U.S. Bankruptcy Court - District of Minnesota **Open Market Request for Quotation** Lowest Price, Technically Acceptable

Request For Quotation

RFQ Number: USBC FY15 (04)

Courtroom 7 West Video Systems Upgrade - See Attached Scope of Work

Request Date: 8/25/2015

To: Prospective Vendor

Special Notes:

This is a request for **Open Market Pricing.**

All items should be quoted **F.o.b. Destination**.

Enclosed is a Request for Quotation from the U.S. Bankruptcy Court in Minneapolis, MN for Video Systems Upgrade in Courtroom 7 West located at 301 U.S. Courthouse, 300 South Fourth Street, Minneapolis, MN.

The Request for Quotation contains a pricing schedule and the technical specifications for the court. If you decide to submit a proposal for this project, you will need to develop and provide both a technical proposal and a price proposal. Your technical proposal shall consist of **all** of the submittals required to be provided at the time proposals are due. Your price proposal shall consist of the prices you are offering for each individual item of equipment, labor, maintenance, and travel and optional items subject to the availability of court funds if applicable. Award of this task order will be made to the company whose technically acceptable proposal offers the lowest price to the court. Substitution requests must appear in the "Substitutions" column of the Schedule B-1 spreadsheet. You must also provide the information at the top of Schedule B: B1Bid Form.

Optional items (items in addition to the optional maintenance) are included in the requirements, which the pricing for these items will be included in the overall evaluation and will be exercised based on the availability of funding. The court reserves the right to make an award based on the initial proposals, therefore, your company should submit their best pricing with their proposals.

PROPOSALS ARE DUE BY 12:00 noon, Thursday, September 3rd. Proposal received after this date and time will be considered late. Please submit your proposal to the following address:

Name/Title:David R. ConnCourt Name:U.S. Bankruptcy Court - District of MinnesotaCourt Street Address:301 U.S. Courthouse, 300 South Fourth StreetCourt City, State, Zip:Minneapolis, MN 55415

If you have any questions, please do not hesitate to contact me at 612-664-5233 or email @ <u>dave_conn@mnb.uscourts.gov.</u>

Sincerely,

David R. Conn Contracting Officer

U.S. Bankruptcy Court - District of Minnesota **Open Market for Quotation** Lowest Price, Technically Acceptable

Request For Quotation

<u>See Attached Scope of Work and Design Specifications for Courtroom 7 West Video System</u> <u>Upgrade</u>

The bottom portion must be completed and submitted with your quotation.

Vendors' Name	Vendor's Phone Num	Vendor's Phone Number/fax number/email address		
Vendor's Street Address	Vendor's City, State,	and Zip Code		
Signature of Person Authorized to Sign Quote	Date	Quantity Discount or Trade- in amount		
Printed or Typed Name of Signator	Discount Terms or Net 30	Delivery Date		
	Tax Identification #	DUNS #		

APPLICABLE JUDICIARY TERMS AND CONDITIONS

1. Clause B-5, Clauses Incorporated by Reference (SEP 2010)

This contract incorporates one or more clauses by reference, with the same force and effect as if they were given in full text. Upon request, the contracting officer will make their full text available. Also, the full text of a clause may be accessed electronically at this address: <u>http://www.uscourts.gov/procurement.aspx</u>

(end)

2. The following judiciary clauses, that the Contracting Officer has indicated are applicable, are incorporated in this contract by reference:

- X Clause 3-3 Provisions, Clauses, Terms and Conditions Small Purchases (JUN 2014)
- ____ Clause 3-175 Fair Labor Standards Act and Service Contract Act Price Adjustment (Multiple Year and Option

Contracts) (JUN 2012)

- _____ Clause 6-20 Insurance Work on or Within a Judiciary Facility (APR 2011)
- _____ Clause 7-55 Contractor Use of Judiciary Networks (JUN 2014)
- _____ Clause 7-65 Protection of Judiciary Buildings, Equipment and Vegetation (APR 2013)
- _____ Clause 7-115 Availability of Funds (JAN 2003)
- 3. The following full text clauses are incorporated if the Contracting Officer has marked them as applicable (X):
- ____Clause 2-90C Option to Extend Services (APR 2013)

The judiciary may require continued performance of any services within the limits and at the rates specified in the contract. These rates may be adjusted only as a result of revisions to prevailing labor rates provided by the Secretary of Labor. The option provision may be exercised more than once, but the total extension of performance hereunder shall not exceed 6 months. The contracting officer may exercise the option by written notice to the contractor no later than ______ calendar days prior to the contract's current expiration date [insert the period of time within which the contracting officer may exercise the option].

(end)

Clause 2-90D Option to Extend the Term of the Contract (APR 2013)

(a) The judiciary may extend the term of this contract by written notice to the contractor no later than ______ calendar days prior to the contract's current expiration date [insert the period of time within which the contracting officer may exercise the option]; provided that the judiciary gives the contractor a preliminary written notice of its intent to extend at least ______ calendar days [60 days unless a different number of days is inserted] before the contract expires. The preliminary notice does not commit the judiciary to an extension.

- (b) If the judiciary exercises this option, the extended contract shall be considered to include this option clause.
- (c) The total duration of this contract, including the exercise of any options under this clause, shall not exceed (months) (years).

(end)

4. Incorporation of Department of Labor Wage Rate Determination

(If the estimated cost is over \$2,500, attach the current applicable Department of Labor wage rate determination.)

SUBMISSION OF QUOTE AND EVALUATION OF OFFERS

1. The following judiciary provisions, that the Contracting Officer has indicated are applicable, are incorporated in this solicitation:

Provision B-1, Solicitation Provisions Incorporated by Reference (SEP 2010)

This solicitation incorporates one or more solicitation provisions by reference, with the same force and effect as if they were given in full text. Upon request, the contracting officer will make their full text available. The offeror is cautioned that the listed provisions may include blocks that must be completed by the offeror and submitted with its quotation or offer. In lieu of submitting the full text of those provisions, the offeror may identify the provision by paragraph identifier and provide the appropriate information with its quotation or offer. Also, the full text of a solicitation provision may be accessed electronically at this address: http://www.uscourts.gov/procurement.aspx.

(end)

Solicitation Provisions Incorporated by Reference

- Provision 2-70 Site Visit (JAN 2003)
- Provision 2-85A Evaluation Inclusive of Options (JAN 2003)
- Provision 3-135 Single or Multiple Awards (JAN 2003)

Additional Solicitation Provisions

<u>X</u> Provision 4-1, Type of Contract (JAN 2003)

The judiciary plans to award a ______ type of contract under this solicitation, and all offers shall be submitted on this basis. Alternate offers based on other contract types will not be considered.

(end)

<u>X</u> Provision 3-5, Taxpayer Identification and Other Offeror Information (APR 2011)

(a) Definitions.

"Taxpayer Identification (TIN)," as used in this provision, means the number required by the Internal Revenue Service (IRS) to be used by the offeror in reporting income tax and other returns. The TIN may be either a social security number or an employer identification number.

(b) All offerors shall submit the information required in paragraphs (d) and (e) of this provision to comply with debt collection requirements of 31 U.S.C. 7701(c) and 3325(d), reporting requirements of 26 U.S.C. 6041, 6041A, and implementing regulations issued by the IRS. If the resulting contract is subject to the payment reporting requirements, the failure or refusal by the offeror to furnish the information may result in a 31 percent reduction of payments otherwise due under the contract.

(c) The TIN may be used by the government to collect and report on any delinquent amounts arising out of the offeror's relationship with the government (31 U.S.C. 7701(c)(3). If the resulting contract is subject to payment recording requirements, the TIN provided hereunder may be matched with IRS records to verify the accuracy of the offeror's TIN.

- [] TIN has been applied for.
- [] TIN is not required, because:
 - Offeror is a nonresident alien, foreign corporation or foreign partnership that does not have income effectively connected with the conduct of a trade or business in the United States and does not have an office or place of business or a fiscal paying agent in the United States;
 - [] Offeror is an agency or instrumentality of a foreign government;
 [] Offeror is an agency or instrumentality of the federal government.

(e) Type of organization:

[]	sole proprietorship;
LI	sole proprietorship,
[]	partnership;
[]	corporate entity (not tax-exempt);
[]	corporate entity (tax-exempt);
[]	government entity (federal, state or local);

- [] foreign government;
- [] international organization per 26 CFR 1.6049-4;
- [] other _____

(f) Contractor representations.

The offeror represents as part of its offer that it is [], is not, [] 51% owned and the management and daily operations are controlled by one or more members of the selected socio-economic group(s) below:

- [] Women Owned Business
- [] Minority Owned Business (if selected, then one sub-type is required)
 - [] Black American
 - [] Hispanic American
 - [] Native American (American Indians, Eskimos, Aleuts, or Native Hawaiians)
 - Asian-Pacific American (persons with origins from Burma, Thailand, Malaysia, Indonesia, Korea, The Philippines, U.S. Trust Territory of the Pacific Islands (Republic of Palau), Republic of the Marshall Islands, Federated States of Micronesia, the Commonwealth of the Northern Mariana Islands, Guam, Samoa, Macao, Hong Kong, Fiji, Tonga, Kiribati, Tuvalu, or Nauru)
 - [] Subcontinent Asian (Asian-Indian) American (persons with origins from India, Pakistan,
 - Bangladesh, Sri Lanka, Bhutan, the Maldives Islands, or Nepal)
 - [] Individual/concern, other than one of the preceding.

(end)

Provision 3-195 Exemption from Application of the Service Contract Act to Contracts for Maintenance, Calibration, or Repair of Certain Equipment – Certification (APR 2011)

(a) The offeror shall check following certification:

CERTIFICATION

The offeror [] does [] does not certify that -

(1) the items of equipment to be serviced under this contract are used regularly for other than government purposes, and are sold or traded by the offeror (or subcontractor in the case of an exempt subcontractor) in substantial quantities to the general public in the course of normal business operations;

(2) the services will be furnished at prices which are, or are based on, established catalog or market prices for the maintenance, calibration, or repair of equipment.

(i) An "established catalog price" is a price included in a catalog, price list, schedule, or other form that is regularly maintained by the manufacturer or the offeror, is either published or otherwise available for inspection by customers, and states prices at which sales currently, or were last, made to a significant number of buyers constituting the general public.

(ii) An "established market price" is a current price, established in the usual course of trade between buyers and sellers free to bargain, which can be substantiated from sources independent of the manufacturer or contractor; and

(3) the compensation (wage and fringe benefits) plan for all service employees performing work under the contract is the same as that used for these employees and equivalent employees servicing the same equipment of commercial customers.

(b) Certification by the offeror as to its compliance with respect to the contract also constitutes its certification as to compliance by its subcontractor if it subcontracts out the exempt services. If the offeror certifies to the conditions in paragraph (a) of this provision then <u>Clause 3-160, Service Contract Act of 1965</u>, will not be included in any resultant contract to this offeror.

(c) If the offeror does not certify to the conditions in paragraph (a) of this provision -

(1) <u>Clause 3-215, Exemption from Application of the Service Contract Act to Contracts for Maintenance, Calibration,</u> <u>or Repair of Certain Equipment – Requirements</u>, will not be included in any resultant contract awarded to this offeror; and

(2) the offeror shall notify the contracting officer as soon as possible, if the contracting officer did not attach a Service Contract Act wage determination to the solicitation.

(d) The contracting officer may not make an award to the offeror, if the offeror fails to execute the certification in paragraph (a) of this provision or to contact the contracting officer as required in paragraph (c) of this provision.

(end)

_ Provision 3-220 Exemption from Application of the Service Contract Act to Contracts for Certain Services – Certification (APR 2011)

(a) The offeror shall check following certification:

CERTIFICATION

The offeror [] does [] does not certify that -

(1) The services under the contract are offered and sold regularly to non-Governmental customers, and are provided by the offeror (or subcontractor in the case of an exempt subcontract) to the general public in substantial quantities in the course of normal business operations;

(2) The contract services are furnished at prices that are, or are based on, established catalog or market prices. An "established catalog price" is a price included in a catalog, price list, schedule, or other form that is regularly maintained by the manufacturer or the offeror, is either published or otherwise available for inspection by customers, and states prices at which sales currently, or were last, made to a significant number of buyers constituting the general public. An "established market price" is a current price, established in the usual course of ordinary and usual trade between buyers and sellers free to bargain, which can be substantiated from sources independent of the manufacturer or offeror;

(3) Each service employee who will perform the services under the contract will spend only a small portion of his or her time (a monthly average of less than 20 percent of the available hours on an annualized basis, or less than 20 percent of available hours during the contract period if the contract period is less than a month) servicing the Government contract; and

(4) The offeror uses the same compensation (wage and fringe benefits) plan for all service employees performing work under the contract as the offeror uses for these employees and for equivalent employees servicing commercial customers.

(b) Certification by the offeror as to its compliance with respect to the contract also constitutes its certification as to compliance by its subcontractor if it subcontracts out the exempt services. If the offeror certifies to the conditions in paragraph (a) of this provision then <u>Clause 3-160</u>, <u>Service Contract Act of 1965</u>, as amended, will not be included in any resultant contract to this offeror.

(c) If the offeror does not certify to the conditions in paragraph (a) of this provision-

(1) <u>Clause 3-225, Exemption from Application of the Service Contract Act to Contracts for Certain Services –</u> <u>Requirements</u>, will not be included in any resultant contract to this offeror; and

(2) The offeror shall notify the contracting officer as soon as possible if the contracting officer did not attach a Service Contract Act wage determination to the solicitation.

(d) The contracting officer may not make an award to the offeror, if the offeror fails to execute the certification in paragraph (a) of this provision or to contact the Contracting Officer as required in paragraph (c) of this provision.

(end)

(The contracting officer may incorporate additional clauses or provisions – by reference or in full text – in the appropriate places of the above template. Refer to the Guide to Judiciary Policy, Vol 14, Chapter 1, <u>Appx 1B</u>, to determine if the provision or clause is authorized to be incorporated by reference(IBR) or must be included in full text. If any provisions are incorporated by reference, Provision B-1 also must be marked as applicable. Use of certain clauses/provisions may require a one-time delegation of procurement authority.)

DESIGN REPORT

For

Video System Upgrade

United States Bankruptcy Court, Minneapolis, MN

Level 7 West Courtroom

United States Courthouse 300 South Fourth Street Minneapolis, MN 55415

August 20, 2015

DIVISION 27 - MEDIA TECHNOLOGY EQUIPMENT

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PART 1 - GENERAL

1.1 LIST OF DRAWINGS

Drawing Number	Drawing Title
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Keyed Notes	Keyed Notes
Legend 1	Legend 1
Legend 2	Legend 2
Legend 3	Legend 3
Legend 4	Cable Labeling Requirements
T.CRA.F.07.01	Courtroom 7W Floorplan
T.CRA.D.25.01	Control and Power Functional Requirements
TA754	Plate 54 Functional Requirements
T.CRA.R.25.01	Plate 82 Functional Requirements

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 also 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 000120 - LIST OF SCHEDULES

PART 1 - GENERAL

- 1.1 The following is a list of Schedules used to summarize project scope. The complete set or 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
 - A. Schedule C contains control panel configurations that were provided in Courtroom 8W from a previous project and are to be updated and used for this project. Verify any recent field changes and incorporate. Actual code files are available for the TMSC that is awarded this work.
- 1.5 SCHEDULE D LIST OF PROJECT DRAWINGS
- PART 2 PRODUCTS (NOT USED)
- PART 3 EXECUTION (NOT USED)

END OF SECTION – LIST OF SCHEDULES

SECTION 001119 - REQUEST FOR PROPOSAL

PART 1 - GENERAL

1.1 TERMS

- A. The terms of the proposal shall be as set forth in the Solicitation Documents attached. If contradictions occur, seek clarification from the Court officer prior to proceeding.
- B. Note clarifications regarding expectations of the TMSC to return to the site to address multiple inspections performed by the Court's Representative.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION - REQUEST FOR PROPOSAL

SECTION 002113 - INSTRUCTIONS TO BIDDERS

PART 1 - GENERAL

1.1 EXAMINATION OF DOCUMENT

A. Bidders shall carefully examine the Bidding Documents. Submission of a Bid shall be conclusive evidence that the bidder has made such examination. Failure to make such an examination shall not be accepted as a basis for claims for extra compensation or extension of time.

1.2 BID PREPARATION

A. Prepare bids on the electronic **Excel Format** Schedule B - B/1 Bid Form issued with this specification. Do not change or modify the Bid Form. Include substitutions ONLY in the SUBSTITUTION column of the spreadsheet. Unauthorized conditions, limitations, or escalator clauses attached to the bid will be cause for rejection of the Bid at the Owner's sole discretion.

1.3 INTERPRETATIONS/CLARIFICATIONS DURING BIDDING; ADDENDA

- A. Notify the Owner and copy the Court's Representative in writing of omissions, discrepancies, or ambiguities in the Bidding Documents.
- B. "Addenda" are documents issued prior to the receipt of Bids which modify, clarify, or interpret the Bidding Documents. Addenda become part of the Contract Documents when the Contract is executed.
- C. Interpretation or correction of the Bidding Documents will be issued by Addenda. Interpretations or corrections given by other methods will not be binding and TMSC shall not rely on such information. Addenda will be mailed or e-mailed to each of the approved bidders.
- D. Any addenda issued during the Bidding period are to be included and acknowledged in the Proposal, and are to be considered as part of the Contract Documents. Neither Owner nor the Court's Representative will be responsible for any oral instructions or interpretations.
- E. After Bid is received Best and Final Offer letters may be, at the discretion of the Court, issued individually to the companies that submitted a bid. Any modifications made on the Best and Final Offer letter shall become part of the Construction Documents when the Contract is executed. If Best and Final Offer letters are not issued, then the Bid shall be considered the Best and Final Offer.

1.4 BID EVALUATION

A. Unless otherwise noted, materials, labor, travel, and optional maintenance of the Base Bid and <u>ALL</u> Options, whether or not awarded, will be taken into consideration of determining the lowest bid.

1.5 AWARD

- A. While the government intends to award this project in FY15, the proposed pricing should be good through December 11, 2015 for award in FY16 subject to the availability of funds.
- B. <u>The Court will award bid options only at the time of the base bid award. If option(s) are not awarded at that</u> time, they will not be added to the project at a later date except by Change Order.

PART 2 - PRODUCTS

2.1 DISCONTINUED / BACK ORDERED PRODUCTS

A. Products that are no longer available or will be unavailable by the start of installation shall be brought to the attention of the Court's Representative as soon as the TMSC is aware of the discontinuation or unavailability.

2.2 CABLING AND TERMINATIONS

A. 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 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.

PART 3 - EXECUTION

3.1 BIDDING

- A. The TMSC shall provide an unmodified electronic copy in **Excel Format** of a completed Schedule B B1 Bid Form.
- B. The TMSC is responsible for bidding and providing a complete and working system, not only the equipment schedule listed. Blank lines are provided on the Bid Form (Schedule B B1 Bid Form) for the TMSC to include any additional items that they feel are needed to complete the project.
- C. Any additional equipment that is not provided on the bid form (Schedule B B1 Bid Form) shall be included in the installation without additional compensation. Where the bidder feels additional compensation shall be made, the issue shall be identified clearly in writing to the Court's Representative via a Request for Change form (see Section 006357 Change Order Request Form) only with a request for a specific dollar amount. The request shall be made prior to bidding the project.
- D. The TMSC is responsible for considering conditions affecting costs, progress, or performance of the work while responding to the bid.

- E. The Bidder agrees to assume all increases in labor rates and/or material prices that may develop during the life of this Contract.
- F. 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.
- G. Communications concerning this Bid shall be directed to the Owner and copied to the Court's Representative.

END OF SECTION -INSTRUCTIONS TO BIDDERS

SECTION 002400 - PROCUREMENT SCOPES

PART 1 - GENERAL

1.1 SUMMARY

- A. The contractor shall procure, install, configure and test a complete and operational video evidence presentation system generally based on one (1) Bankruptcy Courtroom as listed.
- B. The contractor shall add the video evidence presentation system to an existing audio system that requires only minor updates to work with the video evidence system.
- C. The contractor shall retain the existing portable video conference system functionality and fully integrate with the video evidence system.
- D. The contractor shall program and merge the control of the video evidence system with the existing Crestron control system programming.

PART 2 - PRODUCTS

2.1 PRODUCTS

A. Products shall be as defined as new product, reused or Client Furnished Equipment. 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 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 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. A complete list of equipment currently in service in the Courtroom will be made available to the TMSC upon award.

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 003113 - PRELIMINARY SCHEDULE

PART 1 - GENERAL

- 1.1 SCHEDULE
 - A. The project schedule will be negotiated with the TMSC after award. No physical site work will be required prior to November 16, 2015.
- PART 2 PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION – PRELIMINARY SCHEDULE

SECTION 003126.23 - EXISTING ASBESTOS INFORMATION

PART 1 - GENERAL

1.1 ASBESTOS

A. While no hazardous materials are expected to be encountered on this project, the TMSC shall stop work immediately if Asbestos or other hazardous materials are discovered in the work area. The TMSC shall advise the Owner upon discovery. If a work delay of more than four (4) hours is expected, the TMSC shall alert the AOUSC's A/V Court's Representative.

PART 2 - PRODUCTS

2.1 PRODUCTS

A. The TMSC shall not install new or reused components, accessories, or materials that are suspected or known to contain asbestos.

PART 3 - EXECUTION (NOT USED)

END OF SECTION – EXISTING ASBESTOS INFORMATION

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:	•	em Upgrade es Bankruptcy Court, Min	nneapolis, MN	RFI Number:
Courthouse Address:				Submitted on:
To Court's Representative: Contract Date:				Submitted by:
Reason for Requirement Insufficient In Engineering O Alternative P Other	nformation Conflict	Action Requested: Clarification Direction Approval	Probable E Increase Increase No Char	Cost Decrease Cost Time / Labor Decrease Time / Labor
Reference draw	ing number a	and/or specification sect	ion the request	pertains to:
Information Ne	eded/Recom	mended 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:	Video System Upgrade United States Bankruptcy Court, Minneapolis, MN	Clarification Num- ber:
Courthouse Address:		Submitted on:
To Court's Representative: Contract Date:		Submitted by:
1.		
2.		
3.		
4.		
5.		

END OF SECTION - CLARIFICATION FORM

SECTION 00 63 25 – SUBSTITUTION REQUEST FORM (CONSTRUCTION)

Replicate Forms as Required.

	Video System Upgrade	Request Number:
Project:	United States Bankruptcy Court, Min- neapolis, MN	
Court Address:		Date of Request:
Contractor:		To Court's Rep- resentative:
Requested By:		

#	Specified Item	Proposed Substitution	Will substitution in any way negatively im- pact 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.	
- 2	
3.	
4	
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:	Video System Upgrade United States Bankruptcy Court, Min- neapolis, MN	EPOD#:	
Reference Draw- ing:		Date:	
Submitted by:		Court's Repre- sentative:	

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.

<u>Item #1</u>

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:	Video System Upgrade		
	United States Bankruptcy Court, Minneapolis, MN	Request Number:	
Court Address:		Date of Request:	
Contractor:		To Court's Rep- resentative:	
Requested By:			
Reason for Reques	t:		

List of materials (credited) and cost:

Item (Brand and Model)	Qty	List	Cost	Subtotal
Total		È		

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 63 65 – SERIAL NUMBER LIST FORM

Replicate Form as Required Project: Video System Upgrade United States Bankruptcy Court, Minneapolis, MN

THE 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 THIS FORM.

SERIAL NUMBER LIST FORM

	Equipment Item	Quantity @ Location	Serial Number(s)	Delivery Date	Initials
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END OF SECTION – SERIAL NUMBER LIST FORM

SECTION 007200 - GENERAL CONDITIONS

PART 1 - GENERAL

- 1.1 GENERAL CONDITIONS
 - A. TMSC shall comply with the General Conditions set forth in their current contract with the AOUSC.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION - GENERAL CONDITIONS

SECTION 007343 - WAGE RATE REQUIREMENTS

PART 1 - GENERAL

1.1 PREVAILING WAGE

- A. Not less than the greater prevailing rate of wages as found by the AOUSC or the local jurisdiction or determined by a court on review shall be paid to all laborers, workers, and mechanics performing Work under the contract.
- B. The TMSC and each subcontractor shall comply with the Davis-Bacon act.
- C. Union rates shall be bid and paid if applicable. These rates shall be included in all bids where applicable.
- D. The TMSC and each subcontractor shall keep an accurate record showing the names and occupations of all laborers, workers and mechanics employed by them on the contract, and also showing the actual hourly wages paid to each of such persons.
- E. The submission by the TMSC and each subcontractor of payrolls, or copies thereof, is not required. However, the TMSC and each subcontractor shall preserve their weekly payroll records for a period of three years from the date of completion of the contract.
- F. If the AOUSC or local jurisdiction revises the prevailing rate of hourly wages to be paid by the public body, the revised rate, as provided by the public body, shall apply to the contract.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION – WAGE RATE REQUIREMENTS

ADDENDUM

To: All Plan Holders for:

VIDEO SYSTEM UPGRADE UNITED STATES BANKRUPTCY COURT, MINNEAPOLIS, MN

Design Report issued:

NOTICE TO ALL BIDDERS

The following changes shall be made to the specification:

END OF SECTION – ADDENDA

DIVISION 01 – GENERAL REQUIREMENTS

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 procure, install, configure and test a complete and operational sound, video and control systems in the following areas as listed along with some custom furniture:

Room	Audio System	Video Evidence Presentation System	Semi-mobile Video Conference System	Furniture
Level 7 Court- room	Retain all sys- tems and add connectively only as needed	All new	Retain all systems and add connectively only as needed	New Custom lectern being provided by Court for installation by TMSC

- A. The TMSC shall provide audio/visual systems compatible with the Court's operations as defined within. Control panel control page layouts, labels, and functions shall be reviewed by the Court's Representative.
 - 1. The courtroom indicated shall be provided with a video presentation system with program audio reinforcement added to the audio system and tied into the video conference system that is shared with Courtroom 8 West.
 - 2. The courtroom control engine and GUIs shall be merged to add new video features. Existing control panels shall have new functions added to the GUI and code.
- B. The TMSC shall provide equipment that, where required, shall conform to the applicable requirements of the Underwriter's Laboratories, Inc., local codes, the National Electrical Code and any other governing codes. Such items shall bear the label or mark indicating their conformance to the above requirements.
- C. 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 insure that a reliable and functional audio/visual system will be installed.
- D. The Court shall remove and replace all existing carpet where it is installed over header duct, cell ducts and/or junction boxes. The TMSC shall remove sub-floor hatches, covers, and lids s needed to access cable pathways. Coordinate timing and access with Court personnel.
- E. 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.
- F. 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).
- G. The TMSC shall provide training to technical personnel as defined.
- H. 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. The TMSC shall also provide the cost of one work hour based on charges that would be made by an in-field technician for time and labor work.
- I. 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:

Dase Did. All work described	Base Bid:	All work described
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PART 2 - PRODUCTS

2.1 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 Court shall remove and replace all existing carpet where it is installed over header duct, cell ducts and/or junction boxes. The TMSC shall remove sub-floor hatches, covers, and lids s needed to access cable pathways. Coordinate timing and access with Court personnel.
- 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 3 - EXECUTION

3.1 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 training to technical personnel as defined.
- C. The TMSC shall provide a one-year warranty at no additional cost to the government.
- D. 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 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.
- B. A complete list of equipment currently in service in the Courtroom will be made available to the TMSC upon award.

PART 3 - EXECUTION (NOT USED)

END OF SECTION – WORK BY OWNER

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 Owner 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. In all cases, the TMSC shall install all equipment and other rack items in the main racks at the Courthouse project site.

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.

END OF SECTION - WORK SEQUENCE

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 at all times wear 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 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, either via 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's Project Manager 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 011419 - USE OF SITE

PART 1 - GENERAL

1.1 USE OF SITE

- A. The TMSC shall at all times maintain 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-spooled 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 which 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 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 012300 - OPTIONS (ALTERNATES)

PART 1 - GENERAL

1.1 SUMMARY

A. Each proposal under an Option (if any) 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 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 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.

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 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 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, either via 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 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 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 worked 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's 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 worked 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 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 which 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 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 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 however, has charged by The Courts to provide the interpretation of the Specification and plans/drawings in the event of a dispute as to their intention. 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 and 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, but shall not 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, either via 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.
- C. The TMSC shall verify with the Court's Representative to see if the Court's Representative has either an Infrastructure Inspection or Installation Kick Off trip that can be taken at the same time as the above-mentioned trip. If possible, the TMSC and Court's Representative shall be on site at the same time for this trip.

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 013100 - PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 ON SITE/OFF SITE

- A. 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.
- B. 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 writing in a timely manner.

1.2 FULL TIME/PART TIME

A. Part time laborers used by the TMSC shall be the sole responsibility of the TMSC and shall be held to the same standards and expectations of full-time installation crews.

1.3 MEETINGS

A. Refer to Section 013119 "Project Meetings."

PART 2 - PRODUCTS

2.1 MATERIALS

A. The TMSC is responsible for all materials on and off the site until the project is closed.

2.2 SPECIAL TOOLS

A. Any and all special tools required for installation shall be provided by the TMSC where special tools are needed to maintain or operate the systems by the end user, such tools shall be provided as part of the close out at no additional cost.

PART 3 - EXECUTION

3.1 ADDITIONAL ENGINEERING SERVICES

A. The TMSC shall engineer the system based on the Design Intent, the Functional Requirements, the Equipment Schedule (Schedule B), and any Client Furnished Equipment (See Section 016400 "Owner –Furnished Products"). The TMSC shall produce installation field drawings that reflect the goals of the project and requirement set forth in this specification. All additional parts and accessories felt to be necessary by the TMSC shall be included in the bid although they may not be listed in the equipment schedule. These additional parts shall be provided in the engineering design and provided to the site installation at no additional cost after bidding.

3.2 PROGRESS REPORTS

A. The TMSC shall copy the Court's Representative on all status reports sent to the Owner or others. Frequency of reports to be determined at time of Project Kick Off conference call.

3.3 QUALITY ASSURANCE REPORTS

A. The TMSC shall submit copies of all reports developed for Quality Assurance to the Court's Representative.

3.4 FIELD ORDER/CHANGE ORDER MANAGEMENT

A. Refer to Section 012639 "Field Order Procedures" and Section 012663 "Change Order Requests."

3.5 SEQUENCING AND SCHEDULING

A. Refer to Section 011216 "Work Sequence."

3.6 CUT OVER PLANNING AND MANAGEMENT

A. Refer to Section 270800 "Commissioning of Communications."

3.7 TRAINING AND PLANNING MANAGEMENT

A. Refer to Section 017900 "Demonstration and Training."

3.8 RECORD COPY AND AS-BUILT DOCUMENTATION

A. Refer to Section 017800 "Closeout Submittals."

END OF SECTION – PROJECT MANAGEMENT AND COORDINATION

SECTION 013119 - PROJECT MEETINGS

PART 1 - GENERAL

1.1 PROJECT MEETINGS

- A. The TMSC is **required** to attend a mandatory preliminary walk-through inspection and meeting after contract award and prior to the project startup at no additional cost to the government (trip should be included in bid). The meeting will not be held until after project award. See Project Schedule.
- B. The TMSC is not required to be on site for the First Inspection, but will be required to travel back to site to complete any punchlist items resulting from Additional Inspections.
- C. The TMSC is not required to be on site for the Inspections. However, the TMSC will be required to travel back to the site to complete any punchlist items resulting from the Additional Inspections.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION – PROJECT MEETINGS

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.
 - 2. The Manufacturer's specification sheets (cut sheets) for each equivalent item of equipment proposed <u>only</u> 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 and samples 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 proceeding 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. Proposed control system screen and panel layout in VisionTools Pro (.vtp) format. Other control systems if provided shall have similar electronic panel emulation files submitted.
 - 6. Updated DSP programming file.
- 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 performs 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 which 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. List of manufacturer hardware/firmware and software access passwords as allowed by the manufacturer for end-user access.
 - 4. Training Materials. Refer to Section 017900 "Demonstration and Training."
 - 5. List of Serial Numbers. Refer to Section 017800 "Closeout Submittals."
 - 6. Statement of Warranty. Refer to Section 017836 "Support and Warranties."
 - 7. Project Record Drawings. Refer to Section 017800 "Closeout Submittals."
 - 8. List of all IP addresses that are implemented in the systems and the purpose for each.

2.3 SAMPLES REQUIRED

A. None 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 under Part 2 – Products 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 two (2) identical copies of all submissions 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 Tenant 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. The following items shall NOT be reviewed by the Court's Representative during the shop drawing submittal process:
 - 1. Identifying cross reference contradictions in the drawings.
 - 2. Comparison of listed materials to be provided per the BAFO with engineered materials submitted.
 - 3. Control code functional programming.
 - 4. DSP programming compliance
 - 5. Performing Engineering Quality Control (QC) on the shop drawings including, but not limited to, the following:
 - a. Identification of any item that is contradictory to pathways indicated in the specification drawings.
 - b. Tracing line by line connections throughout schematic and/or wiring diagrams.
 - c. Identifying spelling or other grammatical errors.
 - d. Identifying labeling errors (device ID's, wire numbers, etc.).
 - e. Verifying connectors on custom connection and I/O plates.
 - f. Acknowledgement of any revision that has not been processed via formal RFI, RFQ or RFC.
- E. 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.
- F. 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 Video System Upgrade

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, appears 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 013500 - SPECIAL PROCEDURES

PART 1 - GENERAL

1.1 SPECIAL PROCEDURES

A. Special procedures are in existence for this project. The TMSC must follow at all times the policies set forth by this specification, the AOUSC, the Owner, and the Court's Representative. Any deviation from these procedures will risk payment deduction, delay or contract termination.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION - SPECIAL PROCEDURES

SECTION 013519 - SAFETY PROCEDURES

PART 1 - GENERAL (NOT USED)

PART 2 - PRODUCTS

2.1 LIFTING ATTACHMENTS

A. Lifting attachments required for installation shall be left on equipment where feasible. All trusses, hooks, straps, and safety cables shall be included with the project at no additional cost to the project and left with the equipment at project completion.

PART 3 - EXECUTION

3.1 SAFETY OF PERSONS AND PROPERTY

- A. The TMSC shall use safety belts, harnesses, and straps to secure personnel, equipment and ladders or scaffold as per OSHA standards.
- B. The TMSC shall not leave materials in pathways, halls, or other open areas where a tripping hazard is possible.
- C. The TMSC shall not stack un-opened equipment higher than 1.2 meters (4 feet) above the floor.
- D. No tables or other furniture or millwork may be used to hold any equipment weighing over 2.25 kg (5 lbs.) shipping weight.
- E. The TMSC shall not leave any ladders standing when not in use. Ladders in use in public hallways shall be marked with an orange safety cone at the base during use and while ladder is standing.
- F. Electrically operated tools shall not be left plugged into live power outlets while unattended.
- G. The TMSC shall safely store all hazardous tools and parts when not in use. Tools shall not be placed in open areas.

3.2 SAFETY PRECAUTIONS AND PROGRAMS

- A. The TMSC shall maintain safe work conditions at all times while on site.
- B. OSHA Standards shall be maintained at all times.

3.3 LOCATION OF PROTECTION UTILITIES

- A. The TMSC will be responsible for compliance with all recovery NEC requirements at project compliance.
- B. The TMSC shall not leave open power circuits or open circuit breaker panels unattended.

3.4 FIRE STOPPING COORDINATION DRAWINGS

- A. The TMSC shall mark in red in a timely manner on the Tenant's field drawings any locations where fire stopping may be required due to installation of cable and/or equipment.
- B. The TMSC shall contact the Tenant in writing and in a timely manner of any media system installation where fire stopping or fire treatment has been disturbed or damaged due to the installation of equipment.

END OF SECTION - SAFETY PROCEDURES

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 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 affect 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 will 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 014123 - REGULATORY REQUIREMENT FEES

PART 1 - GENERAL

- 1.1 LICENSE INSPECTIONS AND FEES
 - A. Licenses and Fees applicable to the Work in the project shall be secured and paid for by the TMSC before Work is started. All labor union requirements shall be ascertained and fulfilled by TMSC prior to beginning Work and included in Bids. All requirements stipulated therein shall be satisfied.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION – REGULATORY REQUIREMENTS FEES

SECTION 01 41 26 - REGULATORY REQUIREMENTS PERMITS

SECTION 014126 - REGULATORY REQUIREMENTS PERMITS

PART 1 - GENERAL

1.1 PERMITS

A. Permits applicable to the Work in the project shall be secured and paid for by the TMSC before Work is started. All labor union requirements shall be ascertained and fulfilled by TMSC prior to beginning Work and included in Bids. All requirements stipulated therein shall be satisfied.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION - REGULATORY REQUIREMENTS PERMITS

SECTION 014200 - ABBREVIATIONS & ACRONYMS

PART 1 - GENERAL

1.1 ABBREVIATIONS & ACRONYMS

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

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION -ABBREVIATIONS & ACRONYMS

SECTION 014216 - DEFINITIONS

PART 1 - GENERAL

1.1 DEFINITIONS

- A. <u>Award</u> 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. <u>Bidder(s)</u> means organizations that submit a quote for all work in the Contract documents to contract prior to award.
- C. <u>Bidding Documents</u> are this document and any drawings or schedules issued for bid pertaining to this project.
- D. <u>Bid Form</u> is the Schedule B B/1 Bid Form.
- E. <u>Building Owner</u> is the entity or organization that owns the physical building to which rent is paid by the tenant.
- F. <u>Court's Representative</u> means the Audio/Video Design Court's Representative under Contract or designated employee as Project Manager.
- G. <u>Contract and Contract Documents</u> 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. <u>Court</u> shall be a building Tenant.
- I. <u>Courtroom Technology Manual</u> is the AOUSC's Guideline document for recommended Court technology.
- J. <u>Final Acceptance</u> 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. <u>First Inspection</u> 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, Q). 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. <u>H.239</u> 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. <u>Owner</u> means the entity that holds the TMSC contract.
- N. <u>Project Manager</u> is the primary point of contact and person in charge of processing RFI's, RFQ's, and RFC's.
- O. <u>Additional Inspections</u> 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. <u>Limits of Inspections</u>: There is no maximum number of possible inspections. Inspections may continue until the system reaches Final Acceptance.
- Q. <u>Substantial Completion</u> 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 <u>usable</u> 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.
- R. <u>Tenant</u> is the entity that is the primary user in the space where the work is done.
- S. <u>Technical Media Systems Contractor (TMSC)</u> means the person or organization undertaking to do the Work required by the Contract Documents.
- T. <u>TIP</u> 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.
- U. <u>Video On Demand</u>: 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.
- V. <u>Work</u> 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 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 568.B2, 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 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. An *individual* Installer on site shall be directly certified by the manufacturer of the digital signal processing and audio mixing equipment where it is firmware or software configurable. Support for these processors shall not only be provided during equipment assembly off site. All final room balancing and room equalization shall be performed directly and on-site by at least one certified technician. Where the contractor does not have a certified technician on staff, the contractor shall sub-contract a certified technician and provide them on site without additional cost to the project.

C. Reference Standards: Refer to Section 014219.

END OF SECTION - QUALITY ASSURANCE

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 015100 - TEMPORARY UTILITIES

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 the 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.

1.2 TEMPORARY CONSTRUCTION

A. The TMSC shall remove and discard all temporary construction that may be required prior to project closeout.

1.3 REFUSE CONTAINERS

A. 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.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION(NOT USED)

END OF SECTION - TEMPORARY UTILITIES

SECTION 015200 - CONSTRUCTION & EMERGENCY FACILITIES

PART 1 - GENERAL

1.1 FACILITIES

- A. Coordinate delivery and set up of any building or portable facilities with the building owner. The TMSC shall be responsible for providing all services to the facility and shall not share services with the primary builder.
- B. Bathrooms shall be assigned to the installation crew by the building owner. The TMSC crew will use designated facilities only and will be expected to keep the condition of the facility maintained as any tenant user.

1.2 EMERGENCY FACILITIES

A. The TMSC shall not be responsible for providing emergency or backup facilities for the Tenant's use during the installation period.

PART 2 - PRODUCTS

2.1 PRODUCT DELIVERY

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.

PART 3 - EXECUTION (NOT USED)

END OF SECTION – CONSTRUCTION & EMERGENCY FACILITIES

SECTION 015423 - TEMPORARY SCAFFOLDING & PLATFORMS

PART 1 - GENERAL

1.1 SAFETY GUIDELINES

A. The TMSC shall comply with all Federal, State, County, GSA, and Building safety guidelines at all times.

PART 2 - PRODUCTS

2.1 CONSTRUCTION EQUIPMENT

A. The TMSC shall be responsible for providing scaffolds, platforms, powered lifts and/or hoists, and ladders where needed. Any costs associated with the purchase or rental of the equipment shall be part of the overall materials bid.

PART 3 - EXECUTION

3.1 SAFETY PROCEDURES

- A. During business hours, all ladders and equipment carts in use will be marked with red or yellow/black striped hazard tape. Ladders, equipment, and equipment carts shall not be left unattended and accessible at any time during business hours.
- B. At no time during business hours shall fire exits be blocked by installation equipment or materials.
- C. Unspooled 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 with orange safety cones.
- D. The TMSC shall use safety belts, harnesses, and straps to secure personnel, equipment, ladders, or scaffolding as per OSHA standards.
- E. The TMSC shall not leave materials in pathways, halls, or other open areas where a tripping hazard is possible.

END OF SECTION - TEMPORARY SCAFFOLDING & PLATFORMS

SECTION 015500 - VEHICULAR ACCESS & PARKING

PART 1 - GENERAL

1.1 VEHICULAR ACCESS & PARKING

- A. The TMSC shall coordinate all parking with the local project contact if access is needed.
- B. The TMSC shall be responsible for all Permits (See Section 014126 "Permits") and Fees (See Section 014123 "Fees") associated with parking and access. This shall be included in the Base Bid Amount.
- C. The TMSC shall be responsible for all payment of any fines associated with parking or driving illegally.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION - VEHICULAR ACCESS & PARKING

SECTION 015600 - TEMPORARY BARRIERS & ENCLOSURES

PART 1 - GENERAL

1.1 **PROTECTION**

A. Equipment and assemblies shall be protected at all times from construction dirt and damage using plastic shrouds or original cartons. Systems shall not be exposed or energized until the local environment is free of construction dust and debris, including wet cleaning to eliminate airborne particulate matter.

PART 2 - PRODUCTS

2.1 NEW MATERIAL QUALITY

A. All materials shall be new and free from defects or damage. No refurbished or rebuilt goods shall be supplied as new, regardless of conditions or warranty extension. Finishes shall be unmarred. Material shall be adequately protected during construction from dirt, dust, moisture, temperature extremes, and physical damage.

2.2 ISOLATION

A. Contractor shall be responsible for providing and installing all power device enclosures and isolation components. All open terminal strips with over 70V terminations shall be covered and protected from accidental contact. Mounting panels shall be properly isolated from all metal components and equipment chassis. Provide installation techniques in accordance with OSHA and UL guidelines.

PART 3 - EXECUTION

3.1 **PROTECTION**

- A. Prior to installation, protect exposed surfaces with material, which 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 carpet, 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 the start of Work.

END OF SECTION – TEMPORARY BARRIERS & ENCLOSURES

SECTION 015800 - PROJECT IDENTIFICATION

PART 1 - GENERAL

1.1 IDENTIFICATION

A. The installation team shall at all times wear photographic identification 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

3.1 INSTALLATION TEAM

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 hour 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 – PROJECT IDENTIFICATION

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. In all cases, the TMSC shall install all equipment and other rack items in the main racks at the Courthouse project site.

END OF SECTION – PRODUCT 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 program utilities and drivers necessary to transfer the software settings or programs to each respective pieces of equipment. Software used for programming does <u>not</u> have to be turned over to the Court. Complete documentation for the software shall be provided as well as the CD-ROM which 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 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. <u>Important</u>: 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. <u>Important</u>: 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 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 preassembly 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 016600 - PRODUCT STORAGE & HANDLING REQUIREMENTS

PART 1 - GENERAL

1.1 STORAGE AND PROTECTION OF MATERIALS

- A. Prior to installation, protect exposed surfaces with material which 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 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 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 wave form, 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

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- 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 Color Bars and verify that all the colors are present. Adjust the saturation and tint of the colors.
 - c. Apply a "Ramp" pattern (all gray image which goes from black on the left side all the way to white on the right side). Check for noise on the signal. Adjust contouring to eliminate any "stair-stepping" effect to achieve a smooth response all the way across the image.
 - d. Apply "Circle" pattern and check geometry to verify the aspect ratio (make sure circle are round and not oval).
 - e. Apply Crosshatch pattern and adjust positioning to center the image on the display.

- f. Apply an Alternating Pixel pattern. Adjust the pixel clock and phase to provide cleanest signal with no "waves" or other anomalies.
- g. Apply Multi-burst to check for color shift and adjust so that only black/white/grey is seen.
- h. Apply "H" Pattern. Check overall sharpness and text legibility. Verify that there is no keystoning present (will show up as a "tree" in the pattern).
- i. 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).
- j. 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, colorimetery error, and interline distortion.
- 5. All displays shall be equally clear and free from softness and blur.
- 6. Meet with the Government 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 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 connection labels much exactly match the User Verification Code. See Legend.

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 CABLE LABELING

A. Labels shall be provided in three (3) styles. Refer to Legend. Styles are defined as follows:

- 1. <u>Record Reference Code:</u> These labels shall employ a code and relate to the Project Record Drawings. The Record Reference alphanumeric developed for the project shall not be used on more than one (1) cable project wide. All cables inside rack or cabinet enclosures and all cables outside rack or cabinet enclosures over 1 meter in length shall be provided with matching Record Reference Code labels at both ends. Labels shall be applied no farther than 250mm from the end connector over the cable jacket.
- 2. <u>User Verification Code:</u> These labels shall employ a simplified alphanumeric that is description of the function or connection at any given cable end. The User Verification Code provided shall not repeat within cable groupings co-located together. All cables outside rack or cabinet enclosures over 1 meter in length shall be provided with User Verification Code labels at both ends. Labels shall be applied no farther than 250mm from the end connector over the cable jacket. <u>This code shall match the labeling on its corresponding plate connector or cable harness.</u>
- 3. <u>Connection ID:</u> These identifiers shall be provided only as color bands on the cables and shall not use alpha-numerics in order to provide unique identification. Provide color coded bands on cable umbilical ends to align with matching TMSC provided color coded dots on the connector plates or to align with matching bands on mating umbilicals or whips. Diverse and primary colors shall be provided on matching connector types to assist the user with proper connections; particularly in dark and/or cramped locations. Colors can be repeated only where the connectors are dissimilar and incapable of being misconnected.

3.5 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 76 00 – PROTECTING INSTALLED CONSTRUCTION

SECTION 017600 - PROTECTING INSTALLED CONSTRUCTION

PART 1 - GENERAL

1.1 PROTECTION

A. The TMSC shall be responsible for protecting and securing all installed construction until turned over to the Tenant.

PART 2 - PRODUCTS

2.1 **PROTECTION**

A. If equipment is not to be used immediately after project completion, disconnect power from the equipment and racks and wrap all racks in sealed plastic. Store all equipment in original factory shipping boxes and store in a secure location. Identify location for equipment users.

PART 3 - EXECUTION

3.1 **PROTECTION**

A. Equipment and materials shall be adequately protected during construction from dirt, dust, moisture, temperature extremes, and physical damage.

END OF SECTION – PROTECTING INSTALLED CONSTRUCTION

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 close-out 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. 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.
- C. 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.

- D. 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.
- E. Remove all labels, signage, and tags of equipment and cables that are no longer functional.

2.3 SPECIAL TOOLS

A. Refer to Section 013100 "Project Management and Coordination."

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 schedule travel to the site for 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. There is no maximum number of possible inspections. Inspections may continue until the system reaches Final Acceptance.
- F. Notifying the Court's Representative of an expected future completion date shall not be considered official notification. The TMSC is not required to be present at this inspection.
- G. 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.
- H. 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. See Project Schedule.

- I. 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. Only after receiving official written notification will the Court's Representative coordinate with the Tenant to issue the SF 1420.
- J. The TMSC shall not perform any work on the system while it is being inspected by the Court's Representative.

END OF SECTION - CLOSEOUT PROCEDURES

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. All materials and procedures as described in Section C.6 of the BPA contract.
 - 2. 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 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 close-out 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 required by the TMSC's BPA Court Technologies contract as part of the base bid. 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 required by the TMSC's BPA Court Technologies Contract.
 - 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 automated attendant which 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. Provide Warranty/Maintenance Service Report on a monthly basis to the Tenant and the Court's Representative for the duration of the warranty period, including any additional optional warranty period extensions as required by the TMSC's BPA Court Technologies contract. The report shall list all maintenance/servicing/training support calls made by the Tenant, the time requested, the response time, and the corrective action taken.
- D. 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.

3.3 RESPONSE

A. Warranty support shall be provided as defined within the terms of the TMSC's BPA Court Technologies contract. The warranty terms and support access instructions shall be reviewed by the Court.

END OF SECTION – SUPPORT & WARRANTY

SECTION 017900 - DEMONSTRATION AND TRAINING

PART 1 - GENERAL

1.1 TRAINING

- A. A TMSC representative shall be on site for training and participate in it. The Owner requires that a knowledgeable person skilled in training presentation be scheduled to provide instruction.
- B. Where special skills are required for training, the TMSC shall provide additional training personnel as needed. This may include training specialist and/or factory personnel.

PART 2 - PRODUCTS

2.1 TRAINING MATERIALS

- A. Trainer shall have ten (10) copies of quick reference sheets ready for training participants to use during each training session. The materials are to be retained by each trainee
- B. Training materials shall also include a double sided sheet of paper detailing the equipment an attorney can bring into the courtroom for presentations, and where each individual connection is located. This is to include a list of laptop model numbers that are known to work and known to be problematic with the digital video systems. This document is to be turned over to the Court at the time of training. This document shall be included in the training materials reviewed by the Court and Court's Representative.

PART 3 - EXECUTION

3.1 TRAINING PLANNING MANAGEMENT

- A. The TMSC shall provide *operating personnel* with adequate user training on the completed system so that they can perform standard duties in the project rooms per the government's expectations.
- B. The TMSC shall provide *staff technical support personnel* with adequate training on the operation and architecture of the systems so that they can perform first-line system trouble shooting and provide effective corrective action when systems are not functioning nominally.
- C. Operational training must be provided on-site in the room where the systems have been installed.
- D. Technical support training must be provided on-site in the room where the systems have been installed.

- E. <u>A written training schedule plan must be submitted to the Court's Representative and the Court</u> in writing prior to training in order to be considered valid training. The Court must approve the training schedule. The participants shall not be expected to schedule training with less than 21 working days' notice.
- F. Training shall not commence until after systems are completely operational and into final operation condition. The training must provide for proper usage of the entire system. The TMSC shall assume that operational personnel have no prior experience with the operation of the systems being installed.
- G. It shall be the responsibility of the TMSC's trainer to quiz and interactively determine if the provided training is effective. The TMSC is responsible for effective training. Ineffective training will result in repeated training without additional compensation.
- H. It is strongly advised that the trainer advises trainees that they will be asked to demonstrate certain functions that were included in the training in order to evaluate retention levels.
- I. Training shall be organized by User's position and not by system category. Technical terminology is to be avoided in the operational training sessions.
- J. Demonstrations of control panels where present shall be done by loading all control panel screens onto a laptop and displaying the laptop video through the evidence presentation system where present. Individual training shall also be provided at the actual control panel.

3.2 TRAINING SESSIONS

- A. TMSC training personnel shall adhere to appropriate business casual attire during training sessions. Business casual attire does not include any of the following: shorts of any kind, ripped clothing, jeans, T-shirts, any attire with writing/Logos other than the Trainer's company logo, baseball caps, tennis shoes, or sandals. Trainers must exercise good personal hygiene and have a neat and orderly appearance.
- B. Training shall consist of two different types of training sessions and the described durations.
- C. User Training shall be held as follows:

Room / Area	Number of Users in each session	Number of sessions	Hours in each session	Total number of hours
Courtroom 7W	8	1	2.5	2.5

- 1. User training shall be for those individuals who regularly use the systems but not necessarily service or maintain the systems. Training shall be non-technical with emphasis on common terms and user comfort with the systems. These "user" trainees shall receive training on subjects including but not necessarily limited to the following:
 - a. Announce that will be a hands-on <u>quiz</u> at the end of the training.
 - b. Thirty minutes (0.5 hours) minimum of simulated Court use with key users of the system working in their typical roles. The trainer shall simulate the functions of the judge and attorney during this practice.
 - c. Different types of users and show the locations of their respective stations and including different physical configurations or modes of operations.

- d. The video display locations and the types of materials which might be carried on each display. Demonstrate videoconferencing monitors vs. evidence presentation monitors and how H.239 content is displayed and utilized.
- e. A demonstration of the use of applicable equipment and system "tools" located at each user station.
- f. Answers to any questions posed by the trainees. Forward any comments about the system functionality to the Court's Representative for review.
- g. Provide a hands-on *quiz* to users where the trainer has individuals demonstrate some of the features they have been trained on.
- D. Technical Training shall be held as follows:

Room / Area	Number of Users in each session	Number of sessions	Hours in each session	Total number of hours
7W Rack room	4	1	1.5	1.5
Courtroom 7W	4	1	1	1

- 1. Technical training shall be hands-on training for select personal that will be determined by the Owner to maintain service and/or operate the systems from specific control stations. These technical trainees shall receive training on subjects including but not necessarily limited to the following:
 - a. An overview of the same topics covered in "User" training with an emphasis on how-to train the end users.
 - b. Demonstration of day-to-day function and operation of equipment/components including equipment settings and use of any applicable setup software.
 - c. A summary of major cable paths throughout the facility including conduit/raceway destinations and cable pull locations and access routes.
 - d. Thorough instruction on how to interpret and utilize the Project Record Drawings and Owner's Manuals (listed elsewhere herein).
 - e. Symptoms of common problems and their respective resolutions or any relevant system troubleshooting tactics.
 - f. Demonstrations on restarting, resetting, and determining source of component level failures.
 - g. Procedures to take prior to and after severe weather or power problems.
 - h. A summary of the maintenance/repair services provided under this contract and the BPA contract, contact names and phone numbers for repair.
 - i. Answers to any questions posed by trainees.
 - j. Evaluation by the trainer of how effective the training has been.

END OF SECTION - DEMONSTRATION & TRAINING

SECTION 01 86 19 – HVAC PERFORMANCE REQUIREMENTS

SECTION 018619 - HVAC PERFORMANCE REQUIREMENTS

PART 1 - GENERAL

1.1 PROBLEMS

- A. Problems with high levels of HVAC noise that prevent proper calibration of audio systems shall be brought to the attention of the Court's Representative upon discovery.
- B. Problems with cooling or heating of equipment installed under this contract shall be brought to the attention of the Court's Representative upon discovery.

PART 2 - PRODUCTS

2.1 COOLING

A. Provide fans and other air distribution equipment in equipment racks where specified and install according to manufacturer's instructions.

PART 3 - EXECUTION (NOT USED)

END OF SECTION – HVAC PERFORMANCE REQUIREMENTS

DIVISION 27 – 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
 - A. Schedule C contains control panel recommended layouts. These are to be used for a reference ONLY for the TMSC to develop the actual files which will be specific to this project's requirements. The indications and functions shown in these non-project specific panel examples do NOT take precedent over actual project requirements defined elsewhere. Revisions to the configuration guidelines for this project are required under this contract without additional cost to the project.

1.4 SCHEDULE D – DRAWINGS

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION - SCHEDULES FOR AUDIO-VIDEO 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.
- B. 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.

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 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.

PART 3 - EXECUTION

3.1 QUALITY CONTROL

A. Refer to Section 014300 "Quality Assurance" and Section 014500 "Quality Control" for general quality requirements.

3.2 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 which 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 which 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 GSA provided power outlet. 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.

3.3 GROUNDING

A. Refer to Section 27116 "Power Protection and Power Strips."

3.4 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 matter that no strapping, connector or cable needs to be removed for full access inside the rack.

3.5 SIGNAL SEPARATION

- A. Signals with the greatest level differences should be kept on separate sides of a rack. Looking at the rear of a rack, the following cables should be bundled individually on the left (except where there is an I/O plate hinge):
 - 1. Speaker level
 - 2. RF
 - 3. Control
 - 4. Power
 - 5. Ground
 - 6. Networking
- B. Looking at the rear of a rack, the following cables should be bundled individually on the right (except where there is an I/O plate hinge):
 - 1. Microphone Level
 - 2. Line Level Audio
 - 3. Video
 - 4. RGBHV
 - 5. DVI
 - 6. HDMI
 - 7. Digital control or audio data

END OF SECTION - AUDIO-VIDEO EQUIPMENT ROOM FITTINGS

SECTION 271126 - POWER PROTECTION AND POWER STRIPS

PART 1 - GENERAL (NOT USED)

PART 2 - PRODUCTS

2.1 POWER DEVICES

- A. Power strips, unless otherwise provided, shall be UL listed, surface mounted, rated for 15 amp continuous electronic loads with no switch, pilot light, or breaker. Outlets shall be 125 volt, 15 amp, 3 wire, grounded, NEMA 5-15R. Cords shall be 14/3 SJT with molded plug. SPC Technology products or equal.
- B. Power distribution panels, unless otherwise provided, shall be UL listed, rack mounted, rated for 15 amp continuous electronic loads with switch and pilot light. Eight outlets shall be mounted to the back, six switched, two un-switched each rated 125 volt, 15 amp, 3 wire, grounded NEMA 5-15R. Switch and pilot shall be mounted to the front. Cords shall be 14/3 SJT with molded plug. Atlas Sound #ACRL-191 or equal.

2.2 GROUNDING

A. Equipment grounding conductor shall be #12 stranded pure copper with green THHN insulation rated for 600 volts. Signal bonding conductors shall be flat braid tinned pure copper in dimensions as indicated. 25 mm (1 inch) Alpha #1235 or equal, 13 mm (1/2 inch) Alpha #1233/2 or equal, 6 mm (1/4 inch) Alpha #1231 or equal.

PART 3 - EXECUTION

3.1 POWER DEVICES

- A. Power strips shall mount to the sides of equipment enclosures at the rear. A single strip shall be installed in each rack or cabinet section with sufficient capacity to provide a dedicated outlet to each powered device with approximately 10 percent spare outlets. Total load on a strip shall not exceed 12 amps. Provide additional spot outlet strips as required for groups of heavy loads. Power strips not rated as a PDU shall not cascade per NEC. Connect equipment to power strips.
- B. Install power distribution panels as indicated in racks, tight below countertops, or of enclosures. Connect equipment and power strips to panels.
- C. TMSC shall be responsible for providing and installing all power device enclosures and isolation components. All open terminal strips with over 70V terminations shall be covered and protected from accidental contact. Mounting panels shall be properly isolated from all metal components and equipment chassis. Provide installation techniques in accordance with OSHA and UL guidelines.

- D. Provide power supplies that will be required and make power connections to all active devices. DC power supplies feeding control, processing, and distribution components shall have less than 0.1 percent RMS ripple.
- E. Provide power strips and make 120VAC power connections so that all video equipment in system is powered from the same phase and likewise for all audio equipment.

3.2 GROUNDING

- A. Equipment and signal grounding shall be carefully accomplished to avoid electrical potential on metal surfaces as well as induced interference on signal lines. Bonding conductors shall be terminated with crimp-on lugs at the equipment bonding screw and soldered to the main ground conductor.
- B. Exposed metal surfaces shall be securely bonded to the equipment ground conductor of the power cord within each piece of equipment. The bonding point between equipment ground and signal ground in each piece of equipment shall be documented.
- C. The TMSC shall be familiar with the requirements and procedures for proper signal grounding within the system and within individual components. Signal ground shall be bonded to equipment ground at one (1) point or in a coordinated manner to avoid loops.
- D. Specialized RF ground shall be installed as indicated on Drawings or when required to remove RF signals from system signal circuits within equipment enclosures. Install a 25 mm (1 inch) braid main bus so as to intercept all enclosures and cabinets in system isolated from building and equipment grounds by mounting to nylon or PVC standoffs and running within PVC conduit.
- E. Install a 25 mm (1 inch) branch bus in each equipment enclosure or cabinet isolated in a similar manner. Bond the equipment and signal ground from each piece of equipment to the branch bus with 6 mm (1/4 inch) raid.
- F. Provide and install a single primary "system ground" point for each system. All grounding conductors shall connect to this primary system ground. The system shall consist of a removable grounding "strap", or other NEC approved grounding bus, that is connected to bare metal on the equipment rack.
- G. Provide and install a copper conductor, with a maximum total resistance of 0.1 Ohms. Connect the rack mounted grounding bus to the GSA provided grounding conductor, located at the equipment backboard, using NEC and ANSI/TIA/EIA 670 approved methodology.

END OF SECTION – POWER PROTECTION AND POWER STRIPS

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 Bras 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 or plastic system type as appropriate.
- 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 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 Lok-Tite or similar compound.
- C. 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.
- D. 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 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 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. RGBHV signal coaxial cables shall have 5 #25 solid bare copper center conductor, polyethylene insulation, aluminum foil shield of 100 percent coverage and tinned copper serve shield of at least 95 percent coverage with fire-resistant PVC jacket. Plenum cable, Belden #1279P or equal.
 - 2. 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.
 - 3. S-video signal cable shall be dual mini coax, #30 stranded tinned copper conductors, FEP conductor insulation, 98 percent coverage tinned copper braid shield, black PVC jacket. Plenum cable, Belden #7700A or equal.
 - 4. SDI signal cable shall have single #20 solid bare copper conductor, FFEP conductor insulation, aluminum foil shield of at least 95 percent coverage, and black PVC jacket unless color is otherwise noted. Plenum cable, Belden #1505A or equal.
 - 5. Low-Skew RGB Video UTP 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.
 - 6. 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.

- 7. 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.
- 8. 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.
- 9. Portable microphone cable shall have 4 conductors per channel, #24 stranded conductors of at least 40 tinned cadmium-copper fibers, rubber conductor insulation, 100 percent coverage wrap shield, tinned copper braid shield of approximately 50 percent coverage, fillers and over wrap to yield uniformly round form and brown EPDM rubber jacket. Cable shall be wired in star-quad noise isolation configuration. Canare L-4E6S or equal.
- 10. Constant voltage speaker cable shall have twisted pair #18 stranded tinned copper conductors, PVC conductor insulation, chrome PVC jacket. Plenum cable, Belden #89740 or equal.
- 11. Low impedance speaker cable, unless indicated otherwise on drawings, shall have twisted pair #12 stranded tinned copper conductors, PVC conductor insulation, chrome PVC jacket. Plenum cable, Belden #6000FE or equal.
- 12. RF signal coaxial (RG58/U) cables shall have #20 solid bare copper center conductor, 50 ohm, FEP Teflon insulation, tinned copper braid of at least 95 percent coverage and black FEP Teflon jacket unless color is otherwise noted. Plenum cable, Belden #88240 or equal.
- 13. 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.
- 14. 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*.
- 15. 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 hookand-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 printed heat shrink type only. 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. SDI video signal connectors shall be crimp-on type with insertion barrel and ferrule. Barrel shall provide full circumferential contact with the braid. Male fittings shall be sized to fit the cable. Kings Electronics Company Incorporated #2065-2-9 or equal. Female connectors shall be panel mount. Kings Electronics Company Incorporated #2065-9-9 or equal. Crimping and die tools shall be Kings Electronics Company Incorporated #2065-9-9 or equal. Crimping and die tools shall be Kings Electronics Company Incorporated #KTH-2261 with appropriate dies inserts or equal. Crimping tool shall be ratchet style and not release fitting until sleeve is fully crimped.
 - 3. 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.
 - 4. Phono (RCA) connectors shall have gold plated shafts and metal bodies, with metal spring strain relief. Canare #F-10 or equal.
 - 5. 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.
 - 6. 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.
 - 7. RF "F"type connectors shall be crimp-on type with attached ferrule. Ferrule shall be provided full circumferential contact with the braid. Fittings shall be sized to fit the cable as manufactured by Gilbert, or equal. Crimping tool shall make a hexagonal crimp and shall be approved by the manufacturer for use with the fittings.
 - 8. Multi-pin D shell data connectors shall have metal shell, gold flashed bronze sleeves or gold flashed brass pins with solder lugs, and internal strain relief. Amphenol or equal. D shell type connectors shall not use captive screws.
 - 9. 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.
 - 10. 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.
 - 11. 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.

- 12. 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.
- 13. 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.
- 14. 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.
- 15. 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.

2.5 TERMINATIONS

A. Provide specialized terminating hardware as required.

PART 3 - EXECUTION

3.1 QUALITY CONTROL

- A. Refer to Section 014300 "Quality Assurance" and Section 014500 "Quality Control" for general quality requirements.
- B. TMSC shall practice the highest industry standards in soldering, crimping, and other forms of installation and connection. Quality of Work shall be subject to approval by Owner or the Court's Representative acting as their agent.
- C. The project Electrical Contractor has provided and installed all metallic raceway, grounding, and permanent power for use under this contract. The TMSC shall coordinate with the contractor 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 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. <u>UTP bundles shall only be bound with hook-and-loop straps.</u>
- 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 Court shall remove and replace all existing carpet where it is installed over header duct, cell ducts and/or junction boxes. The TMSC shall remove sub-floor hatches, covers, and lids s needed to access cable pathways. Coordinate timing and access with Court personnel.
 - 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.
- I. In general, the signal groups shall be 1) coaxial-video and digital signals, 2) low level audio, 3) high level audio, and 4) control and power. The distinction between low and high level signal shall be based upon associated impedances and signal level, the division shall be made at one (1) or more points to avoid any crosstalk or feedback. See Section 271100 for specific requirements inside racks and cabinets.

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 ROUTERS

- A. Data:
 - 1. Provide fully functional data routers and or switchers indicated for routing of data for LAN type communications and/or AVB and/or CobraNet interconnectivity.
 - 2. Locate routers and/or switchers within equipment racks.
 - 3. Provide all other miscellaneous plates, wiring, etc. for a complete and operational system.

PART 3 - EXECUTION

3.1 TESTING

A. Test data switches and serial data distribution systems with Court IT Personnel present having them assist where needed

END OF SECTION – DATA COMMUNICATIONS EQUIPMENT

SECTION 27 22 19 – DATA COMMUNICATIONS COMPUTERS & SERVERS

SECTION 272219 - DATA COMMUNICATIONS COMPUTERS & SERVERS

PART 1 - GENERAL (NOT USED)

PART 2 - PRODUCTS

- 2.1 PROCESSOR AND MAIN PC HOUSING
 - A. Provided by Court.

2.2 DISK STORAGE

A. Provided by Court.

2.3 MEMORY

A. Provided by Court

2.4 CD / DVD DEVICES

A. Provided by Court.

2.5 NETWORK INTERFACE CARDS

A. Provided by Court.

2.6 KEYBOARD AND MOUSE

A. Provided by Court.

2.7 OPERATION SYSTEM / LICENSES

A. Provided by Court.

2.8 VIDEO CARD INTERFACES

A. Provided by Court.

2.9 OTHER

A. See Schedule A - EQUIPMENT LIST/INFORMATION

PART 3 - EXECUTION (NOT USED)

END OF SECTION - DATA COMMUNICATIONS COMPUTERS & SERVERS

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 program utilities and drivers necessary to transfer the software settings or programs to each respective pieces of equipment. Software used for programming does <u>not</u> have to be turned over to the Court. Complete documentation for the software shall be provided as well as the CD-ROM which 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 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.

PART 3 - EXECUTION

3.1 AUDIO SYSTEMS

- A. The audio system is to retain is existing function and upgraded to match functions with the video system found in Courtroom 8W.
- B. It is critical that the TMSC review the existing systems for proper function and bring any issues that may be found to the attention of the Court at once before proceeding with additional work.

3.2 VIDEO EVIDENCE PRESENTATION 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.
 - 2. Provide full video functionality to match Courtroom 8W.
 - Provide and install all video input and output connector plates, and multiple audio, video, and control connectors in floorboxes, wall, and other junction plates. Provide and install wiring in floorboxes and receptacles as shown for RGBHV/RGBS (D15HD/BNC), HDMI, DVI, SDI, HD-SDI, RS-232, NTSC (BNC), and SVHS. Provide extension cables and breakout/concentrator cable harnesses as required for a complete system.

3.3 CONTROL SYSTEMS

- A. Configure the control system in the courtroom for the following functions to comply with the overall design intent.
 - 1. The TMSC shall provide all updated programming of control system and panel layouts. Programming shall include use of graphics and icons for ease of use by Owner and match the 8W courtroom. Control panels shall be based on examples shown in Schedule C but shall be submitted and revised for exact Courtroom conditions that may have been revised since the project in 8W was last documented.
 - 2. 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.

- 3. 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.
- 4. 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 a low resolution.
- B. Acceptance of the Control System(s) shall be based on two criteria:
 - 1. <u>Substantial Completion</u>: Providing inspections of control systems DO NOT necessarily define the system as Substantially Complete. Inspection Reports provided by the Court's Representative 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, to determine if the Control Systems' functions meet the Substantial Completion's required functionality.
 - 2. <u>Meeting Final Acceptance</u>: 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. Also, 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

SCHEDULE A – EQUIPMENT LIST/INFORMATION

PLEASE SEE ATTACHED

RECOMMENDED BRANDS AND MODELS WITH APPROXIMATE QUANTITIES

CLIN Item Make/Model or Equivalent		Make/Model or Equivalent	Qty	
1000	EQUIPMENT/MATERIAL			
Base E	Bid			
	Systems			
	oom 7W			
	oom Audio System Control & Power Functional Requ		1	
1001	Programming, Control systems	Crestron Electronics N/A		
1002	Receiver, TP to USB	Extron Electronics USB Extender RX (60-871- 72)		
1003	Revisions, Number of control system and control panel programming	Custom Labor		
1004	Transmitter, USB to TP	Extron Electronics USB Extender Tx (60-871- 62)		
Plate #	54 * Refer to drawing T.CRA.P.54.01			
1005	Plate - See Drawings for Details	Custom N/A	2	
Rack E	levation * Refer to drawing T.CRA.R.25.01	1		
1006	Labor, Install new equipment into existing rack onsite	Custom N/A	1	
ourtr	oom Video Argument Presentation System Functiona	Requirements * Refer to drawing T.CRA.V.2	5.0	
1007	Amplifier, 1x2 HDMI distribution	Crestron Electronics HD-DA-2		
1008	Annotator, 7 input scaling switcher with DVI-D output presentation	Extron Electronics Annotator DI/DVI (60-968- 12)	1	
1008 1009	presentation		1	
1009	presentation	12)	1	
1009	presentation Cables, Connectors, active signals and Card, DM Router 2-Channel HDMI output	12) Miscellaneous Various Materials and Labor	1	
1009 1010 1011	presentation Cables, Connectors, active signals and Card, DM Router 2-Channel HDMI output	12) Miscellaneous Various Materials and Labor Crestron Electronics DMC-4K-HDO	1 1 7	
1009 1010 1011	presentation Cables, Connectors, active signals and Card, DM Router 2-Channel HDMI output Card, DM router 2-Channel TP output Card, DM Router DVI/VGA input	12) Miscellaneous Various Materials and Labor Crestron Electronics DMC-4K-HDO Crestron Electronics DMC-4K-CO-HD	1 1 7 2	
1009 1010 1011 1012	presentation Cables, Connectors, active signals and Card, DM Router 2-Channel HDMI output Card, DM router 2-Channel TP output Card, DM Router DVI/VGA input Card, DM Router TP/Downmixing input	12) Miscellaneous Various Materials and Labor Crestron Electronics DMC-4K-HDO Crestron Electronics DMC-4K-CO-HD Crestron Electronics DMC-DVI		
1009 1010 1011 1012 1013	presentation Cables, Connectors, active signals and Card, DM Router 2-Channel HDMI output Card, DM router 2-Channel TP output Card, DM Router DVI/VGA input Card, DM Router TP/Downmixing input	12) Miscellaneous Various Materials and Labor Crestron Electronics DMC-4K-HDO Crestron Electronics DMC-4K-CO-HD Crestron Electronics DMC-DVI Crestron Electronics DMC-C-DSP	1 1 7 2 1	
1009 1010 1011 1012 1013 1014 1015	presentationCables, Connectors, active signals andCard, DM Router 2-Channel HDMI outputCard, DM router 2-Channel TP outputCard, DM Router DVI/VGA inputCard, DM Router TP/Downmixing inputCart, Large flat panel tube-style displayDisplay, 55" 1920x1080 RS-232 controlled LED flat	12) Miscellaneous Various Materials and Labor Crestron Electronics DMC-4K-HDO Crestron Electronics DMC-4K-CO-HD Crestron Electronics DMC-DVI Crestron Electronics DMC-C-DSP Chief Manufacturing Inc. PPC2000	1 1 7 2 10 2	
1009 1010 1011 1012 1013 1014 1015	presentationCables, Connectors, active signals andCard, DM Router 2-Channel HDMI outputCard, DM router 2-Channel TP outputCard, DM Router DVI/VGA inputCard, DM Router TP/Downmixing inputCart, Large flat panel tube-style displayDisplay, 55" 1920x1080 RS-232 controlled LED flat panel	12) Miscellaneous Various Materials and Labor Crestron Electronics DMC-4K-HDO Crestron Electronics DMC-4K-CO-HD Crestron Electronics DMC-DVI Crestron Electronics DMC-C-DSP Chief Manufacturing Inc. PPC2000 Samsung ED55D	1 7 2 2 1 1 2 2	

RECOMMENDED BRANDS AND MODELS WITH APPROXIMATE QUANTITIES

CLIN	Item	Make/Model or Equivalent	
1019	Mount, Black single pivot LCD monitor	Ergotron, Inc. 47-092-800	3
1020	Mount, Universal large flat panel display bracket	Chief Manufacturing Inc. PSBUB CeLabs MP500-T Crestron Electronics DM-RMC-4K-100-C	
1021	Player, HD real-time media		
1022	Receiver, DigitalMedia 4K/8G and room controller 100		
1023	23 Strip, 6 Outlet surge protected line noise protection power TrippLite ISOBAR6ULTRA		1
1024	Transmitter, DigitalMedia 8G STP	Crestron Electronics DM-TX-201-C	

Video Systems

This equipment is located: Courtroom 7W

T.CRA.D.25.01

1001 Programming, Control systems

This equipment is shown on drawing:

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:

1002 Receiver, TP to USB

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

Recommended Equipment Extron Electronics USB Extender RX (60-871-72) **or Equivalent:**

1003 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:

1004 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 Tx (60-871-62) **or Equivalent:**

This equipment is shown on drawing:

T.CRA.P.54.01

1005 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: T.CRA.R.25.01

1006 Labor, Install new equipment into existing rack onsite

Provide labor to remove some existing equipment and install new equipment into existing rack with CFE during the onsite installation. Rework existing wiring and add new cables as indicated. Re-terminate as necessary to interface with new equipment. Turn over all removed equipment to the Court. Provide all mounting hardware and accessories as required under this CLIN. See drawing for exact requirements.

Recommended Equipment Custom N/A or Equivalent:

This equipment is shown on drawing:

T.CRA.V.25.01

1007 Amplifier, 1x2 HDMI distribution

Provide and install video distribution amplifier as indicated on drawings.

Recommended Equipment Crestron Electronics HD-DA-2 or Equivalent:

1008 Annotator, 7 input scaling switcher with DVI-D output presentation

Provide and install presentation switcher/annotation processor in equipment rack as indicated on drawings. Wire according to functional drawings. Program per specifications. Provide all necessary adaptors, mounting hardware (if not included), and wire management as required for complete installation.

Recommended Equipment Extron Electronics Annotator DI/DVI (60-968-12) or Equivalent:

1009 Cables, Connectors, active signals and

This CLIN shall be used to provide all remaining miscellaneous materials that may not be specified but still necessary for the TMSC to provide a complete and optional system per the Design Intent. Where specific items are not listed, provide additional materials under the bid item. These shall include, but not be limited to, mounting brackets, shims, blocking, washers, screws, nuts, tie wraps, lacing straps, lashings, cable covers, extension cords, power strips, power splitters, rack extension brackets, light duty raceways, light duty raceway accessories, hook and loop fasteners, power supplies, lamps, relays, switches, connectors, connector hardware and pins, bulkhead and millwork/furniture mounts, captive connector adapters, connector clips, filler panels, vent panels security panels, rack lids, caster bases, mount panels, mountings shelves keysets, spare lamps and fuses, spare filters, labels, label making materials, etc.

Recommended Equipment Miscellaneous Various Materials and Labor or Equivalent:

1010 Card, DM Router 2-Channel HDMI output

Provide and install output card in video router as shown on drawings.

Recommended Equipment Crestron Electronics DMC-4K-HDO or Equivalent:

1011 Card, DM router 2-Channel TP output

Provide and install input card in video router as shown on drawings.

Recommended Equipment Crestron Electronics DMC-4K-CO-HD or Equivalent:

1012 Card, DM Router DVI/VGA input

Provide and install input card in video router as shown on drawings.

Recommended Equipment Crestron Electronics DMC-DVI or Equivalent:

1013 Card, DM Router TP/Downmixing input

Provide and install output card in video router as shown on drawings.

Recommended Equipment Crestron Electronics DMC-C-DSP or Equivalent:

1014 Cart, Large flat panel tube-style display

Provide and install monitor cart for evidence presentation monitor as indicated on drawings. 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:

1015 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:

1016 Frame, 16x16 DM empty router

Provide and install video system router in main equipment rack as indicated on drawings. Configure per the specifications and manufacturer's written instructions.

Recommended Equipment Crestron Electronics DM-MD1616 or Equivalent:

1017 Labels, Set of annotation monitor function

Provide set of three (3) 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:

1018 Monitor, Black 21.5" 1920x1080 16:9 USB touchscreen

Provide and install touch sensitive flat screen monitor(s) at location indicated. Monitor shall have serial interface for control from annotation system. Verify that dual USB/serial interface is included PRIOR to ordering. Where indicated, remove factory bases and affix 3rd party bases and/or mounts as specified. Turn over factory bases to tenant. Adjust monitor for proper display and store setting into memory. Disable OSD on monitor. Connect data cable to monitor and route to annotation system and program for use with that system.

Recommended Equipment Hewlett-Packard L2206tm or Equivalent:

1019 Mount, Black single pivot LCD monitor One (1)

Provide and install monitor mounting adapter. Two (2) mounts are to be installed at the Witness location. One (1) mount is to be installed at the Lectern. The two mounts at the witness location are to be installed at 180 degrees to such the flat plates are facing each other. Verify proper VESA mounting specification prior to ordering monitor or mount. Remove OEM mount and turn over to Court for storage.

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

1020 Mount, Universal large flat panel display bracket

Provide and install interface bracket for monitor on portable carts. Verify proper part number for cart and monitor provided prior to ordering. Install per manufacturer's instructions.

Recommended Equipment Chief Manufacturing Inc. PSBUB or Equivalent:

1021 Player, HD real-time media

Provide and install graphic store. Provide logo image at direction of court and load into system to be called during video mute and for other "black" sources.

Recommended Equipment CeLabs MP500-T or Equivalent:

1022 Receiver, DigitalMedia 4K/8G and room controller 100

Provide and install STP receiver in location as shown in drawings. Provide all mounts and accessories as required. Provide wire management as necessary and mount in an inconspicuous manner.

Recommended Equipment Crestron Electronics DM-RMC-4K-100-C or Equivalent:

1023 Strip, 6 Outlet surge protected line noise protection power

Provide and install power strip with surge suppression at location required. Power strip shall have minimum of 6 outlets and a 12 foot power cord and shall plug directly to floor power provided. Mount power strip with screws securely to table at locations directed by court. Connect power supplies for attorney table equipment to power strip.

Recommended Equipment TrippLite ISOBAR6ULTRA or Equivalent:

1024 Transmitter, DigitalMedia 8G STP

Provide and install STP transmitter in location as shown in drawings. Provide all mounts and accessories as required. Provide wire management as necessary and mount in an inconspicuous manner.

Recommended Equipment Crestron Electronics DM-TX-201-C or Equivalent:

PLEASE SEE ATTACHED

Video System Upgrade United States Bankruptcy Court, Minneapolis, MN DESIGN REPORT

United States Bankruptcy Court, Minneapolis, MN Schedule B

August 20, 2015 The bidder is wholly responsible for all amounts and totals provided

The blader is wholly respons	sible for all amounts and totals provided	Qty	Unit Bid	Total Bid
9 Bid o Systems				
rtroom 7W				
rtroom Audio System Control & Power Functional Requirements * Refer to	o drawing T.CRA.D.25.01			
1001 Programming, Control systems	Crestron Electronics N/A	1	\$0.00 \$	-
1002 Receiver, TP to USB	Extron Electronics USB Extender RX (60-871-72)	3	\$0.00 \$	-
1003 Revisions, Number of control system and control panel programming	Custom Labor	2	\$0.00 \$	-
1004 Transmitter, USB to TP e #54 * Refer to drawing T.CRA.P.54.01	Extron Electronics USB Extender Tx (60-871-62)	3	\$0.00 \$	-
1005 Plate - See Drawings for Details k Elevation * Refer to drawing T.CRA.R.25.01	Custom N/A	2	\$0.00 \$	-
1006 Labor, Install new equipment into existing rack onsite rtroom Video Argument Presentation System Functional Requirements * F	Custom N/A Refer to drawing T.CRA.V.25.01	1	\$0.00 \$	-
1007 Amplifier, 1x2 HDMI distribution	Crestron Electronics HD-DA-2	1	\$0.00 \$	-
1008 Annotator, 7 input scaling switcher with DVI-D output presentation	Extron Electronics Annotator DI/DVI (60-968-12)	1	\$0.00 \$	-
1009 Cables, Connectors, active signals and	Miscellaneous Various Materials and Labor	1	\$0.00 \$	-
1010 Card, DM Router 2-Channel HDMI output	Crestron Electronics DMC-4K-HDO	1	\$0.00 \$	-
1011 Card, DM router 2-Channel TP output	Crestron Electronics DMC-4K-CO-HD	7	\$0.00 \$	-
1012 Card, DM Router DVI/VGA input	Crestron Electronics DMC-DVI	2	\$0.00 \$	-
1013 Card, DM Router TP/Downmixing input	Crestron Electronics DMC-C-DSP	10	\$0.00 \$	-
1014 Cart, Large flat panel tube-style display	Chief Manufacturing Inc. PPC2000	2	\$0.00 \$	
1015 Display, 55" 1920x1080 RS-232 controlled LED flat panel	Samsung ED55D	2	\$0.00 \$	
1016 Frame, 16x16 DM empty router	Crestron Electronics DM-MD1616	1	\$0.00 \$	
1017 Labels, Set of annotation monitor function	Custom Custom	3	\$0.00 \$	-
1018 Monitor, Black 21.5" 1920x1080 16:9 USB touchscreen	Hewlett-Packard L2206tm	11	\$0.00 \$	-
1019 Mount, Black single pivot LCD monitor	Ergotron, Inc. 47-092-800	<mark>₂</mark> 2	\$0.00 \$	
1020 Mount, Universal large flat panel display bracket	Chief Manufacturing Inc. PSBUB	2	\$0.00 \$	
1021 Player, HD real-time media	CeLabs MP500-T	1	\$0.00 \$	
1022 Receiver, DigitalMedia 4K/8G and room controller 100	Crestron Electronics DM-RMC-4K-100-C	13	\$0.00 \$	
1023 Strip, 6 Outlet surge protected line noise protection power	TrippLite ISOBAR6ULTRA	1	\$0.00 \$	
1023 Supp, o Salet Singe processes me house processes power	Crestron Electronics DM-TX-201-C	8	\$0.00 \$	
GRAND TOTAL (Base Bid, CFE and all Options) SYSTEMS SUMMARY	Crestion Electionics Divi-1X-201-C	8	\$0.00 \$	-
2000 BASE SYSTEM				
2001 Total Equipment/Material			\$	
2002 Total Programming, Wiring, Installation, and Misc. Labor and 1st	Year Warranty			\$0
3000 PER DIEM				
3001 Fixed Price Line Item for Travel 3002 Number of Trips x Cost per Trip				\$0
TOTAL PRICE FOR SYSTEM				\$0 \$0
				ŞI
4000 OPTIONAL MAINTENANCE		_		
4001 Total Optional Maintenance Year 2			Warranty	\$0
4002 Total Optional Maintenance Year 3			Warranty	\$0
5000 HOURLY CHARGES				

ATTACHED ARE RECOMMENDED CONTROL PANEL LAYOUTS.

NOTE THAT THESE ARE TO BE USED FOR A REFERENCE FOR THE TMSC TO DEVELOP A BID. THE COURT OWNS THE FILES FOR THE PREVIOUS COURTROOM UPGRADES AND THESE WILL BE TURNED OVER TO THE WINNING BIDDER AFTER AWARD FOR THEIR USE.

THE INDICATIONS AND FUNCTIONS SHOWN IN THESE PANEL EXAMPLES, WHILE MATCHING THE PREVIOUS UPGRADE PROJECT, MAY NOT TAKE PRECEDENT OVER ACTUAL PROJECT REQUIREMENTS AS THEY ARE DEVELOPED DURING THE SYSTEM ENGINEERING PHASE.

REVISIONS TO THE CONFIGURATION FOR THIS PROJECT ARE REQUIRED UNDER THIS CONTRACT WITHOUT ADDITIONAL COST TO THE PROJECT.

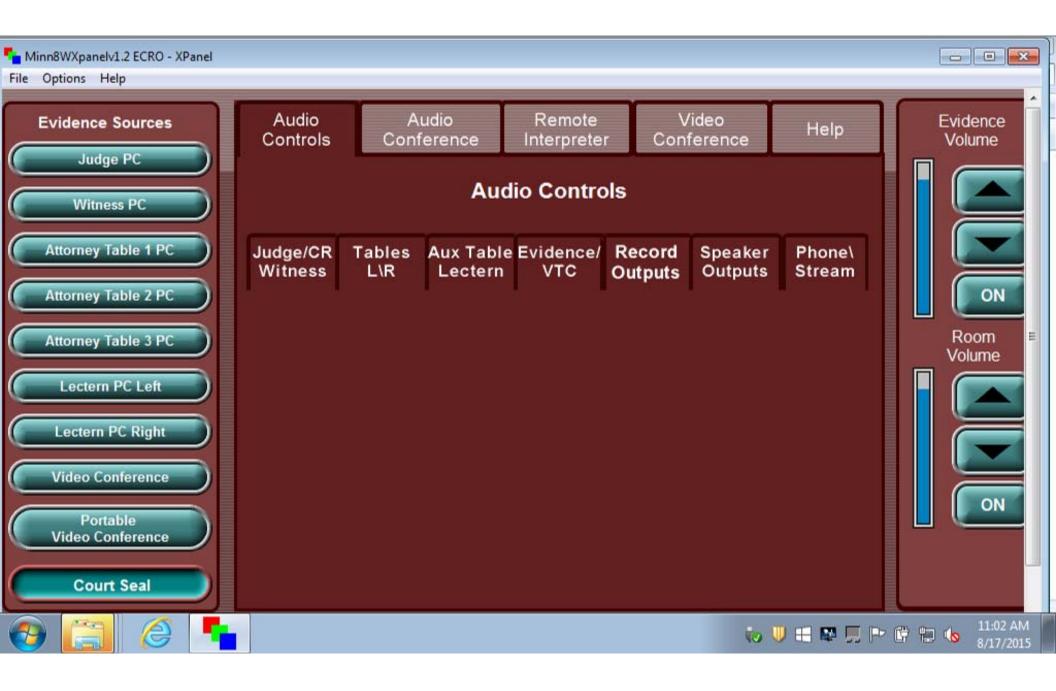
United States Courthouse Bankruptcy 8W Minneapolis

> Press for System Power ON

Push Buttons At Bench can also be used To Start/Stop the System They must be held for 3 Seconds



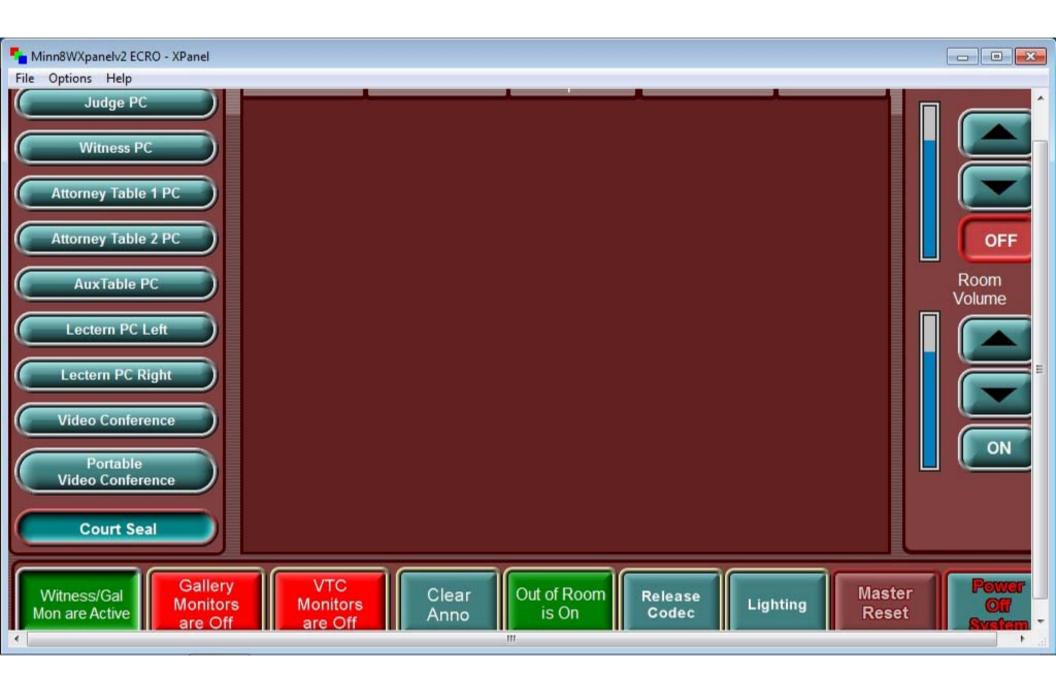
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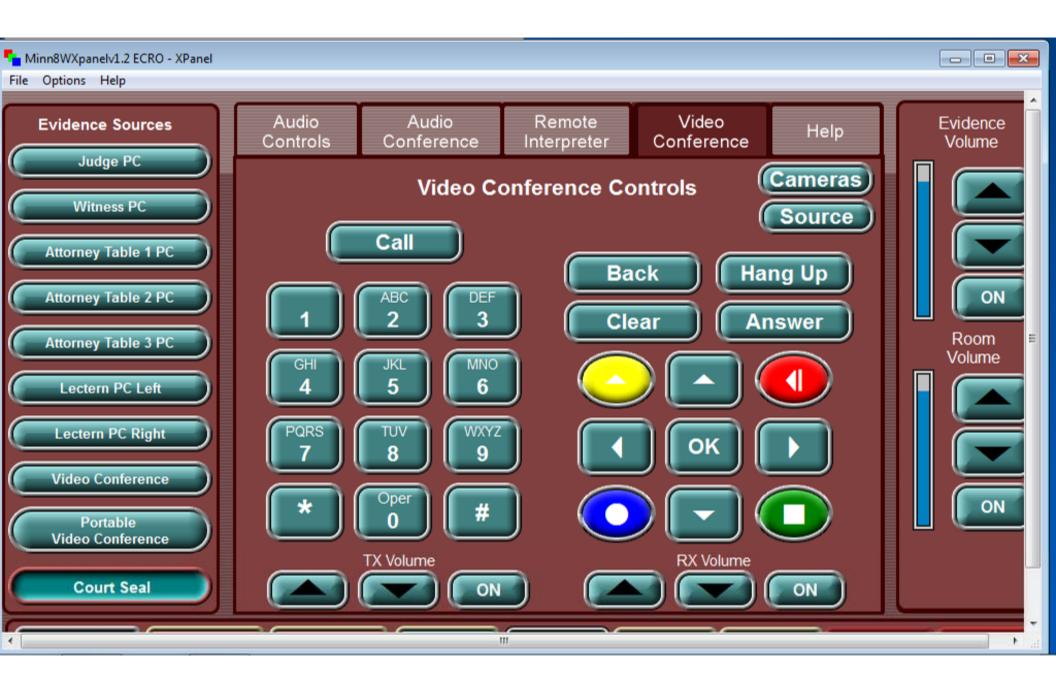












PLEASE SEE ATTACHED

Video System Upgrade United States Bankruptcy Court, Minneapolis, MN DESIGN REPORT

Schedule D August 20, 2015

General Drawing Notes	Functional Requirements 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"Corponents for a complete working system.Get specifications for additional information.All dimensions and measurements are in millimeters unless indicated otherwise.Metric to English conversion: 25.4mm = 1"Corponents for a conduit SizesMillimeterInch161/26327191351-1/41034411-1/211295532155653	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			
Symbol Schedule Notes	Plate Details 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.	 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:No ScalePROJECT TITLE:DRAWN BY:RJW/jdsUnited States CourthoDATE:20 AUG 2015Minneapolis, Minneso	Specifications and Design Intent Floor and			

KEYED NOTES:

Existing display board to remain.

Existing portable Video Conferencing system, mounted on cart, to be reused.

1 2 3 New Presentation Lectern. TMSC to provide AV connection plates (one on each side with identical connections), and evidence/annotation display. Field verify all cut outs/mounting locations PRIOR to installation.

 $\langle 4 \rangle$ Gallery monitor cart (provided by TMSC). Provide 8 meter umbilical from nearest floor pocket.

PROJECT TITLE: No Scale

RJW/jds DRAWN BY: 20 AUG 2015 DATE:

SCALE:

United States Courthouse Minneapolis, Minnesota

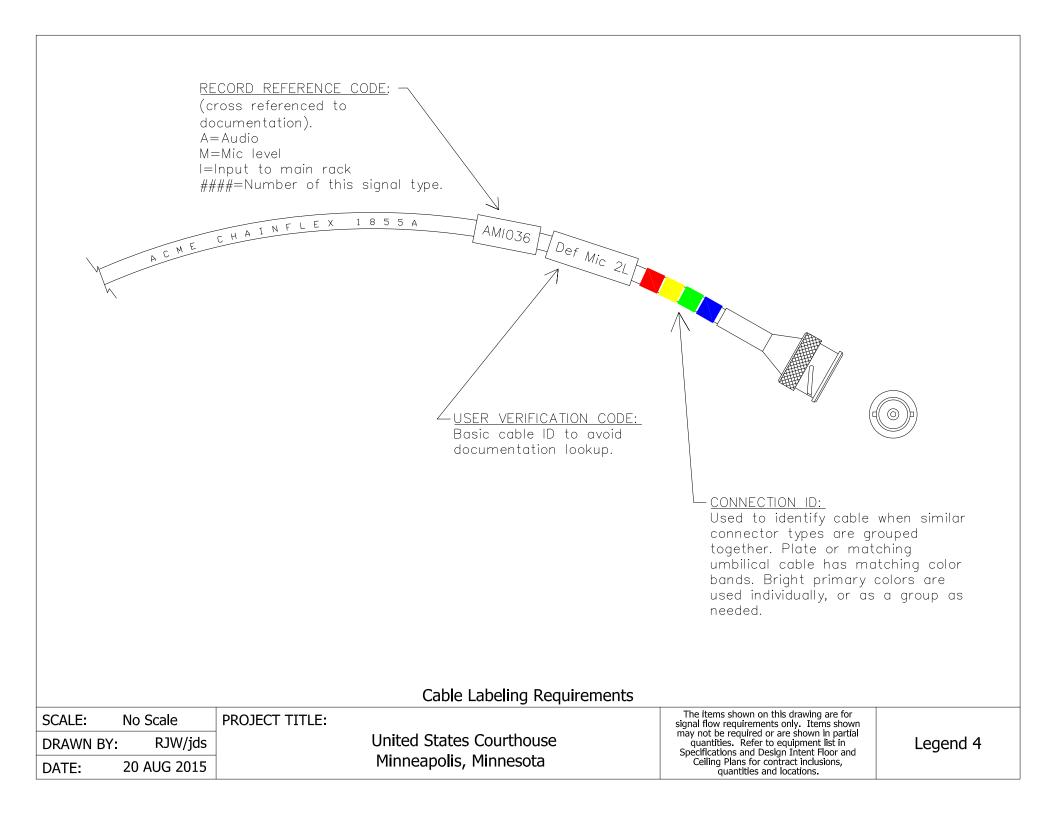
The items shown on this drawing are for signal flow requirements only. Items shown may not be required or are shown in partial quantities. Refer to equipment list in Specifications and Design Intent Floor and Ceiling Plans for contract inclusions, quantities and locations.

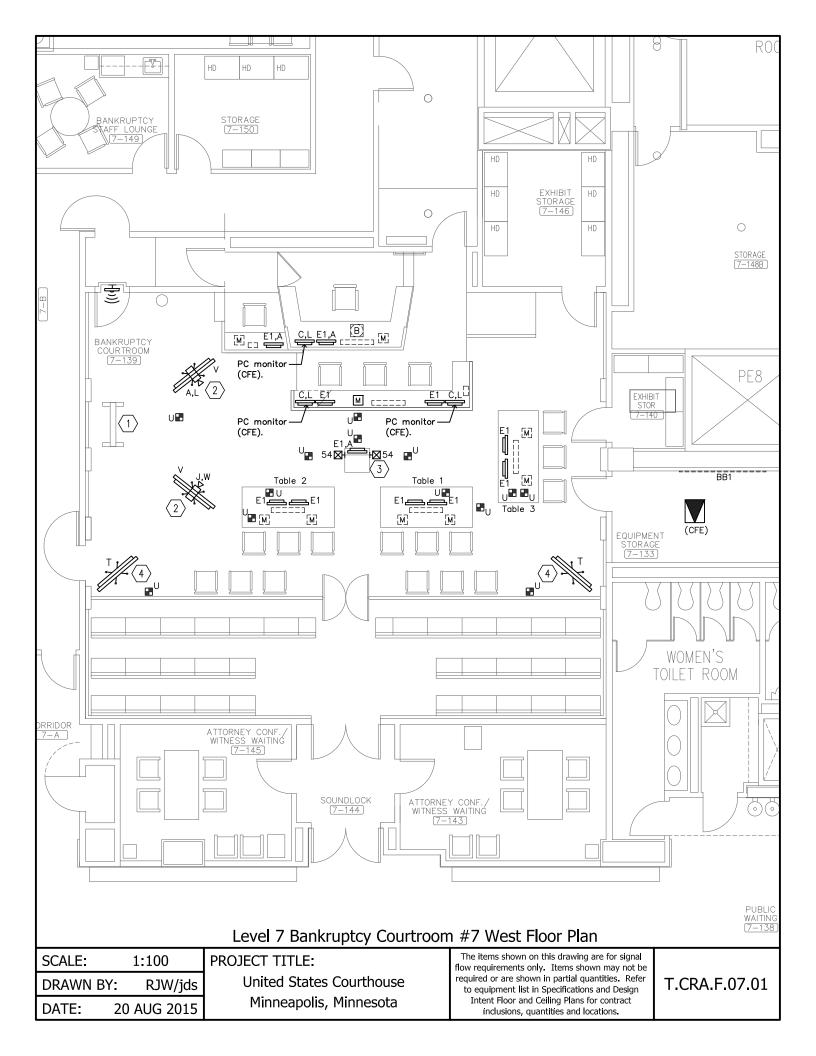
Keyed Notes

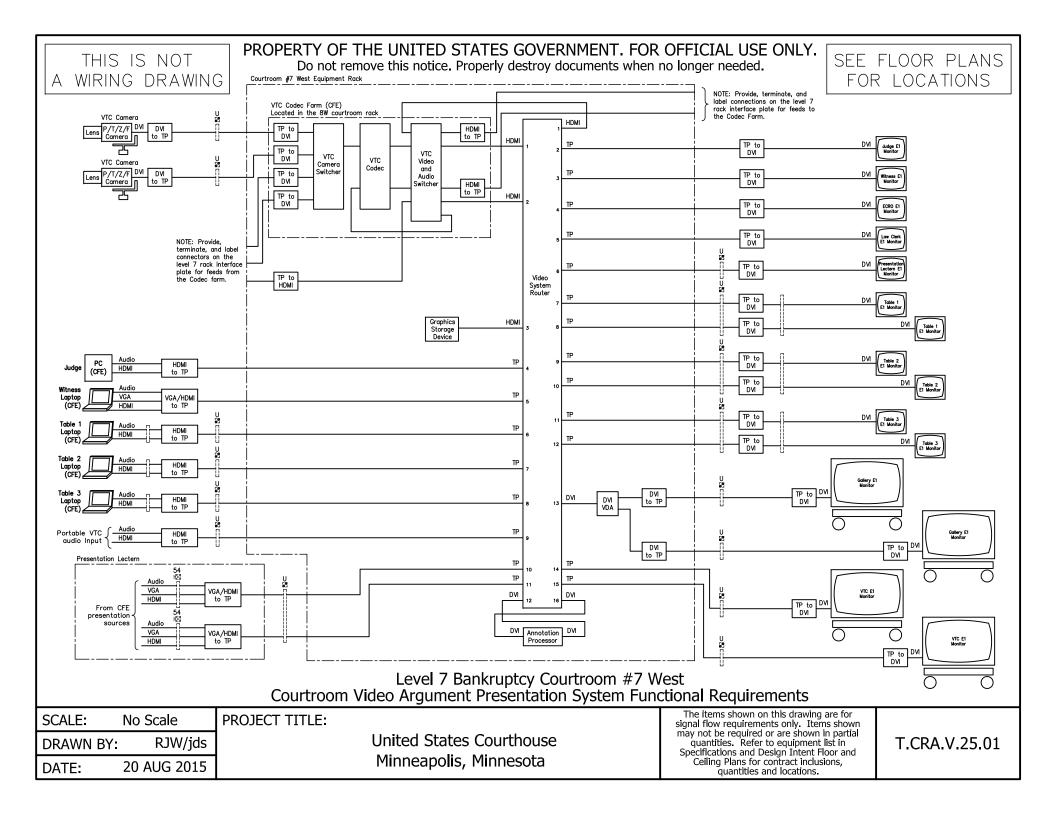
	Floor Plan & Reflected Ceiling Plan Symbol Legend						
	Symbol	Description	Mounting Requirements		Notes		
	�(#)	Poke Thru	Install connectors inside box				
L.	₽(#)	Activated Floor Box	Install connectors inside box — Split between L.V. partitions	B Backbox	drawings for service requirements at each loc		
Signal Distribution	Η⊠(#)	Wall Plate Connections	Double-gang plate flush in wall Unless otherwise specified	C Under carpet connection point, under carpet wiring, adapt connections as needed E Existing J-box or floorbox M Multipin quick-release connector P Poke through style wiring device, adapt plates and connections as needed U Provide with umbilicals and/or cable whips only			
Signal	(#)	Table Plate	Near working surface of furniture Above/below tabletop in special housing				
		Interface Panel	Rack Mount — Front and/or Rear				
	⊕#,#/#	Cabling Harness with Whip End	Anchor cabling harness in access floor space at location indicated.	#,# Indicates A/V conector(s) on whip end, see cabling chart for connector type. /# indicates cable whip length in meters beyond anchor point.			
Signal Control	₩(#)	Plate with control or indicators	Plate flush at height specified	(#) See plate drawings for service requirements at each location			
Loudspeakers	(S) ^x	Loudspeaker	Mounted at ceiling	A Amplifier/Lo	X Any combination below A Amplifier/Loudspeaker combination B Bracket mount		
	HSX	Loudspeaker	Mounted at wall	C Cobranet lou D Surface mou	C Cobranet loudspeaker D Surface mount loudspeaker		
	SX	Loudspeaker	Mounted at horizontal surface of casework/millwork	E Existing loudspeaker to be reused F Flush mount loudspeaker H Provide with headphone connection M Masking sound on loudspeaker P Paging loudspeaker S Courtroom sound on loudspeaker			
Louds	HSX	Loudspeaker	Mounted at vertical surface of casework/millwork				
	<u> </u>	Loudspeaker	Mounted at vertical surface of casework/millwork	T Tamper-resistant loudspeaker Z Zone for mix			
Listening Assistance & 2nd Language	[ŀ))]	IR Emitter	Flush mounted inside enclosed wall cavity	Use provided infrastructure			
Listenir & 2n	н∳)))	IR Emitter	Surface mounted in cavity, on wall or ceiling				
Equipment Room	front	Equipment Rack(s)	Equipment rack (casters where required)				
Equipr Roo	BBxx	Equipment Backboard	Fire resistant plywood (by others)	Hook up to telephone lines, multimedia backbone, etc. from this location. BBxx Backboard designation number		this location.	
SCAL	_E: No	o Scale	PROJECT TITLE:		The items shown on this drawing are for signal flow requirements only. Items shown		
DRA	DRAWN BY: RJW/jds				may not be required or are shown in partial quantities. Refer to equipment list in Specifications and Design Intent Floor and	Legend 1	
DATE: 20 AUG 2015		AUG 2015	5 Minneapolis, Mi	Innesota	Ceiling Plans for contract inclusions, quantities and locations.		

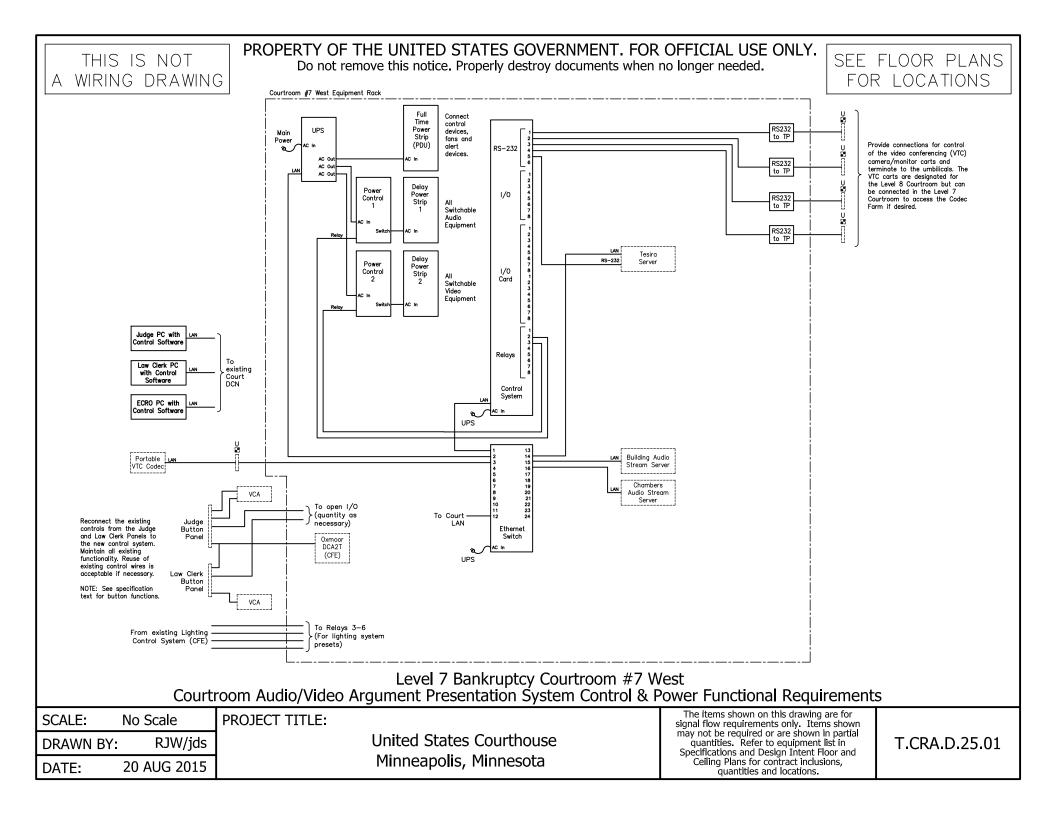
	Floor Plan & Reflected Ceiling Plan Symbol Legend						
	Symbol	Description	Mounting Requirements	Notes			
Witness Box	Not Shown	Camera Target Area	None	X Any combination below			
	οX	Zoom/focus Camera	Inside ceiling cavity	B Bracket mounted C Ceiling mounted D Desktop			
		Table Top Document Camera	Provide custom mounting arm	F Flush in ceiling S Surface mounted			
Portable Argument Presentation Carts	CART A	Cart 'A', contains evidence presentation tools	- Portable	 (#) See plate drawings for service requirements at each location All miscellaneous processors, switchers and converters to be inside of cart. Provide multi-cable "umbilicals" 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					
	CART B	Cart 'B'	Portable				
		Additional positions for single cart B					
Microphones	M ×	Fixed Base Microphone	Permanently mounted	X Any combination below			
	M×	Movable Base Microphone	Plugs into millwork jack or wall plate	A Array type (AKA Burrito) B Bench Conference			
) B X	Boundary microphone	Portable or Mounted	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			
	M	Overhead Microphone	Hanging/Drop-down from ceiling. Provide hollow threaded lamp base wiring sleeve with washers and nut in color to match ceiling.				
	Ĺ	Lavalier Microphone	Provide 3 meters of extension cable & a hook for stowage under countertop.				
down ck	нДх	Countdown timer clock	Mounted at vertical surface of wall/casework/millwork	X Any combination below B Bracket mount D Surface mount			
Countdown Clock	Tx	Countdown timer clock	Mounted at horizontal surface of casework/millwork	F Flush mount P Partially recessed			
DRA	SCALE: No Scale PROJECT TITLE: DRAWN BY: RJW/jds United States Courthouse The items shown on this drawing are for signal flow requirements only. Items shown in partial quantities. Refer to equipment list in Specifications and Design Intent Floor and Ceiling Plans for contract inclusions, quantities and locations. Legend 2						

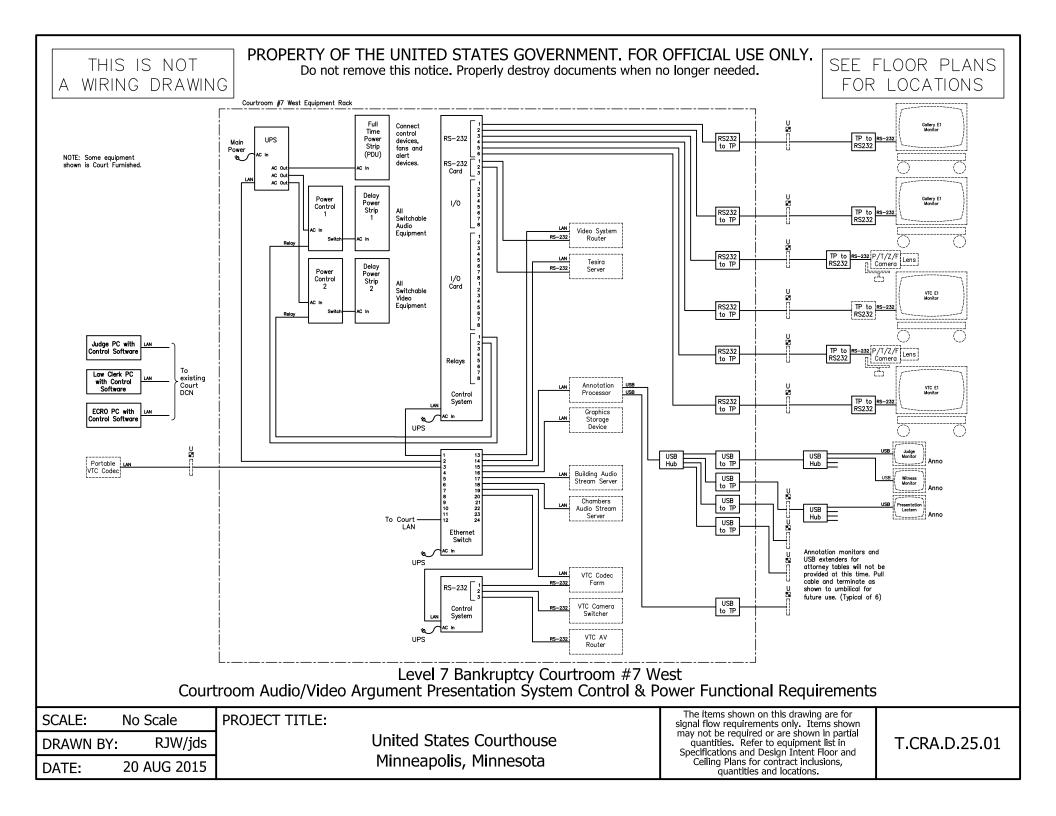
	Floor Plan & Reflected Ceiling Plan Symbol Legend								
	Symbol	De	scription	Mounting Requirements		Notes	6		
ses	TP	Control Touc	h Screen	Desktop or flush mounted					
Control Devices	₩ X	Built—in or fi control devic		Flush in counter top or in stand—alone backbox		e all wiring back to equipment backboard through conduit or pathway pro X Any combination below A Attorney control B Bailiff control			
	PC	PC		CFE or location shown (shown provided)	C Clerk control D Deputy control F Flush mount I Interpreter main control J Judge control O OFE/CFE P Prisoner intercom				
ses	٦	Laptop		CFE or location shown (shown CFE)					
Devices	Цv	Video Image	Printer	Shelf below Clerk/Courtroom Deputy's desk	R Court Reporter control S Router control switch T Timer control				
	∃⊡R	4-channel To	ape Recorder	Shelf below Clerk/Courtroom Deputy's desk					
	⊡ =P	Audio Casset	te Player	Shelf below Clerk/Courtroom Deputy's desk		V Volume control			
	X	Flat Screen I	Monitor	Recessed into casework					
δ	Ξх	Flat Screen I	Monitor	Desktop model	-				
Display Monitors	шx	Flat Screen I	Monitor	Wall mount bracket	X Any combination below A Annotation input monitor M With		M With sour	ound masking	
	шx	Flat Screen I	Monitor	On Portable Cart (provide umbilical)	B Bracket mou C Control com	unt	N NTSC Bas P Post mou	seband Int	
	x	Display Monit	or	In recessed cavity	D Dual input E Near or far camera view F Flush mount	-	S With cour	nonitor I angle overlay troom sound main control panel to	
ection		Video/Data F	Projector	Positioned inside cavity	H Cell display monitor with program audio show evidence or peop		show evid V Video con	idence or people cameras onference remote people only	
Video Projection	-	Video/Data F	Projector	On ceiling pipe mount					
Vid		Projection Sc	creen	Low voltage control wiring only	Adjust stops under this contract for best p		pest picture		
	⊡⊲ X	Pan/tilt/zoor	m/focus Camera	Surface mounted on wall or soffit	X Any combination below A Camera focus on Attorney				
Camera Coverage		Pan/tilt/zoor	m/focus Camera	Surface mounted inside cavity	B Provide physical view barrier as req'd so that no J Camera focus on Judge L Camera focus on Lectern W Camera focus on Witness		shots of jurors are possible		
		U.S. Marshal'	s Camera	Provided & installed by U.S. Marshal	Not in this contract. Shown for informational & coordination purposes only.		mational		
DRA	SCALE:No ScalePROJECT TITLE:DRAWN BY:RJW/jdsUnited States CourthouseDATE:20 AUG 2015Minneapolis, Minnesota				The items shown on this draw signal flow requirements only. I may not be required or are sho quantities. Refer to equipm Specifications and Design Inter Ceiling Plans for contract in quantities and location	Items shown wn in partial ent list in nt Floor and clusions,	Legend 3		

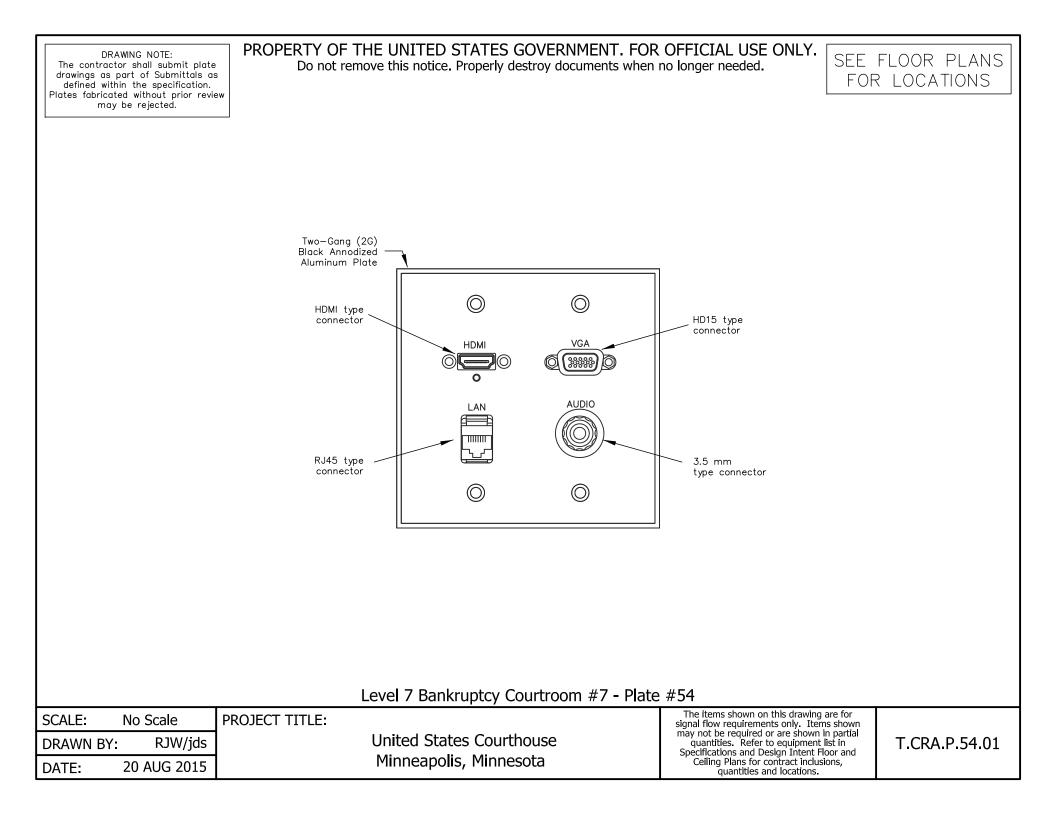












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SEE FLOOR PLANS

FOR LOCATIO	NS
Power Strip 46 RU Sennheiser 45 RU Blank 44 RU Bi-Amp Tesira 42 RU Blank 41 RU Blank 40 RU Barix 39 RU Behringer Headphone Amp 37 RU	
Blank 36 RU Crestron Pro 35 RU Blank 33 RU DVI to TP(s) 32 RU Media Player Blank Blank 30 RU Blank 30 RU Blank 30 RU Blank 29 RU Blank 28 RU TP to DVI(s) 27 RU HDMI to TP(s) 26 RU TP to HDMI(s) 25 RU Contract. 24 RU	
Video System Router 23 RU 22 RU 22 RU 20 RU 19 RU 18 RU 18 RU 17 RU 16 RU Blank 15 RU 14 RU	
Blank 13 RU Blank 12 RU 10 RU 10 RU 9 RU 9 RU Blank 8 RU 0 SSC CX 302 7 RU 6 RU 6 RU 0 One AC UPS 3 RU 9 Blank 1 RU 1 RU 1 RU 1 RU 1 RU 1 RU 1 RU	
Audio/Video Rack (CFE)	
Level 7 Bankruptcy Courtroom #7 West - Rack Elevations	
SCALE: No Scale PROJECT TITLE: DRAWN BY: RJW/jds United States Courthouse signal flow requirements only. Items shown in partial quantities. Refer to equipment list in Specifications and Design Intent Floor and Celling Plans for contract inclusions, quantities and locations. T.CRA.R.2	5.01