

INVITATION FOR BIDS (IFB) NO. 23-6527  
TO  
FURNISH AND DELIVER AUDIO VISUAL EQUIPMENT  
FOR  
KA HAKA 'ULA O KE'ELIKŌLANI, HALE'ŌLELO (BLDG. 355)  
UNIVERSITY OF HAWAII AT HILO  
UNIVERSITY OF HAWAII  
HILO, HAWAII

MARCH, 2023

BOARD OF REGENTS  
UNIVERSITY OF HAWAII  
HONOLULU, HAWAII

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**IT IS THE RESPONSIBILITY OF ALL BIDDERS TO CHECK THE TABLE OF CONTENTS TO CONFIRM THAT ALL PAGES LISTED THEREIN ARE REVIEWED AND THAT THE MANDATORY BID FORM IS SUBMITTED AS PART OF THEIR BID PACKAGE.**

## NOTICE TO BIDDERS

The University of Hawaii IFB No. 23-6527, to Furnish and Deliver Audio Visual Equipment for Ka Haka 'Ula O Ke'elikōlani, Hale'ōlelo (Bldg. 355), University of Hawaii at Hilo, Hilo, Hawaii will be issued and awarded through the University's electronic procurement system (HlePRO). **All bid responses must be submitted electronically through HlePRO no later than 2:30 p.m., April 10, 2023.** Bids received after the due date and time or received in a form other than electronically through HlePRO will not be considered.

Bidders are advised that they should not wait until the last minute to submit their bid through HlePRO. Bidders are solely responsible for ensuring that their electronic submission through HlePRO is complete and all necessary files (Mandatory Bid Form) are attached to their bid prior to the IFB due date and time. The University shall not be responsible for any delay or failure of any Bidder to submit any materials updated through the IFB process on a timely basis.

**Electronic Procurement**

The University is utilizing the Hawaii Electronic Procurement System (HlePRO) to solicit bids for this service electronically. Bidders interested in responding to this electronic solicitation must be registered on HlePRO. To register, visit the following link: [https://hiepro.ehawaii.gov/videos/video/vendor\\_registration.html](https://hiepro.ehawaii.gov/videos/video/vendor_registration.html). Reference the Vendor Quick Reference Guide for additional information at <https://hiepro.ehawaii.gov/static-resources/VendorQuickReferenceGuide.pdf>.

HlePRO will be the system of record to issue the IFB, receive the Mandatory Bid Form and other Bid requirements, issue Amendments, and to make award for the IFB. Amendments and other information and materials shall be provided through HlePRO, including additions or changes with respect to the due date and time.

Special instructions in HlePRO related to this solicitation are incorporated herein and made a part of this IFB through reference. Bidders shall review all special instructions located in HlePRO.

**Questions and Clarifications**

All questions must be submitted electronically through HlePRO. Questions must be submitted by **March 15, 2023 at 4:00 p.m Hawaii Standard Time (HST)**. Responses will be posted on **March 20, 2023**. The University may refuse to answer any questions received outside of HlePRO or after the Questions/Answers deadline.

David Lassner  
President, University of Hawaii

Posting Date: **March 8, 2023**

***Vendors are responsible for notifying the Procurement Specialist Kurt Minato (e-mail: [minato@hawaii.edu](mailto:minato@hawaii.edu)) for accessibility concerns related to this IFB.***

## BID REQUIREMENTS

### FURNISH AND DELIVER AUDIO VISUAL EQUIPMENT FOR KA HAKA 'ULA O KE'ELIKŌLANI, HALE'ŌLELO (BLDG. 355) UNIVERSITY OF HAWAII AT HILO

By attaching The Mandatory Bid Form to HlePRO, the bidder has carefully examined the INVITATION FOR BIDS (IFB) NO. 23-6527 TO FURNISH AND DELIVER AUDIO VISUAL EQUIPMENT FOR KA HAKA 'ULA O KE'ELIKŌLANI, HALE'ŌLELO (BLDG. 355), UNIVERSITY OF HAWAII AT HILO, HILO, HAWAII, and offers to provide the audio visual equipment, as required by the University no later than forty-five (45) consecutive calendar days from the date of the Notice to Proceed, in strict accordance with the true intent and meaning of the Invitation for Bids (IFB), as follows:

#### TAX LIABILITY

Both out-of-state and Hawaii bidders are advised that the amount bid on this solicitation is subject to the general excise tax imposed by Chapter 237, Hawaii Revised Statutes (HRS) and, if tangible property is being imported into the State of Hawaii for resale, the use tax (currently 1/2%) imposed by Chapter 238, HRS. (Refer to Taxes in the General Provisions) Bidders are therefore cautioned to consider such taxes in formulating their bids since no adjustments to the prices bid shall be allowed.

#### BASIS FOR AWARD

The award of contract, if awarded, shall be made to the lowest responsive and responsible bidder for the **TOTAL AMOUNT OF EACH GROUP (GROUPS A – C)**. Awards may be issued to multiple bidders based on the lowest price offered for each group. Bids submitted for each individual item listed shall include all costs associated for that particular line item, to include all delivery costs (f.o.b. destination) and applicable fees and taxes (federal and State). The total amount for each group entered into HlePRO must be identical to the total amount for each group provided on the Mandatory Bid Form.

**Bidders must bid on all items within each group in order to be considered for award.  
Bidders are not required to submit a bid for all groups in order to be eligible for award.**

The University reserves the right at the time of award to increase or reduce item quantity at the unit price offered based on funding availability.

## NOTE TO BIDDERS

An acceptable bid must conform in all material respects to this Invitation for Bids. Any of the following may be grounds for disqualification:

1. Taking exception to any of the specifications, terms or conditions contained in the IFB.
2. Placing conditions on the furnishing of solicited goods or services.
3. Inclusion of a quotation or order form containing additional specifications, terms or conditions.
4. Referencing external documents containing additional specifications, terms or conditions.

Bidders are advised that bids are evaluated as submitted and requests by bidders to delete conditions contained in their bids after bid opening cannot be considered.

## SUBSTITUTIONS TO BE APPROVED IN ADVANCE

The manufacturer and part number of items identified in the TECHNICAL SPECIFICATIONS are used as a measure of quality, style, appearance and performance. Any brand or manufacture of equal or better quality and performance to that specified will be considered for acceptance by the University upon submission of a written request for approval of the proposed substitution with manufacturer's literature or brochures containing technical data and illustrations of the proposed items being offered. Bidders offering item(s) as specified are not required to submit literature, brochures, etc.

All requests for substitutions shall be submitted via email to the Technical Representative, Charlie Snader ([csnader@hawaii.edu](mailto:csnader@hawaii.edu)) no later than **4:00 p.m. HST, March 28, 2023**. Emailed requests shall be submitted together with electronic technical brochures and be accompanied by a statement of variances as shown on the attached "Sample Request for Substitution." The statement of variances shall list all features of the proposed substitution which differ from the technical specifications and/or product(s) specified and shall further certify that the substitute has no other variant features. The brochures shall be clearly marked showing manufacturer's make, part number, size, etc., and shall include sufficient evidence to enable the University to evaluate each feature listed as a variance. **Substitution requests for the audio visual equipment listed must be compatible and collectively capable of providing a complete working audio visual system.** Submittals with insufficient information for evaluation shall be rejected. Substitutions, if any, will be posted on **March 31, 2023**.

A bid which includes a substitution shall be considered only if the substitution has been approved in advance by the University. The University may reject or deny any substitution that it may, in its discretion deem unequal, and the findings in this regard shall be accepted by the bidder as final and binding.

SAMPLE

Date: \_\_\_\_\_

Charlie Snader, Technical Representative  
University of Hawai'i at Hilo  
E-Mail: [csnader@hawaii.edu](mailto:csnader@hawaii.edu)

To Whom It May Concern:

Subject: REQUEST FOR SUBSTITUTION

Project Title: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

In accordance with TECHNICAL SPECIFICATIONS, I hereby submit for substitution the technical brochures and statement of variances for your review and approval for the item(s) shown below:

<u>ITEM</u>	<u>SPECIFIED BRAND</u>	<u>SUBSTITUTE OR ALTERNATE BRAND</u>	<u>VARIANT FEATURES</u>
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I further certify that my request for substitution of the above item(s) has no other variant features.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Title

- NOTE:**
1. **SUBMIT VIA E-MAIL: [csnader@hawaii.edu](mailto:csnader@hawaii.edu)**
  2. **PLEASE USE OWN LETTERHEAD.**
  3. **IF NO VARIANT FEATURE, INDICATE "NONE"**

## TECHNICAL SPECIFICATIONS

This section indicates the Technical Specifications for the audio visual equipment required. The Technical Specifications listed herein are the minimum requirements and are mandatory for an accepted bid.

Bidders are cautioned to review the Technical Specifications carefully and thoroughly. Objections to or request for clarification of the specifications shall be made in writing via HePS, as instructed in the Notice to Bidders section. The submittal of a bid shall be considered as acceptance of the specifications as published.

### **GROUP A: AV CORE COMPONENTS**

**Item 01:** 6x4 ProDSP Digital Matrix Processor with AEC and Dante, EXTRON DMP 64 Plus C AT, Part No. 60-1823-10, or approved substitution with the following specifications:

1. Shall have 6 mic/line inputs and 4 line outputs.
2. Shall have six channels of AEC – acoustic echo cancellation.
3. Shall have a flexible mix matrix, configurable USB audio interface, and 6x4 analog connectivity.
4. Shall have Dante audio network connectivity, or comparable technology.
5. Shall provide full rack performance in a half rack enclosure.
6. Shall have flexinput capability on main inputs.
7. Shall have the ability to be powered by PoE+.
8. Shall have an ACP series audio control panels providing intuitive audio system control.
9. Shall have digital I/O ports for remote control or feedback.
10. Shall include a minimum 3 year parts and labor warranty.
11. Quantity shall be FOUR (4).

**Item 02:** 10x8 Seamless 4K Scaling Presentation Matrix Switcher, EXTRON DTP CrossPoint 108 4K IPCP Q MA 70, 100 Watt 70 v Mono Amp, AV LAN, LL UI Upgrade, Part No. 60-1381-93A, or approved substitution with the following specifications:

1. Shall be an all-in-one 10x8 4K matrix switcher, scaler, audio DSP with AEC, integrated audio power amplification, and built-in IPCP Pro xi quad core control processor.
2. Shall have seamless transitions between sources, logo insertion on the scaled video outputs, and mirrored HDMI connections for local monitoring of the same digital video delivered via shielded CATx cable.
3. Shall have 10x8+2 matrix configuration; four DTP inputs, and six HDMI inputs.
4. Shall have four HDMI outputs.
5. Shall have four independently scaled DTP outputs with two mirrored HDMI outputs.
6. Shall have 3U, full rack width metal enclosure.
7. Shall include a minimum 3 year parts and labor product warranty; and 7 year parts and labor Everlast power supply warranty.
8. Quantity shall be ONE (1).

**Item 03:** 8x6 Seamless 4K Scaling Presentation Matrix Switcher, EXTRON DTP CrossPoint 86 4K IPCP Q MA 70, 100 Watt, 70 V Mono Power Amplifier, LL UI Upgrade, Part No. 60-1382-93A, **or approved substitution** with the following specifications:

1. Shall be an all-in-one 10x8 4K matrix switcher, scaler, audio DSP with AEC, integrated audio power amplification, and built-in IPCP Pro xi quad core control processor.
2. Shall have seamless transitions between sources, logo insertion on the scaled video outputs, and mirrored HDMI connections for local monitoring of the same digital video delivered via shielded CATx cable.
3. Shall have 8x6+2 matrix configuration; two DTP inputs and six HDMI inputs.
4. Shall have two HDMI outputs.
5. Shall have four independently scaled DTP outputs with two mirrored HDMI outputs.
6. Shall have 3U, full rack width metal enclosure.
7. Shall include a minimum 3 year parts and labor product warranty; and 7 year parts and labor Everlast power supply warranty.
8. Quantity shall be FIVE (5).

**Item 04:** DTP Receiver for HDMI, 230 feet, EXTRON DTP HDMI 4K 230 Rx, Part No. 60-1271-13, **or approved substitution** with the following specifications:

1. Shall include a digital twisted pair receiver compatible with Extron DTP enabled products, or comparable technology that sends HDMI, audio and bidirectional RS-232 and IR signals up to 230 feet over a shielded CATx cable.
2. Shall transmit HDMI plus control and analog audio up to 230 feet over a CATx cable.
3. Shall provide an effective means to extend HDMI with embedded multi-channel audio from HDMI-equipped devices.
4. Shall accept analog stereo audio signals from a DTP-enabled product over the same shielded twisted pair cable.
5. Shall support computer and video signals at resolutions up to 4K, including 1080p/60 Deep Color.
6. Shall include bidirectional RS-232 and IR pass-through for AV device control.
7. Shall include data rates up to 10.2 Gbps, Deep Color up to 12-bit, 3D, HD lossless audio formats, and CEC pass-through.
8. Shall be HDCP 2.3 compliant; and support EDID and HDCP transmission.
9. Shall have remote power capability.
10. Shall have UL2043 plenum rated receiver.
11. Shall be compatible with all DTP 230 Series models and DTP-enabled products, or comparable technology.
12. Shall have 1" high, quarter rack width metal enclosure.
13. Shall include a minimum 3 year parts and labor product warranty; and 7 year parts and labor Everlast power supply warranty.
14. Quantity shall be ELEVEN (11).

**Item 05:** DTP Transmitter for HDMI, 230 feet, EXTRON DTP HDMI 4K 230 Tx, Part No. 60-1271-12, **or approved substitution** with the following specifications:

1. Shall transmit HDMI plus control and analog audio up to 230 feet over a shielded CATx cable.
2. Input shall include one HDMI, one 3.5 mm stereo mini jack for audio.
3. Output shall include one DTP 230 twisted pair output on RJ-45, or comparable technology.
4. Shall support computer and video resolutions up to 4K.
5. Shall include data rates up to 10.2 Gbps, Deep Color up to 12-bit, 3D, HD lossless audio formats, and CEC pass-through.
6. Shall be HDCP 2.3 compliant.
7. Shall have remote power capability.
8. Shall be compatible with CATx shielded twisted pair cable.
9. Shall accept analog stereo audio signals.
10. Shall include bidirectional RS-232 and IR pass-through for AV device control.
11. Shall support multiple embedded audio formats.
12. Shall support EDID and HDCP transmission.
13. Shall be compatible with all DTP 230 Series receivers and DTP-enabled products, or comparable technology.
14. Shall have LED indicator for signal presence and power.
15. Shall have RJ-45 signal and link LED indicators for DTP port.
16. Shall be UL2043 plenum rated.
17. Shall have 1" high, quarter rack width metal enclosure.
18. Shall include a minimum 3 year parts and labor product warranty; and 7 year parts and labor Everlast power supply warranty.
19. Quantity shall be ELEVEN (11).

**Item 06:** Ultra Flexible Premium High Speed HDMI Cables, EXTRON HDMI Ultra/12, 12' (3.6 m) 4K Premium, Part No. 26-663-12, **or approved substitution** with the following specifications:

1. Shall be designed to transmit HDMI digital video and audio signals.
2. Shall be certified for use with AVEdge, Cable Cubby, and HSA surface access enclosures.
3. Shall be ultra-flexible 28 AWG cable, with low bend radius, and compact gold-plated connectors/contacts.
4. HDMI cables shall conform to premium high speed HDMI cable performance standards and support 4K (4096x2160) and 1080p @60 Hz resolutions.
5. Shall be 4K/60 verified.
6. Shall support ARC and CEC.
7. Shall include a minimum limited lifetime performance warranty.
8. Quantity shall be SIXTEEN (16).

**Item 07:** Ultra Flexible Premium High Speed HDMI Cables, EXTRON HDMI Ultra/3, 3' (90 cm) 4K Ultra Flexible Premium, Part No. 26-663-03, **or approved substitution** with the following specifications:

1. Shall be designed to transmit HDMI digital video and audio signals.
2. Shall be certified for use with AVEdge, Cable Cubby, and HSA surface access enclosures.
3. Shall be ultra-flexible 28 AWG cable, with low bend radius, and compact gold-plated connectors/contacts.
4. HDMI cables shall conform to premium high speed HDMI cable performance standards and support 4K (4096x2160) and 1080p @60 Hz resolutions.
5. Shall be 4K/60 verified.
6. Shall support ARC and CEC.
7. Shall include a minimum limited lifetime performance warranty.
8. Quantity shall be THIRTY-FIVE (35).

**Item 08:** Cable Lacing Bracket, Package of 50, EXTRON LockIt, Part No. 101-020-01, **or approved substitution** with the following specifications:

1. Shall be a cable lacing bracket that secures HDMI or USB-C cables to a product's connectors.
2. Shall reduce the stress on connectors and prevent intermittent or complete signal loss due to loose cable connections.
3. Design shall be compact to facilitate easy installation in space-constrained areas where connectors are stacked.
4. Shall include zip ties.
5. Guide posts shall prevent tie wrap from slipping.
6. Recessed lacing grooves shall secure the tie wrap.
7. Quantity shall be ONE (1) package containing 50 brackets.

**Item 09:** Low-Profile Mount Kit for ¼ and ½ Rack Width, Two-Piece Enclosures, EXTRON MBU 125, Part No. 70-077-01, **or approved substitution** with the following specifications:

1. Shall facilitate rack-mountable equipment to be professionally and discreetly installed under a table, desk, or other flat surface.
2. Shall work with Extron quarter-rack and half-rack, two-piece enclosure products, including universal interfaces, switchers, distribution amplifiers, and twisted pair products.
3. Quantity shall be TEN (10).

**Item 10:** 4K HDMI and Audio to USB Scaling Bridge, EXTRON MediaPort 300, Part No. 60-1873-01, **or approved substitution** with the following specifications:

1. Shall seamlessly integrate Pro AV systems and sources into software codec applications.
2. Inputs shall include one HDMI with buffered loop-through, one stereo, two mono, or one mic and one monoline.
3. Outputs shall include one USB for streaming video and two-channel audio output, and one stereo balanced/unbalanced audio output on captive screw.
4. HDMI input shall support computer and video resolutions up to 4K/60.
5. Video scaling shall provide USB output up to 4K/30 to match common software codec requirements.
6. Shall include device connections up to USB 5 Gbps using generic USB drivers for universal compatibility.
7. Shall be USB 5 Gbps compatible.
8. Shall include scaling optimized to UC software codec requirements via custom resolution groups.
9. Shall have HDCP-compliant HDMI input and loop-through; HDMI audio de-embedding; and USB 2x2 audio interface.
10. Shall have high performance deinterlacing for signals up to 1080i.
11. Shall have Mic/line input with 48 volt phantom power.
12. Shall have front panel LED indicators for HDMI and USB signal status.
13. Shall include a minimum 3 year parts and labor product warranty; and 7 year parts and labor Everlast power supply warranty.
14. Quantity shall be TWELVE (12)

**Item 11:** Two Channel Power Amplifiers with Dante and DSP 100 Watts Per Channel at 70 volts, EXTRON NetPA U 1002-70V, Part No. 60-1767-02, **or approved substitution** with the following specifications:

1. Shall have 100 watts rms output power per channel at 8 ohms, 4 ohms, or 70/100V.
2. Shall be able to receive audio from Dante audio network and analog mic/line level inputs.
3. Shall be ENERGY STAR qualified.
4. Shall include single and dual rack mount hardware.
5. Shall have integrated DSP with 6x6 mix matrix; defeatable auto standby with fast wake up; convection cooled, fanless operation; and can be stacked without extra rack space for ventilation.
6. Shall include a minimum 3 year parts and labor product warranty; and 7 year parts and labor Everlast power supply warranty.
7. Quantity shall be ONE (1).

**Item 12:** Occupancy Sensors, Ceiling Mount, EXTRON OCS 100C, Part No. 60-1664-01, **or approved substitution** with the following specifications:

1. Shall be ceiling mount occupancy sensors providing coverage using ultrasonic and passive infrared detection technologies.
2. Integrated smart, adaptive software shall automatically and continuously monitor the environment and adjust timer settings and sensitivity, providing lifetime dependable detection and maintenance-free operation.
3. Shall have non-volatile memory for sensor settings.
4. Shall include infrared sensitivity knob to minimize false triggers.
5. Shall have adjustable energy efficient timer.
6. Shall have a minimum coverage area of 2,000 feet.
7. Shall have DIP switches for fine tuning device settings.
8. Shall include a minimum 3 year parts and labor product warranty; and 7 year parts and labor Everlast power supply warranty.
9. Quantity shall be TWO (2).

**Item 13:** IPCP Pro xi Quad Core Control Processor, EXTRON PCP Pro 555Q xi, Control Proc., LL UI Upgrade, Part No. 60-1917-01A, **or approved substitution** with the following specifications:

1. Shall support TouchLink Pro touchpanels, Network Button Panels, and IPL EXP expansion interfaces.
2. Shall support secure industry standard communication protocols.
3. Shall include ethernet monitoring and control on each ethernet port.
4. Shall support ethernet-controllable devices.
5. Shall include automatic clock synchronization that allows touchpanel to display the accurate time and date.
6. Shall support control system synchronization.
7. Shall include front panel port status indicators.
8. Shall include multi-level password protection.
9. Shall have six bidirectional RS-232 serial ports with software handshaking.
10. Shall have two bidirectional RS-232/RS-422/RS-485 serial ports with hardware and software handshaking.
11. Shall have eight IR/Serial ports for one-way control of external devices.
12. Shall have four Flex I/O ports.
13. Shall have eight relays for controlling room functions.
14. Shall have four independently switched 12 VDC outputs.
15. Shall have eBUS port for connecting eBUS button panels and accessories.
16. Shall have Quad-core processor with four times more memory.
17. AV Lan port shall allow AV devices to be isolated from the corporate network.
18. Shall include a minimum 3 year parts and labor product warranty; and 7 year parts and labor Everlast power supply warranty.
19. Quantity shall be ONE (1).

**Item 14:** Basic Rack False Faceplate Kit, EXTRON RFF 052, Half Rack Width for 1" Enclosures, Part No. 70-972-01, **or approved substitution** with the following specifications:

1. False faceplates shall be designed for use with Extron RSF, RSB, and RSU Series 1U Rack Shelf Kits.
2. Low profile faceplates shall be compatible with Extron products with 1" enclosures.
3. Shall include mounting hardware.
4. Quantity shall be TWELVE (12).

**Item 15:** Basic Rack False Faceplate Kit, EXTRON RFF 102, Half Rack Width for 1U Enclosures, 70-339-01, **or approved substitution** with the following specifications:

1. False faceplates shall be designed for use with Extron RSF, RSB, and RSU Series 1U Rack Shelf Kits.
2. Low profile faceplates shall be compatible with Extron products with 1" enclosures.
3. Shall include mounting hardware.
4. Quantity shall be TWO (2).

**Item 16:** Rack Mount Kit for TLP Pro 1025M, EXTRON RM 6, Part No. 70-1137-12, **or approved substitution** with the following specifications:

1. Shall be a 4U rack mount kit designed for use with TLP Pro 1025M TouchLink Pro touchpanels.
2. Rack plate shall accommodate a single Pro Series touchpanel or Pro Series controller, or approved comparable alternate.
3. Shall allow secure mounting of the touchpanel in a standard 19" equipment rack.
4. Shall include all mounting hardware.
5. Shall be 4U, full rack width.
6. Metal enclosure color shall be black.
7. Shall include a minimum 3 year parts and labor warranty.
8. Quantity shall be ONE (1).

**Item 17:** Basic Rack Shelf for 6" Deep Products, EXTRON RSB 126, 1U 6" Deep Basic Rack Shelf, Gray, Part No. 60-604-11, **or approved substitution** with the following specifications:

1. Shall hold up to eight 1U eighth-rack, four quarter-rack, and two half-rack width, 6" deep devices, and up to eight eighth-rack or four quarter-rack width 3" deep products.
2. Shall include all hardware to mount underside of products to the shelf.
3. Metal enclosure color shall be gray.
4. Shall include a minimum 3 year parts and labor warranty.
5. Quantity shall be SIX (6).

**Item 18:** Basic Rack Shelf for 9.5" Deep Products, EXTRON RSB 129, 1U 9.5" Deep Basic Rack Shelf, Gray, Part No. 60-604-02, **or approved substitution** with the following specifications:

1. Shall securely hold any combination of 1U half-rack, quarter-rack, or one-eighth rack width products.
2. Shall include all hardware to mount underside of products to the shelf.
3. Steel shelf color shall be gray.
4. Shall include a minimum 3 year parts and labor warranty.
5. Quantity shall be SEVEN (7).

**Item 19:** Wired and Wireless Presentation Gateway, EXTRON ShareLink Pro 500, Part No. 60-1877-01, **or approved substitution** with the following specifications:

1. Shall be able to present content from computers, tablets, or smartphones on a display.
2. Shall include advanced technology that supports simultaneous display of up to four devices, including an HDMI-connected device.
3. HDMI input shall support wired devices, such as a signage player or other AV source.
4. Shall include collaboration and moderator modes that facilitate both open and controlled collaboration environments.
5. Digital Signage feature shall display signage content when users aren't connected.
6. Shall include feature that shares content via a web browser.
7. Shall provide full screen mirroring for all devices.
8. Shall include feature to wirelessly share content from mobile devices.
9. Shall include a minimum 3 year parts and labor warranty.
10. Quantity shall be ONE (1).

**Item 20:** 14 AWG Speaker Cable, EXTRON SPK14/1000 Non-Plenum 1000' (305 m) spool, Part No. 22-152-03, **or approved substitution** with the following specifications:

1. Speaker cable shall be a high performance cable designed to connect speakers to amplifiers in a wide variety of applications.
2. Shall include a high conductor strand count to provide flexibility and ease of installation.
3. Cable shall be non-plenum rated, comprised of one pair, 14 AWG bare copper conductors.
4. Shall include two 14 AWG conductors featuring a single color-coded pair, 14 AWG bare copper conductors.
5. Spool shall contain 1,000 feet of cable in a self-dispensing box.
6. Quantity shall be ONE (1).

**Item 21:** Serial Control/Audio Cable, Non-Plenum 1000' (305 m) spool, EXTRON STP20/1000, Part No. 22-157-03, **or approved substitution** with the following specifications:

1. Shall be a single 20 AWG shielded twisted pair with drain wire.
2. Shall be a high performance cable for serial control/audio signals.
3. Shall be non-plenum rated, SuperFlex jacket with sequential numbering.
4. Spool shall contain 1,000 feet of cable in self-dispensing box.
5. Quantity shall be ONE (1).

**Item 22:** Two Input USB 10G Switcher, EXTRON SW2 USB Pro, Part No. 60-1833-01, **or approved substitution** with the following specifications:

1. Shall include SuperSpeed USB 10G compatibility.
2. Shall have four port output hub with USB-C and three female USB Type A connectors.
3. Shall include Hot Key, Auto, and manual switching capability.
4. Shall support selectable Host and Peripheral emulation.
5. Shall have front panel selection buttons and status indicators.
6. Shall include ethernet and RS-232 control options.
7. Shall be a two-input USB switcher that facilitates USB 3.2 compatible switching between multiple host devices and multiple USB peripherals.
8. Shall provide integrator-friendly solutions for USB-C and Thunderbolt hosts and peripherals with data rates up to 10 Gbps.
9. HID peripheral ports shall support hotkey input switching via a connected keyboard.
10. SW USB Pro switchers shall support auto and manual host and peripheral switching and control via RS-232 or Ethernet.
11. Shall feature Host and Peripheral Emulation Mode, to provide a keep alive functionality by continuously mimicking host and keyboard/mouse communications within the switcher.
12. Shall include rack-mountable, 1U half rack width metal enclosure.
13. Shall include a minimum 3 year parts and labor product warranty; and 7 year parts and labor Everlast power supply warranty.
14. Quantity shall be SIX (6).

**Item 23:** 10" Wall Mount Touchlink Pro Touchpanel, Black, Wall Mount, EXTRON TLP Pro 1025M, Part No. 60-1566-02, **or approved substitution** with the following specifications:

1. Shall be a 10" capacitive touchscreen with 1280x800 resolution and 24-bit color depth.
2. Shall have Gorilla Glass screen or approved comparable alternate screen that is scratch and smudge-resistant.
3. Shall have digital input to allow connection with a variety of devices, such as sensors and switches.
4. Shall include motion detector to wake touchpanel.
5. Shall have fully customizable touchpanel user interface.
6. Shall be compatible with Extron control processors and HC 400 Series systems.
7. Power over Ethernet shall provide power and communication over a single Ethernet cable.

8. Shall have built-in speakers.
9. Shall have USB 2.0 port.
10. Light sensor shall adjust screen brightness as the ambient room lighting changes.
11. Shall include configurable red and green status lights to indicate a room's availability or call status.
12. Shall have on-screen menus to simplify touchpanel setup.
13. Shall be capable of mounting in a two-gang junction box, or on a wall, lectern, or any flat surface, including glass.
14. Shall include a minimum 3 year parts and labor warranty; and a 1 year warranty on touchpanel display and overlay components.
15. Quantity shall be ONE (1).

**Item 24:** 10" Tabletop TouchLink Pro Touchpanel, Black, Tabletop, EXTRON TLP Pro 1025T, Part No. 60-1565-02, **or approved substitution** with the following specifications:

1. Shall be a 10" capacitive edge-to-edge glass touchscreen with 1280x800 resolution and 24-bit color depth.
2. Shall have Gorilla Glass screen or approved comparable alternate screen that is scratch and smudge-resistant.
3. Shall include quad-core processing with eight times more memory.
4. Shall be compatible with all IP Link Pro control processors; and capable of working with any Extron control processor and HC 400 Series system.
5. Power over Ethernet shall provide power and communication over a single Ethernet cable.
6. Shall have built-in speaker.
7. Shall include configurable red and green status lights to indicate a room's availability or call status.
8. System connection status indicator shall provide visual feedback if the touchpanel is not communicating with a control processor.
9. Shall include high speed USB 2.0 port.
10. Light sensor shall adjust screen brightness as the ambient room lighting changes.
11. Shall include a minimum 3 year parts and labor warranty; and a 1 year warranty on touchpanel display and overlay components.
12. Quantity shall be SIX (6)

**Item 25:** SuperSpeed 5Gbps USB-A 3.2 Optical Extension Cables, 65' (19.8 m), Plenum, EXTRON USBA Pro P/65, Part No. 26-728-65, **or approved substitution** with the following specifications:

1. Shall provide USB-A signal extension between the host and peripheral device.
2. Shall support a SuperSpeed USB data rate of 5 Gbps.
3. Shall deliver 5 V and up to 900 mA of power.
4. Shall include flexible, ultra-thin 0.24" (6mm) diameter cable.
5. Cable shall be plenum, NEC CMO-rated.
6. Shall be highly resistant to EMI/RFI interference.
7. Shall be backwards compatible with USB 2.0 and 1.1 devices.

8. Shall include host power status LED indicator.
9. Shall have external power for USB charging.
10. Shall have gold plated contacts.
11. Cable length shall be 65' (19.8 meters).
12. Shall include a minimum limited lifetime performance warranty.
13. Quantity shall be ONE (1).

**Item 26:** USB-C 8K/30 video Optical Cables with USB 2.0 Data and 60 W Power Delivery, 30' (9.1 m), EXTRON, USBC Pro 8K/30, Part No. 26-748-30, **or approved substitution** with the following specifications:

1. Shall extend 8K/30 DisplayPort video and embedded audio signals.
2. Shall support a USB data rate of 480 Mbps.
3. Shall provide power delivery of up to 60 watts.
4. Shall be ultra-flexible, ultra-thin 0.26" (6.5 mm) diameter cable.
5. Shall include bidirectional USB power flow.
6. Shall be highly resistant to EMI/RFI interference.
7. Shall have gold-plated contacts.
8. Shall include color-coded and labeled ends.
9. Cable length shall be 30' (9.1 meters).
10. Shall include a minimum limited lifetime performance warranty
11. Quantity shall be ONE (1).

**Item 27:** SuperSpeed 5Gbps USB-C 3.2 Optical Cables with 4K/30 Video and 60 W Power Delivery, 12' (3.6 m), EXTRON USBC Pro/12, Part No. 26-741-12, **or approved substitution** with the following specifications:

1. Shall be USB 3.2 compliant.
2. Shall support a SuperSpeed USB data rate of 5 bps.
3. Shall provide power delivery of up to 60 watts.
4. Shall transmit 4K/30 Display/Port video and embedded audio signals.
5. Shall be ultra-flexible, ultra-thin 0.26" (6.5 mm) diameter cable.
6. Shall include bidirectional USB power flow.
7. Shall be highly resistant to EMI/RFI interference.
8. Shall include color-coded and labeled ends.
9. Cable length shall be 12' (3.6 meters)
10. Shall be backwards compatible with previous USB standards.
11. Shall include a limited lifetime performance warranty.
12. Quantity shall be FIVE (5).

**Item 28:** SuperSpeed 5Gbps USB-C 3.2 Optical Cables with 4K/30 Video and 60 W Power Delivery, 30' (9.1 m), EXTRON USBC Pro/30, Part No. 26-741-30, **or approved substitution** with the following specifications:

1. Shall be USB 3.2 compliant.
2. Shall support a SuperSpeed USB data rate of 5 bps.

3. Shall provide power delivery of up to 60 watts.
4. Shall transmit 4K/30 Display/Port video and embedded audio signals.
5. Shall be ultra-flexible, ultra-thin 0.26" (6.5 mm) diameter cable.
6. Shall include bidirectional USB power flow.
7. Shall be highly resistant to EMI/RFI interference.
8. Shall include color-coded and labeled ends.
9. Cable length shall be 30' (9.1 meters)
10. Shall be backwards compatible with previous USB standards.
11. Shall include a limited lifetime performance warranty.
12. Quantity shall be ONE (1).

**Item 29:** USB-C to USB-A Cable, 6' (1.8 m), EXTRON USBC-A/6, Part No. 26-723-06, **or approved substitution** with the following specifications:

1. Shall provide connectivity between USB-C and USB-A devices.
2. Shall provide bidirectional data transmission and power delivery.
3. Shall support SuperSpeed USB up to 5 Gbps data rate.
4. Shall deliver 4.5 watts of USB power.
5. Shall include reversible USB-C connector.
6. Shall have gold-plated contacts.
7. Cable length shall be 6' (1.8 meters).
8. Shall include a limited lifetime performance warranty.
9. Quantity shall be SIX (6).

**Item 30:** SuperSpeed 5Gbps USB-C Cable, 6' (1.8 m), EXTRON USBC/6, Part No. 26-715-06, **or approved substitution** with the following specifications:

1. Shall support a SuperSpeed USB data rate of 5 bps.
2. Shall provide power delivery of up to 60 watts.
3. Shall support USB Alt-mode sources with up to 4K/60 video resolution.
4. Shall support HDCP.
5. Shall include reversible USB-C connectors.
6. Shall have gold-plated contacts.
7. Shall be compatible with Thunderbolt 3 devices.
8. Cable length shall be 6' (1.8 meters).
9. Shall include a limited lifetime performance warranty.
10. Quantity shall be TWELVE (12).

**Item 31:** Shielded RJ-45 Coupler for Extron XTP DTP 24 Twisted Pair Cables, Package of 10 EXTRON, XTP DTP 24 Coupler, Part No. 101-022-02, **or approved substitution** with the following specifications:

1. Shall be engineered for use with XTP DTP 22 Series and XTP DTP 24 Series Cables, or an approved comparable alternate cable.
2. Shall have fully shielded design suited for high EMI/RFI environments.
3. Shall include high performance category 6A RJ-45 keystone coupler.

4. Shall be compatible with TIA/EIA 568A/B wiring standards.
5. Shall have keystone-style snap-in design for ease of installation in wallplates, AAP AV Connectivity Modules, and similar mounting frames.
6. Shall have gold plated contacts.
7. Quantity shall be ONE (1) Package of 10.

**Item 32:** Shielded RJ-45 Punch Down Jack Kit for Extron XTP DTP Shielded Twisted Pair Cables, Package of 10, EXTRON, XTP DTP 24 Jack, Part No. 101-023-01, **or approved substitution** with the following specifications:

1. Shall be a shielded RJ-45 keystone jack engineered for use with Extron XTP DTP 24 shielded twisted pair cables, or an approved comparable alternate cable.
2. Jack shall be fully shielded for use in high EMI/RFI environments where signal integrity is critical.
3. Shall have keystone style snap-in design for ease of installation in wallplates, AAP AV connectivity modules, and similar mounting frames.
4. Shall include high performance category 6A RJ-45 keystone jack.
5. Shall include metal strain relief and ground bonding.
6. Shall be compatible with TIA/EIA 568A/B wiring standards.
7. Shall have gold plated contacts.
8. Quantity shall be ONE (1) Package of 10.

**Item 33:** Shielded RJ-45 Plug Kit for Extron XTP DTP 24 Shielded Twisted Pair Cable, Package of 10, EXTRON, Extron XTP DTP 24 Plug, Part no. 101-005-02, **or approved substitution** with the following specifications:

1. Shall be engineered for use with XTP DTP 24 Shielded Twisted Pair Cable, or an approved comparable alternate cable.
2. Shall have high performance category 6A RJ-45 plug.
3. Shall have metal strain relief and ground bonding.
4. Shall have fully shielded design suited for high EMI/RFI environments.
5. Shall be compatible with TIA/EIA 568A/B wiring standards.
6. Shall include conductor alignment guide to reduce crosstalk and signal interference.
7. Shall have gold plated contacts.
8. Quantity shall be TEN (10) Packages of 10.

**Item 34:** Shielded Twisted Pair Cable for XTP Systems and DTP Systems, Non-Plenum 1000' (305 m) spool, EXTRON, XTP DTP 24/1000, Part No. 22-236-03, **or approved substitution** with the following specifications:

1. Shall be engineered for optimum signal transmission with Extron XTP Systems and DTP Systems, or an approved comparable alternate system.
2. Shall provide added protection from outside interference and ensure high quality signal transmission.
3. Shall be certified to 475 MHz bandwidth at distances up to 330 feet (100 m).

4. Shall have DTP3 uncompressed 4K/60 video at 4:4:4 support up to distances of 175 feet (53 meters).
5. Shall meet HDBaseT Alliance performance requirements.
6. Shall exceed HDMI error rate specifications of less than one pixel per billion at 100 meters.
7. Shall include SF/UTP design with four unshielded twisted pairs inside an overall braid and foil shield.
8. Shall have 24 AWG solid copper construction.
9. Shall be non-plenum rated.
10. Spool shall contain 1,000 feet of cable.
11. Shall have limited lifetime performance warranty.
12. Quantity shall be TWO (2).

**Item 35:** Precision-terminated Shielded Twisted Pair Cables for XTP Systems and DTP Systems, 12' (3.6 m), EXTRON, XTP DTP 24/12, Part No. 26-702-12, **or approved substitution** with the following specifications:

1. Shall be engineered for superior performance with Extron XTP Systems and DTP Systems, or an approved comparable alternate system.
2. Cable shall provide added protection from outside interference and ensure high quality transmission.
3. Shall be certified to 475 MHz bandwidth at distances up to 330 feet (100 m).
4. Shall include DTP3 uncompressed 4K/60 video at 4:4:4 support up to distances of 175 feet (53 meters).
5. Shall meet performance requirements set by HDBaseT Alliance.
6. Shall exceed HDMI error rate specifications of less than one pixel per billion at 100 meters.
7. Shall include SF/UTP design with our unshielded twisted pairs inside an overall braid and foil shield.
8. Shall have 24 AWG solid copper construction.
9. Shall have molded strain relief feature to reduce cable damage at connector-sleeve stress point due to flexing and fatigue.
10. Cable length shall be 12' (3.6 m).
11. Shall be NEC CM rated, non-Plenum cable.
12. Shall have limited lifetime performance warranty.
13. Quantity shall be FIVE (5).

**Item 36:** Precision-Terminated Shielded Twisted Pair Cables for XTP Systems and DTP Systems, 3' (90 cm), EXTRON XTP DTP 24/3, Part No. 26-702-03, **or approved substitution** with the following specifications:

1. Shall be engineered for superior performance with Extron XTP Systems and DTP Systems, or an approved comparable alternate system.
2. Cable shall provide added protection from outside interference and ensure high quality transmission.
3. Shall be certified to 475 MHz bandwidth at distances up to 330 feet (100 m).

4. Shall include DTP3 uncompressed 4K/60 video at 4:4:4 support up to distances of 175 feet (53 meters).
5. Shall meet performance requirements set by HDBaseT Alliance.
6. Shall exceed HDMI error rate specifications of less than one pixel per billion at 100 meters.
7. Shall include SF/UTP design with our unshielded twisted pairs inside an overall braid and foil shield.
8. Shall have 24 AWG solid copper construction.
9. Shall have molded strain relief feature to reduce cable damage at connector-sleeve stress point due to flexing and fatigue.
10. Cable length shall be 3' (90 cm).
11. Shall be NEC CM rated, non-Plenum cable.
12. Shall have limited lifetime performance warranty.
13. Quantity shall be TWENTY-FOUR (24).

**Item 37:** EXTRON, XTP II CROSSPOINT SYSTEM, Model No. 60-1545-009152, comprised of the following components: EXTRON, XTP II CrossPoint 1600 Frame with RPS, Part No. 60-1545-11; EXTRON, XTP CP 4i 4K, Part No. 70-940-31; EXTRON, XTP Matrix Blank Plate, Part No. 70-939-01; EXTRON, XTP CP 4o 4K, Part No. 70-943-31; EXTRON, XTP CP 4o SA, Part No. 70-944-01; EXTRON, XTP T HD 4K, Part No. 60-1524-12; EXTRON, XTP R HD 4K, Part No. 60-1524-13, **or approved substitution of components** with the following specifications for a complete working system:

1. EXTRON, XTP II CrossPoint 1600 Frame with RPS, Part No. 60-1545-11, or approved substitution with the following specifications:
  - a. Shall have 5U, 8-slot frame with redundant power.
  - b. Shall provide ultra performance 50 Gbps digital backplane.
  - c. Shall have modular, field-upgradeable and hot-swappable design.
  - d. Shall be compatible with all XTP input and output boards
  - e. Shall include RS-232 insertion from the Ethernet control port.
  - f. Shall have remote powering of XTP twisted pair transmitters and receivers.
  - g. Shall have SpeedSwitch, or comparable technology that provides exceptional switching speed for HDCP-encrypted content.
  - h. Shall have EDID Minder, or comparable technology that automatically manages EDID communication between connected devices.
  - i. Shall have Key Minder, or comparable technology that continuously verifies HDCP compliance for quick, reliable switching.
  - j. Shall include audio breakaway, ethernet extension, and ethernet monitoring and control.
  - k. Shall have I/O sizes from 4x4 to 16x16.
  - l. Shall include redundant power supply.
  - m. Shall have rack-mountable 5U, full rack width metal enclosure.
  - n. Shall include a minimum 3 year parts and labor product warranty; and 7 year parts and labor Everlast power supply warranty.
  - o. Quantity shall be ONE (1).

2. XTP CP 4K Twisted Pair I/O Boards with RS-232 and IR Insertion, Four Input Board, XTP-26W Remote Power Capable, EXTRON, XTP CP 4i 4K, Part No. 70-940-31, or approved substitution with the following specifications:
  - a. Shall have four XTP inputs or four XTP outputs with RS-232 and IR insertion.
  - b. Shall extend video, audio, bidirectional RS-232 and IR, and Ethernet up to 330 feet (100 meters) over a shielded CATx cable.
  - c. Shall support computer and video resolutions up to 4K.
  - d. Shall be HDCP 2.3 compliant.
  - e. Shall be able to remotely power XTP transmitters and receivers.
  - f. Shall include a minimum 3 year parts and labor product warranty.
  - g. Quantity shall be TWO (2).
3. Single I/O Slot False Faceplate for XTP CrossPoint Matrix Switchers, EXTRON, XTP Matrix Blank Plate, Part No. 70-939-01, or approved substitution with the following specifications:
  - a. Shall be a false faceplate for an open I/O board slot, compatible with all XTP CrossPoint matrix switcher models, or approved comparable alternate matrix switcher.
  - b. Shall include a minimum 3 year parts and labor product warranty.
  - c. Quantity shall be TWO (2).
4. XTP CP 4K Twisted Pair I/O Boards with RS-232 and IR Insertion, Four Output Board, XTP-26W Remote Power Capable, EXTRON, XTP CP 4o 4K, Part No. 70-943-31, or approved substitution with the following specifications:
  - h. Shall have four XTP inputs or four XTP outputs with RS-232 and IR insertion.
  - i. Shall extend video, audio, bidirectional RS-232 and IR, and Ethernet up to 330 feet (100 meters) over a shielded CATx cable.
  - j. Shall support computer and video resolutions up to 4K.
  - k. Shall be HDCP 2.3 compliant.
  - l. Shall be able to remotely power XTP transmitters and receivers.
  - m. Shall include a minimum 3 year parts and labor product warranty.
  - n. Quantity shall be THREE (3).
5. Stereo Audio Output Board, EXTRON, XTP CP 4o SA, Part No. 70-944-01, or approved substitution with the following specifications:
  - a. Shall have four stereo audio outputs.
  - b. Shall provide balanced or unbalanced audio outputs.
  - c. Shall include audio output volume adjustment and muting.
  - d. Shall include audio breakaway enabling independent audio and video switching.
  - e. Shall include a minimum 3 year parts and labor product warranty.
  - f. Quantity shall be ONE (1).

6. 4K HDMI Twisted Pair Transmitter, EXTRON, XTP T HD 4K, Part No. 60-1524-12, or approved substitution with the following specifications:
  - a. Shall transmit video, audio, bidirectional RS-232 and IR, and Ethernet up to 330 feet (100 meters) over a shielded CATx cable.
  - b. Shall support computer and video resolutions up to 4K.
  - c. Shall include HDMI loop-through with selectable audio control.
  - d. Shall be HDCP 2.3 compliant.
  - e. Shall have remote power capability.
  - f. Shall have bidirectional RS-232 and IR insertion for AV device control.
  - g. HDMI 1.4 specification features shall include data rates up to 10.2 Gbps, Deep Color up to 12-bit, 3D, and HD lossless audio formats.
  - h. Shall have EDID Minder and Key Minder, or comparable technology.
  - i. Shall include ethernet extension; and support multiple embedded audio formats.
  - j. Shall include selectable analog input embedding.
  - k. Shall include a minimum 3 year parts and labor product warranty; and 7 year parts and labor Everlast power supply warranty.
  - l. Quantity shall be SIX (6).
  
7. 4K HDMI Twisted Pair Receiver, EXTRON, XTP R HD 4K, Part No. 60-1524-13, or approved substitution with the following specifications:
  - a. Shall receive video with embedded audio, bidirectional RS-232 and IR, and Ethernet up to 330 feet (100 meters) over a shielded CATx cable.
  - b. Shall support computer and video resolutions up to 4K.
  - c. Shall have bidirectional RS-232 and IR insertion for AV device control.
  - d. Shall be HDCP 2.3 compliant.
  - e. Shall have remote power capability.
  - f. Shall have HDMI audio de-embedding with analog stereo and digital S/PDIF audio outputs.
  - g. Shall include ethernet extension.
  - h. Shall have two relays for controlling room functions.
  - i. Shall include a minimum 3 year parts and labor product warranty; and 7 year parts and labor Everlast power supply warranty.
  - j. Quantity shall be FOUR (4).

**Item 38:** 4K HDMI Receiver, EXTRON XTP R HD 4K, XTP Receiver for HDMI, 60-1524-13, **or approved substitution** with the following specifications:

1. Shall receive video with embedded audio, bidirectional RS-232 and IR, and Ethernet up to 330 feet (100 meters) over a shielded CATx cable.
2. Shall support computer and video resolutions up to 4K.
3. Shall have bidirectional RS-232 and IR insertion for AV device control.
4. Shall be HDCP 2.3 compliant.
5. Shall have remote power capability.
6. Shall have HDMI audio de-embedding with analog stereo and digital S/PDIF audio outputs.
7. Shall include ethernet extension.

8. Shall have two relays for controlling room functions.
9. Shall include a minimum 3 year parts and labor product warranty; and 7 year parts and labor Everlast power supply warranty.
10. Quantity shall be SIX (6).

**Item 39:** 4K HDMI Twisted Pair Transmitter, EXTRON, XTP T HD 4K, Part No. 60-1524-12, **or approved substitution** with the following specifications:

1. Shall transmit video, audio, bidirectional RS-232 and IR, and Ethernet up to 330 feet (100 meters) over a shielded CATx cable.
2. Shall support computer and video resolutions up to 4K.
3. Shall include HDMI loop-through with selectable audio control.
4. Shall be HDCP 2.3 compliant.
5. Shall have remote power capability.
6. Shall have bidirectional RS-232 and IR insertion for AV device control.
7. HDMI 1.4 specification features shall include data rates up to 10.2 Gbps, Deep Color up to 12-bit, 3D, and HD lossless audio formats.
8. Shall have EDID Minder and Key Minder, or comparable technology.
9. Shall include ethernet extension.
10. Shall support multiple embedded audio formats.
11. Shall include selectable analog input embedding.
12. Shall include a minimum 3 year parts and labor product warranty; and 7 year parts and labor Everlast power supply warranty.
13. Quantity shall be FOUR (4).

**Item 40:** 4K HDMI Twisted Pair Transmitter, Decorator-Style Wallplate, Black, EXTRON, XTP T HWP 101 4K, Part No. 60-1611-12, **or approved substitution** with the following specifications:

1. Shall transmit HDMI with embedded audio up to 330 feet (100 meters) over a shielded CATx cable.
2. Shall support computer and video resolutions up to 4K.
3. Shall be HDCP compliant; and shall have remote power capability.
4. HDMI 1.4 specification features shall include data rates up to 10.2 Gbps, Deep Color up to 12-bit, 3D, and HD lossless audio formats.
5. Shall have EDID Minder and Key Minder, or comparable technology.
6. Shall include a minimum 3 year parts and labor product warranty; and 7 year parts and labor Everlast power supply warranty.
7. Quantity shall be TWO (2).

**Item 41:** Mounting Kit for PS Series Power Supplies, 10 mounting clips and accessories, EXTRON, ZipClip 100, Part No. 101-002-01, **or approved substitution** with the following specifications:

1. Shall enable Extron PS Series of External Power Supplies, or approved comparable alternate to be securely mounted on rack rails, tables, shelves, and lecterns.

2. Shall lock power supplies into place.
3. Shall include wire tie slots for proper strain relief and dressing of excess cable.
4. Kit shall include 10 mounting clips and accessories.
5. Shall include a minimum 3 year parts and labor warranty.
6. Quantity shall be FIVE (5) kits.

### **GROUP B: LED DISPLAY AND CONFERENCING CAMERA**

**Item 42:** 4K Dual-Lens PTZ Conferencing Camera with AI Technology, AVer, CAM550, Model No. COMCAM550, **or approved substitution** with the following specifications:

1. Shall be a dual-lens PZ camera with 12x optical zoom and AI technology.
2. Camera max digital zoom shall be 2x.
3. Shall include a Sony Exmor sensor, or approved comparable sensor that can handle resolutions up to 4K30, and capable of simultaneously outputting video via USB, HDMI, and IP.
4. Features shall include dynamic auto framing to allow the secondary AI lens to detect and reframe participants in the shot; and HDMI picture-in-picture.
5. Operation shall be fully automatic to optimize the coverage of meetings without the need to dedicate a specific camera operator.
6. Shall include power adapter and RJ45 to power the camera via PoE.
7. Shall include remote control, USB Type-B to Type-A cable (9.8'), HDMI cable (9.8'), RS-232 adapter cable, wall mount, 2 x M4 screws, and 2 x 1/4"-20 screw.
8. Shall include a limited 3 year warranty.
9. Quantity shall be TWELVE (12).

**Item 43:** 86"- Class 4K UHD Commercial IPS LED Display, NEC, Model No. C861Q, **or approved substitution** with the following specifications:

1. Shall be a commercial 86" LED edge-lit LCD display with 3840 x 2160 native resolution for viewing detailed 4K UHD images.
2. Shall support portrait and landscape viewing orientations and outputs up to 350 cd/m<sup>2</sup> of brightness with a 1200:1 typical contrast ratio to show light and dark on-screen images in a variety of installation environments.
3. Shall be equipped with two DisplayPorts and three HDMI inputs to connect a variety of high-resolution audio/video sources, and a USB and microSD slot for multimedia playback.
4. Shall be equipped with dual 10W speakers for audio reproduction.
5. Display panel type shall be IPS-type LCD; bit depth/color support shall be 10-Bit (1.07 billion colors).
6. Shall have dual built-in 10W speakers.
7. Shall have 60 Hz refresh rate.
8. Shall have built-in ethernet connectivity.
9. Shall be digital signage-capable.
10. Shall include IR remote control with batteries, 5.9' HDMI cable, 5.9' DisplayPort cable, 9.8' AC power cord, clamps, screws, microSD slot cover, and eyebolt bracket.

11. Shall include a full 3 year commercial warranty.
12. Quantity shall be SEVEN (7).

**Item 44:** 50" Class HDR 4K UHD Commercial LED Display, NEC, Model No. MultiSync ME501, or approved substitution with the following specifications.

1. Shall be a 50" Class HDR 4K UHD commercial LED display with 4K UHD (3840 x 2160) native resolution, 400 cd/m<sup>2</sup> brightness output with an 8000:1 typical contrast ratio.
2. Shall have DisplayPort 1.2, and two HDMI 2.0 inputs.
3. Shall have dual built-in 10W speakers
4. Shall have bezel design along all four sides of display, and capable of mounting in landscape and portrait orientation.
5. Shall have bidirectional and full external control.
6. Shall have integrated media player for audio, video or image playback via USB.
7. Shall include a full 3 year commercial warranty.
8. Quantity shall be FOUR (4).

### **GROUP C: MICROPHONE**

**Item 45:** 24" Ceiling Array Microphone – White, Shure, Model No. MXA920, or approved substitution with the following specifications:

1. Shall be a 24" ceiling array microphone to deploy for AV conferencing, camera tracking, voice lift or sound reinforcement.
2. Shall have Automatic Coverage technology, or comparable technology to provide precise control of audio capture.
3. Shall include Steerable Coverage technology, or comparable technology to place 8 pickup lobes with 8 individual audio outputs, plus an automix.
4. Shall have Onboard IntelliMix DSP, or comparable technology to apply automixing, echo cancelling, noise reduction, and automatic gain control for a pristine audio mix.
5. Shall have next generation array architecture to deliver enhanced low frequency directionality and natural speech quality.
6. Shall include Shure Audio Encryption, or comparable technology to keep meeting content secure between the MXA920 and other devices in the room.
7. Shall include command strings to enable seamless integration with third-party camera and room control systems.
8. Shall have advanced talker localization algorithm to instantly report the exact position of each talker for accurate camera tracking.
9. Shall have precise coverage control to provide exceptional isolation between microphone lobes and loudspeakers, guaranteeing maximum sound level possible in voice lift and sound reinforcement applications.
10. Shall have LED status bar with configurable colors and brightness.
11. Shall include RJ45 connector.
12. Shall have digitally steerable coverage.
13. Color shall be white.
14. Shall include a minimum 1 year product warranty.

15. Quantity shall be EIGHT (8).

All questions pertaining to the Technical Specifications must be submitted electronically through HlePRO. Questions must be submitted by **March 15, 2023 at 4:00 p.m Hawaii Standard Time (HST)**. Responses will be posted on **March 20, 2023**.

The University may refuse to answer any questions received outside of HlePRO or after the Questions/Answers deadline.

**Bidders are cautioned to review the Technical Specifications carefully and thoroughly. Objections to or requests for clarification of the specifications shall be made through HlePRO as a Question or in writing in accordance with the General Provisions to the Office of Procurement Management prior to the submittal of a bid. The submittal of a bid shall be considered as acceptance of the specifications as published.**

## SPECIAL PROVISIONS

1. SCOPE

The furnishing and delivery of audio visual equipment for University of Hawaii at Hilo shall be in accordance with the terms and conditions of IFB No. 23-6527 and the General Provisions dated September 2013 included by reference. Copies of the General Provisions are available at the Office of Procurement Management, University of Hawaii, 1400 Lower Campus Road, Room 15, Honolulu, Hawaii 96822 or the General Provisions may be viewed at: <https://www.hawaii.edu/procurement/vendor-info/terms-and-conditions/general-provisions-for-goods-and-services/>

2. AUTHORITY

IFB No. 23-6527 is issued under the provisions of Hawaii Revised Statutes, Chapters 103 and 103D. All prospective bidders are charged with presumptive knowledge of all requirements of the cited legal authorities. Submission of a valid executed bid by any prospective bidder shall constitute an affirmation of such knowledge on the part of such prospective bidder.

3. TECHNICAL REPRESENTATIVE OF THE PROCUREMENT OFFICER (TRPO)

The Technical Representative of the Procurement Officer is Charlie Snader, Director, Information Technology Services, University of Hawaii at Hilo, Telephone (808) 932-7570.

4. DELIVERY

Unless otherwise agreed to in writing, all audio visual equipment shall be delivered to Hale'ōlelo (Bldg. 355), University of Hawaii at Hilo, no later than 45 consecutive calendar days after the Notice to Proceed date. Prior to inside delivery, the Contractor shall contact Keiki Kawai'ae'a, Director, Ka Haka 'Ula O Ke'elikōlani (808) 932-7360 to coordinate inside delivery.

Inside delivery shall be F.O.B. destination to:

University of Hawaii at Hilo  
Hale'ōlelo Building #355, Rooms 202, 207, 211, 115, 116, 232  
200 W. Kawili Street  
Hilo, HI 96720

## 5. WARRANTY

The audio visual equipment furnished shall be new and as specified. The Contractor shall warrant that all equipment furnished under this contract shall be guaranteed for a period as designated in the Technical Specifications from the date of acceptance. The Contractor shall replace and/or repair any defective equipment at no cost to the University during the period of warranty, provided such defects are not due to abuse or negligence on the part of the University.

## 6. PAYMENT

The Contractor shall be remunerated upon satisfactory delivery and acceptance of the equipment, and submission of an invoice indicating the contract number to:

University of Hawaii at Hilo  
Contracts, Procurement and Payment Office  
200 W. Kawili Street  
Hilo, Hawaii 96720