



# INDIANA UNIVERSITY

## PURCHASING DEPARTMENT

### Request for Proposal

#RFP-TEC-803-2022

### 20210103-IN144D Health Sciences Renovation (Dunlap)

#### Purpose

Indiana University (IU) is requesting proposals from firms interested in providing The School of Family Medicine Audio/Visual Package for UITS Learning Spaces on the IUPUI Campus as specified herein. The intent of this Request for Proposal (RFP) and the ensuing process is to provide companies with the information, requirements, and specifications necessary for the preparation of a professional and comprehensive proposal. Specific terms and conditions are outlined.

Selection of the successful company (Supplier) will be based upon a variety of factors such as:

- Total cost of ownership (TCO)
- Ability to meet statement of needs / scope of work
- Ability to meet technical specifications
- Value Add
- Ability to meet compliance requirements
- Acceptance of Terms & Conditions
- References

This criteria have been listed in order of importance.

As used within this RFP, "Participant" shall refer to those companies receiving and responding to this RFP. "Supplier" shall refer to the successful Participant of the process. "University" shall refer to Indiana University.

## **Schedule of Events**

**Request for Proposal issued:** 12/07/2021

**Mandatory Pre-Proposal meeting:** 10:00AM EST on 12/17/2021

**\*Participants' Questions Due:** 3:00 pm EST on 01/04/2022

**Proposals Due:** 5:00 pm EST on 01/18/2022

**Selection of Supplier (by):** 01/21/2022

**Start of Implementation (on or about):** 04/15/2022

\*An email response or status of response will be provided within 48 hours (except 12/24-12/31 when purchasing offices are closed for the holiday). If the information is related to substantive content of the RFP, then clarifications will be sent to all known participants of the RFP.

**All questions and inquiries regarding this document should be submitted via the JAGGAER Supplier Portal. If you experience issues you may directly contact Purchasing Contract Manager, Jennifer Guynn, at [jenguyenn@iu.edu](mailto:jenguyenn@iu.edu) . EXCEPT FOR CASES AUTHORIZED IN WRITING BY Jennifer Guynn, DURING THE DURATION OF THIS RFP PROCESS, THROUGH SELECTION AND NOTIFICATION, ANY COMMUNICATION BY PARTICIPANTS WITH INDIANA UNIVERSITY STAFF OTHER THAN Jennifer Guynn MAY RESULT IN IMMEDIATE REJECTION OF THAT PARTICIPANT. Questions regarding this RFP should be submitted through the Q&A Board within the Supplier Portal. Questions asked after the deadline may not be answered.**

## ***Mandatory Pre-Proposal meeting Information –***

Virtual Zoom Meeting Only, No in-person meeting.  
**December 17<sup>th</sup>, 2021 10:00AM-11:00AM EDT**

Contact Info:  
Gary Cummins, (317) 274-1257

Gary Cummins is inviting you to a scheduled Zoom@IU meeting.

Topic: Indiana University Purdue University Indianapolis – Health Sciences /  
Dunlap Renovation

Join from computer or mobile:  
<https://iu.zoom.us/j/6302740137>

Meeting ID: 630 274 0137

One tap mobile  
+13017158592,,6302740137# US (Washington DC)  
+13126266799,,6302740137# US (Chicago)

Dial by your location  
+1 301 715 8592 US (Washington DC)  
+1 312 626 6799 US (Chicago)  
+1 646 558 8656 US (New York)  
+1 253 215 8782 US (Tacoma)  
+1 346 248 7799 US (Houston)  
+1 669 900 6833 US (San Jose)

Meeting ID: 630 274 0137

IU videoconferencing equipment: 26 630 274 0137

Videoconferencing equipment outside of IU:

SIP: 6302740137@zoomcrc.com

H.323:

162.255.37.11 (US West)  
162.255.36.11 (US East)  
221.122.88.195 (China)  
115.114.131.7 (India Mumbai)  
115.114.115.7 (India Hyderabad)  
213.19.144.110 (Amsterdam Netherlands)  
213.244.140.110 (Germany)  
103.122.166.55 (Australia Sydney)  
103.122.167.55 (Australia Melbourne)  
209.9.211.110 (Hong Kong SAR)  
64.211.144.160 (Brazil)  
149.137.68.253 (Mexico)  
69.174.57.160 (Canada Toronto)  
65.39.152.160 (Canada Vancouver)  
207.226.132.110 (Japan Tokyo)  
149.137.24.110 (Japan Osaka)

Meeting ID: 630 274 0137

Zoom@IU Team | [cthhelp@iu.edu](mailto:cthhelp@iu.edu) | <https://kb.iu.edu/d/bfqu>

Mandatory Site (may be online) Visit. All participants MUST attend this site visit; failure to do so will result in immediate rejection of any proposal.

## **Statement of Needs**

### **F1 Objectives**

See PDF “20210103 – IN144D AV Bid Package v1.1” and Spreadsheet “20210103 – IN144D Dunlap Building – Suggested Equipment List” for a concept drawing and suggested equipment configuration. Please note that the AV diagram and bid package is a concept drawing to help the vendors and is not considered a complete system. The functionality of the rooms is based on the audio visual drawing, equipment list, this scope, and the pre-bid walk thru question and answer. It will be up to each vendor to review the provided documentation and come up with a system based on the needed functionality and all equipment shown in provided diagrams is for a basis of design.

### **F2 Scope of Work**

The current construction schedule has substantial completion and start of AV install on April 15th, 2022.

For display locations, an FSR PWB-320 display Back Box has been installed and provided for hanging of a display and mount as specified by IU. Power and Data will be provided by IU at correct locations.

Where applicable, an FSR PWB-250 box has been installed and provided at the credenza location to above display back box and ceiling to run low voltage cabling through.

*Color options for all credenzas and lecterns will be bid is awarded.*

#### **AV Package 501: Digital Signage**

**Locations: E1001, E1041F, 1999 (Lounge), E2001 (Resident’s Room), E2080 (Breakroom)**

The named rooms above will have a 49” signage display in designated locations.

Each location will have the following:

- (1) 49” LCD monitor for hall/lobby location capable of displaying 4K content and controllable via RS-232 typical of a Sony FW-49BZ35F or equivalent.

Sources will include:

- (1) Vendor provided Roku Ultra Streaming Device.

- (1) Owner provided signage computer with HDMI or Display Port output and 4 USB type A inputs typical of a Dell OptiPlex 7080 MFF or equivalent

### **AV Package 501A: Ultrasound Extended Monitor**

#### **Location: E2065A**

The named rooms above will have a 49" signage display in the Ultrasound Exam Room.

Location will have the following:

- (1) 49" LCD monitor for hall/lobby location capable of displaying 4K content and controllable via RS-232 typical of a Sony FW-49BZ35F or equivalent.

Source will include:

- (1) HDbT wall plate transmitter/receiver pair, for HDMI connection in wall. Black in color, includes HDMI input and HDBaseT compatibility, typical of Crestron transmitter HD-TX-101-C-1G-E-B-T and receiver HD-RX-101-C-E or equivalent.

### **AV Package 502: Huddle Space**

#### **Locations: 1040A, 1040B, 1040C, 1040D, 1040E, E2027**

The named spaces above are small huddle spaces consisting of an appropriately sized display, wireless sharing device, and laptop connection.

Spaces 1040A and E2026 will have the following:

- (1) Centralized control processor capable of controlling all system components via ethernet and compatible devices with existing Crestron Fusion monitoring system and programming typical of Crestron RMC4 or equivalent.

Spaces 1040B through 1040F will have the following:

- (1) Wired ethernet I/O module with 2 com ports; typical of Crestron CEN-IO-COM-102 or equivalent

All Spaces will have:

- (1) 55" LCD monitor for credenza location capable of displaying 4K content and controllable via RS-232 typical of a Sony FW-55BZ40F or equivalent.

- (1) All-in-one soundbar, microphone array, and camera, conferencing system capable of pickup at least 15' away. Must be able to auto-frame via digital PTZ participants in the room and have a USB3.0 output with analog audio in and out typical of a Crestron UC-SB1-CAM or equivalent.
- (1) 5" black, portrait mounted touch panel for power and volume control typical of Crestron TSW-570P-B-S.
- (1) Unmanaged 5 port network switch capable of supplying PoE+ on all ports up to 140watts typical of TRENDnet TPE-TG50g or equivalent.

Sources will include:

- (1) Vendor provided Kramer VIA Connect2
- (1) Vendor provided cable cubby consisting of cable passthrough, standard NEMA power connection as well as USB power typical of Crestron FT2-202-MECH-PTL-B and appropriate inserts.
- (1) Fabric undertable cable cover typical of Crestron FT2A-UTK-CLOAK
  - NOTE: Furniture provider will precut table for cubby.
- HDMI Laptop Connection to Kramer VIA Connect2

### **AV Package 503: Standard IU Package C**

#### **Location: 1114**

The named classroom above consists of two (2) Projectors and (2) Large format displays, classroom PC with PC based video conferencing, laptop connection, and document camera.

The room will have the following:

- (1) AV Equipment rack with 18RU worth of space with rear rack rails, casters, and solid rear door, typical of a Spectrum Freedom One eLIFT EQ Rack or equivalent. Color TBD.
- (1) Height adjustable Instructor Lectern; Typical of Spectrum Honors Lecter with:
  - two flip up shelves
  - slide in rack cube
  - cut out for vendor provided cubby typical of Extron Cable Cubby 222 US
  - Color TBD.
- (1) Multi-format presentation switcher with integrated control processor, typical of Crestron DMPS3-4K-350-C or equivalent.

- (1) IP power management device for AV rack, typical of Middle Atlantic RLNK-915 or equivalent.
- (1) Unmanaged 8 port network switch capable of supplying PoE+ on all ports up to 140watts typical of Tripp-Lite NG8POE or equivalent.
- (1) 10" touch screen capable of controlling all system components and compatible with AV control system and programming. With rackmount kit, typical of Crestron TSW-1070-B-S and TSW-1070-RMK-2 or equivalent.
- (1) 1:4 HDMI to HDbT distribution amplifier w/4k60 4:4:4 & HDR. Typical of Crestron DM-DA4-4K-C or equivalent
- (1) Infrared based hearing-impaired transmitter/radiator; Listen LT-84-01 or equivalent.
- (1) Control system processor and audio DSP with 8 flexible mic/line inputs or outputs. DSP Should be capable of 8 channels of AEC as well as native control of all endpoints with dual network interface cards and USB audio and video output. Control system/DSP should also include any licenses to make it fully customizable if required typical of a QSC Core 8 Flex, SL-QUD-8-Flex-P, SL-QSE-8-Flex-P or equivalent.
  - *Please note that any QSC products purchased on behalf of Indiana University should reference the Indiana University Warranty Activation QSC product #TS-000006-WR.*
- (1) 12 Port Managed Network switch for running AES67 audio network with PoE on four ports (minimum); typical of QSC NS-1108P, QSC NS10-125+ or equivalent.
- (1) Two channel amplifier for ceiling speakers supporting 250 watts per channel at 70v; typical of QSC SPA2-60 or equivalent.
- (1) Wireless Lavalier, (1) Wireless Handheld combo typical of Shure QLXD124/85-J50A
- (2) Ceiling mounted capture linear array microphones with multi elements, beam forming with up to eight lobes, and Dante/AES67 based audio outputs. Must be powered over network connection. Typical of a Shure MXA-710W-2FT or equivalent.
- (2) PTZ cameras, wall mounted front and rear for audience and presenter capture for distance learning/video conference. Both cameras integrated into installed PC. Cameras to be capable of transmitting 1080p 60 Hz image over a single data cable and output via HDMI & SDI & Stream for PC based conferencing. Must be ethernet controllable and able to recall presets from control system. Should include appropriate mounts for the application typical of a QSC PTZ 12x72 and QSC PTZ 20x60 or equivalent.
  - *Please note that any QSC products purchased on behalf of Indiana University should reference the Indiana University Warranty Activation QSC product #TS-000006-WR.*



- (2) DigitalMedia 8G+ 4K60 4:4:4 HDR wall plate transmitters, black in color, includes HDMI input, DM 8G+ output, RS-232, IR, and HDBaseT compatibility, typical of Crestron DM-TX-4KZ-100-C-1G-B-T or equivalent.
- (6) Ceiling Mounted speakers typical of a QSC AD-C6T-LP or equivalent for voice reinforcement.
- (2) Laser Projectors capable of casting an image 65" H x 116" W from a distance of approximately 11.75' to lens; typical of Epson EB-PU1007W with ELPLW05 Lens.
- (2) Owner installed low-voltage controlled projection screens measuring 65"H x 116"W (133" Diagonal)
- (2) 75" LCD monitor for credenza location capable of displaying 4K content and controllable via RS-232 typical of a Sony FW-75BZ40F or equivalent.

Sources will include:

- (1) Owner provided classroom computer with HDMI or Display Port output and 4 USB type A inputs typical of a Dell OptiPlex 7080 MFF or equivalent
- (1) HDMI laptop connection located in lectern and extended to AV rack
- (1) HDMI Document Camera located at lectern and extended to AV rack

### **AV Package 504: Single Display Conference Room**

#### **Location: 1144**

The named room above is a medium sized conference room consisting of an appropriately sized display with a credenza for equipment located below, PC based conferencing, and laptop connection.

The room will have pathway for low voltage cables between the credenza and speakers/assisted listen/microphone locations provided by IU. Power and data will be provided by IU at correct locations.

The room will have the following:

- (1) 65" LCD monitor capable of displaying 4K content and controllable via RS-232 typical of a Sony FW-65BZ40F or equivalent.
- (1) Control system processor, 3x2 HDMI video switcher, and audio DSP. DSP Should be capable of 8 channels of AEC as well as native control of all endpoints with dual network interface cards and USB audio and video output. Control system/DSP should also include any licenses to make it

fully customizable if required typical of a QSC NV-32-H (Core Capable), SL-QUD-8N-32-H-P, SL-QSE-8N-P or equivalent.

- *Please note that any QSC products purchased on behalf of Indiana University should reference the Indiana University Warranty Activation QSC product #TS-000006-WR.*
- (1) Three bay slim equipment credenza located below display capable of holding at least 9RU worth of equipment typical of MiddleAtlantic C3 Slim Credenza or equivalent. Color TBD
- Accessories include:
  - (2) Slide out rack kits (C3TECHKIT4-SO)
  - (1) 3 Bay Frame (C3-FF32-3)
  - (1) Shelf Kit (C3-SHELFKIT)
- (1) Auto-Framing camera with 150° ultra-wide-angle video, wall mounted under display for PC video conference. Camera to be integrated into installed PC; typical of Huddly IQ Camera with Mount or equivalent.
- (1) Ceiling mounted capture linear array microphone with multi elements, beam forming with up to eight lobes, and Dante/AES67 based audio outputs. Must be powered over network connection. Typical of a Shure MXA-710W-2FT or equivalent.
- (1) 8" Touch screen capable of controlling all system components and compatible with AV control system and programming typical of QSC TSC-80W-G2-BK or equivalent.
  - *Please note that any QSC products purchased on behalf of Indiana University should reference the Indiana University Warranty Activation QSC product #TS-000006-WR.*
- (1) Infrared based hearing-impaired transmitter/radiator; Listen LT-84-01 or equivalent.
- (1) HDMI input plate mounted to side of credenza. Vendor to cut into and attach to customer specified location.
- (4) Ceiling Mounted speakers typical of a QSC AD-C6T-LP or equivalent for voice reinforcement.
- (1) Two channel amplifier for ceiling speakers supporting 60 watts per channel at 8 ohms or 70v/100v typical of QSC SPA2-60 or equivalent.
- (1) IP power management device for lectern typical of Middle Atlantic RLNK-915 or equivalent.
- (1) Unmanaged 8 port network switch capable of supplying PoE+ on all ports up to 140watts typical of Tripp-Lite NG8POE or equivalent.
- (1) 12 Port Managed Network switch for running AES67 audio network with PoE on four ports (minimum); typical of QSC NS-1108P, QSC NS10-125+ or equivalent.
  - *Please note that any QSC products purchased on behalf of Indiana University should reference the Indiana University Warranty Activation QSC product #TS-000006-WR.*

\Sources will include:

- (1) Owner provided conferencing computer with HDMI or Display Port output and 4 USB type A inputs typical of a Dell OptiPlex 7080 MFF or equivalent
- (1) HDMI laptop connection

#### **AV Package 505: Dual Display Conference Room**

##### **Location: 1146**

The named room above is a large conference room consisting of two appropriately sized displays with a credenza for equipment located below, PC based conferencing, and laptop connection.

The room will have pathway for low voltage cables between the credenza and speakers/assisted listen/microphone locations provided by IU. Power and data will be provided by IU at correct locations.

The room will have the following:

- (2) 65" LCD monitor capable of displaying 4K content and controllable via RS-232 typical of a Sony FW-65BZ40F or equivalent.
- (1) Control system processor, 3x2 HDMI video switcher, and audio DSP. DSP Should be capable of 8 channels of AEC as well as native control of all endpoints with dual network interface cards and USB audio and video output. Control system/DSP should also include any licenses to make it fully customizable if required typical of a QSC NV-32-H (Core Capable), SL-QUD-8N-32-H-P, SL-QSE-8N-P or equivalent.
  - *Please note that any QSC products purchased on behalf of Indiana University should reference the Indiana University Warranty Activation QSC product #TS-000006-WR.*
- (1) Three bay slim equipment credenza located below display capable of holding at least 9RU worth of equipment typical of MiddleAtlantic C3 Slim Credenza or equivalent. Color TBD
- Accessories include:
  - (2) Slide out rack kits (C3TECHKIT4-SO)
  - (1) 3 Bay Frame (C3-FF32-3)
  - (1) Shelf Kit (C3-SHELFKIT)

- (1) Auto-Framing camera with 150° ultra-wide-angle video, wall mounted under display for PC video conference. Camera to be integrated into installed PC; typical of Huddly IQ Camera with Mount or equivalent.
- (1) Ceiling mounted capture linear array microphone with multi elements, beam forming with up to eight lobes, and Dante/AES67 based audio outputs. Must be powered over network connection. Typical of a Shure MXA-710W-2FT or equivalent.
- (1) 8" Touch screen capable of controlling all system components and compatible with AV control system and programming typical of QSC TSC-80W-G2-BK or equivalent.
  - *Please note that any QSC products purchased on behalf of Indiana University should reference the Indiana University Warranty Activation QSC product #TS-000006-WR.*
- (1) Infrared based hearing-impaired transmitter/radiator; Listen LT-84-01 or equivalent.
- (1) HDMI input plate mounted to side of credenza. Vendor to cut into and attach to customer specified location.
- (4) Ceiling Mounted speakers typical of a QSC AD-C6T-LP or equivalent for voice reinforcement.
- (1) Two channel amplifier for ceiling speakers supporting 60 watts per channel at 8 ohms or 70v/100v typical of QSC SPA2-60 or equivalent.
- (1) IP power management device for lectern typical of Middle Atlantic RLNK-915 or equivalent.
- (1) Unmanaged 8 port network switch capable of supplying PoE+ on all ports up to 140watts typical of Tripp-Lite NG8POE or equivalent.
- (1) 12 Port Managed Network switch for running AES67 audio network with PoE on four ports (minimum); typical of QSC NS-1108P, QSC NS10-125+ or equivalent.

Sources will include:

- (1) Owner provided conferencing computer with HDMI or Display Port output and 4 USB type A inputs typical of a Dell OptiPlex 7080 MFF or equivalent
- (1) HDMI laptop connection

### **AV Package 506: ECHO Branded Conference Room**

**Location: 1140**

The named room above is a large conference room consisting of two appropriately sized displays with a credenza for equipment located below, PC based conferencing, and laptop connection.

The room will have pathway for low voltage cables between the credenza and speakers/assisted listen/microphone locations provided by IU. Power and data will be provided by IU at correct locations.

The room will have the following:

- (2) 65" LCD monitor capable of displaying 4K content and controllable via RS-232 or TCP/IP typical of a Sony FW-65BZ40F or equivalent.
- (1) Control system processor, 3x2 HDMI video switcher, and audio DSP. DSP Should be capable of 8 channels of AEC as well as native control of all endpoints with dual network interface cards and USB audio and video output. Control system/DSP should also include any licenses to make it fully customizable if required typical of a QSC NV-32-H (Core Capable), SL-QUD-8N-32-H-P, SL-QSE-8N-P or equivalent.
  - *Please note that any QSC products purchased on behalf of Indiana University should reference the Indiana University Warranty Activation QSC product #TS-000006-WR.*
- (1) Four bay slim equipment credenza located below display capable of holding at least 9RU worth of equipment typical of MiddleAtlantic C3 Slim Credenza or equivalent. Color TBD
- Accessories include:
  - (2) Slide out rack kits (C3TECHKIT4-SO)
  - (1) 4 Bay Frame (C3-FF32-4)
  - (1) Shelf Kit (C3-SHELFKIT)
- (1) PTZ camera, wall mounted below display for audience capture for distance learning/video conference. Camera integrated into installed PC. Camera to be capable of transmitting 1080p 60 Hz image over a single data cable and output via HDMI & SDI & Stream for PC based conferencing. Must be ethernet controllable and able to recall presets from control system. Should include appropriate mounts for the application typical of a QSC PTZ 12x72 or QSC PTZ 20x60 or equivalent.
  - *Please note that any QSC products purchased on behalf of Indiana University should reference the Indiana University Warranty Activation QSC product #TS-000006-WR.*
- (1) Ceiling mounted capture linear array microphone with multi elements, beam forming with up to eight lobes, and Dante/AES67 based audio outputs. Must be powered over network connection. Typical of a Sennheiser TeamConnect Ceiling 2 or equivalent.

- (2) 8" Touch screen capable of controlling all system components and compatible with AV control system and programming typical of QSC TSC-80W-G2-BK or equivalent. One panel to be wall mounted, one to be set on table-top.
  - *Please note that any QSC products purchased on behalf of Indiana University should reference the Indiana University Warranty Activation QSC product #TS-000006-WR.*
- (1) Infrared based hearing-impaired transmitter/radiator; Listen LT-84-01 or equivalent.
- (1) HDMI input plate mounted to side of credenza. Vendor to cut into and attach to customer specified location.
- (8) Ceiling Mounted speakers typical of a QSC AD-C6T-LP or equivalent for voice reinforcement.
- (1) Two channel amplifier for ceiling speakers supporting 60 watts per channel at 8 ohms or 70v/100v typical of QSC SPA2-60 or equivalent.
- (1) IP power management device for lectern typical of Middle Atlantic RLNK-915 or equivalent.
- (1) Unmanaged 8 port network switch capable of supplying PoE+ on all ports up to 140watts typical of Tripp-Lite NG8POE or equivalent.
- (1) 12 Port Managed Network switch for running AES67 audio network with PoE on four ports (minimum); typical of QSC NS-1108P, QSC NS10-125+ or equivalent.
  - *Please note that any QSC products purchased on behalf of Indiana University should reference the Indiana University Warranty Activation QSC product #TS-000006-WR.*

Sources will include:

- (1) Owner provided conferencing computer with HDMI or Display Port output and 4 USB type A inputs typical of a Dell OptiPlex 7080 MFF or equivalent
- (1) HDMI laptop connection

### **AV Package 508: Dual Display "Connected" Conference Room**

#### **Location: 1021**

The named room above is a medium sized conference room consisting of an appropriately sized display with a credenza for equipment located below, PC based conferencing, and laptop connection. This room will have the ability to view and hear content and cameras from Classrooms 1001A &1001B.

The room will have pathway for low voltage cables between the credenza and speakers/assisted listen/microphone locations as well as pathway to classroom 1001 provided by IU. Power and data will be provided by IU at correct locations.

The room will have the following:

- (2) 65" LCD monitor capable of displaying 4K content and controllable via RS-232 or TCP/IP typical of a Sony FW-65BZ40F or equivalent.
- (1) Control system processor, 3x2 HDMI video switcher, and audio DSP. DSP Should be capable of 8 channels of AEC as well as native control of all endpoints with dual network interface cards and USB audio and video output. Control system/DSP should also include any licenses to make it fully customizable if required typical of a QSC NV-32-H, SL-QUD-NV-32-H-P, SL-QSE-NV-32-P or equivalent.
  - *Please note that any QSC products purchased on behalf of Indiana University should reference the Indiana University Warranty Activation QSC product #TS-000006-WR.*
- (1) Three bay slim equipment credenza located below display capable of holding at least 9RU worth of equipment typical of MiddleAtlantic C3 Slim Credenza or equivalent. Color TBD
- Accessories include:
  - (2) Slide out rack kits (C3TECHKIT4-SO)
  - (1) 3 Bay Frame (C3-FF32-3)
  - (1) Shelf Kit (C3-SHELFKIT)
- (1) Auto-Framing camera with 150° ultra-wide-angle video, wall mounted under display for PC video conference. Camera to be integrated into installed PC; typical of Huddly IQ Camera with Mount or equivalent.
- (1) Ceiling mounted capture linear array microphone with multi elements, beam forming with up to eight lobes, and Dante/AES67 based audio outputs. Must be powered over network connection. Typical of a Shure MXA-710W-2FT or equivalent.
- (1) 8" Touch screen capable of controlling all system components and compatible with AV control system and programming typical of QSC TSC-80W-G2-BK or equivalent.
  - *Please note that any QSC products purchased on behalf of Indiana University should reference the Indiana University Warranty Activation QSC product #TS-000006-WR.*
- (1) Infrared based hearing-impaired transmitter/radiator; Listen LT-84-01 or equivalent.
- (1) HDMI input plate mounted to side of credenza. Vendor to cut into and attach to customer specified location.
- (4) Ceiling Mounted speakers typical of a QSC AD-C6T-LP or equivalent for voice reinforcement.
- (1) Two channel amplifier for ceiling speakers supporting 60 watts per channel at 8 ohms or 70v/100v typical of QSC SPA2-60 or equivalent.
- (1) IP power management device for lectern typical of Middle Atlantic RLNK-915 or equivalent.

- (1) Unmanaged 8 port network switch capable of supplying PoE+ on all ports up to 140watts typical of Tripp-Lite NG8POE or equivalent.
- (1) 12 Port Managed Network switch for running AES67 audio network with PoE on four ports (minimum) as well as SFP Fiber connectivity to central switch in classroom 1001; typical of QSC NS-1108P, QSC NS10-125+ or equivalent.

Sources will include:

- (1) Owner provided conferencing computer with HDMI or Display Port output and 4 USB type A inputs typical of a Dell OptiPlex 7080 MFF or equivalent
- (1) HDMI laptop connection
- (1) AV Stream from Classroom 1001

### **AV Package 509: ECHO Branded “Connected” Conference Room**

#### **Location: 1025**

The named room above is a large conference room consisting of two appropriately sized displays with a credenza for equipment located below, PC based conferencing, and laptop connection. This room will have the ability to view and hear content and cameras from Classrooms 1001A &1001B

The room will have pathway for low voltage cables between the credenza and speakers/assisted listen/microphone locations as well as pathway to classroom 1001 provided by IU. Power and data will be provided by IU at correct locations.

The room will have the following:

- (2) 65” LCD monitor capable of displaying 4K content and controllable via RS-232 or TCP/IP typical of a Sony FW-65BZ40F or equivalent.
- (1) Control system processor, 3x2 HDMI video switcher, and audio DSP. DSP Should be capable of 8 channels of AEC as well as native control of all endpoints with dual network interface cards and USB audio and video output. Control system/DSP should also include any licenses to make it fully customizable if required typical of a QSC NV-32-H, SL-QUD-NV-32-H-P, SL-QSE-NV-32-P or equivalent.
- (1) Four bay slim equipment credenza located below display capable of holding at least 9RU worth of equipment typical of MiddleAtlantic C3 Slim Credenza or equivalent. Color TBD
- Accessories include:
  - (2) Slide out rack kits (C3TECHKIT4-SO)
  - (1) 4 Bay Frame (C3-FF32-4)



- (1) Shelf Kit (C3-SHELFKIT)
- (1) PTZ camera, wall mounted below display for audience capture for distance learning/video conference. Camera integrated into installed PC. Camera to be capable of transmitting 1080p 60 Hz image over a single data cable and output via HDMI & SDI & Stream for PC based conferencing. Must be ethernet controllable and able to recall presets from control system. Should include appropriate mounts for the application typical of a QSC PTZ 12x72 or QSC PTZ 20x60 or equivalent.
  - *Please note that any QSC products purchased on behalf of Indiana University should reference the Indiana University Warranty Activation QSC product #TS-000006-WR.*
- (1) Ceiling mounted capture linear array microphone with multi elements, beam forming with up to eight lobes, and Dante/AES67 based audio outputs. Must be powered over network connection. Typical of a Sennheiser TeamConnect Ceiling 2 or equivalent.
- (2) 8" Touch screen capable of controlling all system components and compatible with AV control system and programming typical of QSC TSC-80W-G2-BK or equivalent. One panel to be wall mounted, one to be set on table-top.
  - *Please note that any QSC products purchased on behalf of Indiana University should reference the Indiana University Warranty Activation QSC product #TS-000006-WR.*
- (1) Infrared based hearing-impaired transmitter/radiator; Listen LT-84-01 or equivalent.
- (1) HDMI input plate mounted to side of credenza. Vendor to cut into and attach to customer specified location.
- (8) Ceiling Mounted speakers typical of a QSC AD-C6T-LP or equivalent for voice reinforcement.
- (1) Two channel amplifier for ceiling speakers supporting 60 watts per channel at 8 ohms or 70v/100v typical of QSC SPA2-60 or equivalent.
- (1) IP power management device for lectern typical of Middle Atlantic RLNK-915 or equivalent.
- (1) Unmanaged 8 port network switch capable of supplying PoE+ on all ports up to 140watts typical of Tripp-Lite NG8POE or equivalent.
- (1) 12 Port Managed Network switch for running AES67 audio network with PoE on four ports (minimum) as well as SFP Fiber connectivity to central switch in classroom 1001; typical of QSC NS-1108P, QSC NS10-125+ or equivalent.
  - *Please note that any QSC products purchased on behalf of Indiana University should reference the Indiana University Warranty Activation QSC product #TS-000006-WR.*

Sources will include:

- (1) Owner provided conferencing computer with HDMI or Display Port output and 4 USB type A inputs typical of a Dell OptiPlex 7080 MFF or equivalent
- (1) HDMI laptop connection
- (1) AV Stream from Classroom 1001

### **AV Package 510: “Connected” Divisible Classrooms**

#### **Location: 1001 (A&B)**

The named rooms above are divisible classrooms with the ability to share camera and content directly to “Connected” Conference Rooms 1021, 1023, and 1025. All systems, except the video wall and the DC power cables for the video wall, to be provided and installed by the AV provider.

The room will have pathway for low voltage cables between the rack room and video wall/speakers/assisted listen/microphone receiver/cameras/touch panel and remote HDMI input locations provided by IU., including two Wiremold 10ATCPXX, or Hubbel equivalent floor boxes. Power and data will be provided by IU at correct locations.

A central control rack will have the following:

- (1) AV Equipment rack with 18RU worth of space with rear rack rails, casters, and solid rear door, typical of a Spectrum Freedom One eLIFT EQ Rack or equivalent. Plan for appropriate shelves and blanks as needed. Color TBD.
- (2) Wireless Lavalier, (2) Wireless Handheld combo typical of Shure QLXD124/85-J50A; one set for each half of classroom
- (1) Control system processor and audio DSP with 8 mic/line inputs 8 line outputs. DSP Should be capable of 16 channels of AEC as well as native control of all endpoints with dual network interface cards and USB audio and video output. Control system/DSP should also include any licenses to make it fully customizable if required typical of a QSC Core110f, SL-QUD-110-P, SL-QSE-110-P or equivalent.
  - *Please note that any QSC products purchased on behalf of Indiana University should reference the Indiana University Warranty Activation QSC product #TS-000006-WR.*
- (1) IP power management device for AV rack, typical of Middle Atlantic RLNK-915 or equivalent.
- (1) 30 Port Managed Network switch for running AES67 audio network with PoE on four ports (minimum); typical of Netgear M4250-26GAXF-PoE+ and appropriate SFP Modules for connectivity to rooms 1021, 1023, and 1025.

- (1) Unmanaged 8 port network switch capable of supplying PoE+ on all ports up to 140watts typical of Tripp-Lite NG8POE or equivalent.
- (2) Infrared based hearing-impaired transmitter/radiator; Listen LT-84-01 or equivalent.

Classroom 1001A will have the following:

- (1) Height adjustable Instructor Lectern; Typical of Spectrum Honors Lecter with:
  - two flip up shelves
  - slide in rack cube
  - cut out for vendor provided cubby typical of Extron Cable Cubby 222 US
  - Color TBD.
- (1) IP power management device for AV rack, typical of Middle Atlantic RLNK-915 or equivalent.
- (1) Unmanaged 8 port network switch capable of supplying PoE+ on all ports up to 140watts typical of Tripp-Lite NG8POE or equivalent.
- (1) 8" touch screen capable of controlling all system components and compatible with AV control system and programming. With rackmount kit, typical of QSC TSC-80W-G2-BK and table top kit or equivalent.
  - *Please note that any QSC products purchased on behalf of Indiana University should reference the Indiana University Warranty Activation QSC product #TS-000006-WR.*
- (1) Control system processor, 3x2 HDMI video switcher, and audio DSP. DSP Should be capable of 8 channels of AEC as well as native control of all endpoints with dual network interface cards and USB audio and video output. Control system/DSP should also include any licenses to make it fully customizable if required typical of a QSC NV-32-H (Core Capable), SL-QUD-8N-32-H-P, SL-QSE-8N-P or equivalent
  - *Please note that any QSC products purchased on behalf of Indiana University should reference the Indiana University Warranty Activation QSC product #TS-000006-WR.*
- (1) Ceiling mounted capture linear array microphones with Dante/AES67 based audio outputs. Must be powered over network connection. Typical of a Sennheiser TeamConnect Ceiling 2 or equivalent.
  - (2) PTZ cameras, wall mounted front and rear for audience and presenter capture for distance learning/video conference. Both cameras integrated into installed PC. Cameras to be capable of transmitting 1080p 60 Hz image over a single data cable and output via HDMI & SDI & Stream for PC based conferencing. Must

be ethernet controllable and able to recall presets from control system. Should include appropriate mounts for the application typical of a QSC PTZ 12x72 and QSC PTZ 20x60 or equivalent.

- *\*Please note that any QSC products purchased on behalf of Indiana University should reference the Indiana University Warranty Activation QSC product #TS-000006-WR.*
- 
- (9) Ceiling Mounted speakers typical of a QSC AD-C6T-LP or equivalent for voice reinforcement.
- (1) Laser Projectors cable of casting an image 65" H x 116" W from a distance of approximately 11.75' to lens; typical of Epson EB-PU1007W with ELPLW05 Lens.
- (1) Owner installed low-voltage controlled projection screens measuring 65"H x 116"W (133" Diagonal)
- (1) 75" LCD monitor for credenza location capable of displaying 4K content and controllable via RS-232 or TCP/IP typical of a Sony FW-75BZ40F or equivalent.
- (3) Network video endpoint native to the control systems Ecosystem, serving as a multi-stream, software-configurable HDMI encoder/decoder that enables network-based video distribution. One as an encoder located in the lectern. One as a decoder at the projector. One as a decoder at the display.

Sources will include:

- (1) Owner provided classroom computer with HDMI or Display Port output and 4 USB type A inputs typical of a Dell OptiPlex 7080 MFF or equivalent
- (1) HDMI laptop connection located in lectern.
- (1) HDMI Document Camera located at lectern.

Classroom 1001B will have the following:

- (1) Height adjustable Instructor Lectern; Typical of Spectrum Honors Lecter with:
  - two flip up shelves
  - slide in rack cube
  - cut out for vendor provided cubby typical of Extron Cable Cubby 222 US
  - Color TBD.
- (1) IP power management device for AV rack, typical of Middle Atlantic RLNK-915 or equivalent.

- (1) Unmanaged 8 port network switch capable of supplying PoE+ on all ports up to 140watts typical of Tripp-Lite NG8POE or equivalent.
- (1) 8" touch screen capable of controlling all system components and compatible with AV control system and programming. With rackmount kit, typical of QSC TSC-80W-G2-BK and table top kit or equivalent.
  - *Please note that any QSC products purchased on behalf of Indiana University should reference the Indiana University Warranty Activation QSC product #TS-000006-WR.*
- (1) Control system processor, 3x2 HDMI video switcher, and audio DSP. DSP Should be capable of 8 channels of AEC as well as native control of all endpoints with dual network interface cards and USB audio and video output. Control system/DSP should also include any licenses to make it fully customizable if required typical of a QSC NV-32-H (Core Capable), SL-QUD-8N-32-H-P, SL-QSE-8N-P or equivalent.
  - *Please note that any QSC products purchased on behalf of Indiana University should reference the Indiana University Warranty Activation QSC product #TS-000006-WR.*
- (1) Ceiling mounted capture linear array microphones with Dante/AES67 based audio outputs. Must be powered over network connection. Typical of a Sennheiser TeamConnect Ceiling 2 or equivalent.
- (2) PTZ cameras, wall mounted front and rear for audience and presenter capture for distance learning/video conference. Both cameras integrated into installed PC. Cameras to be capable of transmitting 1080p 60 Hz image over a single data cable and output via HDMI & SDI & Stream for PC based conferencing. Must be ethernet controllable and able to recall presets from control system. Should include appropriate mounts for the application typical of a QSC PTZ 12x72 and QSC PTZ 20x60 or equivalent.
  - *Please note that any QSC products purchased on behalf of Indiana University should reference the Indiana University Warranty Activation QSC product #TS-000006-WR.*
- (9) Ceiling Mounted speakers typical of a QSC AD-C6T-LP or equivalent for voice reinforcement.
- (1) Laser Projectors capable of casting an image 65" H x 116" W from a distance of approximately 11.75' to lens; typical of Epson EB-PU1007W with ELPLW05 Lens.
- (1) Owner installed low-voltage controlled projection screens measuring 65"H x 116"W (133" Diagonal)
- (1) 75" LCD monitor for credenza location capable of displaying 4K content and controllable via RS-232 or TCP/IP typical of a Sony FW-75BZ40F or equivalent.
- (3) Network video endpoint native to the control systems Ecosystem, serving as a multi-stream, software-configurable HDMI encoder/decoder that enables network-based video distribution. One as an encoder located

in the lectern. One as a decoder at the projector. One as a decoder at the display.

Sources will include:

- (1) Owner provided classroom computer with HDMI or Display Port output and 4 USB type A inputs typical of a Dell OptiPlex 7080 MFF or equivalent
- (1) HDMI laptop connection located in lectern.
- (1) HDMI Document Camera located at lectern.

## **Installation Tasks to Be Completed**

### **1. AV Racks and Lectern/Tables**

#### **A. Equipment and Wiring**

- Racks/tables assembled per provided elevation drawings and/or drawings marked up for UITS Learning Spaces to show proper as-built's
  - (I) Proper spacing for document camera and touch panel so that document camera can full close and touch panel and cable cubby are still accessible
  - (II) Monitor arm is assembled per manufacturer's instructions and tightened down and secured after monitor is installed on arm. Arm tension to be set so monitor can be placed at top or bottom of movement range without rebound
- All data cables dressed with Velcro only, sufficient strain relief with cable length for service, labeled per drawings and IU labeling standards
- All audio cables dressed with Velcro only, sufficient strain relief with cable length for service, labeled per drawings and IU labeling standards
- All video cables dressed with Velcro only, sufficient strain relief with cable length for service, labeled per drawings and IU labeling standards
- All HDBaseT cables dressed with Velcro only, sufficient strain relief with cable length for service, labeled per drawings and IU labeling standards
- All power cables dressed with Velcro preferred, sufficient strain relief, and labeled per drawings and IU labeling standards.
  - (I) All power cables should be isolated to one side/section of the rack when possible
  - (II) All power cables should be of shortest length available to reduce bundling
  - (III) All power cables should only cross video, data, and audio cables if necessary, and if so, do so at 90 degrees

- RLNK and IP power controllers should have each outlet labeled physically and on web interface with installed device name that should be verified against drawings
  - (I) Cable snake between lectern/credenza and wall or rack run through black TechFlex Clean Cut Expandable Braided Nylon Sheathing of appropriate diameter, typically 1.5"
  - (II) TechFlex sheathing should be properly cut and fused to prevent unraveling
  - (III) Power cable connecting to IU duplex outlets is run on outside of cabling snake and Velcro tied to sheathing at 12" to 18" intervals
  - (IV) Velcro tie to be secured around power cable first, then wrapped around snake

## **2. Permanent Link Cabling Pulled and Terminated**

### **A. Data (Crestron DM, Belden 2413, Belden 10GX)**

- All data connections terminated to T568B
- Permanent Link cables tested and certified via Fluke for continuity and data certification
- 6 ft. service loop left on either end of cabling; either on J-Hooks or in rack when space allows.
- Cables labeled per drawing with permanent labels

### **B. Audio and Control (Belden 9451P, Belden Speaker Wire 16/2 & 14/2)**

- Permanent Link cables verified correct pin-out and gender on connectors and terminated
- 6 ft. service loop left on either end of cabling; either on J-Hooks or in rack when space allows.
- Cables labeled per drawing with permanent labels

### **C. Video (HD-SDI Coax Cable, HDMI)**

- Permanent Link cables tested and certified via Fluke for continuity and data certification
- 6 ft. service loop left on either end of cabling; either on J-hooks or in rack when space allows.
- Cables labeled per drawing with permanent labels

## **3. Install Permanent Equipment**

### **A. Speakers**

- Check polarity on connections
- Speaker taps set to correct settings for installation (70v or 8ohm)
- Aim speakers per specification from UITS Learning Spaces

### **B. Assisted Listening**

- Power switched on with switch on the back Of IR transmitter
  - Secure power and audio connections at transmitter
  - Gain pot for channels 1 & 2 turned all the way up
  - Audio line level input is connected to appropriate input per drawing (RCA or balanced phoenix)
  - Emitter aimed at center of audience
  - Verify emitter lights are illuminating
- C. Ceiling Microphone
- Microphone located within 8ft of instructor lectern table and oriented toward instructor lectern table
  - When possible mic should be no more than 8ft above finished floor
  - Mic not obstructing projector image or audience sight lines
  - Verify multiple mic placements with UITS Learning Spaces
- D. Projectors
- RS-232 pin-outs tested as indicating +/- 5 volts on both the TX and RX lines in reference to ground/common
  - Individual projector setup instruction followed for new projector installations and all menu items set and verified to correct settings
  - Projector leveled side-to-side and front-to-back, adjust side-to-side level as necessary to square image on screen
  - Projector image aimed, calibrated, and tested
  - Connect video signal cables per drawing and confirm signal passing from each source and to each destination
- E. Wall/Stand Mounted Displays
- RS-232 pin-outs tested as indicating +/- 5 volts on both the TX and RX lines in reference to ground/common
  - Display mount and display secure and level
  - Individual displays setup instruction followed for new display installations and all menu items set and verified to correct settings
  - Connect video signal cables per drawing and confirm signal passing from each source and to each destination
  - Secure cabling as to remain concealed behind display
- F. Cameras
- Cameras and mounts secured to wall/ceiling, co-mount with hearing assist system if possible
  - RS-232 pin-outs tested as indicating +/- 5 volts on both the TX and RX lines in reference to Ground/Common
  - Ensure camera movement is not obstructed



- Connect video signal cables per drawing and confirm signal passing from source to destination
- G. In Ceiling or Behind Display Permanent Mounted Equipment
  - Equipment securely mounted via screws (preferred) or zip ties to ceiling tile box, racks, display back box and/or racks, or wall located behind display
  - Network connections verified as active and on proper VLAN
  - Amplifiers installed behind displays or above projector input sensitivity pots set to 80%
  - IP based devices have had static IP addresses loaded to unit before installation, when possible

#### **4. Connections To Lectern Tables**

- A. Cable snake between lectern/credenza and wall or rack run through black TechFlex Clean Cut Expandable Braided Nylon Sheathing of appropriate diameter, typically 1.5". Snake needs to be run in a manner that does not pose a tripping hazard and be of minimal length to accommodate equipment and user needs
- B. Snake to be secured to sit/stand adjustable tables as to not bind/pinch when table is raised or lowered
- C. Cable loom between arm mounted preview monitor and underside of lectern/table run through Black TechFlex Self Wrapping Split Tubular Woven Sheathing of appropriate diameter, typically 3/4", and neatly dressed to/through arm with adequate slack to swivel each Component of the arm 180 degrees in each direction without cable strain
- D. Cables are dressed neatly under table and through monitor arm and secured to table with Velcro ties, zip ties allowed only when necessary (i.e. anchoring sheathed snake, etc.)
- E. Laptop HDMI cable is dressed to allow for smooth removal and storage, cable should not show below privacy panel of desk when retracted
- F. Power cable connecting to IU duplex outlet or equipment rack is run on outside of cabling snake and Velcro tied to sheathing at 12" to 18" intervals
  - Velcro tie to be secured around power cable first, then wrapped around snake

#### **5. Data Collection**

- A. All equipment serial numbers and mac addresses for a project are to be handed over to UITS Learning Spaces labeled by building and room and submitted to Project Engineer
- B. The following Chart should be filled out for each room once the installation is complete and submitted to UITS Learning Spaces.

Room Number	Device Name/Model	Serial Number	Mac Address	IU Data Jack ID Number

- C. Marked up as-built drawings are reviewed with UITS Learning Spaces and submitted to them

## 6. **Clean Up**

- A. All trash removed from space and discarded in appropriate dumpster  
 B. Inform UITS Learning Spaces of cosmetic touch ups needed  
 C. Any unused equipment is removed from space, returned to appropriate location with UITS Learning Spaces, and inventory records updated

## Cable Requirements

All cables must be labeled according to the attached “***IU Cable Standards - v.2\_2017.pdf***”. All cables should be dressed with Velcro to allow access to the gear so that troubleshooting the gear is possible. Zip Ties will not be accepted on any video or audio cables.

All video extensions should be terminated with female keystone adapters into a keystone patch panel. All video extenders should be remotely powered from rack end with appropriate PoE/PoE+ injectors and adapters.

Indiana University has determined the following list of manufacturers acceptable:

Network:

Network Cat 6+:

Shielded Patch Cables:

- Belden: CAT6+ Shielded Modular Cord, 4-pair, 24 AWG Solid, T568A/BT568A/B, CMR, Blue
- Typical of: <https://www.belden.com/hubfs/resources/technical/technical-data/english/C6F1100000.pdf?hsLang=en>

Unshielded Patch Cables

- Belden: CAT6+ Patch Cord, Bonded-Pair, 4 Pair, 24 AWG Solid, CMR, T568A/B-T568A/B, Black

- Typical of: <https://www.belden.com/hubfs/resources/technical/technical-data/english/C601100000.pdf?hsLang=en>

#### Unshielded Permalink (Plenum)

- Belden: Category 6+ Enhanced Premise Horizontal Cable (350MHz), 4 Pair, 23 AWG Solid Bare Copper Conductors, U/UTP, Plenum-CMP, Flamarrest® PVC-LS Jacket, Green
- Typical of: [https://catalog.belden.com/techdata/EN/2413\\_techdata.pdf](https://catalog.belden.com/techdata/EN/2413_techdata.pdf)

#### Shielded Permalink (Plenum)

- Belden: Category 6+ Enhanced Premise Horizontal Cable (350MHz), 4 Pair, 23 AWG Solid Bare Copper Conductors, F/UTP - Foil Shielded, Plenum-CMP, Flamarrest® PVC-LS Jacket
- Typical of: [https://catalog.belden.com/techdata/EN/2413F\\_techdata.pdf](https://catalog.belden.com/techdata/EN/2413F_techdata.pdf)

#### Unshielded Keystone Connectors

- Siemon: Z6-K01
- Typical of: [http://files.siemon.com/int-download-product-specsheets/siemon-z-max-6-utp-outlets\\_spec-sheet.pdf](http://files.siemon.com/int-download-product-specsheets/siemon-z-max-6-utp-outlets_spec-sheet.pdf)

#### Shielded Keystone Connectors

- Siemon: Z6A-SK06
- Typical of: [http://files.siemon.com/int-download-product-specsheets/siemon-z-max-6a-shielded-outlets\\_spec-sheet.pdf](http://files.siemon.com/int-download-product-specsheets/siemon-z-max-6a-shielded-outlets_spec-sheet.pdf)

#### Network Cat6A:

##### Shielded Patch Cables:

- Belden: 10GX Shielded Modular Patch Cords, F/UTP, 4-pair, 24 AWG Solid, T568A/B–T568A/B, Riser-CMR, Blue
- Typical of: [https://catalog.belden.com/techdata/EN/10GX%20F\\_UTP%20CMR%20PATCH%20CORDS\\_techdata.pdf](https://catalog.belden.com/techdata/EN/10GX%20F_UTP%20CMR%20PATCH%20CORDS_techdata.pdf)

##### Unshielded Patch Cables

- Belden: 10GX Modular Patch Cords, UTP, 4-pair, 24 AWG Solid, T568A/B–T568A/B, Riser-CMR, Black

- Typical of:  
[https://catalog.belden.com/techdata/EN/10GX%20UTP%20CMR%20PATCH%20CORDS\\_techdata.pdf](https://catalog.belden.com/techdata/EN/10GX%20UTP%20CMR%20PATCH%20CORDS_techdata.pdf)

#### Shielded Patch Cables (Plenum):

- Belden: 10GX Shielded Modular Patch Cords, F/UTP, 4-pair, 24 AWG Solid, T568A/B–T568A/B, Riser-CMR, Gray.
- Typical of: <https://www.belden.com/products/patch-cords-cordsets-assemblies/copper-pre-term-assemblies/copper-patch-cords/10gx-f-utp-cmp-patch-cords>

#### Unshielded Permalink (Plenum)

- Belden: 10GXS Category 6A Enhanced Premise Horizontal Cable (625MHz), 4 Pair, 23 AWG Solid Bare Copper Conductors, U/UTP, Plenum-CMP, Flamarrest® PVC-LS Jacket, Green
- Typical of: [https://catalog.belden.com/techdata/EN/10GXS13\\_techdata.pdf](https://catalog.belden.com/techdata/EN/10GXS13_techdata.pdf)

#### Shielded Permalink (Plenum)

- Belden: 10GX Category 6A Enhanced Premise Horizontal Cable (625MHz), 4 Pair, 23 AWG Solid Bare Copper Conductors, F/UTP - Foil Shielded, Plenum-CMP, Flamarrest® PVC-LS Jacket, Blue
- Typical of: [https://catalog.belden.com/techdata/EN/10GX53F\\_techdata.pdf](https://catalog.belden.com/techdata/EN/10GX53F_techdata.pdf)

#### Unshielded Keystone Connectors

- Siemon: Z6A-K01
- Typical of: [http://files.siemon.com/int-download-product-specsheets/siemon-z-max-6a-utp-outlets\\_spec-sheet.pdf](http://files.siemon.com/int-download-product-specsheets/siemon-z-max-6a-utp-outlets_spec-sheet.pdf)

#### Shielded Keystone Connectors

- Siemon: Z6A-SK06
- Typical of: [http://files.siemon.com/int-download-product-specsheets/siemon-z-max-6a-shielded-outlets\\_spec-sheet.pdf](http://files.siemon.com/int-download-product-specsheets/siemon-z-max-6a-shielded-outlets_spec-sheet.pdf)

#### Video Extension:

- Crestron DM-CBL-8G-P  
Any video extension to be terminated with female adapters
  - DM-CONN-ULTRA-RECP
  - Patch cables typical of: DM-CBL-ULTRA-PC

HDMI Cables:

- Covid HDMI 2.0 Cables in varying lengths

Microphone and 3-conductor control:

- Beldin B9451P

Speaker and low voltage power extension:

- B6200UE-U1000

Indiana University has standardized on Crestron Fusion as the preferred remote monitoring system. The university standards require as much compatibility with this system as possible.

The vender should warranty the new components for 1 year – parts and labor.

The vendor shall create all actions for a turnkey installation.

**Equipment**

The suggested equipment list is provided in the RFP email.

*Please note that the equipment list is to help the vender and is not considered a complete system. It will be up to each vender to review the equipment list and compare with the attached system design to ensure functionality and interconnectivity. Vendors will also be responsible for installing architecturally/visually appealing covers for wiring pull boxes on wall surfaces.*

**Training and Documentation**

Equipment manufacturer's operational and service manuals for each make and model of equipment in paper form and if available, electronically should be included in the turnover package.

An inventory list of all installed equipment including make, model, serial number and location should be included in the turnover package.

“As-built” diagrams for all systems including, but not limited to, schematic wiring diagrams with cable markings and internal wiring diagrams – should be included in the turnover package. There should be (1) electronic copy PDF to UITS Learning Environments Technologies Services.

System test and written recorded of test results and performance to Owner, who will conduct a site test to verify the results.

**Professional Services, Support, Maintenance and Warranty**

**(1) one-year on-site maintenance/warranty:**

This Contractor will provide at minimum a (1) one-year on-site maintenance/warranty of newly installed equipment (in addition to manufacturers' warranties on the equipment). On-site troubleshooting and service are to be included in the system warranty - State the details of all warranty coverage, including telephone support, turnaround time for on-site service following a request for service (shall be within 24 hours), hours of coverage, provision of loaner equipment, etc.

**Proposal Responses:**

The Participant's response to this proposal should include answers to the following series of questions. So that the RFP Team can easily follow the questions and responses, please assure that the question is stated immediately before the response. In addition to point-by-point responses, you may include descriptive literature if you make reference to specific contents. In reviewing the proposals, university personnel will not search through general literature. Where a question is asked, answer the question and supply any supportive detail. Any deviation from this format and sequence may result in the proposal being immediately rejected.

While responses should address all solicitation items, it is important to note that we also encourage and will consider any creative ideas for improvements or cost savings related to this transaction that may not be suggested in this document. Functional, technical, and economic solutions beyond the confines of this solicitation may also be considered.

The responses should address all solicitation items. However the University reserves the right to consider other ideas and solutions, or only a restricted subset of the configuration discussed in this document.

All optional arrangements should be described and priced separately.

All proposal responses must include:

1. The name, phone, fax number, and email address for the duly authorized agent submitting the proposal.

2. Full description of company, including experience, qualifications and executive leadership chart.
3. Documentation of any intent to use another company(ies) or private individual(s) as a subcontractor(s) for any part or the whole of the services offered in response to this RFP. Indiana University reserves the right to approve or reject any subcontracting agent or to reject proposals based on the use of subcontracted work.
4. Copies of all documents that could become part of a final Agreement arising from this process. A legal review of the Participant's proposed Agreement terms will be part of the criteria in evaluating the Participant's offer.
5. Three references from previous clients.
6. Describe in detail your company's capability of providing the services required.
7. Describe in detail other products and/or services your company has provided in the past 3-5 years for an institution of higher education that has a traditional student population. If your company is unable to provide engagements specific to higher education, please advise and describe in detail similar engagements your company has executed for the same time period.
8. Describe your methodology for providing these services, how you organize your team and the IU team, and how you ensure you deliver a quality product that meets expectations.
9. Describe the individual staff members in your company that would be assigned to this project. IU reserves the right to request resumes as needed.
10. Include all other things that would pertain to this type of product or service.
11. Describe how you would break down this project into specific tasks with a timeline and assigned costs as described in this RFP's Statement of Needs.

## **Costs**

12. Provide base proposal for product and installation.
13. Identify any other software or hardware products that are needed along with the base product that you provide.

14. Indicate what price guarantees or caps are offered on annual maintenance and support, or any other component.
15. Indicate what price guarantees or caps are offered on annual maintenance and support, or any other component.
16. Identify training options available and costs associated with those options.
17. Identify implementation and deployment service options and costs associated.
18. Specify the complete warranty terms and conditions for all products and services.
19. For all items, indicate the timeframe or expiration date for the price quoted. If prices are subject to change, indicate the pricing beyond the expiration date.
20. Attach a copy of all relevant terms and conditions, such as sample contracts, ServiceLevel Agreements, etc.
21. We encourage submitting vendors to be creative and flexible in offering pricing, financing, or other options. Indicate any other terms, discounts, conditions, opportunities, or arrangements that may be of value and interest to IU.

***\*\*\*This document is intended to provide a summary of the RFP's objective and timeline. If you wish to be invited to participate in the event, or have additional questions, please contact Jennifer Guynn via the form provided on the Public Bid posting webpage.\*\*\****