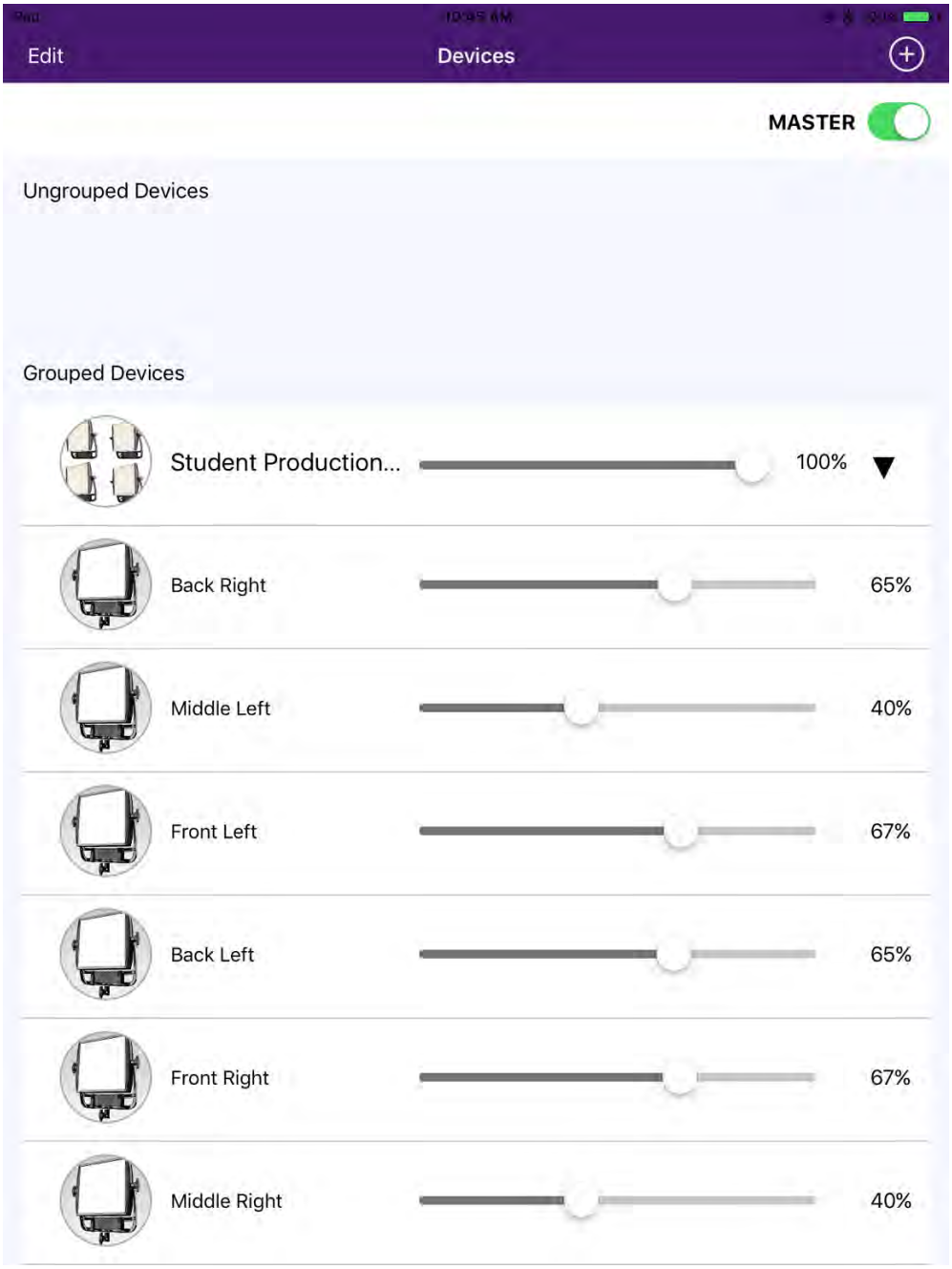
Lights

Student Production Studio production lights can be used for video and photo production. The lights are controlled from the Studio **iPad**:

- Click on the iPad Home button to see the screen for controlling the lights.
- On the screen, tap the **MASTER** switch (top right) to turn the lights on.
- **Student Production Studio** group slider affects all the lights simultaneously.
- The lights are named from the perspective of the camera operator: **Front Left**, **Front Right** (the closest lights to the camera), **Middle Left**, **Middle Right** (the middle lights), **Back Left**, **Back Right** (the farthest lights from the camera; these lights have barn-doors installed). Each light is labeled accordingly. The naming of the lights on the screen is not necessarily in order.
- You can control the brightness and color temperature of a particular light by moving its respective **sliders**. Tap on the desired light, which will take you to that light's page, where you can control its brightness and the tungsten / daylight setting.
- To set up the lights for an interview, consult the **Interview Preset** below.
- To set up the lights for Green Screen production, consult the **Green Screen Preset** section below.
- Remember to **turn the lights OFF** when you leave by tapping the MASTER switch on the screen.
- To **redirect the lights**, use the **step stool**. Be cautious when using it, as a fall may result in serious injury. Be sure all 4 legs of the step stool are on even footing, and do not overreach or otherwise compromise your balance.

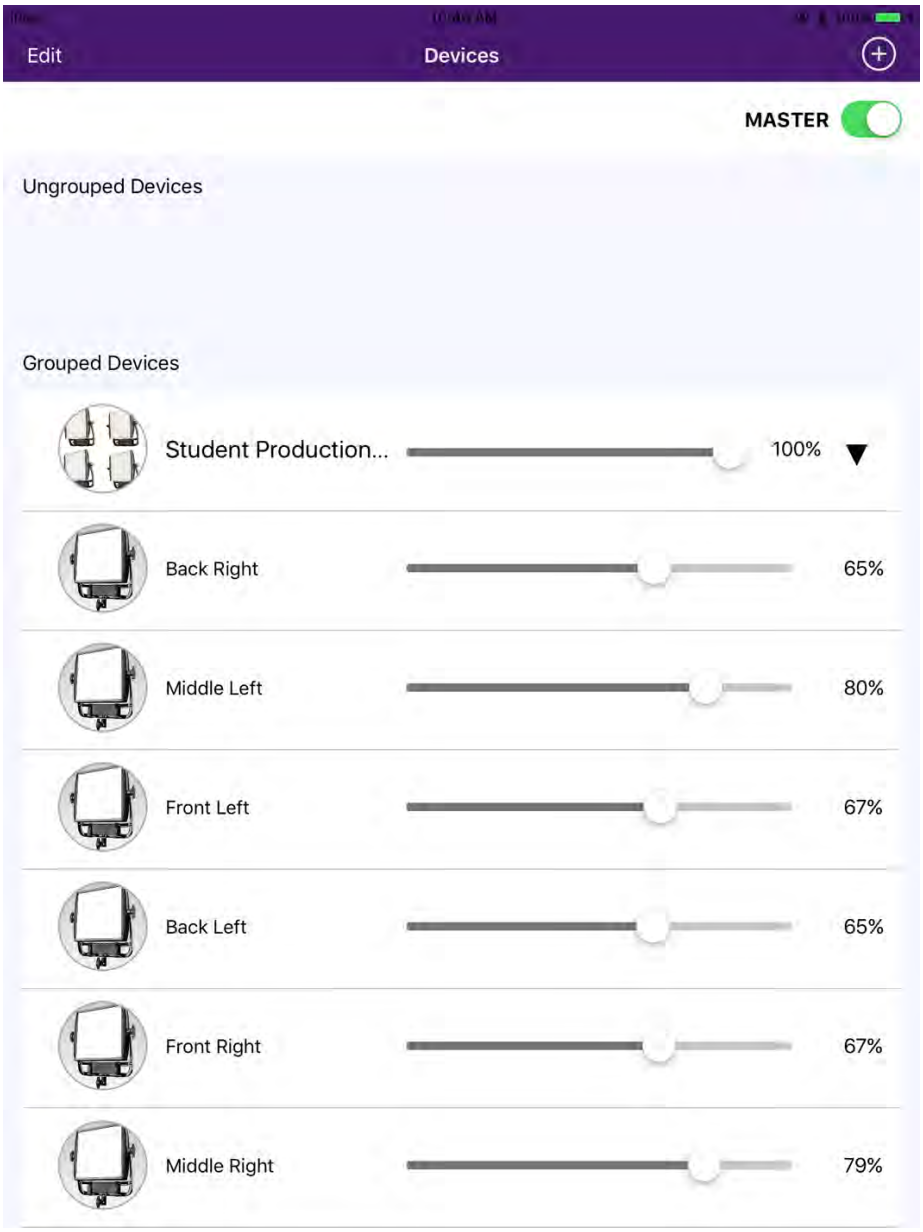
Interview Lights Preset:



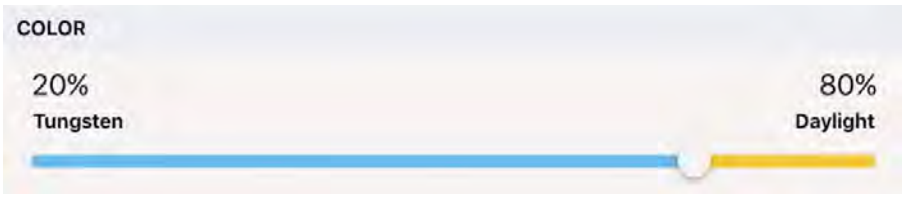
The color balance for each light (accessible by tapping the light on the screen) is set as follows:

Green Screen Lights Preset

This preset is similar to the Interview Lights Preset, except the Middle lights' brightness is increased:



The color balance for each light (accessible by tapping the light on the screen) is set as follows:



Green Screen Production Tips

- The talent cannot wear any green.
- Pull the green curtain around to create the green screen background. Make sure it fills your camera view.
- Make the green screen as flat as possible to minimize wrinkles. You can use the Velcro at the bottom of the green curtain to stretch the screen flat.
- For best results, direct the two middle lights on the green screen to keep the light even and consistent across the screen. If you did, consult the Green Screen Light Preset above to adjust the light settings. Your objective is to both have the green screen lit evenly and to have your talent lit from the front (front lights) and from the back (back lights) to separate your talent from the screen.
- Adjust the camera zoom, pan, and tilt as needed. Remember that the green background needs to fill the frame with nothing else (walls, floor) visible.
- Get the subject farther away from the screen to eliminate the shadow cast by the talent on the screen. The middle of the studio is the ideal spot. Readjust your camera zoom, pan, and tilt as needed.

Multicamera Recording

The studio has 3 cameras, 3 boom microphones, 2 wired and one wireless lavalier microphones available to record video podcast or any other multicamera recording project.

Furniture

The studio has 3 toll chairs. More furniture can be brought from the floor if needed.

⚠ When setting up the chairs, make sure the tabs on the back of their legs are locked in place to prevent the chair from folding.

Positioning the Boom Microphones

- If you need to use only one boom microphone, use the one in the center. It is marked with a green band.
- You can move the ceiling rail with all 3 boom microphones as well individual boom microphones to position them above and about a foot in front of the respective chair.

⚠ **Use the pole hook** to move the rail and the carriages**. Do not pull on the microphones or cables.**

- If the microphones are tilted up, use the step stool to reach microphone tightening knobs. Point the microphones down and slightly backward, toward the center of the chair.

LIGHTS

1. Turn on the production lights using the iPad and adjust them as shown in the "Interview Lights Preset" (or the "Green Screen Lights Preset" if using the green screen) in the "Lights" section above.

2. Set the top slider 'Student Production…' to **70%** (if using the green screen, keep it at 100%).

⚠ Remember to always **turn off the ceiling lights** when recording.

VIDEO CAMERAS

Student Production Studio has 3 video cameras labeled as Camera 1, Camera 2, and Camera 3. Camera 1 and 3 are the same model, Sony FX30, and are suspended from the railing system along the left (Camera 1) and the right (Camera 3) walls of the studio. Camera 2 is a Sony FS5 and is set up on a tripod in the center of the studio.

Before you start recording your video, you should decide which recording option you will use (you can use either or both options):

- You can record your video to an SD card (you will need to bring one for each camera you use). This option allows recording in HD and 4K.

- You can record your video to the provided external hard drive. This option allows recording only in HD.

To record your video, you can choose to use only one camera and one microphone. You can also choose to use multiple cameras with either one micropnone or multiple microphones. If you only need to use one camera and one microphone, we recommend using Camera 2 and the boom microphone in the center labeled with a green band.

Camera 2 (Center)

Sony FS5—Camera 2—is set up on a tripod and has a teleprompter. It can be used to record a video of a single participant or to record a video of multiple participants together. It can be used alone or together with Camera 1 and/or Camera 3.

To position the Camera 2 tripod simply roll the tripod into place.

To adjust the height of the Camera 2 tripod:

- Long press the power button on the tripod to power on the tripod

- Press the up and down buttons on the tripod to adjust the tripod height.

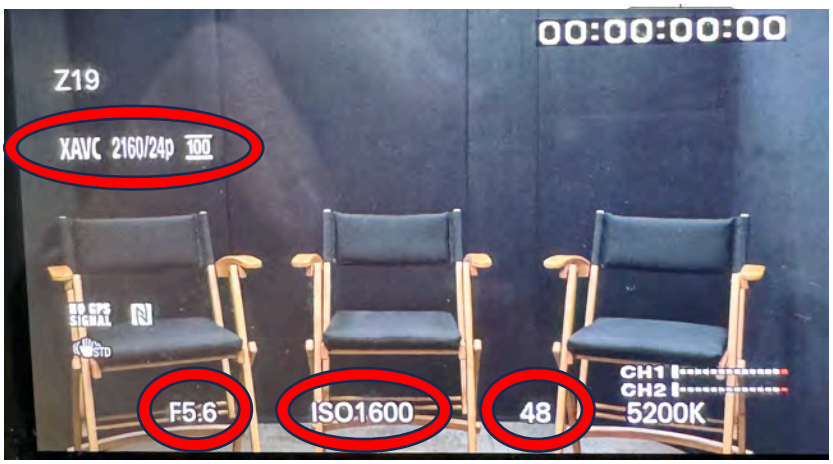
- You don’t need to power off the tripod, it will power off on its own.

To turn the Camera 2 on, use the power switch on its left side.

Turn on the Ninja monitor on the top of the Camera 2 by pressing its power button on its right side. If it does not turn on, check its power cord connectivity.

Loading the Preset Settings

You can quickly reset the camera to the preset settings. The video camera contains a memory card in slot B with a saved preset. To load the preset, press the Menu button on the left side of Camera 2 and with the joystick on the grip handle, navigate to System→Camera Profile→Memory Card B→Load→01→Yes. This will load the 4K file format with **24** fps rate, the IRIS (aperture) of **F5.6**, and the shutter speed of **48**.



Make sure that ISO is set at 1600 (see the pic above). If it is not, shift the ISO switch to M.

Changing the Exposure

You can adjust the exposure in camera 2 by adjusting the IRIS, ISO, and Shutter speed values. The recommended Camera 2 values to use with the default light presets are:

- IRIS – **5.6** (lights at 70%) or **8** (lights at 100%)
- ISO – **M** (1600)
- Shutter speed – **48** (x2 fps)

Adjusting the IRIS

- Set the ND/IRIS switch on the left panel of camera 2 to the IRIS position.

- Turn the wheel next to the switch on the left panel of camera 2 to adjust the IRIS. The IRIS values for the studio lighting presets should be **5.6** (lights at 70%) or **8** (lights at 100%) .
- Once done, set the ND/IRIS switch back to ND position to avoid accidental change of the IRIS value.

Adjusting the ISO

Set the ISO **L/M/H** switch on the left panel of camera 2 to the desired position, which by default corresponds to the ISO values of 800/1600/3200 accordingly. For the studio lighting presets, the ISO should be 1600 (M).

Adjusting the Shutter Speed

The shutter speed should normally be 2x of your chosen frame rate, fps. Thus, 24p corresponds to the shutter speed of 48 and 30p to 60. To adjust shutter speed:

- Press the SHUTTER SPEED button on the left panel of camera 2 to highlight the shutter speed value on the LCD display. If it does not highlight, the shutter speed is being set automatically based on the selected frames per second rate.
- Use the joystick knob on the camera 2 grip to adjust the shutter speed and press the joystick to set it.

Adjusting Zoom, Pan and Tilt

To adjust **pan** (horizontal) and **tilt** (vertical) angles of Camera 2, unlock the corresponding locking knob, adjust, relock.

Use the zoom lever on the camera 2 right grip to zoom in or out. Press and hold **W** for Wide angle view (zoom out) and **T** for Telephoto view (zoom in). You can also use the zoom ring on the lens.

When filming 3 participants, it is recommended to also record in 4K on a SDXC card inserted into Camera 2. This will allow zooming in and obtaining a close shot of the participant in the center as needed in post-production without a loss in focus (the close shots of the participants on the right and on the left are recorded with Cameras 1 and 3).

Focus

For autofocus, ensure that the Focus AUTO/MAN switch on the left panel is set to **AUTO**.

Cameras 1 and 3

The side Cameras 1 and 3 can be used to record video footage from a different angle or for close video shots of the participants on the right and on the left accordingly.

Pull down camera handles to lower down Camera 1 or 3 and power it up by sliding the power switch on the top of the camera's back panel. Click through any warnings.

You can move the cameras along the walls to achieve a desired shooting angle by moving their suspension devices (pantographs). **Use the pole hook** if needed to assist moving the cameras along their rails.

Loading the Preset Settings

You can quickly reset the camera to the preset settings. The video camera contains a memory card in slot A with a saved preset. To load the preset settings:

- Press the Menu button on the back of the camera
- Tap the Toolbox icon on the bottom left.
- Tap on Reset/Save Settings→Save/Load Settings→Load→CAMSET01→OK

Ensure that the Sutter speed is **1/48**, the IRIS is **F8**, and the ISO is **1600**. These are the recommended settings for the default lighting setup.

Changing the Exposure

You can adjust the exposure in Cameras 1 and 3 by adjusting the IRIS, ISO, and Shutter Speed values. The recommended values to use with the default light presets are:

- IRIS – **8**
- ISO – **M** (1600)
- Shutter Speed – **48** (x2 fps)

Adjusting the IRIS, ISO and Shutter Speed

To adjust the IRIS, turn the dial on the camera top front. To adjust ISO, turn the dial on the top back of the camera. To adjust the shutter speed, turn the control wheel on the back panel.

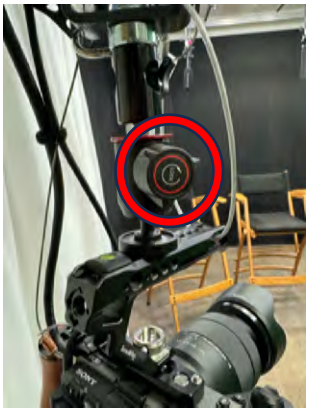
Focus

Ensure that the slider on the lens of both cameras is set to **AF**.

Adjusting Zoom, Pan and Tilt

To adjust **pan** and **tilt**, loosen the knob on the ball head above the camera. Tighten the knob on the ball head once done.

While looking at the camera's display, adjust the tilt, pan, and zoom (via the lens zoom ring) to frame the participant as desired.



ONE-BUTTON HD RECORDING TO AN EXTERNAL HARD DRIVE

The ATEM Mini Pro device located on the worktable to the right of Camera 2 can record a separate HD-quality video file in mp4 format for each of the video cameras you are using. The ATEM Mini Pro can also record a quality audio feed from the RØDECaster Pro II as a single audio file.

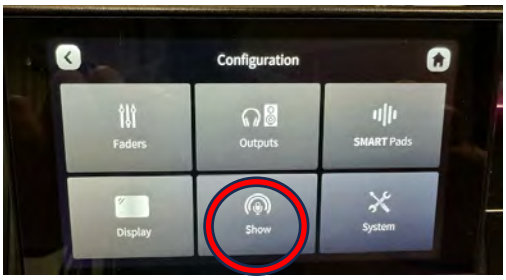
<u>Powering Up</u>

Turn on the power strip on the left side of the worktable in the center of the studio. The ATEM Mini Pro device and the monitor positioned over the table should turn on.

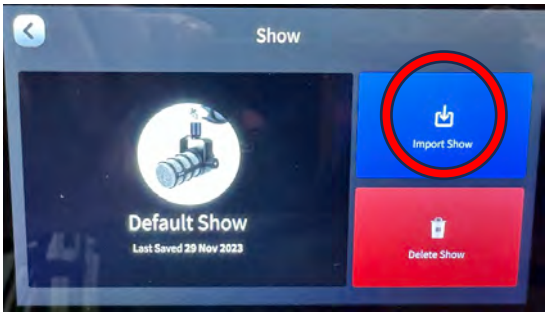
Audio recording is done via RØDECaster Pro II device utilizing its advanced audio processing capabilities. Power up the RØDECaster Pro II device by pressing the red button on the back panel.

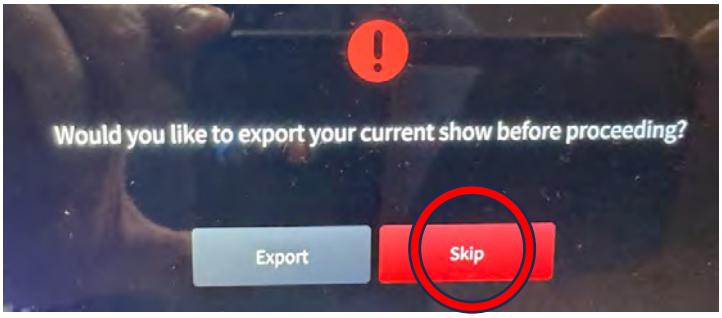
<u>Audio Setup</u>

- Load the saved preset settings to reset any modifications made by previous users.
  - Tap the gear icon in the top left corner of the home screen.
  - Under Configuration, tap 'Show':



  - Tap 'Import', select the show in the list, and tap the blue Import Show icon.
  - On the next screen, select **Skip**. The settings are now reset.





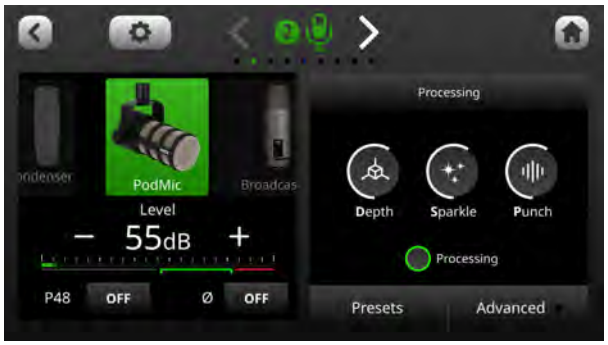
The boom microphones above the chairs are connected to the channels 1-3 of RØDECaster Pro and are color coded. The wireless microphone is paired with channel 4.

Ensure that the faders for channels 1-3 are set to the thicker line:

When a participant is speaking while sitting on the chair under the boom microphone, the green indicator bar for that channel should be peaking around the thicker line.

If the bar is too low or too high, do the following:

- Press the channel number button.
- Use the '+' and '-' buttons to adjust the level on the screen.



- Repeat this process for other microphones as needed.

You can mute the microphones you are not using by pressing their respective mute buttons on the RØDECaster Pro II.

You can check the quality of the output sound using the headphones. Use the headphones volume knob 1 on the RØDECaster Pro II to adjust their volume.

To use the RØDE Wireless microphone (kept in a RØDE pouch in the plastic bin on the shelf), power it up by pressing the power button and attach it 6 inches under the chin.

<u>Recording to the External Hard Drive</u>

- Check the outputs from the cameras on the monitor and adjust the cameras as needed.

- Ensure that each of the cameras you are using is shown on the monitor. If not, ensure that the HD cables are securely connected to the back panel of ATEM Mini Pro.

- Ensure the provided external hard drive is connected to the ATEM Mini Pro—the DISK indicator above the REC button should be green. If not, connect the hard drive with the cable marked “ATEM.”

- To start recording, press the REC button on the top of the ATEM Mini Pro. The button illuminates solid red when recording. The DISK light indicator also turns red.

⚠ If the record button is slowly flashing red, it indicates the disk space is low. In this case, connect the drive to the "Computer" cable and login. The external hard drive will mount on the desktop. Delete all the files from the external hard drive.

⚠ Remember to always **turn off the ceiling lights** when recording.

- To stop recording, press the STOP button under the REC button on the top of the ATEM Mini Pro.

- Once the recording is finished, transfer your recorded files to the studio computer:

  - Disconnect the external hard drive from the "ATEM Mini" cable and connect it to the "Computer" cable.
  - Login to the studio computer with your Emory NetID and password. The drive should be mounted on the desktop.
  - Copy the needed files to your own external media or to your online storage. Depending on the length of your recorded content, the copying process can take some time.

    - Your video files are found in the Video ISO folder. Copy **SPS CAM 1.mp4** (for Camera 1), **SPS CAM 2.mp4** (Camera 2), and **SPS CAM 3.mp4** (Camera 3) files.
    - Your main audio file is found in the Audio Source File folder. You only need to copy **SPS MIC 1.wav**.

  - Once you have finished copying, delete the folder with your recordings from the external hard drive.

Note: You can bring your own external hard drive and connect it to the ATEM Mini Pro for recording. If you are using your own external hard drive, ensure that it has enough space (you **need about 2GB for each minute** of footage) and is formatted on a Mac computer in the **HFS+, Mac OS Extended (Journaled) format**.

Optional: Recording Separate Audio Tracks with RØDECaster Pro II

In addition to the one-button ATEM Mini recording of the combined high-quality audio track, there is an option to use RØDECaster Pro II to record separate high-quality audio tracks for each microphone. To record multi track audio, you will need to bring your own USB-C thumb drive.

To make the recording:

- Depress the inserted microSD card on the back panel (next to the power button) to disengage it.
- Insert your USB-C thumb drive into a USB-C input on the back panel. If the thumb drive is not formatted, a dialog will appear asking you to format it. When the thumb drive is ready, the ‘REC’ button on the left of the screen will turn green.
- To start recording the audio, press the ‘REC’ button. The button will turn red, and a timer will indicate the length of your elapsed recording time.
- To stop recording, press and hold the ‘REC’ button until it turns green (short pressing the button will pause the recording, and the button will turn yellow).
- Once the recording is completed, remove your USB-C thumb drive and re-insert the studio microSD card back into its slot.

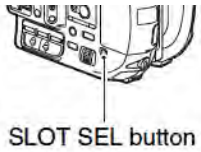
RECORDING TO CAMERA SD CARDS

You have an option to record your 4K or HD video footage to an SD card inserted into the camera. Each of the cameras used for recording will need an SD card. SD cards can be checked out at the Library Service Desk on Level 2 of the library.

When using an SD card in a camera for the first time, it needs to be formatted.

To format an SD card in Camera 2:

- Open the card cover on the left and insert your card into the top Slot A.
- Press MENU and with the joystick, select (System) → [Media Format] →slot A→OK.
- Press **SLOT SEL** button on the left panel to select your formatted card in Slot A.



To format an SD card in Camera 1 and 3:

- Open the card cover on the right and insert your card(s) into the bottom Slot 2.
- Press MENU, → Media→Format→slot 2
- Select Enter→Quick formatting

Changing Between 4K and HD Format

Camera 2 displays the currently selected recording format in the upper left section of the LCD screen.

- XAVC 2160 stands for **4K** recording
- XAVC 1080 or AVCHD stand for **HD** recording

To change the video format:

- Press the MENU button.
- Navigate the joystick to REC/OUT SET→REC SET→FILE FORMAT
- For **4K**, select the top **XAVC QFHD**; for **HD**, select the middle **XAVC HD** (recommended) or **AVCHD.**
- You can go to REC/OUT SET→REC SET→REC FORMAT to change the camera **resolution, frame rate, and bitrate** if needed.

Cameras 1 and 3 display the currently selected recording format in the upper section of the LCD screen.

To change the video format:

- Press the MENU button
- Press ▶■ → Image Quality→File Format
- Select 4K or HD as needed
- You can go to ▶■ → Image Quality→Movie Settings→Record Frame Rate or →Record Setting to change frame rate, resolution, and bitrate if needed.

Resetting the Time Code

To reset the time code in Camera 2:

- Press the MENU button.
- Select TC/UB SET→TC PRESET with the joystick on the grip handle.
- Select RESET.

To reset the time code in Camera 1 and 3:

- Press the MENU button.
- Press ▶■ →TC/UB→Time Code Preset
- Press the 🗑 (delete) button to rest the time code to 00:00:00:00

Audio Setup for Recording with One Boom Microphone

If you only need to use one microphone for your project, you can use Camera 2 with the central boom microphone with a green band and disregard the other two boom microphones.

If you are using only the boom microphone, both CH1 and CH2 of the camera need to be set to INPUT 1.

You can also connect a wired lavalier microphone to INPUT 2 to record a second person if needed. In that case, CH2 needs to be set to INPUT 2.

To set your inputs:

- Press the MENU button.
- With the joystick, select ♪→CH2 INPUT SELECT and set the input to INPUT 1 (boom microphone) or INPUT 2 (lavalier microphone) as needed.

Ensure that the audio channels on the left panel of Camera 2 are set to Auto.

Ensure that you see the sound bars for both CH1 and CH2 moving on the camera display when you speak. If only the top bar is moving (and you are using only the boom microphone), set CH2 to Input 1.

Recording

To start a recording to an SD card, press the Record button with the red dot. For Camera 1 and 3, wait about 30 seconds for the suspended camera to stabilize. To stop recording, press the button again.

STUDIO COMPUTER

You can login into the studio computer using your Emory NetID and password.

If you cannot login to the studio computer, try the following:

- Hit the backspace in the username field until "Name" shows
- Check that caps lock is not activated
- Ensure that you are entering your Net ID and not an alias
- If you still cannot login as yourself, login as lcuser, the password unc0mm0nbalance. This is a shared account, so make sure to delete any personal files before you logout.

The studio computer has Adobe Premiere and Final Cut applications installed. However, you should not reserve the studio solely for the purpose of post-production/editing. For that purpose, you should use MediaLab located on the 4th floor of the library. MediaLab has 18 workstations equipped with Adobe CC, Final Cut, DaVinci Resolve and other applications for video and audio editing. MediaLab is always open and requires no reservation. Staff help is available during the staffed hours. To schedule a personal software consultation with one of the MediaLab student employees, email sdl@emory.edu.

ONCE YOU ARE DONE

You are expected to leave the studio clean, tidy, and ready for the next user. Thank you for doing the following:

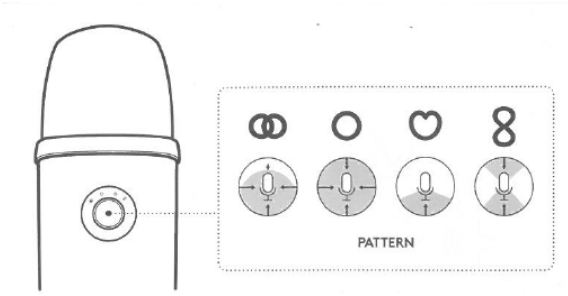
- Power down everything you turned on, including the production lights, the cameras, Camera 2 monitor, and the power strip on the left side of desk.
- Logout from the studio computer (do not turn the computer off).
- Take your SD cards and USB drives (if any) with you. Make sure not to accidently take the studio SD cards from the cameras and the provided external USB-C drive from the desk.
- Collect all personal belongings and any trash.
- Remove all extra props and furniture you brought in (if any) from the studio.
- When exiting the studio, turn the ceiling lights off.

Audio Production

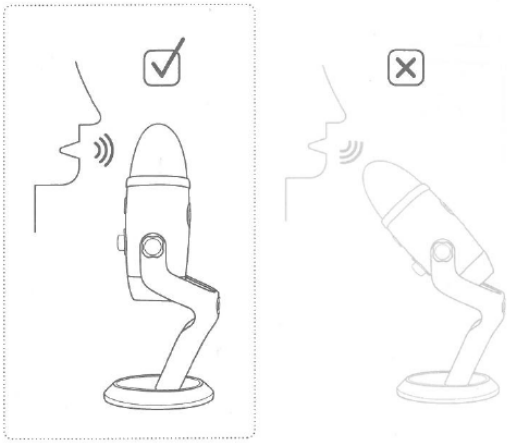
The studio supports simplified audio production with a Yeti X USB microphone.

1. Log in with your Emory NetID and password.
2. Launch the sound recording application of your choosing. Audacity, Adobe Audition, GarageBand, and Logic Pro applications are installed.
3. Use The Yeti X microphone for sound recording.
4. Connect the Sony headphones to the microphone to monitor the microphone recording in real time and for playback.
5. In System Settings->Sound (click on the apple logo in the top left of the screen to access), make sure both input and output sound are set to Yeti X.

6. <u>The Yeti X Microphone</u>

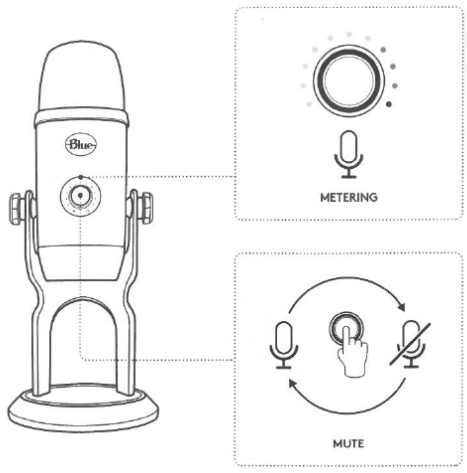


   a. Select the desired recording pattern using the dial on the back of the microphone. Use "cardioid" (#3) for solo recordings. Use bidirectional (#4) for two people. Use stereo (#1) for recording a group.



   b. Position the microphone upright. It should be facing you for solo recordings. The front of the microphone is designated with the "Blue" logo.

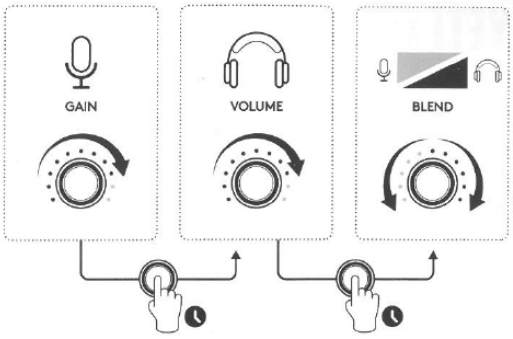
      For bidirectional recordings, one person should be facing the front of the microphone and the other—the back. You may consult the sign on the desk (left corner) for the correct positioning of the microphone to the speaker(s) and for description of the recording patterns.



   c. The front dial is used for microphone gain, headphones volume, and muting.

      i. Press the dial to mute / unmute the microphone.
      ii. Turn the dial to adjust the microphone gain (the microphone logo at the bottom left of the dial should be lit).

iii. To adjust the headphones volume, press the dial for 1 sec until you see the headphones logo lit. Then turn the dial to adjust the volume.



iv. Press the dial for 1 sec again to select the Blend mode. In this mode, turning the dial to the left will adjust the microphone gain and turning it to the right will adjust the headphones volume.

7. Troubleshooting

If there is no sound input through the microphone or no output through the headphones:

- Check the **wired connections** to ensure that the microphone is connected to the computer and the headphones are connected to the microphone.

- Ensure that **Yeti X** is selected as **both the Input and the Output** sources in the System Preferences (Click on the Apple icon / System Preferences / Sound /Input or /Output