

# STATEMENT OF WORK

## Conference Room Audio Visual Upgrades

**Dudley Knox Library  
Naval Postgraduate School  
Monterey, California**

### **1. Background/ Scope:**

The purpose of this specification is to define the requirements for the modification to the existing audiovisual systems in two small-connected conference rooms in the Dudley Knox Library. The existing projection systems will be updated to support digital and wireless connections.

### **2. Campus Access:**

The Naval Postgraduate School is a DOD facility is subject to the security and access restrictions typical of any United States Naval base. The Contractor is responsible for ensuring that all staff employed by the contractor who will be involved in work on the NPS campus are eligible for unescorted access to the NPS campus and have the appropriate identification, and that all motor vehicles used by the Contractor meet requirements for use on a facility operated by the United States Navy.

The Contractor must maintain current Rapid Gate registration covering any and all Contractor personnel that require access to the work site to ensure access to the campus. Contractor personnel will be required to carry and show appropriate personal identification and vehicle registration and insurance documentation upon entering the Naval Postgraduate School grounds and to comply with all regulations governing access to the facility. If rental vehicles are being used, a copy of the rental contract must be available for review by base security upon entry to the campus.

### **3. Work Site:**

The work site includes various classrooms, auditoria and conference rooms on the campus of the Naval Postgraduate School in Monterey, California. Furniture in the rooms may include fixed or moveable tables and chairs with or without casters. Most rooms are equipped with a non-mobile lectern that is not affixed to the floor but is tied to the AV system via various cables. T-bar drop ceilings are typical but some rooms may have exposed concrete ceilings or concrete ceilings covered with acoustic tiles. There is a loading dock available at the work site and no parking directly adjacent to the building; the contractor vehicles may not be parked at the loading dock beyond the time required to unload/load equipment. Parking is distributed around the campus, but parking spaces are heavily used and available spaces may be some distance from the building. Access to ground level entrances is via paved roadways and/or concrete walkways. Above ground level entries are equipped with ADA compliant ramps. The conference room is located on second floor of the Dudley Knox library. Stairs and elevator access are available.

### **4. Timetable and Scheduling:**

The Contractor shall be ready to begin installation no later than 30 business days from the date of contract award.

- 4.1 The Contractor shall provide a plan and schedule for installation to the Government for approval at least two weeks prior to start of installation.
- 4.2 The system shall be installed, acceptance tested, and ready for full operation within 10 business days from the installation start date.
- 4.3 All work must be performed during normal business hours (0700-1700, Monday through Friday excluding federal holidays). This may require that work be interrupted and the worksite rendered safe and clean by the contractor for scheduled events, with work resuming at the next open time block. Open time blocks may be from one to several hours long. The Contractor is responsible to communicate with the NPS Dudley Knox Library technical POC and to schedule installation work accordingly.

**5. Contractor Minimum Qualifications:**

The Contractor shall be an audiovisual systems integration specialist (10 years' experience minimum) and be an OEM authorized reseller of Extron Electronics and Crestron audiovisual integration products.

**6. Government Furnished Equipment (GFE):** None.

**7. Contractor Furnished Equipment (CFE):**

Line #	Manufacturer	Part #	Description	Qty
1	Panasonic	PT-RZ370U	Projector	2
2	CHIEF MFG	RPM AU	Projector mount and bracket	2
3	Extron	60-1490-02	eLink 100 T US	2
4	Extron	60-1490-03	eLink 100 R US	2
5	Extron	60-1368-12	DTP Crosspoint 84 IPCP SA	2
6	Extron	<b>60-1469-03</b>	<b>MLC Plus 100 Media Link Controller</b>	2
7	Extron	<b>26-663-06</b>	<b>HDMI Ultra Flexible cable, 6ft</b>	4
8	Star Tech	VGA2HDU	VGA to HDMI portable adapter	2
9	Chief MFG	CMA347	Anti-vibration coupler	2

Any contractor furnished items are to be new, first quality goods offered by the manufacturer for sale in the United States of America, and in original equipment manufacturer's unopened packaging including all warranties, software, hardware, cables, power supplies, manuals and miscellaneous end items normally included by the manufacturer. Any deviations or substitutions must include an explanation, and must meet or exceed performance of the item being replaced. The Government reserves the right to refuse substitutions based on related requirements that may not be stated herein.

The contractor shall Provide a list identifying the OEM serial numbers, brand, and model of all active electronic components furnished by the Contractor. Any component below \$100 in cost may be excluded from the list.

## **8. Tasks:**

The contractor shall complete the following tasks:

8.1 Remove and surrender to the government the following government owned equipment currently installed at the site:

- Eight VGA cables running internally in wall cavities between the equipment rack and wall-mounted pass-through openings in each half of the conference room.
- Two ceiling mounted Panasonic PT-FW series video projectors
- Three analog Extron AV signal switchers
- Two analog Extron audio amplifiers
- Two Sony VHS/DVD combo players
- Two Extron MLC226IP controllers

8.2 Install the following CFE, in accordance with the system block diagram in Exhibit A:

8.2.1 Video projectors with anti vibration couplers:

8.2.1.1 Install the new video projectors on the existing suspension adapters using the RMAU mount and CMA347 anti-vibration coupler in accordance with OEM specifications.

8.2.1.2 Adjust the projector on the mount so that the projection axis is 90 degrees to the projection surface and centered on the vertical center axis of the projection screen. Adjust projector lens shift as needed to project a geometrically correct image without the use of electronic keystone correction. Image adjustments shall be performed while projector is projecting a 1920x1080 video source signal or test pattern.

8.2.2 Two passive wall plate HDMI input connections (one for each AV system). The HDMI input connections shall be installed in one of the single-gang pass-through openings in the wall above the equipment cabinet countertop and currently occupied by VGA cables described in paragraph 8.1.

8.2.3 Install custom length CAT5e or CAT6 STP cable between the equipment racks and video projectors following the existing cable path and terminate in accordance with Extron specifications for use with XTP signals. Provide at least 3ft service loop at each end of cable.

8.2.4 Configure the Panasonic PT-RZ370 DigitalLink inputs to receive XTP input signals from the Extron DTP Crosspoint switchers.

8.2.5 Install two Extron DTP Crosspoint 84 IPCP SA in the existing equipment racks and connect with other system components as shown in the system block diagram.

8.2.6 Configure the Extron eLink 100 wireless HDMI systems to work as independent pairs, one pair in each AV system. Affix labels to the transmitters clearly identifying which receiver they are paired with.

- 8.2.7 Install the Extron eLink 100 R US receivers in the equipment racks on a Contractor Furnished rack shelf. The receivers should be placed loose on the rack shelf with adequate clearance and cable service loops to enable removing the receiver via the front of the rack for access to the control buttons, connectors, and status lights.
- 8.2.8 Install MLC Plus 100 controllers in place of the existing MLC226IP controllers. Connect and configure them to enable all control functions required for normal operation without the use of the projector's hand-held remote control or the DTP switcher's front panel controls. Control to include projector on/off and input selection, DTP switcher source routing to projector, and volume control. Connect the controllers to the Government LAN and configure for remote access via the Government LAN. Control of the video projector and DTP crosspoint switcher shall be via RS232; the Government LAN is not to be used for local control of the AV system. (NOTE: The integrated control processor in the DTP Crosspoint 84 is for future requirements, no configuration is required under this contract.)
- 8.3** Adjust and test all components as required for optimum performance, using Contractor owned test signal generator(s) and signal monitoring equipment. Adjustment and testing includes but is not necessarily limited to the adjustment of any and all parameters of the video projectors as required in order to optimize image quality when displaying images from the Government owned computer and other video sources.
- 8.4** Conduct an acceptance test after installation is completed. Acceptance tests shall be performed in the presence of Government personnel and shall demonstrate that the systems and all components operate per OEM specifications, include all CFE specified and meet all requirements as specified in this SOW
- 8.5** Provide backup copies of all software on a CD-ROM disc readable by Windows and Mac OSX computers, in a format ready for upload to the control system hardware using normal OEM procedures, without further modification. Software backups shall include all un-compiled files necessary to enable the Government to edit the programming to make future modifications to control system and GUI.
- 8.6** Perform a reload of all custom programming and GUI files using the backup copy to be furnished to the Government. Fully test system after reload. Note: Government technical personnel shall be present during the performance of this task.
- 8.7** Provide a one year warranty against failure caused by defect or faulty installation of any and all custom software, installation hardware, fasteners, raceways, connectors, cables, and cable/connector terminations (including but not limited to soldered connections, crimped connections, screw terminal connections, captive screw connections). The Contractor shall repair any such defects or failures at no cost to the Government. See acceptable quality level for warranty below for additional details.

## **9. Codes**

All work shall be performed with the applicable requirements of governing codes, rules and regulations, including the following minimum standards, whether statutory or not:

7.1 National Electric Code (NEC)

7.2 National Fire Protection Association (NFPA)

7.3 Federal Communications Commission (FCC)

## **10. Warranty**

### **Warranty:**

All commercial off the shelf equipment (COTS) provided by the contractor shall be covered by the standard warranties provided by the original equipment manufacturer (OEM). Warranty coverage of all CFE shall begin on the date of acceptance by the Government.

During the warranty period the Contractor shall be prepared to deploy a field technician to the Naval Postgraduate School during the normal Government business hours of 0800-1630 Pacific Time within 24 hours of being notified by the Government of a warranty repair requirement. Repairs under warranty shall be completed within 24 hours (Saturday & Sunday excepted) starting from the time the field technician arrives at the worksite, except in the event that failed equipment must be returned to an OEM service center. Upon receipt of a request for warranty service the Contractor shall have a field technician on site at the Naval Postgraduate School within 24 hours and between the hours of 0800-1630, or at a later time and date as specified by the Government.

In the event of failure of any system component still covered by OEM warranty but which cannot be repaired in the field, the Contractor shall make all necessary arrangements for repair at an authorized OEM repair facility including packaging and shipping the equipment to the OEM authorized repair center. Upon receipt of the repaired component the Contractor shall re-install and test the repaired equipment for proper operation. The contractor shall maintain and report to the Government all tracking information required for tracking outbound and equipment shipments. The list of warrantied CFE shall be provided in hard-copy and electronic format prior to acceptance. Electronic documents may include a non-editable master in Adobe PDF format, but must also include unlocked and editable versions in either Microsoft Word or Excel format. Any equipment replaced as a result of warranty shall be documented and provided to the Government point of contact, to include brand, model, serial number, and warranty coverage dates of replacements. During the warranty period the Contractor is responsible for all costs related to returning any equipment to an OEM service center for warranty repair including packaging, shipping and labor required to remove and reinstall the equipment. No billable action shall be undertaken by the Contractor without a payment authorization, purchase request or modification to the purchase order from an authorized Government purchasing agent.

The warranty period shall begin at 1200 hours pacific time on the date of acceptance by the Government, and shall expire at 1200 hours pacific time, on same day of the month, one year hence.

## **11. Deliverables and Acceptable Quality Levels:**

### **11.1 Image Size and Alignment**

The projected image is in sharp focus and fills the width of the existing projection screen and free of keystone without the use of electronic keystone correction.

### **11.2 Connections & Functionality**

All power, data, video, audio and other cables as required to ensure full functionality of the systems as defined herein have been furnished and installed. All cables have sufficient strain relief and service loops both at the equipment rack and at the projector. Wireless HDMI

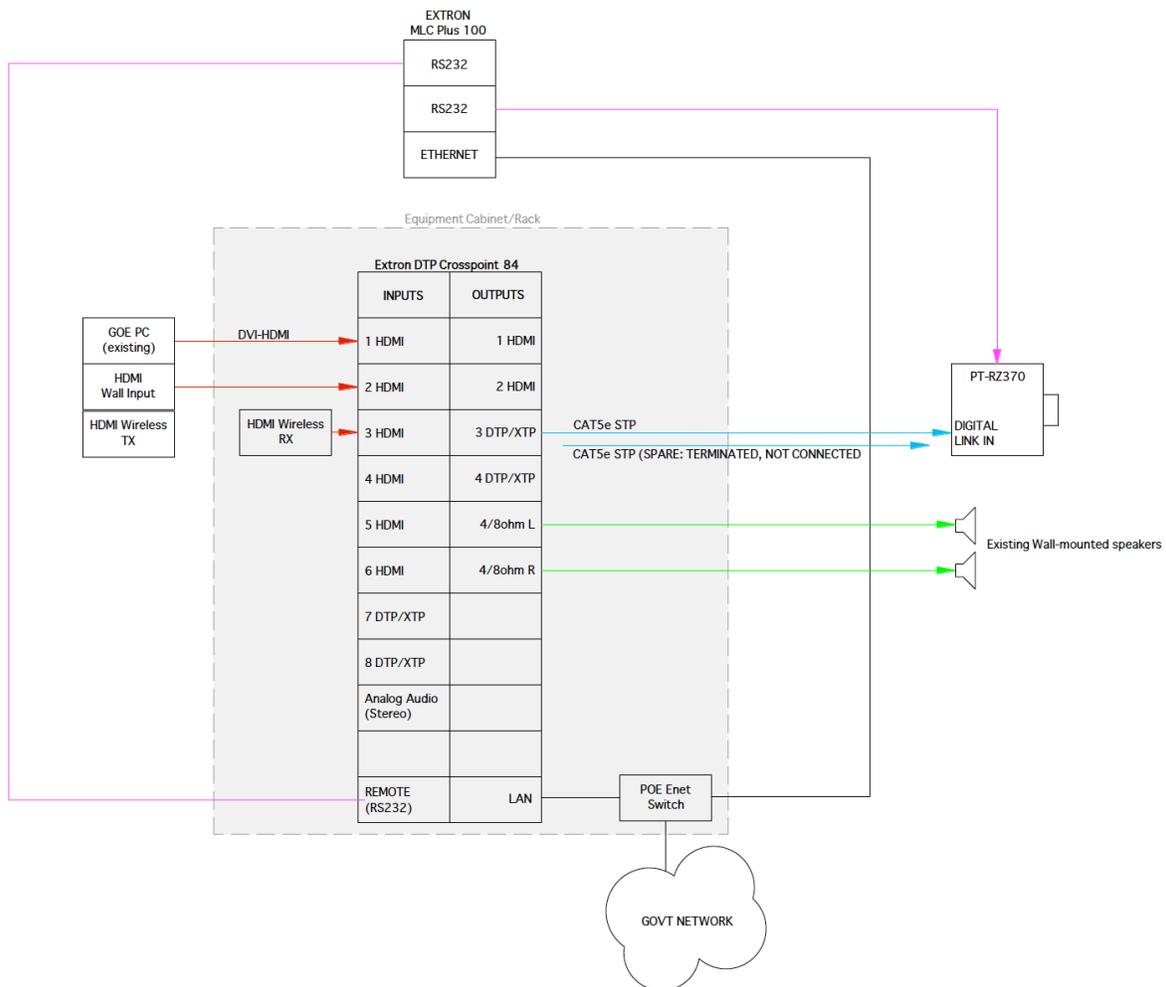
transmitters and receivers are properly paired and operating as independent pairs. System controller turns projector on/off, sets projector to proper input, correctly routes selected input source to projector via DTP switcher control, adjusts source audio volume up and down. All source input connections have been tested with AV source devices.

### 11.3 Documentation and Drawings

All of the commercial operation manuals that are normally supplied by the OEM for all CFE.

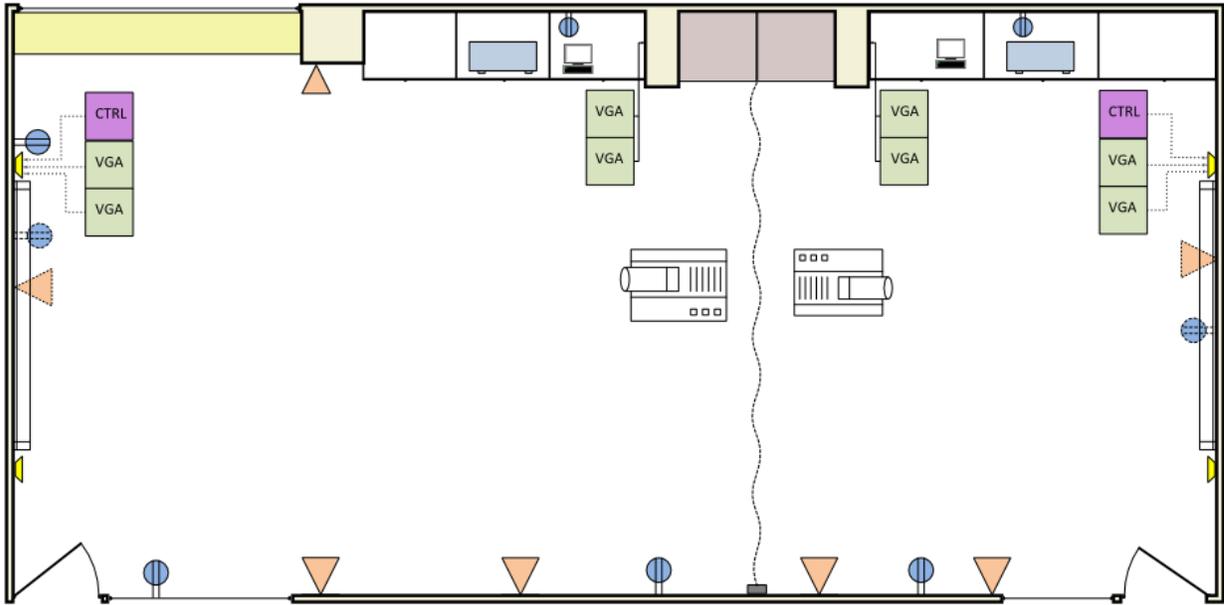
Shop Drawings (As-Built). As-built drawings illustrating all CFE and GOE components, cabling, connector interfaces as installed. Drawings shall be provided in hard-copy and electronic format. Electronic drawings shall be in Adobe PDF format and rendered in high resolution to ensure readability both on-screen and when printed.

### Exhibit A: System Diagram



**Exhibit B: Floor Plan (existing)**

**ROOM 263 (Dudley Knox Library)**



- |   |              |   |                       |   |                   |  |                     |   |                                  |
|---|--------------|---|-----------------------|---|-------------------|--|---------------------|---|----------------------------------|
|  | Network Drop |  | Computer Video Plugin |  | Projection Screen |  | PC (in cabinet)     |  | Path of collapsible room divider |
|  | Power outlet |  | Control Panel         |  | Speaker           |  | Switch (in cabinet) |  | Projector (ceiling mounted)      |