Canon XA10 - Reference Guide

Welcome to the reference guide for the Canon XA10 video camera! My name is Jack Wolfe and I'm the New Media Technology Lab Assistant at Wellesley College. This tutorial will be an overview of essential camera functions and settings. Now let's get started!

Item Checklist

Your kit should include the following items:
- Camera with Lens Hood, Lens Cap and Handle attached
- Battery Pack (1 or 2)
- Power Adapter
- USB Cable

 Additionally, it may also contain:
- Remote Control
- Audio/Visual Cables

Check the tag attached to the kit bag for a list of all included items. Always check that those specific items are with the kit bag so that you are not held responsible for their absence.

The number one rule of using anything from the film cage is to treat it better than you treat your own equipment. Additionally, be sure to bring back all accessories and equipment included in your kit when you return it. Cameras and equipment are very expensive, so be careful and gentle with them!

Do not ever aim the camera at direct sunlight or a powerful light source, as it could potentially damage the image sensor. Do not touch anything metal to either the camera battery or battery attachment unit, as it can seriously damage the camera. Replace the lens cap whenever possible and never touch the lens itself except to clean it with a lint free cloth.

Powering On/Off the Camera

Turn the camera on or off using the power button located on the top rear of the camera.

Charging the Battery Pack/Using External Power

To charge the battery pack, first turn off the camera. Connect the power cord to the power adapter and plug it into an outlet. Attach the battery pack to the battery attachment unit, sliding forward until it clicks in place. Connect the power cable the DC IN terminal, located in the back underneath this flap. This flashing red LED indicates the battery is charging; the light will turn off when the battery is fully charged.

Using the LCD Screen

You can preview your video image by flipping out the LCD viewfinder on the side of the camera. This screen will also rotate upwards 180 degrees (for self recording and showing your subjects a preview while shooting) or downwards 90 degrees.

There are a variety of indicators on the LCD screen that represent different settings and functions which include:

- The Function Menu, Aperture, Shutter Speed, Gain, Focus Mode, Face Detection, White Balance, Audio Levels, Still Frame Button, Video Clip Number & Length Indicator, Pause/Record Indicator, Image Stabilization, Battery Life Remaining, Memory Selection & Video Time Remaining, Video Quality, Wind Noise Reduction & Mic Attenuator, Audio Monitoring Setting and Menu or Zoom

The LCD screen is also a pressure sensitive touch screen that responds to firm presses by a finger or stylus. Press on screen icons to select and change menu items, and drag up or down to scroll menus and adjust slider controls like volume.

Using the Viewfinder

Look through the viewfinder on the rear of the camera to preview your video image. The viewfinder is enabled by pulling it outwards and by flipping the eyecup inwards, which can be useful if you wear glasses. Adjust the diatropic adjustment lever if you have problems focusing on the image in the viewfinder.

Operation Modes

The camera has two basic operation modes:

- **Recording**: For capturing video and photos
- **Playback:** For reviewing video and photos

Press the camera/play button located across from the viewfinder to switch between operation modes or to switch to Playback mode when the camera is turned off.

Recording Modes

While in Recording Mode, slide the mode switch located on the top rear of the camera to change recording modes. The three modes are:

- **Auto:** Let the camera adjust all settings automatically.
- **Manual:** Enjoy full access to menus, settings and advanced functions.
- **Cinema:** Add a cinematic look and filters to your footage. Not recommended for use.

Recording Video

Remove the lens cap when you are ready to begin recording video or photos. Hold the camera by inserting your hand through the strap. Look at the viewfinder or LCD screen and press the START/STOP button located on the rear and top handle of the camera to begin or pause

recording. A red circle icon will appear on the screen while the camera is recording.

Zooming & Focusing:
Zoom in and out of your image by adjusting the Zoom lever located on the top of the camera.

Using the AF/MF button located next to the LCD screen, you can switch between two focusing modes:
- **Auto Focus:** The camera continuously adjusts the focus automatically, based on the subject in the center of the screen. Tap the LCD screen to select a subject and the camera will track that subject as it moves.
- **Manual Focus:** The user has total control over the focus by adjusting the focus ring on the front of the camera. A zoomed-in view of the center of your image will appear on the LCD screen while changing the focus, making it easier to ensure that your subject is in sharp focus. The zoomed-in view disappears when you are done adjusting the focal ring.

Manual Mode Settings
While shooting in Manual Mode, there are a variety of settings you can adjust by pressing the Function Button on the LCD screen. Some of the most important settings to take note of are:
- **Initialize Memory:** FUNC > MENU > Wrench Icon > Initialize
    - This function will ERASE ALL VIDEO FOOTAGE from the memory source you have selected. Only initialize the memory either when you first check out the camera or if you have already backed up your video footage.
- **Recording Quality:** FUNC > MENU > Film Icon > Recording Mode
    - Set the recording quality to MXP for the best high definition image clarity.
- **Recording Media:** FUNC > MENU > Film Icon > Rec Media for Movies
    - Select either the internal memory storage or an SD card to be the recording media used to store your video footage.
    - To record onto an SD card, make sure the camera power is turned off and insert the card into one of the two memory card slots on the side of the camera opposite the LCD screen.
- **Frame Rate:** FUNC > MENU > Film Icon > Frame Rate
    - Choose 60i to record in 60 frames per second, a common video standard that allows you to slow down your footage by up to half speed while maintaining video fluidity.
- **Monitoring:** FUNC > MENU > Wrench Icon > AV/Headphones > Headphones Icon
    - Select the audio monitoring source to be either the built-in speakers or an external set of headphones. Adjust the headphone playback volume in the next menu.
- **White Balance:** FUNC > White Balance
    - **AWB:** Choose Auto White Balance to have the camera automatically set the white balance based on lighting conditions.
    - **Set 1/Set 2:** Manually set the White Balance by:

- Choosing Set 1 or Set 2
- Pressing Set WB while a white reference object, such as a sheet of white paper, is placed in front of the lens and backlit by your light source.
- The icon will flash while the White Balance is set. Press back to exit and save the White Balance setting.
- **Exposure:** FUNC > Rec Programs
    - The camera's exposure has a number of different exposure recording programs, which include:
        - **P (Program Auto Exposure):** Automatically adjust shutter speed & aperture based on the selected program preset.
        - **Tv (Shutter-Priority Auto Exposure):** Automatically adjust the aperture based on the selected shutter speed.
        - **Av (Aperture-Priority Auto Exposure):** Automatically adjust the shutter speed based on the selected aperture.
        - **M (Manual Exposure):** Manually adjust the shutter speed and aperture.
    - With **Manual Exposure** selected, press the **Adjust Settings button**
    - This menu allows you to adjust the exposure of the image being captured by your camera. Press to select a setting and scroll on the slider at the bottom to adjust it. The different exposure settings you can adjust are:
        - **Aperture:** Change the size of the camera opening to let in more or less light onto the image sensor. A lower number indicates a larger opening, which corresponds with a brighter image as the amount of available light decreases.
            - A lower aperture setting also results in a shallower depth of field, making everything outside of your subject out of focus. This can be useful for close ups or shots intended to highlight a specific subject. Higher aperture expands your depth of field, allowing you to capture more of your image in focus.
        - **Shutter Speed:** Length of time for which the camera shutter is open, measured in fractions of a second.
            - 1/60 of a second is standard for video.
            - Higher frame rates can be useful for very smooth motion and for footage you intend to playback in slow motion.
            - Lower frame rates give your footage a choppier, jittery feel
        - **Gain:** Similar to ISO, gain represents the noise of the camera image.
            - Leave at 0db to minimize noise.
            - In low light situations, judiciously increase the gain to brighten up your captured image.
        - **Zebra Stripes:** This preview setting displays white zebra stripe lines on areas of your image that are overexposed and where color information is being lost.

- Press the Wrench icon to turn on/off zebra stripes
- Press the second button on the right to set the stripes to appear at either 70% or 100% exposure levels
- Some zebra stripes can be fine or even desirable, but try to limit the portion of your image which is being over exposed.
- **Waveform Monitor:** Show the video waveform in the viewer, representing the color levels of the recorded footage.

Audio Recording:

The camera can record audio from two different sources which can be selected by adjusting the INT/EXT switch on the top of the camera handle.

- **Internal:** Uses the internal microphone to record audio OR a microphone plugged into the MIC terminal located on the bottom right side of the camera via an XLR-to-3.5mm adapter.
- **2ch Zoom:** Focuses and increases volume with the Zoom setting
- **External:** Use this setting to plug up to two different microphones into the XLR inputs located on the opposite side of the camera handle.
    - To enable a microphone for recording, change the switch corresponding to either Channel 1 or Channel 2 (depending on where you plugged in your mic) from LINE to either MIC or MIC +48V.
    - MIC +48V turns on phantom power for microphones which require it. This setting can be used safely for almost all mics EXCEPT for the wireless mics, which could result in noisy recordings or even damage the equipment.

Adjusting the Audio Recording Level:

- Internal Mic: FUNC > Mic. Level > Manual
    - Use the on screen arrow keys to adjust the audio recording level
- External Mic(s):
    - Turn the control dial next to one of the two audio channels to adjust its recording level.
    - Turn on the **ATT switch** next to the channel you are using to turn on the microphone attenuator. This setting will automatically reduce the audio recording level when the sound picked up is loud and increase the recording level when it is quiet.
        - It is recommended to leave this setting off and adjust your recording level manually for the best results.
- The levels of the audio being recorded will appear near the bottom the LCD screen. Ideally, your maximum audio level should be around -10 or -12db.
    - Setting the recording level too high may result in 'peaking', where the audio signal is cut off and sounds distorted at its highest points. Setting the recording level too low may result in unwanted noise when played back later on a computer.

Playback Mode

Playback mode shows a series of scene icons representing your captured video footage. Swipe left or right on the LCD screen to navigate between scenes, and press on a scene icon to play back that footage.

Touch the screen during playback to bring up the on-screen controls. Use these controls to:
- Jump to the beginning of the scene
- Jump to the beginning of the next scene
- Pause, Play, Stop, Fast Forward & Rewind
- Adjust Playback Volume

If you are running low on storage space, pause your video clip and go to Edit > Delete and press yes to delete an unwanted video clip.

Taking Photos

You can take photos while recording or playing back video by tapping the PHOTO button on the LCD screen. A green icon will appear briefly on screen while the photo is captured, and afterwards the photos can be accessed in playback mode.

Transferring Footage via USB

To connect the camera to your computer, you can plug the included micro USB cable into this hole (located underneath this cover behind the grip belt) and plug the other end into a USB port on your computer. The camera should show up as an external hard drive both in a Finder window and the Import Media window of Final Cut Pro X.