

General recommendations when reserving video cameras from the Fine Arts EV depot

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Unless you need to be discreet, a video camera is the better choice for shooting video rather than using a still camera with a video option. There are many benefits to the video camera: the controls are specifically designed for shooting video, they have built-in ND filters, they have proper XLR balanced audio inputs, and they exhibit fewer rolling shutter issues than the still cameras. The Sony FX6 video camera has a full frame 4K sensor, so the low light performance is very similar to the Sony full frame mirrorless cameras, although you have to be careful on your choice of ISO (read the guide). If you are concerned about shooting in a low light situation, your best choices are the **Sony FX6** camera and then a Sony mirrorless camera like the **a7r III**. The full frame mirrorless still cameras become a more appealing video option when combined with the **DJI Ronin RS2** gimbal, especially when used for handheld tracking shots.

CAMERA OPTION ONE: Video Cameras

Here are the video cameras in the EV depot in order from best to worst quality. This assessment is based primarily on quality of image. At the bottom of the list, the Canon Vixia cameras are 4K cameras but they are consumer quality cameras. Therefore they rate lower than the older HD cameras on this list that have professional XLR audio inputs and accessible manual exposure controls. The Canon Vixias can be useful for people who want a very small simple camera that takes an acceptable image in well-lit conditions and who are not concerned about audio quality.

Sony FX6 (4K and HD, full frame CMOS sensor, interchangeable lenses)

Sony FS5 (4K and HD, super 35 CMOS sensor, interchangeable lenses)

Sony Z90 (4K and HD, super 35 CMOS sensor)

Sony EX 3 (HD, 3 x ½ inch CMOS sensors)

Sony EX 1 (HD, 3x ½ inch CMOS sensors)

JVC GY-HM 150u (HD, 3 x ¼ inch CCD sensors)

JVC GY-HM 100u (HD, 3 x ¼ inch CCD sensors)

Canon Vixia HF G50 (4K and HD, 1 /2.3 inch CMOS sensor)

Audio options with the video cameras:

All of the video cameras come with a built-in microphone and they also, with the exception of the Canon Vixias, come with a detachable short directional microphone. The built-in microphone should only be used as a reference (for syncing files recorded on an external recorder) and the short directional microphone is useful if the speaker is close to the camera (6 to 8 ft). See the microphone options below for other and better choices. All of these video cameras, with the exception of the Canon Vixias, have proper XLR inputs for microphones and their pre-amplifiers are powerful enough to get a clean audio recording. Reserve the Sennheiser HD 280 headphones from the depot and constantly monitor the audio signal through these headphones while recording.

Other microphone options (plugged directly into a video camera):

1. **Sennheiser AVX wireless kit:** There is a clip-on microphone and a handheld microphone in the kit. When the AVX receiver is plugged into a XLR input, the volume control level on the camera should be on MANUAL not AUTO level control. Failure to do this may cause distorted audio. The CDA has older Sennheiser EW wireless kits as well but they are not as good.
2. **Sennheiser MKH 416:** This is a very directional microphone, a short shotgun interference tube microphone. Mount it directly on the camera, on a stand, or it can be held on a boom pole by a sound recordist. It is the best option for shooting outside when used with the accompanying Field Kit.
3. **Dynamic microphones:** if the situation is really noisy, a handheld dynamic microphone, if appropriate, is a good choice. The depot has **Shure SM58** and **Sennheiser MD 421** dynamic microphones. The **SM58** can be used outdoors. These microphones require a lot of amplification so it may be better to use them with an external audio recorder.
4. **Other microphones:** the **Neuman KM 184** condenser microphones are good for recording instruments in a studio or concert setting. The **Shure SM57** dynamic microphones are also good for this purpose, especially louder instruments that would overpower a condenser. But typically, in concert situation the camera will be receiving a stereo signal from a sound mixing board.

CAMERA OPTION TWO: Full Frame Still Cameras

The **Sony alpha series** mirrorless cameras are good options for shooting video if you need to be discreet and require good low light performance. The video quality on the Sony alpha cameras is similar or better than the Sony FX6 camera but there can be more rolling shutter issues. The XAVC codecs on all the Sony cameras (video and still) are Adobe Premiere friendly and easy to edit natively. Other full frame still cameras, like the **Canon 5D**, can create higher bitrate video files that are harder to edit.

Gimbal option with the Still Cameras

The DJI Ronin RS 2 camera gimbal can only be used with still cameras. This gimbal paired with a Sony alpha mirrorless camera is the best option for a handheld tracking shot or any other complex camera hand held movement. The gimbal has other options as well, like automated movement during video and timelapse recording. See the guide.

Audio options with the Sony mirrorless cameras:

Never use the built-in camera microphone for anything other than a reference recording. Also, the built-in audio input on the Sony mirrorless cameras, similar to most still cameras, is a small

1/8" audio input jack with a weak pre-amplifier that may add noise to your signal. It is much better to use the hot shoe adapter (see option one below). Reserve the Sennheiser HD 280 headphones from the depot and constantly monitor the audio signal through headphones while recording.

Option one: reserve the **Sony XLR K2M** hot shoe audio adapter. It is essentially the same audio input that is on the Sony Z90 video camera. It comes with a short directional microphone and 2 XLR inputs for all the microphones mentioned above in the video camera section. The input is clean. Once again, when using the Sennheiser AVX wireless microphones or other wireless microphones, the input level must be set to MANUAL.

Option two: record audio to an external **Zoom** or **Sound Devices recorder**. These recorders come with differing amounts of inputs and the Zooms also have a built-in stereo microphone (which I don't recommend using unless you want a more ambient stereo recording). The depot has number of **Zoom H6N** recorders. These have four XLR inputs. The audio files from the recorder will have to be synchronized to the video files later on, so it is important to slate and to clearly verbally identify each shot. The EV depot has some proper slates.

Option three: use a short directional **Rode microphone** mounted on the camera going into the 1/8" mic input. This will work OK as long as the input volume control on the camera is low, below 10. These Rode microphones are in the Patron Portal booking system as DSLR shotgun microphones. The audio signal from the Rode is OK if the speaker is close to the camera but these are not high-quality microphones.

CAMERA OPTION THREE: Canon Rebel DSLR Cameras

The EV depot has many **Canon Rebel** DSLR cameras, of different vintages. These are the last choice for shooting HD video, below all the other video cameras (even the Canon Vixias) and all the other still cameras. When using any of the Canon Rebel cameras for video, the audio should be recorded to an external recorder like the Zoom. The audio inputs on these cameras are noisy and tend to use automatic compression. Only reserve these cameras if there is nothing else available. If you are shooting video in a situation with lots of light, the quality will be acceptable but don't expect a lot of detail.