Quick Guide to the Audiovisual System

Chemistry Room G8-G9
School of Arts and Sciences—Chemistry
Howard University

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Centralized system controls
You can control most system elements from the lectern with the Touch Screen panel, which displays arrays of virtual control buttons. The Touch Screen is mounted flush in the top surface of the lectern.

You can do the following with the Touch Screen:
• Present images and sound from any one of six video and data sources.
• Switch at will between sources.
• Control the operation of several source devices.
• Adjust audio levels for program material, the lectern microphone, and a lavaliere microphone.
• Set the room lighting and the window shades.

The Touch Screen Main page. Control the AV system by pressing virtual buttons.

System components
System components are mounted in the lectern and in an equipment rack in the closet.

Data sources
The fast, high-capacity PC is connected to the University LAN and to the Internet. The processor is mounted in the lectern; the monitor is mounted flush in the top of the lectern; and the keyboard and mouse are in a tray below the monitor.

A laptop computer, if provided by the lecturer, can be connected to the system through an adapter box mounted flush in the top of the lectern.

Video sources
The document camera provides images of transparencies, papers, books, and small three-dimensional objects. It is in a drawer in the right side of the lectern.

The 35mm-slide-to-video converter mounted in the equipment rack uses standard 80-slide Carousel trays.

The DVD player in the equipment rack plays DVD video, DVD sound, and CD sound discs.

The S-VHS deck in the equipment rack plays both high-quality S-VHS tapes and regular VHS tapes.

Audio sources
A gooseneck microphone is mounted on the lectern. You can substitute a wireless lavaliere microphone for the lectern microphone.

High-fidelity stereo speakers for program sound—audio associated with computer, VHS, and DVD sources—are mounted on the wall on each side of the Smartboard.

Ceiling speakers are distributed around the room as outputs for the microphone audio system.
The display environment

The LCD video projector is permanently attached to the ceiling.

The Smartboard is a 72-in diagonal interactive projection screen. You can use the Smartboard in several ways:

- As a projection screen
- As a passive whiteboard
- As an interactive whiteboard
- As a computer controller in place of both mouse and keyboard

You can use the Smartboard to annotate any computer-generated images that are projected on the Smartboard.

The Smartboard software is installed on the lectern computer and is available for installation on laptops.

Opaque shades completely block window light. Control them with the Touch Screen; use them whenever you use the projector.

Preset room lighting combinations are selectable with the Touch Screen controller.
The Touch Screen controller displays virtual buttons that emulate the action of electromechanical switches. Some buttons open control menus; other buttons directly control system devices. To activate a function, press its button firmly.

Generally, red button labels indicate active functions, and blue button labels indicate inactive functions.

The Touch Screen controls are available as long as the system is powered, but the screen goes blank if it has not been used for a while. If the screen is blank, touch it anywhere to activate it. If the Welcome page is displayed, touch it anywhere to display the Main page.

Note: Don’t worry about occasionally pressing the wrong button. You may confuse your class, but you cannot confuse or damage the AV system. However, if you turn the projector power off and on often during a presentation, you will shorten the lamp life.

The Touch Screen Main page

The buttons and menus on the Touch Screen Main page control the AV system. The buttons and menus in the right and left columns are always displayed; the menus in the center change in response to selections made in other menus. For example, when you press the Source Select button the Touch Screen displays the Select Source menu, and when you press VCR Player in the Select Source menu, the Touch Screen displays controls for the VCR (and the projector displays the video from the VCR).

The buttons and menus do the following:

• **System Power** displays a center menu that controls power to the AV system components.

• **Welcome Screen** displays the Welcome page. It does not turn any device on or off, nor does it select or deselect any source.

• **Source Select** displays a center menu of six program sources: Lectern PC, Lectern Laptop, Document Camera, (35mm) Slide-to-Video, VCR, and DVD/CD.

• **Volume** buttons adjust the sound levels of the separate program and microphone systems.

• **Panel Adjust** opens center menus for setting Touch Screen panel brightness and timeout settings.

• **Shades and Lighting** menus control the room lights and window shades.
Other Touch Screen pages

The Welcome page

The Welcome page is a cover page and main menu for the Touch Screen controls. Touch any part of the Welcome page except the two buttons and the Touch Screen will display the Main page, which contains the AV controls. The buttons open the Operations Notes and System Setups pages.

*Note: You can return to the Welcome page at any time.* On the Main page, press Welcome Screen; on the Operation Notes page, press Exit to the Welcome Screen; on the System Setups page press Back to Welcome Screen.

The Operation Notes page

The Operations Notes page offers help on controlling the AV system. Press a topic button and information on that topic will be displayed in the text panel.

The System Setups page

The System Setups page enables you to set system time, date, and auto-shutdown time.

The AV system will turn itself off—cut power to everything except the Touch Screen—if you don’t use it for a preset interval. That interval is the auto-shutdown time. This mechanism prevents the system from running more than 8 hours without use and thereby lengthens component life. You can set the auto-shutdown time from 1 to 8 hours in one-half-hour increments.
Activate the Touch Screen

You may need to activate the Touch Screen display. A screen-saver function turns off the display—the screen goes blank—after a predetermined interval of inactivity, without turning off power to the Touch Screen.

To activate the Touch Screen display after the screen has gone blank, touch the screen anywhere. The Touch Screen will then display the Welcome page.

Turn on (off) the AV system

Use the Touch Screen controller to turn the AV system power on and off. The Touch Screen is powered all the time, even when all the other components are switched off.

To turn on the AV system,

1. Press System Power on the Main page. The Touch Screen will display the System Power menu in the middle of the page.

2. Select one of three system power options in the System Power menu:
   - To turn on power to the entire system, press Audio + Video Presentation. The projection screen will appear blank for a minute or so until the projector lamp warms up.
   - To turn on the microphone system, but not the program audio or the video system, press Audio Only Presentation.
   - To turn on the rack and projector separately, press Advanced Controls.

To turn off the AV system, press Full System Shutdown in the System Power menu. The system will cut power to all components except the Surge X power surge suppressor and the Touch Screen. The projector will enter its cool-down mode and you will not be able to restart it for five minutes.
To turn on (off) the projector by itself,
1. Press System Power on the Main page. The Touch Screen will display the System Power menu.
2. Press Advanced Controls. The Touch Screen will display the Projector Controls and Rack Power menus.
3. Press the Projector On (Off) button in the Projector Controls menu.

After you turn the power on, the projection screen will appear blank for a minute or so until the projector lamp warms up. The button label turns from blue to red to indicate that the projector power is on.

When you turn the power off, the projector enters a five-minute cool-down period during which you cannot turn the power back on.

Note: Leave the projector power on until the presentation is over. It is better to let the projector run without use for short periods than it is to turn it on and off frequently, which shortens lamp life.

To turn off the projection display temporarily without turning off the projector power, press the Mute Smartboard Display button on the Source Selection menu (See page 7).

When the Mute Smartboard Display button label is red, the picture mute is engaged and the projector will not display an image even though the power is on and a source is connected to the projector.

Remember: The screen display by itself does not show whether projector power is on or off. The screen will be blank when the Mute Smartboard Display button is engaged, and when the projector is warming up just after it has been turned on.

To set the projector to RGB1 or to S-Video manually, open the Advanced Controls menu and press RGB1 or S-Video in the Projector Controls menu. The RGB1 setting causes the projector to display input from the lectern or laptop computers; the S-Video setting causes the projector to display input from the document camera, slide converter, VCR, or DVD player.

To turn on (off) power to the AV equipment rack, open the Advanced Controls menu and press Rack Power On (Off) in the Rack Power menu. These buttons control power to all rack components except the Surge X power-surge suppressor and the Touch Screen controller.
Turn on (off) the computer power

Turn on the computer power in the usual way by pressing the button on the front of the CPU box.

Caution: Leave the lectern doors open while the computer and AV components are turned on. If you close the lectern doors while the system is running, heat will build up inside the lectern and destroy some of the hardware.

Note: You can shut the door to the closet while the system is on; the closet is ventilated to allow this.

Prepare and display source material

Set up the Lectern Computer or Laptop Computer

Load your computer files into the lectern computer from a disk or the LAN. Make sure that the computer has the applications that it needs to display your files.

Connect a laptop to the lectern's computer interface. (See the Quick Guide, Connecting a Laptop.)

To display output from the lectern computer (or the laptop),

1. Open the application and display the first screen on the lectern monitor.
2. Press Source Select on the Main page. The Touch Screen will display the Source Selection menu.
3. Press Lectern PC (or Lectern Laptop) in the Source Selection menu. The system will display the computer's output (graphics and sound) on the Smartboard, and the Touch Screen will show the source name at the top of the Main page.
4. Control the presentation using the application's normal command menus and keys.

The Smartboard software is always available on the lectern computer; you can also install and run it on a laptop. When it is running, you can make notes over top of other presentations and can save those notes for later distribution. Also, you can use the Smartboard as a large touch screen to control the computer.

The output of any PC application—text, pictures, sound, and digital video—can be displayed to the class on the Smartboard.

Note: The operation of computers and software is beyond the scope of the AV System Quick Guides.
Quick Guide to the AV System in Chemistry G8/G9—Controlling the System

Set up the Document Camera

To set up the document camera,

1. Pull the document camera drawer out from the right side of the lectern.
2. Depress the unlock buttons and raise the camera head; unfold the two light arms.
3. Turn on the document camera’s power by pressing the rocker switch on the left side of the base.
4. Place a suitable subject—a paper document, a small three-dimensional item, or a transparency—on the camera platform.
5. Turn on the appropriate camera-stand lights. Use the upper lights for paper documents and three-dimensional items, or use the base light for transparencies.

To display an image from the document camera,

1. Set up the document camera.
2. Press Source Select on the Main page. The Touch Screen will display the Source Selection menu.
3. Press Document Cam in the Source Selection menu. The system will display the camera’s output on the Smartboard and the source name at the top of the Main page.
4. Control the presentation using the button switches along the front of the base of the camera stand. There are no virtual buttons for controlling the document camera. Refer to the manufacturer’s user guide for a full description of document-camera control options.
5. For most subjects, engage the autofocus button on the document camera control panel—the physical button on the base of the document camera.
6. Use the two zoom buttons on the base of the document camera to adjust the field of view of the camera.

Set up the 35mm-Slide-to-Video Converter

Load your slides, oriented for front projection, in Carousel 80-slide trays. Do not use 140-slide trays—they will damage the mechanism.

To display 35mm slides,

1. Attach a slide tray to the converter.
2. Press Source Select on the Main page.
3. Press Slide To Video in the Source Select menu. The system will display the first slide in the tray on the Smartboard; the Touch Screen will display the Slide Control menu and the source name on the Main page.
4. Use the Fwd and Rev buttons in the Slide Control menu to step one slide at a time through the slides in the tray.
5. Press Advanced Controls to display the Focus, Zoom, and Iris buttons. Use them to adjust the sharpness, size, and brightness of the image.
Set up the VCR

To display video from the VCR,

1. Insert a VHS or S-VHS cassette in the VCR deck.
2. Press Source Select on the Main page. The Touch Screen will display the Source Selection menu.
3. Press VCR Player in the Source Selection menu. The system will display the VCR’s output on the Smartboard, the VCR control menu within the Source Selection menu, and the source name at the top of the Main page.
4. Use the buttons on the VCR control menu to control the operation of the VCR deck.
5. When you select Play, the projector will display the VCR’s output on the Smartboard.

Set up the DVD Player

To display video or audio from the DVD player, follow the similar VCR procedure, given above.

Note: If you bypass the Touch Screen controls by operating the VCR deck or the DVD player directly with their own front panel controls, the Touch Screen may not display the actual status of the VCR deck or DVD player.

For example, the Pause button in the VCR control menu may show that the VCR pause function is engaged even though the deck was manually set to Play and the tape is moving. To synchronize the Touch Screen and the VCR or DVD player, press any unengaged button in the player’s control panel.

Set the audio volume

Use the buttons in the Volume menu to set the audio levels for the program and voice audio systems. The Volume menu is at the lower left of the Main page. The bars on each side of the button column show the volume relative to the minimum and maximum possible levels. The blue bar shows the program audio level, and the red bar shows the voice audio level.

To set the audio volume,

1. Select the audio system that you want to adjust: Press Program or Voice.
2. Press and hold the ▲ or ▼ button until the audio reaches the level you want. The blue (program) or red (voice) bar will indicate the relative volume level.

When you switch program sources, you may need to adjust the program audio volume slightly.

When you set the voice volume, speak normally into the lectern microphone and set the volume so that a person sitting at the back of the room can hear you easily. Position the microphone so that it points directly toward your mouth.
If you plan to use the lavaliere microphone, be sure to check it after you have attached it to your clothing, not while you are holding it in your hand. Attach it as close as you can get it to your throat. Do not try to conceal the microphone; obstruction will degrade the sound.

The lavaliere microphone is battery powered; the On-Off switch is on the transmitter box. (The receiver is powered whenever the AV system power is on.)

To mute (block) the audio without changing the level setting,

1. Select the audio system that you want to mute: Press Program or Voice.
2. Press and release the Mute button. The system lowers the audio level to zero; the Touch Screen displays a blinking dot on the Program or Voice button to indicate which system is muted; and the audio-level indicator bar drops to zero (leaving a vertical white bar).

To disengage the audio mute,

1. Select the audio system for which you want to disengage the mute: Press Program or Voice.
2. Do either of the following:
   a. Press and release the Mute button. The system restores the audio to the level at which the mute was engaged. The volume level bar reappears, and the mute indicator (the button blinker) disappears.
   b. Press and hold the ▲ or ▼ button until the audio reaches the level that you want, starting from the level at which the mute was engaged. The volume level bar reappears, and the mute indicator (the button blinker) disappears.

Set the room illumination

To control the room’s illumination, use the Shades and Lighting menus on the Main page.

Press and hold the Shades buttons, ▲ and ▼, to raise and lower the window shades. Limit switches stop the shades at the top and bottom of their range.

The four Lighting preset buttons replicate the functions of the switches in the wall-mounted light-control panel. Generally, choose a combination that does not wash the Smartboard with light.

The All lighting buttons, ▲ and ▼, raise and lower the intensity of all the lighting units simultaneously. The relative intensities of the lighting units, as determined by the last preset, do not change until individual units reach their maximum or minimum outputs.

Note: It may take a few seconds for the lighting units to shift from one setting to another.
Change the Touch Screen settings

There are two Touch Screen settings that you might want to change: screen brightness and the standby interval. You can dim the Touch Screen if it seems too bright under dim room lighting, and you can brighten the screen if it seems too dim under full room lighting. The Touch Screen will go blank (without affecting any settings) if you don’t use it for a preset interval—the standby interval.

To set the Touch Screen brightness,
1. Press Panel Adjust on the Main page.
2. Press Low, Medium, or High. The Touch Screen will change brightness immediately.

To set the standby interval,
1. Press Panel Adjust on the Main page.
2. Press the ▼ and ▲ buttons to increase or decrease the standby time in minutes.
3. Press Save Standby Setting.

Set the AV system time

To set the AV system time,
1. Press System Setups on the Welcome page.
2. Press Date & Time Setup on the System Setups page.
3. Use the ▲ and ▼ buttons to adjust the month, day, year, hour, and minute values.
4. Press Enter Settings.
Set the automatic system shutdown time

The AV system will turn itself off—cut power to everything except the Touch Screen—if you don’t use it for a preset interval. That interval is the auto-shutdown time. This mechanism prevents the system from running more than 8 hours without use and thereby lengthens component life. You can set the auto-shutdown time from 1 to 8 hours in one-half-hour increments.

To set the automatic shutdown time,
1. Press System Setups on the Welcome page.
3. Press a time-interval button.
4. Press Enter Settings.
Control Button Functions

1 Hour, . . . , 8 Hours. In the Auto-shutdown menu, sets the Auto-shutdown period, the maximum time the AV system can remain inactive before it shuts itself down.

Advanced Controls. Displays the Projector Controls menu and the Rack Power menu within the System Power menu.

All (menu) ▲ ▼. Adjusts the light output of all lighting units simultaneously.

Audio + Video Presentation. Turns power on for all the AV system components.

Audio Only Presentation. Turns power on only to the microphone audio system. Power to the projector and the program audio—sound associated with visual sources such as videocassettes and CD or DVD audio—will not be turned on.

Auto-shutdown Setup. In the Time/Date & Auto-shutdown Setup menu, displays the Auto-shutdown menu. Auto-shutdown is the system's mechanism for turning system power off after a specified period of system inactivity. Auto-shutdown prevents component wear caused by leaving the system unused for long periods.

Back to Welcome Screen. Displays the Welcome Screen.

Blank Touch Screen. Displayed whenever the Touch Screen has not been used for several minutes. Touch the blank screen anywhere to awaken the Touch Screen.

Date & Time Setup. In the Time/Date & Auto-shutdown Setup menu, displays the Date & Time Setup menu.

Day ▲ ▼. Adjusts the day setting in the Date & Time Setup menu.

Document Cam. Projector displays the output of the document camera.

DVD/CD Player. Projector displays the video output of the DVD player; associated program audio is sent to the program speakers; Touch Screen displays the DVD/CD control menu.

Enter Settings. Causes the system to accept the values that you have entered in the Date & Time Setup or Auto-shutdown Setup menus.

Exit Power Adjustments. Removes the System Power menu from the Touch Screen display. To redisplay the menu, press System Power on the Main page.

Exit Source Selection. Removes the Source Selection menu from the Touch Screen display. To redisplay the menu, press Source Select on the Main page.

Exit to the Welcome Screen. Displays the Welcome page.

FFWD. Rapidly moves the videocassette tape or the DVD disc to a later place in the current program.

Focus ▲ ▼. Controls the slide converter’s focus mechanism. The Up arrow increases the focal distance from the slide; the Down arrow decreases that distance.

Full System Shutdown. Turns off power to all the AV system components except the Touch Screen.

High. In the Panel Adjust menu, sets the Touch Screen panel at its highest illumination level.

Hours ▲ ▼. Adjusts the hour setting in the Date & Time Setup menu.

Iris ▲ ▼. Brightens (darkens) the 35mm-slide image.
Lectern Laptop. Projector displays the laptop computer’s video output; program audio is sent to the program speakers.

Lectern PC. Projector displays the lectern computer’s video output; program audio is sent to the program speakers.

Lighting (menu) Preset 1 (2, 3, 4). Selects one of four room lighting combinations.

Lights and shades. On the Operation Notes page, displays information on setting room lighting.

Low. In the Panel Adjust menu, sets the Touch Screen panel at its lowest illumination level.

Medium. In the Panel Adjust menu, sets the Touch Screen panel at a medium illumination level.

Min. Displays the Touch Screen standby time. The standby time is the period of Touch Screen inactivity after which the system will set the Touch Screen to a blank screen (screen saver).

Minutes ▲▼. Adjusts the minute setting in the Date & Time Setup menu.

Month ▲▼. Adjusts the month setting in the Date & Time Setup menu.

Mute Smartboard Display. Blocks display of the Smartboard output without turning off the projector.

Mute. Blocks the audio without turning off power to the program or microphone audio systems. A second touch restores the audio. The program and microphone systems can be muted independently. A muted system is indicated by a blinking red dot on its selection button.

Off. In the Power Controls menu, turns off power to the LCD projector or the equipment rack.

On. In the Power Controls menu, turns on power to the LCD projector or the equipment rack.

Operation Notes. Touch Screen displays the Operation Notes page and menu. The Operation Notes describe how to control the AV system.

Panel Adjust. Displays the Panel Adjust menu within the Main page.

Panel operations. On the Operation Notes page, displays information on using the Touch Screen.

Pause. Stops playback of the program from the VCR or DVD players without turning off the playback mechanism or the program signal. Displays a still image during the pause.

Play. Commences program playback from the VCR or DVD players.

Power-up options. On the Operation Notes page, displays information on setting power-up options.

Program. In the Volume menu, selects program audio for volume adjustment. Program audio is sound associated with visual sources such as videocassettes, computer applications, and CD or DVD audio.

Rack Power Off. In the Rack Power menu, turns off power to all the AV components in the equipment rack in the closet. (Power to the Touch Screen is not affected.)

Rack Power On. In the Rack Power menu, turns on power to all the AV components in the equipment rack in the closet.

Rew. Moves the videocassette tape or the DVD disc to an earlier place in the current program.

RGB1. Projector displays input from the lectern computer or laptop.

Save Standby Setting. In the Panel Adjust menu, sets the system standby time to the interval indicated in the Min button. The standby time is the period of Touch Screen inactivity after which the system will set the Touch Screen to a blank screen.
Shades (menu) ▲ ▼. Raises and lowers the window shades.

Slide to Video. Projector displays the output of the 35mm-slide-to-video converter; Touch Screen displays the 35mm-slide converter control menu.

Source operations. On the Operation Notes page, displays information on source operations.

Source Select. Displays the Source Select menu within the Main page.

Source selection. On the Operation Notes page, displays information on source selection.

Standby Settings (menu) ▲ ▼. In the Panel Adjust menu, increases (decreases) the Standby time.

Stop. Stops VCR or DVD program playback and turns off the playback mechanism.

S-Video. Projector displays input from the document camera, slide converter, VCR, or DVD player.

System Power. Displays the System Power menu within the Main page.

System Setups—Time/Date & Auto-shutdown. Displays the Time/Date & Auto-shutdown Setup menu on the Main page.

Troubleshooting. On the Operation Notes page, displays troubleshooting information.

VCR Player. Projector displays the videocassette deck’s video output; program audio is sent to the program speakers; Touch Screen displays the VCR control menu.

Voice. In the Volume menu, selects microphone audio for volume adjustment.

Volume (menu) ▲ ▼. Increases (decreases) the sound level.

Volume control help. On the Operation Notes page, displays information on using the volume controls.

Welcome page. A cover page that is displayed when the Touch Screen is first activated. Touch the Welcome page anywhere to open the Main page.

Welcome Screen. Displays the Welcome page.

Year ▲ ▼. Adjust year setting in the Date & Time Setup menu.

Zoom ▲ ▼. Increases (decreases) the size of the 35mm slide image.
You can connect a laptop computer to the system through the Extron RGB 406G Universal Interface computer adapter that is built in to the lectern. PCs and Macintosh laptops use different cables, but the setup procedure is the same in both cases.

To connect a laptop computer to the Extron adapter,
1. If the LCD projector is not already on, turn it on and give it time to warm up.
2. Turn off the laptop’s power.
3. If a cable is not already attached to the Extron 406, obtain the appropriate cable (PC or Macintosh). Press the nine-pin plug into the Input socket and tighten the screws.
4. Plug the cable into the laptop computer’s external monitor port.
5. Connect the audio cable to the laptop’s audio output socket and to the Audio socket on the adapter plate.
6. Press the Laptop Computer button on the Source menu. The system will send the laptop’s output to the LCD projector.
7. Set the High Z-75 Ohm toggle switch (next to the Input socket) to 75 Ohm.
8. Turn on the laptop’s power.
9. Key in the command to activate the laptop’s external monitor port.
   The exact command depends on the particular laptop that you are using. Some laptops do not require a special command. The computer’s graphical output should appear on the Smartboard.
10. If necessary, adjust the horizontal position of the image. Use a tweaker—a tool that resembles a slender, fragile screwdriver—to turn the slotted H. Shift button until the image is centered horizontally.

**Note:** Cables and jacks are fragile. Cable connectors should fit together smoothly with little pressure. If they do not, do not try to force them together. They may be misaligned, mismatched, or damaged; extra force will not correct these conditions. Do not step on or pinch the cables, or try to pull a jack out of its socket by tugging its cable.