Audio Production

When recording, turn the red “On Air” light switch (above the computer desk on the right) on to alert those outside the Studio.

1. Computer Workstation
   a. Log in with your Emory NetID and password.
   b. Launch the sound recording application of your choosing. Audacity, Adobe Audition, and Logic Pro applications are installed.
   c. Use The Yeti X microphone for sound recording.
   d. Use the Sony headphones connected to the microphone to monitor the microphone recording in real time and for playback.

2. The Yeti X Microphone
   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.

   ![Yeti X Microphone Pattern Selection](image)

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

   ![Yeti X Microphone Positioning](image)
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.
3. Troubleshooting

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

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

ii. 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)
Lights

1. Studio production lights power, brightness, and tungsten/daylight modes are controlled from the Studio iPad stand:
   - Click on the Home button to see screen for controlling the lights.
   - On the screen, slide the MASTER switch (top right) to turn the lights on.
   - Student Production...slider affects all the lights simultaneously. Normally it should be positioned at 100%, all the way to the right, and the lights adjusted individually.
   - 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 is not in order.
   - You can control the brightness and color temperature of a particular light by moving its respective sliders. For convenience, 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 the Interview and Green Screen production types, please consult the Preset section below. For more Green Screen lighting tips, consult the Green Screen Production section below.
   - Remember to turn the lights OFF when you leave by sliding the MASTER switch on the screen to the left.

2. To redirect the lights, use the step stool. Be extremely 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. If you need assistance, visit the STS desk.

3. In case of iPad malfunction, the lights can be controlled manually using the knobs on the back of each light with the assistance of the step stool. The top knob controls brightness, the bottom the tungsten / daylight setting. A light needs to be turn off and then on manually using the power button on the light to switch to manual control.
Interview Lights Preset:

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

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:

![Image of light preset settings]

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

![Image of color balance settings]
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.
- Direct the two middle lights on the green screen to keep the light even and consistent across the screen.
- 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 view 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. Readjust your camera zoom, pan, and tilt as needed.
1. **Inserting the Memory Card.** Open the cover on the back of the camera and insert an SD memory card into the slot A or slot B until it clicks into place (one memory card is sufficient). The recording time allowed by the memory card will be displayed in the top right of the LCD display.

2. **Note:** XAVC (QFHD and HD) format (see 5. below) requires a SDXC card. AVCHD can also use SD and SDHC card.

3. Turn the camera on using the **ON/STANDBY** switch:

4. **Formatting the Memory Card.** If you are using the memory card for the first time in this camera, it needs to be formatted. Remember that formatting will delete all data from the card. To format the card:
   a. Press the **MENU** button.
   b. Select (SYSTEM) —>[MEDIA FORMAT] with the SEL/SET dial (turn the dial to navigate, press to select).

   **Note:** Often the SEL/SET dial works to navigate between the Menu items, but does not work to select the needed item. If that happens, press the multi-selector joystick (B) on
the camera handle to select the needed menu item.
You can also use the joystick to navigate.
c. Select the memory card to format.
d. Select OK —> OK.

5. Selecting the Recording Settings (4K/HD). The currently selected recording format is displayed in the upper left section of the camera’s LCD screen.

For example:

- **XAVC 2160/24p 60** stands for **4K** recording (image size 3840x2160) at 24 fps, progressive, at 60 Mbps bitrate. This format requires an SDXC memory card.

- **XAVC 1080/24p 50** stands for **HD** recording (image size 1920x1080) at 24 fps, progressive, 50 Mbps bitrate. This format requires an SDXC memory card.

- **AVCHD 1080/24p FX** stands for **HD** recording (image size 1920x1080) at 24 fps, progressive, max 24 Mbps bitrate. This format can use an SD, SDHC, or SDXC memory card.

To change recording settings:

a. Press the MENU button.

b. For **4K**, select **XAVC QFHD**; for **HD**, select **XAVC HD** or **AVCHD** mode by selecting (REC/OUT SET) —> [REC SET] —> [FILE FORMAT] —> a desired file format with the SEL/SET dial or the joystick.

c. Select **frame rate, image size, bitrate, and scanning system** by selecting (REC/OUT SET) —> [REC SET] —> [REC FORMAT] —> a desired recording format with the SEL/SET dial or the joystick.

Recommended Recording Settings for 4K

- File format: **XAVC QFHD**
- Image size: **2160**
- Frame rate: **24p**
• Bitrate: **100 Mbps** if the memory card size allows for the desired length of footage, otherwise **60 Mbps**.

**Recommended Recording Settings for HD:**

• File format: **XAVC HD** (recommended) or **AVCHD** (if you do not have an SDXC card or if the card volume is an issue)
• Image size: **1080**
• Frame rate: **24p**
• Bitrate: **50 Mbps** (for XAVC HD) or **FX** (for AVCHD, max 24 Mbps)

**Note:** The default signal format is **60i** (NTSC). It records at 24p, 30p, 60i, and 60p fps. Another available signal format is **50i** (PAL), which records at 25p, 50i, and 50p fps. To change the signal format, press the MENU button, select **SYSTEM** —> [60i/50i SEL] and select the desired signal format. **Memory cards formatted in one signal format cannot be recorded or played back in another.** You will need to reformat your memory card prior to recording in a different signal format.

6. **Adjusting the Brightness.** You can control the amount of light in your recording by using iris, ISO sensitivity, shutter speed, and ND filter. The pre-set values to use with the Interview and Green Screen Lights presets and the frame speed of **24 fps** (see above) are:
   a. **IRIS** – 8
   b. **ISO** – M (1600)
   c. **Shutter speed** – 48
   d. **ND filter** – Clear

   These values can be adjusted as described below.

7. **Adjusting the Iris.**
   a. Make sure the FULL AUTO (A) is off.
   b. Set the ND/IRIS switch (B) to the IRIS position.
   c. Turn the ND/IRIS dial (C) to adjust the value. The **volume of light increases** as you open the iris **by decreasing the value** and vice versa.
   d. Once done, set the ND/IRIS switch (B) back to ND position to avoid accidental change of the iris value.
8. **Adjusting the ISO.**

   a. Make sure the FULL AUTO (A) is off.
   b. Set the ISO/GAIN L/M/H switch to the desired position, which by default corresponds to the ISO values of 1000/1600/3200 accordingly.

9. **Adjusting the Shutter Speed.** The shutter speed depends on and is normally double of your chosen fps (frames per second) value. Thus, 24fps corresponds to the shutter speed of 48 and 30fps to 60. To adjust shutter speed:

   a. Make sure the FULL AUTO (A) is off.
   b. Press the SHUTTER SPEED button (H) to highlight the shutter speed value on the LCD display. “A” next to the shutter speed value disappears.
   c. Turn the SEL/SET dial (F) to adjust the shutter speed and press the dial or the joystick to set it.

10. **ND Setting.** For the Studio, the ND (neutral density) filter should be set to CLEAR. Make sure that the PRESET switch on the front left of the camera is set to PRESET, and the ND FILTER dial (A) is set to CLEAR.

11. **Resetting the Time Code** before you begin your recording session is useful for synchronization of your footage in postproduction. To reset the time code:

    a. Press the MENU button.
    b. Select 00:00 (TC/UB SET)→[TC PRESET] with the SEL/SET dial, then press the dial.
    c. Select [RESET], press the dial.
12. Connecting External Microphones

   a. External microphones (boom or lavalier) connect
to the camera via an XLR cable.
   b. When using a single microphone, the other end of
the XLR cable connects to INPUT 1 jack (G). If
connecting a second microphone, connect the
second XLR cable to INPUT 2 jack (B).
   c. The INPUT 1 switch (H) needs to be set to
   **MIC+48V**. If connecting a second microphone, set
the INPUT 2 switch (A) to **MIC+48V**. Otherwise,
leave the INPUT 2 switch on **LINE**.
   d. Press the **MENU** button.
   e. Select **[AUDIO SET]**—–>**[CH1 INPUT SELECT]** —–
>**[INPUT1]** with the SEL/SET dial or joystick.
   f. If using only one microphone, set **[CH2 INPUT
SELECT]**—–>**[INPUT1]**. That is, both channels 1 and
2 should be set to the same input 1.
   g. If using two microphones, set channel 2 to input 2:
select **[CH2 INPUT SELECT]**—–>**[INPUT2]**.

If you need to switch from the already connected boom microphone to a lavalier
microphone, simply disconnect the XLR cable from the boom microphone and connect it
to the lavalier microphone.
Video Recording Recommended Settings

**Signal Format**: 60i (NTCS; records in 24p, 30p, 60i, and 60p fps)

**Full Auto**: Off

**IRIS**: 8

**ISO**: M (1600)

**Shutter speed**: double the selected fps (e.g., if 24 fps is selected, the shutter speed is 48)

**ND filter**: Clear

### Settings for 4K recording:
- **File format**: XAVC QFHD (requires an SDXC memory card)
- **Image size**: 2160
- **Frame rate**: 24p
- **Bitrate**: 100 Mbps if the memory card size allows for the desired length of footage, otherwise 60 Mbps

### Settings for HD recording:
- **File format**: XAVC HD (requires an SDXC memory card) or AVCHD (can use SD, SDHC or SDXC card)
- **Image size**: 1080
- **Frame rate**: 24p
- **Bitrate**: 50 Mbps (for XAVC HD) or FX (for AVCHD, max 24 Mbps)
1. Turn the **Ninja Flame monitor** on by pressing its power button (1). If it does not turn on, check the power cord connectivity.

2. To adjust **pan** (horizontal) and **tilt** (vertical) angles of the camera as needed, unlock the appropriately labeled locking knob, adjust, relock.

3. **Zooming.** Use the zoom lever on the 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, which is the farthest ring from the front of the lens.
4. **Focusing the camera.**

d. Make sure the focus switch on the left panel of the camera is switched to `MAN`.

e. With the talent in place, zoom in on the talent’s eyes. Tilt the camera as needed.

f. Adjust the focus with the Focus Ring on the lens (the ring closest to the front of the lens) until the eyes are in focus.

g. Zoom out to the desired frame and readjust the camera tilt.

The **Ninja monitor** has a **Focus Assist** function that is useful for ensuring your recording is always in focus. To use this function,

a. Press the Monitor Assist icon on the bottom right of the monitor.

b. In the right panel that opens, press the Focus Assist icon. This enables focus peaking, and the parts of the image in focus are highlighted in red.

c. Press 2:1 to magnify the screen. The indicator box shows the location of the screen you are viewing. You can move the zoomed location by dragging across the screen.

d. Zoom in and focus on your talent’s eyes with the Focus Ring (see above). When the eyes are in focus, they will be highlighted in red.

e. Press 2:1 again to deselect the feature (pressing any icon selects/deselects its function).

f. Press anywhere on the screen outside of the Focus Assist panel to close it.

g. Zoom out to the desired frame.
5. **Audio Levels.** During recording, the audio level peaks should be kept for the most part within the -20dB — -12dB range, which corresponds to the yellow zone on the sound levels displayed in the bottom left of the Ninja Flame monitor (it is okay if the peaks are in the green or the red zone occasionally, but not continuously). In order to adjust the audio levels:

h. Open the door covering the AUDIO LEVEL control panel.

i. Ensure that the AUTO/MAN audio level switches (A) and (B) are set to MAN.

j. Wear headphones to monitor the sound and to ensure that there are no extra sounds or noises present.

k. Having you talent speaking at the scene, turn audio level dials (C) and (D) at the half-notch increments as needed to achieve the -20dB — -12dB range.

See the Video Production | Prep Work section on connecting external microphones to the camera.

6. **Recording.** Press the REC START/STOP button (A) on the grip to start or stop recording. Record buttons can be also found on the top of the handle and on the top left panel of the camera. Red recording lights light up on the front and the back of the camera during recording.
**Video Production | Playback**

**Warning:** using the playback function will zoom out the camera and you will lose your composition. If you want to review your footage before you have completed the recording, take the memory card out of the camera (do not turn the camera off) and use the studio iMac for playback. Then reinsert the memory card into the camera and continue recording.

1. **To access the Playback function:**
   a. Press the THUMBNAIL button (next to the MENU button). The thumbnail screen appears showing your recorded clips.
   b. Navigate among the clips and select them for playback using the SEL/SET dial or the joystick. You will need to use the headphones to hear the sound during the playback.

2. **To erase a clip:**
   a. Press the MENU button when the THUMBNAIL screen is displayed.
   b. Select (EDIT)–>[DELETE] with the SEL/SET dial or the joystick.
   c. Select the clip to delete.

3. **To exit playback,** press THUMBNAIL button again.
Video Production | Teleprompter

SPS provides a Glide Gear Teleprompter, an iPad with the Teleprompt+ app installed, and a teleprompter remote.

The Glide Gear Teleprompter is already installed on the camera. Once the script is being prompted on the iPad, place the iPad in front of the mirror.

To launch the Teleprompt+ app on the iPad:

1. Press the Home button. The iPad is not protected by an access code.

2. Launch the Teleprompt+ app in the Dock:

**NOTE**: The Teleprompt+ User Manual can be accessed from the Studio’s website. Below is a summary of some main features.
To import a script from Google Drive:

1. Tap the Scripts icon at the top left of the screen to reveal the scripts list.
2. Tap the Import icon at the bottom to open the import menu.
3. Select Google Drive.
4. Sign in to your Google Drive account.

**NOTE:** if the iPad keyboard is not displayed or keeps disappearing, it means that the remote control interferes with the iPad posing as a Bluetooth keyboard. Press the bottom right "Eject" button on the remote to disable its keyboard function.

5. Once logged in, the available documents will be listed on the left. The files must be in plain text (.txt), Google Document, MS Word (.docx), or Rich Text format (.rtf) to display. Tap on the file names to select the scripts and tap the Import button below.

6. Once imported, tap on the script's name. The script will appear in the window to the right.

**NOTE:** The app saves the Google Drive login information. To delete it after you are done,

- Tap **Logout** on the top of your Google Drive file list in the app:

  ![Google Drive Menu](image)

- Open the **Settings** app, scroll down to **Safari**, scroll down and select **Clear History and Website Data**.

To copy/paste from another app:

1. Open your text, e.g., in Safari.
2. Select the needed portion of the text and copy it.
3. Go to Teleprompt+ and create a new script:
   a. Tap the Scripts icon at the top left of the screen to reveal the script list.
   b. Tap the + icon at the bottom to add a new script.
   c. Type a name for your script in the script name field.
   d. Tap the content field and paste your copied script.
To delete your script after you are done:

1. Tap the Edit button at the top, then tap the circle to the left of any scripts you wish to delete.
2. Tap the Delete button at the bottom of the list to remove the selected scripts.

Script Settings

Tap the right panel toggle button on the bottom right to reveal the settings panel. The settings are customized and saved for each separate script. Ensure that **Mirror Text** is selected for each of your scripts. Adjust other settings - Countdown, Text Options, etc. as desired. The speed and font size can also be adjusted using the remote control.

Prompting Mode

- Ensure that **Mirror Text** is selected for each of your scripts (see above).
- Tap the **Start Prompting** button to begin prompting. Place the iPad in front of the mirror.
- To reveal the control console, tap the screen. The console will auto-hide in about 5 sec. To lock the console in place, tap the lock button.
- The console reveals the Play/Pause button, scrolling speed, and font size controls. These settings can also be controlled with the remote control.
- To quit the Prompting Mode, tap the screen and tap the X in the top right corner.

Remote Control

Use the remote control for the following features:
Troubleshooting

1. **Problem:** When using the Menu, the SEL/SET dial works to navigate between the Menu items, but does not work to select the needed item. When you push the dial to select, nothing happens.

   **Solution 1:** Press the multi-selector joystick (B) on the camera handle to select the needed menu item. You can also use the joystick to navigate.

   ![Camera Handle with Joystick](image)

   **Solution 2:** Set the Audio Level switch for CH-2 (D) to AUTO. That should fix the SEL/SET dial issue. Once finished with selecting the Menu items, set the switch (D) back to MAN.

   ![Audio Level Switch](image)
1. **Turning the camcorder On and Off.** To turn on the camcorder, set the Power switch to CAMERA. To turn off the camcorder, set the Power switch to OFF.

2. **Inserting the Memory Card.** You can insert an SD card into SD card slot A or slot B. If you have two SD cards, you can use both slots.
   - Turn off the camcorder.
   - Lift the LCD panel upwards and open the SD card compartment cover.
   - Insert the SD card straight, with the label facing up, all the way into the SD card slot until it clicks.
   - Close the SD card compartment cover. Do not force the cover closed if the SD card is not correctly inserted.

3. **Checking the Status of the SD Card Slots.** You can check the status of the SD card slots immediately by looking at the SD card access indicator light:
   - Red – accessing the SD card;
   - Green – Recording is possible, the SD card slot is selected for recording;
   - Off – An SD card is not inserted, not selected or is not being accessed.

4. **Formatting an SD Card.** When an SD card is being used in this camcorder for the first time, it needs to be formatted. Remember that formatting will delete all data from the card. To format the card:
   - Press the MENU button.
   - Select (Other Functions) \(\rightarrow\) [Initialize Media] with the joystick.
   - Select A or B slot and press the joystick.
   - Select [Complete] (complete initialization) and then press the joystick.
   - Select [OK] and then press the joystick.
   - When the confirmation message appears, press the joystick.
   The SD card is initialized and all the data it contains is erased.

5. **Recording Settings: Bit Rate and Frame Rate.**
   - The recommended bit rate is 24 Mbps LPCM. To change the bit rate:
     a. Press the MENU button.
     b. Select (Other Functions) \(\rightarrow\) [Bit Rate].
     c. Select the desired option and press the joystick.
     d. The selected Bit Rate will appear in the upper right of the screen.
   - The recommended frame rate is 24P. To change the Frame Rate:
     a. Press the MENU button.
b. Select (Other Functions) ➔ [Frame Rate].
c. Select the desired option and press the joystick.
d. The selected Frame Rate will appear in the upper right of the screen.

6. **Adjusting the Shutter Speed.** The shutter speed depends on and is normally double of your chosen frames per second value. Thus, 24p corresponds to the shutter speed of 48 and 30p to 60. To adjust shutter speed:
   - Press the Shutter button. The current value will be highlighted in orange.
   - Push the joystick up and down to select the desired value and then press the joystick.

7. **Adjusting the ISO.** The recommended ISO for the preset lighting conditions in the studio is 1600. To adjust ISO:
   - Press the ISO/GAIN button. The current value will be highlighted in orange.
   - Push the joystick up and down to select the desired value and then press the joystick.

8. **Adjusting the Aperture.** The recommended aperture for the preset lighting conditions in the studio is 8. To adjust the value, use the control dial.

9. **Resetting the Time Code.**
   - Press Menu
   - Select (TC/UB Setup) ➔ [Time Code] ➔ [Setting] – [Reset]

10. **Zooming.** When using a lens with zooming function, use the joystick on the grip to operate the zoom.

11. **Adjusting the Focus.**
   - Manual Focus.
     - Set the focus switch on the lens to MF.
     - Zoom all the way to the subject if the lens allows zooming. Otherwise, perform the next step.
     - Turn the focus ring on the lens to adjust the focus.
     - Zoom out as needed to the desired frame if the lens allows zooming.
• Auto Focus.
  a. Set the focus switch on the lens to AF.

• Using the Focus Assistance Functions. In order to focus more accurately, you can use two focus assistance functions – peaking, which creates a clearer contrast by emphasizing the outlines of the subject, and magnification, which enlarges the image on the screen. You can use both functions simultaneously for greater effect.
  a. Peaking. Press PEAKING button. The PEAK icon appears at the lower center of the screen. Press the button again to turn peaking off.
  b. Magnification. Press the MAGN. button. MAGN icon appears at the lower center of the screen. The center of the screen is magnified. Press the button again to turn magnification off.

12. Reviewing the Recording.
• When the camcorder is in Camera mode, you can review the last clip that was recorded.
  a. Press MENU.
  b. Select (Other Functions) → [Rec Review] → [Entire Clip].
• Switch to MEDIA mode to access the index screen with all recorded clips.
• Using the joystick, select the clip for playback and press to play (also pause/resume) the clip.
• Use playback controls for various playback options.
1. Inserting the Memory Card.

![Instructions for inserting the memory card]

2. Turning the Power On.

<ON>: the camera turns on. <OFF>: the camera turns off. Either one automatically executes sensor cleaning.

3. Formatting the Memory Card. If you are using the memory card for the first time in this camera, it needs to be formatted. Remember that formatting will delete all data from the card. To format the card:
   a. Press Menu.
   b. Using the control dial, navigate to the section containing the Format card option and press <SET> in the center of the dial.
   c. Select [OK], then press <SET>.
4. **Setting the Image-Recording Quality.**
   
   a. Press Menu.
   
   b. Using the dial, navigate to the section containing the Image Quality option and press <SET>.
   
   c. To select a RAW setting, turn the dial. To select a JPEG setting, press the key.
   
   d. On the upper right, the size of a shot, the resolution, and the number of possible shots are displayed.
   
   e. Press <SET> to set your selected settings.

5. **Attaching and Detaching a Lens.** If you need to swap the lens:
   
   a. Turn the camera Off.
   
   b. While pressing the lens release button (1), turn the lens counterclockwise until it stops (2).
   
   c. Detach the lens and set it aside (3).
   
   d. Remove the rear lens cap from the lens that you are about to attach and attach the cap to the lens you just detached.
   
   e. Align the red dots on the lens and camera and turn the lens clockwise until it clicks in place.

6. **Setting the Lens Focus Switch.** Set the switch to **AF** for Autofocus and to **MF** for manual focus.
1. **Fully Automatic Shooting.**
   a. Set the Mode Dial to <A> by turning it while pressing the button at the center.
   b. Aim the center AF point at the subject.
   c. Focus the subject by pressing the shutter button halfway. The lens will shift to focus, the beeper will sound and focus confirmation light <●> in the viewfinder will light up.
   d. While holding the shutter button halfway, recompose your shot as desired. Your subject will remain in focus as long as the shutter button is held.
   e. Take the picture by pressing the shutter button completely. The captured image will be briefly displayed on the LCD monitor.

2. **Shooting Portraits in SCN: Special Scene Mode.**
   a. Set the Mode Dial to <SCN>.
   b. Press the <Q> button.
   c. Select the Portrait shooting mode < portraits >. This mode blurs the background to make the subject stand out. It also makes skin tones and the hair look softer.
   d. Shooting tips:
      i. The further the distance between the subject and the background, the blurrier the background will look. The subject will also stand out better in front of a plain, dark background.
      ii. Use the zoom lens, zoom in on the subject to the maximum. Move away or if necessary.
      iii. Focus on the face. For close-ups of the face, focus on the eyes.
1. **P: Program AE.** The camera automatically sets the shutter speed and aperture to suit the subject’s brightness (Program Auto Exposure).
   a. Set the Mode Dial to <P>.
   b. Focus on the subject by pressing the shutter button halfway.
   c. Check the display for shutter speed and aperture. They should not blink. If the “30” shutter speed and the lower f/number blinks, increase lighting or ISO. If the “4000” shutter speed and the higher f/number blinks, decrease lighting or ISO.
   d. Take the picture – compose the shot and press the shutter button completely.

2. **Tv: Shutter-Priority AE.** You set the shutter speed and the camera automatically sets the aperture based on the selected shutter speed and the brightness of the subject.
   a. Set the Mode Dial to <Tv> (stands for Time value).
   b. Set the desired shutter speed: while looking at the LCD panel, turn the dial above the panel. A faster shutter speed freezes the action; a lower blurs it.
   c. Focus the subject by pressing the shutter button halfway. The aperture is set automatically.
   d. Check the viewfinder display. The aperture should not be blinking. If the lower f/number blinks, set a lower shutter speed, increase lighting or increase ISO. If the higher f/number blinks, set a faster shutter speed, decrease lighting or decrease ISO.
   e. Take the picture – compose the shot and press the shutter button completely.

3. **Av: Aperture-Priority AE.** You set the aperture and the camera automatically sets the shutter speed based on the selected aperture and the brightness of the subject.
   a. Set the Mode Dial to <Av> (Aperture value).
b. Set the desired aperture: while looking at the LCD panel, turn the dial above the panel.

c. Focus the subject by pressing the shutter button halfway. The shutter speed is set automatically.

d. Check the viewfinder display. The aperture should not be blinking. If the “30” shutter speed number blinks, set a larger aperture (lower f/number), increase lighting or increase ISO. If the “4000” number blinks, set a smaller aperture (higher f/number), decrease lighting or decrease ISO.

e. Take the picture – compose the shot and press the shutter button completely.

f. Shooting tips for portrait shooting:
   i. The further the distance between the subject and the background, the shallower the depth of field and the blurrier the background will look. The subject will also stand out better in front of a plain, dark background.
   ii. The larger the aperture (the lower the f/number), the shallower the depth of field.
   iii. Use the zoom lens and zoom in on the subject to the maximum. Move away or if necessary.
   iv. Focus on the face. For close-ups of the face, focus on the eyes.

4. **M: Manual Exposure.** You set both the shutter speed and aperture.

5. **Setting the ISO:** press the <ISO> button on the top of the camera, turn the dial to the desired ISO number displayed on the LCD panel. “A” indicates ISO Auto.

6. **Setting the AF Operation:**
   a. Make sure the lens focus switch is set to AF (auto focus).
   b. Turn the Mode Dial to a Creative Zone Mode (P, Tv, Av, M, or B).
   c. Press the <AF> button on the top of the camera.
   d. While looking at the LCD panel, turn the dial to set the AF to:
i. ONE SHOT for still subjects (most relevant in the Studio setting)
ii. AI SERVO for moving subjects
iii. AI FOCUS for auto switching between One Shot and AI Servo AF.

7. Setting the Drive Mode.
   a. Press the <DRIVE> button on the top of the camera.
   b. While looking at the LCD panel, turn the dial to set the drive mode.
      i.  single shooting
      ii. continuous shooting (4.5 shots/sec)
      iii. Silent single shooting
      iv. Silent continuous shooting
      v.  10-sec self timer
      vi.  2 sec self timer

8. Shooting with the LCD Monitor (Live View Shooting).
   a. Set the Live View shooting/Movie shooting switch to <
   b. Press the <Start/Stop> button.
   c. Focus by pressing the shutter button halfway.
   d. Recompose and take the picture by pressing the shutter button completely.

   a. Set the lens focus mode switch to <MF>.
   b. Zoom in on the subject’s eyes and focus by turning the lens focusing ring.
   c. Zoom out and recompose as needed.
   d. Take the picture by pressing the shutter button completely.
10. **Shooting Movies**

   a. **Set** the Live View shooting/Movie shooting switch to `<ACCESS>`. You will hear a sound from the reflex mirror going up, then the image will appear on the LCD monitor.

   b. **Set the Recording Size, Frame Rate, Compression Method:**
      
      i. Press the Menu button.
      
      ii. With the dial, navigate to the menu section displaying Movie rec. size.
      
      iii. Select the image size, frame rate and the compression method (1920 24 ALL-I).
         
         1) **1920 (1920x1080)** – Full HD – is recommended.
         
         2) **24 fps** frame rate is recommended.
         
         3) **ALL-I** compression (one frame at a time) is recommended.

   c. **Focus the subject.** Manual focus is recommended.

   d. **Press the <Start/Stop> button** to start shooting a movie. Press the same button to stop.

   e. **While shooting a movie,** you can take a photo by pressing the shutter button completely.

   f. **The camera automatically divides your footage into 4GB files.**

   g. **The maximum recording time is 29 min 59 sec.** To continue shooting, press the <Start/Stop> button again.

11. **Playback**

    a. **Press the <> button.**

    b. **Turn the dial under the button to browse through the images and movie clips.**

    c. **To play a movie clip,** press <SET> in the center of the dial.
Photo Production | Portrait Photography

The settings for portrait photography will depend on the result you are trying to achieve. When using the studio Canon 6D camera, we recommend the following camera settings:

- Use the **50mm** prime lens.
- Set the Mode Dial to **M** (manual).
- Set the **ISO** to **1600** by pressing the <ISO> button on the top of the camera and turning the dial above the panel.
- Set the **shutter speed** to **125** by turning the dial above the panel.
- Set the **aperture** by turning the dial on the back of the camera to the right of the LCD screen. Your aperture value will depend on the lighting configuration and will likely be **between 5.6 and 8**. See below for lighting suggestions.

**Lighting:**

- For highly lit passport-like photo with minimum shadows on the face, use the **Interview Lights Preset** (see the Lights section in the beginning of the binder) and increase both of the Front lights to 100%. Set the **aperture** to **8**.
- To add shadows and create a more 3-D photo, set the Front Left, Middle Left, and Back Right lights to 0% (see the illustration on the next page). Set the **aperture** to **7.1**.
- If you like to use a lighting setup that results in decreased lighting, you will also need to decrease the aperture f-number and/or decrease the shutter speed and/or increase the **ISO**. Please note:
  - With decreasing the aperture f-number, you are also decreasing the depth of field. We do not recommend going lower than **5.6**, unless you don’t mind that parts of your model will be out of focus.
  - With decreasing the shutter speed, hold the camera very still when shooting to avoid a blurry image. Do not go lower than **60** with the **50mm** lens or lower than **80** with the 24-70mm lens set to **70mm**. The rule of thumb is that the minimal shutter speed should not be less than the focal length of the lens. The recommended shutter speed of **125 is safe** for avoiding blurriness.
Increasing the ISO may lead to digital noise in your image if printing large high-resolution images. Generally speaking, increasing the ISO up to 3200 should be fine for most photos when using our Canon 6D, especially when they will be viewed on a digital screen.

You can also experiment with the white background curtain as a light reflector.