1.0 A/V CONTRACTOR REQUIREMENTS

A. The AV contractor shall have on staff an On Site Project Manager possessing a CTS certification from InfoComm with at least 5 years of installation experience assigned to this project. This project manager must be a full-time employee of the Audio/Visual contractor. The Audio/Visual contractor shall supply with their bid a copy of the CTS certificate of the Project Manager assigned to this project.

B. The AV contractor shall assign a control system programmer to this project. The assigned programmer must attend an on-site "Programming" meeting at the beginning of the project to discuss the operation and layout of each system. A preliminary user interface layout shall be presented to the client's representative prior to the installation. During start up, once the equipment checks out for manual controllability, the assigned programmer shall be scheduled for on-site testing. The programmer shall remain scheduled until the system is completely operational and the client's Representative has approved all functionality. This programmer shall, at a minimum, have completed the Essentials of Crestron Programming Training course as provided by the Crestron Technical Institute. The Audio/Visual contractor shall supply with their bid a copy of the programmer’s certificate of completion.

C. The AV Contractor shall assign a BSS Soundweb London Level 1 & Level 2 certified audio programmer for this project and supply with their bid, a copy of their certification.

2.0 BID SUBMITTAL

A. All contractors shall accompany their bid with a letter of qualifications covering, but not limited to the following: Failure to provide this information may result in bid rejection.
   1. Firm’s background
   2. Work of similar type and magnitude successfully completed within the last 2 years
   3. Letter showing certification to do business in the state of New Jersey. Provide copy of state certification with bid.
   4. New Jersey prevailing wage compliance.

B. Bidders shall submit a proposed schedule with pertinent milestones for completing the project.

C. Bidders shall list any and all potential subcontractors with a list of qualifications and certification as in section 2.0.A. The client reserves the option to deny any subcontractor

3.0 MATERIALS AND EQUIPMENT

A. All materials and equipment, unless otherwise noted, shall be new and shall conform to the applicable provisions of Underwriters Laboratories and the American Standards Association; and shall be compatible other system components.

B. Certain items of equipment are specified herein by manufacturer's type numbers to indicate the quality and functional performance required of the system and its
components. The various systems shall be bid on using exact materials and equipment specified which meet the guidelines listed under the system performance requirements.

C. The AV contractor shall be responsible for and provide all AC power strips required for each system.

D. The AV contractor shall be responsible for coordinating all audiovisual related power and data requirements provided by others.

E. Once the bid has been awarded, the Audiovisual (AV) contractor shall not deviate from the specified equipment listed herein with the exception of discontinued product, in which case the substituted item shall be of at least equal quality and functionality. Any equipment and/or materials and labor, required for a complete system, and deemed as necessary for the proper operation and installation of same, although not specifically indicated in the specifications, shall be provided as if called for in detail without additional cost to Rowan University.

4.0 CONTRACTOR’S RESPONSIBILITIES

A. Provide a turnkey system as described herein.

B. Provide all new materials unless otherwise noted.

C. Provide detailed shop drawings for field installation (see section 5.0 below).

D. Supervise all wiring and installation of materials. Cable numbers must correspond to the detailed shop drawings. Cables numbers shall be applied using computer generated, laminated wiring labels. The A/V contractor shall supply all required system cable and connectors.

E. Provide shop testing upon completion of equipment rack fabrication prior to onsite delivery.

F. Provide system testing, adjustments and final acceptance tests.

G. Provide un-compiled control system code, the control system must compile error free.

H. The handling, delivery and security of all equipment on site are the responsibility of the contractor until project closeout.

I. The A/V contractor is to provide all tools, ladders, carts and any other required equipment necessary for installation.

J. Provide a minimum of two hours of system training with the end-user to include the control system graphical user interface (GUI), a general overview of the rack mounted equipment, system power up, reboot and safe shut-down.

K. Work hours shall be from 7:30am to 4:00pm Monday thru Friday, without exception

L. All field work must be completed between 8/8/15 – 8/22/15.
5.0 SHOP DRAWINGS AND SUBMITTALS
The successful contractor shall provide the following documentation (all drawings must also include one legible paper copy in half-size or 11 x17 whichever is best for legibility:

A. Complete equipment list with specification sheets for all products.

B. Drawings for all custom plates detailing; material, color/finish, engraving, size/gang-size and required mounting hardware.

C. Audio, video and control system functional diagrams complete with:
   i. Equipment make, model and abbreviated equipment designations (i.e. SW1 switcher, CTL1 control processor, etc…)
   ii. Cable numbers
   iii. Equipment locations
   iv. Reference tags for signal types that cross over functional diagrams
   v. Symbols legend

D. Detailed rack elevations with equipment designations corresponding to the functional diagrams.

E. Wiring details and pin-outs for all connection types included in system.

F. Millwork modification details

G. Cover sheet with project title, site address and drawings list.

6.0 PROJECT FINAL DOCUMENTATION
Within two weeks of completion the of the system installation the AV contractor shall provide two CD-Rom discs with the following documentation in the following folders.

A. Owner Manuals - This folder shall contain electronic copies of manuals in PDF format

B. Operators Guide - This folder shall contain a step by step guide in PDF or Doc format

C. Control System Software - This folder shall contain a final updated copy of the un-compiled control system code.

D. Audio DSP – This folder shall contain a final updated copy the DSP configuration.

E. As Built Drawings – This folder shall contain a final copy of all system drawings included but updated to reflect the actual final accepted system. DXF file format must also be submitted of each drawing.

F. Equipment Warranties – This folder shall contain a list of all equipment used in the project along with the details of the manufacturer’s included warranty.
7.0 WARRANTY

A. The A/V contractor shall provide a minimum one year warranty that covers the entire A/V system installation, parts, shipping/handling and all other costs including labor for repairs and or replacement on all equipment including any equipment where the manufacturer’s warranty is less than 1 year.

B. During the above warranty period, the A/V contractor shall repair or replace any defective components at no cost to Rowan University. On-site response time for a service call shall be within 24 hours while under warranty.

C. The A/V contractor shall provide a 1-year warranty on the control system’s software. The A/V contractor shall be responsible for any errors and/or bugs within the programming and agrees to make on-site changes and/or fixes at no additional cost to Rowan University. This warranty shall begin upon completion or first beneficial use of the system.

8.0 PROJECT SCOPE - SYSTEM FUNCTIONAL DESCRIPTION

The following functional description shall describe the client’s expectations of the completed turn-key system. During the bidding process the bidders are to review this description for compatibility. Any discrepancies shall be submitted to the client in a clear, detailed question during the question period. Answers to the each question will be answered and placed online within a timely manner as to not delay the final bid due date. Once a bidder has been awarded the project the client shall assume that no change orders will be required to achieve the client’s expected system performance as spelled out in the following system functional description.

The scope of this project is an upgrade to an existing system. The objective of this upgrade will focus on the audio & control systems. The final control system code shall be provided to Rowan University upon completion in preparation of a future video system upgrade. The majority of new equipment shall be installed to replace the existing older technology. The following outline shall detail the new equipment and where it is replacing older equipment.

AUDIO SYSTEM

- The room is equipped with both speech and program speakers. This equipment shall be replaced entirely.
  - 9 zones of ceiling speakers
    - Replace existing JBL Control 26CT ceiling speakers with new Tannoy CVS 8, or equivalent with dispersion of 84 degrees conical pattern from frequencies 1khz-6 khz. Quantities as shown on material list.
    - These zones shall have the ability to change volume separately, allowing the back of the room to be progressively louder if need be. The University staff shall be able to mute any zone not in use.
    - Speaker location will shift one ceiling tile closer to center of ceiling section.
    - 8 Old speakers (JBL Control 26CT ) will be reinstalled in lobby area of the space. AV contractor will be responsible for installing cables for these speakers as well as installation of speakers and controls.
• Program speakers
  ▪ Recessed in the walls, next to and behind the acoustically perforated projection screen are left, center and right program speakers and a subwoofer located in the front wall. These speakers shall be replaced with (2) JBL AM7315/95 three way loudspeakers and (1) JBL AL7115 subwoofer, or equivalent. Acoustical transparent fabric to be reinstalled. These speakers are to be used only in conjunction with drop down projection screen during multimedia playback settings. Speaker quantities and types are called out in the material list.

• Microphones
  ▪ The room shall maintain all existing microphone input locations. The new system’s wireless microphone equipment will consist of 6 Shure URD wireless receivers with body packs and lavalier condenser microphone’s. Wireless receiver antennas shall be remotely mounted within the ballroom.

• Audio playback
  ▪ When the room is in use, divided or combined, using one or either of the front wall projection screens all speech and program audio shall be played back through the ceiling speakers. The program speakers shall only be used in conjunction with the large perforated projection screen.

• Press Feed
  ▪ A press feed shall be located in the rear of the room for capturing the audio during events when required.
  ▪ Audio processor and amplifiers shall be remotely accessible for service and maintenance.

CONTROL SYSTEM
• The existing control system shall be replaced entirely. The new system shall provide the following equipment:
  ▪ (2) 7” Diagonal tabletop touch screen at each lectern
  ▪ (2) 7” Diagonal wall mounted touch screen on both sides of the rear wall of the Ballroom.
  ▪ (1) Wireless tablet including docking and charging station to be located on the wall in the equipment rack room.

• The 7” diagonal touch screen controllers located on the podiums shall be programmed with a user-friendly interface designed for end-users with limited A/V knowledge. The primary focus of these touch screens is to provide critical control for the presenter during a presentation or training session. All touch panels shall have access to technical controls. Commands shall include but not be limited to shall be:
  ▪ Projector(s) on/off
  ▪ Screen(s) up/down
  ▪ Input selection of the various signal types available at the podium
  ▪ Volume control for speech and program audio
  ▪ Audio mute
  ▪ Display mute
Press and Hold system presets.

- A laptop shall be provided and installed in the equipment rack with wired network connection for remote access and/or system updates including, but not limited to, program updates and touchpanel changes.

- In addition to the aforementioned touch screen programming an XPanel shall be created for use of the Rowan University technical staff. This shall provide additional limited control options to the technical staff for remote monitoring and room setup as an added convenience.

**System Equipment racks**

- The existing system has two (2) ganged equipment racks located in a room adjacent to the main ballroom. These equipment racks shall be stripped of the existing equipment to be removed and the equipment shall be handed over to the university. These racks, along with any rack accessories and cabling being re-used shall be cleaned, organized and/or labeled for re-use consistent with the standards of the new system.
  - (Qty 2) 40U black powder coated steel racks
  - Solid locking front doors
  - Caster base
  - Additional rack accessories shall be supplied as needed for a complete, professional rack fit-out.
Rowan University – Student Center Ballroom
Audio & Control Upgrade

Equipment List:

AUDIO SYSTEM:
(2) BSS BLU-100
(1) BSS BLU-BIB
(1) Crown 4|1250N
(1) Crown 8|300N
(1) JBL Pro AL7115-WH
(2) JBL Pro AM7315/95-WH
(2) Shure UA505
(2) Shure UA850
(6) Shure UR1
(3) Shure UR4D+
(6) Shure WL185
(28) Tannoy CVS 8
(3000’) West Penn 25226 -Contractor to field verify
(500’) West Penn 25227- Contractor to field verify

AUTOMATION SYSTEM:
(1) Apple iPad Mini WiFi 16 GB
(1) iPort Control Mount Mini
(1) Crestron AV3
(1) Crestron C3COM-3
(1) Crestron C3RY-8
(1) Crestron CAGE 3
(1) Crestron CEN-SWPOE-16
(4) Crestron TSW-750-TTK-B-S
(4) Crestron TSW-752-B-S
(1) Ubiquiti Networks AirRouter
(1500’) West Penn 254245- Contractor to field verify

PRESS FEED AUDIO CAPTURE
(1) Rapco SP1-DFNF-XLR
(1500’) West Penn 25291 -Contractor to field verify

REMOTE ACCESS
(1) HP G4V04UT#ABA
(1) Middle Atlantic SS

Materials/Hardware/Connectors

On Site Prevailing Wage Installation

Crestron Programming