

BASIC SETUP OF THE CAMERA

- attach battery, insert SD card(s)
- turn on the camera, set recording mode switch to Manual.
- open up the LCD screen to setup the camera




FUNC. panel in **M** mode



** in Auto and Cinema mode, access to functions is limited, so you need to be in Manual mode to format and record on the SD card, adjust exposure, focus and audio levels*




RECORDING ON THE SD CARD

- touch FUNC > MENU
- touch the film tab 
- > Rec Media for Movies
- > touch A or B then the X tab to quit this menu.
-



** you can only import video recorded on the SD card video into Final Cut*


FORMATTING THE SD CARD

- touch FUNC > MENU
- touch the wrench tab 
- Initialize  or  (internal memory or SD card)
- select Initialize
- select Complete Initialization, the Yes
- touch OK then the X tab to quit this menu



** formatting the SD card in the camera will ensure that you will have enough room and that the card will be properly formatted.*

SETTING THE RECORDING MODE

- touch FUNC > MENU
- touch the film tab 
- > Recording Mode
- choose the recommended format : SP
- then touch the X tab to quit




Approximate recording times * Default value

Recording mode →	MXP ¹	FXP ¹	XP+	SP*	LP
Memory ↓					
4 GB Memory card	20 min.	30 min.	40 min.	1 hr. 10 min.	1 hr. 30 min.
8 GB Memory card	40 min.	1 hr.	1 hr. 25 min.	2 hr. 20 min.	3 hr.
16 GB Memory card	1 hr. 25 min.	2 hr. 5 min.	2 hr. 50 min.	4 hr. 45 min.	6 hr. 5 min.
32 GB Memory card	2 hr. 55 min.	4 hr. 10 min.	5 hr. 45 min.	9 hr. 35 min.	12 hr. 15 min. ³
64 GB Memory card/ Built-in memory ²	5 hr. 55 min.	8 hr. 20 min.	11 hr. 30 min.	19 hr. 10 min. ³	24 hr. 30 min. ³

¹ Recorded in 1,920 x 1,080 resolution. Movies recorded using other recording modes are recorded in 1,440 x 1,080 resolution.
² At the time of purchase, the built-in memory contains about 70 MB of music files (background music) and 5 MB of image files (image mix frames).
³ A single scene can be recorded continuously for 12 hours; at that point, the camcorder will stop for about 3 seconds before resuming recording.

**the higher the recording quality, the larger the file. Final Cut Pro will convert 1440 x 1080 resolution to 1920 x 1080 - so you will have full HD and more room to record on the SD card.*

SETTING THE FRAME RATE

- touch FUNC > MENU
 - touch the film tab 
 - touch Frame Rate, then the recommended frame rate: PF 30
 - touch the X tab to quit
- * *Final Cut will convert 60i to 30 frame rate as it is the standard for editing, so recording at 60i will just waste room on the SD card - the files will be twice a big.*

Options

[60i 60i (Standard)] 60 fields per second, interlaced. Standard frame rate of NTSC analog TV signals.

[PF30 PF30] Shooting at 30 frames per second, progressive*. Use this frame rate to easily edit your recordings, for example, to post them on the Web.

[PF24 PF24] Shooting at 24 frames per second, progressive*. Using this frame rate will give your recordings a cinematic look. Recording in **(CINEMA)** mode will further enhance the effect.

[24P 24P] 24 frames per second, progressive. Using this frame rate will achieve the same cinematic look as **[PF24 PF24]**, the difference being that video is recorded as true 24p.

* Recorded as 60i.

NOTES

- Movies recorded with the **[24P 24P]** frame rate cannot be converted to standard definition using the camcorder. If you want to upload your movies to video sharing Web sites, set the frame rate to **[PF24 PF24]**.

ADVANCED SETUP OF THE CAMERA

SETTING THE AUTO EXPOSURE

- Touch FUNC > Rec. Programs
- Touch P : auto adjust aperture + shutter speed


SETTING UP THE FOCUS

- Manual Focus (critical focus)
 - press the MF/AF button on the side of the LCD screen to switch to manual focus
 - Zoom in on the subject's eyes
 - Use the focus ring to adjust
 - Zoom out to the desired framing



- Face Detection (by default, turned on)

Open the [Face Detection & Tracking] screen.

[FUNC.]  [MENU]    [Face Detection & Tracking]


Touch [**ON** On ] and then touch [**X**].

- Touch & Track

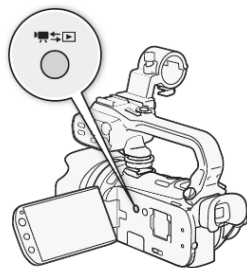
Make sure face detection ( 53) and autofocus ( 52) are activated.

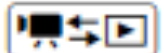
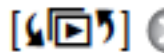


- Face detection is always activated in **AUTO** mode.

Point the camcorder at a moving subject and touch the subject on the touch screen.

- A white double frame will appear around the subject and track it as it moves.
- Touch [Cancel ] to remove the frame and cancel the tracking.

PLAYING BACK + DELETING VIDEO



- press  then   [ Date]





- look for the scene you want
- use the Zoom lever (W) to show 15 scenes or (T) to show 6.

- Touch the scene you wish to play back
- Touch the screen to show playback controls



- TO DELETE A SCENE: Pause > Edit > Delete > YES > OK

AUDIO SETUP OF THE CAMERA



ACTIVATING THE HEADPHONE PLUG

- Touch FUNC > MENU
- Touch the wrench tab 
- Touch AV/Headphones > Headphones, then .
- plug in your headphones
- MENU > touch Volume then  or  to adjust.

! IMPORTANT

- When using headphones, make sure to lower the volume to an appropriate level.
- Do not connect the headphones to the AV OUT/ terminal if the  icon does not appear on the screen. The noise output in such case may be harmful to your hearing.

SETTING THE XLR CHANNEL TO RECORD STEREO

- Touch FUNC > MENU
- Touch the camera tab 
- touch XLR Rec Channel /  CH1/CH2
- touch the X tab to quit.

**recording in stereo (1 mic going to both channels 1 & 2) will give the voice more presence and depth.*

Note: if you are using 2 external mics you must change the XLR REC channel to CH1 > CH1 so that the 2nd plug will work.



SETTING UP THE EXTERNAL MIC

- set audio input switch to EXT .
- plug a mic into an CH1 XLR .
- set input to MIC +48v: this provides power to the mic

*****WARNING: if using a wireless mic, set the input switch to MIC. Using the MIC +48v will cause interference.*****



ADJUSTING THE MIC LEVELS

- have your subject speak in a normal voice
- adjust the dials so the audio meter levels goes a little past -20db (ideal level is -18db) when the sound is the loudest.