

## Standards for Classrooms, Conference Rooms, and Digital Signage

### Classrooms

A standard electronic classroom will consist of an equipment rack, a user-friendly touch panel control system, data projector, projection screen, and speaker system for supporting the display of multimedia.

The touch panel control system will be Crestron-based, allowing users to switch between all AV sources as well as raise and lower the projection screen. It will also be capable of connecting to the RoomView server via the campus LAN.

The classroom will include a quad network outlet (4 network connections: one for maintenance and three electronic classroom network connections), a wall phone, and a quad power outlet. Wireless access will be included, with density based on classroom capacity.

#### Standards:

- Crestron-based control system capable of connecting to RoomView server
- Crestron touch panel with a standardized interface (floor rack option requires mounting blackbox for touch panel)
- Source code for all Crestron programming
- In-rack power conditioner and convenience outlet with no switch or a non accessible secured power switch
- DVD/VCR combo
- University standard PC workstation (or Mac) with keyboard, mouse, USB (or FireWire) extension, and external monitor (labeled COMP on touch panel)
- Equipment rack able to accommodate and secure a small-form factor PC and all other AV devices (no computer in-rack with Mac)
- Well labeled inputs and outputs both inside and outside the equipment rack
- Ceiling mounted data projector and a spare bulb
- Pair of wall or ceiling mounted stereo quality speakers (larger rooms may require additional speakers)
- Ceiling recessed or wall mounted projection screen operable via Crestron-based control system and an additional wall switch
- Detailed device wiring diagram for the system
- Wireless network access
- Wall phone
- Four network connections to support AV requirements
- NOTE: All rack-mounted devices, data projector, and any additional AV equipment must be secured with tamper-resistant screws, including any blank plates in the equipment rack

#### In-rack AV Inputs:

- XLR microphone input (independent of projection system being powered on)
- Stereo audio RCA inputs (labeled AUX)
- RCA composite video input or newer technology (labeled AUX)
- VGA input (labeled LAPTOP)
- 3.5mm stereo audio input (labeled LAPTOP)
- USB extension cable (to be run with Monitor extension bundle)

#### AV Outputs:

- XLR audio output
- LAN convenience jack (laptop network connection)
- VGA extension cable (not a VGA jack) output for external monitor
- USB extension cable (to be run with VGA extension bundle for monitor)

Loyola will provide the PC workstation, keyboard, mouse, external monitor, phone, as well as a quad network outlet and a quad power outlet. The AV Integrator will provide all other necessary devices, cabling, installation materials, rack labeling, Crestron programming, system tuning, and labor to set up a complete and functional system. At the conclusion of the installation, AV Integrator will compile a detailed equipment list containing make/model, serial number, and date purchased for Media Services. AV Integrator will also provide a **full 3-year warranty** to cover maintenance for all installations, and any necessary training and on-site support.

#### Desk Rack Option:

A lockable desk equipment rack will be used. The rack will sit on a workstation desk (not provided by Media Services or AV Integrator) where the touch panel, monitor, keyboard, mouse, and USB cables will be. The extension cables running from the rack should be ample in length. It is recommended the touch panel and monitor be left or right aligned on the desk. NOTE: This setup may include a stand-alone podium with no equipment (not provided by Media Services or AV Integrator).

#### Floor Rack Option:

A lockable floor equipment rack will be used. The rack will sit adjacent to a workstation desk (not provided by Media Services or AV Integrator) where the touch panel (encased in a mounting backbox), monitor, keyboard, mouse, and USB cables will be extended. The extension cables running from the rack should be ample in length to reach the desk. It is recommended the touch panel and monitor be left or right aligned on the desk. NOTE: This setup may include a stand-alone podium with no equipment (not provided by Media Services or AV Integrator).

#### Wall-Mounted Rack Option:

A lockable wall-mounted equipment rack will be used. The rack will be securely mounted to a front or side wall. The touch panel will be mounted in the rack. The rack must have an opening in the back sufficient to accommodate the power and network outlets in the wall. The monitor, keyboard, mouse, and USB cables will be extended to a workstation desk (not provided by Media Services or AV Integrator) nearby. The extension cables running from the rack should be ample in length to reach the desk, and the monitor left or right aligned on the desk. NOTE: This setup may include a stand-alone podium with no equipment (not provided by Media Services or AV Integrator).

#### Network Outlet Variations:

The network jacks will be terminated in different locations depending on the AV rack option.

With a desk rack or floor rack option, the network outlet will be positioned on the wall at standard height, close to the AV cable wall plate. The network patch cables will run from the jacks to the rack in the bundle with the AV cables. This method also applies to the podium add-on option (see below).

With a wall-mounted mount rack option, the network outlet will be positioned on the wall such that the opening in the back of the cabinet will fit over the network and power outlets, so the network and power outlets actually end up inside the cabinet. The network patch cables are run completely inside the cabinet.

#### Podium Add-On Option:

A fixed or a movable podium containing an integrated and lockable equipment rack will be used. The podium will also include an accessible touch panel, monitor, keyboard, and mouse tray. It is recommended the touch panel and monitor be left or right aligned and integrated into the podium face.

#### Video Capture Add-On Option:

A classroom can be upgraded to include audio and video capture. This will require a wall or ceiling mounted camera, a wireless lavalier microphone for the instructor, a ceiling mounted room microphone for recording students, and a hard drive-based video capture appliance mounted in the rack and accessible via the LAN. The camera, microphones, and video capture appliance will be controllable via the touch panel display.

#### Standards:

- Wall or ceiling mounted video camera
- Wireless lavalier microphone
- Ceiling mounted room microphone
- Video capture appliance controllable via the touch panel and accessible via LAN
- Camera and microphone outputs connected to the video capture appliance

## Conference Rooms

A **small conference room** is classified as a room with a maximum capacity of 10 (specialized room geometry may modify capacity). It will be equipped with a wall-mounted 46" (or larger) LCD monitor, an AV input wall plate, an accessible VGA cable, and a department controlled laptop. A standard telecom outlet will be located close to the AV wall plate.

#### Standards:

- 46" or larger LCD monitor
- Lockable wall mount
- Wall plate with AV inputs
- University standard Laptop
- Remote security
- Speakerphone
- Wireless network access
- Network connections as required around the room perimeter

#### AV Inputs on Wall Plate:

- Stereo audio RCA inputs (labeled AUX)
- RCA composite video input or newer technology (labeled AUX)
- VGA input (labeled LAPTOP)
- 3.5mm stereo audio input (labeled LAPTOP)

A **large conference room** is classified as a room with a maximum capacity of 40 (specialized room geometry may modify capacity). It will be equipped with a data projector, projection screen, speaker system, and a secured PC workstation with an option for department controlled wireless keyboard and mouse. The PC workstation can be replaced with an accessible VGA cable and a department controlled laptop.

Standards:

- Ceiling mounted data projector and a spare bulb
- Pair of wall- or ceiling-mounted stereo quality speakers (larger rooms may require additional speakers)
- Ceiling recessed or wall mounted projection screen operable via a wall switch
- University standard PC workstation (or Mac)
- Department controlled wireless keyboard and mouse
- Speakerphone
- Wireless network access
- Network connections as required around the room perimeter

In-rack AV Inputs:

- XLR microphone input (independent of projection system being powered on)
- Stereo audio RCA inputs (labeled AUX)
- RCA composite video input or newer technology (labeled AUX)
- VGA input (labeled LAPTOP)
- 3.5mm stereo audio input (labeled LAPTOP)

AV Outputs:

- XLR audio output
- LAN convenience jack
- VGA extension cable (not a VGA jack) output for external monitor.
- USB extension cable (to be run with VGA extension bundle for monitor)

Control System Add-On Option:

A lockable equipment rack that houses a Crestron-based control system and any additional room equipment as needed (see Standards under Classroom).

A **multipurpose room** is classified as a room with a capacity in excess of 40. It will be equipped with a Crestron-based control system, podium, data projector, projection screen, speaker system, wireless microphone, wall phone, wireless network access, and a secured PC workstation.

Standards:

- Crestron-based control system capable of connecting to RoomView server
- Source code for all Crestron programming
- Podium includes...
  - Crestron touch panel with a standardized interface integrated into podium face
  - In-rack power conditioner and convenience outlet with no switch or a non accessible secured power switch
  - DVD/VCR combo
  - University standard PC workstation (or Mac) with keyboard, mouse, and USB (or FireWire) extension (labeled COMP on touch panel)
  - PC Monitor integrated into podium face

- Equipment rack able to accommodate and secure a small-form factor PC and all other AV devices (no computer in-rack with Mac)
- Well labeled inputs and outputs both inside and outside the equipment rack and podium face
- Podium gooseneck microphone (independent of projection system being powered on)
- Podium light
- Network connections at rack required to support equipment
- Ceiling mounted data projector and a spare bulb
- Pair of wall- or ceiling-mounted stereo quality speakers (larger rooms may require additional speakers)
- Minimum 4 speaker, voice lift audio system to improve voice intelligibility
- Ceiling recessed or wall mounted projection screen operable via Crestron-based control system and an additional wall switch
- Wireless lavalier and handheld microphone
- Wall phone
- Wireless network access
- Network connections as required around the room perimeter

#### In-rack AV Inputs:

- XLR microphone input (independent of projection system being powered on)
- Stereo audio RCA inputs (labeled AUX)
- RCA composite video input (labeled AUX)
- VGA input (labeled LAPTOP)
- 3.5mm stereo audio input (labeled LAPTOP)
- USB extension cable

#### AV Outputs:

- XLR audio output
- LAN convenience jack
- VGA extension cable (not a VGA jack) output for external monitor

Loyola will provide the PC workstation, keyboard, mouse, external monitor, as well as a quad network outlet and a quad power outlet. The AV Integrator will provide all other necessary devices, cabling, remote security, installation materials, rack labeling, system tuning, and labor to set up a complete and functional system. At the conclusion of the installation, AV Integrator will compile a detailed equipment list containing make/model, serial number, and date purchased for Media Services. AV Integrator will also provide a **full 3-year warranty** to cover maintenance for all installations, and any necessary training and on-site support.

#### Wall-Mounted Option:

A lockable wall-mounted equipment rack will be used. The network jacks will be located on the wall at the back of the rack, and the network patch cables will be run within the rack. The rack must have an opening in the back sufficient to accommodate the power and network outlets in the wall. The rack will be securely mounted to a front or side wall and include a touch panel display. It is recommended the touch panel be centered. This option also requires accessible hard wired monitor, keyboard, and mouse. All equipment must be secured, and all rack screws must be security bits.

## Digital Signage

A digital signage location will consist of a wall, ceiling, or floor-stand mounted 40" LCD monitor for video (VGA) and audio reproduction. It is recommended the monitor be wall mounted. Each signage location will be equipped with a duplex outlet and network jack.

### Standards:

- 40" professional grade LCD monitor
- Media player with Web-based digital signage software (must contain Windows XP Pro)
- Lockable wall, ceiling, or floor-stand mount
- VGA video/audio over cat5 transmitter
- VGA video/audio over cat5 receiver
- Standard rack shelf for equipment in telecom location
- NOTE: All mounting hardware must be secured to the LCD monitor with tamper-resistant screws
- Subscription to hosting service for content storage (current provider is Silver Beacon; media application is Dynasign)

Loyola will provide 1 twisted pair RJ-45 connection and dual power outlet at monitor location, a rack shelf in a secured telecom location, and preferred signage application and hardware (subscription-based). The AV Integrator will provide all other necessary devices, cabling, installation materials, rack labeling, system tuning, and labor to set up a complete and functional system. At the conclusion of the installation, AV Integrator will compile a detailed equipment list containing make/model, serial number, and date purchased for Media Services. AV Integrator will also provide a **full 3-year warranty** to cover maintenance for all installations, and any necessary training and on-site support.