Audio Visual Standards

Version 1.0
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Audio Visual Components
(will be updated as document progresses)

- All Audio visual components to be integrated into a functioning system must be commercial grade hardware in order to ensure proper control, longevity, function, and support.
- All user equipment must be easily accessible by the presenter in order to promote ease of use and proper presentation flow.
- All non-user equipment that has front panel interfaces for control must have the front panel functionality disabled, the front panel covered with a vented security panel, or the equipment must be located in a lockable space.
- All new AV systems must have the capability of being remotely managed in order to expedite service to avoid down time.
- All new AV systems must accommodate analog and digital sources in order to comply with Analog Sunset 2013 and the growing trend of digital hardware.
- Centralization of AV equipment requires additional 40% floor space in the telecommunications/communications room (IDF/MDF)
AV Space Requirements

*(will be updated as document progresses)*

- While actual options will vary due to the Classroom types, all Audio Visual spaces at the College must:
  - Provide the ability to visually display content for the intended audience. Such content will utilize USB, DVD, CD, Internet, and the CofC Network.
  - Provide the ability to clearly deliver audible content to the intended audience. Such content will utilize USB, DVD, CD, Internet, and the CofC Network.
  - Provide simple and reliable control of applicable system components through a control system instead of relying on multiple component remote controls.
  - Provide analog and digital connectivity options for system sources in order to gradually ready the campus for the 2013 Analog Sunset imposed by the AACS LA.
  - Provide optimum and acceptable screen viewing areas for the audience in accordance with the *BICSI/InfoComm International AVDRM (AV Design Reference Manual)*.
  - Provide ample space for the presenter at the front of the room.
  - Provide 20 square feet per student.
  - Provide 200 square feet for uninterrupted presenter space.
Laptop Ready Room

- These rooms will vary in student count.
- In addition to the standards required in all AV spaces, the Laptop Ready Room will:
  - Provide a location where a presenter will have the ability to connect a personal laptop. There must be a dedicated hard-wired network connection for connectivity.
- Additional functionality can be implemented through the following options:
  - Whiteboard

Room Specifications

  - Ceiling Mounted Projector
    - 20A Dedicated Circuit in Ceiling Tile
    - Data Jack in Ceiling Tile
    - Extra ceiling grid wire must be installed specifically for attaching to projector tile mount. Party installing mount MUST FOLLOW MOUNT MANUFACTURER’S INSTRUCTIONS.
  - Pull Down Screen or Fixed Mount Wall Screen
    - Typically 106” 16X9 diagonal, although physical dimensions of room may dictate otherwise
    - Usually mounted on backing that has been placed on wall to ensure stability
  - Wall Mounted Display
    - FSR PWB-100 (see Figure J) mounted in wall at center height behind display. Actual height TBD on a case by case basis.
      - 1*1.25” Conduit for AV and Data
        - Layout of AV Faceplate TBD
      - 20A Dedicated Circuit
    - Backing must be installed to provide proper support. Party installing mount MUST FOLLOW MOUNT MANUFACTURER’S INSTRUCTIONS.
  - Tilt Out Surface Cabinet
    - Lowell L83-5S (see Figure H)
      - 1*1.5” Conduit for AV
        - Layout of AV Faceplate TBD
      - 1*1.5” Conduit for Data
        - Quantity of Data Jacks TBD
      - 20A Dedicated Circuit
    - Backing must be installed to provide proper support. Party installing mount MUST FOLLOW MOUNT MANUFACTURER’S INSTRUCTIONS.
  - Speakers
    - Typically Ceiling Speakers, although physical composition of the room may dictate otherwise.
    - Quantity TBD
Figure A - Laptop Ready Room
Technology Enhanced Classroom

- These classrooms will accommodate 10-60 students (380 SQFT to 1280 SQFT).
- In addition to the standards required in all AV spaces, the Technology Enhanced Classroom will:
  - Provide a location where a presenter will have the ability to connect a personal laptop. There must be a dedicated hard-wired network connection for connectivity.
  - Provide a dedicated computer that will have the ability to create and open Microsoft Office documents as well as PDF files. There must be a dedicated hard-wired network connection for connectivity.
- Additional functionality can be implemented through the following options:
  - Document camera
  - Cable (access varies by building)
  - Whiteboard or interactive pen display
  - Speech reinforcement for larger rooms
  - Lecture capture (further needs definition required)
- Room Specifications
  - Ceiling Mounted Projector
    - 20A Dedicated Circuit in Ceiling Tile
    - Data Jack in Ceiling Tile
    - Extra ceiling grid wire must be installed specifically for attaching to projector tile mount. Party installing mount MUST FOLLOW MOUNT MANUFACTURER’S INSTRUCTIONS.
  - Pull Down Screen
    - Typically 119” 16X9 diagonal, although physical dimensions of room may dictate otherwise
    - Usually mounted on backing that has been placed on wall to ensure stability
  - Lectern
    - FSR FL-500P-4 with FSR FL-500JL installed in wall (see Figure I)
      - 2*1.25” Conduit for AV
        - Layout of AV Faceplate TBD
      - 1*1.25” Conduit for Data
        - Quantity of Data Jacks TBD
      - 20A Dedicated Circuit
  - Speakers
    - Typically Ceiling Speakers, although physical composition of the room may dictate otherwise.
    - Quantity TBD
Figure B - Technology Enhanced Classroom

Legend
- Ceiling electrical drop
- Ceiling network outlet
- Lowell LB3-ES
- Lectern Wall Box

- Too close to screen
- Optimum - Can read size 12 font
- Optimum - Can read size 14 font
- Acceptable

Dimensions:
- 25'-0"
- 26'-0"
- 7'-8"
- 17'-3"
Computer Classroom/Lab

- These rooms will vary in student count.
- In addition to the standards required in all AV spaces, the Computer Classroom/Lab will:
  - Provide a location where a presenter will have the ability to connect a personal laptop. There must be a dedicated hard-wired network connection for connectivity.
  - Provide a dedicated computer that will have the ability to create and open Microsoft Office documents as well as PDF files. There must be a dedicated hard-wired network connection for connectivity.
- Additional functionality can be implemented through the following options:
  - Document camera
  - Cable (access varies by building)
  - Whiteboard or interactive pen display
  - Speech reinforcement for larger rooms
  - Lecture capture (further needs definition required)
  - Networked printer or plotter

- Room Specifications
  - Ceiling Mounted Projector
    - 20A Dedicated Circuit in Ceiling Tile
    - Data Jack in Ceiling Tile
    - Extra ceiling grid wire must be installed specifically for attaching to projector tile mount. Party installing mount MUST FOLLOW MOUNT MANUFACTURER’S INSTRUCTIONS.
  - Pull Down Screen
    - Typically 119” 16X9 diagonal, although physical dimensions of room may dictate otherwise
    - Usually mounted on backing that has been placed on wall to ensure stability
  - Lectern
    - FSR FL-500P-4 with FSR FL-500JL installed in wall (see Figure I)
      - 2*1.25” Conduit for AV
        - Layout of AV Faceplate TBD
      - 1*1.25” Conduit for Data
        - Quantity of Data Jacks TBD
      - 20A Dedicated Circuit
  - Speakers
    - Typically Ceiling Speakers, although physical composition of the room may dictate otherwise.
    - Quantity TBD
Figure C - Computer Classroom/Lab
Seminar Room

- These classrooms will accommodate 10 or fewer students. They will also require a more professional appearance overall.
- In addition to the standards required in all AV spaces, the Seminar Rooms will:
  - Provide a location where a presenter will have the ability to connect a personal laptop. There must be a dedicated hard-wired network connection for connectivity.
  - Provide a dedicated computer that will have the ability to create and open Microsoft Office documents as well as PDF files. There must be a dedicated hard-wired network connection for connectivity. A wireless keyboard and mouse may be required.
  - Have the ability to control the AV system from the table (when applicable.)
- Additional functionality can be implemented through the following options:
  - Document camera
  - Cable (access varies by building)
  - Whiteboard or interactive pen display
  - Lecture capture (further needs definition required)
  - Teleconferencing (further needs definition required)
  - Video conferencing (further needs definition required)
- Room Specifications
  - Ceiling Mounted Projector
    - 20A Dedicated Circuit in Ceiling Tile
    - Data Jack in Ceiling Tile
    - Extra ceiling grid wire must be installed specifically for attaching to projector ceiling tile mount. Party installing mount MUST FOLLOW MOUNT MANUFACTURER’S INSTRUCTIONS.
  - Wall Mounted Display
    - FSR PWB-100 (see Figure J) mounted in wall at center height behind display. Actual height TBD on a case by case basis.
      - 1*1.25” Conduit for AV and Data
      - Layout of AV Faceplate TBD
      - 20A Dedicated Circuit
    - Backing must be installed to provide proper support. Party installing mount MUST FOLLOW MOUNT MANUFACTURER’S INSTRUCTIONS.
  - Lectern/Floorboxes
    - FSR FL-500P-4 with FSR FL-500JL installed in wall (see Figure I)
      - 2*1.25” Conduit for AV
      - Layout of AV Faceplate TBD
      - 1*1.25” Conduit for Data
      - Quantity of Data Jacks TBD
      - 20A Dedicated Circuit
    - FSR FL-500P-4 installed in floor usually under hollow table legs for table connectivity (Qty TBD) (see Figure D)
      - 2*1.25” Conduit for AV
      - Layout of AV Faceplate TBD
      - 1*1.25” Conduit for Data
      - Quantity of Data Jacks TBD
      - 20A Dedicated Circuit
  - Speakers
- Typically Ceiling Speakers, although physical composition of the room may dictate otherwise.
  - Quantity TBD
- Possible Equipment Room
  - Depending on the needs of the room, an extra room may be necessary to house an equipment rack.
  - Multiple 20A Dedicate Circuits. Qty TBD
Figure D- Seminar Room
Boardroom

- These rooms will accommodate 20 or fewer participants. They will also require a more professional appearance overall.
- In addition to the standards required in all AV spaces, the Boardroom will:
  - Provide a location where a presenter will have the ability to connect a personal laptop. There must be a dedicated hard-wired network connection for connectivity.
  - Provide a dedicated computer that will have the ability to create and open Microsoft Office documents as well as PDF files. There must be a dedicated hard-wired network connection for connectivity. A wireless keyboard and mouse may be required.
  - Have the ability to control the AV system from the table.
- Additional functionality can be implemented through the following options:
  - Document camera
  - Cable (access varies by building)
  - Whiteboard or interactive pen display
  - Lecture capture (further needs definition required)
  - Teleconferencing (further needs definition required)
  - Video conferencing (further needs definition required)
- Room Specifications
  - Ceiling Mounted Projector
    - 20A Dedicated Circuit in Ceiling Tile
    - Data Jack in Ceiling Tile
    - Extra ceiling grid wire must be installed specifically for attaching to projector ceiling tile mount. Party installing mount MUST FOLLOW MOUNT MANUFACTURER’S INSTRUCTIONS.
  - Electric Screen
    - Typically 100” diagonal, although physical dimensions of room may dictate otherwise
    - Usually mounted flush within ceiling
    - 20A Dedicated Circuit with Momentary, Non Latching, Single Pole Double Throw Wall Switch
  - Wall Mounted Display
    - FSR PWB-100 (see Figure I) mounted in wall at center height behind display. Actual height TBD on a case by case basis.
      - 1*1.25” Conduit for AV and Data
      - 20A Dedicated Circuit
    - Backing must be installed to provide proper support. Party installing mount MUST FOLLOW MOUNT MANUFACTURER’S INSTRUCTIONS.
  - Lectern/Floorboxes
    - FSR FL-500P-4 with FSR FL-500JL installed in wall (see Figure I)
      - 2*1.25” Conduit for AV
      - 1*1.25” Conduit for Data
      - 20A Dedicated Circuit
    - FSR FL-500P-4 installed in floor usually under hollow table legs for table connectivity (Qty TBD) (see Figure D)
- 2*1.25” Conduit for AV
  - Layout of AV Faceplate TBD
- 1*1.25” Conduit for Data
  - Quantity of Data Jacks TBD
  - 20A Dedicated Circuit
- Speakers
  - Typically Ceiling Speakers, although physical composition of the room may dictate otherwise.
  - Quantity TBD
- Possible Equipment Room
  - Depending on the needs of the room, an extra room may be necessary to house an equipment rack.
  - Multiple 20A Dedicated Circuits. Qty TBD
Figure E - Boardroom
Lecture Hall

- These classrooms will accommodate 60 or more students (greater than 1280 SQFT.)
- In addition to the standards required in all AV spaces, the Lecture Hall will:
  - Provide a location where a presenter will have the ability to connect a personal laptop. There must be a dedicated hard-wired network connection for connectivity.
  - Provide a dedicated computer that will have the ability to create and open Microsoft Office documents as well as PDF files. There must be a dedicated hard-wired network connection for connectivity.
- Additional functionality can be implemented through the following options:
  - Document camera
  - Cable (access varies by building)
  - Whiteboard or interactive pen display
  - Speech reinforcement
  - Lecture capture (further needs definition required)
- Room Specifications
  - Ceiling Mounted Projector
    - 20A Dedicated Circuit in Ceiling Tile
    - Data Jack in Ceiling Tile
    - Extra ceiling grid wire must be installed specifically for attaching to projector ceiling tile mount. Party installing mount MUST FOLLOW MOUNT MANUFACTURER’S INSTRUCTIONS.
  - Electric Screen
    - Typically 133” 16X9 diagonal, although physical dimensions of room may dictate otherwise
    - Usually mounted flush within ceiling
    - 20A Dedicated Circuit with Momentary, Non Latching, Single Pole Double Throw Wall Switch
  - Lectern/Floorboxes
    - FSR FL-500P-4 with FSR FL-500JL installed in wall (see Figure I)
      - 2*1.25” Conduit for AV
        - Layout of AV Faceplate TBD
      - 1*1.25” Conduit for Data
        - Quantity of Data Jacks TBD
      - 20A Dedicated Circuit
    - FSR FL-500P-4 installed in floor (Qty TBD)
      - 2*1.25” Conduit for AV
        - Layout of AV Faceplate TBD
      - 1*1.25” Conduit for Data
        - Quantity of Data Jacks TBD
      - 20A Dedicated Circuit
  - Speakers
    - Typically Ceiling Speakers, although physical composition of the room may dictate otherwise.
    - Quantity TBD
  - Possible Equipment Room
- Depending on the needs of the room, an extra room may be necessary to house an equipment rack.
- Multiple 20A Dedicate Circuits. Qty TBD
Figure F- Lecture Hall
Film Screening Classroom

- These classrooms will accommodate 10-60 students (380 SQFT to 1280 SQFT.)
- In addition to the standards required in all AV spaces, the Technology Enhanced Classroom will:
  - Provide a dedicated computer that will have the ability to create and open Microsoft Office documents as well as PDF files. There must be a dedicated hard-wired network connection for connectivity.
  - Provide a BluRay player.
  - Provide surround sound.
- Additional functionality can be implemented through the following options:
  - Provide a location where a presenter will have the ability to connect a personal laptop. There must be a dedicated hard-wired network connection for connectivity.
  - Document camera
  - Cable (access varies by building)
  - Whiteboard or interactive pen display
  - Speech reinforcement for larger rooms
  - Lecture capture (further needs definition required)

Room Specifications

- Ceiling Mounted Projector
  - 20A Dedicated Circuit in Ceiling Tile
  - Data Jack in Ceiling Tile
  - Extra ceiling grid wire must be installed specifically for attaching to projector ceiling tile mount. Party installing mount MUST FOLLOW MOUNT MANUFACTURER’S INSTRUCTIONS.
- Electric Screen
  - Typically 119” 16X9 diagonal, although physical dimensions of room may dictate otherwise
  - Usually mounted flush within ceiling
  - 20A Dedicated Circuit with Momentary, Non Latching, Single Pole Double Throw Wall Switch
- Wall Mounted Display
  - FSR PWB-100 (see Figure J) mounted in wall at center height behind display. Actual height TBD on a case by case basis.
    - 1*1.25” Conduit for AV and Data
      - Layout of AV Faceplate TBD
    - 20A Dedicated Circuit
  - Backing must be installed to provide proper support. Party installing mount MUST FOLLOW MOUNT MANUFACTURER’S INSTRUCTIONS.
- Lectern/Floorboxes
  - FSR FL-500P-4 with FSR FL-500JL installed in wall (see Figure I)
    - 2*1.25” Conduit for AV
      - Layout of AV Faceplate TBD
    - 1*1.25” Conduit for Data
      - Quantity of Data Jacks TBD
    - 20A Dedicated Circuit
  - FSR FL-500P-4 installed in floor usually under hollow table legs for table connectivity (Qty TBD) (see Figure D)
    - 2*1.25” Conduit for AV
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- Layout of AV Faceplate TBD
  - 1*1.25” Conduit for Data
    - Quantity of Data Jacks TBD
  - 20A Dedicated Circuit

- Speakers
  - Surround Sound
    - Typically wall mounted, although physical composition of the room may dictate otherwise.
    - 7.1 speaker configuration of Front Left, Front Right, Front Center, Back Left, Back Right, Side Left, Side Right, and Subwoofer.
    - Each speaker will require conduit for connectivity to equipment rack.
    - Backing must be installed to provide proper support. Party installing mount MUST FOLLOW MOUNT MANUFACTURER’S INSTRUCTIONS.
    - Subwoofer requires 20A dedicated circuit

- Speech Reinforcement Speakers
  - Typically Ceiling Speakers, although physical composition of the room may dictate otherwise.
  - Quantity TBD

- Possible Rack Room
  - Depending on the needs of the room, an extra room may be necessary to house an equipment rack.
  - Multiple 20A Dedicate Circuits. Qty TBD
Figure G – Film Screening Classroom
Figure H – Lowell L83-5S
Figure I – Wall Box: FSR FL-500P-4 with FL-500JL
Figure J – Wall Box for Wall Mounted Display: FSR PWB-100