Mac Collaborative Teaching Cluster

Classroom Equipment Guide

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Introduction

Features

**Teaching Mode**

**Display**
- from lectern desktop
- from student machines
- from other devices
- from document camera
- from Blu-ray or DVD
- software-based conferencing

**Play Audio**
- from any selected device

**Student Mode**

- Display student machine on designated LCD display
- Play audio from student machines

Provide Feedback

For CTC equipment suggestions, questions, or to schedule an equipment demonstration, contact Clusters Services: clusters@andrew.cmu.edu or call 412-268-8776.
Connect a Device

Equipment Cables in the Room
Provided at Tables: 2 HDMI, 1 VGA, and 1 Audio cable for additional laptop connections

Provided at Lectern: 1 VGA, 1 HDMI, and 1 Audio cable

Equipment Cables/Adapters Not Provided

IMPORTANT! If you are using the following equipment, be sure to bring the appropriate cable or adapter with you:

- iPad, iPhone, iPod Touch - Composite AV Video USB cable, VGA adapter, or HDMI adapter
- Addtl. Laptop - VGA or HDMI cable
  Note: Cables are provided for 1st laptop
- Mac Laptop - Mac adapter
- Music Device - mini-to-mini cable
- VCR / Video Camera - RCA cable
- Internet - Ethernet Cable (if unable to use wifi)

Connections available from the front panel of the Lectern:
Select a Lectern Mode

Touching anywhere on the touch screen wakes the system. Select between Teaching or Student mode.

Display the document camera, blu-ray player, laptop, etc. in addition to displaying student computers on LCD displays or using software-based conferencing

Display student computers or auxiliary inputs from each table to a designated LCD display

To toggle between modes and clear all LCD displays, touch the System ON/OFF button.
Use the Touchscreen

Depending on the mode selected, the touch screen changes to display Teaching Mode or Student Mode options.

**Teaching Mode**

- What to display
- Additional Options
- Where/How to display

**Student Mode**

- What to display

**NOTE:** All computers and LCD displays are labeled for easy identification.
Teaching Mode: Display a Device

1. Touch a Lectern Device to Display. Touch the connection type, if applicable.
2. Touch Main Display Primary Source or Main Display Secondary Source (under the Main Display Source banner).
3. Touch Synchronize all Displays with Main Display under Display Controls.

OPTIONAL: Select a Display Controls option and/or maximize the screen using the plus icon or touch the black screen icon to clear; exit the maximized screen by tapping anywhere on the screen.
Teaching Mode: Display Controls

**NOTE:** Display Control buttons are on/off toggles while Annotation Mode buttons are single selection buttons. Multiple Display Controls options can be selected and combined with Annotation Modes.

A highlighted blue button means the selection is enabled.
E.g. from the image below, **Route Student Computers to Displays** is enabled.

### Display Controls
- **Synchronize all Displays With Main Display**
- **Route Student Computers to Displays**

### Annotation Modes
- **Combined Image to all Displays**
- **White Board to all Displays**
- **Single Display**

- **displays lectern devices to only the main LCD display or to all LCD displays in the room**
- **displays a student computer to all or only specified LCD displays**
- **displays one lectern/one student computer OR two student computers as a side-by-side (split-screen) display on all screens with annotation tools**
- **displays a blank whiteboard with annotation tools to all of the room LCD displays**
- **displays a single display with annotation tools**
Display Controls: Synchronize all Displays with Main Display

1. Touch a Lectern Device to Display.
2. Touch Main Display Primary Source or Main Display Secondary Source (under the Main Display Source banner).
3. Touch Synchronize all Displays With Main Display.

OPTIONAL: Use the Main Display Secondary Source to preview your device’s display prior to projecting on the Main Display Secondary Source.
Display Controls: Route Student Computers to Displays

1. Touch **Route Student Computers to Displays**.

2. Touch a student seat number from the map.
   **NOTE**: Each computer/LCD display is labeled and corresponds with the map.

3. Touch an area to display the device:
   a. Display on the primary LCD display
   b. Display on any individual LCD display in the room
   c. Display using **Synchronize all Displays With Main Display** to project the same image to all LCD displays.
Display Controls: Combined Image to All Displays (Split-Screen)

1. Select one of the following:
   a. Touch a Lectern Device to Display — OR —
   b. Touch Route Student Computers to Displays and select a seat number.
2. Touch Main Display Primary Source for the 1st device
3. Repeat step 1 for the 2nd device.
4. Touch Main Display Secondary Source for the 2nd device.
5. Touch Combined Image to all Displays. A split-screen of the 1st and 2nd devices appears on all LCD displays.
Display Controls: White Board to All Displays or Single Display

**NOTE:** For White Board to all Displays, select **White Board to All Displays.** No further action is necessary.

1. Touch a **Lectern Device to Display.**
2. Touch **Main Display Primary Source** under the **Main Display Source** banner.
3. Touch **Synchronize all Displays with Main Display** under **Display Controls.**
4. Touch **Single Display** and touch **Main Display Primary Source** (under the **Main Display Source** banner).
5. Use the **Annotation Menu Bar** to make your desired annotations on your display.

**Pen Tool**
- Clear Annotations

**Pen Colors**

**Eraser**

**Line Weight**

**Back Arrow**

**Display Controls**
- Synchronize all Displays With Main Display
- Route Student Computers to Displays
- Combined Image to all Displays
- White Board to all Displays
- Single Display
Teaching Mode: Display a Blu-Ray/DVD/MP3 Disc or Auxiliary Device

Select Auxiliary for any of the following: Music, VCR, Video Cameras, older iPods, iPads, and iPhones (using Composite cables)

1. Touch **Blu-ray/CD Player** or **Auxiliary** from the Lectern Device to Display.
2. Touch **Main Display Primary Source** or **Main Display Secondary Source** (under the Main Display Source banner).
3. Touch **Synchronize all Displays with Main Display** under Display Controls.
4. **OPTIONAL**: Select a Display Controls option and/or maximize the screen using the plus icon or touch the black screen icon to clear; exit the maximized screen by tapping anywhere on the screen.
5. Use the **Player Controls** for Blu-Ray/DVD/CD or the **Input Controls** for Auxiliary devices.
Teaching Mode: Play Audio

1. Select a Lectern Device to Display for playing audio.
2. Touch the **audio icon** in the volume section. Touch **Main Display Primary Source** or **Main Display Secondary Display** (under the **Main Display Source** banner) to activate sound.
3. Use the slider to adjust volume settings.

**NOTE:** Ensure the appropriate device is selected. The system follows the device that is selected to produce audio.

For cluster workstations in the room, select **Lectern (Crestron)** to route audio through the lectern. From the cluster workstation, complete the following:

a. Navigate to **Apple > System Preferences > Sound**

b. Click the **Output** tab.

c. Select **Crestron** and close the window.

d. From the lectern, select **Desktop** and toggle the audio button.

**NOTE:** Revert these changes by following the same steps and selecting **Internal Speakers**.
Teaching Mode: Use the Document Camera

1. Touch **Doc Cam** under Lectern Device to Display.
2. Touch **Main Display Primary Source** or **Main Display Secondary Source** (under the Main Display Source banner).
3. Touch **Synchronize all Displays with Main Display** under Display Controls.
4. **OPTIONAL:** Select an Annotation Modes option
5. Adjust the document camera using the Doc Cam Controls.
Teaching Mode: Document Camera Controls

Touch Panel Controls:
- **Zoom** - Controls the image size
- **Focus** - Manually focuses the document camera
- **Lamp** - Turns the document camera light on/off
- **Freeze** - Creates a still image; display can be moved without altering the image on-screen

Physical Document Camera Controls:
- **Power** - on/off
- **INT/EXT** - internal/external switching function
- **AF** - Auto focus
- **MF/AWB** - Manual focus; white balance
- **ESC** - Return to live image at any point
- **Left/Right** - Zoom in/out adjustment
- **Up/Down** - brightness up/down adjustment
- **Capture (Camera)** - Press to capture still images to an SD card
- **Capture (Video)** - Press to capture movies w/ audio to an SD card
- **Mode** - Switch to live image, picture, or video mode
- **Freeze** - Freeze live image
- **Lamp** - Turn the LED light on/off
Teaching Mode: Conferencing

1. Touch Desktop under Lectern Device to Display.
2. Touch Main Display Primary Source (under the Main Display Source banner).
3. Touch Synchronize all Displays with Main Display under Display Controls.
4. Touch Setup Cameras For Conferencing Software under Desktop Controls.
5. From the Mac Desktop, open your preferred Video Conferencing Software (e.g. Skype, Google Hangout, FaceTime).
6. Configure the camera view using the controls under Desktop Controls.

NOTE:
Software-based videoconferencing applications (not limited to but including Google Hangout, Skype, FaceTime, etc.) are NOT supported by Computing Services; refer to the software’s help documentation for instructions.
Teaching Mode: Conferencing - Camera Controls

**Control the camera facing the presenter**

**Control the camera facing the audience**

**Camera will follow audio in the room**

**Camera returns to a Home preset**

**Camera zooms out to cover a larger area**

**Arrow Buttons** - pan the camera left, right, up, down

**Magnifying Glasses** - Zoom In/Out

**Green-Highlighted Buttons** - current selection

**Blue-Highlighted Buttons** - not the current selection (inactive)
Teaching Mode: Conferencing - Video Best Practices

- **IMPORTANT!** Only ONE software-based conferencing application (such as Skype) can be used at a time. You **MUST** use the desktop provided at the lectern.
- Think about what should be the main focus for the room and adjust the camera to pan/tilt/zoom.
- Use the appropriate camera depending on the view you want to achieve (Presenter or Audience camera).
- When taking notes during conferencing, pan/tilt/zoom to a whiteboard or move a mobile whiteboard to an appropriate viewing location.

**NOTE:** Software-based conferencing applications (not limited to but including Google Hangout, Skype, etc.) are NOT supported by Computing Services; refer to the software’s help documentation for instructions.
Teaching Mode: Conferencing - Audio Best Practices

- **IMPORTANT!** You **MUST** use the desktop provided at the lectern.
- Use a headset for clarity and consistent volume.
- Use the *Follow Conversation* feature during a large discussion to follow each participant.

  **Note:** There is a 2 second audio switch delay and a 5 second camera delay so that the audio/camera does not jump around. Also note that the presenter microphone has priority and student machines impact the feature (turn external audio off when using this feature).

- With audio from multiple locations, it is best to use the cluster workstation’s internal speakers. This can be set at the workstation, select **Apple > System Preferences > Sound > Select Internal Speakers.** To project audio throughout the room, select **Lectern (Crestron).**

- To receive audio from remote participants through the room’s sound system, use the AV Bridge selection. At the lectern, select **Apple > System Preferences > Sound > Select AV Bridge.**

- For participants at remote locations, mute audio when not speaking to eliminate background noise (e.g. typing).

**NOTE:** Software-based conferencing applications (not limited to but including Google Hangout, Skype, etc.) are **NOT** supported by Computing Services; refer to the software’s help documentation for instructions.
Student Mode: Display a Device and Play Audio

1. Touch a **Seat Number** OR **Digital/VGA** button from each table. The device display will automatically appear on the table’s designated LCD display and is selected for audio control.

2. Use the volume controls to adjust volume settings. Audio will come out of the designated LCD display.

**NOTE:** Ensure the device is connected if selecting Digital/VGA. All computers and LCD displays are labeled for easy identification.
Troubleshooting

Q. How do I get out of a maximized screen and return to the lectern selection display?
   A. Tap anywhere on the touch panel to minimize and return to the lectern selection display.

Q. Why isn’t my laptop projecting?
   A. Ensure your device is connected using the appropriate cables.
      
      For Windows: Press the *projection* button on your laptop. This may be F4, F5, F7, or F8 but will vary based on manufacturer.
      
      For Mac: Navigate to System Preferences > Displays, and click the Arrangement tab to configure display options.

Q. How do I project my laptop on a certain screen?
   A. From the touch panel, select the lectern device to display and touch the main display titles or touch an LCD display from the room map.

Q. Can I preview my device’s display prior to projecting to the LCD displays?
   A. Yes, use the Main Display Secondary Source to preview your device’s display prior to projecting on the Main Display Primary Source.

Q. Why isn’t my image being projected using the document camera?
   A. Check that the document camera is physically powered on and that INT/EXT option is NOT on. If INT/EXT option is on, press the button to cycle it off. Repeat the steps in Teaching Mode: Use the Document Camera.
Troubleshooting

Q. What is the best resolution for projecting my display?
   A. 1080p or higher resolutions are preferred. It is generally good practice to set LCD monitors to their native resolution. You may need to configure your screen resolution for best results.

Q. How do I play audio from my device?
   A. Ensure the device used for audio is connected using the appropriate cables and selected on the touch panel (Lectern Device to Display). Check for any loose cables and ensure you have adjusted the volume slider. You may need to toggle the System On/Off if multiple devices are in use.

Q. I don’t have my files - how do I get to my CMU file storage?
   A. Access your files from the Andrew File System (AFS), Box, or MyFiles and SandBox. Visit http://www.cmu.edu/computing/accounts/afs-storage/ for more information.
   Faculty can request a Project Volume for additional storage space. Visit http://www.cmu.edu/computing/accounts/afs-storage/storage/projvol/ for more information.

Q. Who do I contact with questions about conferencing software?
   A. Software-based conferencing applications (not limited to but including Google Hangout, Skype, Facetime, etc.) are NOT supported by Computing Services; refer to the software’s help documentation for instructions.