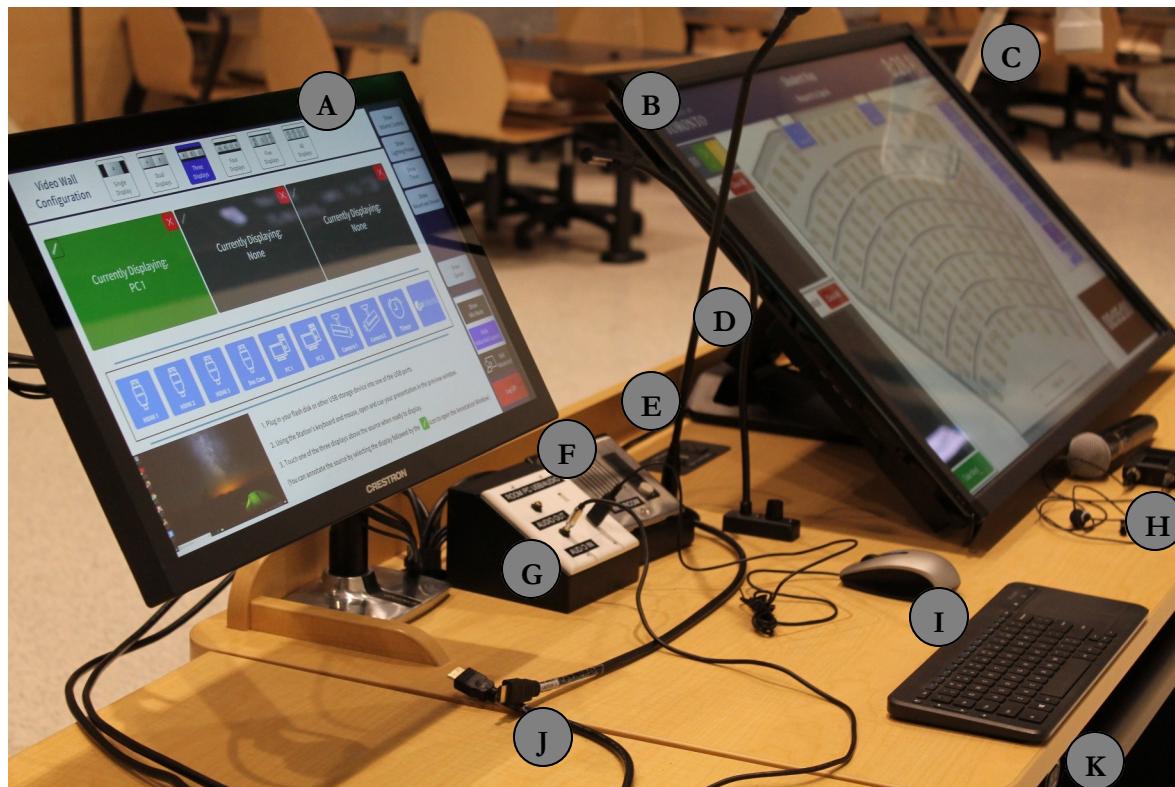


# MY Manual—an introduction to Myhal 150

## Available Technology

- **3 HDMI connections** (labelled on the cable as HDMI 1 to 3)
- One wifi connection (through **AirMedia**)
- A **document camera** (the connection to this can serve as a fourth HDMI input)
- A **PC** that can show two screens, with a USB input
- Separate audio input, not controlled by anything else (really)
- Two **built-in cameras** – one for the entire wall and one for the desk area
- A whiteboard with markers that rarely work and are very difficult to see past row E
- There are two **USB charging ports** behind the large screen
- A microphone and an HDMI connection from each of the 108 **student tables**

**NOTE:** We will use the term **monitors** to refer to the displays where the controls are located and **screens** to refer to the massive displays on the wall.



## Controls

This technology is controlled through two touch-screen monitors:

The small, **main monitor** is used for most functions. On rare occasions, you will need to log in on this monitor using your UTorID, but the room techie will generally do this before class.

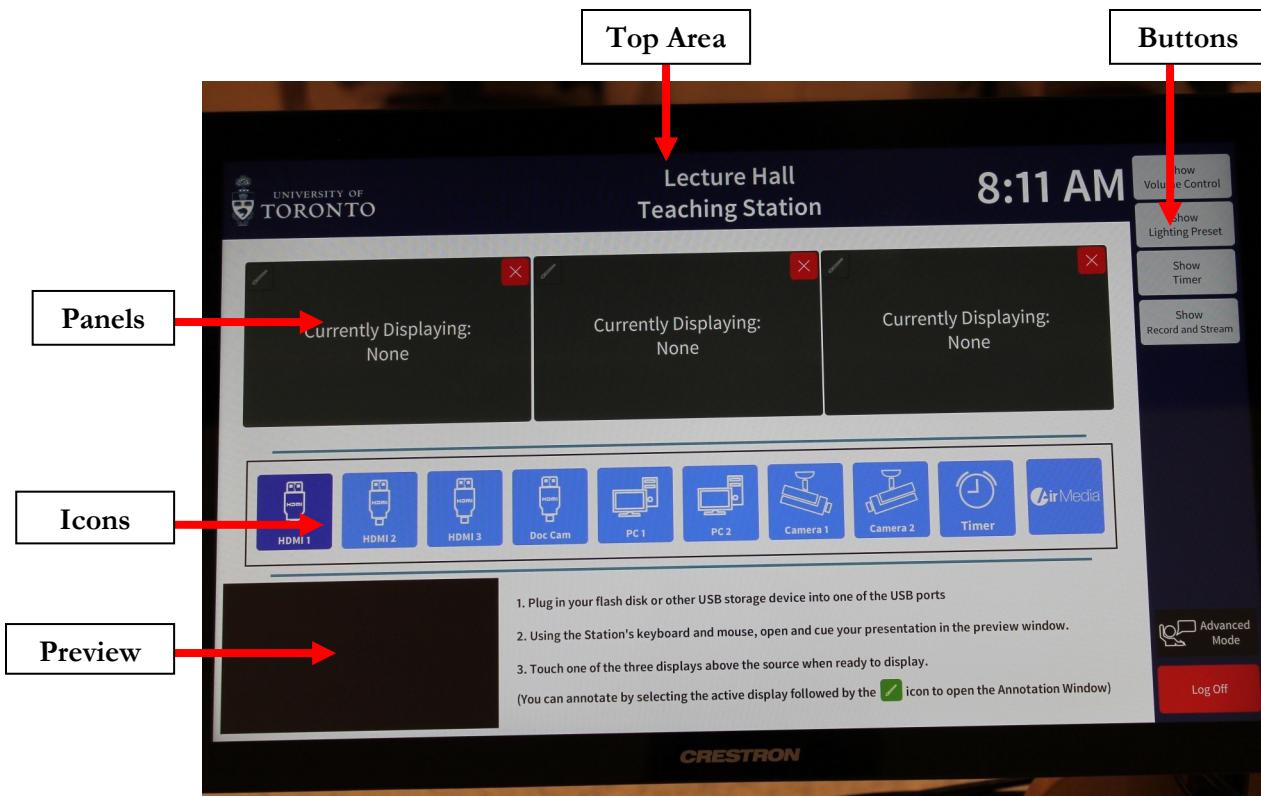
The large, **advanced monitor** is used mostly for features that involve student tables. It is only activated when **Advanced Mode** is chosen on the main monitor.

- [A] Small (main) monitor
- [B] Large (advanced) monitor
- [C] Document camera (barely visible)
- [D] Lectern mic and lamp
- [E] Electrical and USB charging plugs
- [F] Tech help call button and speaker
- [G] USB plugs for PC and independent audio in/out plugs
- [H] Two mics—one handheld, one clip-on (**lavalier mic**).
- [I] Mouse (plugged into [G]) and wireless keyboard (do not type too quickly)
- [J] HDMI connectors
- [K] At the edge of the table is the **height control** for the desk

## p. 2 Main Controls—Basic Use

### Areas of interest

- The **top area**. This is where most of the advanced features are displayed. At its default setting, it displays the time.
- A row of large **panels**, mostly dark gray, directly below. These represent the screens being displayed and indicate the input for each. These all have a large X in the top-right corner to remove the current display.
- A row of small **icons**, mostly light blue, below the panels. These list the possible input streams.
- The **preview** screen is in the lower-left corner.
- A column of **buttons** on the right-hand side of the screen. These allow the choice of functions to display in the top area.



### Displaying an input

To send an input to a screen, touch the small panel indicating the input so that the icon turns a dark blue and then touch the panel for the screen where you want the display. Make sure there is nothing being displayed that should not be seen publicly (such as passwords). The display takes two seconds to show the new input.

When you first press the icon and it turns dark blue, the preview section of the screen will display the input.

You will notice when you send an input to a screen that the panel will now turn green. Under default uses, the audio will come from whatever screen was sent in last.

### Switching Screens

If one panel is green and you touch a second panel, then the two of them will switch on the display (and on the big screen).

On the other hand, if you want to switch the audio input, you need to touch the panel that is currently green (this unselects it), then touch the icon for the input to be used for audio, and then re-send it to its panel.

#### WARNING

You will mess this up at least once during lecture. One of the panels will be active (green) and, as you try to send a new input to a different screen, you will accidentally press on the intended panel first (before touching the icon), swapping the displays.

## Buttons

## Plugging in

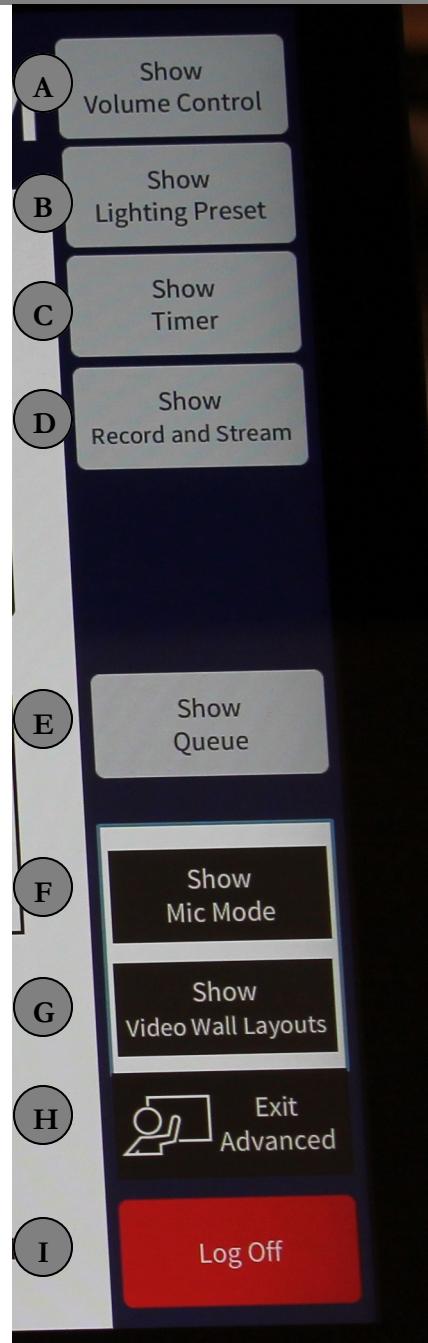
Connecting to an HDMI is pretty simple, although you may need an appropriate adaptor (do bring your own). With the correct icon selected, the display on the iPad above can be seen in the preview panel (left). When the preview is selected, the entire screen displays the image.



## Microphones

There are two types of microphones, one that clips onto clothing (at top) and one that is held by hand (bottom). The latter seems to be better, but it can be difficult to teach one-handed. For the former, you can take a pick-up that clips onto your shirt (pictured) or a headset.

The quality of the sound is very difficult to judge from the front of the room.



[A] **Volume control** is a two-level menu: basic is on p. 4 and advanced on p. 11.

[B] **Lighting preset** is an excellent idea, allowing for an immediate choice of any of five lighting levels. It does not yet work.

[C] **Timer** is on p. 7.

[D] **Record and Stream** is on p. 7.

[E] **Queue** puts the list of active and waiting student tables on the smaller screens. See p. 7.

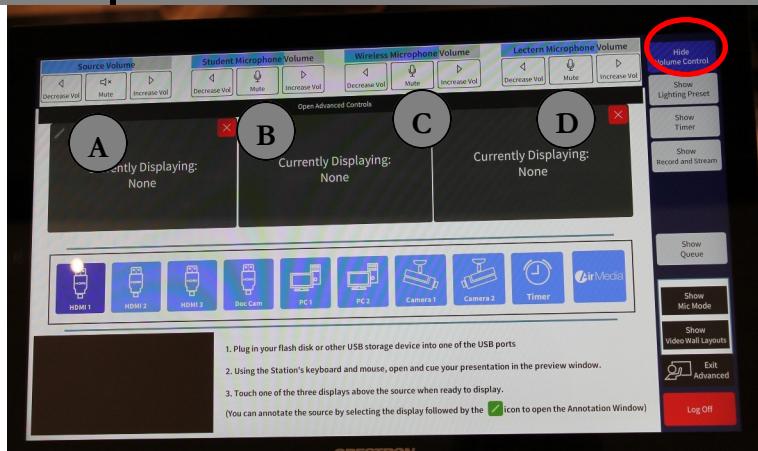
[F] **Mic Mode** selects the way signals from student tables are handled. See p. 7.

[G] **Video Wall Layouts** gives a menu of display options. It is described on p. 6.

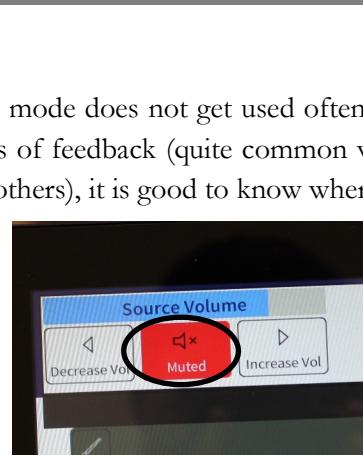
[H] **Advanced Mode** can be toggled on and off. When off, buttons E, F, and G disappear, H reads “Advanced Mode,” and the large monitor cannot be used.

[I] **Log Off** should only be used if you logged on with your own UTorID.

## p. 4 Things You Should Know I

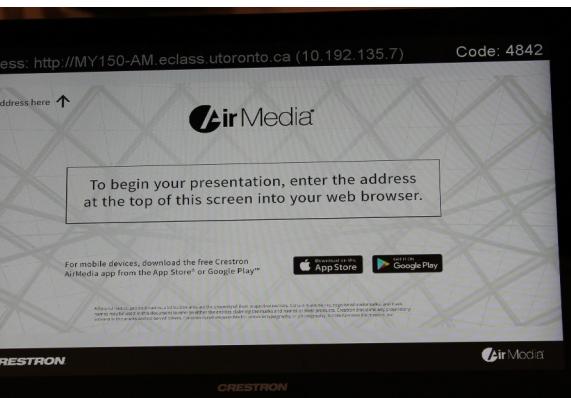


- [A] Source Volume—The room PC or an HDMI-connected device. Whatever is activated as the source of the audio on the main monitor.
- [B] Student Microphone Volume—This is the usual reason for feedback, building slowly but surely if the student table is quiet, but the mic is activated for a long period.
- [C] Wireless Microphone Volume—This is the master control for all of the microphones you or a TA are using.
- [D] Lectern Microphone Volume—Few people use the lectern mic.



## Volume Control

This mode does not get used often, but it is useful to know how to get to it quickly. In cases of feedback (quite common with an active student table mic, but can happen with the others), it is good to know where the mute button is.



## AirMedia

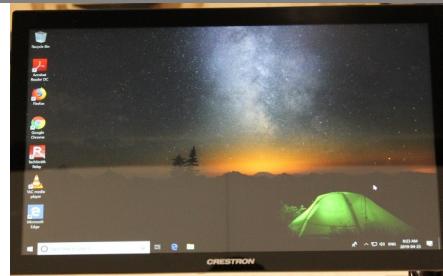
Do NOT send this screen to the display. A quick student will be able to log on before you.

The wifi will not necessarily be reliable, especially if your device is trying to use a connection that is physically outside the room. There is a secret wifi connection inside the room and the techie on duty can help you log on to it.

AirMedia generally works. However, under the adage of “trust, but verify,” it is a very good idea to have the cord/adaptor necessary as backup.

## PC1...

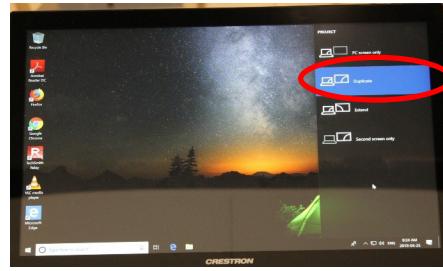
The desktop provides a means to use the room without having to bring in any materials. Its internet connection is very reliable and it is also easy to bring in a USB memory stick to plug in at the desk (see [G] on the diagram on p. 1) and then play any material you have.



Be careful with the main monitor. You may have the urge to tap on the desktop's image to select a program or push a button, but this will simply take you back to the monitor's command screen

Keep in mind that using incognito mode is not a bad idea on any public computer's browser.

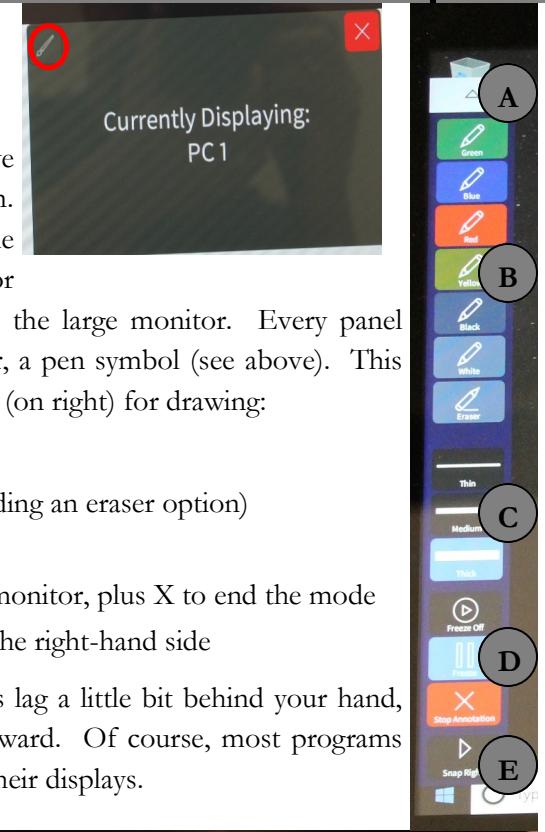
## ...and PC2



PC1 and PC2 come from a single computer. Under default settings, they show the same image. You can, however, press  $\text{Win} + \text{P}$  to give the option to **extend** the screen. **Warning:** PC2 is the left half of the extended screen and PC1 is the right half.

Try to not have to switch frequently between the screens, as it can be cumbersome. It is easy to get the mouse over from one to the other, but to switch the display on the monitor requires pressing on the monitor, picking the new input, and then pressing its image on the preview window.

## Annotation

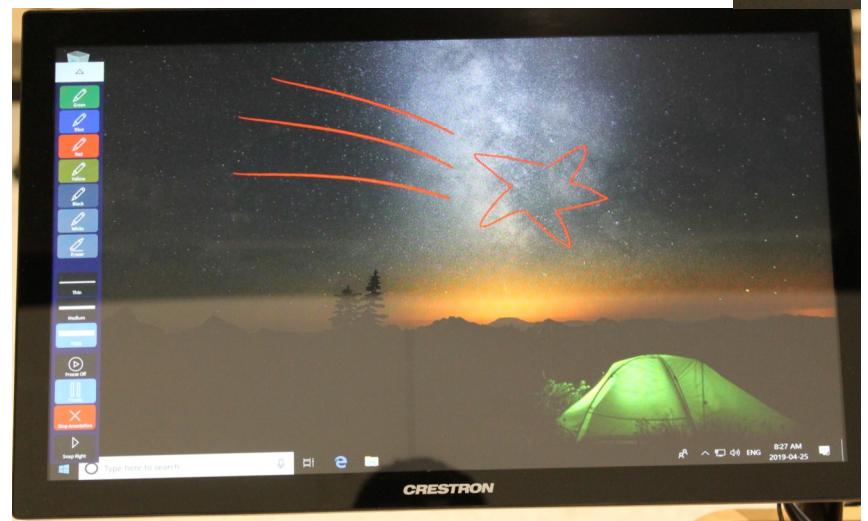


Both of the monitors have an annotation option. This is often used with the PC on the main monitor

or with student input on the large monitor. Every panel has, in the top-left corner, a pen symbol (see above). This gives a column of options (on right) for drawing:

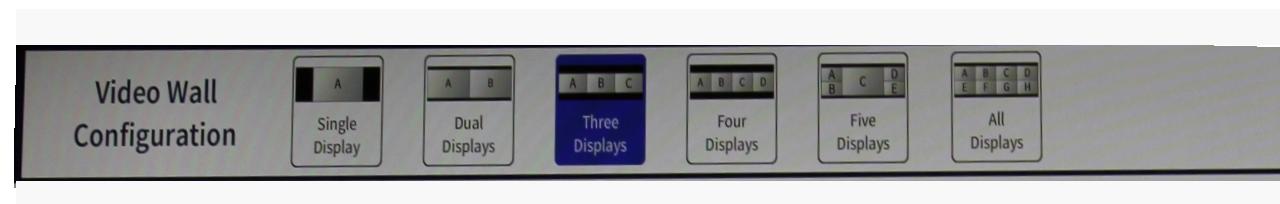
- [A] Collapse the column
- [B] Colours of pen (including an eraser option)
- [C] Width of pen
- [D] Freeze/unfreeze the monitor, plus X to end the mode
- [E] Place the column on the right-hand side

Note that the annotations lag a little bit behind your hand, so the tool is a little awkward. Of course, most programs have a similar issue with their displays.



## p. 6 Main Controls—Advanced Use

### Video Wall Layouts



The first piece of advanced use is the Video Wall Layout. This generally shows up as an option on the right side of the screen, but is sometimes hidden and you will need to select Advanced Mode (see p. 3). When you select Video Wall Layouts, a set of options appears in the top bar of the monitor. There are six display options, summarized in the following table.

Number of screens	Layout	Side displays	Approximate size (in feet)
1	A	A in both	11x20
2	A B	B in left, A in right	11x20
3	A B C	C in left, A in right	11x20
4	A B C D	C D in left, A B in right	8.5x15
5	C D E A B	C D in left, A B in right	4 of 5.5x10 1 of 11x20
8	A B C D E F G H	D H in left, A E in right	5.5x10

### Live in widescreen!

The screens are set for 16:9 ratio. Spend a few minutes stretching your old slides to the new ratio – you can have more white space, add another column comfortably, or just look cool.

Note that all of the screens are in **16:9** ratio, regardless of mode.

The letters indicate the **order of the screens**, so if you move from five screens to four, the middle (large) screen will disappear, the one in the bottom-right will be at the rightmost, etc.

Do not be afraid to use this feature.

Note that if you use a single display, its image will show in the side screens; if you use only the middle of three displays (the default), its image will not be seen in the side screens.

We had the same presentation running in Tophat (where we could ask the students questions) and on an iPad or a PC source. As the Tophat is rarely necessary, one of the most common things we did was:

Put Tophat on the second screen

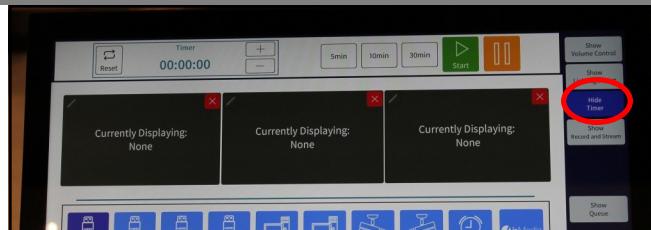
Quickly go to one-screen display, showing just the iPad

When a Tophat question came up, go back to two-screen mode

We used a similar style when we wanted to bring up a student solution through their iPads, or bring up the doc cam for a quick explanation, etc.

**Warning:** if you have a student source displayed and then switch layouts to hide the source, you will not be able to remove them until you return to displaying them.

Each of the three parts of the screen is an array of 2340x1350



## Timer

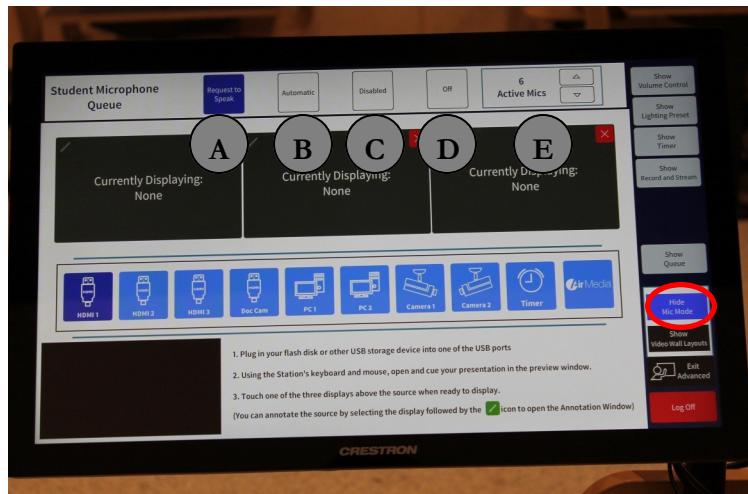
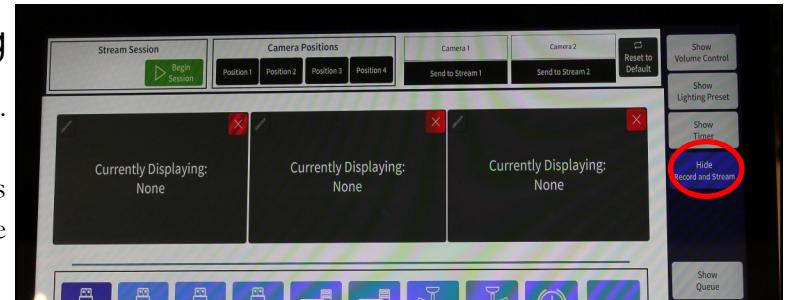
The timer can be placed on either monitor or displayed on the screen for the entire class. There are buttons for rough adjustment (1, 5, and 10 minutes), a reset button, play, and pause.

There is no alarm when the timer hits zero. For that, find an app with an annoying alarm.

## Recording and Streaming

As of this writing, the quality of the recording (especially the audio) is not good enough. If you are interested in lecture-capture, the EdTech office is a far better choice.

If you do choose to record your lecture (once the audio is addressed), select the inputs that are to be recorded and press “Begin Session.” At the end of your lecture, ask the room techie to send you the URL for the recording. Actual streaming is not available.



## Mic Mode

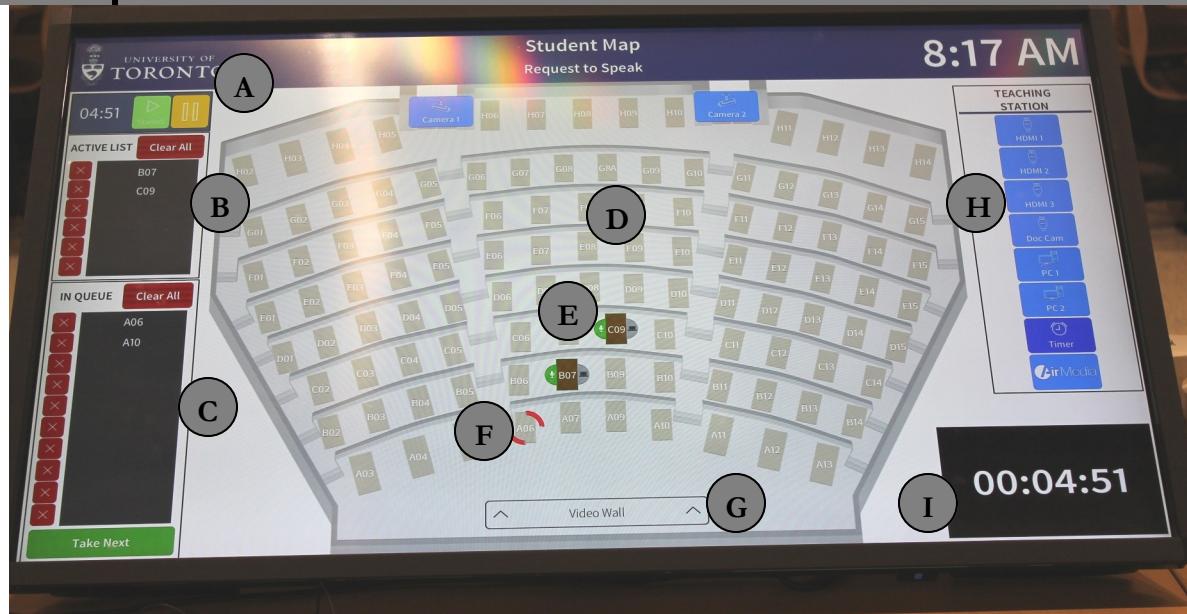
- [A] Request to Speak. This is the correct mode. Under this setting, a student touching their table mic gets placed on the queue to speak.
- [B] Automatic. With this setting, a student touching their table mic activates the microphone, as long as there is room in the list of active mics. Don't do this.
- [C] Disabled. This turns off all of the table microphones.
- [D] Off. This button does not seem to have a function.
- [E] Under Automatic mode, it is useful to control the maximum number of active mics, so this option allows you to set it between one and six.

## Show Queue

This mode displays the tables with active microphones and the queue waiting to be activated on the side screens in the room. This is a very useful function for classes with a lot of student interaction.



## p. 8 The Large Monitor

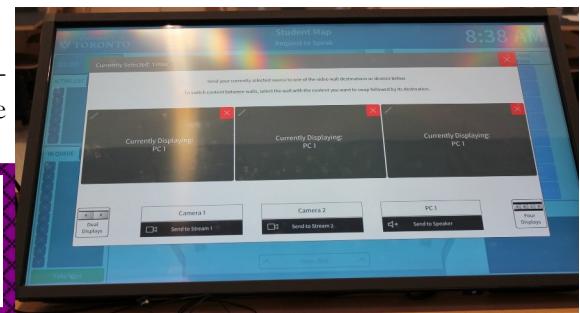


This monitor is mostly used to control the input from student tables, receiving the audio from the microphones either alone or with the video. **To use just the video, the student mic needs to be muted.**

Note that when the Advanced Mode is activated, any muted mics are turned on again.

- [D] Display of all of the tables. The rows are A to H, starting at the bottom. Numbers within a row are set so 5 and 6 are split by the left aisle, while 10 and 11 are at the right aisle. (This creates the ungainly G8A just above our [D]). When a table is selected, options are given to add it to the queue, turn on its microphone, or send its display to the main screen (which also activates the mic). If sending to the screen is chosen, the Video Wall Layout [G] is activated to let you choose a display, so pressing on any panel will send the student input there.
- [E] The display for active desks. The left half is green to indicate that the mic is on, while the right half would be on if the video feed is displaying.
- [F] The display for the top desk in the queue. The others in the queue are not shown.
- [G] The video wall layout can be adjusted from this monitor, although one must scroll through the options one at a time. (see image below) This menu also allows for annotating an image (see p. 5) or setting the input channels for recording (p. 7).
- [H] A set of icons to allow for a second preview screen. Note that the icons for the in-room cameras are at their positions in the room (well, their labels are reversed - camera 1 is at stage right and camera 2 at stage left).
- [I] The second preview screen, generally used to check the HDMI input from a student table. The resolution is poor, unfortunately, but it can be used by a TA to follow a screen display without using the main monitor.

**Bored at the big monitor?** If a table has its iPad plugged in, you can see its display in the preview menu. Technically, the students know this, but in practice you can see what they are doodling, as long as you do not hold them responsible for what they write and draw.

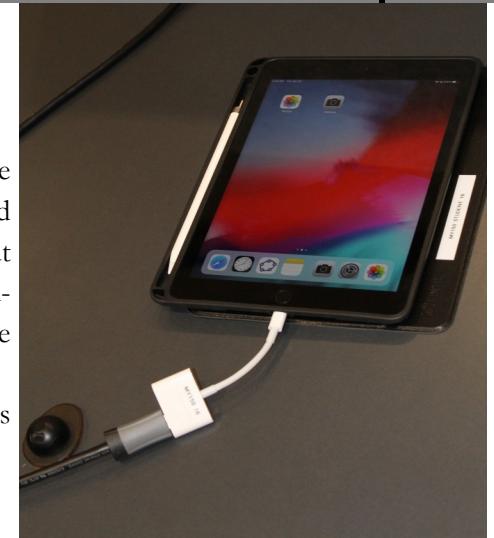




## HDMI Connection

Each of the 108 student tables in the room has an HDMI connection. The supply room has enough iPads (with writing styli and attached adaptors) and HDMI cables for every table. A group of four TAs can generally hand out all of the iPads and cables in about five minutes. Keep in mind that the collection of these needs to be done starting at about ten minutes before the end of class.

Do not send up input from a student's personal computer; the student's friends will send offensive messages to show up on the screen.



## Microphones

(See The Large Monitor - p. 8 - for details on how to use these.)

Each table has a microphone attached near its front edge. When the mic is activated, it gives a steady green light. If the table is in the queue, it either flashes red when it is next in line, or else stays a steady red. Students can touch the mic to send a request to speak, or to cancel a request.

The quality of the pick-up is not great. Some tables require the students to lean very close to the mic to be heard, but this has been improved lately.



**Noise control** is one of the most difficult tasks in MY 150. If you have a tech TA, there is an interesting use of the microphones that works very nicely. The TA can stand near the large monitor and look around for tables that seem overly animated. (**There are acoustic dead spots in the room** – the students know at which tables their voices will not carry to you.) When one of these is spotted, the TA can put that table's mic at the top of the queue, causing it to flash an angry red. Most students will notice this, look around to figure out the reason for it, and the TA can gesture to them to keep the noise down a little.

## p. 10 | Document Camera



- [A] Camera head and light adjustment
- [B] 3-joint adjustable neck
- [C] Table surface for the paper
- [D] HDMI connection if a fourth one is needed
- [E] Power button (hit twice for OFF)
- [F] Source button (not needed in this room)
- [G] Menu and its navigation buttons; also used for brightness of image
- [H] Capture (image), record (video), and freeze display buttons
- [I] Focus button (on a blank piece of paper, put a pen or two down to allow the camera to focus)
- [J] Slot for SD card

The document camera gives the most low-tech way to display information in the room. It is the closest relative to the chalkboard. At the simplest, put a pad of paper underneath the camera and use a Sharpie for writing. The ideal paper size for the camera is 11"x17". Except that it will not fit on the table. 11"x14" seems to work best, placed in landscape orientation.

You can bring an SD-card to either record all you do on the camera, or to take pictures of the pages to post online later.

To display a printed 8.5"x11" page, 28 point font is ideal in most fonts, especially for the image on side screens (data thanks to the Computer Science department, but also verified independently).

The document camera menu has a lot of the obvious choices (brightness, contrast, etc.), as well as an incredibly good zoom feature, and the ability to turn the image 180° (utterly useless, as it places you with your back to the class).





## The Microphone Cabinet

Below the desk is a glass-fronted cabinet that holds the microphones (and, when not in use, the keyboard and mouse). This is generally locked and you will need the room techie to open it for you and get you the microphones you need. They make sure that the batteries are charged and that you can get the type of mic you prefer.

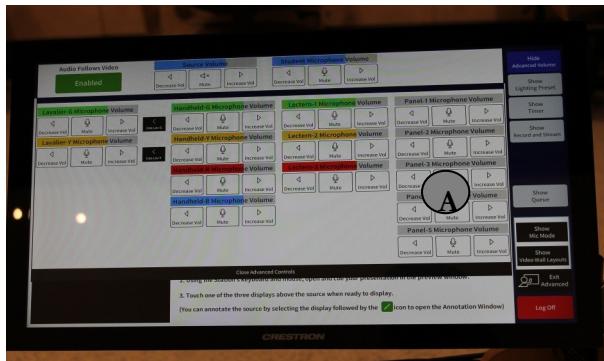
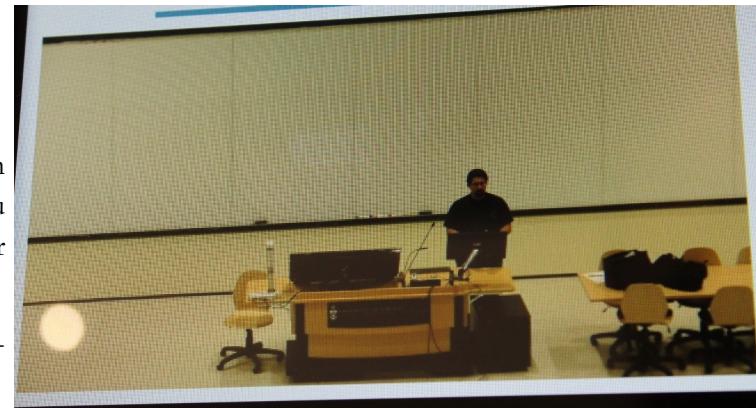
The lost-and-found tray is generally kept on top of this cabinet. Be careful not to crush it if you lower the desk height.

## In-Room Cameras

There are two cameras in the ceiling of the room (above row F or G, middle section).

Camera 1 is on your right as you face the audience (stage right). It gives the shot seen on the right—no students or screens are visible. At 5'10", your head will still be seen if you stand near tables A7 to A10. The Recording and Streaming menu (p. 7) gives three other settings: stage right, stage left, and a zoom out similar to camera 2.

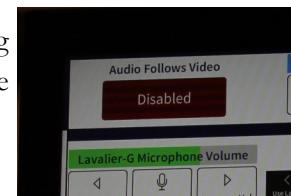
Camera 2 gives a large view of the entire stage and screen (this will catch some of the students in row A). Do not send this camera to the screens, as it creates a loop.



## Advanced Volume Control

This menu allows volume settings on all of the individual mics. The bars are colour-coded and match the small coloured labels on the microphones in the room.

Note the top-left corner of the menu, “Audio Follows Video.” By disabling this, the audio channel will remain at the last selection even if changes are made to the displayed channels.



## Too much fan noise?

If the room seems sounds like the heating or A/C are working at a high level, creating their familiar droning sound, enter the Advanced Volume Control and mute the Panel-3 and Panel-4 microphones (shown by [A]). They are the actual source of the noise.

## p. 12 | A Day in the Life—Typical Set-ups

### Standard procedure for MAT 187 (using TopHat and iPad)

- Enter room as close to the hour as possible (observing that the previous tenant may go a couple of minutes over the hour as per standard UofT usage)
- Log into the main station (generally this is already done by tech support) Pages still requiring primary work:
- Choose Advanced Features, Video Wall Layout, and then the desired 4,5,6,7,11,12 layout
- Choose PC1 and select its preview
- Open Chrome and hit ctrl + shift + N for an incognito screen
- Go to Tophat.com and log in (the browser window needs to be in maximum size for login option to be visible)
- Pick the correct set of slides and begin presentation
- Touch the monitor to go back to the controls
- Send PC1 to the desired video panel
- Plug in the iPad to HDMI cable (unless using AirMedia)
- Open the correct presentation on the iPad
- Pick the correct HDMI source and send to desired video panel
- Put on the mic

### Standard procedure for MAT 186 (active learning in a regular room)

Enter room as close to ten past the hour as possible

Pick up chalk

Some tech set-ups:

MAT 187 generally used the PC and either an iPad or the document camera, sometimes both. The uses were rather fluid, allowing for the main “lecture” to run out of the PC or the iPad, with the other used for supplementary visuals (with the doc cam, the PC could be used as two screens).

APS 111 often used an iPad and a desktop, the latter just as a timer.

### Standard procedure for MSE 101