

The Cannon XL1

Features

- Interchangeable lenses – allows for a flexible system with broad potential focus range
- Optical Image stabilizers – enhancing the clarity of your image
- EF Adapter – allows the use of cannon EF lenses
- Four Channel Digital Audio System – the XL allows you to change between three audio modes (16 bit for the highest sound quality and two 12 bit modes). During the JMS 4 course it is recommended that the 16 bit mode be used unless the situation requires otherwise. The 16 bit mode uses 2 channels (left and right) whilst the 12 bit mode uses 4 channels. However the 12 bit modes are of poorer quality. Furthermore, each channel can be recorded independently.
- SLR Style Flash Photography

About the camera

This camera first came out in the mid-90's and with it came great features. It was one of the first cameras to have interchangeable lenses, as well as being one of the first to have optical stabilising. Along with these two breakthroughs in technology it was also considered 20times tougher than most camcorders on the market.

How to change lenses

First remember to remove the body cap from the camera then simply align the red dot on the body of the camera with the red dot on the lens and turn in a clockwise direction until the lens clicks into place. Of course you shouldn't forget to remove the dust cap on the lens before filming.

To remove the lens simply pull back the lens release button and turn the lens in a counter-clockwise direction until the lens stops and can be easily pulled from the camera.

You should always turn the camera off when changing lenses. If you do not then a "CHECK THE LENS" will flash in the view finder for a few seconds and the "LENS" will flash for the remaining time.

Don't forget once lenses are released to put the body cap back on the camera and the dust cap back on the lens.

It's important to understand that you need to protect both the lens and camera. You would not want any dust or dirt on the lens or camera. To ensure that the

camera and lens stays protected keep the dust cap on and only change lenses in a safe, dirt free environment.

Attaching the lens hood

Again this is relatively simple. Firstly you must remove the lens cap and align the lens hood lengthways. Then twist in a clockwise position and tighten the screw to ensure the lens hood is secure. When twisting clockwise there is no need to exert any pressure.

You should also ensure that the lens hood is on at all times when filming, considering that this little piece of equipment blocks out any stray light and stops possible ghost images or flares from occurring, along with this it also protects the lens.

The camera viewfinder

This is simply what the camera person will look at when filming. To view what you are filming, or have filmed, with your eye against the viewfinder simply adjust the 'eye point select switch' to the near option. If you want to view what you are filming, or have filmed, from a distance then simply turn the switch to the far option.

You are also able to adjust the eye cap depending on whether you wish to view what you have filmed with either your left eye or your right eye. This can be done by turning the cap to the appropriate position for you.

The external microphone

You will see that there is an area on the camera to hold the external microphone. All you have to do is loosen the microphone attachment screw on the camera, lift half the attachment, place the microphone on the other half, then close the attachment and screw in securely. Once that is done you can plug the microphone into the two sockets marked 'mic' on the camera. Obviously the smaller jack would go into the smaller socket and the larger jack would go into the larger socket.

When using this microphone you should make sure your audio settings are set appropriately. The audio should be set to mic signal.

You should also remember to turn off the camera when plugging the microphone in or out.

Powering the camera

Of course like most things a camera needs some sort of power in order for you to operate it.

Firstly you have been given a battery pack as well as a power adaptor. Before you go on any shoot you need to make sure that your batteries are fully charged. To charge your battery pack you need to slide it on to the power adaptor until it clicks into place and make sure the adaptor is plugged into a power source. There is a light on the power adaptor, this light will flash red when the power adaptor is charging the battery. If this red light flashed once it means the battery is charged below 50%, if it flashed double it means the battery is charged between 50% and 75%, if it triple flashed the battery is charged above 75% and when the battery is fully charged the light will stay red.

When the battery is fully charged you can slide it off of the battery pack and attach it to the camera. Make sure the triangle on the battery is facing up and slide the battery into place.

To remove the battery from the camera, push down the 'Batt. Release' button and slide the battery down. Make sure that you turn the camera off before removing the battery.

If you want to get power from an AC outlet (a plug in the wall) all you have to do is attach the DC Coupler (this looks like the battery pack except a cord is connected to it) to the camera. This is done the exact same way you would plug in the battery pack. Then plug the DC coupler cable into the power adaptor and plug the adapter into the wall. This allows you to operate the camera immediately provided you have an AC outlet and is great if you're interviewing people and your batteries run out.

To release the DC Coupler just push the 'Batt. Release' button and slide the battery down. Once again make sure the camera is turned off before you do this.

Loading the Cassette

When filming its imperative that you have a cassette to record your footage. To load your cassette you will need to turn the camera on. This will require power, so make sure your battery is charged and the on the camera.

First you need to slide the 'eject' button and wait for the first cassette cover to pop open and a few seconds later the second tape compartment will pop open. Place the cassette in the metal compartment use your finger and gently push it closed and then close the plastic covering over it.

To remove the tape, do the exact same thing. Slide the 'eject' button wait until both covers pop open and take the tape out.

When using a new tape you might want to record a bit and test that everything is operating, you will then be able to view your recording and start the tape at an appropriate place. This will ensure that you don't record over the beginning part of the tape which is blank.

It's also recommended that you don't leave the tape in the camera, rather take it out and put it back in its cover. Label it appropriately and store it in a safe place.

Also to ensure that you don't record over any footage there is an option on the cassette which allows you to save you material. Simply slide the button on the cassette to save or keep it back in order for you to record. Remember that if you want record the tape needs to be set to the record function, so don't forget to

The Menu Function

There is a red cover on the side of the camera which covers the menu function keys. In order to use the menu you need to flip open this cover flap, adjust the camera setting to VCR or a recording mode (this is done by simply turning the round power dial on the camera). Press the menu button to bring up the main menu. There are cursor buttons that could then be used to navigate the site. To close the menu, press the menu button again. The camera also comes with a remote control which you could use to navigate the menu. The remote sensors of the remote controls can be turned off, to ensure that no other Cannon remote control interferes with your camera.

Go to the menu function scroll to sensor and change the setting accordingly.

Tally Lamp

When recording a red light will come on the camera, this is the Tally lamp. You can choose to turn this light on or off. In certain situations it may be more useful to off, like when filming glass or close ups since the flash may be seen when you record your material, also interviewees may feel more comfortable with the light off since it doesn't constantly remind them that they are being filmed. In other cases it may be more useful to know that the camera is filming and so the light should be on.

Simply go to the menu function, scroll to tally lamp and change the setting accordingly.

Setting Date and Time

When recording, the date and time will form part of the data code. It would therefore be useful to ensure that the date and time are set.

On the menu press the "D/Time Set" setting and start changing accordingly. The particular part of the date and time that you are changing will flash on the viewfinder. Move the cursor keys up and down to change the date and time. Once you have changed the necessary parts you can press the menu button to close the menu and the changes will be set.

If you want the date and time to appear when you are filming then select the "D/Time Sel". Choose whether you want the date and time, or just the date, or just the time to be displayed and press the menu button once you are finished to set the choices you have made.

Recording

Turn the power dial to an appropriate position. The green square button is the camera's "Easy Recording" and allows you to film immediately without making any manual adjustments. You can simply point and shoot.

Start recording by pressing start, in viewfinder you will now have "REC" as you begin to film. To pause recording just press the stop button, "PAUSE" will now appear in the viewfinder.

The Start and Stop buttons are found in two positions on the camera. This allows you to be able to press regardless of how you hold the camera.

There is also the option of entering into Standby mode to save battery power. Just hold down the standby button to enter and leave the standby mode.

Changing the record mode

When recording you have the option to record in standard play (SP) or long play (LP). If you switch the record mode to LP it increases your tape usage by 1.5 times. In order to do this go to REC MODE and change the setting.

Although you get longer tape usage it is not recommended that you use this mode unless it is absolutely necessary. Although recording time is longer the quality of your recording is far less. If you feel one tape will not be sufficient rather take two than switch to this mode.

Changing Camera Displays

You can choose whether the camera displays certain information or not. By pressing the EVF DISPLAY button on the side of the camera, you can hide non-essential information. You cannot hide the time code or recording condition (play/pause).

Optical Image Stabilizer

The STABILIZER button on the camera can compensate and minimise camera movement when filming. By turning it on you can film still images even in a moving vehicle. It's best to just keep this function on at all times.

ND Filter

Sometimes on days that are really bright, or when recording really bright scenes it may be useful to have this filter on even though you may already have the iris at its smallest. This will help reduce some blur from occurring on the images.

The ND Filter is a Neutral Density filter and helps cut out light. Usually the camera will flash ND, or a sunshine image, when you need to adjust the camera. It will flash ND if the filter should be on, it will flash ND ON when the conditions are still too bright even though the filter is on and ND OFF when the filter should be turned off.

If you are in manual mode then remember to first set the white balance and then turn on the filter.

While Recording: Record Search

While you are recording you can search the tape to record at particular points. Go the REC SEARCH and use the buttons to search the tape. The picture in the viewfinder will now be what you have recorded. Before you do this make sure you have paused the recording.

Recording Programmes

Easy Recording: Green Square places the camera on auto. Everything is done by the camera. You just have to point and shoot. The iris is automatically adjusted and the focus cannot be controlled by you. In a sense you have no control, everything is done automatically, but it's great to be able to see what the camera sees.

Auto Recording: this is similar to the easy recording function but you are also able to use the manual functions in this mode. In JMS TV4 you will usually use this function.

Manual: this gives you complete freedom and control over how you film. You are able to set the shutter speed, there are 27 shutter speed selections ranging between 1/60 to 1/15000 of a second. You can also choose between 27 aperture selections ranging from f.1.6 and f16.

Spotlight: this setting automatically adjusts so that no glare is shown. This is used when your subjects are under harsh, direct lighting. It smoothes out the contrast of the light.

TV: this setting gives priority to the shutter speed. Here you have control over the shutter speed but not the aperture. You can change the shutter speed by using the SHUTTER cursor buttons. If the camera thinks you have chosen the incorrect shutter speed the indicator will flash. You can then adjust the shutter speed accordingly.

AV: this setting gives priority to the aperture. A large f. number gives a greater depth of field. If your f. number is too high in bright conditions blurring might occur. In this mode the camera selects the shutter speed and you have no control over it. You can change the f. number by simply adjusting the iris wheel. If the camera thinks that you have chosen an incorrect number it will flash in the viewfinder.

Digital Effect

The digital effect button allows you to have further control over the camera by being able to adjust certain things like the zoom in and outs, the shutter speeds and the fading of images. You can navigate this by pressing the D.EFFECT SELECT button and using the cursor keys to change certain aspects.

Audio Mode

The Canon XL1 comes with 3 different audio modes.

- 16 bit which uses 2 channels (left and right) and is of highest quality of the cameras.
- 12 bit ST1 which can record 2 or 4 channels. You can record on 2 channels (stereo 1) and leave 2 channels (stereo 2) open for adding sound later.
- 12 bit ST1, 2 so that you can record on four channels at the same time.

In JMS TV4 you would usually use the 16bit channel option which allows for the better recording quality of sound.

If you would like to switch between the three modes go to the main menu, select audio mode and choose your specific mode.

Attaching a microphone

When attaching the microphone slide the input select button to MIC. If you want more natural surroundings sounds you can use the attenuator, and slide the button down to ATT. You would really only use LINE when you were trying to record a line signal. This is the type of signal you get from electrical equipment such as a VCR or CD player.

When you are recording sound make sure then signal is bouncing around 12dB. Adjust it accordingly by using your level dial if it is not. Use your headphones to further check your recorded sound.

Auto Focus

Ensures that the camera is constantly focused. If you adjust the focus it will simply adjust it back and make sure you are focused on the object the camera thinks you should be focusing on. By taking it off, you will be allowed to adjust your focus manually.

Shutter speed/Iris/Exposure Lock/AE Shift

To adjust the shutter speed, you must set the camera to manual, and adjust the arrows of the shutter accordingly. The shutter speed gives more distinct frames. It controls the light and details. This may help slow down the speed of fast moving images, but this does not necessarily smooth out the movement there may still be a little jitter. To adjust the iris/aperture simply adjust the roller to enlarge or minimise the iris and allow light to enter or to block light from entering. The exposure lock, locks the exposure that you have chosen and controls the brightness. To set the exposure simply press it once, and to return it to the automatically set exposure simply press it again. The automatic exposure (AE) can lighten or darken images. Turn the dial to Auto, TV, AV recording programme and turn the AE Shift button to the desired level.

Zebra Pattern

This is a set of strips that appear in the viewfinder which will indicate areas of overexposure. This will only be seen in the viewfinder and will not be recorded.

Adjusting the Gain

When you are in Easy Recording mode, or spotlight mode you cannot use the gain. In all other modes however you can adjust the gain accordingly. Simply press the gain knob til it pops out. If the gain knob is set to A the camera will adjust the gain automatically. If not, you can adjust the gain to five preset values ranging from -3dB to +12dB. Once you have made your adjustments press the gain knob in again. Use -3dB for low noise recording indoor, for low light or low contrast, use 0dB for low noise and life like reproduction of shots/scenes, and

use +6dB/+12dB for bright indoor scenes or if your iris is fully open for those low light scenes. More dB allows you to add more light.

Adjusting the White Balance

If you turn the power dial to any recording mode, except for Easy Recording, you can adjust the white balance. Just press the white balance knob until it pops out, and adjust the white balance to either A for auto white balance, the light bulb for indoor lighting, the sunshine for outdoor lighting or turn it to the right to set the white balance manually.

If you choose to set the white balance manually, find a white surface (a white piece of paper is often used), zoom in until the surface fills your screen, then press the white balance button. The icon will flash on the screen and then remain lit to show that the camera has set the white balance.

When you have made all your adjustments push the white balance knob back in to set your changes.

Connections for playback on a TV/VCR

If your TV/VCR has an S-Video input terminal

Use the S150 S-Video cable to connect the camera and TV/VCR. Use the S-Video audio cable to connect the camera and TV/VCR. Connect the red jack to the red socket on both machines and connect the white jack to the white socket on both machines. Do not connect the yellow jacks with the yellow sockets.

Do not forget to set your TV to video.

If you TV/VCR have audio/video input terminals.

Simply match the colours of the STV-150 Stereo Video cable. The white jack must connect with the white sockets, the red jacks with the red sockets, and the yellow jack with the yellow sockets.

Movie Mode (aka frame mode)

This is the normal shooting mode chosen to view scenes once they have been recorded. This mode is smoother, better for movement shots. Frame mode has better resolution for stiller shots. When you pause a shot you will see it perfectly clear with no flicker. When you choose the frame setting it is slightly jerkier since you are seeing 25frames per second.

Accessories:

WL D2000 wireless controller

2 x AAA Batteries

SS 1000 Shoulder Strap

Lens cap

Dust cap

Lens hood

BP-927 Battery Pack

CA900/CA910 Compact battery adapter

Lithium Button Battery

DC900/ DC Coupler

S150 – S-Video Cable

STV 150 Stereo Video Cable

Digital Video Cassette

SP-100 Shoulder Pad

Body Cap

16x Zoom lens (with soft body cover)

Stereo Microphone

Lighting

Pack shot

This kind of shot is what you see when you look at the front cover of a magazine. The lighting is pleasing, you can see all the detail yet the lighting doesn't draw attention to itself.

Often there is a use of a white umbrella, this diffuses the light and doesn't cause shadows.

3 Point Interview

This is done with Tungsten lighting.

Three lights are used namely: Key Light (This is the strongest light)

The Back light (This often creates a halo effect and allows the viewer to see a 3-D image)

The Fill light (This light reduces the shadow)

When doing this type of lighting is done don't go too dramatic, this would confuse the viewer. This lighting should enhance and support your journalist work, not distract the viewer from what you have done.

Night/Moonlight

This is more dramatic lighting. In order to achieve this look use blue gels.

Skrim – this knocks down the light and reduces the sharpness of the light more than gels.

Blonde lighting usually uses too much electricity and will probably cut your circuit in homes and building. This should be remembered when thinking about using such lighting in township houses and other local buildings.

When using light try play with it. If the light is too strong bounce it off walls and other objects. However keep in mind that when light bounces it causes light to spill and you may lose control. To keep control you can use Fresnel lenses, this is a thick glass with curves which forces light to run parallel to each other and you are able to remain in control of the light.

When playing with light you could also use a go-between (gobo) which involves using other objects to create specific effects.

Cables

Kettle plug/cord – mini/full size

3 prong 15amp plug (all)

2 prong 13amp plug

BNC – considered a professional cable

It is a co-axial cable and plug and deals with video signal only

The female BNC jack plugs into monitors and carries the video signal

The RCA (Radio Corporation of America) – this carries both video and audio signal; however it does not carry them simultaneously. This is not considered professional. There is greater resistance – mainly for domestic use eg: DVD players.

Firewire Cables – digital cable – this carries video and audio signal simultaneously. There is a complex carrying of signal. Firewire range from small to big, 4 to 6, 4 to 4, 6 to 6.

Fw 400 – camera system

Fw 800 – double speed – USB2 is the same speed.

Remote Cable – 9pin – this allows for the control of information

Audio Cables:

XLR – 3 pins – carries audio only

Jacks – come in a range of sizes and may be balanced or unbalanced. One black ring around the tip is unbalanced jack whilst two black rings around the tip are balanced jacks.

Sound

The XL1 camera allows you to record on 16 – bit stereo (48kHz, 2 channels), 12 – bit stereo (32kHz, 2 channels), and 12 – bit stereo (32kHz, 4 channels).

For the highest quality sound it is best to record on 16 – bit stereo option.

Shure Mixer

The Shure Mixer allows for three audio inputs, however there are only two audio outputs. When working on 16 bit sound recording you have one channel with two tracks (left and right). The two outputs of the Shure Mixer correspond with the left and right tracks in the channel.

You are able to pan your sound according to the track you would like it on. If you pan hard left then the sound will appear on the left track, if you pan hard right the sound will appear on the right track, if the pan pot remains in the centre the sound will then appear on both left and right track.

The Shure Mixer also has a bass cut switch which allows you to cut the lower frequencies of your recording. This will allow you to reduce the hum and buzz which often comes with recording.

The use of the Shure mixer will allow you to monitor the sound of a recording whilst in the field to ensure optimum recordings.

Adobe Premiere Pro CS3

How to get started

Once you have clicked on the premiere pro CS3 icon, a page will pop up asking if you wish to “Start a new project”, “Open a project” or “Help”.

If you wish to start a new project simply click on the icon. The “Load Preset” page will pop on your screen. The correct presets to click would be the DV-Pal folder.

Once you have clicked on this folder you select the “Standard 48khz” option.

There will be an area where you could then type in the location you would want to save your project in. Usually you would choose to save it on the D: drive. Once you have saved it on the D: drive you can name it accordingly. Try to be descriptive so you are able to find your work easily.

If you would like to find a particular location to save it in simply click the “browse” option and select the appropriate folder.

Once you have labelled and saved your new project click “OK” and begin the editing process.

If you do not wish to continue simply click “Cancel”.

Editing

Once you have clicked “OK” various screen will appear. These screens are essential in the editing process. There will be an “audio master meter” this indicated the audio level of your footage. There will be an “info screen” this will show the clips information. It is also on this screen that the effects tab will be found as well as the history tab, showing you your work history.

If you click on the “Effects” tab a drop down menu of possible effects will appear. The folders that are shown are “Preset” effects, “Audio effects”, “Audio Transitions”, “Video Effects” and “Video Transitions”. By clicking on the arrow to the left of the folders a further drop down menu will appear with a list of the effects that can be used. You are able to apply an effect by clicking on the chosen effect and dragging it on to your clip.

There is also a project screen which will hold your imported footage. By double clicking on your footage, the clip will appear on your timeline. It is on your timeline that you are able to edit your footage. Two monitor screens will also pop up. One screen will show the imported clip that you are working on untouched, and the other will show the edited version of your footage.

On these two monitors there are numerous icons which will be used in the editing process. These icons include the “set in point” and “set out point” which can be clicked on where you would like the cut the beginning and end of your footage.

There is also the “insert” icon which then allows you to insert the selected area (that you have chosen with your set in and set out points) on to the timeline.

There is the “overlay” icon which then places your chosen clip directly on top of the timeline regardless if there is footage already on that area. “Go to points” allow you to go to where you have placed your cursor. The “play in and out” icon allows you to simply play the selected area.

There is also a tools menu. Here you will find numerous tools that can be used to edit your footage. The arrow is the “select” tool, this allows you to use your cursor as normal. You are able to click on various things as usual. The “track select” tool allows you to click on an area in the timeline and select the entire track you have

clicked on. This allows you to move whole tracks with ease. The “ripple edit” tool allows you to add more footage on to the beginning and end of your track if need be. Another useful tool is the “razor tool” which allows you to slice footage exactly where you want. All other tools can be used by simply clicking on them.

Like all computer programmes the Adobe Premiere CS3 comes with a helpful “Help” section and should you need further detail or assistance with specific problems you can simply click on there and select the area you are having a problem with. This will help sort out any issues and clear things up if you are in need.

Exporting

Once you have edited your piece you can then begin to export your project. Click on “file” and “export” then choose whether you wish to export your whole movie, a single frame or simply the audio. Usually you will click on the “movie” option. Then you just name your soon-to-be-exported-project and click “save”. Before you export you may want to check the settings to make sure everything is being exported as you wish. To do this simply click “settings” before you click “save”.

Your project will then be exported to the location you had chosen when you opened the project.

Capturing

If you want to capture footage off a tape then all you have to do is place your tape in a capturing device. Go to “file” then “capture” or simply press F5. By pressing the record button you will then capture your footage. Once you have captured your footage or various clips you have chosen to capture you will need to name those clips. These clips will then appear in your workspace for you to edit and do as you please.

Importing

You can import specific files into your project by going to “file” and “import”. You will then need to find the file you wish to import, click on the chosen file and click “open”. This will then import your selected piece.

These are just the basics. To truly get to grips with this programme you need to play around and experiment.

Depth of Field

Great Depth of Field – Large area is in focus

Shallow Depth of Field – Specific area is in focus while the remaining area is blurry

There are 3 ways to manipulate Depth of Field (DOF)

- Adjusting the Iris
- Adjusting the Focal Length
- Adjusting the Camera-to-Object distance

Iris

The Iris (aka Aperture) controls the amount of light entering the camera.

F. is the measurement indicating the width of the Iris.

Eg: F.2 = Big Iris opening (a lot of light entering the camera)

F.16 = Small Iris opening (small amount of light entering the camera)

The larger the Iris opening the shallower the depth of field. The smaller the iris opening the greater the depth of field.

Focal Length

Focal length is the distance from the optical centre of the lens to the front surface of the camera's target. This is usually measured in millimeters (mm).

Changing focal length is known as zooming (either zooming in towards an object or zooming out away from an object).

Zooming in = Shallow depth of field

Wide Angle = Great depth of field

Camera-to-Object

This indicates how far the object is from the camera.

An object further away from the camera = Great depth of field

An object closer to the camera = Shallow depth of field

Blogging

(Visit <http://rutv4.ru.ac.za>)

This is like sending an email to the world – everyone is able to read it.

This blogg is constantly uploading new stuff where the most recently uploaded stuff appears first. This could be either a mess (because poor quality material may be seen first) or an advantange (new material is always seen first).

We upload by server, this allows us to download without any quota issues.

Wordpress – auto blogger system – this is a space that allows you to create a blog with greater simplicity.

Widget – this is a blank space you can type into.