Sony α7S II
Quick Start Guide for Video Documentation
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Part One: Assembling the Camera

• The α7S (alpha 7 S) was chosen as a versatile documentation camera that could take stills and video in low light.

• When using the camera for video documentation you need to overcome two inherent weaknesses: the poor built-in microphone and the short video recording times to SD cards. The approximate maximum length of a video recorded to SD card is 29 minutes.

• To address those issues, the kit includes a Sony external microphone with an audio input adapter and an external video recorder (the Atomos “Ninja”) The camera is mounted in a ”cage” that provides mounting points for these devices.
The External Microphone should be plugged into Input 1 of the Audio Adapter.
Look at the audio input controls before attaching the Audio Adapter.
You have two inputs going to two audio channels (stereo).

In this image the external microphone is plugged into **Input 1**. Input 1 is going to **Channel 1** only, the LEFT side of the stereo signal and the input attenuation (ATN) is set to **MIC +48V** to supply power to the microphone.

The Channel 2 input attenuation is set to **LINE**. A Line level input could be from a wireless microphone (that already has power) or the output from a mixing board.

If you only used the external microphone on the camera and wanted a dual mono signal on both Channel 1 and 2, (left and right) then the Input 1 selector would be switched up to **CH1 CH2**.
Mount the audio input adapter to the cold shoe on the handle.
The hot shoe on the camera is for the input from the audio adapter. This will automatically turn off the camera’s built-in microphone.
Attach the little arm for the external recorder. I recommend the following location.
HDMI to Micro HDMI connection:
The Recorder Input is the top HDMI port.
The Micro HDMI connection on the camera can be secured by the pressure screw.
If possible use the external AC adapter to power the recorder.
It’s convenient to attach AC cables to the tripod legs using the ties.
The α7S also has an AC adapter.
Part Two: Essential Menu Settings

• In order for external video recording to work the following three things must correspond: the video recording format on the camera, the HDMI video output format on the camera, the video recording format on the external recorder.

• The external video recorder is HD or SD only. It is not a 4K recorder.

• Please set-up the camera according to the following slides.
To access the correct menus make sure the camera is in MOVIE mode. (Press the button in the center of the dial to turn it).
Setup (toolbox) Menu Page 6 – **Setting Reset**
Reset the camera to erase the previous user’s settings.
Choose **Camera Settings Reset**.
Camera Menu Page 2: **File Format**

This is the format recorded to the internal SD card (that you are probably not using), but by selecting the high quality **XAVC S HD** you will have the access to the correct record settings.
Camera Menu Page 2: **Record Setting**

Choose **24p 50M**: the most common frame rate. 50M is the data rate: 50 Megabits.
Camera Menu Page 3: **Focus Mode**  
Pick **Continuous AF** or **Manual** as you wish. Manual focus is useful if you want to avoid focus shifts.
Camera Menu Page 5: **White Balance**

**Auto** generally works well.
Camera Menu Page 5: Picture Effect and Picture Profile OFF – this will ensure a neutral image.
A note about Picture Profiles

• Sony’s Picture Profiles are the most interesting aspects of their video cameras.
• The α7S has SLOG 2 and SLOG 3 picture profiles that enable you to shoot high dynamic range video, exposing video in high contrast lighting situations.
• SLOG profiles must be exposed differently than regular HD video profiles and they also require normalizing after the shoot.
• Don’t use SLOG profiles in a low light situation. For this reason, they are generally not useful when filming conferences.
Camera Menu Page 7: Movie /HFR

This setting determines how you control exposure. You have a choice of Manual, Shutter Priority, Aperture Priority or Program (Auto). **Do not** choose Program or Aperture Priority for video shooting. Choose Manual or Shutter Priority. See the next section on Camera Operation/Exposure Controls for more detail.
Camera Menu Page 8: Steady Shot
Stabilization (Steady Shot) is **OFF** when the camera is on a tripod.
Camera Menu Page 8: Audio Recording ON
Custom Menu Page 1: Zebra
Pick 100+ to verify overexposure.
Custom Menu Page 1: MF Assist

ON displays a magnified image when focusing manually (when button C2 is pressed).
Custom Menu Page 2: Audio Level Display **ON**
Setup Menu Page 1: Gamma Disp. Assist
This should be **OFF** by default.
Setup Menu Page 3: HDMI Settings
This leads to an important submenu.
HDMI Settings: HDMI Resolution **1080p**
HDMI Settings: 24p/60p Output
Choose **24p** to match the camera's video recording format of 1080 24p.
HDMI Settings: HDMI Info Display OFF
This ensures that none of the extra display information is sent over HDMI, just the image.
When you are finished, exit the menu, and the display will look like this.
You can simplify the display information by clicking on DISP on the wheel to the right of the LCD.
The most useful view displays the audio meters and the histogram.
Part Three: Camera Controls
Camera Operations: Exposure

• In the Camera Menu/Movie/HFR setting you have four choices for how to determine exposure: Program, Manual, Aperture Priority and Shutter Priority. As indicated before, do not choose Program or Aperture Priority.

• Three things determine exposure: Shutter speed (length of time the shutter is open), aperture (measured in f-stops—the size of the opening in the lens that lets in light), and ISO (the sensitivity of the camera to light).

• Don’t let the camera automatically determine the shutter speed. Don’t shoot video in Program mode or Aperture Priority.
Camera Operations: Exposure

• In **Program** mode, shutter speed and aperture are set automatically. You only have control over ISO. In **Aperture Priority**, the shutter speed is set automatically as you adjust aperture. Both Program and Aperture Priority are a problem for video where you generally want to keep the shutter speed at exactly twice the frame rate. If you are shooting at 30 fps, then the shutter speed should be $1/60^{th}$ of a second. If you are shooting at 24 fps then the shutter speed should be $1/50^{th}$ of a second ($1/48^{th}$ on a proper video camera).

• If the shutter speed drops below twice the frame rate, motion will be blurry. If it goes too far above this point, the motion can have a "clockwork" appearance.
Camera Operations: Exposure

• In **Manual mode**, the front wheel determines aperture, the back wheel determines shutter speed. Look at the Histogram in the display to judge exposure.

• In **Shutter Priority**, both the front and back wheels determine shutter speed. Adjust the shutter speed until you have reached twice the frame rate and then don’t touch these wheels again. Aperture will be selected automatically by the camera. You can still adjust ISO (see next page).
Camera Operations: Exposure Control

- In both Manual and Shutter Priority, ISO can be adjusted manually. Press the ISO side of the back dial and then use the back scroll wheel to choose the ISO. Press the button in the center of the dial to set the ISO.

- This camera has no image noise at 1600 ISO and below, and almost no image noise at 3200 ISO. Noise begins at 6400 ISO.
Camera Operations: Depth of Field

• Be aware of how your depth of field changes.
• Larger f-stops openings (the greater numbers) have a greater depth of field than the smaller f-stop openings (smaller numbers).
• F4 will have a much shallower depth of field than f22. You may only have a few centimeters in focus with f4, but 30 meters in focus at f22.
Other Controls - C1, C2, C3 buttons

The Custom buttons are not as easily reached when the camera is in the cage but they are useful. By default, button **C1** is a shortcut to changing the White Balance setting. Button **C2** magnifies the image in the OLED viewfinder for manual focusing. Button **C3** changes the focus setting, from manual to auto.
Camera Operations: Focus

• Pressing Button C3 changes the focus mode from Manual to Auto Focus
• I recommend continuous auto focus for shooting video unless you want to avoid focus shifts.
• In manual focus, use the ring on the lens closest to the camera to change focus. This ring is inactive during auto-focus.
Part Four: External Recorder Settings

Turn on the external recorder by pressing and holding the power button on the side until the screen powers up.
Change the settings by touching the screen. For best quality choose ProRes 422 or ProRes 422 HQ as the recording codec. Files sizes are for PR 422 are 1 GB per minute and 1.5 GB per minute for PR 422 HQ. The recorder has an SSD internal 1 TB drive.
The recording format in the upper left should match the HDMI output from the camera. It should be 1080p23.98 (this means 1080 24p NTSC). If you do not see an image when you press the yellow **MON** button, the frame rates do not correspond.
Once **MON** is pressed the image should look like this. If you see any other display information from the camera, it will be recorded!
The **record button** is on the bottom right. You are only recording with this device. There is no need to press the video record button on the camera. There is no recording time limitation other than the space on the hard drive.
The audio level meter is not very detailed on the monitor but you can double check the audio recording level by going into the audio menu and by monitoring on headphones. Headphones are not supplied in the kit but I strongly recommend using them.
The camera’s OLED monitor is superior to the LCD panel on the external recorder. It is best to judge your image with the camera monitor and the histogram.
Part Five: Backing up the files.
Take the SSD drive out of the recorder by pressing on both sides and pulling up. Put the SSD drive in the USB dock.
The hard drive will appear on the desktop. The video files are in QuickTime format and ready for use in Adobe Premiere. Please erase the files from the SSD when you are finished backing up.
That’s all. Good luck!