

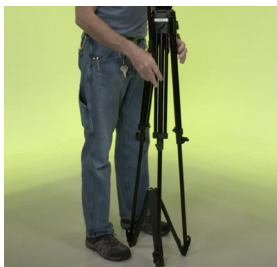


Middlesex Community College  
**CENTER FOR NEW MEDIA**

**Camera Equipment Tutorial**

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# Setting up the Tripod



To open and set up the tripod hold the tripod like a baby, unlock and extend the lower legs. Extend the legs, lock the screws, and place the tripod on the ground. Be sure to push down the center support so that the legs are secure. You can extend the spreaders to widen the base.



Make sure you tighten the screws so that the spreader doesn't slide. Take the tripod and unscrew the arm and extend it out and away from the legs. Make sure you unscrew the arm enough so that the arm can move freely. There are grooves on the arm and the tripod head that will round out if you grind them.



On the head of the tripod there will be a bubble level to help make sure that your tripod and camera are level. Our tripod also has a light on it. The button to turn it on is located on the side of the bubble level. Loosen the screw under the head and the head will be able to be moved around. Move the head so that the bubble level is in the center of the circle.

# Setting up the Tripod



On this tripod loosen up the screw, push the red button and slide the plate to the back of the tripod head. On the side of the plate, you will see an arrow showing which side the camera lens needs to be and on what side the of the tripod head it needs to be. There is also an arrow on the top of the tripod head showing which way the plate slides on. Make sure you have this side of the plate near the lens.



Grab the camera and on the bottom, there will be a few holes. Two holes are for the screw and on for the pin to hold the plate in place. There are two different size screws, use the smaller screw and hole. The pin will go into the center hole to help keep the plate from sliding. Hand tighten the screw then use a screw driver, coin or key to tighten the screw more.



While holding the camera from the handle, slide the camera and plate on to the tripod head from the back. Before you tighten up the plate you will want to balance the camera on the tripod head. While holding the camera, loosen up the tilt knob and see if the camera is balanced on the tripod. You will want to redo the balance when you add items to your camera like a battery, cables, monitor ect. Most importantly never leave the tripod without locking the tilt and pan knobs.

# Camera Overview



On the side with the handle grip, you have power and the record button. On the top is the zoom control, rec check and iris. Behind the handle grip are various connectors. You have SDI out, TC or Timecode in/out, and audio input 2. On the top handle is another record button that has a protective cover so not to trigger the recording on/off by accident. To access the record button, slide the cover to access the button. Next to that is another zoom control.



In front of that is the lcd screen that lifts to reveal other controls. Here you have thumbnail, which will bring you to the clip playback, counter reset, menu, arrow buttons, select, audio monitor and advance control, bars and finally exit.



Just to the right of the lcd is audio input number 1 and a shot gun mount. On the back of the camera top center is the eye piece. Below that to the left behind a cover you will find a USB C, SD 1 and SD 2. Below that is the HDMI out. In the middle is the battery.



# Camera Overview



Finally, the side with all the buttons, switches, and rings. First let's look at the lens. There are three rings. You have the focus ring, zoom ring and iris. On the body of the camera is the ND filter (for use outside in bright light), iris, focus assist, Focus auto/manual and focus auto button. Just past the red ring you have O.I.S (optical image stabilization), zebra, WFM (Waveform Monitor), A.iris level (Auto iris).



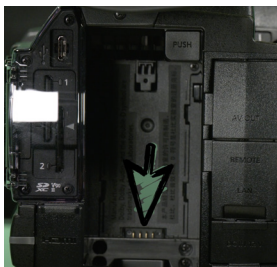
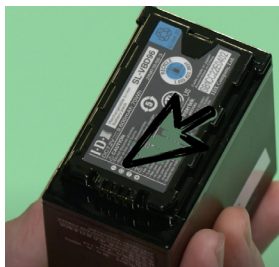
Next to that behind the cover are the audio controls. Very important is the headphone jack located just above the 4k logo behind the rubber cover. On the bottom you have gain (which is 0, 6 and 12db), white balance, shutter, menu, scroll/select wheel, exit, display/mode check (turns on/off the display you see on the screen), auto/manual, and slot sel (pick which SD slot you want to use if you have 2 sd cards in).



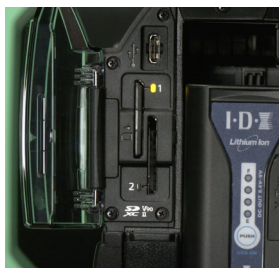
Finally in the front of the camera body under the lens is the white balance button. Top left shows the counter (if you have it on) recording format and the file name below that. Top center shows the SD card slot and how much time remains on each card. Top right shows the remaining battery power. Just below the battery is the steady cam. The wavy hand shows that the camera stabilization is on. In the center of the screen near the edge are two yellow lines. To the right is the dB, how much gain is added to the video.

# Setup

VIDEO OUT/LCD/VIEW  
RECORDING



Start by putting on the battery. Look at the battery and locate the electrical connectors. Look at the camera a locate the electrical connectors. The connectors on the battery and the connectors on the camera will line up. These will face down. Put the battery in the back of the camera starting with it near the handle. Gently slide the battery down until you hear a click.



On the rear left side of the camera is a door where the SD card will go. Gently pull the door from the right side to access the SD card slots. To take the sd card out gently push on the sd card. The card will pop out a bit so you can grab it. To put it back in take the SD card and slide it in slot number 1 with the brass contacts facing the battery. Push it in then close the door.



Let's open the LCD screen. On the top in front left handle, you will see a square with 4k written on it. Gently lift the screen. Once it is tilted all the way out you can then tilt the screen for ease of viewing. Now on the other side of the camera where the grip is, push in the white bottom and slide down the lever to the on position. Notice where the line is pointing. This will show if you are on or off

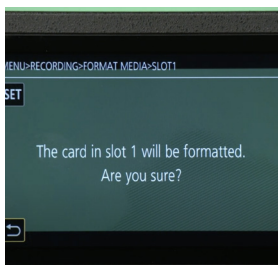
# Setup



Back on the other side of the camera locate the Menu, sel/push set scroll wheel/button. You can also use the controls on the top of the camera as well. You will use these to navigate the menu options when we change the camera setting. The LCD screen is also touch screen, so you can touch to select.



Now Press the menu button and look into the LCD. You will see a list of options. Scroll down to SYSTEM. Now press select. Scroll down to File format. Select mov. Next scroll to record format and press select. Here you can select the video format you would like to record in. Scroll to your preference and press select. We generally us 1080 59.94 I or 1080 29.97p. Now select exit. Push exit again to leave the menu. You can also press menu again to leave.



Once back to the LCD you can now see what setting you have. Let's make sure the sd card is formatted and ready to record. Press menu and scroll to Others. Format should be already highlighted. Press select. Pick which SD card slot you would like to format. Word of caution make sure you have removed your footage before you continue. Scroll to the SD card and press select. Scroll to highlight select and press enter. Once done press select to exit. Now you're ready to record with the correct record settings and a clean SD card.



# Manual Settings



You will want to use the camera in manual mode so that your exposure, focus and color balance are correct. Not all cameras are good in auto. First make sure the Auto/Manual switch is in manual. Look at the focus switch and make sure that is set to m. Now let's make sure the iris is set to manual. While looking at the viewfinder push the iris button. Keep pushing it until it is set to iris: Manual.



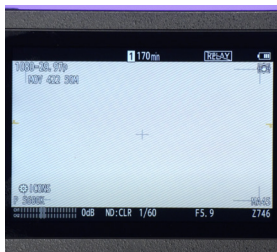
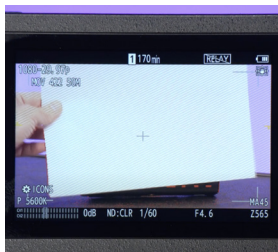
Once you have the iris in manual where you see F and a number or open in the lcd screen, you can now move the iris ring which is the ring closest to the camera body up and down to open and close the iris to get the correct exposure. When looking at the LCD screen look for zebra's, wavy lines. This will indicate the brightness level. If you do not see the zebras, push the zebra button. Our cameras are set to 80%. So, when you see the zebras, your shot is set to approximately 80% brightness.



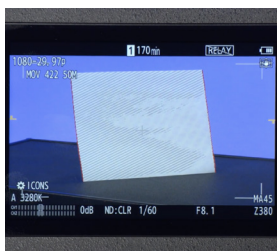
To get the proper focus you will use the ring at the front of the lens. Always zoom in as far as you can so that you can get the best focus. Our cameras have a focus assist button. After you zoom in all the way push the focus assist button you will either see red indicators on the screen showing you what is in focus), the screen will digitally zoom in or some cameras may show both. Once you are done make sure to turn off focus assist. You will know you have turned it off when you see the on-screen display again. Reframe your shot to get the framing you want.



# Manual Settings



Let's make sure the white balance is good. Place a white card or sheet of paper in front of your camera. Do NOT place it right in front of the lens. Place the white card where your subject or object is. That is what is lit. Zoom in to have white cover the whole shot. On the side of the camera make sure your white balance switch is set to either A or B. A or B is just two different storage locations so you can have a white balance for two different locations saved.



While looking at the LCD screen push the white balance button located on the front of the camera under the lens. You will see AWB A(orB) Active then AWB A OK and a number. That number indicates the color temperature.



Now at this point you can start shooting if you only need video. To do this get the shot framed then push the red record button located on the side grip or on the top handle. If you look at the LCD screen you should see a red dot and eventually the minutes go down. Once you are done recording just hit the record button again to stop. You can double check the LCD to see if the red dot is gone.

# Audio Settings



To plug in the xlr into the mic and the camera make sure to line up the pins with the cable. Push in the cable and make sure it is tight.

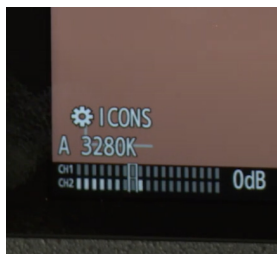
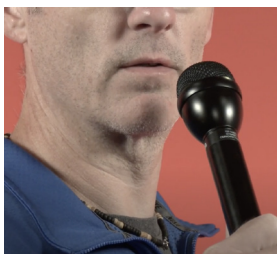


In this case we are plugging into channel 2. To adjust audio settings look on the side of the camera with all the buttons, there is a clear door. Gently pull the door open from the right side. Depending on which input you are using switch to mic. In our case we pick channel 2. Depending on the type of microphone you are using you may or may not need 48 volts, better known as phantom power. In this example with our hand-held mics we just need mic.

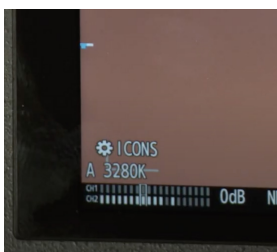
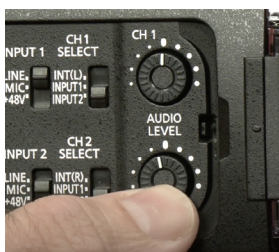


On channel two, you have inter (internal mic) input1 and input2. Make sure that you select input two. To make sure your audio sounds good you will want to use headphones to monitor the audio. Take the headphone connector and plug it into the headphone jack located on the left side of the camera near the handle and above the 4k logo. Gently pull the plug, the plug will stay connected to the camera, where the headphone symbol is and plug in the headphones.

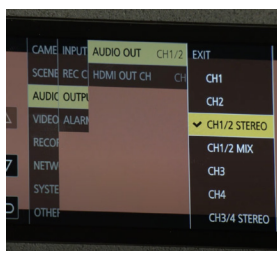
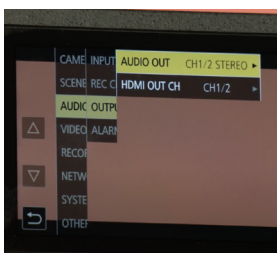
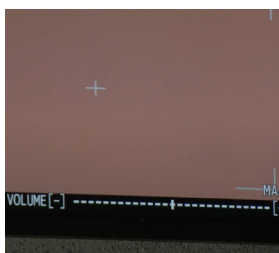
# Audio Settings



While using the audio dial for channel two, which is your external microphone, you can adjust the level. Talk into the microphone and adjust the levels while looking in the LCD, you will see at the bottom left, two bars and dots. This shows you the audio level for each of your channels.



First look at channel two and adjust the level using the dial. Adjust the level so that the audio is peaking just past the vertical line which indicates good audio levels. Do the same thing for channel one if you happen to be using second mic. If you are not using a second mic, I would suggest that you set up the channel to use the camera mic as a backup.

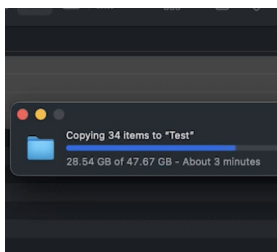
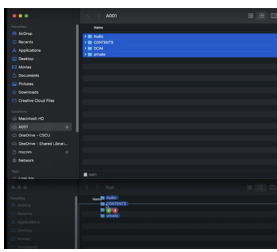
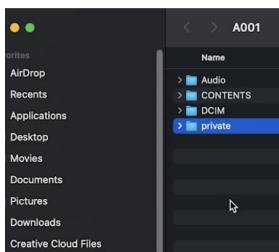


To adjust the volume of the headphones, press the  $-/+$  button on the top of the handle controls. Volume level will appear on the screen. You can change what you hear in the headphones. You shouldn't have to change this but just in case you don't hear ch 1 in one ear and ch 2 in the other. However, if this is not the case, you go to menu scroll down to audio and push select. Then to output settings. There you will see audio out. It should be set to ch  $\frac{1}{2}$  stereo. If not push select, then scroll to the proper setting. In most cases you want ch  $\frac{1}{2}$  stereo so you can hear each channel separately.

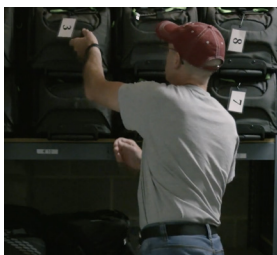
# Wrap Up



Once you are done make sure you turn off the camera, tilt the LCD flat back into the handle, properly disconnect the xlr from the camera and microphone, properly wrap the xlr cable, remove the battery, remove the tripod plate from the camera and leave it with the tripod, and collapse the tripod legs and fold it in along with the arm. Make sure you place the tripod head in the bag were indicated in the bag.



Don't forget to remove the SD card and transfer all of the contents of the SD card to your computer or external hard drive so that you can edit the video later. If you only pick the video files you may be missing a file. Transferring everything is a good habit to get into because if you use another type of camera, it may record in a different format and put files all over the place. By copying everything you save yourself.



Once you have transferred your footage put the SD card back into the camera and return the equipment to the loan room. I would not format the card before you return the equipment. Just in case you have an issue with your files we may be able to pull the equipment and grab the files again if no one has taken the equipment since you. This has happened many times and we have been able to help students because the SD card was not formatted when returned.