To turn on the system:
Touch anywhere on the touch screen control panel.

**Document Camera**

**Touch Screen Control Panel**

**Annotation Display**

**DVD/VHS Players**

**VIDEO & AUDIO MUTES:**
Press Video Mute to black-out the image and mute the sound. Press Audio Mute to mute only the sound. To unmute the image or sound, simply press the respective button again.

**VOLUME:**
Use these buttons to adjust the volume up or down.

**CONTROL PANEL TIPS**

**PLEASE REMEMBER TO TURN OFF THE SYSTEM WHEN YOU ARE DONE USING IT.**

- Once the system is turned off, it will take approximately 3 minutes for the cool-down cycle to complete.
- Since it is not possible to restart the system until this cycle is complete, use VIDEO MUTE if you plan to use the system again during your class period.
- To ensure that the auto-shutdown feature does not interrupt your class, press any source button at the start of your class. The auto-shutdown feature shuts the system off after 4 hours without a system selection.

**TO SWITCH BETWEEN SOURCES:**
Press the Projection Source button of the item you wish to display.

When the button stops blinking, the source is ready to use.

For additional assistance or to set up an equipment training session, please call the Classroom Support Hotline at 612-625-1086.

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Laptop Tips

1. The standard cables are located in the pocket of the instructor podium.

**Please note:** The projection system allows for a laptop computer to be connected either directly to the projector or to the annotation display. To connect your laptop to the projector, you will need to use the cable labeled “LAPTOP.”

2. Connect the VGA cable to the laptop before you turn on the laptop. Be sure to align the cable with the port and push it in straight, taking care to not bend the pins.

**Please note:** Some Apple laptops have a DVI (or mini-DVI) port, rather than the standard VGA port. To use the projection system, you will need to use an adapter to connect your computer to the laptop cable. If you do not have an adapter, you can purchase one at the U of M Bookstore. OCM does not supply adapters in classrooms.

3. Connect the thin audio cord into the headphone jack of your laptop (not the microphone jack).

4. Press the “Laptop” button on the touch screen control panel. When the button stops blinking, start the laptop.

Activate the external display:

*For PC (Windows-based) Laptops:* To activate the external display, you must press and hold the Function key (labeled “Fn”); while holding down the “Fn” key, press the appropriate secondary key (as noted in the chart at right). The image should appear on the screen.

*For Mac (Apple) Laptops:* To activate the external display, open “System Preferences” on your laptop. Click on “Displays,” then “Detect Displays.” The image should appear on the projection screen.

### Type of PC Laptop | Keys to Press
--- | ---
Acer or Aspire | Fn+F5
Asus eee mini | Fn+F8
Dell | Fn+F8
Gateway | Fn+F3
HP or Compaq | Fn+F4
HP Mini | Fn+F2
Lenovo (IBM) | Fn+F7
Sony Vaio | Fn+F7
Toshiba | Fn+F5

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**IF YOU NEED TO ADJUST THE LAPTOP VOLUME:**

Increase the system volume by using the volume up/down buttons on the control panel.

- If you cannot hear any audio, verify that the "Audio Mute" button on the system control panel is not on. When this button is selected, the audio will not play.
- You can also increase the volume by adjusting the volume on the laptop itself (using the laptop’s control panel). If that does not work, verify that the laptop’s mute button is not selected.

**IF THE IMAGE IS DISTORTED, OR YOU SEE AN ERROR MESSAGE THAT INDICATES “FREQUENCY OUT OF RANGE”:** You may need to adjust the monitor resolution.

- **For PC Laptops:** From the Start Menu, open the Control Panel and double-click on the “Display” icon. Select the “Settings” tab, and adjust the screen resolution to 1024 by 768 pixels.
- **For Mac Laptops:** Open “System Preferences” on your laptop. Click on “Displays,” and in the “VGA Display” window select “1024 x 768, 60.0 Hz” from the list.
Using the Auxiliary Video (for External Devices)
The data/video projector is capable of displaying audio and video from a variety of user-provided external devices (including portable DVD players, iPods, and more) using the Auxiliary Video input jacks. To connect an external video playback device, you will need to provide the appropriate AV cable (with yellow, white, and red connectors).
1. Connect the AV cables to the output jacks on the device and to the input jacks on the front of the equipment rack (below the DVD player).
2. Press the “Auxiliary Video” button on the touch screen (located on the instructor’s table). The image from the device should appear on the projector screen.

Using the DVD Player
1. Press the button marked “DVD Player” on the main touch screen control panel. When the button stops blinking, the system is ready for use.
2. Insert your DVD or CD. Use the buttons on the front panel of the DVD player to control the player.

To use closed captioning:
To activate the closed captioning, locate the “Closed Captioning” switch near the VHS and/or DVD player. Flip the switch to the “ON” position.

If the DVD image is freezing or distorted:
- Remove the disc from the player & check the disc for damage.
- Clean the disc (to remove smudges or fingerprints).

Using Projector Aspect Ratio Controls
The aspect ratio controls offer several different options to display content on the classroom’s widescreen projector. If you do not select any aspect ratio options:

- When displaying a computer screen, the projector will attempt to match the computer display settings.
- When displaying a video, VCR: the projector will display standard 4:3; DVD: projector will attempt to match settings encoded on the DVD.

If the display is distorted, employing aspect ratio controls may help correct the distortion:
- Press the button marked “Projector Aspect Ratio Controls” on the main touch screen control panel.
- Allow the system to adjust to a new setting. If the new display is still distorted, press the button again or use the “Auto Setup” option.
- More information is available in the Widescreen Aspect Ratio guide at: http://www.classroom.umn.edu/support/AspectRatio.html
Using the Annotation Display

1. Locate the laptop connection cables (in the pocket of the instructor station). The metal cover may need to be flipped up to access the cables. Please note: The projection system allows for a laptop computer to be connected either directly to the projector or to the annotation display. To use the annotation display, you will need to connect your laptop to the cable labeled “ANNOTATION DISPLAY.”

2. The release catch for the camera head is located at the base of the arm. While holding the catch open, unfold the camera head and lamps. The arm should move freely once the catch has been released.

3. Be sure that the top of the camera head is aimed directly down.

4. Press the “Document Camera” button on the touch screen control panel. When the button stops blinking, the system is ready for use.

Using the Document Camera

1. If the camera head (containing the lens) and lamps are folded, you will first need to unfold these items using the camera’s release catch.

2. The release catch for the camera head is located at the base of the arm. While holding the catch open, unfold the camera head and lamps. The arm should move freely once the catch has been released.

3. Be sure that the top of the camera head is aimed directly down.

4. Press the “Document Camera” button on the touch screen control panel. When the button stops blinking, the system is ready for use.

Document Camera Tips

<table>
<thead>
<tr>
<th>SHOWING TRANSPARENT VS. OPAQUE MATERIALS:</th>
<th>IF THE IMAGE COLOR OR BRIGHTNESS IS IMBALANCED:</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ Use the “LAMP” button to adjust the light source. Each time you press the button, it cycles through these settings: upper lamps on, lightbox on, and all lightings off.</td>
<td>✓ You can automatically adjust the color by placing a white piece of paper under the lens and pressing the “AWC” (Auto White Color) button on the document camera.</td>
</tr>
<tr>
<td>✓ When using transparencies or slides, change the light source to “lightbox on” (this will backlight the object from the white box in the center of the document camera).</td>
<td>✓ Use the “IRIS +/-” buttons on the document camera to adjust brightness.</td>
</tr>
<tr>
<td>✓ When using opaque objects, change the light source to “upper lamps on.” Adjust lamps so the light is directed at the object.</td>
<td></td>
</tr>
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<tr>
<th>TO RE-SIZE THE IMAGE:</th>
<th></th>
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<tbody>
<tr>
<td>✓ Use the “ZOOM +/-” button to reduce or enlarge the image size.</td>
<td></td>
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<tr>
<th>IF THE IMAGE IS BLURRY:</th>
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<tbody>
<tr>
<td>✓ Use the “APERTURE” button to control image sharpness. For images with mostly text, turn the aperture ON. For images with many pictures or colors, turn aperture OFF.</td>
</tr>
<tr>
<td>✓ Use the “AF” button to automatically focus the image.</td>
</tr>
</tbody>
</table>

Using the Annotation Display

1. Locate the laptop connection cables (in the pocket of the instructor station). The metal cover may need to be flipped up to access the cables. Please note: The projection system allows for a laptop computer to be connected either directly to the projector or to the annotation display. To use the annotation display, you will need to connect your laptop to the cable labeled “ANNOTATION DISPLAY.”

2. Connect the VGA cable to the laptop before you turn on the laptop. Be sure to align the cable with the port and push it in straight, taking care to not bend the pins.

3. Connect the USB cable to an available USB port on your laptop. Press the power button to turn on the annotation display.

4. Press the “Annotation Display” source button on the touch screen control panel. When the button stops blinking, the system is ready for use.

5. Start your laptop. The image will appear on both the annotation display and the projector. If the image doesn’t appear on your laptop after starting up, activate the external display (see Connecting a Laptop).

6. To return to the main touch screen menu, press “Escape.”

To use the annotation display with your laptop computer, you will need:

✓ Driver software. This software must be installed on your laptop computer. It is available for both the Windows and Mac OS X operating systems. There is no charge for the software.

✓ A Wacom-brand annotation pen. The display will not respond to anything but this pen. OCM does not supply these pens.

For more information on using the annotation display: Please contact John Knowles at 612-626-8650 or knowl014@umn.edu.
**Using the Wireless Microphone**

1. Clip the microphone mouthpiece to your shirt, about 3 inches directly below your chin.

2. Turn the microphone transmitter on. *The ON/OFF switch will be on either the top or the front of the transmitter (depending on the model).*

**Please remember to turn off the wireless microphone after use.**

**Wireless Microphone Tips**

**If the Microphone is not Working:**
- First try changing the batteries.
  - Spare batteries are kept in either the drawer with the microphone, or in the pocket of the instructor station.
  - If you use the last set of spare batteries, or if changing the batteries does not solve the issue, please call the Classroom Support Hotline at 612-625-1086.

**If the Volume is Too Low/High:**
- Adjust the placement of the mouthpiece on your shirt.
  - The microphone volume is optimized for the classroom and is not user adjustable.
  - The “Audio Mute” button will not mute audio from the microphone. To mute the microphone audio, simply turn the microphone off.

**Using the Hearing Assistance Equipment**

1. Remove a headset from the charging cradle located in the instructor station drawer.

2. Put on the headset. *Please note: For best reception, put the headset in front of your face with the earphones on top and the company logo on the bottom, facing outward.*

3. Adjust the volume to desired level using the volume knob.

4. Return the headset to the charging cradle when you are finished using it.

**Note: Do Not** place or store any liquid or metal objects near the hearing assist charging cradle. This will cause possible interference, electrical shorting, or shock.

**Hearing Assistance Equipment Tips**

- Any sound that is coming through the classroom system (such as audio from the DVD/VHS player, laptop, and instructor microphone) should be audible on the headsets.

- If you experience interference or static, try moving to a different location. Also, be sure that you are facing the front of the auditorium.

**If you experience problems with the hearing assistance equipment or have any other questions, please call the Classroom Support Hotline at 612-625-1086.**
Using the U of M Network

To connect to the Wired Network:
Simply connect the Ethernet cord (near the instructor station) to the Ethernet jack on your laptop.*

*Please note: You will need to register and setup your computer for DHCP Service (Dynamic Host Configuration Protocol) prior to using the Ethernet connection.

To connect to the Wireless Network:
Simply open a web browser (e.g., Internet Explorer, Firefox, Safari). You will be prompted to log in with your U of M Internet ID (X.500) and password.

Wireless Network Tips

If the connection is slow or does not work properly:
Verify that you are connected to the “UofM Wireless” connection.

✓ There may be other wireless network connections within range of the classroom. Connecting to a non-U of M network may cause the connection to be slow or not work properly.

If you do not have a U of M Internet ID:
Guests to campus may use the "UofM Guest" network for free.

For more information about obtaining guest access to the U of M network, please visit the following website:
http://www.oit.umn.edu/wireless/guest-access/index.htm

Understanding DHCP:

✓ Once registered and set up, DHCP allows you to automatically connect to the network on any campus classroom Ethernet jack.

✓ DHCP registration should be done in advance of the time you need to use the network, as the registration confirmation process may take several minutes.

DHCP registration can be done online at:
http://www.oit.umn.edu/network/setup-guides/

Data network service and support is provided by the Office of Information Technology. For further assistance with the wireless or wired network connection, please call the 1-HELP Technology Helpline at 612-301-4357.

Using the Overhead Projector

1. Verify that the projector is plugged into a power outlet.

2. Turn on the projector power switch.

3. Turn the knob on the lens column to adjust the focus.

4. Turn off the power when you are finished using the projector.

Overhead Projector Tip

If the Projector Lamp Burns Out:
Switch to the alternate lamp.

Each overhead projector contains two lamps. If the primary lamp is out, you can switch to the alternate and continue using the projector:

1. Turn off the power to the projector.

2. Locate the flip-up door on the front corner of the projector. To switch to the alternate lamp, lift up on the flip-up door and turn the knob to the other lamp indicated (either “1” or “2”).

3. Close the flip-up door tightly.

4. Turn the power back on. The alternate lamp should now be functioning.

Overhead Projector Tip

If the Projector is On but Does Not Project Any Light:
Verify that the flip-up door is closed tightly.

✓ If you can hear the fan of the projector running, but the machine is not projecting anything, verify that the flip-up door is closed tightly (see #2 and #3 at right). The lamps will not illuminate if the door is ajar.

If both lamps are burned out, please call the Classroom Support Hotline at 612-625-1086. We will dispatch a technician to replace the lamp as soon as possible.