

OPERATING MODES

EASY RECORDING – Green Rectangle

Camera controls everything. All variables locked.

Recommended to start out using EASY RECORDING MODE to get used to the camera weight, viewfinder, zoom controls, record-pause functions etc. Then move into the AUTO MODE to practice changing the variables.

AUTO MODE – A

Option to let the camera automatic settings functions control the image or to change variables yourself including auto focus, gain control, aperture and shutter.

SHUTTER PRIORITY MODE – Tv

Camera controls everything automatically except the shutter speed.

Use the dial at the front of the camcorder to increase/decrease shutter speed.

Increasing the shutter speed means there's less time for the camera to convert the light to a signal, resulting in a slightly darker image.

Increase the shutter speed for fast-moving subjects out of doors.

Decreasing the shutter speed allows more time for the light to be converted to signal by the camera.

Decrease the shutter speed in low-light situations.

Shutter speeds below 24 will cause movement to appear uneven and your image to leave trails.

The camera takes control of the aperture as you vary the shutter speed

APERTURE PRIORITY MODE – Av

Camera controls everything automatically except the aperture.

The aperture control is the first ring on the lens and allows you to set the F-stop.

Move the ring down to open the aperture and let more light in.

Move the ring up to close the aperture, for less light.

Gives you control over depth of field.

The camera takes control of the shutter speed as you vary the aperture

MANUAL MODE – M

Complete control of camera variables including shutter, aperture, white balance, gain, focus etc.

May be the best operating mode once you become familiar with the camcorder.

Iris (aperture) control

Shutter speed control

Auto focus is still possible – set the switch on the side of the camera – AF or M

THE MENU

Push Menu button to get into the Menu, and use the wheel to navigate menu items, and press the wheel to open and change menu item settings.

To exit the Menu, press the Menu button again.

Settings for Display, Audio Settings, Signal Settings and other camera functions

ZOOM OPTIONS

T for telephoto, W for wide angle

Rocker button has variable zoom – finger pressure adjusts zoom speed. Can be set to constant zoom speed using C – VAR button

Manual zoom control is the middle ring on the lens. Always variable

The small rocker button on the handle is a constant zoom only

FOCUS OPTIONS

EASY and AUTO operating modes use Auto Focus

The Focus switch on the side of the camera allows you to set A for Auto, or M for Manual control of focus.

Manual focus gives you more control over your image and prevents the camera from changing focus automatically in the middle of a shot.

You can do a quick Auto focus in Manual mode by pushing the AF button. On release Manual focus will return. This enables you to set up a new shot and quickly focus on the subject.

The Magnify button allows you to digitally zoom in the LCD monitor, but does not actually change your framing. Hit Magnify for ease of Manual focus.

NEUTRAL DENSITY FILTER

For use in daylight shooting in Manual mode.

Set ND filter to 1/6 for shooting in shady or overcast light

Set ND filter to 1/32 for shooting in bright daylight

Set the aperture after setting the ND filter, not before

SHOOTING INDOORS

Use all available light if you do not have a light kit

Use Manual operating mode

Shoot at a lower shutter speed, but keep it above 24

Make sure the ND filter is off

Open the aperture

Use the Gain control as a last resort. Set to L-M-H to increase Gain by degrees. Gain is a last-resort measure, since it causes your image to become grainy, where colors begin to separate.

WHITE BALANCE

Sets true white in your lighting situation, which sets all other colors correctly

Hold a white board a few feet in front of the lens and de-focus the lens

Set the White Balance button below the Power Dial to A or B, hit the WB icon until the icon stops flashing on your LCD screen or viewfinder

You can use presets as well, which are indicated by icons under the camcorder handle :

Sun for outdoor light (bluer light)

Lightbulb for indoor tungsten light (yellowish light)

AUDIO SETTINGS

ONBOARD MIC

Audio recording is in stereo, automatically

Audio level button below level setting dials – A= automatic setting, M = manual setting

In Manual mode, check recording levels on the Power Dial display or the LCD screen and set the levels using the Ch1/Ch2 dials, basing your audio level settings on the sound you are recording – do a simple test of audio before you begin shooting

-12db is the digital equivalent to analog 0db. This is the median setting — voices may be recorded from -12 to -6db, and background sounds will be recorded at a setting lower than -12db, and loud or inconsistent sounds or noises will be in the range from -6 to 0db. Anything recorded at a level above 0 will be distorted, digitally, and cannot be corrected in post-production. Keep your recording levels between -12 and -6db.

Suggested to do a mic test before shooting

EXTERNAL MICS – MINI CONNECTOR

Plug an external mic using a mini connector into mic terminal under the mic holder will override your onboard mic

Use headphones to monitor your sound while recording

MULTIPLE EXTERNAL MICS – XLR CONNECTOR

Lavalier mic – a clip-on mic for interview situations

Shotgun mic – a sensitive uni-directional mic that picks up what is directly in front of it

Cardioid mic – uni-directional mic picks up more of what is to the side of the mic as well as what is directly in front. Good for voice-overs.

Omni mic – picks up in a 360 pattern. The camcorder onboard mic is omni-directional

RECORDING WITH EXTERNAL MICS

Plug mics into XLR inputs at the side of the camcorder

Switch audio input to Mic

Plug primary mic into Ch1 and secondary mic into Ch2

Set audio to Ch1 rather than Ch1/Ch2. This puts Ch1 into the first channel and Ch2 will pick up separately.

If you set audio to Ch1/Ch2 it will put Ch1 mic onto both channels in stereo.

Using 1 mic set to Ch1/Ch2 will create 2 stereo audio tracks from one mic input

Go into Menu > Audio Setup > XLR input > On

Remember to turn this off again if you then shoot using onboard mic or using a mic plugged into mic terminal with mini connector

Test mic levels. Use headphones to monitor sound recording – what you hear through the headphones is what the mic is picking up and what is being recorded to tape.

Adjust levels separately using the audio level dials

Test levels individually for each Audio channel

RECORDING

Set camera to SD or HD – Menu > Signal Setup > Signal Standard > HD > Frame Rate > 60i ;

Set signal to SD if you are shooting SD, and set either 16:9 or 4:3 aspect ratio

Insert a tape into tape drive

Hit the Record button

LCD shows R icon and timecode running to indicate that you are recording

Hit Record button again, and the camera is put into Pause mode. Record/Pause/Record/Pause and so on

Lock button turns camera off and preserves (locks) your settings

VIDEO PLAYBACK

Set Power Wheel to VCR/Play mode

Playback controls are on the handle, hidden behind a flip door

Use controls to play, rewind tape etc.