- B. Millwork and Furniture: On the same visit as listed in paragraph 3.03A the TMSC shall locate and verify all existing furniture and millwork items where equipment is to be installed. Verify and inspect all necessary mounting areas. Submit a list of any items requiring modification for installation of the systems in each area at the time of Submittals. If no changes are necessary, the TMSC shall submit a statement in writing that the millwork and furniture are complete and ready for the equipment installation and that no changes are necessary for the equipment installation.

3.4 PHOTOGRAPHS

- A. The TMSC shall not use any photographs for the purposes of marketing or other public use without prior written consent of the Court's Representative, Users, CO and COTR. Failure to obtain this approval shall violate intellectual property rights.

3.5 SCHEDULING

- A. TMSC shall prepare at the point defined in the Project Schedule, for approval by the Court's Representative, a construction schedule that describes the sequence and phasing of the construction work in order for the Tenant to make internal arrangements to maintain service to the public and performance of their responsibilities. Refer to Section 013300 "Submittal Procedures."

3.6 PERIODIC FIELD OBSERVATION

- A. The Court's Representative shall reserve the right to inspect the work site(s) at their discretion. The TMSC shall provide all field records, equipment, and personnel to inspectors as required.

3.7 CLEANUP

- A. Refer to Section 017400 "Cleaning and Waste Management."

3.8 PROJECT CLOSEOUT

- A. The TMSC shall comply with all closeout requirements set forth in the specification. Any departure from the schedule or sequence of requirements shall risk additional costs to the TMSC with no additional compensation from the Government.

3.9 ACCEPTANCE

- A. Refer to Section 017700 "Closeout Procedures."

3.10 INSPECTION AND TESTS

- A. Refer to Section 016100 "Product Requirements", Section 077500 "Starting and Adjusting", and Section 017700 "Closeout Procedures."

3.11 CONTINUITY OF SERVICE

- A. Refer to Section 011419 "Use of Site" and Section 015100 "Temporary Utilities."

3.12 USE OF CABLE PRIOR TO ACCEPTANCE

- A. Partially installed cable plants and equipment systems will not be used by the Tenant until after the system becomes workable. The Tenant will not use working systems until after the date published for the completion of the installation phase. The Tenant may freely use the systems after that date without penalty of time delay or additional payment to the TMSC should the installation period exceed the time allotted to it. Any incident where the TMSC finds evidence of use or tampering by others before the systems become workable should be documented and provided to the Court's Representative in writing immediately upon discovery. Use of the system in any form will automatically constitute Substantial Completion.

END OF SECTION – ADMINISTRATIVE REQUIREMENTS

SECTION 01 33 00 – SUBMITTAL PROCEDURES

SECTION 013300 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 SUBMITTALS

- A. Fabrication or installation on the project without proper review of related shop drawings shall risk tear out and/or reprogramming at the TMSC's expense. The TMSC shall incur all costs associated with submission of shop drawing iterations and project delays. TMSC shall not delay project or charge additional costs for multiple shop drawing iterations.

1.2 SAMPLES

- A. Where samples are requested by Specification or to verify submittal information, those samples shall be made available for two (2) weeks after the date of receipt. Samples shall be duly cared for but the Tenant or Court's Representative shall not be responsible for damage caused by testing within normal parameters or by accidents.

1.3 SHIPPING

- A. TMSC shall receive written verification from the Tenant point of contact as to the shipping address for all submittals and samples. The address may vary from the address of the point of contact or the actual job site. Submittals or samples that are lost or misplaced due to them being shipped to an unconfirmed address must be recreated or requested and resubmitted to the proper address at no additional cost to the project.

PART 2 - PRODUCTS

2.1 SHOP DRAWINGS

- A. Shop drawings shall consist of separate drawings for the index, video system(s), audio system(s), control system(s), control and power switching, connection plates, master I/O plates, rack elevations, floor and ceiling plans. Include custom pin-out connector information only if custom pin-out connectors have been previously approved. Shop Drawings shall also include the programming file for the DSP that is being implemented.
- B. All shop drawing submittals shall include a completed Engineering Proof of Design Form as provided in Section 006344. The Form shall be completed during the installation drawing preparation phase to identify all areas where the TMSC's engineers find conditions that would prevent or negatively affect the installed system from meeting the Design Intent implied in the materials provided by the Court's Representative and/or the Client. The Form shall be provided even if no engineering issues arise in which case it would be submitted with "No issues found" indicated.
- C. Shop Drawings shall indicate that all unused connections from rack equipment are to be brought to rear of I/O panel, terminated and labeled. Certain connectors may be excluded, but only if noted in the shop drawing submittal phase.

- D. Drawings shall show all equipment with manufacturer name, model, and location of where the equipment will be placed. If multiple pieces of equipment will be located at a single location then the TMSC may group the equipment on the drawings with a dashed box with one location label.

2.2 SUBMITTALS REQUIRED

A. The following submittals are required **at the time the bid/proposal is due**:

1. The completed Schedule B – B-1 / Bid Form in unmodified electronic format as provided by the Court's Representative. Note that travel must be quoted individually for the Base Bid and each Option. Options, if awarded, will be awarded at the time of the base bid award.
2. The Manufacturer's specification sheets (cut sheets) for each equivalent item of equipment proposed only as a substitution for an item specified.
3. A statement indicating that the Bidder understands and shall complete the requirements of this task as specified.

B. The following submittals are required **after award but prior to orders being placed** according to the schedule:

1. Completed Engineering Proof of Design Form(s). This is required before proceedings with equipment orders
2. Floor and/or ceiling plan(s) showing exact plate locations designated by number.
3. Exact wiring field diagrams indicating proposed connections of all equipment indicating make and model numbers and locations of that equipment.
4. Layout of all connection plates and panels including master rear rack I/O panels.
5. Finish and engraving sample for all plates categories.
6. Proposed control system screen and panel layout in VisionTools Pro (.vtp) format if using Crestron or TP Design4 (.tp4) format if using AMX. Other control systems if provided shall have similar electronic panel emulation files submitted.
7. Logo Generator Images (Court approval of image is required).

C. The following submittals are required **after award** and according to the Project Schedule:

1. Meeting notes from preliminary walk through of site.
2. List of field installation technicians that the TMSC intends to send to the site. This list shall include specific names of individuals who the TMSC certifies are qualified to commission audio/video systems per the specification. Refer to Section 014300, Part, 3.01B. The Court's Representative shall review these qualifications PRIOR to the technicians being approved to work on this project.
3. TMSC shall prepare, for approval by the Tenant and the Court's Representative, a construction and closeout schedule that coordinates with the TMSC and describes the sequence and phasing of the construction work in order for the Tenant to make internal arrangements to maintain service to the public and performance of their responsibilities.
4. TMSC shall arrange all installation schedules and inspection dates according to the Court's Representative's availability.
5. Set of drawings and documents given to the installer's at the job site.

D. The following submittals are required **before** the Court's Representative travels for the First Inspection:

1. The TMSC shall test all UTP and STP data cables and termination installed under the project scope per the requirements outlined in Section 017500, 3.01.

2. The TMSC shall provide the Court's Representative with a written record of the final passing results using the analyzer's software provided by the analyzer's manufacturer only. The TMSC shall provide the Court's Representative a printed format from that software converted to PDFs for issue. The results shall not be provided to the Court's Representative in spreadsheet or table form that has been manually assembled by the TMSC.
3. The passing test report shall be forwarded to the Court's Representative at the time of generation for review. The report shall be issued prior to the Court's Representative's First Inspection.
4. The TMSC shall provide the Court's Representative with documentation detailing audio system commissioning results including, but not limited to: Gain structure and Equalization filters, RTA printouts, SPL measurements, physical adjustment settings (such as amplifier knob settings), etc.
5. Turnover of all extra fuses, spare multi-pin XLR connectors, button lamps etc.

E. The following submittals are required **after completion** of Work and according to schedule:

1. The government expects that the customized configuration code for this installation will be delivered to the government at the completion of the installation. The TMSC shall provide a labeled CD-ROM inserted into a plastic computer media sleeve containing software setup and configuration files for all configurable equipment including control system processors, software controlled screens, computer workstation controllers, software-configured signal switchers, mixers, DSP units, or other signal processors. OS code is not required. Provide all software settings/configurations files, compiled and uncompiled configuration files, and all custom display screens on CD-ROM, organized by system location in subdirectories. Provide all installation programs and drivers necessary to transfer the software settings or programs to each respective pieces of equipment. Complete documentation for the software shall be provided as well as the CD-ROM that shall be furnished in a binder at project closeout along with a printout of the contents of the CD-ROM.
2. TMSC should be aware that the customized configuration codes are available for existing equipment. The TMSC however must bear all responsibility for its use as the code integrity and consistency with the installed systems from the original installer is unknown.
3. Training Materials. Refer to Section 017900 "Demonstration and Training."
4. List of Serial Numbers. Refer to Section 017800 "Closeout Submittals."
5. Statement of Warranty. Refer to Section 017836 "Support and Warranties."
6. Project Record Drawings. Refer to Section 017800 "Closeout Submittals."
7. List of all IP addresses that are implemented in the systems and the purpose for each.

2.3 SAMPLES REQUIRED

- A. Samples are not required.

PART 3 - EXECUTION

3.1 EQUIPMENT ORDERING

- A. Equipment for the project shall not be ordered prior to review and acceptance of the Submittals as listed above.

3.2 SUBMITTALS

- A. The TMSC shall submit all information/materials specified above at the times indicated by the Court's Representative. The Court's Representative may request additional information. Submit three (3) identical copies of all submissions except for those samples required under paragraph 2.03A above where one (1) sample shall be provided and routed to the Court's Representative initially for review.
- B. Shop drawings shall be submitted to the Court's Representative on all custom fabricated assemblies as described below. Shop drawings shall be reviewed as noted or reflected with re-submittal required by the Court's Representative. Any resubmitted shop drawings shall have revisions clouded. After shop drawings have been reviewed by the Court's Representative and anyone else designated by the Court's Representative, provide copies for the Owner's manuals. Owner's Drawings shall be provided on reproducible media, with two (2) additional prints included with the original.
- C. The following items shall be reviewed by the Court's Representative during the shop drawing submittal process:
 - 1. Submission of all required drawings, diagrams, details, etc.
 - 2. Shop drawings reflect design intent as outlined in the specification.
 - 3. Preliminary review of the Graphical User Interface (GUI) (control screens and/or touch panel layouts). The Tenant shall review all proposed GUI's prior to final acceptance. Comments provided by the Court's Representative shall NOT constitute approval or acceptance of a proposed GUI.
- D. Additional charges to the government to provide any submittal or submittal revisions shall not be allowed prior to the start of equipment orders. During the submittal review, revision and acceptance process additional overhead fees, engineering fees, programming costs, drawing costs, shipping etc., shall not be charged in relation to submittals except for those directly related to labor for items defined in an Owner/Court's Representative generated RFQ.
- E. Court's Representative review of the TMSC submittals, including shop drawings, shall be limited to the purpose of checking for conformance with the design concept in this specification. Submittal review by the Court's Representative does not relieve the TMSC of its contractual responsibilities to furnish a properly engineered system that meets all requirements of this specification. The TMSC shall have the ultimate responsibility of developing the design drawings included in this specification into a fully functioning system consistent with the design concept. If any Court's Representative review comments or lack thereof, appear to contradict the terms of the scope of work and design concept in this specification, then it is the sole responsibility of the TMSC to issue an RFI to verify the Court's Representative or Court's intent. A design or equipment change included in the shop drawings shall not be considered an acceptable change or substitution. The only acceptable change to the design or equipment in this specification must be approved through RFQ or RFC. The RFI and RFQ/RFC processes shall supersede any shop drawing review.

END OF SECTION – SUBMITTAL PROCEDURES

SECTION 01 41 13 – REGULATORY REQUIREMENTS CODES

SECTION 014113 - REGULATORY REQUIREMENTS CODES

PART 1 - GENERAL

1.1 REGULATIONS AND CODE COMPLIANCE

- A. The Bidders are advised of their and their Subcontractor's responsibility to comply with all applicable State Statutes and codes. If any unfamiliarity exists with any applicable State Statutes and codes, it is the responsibility of the Bidder to obtain all necessary information on any and all applicable State Statutes and codes.
- B. If this document and any of the documents listed in Section 014219 are in conflict, then the more stringent requirement shall apply. All documents listed are believed to be the most current releases of the documents. The TMSC has the responsibility to determine and adhere to the most recent release when developing the Bid for installation.
- C. This document does not replace any code, either partially or wholly. The TMSC must be aware of local codes that may impact this project.
- D. The TMSC shall also comply with any and all regulations and codes established by the building owner and the Tenant.

PART 2 - PRODUCTS

2.1 CONCEALMENT

- A. All exposed cables, connectors and equipment connection points shall be concealed in compliance with all code and installation guidelines by project-close-out. At the end of each work day during installation, all open and accessible connections over thirty (30) volts shall be covered or sealed.

PART 3 - EXECUTION (NOT USED)

END OF SECTION – REGULATORY REQUIREMENTS CODES

SECTION 01 42 00 – ABBREVIATIONS & ACRONYMS

SECTION 014200 - ABBREVIATIONS & ACRONYMS

PART 1 - GENERAL

1.1 ABBREVIATIONS & ACRONYMS

A. For the purposes of this document:

1. A/E means Architect/Engineer.
2. AV or A/V means audio-visual and audio-visual systems.
3. AOUSC means Administrative Office of the United States Courts.
4. BAFO means Best And Final Offer.
5. BB means Back Board.
6. CFE means Court/Client/Customer Furnished Equipment.
7. CO means Contracting Officer.
8. COTR means Contracting Officer's Technical Representative.
9. CR means Court Reporter.
10. CRD means Courtroom Deputy.
11. CTM means Courtroom Technology Manual.
12. DCN means District Court's restricted access network or Data Communications Network.
13. DSP means Digital Signal Processor — typically found in audio systems.
14. ECRO means Electronic Court Recording Operator.
15. EPOD means Engineering Proof of Design Form (See Section 006344).
16. FF&E means Furniture, Fixtures, and Equipment.
17. GSA means General Service Administration.
18. IT means Information Technology.
19. PoE means Power over Ethernet.
20. Prosecution also means Plaintiff.
21. RFI means Request For Interpretation/Information (See Section 006313).
22. RFC means Request For Change (See Section 006357).
23. RFQ means Request For Quote (See Section 012653).
24. TIP means Telephone Interpreting Program.
25. TMSC means Technical Media Systems Contractor (A/V Integrator/Installer/Dealer).
26. TSOW means the Technical Statement Of Work.
27. VD or V/D means Voice and Data systems or cable.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION – ABBREVIATIONS & ACRONYMS

SECTION 01 42 16 – DEFINITIONS

SECTION 014216 - DEFINITIONS

PART 1 - GENERAL

1.1 DEFINITIONS

- A. Award is the agreement that the government has accepted the proposal of the TMSC and indicated such either in writing or by issuing a Purchase Order.
- B. Bidder(s) means organizations that submit a quote for all work in the Contract documents to contract prior to award.
- C. Bidding Documents are this document and any drawings or schedules issued for bid pertaining to this project.
- D. Bid Form is the Schedule B – B/1 Bid Form.
- E. Building Owner is the entity or organization that owns the physical building to which rent is paid by the tenant.
- F. Court's Representative means the Designated contact whether an Court employee or 3rd party under separate Contract.
- G. Contract and Contract Documents consist of this specification, documents listed in the table of Contents, all schedules, addenda and interpretations, clarifications, corrections, or changes made by the Court's Representative prior to the time bids are opened and properly executed written change orders after award.
- H. Court shall be a building Tenant.
- I. Courtroom Technology Manual is the AOUSC's Guideline document for recommended Court technology.
- J. Final Acceptance means that the specification has been met 100% and that all punchlist items have been completed to the satisfaction of the AOUSC, Court, and Court's Representative. Documentation is not required for Final Acceptance.
- K. First Inspection means the initial inspection performed by the Court's Representative when the TMSC's work on the project is nearly complete. Ideally, this inspection will occur when the system is Substantially Complete (see the definition of Substantial Completion in Section 014216, 1.01, P). There is no maximum number of possible inspections, however there will be a minimum of four (4). Inspections may continue until the system reaches Final Acceptance.
- L. H.239 is an ITU-T recommendation from the H.32x Multimedia Communications' macro-family of standards for multimedia communications over various networks. A traditional videoconference has an audio channel, a video channel, and an optional data channel. The video channel typically carries the camera image of the participants. H.239 defines rules and messages for establishing an additional video/graphics channel, often to transmit a PC graphics presentation or video from a document camera, while still transmitting the video of the presenter.

- M. JERS is a system (originally initiated by Judge Conrad in the Western District of North Carolina) which captures exhibits as they are presented in a Court proceeding and then makes them accessible at a touch of a button to jurors as they deliberate.
- N. Owner means the entity that holds the TMSC contract.
- O. Additional Inspections are performed by the Court's Representative until the specification has been met 100% and that all punchlist items have been completed to the satisfaction of the AOUSC, Court, and Court's Representative.
- P. Substantial Completion is a milestone in project construction where the work has been completed to a nearly complete point. Documentation, cable management, typo's on control panels, temporary plates and labels, crooked or loosely installed items, missing rack mounts, temporary equipment, unpainted housings, and poorly aimed cameras or lighting are items that can remain incomplete and still allow for Substantial Completion status. Three criteria shall be used to determine if an installation is Substantially Complete:
1. The System works 100 percent, as it needs to for daily operation – i.e., the system is completely usable as designed.
 2. Any training that is done on the system by the Court staff is 100 percent effective and all training aspects can be demonstrated, as they will be in their finished form.
 3. The AOUSC reserves the right to determine Substantial Completion to occur upon usage of the Courtroom on a case-by-case basis.
- Q. Tenant is the entity that is the primary user in the space where the work is done.
- R. Technical Media Systems Contractor (TMSC) means the person or organization undertaking to do the Work required by the Contract Documents.
- S. TIP is a system where a remote interpreter can provide language interpretation to a defendant (typically). Being able to have a two-way private conversation with the defendant over the phone and using two phone lines for true duplex conversation is a hallmark of the TIP program.
- T. Video On Demand: The popular TIVO[®] device is a form of this. In commercial and government applications, these are typically PC type servers on the network tailored to stream audio and video content from a stored location.
- U. Work means all or any part of the performance of the TMSC, the TMSC's agents and subcontractors, pursuant to, and whether or not in compliance with the Standard Specifications, Drawings, Schedules, Addenda (if applicable), and BAFO letters.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION – DEFINITIONS

SECTION 01 42 19 – REFERENCE STANDARDS

SECTION 014219 - REFERENCE STANDARDS

PART 1 - GENERAL

1.1 REFERENCE STANDARDS

A. All work shall comply with the following reference standards:

1. United States Court Design Guide (USCDG)
2. Court Technology Manual (CTM)
3. Federal Communications Commission (FCC)
4. National Electrical Code (NEC)
5. National Fire Protection Agency (NFPA)
6. Occupational Safety and Health Act (OSHA)
7. Society of Motion Picture and Television Engineers (SMPTE)
8. Uniform Building Code (UBC)
9. Underwriter's Laboratory (UL)
10. Telecommunications Industry Association (TIA)
11. ANSI/TIA/EIA – 568B.1, Commercial Building Telecommunications Cabling Standard. Part 1: General Requirements April 2001
12. ANSI/TIA/EIA – 568B.2, Commercial Building Telecommunications Cabling Standard Balanced Twisted-Pair Cabling Components, April 2001
13. ANSI/TIA/EIA – 568B.3, Optical Fiber Cabling Components Standard, April 2000
14. ANSI J-STD – 607-A, Commercial Building Grounding and Bonding Requirements for Telecommunications, 2002
15. Electronic Industry Association (EIA)
16. ICIA CTS-I, NICET, and NSCA C-EST standards

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION – REFERENCE STANDARDS

SECTION 01 43 00 – QUALITY ASSURANCE

SECTION 014300 - QUALITY ASSURANCE

PART 1 - GENERAL (NOT USED)

PART 2 - PRODUCTS

2.1 QUALITY ASSURANCES

- A. New Material Quality: All material shall be new and free from defects or damage. No refurbished or rebuilt goods shall be supplied as new, regardless of condition or warranty extension. Finishes shall be unmarred. Material shall be adequately protected during construction from dirt, dust, moisture, temperature extremes and physical damage.
- B. Where it is apparent that Equipment has been dropped, all damaged equipment and equipment affected by the drop shall be replaced with new equipment regardless of the condition.
- C. Existing Material Quality: Any existing material or equipment, whether associated with, within proximity of Work, reused, or turned over to the Court, whether listed in the specifications or not, must be tested for operation prior to start of project. The TMSC must obtain a letter from the Court accepting the defective condition of the material or equipment. Any such material or equipment found to be defective by the Owner or Court's Representative during project closeout, without such a letter, shall be replaced under this contract at no additional cost to the project.
- D. Serial Numbers: TMSC shall submit all serial numbers of equipment with suggested list prices of equal or greater than \$250.00 to the Court's Representative at the end of the project. Submit data on Form included in Section 006365 "Serial Number List."

PART 3 - EXECUTION

3.1 QUALITY ASSURANCES

- A. Installation Quality: Quality of the installation shall be consistent with the highest standards of construction. All work shall be accomplished in a neat and orderly manner using current methods and methods recommended and/or required by the manufacturer of the equipment as qualified in its installation. The Court's Representative shall be the sole arbiter of construction quality.
- B. Reference Standards: Refer to Section 014219.

END OF SECTION – QUALITY ASSURANCE

SECTION 01 45 00 – QUALITY CONTROL

SECTION 014500 - QUALITY CONTROL

PART 1 - GENERAL

1.1 PROOF OF PERFORMANCE

- A. Testing: All work shall be tested in a manner consistent with industry standards and otherwise as specified herein. Prior to system start up, all portions of the Work shall have a careful and thorough visual inspection to detect any erroneous or loose connections, damaged components, presence of foreign objects or materials, poor workmanship, incorrectly rated devices, or other abnormal conditions. Systems shall be examined and tested as defined in the pertinent Specification sections. Acceptance of the Work by the Owner shall be contingent upon satisfactory completion of these tests.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 TESTING

- A. Quality control testing and correction of any found deficiencies must occur prior to the Court's Representative traveling for any inspections. A written report including a checklist of items that have been tested shall be submitted to the Court's Representative prior to any inspections.

END OF SECTION – QUALITY CONTROL

SECTION 01 61 00 – PRODUCT REQUIREMENTS

SECTION 016100 - PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 EQUIPMENT AND MATERIALS MINIMUM REQUIREMENTS

- A. All equipment must be UL listed or built to UL standards.
- B. All equipment must be self-supporting. Provide all necessary support, rack mounting, and stability hardware and accessories.
- C. All equipment and material supplied by the TMSC shall be new (unless otherwise directed) and free from defects or damage. No refurbished or rebuilt goods shall be supplied as new, regardless of condition or warranty extension. Finishes shall be unmarred. Material shall be adequately protected during construction from dirt, dust, moisture, temperature extremes and physical damage.
- D. Where apparent that Equipment has been dropped, all damaged equipment and equipment affected by the drop, shall be replaced with new equipment regardless of condition.
- E. Refer to Section 012500 "Substitution Procedures."

PART 2 - PRODUCTS

2.1 FACTORY ASSEMBLED PRODUCTS

- A. All equipment is intended to be professional grade and rated for continuous duty. Basic guidelines have been prepared with minimum performance requirements. These must be satisfied, unless a variance (separate document) is submitted and approved by the AOUSC, Court, or Court's Representative.

2.2 MISCELLANEOUS MATERIALS

- A. Miscellaneous Materials not specified by a part number, such as cables and connectors, shall be of the highest quality. High and low resolution video cables shall be professional grade only and be rated at the lowest signal loss feasible. Consumer grade parts shall not be used unless specifically noted.

2.3 COMPATIBILITY OF RELATED EQUIPMENT

- A. The TMSC shall assure that all components provided are compatible as per Design Intent. Any discrepancies shall be brought to the Court's Representative's attention prior to ordering equipment. The TMSC shall not be compensated for restocking or labor costs associated with compatibility issues in lieu of a proper RFI.
- B. Where model numbers have been discontinued or are no longer available, provide direct updated replacement model that provides identical or better specifications, and notify the Court's Representative of the change.

Where no direct replacement is available, contact the Court's Representative for direction before ordering any replacement equipment. TMSC is responsible for any variation in physical characteristics of any substitutions that may affect physical installation, or change in specifications that may affect design intent features.

2.4 EQUIVALENT PRODUCTS

- A. Equipment brand, model, and quantity suggestions are delineated in the Equipment List (Schedule B). Brands and models listed are products that meet or exceed the project requirements. Equal or equivalent products are acceptable as well, but must be submitted in one of the two following ways:
 - 1. Prior to award. Refer to Section 002600 "Procurement Substitution Procedures."
 - 2. After award. Refer to Section 012500 "Substitution Procedures.'

PART 3 - EXECUTION

3.1 INSTALLATION OF PRODUCTS

- A. Inspect all factory-assembled products for defects prior to installation. The TMSC shall be responsible for replacing any product that is defective from the manufacturer without project delays and without additional cost to the government.
- B. Except for the Toledo Courtroom, the TMSC shall install all equipment and other rack items in the main racks in their facility prior to shipping to the site. The Toledo location must share a one rack for both the audio and video systems.
- C. The TMSC shall configure the main rack(s) such that no additional soldering or other connections of any kind are needed directly to the equipment at the site. All connections shall be made to the rack at the site via pre-tested and labeled interface connectors installed at the rear of the rack(s).

END OF SECTION – PRODUCT REQUIREMENTS

SECTION 01 61 13 – SOFTWARE LICENSING REQUIREMENTS

SECTION 016113 - SOFTWARE LICENSING REQUIREMENTS

PART 1 - GENERAL

1.1 LICENSES AND CODES

- A. The government expects that the customized configuration code/software for this installation will be delivered to the government at the completion of the installation. The TMSC shall provide a labeled CD-ROM inserted into a plastic computer media sleeve containing software setup and configuration files for all configurable equipment including control system processors, software controlled screens, computer workstation controllers, software-configured signal switchers, mixers, DSP units, or other signal processors. OS code is not required. Provide all software settings/configurations files, compiled and un-compiled configuration files, and all custom display screens on CD-ROM, organized by system location in subdirectories. Provide all installation programs and drivers necessary to transfer the software settings or programs to each respective pieces of equipment. Complete documentation for the software shall be provided as well as the CD-ROM that shall be furnished in a binder at project closeout along with a printout of the contents of the CD-ROM.
- B. All software products installed shall be licensed and registered to the end user. Site licenses shall be applied to the installation as advantageous to the Owner.

PART 2 - PRODUCTS

2.1 SOFTWARE

- A. Only the most current software versions shall be installed unless otherwise determined.
- B. All software shall be turned over to the owner on the original media with the original packaging. The materials shall include all warranty and license information.

PART 3 - EXECUTION

3.1 ACTIVATION

- A. The TMSC shall be responsible for activating all provided software licenses and products as part of the installation.

END OF SECTION – SOFTWARE LICENSING REQUIREMENTS

SECTION 01 64 00 – CLIENT-FURNISHED PRODUCTS

SECTION 016400 - CLIENT-FURNISHED PRODUCTS

PART 1 - GENERAL

1.1 CLIENT FURNISHED EQUIPMENT

- A. The equipment provided by the Owner will be provided to the site in working condition at the Owner's expense. TMSC shall assemble equipment and accessories delivered by the Owner or Suppliers related to the Project. This includes, but is not limited to, installation and alignment of rack slides, faceplates, mounting ears, and other hardware items provided separately by the manufacturer. TMSC shall mount equipment and related accessories into furniture, consoles, and racks as required for the equipment to be properly operational and physically stable. Manufacturer's guidelines for installation shall be followed. Discrepancies in installation procedure or inability to complete a given task due to shortage of materials or malfunctioning of equipment shall be reported to the Court's Representative upon discovery.

PART 2 - PRODUCTS

2.1 CLIENT FURNISHED EQUIPMENT

- A. Scheduling of the cleaning and delivery of Client Furnished Equipment will be facilitated by the Owner, but will require proactive involvement on the part of the TMSC.
- B. Equipment furnished by the Client is currently installed and operational in the rooms affected by this project.
- C. Key/significant components of Client Furnished Equipment that is to be provided by the Client for use and installed by the TMSC under this project is listed in Schedule B as "CFE". Some items that do not affect the system engineering may not be listed.
- D. The Client Furnished Equipment that is to be used in this project shall be identified and verified at the Pre-Installation Site Visit.

PART 3 - EXECUTION

3.1 EXISTING MATERIAL QUALITY

- A. Any existing material or equipment, whether associated with, within-proximity of Work, reused, or turned over to the Court, whether listed in specifications or not, must be tested for operation prior to start of project. The TMSC must obtain a letter from the Court accepting the defective condition of the material or equipment. Any such material or equipment found to be defective by the Court's Representative during the project closeout, without such a letter, shall be replaced under this contract at no additional cost to the project.

3.2 EXISTING MATERIAL/EQUIPMENT TESTING

- A. ***Important:*** At the earliest opportunity and before any CFE is moved or modified, The TMSC shall be responsible for the testing of any existing material or equipment to be reused prior to the installation or addition of any new equipment. The TMSC shall be responsible for documenting, in a letter to the Government and Court's Representative, any abnormalities or malfunctions with the existing material or equipment that is to be reused.
- B. ***Important:*** After the letter of abnormalities has been sent to the Court, the TMSC shall be responsible for obtaining a written acknowledgement of the letter from the Government prior to beginning work on any of the CFE. The TMSC may request the presence of Court staff for testing and/or demonstration of faulty equipment and/or non-project wiring prior to the start of work. Any pre-existing deficiencies documented by the TMSC prior to work will NOT be the responsibility of the TMSC to repair without additional compensation. The Court may choose to repair outside this contract, continue with the deficiency, or request pricing from the TMSC to repair or replace the faulty item. If the fault is not documented prior to start of work, the contractor runs the risk of accepting responsibility of the fault(s) and the repairs will be needed under this TMSC's warranty.

END OF SECTION – CLIENT FURNISHED PRODUCTS

SECTION 01 65 00 – PRODUCT DELIVERY REQUIREMENTS

SECTION 016500 - PRODUCT DELIVERY REQUIREMENTS

PART 1 - GENERAL

1.1 PRODUCT DELIVERY REQUIREMENTS

- A. The TMSC shall control the handling and installation of hardware and equipment so that completion of the Work will not be delayed by hardware or equipment losses, both before and after installation.
- B. The Court or other Tenant shall not be expected to provide additional space to the TMSC for the purpose of pre-assembly and testing. Any required pre-assembly and testing must be conducted at the TMSC's facility unless other arrangements are made prior to project start up.
- C. All equipment shipping costs and any costs for shipping furniture and/or equipment to and from the fabrication points shall be the complete responsibility of the media systems TMSC. These costs shall be included in the base bid amount.
- D. TMSC is responsible for verifying the address that all equipment should be shipped to with the Court.
- E. Any equipment shipped to the work site must be quoted as "inside delivery". The Court or other Tenant shall not be responsible for moving any equipment from the loading dock.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION – PRODUCT DELIVERY REQUIREMENTS

SECTION 01 66 00 – PRODUCT STORAGE & HANDLING REQUIREMENTS

SECTION 016600 - PRODUCT STORAGE & HANDLING REQUIREMENTS

PART 1 - GENERAL

1.1 STORAGE AND PROTECTION OF MATERIALS

- A. Prior to installation, protect exposed surfaces with material that is easily removed without marring finishes.
- B. The TMSC shall provide protection to all final surfaces at the site. Tools shall not be used or left on furniture or millwork at any time. The TMSC will be solely responsible for any damage made to the site by the installation team. Any pre-existing damage shall be documented immediately at discovery via written notification and digital photograph(s) and delivered to the Court's Representative prior to start of Work.

1.2 PRODUCT STORAGE

- A. All products shall be sent to the site only when needed for installation. Coordinate directly with the building owner the locations suited for secure short-term storage of the equipment.
- B. Locations for product storage shall be suitable for the materials. Wet areas and areas with extreme heat shall not be used for storage.
- C. The TMSC shall log all equipment shipped to the site if stored by the Owner. The Owner shall sign for each piece acknowledging acceptance of each piece of equipment and its condition as it is left at the site. Failure to obtain signature of equipment turned over to Owner will risk liability of the TMSC to replace at no additional charge for any equipment that is lost or damaged.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION – PRODUCT STORAGE & HANDLING REQUIREMENTS

SECTION 01 74 00 – CLEANING AND WASTE MANAGEMENT

SECTION 017400 - CLEANING AND WASTE MANAGEMENT

PART 1 - GENERAL

1.1 CLEANING

- A. The TMSC shall clean all surfaces of the work site areas when the project is complete. All floorboxes and rack interiors shall be vacuumed. All equipment and housing surfaces shall be wiped with a slightly moist cloth. All fans shall be blown with compressed air.

PART 2 - PRODUCTS

2.1 WASTE MANAGEMENT

- A. The TMSC shall remove all shipping materials and protective covers from plastic windows, lamp housings, etc.
- B. The TMSC shall arrange for all refuse containers and not use tenant containers. The TMSC shall be solely responsible for providing dumpsters, dumpster permits, and tarping. Dumpsters shall be removed promptly when Work is complete or dumpster is full. Coordinate location with building owner.
- C. Original packaging shall be retained where product performance is suspect or if requested by the Owner or Court's Representative.

PART 3 - EXECUTION

3.1 CLEANING

- A. The TMSC shall clean up all work areas prior to departure from the site for any period of time.
- B. The TMSC shall not leave materials in spaces where the materials may be damaged or individuals may be harmed by tools or equipment.

3.2 WASTE MANAGEMENT

- A. The TMSC shall remove and discard all temporary construction materials that are not required prior to project closeout.

END OF SECTION – CLEANING & WASTE MANAGEMENT

SECTION 01 75 00 – STARTING AND ADJUSTING

SECTION 017500 - STARTING AND ADJUSTING

PART 1 - GENERAL

1.1 TESTING

- A. All materials and assemblies are to be tested and any problems corrected at the TMSC's assembly point prior to shipping.
- B. System start up shall be ongoing during the installation to uncover defects.
- C. Acceptance tests may include speech intelligibility surveys and subjective evaluations by observers listening at various positions under various operating conditions using speech, music, and live or recorded effects material. Acceptance test shall include viewing of monitor images for sharpness, contrast, brightness, and color.
- D. Measurement of frequency response, distortion, noise waveform, color vector, or other characteristics may be performed (or a demonstration test requested) by the Court's Representative in any item or group of items deemed necessary to determine conformity with criteria.

PART 2 - PRODUCTS

2.1 TEST GEAR

- A. The TMSC shall test all UTP and STP data cables and termination installed under the project scope using an analyzer certified for UL, ISO Level IV and proposed TIA Level IIIe use (such as Fluke's DTX -1800 CableAnalyzer).
- B. Primary audio levels shall be testing with a commercial certified and calibrated SPL meter accurate to with +/- 1dB_{spl} set at slow response, A-weighting.
- C. Primary audio levels shall be tested with a commercial certified and calibrated pink noise generator with variable level adjustment.
- D. Video test generators should include dedicated multi-pattern generators for outputs at all used frequencies. Include both analog and digital testing where present. After master generators are used, test with real-world laptop inputs at various resolutions and laptop generated test patterns from software such as Display-Mate or as provided from Extron, etc. Test from multiple laptops and multiple inputs with a wide variety of source materials.

PART 3 - EXECUTION

3.1 TESTING

- A. All Work shall be tested in a manner consistent with industry standards and as otherwise specified herein. Prior to energization, all portions of the Work shall have a careful and thorough visual inspection to detect any erroneous or loose workmanship, incorrectly rated devices, or other abnormal conditions. Systems shall be examined and tested as defined in the pertinent Specification sections. Acceptance of the Work by the Owner shall be contingent upon satisfactory completion of these tests.
- B. The TMSC shall power up each piece of equipment and shall completely test all system functions and interconnecting and distribution lines prior to the initial inspections. Signals at major system termination points throughout the system shall be tested for level and signal quality. Analyzers and scopes shall show no components of cross-modulation, beat interference, feedback, oscillations, noise products or power supply hum caused by improper levels, interconnection routing or grounds. The signal to noise ration shall be tested at major system terminations, the system output and at the last outlet on the longest branch by recording the signal strength a normal signal and then recording the signal strength with the inputs to the amplifiers terminated at rated impedance. The TMSC shall verify that all equipment and interconnections meet FCC requirements for limiting radiated interference. Conditions revealed in testing to be outside of limits shall be corrected and retested.
- C. If ground noise/hum is present, test all equipment for the Pin 1 problem. The TMSC shall be prepared to disconnect one end of the cable shield from the input side of the equipment chassis. This solution is to be used only when absolutely necessary; after all other solutions have been tried and failed.
- D. General System Performance, Tests, and Adjustments to be provided by the TMSC:
1. The TMSC shall test all UTP and STP data cables and termination installed under the project scope using an analyzer certified for UL, ISO Level IV and proposed TIA Level IIIe use (such as Fluke's DTX -1800 CableAnalyzer). Testing shall be used to identify faults and indicate where repairs are to be made in the system prior to the First Inspection.
 2. The TMSC shall provide the Court's Representative with a written record of the final passing results as detailed under Section 013300, 2.02.
 3. The TMSC shall provide the Court's Representative with documentation detailing audio system commissioning results including, but not limited to: Gain structure and Equalization filters, RTA printouts, SPL measurements, physical adjustment settings (such as amplifier knob settings), etc.
- E. Video System Performance, Tests, and Adjustments to be provided by the TMSC:
1. Picture shall be evaluated for image stability, lock- up time, brightness, convergence, sharpness, and color.
 2. Picture shall be evaluated for Proper EDID performance and color space.
 3. Utilizing a variety of video test patterns, perform system calibration as described below.
 - a. Apply an all-white test field. Check for missing pixels in all displays. If missing pixels are found then replace the affected display (if provided under contract) with new displays.
 - b. Apply "Circle" pattern and check geometry to verify the aspect ratio (make sure circle are round and not oval).
 - c. Apply Crosshatch pattern and adjust positioning to center the image on the display.
 - d. Apply an Alternating Pixel pattern. Adjust the pixel clock and phase to provide cleanest signal with no "waves" or other anomalies.
 - e. Apply Multi-burst to check for color shift and adjust so that only black/white/grey is seen.
 - f. Apply "H" Pattern. Check overall sharpness and text legibility. Verify that there is no keystone present (will show up as a "tree" in the pattern).

- g. Apply Extreme Gray scale. Use to adjust absolute black and absolute white levels (The far right white block and the far left black block should just barely disappear).
 - h. Apply Transient Response and check for smearing (over peaking of the video signal results in smearing on white; under peaking results in smearing on black). Adjust peaking levels as appropriate to achieve clear image.
4. All video shall be free of moiré, noise, ringing, colorimetry error, and interline distortion.
 5. All displays shall be equally clear and free from softness and blur.
 6. Meet with the Court's Representative and make system control changes as directed.

3.2 TERMINATION POINT LABELING

- A. Appropriate labeling shall be supplied on all devices. Handwritten labels will not be acceptable.
- B. Provide engraved or printed (not adhesive) labels for all floorboxes in high contrast between the background and the lettering. Engrave exposed plates as required for user clarity.
- C. All J-boxes above carpet level shall only be provided with directly engraved or directly silk-screened labels. Adhesive or window slip-in style plastic or paper labels are absolutely unacceptable on any plate where AV or media technology functions are present.
- D. Submit engraving sample as per requirements set forth in the Submittals. Printing shall not be applied directly to the equipment. Provide a removable intermediate plate for all labels on frame equipment. Where space is limited on the device, provide a coded system and label reference chart sorted adjacent to the equipment and in the O&M manuals. Provide labels on all patch bays and user removable cables and harnesses for each connector.
- E. All connection plates and umbilical connections shall be labeled only with laser printed white tags with clear shrink-wrap to cover. Labels shall describe function (i.e. Defense Table 2, MIC 1) to avoid documentation lookup.

3.3 RACK AND EQUIPMENT LABELING

- A. Provide printed physical removable labels on the front of equipment rack. Labels shall include references to system documentation including, but not limited to, frame numbers, patch bay numbers, patch point labels, device IP addresses, data switch IDs, etc.
- B. Label all user adjustable settings within the user rooms that have a preferred calibrated setting.
- C. Label correct setting on all volume and tone controls of loudspeakers that can be adjusted by users.

3.4 AS-BUILT AND SYSTEM DOCUMENTATION

- A. Refer to Section 013100 "Project Management and Coordination" and Section 044300 "Quality Assurance."

END OF SECTION – STARTING & ADJUSTING

SECTION 01 77 00 – CLOSEOUT PROCEDURES

SECTION 017700 - CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 ACCEPTANCE

- A. The TMSC shall coordinate with the Court's Representative dates that the TMSC will be completing work at the site. Dates shall be established by the point indicated in the Project Schedule. Changes to dates that have been agreed upon shall not be accepted.

1.2 WARRANTY

- A. The first year Base Bid Warranty starts near the closeout of the project at Final Acceptance. The Warranty start date should be agreed upon by the Tenant and the TMSC. If the Tenant and TMSC cannot reach a consensus of when the warranty starts, they should defer to the AOUSC for assistance.

PART 2 - PRODUCTS

2.1 EQUIPMENT CLOSEOUT PROCEDURES

- A. All exposed cables, connectors, and equipment connection points shall be concealed in compliance with all code and installation guidelines by project closeout.
- B. The TMSC shall remove and discard all temporary materials and construction that may be required prior to project closeout.
- C. Spare materials such as lamps, special adjustment tools, software, remote controls, unused cable, and accessories shall be deliberately turned over to the Owner near project closeout. Materials shall not be simply left in the project area.

2.2 DE-INSTALLATION OF ABANDONED EQUIPMENT AND MATERIALS

- A. Remove all unused cabling, wiring, and umbilicals unless otherwise noted.
- B. Remove all video and control gear that has been replaced and turn over to the Court's Representative as a part of this contract.
- C. The TMSC shall remove all existing equipment at the work site that is not to be functional after completion of the project. Turn over all equipment and parts to the Owner. The TMSC shall log all equipment and parts turned over to the Tenant. The Tenant shall sign for each piece acknowledging acceptance of each piece of equipment and its condition. Failure to obtain signature of equipment turn over to the Tenant will risk liability of TMSC to replace at no additional charge any equipment that is lost or damaged.

- D. Remove and cover back boxes at all connection plates that are no longer functional. Where plates are reused or have partial function, remove unused function and re-label plates.
- E. Remove all plates that have no function and replace with a metallic blank plate in a similar color to the plate that was removed, or a color that is in better keeping of the aesthetic of the surrounding area.
- F. Remove all labels, signage, and tags of equipment and cables that are no longer functional.

PART 3 - EXECUTION

3.1 CLOSE OUT PROCEDURES

- A. The TMSC shall officially notify the Court's Representative in writing when they are or will be Substantially Complete. Only after receiving written notification, will the Court's Representative plan a First Inspection to determine if the system is substantially complete pursuant to the Contract. Notifying the Court's Representative of an expected future completion date shall not be considered an official notification. The TMSC is not required to be present at this inspection.
- B. Prior to the Court's Representative's First Inspection, the TMSC shall test all UTP and STP data cables and terminations under the project scope (see Section 017500, 3.01) and provide a written record of the final passing results as provided in Section 013300, 2.02. Only after receiving this report, will the Court's Representative travel to the site for the First Inspection.
- C. The Court's Representative will provide a First Inspection to determine if the system is substantially complete pursuant to the Contract. Systems/equipment will be tested with same test equipment and methods required for installation. A punchlist will be generated by the Court's Representative of any malfunctioning or missing equipment. See Project Schedule.
- D. The TMSC shall officially notify the Court's Representative in writing when they finish all punchlist items that were generated by the Tenant and the Court's Representative during the First Inspection. Only after receiving official written notification, will the Court's Representative schedule travel to the site for Additional Inspections to determine if the system is ready for final acceptance.
- E. The TMSC shall provide a written status report at the conclusion of work directed through inspection reports. The report from the TMSC shall provide a line-by-line response explaining the action taken on the inspection reports. The report from the TMSC will be evaluated by the Court's Representative and Court to determine if subsequent inspections are ready to be scheduled.
- F. The Court's Representative will provide Additional Inspections until the systems reach Final Acceptance. Meeting notes will be generated by the Court's Representative listing any remaining issues. It shall be expected that new items may appear on each Inspection Report. TMSC shall be expected to return to the site to finish any malfunctioning or incomplete work as long as Inspections are determined as necessary.
- G. The TMSC shall officially notify the Court's Representative in writing when they finish all punchlist items that were generated by the Tenant and the Court's Representative after any Inspection.

END OF SECTION – CLOSEOUT PROCEDURES

SECTION 01 78 00 – CLOSEOUT SUBMITTALS

SECTION 017800 - CLOSEOUT SUBMITTALS

PART 1 - GENERAL

1.1 CLOSE OUT SUBMITTALS

- A. TMSC shall receive written verification from the Court point of contact as to the shipping address for all closeout submittals. This address may vary from the address of the point of contact or the actual job site. Submittals that are lost / misplaced due to them being shipped to an unconfirmed address must be recreated and re-submitted to the proper address at no additional cost to the project.

PART 2 - PRODUCTS

2.1 RECORD COPY AND AS-BUILT DOCUMENTATION

- A. Manuals and Publications: The media systems TMSC shall provide the manuals and publications with the following inclusions:
 - 1. O&M Manuals: Provide one (1) O&M Manual in electronic format (CD ROM) containing editable files to the Court's Representative as per the Project Schedule. All information must be accurate as per written acceptance. Each CD shall contain the following required materials in the below subfolders:
 - a. Subfolder labeled "O&M Manual"
 - 1) An index of the contents of the O&M Manual.
 - 2) Printed operating instructions for all system functions whose format has been compiled specifically for each system. Providing standard factory equipment operating instructions alone is not acceptable.
 - 3) Troubleshooting procedures.
 - 4) Numerical values for all control settings and photographs or other graphic representation of all visible adjustments and all accessible switches indicating correct position for properly calibrated operation.
 - b. Subfolder labeled "Complete Parts Lists" (other than consumables).
 - 1) A list of serial numbers of equipment installed (Use Form provided in Section 006365 "Serial Number List Form").
 - 2) A list of replacement fuses, lamps, and connectors in sufficient quantities to last one (1) year that have been handed over to the Owner.
 - c. Subfolder labeled "IP Addresses"
 - 1) A list of all IP addresses implemented in the systems and the purpose for each.
 - d. Subfolder labeled "Drawings"

- 1) "As-Built" (project record drawings) schematic wiring diagrams of all systems with labeled equipment and wiring.
 - 2) Rack layouts, plate fabrication drawings, and all non-standard connector pin configurations.
 - 3) Patch bay and punch block schedules: Equipment signal patch bay tables (if any have been specified) shall be provided, descriptively listing, in a non-technical fashion, all signals related to ultimate source or destination.
- e. Subfolder labeled "Manufacturers Manuals"
- 1) Operation and installation manuals for each component. PDF's of manuals shall be separated into individual folders per manufacturer. (Example: Folder name "Manufacturer A", all manuals from Manufacturer A shall be included in this folder. All manuals from Manufacturer B shall be included in a folder named "Manufacturer B").
- f. Subfolder labeled "Programming"
- 1) Provide a CD-ROM that contains all software configurations, both compiled and uncompiled, custom programming, and files in the manufacturer's native program format with a sheet describing the contents of the CD-ROM.
 - 2) Static IP addresses shall be provided and listed for each piece of equipment in each room.

PART 3 - EXECUTION

3.1 FINAL O&M MANUALS

- A. Once the O&M Manuals are considered "Technically Acceptable" by the Court's Representative, the TMSC shall submit one (1) final copy of the O&M Manuals to the Court's Representative in electronic format containing PDF, AutoCAD, HTML, Programming, control and control panel layout files in the manufacturer's native program format. The TMSC shall also provide two (2) hard copies and two (2) electronic copies of the O&M Manuals to the Court. Provide electronic copies on CD-ROM in the fewest discs possible.

END OF SECTION – CLOSEOUT SUBMITTALS

SECTION 01 78 36 – SUPPORT & WARRANTIES

SECTION 017836 - SUPPORT & WARRANTIES

PART 1 - GENERAL

1.1 SUPPORT

- A. Control System program and control screen layouts shall be reviewed by the Court's Representative with final approval provided by the Court.

1.2 WARRANTY

- A. The first year Base Bid Warranty starts near the closeout of the project at Final Acceptance. The Warranty start date should be agreed upon by the Tenant and the TMSC. If the Tenant and TMSC cannot reach a consensus of when the warranty starts, they should defer to the AOUSC for assistance.
- B. The TMSC shall provide warranty and maintenance support for the minimum duration of one (1) year as part of the base bid and for each awarded option. This work shall be performed at no additional cost to the Government.
- C. The Tenant, at its option, may elect to exercise the option to continue warranty/maintenance service for one-year increments, up to a maximum of two (2) years (2nd and 3rd year of system life) at the prices in the Cost/Price Schedule (Schedule B – B-1 / Bid Form).

PART 2 - PRODUCTS

2.1 EQUIPMENT

- A. Warranties shall be provided for all equipment for the duration of the warranty period, including the initial warranty period and any additional optional warranty period extensions (the total warranty period). All OEM warranties shall be passed through to the Tenant. Where OEM warranties fall short of the total warranty period the warranties shall be extended to meet the total warranty period. Where OEM warranties extend past the total warranty period, the OEM warranty information shall be turned over to the Tenant.

2.2 SOFTWARE & FIRMWARE

- A. The TMSC shall proactively keep all of the installed systems' software and firmware based products up to date through the warranty period. If the court staff is unable to assist the TMSC by installing the updates themselves, then the TMSC shall be on site to install the software and/or firmware. In either case, the TMSC shall contact the Point of Contact at the Court when each update is published and schedule an installation time for the duration of the warranty.

PART 3 - EXECUTION

3.1 WARRANTY

- A. Where equipment, software, or a system is operating improperly, operating defectively, or malfunctions, it shall be repaired or replaced within forty-eight (48) hours of the initial call requesting service. An assessment of cost impact will be discussed if failure to completely resolve the problem within forty-eight (48) hours impedes, suspends, or otherwise negatively impacts use of the system.
- B. Provide a toll free telephone number, which the Tenant can call to obtain warranty/technical assistance as described:
 - 1. This number shall be displayed on site in the following locations:
 - a. In an easily accessible "help" page on all control software control panels.
 - b. On all laminated operation instruction sheets.
 - c. In all operation and maintenance manuals
 - d. On label adhered or secured to all equipment racks, mobile equipment carts, and all other locations where substantial processing equipment is installed.
 - e. This number shall be available to the Tenant from 8:00 am to 8:00 pm, Eastern Time, Monday through Friday, Government Holidays excluded. Each phone call shall be answered within ten (10) rings either by a live attendant or by automated attendant that will, at a minimum, record the caller's name, telephone number, the item of equipment or software in question, and a brief description of the nature of the support required. A qualified technician with the means to address the nature of the inquiry shall respond to each call within two (2) hours of placement of the call.
- C. The Tenant shall be able to access the equipment racks after Final Acceptance without voiding the warranty.

3.2 SPARE PARTS

- A. Provide and turn over to Tenant at project closeout replacement fuses, lamps, and connectors in sufficient quantities to last one (1) year.

END OF SECTION – SUPPORT & WARRANTY

SECTION 01 79 00 – DEMONSTRATION AND TRAINING

SECTION 017900 - DEMONSTRATION AND TRAINING

PART 1 - GENERAL

1.1 TRAINING

- A. No training for *operating personnel* is required under this contract. Provide up to three (3) hours training as requested for Court technical staff as needed.

PART 2 - PRODUCTS

2.1 TRAINING MATERIALS

PART 3 - Not Required

3.1 TRAINING PLANNING MANAGEMENT

- A. Coordinate and schedule training time for up to three (3) hours training for Court technical staff.

DIVISION 27 – COMMUNICATIONS

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SECTION 27 06 40 – SCHEDULES FOR AUDIO-VIDEO COMMUNICATIONS

SECTION 270640 - SCHEDULES FOR AUDIO-VIDEO COMMUNICATIONS

PART 1 - GENERAL

1.1 SCHEDULE A - EQUIPMENT LIST/INFORMATION

1.2 SCHEDULE B – B-1/BID FORM

1.3 SCHEDULE C – CONTROL PANELS (NOT USED)

1.4 SCHEDULE D – DRAWINGS

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION – SCHEDULES FOR AUDIO-VIDEO COMMUNICATIONS

SECTION 27 08 00 – COMMISSIONING OF COMMUNICATIONS

SECTION 270800 - COMMISSIONING OF COMMUNICATIONS

PART 1 - GENERAL

1.1 COMMISSIONING

- A. Commissioning shall include a *minimum* of two punchlist inspections. The system shall not be officially complete until all punchlist items have been resolved and changes have been made in compliance with the Tenant's, Owner's, Court's Representative's expectations or as approved by the CO or COTR.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 CUTOVER PLANNING AND MANAGEMENT

- A. The TMSC shall plan for turnover for the Tenant's use of system installed at the Substantial Completion point of the project after punch list items are complete. An accurate schedule of this milestone shall be maintained at all times.
- B. The TMSC shall provide a written status report at the conclusion of work directed through inspection reports. The report from the TMSC shall provide a line-by-line response explaining the action taken on the inspection reports. The report from the TMSC will be evaluated by the Court's Representative to determine if subsequent inspections are ready to be scheduled.

END OF SECTION – COMMISSIONING OF COMMUNICATIONS

SECTION 27 11 00 – AUDIO-VIDEO EQUIPMENT ROOM FITTINGS

SECTION 271100 - AUDIO-VIDEO EQUIPMENT ROOM FITTINGS

PART 1 - GENERAL

1.1 COORDINATION

- A. Coordinate all equipment room installation with other trades using the same room. Where there is conflict, limited space, or missing infrastructure, bring the issue to the Court's Representative immediately upon discovery.

PART 2 - PRODUCTS

2.1 MISCELLANEOUS MATERIAL

- A. Miscellaneous materials including rack adapters, power supplies, cabinets and other accessory hardware required to make a complete and functional unit shall be provided as required even though not specifically indicated in Drawings or Specification. TMSC shall provide specialized cable, connectors, adapters, connecting accessories, terminal blocks, and related connector and termination hardware required by but not supplied with the equipment.

2.2 RACKS, CABINETS, AND HARDWARE

- A. Provide racks and cabinets as indicated on Drawings and equipment list. If the racks are not supplied through TMSC, verify that existing racks and cabinets provided by others are complete bringing any discrepancies to the attention of the Owner and Court's Representative prior to beginning installation.
- B. TMSC shall supply necessary mounting hardware to install rack-mounted equipment. Hardware shall be products of the manufacturer of the rack system or approved by them for use with their product. Verify that equipment provided by others is supplied with necessary rack mounting rails or frames, both front and back, and provide other frames or rails where required. Provide supporting channels, mounting shelves and rails as recommended by equipment manufacturers. Equipment that provides unbalanced audio output connections that are used in the system design shall not touch metallic surfaces at any location providing for chassis ground isolation. Screws used to mount equipment and panels to the rack rails shall be the same throughout the installation consisting of a #10-32 thread truss head machine screw with Phillips cut. Screws shall include a polyethylene or nylon washer. Use length appropriate for equipment. #10-32 nuts shall have integral captive clip.
- C. TMSC shall provide fill panels to cover all open rack space. Fill panels may not be indicated in the equipment list but shall be the responsibility of the TMSC to account for and provide. Panels shall be 3 mm (1/8 inch) aluminum unless otherwise specified, sized as large as possible with a maximum dimension of 267 mm (10-1/2 inches). Panels shall be finished in baked enamel matching the rack frame exterior, unless otherwise specified.

- D. Ventilation Panels shall be provided. Panels shall be 89 mm (3-1/2 inches) high and, unless otherwise indicated, of full perforated or louvered design. Finish of ventilation panels shall match finish of fill panels.
- E. Side panels on racks, if provided, shall be field removable after all equipment is loaded to allow for side-access maintenance.

PART 3 - EXECUTION

3.1 RACKS, CABINETS, AND HARDWARE

- A. TMSC shall assemble and install racks and cabinets as directed by the manufacturer.
- B. TMSC shall install hardware in a secure manner, carefully aligning components using methods as directed by manufacturer. Screws shall be tightened to a torque just sufficient to secure equipment. Plastic washers included as part of the screw assembly shall not be deformed beyond their original diameter. All supplied equipment mounting holes that align with rack rails shall be used to secure equipment.
- C. TMSC shall securely mount fill panels in careful alignment using methods as directed by manufacturer. All supplied panel mounting holes that align with rack rail shall be used to secure panels.
- D. The TMSC shall provide a single power cable from the equipment rack to the Court provided UPS. The TMSC shall securely attach the power cable to the outlet, using a screw type of cable end, in order to minimize the risk of unauthorized or accidental removal of the power cord.

3.2 CONNECTION OF EQUIPMENT TO I/O PANEL

- A. Twisted Pair (TP) used in conjunction with Tx and Rx "baluns" for extension of audio, video, and/or control signals shall NOT be routed through the rear I/O panel in order to preserve signal integrity.
- B. All other input and output connections at rear of equipment shall be brought out to a hinged I/O panel and terminated on a proper native connector as defined elsewhere, even if the connection has no function in the current design. Certain connectors may be excluded, but only if noted in the shop drawing submittal phase.
- C. The I/O panel(s) shall be hinged on either the right or left side and provided with wire management tied near the hinge point in order to allow access behind the panel for interior rack work. The panel(s) shall be installed in such a manner that no strapping, connector or cable needs to be removed for full access inside the rack.

3.3 SIGNAL SEPARATION

- A. Signals shall be separated and managed based on current InfoComm CTS-I Standards and Best Practices.

END OF SECTION – AUDIO-VIDEO EQUIPMENT ROOM FITTINGS

SECTION 27 15 43 – AUDIO-VIDEO FACEPLATES

SECTION 271543 - AUDIO-VIDEO FACEPLATES

PART 1 - GENERAL (NOT USED)

PART 2 - PRODUCTS

2.1 FACE PLATES

- A. Face Plates shall be as indicated on Drawings and as specified herein. Mounting screws shall be stainless steel with finish matching fitting faceplates and heads fitted to the mounting hole reliefs.
- B. Labels on plates are to be engraved or silkscreened to match previous projects. Unless indicated otherwise, engrave labels as indicated on Drawings in a sans serif proportional font in high contrasting colors. Labels shall be 8 mm (5/16 inches) H x 37 mm (1-7/16 inches) W with 4 mm (5/32 inches) character heights and 1 mm (1/32 inch) stroke width unless indicated otherwise by dimension or scale on Drawings. Where devices are shown by symbol only, the legend shall be a brief descriptor and number indicating function and connection channel if appropriate. Verify legends in Shop Drawings.
- C. Face Plates shall mount to standard electrical boxes unless indicated otherwise. Plates shall be for direct box mounting. Where the standard electrical plates in the area are metal, plates of the same manufacturer and style shall be used. Face Plates shall be provided as defined on each plate drawing detail. Note that Brass plates are to be submitted as sample prior to ordering custom versions. Where there are existing plates to remain, match finish and labeling style where suitable. Plastic Face Plates shall not be used.
- D. Fabricated large form assemblies shall include steel back box and plate. Back box shall be fabricated from galvanized cold rolled steel with spot welded corners and seams. Brackets and flanges shall be provided as required to mount box in wall construction as required. Boxes in recessed applications shall be 89 mm (3-1/2 inches) deep and 13 mm (1/2 inch) smaller than plate in height and width unless indicated otherwise. Boxes in exposed applications shall be 89 mm (3-1/2 inches) deep and the same size as the plate in height and width unless indicated otherwise. Plates shall be 3 mm (1/8 inches) clear anodized brushed aluminum sized as indicated with 3 mm (1/8 inches) fillet at corners.
- E. Face Plates and other termination locations, where shared, require coordination with the Data Communications services. In most cases, the TMSC will provide data connector punches, connectors, labels, and cable to the nearest termination location for continuation by others.

PART 3 - EXECUTION

3.1 FACE PLATES

- A. TMSC shall verify in field locations and sizes of all custom plates prior to submitting Shop Drawings. TMSC shall provide shop drawings of plate layouts and labeling as well as button types and wiring to Court's Representative for review prior to fabrication/installation according to project schedule.

- B. Face plates shall be metal. Plates mounted below the floor carpet level shall be brushed aluminum with black engraved or silk screen lettering. Face plates at or above the floor carpet level shall be black with white engraved or silk screen lettering.
- C. Face Plate connectors shall be installed true and aligned as detailed. Holes shall be punched with dies sized for the fitting. Mounting hardware shall be torqued snugly with the nut secured in place with Loctite or similar compound.
- D. Surfaces shall be cleaned where labels are to be affixed and mount labels carefully aligned as detailed. Verify that adhesive adheres to surface finish and use alternative compounds where necessary.
- E. Face Plates and cables shall be provided and installed by the TMSC for these shared locations unless otherwise noted.

END OF SECTION – AUDIO-VIDEO FACEPLATES

SECTION 27 16 13 – AUDIO-VIDEO RELATED CABLE ASSEMBLIES

SECTION 271613 - AUDIO-VIDEO RELATED CABLE ASSEMBLIES

PART 1 - GENERAL

1.1 COORDINATION

- A. Coordinate all cable pathways and mounting with other trades. Coordinate termination locations. Bring conflicts and discrepancies to the attention of the Court's Representative immediately upon discovery.

PART 2 - PRODUCTS

2.1 CABLE

- A. Cable shall be selected and applied in a manner defined by signal type, consistent with industry practice. Highest quality products shall be used with attention given to shielding characteristics, termination methods, resistive and complex impedance at operating frequencies and insulating material characteristics. Areas where cable is not enclosed in conduit or cable that passes through any space where open air handling is present (or any other area where construction codes, building codes, local codes, or the National Electrical Code dictate plenum cable) shall be provided with plenum cable for the entire length of the cable regardless of the length of the plenum area that the cable passes through. Plenum cable shall be quoted as part of the contract during bidding where required or anticipated and no additional compensation shall be provided for addition of this cable requirement after contract award except where field conditions have changed. Substitutions of air handling plenum rated cable shall exactly match the normally applied product and shall meet the standards of UL Standard #900 and the NEC (National Electrical Code) Article 820.
 1. Video signal coaxial cables shall have #23 solid bare copper covered steel center conductor, polyethylene insulation, bare copper braid of at least 95 percent coverage and black PVC jacket unless color is otherwise noted. Plenum cable, Belden #88241 or equal.
 2. Low-Skew RGB Video TP cable shall have 4 twisted pair #24 solid copper conductors, unshielded, FEP conductor insulation with ripcord and a grey Flamarrest jacket. Plenum cable, Belden #7987P or equal.
 3. Digital Video STP cable shall have 4 twisted pair #26 solid copper conductors individually foil shielded with overall braided shield, FEP conductor insulation, and Flamarrest jacket. Plenum cable, Extron STP201P or equal.
 4. Digital Video 8G cables shall have 4 twisted pair #24 solid copper conductors for video data and data management with aluminum shield. All conductors have FEP conductor insulation and are contained within an overall blue low-smoke PVC jacket with ripcord. Plenum cable, Crestron DM-CBL-8G-P or equal.
 5. Audio signal cable shall have twisted pair #22 stranded tinned copper conductors, polyethylene conductor insulation, aluminum foil shield, #22 stranded tinned copper drain wire and chrome PVC jacket. Plenum cable, Belden #88761 or equal.
 6. Control cable shall be multi-core with #18 stranded tinned copper conductors, PVC conductor insulation, cable laid, gray PVC jacket. Plenum cable, Belden #83656 or equal.
 7. Data cable shall be Enhanced Category 6 bonded-pair cable, 4 twisted pair #23 solid copper, FEP conductor insulation with a yellow PVC jacket. Plenum cable, Belden #7852A or equal. conductors *or as approved by the equipment manufacturer.*

8. Serial Data cable shall be Category 6 non-bonded-pair cable, 4 twisted pair #23 solid copper conductors, 100 percent coverage overall Beldfoil shield with drain wire, FEP conductor insulation and polyester separator with a grey PVDF jacket with ripcord. Plenum cable, Belden #1352A or equal. Verify suitability of all cable specifications with the manufacturer of the equipment that the cable will be connected to prior to ordering. All cable provided shall be pre-approved by the manufacturer of the equipment to be connected.

B. The TMSC shall use cables with only braid or double wound cable shields. Foil shielded cable with conventional drain wire shall only be used for short "in-rack" connections.

2.2 CABLE MANAGEMENT

A. New cabling shall have proper cable management consisting of ties and lashing straps. Ties and lashing straps shall consist of black nylon with banners, screw fittings, mounting clips or other devices deemed appropriate for proper installation. T&B, Panduit, or equal. Lashings shall be releasable nylon type. T&B, Panduit, or equal. Fittings utilized to secure ties and straps shall be screw mounted. Neither adhesive backed devices nor hook-and-loop devices shall be used.

B. Plastic signal wiring duct shall be dark gray or black vinyl with snap-on cover. Slotted duct shall have deflecting side fingers with restricting flanges to retain wires. Panduit or equal. Solid duct shall have no side openings. Panduit or equal. Metal duct shall be an integrated assembly consisting of channel and cover with elbows, fittings, and boxes. Walker or equal.

C. All cables shall be labeled. Labels shall be applied to the center of cables less than 600 mm (2 feet) in length and to both ends of all cables of greater length within 100 mm (4 inches) of the termination point. Labels shall be laser printed on white tags and clear heat-shrink wrapped only. Labels shall describe function (i.e. Defense Table 2, MIC 1) to avoid documentation lookup. No other label type will be acceptable.

2.3 CONNECTORS

A. Connectors shall be selected and applied as defined by the manufacturer of the terminating equipment, in a manner consistent with cable and signal type and industry practice. Highest quality products shall be used with attention given to shielding characteristics, termination methods, resistive and complex impedance at operating frequencies and insulating material characteristics. Strain reliefs and cable clamps shall be sized for the cable.

1. BNC video signal connectors shall be crimp-on type with insertion barrel and ferrule, and gold flashed crimp-on center pin. Barrel shall provide full circumferential contact with the braid. Male fittings shall be sized to fit the cable. Kings Electronics Company Incorporated #2026-25-9 or equal. Female connectors shall be panel mount. Kings Electronics Company Incorporated #2022-29-9 or equal. Crimping and die tools shall be Kings Electronics Company Incorporated #KTH-1000 with appropriate dies inserts or equal. Crimping tool shall be ratchet style and not release fitting until sleeve is fully crimped.

2. All 3 pin (and 4, 5, or 6 pin) connectors shall have gold flashed bronze sleeves or gold flashed brass pins, glass filled thermoset plastic insert, cast metal shell and screw secured cable clamp and strain relief. Strain relief shall be sized to fit the cable. Connector shell shall be isolated from all contacts. Neutrik #NC3MCB (male) or #NC3FCB (female) or equal.

3. Female 6 mm (1/4 inch) phone connectors shall have a metal shell, plated bronze contact springs or plated brass plugs with solder lugs, and internal strain relief. Switchcraft, two (2) wire female #121, three (3) wire female #131 or equal.

4. Male 6 mm (1/4 inch) phone connectors shall have metal shell nickel-plated shafts and metal bodies, with metal spring strain relief. Canare, two (2) wire male #F-15, three (3) wire male #F-16 or equal.
5. RJ45 (Cat 5E non-shielded) modular connectors shall be crimp-on style for 4 twisted pair #24 solid copper conductors. L-com, plug: TDS4088C5 or equal; jack: MJSTLC5E-IV or equal.
6. RJ45 (Cat 6 non-shielded) modular connectors shall be crimp-on style for 4 twisted pair #23 solid copper conductors. L-com, plug: TDS4288C6 or equal; jack: MJSTLC6-IV or equal.
7. RJ45 (Cat 6 shielded) modular connectors shall be crimp-on style with metallic strain relief providing cable retention and 360-degree shielding contact for shielded 4 twisted pair #23 solid copper conductors. L-com, plug: TDS8PC6 or equal; jack: MJSTLC6-IV or equal.
8. RJ45 (8P8C STP) modular connectors shall be crimp-on style with metallic strain relief providing cable retention and 360-degree shielding contact for shielded 4 twisted pair #26 solid copper conductors. L-com, plug: Extron STP RJ-45 or equal.
9. RJ45 (8G) modular connectors shall be crimp-on style with metallic strain relief providing cable retention and 360-degree shielding contact for shielded 4 twisted pair #24 solid copper conductors. L-com, plug: Crestron DM-8G-CONN or equal.
10. Open wire terminating lugs shall be un-insulated, tinned copper, spade lug type sized to fit the wire. T & B or equal. Crimping tool shall make detent type crimp.
11. Bare wire device capture clips, such as on the rear of some loudspeakers, shall be supported and secured with a strain relief tie near the cable end. Where a loop is not provided on the back of equipment or loudspeakers for such termination, drill hole in device and attach "P" clamp for tie-down connection. No stress shall be applied on the clip connections when the device or cable is moved.

B. Custom connectors shall be submitted for approval prior to ordering or fabrication.

2.4 SYSTEM INTERCONNECTIONS

A. TMSC shall provide wire, cable, connectors, adapters, connecting accessories, terminal blocks, bulkhead connectors and related connector and termination hardware not supplied with the equipment. Cable and connectors shall be provided as required by equipment termination jacks and by industry standard application by signal type. Standard interconnection cables provided with equipment serving video, audio, or control functions shall not be used unless of a specialized nature. Fabricated interconnecting cables using products defined herein shall be used instead.

B. Tie-in all audio systems and control that are to remain to new video and video system control under this contract.

2.5 TERMINATIONS

A. Provide specialized terminating hardware as required.

PART 3 - EXECUTION

A. TMSC shall practice the highest industry standards in soldering, crimping, and other forms of installation and connection based on current InfoComm CTS-I Standards and Best Practices. Quality of Work shall be subject to approval by the Court's Representative.

- B. The existing metallic raceway, grounding, and permanent power for is for use under this contract. The TMSC shall coordinate with the Court's Representative to obtain information about pathways, lengths, access, and locations of the provisions provided for Work to be installed under this Contract.

3.2 CABLE AND CONNECTORS

- A. Cable shall be carefully stored and handled to assure that it is not kinked, crushed, or abraded in any way. Coaxial cables shall not be bent to a radius of less than 3 inches; other cables shall not be bent to less than 1 inch radius. Interconnecting cables shall not be spliced. Cables shall not be exposed to moisture at any time during storage and, unless specifically designed for damp applications, shall not be installed where moisture is present. Cable designed for interior applications shall not be manipulated in temperatures lower than 40 deg F. Cable shall not be applied in ambient temperatures or moisture conditions above or below the rating of the manufacturer.
- B. Cables shall be carefully prepared and connectors installed as directed by the manufacturer. Proper stripping devices and crimping tools shall be used.
- C. No splices shall be installed in any cable less than 150 meters (500 feet) in length.
- D. When the length of a cable is indicated, the cable shall be cut to that length with less than 25 mm (1 inch) of error. Where cables are to be of the same length, variations in length shall be less than plus or minus 13 mm (1/2 inches). Lengths of cables are based on the length of the un-terminated signal conductors.
- E. Where chases are not provided in plenum rated spaces, the TMSC shall provide plenum grade cable and devices. For the purposes of bidding, The TMSC shall bid and supply plenum rated cables and devices at all locations above ceilings and in open vertical riser closets.

3.3 SYSTEM INTERCONNECTIONS

- A. Cables at each termination shall be labeled to identify the run involved corresponding to TMSC's line drawings of the system. Labels shall be carefully applied with legend fully visible.

3.4 TERMINATIONS

- A. Connectors shall be carefully fitted to mating devices on equipment to avoid damage to mating contacts, inserts, or bodies. Specialized terminations shall be made in a neat and secure manner suited to the service of the wire and as directed by the manufacturer.
- B. Equipment interconnections shall be made to connectors provided on the equipment. Where terminations are to be directly soldered, this shall be accomplished using rosin core solder by a person skilled in the practice. Connections to screw terminals shall be made using un-insulated type lugs only installed by indenture type pliers. Only at connections to barrel type setscrew terminals shall tinned bare wires be terminated. Terminations to punch block insulation displacement terminals shall be made using the proper tools and methods.
- C. Wire wrap termination shall be made using wire and tools designed for the purpose. In congested areas, the connection shall be covered with an insulating sleeve. In all cases where the manufacturer specifies terminations, those terminations shall be used.

3.5 CABLE MANAGEMENT

- A. Cable ties and lashing straps shall be sized appropriate for the use: 4 mm (0.15 inches) wide straps shall be used for Non-UTP bundles less than 13 mm (1/2 inch) in diameter, 5 mm (0.20 inches) wide for bundles 13 mm (1/2 inch) to 38 mm (1-1/2 inches) diameter, and 8 mm (0.30 inches) wide for larger bundles. Ties shall be installed snugly without deforming cable insulation. UTP bundles shall only be bound with hook-and-loop straps.
- B. Cable duct shall be installed using hardware with large head surface to prevent pull-through. Locate duct so that cover can be easily removed. Cover of duct shall be un-spliced between junctions or ends except where length of run exceeds standard cover lengths. Assemble and install metal duct as directed by manufacturer. Mounting in cabinets and racks shall be accomplished without hardware projecting through panels or into duct. Mounting to walls shall be secure with hardware running into studs or masonry. Mounting via after set anchors to gypsum board shall be avoided.
- C. Cable routed in enclosures shall be direct, neat, and orderly with only enough slack as required for access to equipment or to facilitate movement. Cables shall be secured to prevent contact with hot surfaces or power conductors. Cable shall be carefully installed to assure that it is not kinked, crushed or abraded in any way. Coaxial cables shall not be bent to a radius of less than 75 mm (3 inches); other cables shall not be bent to less than 25 mm (1 inch) radius. Cables shall not be pulled by their connectors. Cables not in ducting shall be bundled and tied off in groups.
 - 1. TMSC shall drill holes through enclosure bulkheads, computer type flooring, and walls where required. Holes shall be drilled neatly and shall be accurately aligned in locations that are concealed within the enclosure or by the enclosure served. Plastic grommets shall be fitted to the circumference of holes to protect cable.
 - 2. The TMSC shall remove and replace all existing carpet where it is installed over header duct, cell ducts, and/or junction boxes. Remove sub-floor hatches, covers, and lids as needed to access cable pathways.
 - 3. Cable within equipment enclosures and cabinets running for more than 1 meter (40 inches) in parallel shall be routed in slotted cable duct. Other cable shall be secured in bundles using cables ties and straps in sizes appropriate for the use at approximately 305 mm (1 foot) intervals. A bundle, for the purposes of this Specification, refers to a condition where four or more wires or cables of the same signal class travel in parallel for a distance of greater than 305 mm (1 foot). Cables shall be divided as to signal type to maintain proper isolation. Bundles shall be supported independent of the connectors and branch runs at intervals of approximately 305 mm (1 foot).
- D. TMSC shall provide cable duct to conceal exposed cable runs between separately located equipment enclosures and between raceway terminations and enclosures. Cables installed on backboards shall be run in slotted cable duct, board pegs, or square harness loops in a neat and orderly manner according to signal class.
- E. Cables running exposed at building walls or chases shall be located as high as possible on the walls or shall be run at the ceiling and secured to prevent sagging or movement using nylon straps. Cable shall be carefully routed to assure that the cable is not kinked, crushed, or abraded in any way. Cable shall not be secured to piping or conduit and shall not come within 152 mm (6 inches) of piping carrying fluids at an elevated temperature. Cable shall be run parallel to surfaces but shall not be bent to less than a 76 mm (3 inch) radius or to cable manufacturer's bending Specification minimum, whichever is greater.
- F. Cables that are concealed and not in conduit shall be run in voids in walls or ceilings. Cable shall be supported at least every 1 meter (4 feet) and secured as required to prevent movement or excessive sagging. A small amount of slack shall be provided between supports to allow cable to move if accidentally contacted by objects

penetrating wall or ceiling. All cable shall be carefully routed to assure that the cable is not kinked, crushed, or abraded in any way. Cable shall not be secured to piping or conduit and shall not come within 152 mm (6 inches) of piping carrying fluids at an elevated temperature. The cable shall be run parallel to surfaces but shall not be bent to less than a 76 mm (3 inch) radius or to cable manufacturers bending Specification minimum, whichever is greater.

- G. Cable run within conduit shall be carefully pulled to assure that the cable is not kinked, crushed, or abraded in any way. The pulling tension shall not exceed the limits set by the manufacturer. When lubrication is used, it shall be verified that the compound will not deteriorate the cable jacket.
- H. Possible sources of crosstalk and EMI shall be avoided. Isolation shall be accomplished by separating conductors according to signal type and service. Input conductors shall be isolated from output conductors within groups and between groups to avoid feedback.

END OF SECTION – AUDIO-VIDEO RELATED CABLE ASSEMBLIES

SECTION 27 21 16 – DATA COMMUNICATIONS EQUIPMENT

SECTION 272116 - DATA COMMUNICATIONS EQUIPMENT

PART 1 - GENERAL

1.1 SCOPE

- A. Only Audio-Video related Data Communications equipment and related equipment are to be provided under this contract.
- B. Face Plates and other termination locations, where shared, require coordination with the Data Communications services. In most cases, the TMSC will provide data connector punches, connectors, labels, and cable to the nearest termination location for continuation by others.
- C. Face Plates and cables shall be provided and installed by the TMSC for these shared locations unless otherwise noted.

PART 2 - PRODUCTS

2.1 SWITCHES/ROUTERS

- A. Data:
 - 1. Provide fully functional data switches indicated for routing of data for LAN type communications interconnectivity.
 - 2. Provide terminating devices and ground lifters as needed to isolate data noise from audio and video signals.

PART 3 - EXECUTION

3.1 TESTING

- A. Test data switches with IT staff.

END OF SECTION – DATA COMMUNICATIONS EQUIPMENT

SECTION 27 25 23 – SOFTWARE

SECTION 272523 - SOFTWARE

PART 1 - GENERAL

1.1 INCLUSIONS

- A. All software required for operation of any and all hardware provided under this Contract shall be included under this Contract.
- B. All software becomes the property of the Court and AOUSC.
- C. The government expects that the customized configuration code for this installation will be delivered to the government at the completion of the installation. The TMSC shall provide a labeled CD-ROM inserted into a plastic computer media sleeve containing software setup and configuration files for all configurable equipment including control system processors, software controlled screens, computer workstation controllers, software-configured signal switchers, mixers, DSP units, or other signal processors. OS code is not required. Provide all software settings/configurations files, compiled and un-compiled configuration files, and all custom display screens on CD-ROM, organized by system location in subdirectories. Provide all installation programs and drivers necessary to transfer the software settings or programs to each respective pieces of equipment. Complete documentation for the software shall be provided as well as the CD-ROM that shall be furnished in a binder at project closeout along with a printout of the contents of the CD-ROM.

PART 2 - PRODUCTS

2.1 REQUIREMENTS

- A. Products shall be provided in full compliance with license requirements.
- B. Products shall be provided on permanent media such as a CD-ROM. CD-ROM shall be professionally labeled.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. The TMSC shall review all needed Data requirements with the IT staff immediately after Contract award.
- B. The TMSC shall acquire all necessary IT assistance such as IP addresses, LAN connections, and firewall ports, etc. at Contract award.
- C. Products shall be installed and configured on all devices necessary under this Contract even where coordination is required. Coordinate access and operating system with designated IT staff.

- D. Where PC applications must auto-start to operate the equipment properly, install in Operating system Start-Up group and/or configure for automatic start-up. Ensure that all users likely to log onto the PC have this feature functioning.
- E. Products shall be fully tested in coordination with staff.

END OF SECTION – SOFTWARE

SECTION 27 41 16 – INTEGRATED AUDIO-VIDEO SYSTEMS AND EQUIPMENT

SECTION 274116 - INTEGRATED AUDIO-VIDEO SYSTEMS AND EQUIPMENT

PART 1 - GENERAL

1.1 ALL SYSTEMS

- A. Provide and install all cables, wire harnesses, and pigtails as required for complete system audio, video, and control systems as described herein, even where future equipment is not purchased or provided. Provide cable runs terminated where possible that are required to or from equipment connected from rack, distribution point, and switcher and/or connector plates in order to provide for a quick installation of mobile, temporary, or rented equipment at any point in designed systems, even though one end of run may not be terminated.

1.2 ROUGH-IN

- A. Where equipment is indicated as future or identified as an option, all cables indicated for such device(s) shall be installed in a rough-in condition when listed in the Equipment Schedule (Schedule B). When listed in the equipment schedule cables shall be installed for equipment even if the option for the equipment portion is not awarded. Indicate rough-in cables on the Project Record Drawings. Terminate equipment where equipment is provided by others. Provide and install connection plates where rough-in cables terminate on plates even where equipment is not being provided. Provide control for all future equipment in the control panel pages and in control system.

1.3 CUTTING AND PATCHING

- A. The TMSC shall be responsible for cutting and patching where it has not been provided by others. Where Work trade site restrictions exist, the TMSC shall notify the Court's Representative in writing within Ten (10) days of the initial site inspection of Work trade limitations observed. Where Non-Work trade conflicts exist and/or where the TMSC has not notified the Court's Representative within the Ten (10) day period, the TMSC shall not be additionally compensated for any cutting and patching required to complete the Work and the cutting and patching shall become part of the scope of the contract.

PART 2 - PRODUCTS

2.1 EQUIPMENT LIST

- A. See Schedule A – Equipment List/Information & Schedule B – B-1 / Bid Form.

2.2 MISCELLANEOUS SUPPORTS

- A. The TMSC shall provide shims, brackets, hook-and-loop fasteners, and other supports as required for a stable and neat installation.

- B. The TMSC shall provide only hook-and-loop fasteners under all furniture and millwork areas where cable is attached to a movable device (i.e. microphones, touch panels, etc.). The hook-and-loop fasteners shall be mounted unobtrusively at one end of the fastener strip below the millwork or furniture and it is to allow for user adjustment of cable length without use of tools. Double-stick tape shall not be used anywhere in the project.
- C. Provide bolts for all wall and ceiling mounted equipment in excess of 11.3 kg (25 lbs.) to four (4) times dead weight or shear force, whichever is greater. Additionally, all ceiling mounted equipment in excess of 4.5 kg (10 lbs.) shall be provided with safety chain or cable to withstand five (5) times total equipment weight.

PART 3 - EXECUTION

3.1 AUDIO SYSTEMS

- A. Additional work for the audio system shall be primarily to add the capability to hear audio associated with new “video” evidence sources as indicated on the video plans.
- B. Only one (1) input from presentation/evidence presentation audio sources shall be heard or otherwise routed at a time. There is no mixing of evidence sources with the exception of possible remote evidence to the project courtroom via non-H.239 compliant video conference connectively. In these cases, it may be necessary to present evidence with audio within the project courtroom while connected to a non-H.239 call. In this case, the remote evidence (i.e. “content”) cannot be separately muted as it will also disrupt any remote end person who may need to speak while the project courtroom evidence is being presented.
- C. No presentation/evidence presentation audio sources shall be heard or otherwise routed through the audio system unless all three (3) evidence video display zones are published. The witness display zone (E2) as well as the jury/gallery display zone (E3) must *both* be selected to display the video evidence source before audio from that source is passed.
- D. Add jury speakers in the Akron courtroom jury box under this contract. Tap from mix that feeds speakers over jury seats and add 70V speakers as listed. Provide all wire and install speakers at locations directed by the Court’s Representative.

3.2 VIDEO EVIDENCE AND VIDEO CONFERENCE SYSTEMS

- A. Configure and program video signal flow within each room defined for the following functions to comply with the overall design intent.
 - 1. Routing of video signals shall be at native resolutions of primary room display units.
 - a. Primary displays shall be such as: Bench monitors, Witness monitor, Attorney table monitors, and Jury displays.
 - b. A stand-alone graphics generator/still store appliance shall be provided in the system. See section 3.3 Control Systems C.4. The unit will be used for:
 - 1) One (1) graphic image such as a Court Seal. The graphic shall be provided by the Court.. The same graphic is to be used in all project courtrooms.
 - 2) A stable black image
 - 3) A “Bench Conference is Active” graphic.

- c. Video signals shall be routed through the router to zones as defined on floor plans shown adjacent to each display icon. Evidence Zone one (E1) shall not switch to hide any evidence video publishing status and setting never affect evidence zone E1. All other evidence zones (E2 and E3) shall be separately and individually switchable from the designated control locations and shall switch to black or to the logo/graphics generator as provided.
 - d. Evidence sources shall be listed on the left side of the control panels. Note that the far-end codec "content" channel via H.239 protocol shall be provided as a separate evidence source and routed no different from other in-room evidence sources. One exception to this is that the gallery monitors shall be individually switchable to show evidence (regardless of the source location OR the far end "people" channel (cameras). The gallery monitors shall otherwise be used for general gallery Zone E3 viewing.
 - e. The video conference display mode described above shall be switchable in the control system at the system configuration level.
2. Provide other automatic video muting control mode selection as defined in 3.03 Control Systems.

3.3 CONTROL SYSTEMS

- A. Configure the control system in the courtroom for the following functions to comply with the overall design intent.
 1. Provide and install integrated control system engine to control both audio video systems. Tie into existing audio control system. Remove previous video control system if dedicated for video control. Provide integrated control system capable of RS232, infrared and contact closure control.
 2. The TMSC shall provide and install all network control cables, jacks, data switches, hubs, and termination equipment needed for a control network. The Owner or Tenant shall not provide services or devices to support the control network.
 3. The TMSC shall provide all programming of control panel layouts. Programming shall include use of graphics and icons for ease of use by Owner. Control panels shall be submitted and revised for exact Courtroom conditions.
 4. Each control station shall be programmed using logic driven customized code so that each panel works independently from the others and does not echo screen switches of the other(s) in use. Button functions shall track on multiple panels to always indicate the true status.
 5. Provide control system programming on all PC's designated by the Court for a PC based control interface where specified. Install and test software and hardware interface as required. The PCs shall not be removed from the site.
 6. Where PC based control interface is provided, configure Windows Start-up group to automatically load the control screen. Configure for each common user of the courtroom (as logged in under the individual's names) to ensure that the page will start under different user configurations.
 7. Where control screens are provided for PCs, the screens shall be revised to say "Click" instead of "touch" or "press" where mouse control is used.

8. Where control screens are provided for PCs, the control window shall not require scrolling to access control buttons, even if user's screen is set to low resolution.
9. Provide power up sequencing as defined. Provide separate power-up sequences for audio only and audio/video use separately. All power up functions listed below and timing sequences are approximate and shall be verified and reprogrammed as required for shortest timing possible. This will occur during project engineering and programming stages, based upon actual equipment used and according to Court preferences. Confirm that audio system is functioning as described below. Correct programming in power on and power off sequences if needed to comply with the requirements.
 - a. When the System Shutdown (Power Off) button is engaged:
 - 1) Control panels shall lock and indicate that a shutdown sequence is in progress.
 - 2) The current audio matrix level and mute settings shall be retained and a "blank" matrix shall be called to prevent audio system popping and equipment damage.
 - 3) Power relay 1 shall turn off after 5 seconds.
 - 4) Power relay 2 (switchable video equipment) shall turn off after 8 seconds.
 - 5) All microphone phantom power shall be turned off in order to extinguish the power lights on the microphones.
 - 6) After the system is fully shut down, the control panels should return to the home page and become operational.
 - b. When the Audio System Power On sequence is selected:
 - 1) All control panel functions shall become instantly inoperable.
 - 2) Power relay 1 shall turn on immediately.
 - 3) After the system has stabilized, the control system shall call the normal room configuration audio matrix preset routing all nominal inputs and outputs. Some requirements are set forth in the Reset Defaults Page.
 - 4) The matrix settings shall retain the last used level settings and mute conditions and restore those to system. Note that these *may not* be the same settings to be called when the Master Reset is called.
 - 5) All microphone phantom power shall be turned on.
 - 6) After the system is fully operational and stable, the control panels should return to the main audio control page and select the first control tab on each sub-menu, then become operational.
 - c. When the Audio/Video System Power On sequence is selected:
 - 1) All additional control panel functions shall become instantly inoperable.
 - 2) Power relay 1 shall turn on immediately.
 - 3) Power relay 2 shall turn on after 5 seconds.
 - 4) After the system has stabilized, the control system shall call the normal room configuration audio matrix preset routing all nominal inputs and outputs. Some requirements are set forth in the Reset Defaults Page.
 - 5) The matrix settings shall retain the last used level settings and mute conditions and restore those to system. Note that these *may not* be the same settings to be called when the Master Reset is called.
 - 6) All microphone phantom power shall be turned on.
 - 7) Activate all monitors and publish selected Courtroom Court Seal graphic to all zones or as defined in Reset Default Page.

10. Only after the system is fully operational and stable, the control panels should return to the main audio control page and select the first control tab on each sub-menu, then become operational.
11. Provide method to add video system power-on sequence when system has been initially started in audio-only mode. Two features shall be provided:
 - a. The user shall at any time be able to return to the power on/off screen and add the power startup to video without having to reset or turnoff the audio system already in use. The power-on sequence shall be defined by the settings in the Master Reset Defaults at the time of start-up.
 - b. When any video evidence source is selected for publishing to evidence zone 1 or higher, the selection shall power-on the entire video system, even if off, within the confines of the definitions set in the Master Reset Defaults settings at the time.
12. Provide method to add video system power-on sequence when system has been initially started in audio-only mode. Two features shall be provided:
 - a. The user shall at any time be able to return to the power on/off screen and add the power startup to video without having to reset or turnoff the audio system already in use. The power-on sequence shall be defined by the settings in the Master Reset Defaults at the time of start-up.
 - b. When any video evidence source is selected for publishing to evidence zone 1 or higher, the selection shall power-on the entire video system, even if off, within the confines of the definitions set in the Master Reset Defaults settings at the time.
13. Provide Master Reset function in code so that users can (at any time) reset the system to the last calibrated state as intended by the TMSC such that:
 - a. This reset state shall NOT be automatically initiated at each power-up sequence unless allowed per the setting in the Reset Defaults Control Page.
 - b. Each and every controlled device shall have action or actions that are called under this function.
 - c. The reset will stabilize and restart the DSP(s) fully, even if starting from a long-term (fully cold) power outage.
 - d. Poll only the state of active inputs and outputs.
 - e. Programming shall be provided as required for the shortest timing possible.
14. The following sequence actions shall commence when the Master Reset sequence is selected in the order listed:
 - a. Control panel input shall be locked until the reset sequence is 100 percent complete and the system is stable.
 - b. An animated bar graph or countdown timer showing the reset progress shall be displayed on the control screens. The bar graph or countdown timer shall remain displayed until after the system is 100 percent stable and functional.
 - c. All microphones shall be muted and phantom power switched off where employed.
 - d. The control system shall call a "blank" preset in the audio matrix in order to disconnect all inputs from routing to any output.
 - e. Audio conference hybrid shall be placed on-hook.
 - f. The bench conference mode shall be turned off.
 - g. All mixers shall be reset to the original stored, calibrated, and approved settings for all mixer functions except those affected by the Reset Defaults Control Page preferences where those preset preferences shall be established.

- h. Out of room function shall be turned off.
 - i. The transcription playback input shall be muted.
 - j. Videoconference system where under control in the project courtroom, shall be placed on-hook.
 - k. Zoom all cameras to maximum wide angle or call preset number one for all cameras where audio-follow presets have been provided.
 - l. Presentation cart items shall be set to "on", regardless of the original power state.
 - m. Evidence camera shall be powered on, the resolution selected to the maximum stable resolution of the courtroom, base lamp turned off, and upper lamps turned on.
 - n. Provide programming so that 16:9 ratio display is set on all 16:9 displays.
 - o. All switches feeding evidence monitors in all zones shall be selected to have the District Court seal displayed via the graphics player.
 - p. The annotation system shall be soft reset.
 - q. All microphones shall be un-muted, with the exception of the side bar microphone, lavalier(s), and all wireless microphones, which shall be muted.
 - r. Other settings shall be configured according to the Reset Defaults Page.
 - s. The control system shall call the normal room configuration audio matrix preset routing all nominal inputs and outputs.
 - t. Control panels shall return to home page.
 - u. Control panels shall unlock and become usable.
15. Provide Reset Defaults Control Page. The page shall be placed under the help tab on the main control panels.
- a. The controls on this page shall be set and they shall define some parameters of the Master Reset. Master Reset shall not affect the settings chosen on these pages.
 - b. Option for each selection is shown in *italics*.
 - c. The following options shall be set on each of the Reset Defaults Control Page:
 - 1) The power-on sequence should / *should not* reset the system to predefined defaults and volume levels.
 - 2) Out of Room audio / video resets to be on / *off*.
 - 3) Out of Room, when off, should / *should not* include audio to the audio conference system.
 - 4) Out of Room, when off, should / *should not* include audio to the video conference system.
 - 5) Auto-Publish starts up on / *off*.
 - 6) When using the video system, activation of a Bench Conference will / *will not* switch the video evidence monitors away from the evidence.
 - 7) When the evidence video is not to be shown during a sidebar, the evidence monitors shall display black / "*Bench Conference is Active*" graphic on all evidence monitors
 - 8) When the video system is turned on, the gallery monitors default with power on / *off*.
 - 9) Witness and Jury displays show black / *court graphic* when zone is not published.
16. Provide automatic system shutdown feature. System shall commence the shutdown feature each night of the week at 10:00 pm local time. The system shall automatically adjust for daylight savings time twice yearly.
- B. Acceptance of the Control System(s) shall be based on two criteria:
- 1. Substantial Completion: Providing inspections of control systems DO NOT necessarily de

2. fine the system as Substantially Complete. Inspection Reports provided by the Court's Representative or Consultant are provided to establish the functionality of the system at the time of inspection. Accordingly, a list of items provided on any inspection cannot be considered final and all-inclusive as subsequent inspections of the system prior to acceptance may uncover new problems that previously did not exist or have changed in nature. Programming revisions by the TMSC required to meet Substantial Completion shall be provided in any quantity needed until the Systems reach Substantial Completion. Multiple inspections may also be required, by either the Court's Representative or Consultant, to determine if the Control Systems' functions meet the Substantial Completion's required functionality.
3. Meeting Final Acceptance: Programming revisions required by the TMSC shall continue until they reach Final Acceptance. The TMSC shall provide additional iterations for the Final Acceptance items of programming for individual processors and each control panel device in a given room as needed to reach Final Acceptance. Programming revisions cannot be expected to occur prior to the 1st site inspection and until after the TMSC has brought the control system on-line in the project room thereby making the system testable. In addition, the Final Acceptance programming revisions cannot be expected to occur until the Control System is Substantially Complete. These revisions shall be provided prior to project close-out at no additional cost to the government up to the maximum number of iterations indicated

END OF SECTION – INTEGRATED AUDIO-VIDEO SYSTEMS AND EQUIPMENT

SECTION 27 41 19 – PORTABLE AUDIO-VIDEO EQUIPMENT

SECTION 274119 - PORTABLE AUDIO-VIDEO EQUIPMENT

PART 1 - GENERAL

1.1 COORDINATION

- A. Where equipment is not physically installed or is shared between installation points, the equipment shall be known as portable.

PART 2 - PRODUCTS

2.1 SECURITY

- A. Portable products shall not be left in unsecured locations until after project acceptance.

PART 3 - EXECUTION

3.1 INVENTORY

- A. Portable Equipment shall be inventoried and turned over to the Tenant. The Tenant shall sign a receipt that the materials have been turned over in working order. After receipt of the signed acknowledgement, the portable equipment shall be the responsibility of the Tenant.

END OF SECTION – PORTABLE AUDIO-VIDEO EQUIPMENT

SCHEDULE A – EQUIPMENT LIST/INFORMATION

PLEASE SEE ATTACHED

The equipment listed on this page is for the BASE BID

RECOMMENDED BRANDS AND MODELS WITH APPROXIMATE QUANTITIES

CLIN	Item	Make/Model or Equivalent	Qty
1000	EQUIPMENT/MATERIAL		
BASE BID			
Video Systems			
Akron CR530			
Courtroom Video Argument Presentation Systems Functional Requirements * Refer to drawing TA602			
1001	Amplifier, 1 DGKat and 1 HDMI x 4 DGKat distribution	Kramer Electronics Ltd. VM-114H4C	1
1002	Amplifier, 1 DGKat and 1 HDMI x 4 HDMI Distribution	Kramer Electronics Ltd. VM-114H	4
1003	Amplifier, 1000W 70V rack mount audio power	Behringer (Music Group) AX6220Z	1
1004	Camera, 1080p HDMI PTZ video conferencing	LifeSize Communications Camera 10x	2
1005	Camera, 1-CCD Hi-Res evidence	WolfVision, Inc. VZ-8 Plus (4)	1
1006	Camera, Small format portable HDMI evidence	AVerMedia VISIONF33-BLK	1
1007	Card, Modular HDMI Input	Kramer Electronics Ltd. HIN2 F16	3
1008	Card, Modular HDMI Output	Kramer Electronics Ltd. HOut2 F16	2
1009	Card, Modular TP Input	Kramer Electronics Ltd. DGKAT IN2 F16	4
1010	Card, Modular TP Output	Kramer Electronics Ltd. DGKAT Out2 F16	7
1011	Codec, Express 220	LifeSize Communications Codec, Only Express 220 1000-0000-0313	1
1012	Display, 55" 1920x1080 RS-232 controlled LED flat panel	Samsung ED55D	2
1013	Extractor, HDMI signal audio	Kramer Electronics Ltd. FC-46xl	1
1014	Frame, 16x16 slot modular router	Kramer Electronics Ltd. VS1616D	1
1015	Labels, Set of annotation monitor function	Custom Custom	3
1016	Loudspeaker, 70V Miniature black line array	Innovox Audio, LLC MLA-8-BL-70V	9
1017	Monitor, 21.5" 16:9 VESA compliant LED	Hewlett-Packard Z Display Z22i	15
1018	Monitor, Black 21.5" 1920x1080 16:9 USB touchscreen	Hewlett-Packard L2206tm	3
1019	Mount, Dual black swing arm universal large flat panel wall	Chief Manufacturing Inc. PDRUB	1

The equipment listed on this page is for the BASE BID

RECOMMENDED BRANDS AND MODELS WITH APPROXIMATE QUANTITIES

CLIN	Item	Make/Model or Equivalent	Qty
1020	Player, HD real-time media	BrightSign BrightSign HD1020	1
1021	Processor, Annotation graphics overlay	Extron Electronics Annotator Standard 60-968-01	1
1022	Receiver, TP to HDMI	Kramer Electronics Ltd. PT-572+	7
1023	Receiver, TP to HDMI and bi-directional RS-232	Kramer Electronics Ltd. TP-574	2
1024	Receiver, TP with control and audio to HDMI	Extron Electronics DTP HDMI 330 Rx 60-1331-13	2
1025	Scaler, HDMI to HDMI compatibility	Extron Electronics DSC HD-HD (60-1489-01)	1
1026	Stand, 100x100 low profile VESA monitor table	Ergomart EGT SL102-100	10
1027	Streamer, HD dual channel CV/HDMI network capture and	Crestron Electronics CAPTURE-HD	1
1028	Switcher, 8-Input presentation scaler and	Kramer Electronics Ltd. VP-770	1
1029	Transmitter, HDMI to TP	Kramer Electronics Ltd. PT-571	4
1030	Transmitter, HDMI with control and audio to TP	Extron Electronics DTP HDMI 330 Tx 60-1331-12	2

Courtroom AV Argument Presentation System Control & Power Functional Requirements * Refer to drawing TA603

1031	Application, Ipad control full product	Crestron Electronics CRESTRON-APP-PAD	1
1032	Cage, Inboard expansion card	Crestron Electronics CAGE3	1
1033	Card, 3 Port 3-Series RS-232/422;485 expansion slot	Crestron Electronics C3COM-3	1
1034	Casters, Set of 4	Middle Atlantic Products CBS-ERK-25	1
1035	Engine, Blank front panel 6 Com port control	Crestron Electronics AV3	1
1036	PDU, Power receptacle panel rack mount	Middle Atlantic Products PD-915R	1
1037	Programming, Control systems	Crestron Electronics N/A	1
1038	Rack, 40RU (70") steel 25" deep equipment	Middle Atlantic Products ERK-4025	1
1039	Rails, 40 space rear rack	Middle Atlantic Products ERK-RR40	1
1040	Receiver, TP to USBx4	Extron Electronics USB Extender Plus R (60-1471-13)	3

The equipment listed on this page is for the BASE BID

RECOMMENDED BRANDS AND MODELS WITH APPROXIMATE QUANTITIES

CLIN	Item	Make/Model or Equivalent	Qty
1041	Relay, 120V/15A remote turn on power	Furman Sound, Inc. MP-20Q	1
1042	Revisions, Number of control system and control panel programming	Custom Labor	3
1043	Strip, 24 outlet single 15 Amp circuit slim power	Middle Atlantic Products PD-2415SC-NS	2
1044	Switch, 24 port managed rack mount non POE data	Hewlett-Packard HP - 2920-24G J9726A	1
1045	Transmitter, USB to TP	Extron Electronics USB Extender Plus T (60-1471-12)	3
Plate #2 * Refer to drawing TA702			
1046	Plate - See Drawings for Details	Custom N/A	1
Plate #4 * Refer to drawing TA704			
1047	Plate - See Drawings for Details	Custom N/A	1
Plate #6 * Refer to drawing TA706			
1048	Plate - See Drawings for Details	Custom N/A	1
Plate #8 * Refer to drawing TA708			
1049	Plate - See Drawings for Details	Custom N/A	1
Plate #10 * Refer to drawing TA710			
1050	Box, 2-Gang black surface mount wall back	Extron Electronics EWB 102 (60-1162-02)	1
1051	Plate - See Drawings for Details	Custom N/A	1
Plate #26 * Refer to drawing TA726			
1052	Plate - See Drawings for Details	Custom N/A	1
Plate #28 * Refer to drawing TA728			
1053	Plate - See Drawings for Details	Custom N/A	1
Plate #44 * Refer to drawing TA744			
1054	Plate - See Drawings for Details	Custom N/A	1
Plate #48 * Refer to drawing TA748			
1055	Plate - See Drawings for Details	Custom N/A	1
Plate #54 * Refer to drawing TA754			
1056	Plate - See Drawings for Details	Custom N/A	1

The equipment listed on this page is for the BASE BID

RECOMMENDED BRANDS AND MODELS WITH APPROXIMATE QUANTITIES

CLIN	Item	Make/Model or Equivalent	Qty
Plate #82 * Refer to drawing TA782			
1057	Plate - See Drawings for Details	Custom N/A	1
Plate #92 * Refer to drawing TA792			
1058	Plate - See Drawings for Details	Custom N/A	1
Cleveland CR15B			
Courtroom Video Argument Presentation Systems Functional Requirements * Refer to drawing TA602			
1059	Amplifier, 1 DGKat and 1 HDMI x 4 DGKat distribution	Kramer Electronics Ltd. VM-114H4C	1
1060	Amplifier, 1 DGKat and 1 HDMI x 4 HDMI Distribution	Kramer Electronics Ltd. VM-114H	7
1061	Bracket, Samsung VESA mounting adapter	Chief Manufacturing Inc. PSB2306	1
1062	Camera, 1080p HDMI PTZ video conferencing	LifeSize Communications Camera 10x	2
1063	Camera, 1-CCD Hi-Res evidence	WolfVision, Inc. VZ-8 Plus (4)	1
1064	Card, Modular HDMI Input	Kramer Electronics Ltd. HIN2 F16	3
1065	Card, Modular HDMI Output	Kramer Electronics Ltd. HOut2 F16	2
1066	Card, Modular TP Input	Kramer Electronics Ltd. DGKAT IN2 F16	4
1067	Card, Modular TP Output	Kramer Electronics Ltd. DGKAT Out2 F16	7
1068	Cart, Large flat panel tube-style display	Chief Manufacturing Inc. PPC2000	1
1069	Display, 55" 1920x1080 RS-232 controlled LED flat panel	Samsung ED55D	1
1070	Extractor, HDMI signal audio	Kramer Electronics Ltd. FC-46xl	1
1071	Frame, 16x16 slot modular router	Kramer Electronics Ltd. VS1616D	1
1072	Labels, Set of annotation monitor function	Custom Custom	3
1073	Monitor, 21.5" 16:9 VESA compliant LED	Hewlett-Packard Z Display Z22i	16
1074	Monitor, Black 21.5" 1920x1080 16:9 USB touchscreen	Hewlett-Packard L2206tm	3
1075	Player, HD real-time media	BrightSign BrightSign HD1020	1
1076	Processor, Annotation graphics overlay	Extron Electronics Annotator Standard 60-968-01	1

The equipment listed on this page is for the BASE BID

RECOMMENDED BRANDS AND MODELS WITH APPROXIMATE QUANTITIES

CLIN	Item	Make/Model or Equivalent	Qty
1077	Receiver, TP to HDMI	Kramer Electronics Ltd. PT-572+	7
1078	Receiver, TP to HDMI and bi-directional RS-232	Kramer Electronics Ltd. TP-574	1
1079	Receiver, TP with control and audio to HDMI	Extron Electronics DTP HDMI 330 Rx 60-1331-13	2
1080	Scaler, CV & Stereo audio to HDMI	Kramer Electronics Ltd. VP-410	1
1081	Scaler, HDMI to HDMI compatibility	Extron Electronics DSC HD-HD (60-1489-01)	1
1082	Stand, 100x100 low profile VESA monitor table	Ergomart EGT SL102-100	9
1083	Streamer, HD dual channel CV/HDMI network capture and	Crestron Electronics CAPTURE-HD	1
1084	Switcher, 8-Input presentation scaler and	Kramer Electronics Ltd. VP-770	1
1085	Switcher, RS232 6x1:3 CV and stereo unbalanced audio	Kramer Electronics Ltd. VS-601xlm	1
1086	Transmitter, HDMI to TP	Kramer Electronics Ltd. PT-571	7
1087	Transmitter, HDMI with control and audio to TP	Extron Electronics DTP HDMI 330 Tx 60-1331-12	2

Courtroom AV Argument Presentation System Control & Power Functional Requirements * Refer to drawing TA603

1088	Application, Ipad control full product	Crestron Electronics CRESTRON-APP-PAD	1
1089	Base, 26" D slim caster	Middle Atlantic Products CBS-5-26	1
1090	Cage, Inboard expansion card	Crestron Electronics CAGE3	1
1091	Card, 3 Port 3-Series RS-232/422;485 expansion slot	Crestron Electronics C3COM-3	1
1092	Engine, Blank front panel 6 Com port control	Crestron Electronics AV3	1
1093	PDU, Power receptacle panel rack mount	Middle Atlantic Products PD-915R	1
1094	Programming, Control systems	Crestron Electronics N/A	1
1095	Rack, 37RU Open frame 64.75"x26" vertical	Middle Atlantic Products 5-37-26	1
1096	Receiver, TP to USBx4	Extron Electronics USB Extender Plus R (60-1471-13)	3
1097	Relay, 120V/15A remote turn on power	Furman Sound, Inc. MP-20Q	1

The equipment listed on this page is for the BASE BID

RECOMMENDED BRANDS AND MODELS WITH APPROXIMATE QUANTITIES

CLIN	Item	Make/Model or Equivalent	Qty
1098	Revisions, Number of control system and control panel programming	Custom Labor	3
1099	Strip, 24 outlet single 15 Amp circuit slim power	Middle Atlantic Products PD-2415SC-NS	2
1100	Switch, 24 port managed rack mount non POE data	Hewlett-Packard HP - 2920-24G J9726A	1
1101	Transmitter, USB to TP	Extron Electronics USB Extender Plus T (60-1471-12)	3

Plate #2 * Refer to drawing TA702

1102	Plate - See Drawings for Details	Custom N/A	1
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Plate #4 * Refer to drawing TA704

1103	Plate - See Drawings for Details	Custom N/A	1
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Plate #6 * Refer to drawing TA706

1104	Plate - See Drawings for Details	Custom N/A	1
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Plate #8 * Refer to drawing TA708

1105	Plate - See Drawings for Details	Custom N/A	1
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Plate #52 * Refer to drawing TA752

1106	Plate - See Drawings for Details	Custom N/A	1
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Plate #56 - Rack mount codec connection * Refer to drawing TA756

1107	Plate - See Drawings for Details	Custom N/A	1
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Plate #82 * Refer to drawing TA782

1108	Plate - See Drawings for Details	Custom N/A	2
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Plate #92 * Refer to drawing TA792

1109	Plate - See Drawings for Details	Custom N/A	2
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Cleveland CR18B

Courtroom Video Argument Presentation Systems Functional Requirements * Refer to drawing TA602

1110	Amplifier, 1 DGKat and 1 HDMI x 4 DGKat distribution	Kramer Electronics Ltd. VM-114H4C	1
1111	Amplifier, 1 DGKat and 1 HDMI x 4 HDMI Distribution	Kramer Electronics Ltd. VM-114H	7
1112	Bracket, Samsung VESA mounting adapter	Chief Manufacturing Inc. PSB2306	1
1113	Camera, 1080p HDMI PTZ video conferencing	LifeSize Communications Camera 10x	2
1114	Camera, 1-CCD Hi-Res evidence	WolfVision, Inc. VZ-8 Plus (4)	1

The equipment listed on this page is for the BASE BID

RECOMMENDED BRANDS AND MODELS WITH APPROXIMATE QUANTITIES

CLIN	Item	Make/Model or Equivalent	Qty
1115	Card, Modular HDMI Input	Kramer Electronics Ltd. HIN2 F16	3
1116	Card, Modular HDMI Output	Kramer Electronics Ltd. HOut2 F16	2
1117	Card, Modular TP Input	Kramer Electronics Ltd. DGKAT IN2 F16	4
1118	Card, Modular TP Output	Kramer Electronics Ltd. DGKAT Out2 F16	7
1119	Cart, Large flat panel tube-style display	Chief Manufacturing Inc. PPC2000	1
1120	Display, 55" 1920x1080 RS-232 controlled LED flat panel	Samsung ED55D	1
1121	Extractor, HDMI signal audio	Kramer Electronics Ltd. FC-46xl	1
1122	Frame, 16x16 slot modular router	Kramer Electronics Ltd. VS1616D	1
1123	Labels, Set of annotation monitor function	Custom Custom	3
1124	Monitor, 21.5" 16:9 VESA compliant LED	Hewlett-Packard Z Display Z22i	16
1125	Monitor, Black 21.5" 1920x1080 16:9 USB touchscreen	Hewlett-Packard L2206tm	3
1126	Player, HD real-time media	BrightSign BrightSign HD1020	1
1127	Processor, Annotation graphics overlay	Extron Electronics Annotator Standard 60-968-01	1
1128	Receiver, TP to HDMI	Kramer Electronics Ltd. PT-572+	7
1129	Receiver, TP to HDMI and bi-directional RS-232	Kramer Electronics Ltd. TP-574	1
1130	Receiver, TP with control and audio to HDMI	Extron Electronics DTP HDMI 330 Rx 60-1331-13	2
1131	Scaler, CV & Stereo audio to HDMI	Kramer Electronics Ltd. VP-410	1
1132	Scaler, HDMI to HDMI compatibility	Extron Electronics DSC HD-HD (60-1489-01)	1
1133	Stand, 100x100 low profile VESA monitor table	Ergomart EGT SL102-100	9
1134	Streamer, HD dual channel CV/HDMI network capture and	Crestron Electronics CAPTURE-HD	1
1135	Switcher, 8-Input presentation scaler and	Kramer Electronics Ltd. VP-770	1
1136	Switcher, RS232 6x1:3 CV and stereo unbalanced audio	Kramer Electronics Ltd. VS-601xlm	1

The equipment listed on this page is for the BASE BID

RECOMMENDED BRANDS AND MODELS WITH APPROXIMATE QUANTITIES

CLIN	Item	Make/Model or Equivalent	Qty
1137	Transmitter, HDMI to TP	Kramer Electronics Ltd. PT-571	7
1138	Transmitter, HDMI with control and audio to TP	Extron Electronics DTP HDMI 330 Tx 60-1331-12	2

Courtroom AV Argument Presentation System Control & Power Functional Requirements * Refer to drawing TA603

1139	Application, Ipad control full product	Crestron Electronics CRESTRON-APP-PAD	1
1140	Base, 26" D slim caster	Middle Atlantic Products CBS-5-26	1
1141	Cage, Inboard expansion card	Crestron Electronics CAGE3	1
1142	Card, 3 Port 3-Series RS-232/422;485 expansion slot	Crestron Electronics C3COM-3	1
1143	Engine, Blank front panel 6 Com port control	Crestron Electronics AV3	1
1144	PDU, Power receptacle panel rack mount	Middle Atlantic Products PD-915R	1
1145	Programming, Control systems	Crestron Electronics N/A	1
1146	Rack, 37RU Open frame 64.75"x26" vertical	Middle Atlantic Products 5-37-26	1
1147	Receiver, TP to USBx4	Extron Electronics USB Extender Plus R (60-1471-13)	3
1148	Relay, 120V/15A remote turn on power	Furman Sound, Inc. MP-20Q	1
1149	Revisions, Number of control system and control panel programming	Custom Labor	3
1150	Strip, 24 outlet single 15 Amp circuit slim power	Middle Atlantic Products PD-2415SC-NS	2
1151	Switch, 24 port managed rack mount non POE data	Hewlett-Packard HP - 2920-24G J9726A	1
1152	Transmitter, USB to TP	Extron Electronics USB Extender Plus T (60-1471-12)	3

Plate #2 * Refer to drawing TA702

1153	Plate - See Drawings for Details	Custom N/A	1
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Plate #4 * Refer to drawing TA704

1154	Plate - See Drawings for Details	Custom N/A	1
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Plate #6 * Refer to drawing TA706

1155	Plate - See Drawings for Details	Custom N/A	1
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The equipment listed on this page is for the BASE BID

RECOMMENDED BRANDS AND MODELS WITH APPROXIMATE QUANTITIES

CLIN	Item	Make/Model or Equivalent	Qty
Plate #8 * Refer to drawing TA708			
1156	Plate - See Drawings for Details	Custom N/A	1
Plate #52 * Refer to drawing TA752			
1157	Plate - See Drawings for Details	Custom N/A	1
Plate #56 - Rack mount codec connection * Refer to drawing TA756			
1158	Plate - See Drawings for Details	Custom N/A	1
Plate #82 * Refer to drawing TA782			
1159	Plate - See Drawings for Details	Custom N/A	2
Plate #92 * Refer to drawing TA792			
1160	Plate - See Drawings for Details	Custom N/A	2
Cleveland CR19A			
Courtroom Video Argument Presentation Systems Functional Requirements * Refer to drawing TA602			
1161	Amplifier, 1 DGKat and 1 HDMI x 4 DGKat distribution	Kramer Electronics Ltd. VM-114H4C	1
1162	Amplifier, 1 DGKat and 1 HDMI x 4 HDMI Distribution	Kramer Electronics Ltd. VM-114H	7
1163	Bracket, Samsung VESA mounting adapter	Chief Manufacturing Inc. PSB2306	1
1164	Camera, 1080p HDMI PTZ video conferencing	LifeSize Communications Camera 10x	2
1165	Camera, 1-CCD Hi-Res evidence	WolfVision, Inc. VZ-8 Plus (4)	1
1166	Camera, Small format portable HDMI evidence	AVerMedia VISIONF33-BLK	1
1167	Card, Modular HDMI Input	Kramer Electronics Ltd. HIN2 F16	3
1168	Card, Modular HDMI Output	Kramer Electronics Ltd. HOut2 F16	2
1169	Card, Modular TP Input	Kramer Electronics Ltd. DGKAT IN2 F16	4
1170	Card, Modular TP Output	Kramer Electronics Ltd. DGKAT Out2 F16	7
1171	Cart, Large flat panel tube-style display	Chief Manufacturing Inc. PPC2000	1
1172	Codec, Express 220	LifeSize Communications Codec, Only Express 220 1000-0000-0313	1
1173	Display, 55" 1920x1080 RS-232 controlled LED flat panel	Samsung ED55D	1

The equipment listed on this page is for the BASE BID

RECOMMENDED BRANDS AND MODELS WITH APPROXIMATE QUANTITIES

CLIN	Item	Make/Model or Equivalent	Qty
1174	Extractor, HDMI signal audio	Kramer Electronics Ltd. FC-46xl	1
1175	Frame, 16x16 slot modular router	Kramer Electronics Ltd. VS1616D	1
1176	Labels, Set of annotation monitor function	Custom Custom	3
1177	Monitor, 21.5" 16:9 VESA compliant LED	Hewlett-Packard Z Display Z22i	20
1178	Monitor, Black 21.5" 1920x1080 16:9 USB touchscreen	Hewlett-Packard L2206tm	3
1179	Player, HD real-time media	BrightSign BrightSign HD1020	1
1180	Processor, Annotation graphics overlay	Extron Electronics Annotator Standard 60-968-01	1
1181	Receiver, TP to HDMI	Kramer Electronics Ltd. PT-572+	7
1182	Receiver, TP to HDMI and bi-directional RS-232	Kramer Electronics Ltd. TP-574	1
1183	Receiver, TP with control and audio to HDMI	Extron Electronics DTP HDMI 330 Rx 60-1331-13	2
1184	Scaler, CV & Stereo audio to HDMI	Kramer Electronics Ltd. VP-410	1
1185	Scaler, HDMI to HDMI compatibility	Extron Electronics DSC HD-HD (60-1489-01)	1
1186	Stand, 100x100 low profile VESA monitor table	Ergomart EGT SL102-100	11
1187	Streamer, HD dual channel CV/HDMI network capture and	Crestron Electronics CAPTURE-HD	1
1188	Switcher, 8-Input presentation scaler and	Kramer Electronics Ltd. VP-770	1
1189	Switcher, RS232 6x1:3 CV and stereo unbalanced audio	Kramer Electronics Ltd. VS-601xlm	1
1190	Transmitter, HDMI to TP	Kramer Electronics Ltd. PT-571	7
1191	Transmitter, HDMI with control and audio to TP	Extron Electronics DTP HDMI 330 Tx 60-1331-12	2

Courtroom AV Argument Presentation System Control & Power Functional Requirements * Refer to drawing TA603

1192	Application, Ipad control full product	Crestron Electronics CRESTRON-APP-PAD	1
1193	Base, 26" D slim caster	Middle Atlantic Products CBS-5-26	1
1194	Cage, Inboard expansion card	Crestron Electronics CAGE3	1

The equipment listed on this page is for the BASE BID

RECOMMENDED BRANDS AND MODELS WITH APPROXIMATE QUANTITIES

CLIN	Item	Make/Model or Equivalent	Qty
1195	Card, 3 Port 3-Series RS-232/422;485 expansion slot	Crestron Electronics C3COM-3	1
1196	Engine, Blank front panel 6 Com port control	Crestron Electronics AV3	1
1197	PDU, Power receptacle panel rack mount	Middle Atlantic Products PD-915R	1
1198	Programming, Control systems	Crestron Electronics N/A	1
1199	Rack, 37RU Open frame 64.75"x26" vertical	Middle Atlantic Products 5-37-26	1
1200	Receiver, TP to USBx4	Extron Electronics USB Extender Plus R (60-1471-13)	3
1201	Relay, 120V/15A remote turn on power	Furman Sound, Inc. MP-20Q	1
1202	Revisions, Number of control system and control panel programming	Custom Labor	3
1203	Strip, 24 outlet single 15 Amp circuit slim power	Middle Atlantic Products PD-2415SC-NS	2
1204	Switch, 24 port managed rack mount non POE data	Hewlett-Packard HP - 2920-24G J9726A	1
1205	Transmitter, USB to TP	Extron Electronics USB Extender Plus T (60-1471-12)	3
Plate #2 * Refer to drawing TA702			
1206	Plate - See Drawings for Details	Custom N/A	1
Plate #4 * Refer to drawing TA704			
1207	Plate - See Drawings for Details	Custom N/A	1
Plate #6 * Refer to drawing TA706			
1208	Plate - See Drawings for Details	Custom N/A	1
Plate #8 * Refer to drawing TA708			
1209	Plate - See Drawings for Details	Custom N/A	1
Plate #52 * Refer to drawing TA752			
1210	Plate - See Drawings for Details	Custom N/A	1
Plate #56 - Rack mount codec connection * Refer to drawing TA756			
1211	Plate - See Drawings for Details	Custom N/A	1
Plate #82 * Refer to drawing TA782			
1212	Plate - See Drawings for Details	Custom N/A	2

The equipment listed on this page is for the BASE BID

RECOMMENDED BRANDS AND MODELS WITH APPROXIMATE QUANTITIES

CLIN	Item	Make/Model or Equivalent	Qty
Plate #92 * Refer to drawing TA792			
1213	Plate - See Drawings for Details	Custom N/A	2
Toledo CR204			
Courtroom Video Argument Presentation Systems Functional Requirements * Refer to drawing TA602			
1214	Amplifier, 1 DGKat and 1 HDMI x 4 DGKat distribution	Kramer Electronics Ltd. VM-114H4C	1
1215	Amplifier, 1 DGKat and 1 HDMI x 4 HDMI Distribution	Kramer Electronics Ltd. VM-114H	4
1216	Bracket, Samsung VESA mounting adapter	Chief Manufacturing Inc. PSB2306	1
1217	Camera, 1080p HDMI PTZ video conferencing	LifeSize Communications Camera 10x	2
1218	Camera, 1-CCD Hi-Res evidence	WolfVision, Inc. VZ-8 Plus (4)	1
1219	Camera, Small format portable HDMI evidence	AVerMedia VISIONF33-BLK	1
1220	Card, Modular HDMI Input	Kramer Electronics Ltd. HIN2 F16	3
1221	Card, Modular HDMI Output	Kramer Electronics Ltd. HOut2 F16	2
1222	Card, Modular TP Input	Kramer Electronics Ltd. DGKAT IN2 F16	3
1223	Card, Modular TP Output	Kramer Electronics Ltd. DGKAT Out2 F16	5
1224	Codec, Express 220	LifeSize Communications Codec, Only Express 220 1000-0000-0313	1
1225	Display, 55" 1920x1080 RS-232 controlled LED flat panel	Samsung ED55D	2
1226	Extractor, HDMI signal audio	Kramer Electronics Ltd. FC-46xl	1
1227	Frame, 16x16 slot modular router	Kramer Electronics Ltd. VS1616D	1
1228	Labels, Set of annotation monitor function	Custom Custom	3
1229	Monitor, 21.5" 16:9 VESA compliant LED	Hewlett-Packard Z Display Z22i	6
1230	Monitor, 27.0" 16:9 VESA compliant LED	Hewlett-Packard Z Display Z27i	9
1231	Monitor, Black 21.5" 1920x1080 16:9 USB touchscreen	Hewlett-Packard L2206tm	3
1232	Mount, Dual black swing arm universal large flat panel wall	Chief Manufacturing Inc. PDRUB	1
1233	Player, HD real-time media	BrightSign BrightSign HD1020	1

The equipment listed on this page is for the BASE BID

RECOMMENDED BRANDS AND MODELS WITH APPROXIMATE QUANTITIES

CLIN	Item	Make/Model or Equivalent	Qty
1234	Processor, Annotation graphics overlay	Extron Electronics Annotator Standard 60-968-01	1
1235	Receiver, TP to HDMI	Kramer Electronics Ltd. PT-572+	6
1236	Receiver, TP to HDMI and bi-directional RS-232	Kramer Electronics Ltd. TP-574	2
1237	Receiver, TP with control and audio to HDMI	Extron Electronics DTP HDMI 330 Rx 60-1331-13	2
1238	Scaler, HDMI to HDMI compatibility	Extron Electronics DSC HD-HD (60-1489-01)	1
1239	Stand, 100x100 low profile VESA monitor table	Ergomart EGT SL102-100	9
1240	Streamer, HD dual channel CV/HDMI network capture and	Crestron Electronics CAPTURE-HD	1
1241	Switcher, 8-Input presentation scaler and	Kramer Electronics Ltd. VP-770	1
1242	Switcher, RS232 6x1:3 CV and stereo unbalanced audio	Kramer Electronics Ltd. VS-601xlm	1
1243	Transmitter, HDMI to TP	Kramer Electronics Ltd. PT-571	4
1244	Transmitter, HDMI with control and audio to TP	Extron Electronics DTP HDMI 330 Tx 60-1331-12	2

Courtroom AV Argument Presentation System Control & Power Functional Requirements * Refer to drawing TA603

1245	Application, Ipad control full product	Crestron Electronics CRESTRON-APP-PAD	1
1246	Cage, Inboard expansion card	Crestron Electronics CAGE3	1
1247	Card, 3 Port 3-Series RS-232/422;485 expansion slot	Crestron Electronics C3COM-3	1
1248	Engine, Blank front panel 6 Com port control	Crestron Electronics AV3	1
1249	Programming, Control systems	Crestron Electronics N/A	1
1250	Receiver, TP to USBx4	Extron Electronics USB Extender Plus R (60-1471-13)	3
1251	Relay, 120V/15A remote turn on power	Furman Sound, Inc. MP-20Q	1
1252	Revisions, Number of control system and control panel programming	Custom Labor	3
1253	Switch, 24 port managed rack mount non POE data	Hewlett-Packard HP - 2920-24G J9726A	1
1254	Transmitter, USB to TP	Extron Electronics USB Extender Plus T (60-1471-12)	3

The equipment listed on this page is for the BASE BID

RECOMMENDED BRANDS AND MODELS WITH APPROXIMATE QUANTITIES

CLIN	Item	Make/Model or Equivalent	Qty
Plate #2 * Refer to drawing TA702			
1255	Box, 2-Gang black surface mount wall back	Extron Electronics EWB 102 (60-1162-02)	1
1256	Plate - See Drawings for Details	Custom N/A	1
Plate #4 * Refer to drawing TA704			
1257	Plate - See Drawings for Details	Custom N/A	1
Plate #6 * Refer to drawing TA706			
1258	Plate - See Drawings for Details	Custom N/A	1
Plate #8 * Refer to drawing TA708			
1259	Plate - See Drawings for Details	Custom N/A	1
Plate #26 * Refer to drawing TA726			
1260	Plate - See Drawings for Details	Custom N/A	2
Plate #54 * Refer to drawing TA754			
1261	Plate - See Drawings for Details	Custom N/A	1
Plate #82 * Refer to drawing TA782			
1262	Plate - See Drawings for Details	Custom N/A	1
Plate #92 * Refer to drawing TA792			
1263	Plate - See Drawings for Details	Custom N/A	1

The equipment listed on this page is for the Client Furnished Equipment

*Note: Items on these sheets are not included in the BASE BID and may or may not be awarded at time of bid.

RECOMMENDED BRANDS AND MODELS WITH APPROXIMATE QUANTITIES

CLIN	Item	Make/Model or Equivalent	Qty
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Client Furnished Equipment

Video Systems

Akron CR530

Courtroom Video Argument Presentation Systems Functional Requirements * Refer to drawing TA602

1264	Camera, Color NTSC pan/tilt/zoom	Sony Electronics, Inc. EVID100	1
1265	Mount, Black single pivot LCD monitor	Ergotron, Inc. 47-092-800	8

Cleveland CR15A

Courtroom Video Argument Presentation Systems Functional Requirements * Refer to drawing TA602

1266	Camera, Color NTSC pan/tilt/zoom	Sony Electronics, Inc. EVID100	3
1267	Mount, Black single pivot LCD monitor	Ergotron, Inc. 47-092-800	10

Cleveland CR15B

Courtroom Video Argument Presentation Systems Functional Requirements * Refer to drawing TA602

1268	Camera, Color NTSC pan/tilt/zoom	Sony Electronics, Inc. EVID100	3
1269	Mount, Black single pivot LCD monitor	Ergotron, Inc. 47-092-800	10

Cleveland CR17A

Courtroom Video Argument Presentation Systems Functional Requirements * Refer to drawing TA602

1270	Camera, Color NTSC pan/tilt/zoom	Sony Electronics, Inc. EVID100	3
1271	Mount, Black single pivot LCD monitor	Ergotron, Inc. 47-092-800	10

Cleveland CR18B

Courtroom Video Argument Presentation Systems Functional Requirements * Refer to drawing TA602

1272	Camera, Color NTSC pan/tilt/zoom	Sony Electronics, Inc. EVID100	3
1273	Mount, Black single pivot LCD monitor	Ergotron, Inc. 47-092-800	10

Cleveland CR19A

Courtroom Video Argument Presentation Systems Functional Requirements * Refer to drawing TA602

1274	Camera, Color NTSC pan/tilt/zoom	Sony Electronics, Inc. EVID100	3
1275	Mount, Black single pivot LCD monitor	Ergotron, Inc. 47-092-800	10

Cleveland CR19B

Courtroom Video Argument Presentation Systems Functional Requirements * Refer to drawing TA602

1276	Camera, Color NTSC pan/tilt/zoom	Sony Electronics, Inc. EVID100	3
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The equipment listed on this page is for the Client Furnished Equipment

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RECOMMENDED BRANDS AND MODELS WITH APPROXIMATE QUANTITIES

CLIN	Item	Make/Model or Equivalent	Qty
1277	Mount, Black single pivot LCD monitor	Ergotron, Inc. 47-092-800	10
Toledo CR204			
Courtroom Video Argument Presentation Systems Functional Requirements * Refer to drawing TA602			
1278	Camera, Color NTSC pan/tilt/zoom	Sony Electronics, Inc. EVID100	3
1279	Mount, Black single pivot LCD monitor	Ergotron, Inc. 47-092-800	9

The equipment listed on this page is for the **OPTION 1**

Note: Items on these sheets are not included in the BASE BID and may or may not be awarded at time of bid.

RECOMMENDED BRANDS AND MODELS WITH APPROXIMATE QUANTITIES

CLIN	Item	Make/Model or Equivalent	Qty
OPTION 1			
Video Systems			
Cleveland CR19B			
Courtroom Video Argument Presentation Systems Functional Requirements * Refer to drawing TA602			
1280	Amplifier, 1 DGKat and 1 HDMI x 4 DGKat distribution	Kramer Electronics Ltd. VM-114H4C	1
1281	Amplifier, 1 DGKat and 1 HDMI x 4 HDMI Distribution	Kramer Electronics Ltd. VM-114H	7
1282	Bracket, Samsung VESA mounting adapter	Chief Manufacturing Inc. PSB2306	1
1283	Camera, 1080p HDMI PTZ video conferencing	LifeSize Communications Camera 10x	2
1284	Camera, 1-CCD Hi-Res evidence	WolfVision, Inc. VZ-8 Plus (4)	1
1285	Card, Modular HDMI Input	Kramer Electronics Ltd. HIN2 F16	3
1286	Card, Modular HDMI Output	Kramer Electronics Ltd. HOut2 F16	2
1287	Card, Modular TP Input	Kramer Electronics Ltd. DGKAT IN2 F16	4
1288	Card, Modular TP Output	Kramer Electronics Ltd. DGKAT Out2 F16	7
1289	Cart, Large flat panel tube-style display	Chief Manufacturing Inc. PPC2000	1
1290	Display, 55" 1920x1080 RS-232 controlled LED flat panel	Samsung ED55D	1
1291	Extractor, HDMI signal audio	Kramer Electronics Ltd. FC-46xl	1
1292	Frame, 16x16 slot modular router	Kramer Electronics Ltd. VS1616D	1
1293	Labels, Set of annotation monitor function	Custom Custom	3
1294	Monitor, 21.5" 16:9 VESA compliant LED	Hewlett-Packard Z Display Z22i	16
1295	Monitor, Black 21.5" 1920x1080 16:9 USB touchscreen	Hewlett-Packard L2206tm	3
1296	Player, HD real-time media	BrightSign BrightSign HD1020	1
1297	Processor, Annotation graphics overlay	Extron Electronics Annotator Standard 60-968-01	1
1298	Receiver, TP to HDMI	Kramer Electronics Ltd. PT-572+	7
1299	Receiver, TP to HDMI and bi-directional RS-232	Kramer Electronics Ltd. TP-574	1

The equipment listed on this page is for the OPTION 1

Note: Items on these sheets are not included in the BASE BID and may or may not be awarded at time of bid.

RECOMMENDED BRANDS AND MODELS WITH APPROXIMATE QUANTITIES

CLIN	Item	Make/Model or Equivalent	Qty
1300	Receiver, TP with control and audio to HDMI	Extron Electronics DTP HDMI 330 Rx 60-1331-13	2
1301	Scaler, CV & Stereo audio to HDMI	Kramer Electronics Ltd. VP-410	1
1302	Scaler, HDMI to HDMI compatibility	Extron Electronics DSC HD-HD (60-1489-01)	1
1303	Stand, 100x100 low profile VESA monitor table	Ergomart EGT SL102-100	9
1304	Streamer, HD dual channel CV/HDMI network capture and	Crestron Electronics CAPTURE-HD	1
1305	Switcher, 8-Input presentation scaler and	Kramer Electronics Ltd. VP-770	1
1306	Switcher, RS232 6x1:3 CV and stereo unbalanced audio	Kramer Electronics Ltd. VS-601xlm	1
1307	Transmitter, HDMI to TP	Kramer Electronics Ltd. PT-571	7
1308	Transmitter, HDMI with control and audio to TP	Extron Electronics DTP HDMI 330 Tx 60-1331-12	2

Courtroom AV Argument Presentation System Control & Power Functional Requirements * Refer to drawing TA603

1309	Application, Ipad control full product	Crestron Electronics CRESTRON-APP-PAD	1
1310	Base, 26" D slim caster	Middle Atlantic Products CBS-5-26	1
1311	Cage, Inboard expansion card	Crestron Electronics CAGE3	1
1312	Card, 3 Port 3-Series RS-232/422;485 expansion slot	Crestron Electronics C3COM-3	1
1313	Engine, Blank front panel 6 Com port control	Crestron Electronics AV3	1
1314	PDU, Power receptacle panel rack mount	Middle Atlantic Products PD-915R	1
1315	Programming, Control systems	Crestron Electronics N/A	1
1316	Rack, 37RU Open frame 64.75"x26" vertical	Middle Atlantic Products 5-37-26	1
1317	Receiver, TP to USBx4	Extron Electronics USB Extender Plus R (60-1471-13)	3
1318	Relay, 120V/15A remote turn on power	Furman Sound, Inc. MP-20Q	1
1319	Revisions, Number of control system and control panel programming	Custom Labor	3
1320	Strip, 24 outlet single 15 Amp circuit slim power	Middle Atlantic Products PD-2415SC-NS	2

The equipment listed on this page is for the *OPTION 1*

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RECOMMENDED BRANDS AND MODELS WITH APPROXIMATE QUANTITIES

CLIN	Item	Make/Model or Equivalent	Qty
1321	Switch, 24 port managed rack mount non POE data	Hewlett-Packard HP - 2920-24G J9726A	1
1322	Transmitter, USB to TP	Extron Electronics USB Extender Plus T (60-1471-12)	3
Plate #2 * Refer to drawing TA702			
1323	Plate - See Drawings for Details	Custom N/A	1
Plate #4 * Refer to drawing TA704			
1324	Plate - See Drawings for Details	Custom N/A	1
Plate #6 * Refer to drawing TA706			
1325	Plate - See Drawings for Details	Custom N/A	1
Plate #8 * Refer to drawing TA708			
1326	Plate - See Drawings for Details	Custom N/A	1
Plate #52 * Refer to drawing TA752			
1327	Plate - See Drawings for Details	Custom N/A	1
Plate #56 - Rack mount codec connection * Refer to drawing TA756			
1328	Plate - See Drawings for Details	Custom N/A	1
Plate #82 * Refer to drawing TA782			
1329	Plate - See Drawings for Details	Custom N/A	2
Plate #92 * Refer to drawing TA792			
1330	Plate - See Drawings for Details	Custom N/A	2

The equipment listed on this page is for the OPTION 2

Note: Items on these sheets are not included in the BASE BID and may or may not be awarded at time of bid.

RECOMMENDED BRANDS AND MODELS WITH APPROXIMATE QUANTITIES

CLIN	Item	Make/Model or Equivalent	Qty
OPTION 2			
Video Systems			
Cleveland CR17A			
Courtroom Video Argument Presentation Systems Functional Requirements * Refer to drawing TA602			
1331	Amplifier, 1 DGKat and 1 HDMI x 4 DGKat distribution	Kramer Electronics Ltd. VM-114H4C	1
1332	Amplifier, 1 DGKat and 1 HDMI x 4 HDMI Distribution	Kramer Electronics Ltd. VM-114H	7
1333	Bracket, Samsung VESA mounting adapter	Chief Manufacturing Inc. PSB2306	1
1334	Camera, 1080p HDMI PTZ video conferencing	LifeSize Communications Camera 10x	2
1335	Camera, 1-CCD Hi-Res evidence	WolfVision, Inc. VZ-8 Plus (4)	1
1336	Card, Modular HDMI Input	Kramer Electronics Ltd. HIN2 F16	3
1337	Card, Modular HDMI Output	Kramer Electronics Ltd. HOut2 F16	2
1338	Card, Modular TP Input	Kramer Electronics Ltd. DGKAT IN2 F16	4
1339	Card, Modular TP Output	Kramer Electronics Ltd. DGKAT Out2 F16	7
1340	Cart, Large flat panel tube-style display	Chief Manufacturing Inc. PPC2000	1
1341	Display, 55" 1920x1080 RS-232 controlled LED flat panel	Samsung ED55D	1
1342	Extractor, HDMI signal audio	Kramer Electronics Ltd. FC-46xl	1
1343	Frame, 16x16 slot modular router	Kramer Electronics Ltd. VS1616D	1
1344	Labels, Set of annotation monitor function	Custom Custom	3
1345	Monitor, 21.5" 16:9 VESA compliant LED	Hewlett-Packard Z Display Z22i	16
1346	Monitor, Black 21.5" 1920x1080 16:9 USB touchscreen	Hewlett-Packard L2206tm	3
1347	Player, HD real-time media	BrightSign BrightSign HD1020	1
1348	Processor, Annotation graphics overlay	Extron Electronics Annotator Standard 60-968-01	1
1349	Receiver, TP to HDMI	Kramer Electronics Ltd. PT-572+	7
1350	Receiver, TP to HDMI and bi-directional RS-232	Kramer Electronics Ltd. TP-574	1

The equipment listed on this page is for the OPTION 2

Note: Items on these sheets are not included in the BASE BID and may or may not be awarded at time of bid.

RECOMMENDED BRANDS AND MODELS WITH APPROXIMATE QUANTITIES

CLIN	Item	Make/Model or Equivalent	Qty
1351	Receiver, TP with control and audio to HDMI	Extron Electronics DTP HDMI 330 Rx 60-1331-13	2
1352	Scaler, CV & Stereo audio to HDMI	Kramer Electronics Ltd. VP-410	1
1353	Scaler, HDMI to HDMI compatibility	Extron Electronics DSC HD-HD (60-1489-01)	1
1354	Stand, 100x100 low profile VESA monitor table	Ergomart EGT SL102-100	9
1355	Streamer, HD dual channel CV/HDMI network capture and	Crestron Electronics CAPTURE-HD	1
1356	Switcher, 8-Input presentation scaler and	Kramer Electronics Ltd. VP-770	1
1357	Switcher, RS232 6x1:3 CV and stereo unbalanced audio	Kramer Electronics Ltd. VS-601xlm	1
1358	Transmitter, HDMI to TP	Kramer Electronics Ltd. PT-571	7
1359	Transmitter, HDMI with control and audio to TP	Extron Electronics DTP HDMI 330 Tx 60-1331-12	2

Courtroom AV Argument Presentation System Control & Power Functional Requirements * Refer to drawing TA603

1360	Application, Ipad control full product	Crestron Electronics CRESTRON-APP-PAD	1
1361	Base, 26" D slim caster	Middle Atlantic Products CBS-5-26	1
1362	Cage, Inboard expansion card	Crestron Electronics CAGE3	1
1363	Card, 3 Port 3-Series RS-232/422;485 expansion slot	Crestron Electronics C3COM-3	1
1364	Engine, Blank front panel 6 Com port control	Crestron Electronics AV3	1
1365	PDU, Power receptacle panel rack mount	Middle Atlantic Products PD-915R	1
1366	Programming, Control systems	Crestron Electronics N/A	1
1367	Rack, 37RU Open frame 64.75"x26" vertical	Middle Atlantic Products 5-37-26	1
1368	Receiver, TP to USBx4	Extron Electronics USB Extender Plus R (60-1471-13)	3
1369	Relay, 120V/15A remote turn on power	Furman Sound, Inc. MP-20Q	1
1370	Revisions, Number of control system and control panel programming	Custom Labor	3
1371	Strip, 24 outlet single 15 Amp circuit slim power	Middle Atlantic Products PD-2415SC-NS	2

The equipment listed on this page is for the OPTION 2

Note: Items on these sheets are not included in the BASE BID and may or may not be awarded at time of bid.

RECOMMENDED BRANDS AND MODELS WITH APPROXIMATE QUANTITIES

CLIN	Item	Make/Model or Equivalent	Qty
1372	Switch, 24 port managed rack mount non POE data	Hewlett-Packard HP - 2920-24G J9726A	1
1373	Transmitter, USB to TP	Extron Electronics USB Extender Plus T (60-1471-12)	3
Plate #2 * Refer to drawing TA702			
1374	Plate - See Drawings for Details	Custom N/A	1
Plate #4 * Refer to drawing TA704			
1375	Plate - See Drawings for Details	Custom N/A	1
Plate #6 * Refer to drawing TA706			
1376	Plate - See Drawings for Details	Custom N/A	1
Plate #8 * Refer to drawing TA708			
1377	Plate - See Drawings for Details	Custom N/A	1
Plate #52 * Refer to drawing TA752			
1378	Plate - See Drawings for Details	Custom N/A	1
Plate #56 - Rack mount codec connection * Refer to drawing TA756			
1379	Plate - See Drawings for Details	Custom N/A	1
Plate #82 * Refer to drawing TA782			
1380	Plate - See Drawings for Details	Custom N/A	2
Plate #92 * Refer to drawing TA792			
1381	Plate - See Drawings for Details	Custom N/A	2

The equipment listed on this page is for the OPTION 3

Note: Items on these sheets are not included in the BASE BID and may or may not be awarded at time of bid.

RECOMMENDED BRANDS AND MODELS WITH APPROXIMATE QUANTITIES

CLIN	Item	Make/Model or Equivalent	Qty
OPTION 3			
Video Systems			
Cleveland CR15A			
Courtroom Video Argument Presentation Systems Functional Requirements * Refer to drawing TA602			
1382	Amplifier, 1 DGKat and 1 HDMI x 4 DGKat distribution	Kramer Electronics Ltd. VM-114H4C	1
1383	Amplifier, 1 DGKat and 1 HDMI x 4 HDMI Distribution	Kramer Electronics Ltd. VM-114H	7
1384	Bracket, Samsung VESA mounting adapter	Chief Manufacturing Inc. PSB2306	1
1385	Camera, 1080p HDMI PTZ video conferencing	LifeSize Communications Camera 10x	2
1386	Camera, 1-CCD Hi-Res evidence	WolfVision, Inc. VZ-8 Plus (4)	1
1387	Card, Modular HDMI Input	Kramer Electronics Ltd. HIN2 F16	3
1388	Card, Modular HDMI Output	Kramer Electronics Ltd. HOut2 F16	2
1389	Card, Modular TP Input	Kramer Electronics Ltd. DGKAT IN2 F16	4
1390	Card, Modular TP Output	Kramer Electronics Ltd. DGKAT Out2 F16	7
1391	Cart, Large flat panel tube-style display	Chief Manufacturing Inc. PPC2000	1
1392	Display, 55" 1920x1080 RS-232 controlled LED flat panel	Samsung ED55D	1
1393	Extractor, HDMI signal audio	Kramer Electronics Ltd. FC-46xl	1
1394	Frame, 16x16 slot modular router	Kramer Electronics Ltd. VS1616D	1
1395	Labels, Set of annotation monitor function	Custom Custom	3
1396	Monitor, 21.5" 16:9 VESA compliant LED	Hewlett-Packard Z Display Z22i	16
1397	Monitor, Black 21.5" 1920x1080 16:9 USB touchscreen	Hewlett-Packard L2206tm	3
1398	Player, HD real-time media	BrightSign BrightSign HD1020	1
1399	Processor, Annotation graphics overlay	Extron Electronics Annotator Standard 60-968-01	1
1400	Receiver, TP to HDMI	Kramer Electronics Ltd. PT-572+	7
1401	Receiver, TP to HDMI and bi-directional RS-232	Kramer Electronics Ltd. TP-574	1

The equipment listed on this page is for the OPTION 3

Note: Items on these sheets are not included in the BASE BID and may or may not be awarded at time of bid.

RECOMMENDED BRANDS AND MODELS WITH APPROXIMATE QUANTITIES

CLIN	Item	Make/Model or Equivalent	Qty
1402	Receiver, TP with control and audio to HDMI	Extron Electronics DTP HDMI 330 Rx 60-1331-13	2
1403	Scaler, CV & Stereo audio to HDMI	Kramer Electronics Ltd. VP-410	1
1404	Scaler, HDMI to HDMI compatibility	Extron Electronics DSC HD-HD (60-1489-01)	1
1405	Stand, 100x100 low profile VESA monitor table	Ergomart EGT SL102-100	9
1406	Streamer, HD dual channel CV/HDMI network capture and	Crestron Electronics CAPTURE-HD	1
1407	Switcher, 8-Input presentation scaler and	Kramer Electronics Ltd. VP-770	1
1408	Switcher, RS232 6x1:3 CV and stereo unbalanced audio	Kramer Electronics Ltd. VS-601xlm	1
1409	Transmitter, HDMI to TP	Kramer Electronics Ltd. PT-571	7
1410	Transmitter, HDMI with control and audio to TP	Extron Electronics DTP HDMI 330 Tx 60-1331-12	2

Courtroom AV Argument Presentation System Control & Power Functional Requirements * Refer to drawing TA603

1411	Application, Ipad control full product	Crestron Electronics CRESTRON-APP-PAD	1
1412	Base, 26" D slim caster	Middle Atlantic Products CBS-5-26	1
1413	Cage, Inboard expansion card	Crestron Electronics CAGE3	1
1414	Card, 3 Port 3-Series RS-232/422;485 expansion slot	Crestron Electronics C3COM-3	1
1415	Engine, Blank front panel 6 Com port control	Crestron Electronics AV3	1
1416	PDU, Power receptacle panel rack mount	Middle Atlantic Products PD-915R	1
1417	Programming, Control systems	Crestron Electronics N/A	1
1418	Rack, 37RU Open frame 64.75"x26" vertical	Middle Atlantic Products 5-37-26	1
1419	Receiver, TP to USBx4	Extron Electronics USB Extender Plus R (60-1471-13)	3
1420	Relay, 120V/15A remote turn on power	Furman Sound, Inc. MP-20Q	1
1421	Revisions, Number of control system and control panel programming	Custom Labor	3
1422	Strip, 24 outlet single 15 Amp circuit slim power	Middle Atlantic Products PD-2415SC-NS	2

The equipment listed on this page is for the *OPTION 3*

Note: Items on these sheets are not included in the BASE BID and may or may not be awarded at time of bid.

RECOMMENDED BRANDS AND MODELS WITH APPROXIMATE QUANTITIES

CLIN	Item	Make/Model or Equivalent	Qty
1423	Switch, 24 port managed rack mount non POE data	Hewlett-Packard HP - 2920-24G J9726A	1
1424	Transmitter, USB to TP	Extron Electronics USB Extender Plus T (60-1471-12)	3
Plate #2 * Refer to drawing TA702			
1425	Plate - See Drawings for Details	Custom N/A	1
Plate #4 * Refer to drawing TA704			
1426	Plate - See Drawings for Details	Custom N/A	1
Plate #6 * Refer to drawing TA706			
1427	Plate - See Drawings for Details	Custom N/A	1
Plate #8 * Refer to drawing TA708			
1428	Plate - See Drawings for Details	Custom N/A	1
Plate #52 * Refer to drawing TA752			
1429	Plate - See Drawings for Details	Custom N/A	1
Plate #56 - Rack mount codec connection * Refer to drawing TA756			
1430	Plate - See Drawings for Details	Custom N/A	1
Plate #82 * Refer to drawing TA782			
1431	Plate - See Drawings for Details	Custom N/A	2
Plate #92 * Refer to drawing TA792			
1432	Plate - See Drawings for Details	Custom N/A	2

BASE BID**Video Systems****This equipment is located:** Akron CR530**This equipment is shown on drawing:** TA602

- 1001 Amplifier, 1 DGKat and 1 HDMI x 4 DGKat distribution
Provide and install at locations diagrammed. Provide cable end adapters as needed as part of this CLIN
Recommended Equipment Kramer Electronics Ltd. VM-114H4C
or Equivalent:
- 1002 Amplifier, 1 DGKat and 1 HDMI x 4 HDMI Distribution
Provide and install at locations diagrammed. Provide cable end adapters as needed as part of this CLIN
Recommended Equipment Kramer Electronics Ltd. VM-114H
or Equivalent:
- 1003 Amplifier, 1000W 70V rack mount audio power
Provide and install in existing audio rack. Tap zone as noted.
Recommended Equipment Behringer (Music Group) AX6220Z
or Equivalent:
- 1004 Camera, 1080p HDMI PTZ video conferencing
Provide and install camera on mount at locations indicated. Provide all control function required through codec and control system.
Recommended Equipment LifeSize Communications Camera 10x
or Equivalent:
- 1005 Camera, 1-CCD Hi-Res evidence
Provide and install document camera. Provide all remote control function available on control system panels with advanced controls on less accessed control screens. Program unit to power on with lights and select for publishing when input is selected or when video portion of system is powered on.
Recommended Equipment WolfVision, Inc. VZ-8 Plus (4)
or Equivalent:
- 1006 Camera, Small format portable HDMI evidence
Provide, test at various input points and turn over to Owner for use as a portable device. Central remote control is not required.
Recommended Equipment AVerMedia VISIONF33-BLK
or Equivalent:
- 1007 Card, Modular HDMI Input
Provide, install and configure card for master router frame
Recommended Equipment Kramer Electronics Ltd. HIN2 F16
or Equivalent:
- 1008 Card, Modular HDMI Output
Provide, install and configure card for master router frame
Recommended Equipment Kramer Electronics Ltd. HOut2 F16
or Equivalent:
- 1009 Card, Modular TP Input
Provide, install and configure card for master router frame
Recommended Equipment Kramer Electronics Ltd. DGKAT IN2 F16
or Equivalent:

- 1010 Card, Modular TP Output
Provide, install and configure card for master router frame
Recommended Equipment Kramer Electronics Ltd. DGKAT Out2 F16
or Equivalent:
- 1011 Codec, Express 220
Provide and install codec. Configure control system for both legacy and H.239 telepresence modes. Provide 2 meter umbilical where codec is shared between rack rooms.
Recommended Equipment LifeSize Communications Codec, Only Express 220 1000-0000-0313
or Equivalent:
- 1012 Display, 55" 1920x1080 RS-232 controlled LED flat panel
Provide and install monitor at location indicated. Provide all accessory mounting adapters as needed for this model as part of this CLIN. Provide all connections and control in control system.
Recommended Equipment Samsung ED55D
or Equivalent:
- 1013 Extractor, HDMI signal audio
Install and connect to existing audio system. Program DSP file as needed for evidence audio input
Recommended Equipment Kramer Electronics Ltd. FC-46xl
or Equivalent:
- 1014 Frame, 16x16 slot modular router
Provide master frame. Load cards required into frame and configure.
Recommended Equipment Kramer Electronics Ltd. VS1616D
or Equivalent:
- 1015 Labels, Set of annotation monitor function
Provide set of labels with black text on white removable background label and mount on monitor bezel corners. Text on first label shall read "Undo". Text on Second label shall read "Color". Text on third label shall read "Clear". Apply to appropriate corners of all annotation monitors.
Recommended Equipment Custom Custom
or Equivalent:
- 1016 Loudspeaker, 70V Miniature black line array
Provide and install nine (9) speakers at locations shown. Mount front row speakers horizontally between monitors as high as possible without being seen from the well area. Mount rear speakers vertically on monitor post. Provide all wiring to new 70V amplifier and tap into existing zone for correct mix.
Recommended Equipment Innovox Audio, LLC MLA-8-BL-70V
or Equivalent:
- 1017 Monitor, 21.5" 16:9 VESA compliant LED
Provide and install monitor at locations indicated. Provide VESA mount where indicated.
Recommended Equipment Hewlett-Packard Z Display Z22i
or Equivalent:
- 1018 Monitor, Black 21.5" 1920x1080 16:9 USB touchscreen
Provide and install touch screen monitor.
Recommended Equipment Hewlett-Packard L2206tm
or Equivalent:

- 1019 Mount, Dual black swing arm universal large flat panel wall
Provide and install wall mount for monitor. Verify correct part number for mount prior to ordering. Advise consultant where wall integrity is suspect for mounting.
Recommended Equipment Chief Manufacturing Inc. PDRUB
or Equivalent:
- 1020 Player, HD real-time media
Provide and install media player.
Recommended Equipment BrightSign BrightSign HD1020
or Equivalent:
- 1021 Processor, Annotation graphics overlay
Provide and install annotation system. Provide and install with all necessary cables and equipment. Install in rack. Cabling for all control data inputs shall be made with true serial data cable only. Where signals are weak and/or intermittent from input devices, provide in-line short haul modems at no additional cost to the project. Enable all capture functions on main control panels.
Recommended Equipment Extron Electronics Annotator Standard 60-968-01
or Equivalent:
- 1022 Receiver, TP to HDMI
Provide and install receiver at locations indicated. Provide only connection cable approved by the receiver manufacturer
Recommended Equipment Kramer Electronics Ltd. PT-572+
or Equivalent:
- 1023 Receiver, TP to HDMI and bi-directional RS-232
Provide and install receiver at locations indicated. Provide only connection cable approved by the receiver manufacturer
Recommended Equipment Kramer Electronics Ltd. TP-574
or Equivalent:
- 1024 Receiver, TP with control and audio to HDMI
Provide and install with camera system for full video and control functionality.
Recommended Equipment Extron Electronics DTP HDMI 330 Rx 60-1331-13
or Equivalent:
- 1025 Scaler, HDMI to HDMI compatibility
Provide and install scaler at location indicated.
Recommended Equipment Extron Electronics DSC HD-HD (60-1489-01)
or Equivalent:
- 1026 Stand, 100x100 low profile VESA monitor table
Install on attorney table monitors as directed by Court.
Recommended Equipment Ergomart EGT SL102-100
or Equivalent:
- 1027 Streamer, HD dual channel CV/HDMI network capture and
Provide and install steamer. Configure controls for Crestron as well as IP control. Provide status windows on control panel such as status of storage space, status of streaming and recording mode, etc.
Recommended Equipment Crestron Electronics CAPTURE-HD
or Equivalent:

- 1028 Switcher, 8-Input presentation scaler and
Provide and install switcher at locations indicated.
Recommended Equipment Kramer Electronics Ltd. VP-770
or Equivalent:
- 1029 Transmitter, HDMI to TP
Provide and install transmitter at locations indicated. Provide only connection cable approved by the transmitter manufacturer
Recommended Equipment Kramer Electronics Ltd. PT-571
or Equivalent:
- 1030 Transmitter, HDMI with control and audio to TP
Provide and install with camera system for full video and control functionality.
Recommended Equipment Extron Electronics DTP HDMI 330 Tx 60-1331-12
or Equivalent:

This equipment is shown on drawing: TA603

- 1031 Application, Ipad control full product
Provide and turnover to Court for installation on CFE IT equipment. Provide all programming in mainframe engine to support feature required.
Recommended Equipment Crestron Electronics CRESTRON-APP-PAD
or Equivalent:
- 1032 Cage, Inboard expansion card
Provide and install expansion cage in control engine.
Recommended Equipment Crestron Electronics CAGE3
or Equivalent:
- 1033 Card, 3 Port 3-Series RS-232/422;485 expansion slot
Provide and install serial control expansion bus for additional control ports.
Recommended Equipment Crestron Electronics C3COM-3
or Equivalent:
- 1034 Casters, Set of 4
Provide and install casters on bottom of rack according to manufacturer's instructions.
Recommended Equipment Middle Atlantic Products CBS-ERK-25
or Equivalent:
- 1035 Engine, Blank front panel 6 Com port control
Provide, install and program control engine(s). See specifications for complete requirements. Program and merge the new control hardware provided under this contract for the video evidence and video conference systems with the existing audio and signaling systems that are currently operational. Where control engine brand is not compatible with new hardware, move all audio and signaling functions to new main engine or provide additional slave frame as a part of this CLIN as needed.
Recommended Equipment Crestron Electronics AV3
or Equivalent:
- 1036 PDU, Power receptacle panel rack mount
Provide and install power strip in rack. Connect to switching systems as needed.
Recommended Equipment Middle Atlantic Products PD-915R
or Equivalent:

- 1037 Programming, Control systems
Program control system per specifications. Provide programming for Xpanel files to be installed on court furnished PC's. Coordinate with court IT personnel.
Recommended Equipment Crestron Electronics N/A
or Equivalent:
- 1038 Rack, 40RU (70") steel 25" deep equipment
Provide and install rack. Prewire and test off-site. Provide all accessories, lacing bars, vertical wire management, panels and other hardware as required for complete rack and equipment installation with appropriate wire management. Remove all equipment from original video rack at site and turn over to Court after new system is fully operational. Remove CFE rack door and re-install on the new rack.
Recommended Equipment Middle Atlantic Products ERK-4025
or Equivalent:
- 1039 Rails, 40 space rear rack
Provide and install rear rack rails. Provide all accessories, lacing bars, vertical wire management, panels and other hardware as required for complete rack and equipment installation with appropriate wire management.
Recommended Equipment Middle Atlantic Products ERK-RR40
or Equivalent:
- 1040 Receiver, TP to USBx4
Provide and install USB extender as shown on drawings. Configure per specifications and manufacturer's written instructions.
Recommended Equipment Extron Electronics USB Extender Plus R (60-1471-13)
or Equivalent:
- 1041 Relay, 120V/15A remote turn on power
Provide and install power sequencer. Install connected to control system and connect switched control to power amplifier and other devices which can be switched off.
Recommended Equipment Furman Sound, Inc. MP-20Q
or Equivalent:
- 1042 Revisions, Number of control system and control panel programming
Provide revisions of control system and control panel programming after installation and after reaching Substantial Completion. Provide the number of revisions to the control software and control panels indicated by quantity. The original programming provided is not considered a revision. Number of revisions is indicated in quantity and applies to each individual engine and control GUI. Each quantity shown shall allow for a complete revision of each component and control panel provided in this room. A quantity "1" for example shall provide for a single revision on the control engines and an additional single revision for each type (or size) of control panel in the room a single time. Revisions outlined in this CLIN are separate from Substantial Completion issues but must be completed prior to Final Acceptance.
Recommended Equipment Custom Labor
or Equivalent:
- 1043 Strip, 24 outlet single 15 Amp circuit slim power
Provide and install power strip.
Recommended Equipment Middle Atlantic Products PD-2415SC-NS
or Equivalent:
- 1044 Switch, 24 port managed rack mount non POE data
Provide and install data switch and install in AV rack. Connect to single LAN connection or Ethernet compliant bus. Coordinate all needed IP addresses with IT staff prior to bringing systems on line.
Recommended Equipment Hewlett-Packard HP - 2920-24G J9726A
or Equivalent:

1045 Transmitter, USB to TP

Provide and install USB extender as shown on drawings. Configure per specifications and manufacturer's written instructions.

Recommended Equipment Extron Electronics USB Extender Plus T (60-1471-12)
or Equivalent:

This equipment is shown on drawing: TA702

1046 Plate - See Drawings for Details

Provide and install custom connection plate to be located at corresponding numbered location on floor plans. Locations shown on floor plans may vary slightly from actual field conditions and shall be verified prior to fabrication of plate. Provide back box enclosure as required for surface mount installations. See specifications for required connections. Submit custom plate design for review and approval prior to fabrication. Provide cables to plate with hook-and-loop cable ties.

Recommended Equipment Custom N/A
or Equivalent:

This equipment is shown on drawing: TA704

1047 Plate - See Drawings for Details

Provide and install custom connection plate to be located at corresponding numbered location on floor plans. Locations shown on floor plans may vary slightly from actual field conditions and shall be verified prior to fabrication of plate. Provide back box enclosure as required for surface mount installations. See specifications for required connections. Submit custom plate design for review and approval prior to fabrication. Provide cables to plate with hook-and-loop cable ties.

Recommended Equipment Custom N/A
or Equivalent:

This equipment is shown on drawing: TA706

1048 Plate - See Drawings for Details

Provide and install custom connection plate to be located at corresponding numbered location on floor plans. Locations shown on floor plans may vary slightly from actual field conditions and shall be verified prior to fabrication of plate. Provide back box enclosure as required for surface mount installations. See specifications for required connections. Submit custom plate design for review and approval prior to fabrication. Provide cables to plate with hook-and-loop cable ties.

Recommended Equipment Custom N/A
or Equivalent:

This equipment is shown on drawing: TA708

1049 Plate - See Drawings for Details

Provide and install custom connection plate to be located at corresponding numbered location on floor plans. Locations shown on floor plans may vary slightly from actual field conditions and shall be verified prior to fabrication of plate. Provide back box enclosure as required for surface mount installations. See specifications for required connections. Submit custom plate design for review and approval prior to fabrication. Provide cables to plate with hook-and-loop cable ties.

Recommended Equipment Custom N/A
or Equivalent:

This equipment is shown on drawing: TA710

1050 Box, 2-Gang black surface mount wall back

Provide and install back box for plate tight below countertop. Install flush on surface. Provide dark color light duty raceway as part of this item. Coordinate and include other existing wiring in area. Install plate on back box. Locate at appropriate location for connections.

Recommended Equipment Extron Electronics EWB 102 (60-1162-02)
or Equivalent:

1051 Plate - See Drawings for Details

Provide and install custom connection plate to be located at corresponding numbered location on floor plans. Locations shown on floor plans may vary slightly from actual field conditions and shall be verified prior to fabrication of plate. Provide back box enclosure as required for surface mount installations. See specifications for required connections. Submit custom plate design for review and approval prior to fabrication. Provide cables to plate with hook-and-loop cable ties.

Recommended Equipment Custom N/A
or Equivalent:

This equipment is shown on drawing: TA726

1052 Plate - See Drawings for Details

Provide and install custom connection plate to be located at corresponding numbered location on floor plans. Locations shown on floor plans may vary slightly from actual field conditions, and shall be verified prior to fabrication of plate. Provide back box enclosure as required for surface mount installations. See specifications for required connections. Submit custom plate design for review and approval prior to fabrication.

Recommended Equipment Custom N/A
or Equivalent:

This equipment is shown on drawing: TA728

1053 Plate - See Drawings for Details

Provide and install custom connection plate to be located at corresponding numbered location on floor plans. Locations shown on floor plans may vary slightly from actual field conditions, and shall be verified prior to fabrication of plate. Provide back box enclosure as required for surface mount installations. See specifications for required connections. Submit custom plate design for review and approval prior to fabrication.

Recommended Equipment Custom N/A
or Equivalent:

This equipment is shown on drawing: TA744

1054 Plate - See Drawings for Details

Provide and install custom connection plate to be located at corresponding numbered location on floor plans. Locations shown on floor plans may vary slightly from actual field conditions, and shall be verified prior to fabrication of plate. Provide back box enclosure as required for surface mount installations. See specifications for required connections. Submit custom plate design for review and approval prior to fabrication.

Recommended Equipment Custom N/A
or Equivalent:

This equipment is shown on drawing: TA748

1055 Plate - See Drawings for Details

Provide and install custom connection plate to be located at corresponding numbered location on floor plans. Locations shown on floor plans may vary slightly from actual field conditions, and shall be verified prior to fabrication of plate. Provide back box enclosure as required for surface mount installations. See specifications for required connections. Submit custom plate design for review and approval prior to fabrication.

Recommended Equipment Custom N/A
or Equivalent:

This equipment is shown on drawing: TA754

1056 Plate - See Drawings for Details

Provide and install custom connection plate to be located at corresponding numbered location on floor plans. Locations shown on floor plans may vary slightly from actual field conditions, and shall be verified prior to fabrication of plate. Provide back box enclosure as required for surface mount installations. See specifications for required connections. Submit custom plate design for review and approval prior to fabrication.

Recommended Equipment Custom N/A
or Equivalent:

This equipment is shown on drawing: TA782

1057 Plate - See Drawings for Details

Provide and install custom connection plate to be located at corresponding numbered location on floor plans. Locations shown on floor plans may vary slightly from actual field conditions and shall be verified prior to fabrication of plate. Provide back box enclosure as required for surface mount installations. See specifications for required connections. Submit custom plate design for review and approval prior to fabrication. Provide cables to plate with hook-and-loop cable ties.

Recommended Equipment Custom N/A
or Equivalent:

This equipment is shown on drawing: TA792

1058 Plate - See Drawings for Details

Provide and install custom connection plate to be located at corresponding numbered location on floor plans. Locations shown on floor plans may vary slightly from actual field conditions, and shall be verified prior to fabrication of plate. Provide back box enclosure as required for surface mount installations. See specifications for required connections. Submit custom plate design for review and approval prior to fabrication.

Recommended Equipment Custom N/A
or Equivalent:

This equipment is located: Cleveland CR15B

This equipment is shown on drawing: TA602

1059 Amplifier, 1 DGKat and 1 HDMI x 4 DGKat distribution

Provide and install at locations diagrammed. Provide cable end adapters as needed as part of this CLIN

Recommended Equipment Kramer Electronics Ltd. VM-114H4C
or Equivalent:

1060 Amplifier, 1 DGKat and 1 HDMI x 4 HDMI Distribution

Provide and install at locations diagrammed. Provide cable end adapters as needed as part of this CLIN

Recommended Equipment Kramer Electronics Ltd. VM-114H
or Equivalent:

1061 Bracket, Samsung VESA mounting adapter

Verify proper part number and then provide cart interface bracket for gallery monitors.

Recommended Equipment Chief Manufacturing Inc. PSB2306
or Equivalent:

1062 Camera, 1080p HDMI PTZ video conferencing

Provide and install camera on mount at locations indicated. Provide all control function required through codec and control system.

Recommended Equipment LifeSize Communications Camera 10x
or Equivalent:

- 1063 Camera, 1-CCD Hi-Res evidence
Provide and install document camera. Provide all remote control function available on control system panels with advanced controls on less accessed control screens. Program unit to power on with lights and select for publishing when input is selected or when video portion of system is powered on.
Recommended Equipment WolfVision, Inc. VZ-8 Plus (4)
or Equivalent:
- 1064 Card, Modular HDMI Input
Provide, install and configure card for master router frame
Recommended Equipment Kramer Electronics Ltd. HIN2 F16
or Equivalent:
- 1065 Card, Modular HDMI Output
Provide, install and configure card for master router frame
Recommended Equipment Kramer Electronics Ltd. HOut2 F16
or Equivalent:
- 1066 Card, Modular TP Input
Provide, install and configure card for master router frame
Recommended Equipment Kramer Electronics Ltd. DGKAT IN2 F16
or Equivalent:
- 1067 Card, Modular TP Output
Provide, install and configure card for master router frame
Recommended Equipment Kramer Electronics Ltd. DGKAT Out2 F16
or Equivalent:
- 1068 Cart, Large flat panel tube-style display
Provide and install monitor cart. Verify fit for monitor and adapter provided for project prior to ordering. Install and secure according to manufacturer's instructions.
Recommended Equipment Chief Manufacturing Inc. PPC2000
or Equivalent:
- 1069 Display, 55" 1920x1080 RS-232 controlled LED flat panel
Provide and install monitor at location indicated. Provide all accessory mounting adapters as needed for this model as part of this CLIN. Provide all connections and control in control system.
Recommended Equipment Samsung ED55D
or Equivalent:
- 1070 Extractor, HDMI signal audio
Install and connect to existing audio system. Program DSP file as needed for evidence audio input
Recommended Equipment Kramer Electronics Ltd. FC-46xl
or Equivalent:
- 1071 Frame, 16x16 slot modular router
Provide master frame. Load cards required into frame and configure.
Recommended Equipment Kramer Electronics Ltd. VS1616D
or Equivalent:
- 1072 Labels, Set of annotation monitor function
Provide set of labels with black text on white removable background label and mount on monitor bezel corners. Text on first label shall read "Undo". Text on Second label shall read "Color". Text on third label shall read "Clear". Apply to appropriate corners of all annotation monitors.
Recommended Equipment Custom Custom
or Equivalent:

- 1073 Monitor, 21.5" 16:9 VESA compliant LED
Provide and install monitor at locations indicated. Provide VESA mount where indicated.
Recommended Equipment Hewlett-Packard Z Display Z22i
or Equivalent:
- 1074 Monitor, Black 21.5" 1920x1080 16:9 USB touchscreen
Provide and install touch screen monitor.
Recommended Equipment Hewlett-Packard L2206tm
or Equivalent:
- 1075 Player, HD real-time media
Provide and install media player.
Recommended Equipment BrightSign BrightSign HD1020
or Equivalent:
- 1076 Processor, Annotation graphics overlay
Provide and install annotation system. Provide and install with all necessary cables and equipment. Install in rack. Cabling for all control data inputs shall be made with true serial data cable only. Where signals are weak and/or intermittent from input devices, provide in-line short haul modems at no additional cost to the project. Enable all capture functions on main control panels.
Recommended Equipment Extron Electronics Annotator Standard 60-968-01
or Equivalent:
- 1077 Receiver, TP to HDMI
Provide and install receiver at locations indicated. Provide only connection cable approved by the receiver manufacturer
Recommended Equipment Kramer Electronics Ltd. PT-572+
or Equivalent:
- 1078 Receiver, TP to HDMI and bi-directional RS-232
Provide and install receiver at locations indicated. Provide only connection cable approved by the receiver manufacturer
Recommended Equipment Kramer Electronics Ltd. TP-574
or Equivalent:
- 1079 Receiver, TP with control and audio to HDMI
Provide and install with camera system for full video and control functionality.
Recommended Equipment Extron Electronics DTP HDMI 330 Rx 60-1331-13
or Equivalent:
- 1080 Scaler, CV & Stereo audio to HDMI
Provide and install scaler at location indicated and configure for proper operation.
Recommended Equipment Kramer Electronics Ltd. VP-410
or Equivalent:
- 1081 Scaler, HDMI to HDMI compatibility
Provide and install scaler at location indicated.
Recommended Equipment Extron Electronics DSC HD-HD (60-1489-01)
or Equivalent:
- 1082 Stand, 100x100 low profile VESA monitor table
Install on attorney table monitors as directed by Court.
Recommended Equipment Ergomart EGT SL102-100
or Equivalent:

- 1083 Streamer, HD dual channel CV/HDMI network capture and
Provide and install steamer. Configure controls for Crestron as well as IP control. Provide status windows on control panel such as status of storage space, status of streaming and recording mode, etc.
Recommended Equipment Crestron Electronics CAPTURE-HD
or Equivalent:
- 1084 Switcher, 8-Input presentation scaler and
Provide and install switcher at locations indicated.
Recommended Equipment Kramer Electronics Ltd. VP-770
or Equivalent:
- 1085 Switcher, RS232 6x1:3 CV and stereo unbalanced audio
Provide and install switcher as indicated. Provide remote control on main control panels.
Recommended Equipment Kramer Electronics Ltd. VS-601xlm
or Equivalent:
- 1086 Transmitter, HDMI to TP
Provide and install transmitter at locations indicated. Provide only connection cable approved by the transmitter manufacturer
Recommended Equipment Kramer Electronics Ltd. PT-571
or Equivalent:
- 1087 Transmitter, HDMI with control and audio to TP
Provide and install with camera system for full video and control functionality.
Recommended Equipment Extron Electronics DTP HDMI 330 Tx 60-1331-12
or Equivalent:

This equipment is shown on drawing: TA603

- 1088 Application, Ipad control full product
Provide and turnover to Court for installation on CFE IT equipment. Provide all programming in mainframe engine to support feature required.
Recommended Equipment Crestron Electronics CRESTRON-APP-PAD
or Equivalent:
- 1089 Base, 26" D slim caster
Provide and install caster base on rack.
Recommended Equipment Middle Atlantic Products CBS-5-26
or Equivalent:
- 1090 Cage, Inboard expansion card
Provide and install expansion cage in control engine.
Recommended Equipment Crestron Electronics CAGE3
or Equivalent:
- 1091 Card, 3 Port 3-Series RS-232/422;485 expansion slot
Provide and install serial control expansion bus for additional control ports.
Recommended Equipment Crestron Electronics C3COM-3
or Equivalent:

- 1092 Engine, Blank front panel 6 Com port control
Provide, install and program control engine(s). See specifications for complete requirements. Program and merge the new control hardware provided under this contract for the video evidence and video conference systems with the existing audio and signaling systems that are currently operational. Where control engine brand is not compatible with new hardware, move all audio and signaling functions to new main engine or provide additional slave frame as a part of this CLIN as needed.
Recommended Equipment Crestron Electronics AV3
or Equivalent:
- 1093 PDU, Power receptacle panel rack mount
Provide and install power strip in rack. Connect to switching systems as needed.
Recommended Equipment Middle Atlantic Products PD-915R
or Equivalent:
- 1094 Programming, Control systems
Program control system per specifications. Provide programming for Xpanel files to be installed on court furnished PC's. Coordinate with court IT personnel.
Recommended Equipment Crestron Electronics N/A
or Equivalent:
- 1095 Rack, 37RU Open frame 64.75"x26" vertical
Provide rack off site and fully assembled and test prior to shipping to project installation location.
Recommended Equipment Middle Atlantic Products 5-37-26
or Equivalent:
- 1096 Receiver, TP to USBx4
Provide and install USB extender as shown on drawings. Configure per specifications and manufacturer's written instructions.
Recommended Equipment Extron Electronics USB Extender Plus R (60-1471-13)
or Equivalent:
- 1097 Relay, 120V/15A remote turn on power
Provide and install power sequencer. Install connected to control system and connect switched control to power amplifier and other devices which can be switched off.
Recommended Equipment Furman Sound, Inc. MP-20Q
or Equivalent:
- 1098 Revisions, Number of control system and control panel programming
Provide revisions of control system and control panel programming after installation and after reaching Substantial Completion. Provide the number of revisions to the control software and control panels indicated by quantity. The original programming provided is not considered a revision. Number of revisions is indicated in quantity and applies to each individual engine and control GUI Each quantity shown shall allow for a complete revision of each component and control panel provided in this room. A quantity "1" for example shall provide for a single revision on the control engines and an additional single revision for each type (or size) of control panel in the room a single time. Revisions outlined in this CLIN are separate from Substantial Completion issues but must be completed prior to Final Acceptance.
Recommended Equipment Custom Labor
or Equivalent:
- 1099 Strip, 24 outlet single 15 Amp circuit slim power
Provide and install power strip.
Recommended Equipment Middle Atlantic Products PD-2415SC-NS
or Equivalent:

1100 Switch, 24 port managed rack mount non POE data

Provide and install data switch and install in AV rack. Connect to single LAN connection or Ethernet compliant bus. Coordinate all needed IP addresses with IT staff prior to bringing systems on line.

Recommended Equipment Hewlett-Packard HP - 2920-24G J9726A
or Equivalent:

1101 Transmitter, USB to TP

Provide and install USB extender as shown on drawings. Configure per specifications and manufacturer's written instructions.

Recommended Equipment Extron Electronics USB Extender Plus T (60-1471-12)
or Equivalent:

This equipment is shown on drawing: TA702

1102 Plate - See Drawings for Details

Provide and install custom connection plate to be located at corresponding numbered location on floor plans. Locations shown on floor plans may vary slightly from actual field conditions and shall be verified prior to fabrication of plate. Provide back box enclosure as required for surface mount installations. See specifications for required connections. Submit custom plate design for review and approval prior to fabrication. Provide cables to plate with hook-and-loop cable ties.

Recommended Equipment Custom N/A
or Equivalent:

This equipment is shown on drawing: TA704

1103 Plate - See Drawings for Details

Provide and install custom connection plate to be located at corresponding numbered location on floor plans. Locations shown on floor plans may vary slightly from actual field conditions and shall be verified prior to fabrication of plate. Provide back box enclosure as required for surface mount installations. See specifications for required connections. Submit custom plate design for review and approval prior to fabrication. Provide cables to plate with hook-and-loop cable ties.

Recommended Equipment Custom N/A
or Equivalent:

This equipment is shown on drawing: TA706

1104 Plate - See Drawings for Details

Provide and install custom connection plate to be located at corresponding numbered location on floor plans. Locations shown on floor plans may vary slightly from actual field conditions and shall be verified prior to fabrication of plate. Provide back box enclosure as required for surface mount installations. See specifications for required connections. Submit custom plate design for review and approval prior to fabrication. Provide cables to plate with hook-and-loop cable ties.

Recommended Equipment Custom N/A
or Equivalent:

This equipment is shown on drawing: TA708

1105 Plate - See Drawings for Details

Provide and install custom connection plate to be located at corresponding numbered location on floor plans. Locations shown on floor plans may vary slightly from actual field conditions and shall be verified prior to fabrication of plate. Provide back box enclosure as required for surface mount installations. See specifications for required connections. Submit custom plate design for review and approval prior to fabrication. Provide cables to plate with hook-and-loop cable ties.

Recommended Equipment Custom N/A
or Equivalent:

This equipment is shown on drawing: TA752

1106 Plate - See Drawings for Details

Provide and install custom connection plate to be located at corresponding numbered location on floor plans. Locations shown on floor plans may vary slightly from actual field conditions, and shall be verified prior to fabrication of plate. Provide back box enclosure as required for surface mount installations. See specifications for required connections. Submit custom plate design for review and approval prior to fabrication.

Recommended Equipment Custom N/A
or Equivalent:

This equipment is shown on drawing: TA756

1107 Plate - See Drawings for Details

Provide and install custom connection plate in the forward rack face of the video rack. See specifications for required connections. Submit custom plate design for review and approval prior to fabrication.

Recommended Equipment Custom N/A
or Equivalent:

This equipment is shown on drawing: TA782

1108 Plate - See Drawings for Details

Provide and install custom connection plate to be located at corresponding numbered location on floor plans. Locations shown on floor plans may vary slightly from actual field conditions and shall be verified prior to fabrication of plate. Provide back box enclosure as required for surface mount installations. See specifications for required connections. Submit custom plate design for review and approval prior to fabrication. Provide cables to plate with hook-and-loop cable ties.

Recommended Equipment Custom N/A
or Equivalent:

This equipment is shown on drawing: TA792

1109 Plate - See Drawings for Details

Provide and install custom connection plate to be located at corresponding numbered location on floor plans. Locations shown on floor plans may vary slightly from actual field conditions, and shall be verified prior to fabrication of plate. Provide back box enclosure as required for surface mount installations. See specifications for required connections. Submit custom plate design for review and approval prior to fabrication.

Recommended Equipment Custom N/A
or Equivalent:

This equipment is located: Cleveland CR18B

This equipment is shown on drawing: TA602

1110 Amplifier, 1 DGKat and 1 HDMI x 4 DGKat distribution

Provide and install at locations diagrammed. Provide cable end adapters as needed as part of this CLIN

Recommended Equipment Kramer Electronics Ltd. VM-114H4C
or Equivalent:

1111 Amplifier, 1 DGKat and 1 HDMI x 4 HDMI Distribution

Provide and install at locations diagrammed. Provide cable end adapters as needed as part of this CLIN

Recommended Equipment Kramer Electronics Ltd. VM-114H
or Equivalent:

1112 Bracket, Samsung VESA mounting adapter

Verify proper part number and then provide cart interface bracket for gallery monitors.

Recommended Equipment Chief Manufacturing Inc. PSB2306
or Equivalent:

- 1113 Camera, 1080p HDMI PTZ video conferencing
Provide and install camera on mount at locations indicated. Provide all control function required through codec and control system.
Recommended Equipment LifeSize Communications Camera 10x
or Equivalent:
- 1114 Camera, 1-CCD Hi-Res evidence
Provide and install document camera. Provide all remote control function available on control system panels with advanced controls on less accessed control screens. Program unit to power on with lights and select for publishing when input is selected or when video portion of system is powered on.
Recommended Equipment WolfVision, Inc. VZ-8 Plus (4)
or Equivalent:
- 1115 Card, Modular HDMI Input
Provide, install and configure card for master router frame
Recommended Equipment Kramer Electronics Ltd. HIN2 F16
or Equivalent:
- 1116 Card, Modular HDMI Output
Provide, install and configure card for master router frame
Recommended Equipment Kramer Electronics Ltd. HOut2 F16
or Equivalent:
- 1117 Card, Modular TP Input
Provide, install and configure card for master router frame
Recommended Equipment Kramer Electronics Ltd. DGKAT IN2 F16
or Equivalent:
- 1118 Card, Modular TP Output
Provide, install and configure card for master router frame
Recommended Equipment Kramer Electronics Ltd. DGKAT Out2 F16
or Equivalent:
- 1119 Cart, Large flat panel tube-style display
Provide and install monitor cart. Verify fit for monitor and adapter provided for project prior to ordering. Install and secure according to manufacturer's instructions.
Recommended Equipment Chief Manufacturing Inc. PPC2000
or Equivalent:
- 1120 Display, 55" 1920x1080 RS-232 controlled LED flat panel
Provide and install monitor at location indicated. Provide all accessory mounting adapters as needed for this model as part of this CLIN. Provide all connections and control in control system.
Recommended Equipment Samsung ED55D
or Equivalent:
- 1121 Extractor, HDMI signal audio
Install and connect to existing audio system. Program DSP file as needed for evidence audio input
Recommended Equipment Kramer Electronics Ltd. FC-46xl
or Equivalent:
- 1122 Frame, 16x16 slot modular router
Provide master frame. Load cards required into frame and configure.
Recommended Equipment Kramer Electronics Ltd. VS1616D
or Equivalent:

- 1123 Labels, Set of annotation monitor function
Provide set of labels with black text on white removable background label and mount on monitor bezel corners. Text on first label shall read "Undo". Text on Second label shall read "Color". Text on third label shall read "Clear". Apply to appropriate corners of all annotation monitors.
Recommended Equipment Custom Custom
or Equivalent:
- 1124 Monitor, 21.5" 16:9 VESA compliant LED
Provide and install monitor at locations indicated. Provide VESA mount where indicated.
Recommended Equipment Hewlett-Packard Z Display Z22i
or Equivalent:
- 1125 Monitor, Black 21.5" 1920x1080 16:9 USB touchscreen
Provide and install touch screen monitor.
Recommended Equipment Hewlett-Packard L2206tm
or Equivalent:
- 1126 Player, HD real-time media
Provide and install media player.
Recommended Equipment BrightSign BrightSign HD1020
or Equivalent:
- 1127 Processor, Annotation graphics overlay
Provide and install annotation system. Provide and install with all necessary cables and equipment. Install in rack. Cabling for all control data inputs shall be made with true serial data cable only. Where signals are weak and/or intermittent from input devices, provide in-line short haul modems at no additional cost to the project. Enable all capture functions on main control panels.
Recommended Equipment Extron Electronics Annotator Standard 60-968-01
or Equivalent:
- 1128 Receiver, TP to HDMI
Provide and install receiver at locations indicated. Provide only connection cable approved by the receiver manufacturer
Recommended Equipment Kramer Electronics Ltd. PT-572+
or Equivalent:
- 1129 Receiver, TP to HDMI and bi-directional RS-232
Provide and install receiver at locations indicated. Provide only connection cable approved by the receiver manufacturer
Recommended Equipment Kramer Electronics Ltd. TP-574
or Equivalent:
- 1130 Receiver, TP with control and audio to HDMI
Provide and install with camera system for full video and control functionality.
Recommended Equipment Extron Electronics DTP HDMI 330 Rx 60-1331-13
or Equivalent:
- 1131 Scaler, CV & Stereo audio to HDMI
Provide and install scaler at location indicated and configure for proper operation.
Recommended Equipment Kramer Electronics Ltd. VP-410
or Equivalent:

- 1132 Scaler, HDMI to HDMI compatibility
Provide and install scaler at location indicated.
Recommended Equipment Extron Electronics DSC HD-HD (60-1489-01)
or Equivalent:
- 1133 Stand, 100x100 low profile VESA monitor table
Install on attorney table monitors as directed by Court.
Recommended Equipment Ergomart EGT SL102-100
or Equivalent:
- 1134 Streamer, HD dual channel CV/HDMI network capture and
Provide and install steamer. Configure controls for Crestron as well as IP control. Provide status windows on control panel such as status of storage space, status of streaming and recording mode, etc.
Recommended Equipment Crestron Electronics CAPTURE-HD
or Equivalent:
- 1135 Switcher, 8-Input presentation scaler and
Provide and install switcher at locations indicated.
Recommended Equipment Kramer Electronics Ltd. VP-770
or Equivalent:
- 1136 Switcher, RS232 6x1:3 CV and stereo unbalanced audio
Provide and install switcher as indicated. Provide remote control on main control panels.
Recommended Equipment Kramer Electronics Ltd. VS-601xlm
or Equivalent:
- 1137 Transmitter, HDMI to TP
Provide and install transmitter at locations indicated. Provide only connection cable approved by the transmitter manufacturer
Recommended Equipment Kramer Electronics Ltd. PT-571
or Equivalent:
- 1138 Transmitter, HDMI with control and audio to TP
Provide and install with camera system for full video and control functionality.
Recommended Equipment Extron Electronics DTP HDMI 330 Tx 60-1331-12
or Equivalent:

This equipment is shown on drawing: TA603

- 1139 Application, Ipad control full product
Provide and turnover to Court for installation on CFE IT equipment. Provide all programming in mainframe engine to support feature required.
Recommended Equipment Crestron Electronics CRESTRON-APP-PAD
or Equivalent:
- 1140 Base, 26" D slim caster
Provide and install caster base on rack.
Recommended Equipment Middle Atlantic Products CBS-5-26
or Equivalent:
- 1141 Cage, Inboard expansion card
Provide and install expansion cage in control engine.
Recommended Equipment Crestron Electronics CAGE3
or Equivalent:

- 1142 Card, 3 Port 3-Series RS-232/422;485 expansion slot
Provide and install serial control expansion bus for additional control ports.
Recommended Equipment Crestron Electronics C3COM-3
or Equivalent:
- 1143 Engine, Blank front panel 6 Com port control
Provide, install and program control engine(s). See specifications for complete requirements. Program and merge the new control hardware provided under this contract for the video evidence and video conference systems with the existing audio and signaling systems that are currently operational. Where control engine brand is not compatible with new hardware, move all audio and signaling functions to new main engine or provide additional slave frame as a part of this CLIN as needed.
Recommended Equipment Crestron Electronics AV3
or Equivalent:
- 1144 PDU, Power receptacle panel rack mount
Provide and install power strip in rack. Connect to switching systems as needed.
Recommended Equipment Middle Atlantic Products PD-915R
or Equivalent:
- 1145 Programming, Control systems
Program control system per specifications. Provide programming for Xpanel files to be installed on court furnished PC's. Coordinate with court IT personnel.
Recommended Equipment Crestron Electronics N/A
or Equivalent:
- 1146 Rack, 37RU Open frame 64.75"x26" vertical
Provide rack off site and fully assembled and test prior to shipping to project installation location.
Recommended Equipment Middle Atlantic Products 5-37-26
or Equivalent:
- 1147 Receiver, TP to USBx4
Provide and install USB extender as shown on drawings. Configure per specifications and manufacturer's written instructions.
Recommended Equipment Extron Electronics USB Extender Plus R (60-1471-13)
or Equivalent:
- 1148 Relay, 120V/15A remote turn on power
Provide and install power sequencer. Install connected to control system and connect switched control to power amplifier and other devices which can be switched off.
Recommended Equipment Furman Sound, Inc. MP-20Q
or Equivalent:
- 1149 Revisions, Number of control system and control panel programming
Provide revisions of control system and control panel programming after installation and after reaching Substantial Completion. Provide the number of revisions to the control software and control panels indicated by quantity. The original programming provided is not considered a revision. Number of revisions is indicated in quantity and applies to each individual engine and control GUI Each quantity shown shall allow for a complete revision of each component and control panel provided in this room. A quantity "1" for example shall provide for a single revision on the control engines and an additional single revision for each type (or size) of control panel in the room a single time. Revisions outlined in this CLIN are separate from Substantial Completion issues but must be completed prior to Final Acceptance.
Recommended Equipment Custom Labor
or Equivalent:

1150 Strip, 24 outlet single 15 Amp circuit slim power

Provide and install power strip.

Recommended Equipment Middle Atlantic Products PD-2415SC-NS
or Equivalent:

1151 Switch, 24 port managed rack mount non POE data

Provide and install data switch and install in AV rack. Connect to single LAN connection or Ethernet compliant bus. Coordinate all needed IP addresses with IT staff prior to bringing systems on line.

Recommended Equipment Hewlett-Packard HP - 2920-24G J9726A
or Equivalent:

1152 Transmitter, USB to TP

Provide and install USB extender as shown on drawings. Configure per specifications and manufacturer's written instructions.

Recommended Equipment Extron Electronics USB Extender Plus T (60-1471-12)
or Equivalent:

This equipment is shown on drawing: TA702

1153 Plate - See Drawings for Details

Provide and install custom connection plate to be located at corresponding numbered location on floor plans. Locations shown on floor plans may vary slightly from actual field conditions and shall be verified prior to fabrication of plate. Provide back box enclosure as required for surface mount installations. See specifications for required connections. Submit custom plate design for review and approval prior to fabrication. Provide cables to plate with hook-and-loop cable ties.

Recommended Equipment Custom N/A
or Equivalent:

This equipment is shown on drawing: TA704

1154 Plate - See Drawings for Details

Provide and install custom connection plate to be located at corresponding numbered location on floor plans. Locations shown on floor plans may vary slightly from actual field conditions and shall be verified prior to fabrication of plate. Provide back box enclosure as required for surface mount installations. See specifications for required connections. Submit custom plate design for review and approval prior to fabrication. Provide cables to plate with hook-and-loop cable ties.

Recommended Equipment Custom N/A
or Equivalent:

This equipment is shown on drawing: TA706

1155 Plate - See Drawings for Details

Provide and install custom connection plate to be located at corresponding numbered location on floor plans. Locations shown on floor plans may vary slightly from actual field conditions and shall be verified prior to fabrication of plate. Provide back box enclosure as required for surface mount installations. See specifications for required connections. Submit custom plate design for review and approval prior to fabrication. Provide cables to plate with hook-and-loop cable ties.

Recommended Equipment Custom N/A
or Equivalent:

This equipment is shown on drawing: TA708

1156 Plate - See Drawings for Details

Provide and install custom connection plate to be located at corresponding numbered location on floor plans. Locations shown on floor plans may vary slightly from actual field conditions and shall be verified prior to fabrication of plate. Provide back box enclosure as required for surface mount installations. See specifications for required connections. Submit custom plate design for review and approval prior to fabrication. Provide cables to plate with hook-and-loop cable ties.

Recommended Equipment Custom N/A
or Equivalent:

This equipment is shown on drawing: TA752

1157 Plate - See Drawings for Details

Provide and install custom connection plate to be located at corresponding numbered location on floor plans. Locations shown on floor plans may vary slightly from actual field conditions, and shall be verified prior to fabrication of plate. Provide back box enclosure as required for surface mount installations. See specifications for required connections. Submit custom plate design for review and approval prior to fabrication.

Recommended Equipment Custom N/A
or Equivalent:

This equipment is shown on drawing: TA756

1158 Plate - See Drawings for Details

Provide and install custom connection plate in the forward rack face of the video rack. See specifications for required connections. Submit custom plate design for review and approval prior to fabrication.

Recommended Equipment Custom N/A
or Equivalent:

This equipment is shown on drawing: TA782

1159 Plate - See Drawings for Details

Provide and install custom connection plate to be located at corresponding numbered location on floor plans. Locations shown on floor plans may vary slightly from actual field conditions and shall be verified prior to fabrication of plate. Provide back box enclosure as required for surface mount installations. See specifications for required connections. Submit custom plate design for review and approval prior to fabrication. Provide cables to plate with hook-and-loop cable ties.

Recommended Equipment Custom N/A
or Equivalent:

This equipment is shown on drawing: TA792

1160 Plate - See Drawings for Details

Provide and install custom connection plate to be located at corresponding numbered location on floor plans. Locations shown on floor plans may vary slightly from actual field conditions, and shall be verified prior to fabrication of plate. Provide back box enclosure as required for surface mount installations. See specifications for required connections. Submit custom plate design for review and approval prior to fabrication.

Recommended Equipment Custom N/A
or Equivalent:

This equipment is located: Cleveland CR19A

This equipment is shown on drawing: TA602

1161 Amplifier, 1 DGKat and 1 HDMI x 4 DGKat distribution

Provide and install at locations diagrammed. Provide cable end adapters as needed as part of this CLIN

Recommended Equipment Kramer Electronics Ltd. VM-114H4C
or Equivalent:

- 1162 Amplifier, 1 DGKat and 1 HDMI x 4 HDMI Distribution
Provide and install at locations diagrammed. Provide cable end adapters as needed as part of this CLIN
Recommended Equipment Kramer Electronics Ltd. VM-114H
or Equivalent:
- 1163 Bracket, Samsung VESA mounting adapter
Verify proper part number and then provide cart interface bracket for gallery monitors.
Recommended Equipment Chief Manufacturing Inc. PSB2306
or Equivalent:
- 1164 Camera, 1080p HDMI PTZ video conferencing
Provide and install camera on mount at locations indicated. Provide all control function required through codec and control system.
Recommended Equipment LifeSize Communications Camera 10x
or Equivalent:
- 1165 Camera, 1-CCD Hi-Res evidence
Provide and install document camera. Provide all remote control function available on control system panels with advanced controls on less accessed control screens. Program unit to power on with lights and select for publishing when input is selected or when video portion of system is powered on.
Recommended Equipment WolfVision, Inc. VZ-8 Plus (4)
or Equivalent:
- 1166 Camera, Small format portable HDMI evidence
Provide, test at various input points and turn over to Owner for use as a portable device. Central remote control is not required.
Recommended Equipment AVerMedia VISIONF33-BLK
or Equivalent:
- 1167 Card, Modular HDMI Input
Provide, install and configure card for master router frame
Recommended Equipment Kramer Electronics Ltd. HIN2 F16
or Equivalent:
- 1168 Card, Modular HDMI Output
Provide, install and configure card for master router frame
Recommended Equipment Kramer Electronics Ltd. HOut2 F16
or Equivalent:
- 1169 Card, Modular TP Input
Provide, install and configure card for master router frame
Recommended Equipment Kramer Electronics Ltd. DGKAT IN2 F16
or Equivalent:
- 1170 Card, Modular TP Output
Provide, install and configure card for master router frame
Recommended Equipment Kramer Electronics Ltd. DGKAT Out2 F16
or Equivalent:
- 1171 Cart, Large flat panel tube-style display
Provide and install monitor cart. Verify fit for monitor and adapter provided for project prior to ordering. Install and secure according to manufacturer's instructions.
Recommended Equipment Chief Manufacturing Inc. PPC2000
or Equivalent:

- 1172 Codec, Express 220
Provide codec and configure to work portably between all project courtrooms in Cleveland via interface connection plate 56.
Recommended Equipment LifeSize Communications Codec, Only Express 220 1000-0000-0313
or Equivalent:
- 1173 Display, 55" 1920x1080 RS-232 controlled LED flat panel
Provide and install monitor at location indicated. Provide all accessory mounting adapters as needed for this model as part of this CLIN. Provide all connections and control in control system.
Recommended Equipment Samsung ED55D
or Equivalent:
- 1174 Extractor, HDMI signal audio
Install and connect to existing audio system. Program DSP file as needed for evidence audio input
Recommended Equipment Kramer Electronics Ltd. FC-46xl
or Equivalent:
- 1175 Frame, 16x16 slot modular router
Provide master frame. Load cards required into frame and configure.
Recommended Equipment Kramer Electronics Ltd. VS1616D
or Equivalent:
- 1176 Labels, Set of annotation monitor function
Provide set of labels with black text on white removable background label and mount on monitor bezel corners. Text on first label shall read "Undo". Text on Second label shall read "Color". Text on third label shall read "Clear". Apply to appropriate corners of all annotation monitors.
Recommended Equipment Custom Custom
or Equivalent:
- 1177 Monitor, 21.5" 16:9 VESA compliant LED
Provide and install monitor at locations indicated. Provide VESA mount where indicated.
Recommended Equipment Hewlett-Packard Z Display Z22i
or Equivalent:
- 1178 Monitor, Black 21.5" 1920x1080 16:9 USB touchscreen
Provide and install touch screen monitor.
Recommended Equipment Hewlett-Packard L2206tm
or Equivalent:
- 1179 Player, HD real-time media
Provide and install media player.
Recommended Equipment BrightSign BrightSign HD1020
or Equivalent:
- 1180 Processor, Annotation graphics overlay
Provide and install annotation system. Provide and install with all necessary cables and equipment. Install in rack. Cabling for all control data inputs shall be made with true serial data cable only. Where signals are weak and/or intermittent from input devices, provide in-line short haul modems at no additional cost to the project. Enable all capture functions on main control panels.
Recommended Equipment Extron Electronics Annotator Standard 60-968-01
or Equivalent:

- 1181 Receiver, TP to HDMI
Provide and install receiver at locations indicated. Provide only connection cable approved by the receiver manufacturer
Recommended Equipment Kramer Electronics Ltd. PT-572+
or Equivalent:
- 1182 Receiver, TP to HDMI and bi-directional RS-232
Provide and install receiver at locations indicated. Provide only connection cable approved by the receiver manufacturer
Recommended Equipment Kramer Electronics Ltd. TP-574
or Equivalent:
- 1183 Receiver, TP with control and audio to HDMI
Provide and install with camera system for full video and control functionality.
Recommended Equipment Extron Electronics DTP HDMI 330 Rx 60-1331-13
or Equivalent:
- 1184 Scaler, CV & Stereo audio to HDMI
Provide and install scaler at location indicated and configure for proper operation.
Recommended Equipment Kramer Electronics Ltd. VP-410
or Equivalent:
- 1185 Scaler, HDMI to HDMI compatibility
Provide and install scaler at location indicated.
Recommended Equipment Extron Electronics DSC HD-HD (60-1489-01)
or Equivalent:
- 1186 Stand, 100x100 low profile VESA monitor table
Install on attorney table monitors as directed by Court.
Recommended Equipment Ergomart EGT SL102-100
or Equivalent:
- 1187 Streamer, HD dual channel CV/HDMI network capture and
Provide and install steamer. Configure controls for Crestron as well as IP control. Provide status windows on control panel such as status of storage space, status of streaming and recording mode, etc.
Recommended Equipment Crestron Electronics CAPTURE-HD
or Equivalent:
- 1188 Switcher, 8-Input presentation scaler and
Provide and install switcher at locations indicated.
Recommended Equipment Kramer Electronics Ltd. VP-770
or Equivalent:
- 1189 Switcher, RS232 6x1:3 CV and stereo unbalanced audio
Provide and install switcher as indicated. Provide remote control on main control panels.
Recommended Equipment Kramer Electronics Ltd. VS-601xlm
or Equivalent:
- 1190 Transmitter, HDMI to TP
Provide and install transmitter at locations indicated. Provide only connection cable approved by the transmitter manufacturer
Recommended Equipment Kramer Electronics Ltd. PT-571
or Equivalent:

- 1191 Transmitter, HDMI with control and audio to TP
Provide and install with camera system for full video and control functionality.
Recommended Equipment Extron Electronics DTP HDMI 330 Tx 60-1331-12
or Equivalent:

This equipment is shown on drawing: TA603

- 1192 Application, Ipad control full product
Provide and turnover to Court for installation on CFE IT equipment. Provide all programming in mainframe engine to support feature required.
Recommended Equipment Crestron Electronics CRESTRON-APP-PAD
or Equivalent:
- 1193 Base, 26" D slim caster
Provide and install caster base on rack.
Recommended Equipment Middle Atlantic Products CBS-5-26
or Equivalent:
- 1194 Cage, Inboard expansion card
Provide and install expansion cage in control engine.
Recommended Equipment Crestron Electronics CAGE3
or Equivalent:
- 1195 Card, 3 Port 3-Series RS-232/422;485 expansion slot
Provide and install serial control expansion bus for additional control ports.
Recommended Equipment Crestron Electronics C3COM-3
or Equivalent:
- 1196 Engine, Blank front panel 6 Com port control
Provide, install and program control engine(s). See specifications for complete requirements. Program and merge the new control hardware provided under this contract for the video evidence and video conference systems with the existing audio and signaling systems that are currently operational. Where control engine brand is not compatible with new hardware, move all audio and signaling functions to new main engine or provide additional slave frame as a part of this CLIN as needed.
Recommended Equipment Crestron Electronics AV3
or Equivalent:
- 1197 PDU, Power receptacle panel rack mount
Provide and install power strip in rack. Connect to switching systems as needed.
Recommended Equipment Middle Atlantic Products PD-915R
or Equivalent:
- 1198 Programming, Control systems
Program control system per specifications. Provide programming for Xpanel files to be installed on court furnished PC's. Coordinate with court IT personnel.
Recommended Equipment Crestron Electronics N/A
or Equivalent:
- 1199 Rack, 37RU Open frame 64.75"x26" vertical
Provide rack off site and fully assembled and test prior to shipping to project installation location.
Recommended Equipment Middle Atlantic Products 5-37-26
or Equivalent:

- 1200 Receiver, TP to USBx4
Provide and install USB extender as shown on drawings. Configure per specifications and manufacturer's written instructions.
Recommended Equipment Extron Electronics USB Extender Plus R (60-1471-13)
or Equivalent:
- 1201 Relay, 120V/15A remote turn on power
Provide and install power sequencer. Install connected to control system and connect switched control to power amplifier and other devices which can be switched off.
Recommended Equipment Furman Sound, Inc. MP-20Q
or Equivalent:
- 1202 Revisions, Number of control system and control panel programming
Provide revisions of control system and control panel programming after installation and after reaching Substantial Completion. Provide the number of revisions to the control software and control panels indicated by quantity. The original programming provided is not considered a revision. Number of revisions is indicated in quantity and applies to each individual engine and control GUI. Each quantity shown shall allow for a complete revision of each component and control panel provided in this room. A quantity "1" for example shall provide for a single revision on the control engines and an additional single revision for each type (or size) of control panel in the room a single time. Revisions outlined in this CLIN are separate from Substantial Completion issues but must be completed prior to Final Acceptance.
Recommended Equipment Custom Labor
or Equivalent:
- 1203 Strip, 24 outlet single 15 Amp circuit slim power
Provide and install power strip.
Recommended Equipment Middle Atlantic Products PD-2415SC-NS
or Equivalent:
- 1204 Switch, 24 port managed rack mount non POE data
Provide and install data switch and install in AV rack. Connect to single LAN connection or Ethernet compliant bus. Coordinate all needed IP addresses with IT staff prior to bringing systems on line.
Recommended Equipment Hewlett-Packard HP - 2920-24G J9726A
or Equivalent:
- 1205 Transmitter, USB to TP
Provide and install USB extender as shown on drawings. Configure per specifications and manufacturer's written instructions.
Recommended Equipment Extron Electronics USB Extender Plus T (60-1471-12)
or Equivalent:

This equipment is shown on drawing: TA702

- 1206 Plate - See Drawings for Details
Provide and install custom connection plate to be located at corresponding numbered location on floor plans. Locations shown on floor plans may vary slightly from actual field conditions and shall be verified prior to fabrication of plate. Provide back box enclosure as required for surface mount installations. See specifications for required connections. Submit custom plate design for review and approval prior to fabrication. Provide cables to plate with hook-and-loop cable ties.
Recommended Equipment Custom N/A
or Equivalent:

This equipment is shown on drawing: TA704

1207 Plate - See Drawings for Details

Provide and install custom connection plate to be located at corresponding numbered location on floor plans. Locations shown on floor plans may vary slightly from actual field conditions and shall be verified prior to fabrication of plate. Provide back box enclosure as required for surface mount installations. See specifications for required connections. Submit custom plate design for review and approval prior to fabrication. Provide cables to plate with hook-and-loop cable ties.

Recommended Equipment Custom N/A
or Equivalent:

This equipment is shown on drawing: TA706

1208 Plate - See Drawings for Details

Provide and install custom connection plate to be located at corresponding numbered location on floor plans. Locations shown on floor plans may vary slightly from actual field conditions and shall be verified prior to fabrication of plate. Provide back box enclosure as required for surface mount installations. See specifications for required connections. Submit custom plate design for review and approval prior to fabrication. Provide cables to plate with hook-and-loop cable ties.

Recommended Equipment Custom N/A
or Equivalent:

This equipment is shown on drawing: TA708

1209 Plate - See Drawings for Details

Provide and install custom connection plate to be located at corresponding numbered location on floor plans. Locations shown on floor plans may vary slightly from actual field conditions and shall be verified prior to fabrication of plate. Provide back box enclosure as required for surface mount installations. See specifications for required connections. Submit custom plate design for review and approval prior to fabrication. Provide cables to plate with hook-and-loop cable ties.

Recommended Equipment Custom N/A
or Equivalent:

This equipment is shown on drawing: TA752

1210 Plate - See Drawings for Details

Provide and install custom connection plate to be located at corresponding numbered location on floor plans. Locations shown on floor plans may vary slightly from actual field conditions, and shall be verified prior to fabrication of plate. Provide back box enclosure as required for surface mount installations. See specifications for required connections. Submit custom plate design for review and approval prior to fabrication.

Recommended Equipment Custom N/A
or Equivalent:

This equipment is shown on drawing: TA756

1211 Plate - See Drawings for Details

Provide and install custom connection plate in the forward rack face of the video rack. See specifications for required connections. Submit custom plate design for review and approval prior to fabrication.

Recommended Equipment Custom N/A
or Equivalent:

This equipment is shown on drawing: TA782

1212 Plate - See Drawings for Details

Provide and install custom connection plate to be located at corresponding numbered location on floor plans. Locations shown on floor plans may vary slightly from actual field conditions and shall be verified prior to fabrication of plate. Provide back box enclosure as required for surface mount installations. See specifications for required connections. Submit custom plate design for review and approval prior to fabrication. Provide cables to plate with hook-and-loop cable ties.

Recommended Equipment Custom N/A
or Equivalent:

This equipment is shown on drawing: TA792

1213 Plate - See Drawings for Details

Provide and install custom connection plate to be located at corresponding numbered location on floor plans. Locations shown on floor plans may vary slightly from actual field conditions, and shall be verified prior to fabrication of plate. Provide back box enclosure as required for surface mount installations. See specifications for required connections. Submit custom plate design for review and approval prior to fabrication.

Recommended Equipment Custom N/A
or Equivalent:

This equipment is located: Toledo CR204

This equipment is shown on drawing: TA602

1214 Amplifier, 1 DGKat and 1 HDMI x 4 DGKat distribution

Provide and install at locations diagrammed. Provide cable end adapters as needed as part of this CLIN

Recommended Equipment Kramer Electronics Ltd. VM-114H4C
or Equivalent:

1215 Amplifier, 1 DGKat and 1 HDMI x 4 HDMI Distribution

Provide and install at locations diagrammed. Provide cable end adapters as needed as part of this CLIN

Recommended Equipment Kramer Electronics Ltd. VM-114H
or Equivalent:

1216 Bracket, Samsung VESA mounting adapter

Verify proper part number and then provide cart interface bracket for gallery monitors.

Recommended Equipment Chief Manufacturing Inc. PSB2306
or Equivalent:

1217 Camera, 1080p HDMI PTZ video conferencing

Provide and install camera on mount at locations indicated. Provide all control function required through codec and control system.

Recommended Equipment LifeSize Communications Camera 10x
or Equivalent:

1218 Camera, 1-CCD Hi-Res evidence

Provide and install document camera. Provide all remote control function available on control system panels with advanced controls on less accessed control screens. Program unit to power on with lights and select for publishing when input is selected or when video portion of system is powered on.

Recommended Equipment WolfVision, Inc. VZ-8 Plus (4)
or Equivalent:

1219 Camera, Small format portable HDMI evidence

Provide, test at various input points and turn over to Owner for use as a portable device. Central remote control is not required.

Recommended Equipment AVerMedia VISIONF33-BLK
or Equivalent:

- 1220 Card, Modular HDMI Input
Provide, install and configure card for master router frame
Recommended Equipment Kramer Electronics Ltd. HIN2 F16
or Equivalent:
- 1221 Card, Modular HDMI Output
Provide, install and configure card for master router frame
Recommended Equipment Kramer Electronics Ltd. HOut2 F16
or Equivalent:
- 1222 Card, Modular TP Input
Provide, install and configure card for master router frame
Recommended Equipment Kramer Electronics Ltd. DGKAT IN2 F16
or Equivalent:
- 1223 Card, Modular TP Output
Provide, install and configure card for master router frame
Recommended Equipment Kramer Electronics Ltd. DGKAT Out2 F16
or Equivalent:
- 1224 Codec, Express 220
Provide and install codec. Configure control system for both legacy and H.239 telepresence modes. Provide 2 meter umbilical where codec is shared between rack rooms.
Recommended Equipment LifeSize Communications Codec, Only Express 220 1000-0000-0313
or Equivalent:
- 1225 Display, 55" 1920x1080 RS-232 controlled LED flat panel
Provide and install monitor at location indicated. Provide all accessory mounting adapters as needed for this model as part of this CLIN. Provide all connections and control in control system.
Recommended Equipment Samsung ED55D
or Equivalent:
- 1226 Extractor, HDMI signal audio
Install and connect to existing audio system. Program DSP file as needed for evidence audio input
Recommended Equipment Kramer Electronics Ltd. FC-46xl
or Equivalent:
- 1227 Frame, 16x16 slot modular router
Provide master frame. Load cards required into frame and configure.
Recommended Equipment Kramer Electronics Ltd. VS1616D
or Equivalent:
- 1228 Labels, Set of annotation monitor function
Provide set of labels with black text on white removable background label and mount on monitor bezel corners. Text on first label shall read "Undo". Text on Second label shall read "Color". Text on third label shall read "Clear". Apply to appropriate corners of all annotation monitors.
Recommended Equipment Custom Custom
or Equivalent:
- 1229 Monitor, 21.5" 16:9 VESA compliant LED
Provide and install monitor at locations indicated. Provide VESA mount where indicated.
Recommended Equipment Hewlett-Packard Z Display Z22i
or Equivalent:

- 1230 Monitor, 27.0" 16:9 VESA compliant LED
Provide and install monitor in Jury box. Provide additional mounting adapters for all locations as needed as a part of this CLIN.
Recommended Equipment Hewlett-Packard Z Display Z27i
or Equivalent:
- 1231 Monitor, Black 21.5" 1920x1080 16:9 USB touchscreen
Provide and install touch screen monitor.
Recommended Equipment Hewlett-Packard L2206tm
or Equivalent:
- 1232 Mount, Dual black swing arm universal large flat panel wall
Provide and install wall mount for monitor. Verify correct part number for mount prior to ordering.
Recommended Equipment Chief Manufacturing Inc. PDRUB
or Equivalent:
- 1233 Player, HD real-time media
Provide and install media player.
Recommended Equipment BrightSign BrightSign HD1020
or Equivalent:
- 1234 Processor, Annotation graphics overlay
Provide and install annotation system. Provide and install with all necessary cables and equipment. Install in rack. Cabling for all control data inputs shall be made with true serial data cable only. Where signals are weak and/or intermittent from input devices, provide in-line short haul modems at no additional cost to the project. Enable all capture functions on main control panels.
Recommended Equipment Extron Electronics Annotator Standard 60-968-01
or Equivalent:
- 1235 Receiver, TP to HDMI
Provide and install receiver at locations indicated. Provide only connection cable approved by the receiver manufacturer
Recommended Equipment Kramer Electronics Ltd. PT-572+
or Equivalent:
- 1236 Receiver, TP to HDMI and bi-directional RS-232
Provide and install receiver at locations indicated. Provide only connection cable approved by the receiver manufacturer
Recommended Equipment Kramer Electronics Ltd. TP-574
or Equivalent:
- 1237 Receiver, TP with control and audio to HDMI
Provide and install with camera system for full video and control functionality.
Recommended Equipment Extron Electronics DTP HDMI 330 Rx 60-1331-13
or Equivalent:
- 1238 Scaler, HDMI to HDMI compatibility
Provide and install scaler at location indicated.
Recommended Equipment Extron Electronics DSC HD-HD (60-1489-01)
or Equivalent:
- 1239 Stand, 100x100 low profile VESA monitor table
Install on attorney table monitors as directed by Court.
Recommended Equipment Ergomart EGT SL102-100
or Equivalent:

- 1240 Streamer, HD dual channel CV/HDMI network capture and
Provide and install steamer. Configure controls for Crestron as well as IP control. Provide status windows on control panel such as status of storage space, status of streaming and recording mode, etc.
Recommended Equipment Crestron Electronics CAPTURE-HD
or Equivalent:
- 1241 Switcher, 8-Input presentation scaler and
Provide and install switcher at locations indicated.
Recommended Equipment Kramer Electronics Ltd. VP-770
or Equivalent:
- 1242 Switcher, RS232 6x1:3 CV and stereo unbalanced audio
Provide and install switcher as indicated. Provide remote control on main control panels.
Recommended Equipment Kramer Electronics Ltd. VS-601xlm
or Equivalent:
- 1243 Transmitter, HDMI to TP
Provide and install transmitter at locations indicated. Provide only connection cable approved by the transmitter manufacturer
Recommended Equipment Kramer Electronics Ltd. PT-571
or Equivalent:
- 1244 Transmitter, HDMI with control and audio to TP
Provide and install with camera system for full video and control functionality.
Recommended Equipment Extron Electronics DTP HDMI 330 Tx 60-1331-12
or Equivalent:

This equipment is shown on drawing: TA603

- 1245 Application, Ipad control full product
Provide and turnover to Court for installation on CFE IT equipment. Provide all programming in mainframe engine to support feature required.
Recommended Equipment Crestron Electronics CRESTRON-APP-PAD
or Equivalent:
- 1246 Cage, Inboard expansion card
Provide and install expansion cage in control engine.
Recommended Equipment Crestron Electronics CAGE3
or Equivalent:
- 1247 Card, 3 Port 3-Series RS-232/422;485 expansion slot
Provide and install serial control expansion bus for additional control ports.
Recommended Equipment Crestron Electronics C3COM-3
or Equivalent:
- 1248 Engine, Blank front panel 6 Com port control
Provide, install and program control engine(s). See specifications for complete requirements. Program and merge the new control hardware provided under this contract for the video evidence and video conference systems with the existing audio and signaling systems that are currently operational. Where control engine brand is not compatible with new hardware, move all audio and signaling functions to new main engine or provide additional slave frame as a part of this CLIN as needed.
Recommended Equipment Crestron Electronics AV3
or Equivalent:

- 1249 Programming, Control systems
 Program control system per specifications. Provide programming for Xpanel files to be installed on court furnished PC's. Coordinate with court IT personnel.
Recommended Equipment Crestron Electronics N/A
or Equivalent:
- 1250 Receiver, TP to USBx4
 Provide and install USB extender as shown on drawings. Configure per specifications and manufacturer's written instructions.
Recommended Equipment Extron Electronics USB Extender Plus R (60-1471-13)
or Equivalent:
- 1251 Relay, 120V/15A remote turn on power
 Provide and install power sequencer. Install connected to control system and connect switched control to power amplifier and other devices which can be switched off.
Recommended Equipment Furman Sound, Inc. MP-20Q
or Equivalent:
- 1252 Revisions, Number of control system and control panel programming
 Provide revisions of control system and control panel programming after installation and after reaching Substantial Completion. Provide the number of revisions to the control software and control panels indicated by quantity. The original programming provided is not considered a revision. Number of revisions is indicated in quantity and applies to each individual engine and control GUI. Each quantity shown shall allow for a complete revision of each component and control panel provided in this room. A quantity "1" for example shall provide for a single revision on the control engines and an additional single revision for each type (or size) of control panel in the room a single time. Revisions outlined in this CLIN are separate from Substantial Completion issues but must be completed prior to Final Acceptance.
Recommended Equipment Custom Labor
or Equivalent:
- 1253 Switch, 24 port managed rack mount non POE data
 Provide and install data switch and install in AV rack. Connect to single LAN connection or Ethernet compliant bus. Coordinate all needed IP addresses with IT staff prior to bringing systems on line.
Recommended Equipment Hewlett-Packard HP - 2920-24G J9726A
or Equivalent:
- 1254 Transmitter, USB to TP
 Provide and install USB extender as shown on drawings. Configure per specifications and manufacturer's written instructions.
Recommended Equipment Extron Electronics USB Extender Plus T (60-1471-12)
or Equivalent:

This equipment is shown on drawing: TA702

- 1255 Box, 2-Gang black surface mount wall back
 Provide and install back box for plate tight below countertop. Install flush on surface. Provide dark color light duty raceway as part of this item. Coordinate and include other existing wiring in area. Install plate on back box. Locate at appropriate location for connections.
Recommended Equipment Extron Electronics EWB 102 (60-1162-02)
or Equivalent:

1256 Plate - See Drawings for Details

Provide and install custom connection plate to be located at corresponding numbered location on floor plans. Locations shown on floor plans may vary slightly from actual field conditions and shall be verified prior to fabrication of plate. Provide back box enclosure as required for surface mount installations. See specifications for required connections. Submit custom plate design for review and approval prior to fabrication. Provide cables to plate with hook-and-loop cable ties.

Recommended Equipment Custom N/A
or Equivalent:

This equipment is shown on drawing: TA704

1257 Plate - See Drawings for Details

Provide and install custom connection plate to be located at corresponding numbered location on floor plans. Locations shown on floor plans may vary slightly from actual field conditions and shall be verified prior to fabrication of plate. Provide back box enclosure as required for surface mount installations. See specifications for required connections. Submit custom plate design for review and approval prior to fabrication. Provide cables to plate with hook-and-loop cable ties.

Recommended Equipment Custom N/A
or Equivalent:

This equipment is shown on drawing: TA706

1258 Plate - See Drawings for Details

Provide and install custom connection plate to be located at corresponding numbered location on floor plans. Locations shown on floor plans may vary slightly from actual field conditions and shall be verified prior to fabrication of plate. Provide back box enclosure as required for surface mount installations. See specifications for required connections. Submit custom plate design for review and approval prior to fabrication. Provide cables to plate with hook-and-loop cable ties.

Recommended Equipment Custom N/A
or Equivalent:

This equipment is shown on drawing: TA708

1259 Plate - See Drawings for Details

Provide and install custom connection plate to be located at corresponding numbered location on floor plans. Locations shown on floor plans may vary slightly from actual field conditions and shall be verified prior to fabrication of plate. Provide back box enclosure as required for surface mount installations. See specifications for required connections. Submit custom plate design for review and approval prior to fabrication. Provide cables to plate with hook-and-loop cable ties.

Recommended Equipment Custom N/A
or Equivalent:

This equipment is shown on drawing: TA726

1260 Plate - See Drawings for Details

Provide and install custom connection plate to be located at corresponding numbered location on floor plans. Locations shown on floor plans may vary slightly from actual field conditions, and shall be verified prior to fabrication of plate. Provide back box enclosure as required for surface mount installations. See specifications for required connections. Submit custom plate design for review and approval prior to fabrication.

Recommended Equipment Custom N/A
or Equivalent:

This equipment is shown on drawing: TA754

1261 Plate - See Drawings for Details

Provide and install custom connection plate to be located at corresponding numbered location on floor plans. Locations shown on floor plans may vary slightly from actual field conditions, and shall be verified prior to fabrication of plate. Provide back box enclosure as required for surface mount installations. See specifications for required connections. Submit custom plate design for review and approval prior to fabrication.

Recommended Equipment Custom N/A
or Equivalent:

This equipment is shown on drawing: TA782

1262 Plate - See Drawings for Details

Provide and install custom connection plate to be located at corresponding numbered location on floor plans. Locations shown on floor plans may vary slightly from actual field conditions and shall be verified prior to fabrication of plate. Provide back box enclosure as required for surface mount installations. See specifications for required connections. Submit custom plate design for review and approval prior to fabrication. Provide cables to plate with hook-and-loop cable ties.

Recommended Equipment Custom N/A
or Equivalent:

This equipment is shown on drawing: TA792

1263 Plate - See Drawings for Details

Provide and install custom connection plate to be located at corresponding numbered location on floor plans. Locations shown on floor plans may vary slightly from actual field conditions, and shall be verified prior to fabrication of plate. Provide back box enclosure as required for surface mount installations. See specifications for required connections. Submit custom plate design for review and approval prior to fabrication.

Recommended Equipment Custom N/A
or Equivalent:

Client Furnished Equipment

Video Systems

This equipment is located: Akron CR530

This equipment is shown on drawing: TA602

1264 Camera, Color NTSC pan/tilt/zoom

Reuse cameras at existing locations with existing cable to rack-area. Rework cable at rack and install new switcher and control as needed.

Recommended Equipment Sony Electronics, Inc. EVID100
or Equivalent:

1265 Mount, Black single pivot LCD monitor

Reuse mounts for all locations in the jury box. Adjust mounting height of mounts in front row as required. Ensure all mounts are straight after installation.

Recommended Equipment Ergotron, Inc. 47-092-800
or Equivalent:

This equipment is located: Cleveland CR15A

This equipment is shown on drawing: TA602

1266 Camera, Color NTSC pan/tilt/zoom

Reuse cameras at existing locations with existing cable to rack-area. Rework cable at rack and install new switcher and control as needed.

Recommended Equipment Sony Electronics, Inc. EVID100
or Equivalent:

1267 Mount, Black single pivot LCD monitor

Reuse mounts for all locations in the jury box. Adjust mounting height of mounts in front row as required. Ensure all mounts are straight after installation.

Recommended Equipment Ergotron, Inc. 47-092-800
or Equivalent:

This equipment is located: Cleveland CR15B

This equipment is shown on drawing: TA602

1268 Camera, Color NTSC pan/tilt/zoom

Reuse cameras at existing locations with existing cable to rack-area. Rework cable at rack and install new switcher and control as needed.

Recommended Equipment Sony Electronics, Inc. EVID100
or Equivalent:

1269 Mount, Black single pivot LCD monitor

Reuse mounts for all locations in the jury box. Adjust mounting height of mounts in front row as required. Ensure all mounts are straight after installation.

Recommended Equipment Ergotron, Inc. 47-092-800
or Equivalent:

This equipment is located: Cleveland CR17A

This equipment is shown on drawing: TA602

1270 Camera, Color NTSC pan/tilt/zoom

Reuse cameras at existing locations with existing cable to rack-area. Rework cable at rack and install new switcher and control as needed.

Recommended Equipment Sony Electronics, Inc. EVID100
or Equivalent:

1271 Mount, Black single pivot LCD monitor

Reuse mounts for all locations in the jury box. Adjust mounting height of mounts in front row as required. Ensure all mounts are straight after installation.

Recommended Equipment Ergotron, Inc. 47-092-800
or Equivalent:

This equipment is located: Cleveland CR18B

This equipment is shown on drawing: TA602

1272 Camera, Color NTSC pan/tilt/zoom

Reuse cameras at existing locations with existing cable to rack-area. Rework cable at rack and install new switcher and control as needed.

Recommended Equipment Sony Electronics, Inc. EVID100
or Equivalent:

1273 Mount, Black single pivot LCD monitor

Reuse mounts for all locations in the jury box. Adjust mounting height of mounts in front row as required. Ensure all mounts are straight after installation.

Recommended Equipment Ergotron, Inc. 47-092-800
or Equivalent:

This equipment is located: Cleveland CR19A

This equipment is shown on drawing: TA602

1274 Camera, Color NTSC pan/tilt/zoom

Reuse cameras at existing locations with existing cable to rack-area. Rework cable at rack and install new switcher and control as needed.

Recommended Equipment Sony Electronics, Inc. EVID100
or Equivalent:

1275 Mount, Black single pivot LCD monitor

Reuse mounts for all locations in the jury box. Adjust mounting height of mounts in front row as required. Ensure all mounts are straight after installation.

Recommended Equipment Ergotron, Inc. 47-092-800
or Equivalent:

This equipment is located: Cleveland CR19B

This equipment is shown on drawing: TA602

1276 Camera, Color NTSC pan/tilt/zoom

Reuse cameras at existing locations with existing cable to rack-area. Rework cable at rack and install new switcher and control as needed.

Recommended Equipment Sony Electronics, Inc. EVID100
or Equivalent:

1277 Mount, Black single pivot LCD monitor

Reuse mounts for all locations in the jury box. Adjust mounting height of mounts in front row as required. Ensure all mounts are straight after installation.

Recommended Equipment Ergotron, Inc. 47-092-800
or Equivalent:

This equipment is located: Toledo CR204

This equipment is shown on drawing: TA602

1278 Camera, Color NTSC pan/tilt/zoom

Reuse cameras at existing locations with existing cable to rack-area. Rework cable at rack and install new switcher and control as needed.

Recommended Equipment Sony Electronics, Inc. EVID100
or Equivalent:

1279 Mount, Black single pivot LCD monitor

Reuse mounts for all locations in the jury box. Adjust mounting height of mounts in front row as required. Ensure all mounts are straight after installation.

Recommended Equipment Ergotron, Inc. 47-092-800
or Equivalent:

OPTION 1

Video Systems

This equipment is located: Cleveland CR19B

This equipment is shown on drawing: TA602

1280 Amplifier, 1 DGKat and 1 HDMI x 4 DGKat distribution

Provide and install at locations diagrammed. Provide cable end adapters as needed as part of this CLIN

Recommended Equipment Kramer Electronics Ltd. VM-114H4C
or Equivalent:

- 1281 Amplifier, 1 DGKat and 1 HDMI x 4 HDMI Distribution
Provide and install at locations diagrammed. Provide cable end adapters as needed as part of this CLIN
Recommended Equipment Kramer Electronics Ltd. VM-114H
or Equivalent:
- 1282 Bracket, Samsung VESA mounting adapter
Verify proper part number and then provide cart interface bracket for gallery monitors.
Recommended Equipment Chief Manufacturing Inc. PSB2306
or Equivalent:
- 1283 Camera, 1080p HDMI PTZ video conferencing
Provide and install camera on mount at locations indicated. Provide all control function required through codec and control system.
Recommended Equipment LifeSize Communications Camera 10x
or Equivalent:
- 1284 Camera, 1-CCD Hi-Res evidence
Provide and install document camera. Provide all remote control function available on control system panels with advanced controls on less accessed control screens. Program unit to power on with lights and select for publishing when input is selected or when video portion of system is powered on.
Recommended Equipment WolfVision, Inc. VZ-8 Plus (4)
or Equivalent:
- 1285 Card, Modular HDMI Input
Provide, install and configure card for master router frame
Recommended Equipment Kramer Electronics Ltd. HIN2 F16
or Equivalent:
- 1286 Card, Modular HDMI Output
Provide, install and configure card for master router frame
Recommended Equipment Kramer Electronics Ltd. HOut2 F16
or Equivalent:
- 1287 Card, Modular TP Input
Provide, install and configure card for master router frame
Recommended Equipment Kramer Electronics Ltd. DGKAT IN2 F16
or Equivalent:
- 1288 Card, Modular TP Output
Provide, install and configure card for master router frame
Recommended Equipment Kramer Electronics Ltd. DGKAT Out2 F16
or Equivalent:
- 1289 Cart, Large flat panel tube-style display
Provide and install monitor cart. Verify fit for monitor and adapter provided for project prior to ordering. Install and secure according to manufacturer's instructions.
Recommended Equipment Chief Manufacturing Inc. PPC2000
or Equivalent:
- 1290 Display, 55" 1920x1080 RS-232 controlled LED flat panel
Provide and install monitor at location indicated. Provide all accessory mounting adapters as needed for this model as part of this CLIN. Provide all connections and control in control system.
Recommended Equipment Samsung ED55D
or Equivalent:

- 1291 Extractor, HDMI signal audio
Install and connect to existing audio system. Program DSP file as needed for evidence audio input
Recommended Equipment Kramer Electronics Ltd. FC-46xl
or Equivalent:
- 1292 Frame, 16x16 slot modular router
Provide master frame. Load cards required into frame and configure.
Recommended Equipment Kramer Electronics Ltd. VS1616D
or Equivalent:
- 1293 Labels, Set of annotation monitor function
Provide set of labels with black text on white removable background label and mount on monitor bezel corners. Text on first label shall read "Undo". Text on Second label shall read "Color". Text on third label shall read "Clear". Apply to appropriate corners of all annotation monitors.
Recommended Equipment Custom Custom
or Equivalent:
- 1294 Monitor, 21.5" 16:9 VESA compliant LED
Provide and install monitor at locations indicated. Provide VESA mount where indicated.
Recommended Equipment Hewlett-Packard Z Display Z22i
or Equivalent:
- 1295 Monitor, Black 21.5" 1920x1080 16:9 USB touchscreen
Provide and install touch screen monitor.
Recommended Equipment Hewlett-Packard L2206tm
or Equivalent:
- 1296 Player, HD real-time media
Provide and install media player.
Recommended Equipment BrightSign BrightSign HD1020
or Equivalent:
- 1297 Processor, Annotation graphics overlay
Provide and install annotation system. Provide and install with all necessary cables and equipment. Install in rack. Cabling for all control data inputs shall be made with true serial data cable only. Where signals are weak and/or intermittent from input devices, provide in-line short haul modems at no additional cost to the project. Enable all capture functions on main control panels.
Recommended Equipment Extron Electronics Annotator Standard 60-968-01
or Equivalent:
- 1298 Receiver, TP to HDMI
Provide and install receiver at locations indicated. Provide only connection cable approved by the receiver manufacturer
Recommended Equipment Kramer Electronics Ltd. PT-572+
or Equivalent:
- 1299 Receiver, TP to HDMI and bi-directional RS-232
Provide and install receiver at locations indicated. Provide only connection cable approved by the receiver manufacturer
Recommended Equipment Kramer Electronics Ltd. TP-574
or Equivalent:

- 1300 Receiver, TP with control and audio to HDMI
Provide and install with camera system for full video and control functionality.
Recommended Equipment Extron Electronics DTP HDMI 330 Rx 60-1331-13
or Equivalent:
- 1301 Scaler, CV & Stereo audio to HDMI
Provide and install scaler at location indicated and configure for proper operation.
Recommended Equipment Kramer Electronics Ltd. VP-410
or Equivalent:
- 1302 Scaler, HDMI to HDMI compatibility
Provide and install scaler at location indicated.
Recommended Equipment Extron Electronics DSC HD-HD (60-1489-01)
or Equivalent:
- 1303 Stand, 100x100 low profile VESA monitor table
Install on attorney table monitors as directed by Court.
Recommended Equipment Ergomart EGT SL102-100
or Equivalent:
- 1304 Streamer, HD dual channel CV/HDMI network capture and
Provide and install steamer. Configure controls for Crestron as well as IP control. Provide status windows on control panel such as status of storage space, status of streaming and recording mode, etc.
Recommended Equipment Crestron Electronics CAPTURE-HD
or Equivalent:
- 1305 Switcher, 8-Input presentation scaler and
Provide and install switcher at locations indicated.
Recommended Equipment Kramer Electronics Ltd. VP-770
or Equivalent:
- 1306 Switcher, RS232 6x1:3 CV and stereo unbalanced audio
Provide and install switcher as indicated. Provide remote control on main control panels.
Recommended Equipment Kramer Electronics Ltd. VS-601xlm
or Equivalent:
- 1307 Transmitter, HDMI to TP
Provide and install transmitter at locations indicated. Provide only connection cable approved by the transmitter manufacturer
Recommended Equipment Kramer Electronics Ltd. PT-571
or Equivalent:
- 1308 Transmitter, HDMI with control and audio to TP
Provide and install with camera system for full video and control functionality.
Recommended Equipment Extron Electronics DTP HDMI 330 Tx 60-1331-12
or Equivalent:

This equipment is shown on drawing: TA603

- 1309 Application, Ipad control full product
Provide and turnover to Court for installation on CFE IT equipment. Provide all programming in mainframe engine to support feature required.
Recommended Equipment Crestron Electronics CRESTRON-APP-PAD
or Equivalent:

- 1310 Base, 26" D slim caster
Provide and install caster base on rack.
Recommended Equipment Middle Atlantic Products CBS-5-26
or Equivalent:
- 1311 Cage, Inboard expansion card
Provide and install expansion cage in control engine.
Recommended Equipment Crestron Electronics CAGE3
or Equivalent:
- 1312 Card, 3 Port 3-Series RS-232/422;485 expansion slot
Provide and install serial control expansion bus for additional control ports.
Recommended Equipment Crestron Electronics C3COM-3
or Equivalent:
- 1313 Engine, Blank front panel 6 Com port control
Provide, install and program control engine(s). See specifications for complete requirements. Program and merge the new control hardware provided under this contract for the video evidence and video conference systems with the existing audio and signaling systems that are currently operational. Where control engine brand is not compatible with new hardware, move all audio and signaling functions to new main engine or provide additional slave frame as a part of this CLIN as needed.
Recommended Equipment Crestron Electronics AV3
or Equivalent:
- 1314 PDU, Power receptacle panel rack mount
Provide and install power strip in rack. Connect to switching systems as needed.
Recommended Equipment Middle Atlantic Products PD-915R
or Equivalent:
- 1315 Programming, Control systems
Program control system per specifications. Provide programming for Xpanel files to be installed on court furnished PC's. Coordinate with court IT personnel.
Recommended Equipment Crestron Electronics N/A
or Equivalent:
- 1316 Rack, 37RU Open frame 64.75"x26" vertical
Provide rack off site and fully assembled and test prior to shipping to project installation location.
Recommended Equipment Middle Atlantic Products 5-37-26
or Equivalent:
- 1317 Receiver, TP to USBx4
Provide and install USB extender as shown on drawings. Configure per specifications and manufacturer's written instructions.
Recommended Equipment Extron Electronics USB Extender Plus R (60-1471-13)
or Equivalent:
- 1318 Relay, 120V/15A remote turn on power
Provide and install power sequencer. Install connected to control system and connect switched control to power amplifier and other devices which can be switched off.
Recommended Equipment Furman Sound, Inc. MP-20Q
or Equivalent:

1319 Revisions, Number of control system and control panel programming

Provide revisions of control system and control panel programming after installation and after reaching Substantial Completion. Provide the number of revisions to the control software and control panels indicated by quantity. The original programming provided is not considered a revision. Number of revisions is indicated in quantity and applies to each individual engine and control GUI. Each quantity shown shall allow for a complete revision of each component and control panel provided in this room. A quantity "1" for example shall provide for a single revision on the control engines and an additional single revision for each type (or size) of control panel in the room a single time. Revisions outlined in this CLIN are separate from Substantial Completion issues but must be completed prior to Final Acceptance.

Recommended Equipment Custom Labor
or Equivalent:

1320 Strip, 24 outlet single 15 Amp circuit slim power

Provide and install power strip.

Recommended Equipment Middle Atlantic Products PD-2415SC-NS
or Equivalent:

1321 Switch, 24 port managed rack mount non POE data

Provide and install data switch and install in AV rack. Connect to single LAN connection or Ethernet compliant bus. Coordinate all needed IP addresses with IT staff prior to bringing systems on line.

Recommended Equipment Hewlett-Packard HP - 2920-24G J9726A
or Equivalent:

1322 Transmitter, USB to TP

Provide and install USB extender as shown on drawings. Configure per specifications and manufacturer's written instructions.

Recommended Equipment Extron Electronics USB Extender Plus T (60-1471-12)
or Equivalent:

This equipment is shown on drawing: TA702

1323 Plate - See Drawings for Details

Provide and install custom connection plate to be located at corresponding numbered location on floor plans. Locations shown on floor plans may vary slightly from actual field conditions and shall be verified prior to fabrication of plate. Provide back box enclosure as required for surface mount installations. See specifications for required connections. Submit custom plate design for review and approval prior to fabrication. Provide cables to plate with hook-and-loop cable ties.

Recommended Equipment Custom N/A
or Equivalent:

This equipment is shown on drawing: TA704

1324 Plate - See Drawings for Details

Provide and install custom connection plate to be located at corresponding numbered location on floor plans. Locations shown on floor plans may vary slightly from actual field conditions and shall be verified prior to fabrication of plate. Provide back box enclosure as required for surface mount installations. See specifications for required connections. Submit custom plate design for review and approval prior to fabrication. Provide cables to plate with hook-and-loop cable ties.

Recommended Equipment Custom N/A
or Equivalent:

This equipment is shown on drawing: TA706

1325 Plate - See Drawings for Details

Provide and install custom connection plate to be located at corresponding numbered location on floor plans. Locations shown on floor plans may vary slightly from actual field conditions and shall be verified prior to fabrication of plate. Provide back box enclosure as required for surface mount installations. See specifications for required connections. Submit custom plate design for review and approval prior to fabrication. Provide cables to plate with hook-and-loop cable ties.

Recommended Equipment Custom N/A
or Equivalent:

This equipment is shown on drawing: TA708

1326 Plate - See Drawings for Details

Provide and install custom connection plate to be located at corresponding numbered location on floor plans. Locations shown on floor plans may vary slightly from actual field conditions and shall be verified prior to fabrication of plate. Provide back box enclosure as required for surface mount installations. See specifications for required connections. Submit custom plate design for review and approval prior to fabrication. Provide cables to plate with hook-and-loop cable ties.

Recommended Equipment Custom N/A
or Equivalent:

This equipment is shown on drawing: TA752

1327 Plate - See Drawings for Details

Provide and install custom connection plate to be located at corresponding numbered location on floor plans. Locations shown on floor plans may vary slightly from actual field conditions, and shall be verified prior to fabrication of plate. Provide back box enclosure as required for surface mount installations. See specifications for required connections. Submit custom plate design for review and approval prior to fabrication.

Recommended Equipment Custom N/A
or Equivalent:

This equipment is shown on drawing: TA756

1328 Plate - See Drawings for Details

Provide and install custom connection plate in the forward rack face of the video rack. See specifications for required connections. Submit custom plate design for review and approval prior to fabrication.

Recommended Equipment Custom N/A
or Equivalent:

This equipment is shown on drawing: TA782

1329 Plate - See Drawings for Details

Provide and install custom connection plate to be located at corresponding numbered location on floor plans. Locations shown on floor plans may vary slightly from actual field conditions and shall be verified prior to fabrication of plate. Provide back box enclosure as required for surface mount installations. See specifications for required connections. Submit custom plate design for review and approval prior to fabrication. Provide cables to plate with hook-and-loop cable ties.

Recommended Equipment Custom N/A
or Equivalent:

This equipment is shown on drawing: TA792

1330 Plate - See Drawings for Details

Provide and install custom connection plate to be located at corresponding numbered location on floor plans. Locations shown on floor plans may vary slightly from actual field conditions, and shall be verified prior to fabrication of plate. Provide back box enclosure as required for surface mount installations. See specifications for required connections. Submit custom plate design for review and approval prior to fabrication.

Recommended Equipment Custom N/A
or Equivalent:

OPTION 2

Video Systems

This equipment is located: Cleveland CR17A

This equipment is shown on drawing: TA602

1331 Amplifier, 1 DGKat and 1 HDMI x 4 DGKat distribution

Provide and install at locations diagrammed. Provide cable end adapters as needed as part of this CLIN

Recommended Equipment Kramer Electronics Ltd. VM-114H4C
or Equivalent:

1332 Amplifier, 1 DGKat and 1 HDMI x 4 HDMI Distribution

Provide and install at locations diagrammed. Provide cable end adapters as needed as part of this CLIN

Recommended Equipment Kramer Electronics Ltd. VM-114H
or Equivalent:

1333 Bracket, Samsung VESA mounting adapter

Verify proper part number and then provide cart interface bracket for gallery monitors.

Recommended Equipment Chief Manufacturing Inc. PSB2306
or Equivalent:

1334 Camera, 1080p HDMI PTZ video conferencing

Provide and install camera on mount at locations indicated. Provide all control function required through codec and control system.

Recommended Equipment LifeSize Communications Camera 10x
or Equivalent:

1335 Camera, 1-CCD Hi-Res evidence

Provide and install document camera. Provide all remote control function available on control system panels with advanced controls on less accessed control screens. Program unit to power on with lights and select for publishing when input is selected or when video portion of system is powered on.

Recommended Equipment WolfVision, Inc. VZ-8 Plus (4)
or Equivalent:

1336 Card, Modular HDMI Input

Provide, install and configure card for master router frame

Recommended Equipment Kramer Electronics Ltd. HIN2 F16
or Equivalent:

1337 Card, Modular HDMI Output

Provide, install and configure card for master router frame

Recommended Equipment Kramer Electronics Ltd. HOut2 F16
or Equivalent:

- 1338 Card, Modular TP Input
Provide, install and configure card for master router frame
Recommended Equipment Kramer Electronics Ltd. DGKAT IN2 F16
or Equivalent:
- 1339 Card, Modular TP Output
Provide, install and configure card for master router frame
Recommended Equipment Kramer Electronics Ltd. DGKAT Out2 F16
or Equivalent:
- 1340 Cart, Large flat panel tube-style display
Provide and install monitor cart. Verify fit for monitor and adapter provided for project prior to ordering. Install and secure according to manufacturer's instructions.
Recommended Equipment Chief Manufacturing Inc. PPC2000
or Equivalent:
- 1341 Display, 55" 1920x1080 RS-232 controlled LED flat panel
Provide and install monitor at location indicated. Provide all accessory mounting adapters as needed for this model as part of this CLIN. Provide all connections and control in control system.
Recommended Equipment Samsung ED55D
or Equivalent:
- 1342 Extractor, HDMI signal audio
Install and connect to existing audio system. Program DSP file as needed for evidence audio input
Recommended Equipment Kramer Electronics Ltd. FC-46xl
or Equivalent:
- 1343 Frame, 16x16 slot modular router
Provide master frame. Load cards required into frame and configure.
Recommended Equipment Kramer Electronics Ltd. VS1616D
or Equivalent:
- 1344 Labels, Set of annotation monitor function
Provide set of labels with black text on white removable background label and mount on monitor bezel corners. Text on first label shall read "Undo". Text on Second label shall read "Color". Text on third label shall read "Clear". Apply to appropriate corners of all annotation monitors.
Recommended Equipment Custom Custom
or Equivalent:
- 1345 Monitor, 21.5" 16:9 VESA compliant LED
Provide and install monitor at locations indicated. Provide VESA mount where indicated.
Recommended Equipment Hewlett-Packard Z Display Z22i
or Equivalent:
- 1346 Monitor, Black 21.5" 1920x1080 16:9 USB touchscreen
Provide and install touch screen monitor.
Recommended Equipment Hewlett-Packard L2206tm
or Equivalent:
- 1347 Player, HD real-time media
Provide and install media player.
Recommended Equipment BrightSign BrightSign HD1020
or Equivalent:

- 1348 Processor, Annotation graphics overlay
Provide and install annotation system. Provide and install with all necessary cables and equipment. Install in rack. Cabling for all control data inputs shall be made with true serial data cable only. Where signals are weak and/or intermittent from input devices, provide in-line short haul modems at no additional cost to the project. Enable all capture functions on main control panels.
Recommended Equipment Extron Electronics Annotator Standard 60-968-01
or Equivalent:
- 1349 Receiver, TP to HDMI
Provide and install receiver at locations indicated. Provide only connection cable approved by the receiver manufacturer
Recommended Equipment Kramer Electronics Ltd. PT-572+
or Equivalent:
- 1350 Receiver, TP to HDMI and bi-directional RS-232
Provide and install receiver at locations indicated. Provide only connection cable approved by the receiver manufacturer
Recommended Equipment Kramer Electronics Ltd. TP-574
or Equivalent:
- 1351 Receiver, TP with control and audio to HDMI
Provide and install with camera system for full video and control functionality.
Recommended Equipment Extron Electronics DTP HDMI 330 Rx 60-1331-13
or Equivalent:
- 1352 Scaler, CV & Stereo audio to HDMI
Provide and install scaler at location indicated and configure for proper operation.
Recommended Equipment Kramer Electronics Ltd. VP-410
or Equivalent:
- 1353 Scaler, HDMI to HDMI compatibility
Provide and install scaler at location indicated.
Recommended Equipment Extron Electronics DSC HD-HD (60-1489-01)
or Equivalent:
- 1354 Stand, 100x100 low profile VESA monitor table
Install on attorney table monitors as directed by Court.
Recommended Equipment Ergomart EGT SL102-100
or Equivalent:
- 1355 Streamer, HD dual channel CV/HDMI network capture and
Provide and install steamer. Configure controls for Crestron as well as IP control. Provide status windows on control panel such as status of storage space, status of streaming and recording mode, etc.
Recommended Equipment Crestron Electronics CAPTURE-HD
or Equivalent:
- 1356 Switcher, 8-Input presentation scaler and
Provide and install switcher at locations indicated.
Recommended Equipment Kramer Electronics Ltd. VP-770
or Equivalent:
- 1357 Switcher, RS232 6x1:3 CV and stereo unbalanced audio
Provide and install switcher as indicated. Provide remote control on main control panels.
Recommended Equipment Kramer Electronics Ltd. VS-601xlm
or Equivalent:

1358 Transmitter, HDMI to TP
Provide and install transmitter at locations indicated. Provide only connection cable approved by the transmitter manufacturer

Recommended Equipment Kramer Electronics Ltd. PT-571
or Equivalent:

1359 Transmitter, HDMI with control and audio to TP
Provide and install with camera system for full video and control functionality.

Recommended Equipment Extron Electronics DTP HDMI 330 Tx 60-1331-12
or Equivalent:

This equipment is shown on drawing: TA603

1360 Application, Ipad control full product
Provide and turnover to Court for installation on CFE IT equipment. Provide all programming in mainframe engine to support feature required.

Recommended Equipment Crestron Electronics CRESTRON-APP-PAD
or Equivalent:

1361 Base, 26" D slim caster
Provide and install caster base on rack.

Recommended Equipment Middle Atlantic Products CBS-5-26
or Equivalent:

1362 Cage, Inboard expansion card
Provide and install expansion cage in control engine.

Recommended Equipment Crestron Electronics CAGE3
or Equivalent:

1363 Card, 3 Port 3-Series RS-232/422;485 expansion slot
Provide and install serial control expansion bus for additional control ports.

Recommended Equipment Crestron Electronics C3COM-3
or Equivalent:

1364 Engine, Blank front panel 6 Com port control
Provide, install and program control engine(s). See specifications for complete requirements. Program and merge the new control hardware provided under this contract for the video evidence and video conference systems with the existing audio and signaling systems that are currently operational. Where control engine brand is not compatible with new hardware, move all audio and signaling functions to new main engine or provide additional slave frame as a part of this CLIN as needed.

Recommended Equipment Crestron Electronics AV3
or Equivalent:

1365 PDU, Power receptacle panel rack mount
Provide and install power strip in rack. Connect to switching systems as needed.

Recommended Equipment Middle Atlantic Products PD-915R
or Equivalent:

1366 Programming, Control systems
Program control system per specifications. Provide programming for Xpanel files to be installed on court furnished PC's. Coordinate with court IT personnel.

Recommended Equipment Crestron Electronics N/A
or Equivalent:

- 1367 Rack, 37RU Open frame 64.75"x26" vertical
Provide rack off site and fully assembled and test prior to shipping to project installation location.
Recommended Equipment Middle Atlantic Products 5-37-26
or Equivalent:
- 1368 Receiver, TP to USBx4
Provide and install USB extender as shown on drawings. Configure per specifications and manufacturer's written instructions.
Recommended Equipment Extron Electronics USB Extender Plus R (60-1471-13)
or Equivalent:
- 1369 Relay, 120V/15A remote turn on power
Provide and install power sequencer. Install connected to control system and connect switched control to power amplifier and other devices which can be switched off.
Recommended Equipment Furman Sound, Inc. MP-20Q
or Equivalent:
- 1370 Revisions, Number of control system and control panel programming
Provide revisions of control system and control panel programming after installation and after reaching Substantial Completion. Provide the number of revisions to the control software and control panels indicated by quantity. The original programming provided is not considered a revision. Number of revisions is indicated in quantity and applies to each individual engine and control GUI. Each quantity shown shall allow for a complete revision of each component and control panel provided in this room. A quantity "1" for example shall provide for a single revision on the control engines and an additional single revision for each type (or size) of control panel in the room a single time. Revisions outlined in this CLIN are separate from Substantial Completion issues but must be completed prior to Final Acceptance.
Recommended Equipment Custom Labor
or Equivalent:
- 1371 Strip, 24 outlet single 15 Amp circuit slim power
Provide and install power strip.
Recommended Equipment Middle Atlantic Products PD-2415SC-NS
or Equivalent:
- 1372 Switch, 24 port managed rack mount non POE data
Provide and install data switch and install in AV rack. Connect to single LAN connection or Ethernet compliant bus. Coordinate all needed IP addresses with IT staff prior to bringing systems on line.
Recommended Equipment Hewlett-Packard HP - 2920-24G J9726A
or Equivalent:
- 1373 Transmitter, USB to TP
Provide and install USB extender as shown on drawings. Configure per specifications and manufacturer's written instructions.
Recommended Equipment Extron Electronics USB Extender Plus T (60-1471-12)
or Equivalent:

This equipment is shown on drawing: TA702

- 1374 Plate - See Drawings for Details
Provide and install custom connection plate to be located at corresponding numbered location on floor plans. Locations shown on floor plans may vary slightly from actual field conditions and shall be verified prior to fabrication of plate. Provide back box enclosure as required for surface mount installations. See specifications for required connections. Submit custom plate design for review and approval prior to fabrication. Provide cables to plate with hook-and-loop cable ties.
Recommended Equipment Custom N/A
or Equivalent:

This equipment is shown on drawing: TA704

1375 Plate - See Drawings for Details

Provide and install custom connection plate to be located at corresponding numbered location on floor plans. Locations shown on floor plans may vary slightly from actual field conditions and shall be verified prior to fabrication of plate. Provide back box enclosure as required for surface mount installations. See specifications for required connections. Submit custom plate design for review and approval prior to fabrication. Provide cables to plate with hook-and-loop cable ties.

Recommended Equipment Custom N/A
or Equivalent:

This equipment is shown on drawing: TA706

1376 Plate - See Drawings for Details

Provide and install custom connection plate to be located at corresponding numbered location on floor plans. Locations shown on floor plans may vary slightly from actual field conditions and shall be verified prior to fabrication of plate. Provide back box enclosure as required for surface mount installations. See specifications for required connections. Submit custom plate design for review and approval prior to fabrication. Provide cables to plate with hook-and-loop cable ties.

Recommended Equipment Custom N/A
or Equivalent:

This equipment is shown on drawing: TA708

1377 Plate - See Drawings for Details

Provide and install custom connection plate to be located at corresponding numbered location on floor plans. Locations shown on floor plans may vary slightly from actual field conditions and shall be verified prior to fabrication of plate. Provide back box enclosure as required for surface mount installations. See specifications for required connections. Submit custom plate design for review and approval prior to fabrication. Provide cables to plate with hook-and-loop cable ties.

Recommended Equipment Custom N/A
or Equivalent:

This equipment is shown on drawing: TA752

1378 Plate - See Drawings for Details

Provide and install custom connection plate to be located at corresponding numbered location on floor plans. Locations shown on floor plans may vary slightly from actual field conditions, and shall be verified prior to fabrication of plate. Provide back box enclosure as required for surface mount installations. See specifications for required connections. Submit custom plate design for review and approval prior to fabrication.

Recommended Equipment Custom N/A
or Equivalent:

This equipment is shown on drawing: TA756

1379 Plate - See Drawings for Details

Provide and install custom connection plate in the forward rack face of the video rack. See specifications for required connections. Submit custom plate design for review and approval prior to fabrication.

Recommended Equipment Custom N/A
or Equivalent:

This equipment is shown on drawing: TA782

1380 Plate - See Drawings for Details

Provide and install custom connection plate to be located at corresponding numbered location on floor plans. Locations shown on floor plans may vary slightly from actual field conditions and shall be verified prior to fabrication of plate. Provide back box enclosure as required for surface mount installations. See specifications for required connections. Submit custom plate design for review and approval prior to fabrication. Provide cables to plate with hook-and-loop cable ties.

Recommended Equipment Custom N/A
or Equivalent:

This equipment is shown on drawing: TA792

1381 Plate - See Drawings for Details

Provide and install custom connection plate to be located at corresponding numbered location on floor plans. Locations shown on floor plans may vary slightly from actual field conditions, and shall be verified prior to fabrication of plate. Provide back box enclosure as required for surface mount installations. See specifications for required connections. Submit custom plate design for review and approval prior to fabrication.

Recommended Equipment Custom N/A
or Equivalent:

OPTION 3

Video Systems

This equipment is located: Cleveland CR15A

This equipment is shown on drawing: TA602

1382 Amplifier, 1 DGKat and 1 HDMI x 4 DGKat distribution

Provide and install at locations diagrammed. Provide cable end adapters as needed as part of this CLIN

Recommended Equipment Kramer Electronics Ltd. VM-114H4C
or Equivalent:

1383 Amplifier, 1 DGKat and 1 HDMI x 4 HDMI Distribution

Provide and install at locations diagrammed. Provide cable end adapters as needed as part of this CLIN

Recommended Equipment Kramer Electronics Ltd. VM-114H
or Equivalent:

1384 Bracket, Samsung VESA mounting adapter

Verify proper part number and then provide cart interface bracket for gallery monitors.

Recommended Equipment Chief Manufacturing Inc. PSB2306
or Equivalent:

1385 Camera, 1080p HDMI PTZ video conferencing

Provide and install camera on mount at locations indicated. Provide all control function required through codec and control system.

Recommended Equipment LifeSize Communications Camera 10x
or Equivalent:

1386 Camera, 1-CCD Hi-Res evidence

Provide and install document camera. Provide all remote control function available on control system panels with advanced controls on less accessed control screens. Program unit to power on with lights and select for publishing when input is selected or when video portion of system is powered on.

Recommended Equipment WolfVision, Inc. VZ-8 Plus (4)
or Equivalent:

- 1387 Card, Modular HDMI Input
Provide, install and configure card for master router frame
Recommended Equipment Kramer Electronics Ltd. HIN2 F16
or Equivalent:
- 1388 Card, Modular HDMI Output
Provide, install and configure card for master router frame
Recommended Equipment Kramer Electronics Ltd. HOut2 F16
or Equivalent:
- 1389 Card, Modular TP Input
Provide, install and configure card for master router frame
Recommended Equipment Kramer Electronics Ltd. DGKAT IN2 F16
or Equivalent:
- 1390 Card, Modular TP Output
Provide, install and configure card for master router frame
Recommended Equipment Kramer Electronics Ltd. DGKAT Out2 F16
or Equivalent:
- 1391 Cart, Large flat panel tube-style display
Provide and install monitor cart. Verify fit for monitor and adapter provided for project prior to ordering. Install and secure according to manufacturer's instructions.
Recommended Equipment Chief Manufacturing Inc. PPC2000
or Equivalent:
- 1392 Display, 55" 1920x1080 RS-232 controlled LED flat panel
Provide and install monitor at location indicated. Provide all accessory mounting adapters as needed for this model as part of this CLIN. Provide all connections and control in control system.
Recommended Equipment Samsung ED55D
or Equivalent:
- 1393 Extractor, HDMI signal audio
Install and connect to existing audio system. Program DSP file as needed for evidence audio input
Recommended Equipment Kramer Electronics Ltd. FC-46xl
or Equivalent:
- 1394 Frame, 16x16 slot modular router
Provide master frame. Load cards required into frame and configure.
Recommended Equipment Kramer Electronics Ltd. VS1616D
or Equivalent:
- 1395 Labels, Set of annotation monitor function
Provide set of labels with black text on white removable background label and mount on monitor bezel corners. Text on first label shall read "Undo". Text on Second label shall read "Color". Text on third label shall read "Clear". Apply to appropriate corners of all annotation monitors.
Recommended Equipment Custom Custom
or Equivalent:
- 1396 Monitor, 21.5" 16:9 VESA compliant LED
Provide and install monitor at locations indicated. Provide VESA mount where indicated.
Recommended Equipment Hewlett-Packard Z Display Z22i
or Equivalent:

- 1397 Monitor, Black 21.5" 1920x1080 16:9 USB touchscreen
Provide and install touch screen monitor.
Recommended Equipment Hewlett-Packard L2206tm
or Equivalent:
- 1398 Player, HD real-time media
Provide and install media player.
Recommended Equipment BrightSign BrightSign HD1020
or Equivalent:
- 1399 Processor, Annotation graphics overlay
Provide and install annotation system. Provide and install with all necessary cables and equipment. Install in rack. Cabling for all control data inputs shall be made with true serial data cable only. Where signals are weak and/or intermittent from input devices, provide in-line short haul modems at no additional cost to the project. Enable all capture functions on main control panels.
Recommended Equipment Extron Electronics Annotator Standard 60-968-01
or Equivalent:
- 1400 Receiver, TP to HDMI
Provide and install receiver at locations indicated. Provide only connection cable approved by the receiver manufacturer
Recommended Equipment Kramer Electronics Ltd. PT-572+
or Equivalent:
- 1401 Receiver, TP to HDMI and bi-directional RS-232
Provide and install receiver at locations indicated. Provide only connection cable approved by the receiver manufacturer
Recommended Equipment Kramer Electronics Ltd. TP-574
or Equivalent:
- 1402 Receiver, TP with control and audio to HDMI
Provide and install with camera system for full video and control functionality.
Recommended Equipment Extron Electronics DTP HDMI 330 Rx 60-1331-13
or Equivalent:
- 1403 Scaler, CV & Stereo audio to HDMI
Provide and install scaler at location indicated and configure for proper operation.
Recommended Equipment Kramer Electronics Ltd. VP-410
or Equivalent:
- 1404 Scaler, HDMI to HDMI compatibility
Provide and install scaler at location indicated.
Recommended Equipment Extron Electronics DSC HD-HD (60-1489-01)
or Equivalent:
- 1405 Stand, 100x100 low profile VESA monitor table
Install on attorney table monitors as directed by Court.
Recommended Equipment Ergomart EGT SL102-100
or Equivalent:
- 1406 Streamer, HD dual channel CV/HDMI network capture and
Provide and install steamer. Configure controls for Crestron as well as IP control. Provide status windows on control panel such as status of storage space, status of streaming and recording mode, etc.
Recommended Equipment Crestron Electronics CAPTURE-HD
or Equivalent:

- 1407 Switcher, 8-Input presentation scaler and
Provide and install switcher at locations indicated.
Recommended Equipment Kramer Electronics Ltd. VP-770
or Equivalent:
- 1408 Switcher, RS232 6x1:3 CV and stereo unbalanced audio
Provide and install switcher as indicated. Provide remote control on main control panels.
Recommended Equipment Kramer Electronics Ltd. VS-601xlm
or Equivalent:
- 1409 Transmitter, HDMI to TP
Provide and install transmitter at locations indicated. Provide only connection cable approved by the transmitter manufacturer
Recommended Equipment Kramer Electronics Ltd. PT-571
or Equivalent:
- 1410 Transmitter, HDMI with control and audio to TP
Provide and install with camera system for full video and control functionality.
Recommended Equipment Extron Electronics DTP HDMI 330 Tx 60-1331-12
or Equivalent:

This equipment is shown on drawing: TA603

- 1411 Application, Ipad control full product
Provide and turnover to Court for installation on CFE IT equipment. Provide all programming in mainframe engine to support feature required.
Recommended Equipment Crestron Electronics CRESTRON-APP-PAD
or Equivalent:
- 1412 Base, 26" D slim caster
Provide and install caster base on rack.
Recommended Equipment Middle Atlantic Products CBS-5-26
or Equivalent:
- 1413 Cage, Inboard expansion card
Provide and install expansion cage in control engine.
Recommended Equipment Crestron Electronics CAGE3
or Equivalent:
- 1414 Card, 3 Port 3-Series RS-232/422/485 expansion slot
Provide and install serial control expansion bus for additional control ports.
Recommended Equipment Crestron Electronics C3COM-3
or Equivalent:
- 1415 Engine, Blank front panel 6 Com port control
Provide, install and program control engine(s). See specifications for complete requirements. Program and merge the new control hardware provided under this contract for the video evidence and video conference systems with the existing audio and signaling systems that are currently operational. Where control engine brand is not compatible with new hardware, move all audio and signaling functions to new main engine or provide additional slave frame as a part of this CLIN as needed.
Recommended Equipment Crestron Electronics AV3
or Equivalent:

- 1416 PDU, Power receptacle panel rack mount
Provide and install power strip in rack. Connect to switching systems as needed.
Recommended Equipment Middle Atlantic Products PD-915R
or Equivalent:
- 1417 Programming, Control systems
Program control system per specifications. Provide programming for Xpanel files to be installed on court furnished PC's. Coordinate with court IT personnel.
Recommended Equipment Crestron Electronics N/A
or Equivalent:
- 1418 Rack, 37RU Open frame 64.75"x26" vertical
Provide rack off site and fully assembled and test prior to shipping to project installation location.
Recommended Equipment Middle Atlantic Products 5-37-26
or Equivalent:
- 1419 Receiver, TP to USBx4
Provide and install USB extender as shown on drawings. Configure per specifications and manufacturer's written instructions.
Recommended Equipment Extron Electronics USB Extender Plus R (60-1471-13)
or Equivalent:
- 1420 Relay, 120V/15A remote turn on power
Provide and install power sequencer. Install connected to control system and connect switched control to power amplifier and other devices which can be switched off.
Recommended Equipment Furman Sound, Inc. MP-20Q
or Equivalent:
- 1421 Revisions, Number of control system and control panel programming
Provide revisions of control system and control panel programming after installation and after reaching Substantial Completion. Provide the number of revisions to the control software and control panels indicated by quantity. The original programming provided is not considered a revision. Number of revisions is indicated in quantity and applies to each individual engine and control GUI Each quantity shown shall allow for a complete revision of each component and control panel provided in this room. A quantity "1" for example shall provide for a single revision on the control engines and an additional single revision for each type (or size) of control panel in the room a single time. Revisions outlined in this CLIN are separate from Substantial Completion issues but must be completed prior to Final Acceptance.
Recommended Equipment Custom Labor
or Equivalent:
- 1422 Strip, 24 outlet single 15 Amp circuit slim power
Provide and install power strip.
Recommended Equipment Middle Atlantic Products PD-2415SC-NS
or Equivalent:
- 1423 Switch, 24 port managed rack mount non POE data
Provide and install data switch and install in AV rack. Connect to single LAN connection or Ethernet compliant bus. Coordinate all needed IP addresses with IT staff prior to bringing systems on line.
Recommended Equipment Hewlett-Packard HP - 2920-24G J9726A
or Equivalent:
- 1424 Transmitter, USB to TP
Provide and install USB extender as shown on drawings. Configure per specifications and manufacturer's written instructions.
Recommended Equipment Extron Electronics USB Extender Plus T (60-1471-12)
or Equivalent:

This equipment is shown on drawing: TA702

1425 Plate - See Drawings for Details

Provide and install custom connection plate to be located at corresponding numbered location on floor plans. Locations shown on floor plans may vary slightly from actual field conditions and shall be verified prior to fabrication of plate. Provide back box enclosure as required for surface mount installations. See specifications for required connections. Submit custom plate design for review and approval prior to fabrication. Provide cables to plate with hook-and-loop cable ties.

Recommended Equipment Custom N/A
or Equivalent:

This equipment is shown on drawing: TA704

1426 Plate - See Drawings for Details

Provide and install custom connection plate to be located at corresponding numbered location on floor plans. Locations shown on floor plans may vary slightly from actual field conditions and shall be verified prior to fabrication of plate. Provide back box enclosure as required for surface mount installations. See specifications for required connections. Submit custom plate design for review and approval prior to fabrication. Provide cables to plate with hook-and-loop cable ties.

Recommended Equipment Custom N/A
or Equivalent:

This equipment is shown on drawing: TA706

1427 Plate - See Drawings for Details

Provide and install custom connection plate to be located at corresponding numbered location on floor plans. Locations shown on floor plans may vary slightly from actual field conditions and shall be verified prior to fabrication of plate. Provide back box enclosure as required for surface mount installations. See specifications for required connections. Submit custom plate design for review and approval prior to fabrication. Provide cables to plate with hook-and-loop cable ties.

Recommended Equipment Custom N/A
or Equivalent:

This equipment is shown on drawing: TA708

1428 Plate - See Drawings for Details

Provide and install custom connection plate to be located at corresponding numbered location on floor plans. Locations shown on floor plans may vary slightly from actual field conditions and shall be verified prior to fabrication of plate. Provide back box enclosure as required for surface mount installations. See specifications for required connections. Submit custom plate design for review and approval prior to fabrication. Provide cables to plate with hook-and-loop cable ties.

Recommended Equipment Custom N/A
or Equivalent:

This equipment is shown on drawing: TA752

1429 Plate - See Drawings for Details

Provide and install custom connection plate to be located at corresponding numbered location on floor plans. Locations shown on floor plans may vary slightly from actual field conditions, and shall be verified prior to fabrication of plate. Provide back box enclosure as required for surface mount installations. See specifications for required connections. Submit custom plate design for review and approval prior to fabrication.

Recommended Equipment Custom N/A
or Equivalent:

This equipment is shown on drawing: TA756

1430 Plate - See Drawings for Details

Provide and install custom connection plate in the forward rack face of the video rack. See specifications for required connections. Submit custom plate design for review and approval prior to fabrication.

Recommended Equipment Custom N/A
or Equivalent:

This equipment is shown on drawing: TA782

1431 Plate - See Drawings for Details

Provide and install custom connection plate to be located at corresponding numbered location on floor plans. Locations shown on floor plans may vary slightly from actual field conditions and shall be verified prior to fabrication of plate. Provide back box enclosure as required for surface mount installations. See specifications for required connections. Submit custom plate design for review and approval prior to fabrication. Provide cables to plate with hook-and-loop cable ties.

Recommended Equipment Custom N/A
or Equivalent:

This equipment is shown on drawing: TA792

1432 Plate - See Drawings for Details

Provide and install custom connection plate to be located at corresponding numbered location on floor plans. Locations shown on floor plans may vary slightly from actual field conditions, and shall be verified prior to fabrication of plate. Provide back box enclosure as required for surface mount installations. See specifications for required connections. Submit custom plate design for review and approval prior to fabrication.

Recommended Equipment Custom N/A
or Equivalent:

BID FORM SCHEDULE B-1

PLEASE SEE ATTACHED

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UNITED STATES DISTRICT COURT, NORTHERN DISTRICT OF OHIO

SCHEDULE B: B - 1 Bid Form

July 31, 2015

The bidder is wholly responsible for all amounts and totals provided

The equipment listed on this page is for the BASE BID

CLIN	Item	Make/Model or Equivalent	Qty	Unit Price	Total Price
1000	EQUIPMENT/MATERIAL				
BASE BID					
Video Systems					
Akron CR530					
Courtroom Video Argument Presentation Systems Functional Requirements					
* Refer to drawing TA602					
1001	Amplifier, 1 DGKat and 1 HDMI x 4 DGKat distribution	Kramer Electronics Ltd. VM-114H4C	1	\$ -	\$ -
1002	Amplifier, 1 DGKat and 1 HDMI x 4 HDMI Distribution	Kramer Electronics Ltd. VM-114H	4	\$ -	\$ -
1003	Amplifier, 1000W 70V rack mount audio power	Behringer (Music Group) AX6220Z	1	\$ -	\$ -
1004	Camera, 1080p HDMI PTZ video conferencing	LifeSize Communications Camera 10x	2	\$ -	\$ -
1005	Camera, 1-CCD Hi-Res evidence	WolfVision, Inc. VZ-8 Plus (4)	1	\$ -	\$ -
1006	Camera, Small format portable HDMI evidence	AVerMedia VISIONF33-BLK	1	\$ -	\$ -
1007	Card, Modular HDMI Input	Kramer Electronics Ltd. HIN2 F16	3	\$ -	\$ -
1008	Card, Modular HDMI Output	Kramer Electronics Ltd. HOut2 F16	2	\$ -	\$ -
1009	Card, Modular TP Input	Kramer Electronics Ltd. DGKAT IN2 F16	4	\$ -	\$ -
1010	Card, Modular TP Output	Kramer Electronics Ltd. DGKAT Out2 F16	7	\$ -	\$ -
1011	Codec, Express 220	LifeSize Communications Codec, Only Express 220 1000-0000-0313	1	\$ -	\$ -
1012	Display, 55" 1920x1080 RS-232 controlled LED flat panel	Samsung ED55D	2	\$ -	\$ -
1013	Extractor, HDMI signal audio	Kramer Electronics Ltd. FC-46xl	1	\$ -	\$ -
1014	Frame, 16x16 slot modular router	Kramer Electronics Ltd. VS1616D	1	\$ -	\$ -
1015	Labels, Set of annotation monitor function	Custom Custom	3	\$ -	\$ -
1016	Loudspeaker, 70V Miniature black line array	Innovox Audio, LLC MLA-8-BL-70V	9	\$ -	\$ -
1017	Monitor, 21.5" 16:9 VESA compliant LED Monitor, Black 21.5"	Hewlett-Packard Z Display Z22i	15	\$ -	\$ -
1018	1920x1080 16:9 USB touchscreen	Hewlett-Packard L2206tm	3	\$ -	\$ -
1019	Mount, Dual black swing arm universal large flat panel wall	Chief Manufacturing Inc. PDRUB	1	\$ -	\$ -

1020	Player, HD real-time media	BrightSign BrightSign HD1020	1	\$	-	\$	-
1021	Processor, Annotation graphics overlay	Extron Electronics Annotator Standard 60-968-01	1	\$	-	\$	-
1022	Receiver, TP to HDMI	Kramer Electronics Ltd. PT-572+	7	\$	-	\$	-
1023	Receiver, TP to HDMI and bi-directional RS-232	Kramer Electronics Ltd. TP-574	2	\$	-	\$	-
1024	Receiver, TP with control and audio to HDMI	Extron Electronics DTP HDMI 330 Rx 60-1331-13	2	\$	-	\$	-
1025	Scaler, HDMI to HDMI compatibility Stand, 100x100 low profile	Extron Electronics DSC HD-HD (60-1489-01)	1	\$	-	\$	-
1026	VESA monitor table	Ergomart EGT SL102-100	10	\$	-	\$	-
1027	Streamer, HD dual channel CV/HDMI network capture and Switcher, 8-Input presentation	Crestron Electronics CAPTURE-HD	1	\$	-	\$	-
1028	scaler	Kramer Electronics Ltd. VP-770	1	\$	-	\$	-
1029	Transmitter, HDMI to TP	Kramer Electronics Ltd. PT-571	4	\$	-	\$	-
1030	Transmitter, HDMI with control and audio to TP	Extron Electronics DTP HDMI 330 Tx 60-1331-12	2	\$	-	\$	-
Courtroom AV Argument Presentation System Control & Power Functional Requirements							
* Refer to drawing TA603							
1031	Application, Ipad control full product	Crestron Electronics CRESTRON-APP-PAD	1	\$	-	\$	-
1032	Cage, Inboard expansion card	Crestron Electronics CAGE3	1	\$	-	\$	-
1033	Card, 3 Port 3-Series RS-232/422;485 expansion slot	Crestron Electronics C3COM-3	1	\$	-	\$	-
1034	Casters, Set of 4	Middle Atlantic Products CBS-ERK-25	1	\$	-	\$	-
1035	Engine, Blank front panel		1	\$	-	\$	-
1036	6 Com port control PDU, Power receptacle panel rack mount	Crestron Electronics AV3	1	\$	-	\$	-
1037	Programming, Control systems	Middle Atlantic Products PD-915R	1	\$	-	\$	-
1038	Rack, 40RU (70") steel 25" deep equipment	Crestron Electronics N/A	1	\$	-	\$	-
1039	Rails, 40 space rear rack	Middle Atlantic Products ERK-4025	1	\$	-	\$	-
1040	Receiver, TP to USBx4	Middle Atlantic Products ERK-RR40	3	\$	-	\$	-
1041	Relay, 120V/15A remote turn on power	Extron Electronics USB Extender Plus R (60-1471-13)	1	\$	-	\$	-
1042	Revisions, Number of control system and control panel programming	Furman Sound, Inc. MP-20Q	3	\$	-	\$	-
1043	Strip, 24 outlet single 15 Amp circuit slim power Switch, 24 port managed rack mount non	Custom Labor	2	\$	-	\$	-
1044	POE data	Middle Atlantic Products PD-2415SC-NS	1	\$	-	\$	-
1045	Transmitter, USB to TP	Hewlett-Packard HP - 2920-24G J9726A	3	\$	-	\$	-
Plate #2 * Refer to drawing TA702							
1046	Plate - See Drawings for Details	Extron Electronics USB Extender Plus T (60-1471-12)	1	\$	-	\$	-
Plate #4 * Refer to drawing TA704							
1047	Plate - See Drawings for Details	Custom N/A	1	\$	-	\$	-

Plate #6 * Refer to drawing TA706

1048 Plate - See Drawings for Details	Custom N/A	1	\$	-	\$	-
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Plate #8 * Refer to drawing TA708

1049 Plate - See Drawings for Details	Custom N/A	1	\$	-	\$	-
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Plate #10 * Refer to drawing TA710

Box, 2-Gang black surface mount 1050 wall back	Extron Electronics EWB 102 (60-1162-02)	1	\$	-	\$	-
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1051 Plate - See Drawings for Details	Custom N/A	1	\$	-	\$	-
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Plate #26 * Refer to drawing TA726

1052 Plate - See Drawings for Details	Custom N/A	1	\$	-	\$	-
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Plate #28 * Refer to drawing TA728

1053 Plate - See Drawings for Details	Custom N/A	1	\$	-	\$	-
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Plate #44 * Refer to drawing TA744

1054 Plate - See Drawings for Details	Custom N/A	1	\$	-	\$	-
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Plate #48 * Refer to drawing TA748

1055 Plate - See Drawings for Details	Custom N/A	1	\$	-	\$	-
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Plate #54 * Refer to drawing TA754

1056 Plate - See Drawings for Details	Custom N/A	1	\$	-	\$	-
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Plate #82 * Refer to drawing TA782

1057 Plate - See Drawings for Details	Custom N/A	1	\$	-	\$	-
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Plate #92 * Refer to drawing TA792

1058 Plate - See Drawings for Details	Custom N/A	1	\$	-	\$	-
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Cleveland CR15B**Courtroom Video Argument Presentation Systems Functional Requirements***** Refer to drawing TA602**

Amplifier, 1 DGKat and 1059 1 HDMI x 4 DGKat distribution	Kramer Electronics Ltd. VM-114H4C	1	\$	-	\$	-
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Amplifier, 1 DGKat and 1060 1 HDMI x 4 HDMI Distribution	Kramer Electronics Ltd. VM-114H	7	\$	-	\$	-
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Bracket, Samsung VESA 1061 mounting adapter	Chief Manufacturing Inc. PSB2306	1	\$	-	\$	-
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Camera, 1080p HDMI 1062 PTZ video conferencing	LifeSize Communications Camera 10x	2	\$	-	\$	-
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1063 Camera, 1-CCD Hi-Res evidence	WolfVision, Inc. VZ-8 Plus (4)	1	\$	-	\$	-
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1064 Card, Modular HDMI Input	Kramer Electronics Ltd. HIN2 F16	3	\$	-	\$	-
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1065 Card, Modular HDMI Output	Kramer Electronics Ltd. HOut2 F16	2	\$	-	\$	-
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1066 Card, Modular TP Input	Kramer Electronics Ltd. DGKAT IN2 F16	4	\$	-	\$	-
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1067	Card, Modular TP Output	Kramer Electronics Ltd. DGKAT Out2 F16	7	\$	-	\$	-
1068	Cart, Large flat panel tube-style display	Chief Manufacturing Inc. PPC2000	1	\$	-	\$	-
	Display, 55" 1920x1080		1	\$	-	\$	-
1069	RS-232 controlled LED flat panel	Samsung ED55D	1	\$	-	\$	-
1070	Extractor, HDMI signal audio	Kramer Electronics Ltd. FC-46xl	1	\$	-	\$	-
1071	Frame, 16x16 slot modular router	Kramer Electronics Ltd. VS1616D	1	\$	-	\$	-
1072	Labels, Set of annotation monitor function	Custom Custom	3	\$	-	\$	-
	Monitor, 21.5" 16:9 VESA		16	\$	-	\$	-
1073	compliant LED	Hewlett-Packard Z Display Z22i	3	\$	-	\$	-
	Monitor, Black 21.5" 1920x1080		1	\$	-	\$	-
1074	16:9 USB touchscreen	Hewlett-Packard L2206tm	1	\$	-	\$	-
1075	Player, HD real-time media	BrightSign BrightSign HD1020	1	\$	-	\$	-
1076	Processor, Annotation graphics overlay	Extron Electronics Annotator Standard 60-968-01	1	\$	-	\$	-
1077	Receiver, TP to HDMI	Kramer Electronics Ltd. PT-572+	7	\$	-	\$	-
	Receiver, TP to HDMI and		1	\$	-	\$	-
1078	bi-directional RS-232	Kramer Electronics Ltd. TP-574	2	\$	-	\$	-
	Receiver, TP with control and		1	\$	-	\$	-
1079	audio to HDMI	Extron Electronics DTP HDMI 330 Rx 60-1331-13	1	\$	-	\$	-
1080	Scaler, CV & Stereo audio to HDMI	Kramer Electronics Ltd. VP-410	1	\$	-	\$	-
1081	Scaler, HDMI to HDMI compatibility	Extron Electronics DSC HD-HD (60-1489-01)	9	\$	-	\$	-
	Stand, 100x100 low profile		1	\$	-	\$	-
1082	VESA monitor table	Ergomart EGT SL102-100	1	\$	-	\$	-
	Streamer, HD dual channel		1	\$	-	\$	-
1083	CV/HDMI network capture and	Crestron Electronics CAPTURE-HD	1	\$	-	\$	-
1084	Switcher, 8-Input presentation scaler	Kramer Electronics Ltd. VP-770	1	\$	-	\$	-
	Switcher, RS232 6x1:3 CV and stereo		1	\$	-	\$	-
1085	unbalanced audio	Kramer Electronics Ltd. VS-601xlm	7	\$	-	\$	-
1086	Transmitter, HDMI to TP	Kramer Electronics Ltd. PT-571	2	\$	-	\$	-
	Transmitter, HDMI with control and		1	\$	-	\$	-
1087	audio to TP	Extron Electronics DTP HDMI 330 Tx 60-1331-12		\$	-	\$	-
Courtroom AV Argument Presentation System Control & Power Functional Requirements							
* Refer to drawing TA603							
1088	Application, Ipad control full product	Crestron Electronics CRESTRON-APP-PAD	1	\$	-	\$	-
1089	Base, 26" D slim caster	Middle Atlantic Products CBS-5-26	1	\$	-	\$	-
1090	Cage, Inboard expansion card	Crestron Electronics CAGE3	1	\$	-	\$	-
	Card, 3 Port 3-Series RS-232/422;485		1	\$	-	\$	-
1091	expansion slot	Crestron Electronics C3COM-3	1	\$	-	\$	-
	Engine, Blank front panel		1	\$	-	\$	-
1092	6 Com port control	Crestron Electronics AV3	1	\$	-	\$	-
1093	PDU, Power receptacle panel rack mount	Middle Atlantic Products PD-915R	1	\$	-	\$	-
1094	Programming, Control systems	Crestron Electronics N/A	1	\$	-	\$	-
	Rack, 37RU Open frame		1	\$	-	\$	-
1095	64.75"x26" vertical	Middle Atlantic Products 5-37-26	3	\$	-	\$	-
1096	Receiver, TP to USBx4	Extron Electronics USB Extender Plus R (60-1471-13)		\$	-	\$	-

1097 Relay, 120V/15A remote turn on power	Furman Sound, Inc. MP-20Q	1	\$	-	\$	-
Revisions, Number of control system		3	\$	-	\$	-
1098 and control panel programming	Custom Labor					
Strip, 24 outlet single 15 Amp		2	\$	-	\$	-
1099 circuit slim power	Middle Atlantic Products PD-2415SC-NS					
Switch, 24 port managed		1	\$	-	\$	-
1100 rack mount non POE data	Hewlett-Packard HP - 2920-24G J9726A					
	Extron Electronics	3	\$	-	\$	-
1101 Transmitter, USB to TP	USB Extender Plus T (60-1471-12)					
Plate #2 * Refer to drawing TA702						
1102 Plate - See Drawings for Details	Custom N/A	1	\$	-	\$	-
Plate #4 * Refer to drawing TA704						
1103 Plate - See Drawings for Details	Custom N/A	1	\$	-	\$	-
Plate #6 * Refer to drawing TA706						
1104 Plate - See Drawings for Details	Custom N/A	1	\$	-	\$	-
Plate #8 * Refer to drawing TA708						
1105 Plate - See Drawings for Details	Custom N/A	1	\$	-	\$	-
Plate #52 * Refer to drawing TA752						
1106 Plate - See Drawings for Details	Custom N/A	1	\$	-	\$	-
Plate #56 - Rack mount codec connection * Refer to drawing TA756						
1107 Plate - See Drawings for Details	Custom N/A	1	\$	-	\$	-
Plate #82 * Refer to drawing TA782						
1108 Plate - See Drawings for Details	Custom N/A	2	\$	-	\$	-
Plate #92 * Refer to drawing TA792						
1109 Plate - See Drawings for Details	Custom N/A	2	\$	-	\$	-
Cleveland CR18B						
Courtroom Video Argument Presentation Systems Functional Requirements						
* Refer to drawing TA602						
Amplifier, 1 DGKat and		1	\$	-	\$	-
1110 1 HDMI x 4 DGKat distribution	Kramer Electronics Ltd. VM-114H4C					
Amplifier, 1 DGKat and		7	\$	-	\$	-
1111 1 HDMI x 4 HDMI Distribution	Kramer Electronics Ltd. VM-114H					
Bracket, Samsung VESA		1	\$	-	\$	-
1112 mounting adapter	Chief Manufacturing Inc. PSB2306					
Camera, 1080p HDMI PTZ		2	\$	-	\$	-
1113 video conferencing	LifeSize Communications Camera 10x					
		1	\$	-	\$	-
1114 Camera, 1-CCD Hi-Res evidence	WolfVision, Inc. VZ-8 Plus (4)					
		3	\$	-	\$	-
1115 Card, Modular HDMI Input	Kramer Electronics Ltd. HIN2 F16					
		2	\$	-	\$	-
1116 Card, Modular HDMI Output	Kramer Electronics Ltd. HOut2 F16					
		4	\$	-	\$	-
1117 Card, Modular TP Input	Kramer Electronics Ltd. DGKAT IN2 F16					

1118	Card, Modular TP Output	Kramer Electronics Ltd. DGKAT Out2 F16	7	\$	-	\$	-
1119	Cart, Large flat panel tube-style display	Chief Manufacturing Inc. PPC2000	1	\$	-	\$	-
1120	Display, 55" 1920x1080 RS-232 controlled LED flat panel	Samsung ED55D	1	\$	-	\$	-
1121	Extractor, HDMI signal audio	Kramer Electronics Ltd. FC-46xl	1	\$	-	\$	-
1122	Frame, 16x16 slot modular router	Kramer Electronics Ltd. VS1616D	1	\$	-	\$	-
1123	Labels, Set of annotation monitor function	Custom Custom	3	\$	-	\$	-
1124	Monitor, 21.5" 16:9 VESA compliant LED Monitor, Black 21.5"	Hewlett-Packard Z Display Z22i	16	\$	-	\$	-
1125	1920x1080 16:9 USB touchscreen	Hewlett-Packard L2206tm	3	\$	-	\$	-
1126	Player, HD real-time media	BrightSign BrightSign HD1020	1	\$	-	\$	-
1127	Processor, Annotation graphics overlay	Extron Electronics Annotator Standard 60-968-01	1	\$	-	\$	-
1128	Receiver, TP to HDMI	Kramer Electronics Ltd. PT-572+	7	\$	-	\$	-
1129	Receiver, TP to HDMI and bi-directional RS-232	Kramer Electronics Ltd. TP-574	1	\$	-	\$	-
1130	Receiver, TP with control and audio to HDMI	Extron Electronics DTP HDMI 330 Rx 60-1331-13	2	\$	-	\$	-
1131	Scaler, CV & Stereo audio to HDMI	Kramer Electronics Ltd. VP-410	1	\$	-	\$	-
1132	Scaler, HDMI to HDMI compatibility Stand, 100x100 low profile VESA	Extron Electronics DSC HD-HD (60-1489-01)	1	\$	-	\$	-
1133	monitor table	Ergomart EGT SL102-100	9	\$	-	\$	-
1134	Streamer, HD dual channel CV/HDMI network capture and	Crestron Electronics CAPTURE-HD	1	\$	-	\$	-
1135	Switcher, 8-Input presentation scaler and	Kramer Electronics Ltd. VP-770	1	\$	-	\$	-
1136	Switcher, RS232 6x1:3 CV and stereo unbalanced audio	Kramer Electronics Ltd. VS-601xlm	1	\$	-	\$	-
1137	Transmitter, HDMI to TP	Kramer Electronics Ltd. PT-571	7	\$	-	\$	-
1138	Transmitter, HDMI with control and audio to TP	Extron Electronics DTP HDMI 330 Tx 60-1331-12	2	\$	-	\$	-
Courtroom AV Argument Presentation System Control & Power Functional Requirements							
* Refer to drawing TA603							
1139	Application, Ipad control full product	Crestron Electronics CRESTRON-APP-PAD	1	\$	-	\$	-
1140	Base, 26" D slim caster	Middle Atlantic Products CBS-5-26	1	\$	-	\$	-
1141	Cage, Inboard expansion card	Crestron Electronics CAGE3	1	\$	-	\$	-
1142	Card, 3 Port 3-Series RS-232/422;485 expansion slot	Crestron Electronics C3COM-3	1	\$	-	\$	-
1143	Engine, Blank front panel 6 Com port control	Crestron Electronics AV3	1	\$	-	\$	-
1144	PDU, Power receptacle panel rack mount	Middle Atlantic Products PD-915R	1	\$	-	\$	-
1145	Programming, Control systems	Crestron Electronics N/A	1	\$	-	\$	-
1146	Rack, 37RU Open frame 64.75"x26" vertical	Middle Atlantic Products 5-37-26	1	\$	-	\$	-
1147	Receiver, TP to USBx4	Extron Electronics USB Extender Plus R (60-1471-13)	3	\$	-	\$	-

1148 Relay, 120V/15A remote turn on power	Furman Sound, Inc. MP-20Q	1	\$	-	\$	-
Revisions, Number of control system		3	\$	-	\$	-
1149 and control panel programming	Custom Labor		\$	-	\$	-
Strip, 24 outlet single 15 Amp circuit		2	\$	-	\$	-
1150 slim power	Middle Atlantic Products PD-2415SC-NS		\$	-	\$	-
Switch, 24 port managed rack mount		1	\$	-	\$	-
1151 non POE data	Hewlett-Packard HP - 2920-24G J9726A		\$	-	\$	-
	Extron Electronics	3	\$	-	\$	-
1152 Transmitter, USB to TP	USB Extender Plus T (60-1471-12)		\$	-	\$	-
Plate #2 * Refer to drawing TA702						
1153 Plate - See Drawings for Details	Custom N/A	1	\$	-	\$	-
Plate #4 * Refer to drawing TA704						
1154 Plate - See Drawings for Details	Custom N/A	1	\$	-	\$	-
Plate #6 * Refer to drawing TA706						
1155 Plate - See Drawings for Details	Custom N/A	1	\$	-	\$	-
Plate #8 * Refer to drawing TA708						
1156 Plate - See Drawings for Details	Custom N/A	1	\$	-	\$	-
Plate #52 * Refer to drawing TA752						
1157 Plate - See Drawings for Details	Custom N/A	1	\$	-	\$	-
Plate #56 - Rack mount codec connection * Refer to drawing TA756						
1158 Plate - See Drawings for Details	Custom N/A	1	\$	-	\$	-
Plate #82 * Refer to drawing TA782						
1159 Plate - See Drawings for Details	Custom N/A	2	\$	-	\$	-
Plate #92 * Refer to drawing TA792						
1160 Plate - See Drawings for Details	Custom N/A	2	\$	-	\$	-
Cleveland CR19A						
Courtroom Video Argument Presentation Systems Functional Requirements						
* Refer to drawing TA602						
Amplifier, 1 DGKat and		1	\$	-	\$	-
1161 1 HDMI x 4 DGKat distribution	Kramer Electronics Ltd. VM-114H4C		\$	-	\$	-
Amplifier, 1 DGKat and		7	\$	-	\$	-
1162 1 HDMI x 4 HDMI Distribution	Kramer Electronics Ltd. VM-114H		\$	-	\$	-
Bracket, Samsung VESA		1	\$	-	\$	-
1163 mounting adapter	Chief Manufacturing Inc. PSB2306		\$	-	\$	-
Camera, 1080p HDMI PTZ		2	\$	-	\$	-
1164 video conferencing	LifeSize Communications Camera 10x		\$	-	\$	-
		1	\$	-	\$	-
1165 Camera, 1-CCD Hi-Res evidence	WolfVision, Inc. VZ-8 Plus (4)		\$	-	\$	-
		1	\$	-	\$	-
1166 Camera, Small format portable HDMI evidence	AVerMedia VISIONF33-BLK		\$	-	\$	-
		3	\$	-	\$	-
1167 Card, Modular HDMI Input	Kramer Electronics Ltd. HIN2 F16		\$	-	\$	-
		2	\$	-	\$	-
1168 Card, Modular HDMI Output	Kramer Electronics Ltd. HOut2 F16		\$	-	\$	-

1169	Card, Modular TP Input	Kramer Electronics Ltd. DGKAT IN2 F16	4	\$	-	\$	-
1170	Card, Modular TP Output	Kramer Electronics Ltd. DGKAT Out2 F16	7	\$	-	\$	-
1171	Cart, Large flat panel tube-style display	Chief Manufacturing Inc. PPC2000	1	\$	-	\$	-
1172	Codec, Express 220	LifeSize Communications Codec, Only Express 220 1000-0000-0313	1	\$	-	\$	-
1173	Display, 55" 1920x1080 RS-232 controlled LED flat panel	Samsung ED55D	1	\$	-	\$	-
1174	Extractor, HDMI signal audio	Kramer Electronics Ltd. FC-46xl	1	\$	-	\$	-
1175	Frame, 16x16 slot modular router	Kramer Electronics Ltd. VS1616D	1	\$	-	\$	-
1176	Labels, Set of annotation monitor function	Custom Custom	3	\$	-	\$	-
1177	Monitor, 21.5" 16:9 VESA compliant LED	Hewlett-Packard Z Display Z22i	20	\$	-	\$	-
1178	Monitor, Black 21.5" 1920x1080 16:9 USB touchscreen	Hewlett-Packard L2206tm	3	\$	-	\$	-
1179	Player, HD real-time media	BrightSign BrightSign HD1020	1	\$	-	\$	-
1180	Processor, Annotation graphics overlay	Extron Electronics Annotator Standard 60-968-01	1	\$	-	\$	-
1181	Receiver, TP to HDMI	Kramer Electronics Ltd. PT-572+	7	\$	-	\$	-
1182	Receiver, TP to HDMI and bi-directional RS-232	Kramer Electronics Ltd. TP-574	1	\$	-	\$	-
1183	Receiver, TP with control and audio to HDMI	Extron Electronics DTP HDMI 330 Rx 60-1331-13	2	\$	-	\$	-
1184	Scaler, CV & Stereo audio to HDMI	Kramer Electronics Ltd. VP-410	1	\$	-	\$	-
1185	Scaler, HDMI to HDMI compatibility	Extron Electronics DSC HD-HD (60-1489-01)	1	\$	-	\$	-
1186	Stand, 100x100 low profile VESA monitor table	Ergomart EGT SL102-100	11	\$	-	\$	-
1187	Streamer, HD dual channel CV/HDMI network capture and	Crestron Electronics CAPTURE-HD	1	\$	-	\$	-
1188	Switcher, 8-Input presentation scaler and	Kramer Electronics Ltd. VP-770	1	\$	-	\$	-
1189	Switcher, RS232 6x1:3 CV and stereo unbalanced audio	Kramer Electronics Ltd. VS-601xlm	1	\$	-	\$	-
1190	Transmitter, HDMI to TP	Kramer Electronics Ltd. PT-571	7	\$	-	\$	-
1191	Transmitter, HDMI with control and audio to TP	Extron Electronics DTP HDMI 330 Tx 60-1331-12	2	\$	-	\$	-
Courtroom AV Argument Presentation System Control & Power Functional Requirements							
* Refer to drawing TA603							
1192	Application, Ipad control full product	Crestron Electronics CRESTRON-APP-PAD	1	\$	-	\$	-
1193	Base, 26" D slim caster	Middle Atlantic Products CBS-5-26	1	\$	-	\$	-
1194	Cage, Inboard expansion card	Crestron Electronics CAGE3	1	\$	-	\$	-
1195	Card, 3 Port 3-Series RS-232/422;485 expansion slot	Crestron Electronics C3COM-3	1	\$	-	\$	-
1196	Engine, Blank front panel 6 Com port control	Crestron Electronics AV3	1	\$	-	\$	-
1197	PDU, Power receptacle panel rack mount	Middle Atlantic Products PD-915R	1	\$	-	\$	-
1198	Programming, Control systems	Crestron Electronics N/A	1	\$	-	\$	-

1199	Rack, 37RU Open frame 64.75"x26" vertical	Middle Atlantic Products 5-37-26	1	\$	-	\$	-
1200	Receiver, TP to USBx4	Extron Electronics USB Extender Plus R (60-1471-13)	3	\$	-	\$	-
1201	Relay, 120V/15A remote turn on power	Furman Sound, Inc. MP-20Q	1	\$	-	\$	-
1202	Revisions, Number of control system and control panel programming	Custom Labor	3	\$	-	\$	-
1203	Strip, 24 outlet single 15 Amp circuit slim power	Middle Atlantic Products PD-2415SC-NS	2	\$	-	\$	-
1204	Switch, 24 port managed rack mount non POE data	Hewlett-Packard HP - 2920-24G J9726A	1	\$	-	\$	-
1205	Transmitter, USB to TP	Extron Electronics USB Extender Plus T (60-1471-12)	3	\$	-	\$	-
Plate #2 * Refer to drawing TA702							
1206	Plate - See Drawings for Details	Custom N/A	1	\$	-	\$	-
Plate #4 * Refer to drawing TA704							
1207	Plate - See Drawings for Details	Custom N/A	1	\$	-	\$	-
Plate #6 * Refer to drawing TA706							
1208	Plate - See Drawings for Details	Custom N/A	1	\$	-	\$	-
Plate #8 * Refer to drawing TA708							
1209	Plate - See Drawings for Details	Custom N/A	1	\$	-	\$	-
Plate #52 * Refer to drawing TA752							
1210	Plate - See Drawings for Details	Custom N/A	1	\$	-	\$	-
Plate #56 - Rack mount codec connection * Refer to drawing TA756							
1211	Plate - See Drawings for Details	Custom N/A	1	\$	-	\$	-
Plate #82 * Refer to drawing TA782							
1212	Plate - See Drawings for Details	Custom N/A	2	\$	-	\$	-
Plate #92 * Refer to drawing TA792							
1213	Plate - See Drawings for Details	Custom N/A	2	\$	-	\$	-
Toledo CR204							
Courtroom Video Argument Presentation Systems Functional Requirements							
* Refer to drawing TA602							
1214	Amplifier, 1 DGKat and 1 HDMI x 4 DGKat distribution	Kramer Electronics Ltd. VM-114H4C	1	\$	-	\$	-
1215	Amplifier, 1 DGKat and 1 HDMI x 4 HDMI Distribution	Kramer Electronics Ltd. VM-114H	4	\$	-	\$	-
1216	Bracket, Samsung VESA mounting adapter	Chief Manufacturing Inc. PSB2306	1	\$	-	\$	-
1217	Camera, 1080p HDMI PTZ video conferencing	LifeSize Communications Camera 10x	2	\$	-	\$	-
1218	Camera, 1-CCD Hi-Res evidence	WolfVision, Inc. VZ-8 Plus (4)	1	\$	-	\$	-
1219	Camera, Small format portable HDMI evidence	AVerMedia VISIONF33-BLK	1	\$	-	\$	-

1220 Card, Modular HDMI Input	Kramer Electronics Ltd. HIN2 F16	3	\$	-	\$	-
1221 Card, Modular HDMI Output	Kramer Electronics Ltd. HOut2 F16	2	\$	-	\$	-
1222 Card, Modular TP Input	Kramer Electronics Ltd. DGKAT IN2 F16	3	\$	-	\$	-
1223 Card, Modular TP Output	Kramer Electronics Ltd. DGKAT Out2 F16	5	\$	-	\$	-
1224 Codec, Express 220	LifeSize Communications Codec, Only Express 220 1000-0000-0313	1	\$	-	\$	-
Display, 55" 1920x1080		2	\$	-	\$	-
1225 RS-232 controlled LED flat panel	Samsung ED55D	1	\$	-	\$	-
1226 Extractor, HDMI signal audio	Kramer Electronics Ltd. FC-46xl	1	\$	-	\$	-
1227 Frame, 16x16 slot modular router	Kramer Electronics Ltd. VS1616D	1	\$	-	\$	-
1228 Labels, Set of annotation monitor function	Custom Custom	3	\$	-	\$	-
Monitor, 21.5" 16:9 VESA		6	\$	-	\$	-
1229 compliant LED	Hewlett-Packard Z Display Z22i	9	\$	-	\$	-
Monitor, 27.0" 16:9 VESA		3	\$	-	\$	-
1230 compliant LED	Hewlett-Packard Z Display Z27i	1	\$	-	\$	-
Monitor, Black 21.5" 1920x1080		3	\$	-	\$	-
1231 16:9 USB touchscreen	Hewlett-Packard L2206tm	1	\$	-	\$	-
Mount, Dual black swing arm		1	\$	-	\$	-
1232 universal large flat panel wall	Chief Manufacturing Inc. PDRUB	1	\$	-	\$	-
1233 Player, HD real-time media	BrightSign BrightSign HD1020	1	\$	-	\$	-
	Extron Electronics	1	\$	-	\$	-
1234 Processor, Annotation graphics overlay	Annotator Standard 60-968-01	6	\$	-	\$	-
1235 Receiver, TP to HDMI	Kramer Electronics Ltd. PT-572+	2	\$	-	\$	-
Receiver, TP to HDMI and		2	\$	-	\$	-
1236 bi-directional RS-232	Kramer Electronics Ltd. TP-574	2	\$	-	\$	-
Receiver, TP with control and	Extron Electronics DTP HDMI 330	1	\$	-	\$	-
1237 audio to HDMI	Rx 60-1331-13	1	\$	-	\$	-
1238 Scaler, HDMI to HDMI compatibility	Extron Electronics DSC HD-HD (60-1489-01)	9	\$	-	\$	-
Stand, 100x100 low profile		1	\$	-	\$	-
1239 VESA monitor table	Ergomart EGT SL102-100	1	\$	-	\$	-
Streamer, HD dual channel		1	\$	-	\$	-
1240 CV/HDMI network capture and	Crestron Electronics CAPTURE-HD	1	\$	-	\$	-
1241 Switcher, 8-Input presentation scaler	Kramer Electronics Ltd. VP-770	1	\$	-	\$	-
Switcher, RS232 6x1:3 CV and stereo		1	\$	-	\$	-
1242 unbalanced audio	Kramer Electronics Ltd. VS-601xlm	4	\$	-	\$	-
1243 Transmitter, HDMI to TP	Kramer Electronics Ltd. PT-571	2	\$	-	\$	-
Transmitter, HDMI with control and	Extron Electronics DTP HDMI 330	1	\$	-	\$	-
1244 audio to TP	Tx 60-1331-12		\$	-	\$	-
Courtroom AV Argument Presentation System Control & Power Functional Requirements						
* Refer to drawing TA603						
1245 Application, Ipad control full product	Crestron Electronics CRESTRON-APP-PAD	1	\$	-	\$	-
1246 Cage, Inboard expansion card	Crestron Electronics CAGE3	1	\$	-	\$	-
Card, 3 Port 3-Series RS-232/422;485		1	\$	-	\$	-
1247 expansion slot	Crestron Electronics C3COM-3	1	\$	-	\$	-
Engine, Blank front panel 6 Com		1	\$	-	\$	-
1248 port control	Crestron Electronics AV3	1	\$	-	\$	-
1249 Programming, Control systems	Crestron Electronics N/A	1	\$	-	\$	-

1250 Receiver, TP to USBx4	Extron Electronics USB Extender Plus R (60-1471-13)	3	\$	-	\$	-
1251 Relay, 120V/15A remote turn on power	Furman Sound, Inc. MP-20Q	1	\$	-	\$	-
Revisions, Number of control system		3	\$	-	\$	-
1252 and control panel programming	Custom Labor					
Switch, 24 port managed rack mount	Hewlett-Packard HP - 2920-24G	1	\$	-	\$	-
1253 non POE data	J9726A					
1254 Transmitter, USB to TP	Extron Electronics USB Extender Plus T (60-1471-12)	3	\$	-	\$	-
Plate #2 * Refer to drawing TA702						
Box, 2-Gang black surface		1	\$	-	\$	-
1255 mount wall back	Extron Electronics EWB 102 (60-1162-02)					
1256 Plate - See Drawings for Details	Custom N/A	1	\$	-	\$	-
Plate #4 * Refer to drawing TA704						
1257 Plate - See Drawings for Details	Custom N/A	1	\$	-	\$	-
Plate #6 * Refer to drawing TA706						
1258 Plate - See Drawings for Details	Custom N/A	1	\$	-	\$	-
Plate #8 * Refer to drawing TA708						
1259 Plate - See Drawings for Details	Custom N/A	1	\$	-	\$	-
Plate #26 * Refer to drawing TA726						
1260 Plate - See Drawings for Details	Custom N/A	2	\$	-	\$	-
Plate #54 * Refer to drawing TA754						
1261 Plate - See Drawings for Details	Custom N/A	1	\$	-	\$	-
Plate #82 * Refer to drawing TA782						
1262 Plate - See Drawings for Details	Custom N/A	1	\$	-	\$	-
Plate #92 * Refer to drawing TA792						
1263 Plate - See Drawings for Details	Custom N/A	1	\$	-	\$	-
Base Bid Video Systems Materials Subtotal (Base Bid)					\$	-
Base Bid Video Systems Misc. Materials, Freight, Tax Subtotal (Base Bid)					\$	-
Base Bid Video Systems Programming, Wiring, Installation, and Misc. Labor Subtotal (Base Bid)					\$	-
Base Bid Video Systems System Subtotal (Base Bid)					\$	-
BASE BID VIDEO SYSTEMS SUMMARY (BASE BID)						
Total Equipment/Material					\$	-
2000 Total Programming, Wiring, Installation, and Misc. Labor					\$	-
3000 OPTIONAL MAINTENANCE						
3001 Year 1					Warranty	
Total Optional Maintenance						
4000 Fixed Price Line Item for Travel						
4001 Number of Trips x Cost per Trip		0	\$	-	\$	-
TOTAL PRICE FOR SYSTEM					\$	-

Client Furnished Equipment

Video Systems

Akron CR530

Courtroom Video Argument Presentation Systems Functional Requirements * Refer to drawing TA602

1264 Camera, Color NTSC pan/tilt/zoom	Sony Electronics, Inc. EVID100	1
1265 Mount, Black single pivot LCD monitor	Ergotron, Inc. 47-092-800	8

Cleveland CR15A

Courtroom Video Argument Presentation Systems Functional Requirements * Refer to drawing TA602

1266 Camera, Color NTSC pan/tilt/zoom	Sony Electronics, Inc. EVID100	3
1267 Mount, Black single pivot LCD monitor	Ergotron, Inc. 47-092-800	10

Cleveland CR15B

Courtroom Video Argument Presentation Systems Functional Requirements * Refer to drawing TA602

1268 Camera, Color NTSC pan/tilt/zoom	Sony Electronics, Inc. EVID100	3
1269 Mount, Black single pivot LCD monitor	Ergotron, Inc. 47-092-800	10

Cleveland CR17A

Courtroom Video Argument Presentation Systems Functional Requirements * Refer to drawing TA602

1270 Camera, Color NTSC pan/tilt/zoom	Sony Electronics, Inc. EVID100	3
1271 Mount, Black single pivot LCD monitor	Ergotron, Inc. 47-092-800	10

Cleveland CR18B

Courtroom Video Argument Presentation Systems Functional Requirements * Refer to drawing TA602

1272 Camera, Color NTSC pan/tilt/zoom	Sony Electronics, Inc. EVID100	3
1273 Mount, Black single pivot LCD monitor	Ergotron, Inc. 47-092-800	10

Cleveland CR19A

Courtroom Video Argument Presentation Systems Functional Requirements * Refer to drawing TA602

1274 Camera, Color NTSC pan/tilt/zoom	Sony Electronics, Inc. EVID100	3
1275 Mount, Black single pivot LCD monitor	Ergotron, Inc. 47-092-800	10

Cleveland CR19B

Courtroom Video Argument Presentation Systems Functional Requirements * Refer to drawing TA602

1276 Camera, Color NTSC pan/tilt/zoom	Sony Electronics, Inc. EVID100	3
1277 Mount, Black single pivot LCD monitor	Ergotron, Inc. 47-092-800	10

Toledo CR204

Courtroom Video Argument Presentation Systems Functional Requirements * Refer to drawing TA602

1278	Camera, Color NTSC pan/tilt/zoom	Sony Electronics, Inc. EVID100	3	
1279	Mount, Black single pivot LCD monitor	Ergotron, Inc. 47-092-800	9	
	Client Furnished Equipment Video Systems Materials Subtotal (CFE)			
	Client Furnished Equipment Video Systems Misc. Materials, Freight, Tax Subtotal (CFE)			
	Client Furnished Equipment Video Systems Programming, Wiring, Installation, and Misc. Labor Subtotal (CFE)			\$ -
	Client Furnished Equipment Video Systems System Subtotal (CFE)			\$ -

CLIENT FURNISHED EQUIPMENT VIDEO SYSTEMS SUMMARY (CFE)

2000	Total Equipment/Material			
	Total Programming, Wiring, Installation, and Misc. Labor			\$ -
3000	OPTIONAL MAINTENANCE			
3001	Year 1		Warranty	
	Total Optional Maintenance			
4000	Fixed Price Line Item for Travel			
4001	Number of Trips x Cost per Trip	0	\$ -	\$ -
	TOTAL PRICE FOR SYSTEM			\$ -

Note: Items on these sheets are not included in the BASE BID and may or may not be awarded at time of bid. The cost quoted for bid on these items will be valid for ninety (90) days after the bid has been awarded.

OPTION 1

Video Systems

Cleveland CR19B

Courtroom Video Argument Presentation Systems Functional Requirements * Refer to drawing TA602

1280	Amplifier, 1 DGKat and 1 HDMI x 4 DGKat distribution	Kramer Electronics Ltd. VM-114H4C	1	\$	-	\$	-
1281	Amplifier, 1 DGKat and 1 HDMI x 4 HDMI Distribution	Kramer Electronics Ltd. VM-114H	7	\$	-	\$	-
1282	Bracket, Samsung VESA mounting adapter	Chief Manufacturing Inc. PSB2306	1	\$	-	\$	-
1283	Camera, 1080p HDMI PTZ video conferencing	LifeSize Communications Camera 10x	2	\$	-	\$	-
1284	Camera, 1-CCD Hi-Res evidence	WolfVision, Inc. VZ-8 Plus (4)	1	\$	-	\$	-
1285	Card, Modular HDMI Input	Kramer Electronics Ltd. HIN2 F16	3	\$	-	\$	-
1286	Card, Modular HDMI Output	Kramer Electronics Ltd. HOut2 F16	2	\$	-	\$	-
1287	Card, Modular TP Input	Kramer Electronics Ltd. DGKAT IN2 F16	4	\$	-	\$	-
1288	Card, Modular TP Output	Kramer Electronics Ltd. DGKAT Out2 F16	7	\$	-	\$	-
1289	Cart, Large flat panel tube-style display	Chief Manufacturing Inc. PPC2000	1	\$	-	\$	-
1290	Display, 55" 1920x1080 RS-232 controlled LED flat panel	Samsung ED55D	1	\$	-	\$	-
1291	Extractor, HDMI signal audio	Kramer Electronics Ltd. FC-46xl	1	\$	-	\$	-
1292	Frame, 16x16 slot modular router	Kramer Electronics Ltd. VS1616D	1	\$	-	\$	-
1293	Labels, Set of annotation monitor function	Custom Custom	3	\$	-	\$	-
1294	Monitor, 21.5" 16:9 VESA compliant LED	Hewlett-Packard Z Display Z22i	16	\$	-	\$	-
1295	Monitor, Black 21.5" 1920x1080 16:9 USB touchscreen	Hewlett-Packard L2206tm	3	\$	-	\$	-
1296	Player, HD real-time media	BrightSign BrightSign HD1020	1	\$	-	\$	-
1297	Processor, Annotation graphics overlay	Extron Electronics Annotator Standard 60-968-01	1	\$	-	\$	-
1298	Receiver, TP to HDMI	Kramer Electronics Ltd. PT-572+	7	\$	-	\$	-
1299	Receiver, TP to HDMI and bi-directional RS-232	Kramer Electronics Ltd. TP-574	1	\$	-	\$	-
1300	Receiver, TP with control and audio to HDMI	Extron Electronics DTP HDMI 330 Rx 60-1331-13	2	\$	-	\$	-
1301	Scaler, CV & Stereo audio to HDMI	Kramer Electronics Ltd. VP-410	1	\$	-	\$	-
1302	Scaler, HDMI to HDMI compatibility	Extron Electronics DSC HD-HD (60-1489-01)	1	\$	-	\$	-
1303	Stand, 100x100 low profile VESA monitor table	Ergomart EGT SL102-100	9	\$	-	\$	-
1304	Streamer, HD dual channel CV/HDMI network capture and	Crestron Electronics CAPTURE-HD	1	\$	-	\$	-
1305	Switcher, 8-Input presentation scaler	Kramer Electronics Ltd. VP-770	1	\$	-	\$	-

1306	Switcher, RS232 6x1:3 CV and stereo unbalanced audio	Kramer Electronics Ltd. VS-601xlm	1	\$	-	\$	-
1307	Transmitter, HDMI to TP	Kramer Electronics Ltd. PT-571	7	\$	-	\$	-
1308	Transmitter, HDMI with control and audio to TP	Extron Electronics DTP HDMI 330 Tx 60-1331-12	2	\$	-	\$	-
Courtroom AV Argument Presentation System Control & Power Functional Requirements							
* Refer to drawing TA603							
1309	Application, Ipad control full product	Crestron Electronics CRESTRON-APP-PAD	1	\$	-	\$	-
1310	Base, 26" D slim caster	Middle Atlantic Products CBS-5-26	1	\$	-	\$	-
1311	Cage, Inboard expansion card	Crestron Electronics CAGE3	1	\$	-	\$	-
1312	Card, 3 Port 3-Series RS-232/422;485 expansion slot	Crestron Electronics C3COM-3	1	\$	-	\$	-
1313	Engine, Blank front panel 6 Com port control	Crestron Electronics AV3	1	\$	-	\$	-
1314	PDU, Power receptacle panel rack mount	Middle Atlantic Products PD-915R	1	\$	-	\$	-
1315	Programming, Control systems	Crestron Electronics N/A	1	\$	-	\$	-
1316	Rack, 37RU Open frame 64.75"x26" vertical	Middle Atlantic Products 5-37-26	1	\$	-	\$	-
1317	Receiver, TP to USBx4	Extron Electronics USB Extender Plus R (60-1471-13)	3	\$	-	\$	-
1318	Relay, 120V/15A remote turn on power	Furman Sound, Inc. MP-20Q	1	\$	-	\$	-
1319	Revisions, Number of control system and control panel programming	Custom Labor	3	\$	-	\$	-
1320	Strip, 24 outlet single 15 Amp circuit slim power	Middle Atlantic Products PD-2415SC-NS	2	\$	-	\$	-
1321	Switch, 24 port managed rack mount non POE data	Hewlett-Packard HP - 2920-24G J9726A	1	\$	-	\$	-
1322	Transmitter, USB to TP	Extron Electronics USB Extender Plus T (60-1471-12)	3	\$	-	\$	-
Plate #2 * Refer to drawing TA702							
1323	Plate - See Drawings for Details	Custom N/A	1	\$	-	\$	-
Plate #4 * Refer to drawing TA704							
1324	Plate - See Drawings for Details	Custom N/A	1	\$	-	\$	-
Plate #6 * Refer to drawing TA706							
1325	Plate - See Drawings for Details	Custom N/A	1	\$	-	\$	-
Plate #8 * Refer to drawing TA708							
1326	Plate - See Drawings for Details	Custom N/A	1	\$	-	\$	-
Plate #52 * Refer to drawing TA752							
1327	Plate - See Drawings for Details	Custom N/A	1	\$	-	\$	-
Plate #56 - Rack mount codec connection * Refer to drawing TA756							
1328	Plate - See Drawings for Details	Custom N/A	1	\$	-	\$	-
Plate #82 * Refer to drawing TA782							

1329 Plate - See Drawings for Details	Custom N/A	2	\$	-	\$	-
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Plate #92 * Refer to drawing TA792

1330 Plate - See Drawings for Details	Custom N/A	2	\$	-	\$	-
Option 1 Video Systems Materials Subtotal (Option 1)					\$	-
Option 1 Video Systems Misc. Materials, Freight, Tax Subtotal (Option 1)					\$	-
Option 1 Video Systems Programming, Wiring, Installation, and Misc. Labor Subtotal (Option 1)					\$	-
Option 1 Video Systems System Subtotal (Option 1)					\$	-

OPTION 1 VIDEO SYSTEMS SUMMARY (OPTION 1)

Total Equipment/Material					\$	-
2000 Total Programming, Wiring, Installation, and Misc. Labor					\$	-
3000 OPTIONAL MAINTENANCE						
3001 Year 1				Warranty		
Total Optional Maintenance						
4000 Fixed Price Line Item for Travel						
4001 Number of Trips x Cost per Trip		0	\$	-	\$	-
TOTAL PRICE FOR SYSTEM					\$	-

Note: Items on these sheets are not included in the BASE BID and may or may not be awarded at time of bid. The cost quoted for bid on these items will be valid for ninety (90) days after the bid has been awarded.

OPTION 2

Video Systems

Cleveland CR17A

Courtroom Video Argument Presentation Systems Functional Requirements * Refer to drawing TA602

1331	Amplifier, 1 DGKat and 1 HDMI x 4 DGKat distribution	Kramer Electronics Ltd. VM-114H4C	1	\$	-	\$	-
1332	Amplifier, 1 DGKat and 1 HDMI x 4 HDMI Distribution	Kramer Electronics Ltd. VM-114H	7	\$	-	\$	-
1333	Bracket, Samsung VESA mounting adapter	Chief Manufacturing Inc. PSB2306	1	\$	-	\$	-
1334	Camera, 1080p HDMI PTZ video conferencing	LifeSize Communications Camera 10x	2	\$	-	\$	-
1335	Camera, 1-CCD Hi-Res evidence	WolfVision, Inc. VZ-8 Plus (4)	1	\$	-	\$	-
1336	Card, Modular HDMI Input	Kramer Electronics Ltd. HIN2 F16	3	\$	-	\$	-
1337	Card, Modular HDMI Output	Kramer Electronics Ltd. HOut2 F16	2	\$	-	\$	-
1338	Card, Modular TP Input	Kramer Electronics Ltd. DGKAT IN2 F16	4	\$	-	\$	-
1339	Card, Modular TP Output	Kramer Electronics Ltd. DGKAT Out2 F16	7	\$	-	\$	-
1340	Cart, Large flat panel tube-style display	Chief Manufacturing Inc. PPC2000	1	\$	-	\$	-
1341	Display, 55" 1920x1080 RS-232 controlled LED flat panel	Samsung ED55D	1	\$	-	\$	-
1342	Extractor, HDMI signal audio	Kramer Electronics Ltd. FC-46xl	1	\$	-	\$	-
1343	Frame, 16x16 slot modular router	Kramer Electronics Ltd. VS1616D	1	\$	-	\$	-

1344	Labels, Set of annotation monitor function	Custom Custom	3	\$	-	\$	-
	Monitor, 21.5" 16:9 VESA		16	\$	-	\$	-
1345	compliant LED	Hewlett-Packard Z Display Z22i		\$	-	\$	-
	Monitor, Black 21.5" 1920x1080		3	\$	-	\$	-
1346	16:9 USB touchscreen	Hewlett-Packard L2206tm		\$	-	\$	-
1347	Player, HD real-time media	BrightSign BrightSign HD1020	1	\$	-	\$	-
		Extron Electronics	1	\$	-	\$	-
1348	Processor, Annotation graphics overlay	Annotator Standard 60-968-01		\$	-	\$	-
1349	Receiver, TP to HDMI	Kramer Electronics Ltd. PT-572+	7	\$	-	\$	-
	Receiver, TP to HDMI and		1	\$	-	\$	-
1350	bi-directional RS-232	Kramer Electronics Ltd. TP-574		\$	-	\$	-
	Receiver, TP with control and	Extron Electronics DTP HDMI 330	2	\$	-	\$	-
1351	audio to HDMI	Rx 60-1331-13		\$	-	\$	-
1352	Scaler, CV & Stereo audio to HDMI	Kramer Electronics Ltd. VP-410	1	\$	-	\$	-
		Extron Electronics DSC HD-HD	1	\$	-	\$	-
1353	Scaler, HDMI to HDMI compatibility	(60-1489-01)		\$	-	\$	-
	Stand, 100x100 low profile		9	\$	-	\$	-
1354	VESA monitor table	Ergomart EGT SL102-100		\$	-	\$	-
	Streamer, HD dual channel		1	\$	-	\$	-
1355	CV/HDMI network capture and	Crestron Electronics CAPTURE-HD		\$	-	\$	-
1356	Switcher, 8-Input presentation scaler	Kramer Electronics Ltd. VP-770	1	\$	-	\$	-
	Switcher, RS232 6x1:3 CV and stereo		1	\$	-	\$	-
1357	unbalanced audio	Kramer Electronics Ltd. VS-601xlm		\$	-	\$	-
1358	Transmitter, HDMI to TP	Kramer Electronics Ltd. PT-571	7	\$	-	\$	-
	Transmitter, HDMI with control	Extron Electronics DTP HDMI 330	2	\$	-	\$	-
1359	and audio to TP	Tx 60-1331-12		\$	-	\$	-
Courtroom AV Argument Presentation System Control & Power Functional Requirements							
* Refer to drawing TA603							
1360	Application, Ipad control full product	Crestron Electronics CRESTRON-APP-PAD	1	\$	-	\$	-
1361	Base, 26" D slim caster	Middle Atlantic Products CBS-5-26	1	\$	-	\$	-
1362	Cage, Inboard expansion card	Crestron Electronics CAGE3	1	\$	-	\$	-
	Card, 3 Port 3-Series RS-232/422;485		1	\$	-	\$	-
1363	expansion slot	Crestron Electronics C3COM-3		\$	-	\$	-
	Engine, Blank front panel		1	\$	-	\$	-
1364	6 Com port control	Crestron Electronics AV3		\$	-	\$	-
1365	PDU, Power receptacle panel rack mount	Middle Atlantic Products PD-915R	1	\$	-	\$	-
1366	Programming, Control systems	Crestron Electronics N/A	1	\$	-	\$	-
	Rack, 37RU Open frame		1	\$	-	\$	-
1367	64.75"x26" vertical	Middle Atlantic Products 5-37-26		\$	-	\$	-
1368	Receiver, TP to USBx4	Extron Electronics USB Extender Plus R (60-1471-13)	3	\$	-	\$	-
1369	Relay, 120V/15A remote turn on power	Furman Sound, Inc. MP-20Q	1	\$	-	\$	-
	Revisions, Number of control system		3	\$	-	\$	-
1370	and control panel programming	Custom Labor		\$	-	\$	-
	Strip, 24 outlet single 15 Amp		2	\$	-	\$	-
1371	circuit slim power	Middle Atlantic Products PD-2415SC-NS		\$	-	\$	-
	Switch, 24 port managed		1	\$	-	\$	-
1372	rack mount non POE data	Hewlett-Packard HP - 2920-24G J9726A		\$	-	\$	-
		Extron Electronics	3	\$	-	\$	-
1373	Transmitter, USB to TP	USB Extender Plus T (60-1471-12)		\$	-	\$	-

Plate #2 * Refer to drawing TA702

1374 Plate - See Drawings for Details	Custom N/A	1	\$	-	\$	-
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Plate #4 * Refer to drawing TA704

1375 Plate - See Drawings for Details	Custom N/A	1	\$	-	\$	-
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Plate #6 * Refer to drawing TA706

1376 Plate - See Drawings for Details	Custom N/A	1	\$	-	\$	-
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Plate #8 * Refer to drawing TA708

1377 Plate - See Drawings for Details	Custom N/A	1	\$	-	\$	-
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Plate #52 * Refer to drawing TA752

1378 Plate - See Drawings for Details	Custom N/A	1	\$	-	\$	-
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Plate #56 - Rack mount codec connection * Refer to drawing TA756

1379 Plate - See Drawings for Details	Custom N/A	1	\$	-	\$	-
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Plate #82 * Refer to drawing TA782

1380 Plate - See Drawings for Details	Custom N/A	2	\$	-	\$	-
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Plate #92 * Refer to drawing TA792

1381 Plate - See Drawings for Details	Custom N/A	2	\$	-	\$	-
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Option 2 Video Systems Materials Subtotal (Option 2)					\$	-
Option 2 Video Systems Misc. Materials, Freight, Tax Subtotal (Option 2)					\$	-
Option 2 Video Systems Programming, Wiring, Installation, and Misc. Labor Subtotal (Option 2)					\$	-
Option 2 Video Systems System Subtotal (Option 2)					\$	-

OPTION 2 VIDEO SYSTEMS SUMMARY (OPTION 2)

Total Equipment/Material					\$	-
2000 Total Programming, Wiring, Installation, and Misc. Labor					\$	-
3000 OPTIONAL MAINTENANCE						
3001 Year 1					Warranty	
4000 Fixed Price Line Item for Travel						
4001 Number of Trips x Cost per Trip		0	\$	-	\$	-
TOTAL PRICE FOR SYSTEM					\$	-

Note: Items on these sheets are not included in the BASE BID and may or may not be awarded at time of bid. The cost quoted for bid on these items will be valid for ninety (90) days after the bid has been awarded.

OPTION 3

Video Systems

Cleveland CR15A

Courtroom Video Argument Presentation Systems Functional Requirements * Refer to drawing TA602

1382	Amplifier, 1 DGKat and 1 HDMI x 4 DGKat distribution	Kramer Electronics Ltd. VM-114H4C	1	\$	-	\$	-
1383	Amplifier, 1 DGKat and 1 HDMI x 4 HDMI Distribution	Kramer Electronics Ltd. VM-114H	7	\$	-	\$	-
1384	Bracket, Samsung VESA mounting adapter	Chief Manufacturing Inc. PSB2306	1	\$	-	\$	-
1385	Camera, 1080p HDMI PTZ video conferencing	LifeSize Communications Camera 10x	2	\$	-	\$	-
1386	Camera, 1-CCD Hi-Res evidence	WolfVision, Inc. VZ-8 Plus (4)	1	\$	-	\$	-
1387	Card, Modular HDMI Input	Kramer Electronics Ltd. HIN2 F16	3	\$	-	\$	-
1388	Card, Modular HDMI Output	Kramer Electronics Ltd. HOut2 F16	2	\$	-	\$	-
1389	Card, Modular TP Input	Kramer Electronics Ltd. DGKAT IN2 F16	4	\$	-	\$	-
1390	Card, Modular TP Output	Kramer Electronics Ltd. DGKAT Out2 F16	7	\$	-	\$	-
1391	Cart, Large flat panel tube-style display	Chief Manufacturing Inc. PPC2000	1	\$	-	\$	-
1392	Display, 55" 1920x1080 RS-232 controlled LED flat panel	Samsung ED55D	1	\$	-	\$	-
1393	Extractor, HDMI signal audio	Kramer Electronics Ltd. FC-46xl	1	\$	-	\$	-
1394	Frame, 16x16 slot modular router	Kramer Electronics Ltd. VS1616D	1	\$	-	\$	-
1395	Labels, Set of annotation monitor function	Custom Custom	3	\$	-	\$	-
1396	Monitor, 21.5" 16:9 VESA compliant LED	Hewlett-Packard Z Display Z22i	16	\$	-	\$	-
1397	Monitor, Black 21.5" 1920x1080 16:9 USB touchscreen	Hewlett-Packard L2206tm	3	\$	-	\$	-
1398	Player, HD real-time media	BrightSign BrightSign HD1020	1	\$	-	\$	-
1399	Processor, Annotation graphics overlay	Extron Electronics Annotator Standard 60-968-01	1	\$	-	\$	-
1400	Receiver, TP to HDMI	Kramer Electronics Ltd. PT-572+	7	\$	-	\$	-
1401	Receiver, TP to HDMI and bi-directional RS-232	Kramer Electronics Ltd. TP-574	1	\$	-	\$	-
1402	Receiver, TP with control and audio to HDMI	Extron Electronics DTP HDMI 330 Rx 60-1331-13	2	\$	-	\$	-
1403	Scaler, CV & Stereo audio to HDMI	Kramer Electronics Ltd. VP-410	1	\$	-	\$	-
1404	Scaler, HDMI to HDMI compatibility	Extron Electronics DSC HD-HD (60-1489-01)	1	\$	-	\$	-
1405	Stand, 100x100 low profile VESA monitor table	Ergomart EGT SL102-100	9	\$	-	\$	-
1406	Streamer, HD dual channel CV/HDMI network capture and	Crestron Electronics CAPTURE-HD	1	\$	-	\$	-
1407	Switcher, 8-Input presentation scaler and	Kramer Electronics Ltd. VP-770	1	\$	-	\$	-

1408	Switcher, RS232 6x1:3 CV and stereo unbalanced audio	Kramer Electronics Ltd. VS-601xlm	1	\$	-	\$	-
1409	Transmitter, HDMI to TP	Kramer Electronics Ltd. PT-571	7	\$	-	\$	-
1410	Transmitter, HDMI with control and audio to TP	Extron Electronics DTP HDMI 330 Tx 60-1331-12	2	\$	-	\$	-
Courtroom AV Argument Presentation System Control & Power Functional Requirements							
* Refer to drawing TA603							
1411	Application, Ipad control full product	Crestron Electronics CRESTRON-APP-PAD	1	\$	-	\$	-
1412	Base, 26" D slim caster	Middle Atlantic Products CBS-5-26	1	\$	-	\$	-
1413	Cage, Inboard expansion card	Crestron Electronics CAGE3	1	\$	-	\$	-
1414	Card, 3 Port 3-Series RS-232/422;485 expansion slot	Crestron Electronics C3COM-3	1	\$	-	\$	-
1415	Engine, Blank front panel 6 Com port control	Crestron Electronics AV3	1	\$	-	\$	-
1416	PDU, Power receptacle panel rack mount	Middle Atlantic Products PD-915R	1	\$	-	\$	-
1417	Programming, Control systems	Crestron Electronics N/A	1	\$	-	\$	-
1418	Rack, 37RU Open frame 64.75"x26" vertical	Middle Atlantic Products 5-37-26	1	\$	-	\$	-
1419	Receiver, TP to USBx4	Extron Electronics USB Extender Plus R (60-1471-13)	3	\$	-	\$	-
1420	Relay, 120V/15A remote turn on power	Furman Sound, Inc. MP-20Q	1	\$	-	\$	-
1421	Revisions, Number of control system and control panel programming	Custom Labor	3	\$	-	\$	-
1422	Strip, 24 outlet single 15 Amp circuit slim power	Middle Atlantic Products PD-2415SC-NS	2	\$	-	\$	-
1423	Switch, 24 port managed rack mount non POE data	Hewlett-Packard HP - 2920-24G J9726A	1	\$	-	\$	-
1424	Transmitter, USB to TP	Extron Electronics USB Extender Plus T (60-1471-12)	3	\$	-	\$	-
Plate #2 * Refer to drawing TA702							
1425	Plate - See Drawings for Details	Custom N/A	1	\$	-	\$	-
Plate #4 * Refer to drawing TA704							
1426	Plate - See Drawings for Details	Custom N/A	1	\$	-	\$	-
Plate #6 * Refer to drawing TA706							
1427	Plate - See Drawings for Details	Custom N/A	1	\$	-	\$	-
Plate #8 * Refer to drawing TA708							
1428	Plate - See Drawings for Details	Custom N/A	1	\$	-	\$	-
Plate #52 * Refer to drawing TA752							
1429	Plate - See Drawings for Details	Custom N/A	1	\$	-	\$	-
Plate #56 - Rack mount codec connection * Refer to drawing TA756							
1430	Plate - See Drawings for Details	Custom N/A	1	\$	-	\$	-
Plate #82 * Refer to drawing TA782							

1431 Plate - See Drawings for Details	Custom N/A	2	\$	-	\$	-
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Plate #92 * Refer to drawing TA792

1432 Plate - See Drawings for Details	Custom N/A	2	\$	-	\$	-
Option 3 Video Systems Materials Subtotal (Option 3)					\$	-
Option 3 Video Systems Misc. Materials, Freight, Tax Subtotal (Option 3)					\$	-
Option 3 Video Systems Programming, Wiring, Installation, and Misc. Labor Subtotal (Option 3)					\$	-
Option 3 Video Systems System Subtotal (Option 3)					\$	-

OPTION 3 VIDEO SYSTEMS SUMMARY (OPTION 3)

Total Equipment/Material					\$	-
2000 Total Programming, Wiring, Installation, and Misc. Labor					\$	-
3000 OPTIONAL MAINTENANCE						
3001 Year 1				Warranty		
Total Optional Maintenance						
4000 Fixed Price Line Item for Travel						
4001 Number of Trips x Cost per Trip		0	\$	-	\$	-
TOTAL PRICE FOR SYSTEM					\$	-

GRAND TOTAL (Base Bid, CFE and all Options) SYSTEMS SUMMARY

Total Equipment/Material					\$	-
2000 Total Programming, Wiring, Installation, and Misc. Labor					\$	-
3000 OPTIONAL MAINTENANCE						
3001 Year 1				Warranty		
Total Optional Maintenance						
4000 Fixed Price Line Item for Travel						
4001 Number of Trips x Cost per Trip					\$	-
TOTAL PRICE FOR SYSTEM					\$	-

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CONTROL PANELS

CONTROL PANEL CONFIGURATIONS ARE TO BE SUBMITTED AND REVIEWED BY THE COURT PRIOR TO IMPLEMENTATION.

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DRAWINGS

PLEASE SEE ATTACHED

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GENERAL DRAWING NOTES

THESE NOTES APPLY TO ALL DRAWINGS IN THIS PACKAGE INCLUDING PLANS, SCHEDULES, FUNCTIONAL REQUIREMENTS AND DETAILS.

SEE SPECIFICATIONS SECTION AND EQUIPMENT LIST FOR ADDITIONAL INFORMATION. FIELD VERIFY ALL EXISTING SITE CONDITIONS PRIOR TO ORDERING EQUIPMENT.

SYSTEM COMPONENTS SHOWN ON THE DRAWINGS DO NOT NECESSARILY REPRESENT ALL NECESSARY COMPONENTS FOR A COMPLETE WORKING SYSTEM. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.

ALL DIMENSIONS AND MEASUREMENTS ARE IN MILLIMETERS UNLESS INDICATED OTHERWISE.

METRIC TO ENGLISH CONVERSION: 25.4MM = 1"

BUILDING TRADES CONDUIT SIZES		
MILLIMETER	INCH	MILLIMETER
16	1/2	63
21	3/4	78
27	1	91
35	1-1/4	103
41	1-1/2	129
53	2	155

- (CFE) CLIENT FURNISHED EQUIPMENT
- (OFCI) OWNER FURNISHED CONTRACTOR INSTALLED
- (OFOI) OWNER FURNISHED OWNER INSTALLED
- (PIA) PUBLIC INTERNET ACCESS

SYMBOL SCHEDULE NOTES

THESE NOTES APPLY TO THE SYMBOL SCHEDULES IN THIS PACKAGE.

ONLY REFER TO THOSE SYMBOLS ON THE SCHEDULES THAT ARE SPECIFICALLY REFERENCED ON A FLOOR OR CEILING PLAN. SOME SYMBOLS MAY NOT APPEAR ANYWHERE ON A FLOOR OR CEILING PLAN.

THE 'PROVIDED EMPTY CONDUIT' COLUMNS IN THE SYMBOL SCHEDULES REPRESENT EMPTY CONDUIT THAT IS PROVIDED BY OTHERS AND IS SHOWN HERE FOR CONVENIENCE ONLY. UNLESS OTHERWISE NOTED.

FUNCTIONAL REQUIREMENTS NOTES

THESE NOTES ONLY APPLY TO THE 'FUNCTIONAL REQUIREMENTS' DRAWINGS IN THIS PACKAGE.

FUNCTIONAL REQUIREMENTS DRAWINGS SHOW A TYPICAL WORKING SYSTEM. REFER TO SPECIFICATIONS SECTION AND EQUIPMENT LISTS TO DETERMINE THE ACTUAL REQUIRED COMPONENT EQUIPMENT.

FUNCTIONAL REQUIREMENTS DRAWINGS DO NOT REPRESENT EXACT SIGNAL TYPES OR WIRING. THE EQUIPMENT PROVIDED WILL DETERMINE THE TYPES OF SIGNALS. IT IS UP TO THE CONTRACTOR PRIOR TO BID TO ENSURE THAT EACH COMPONENT EQUIPMENT HAS COMPATIBLE SIGNALS OR PROVIDE SIGNAL CONVERTERS AS REQUIRED.

FUNCTIONAL REQUIREMENTS DRAWINGS LINETYPE _____ INDICATES NEW/WIRE-WIRE EQUIPMENT OR WIRING UNDER THIS CONTRACT.

FUNCTIONAL REQUIREMENTS DRAWINGS LINETYPE - - - - - INDICATES EXISTING EQUIPMENT OR WIRING THAT IS TO BE REUSED UNDER THIS CONTRACT.

FUNCTIONAL REQUIREMENTS DRAWINGS LINETYPE _____ AND/OR LABELED AS (CFE) INDICATES COURT FURNISHED EQUIPMENT OR WIRING UNDER THIS CONTRACT.

FUNCTIONAL REQUIREMENTS DRAWINGS LINETYPE - - - - - AND/OR LABELED AS AN ENCLOSURE OR A GROUP OF EQUIPMENT OR WIRING.

FUNCTIONAL REQUIREMENTS DRAWINGS LINETYPE - - - - - AND/OR LABELED AS (FUTURE) INDICATES FUTURE EQUIPMENT OR WIRING NOT INCLUDED IN THIS CONTRACT.

PLATE DETAILS NOTES

THESE NOTES ONLY APPLY WHERE DETAILS OF PLATES ARE SHOWN.

FIELD VERIFY SIZE OF PLATE PRIOR TO FABRICATING AND PRINTING.

NOTE THAT SOME PLATES MAY BE PROVIDED BY OTHERS.

VISIBLE PLATES ARE TO BE OF A COLOR DETERMINED BY THE ARCHITECT OR BY THE CLIENT'S REPRESENTATIVE. PLATES THAT ARE LOCATED OUT OF SITE (INSIDE FLOOR BOXES, UNDER DESKS, ETC.) SHALL BE PLAIN STEEL UNLESS OTHERWISE DIRECTED. TEXT AND GRAPHICS ON PLATES SHALL BE ENGRAVED AND FILLED IN A HIGH CONTRASTING COLOR.

CONNECTORS SHOWN ARE FOR ILLUSTRATIVE PURPOSES ONLY. ACTUAL CONNECTORS MAY VARY. WHERE PLATES ARE SHOWN WITH CONNECTORS UNDER OTHER CONTRACTS, COORDINATE WITH THOSE CONTRACTORS TO PROVIDE A FINISHED PRODUCT EQUIVALENT TO THAT SHOWN HEREIN.

PUSH-BUTTON SWITCHES TO BE MOMENTARY ACTION, NOT LATCHING, AND SHALL BE ILLUMINATED WHEN CONDITION OF BUTTON LABEL IS TRUE. LETTER AT UPPER LEFT HAND OF BUTTON DENOTES COLOR OF LENS WHEN CONDITION OF BUTTON LABEL IS TRUE. (DO NOT ENGRAVE OR PRINT TOGGLE FUNCTION ON PLATE.) W = WHITE; R = RED; G = GREEN; B = BLUE; Y = YELLOW

SCALE: NONE

DRAWN BY: RJW/JDS

DATE: 31 JULY 2015

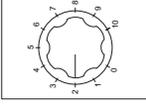
PROJECT TITLE:

Ohio Northern District Courts

THE ITEMS SHOWN ON THIS DRAWING ARE FOR SIGNAL FLOW REQUIREMENTS ONLY. ITEMS SHOWN MAY NOT BE REQUIRED OR ARE SHOWN IN PARTIAL QUANTITIES. REFER TO EQUIPMENT LIST IN SPECIFICATIONS AND DESIGN INTENT FLOOR AND CEILING PLANS FOR CONTRACT INCLUSIONS, QUANTITIES AND LOCATIONS.

TA001

CONNECTOR LEGEND

SYMBOL		DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	XLR, 3-PIN FEMALE		SPEAKON, 4-POLE		9-PIN DB, FEMALE	
	XLR, 3-PIN MALE		SPEAKON, 8-POLE		9-PIN DB, MALE	
	XLR, 4-PIN FEMALE		1/4" TR PHONE, LOCKING		RJ45	
	XLR, 4-PIN MALE		1/4" TR PHONE		RJ45, LOCKING (XLR STYLE)	
	XLR, 5-PIN FEMALE		1/4" TRS PHONE		FIBER (LC TYPE)	
	XLR, 5-PIN MALE		3.5mm TRS		FIBER (ST TYPE)	
	XLR, 6-PIN FEMALE		RCA		PHOENIX	
	XLR, 6-PIN MALE		S-VIDEO, 4-PIN		USB TYPE A	
	XLR, 7-PIN FEMALE		BNC		USB TYPE B	
	XLR, 7-PIN MALE		15-PIN HD (VGA), FEMALE		PUSH BUTTON, SQUARE	
	XLR 3-PIN-1/4" COMBO, FEMALE LOCKING		15-PIN HD (VGA), MALE		PUSH BUTTON, ROUND	
	XLR, 3-PIN FEMALE, MINI		HDMI		TOGGLE SWITCH	
	XLR, 4-PIN FEMALE, MINI		DVI		VOLUME CONTROL/ATTENUATOR	
	XLR, 5-PIN FEMALE, MINI		25-PIN DB, FEMALE			

SCALE: NONE	PROJECT TITLE: Ohio Northern District Courts	TA002
DRAWN BY: RJW/JDS		
DATE: 31 JULY 2015		

THE ITEMS SHOWN ON THIS DRAWING ARE FOR SIGNAL FLOW REQUIREMENTS ONLY. ITEMS SHOWN MAY NOT BE REQUIRED OR ARE SHOWN IN PARTIAL QUANTITIES. REFER TO EQUIPMENT LIST IN SPECIFICATIONS AND DESIGN INTENT FLOOR AND CEILING PLANS FOR CONTRACT INCLUSIONS, QUANTITIES AND LOCATIONS.

FLOOR PLAN & REFLECTED CEILING PLAN SYMBOL LEGEND

		MOUNTING REQUIREMENTS	NOTES
SIGNAL DISTRIBUTION	SYMBOL	DESCRIPTION	
		POKE THRU	INSTALL CONNECTORS INSIDE BOX
		ACTIVATED FLOOR BOX	INSTALL CONNECTORS INSIDE BOX - SPLIT BETWEEN LOW-VOLTAGE PARTITIONS
		WALL PLATE	DOUBLE-GANG PLATE FLUSH IN WALL UNLESS OTHERWISE SPECIFIED
		TABLE PLATE	NEAR WORKING SURFACE OF FURNITURE ABOVE/BELOW TABLE TOP IN SPECIAL HOUSING
		INTERFACE PANEL	RACK MOUNT - FRONT AND/OR REAR
SIGNAL CNTRL		UMBILICAL WITH CABLE-END CONNECTORS	ANCHOR UMBILICAL UNDER ACCESS FLOOR LEAVING LOOSE END CAPABLE OF REACHING FURNITURE WHICH CAN BE MOVED TO IT'S DESIGNATED LOCATIONS.
		PLATE W/ INDICATORS	PLATE FLUSH AT HEIGHT SPECIFIED
		LOUDSPEAKER	MOUNTED AT CEILING
		LOUDSPEAKER	MOUNTED AT WALL
		LOUDSPEAKER	MOUNTED AT HORIZONTAL SURFACE OF CASEWORK/MILLWORK
		LOUDSPEAKER	MOUNTED AT VERTICAL SURFACE OF CASEWORK/MILLWORK
LISTENING ASSISTANCE & 2ND LANGUAGE		LOUDSPEAKER	MOUNTED AT VERTICAL SURFACE OF CASEWORK/MILLWORK
		IR EMITTER	FLUSH MOUNTED INSIDE ENCLOSED WALL CAVITY
		IR EMITTER	SURFACE MOUNTED IN CAVITY, ON WALL OR CEILING
		EQUIPMENT RACK(S)	EQUIPMENT RACK (CASTERS WHERE REQUIRED)
		EQUIPMENT BACKBOARD	FIRE RESISTANT PLYWOOD (BY OTHERS)
		BBXX	HOOK UP TO TELEPHONE LINES, MULTIMEDIA BACKBONE, ETC. FROM THIS LOCATION.
EQUIPMENT ROOM		BBXX	HOOK UP TO TELEPHONE LINES, MULTIMEDIA BACKBONE, ETC. FROM THIS LOCATION.
		BBXX	HOOK UP TO TELEPHONE LINES, MULTIMEDIA BACKBONE, ETC. FROM THIS LOCATION.
PROJECT TITLE: Ohio Northern District Courts			TA003
SCALE: NONE			
DRAWN BY: RJW/JDS			
DATE: 31 JULY 2015			

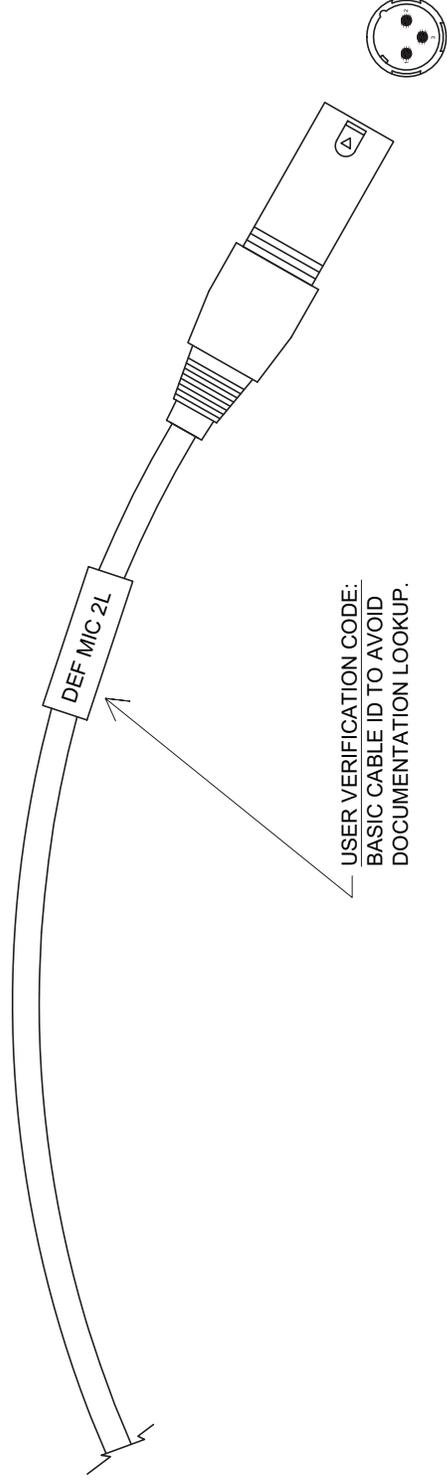
THE ITEMS SHOWN ON THIS DRAWING ARE FOR SIGNAL FLOW REQUIREMENTS ONLY. ITEMS SHOWN MAY NOT BE REQUIRED OR ARE SHOWN IN PARTIAL QUANTITIES. REFER TO EQUIPMENT LIST IN SPECIFICATIONS AND DESIGN INTENT FLOOR AND CEILING PLANS FOR CONTRACT INCLUSIONS, QUANTITIES AND LOCATIONS.

FLOOR PLAN & REFLECTED CEILING PLAN SYMBOL LEGEND

		SYMBOL	DESCRIPTION	MOUNTING REQUIREMENTS	NOTES
CONTROL DEVICES			CONTROL TOUCH SCREEN	DESKTOP OR FLUSH MOUNTED	ROUTE ALL WIRING BACK TO EQUIPMENT BACKBOARD THROUGH CONDUIT OF PATHWAY PROVIDED
			BUILT-IN OR FREE-STANDING CONTROL DEVICES	FLUSH IN COUNTER TOP OR IN STAND-ALONE BACKBOX	X ANY COMBINATION BELOW
DEVICES			PC	CFE OR LOCATION SHOWN (SHOWN PROVIDED)	A ATTORNEY CONTROL B BAILIFF CONTROL C COUNTDOWN / CLOCK D DEPUTY CONTROL F FLUSH MOUNT I INTERPRETER MAIN CONTROL J JUDGE CONTROL
			LAPTOP	CFE OR LOCATION SHOWN (SHOWN CFE)	L LAW CLERK O OFE/CFE P PRISONER INTERCOM R COURT REPORTER CONTROL S ROUTER CONTROL SWITCH T TECHNICAL DIRECTOR V VOLUME CONTROL W WIRELESS
			VIDEO IMAGE PRINTER	SHELF BELOW CLERK/COURTROOM DEPUTY'S DESK	
			FLAT SCREEN MONITOR	RECESSED INTO CASEWORK	X ANY COMBINATION BELOW
			FLAT SCREEN MONITOR	DESKTOP MODEL	A ANNOTATION INPUT MONITOR B BRACKET MOUNT C CONTROL COMPUTER D DUAL INPUT E(##) EVIDENCE DISPLAY SHOWING NEAR OR FAR END WITH PUBLISHING ZONE NUMBER
DISPLAY MONITORS			FLAT SCREEN MONITOR	WALL MOUNT BRACKET	M WITH SOUND MASKING N NTSC BASEBAND P POST MOUNT Q QUEUING MONITOR
			FLAT SCREEN MONITOR	ON PORTABLE CART (PROVIDE UMBILICAL)	R RESTRICTED ANGLE OVERLAY S WITH COURTROOM SOUND T TOGGLE AT MAIN CONTROL PANEL TO SHOW EVIDENCE OR PEOPLE CAMERAS V VIDEO CONFERENCE REMOTE PEOPLE ONLY
			DISPLAY MONITOR	IN RECESSED CAVITY	W WALL MOUNT Y TV
			VIDEO/DATA PROJECTOR	POSITIONED INSIDE CAVITY	
VIDEO PROJECTION			VIDEO/DATA PROJECTOR	ON CEILING PIPE MOUNT	
			PROJECTION SCREEN	LOW VOLTAGE CONTROL WIRING ONLY	ADJUST STOPS UNDER THIS CONTRACT FOR BEST PICTURE
			PAN/TILT/ZOOM/FOCUS CAMERA	SURFACE MOUNTED ON WALL OR SOFFIT	X ANY COMBINATION BELOW A CAMERA FOCUS ON ATTORNEY B PROVIDE PHYSICAL VIEW BARRIER AS REQ'D SO THAT NO SHOTS OF JURORS ARE POSSIBLE
CAMERA COVERAGE			PAN/TILT/ZOOM/FOCUS CAMERA	SURFACE MOUNTED INSIDE CAVITY	J CAMERA FOCUS ON JUDGE L CAMERA FOCUS ON LECTERN W CAMERA FOCUS ON WITNESS
			U.S. MARSHAL'S CAMERA	PROVIDED & INSTALLED BY U.S. MARSHAL	NOT IN THIS CONTRACT. SHOWN FOR INFORMATIONAL & COORDINATION PURPOSES ONLY.
SCALE: NONE			PROJECT TITLE: Ohio Northern District Courts		
DRAWN BY: RJW/JDS					
DATE: 31 JULY 2015					
			THE ITEMS SHOWN ON THIS DRAWING ARE FOR SIGNAL FLOW REQUIREMENTS ONLY. ITEMS SHOWN MAY NOT BE REQUIRED OR ARE SHOWN IN PARTIAL QUANTITIES. REFER TO EQUIPMENT LIST IN SPECIFICATIONS AND DESIGN INTENT FLOOR AND CEILING PLANS FOR CONTRACT INCLUSIONS, QUANTITIES AND LOCATIONS.		
			TA004		

FLOOR PLAN & REFLECTED CEILING PLAN SYMBOL LEGEND

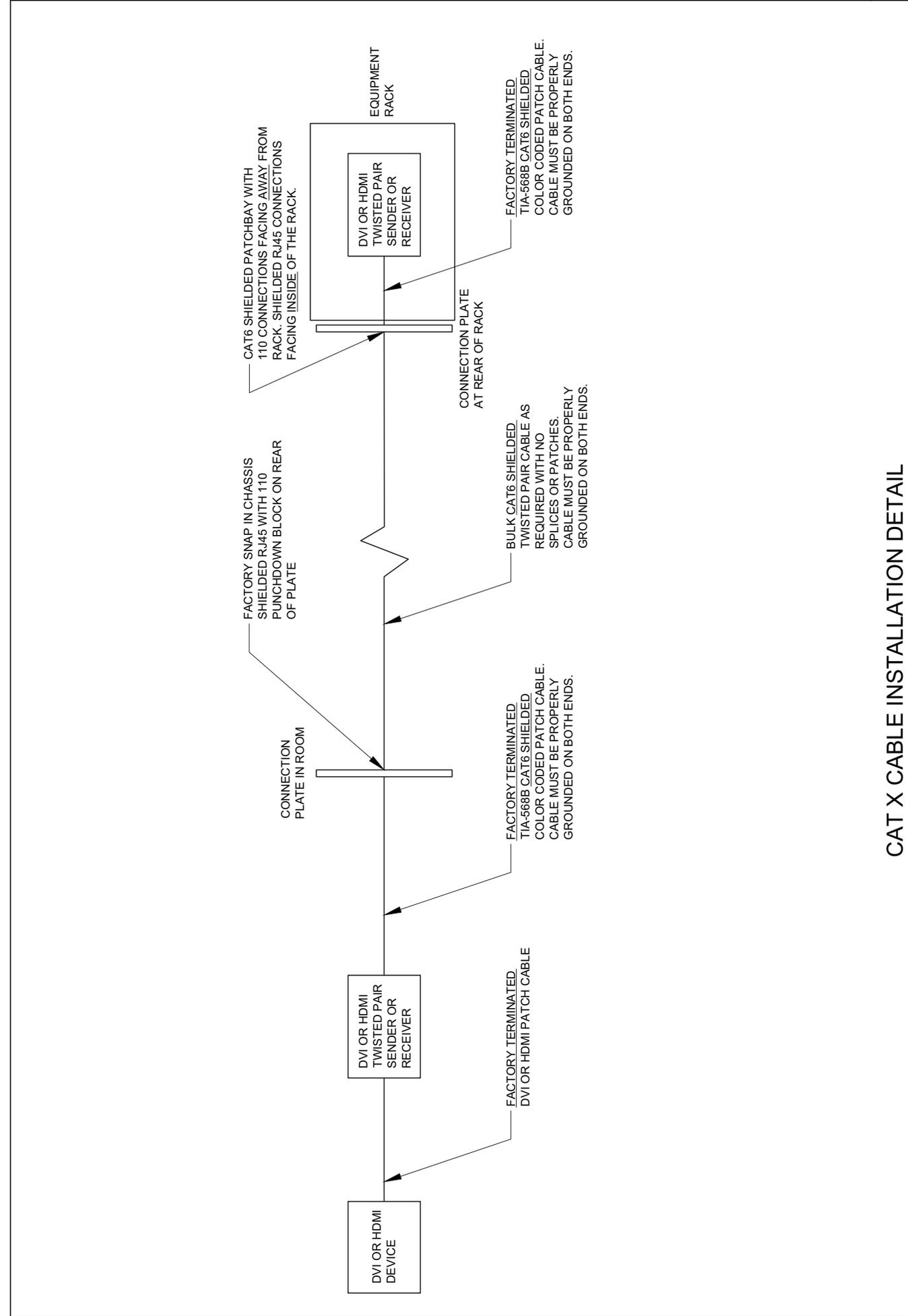
SYMBOL		DESCRIPTION	MOUNTING REQUIREMENTS	NOTES
WITNESS BOX	NOT SHOWN	CAMERA TARGET AREA	NONE	X ANY COMBINATION BELOW B BRACKET MOUNTED C CEILING MOUNTED D DESKTOP F FLUSH IN CEILING S SURFACE MOUNTED
		ZOOM/FOCUS CAMERA	INSIDE CEILING CAVITY	
		TABLE TOP DOCUMENT CAMERA	PROVIDE CUSTOM MOUNTING ARM	
PORTABLE ARGUMENT PRESENTATION CARTS		CART 'A'. CONTAINS EVIDENCE PRESENTATION TOOLS	PORTABLE	(#) SEE PLATE DRAWINGS FOR SERVICE REQUIREMENTS AT EACH LOCATION ALL MISCELLANEOUS PROCESSORS, SWITCHES AND CONVERTERS TO BE INSIDE OF CART. PROVIDE MULTI-CABLE "UMBILICAL'S" FOR CONNECTION FROM CART "B" TO CART "A" AND FOR CONNECTION FROM CART "A" TO FLOOR BOX OR WALL PLATE(S).
		ADDITIONAL POSITIONS FOR SINGLE CART A	PORTABLE	
		CART 'B'	PORTABLE	
		ADDITIONAL POSITIONS FOR SINGLE CART B	PORTABLE	
MICROPHONES		FIXED BASE MICROPHONE	PERMANENTLY MOUNTED	X ANY COMBINATION BELOW A ARRAY TYPE B BENCH CONFERENCE C CEILING MOUNTED M MOVABLE R RECESSED IN CASEWORK OR FURNITURE S STAND MOUNTED V MOUNTED ON VERTICAL SURFACE WHERE FURNITURE IS MOBILE, PROVIDE MULTI-CABLE "UMBILICAL " FOR CONNECTION TO FLOOR BOX OR WALL PLATE
		MOVABLE BASE MICROPHONE	PLUGS INTO MILLWORK JACK OR WALL PLATE	
		BOUNDARY MICROPHONE	PORTABLE OR MOUNTED	
		OVERHEAD MICROPHONE	HANGING/DROP-DOWN FROM CEILING. PROVIDE HOLLOW THREADED LAMP BASE WIRING SLEEVE WITH WASHERS AND NUT IN COLOR TO MATCH CEILING.	
		LAVALIER MICROPHONE	PROVIDE 3 METERS OF EXTENSION CABLE & A HOOK FOR STORAGE UNDER COUNTERTOP.	
		COUNTDOWN TIMER CLOCK	MOUNTED AT VERTICAL SURFACE OF WALL/CASEWORK/MILLWORK	
COUNTDOWN CLOCK		COUNTDOWN TIMER CLOCK	MOUNTED AT HORIZONTAL SURFACE OF CASEWORK/MILLWORK	
SCALE:	NONE	PROJECT TITLE: Ohio Northern District Courts		TA005 THE ITEMS SHOWN ON THIS DRAWING ARE FOR SIGNAL FLOW REQUIREMENTS ONLY. ITEMS SHOWN MAY NOT BE REQUIRED OR ARE SHOWN IN PARTIAL QUANTITIES. REFER TO EQUIPMENT LIST IN SPECIFICATIONS AND DESIGN INTENT FLOOR AND CEILING PLANS FOR CONTRACT INCLUSIONS, QUANTITIES AND LOCATIONS.
DRAWN BY:	RJW/JDS			
DATE:	31 JULY 2015			



CABLE LABELING REQUIREMENTS

SCALE:	NONE	PROJECT TITLE:	Ohio Northern District Courts	TA006
DRAWN BY:	RJW/JDS			
DATE:	31 JULY 2015			

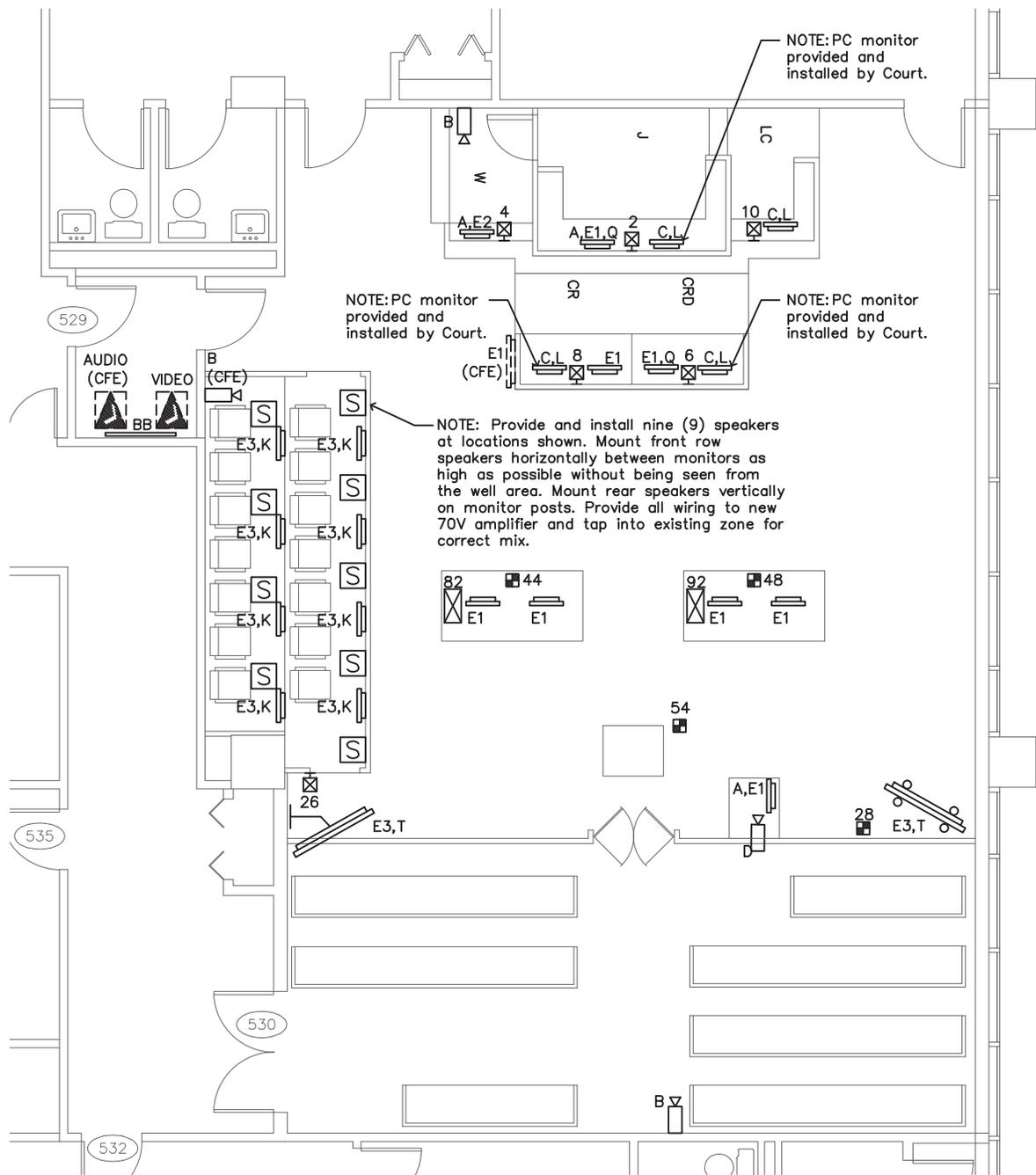
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CAT X CABLE INSTALLATION DETAIL

<p>SCALE: NONE</p>	<p>PROJECT TITLE:</p>	<p>TA007</p>
<p>DRAWN BY: RJW/JDS</p>	<p>Ohio Northern District Courts</p>	
<p>DATE: 31 JULY 2015</p>		

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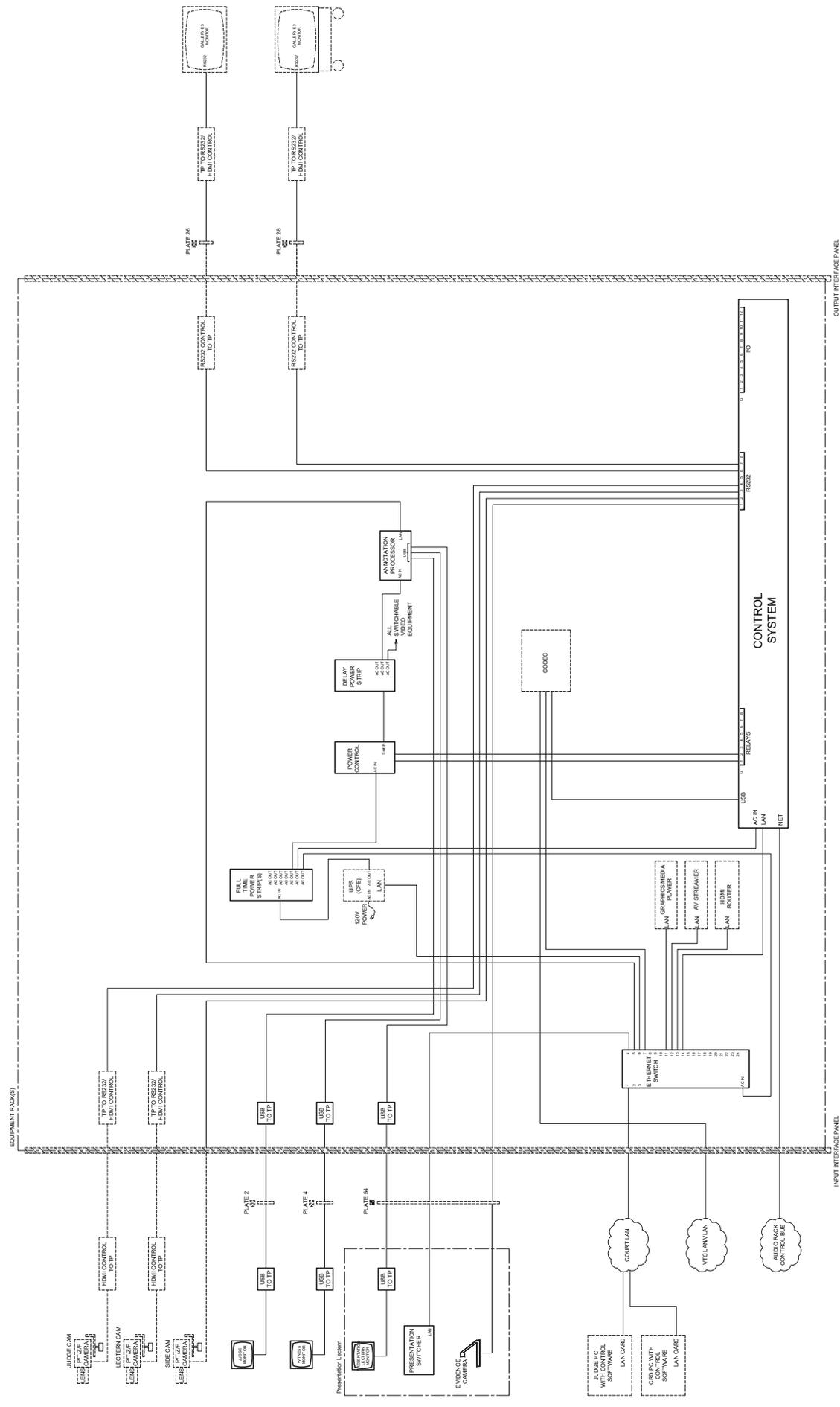
Akron Courtroom 530

SCALE: 1:100	PROJECT TITLE: Ohio Northern District Courts	THE ITEMS SHOWN ON THIS DRAWING ARE FOR SIGNAL FLOW REQUIREMENTS ONLY. ITEMS SHOWN MAY NOT BE REQUIRED OR ARE SHOWN IN PARTIAL QUANTITIES. REFER TO EQUIPMENT LIST IN SPECIFICATIONS AND DESIGN INTENT FLOOR AND CEILING PLANS FOR CONTRACT INCLUSIONS, QUANTITIES AND LOCATIONS.	TA101a
DRAWN BY: RJW/jds			
DATE: 31 JULY 2015			

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THIS IS NOT A WIRING DRAWING

SEE FLOOR PLANS FOR LOCATIONS



AKRON COURTROOM 530 - AV ARGUMENT PRESENTATION SYSTEM CONTROL & POWER FUNCTIONAL REQUIREMENTS

THE ITEMS SHOWN ON THIS DRAWING ARE FOR SIGNAL FLOW REQUIREMENTS ONLY. ITEMS SHOWN MAY NOT BE REQUIRED OR ARE SHOWN IN PARTIAL QUANTITIES. REFER TO EQUIPMENT LIST IN SPECIFICATIONS AND DESIGN INTENT FLOOR AND CEILING PLANS FOR CONTRACT INCLUSIONS, QUANTITIES AND LOCATIONS.

SCALE: NONE
DRAWN BY: RJW/JDS
DATE: 31 JULY 2015

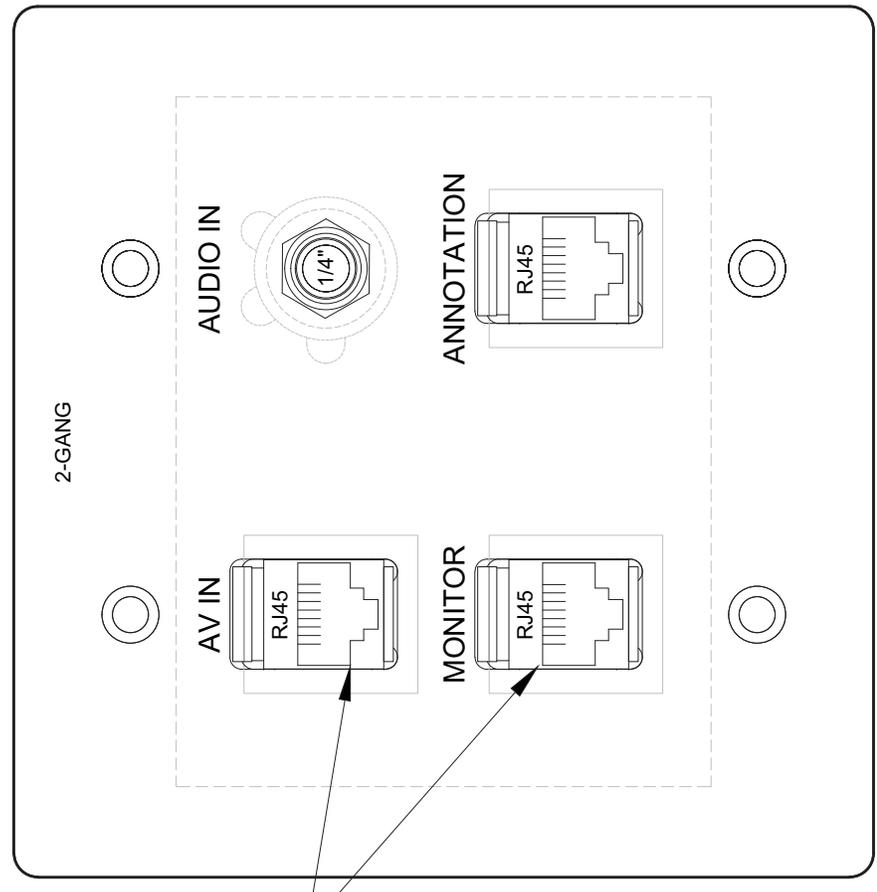
PROJECT TITLE:
Ohio Northern District Courts

TA603

DRAWING NOTE:
 THE CONTRACTOR SHALL SUBMIT PLATE
 DRAWINGS AS PART OF SUBMITTALS AS
 DEFINED WITHIN THE SPECIFICATION.
 PLATES FABRICATED WITHOUT PRIOR
 REVIEW MAY BE REJECTED.

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SEE FLOOR PLANS
 FOR LOCATIONS



Shielded

AKRON COURTROOM 530 - COURTROOM AREA - PLATE #2

SCALE: NONE

PROJECT TITLE:

DRAWN BY: RJW/JDS

Ohio Northern District Courts

DATE: 31 JULY 2015

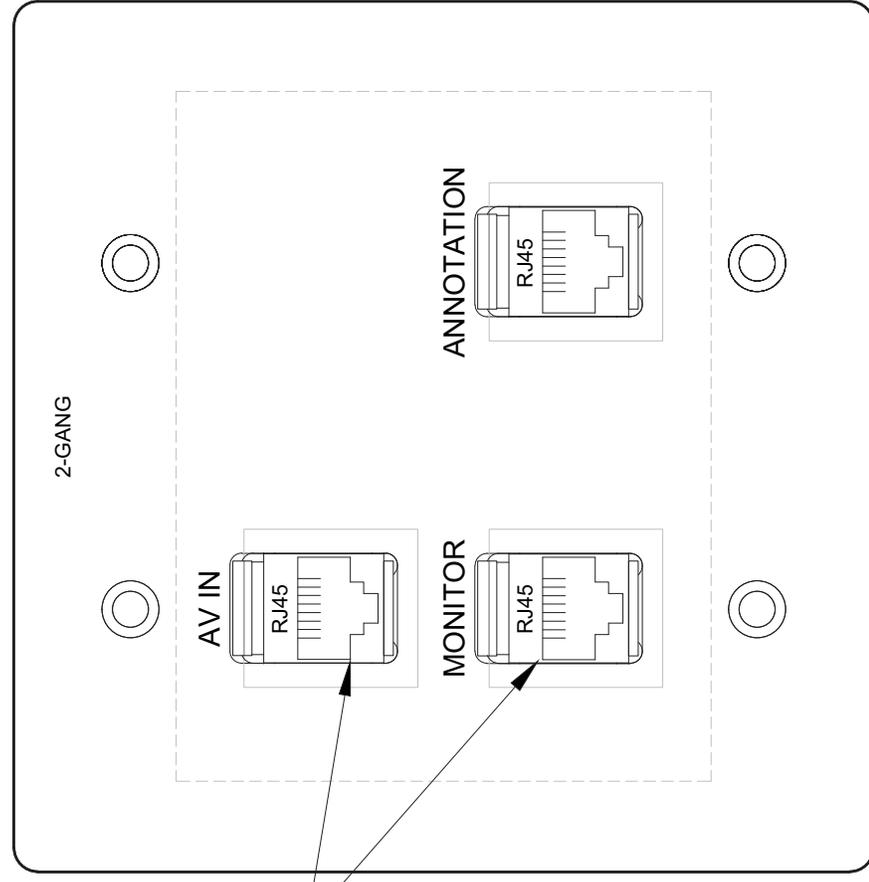
THE ITEMS SHOWN ON THIS DRAWING ARE FOR SIGNAL FLOW REQUIREMENTS ONLY. ITEMS SHOWN MAY NOT BE REQUIRED OR ARE SHOWN IN PARTIAL QUANTITIES. REFER TO EQUIPMENT LIST IN SPECIFICATIONS AND DESIGN INTENT FLOOR AND CEILING PLANS FOR CONTRACT INCLUSIONS, QUANTITIES AND LOCATIONS.

TA702

DRAWING NOTE:
 THE CONTRACTOR SHALL SUBMIT PLATE
 DRAWINGS AS PART OF SUBMITTALS AS
 DEFINED WITHIN THE SPECIFICATION.
 PLATES FABRICATED WITHOUT PRIOR
 REVIEW MAY BE REJECTED.

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SEE FLOOR PLANS
 FOR LOCATIONS



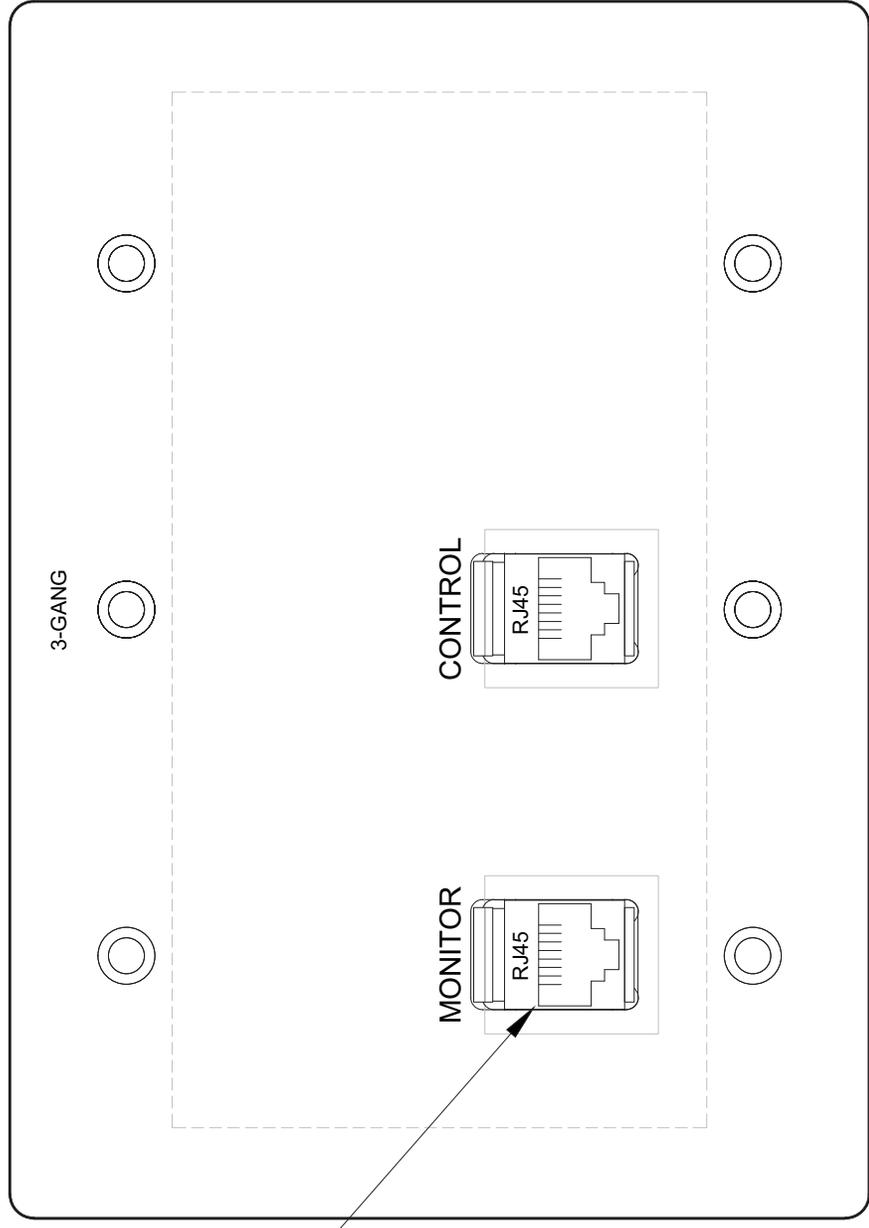
AKRON COURTROOM 530 - COURTROOM AREA - PLATE #4

SCALE:	NONE	PROJECT TITLE: Ohio Northern District Courts	THE ITEMS SHOWN ON THIS DRAWING ARE FOR SIGNAL FLOW REQUIREMENTS ONLY. ITEMS SHOWN MAY NOT BE REQUIRED OR ARE SHOWN IN PARTIAL QUANTITIES. REFER TO EQUIPMENT LIST IN SPECIFICATIONS AND DESIGN INTENT FLOOR AND CEILING PLANS FOR CONTRACT INCLUSIONS, QUANTITIES AND LOCATIONS.
DRAWN BY:	RJW/JDS		
DATE:	31 JULY 2015		
			TA704

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SEE FLOOR PLANS
FOR LOCATIONS

DRAWING NOTE:
THE CONTRACTOR SHALL SUBMIT PLATE
DRAWINGS AS PART OF SUBMITTALS AS
DEFINED WITHIN THE SPECIFICATION.
PLATES FABRICATED WITHOUT PRIOR
REVIEW MAY BE REJECTED.



Shielded

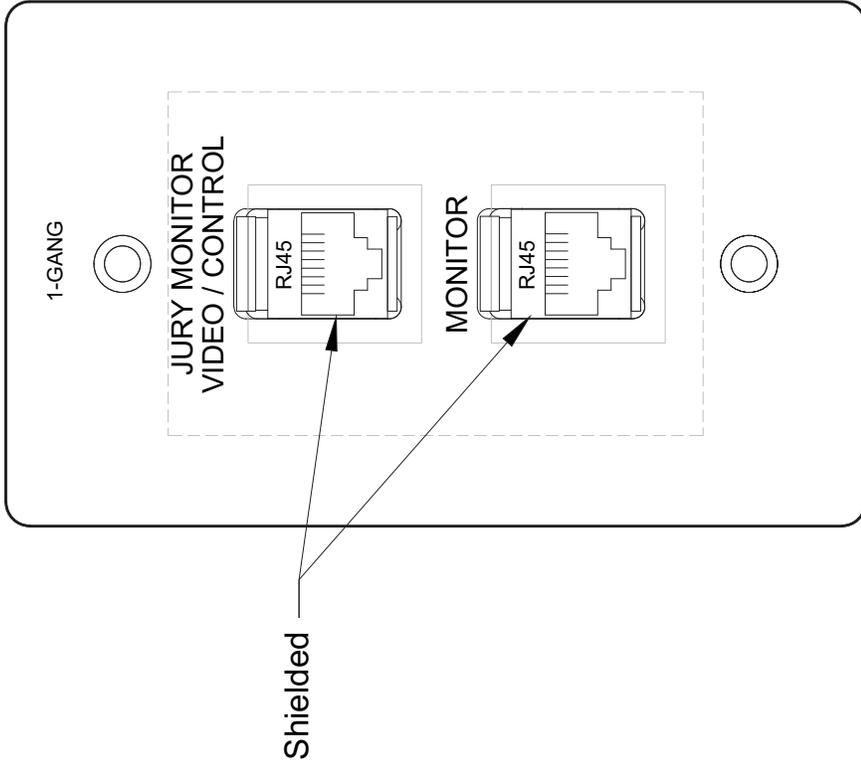
AKRON COURTROOM 530 - COURTROOM AREA - PLATE #6

SCALE:	NONE	PROJECT TITLE:	Ohio Northern District Courts
DRAWN BY:	RJW/JDS		
DATE:	31 JULY 2015		
		THE ITEMS SHOWN ON THIS DRAWING ARE FOR SIGNAL FLOW REQUIREMENTS ONLY. ITEMS SHOWN MAY NOT BE REQUIRED OR ARE SHOWN IN PARTIAL QUANTITIES. REFER TO EQUIPMENT LIST IN SPECIFICATIONS AND DESIGN INTENT FLOOR AND CEILING PLANS FOR CONTRACT INCLUSIONS, QUANTITIES AND LOCATIONS.	TA706

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SEE FLOOR PLANS
 FOR LOCATIONS

DRAWING NOTE:
 THE CONTRACTOR SHALL SUBMIT PLATE
 DRAWINGS AS PART OF SUBMITTALS AS
 DEFINED WITHIN THE SPECIFICATION.
 PLATES FABRICATED WITHOUT PRIOR
 REVIEW MAY BE REJECTED.



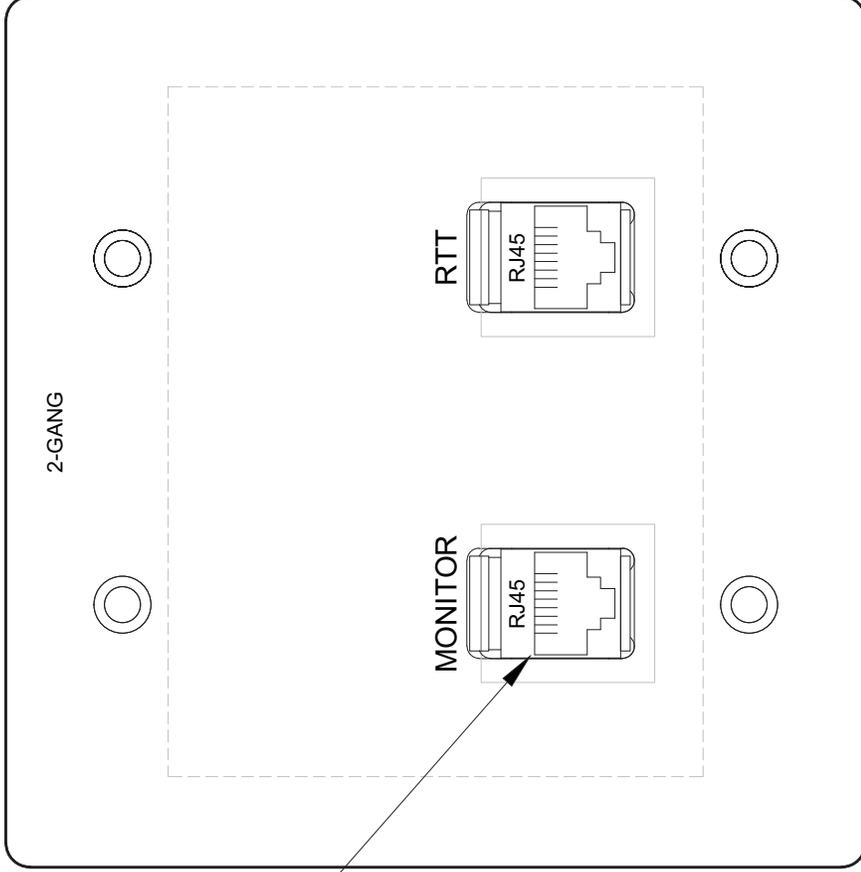
AKRON COURTROOM 530 - COURTROOM AREA - PLATE #8

SCALE:	NONE	PROJECT TITLE: Ohio Northern District Courts	THE ITEMS SHOWN ON THIS DRAWING ARE FOR SIGNAL FLOW REQUIREMENTS ONLY. ITEMS SHOWN MAY NOT BE REQUIRED OR ARE SHOWN IN PARTIAL QUANTITIES. REFER TO EQUIPMENT LIST IN SPECIFICATIONS AND DESIGN INTENT FLOOR AND CEILING PLANS FOR CONTRACT INCLUSIONS, QUANTITIES AND LOCATIONS.	
DRAWN BY:	RJW/JDS			TA708
DATE:	31 JULY 2015			

DRAWING NOTE:
 THE CONTRACTOR SHALL SUBMIT PLATE
 DRAWINGS AS PART OF SUBMITTALS AS
 DEFINED WITHIN THE SPECIFICATION.
 PLATES FABRICATED WITHOUT PRIOR
 REVIEW MAY BE REJECTED.

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SEE FLOOR PLANS
 FOR LOCATIONS



Shielded

AKRON COURTROOM 530 - COURTROOM AREA - PLATE #10

SCALE: NONE

PROJECT TITLE:

DRAWN BY: RJW/JDS

Ohio Northern District Courts

DATE: 31 JULY 2015

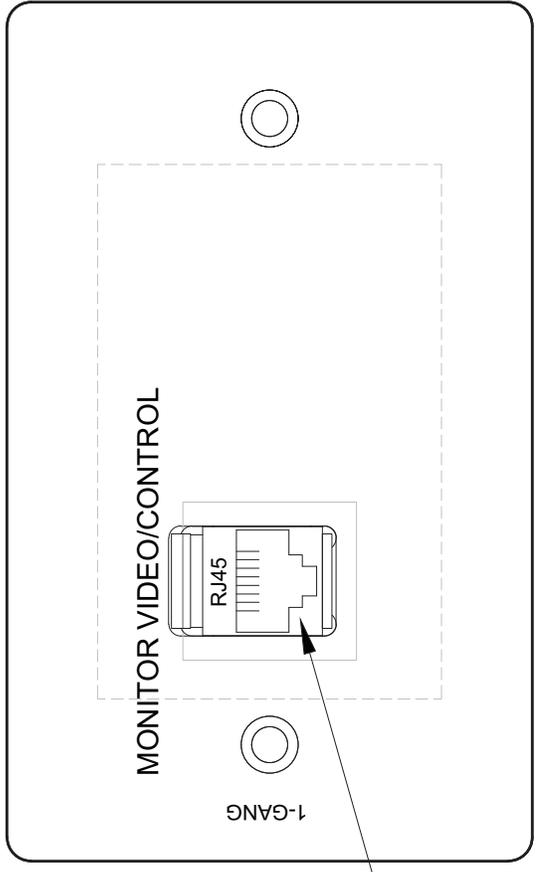
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 ARE SHOWN IN PARTIAL QUANTITIES. REFER
 TO EQUIPMENT LIST IN SPECIFICATIONS AND
 DESIGN INTENT FLOOR AND CEILING PLANS
 FOR CONTRACT INCLUSIONS, QUANTITIES
 AND LOCATIONS.

TA710

SEE FLOOR PLANS
FOR LOCATIONS

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DRAWING NOTE:
THE CONTRACTOR SHALL SUBMIT PLATE
DRAWINGS AS PART OF SUBMITTALS AS
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PLATES FABRICATED WITHOUT PRIOR
REVIEW MAY BE REJECTED.



Shielded

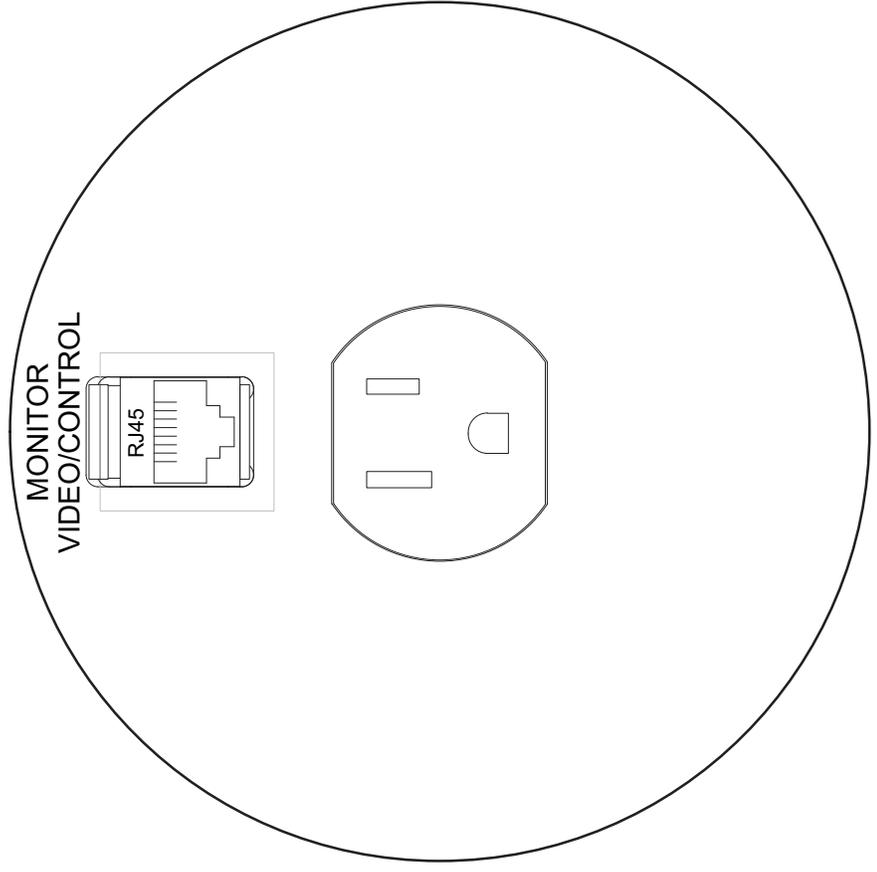
AKRON COURTROOM 530 - COURTROOM AREA - PLATE #26

SCALE:	NONE	PROJECT TITLE:	Ohio Northern District Courts
DRAWN BY:	RJW/JDS	THE ITEMS SHOWN ON THIS DRAWING ARE FOR SIGNAL FLOW REQUIREMENTS ONLY. ITEMS SHOWN MAY NOT BE REQUIRED OR ARE SHOWN IN PARTIAL QUANTITIES. REFER TO EQUIPMENT LIST IN SPECIFICATIONS AND DESIGN INTENT FLOOR AND CEILING PLANS FOR CONTRACT INCLUSIONS, QUANTITIES AND LOCATIONS.	
DATE:	31 JULY 2015		
			TA726

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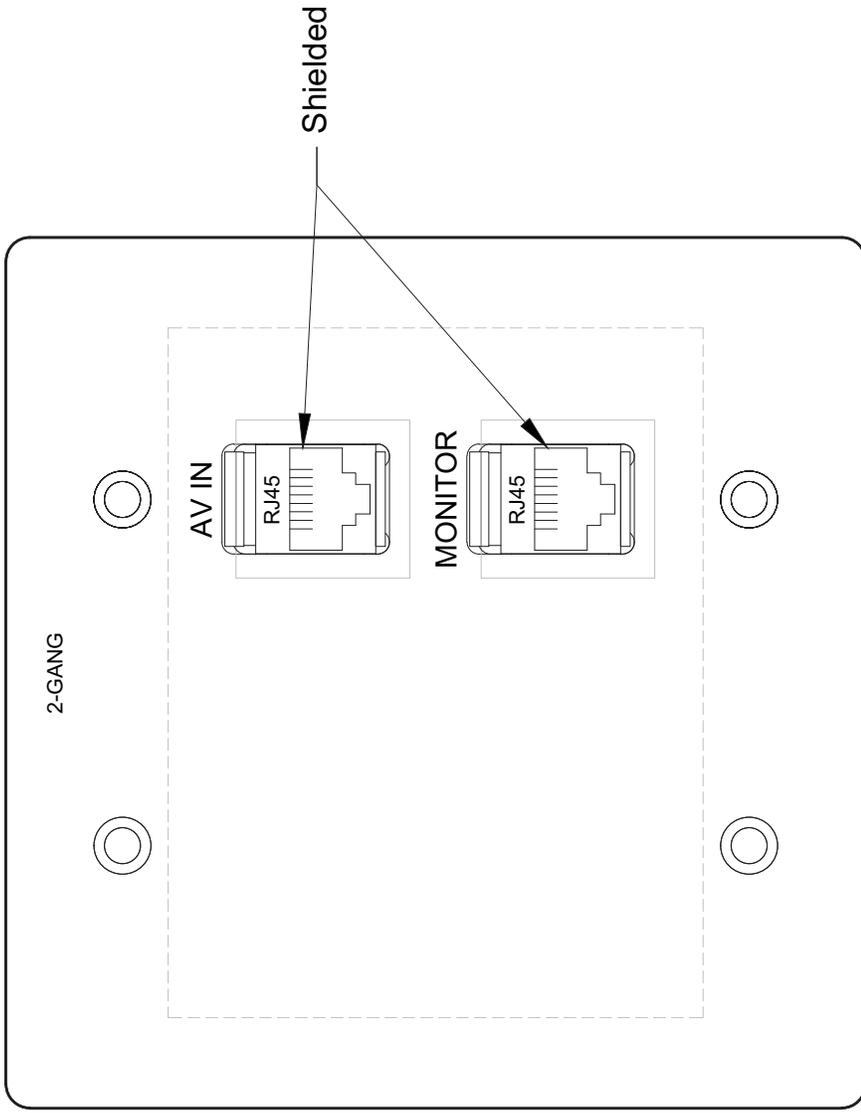
AKRON COURTROOM 530 - COURTROOM AREA - PLATE #28

SCALE:	NONE	PROJECT TITLE:	Ohio Northern District Courts	THE ITEMS SHOWN ON THIS DRAWING ARE FOR SIGNAL FLOW REQUIREMENTS ONLY. ITEMS SHOWN MAY NOT BE REQUIRED OR ARE SHOWN IN PARTIAL QUANTITIES. REFER TO EQUIPMENT LIST IN SPECIFICATIONS AND DESIGN INTENT FLOOR AND CEILING PLANS FOR CONTRACT INCLUSIONS, QUANTITIES AND LOCATIONS.	TA728
DRAWN BY:	RJW/JDS				
DATE:	31 JULY 2015				

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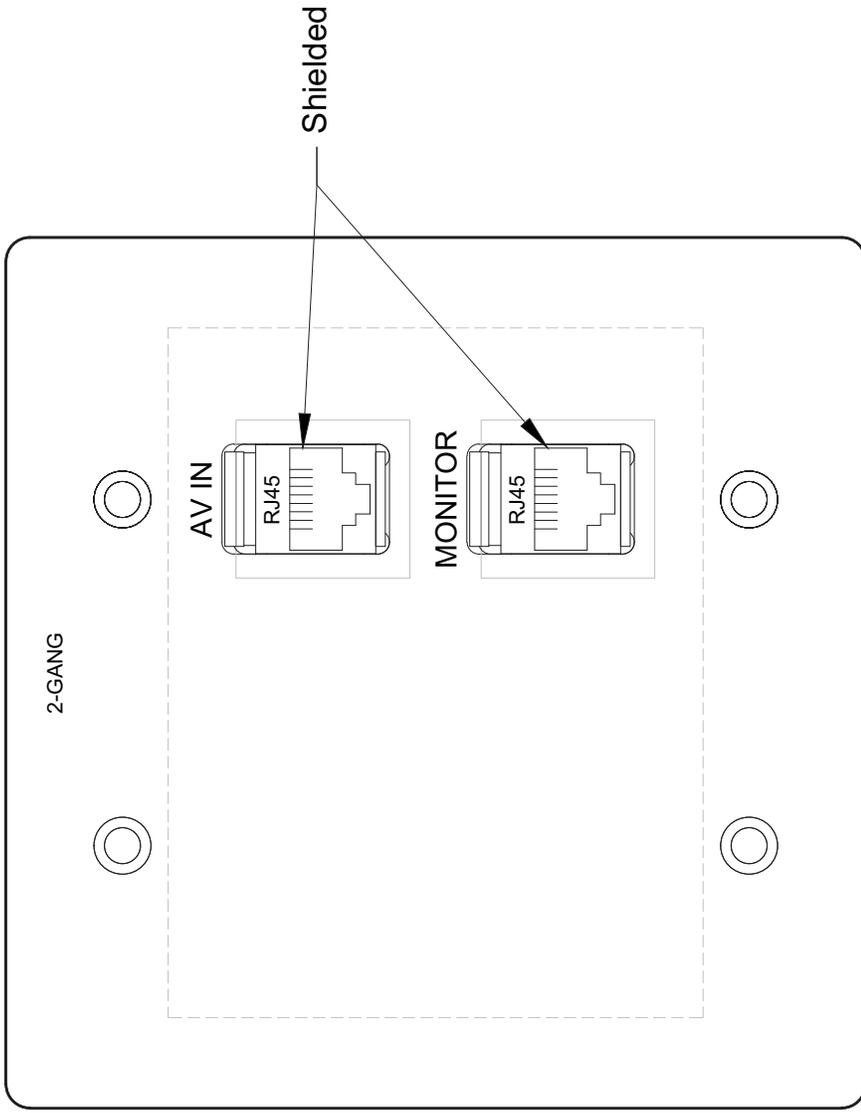
AKRON COURTROOM 530 - COURTROOM AREA - PLATE #44

SCALE:	NONE	PROJECT TITLE: Ohio Northern District Courts	THE ITEMS SHOWN ON THIS DRAWING ARE FOR SIGNAL FLOW REQUIREMENTS ONLY. ITEMS SHOWN MAY NOT BE REQUIRED OR ARE SHOWN IN PARTIAL QUANTITIES. REFER TO EQUIPMENT LIST IN SPECIFICATIONS AND DESIGN INTENT FLOOR AND CEILING PLANS FOR CONTRACT INCLUSIONS, QUANTITIES AND LOCATIONS.	TA744
DRAWN BY:	RJW/JDS			
DATE:	31 JULY 2015			

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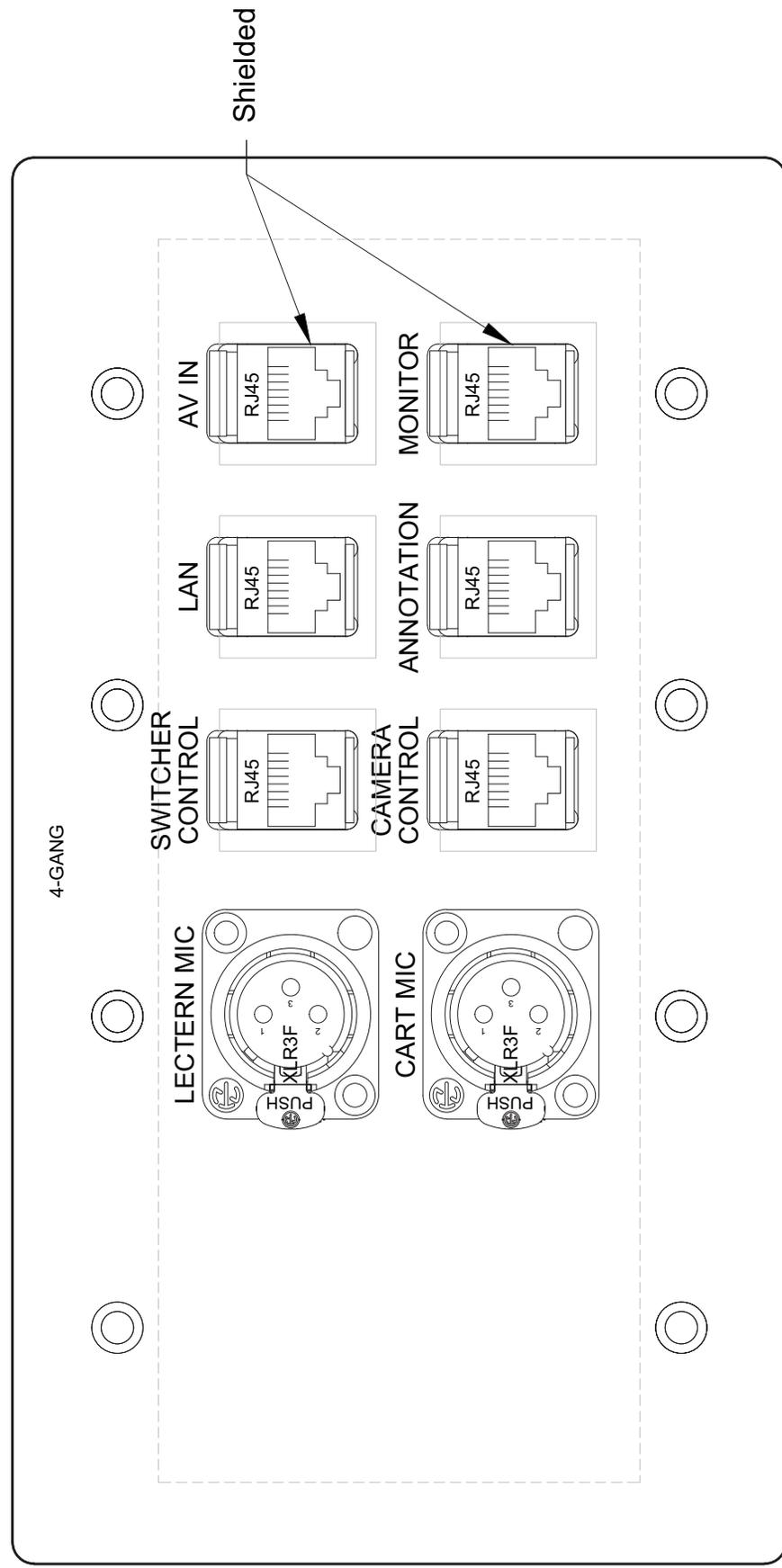
AKRON COURTROOM 530 - COURTROOM AREA - PLATE #48

SCALE:	NONE	PROJECT TITLE: Ohio Northern District Courts	THE ITEMS SHOWN ON THIS DRAWING ARE FOR SIGNAL FLOW REQUIREMENTS ONLY. ITEMS SHOWN MAY NOT BE REQUIRED OR ARE SHOWN IN PARTIAL QUANTITIES. REFER TO EQUIPMENT LIST IN SPECIFICATIONS AND DESIGN INTENT FLOOR AND CEILING PLANS FOR CONTRACT INCLUSIONS, QUANTITIES AND LOCATIONS.	
DRAWN BY:	RJW/JDS			TA748
DATE:	31 JULY 2015			

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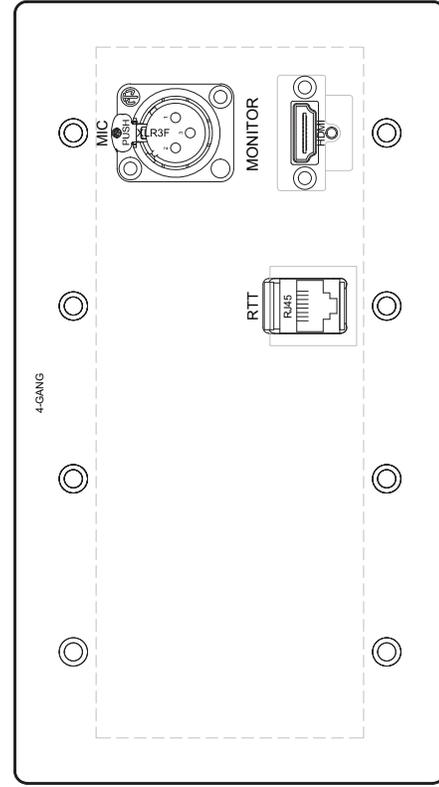
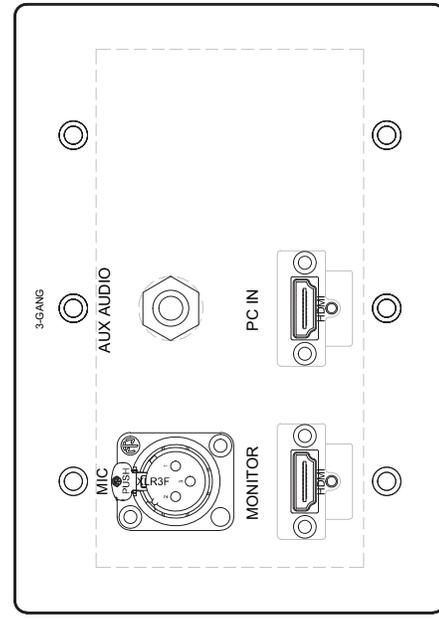
AKRON COURTROOM 530 - COURTROOM AREA - PLATE #54

SCALE:	NONE	PROJECT TITLE: Ohio Northern District Courts	THE ITEMS SHOWN ON THIS DRAWING ARE FOR SIGNAL FLOW REQUIREMENTS ONLY. ITEMS SHOWN MAY NOT BE REQUIRED OR ARE SHOWN IN PARTIAL QUANTITIES. REFER TO EQUIPMENT LIST IN SPECIFICATIONS AND DESIGN INTENT FLOOR AND CEILING PLANS FOR CONTRACT INCLUSIONS, QUANTITIES AND LOCATIONS.
DRAWN BY:	RJW/JDS		
DATE:	31 JULY 2015		
			TA754

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AKRON COURTROOM 530 - COURTROOM AREA - PLATE #82

SCALE: 1:2 PROJECT TITLE:

DRAWN BY: RJW/JDS

Ohio Northern District Courts

DATE: 31 JULY 2015

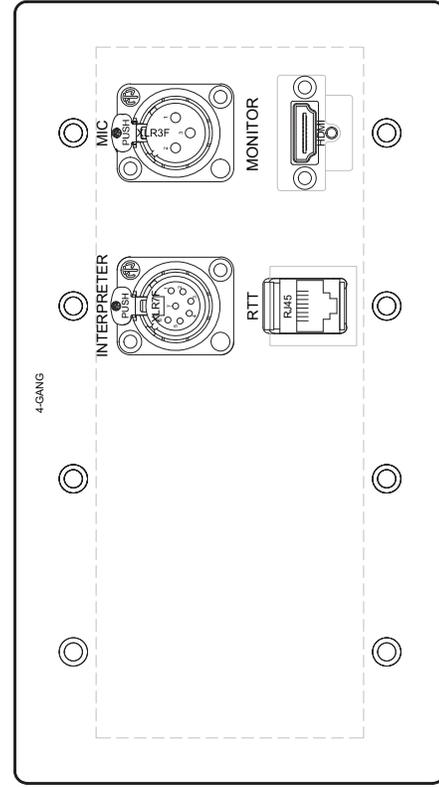
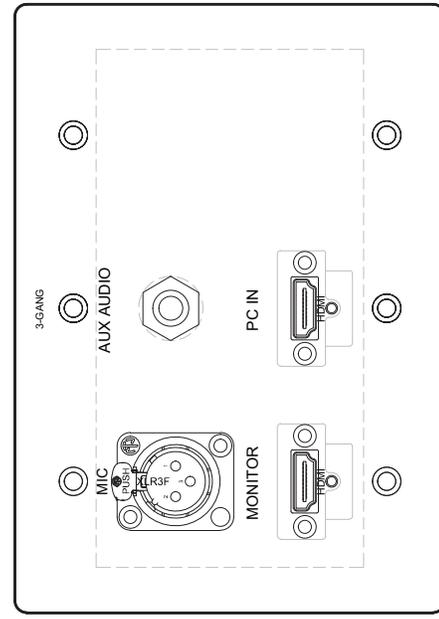
THE ITEMS SHOWN ON THIS DRAWING ARE FOR SIGNAL FLOW REQUIREMENTS ONLY. ITEMS SHOWN MAY NOT BE REQUIRED OR ARE SHOWN IN PARTIAL QUANTITIES. REFER TO EQUIPMENT LIST IN SPECIFICATIONS AND DESIGN INTENT FLOOR AND CEILING PLANS FOR CONTRACT INCLUSIONS, QUANTITIES AND LOCATIONS.

TA782

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AKRON COURTROOM 530 - COURTROOM AREA - PLATE #92

SCALE: 1:2 PROJECT TITLE:

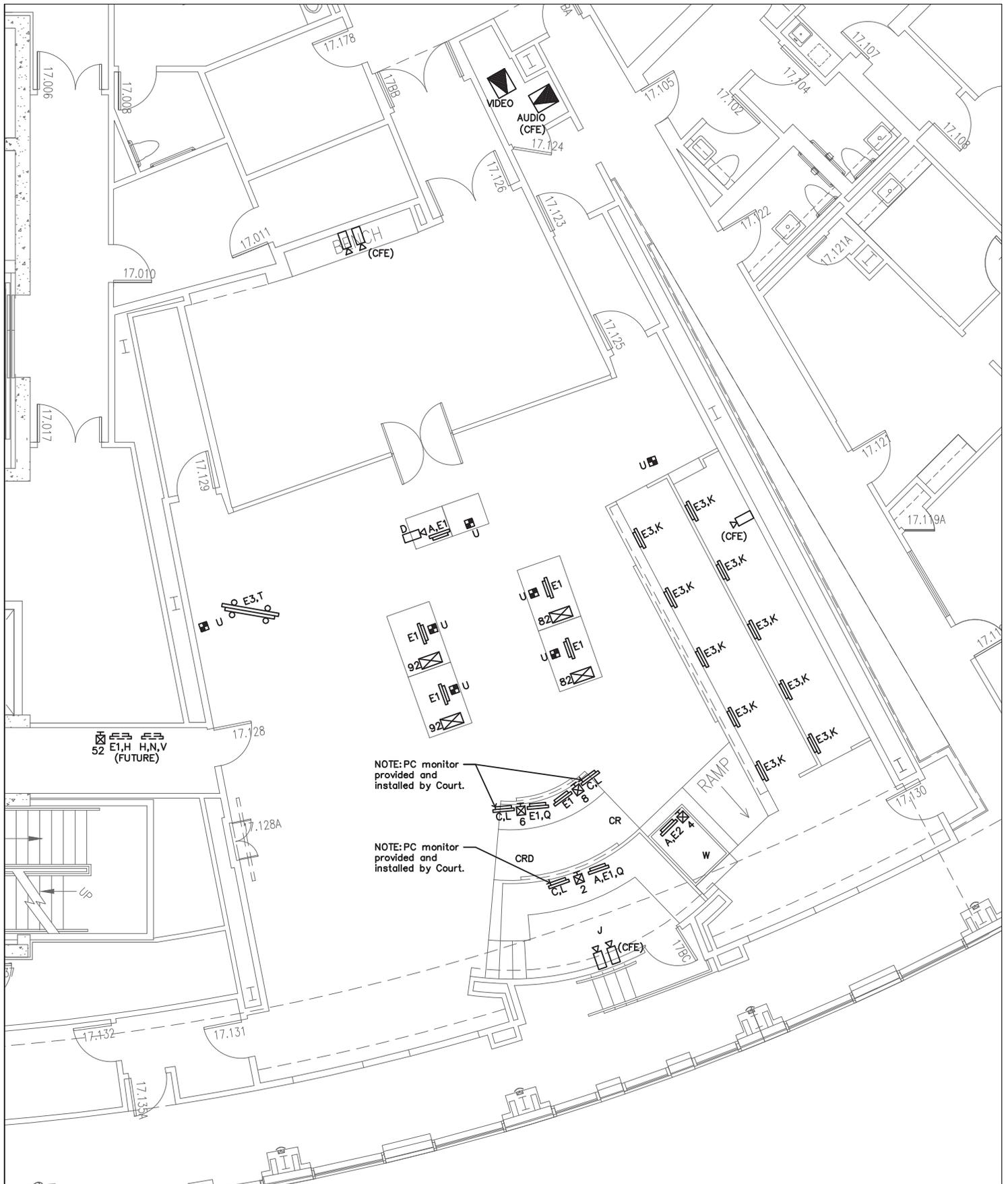
DRAWN BY: RJW/JDS

Ohio Northern District Courts

DATE: 31 JULY 2015

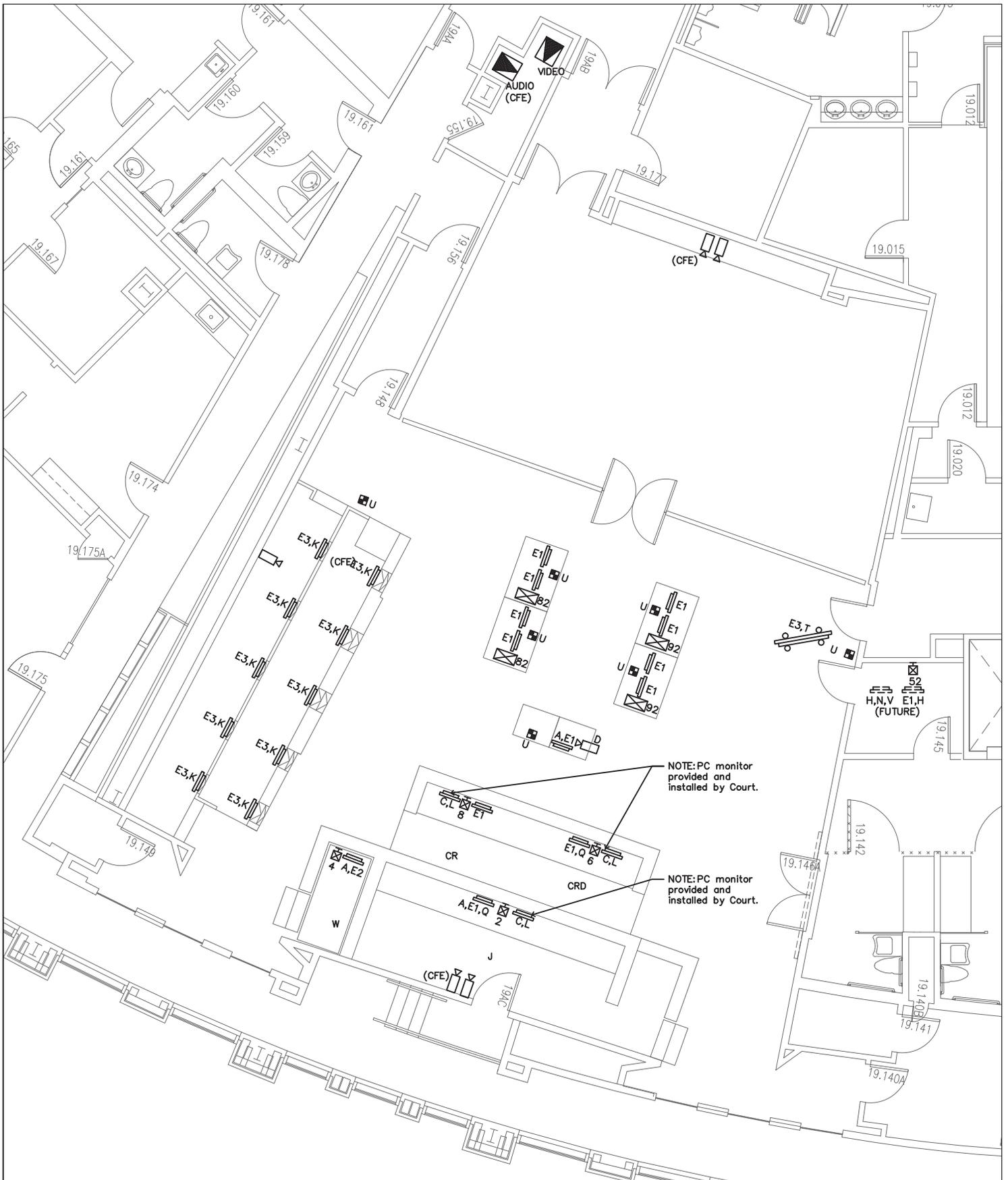
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TA792



Cleveland Courtroom 18B (Similar to 17A and 15B)

SCALE: 1" = 10'-0"	PROJECT TITLE:	THE ITEMS SHOWN ON THIS DRAWING ARE FOR SIGNAL FLOW REQUIREMENTS ONLY. ITEMS SHOWN MAY NOT BE REQUIRED OR ARE SHOWN IN PARTIAL QUANTITIES. REFER TO EQUIPMENT LIST IN SPECIFICATIONS AND DESIGN INTENT FLOOR AND CEILING PLANS FOR CONTRACT INCLUSIONS, QUANTITIES AND LOCATIONS.	TA101c
DRAWN BY: RJW/jds	Ohio Northern District Courts		
DATE: 31 JULY 2015			



NOTE: PC monitor provided and installed by Court.

NOTE: PC monitor provided and installed by Court.

Cleveland Courtroom 19A

SCALE: 1" = 10'-0"
 DRAWN BY: RJW/jds
 DATE: 31 JULY 2015

PROJECT TITLE:
 Ohio Northern District Courts

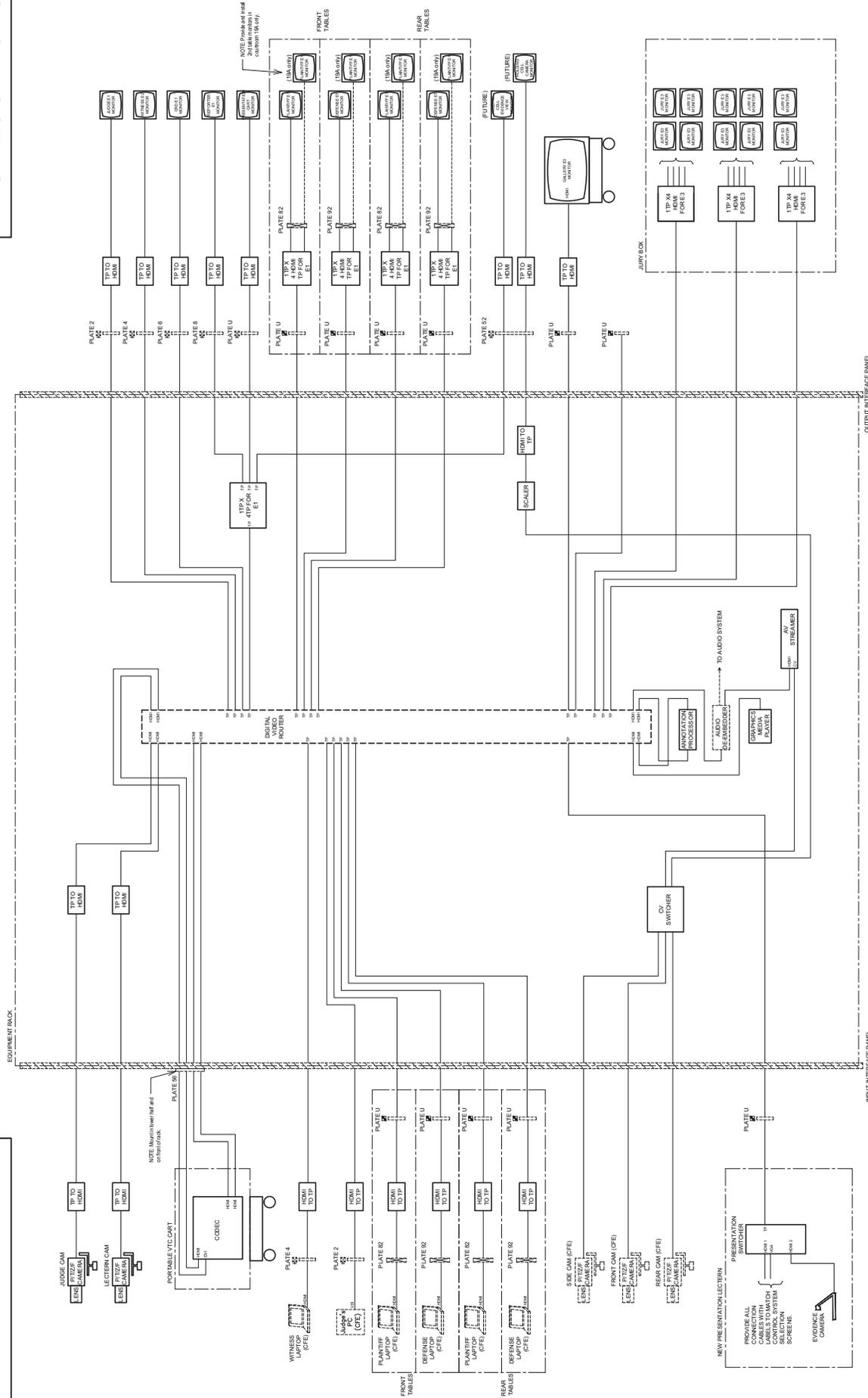
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TA101d

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FOR LOCATIONS**



CLEVELAND COURTROOMS (TYPICAL) - VIDEO ARGUMENT PRESENTATION SYSTEM FUNCTIONAL REQUIREMENTS

SCALE: NONE

PROJECT TITLE: Ohio Northern District Courts

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DRAWN BY: RJW/JDS

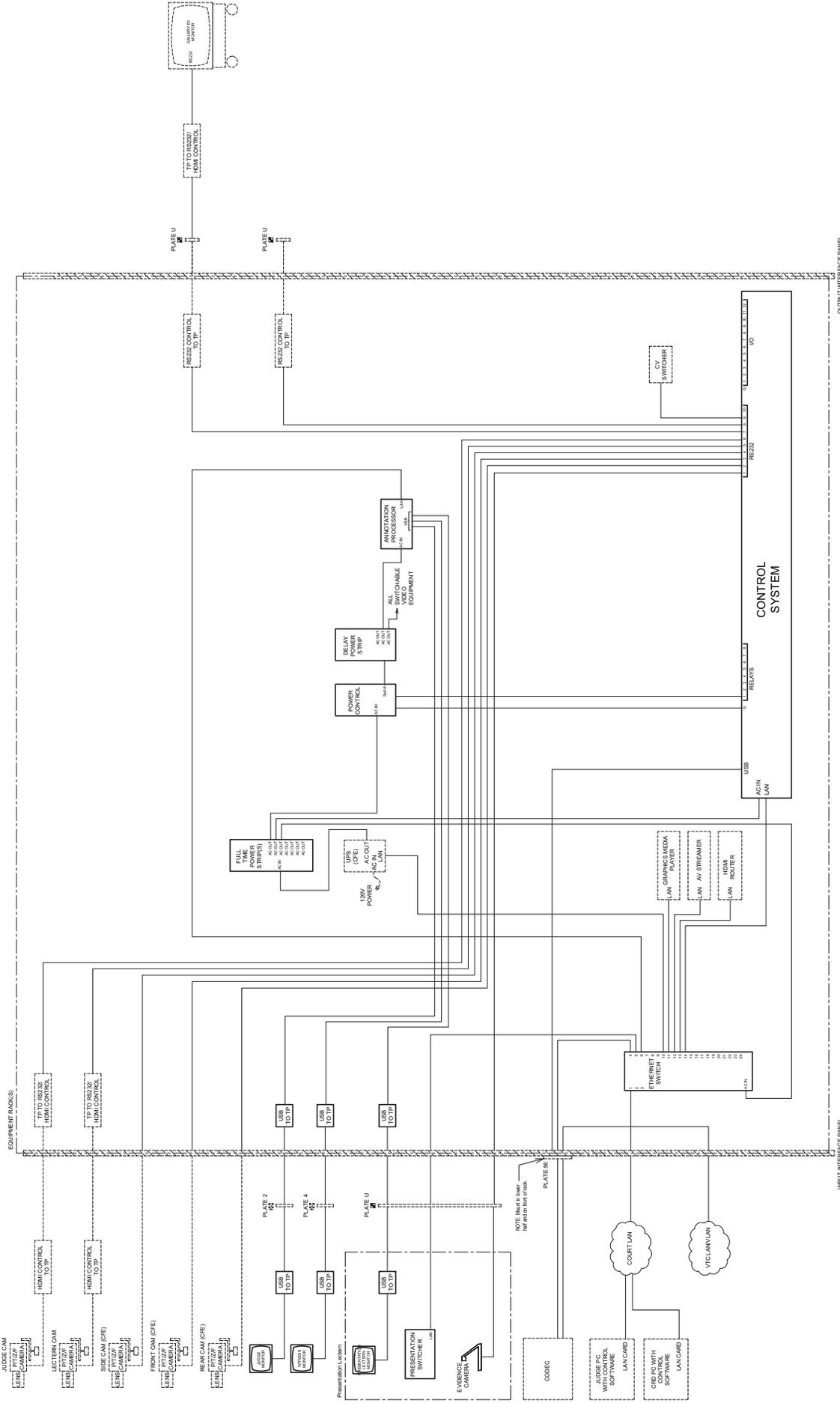
TA602

DATE: 31 JULY 2015

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FOR LOCATIONS**



CLEVELAND COURTROOMS (TYPICAL) - AV ARGUMENT PRESENTATION SYSTEM CONTROL & POWER FUNCTIONAL REQUIREMENTS

SCALE: NONE

PROJECT TITLE:

DRAWN BY: RJW/JDS

Ohio Northern District Courts

DATE: 31 JULY 2015

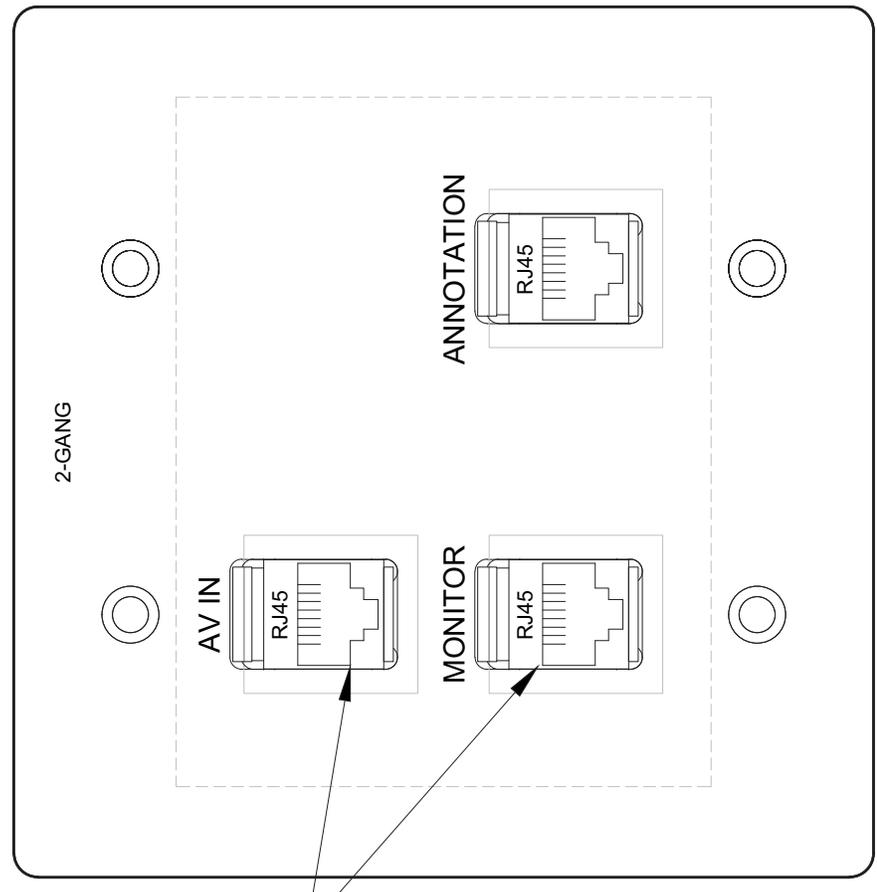
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TA603

DRAWING NOTE:
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 FOR LOCATIONS



Shielded

CLEVELAND COURTROOMS (TYPICAL) - COURTROOM AREA - PLATE #2

SCALE: NONE
 DRAWN BY: RJW/JDS
 DATE: 31 JULY 2015

PROJECT TITLE:
 Ohio Northern District Courts

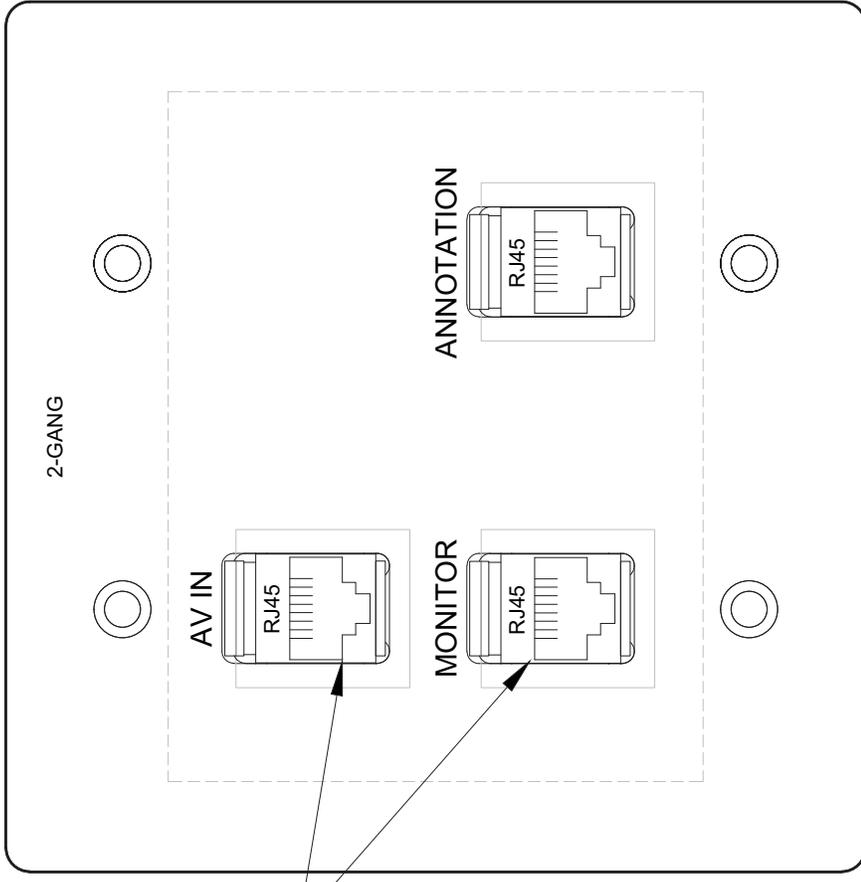
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 AND LOCATIONS.

TA702

DRAWING NOTE:
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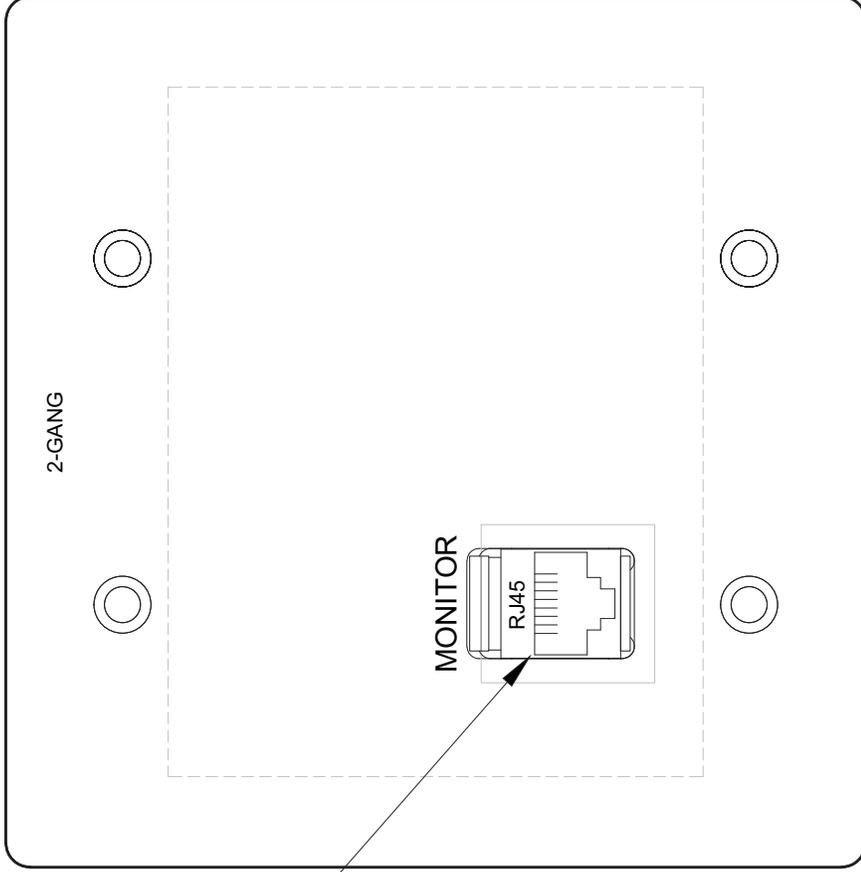
CLEVELAND COURTROOMS (TYPICAL) - COURTROOM AREA - PLATE #4

SCALE:	NONE	PROJECT TITLE: Ohio Northern District Courts	THE ITEMS SHOWN ON THIS DRAWING ARE FOR SIGNAL FLOW REQUIREMENTS ONLY. ITEMS SHOWN MAY NOT BE REQUIRED OR ARE SHOWN IN PARTIAL QUANTITIES. REFER TO EQUIPMENT LIST IN SPECIFICATIONS AND DESIGN INTENT FLOOR AND CEILING PLANS FOR CONTRACT INCLUSIONS, QUANTITIES AND LOCATIONS.
DRAWN BY:	RJW/JDS		
DATE:	31 JULY 2015		
			TA704

DRAWING NOTE:
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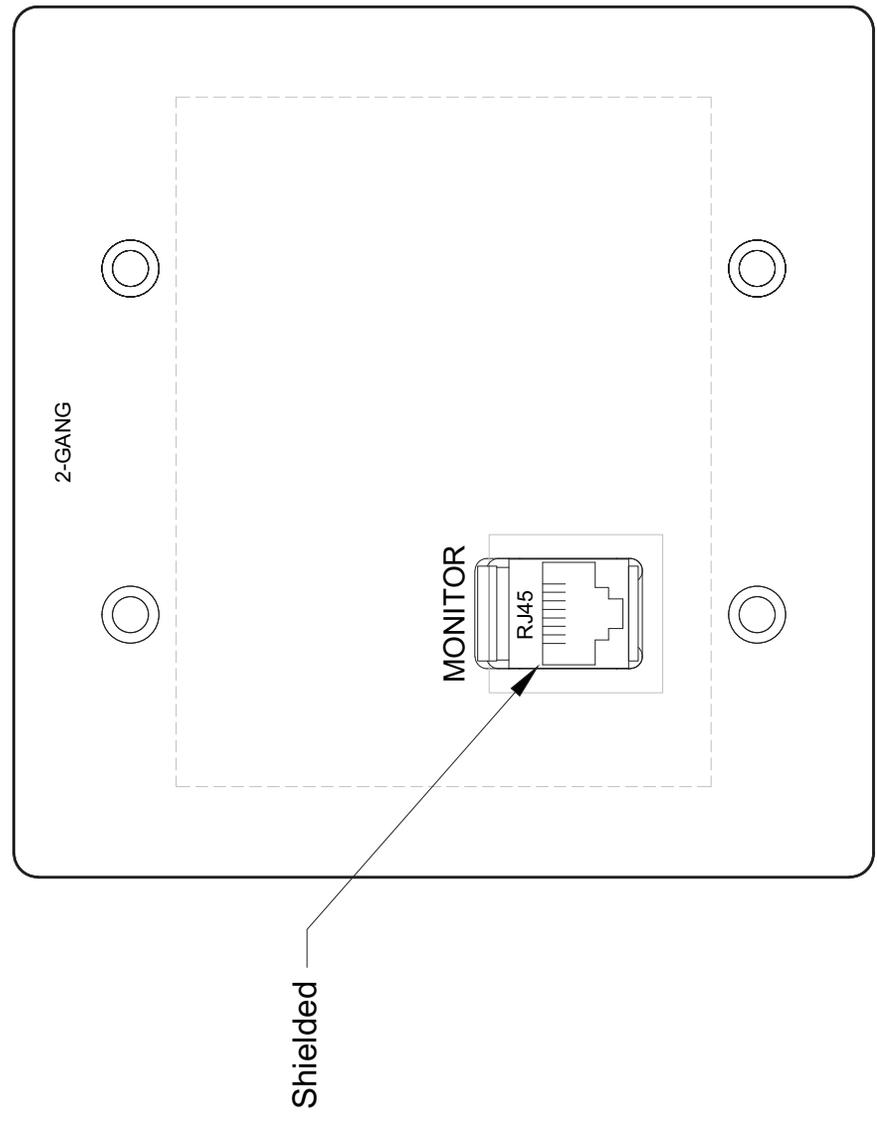
CLEVELAND COURTROOMS (TYPICAL) - COURTROOM AREA - PLATE #6

SCALE:	NONE	PROJECT TITLE:	Ohio Northern District Courts
DRAWN BY:	RJW/JDS		
DATE:	31 JULY 2015		
		THE ITEMS SHOWN ON THIS DRAWING ARE FOR SIGNAL FLOW REQUIREMENTS ONLY. ITEMS SHOWN MAY NOT BE REQUIRED OR ARE SHOWN IN PARTIAL QUANTITIES. REFER TO EQUIPMENT LIST IN SPECIFICATIONS AND DESIGN INTENT FLOOR AND CEILING PLANS FOR CONTRACT INCLUSIONS, QUANTITIES AND LOCATIONS.	TA706

DRAWING NOTE:
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CLEVELAND COURTROOMS (TYPICAL) - COURTROOM AREA - PLATE #8

SCALE: NONE
 DRAWN BY: RJW/JDS
 DATE: 31 JULY 2015

PROJECT TITLE:
 Ohio Northern District Courts

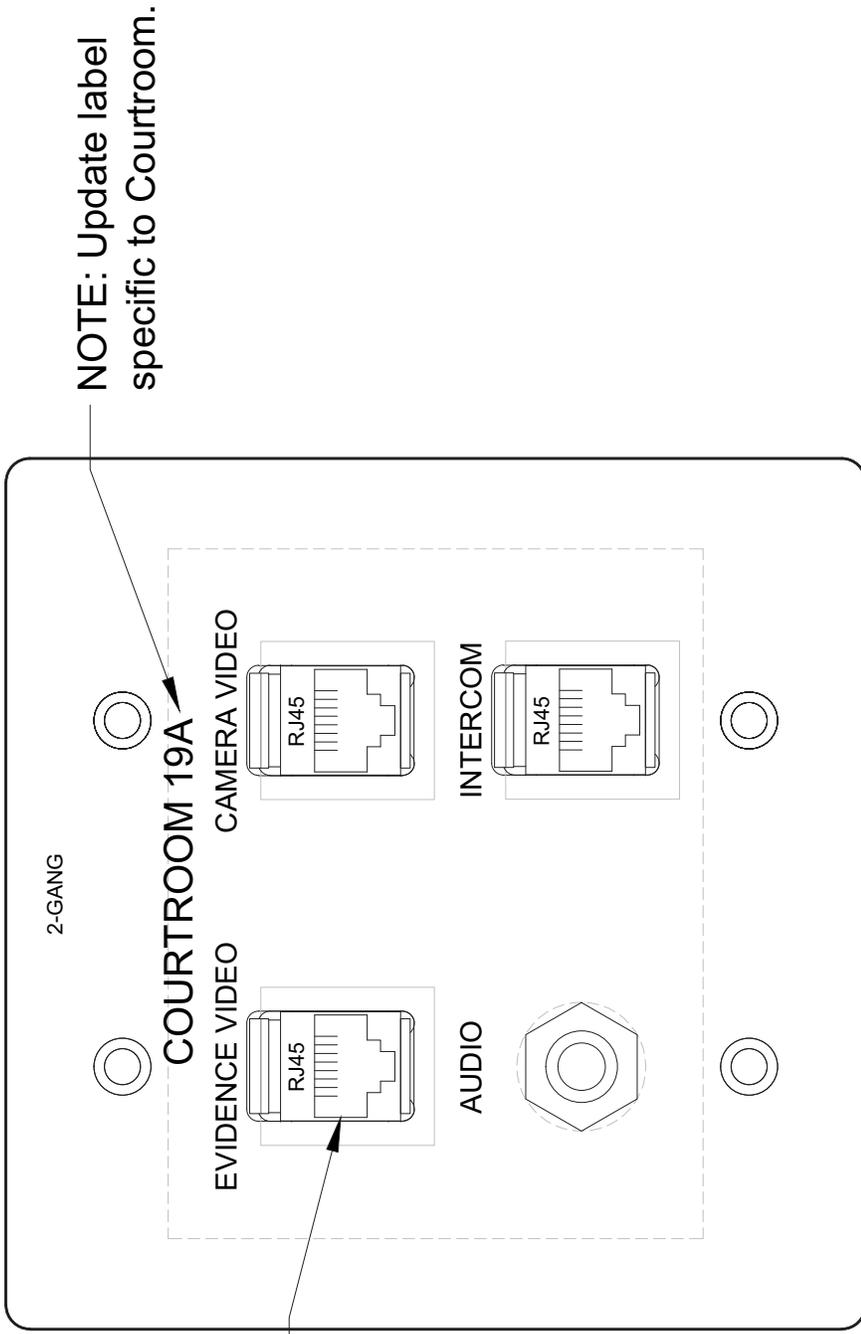
THE ITEMS SHOWN ON THIS DRAWING ARE FOR SIGNAL FLOW REQUIREMENTS ONLY. ITEMS SHOWN MAY NOT BE REQUIRED OR ARE SHOWN IN PARTIAL QUANTITIES. REFER TO EQUIPMENT LIST IN SPECIFICATIONS AND DESIGN INTENT FLOOR AND CEILING PLANS FOR CONTRACT INCLUSIONS, QUANTITIES AND LOCATIONS.

TA708

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CLEVELAND COURTROOMS (TYPICAL) - COURTROOM AREA - PLATE #52

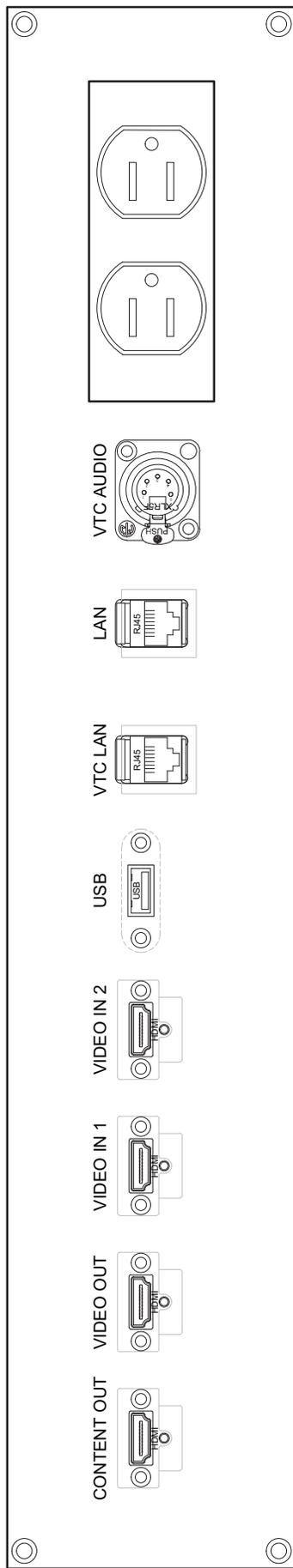
SCALE:	NONE	PROJECT TITLE:	Ohio Northern District Courts
DRAWN BY:	RJW/JDS		
DATE:	31 JULY 2015		
		THE ITEMS SHOWN ON THIS DRAWING ARE FOR SIGNAL FLOW REQUIREMENTS ONLY. ITEMS SHOWN MAY NOT BE REQUIRED OR ARE SHOWN IN PARTIAL QUANTITIES. REFER TO EQUIPMENT LIST IN SPECIFICATIONS AND DESIGN INTENT FLOOR AND CEILING PLANS FOR CONTRACT INCLUSIONS, QUANTITIES AND LOCATIONS.	
			TA752

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PROVIDE 120VAC DUPLEX POWER
OUTPUT ON PLATE. PLUG INTO
FULL TIME POWER PDU.



CLEVELAND COURTROOMS (TYPICAL) - COURTROOM AREA - PLATE #56

SCALE:	NONE	PROJECT TITLE: Ohio Northern District Courts	THE ITEMS SHOWN ON THIS DRAWING ARE FOR SIGNAL FLOW REQUIREMENTS ONLY. ITEMS SHOWN MAY NOT BE REQUIRED OR ARE SHOWN IN PARTIAL QUANTITIES. REFER TO EQUIPMENT LIST IN SPECIFICATIONS AND DESIGN INTENT FLOOR AND CEILING PLANS FOR CONTRACT INCLUSIONS, QUANTITIES AND LOCATIONS.
DRAWN BY:	RJW/JDS		
DATE:	31 JULY 2015		
			TA756

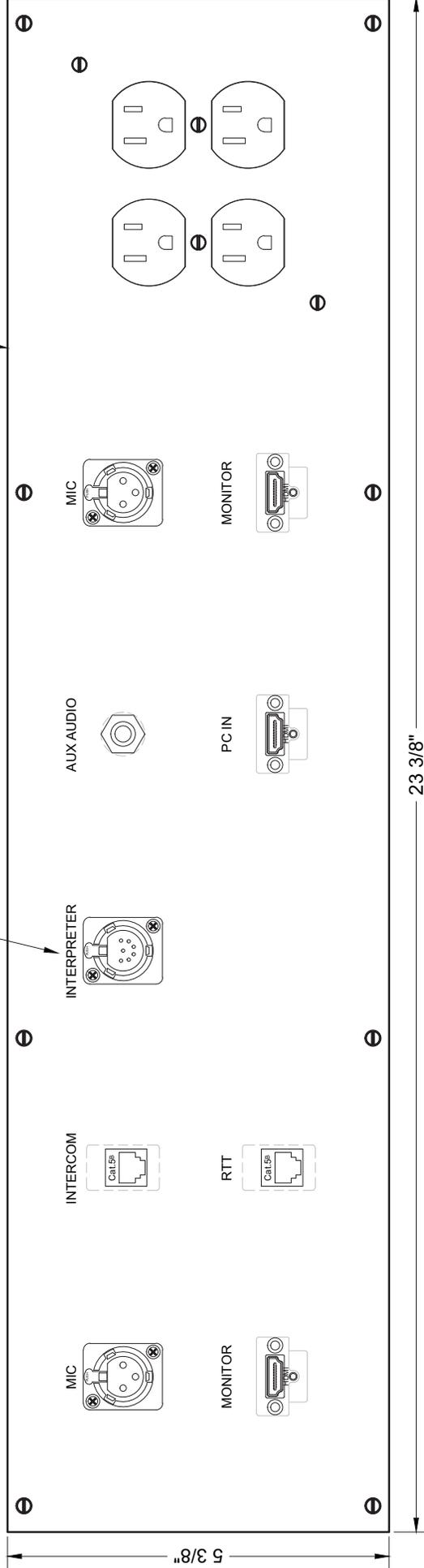
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NOTE: Label plate for Judge End
Table as "INTERPRETER C".
Label plate for gallery end table as
"INTERPRETER D".

NOTE: Verify size and
configuration prior to
fabrication.



CLEVELAND COURTROOMS (TYPICAL) - COURTROOM AREA - PLATE #82

PROJECT TITLE:

Ohio Northern District Courts

THE ITEMS SHOWN ON THIS DRAWING ARE
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AND LOCATIONS.

TA782

SCALE: NONE

DRAWN BY: RJW/JDS

DATE: 31 JULY 2015

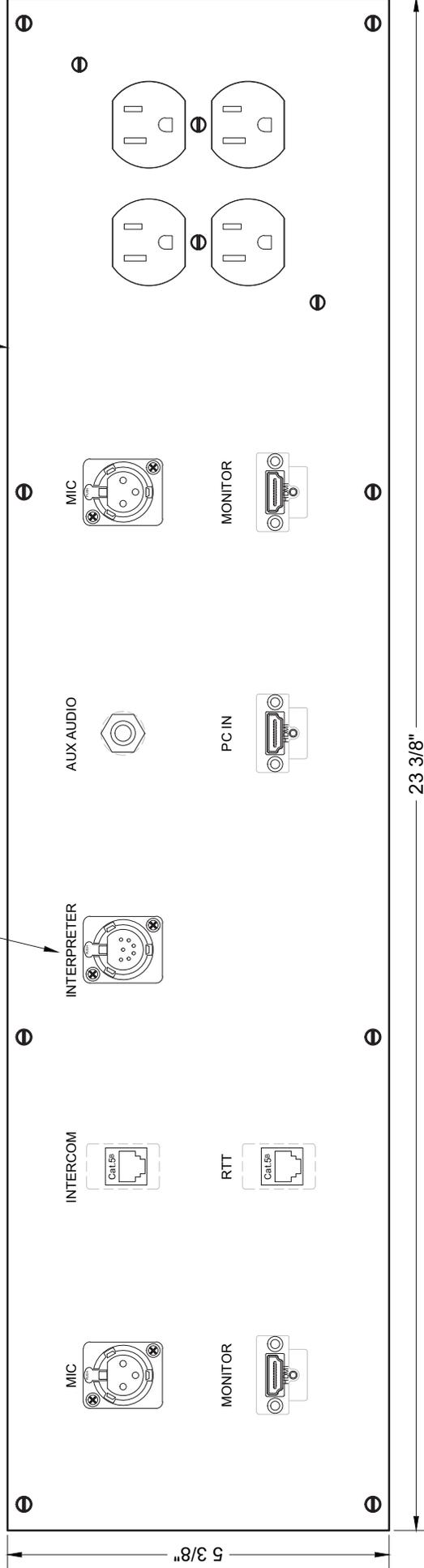
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NOTE: Label plate for Judge End
Table as "INTERPRETER A".
Label plate for gallery end table as
"INTERPRETER B".

NOTE: Verify size and
configuration prior to
fabrication.



CLEVELAND COURTROOMS (TYPICAL) - COURTROOM AREA - PLATE #92

PROJECT TITLE:

Ohio Northern District Courts

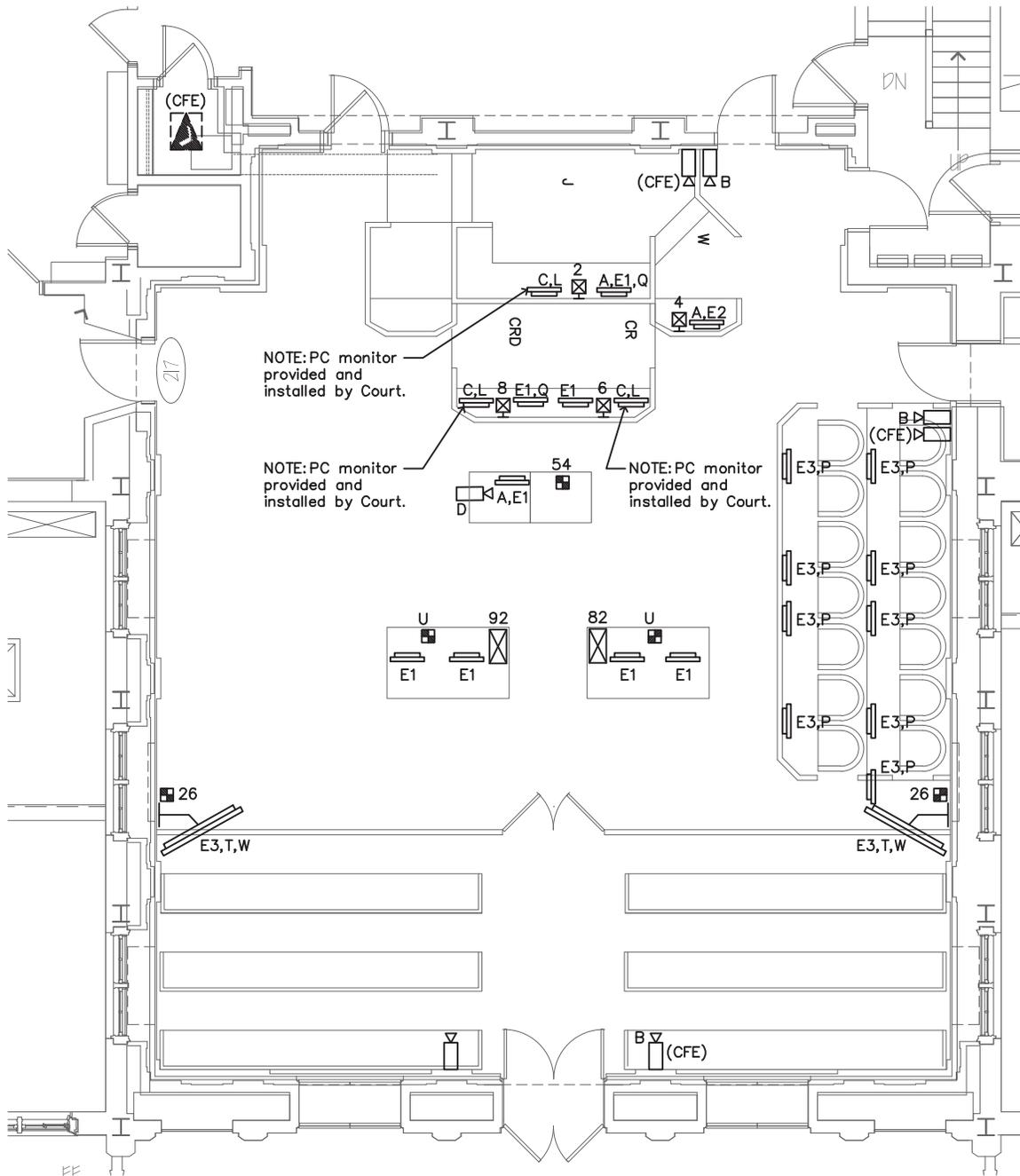
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AND LOCATIONS.

TA792

SCALE: NONE

DRAWN BY: RJW/JDS

DATE: 31 JULY 2015



NOTE: Verify holding cell location.

Toledo Courtroom 204

SCALE: 1:100
 DRAWN BY: RJW/jds
 DATE: 31 JULY 2015

PROJECT TITLE:
 Ohio Northern District Courts

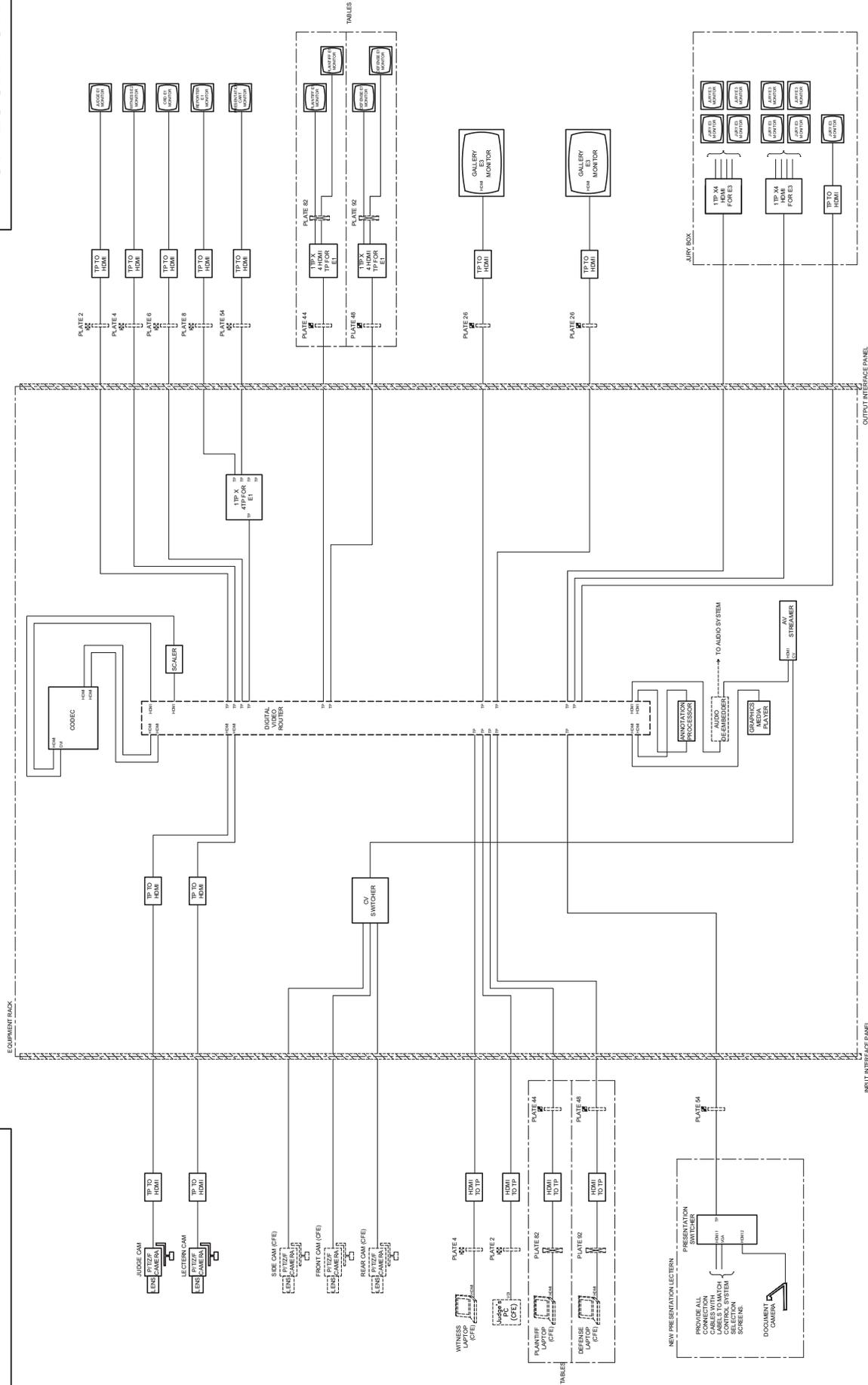
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TA101f

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FOR LOCATIONS**



TOLEDO COURTROOM 204 - VIDEO ARGUMENT PRESENTATION SYSTEM FUNCTIONAL REQUIREMENTS

PROJECT TITLE:

SCALE: NONE

DRAWN BY: RJW/JDS

Ohio Northern District Courts

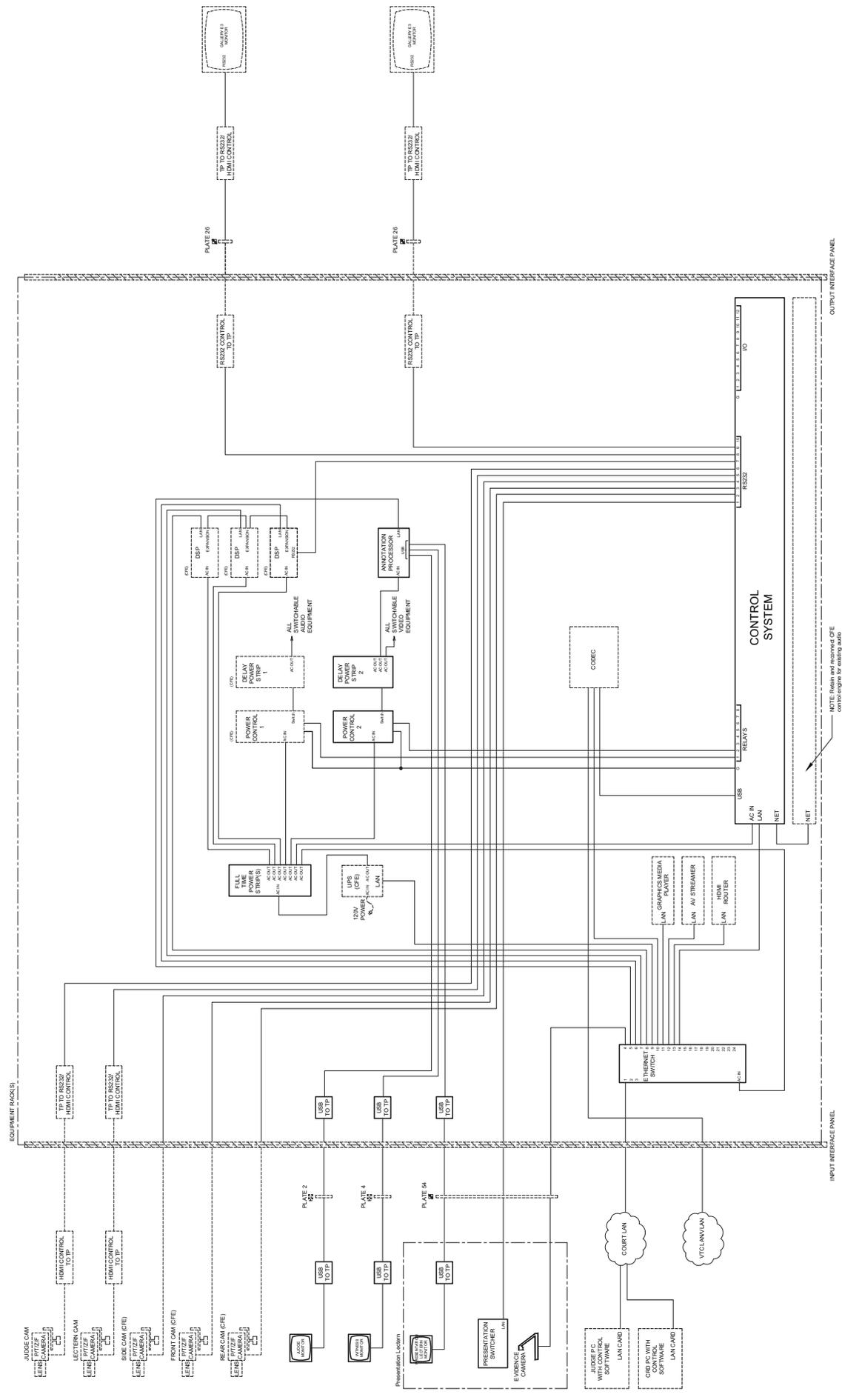
TA602

DATE: 31 JULY 2015

THE ITEMS SHOWN ON THIS DRAWING ARE FOR SIGNAL FLOW REQUIREMENTS ONLY. ITEMS SHOWN MAY NOT BE REQUIRED OR ARE SHOWN IN PARTIAL QUANTITIES. REFER TO EQUIPMENT LIST IN SPECIFICATIONS AND DESIGN INTENT FLOOR AND CEILING PLANS FOR CONTRACT INCLUSIONS, QUANTITIES AND LOCATIONS.

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TOLEDO COURTROOM 204 - AV ARGUMENT PRESENTATION SYSTEM CONTROL & POWER FUNCTIONAL REQUIREMENTS

PROJECT TITLE: Ohio Northern District Courts

SCALE: NONE

DRAWN BY: RJW/JDS

DATE: 31 JULY 2015

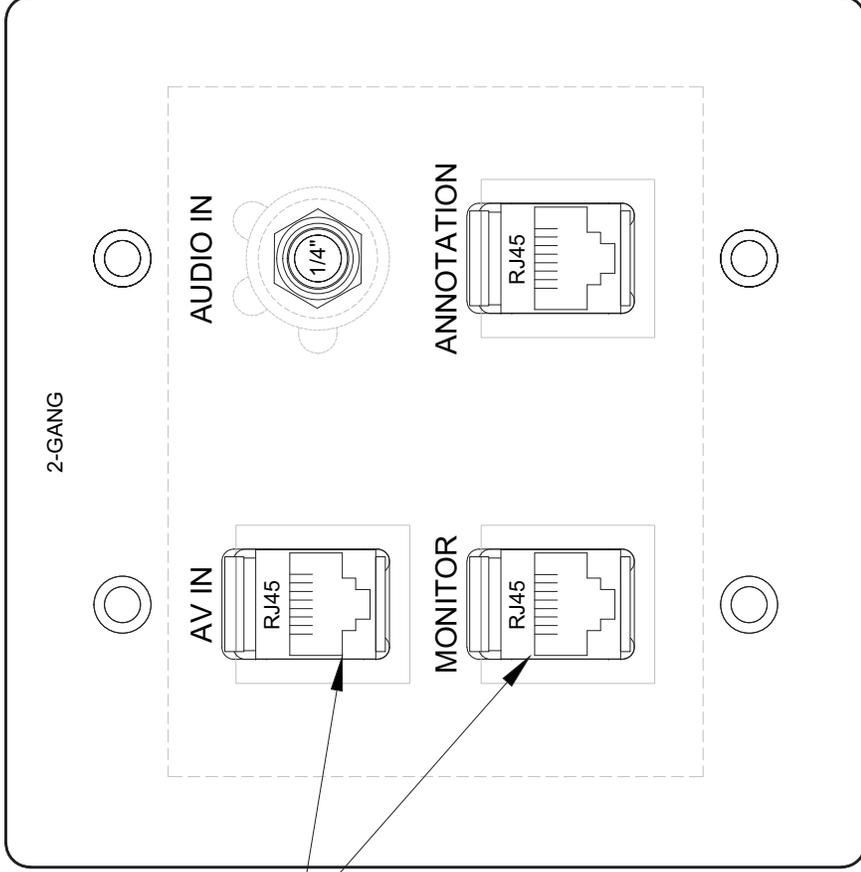
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TA603

DRAWING NOTE:
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SEE FLOOR PLANS
 FOR LOCATIONS



Shielded

NOTE: Remove 15 pin
 Monitor connection on
 adjacent plate under this
 contract.

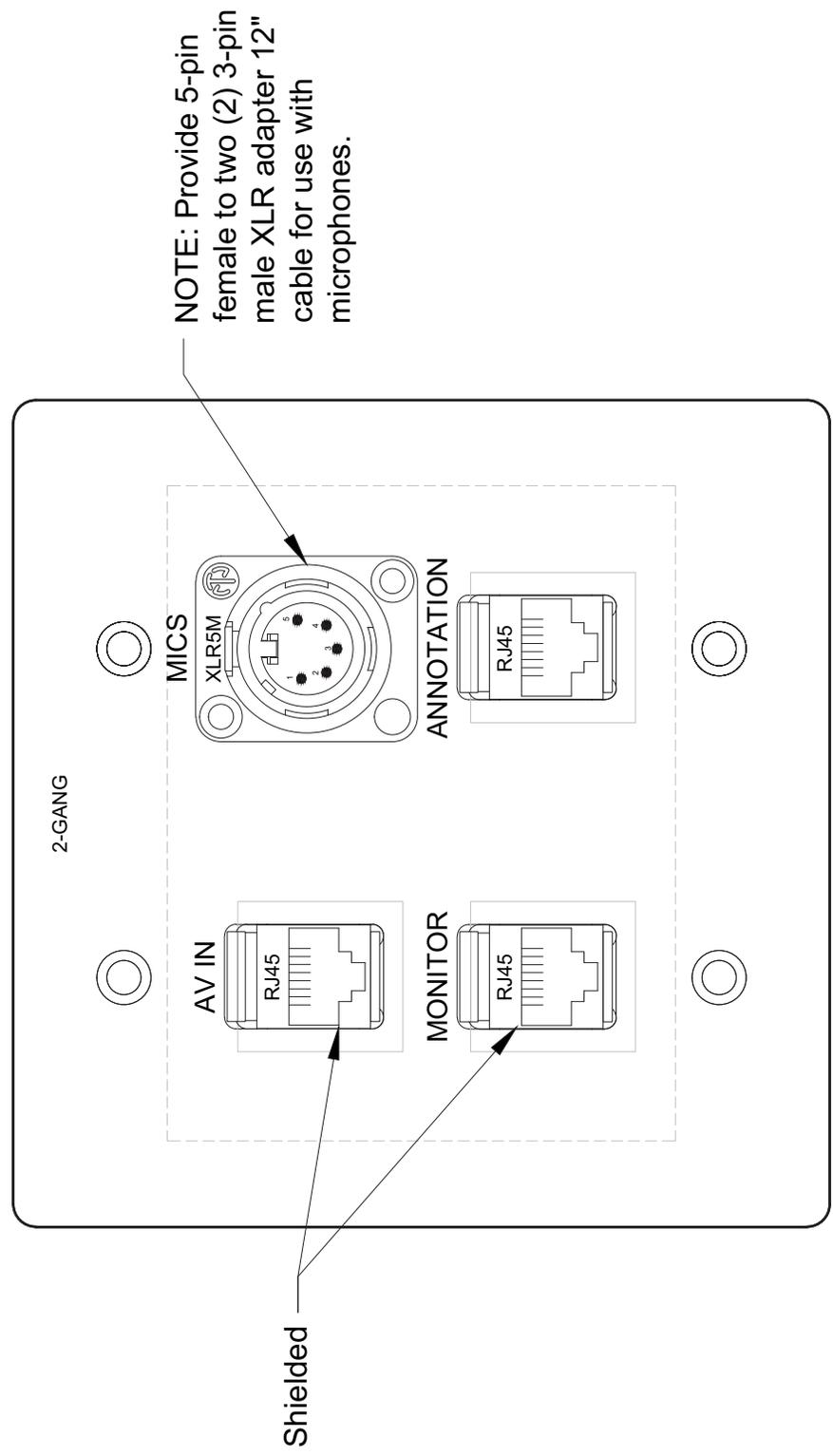
TOLEDO COURTROOM 204 - COURTROOM AREA - PLATE #2

SCALE:	NONE	PROJECT TITLE:	Ohio Northern District Courts
DRAWN BY:	RJW/JDS		
DATE:	31 JULY 2015		
		THE ITEMS SHOWN ON THIS DRAWING ARE FOR SIGNAL FLOW REQUIREMENTS ONLY. ITEMS SHOWN MAY NOT BE REQUIRED OR ARE SHOWN IN PARTIAL QUANTITIES. REFER TO EQUIPMENT LIST IN SPECIFICATIONS AND DESIGN INTENT FLOOR AND CEILING PLANS FOR CONTRACT INCLUSIONS, QUANTITIES AND LOCATIONS.	TA702

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DRAWING NOTE:
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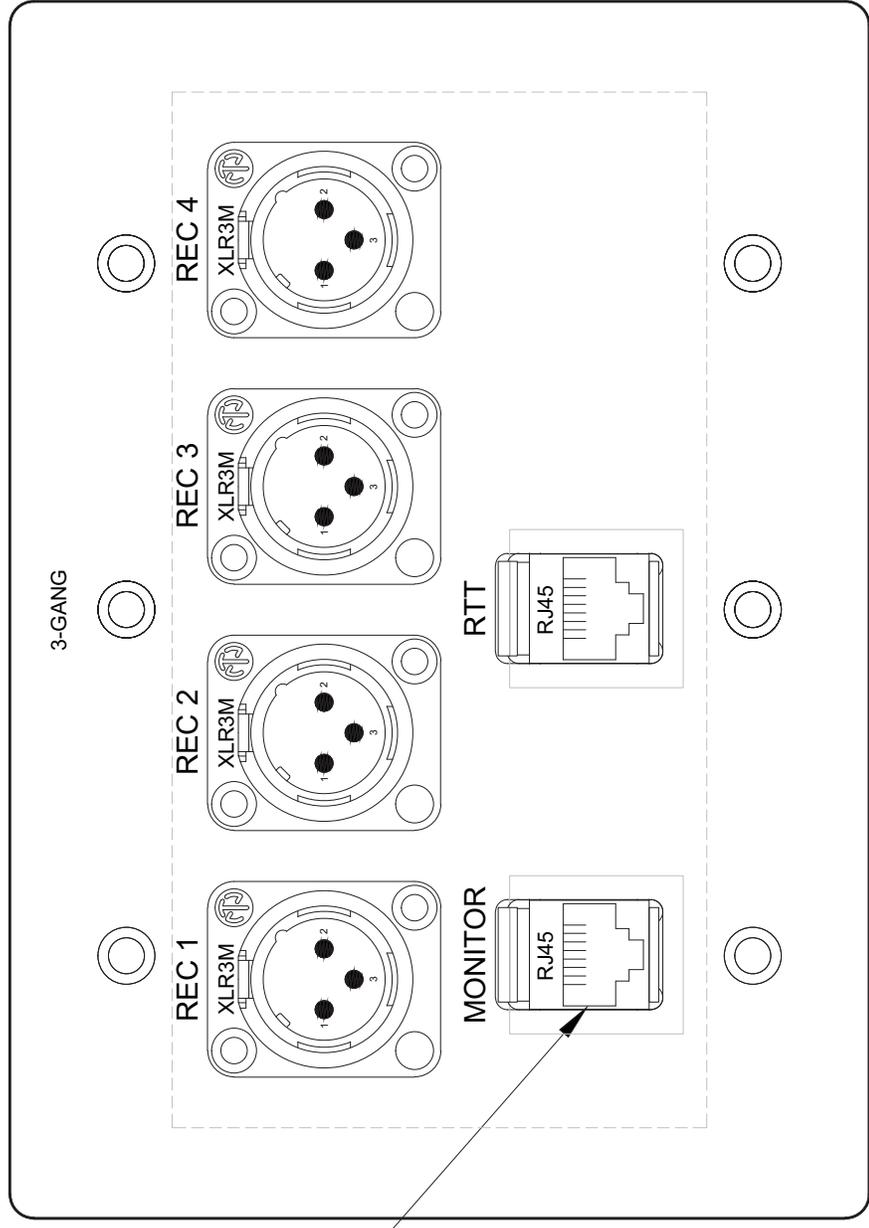
TOLEDO COURTROOM 204 - COURTROOM AREA - PLATE #4

SCALE:	NONE	PROJECT TITLE: Ohio Northern District Courts	THE ITEMS SHOWN ON THIS DRAWING ARE FOR SIGNAL FLOW REQUIREMENTS ONLY. ITEMS SHOWN MAY NOT BE REQUIRED OR ARE SHOWN IN PARTIAL QUANTITIES. REFER TO EQUIPMENT LIST IN SPECIFICATIONS AND DESIGN INTENT FLOOR AND CEILING PLANS FOR CONTRACT INCLUSIONS, QUANTITIES AND LOCATIONS.	
DRAWN BY:	RJW/JDS			TA704
DATE:	31 JULY 2015			

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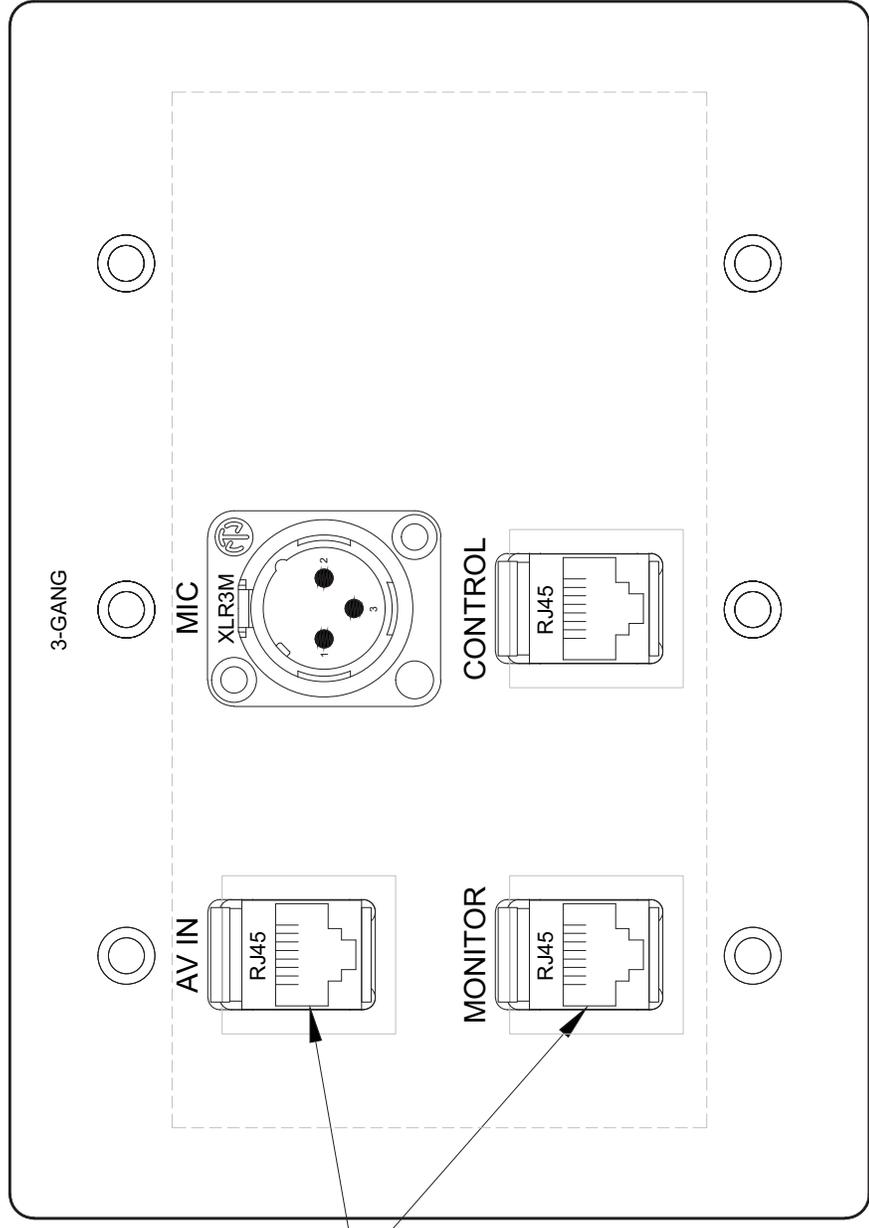
TOLEDO COURTROOM 204 - COURTROOM AREA - PLATE #6

SCALE:	NONE	PROJECT TITLE: Ohio Northern District Courts	THE ITEMS SHOWN ON THIS DRAWING ARE FOR SIGNAL FLOW REQUIREMENTS ONLY. ITEMS SHOWN MAY NOT BE REQUIRED OR ARE SHOWN IN PARTIAL QUANTITIES. REFER TO EQUIPMENT LIST IN SPECIFICATIONS AND DESIGN INTENT FLOOR AND CEILING PLANS FOR CONTRACT INCLUSIONS, QUANTITIES AND LOCATIONS.
DRAWN BY:	RJW/JDS		
DATE:	31 JULY 2015		
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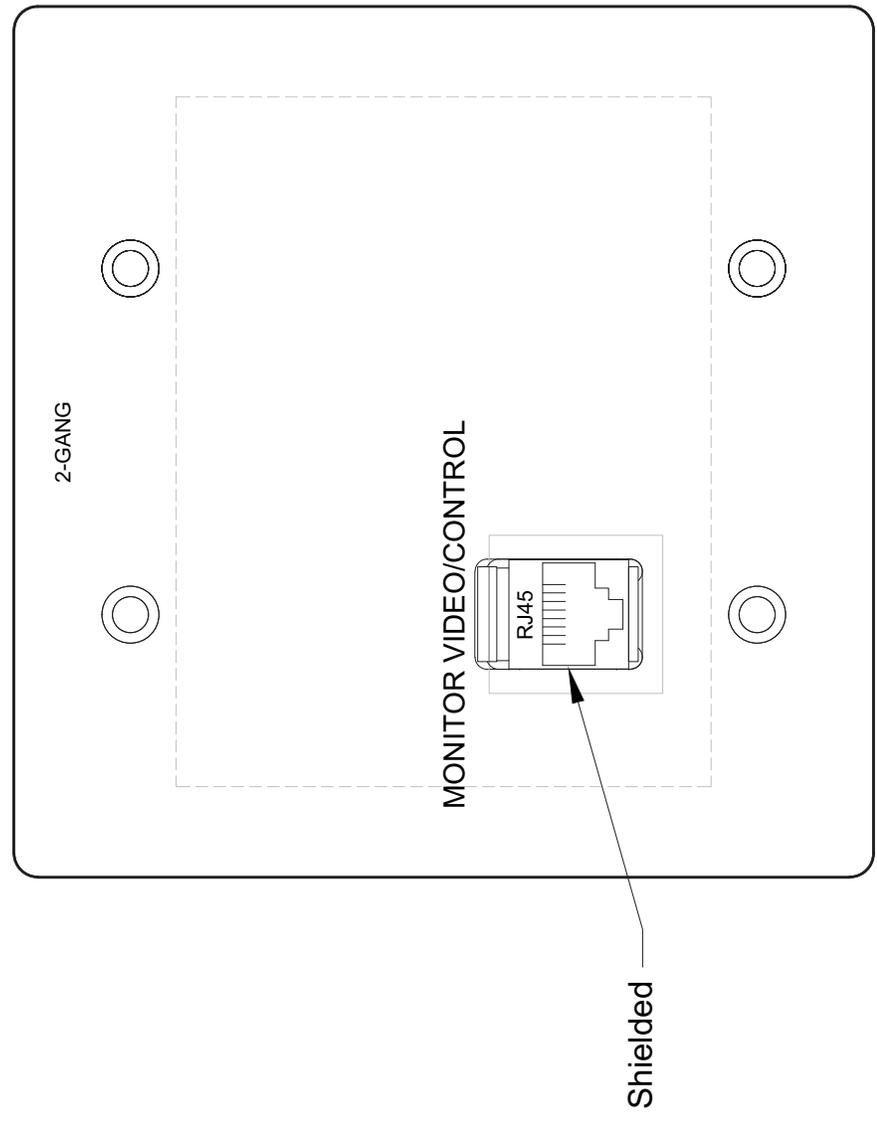
TOLEDO COURTROOM 204 - COURTROOM AREA - PLATE #8

SCALE:	NONE	PROJECT TITLE: Ohio Northern District Courts	THE ITEMS SHOWN ON THIS DRAWING ARE FOR SIGNAL FLOW REQUIREMENTS ONLY. ITEMS SHOWN MAY NOT BE REQUIRED OR ARE SHOWN IN PARTIAL QUANTITIES. REFER TO EQUIPMENT LIST IN SPECIFICATIONS AND DESIGN INTENT FLOOR AND CEILING PLANS FOR CONTRACT INCLUSIONS, QUANTITIES AND LOCATIONS.
DRAWN BY:	RJW/JDS		
DATE:	31 JULY 2015		
			TA708

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TOLEDO COURTROOM 204 - COURTROOM AREA - PLATE #26

SCALE: NONE
DRAWN BY: RJW/JDS
DATE: 31 JULY 2015

PROJECT TITLE:
Ohio Northern District Courts

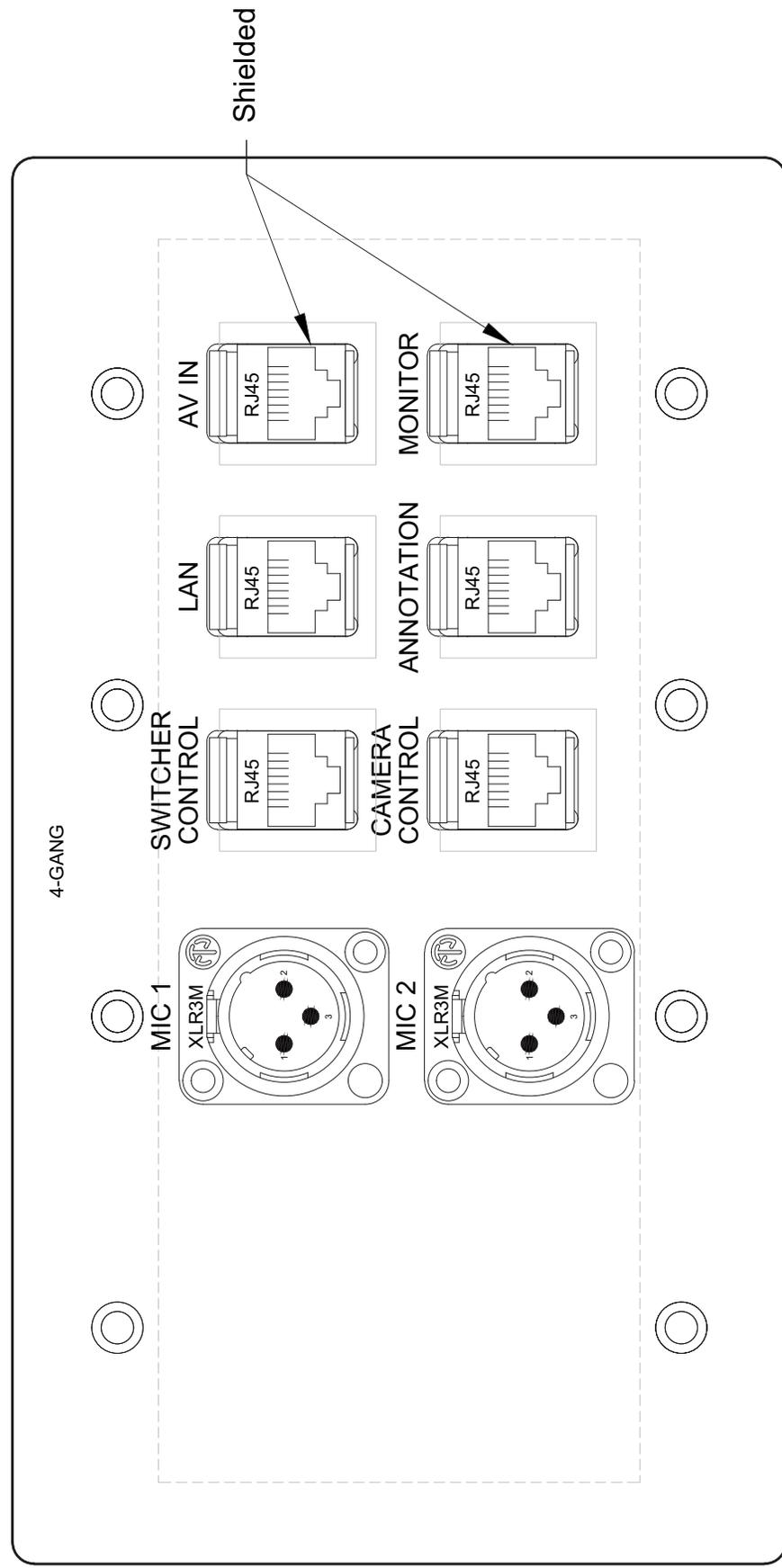
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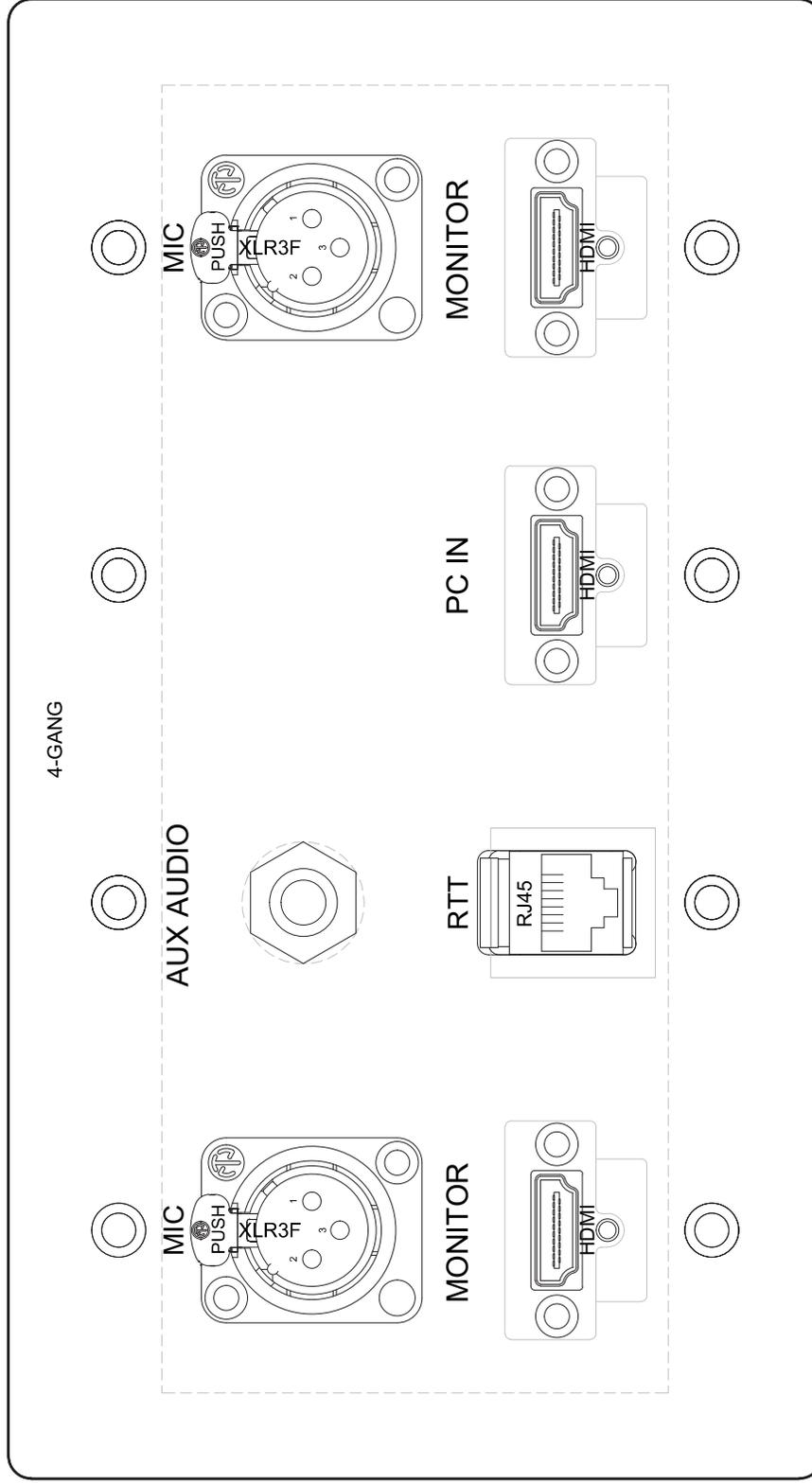
TOLEDO COURTROOM 204 - COURTROOM AREA - PLATE #54

SCALE:	NONE	PROJECT TITLE: Ohio Northern District Courts	THE ITEMS SHOWN ON THIS DRAWING ARE FOR SIGNAL FLOW REQUIREMENTS ONLY. ITEMS SHOWN MAY NOT BE REQUIRED OR ARE SHOWN IN PARTIAL QUANTITIES. REFER TO EQUIPMENT LIST IN SPECIFICATIONS AND DESIGN INTENT FLOOR AND CEILING PLANS FOR CONTRACT INCLUSIONS, QUANTITIES AND LOCATIONS.
DRAWN BY:	RJW/JDS		
DATE:	31 JULY 2015		
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TOLEDO COURTROOM 204 - COURTROOM AREA - PLATE #82

SCALE: NONE

PROJECT TITLE:

DRAWN BY: RJW/JDS

Ohio Northern District Courts

DATE: 31 JULY 2015

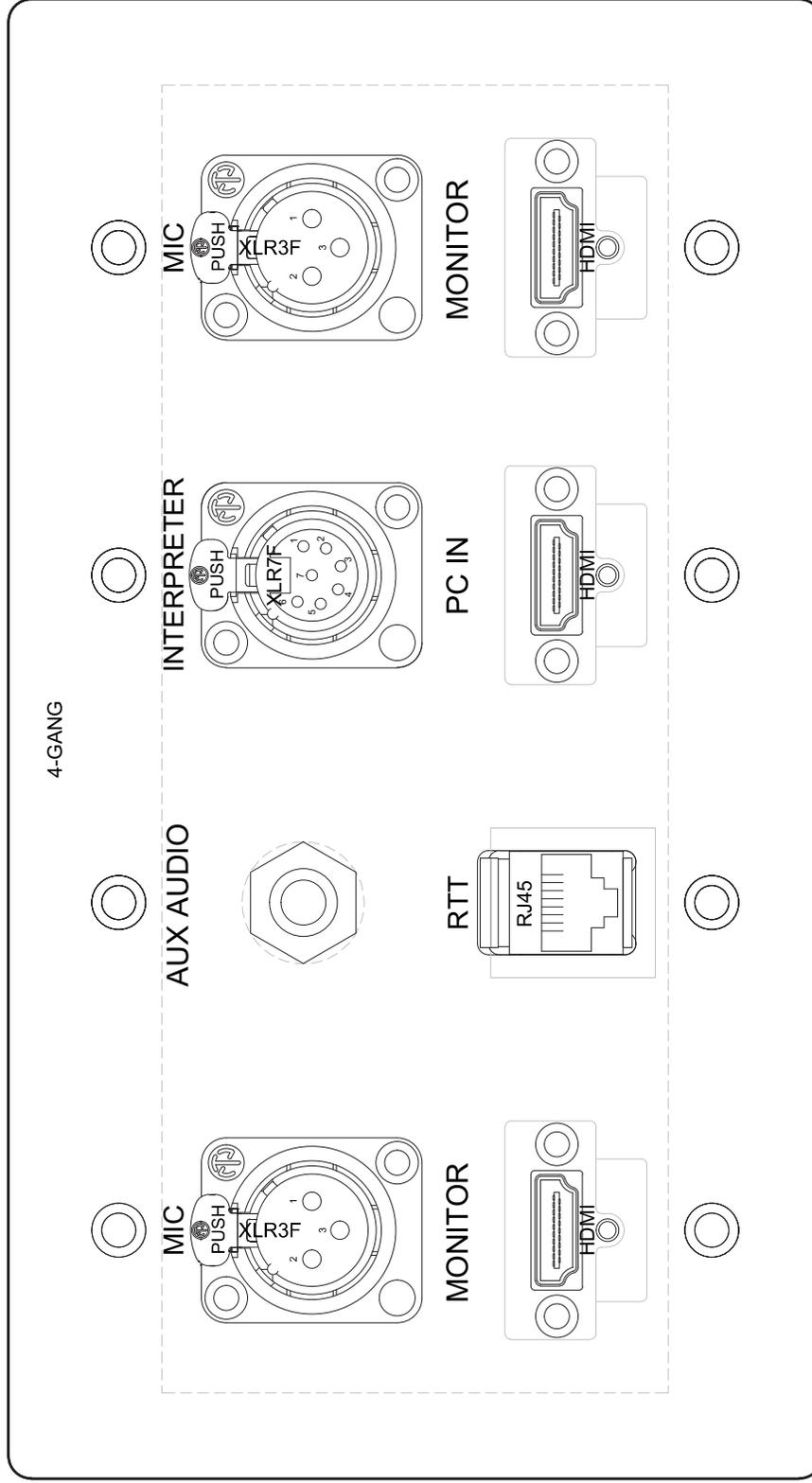
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TOLEDO COURTROOM 204 - COURTROOM AREA - PLATE #92

SCALE: NONE

PROJECT TITLE:

DRAWN BY: RJW/JDS

Ohio Northern District Courts

DATE: 31 JULY 2015

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TA792