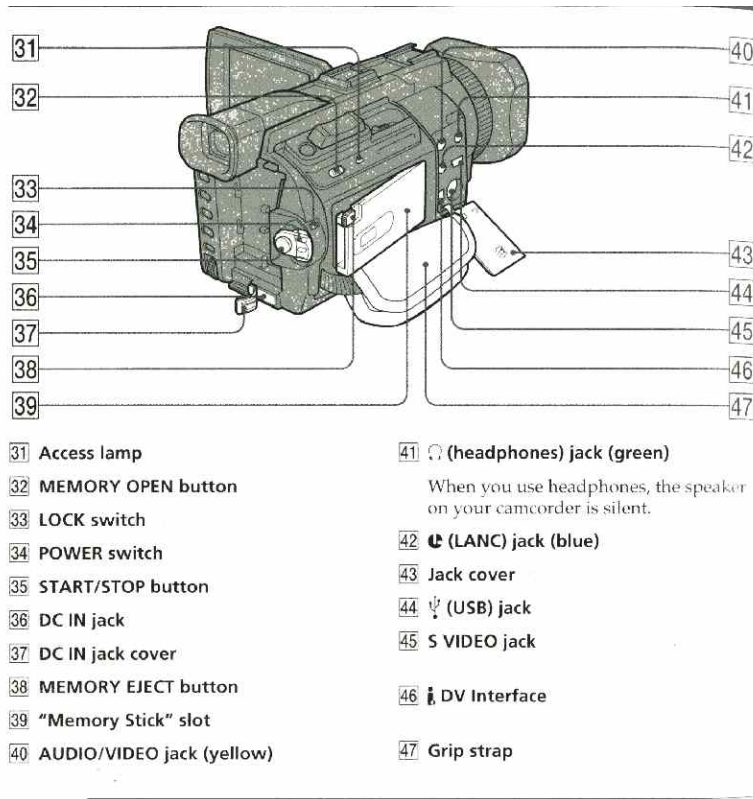


**MTN**  
**Basic**  
**Camera**  
**Class**  
**Handout**  
**Sony PDX10**

# MTN Basic Camera Class Handout

## Sony PDX10 camera



### Starting the camera

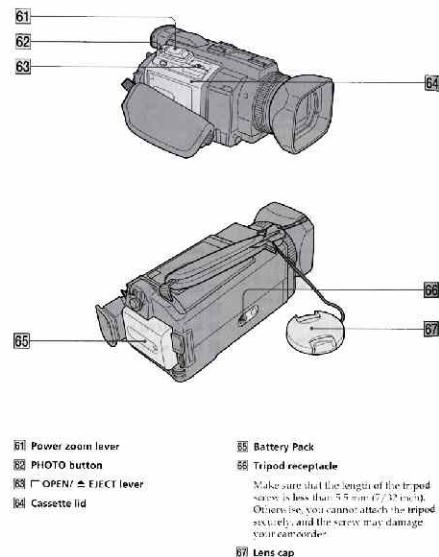
To run the PDX-10 camera, first place the battery on the back of the camera. Make sure the arrow on the back of the battery is pointed down. Press the battery on the back of the camera and slide it down into place. It will click when it is in the proper position.

To eject the battery when you are finished or when you need to switch to a fresh battery, press down on the gray tab just above the top of the battery. If you plug the AC adapter into the back of the camera (36) and leave the camera switched off, the battery will recharge.

Turn the camera on with the main power switch on the back of the camera (34). This switch is near the battery and has the red record button in the middle of it (35). Press in the green tab on the master power switch to move the switch. Line up the small white tab with the word "camera" to switch to camera mode. "VCR" mode is for playing back a tape that has already been recorded.

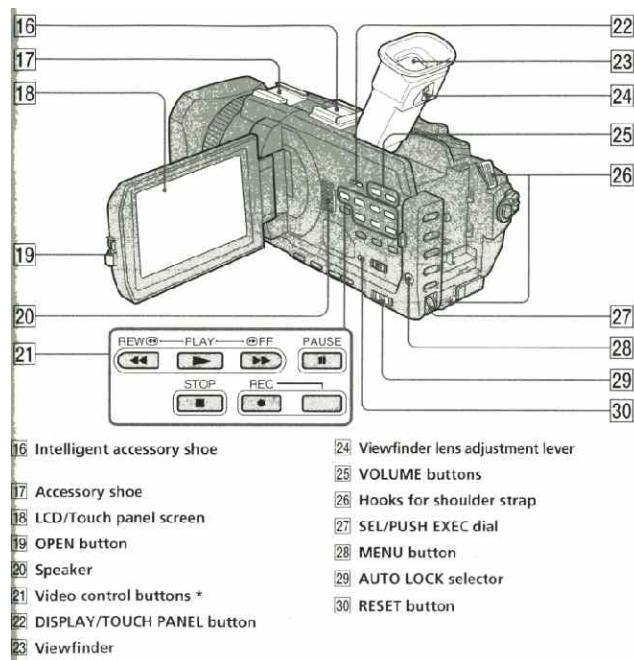
Below the "Camera" mode you will see a "Memory" mode for saving still images on a Sony Memory Stick. See the switch marked "Lock" (33) right next to the main power switch? If you switch that in the direction of the arrow, it will prevent you from going into that Memory mode and getting very confused. In memory mode, the camera will not record onto videotape.

Press the black "Open/Eject" switch (63) on the top of the camera near the zoom control to open up the tape compartment. Pull out on the tape door and the tape carriage inside the camera will open. Place the tape in the tape carriage and press on the side of the door where it says, "Push." Wait for the tape carriage to withdraw completely into the camera before closing the tape compartment door.



The camera has a black and white viewfinder on the rear of the camera (23), and a foldout LCD screen on one side of the camera (18). To open the LCD screen, press the silver "Open" button on the rear left side of the camera (19). Then pull the LCD screen out and open. Notice that the Viewfinder turns off when the LCD screen is open. If you flip around the LCD screen so that it faces forward, the image comes back in the viewfinder.

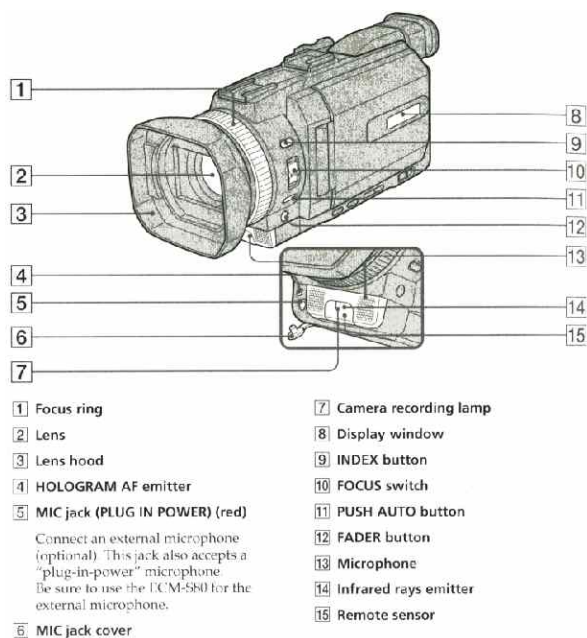
The LCD screen requires more power to operate than the viewfinder does. Using the LCD screen will mean that your batteries will have a shorter life.



## Automatic Operation

You can run the video camera completely in the Automatic mode or use manual features to have control over your video. To run the camera completely automatically, do the following after you start it up.

1. Switch the focus into "Auto." The focus switch (10) is near the lens on the LCD screen side of the camera. The camera will now automatically focus your image.
2. Switch the camera into automatic mode for the exposure and white balance features. Look for the green "Auto Lock" position switch (29). You will find it under the LCD screen near the rear of the camera. The camera will now automatically set the exposure and color balance.



3. Set the audio levels so that the camera will adjust them automatically. If you see the audio level readout in the monitor, audio control is set for manual. To switch the audio level to automatic control, press the "Menu" button toward the back of the camera on the LCD side (28). Use the select wheel (27) to navigate the menu. The select wheel is on the back of the camera to the bottom and to the left of the battery. Use this wheel to find the "Tape Set" menu. The icon for this menu is a video tape. Then press in the selector wheel to enter this menu. Scroll down the menu until you reach "Mic Level." Once again, press in the wheel to make your selection. Roll the wheel so the yellow box is on "Auto." Press in the Selector wheel to make your selection. Then press the "Menu" button to leave the menu.

Here are a few other things to review before recording your video.

- Check the Audio mode. 48K audio is the preferred mode. To change the audio mode, press the menu button (28) and use the selector wheel (27) to navigate to the "Tape Set" menu. Press in the Selector Wheel and scroll the wheel to select "Audio Mode." Press the wheel again and then turn the wheel so that the yellow box is on FS48K. Press in the Selector wheel to select this mode and then press the "Menu" button to leave the menu.
- Check the Record mode. You will see this in the lower right side of the monitor display. DV SP will record 60 minutes of video on a 60 minute tape, while the DVCAM record mode will record about 42 minutes of higher quality video on that 60 minute tape. Go into the "Tape Set" section of the menu and choose the record option you wish in the "Rec Mode" setting.
- Use headphones to make sure you are recording good audio. You plug the headphones into the green mini-plug jack under the secret panel on the tape door side of the camera (41). Adjust the headphone volume with the Volume buttons (25).

## Manual Operation

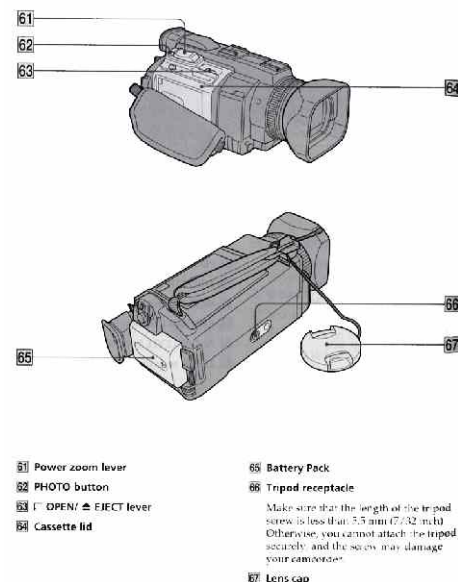
The camera will give acceptable results using the Automatic features, but you will get even better video and audio if you use the manual settings wisely and correctly.

### Focus

Automatic focus will drift, sending your picture in and out of focus. In order to keep this from happening, use the manual focus features of this camera.

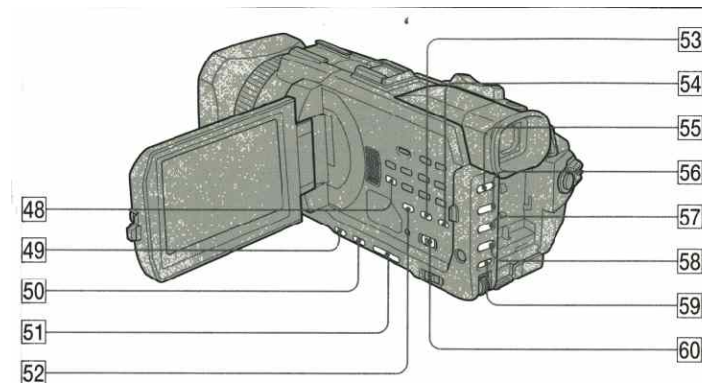
To set the focus manually, switch the "Focus" switch (10), on the LCD side of the camera up near the lens, to the "Man" position in the middle. You may now use the focus ring (1 - located just in front of the "Focus" switch) to adjust the focus. You know that the focus is in the manual setting because you will see a picture of a hand with the letter "F" in it on the bottom center of the monitor readout.

An image properly focused will look clear. Focus depends on the distance between the camera and the subject that you are filming. Focus also depends on the focal length (zoom range) of the camera's lens. If the distance between your subject and the camera changes, you will have to adjust the focus. If you have the zoom (61) on the W (wide angle) end, the image will in many cases look clear overall, but when you zoom in toward the T (tight angle) end, you will find that the range of focus is limited. This limitation in the range of focus is called the "Depth of Field," and you should use it as a tool for setting your focus. To make sure the subject is completely in focus, zoom all the way into the T end of the zoom and then adjust the focus by turning the focus ring. Make sure the image looks clear, then zoom out to get the composition that you want. Make sure that the focus is in Manual mode. You will see the hand with



the "F" in the middle of the bottom of the monitor display.

There is more than one way to focus a camera. Another way to focus is to zoom all the way into your subject. Then, instead of focusing with the focus ring, press the "Push Auto" button (11) underneath the Focus switch. As long as you keep the button pressed down, the camera is in automatic focus mode. When you let go of this button, the camera switches back to manual mode. Let the automatic focus find the focus for you, but once it has been found, keep it locked in place by letting go of the "Push Auto" button and watch the hand with the F come back in the viewfinder. This signifies that the focus is now locked in one place.



- |                         |                         |
|-------------------------|-------------------------|
| 48 AUDIO DUB button     | 55 PROGRAM AE button    |
| 49 BACK LIGHT button    | 56 SHUTTER SPEED button |
| 50 SPOT LIGHT button    | 57 WHT BAL button       |
| 51 EDITSEARCH button    | 58 EXPOSURE button      |
| 52 TC/U-BIT button      | 59 AUDIO LEVEL button   |
| 53 BARS button          | 60 ZEBRA selector       |
| 54 CUSTOM PRESET button |                         |

## Shutter speed

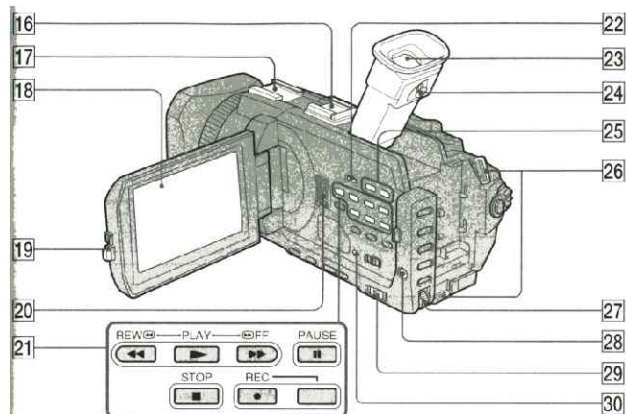
How bright or how dark an image appears depends on the Iris and the Shutter Speed. The standard shutter speed for video is 1/60 of a second.

Video creates the illusion of movement by taking and playing back 30 still pictures every second. Those still pictures are called "frames," and how quickly the camera exposes each of those frames to light is called the "shutter speed." The standard shutter speed for a video camera is based on the frame rate of 30 frames a second.

At a shutter speed of 1/60 a second, fast action will blur. If you are taping fast action, you may want to choose a faster shutter speed, particularly if you wish to slow down the video in the editing process (slow motion.)

To change the shutter speed of the camera, make sure the "Auto Lock/Hold" slider switch is in the middle position (29). You will find this switch on the LCD screen side of the camera and just under the LCD screen. Then press the "Shutter Speed" button on the rear of the camera (56). You will now see the number "60" in a gray box on the lower left side of the monitor display. Turn the selector wheel (27) up or down to change the shutter speed.

A shutter speed slower than 1/60 will allow more light into the camera to make an exposure when light is limited. But if you use a slower shutter speed, any motion will appear with a pronounced blur.



- |                               |                                     |
|-------------------------------|-------------------------------------|
| 16 Intelligent accessory shoe | 24 Viewfinder lens adjustment lever |
| 17 Accessory shoe             | 25 VOLUME buttons                   |
| 18 LCD/Touch panel screen     | 26 Hooks for shoulder strap         |
| 19 OPEN button                | 27 SEL/PUSH EXEC dial               |
| 20 Speaker                    | 28 MENU button                      |
| 21 Video control buttons *    | 29 AUTO LOCK selector               |
| 22 DISPLAY/TOUCH PANEL button | 30 RESET button                     |
| 23 Viewfinder                 |                                     |

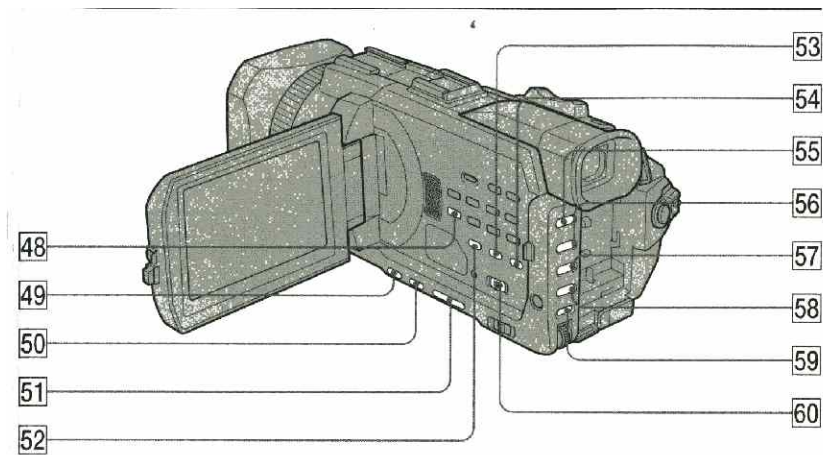
## Exposure

The camera, like your eye, has an iris. The iris lets in just enough light to make a proper exposure. When there is limited light, the iris opens up wide. When there is a lot of light, the iris closes down to a pinhole.

The camera always adjusts its iris based on the light reflecting off your subject. Knowing this, you might see where you will want to manually control the iris in certain situations. For example, a white background will trick the camera into closing down the iris. The camera cannot tell the difference between something white and something that is bright. If your background is white, you may want to compensate by manually adjusting the camera's exposure.

There are several ways to manually control the exposure with the camera. One of the easiest ways is to use the "Back Light" (49) and "Spot Light" (50) buttons on the LCD side of the camera near the bottom.

If your subject looks too dark, it may be because there is a bright light behind. That bright light has caused the camera to close down its iris, which has left the subject looking too dark. Pressing the "Back Light" (49) button opens up the iris. You know that the back light setting is on because you will see an icon of a box with a corner of the sun in it. This appears in the lower left side of the monitor display. Make sure to exit the "Back Light" setting when your exposure has returned to normal. You can leave the back light setting by pressing the back light button again. The symbol will then leave the display.



- |                         |                         |
|-------------------------|-------------------------|
| 48 AUDIO DUB button     | 55 PROGRAM AE button    |
| 49 BACK LIGHT button    | 56 SHUTTER SPEED button |
| 50 SPOT LIGHT button    | 57 WHT BAL button       |
| 51 EDITSEARCH button    | 58 EXPOSURE button      |
| 52 TC/U-BIT button      | 59 AUDIO LEVEL button   |
| 53 BARS button          | 60 ZEBRA selector       |
| 54 CUSTOM PRESET button |                         |

The "Spot Light" button (50) works in the opposite manner, and is useful if you are shooting against a dark background. Your subject in this case might look too bright, or "Over exposed." Press the "Spot Light" button to make the image slightly darker, and then press the button again if you wish to leave that mode.

Another way to control the exposure is with the "Exposure" button (58) on the back of the camera. Make sure the Auto Lock/Hold switch (29) is in the middle position. Then press the "Exposure" button on the back of the camera. You will now see an exposure (iris) sliding scale on the top left side of the display. Use the selector wheel (27) to make the image brighter (sliding the bar to the right) or darker (sliding the bar to the left). This opens or closes the camera's iris.

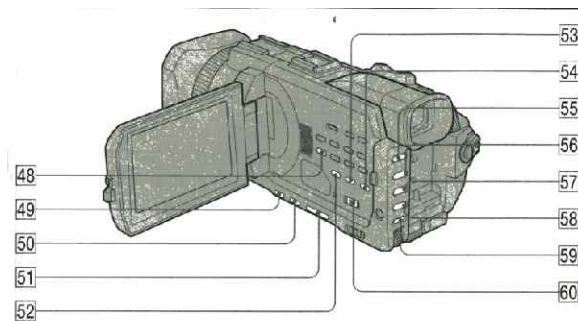
There are also several Program exposure modes that you can access with the "Program AE" button (55) on the back of the camera.

## White Balance

We see because something is burning. Burning things burn at different temperatures. These various temperatures at which things burn produce different colors of light. The sun burns very hot and makes a bluish light. A fluorescent light burns less hot than the sun and produces a greenish light. An incandescent light with a burning filament burns even cooler than that and produces an orange color light. As we move from places lit by different light sources, our brain compensates to render colors properly. The camera tries to do this too, with something called "white balance," but the camera is not as smart as your brain is, and often the camera sets the white balance incorrectly, or else it drifts during the duration of your shot.

The camera's automatic white balance is easily fooled if a single color dominates your image, or if there are large areas of white in your image. That is why you will often get better results if you set the white balance of the camera to manual.

To manually white balance the camera, first make sure the lighting is the way it will be when you make your shot. Then find something white to set the white balance on. Make sure that the light that is hitting this white object is the same light that is hitting your subject. For example, if your subject is sitting in the sun and you white balance on an object in the shade, your white balance will be wrong.



- |                         |                         |
|-------------------------|-------------------------|
| 48 AUDIO DUB button     | 55 PROGRAM AE button    |
| 49 BACK LIGHT button    | 56 SHUTTER SPEED button |
| 50 SPOT LIGHT button    | 57 WHT BAL button       |
| 51 EDITSEARCH button    | 58 EXPOSURE button      |
| 52 TC/U-BIT button      | 59 AUDIO LEVEL button   |
| 53 BARS button          | 60 ZEBRA selector       |
| 54 CUSTOM PRESET button |                         |

Fill the frame with your white object. It is often best if your subject holds it. The image does not have to be in focus. Then press the "Whit Bal" button (57) on the back of the camera. Use the selector wheel (27) to select from the three available white balance modes. There is a mode for incandescent light that is represented by the picture of the light bulb. There is a mode for sunlight that is represented by the small picture of the sun. The symbol that looks a little like a flower is the symbol of the manual white balance mode. Once you have framed up your example of white, press in the selector wheel. The symbol will start to flash. Once it has stopped flashing, the white balance is set.



If your light changes, you will want to re-set the white balance, or re-set it back to Auto by pressing the "Whit Bal" button. The white balance is in Automatic if you see no white

balance symbol in the display.

## Audio Level

You may also wish to have manual control of your audio levels. The automatic audio level control has a way of making loud sounds appear less loud and soft sounds louder than they actually are.

To switch to manual audio control, go into the Menu (28) and roll the selector wheel (27) down to the "Tape Set" section. Press in the selector wheel and scroll down to "Mic Level." Press in the wheel again and scroll the wheel to select "Manual." Press in the selector wheel and then press the Menu button to leave the Menu.

You know that you have control of the audio when you see the audio meters on the screen, in the bottom right corner. Press in the "Audio Level" button (59) right above the selector wheel to make an audio adjustment.

You will now see the audio level scale, which goes from negative infinity to 0 db. If your level goes as high as 0 db, your sound will be distorted. If your audio level is down near 30 or lower, it will be very quiet. Try to keep your levels topping off around the 12. You may wish to do an audio test to try this out.

As your subject speaks, roll the selector wheel (27) up or down to raise or lower the audio level. Aim to get the peaks of sound (the loudest sounds) going just over the 12. Make sure no sound goes as high as 0 db. When you press the "Audio Level" button again, the audio scale leaves the screen, but you still see the unmarked audio scale at the bottom right of the monitor.

It is very important that you watch your audio levels if you have chosen Manual control. "Overmodulated" audio, or audio that hits the 0 db reading in the scale, will be horribly distorted.

## Using the Camera

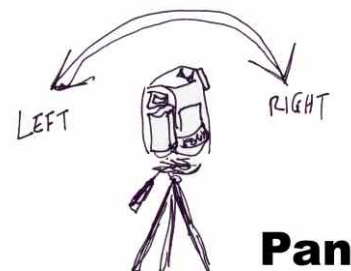
### CAMERA MOVEMENTS

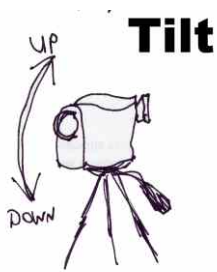
The movement and positioning of the camera is an art in itself. Usually camera movements are smooth and slow so they do not draw attention to themselves. The camera operator should be familiar with the basic camera movements:

#### Movements while the base remains stationary

**PAN** The camera swings right or left in a horizontal plane, while the base remains stationary. A pan is used to follow action from one place to another, indicate distance between subjects or the relative size of objects.

**TILT** The camera moves upward or downward in a



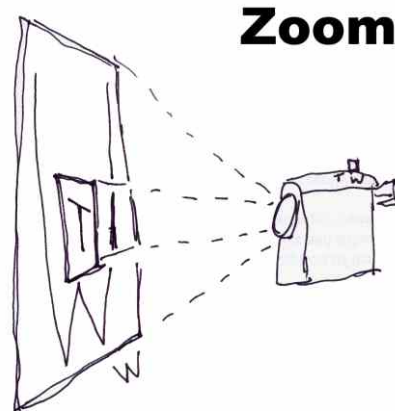


## Tilt

vertical plane, while the base remains stationary. A tilt is used to keep the correct headroom of a subject during a zoom in or out, to show the relative height of objects or to obtain a lower or higher angle of a scene.

**ZOOM** the zoom lens on a video camera gives the operator a variety of focal lengths in one smooth motion.

Using the zoom control on the camera allows you to pick an object in a scene and magnify it or the reverse.



## Zoom

### Movements on dolly wheels or while handheld

**TRUCK** Trucking requires the operator to physically move the camera left or right. A trucking movement can be used to indicate the motion of a subject in a scene.

**DOLLY** Physically moving the camera closer to or away from an object is known as dollying in or out. The dolly can give the viewer the impression that they are entering or leaving a scene.

**CRANE or PEDESTAL** Physically moving the camera up or down.

## PORTABLE CAMERA OPERATION TIPS

### "Shooting for the Edit"

Smart directors will always record videotape with the proposed edit in mind. If editing is kept in mind during the production phase, the chances are better that the show can be edited efficiently with you and your budget suffering minimal stress.

### Planning for post-production

Planning for post-production begins with a shooting script or a shot list that is developed during the pre-production phase. A shot list is a checklist that contains an order of the necessary shots for the program to be videotaped at a given location, a given set of characters, with specific lighting requirements, etc. During production, remember that the recorded sounds and images act as raw material for the editor. The most frustrating thing an editor can encounter is a lack of sufficient material for a program. Do not forget transition shots, reaction shots, cutaways and utility footage that can give you more options while editing.

A **transition** gets you out of one scene or location and into another, softening or connecting one scene or location to another, spatially or temporally. Think of this shot as connecting tissue, which can help hold different scenes or locations together.

A **cutaway** can be used to cover an edit, especially a jump cut. A jump cut happens when you do not change the shot size and angle from one shot to the next. The image appears to jump when the cut occurs. Cutaways can also act as visuals to help add pacing or interest to your program.

A **reaction shot** is a variation of the cutaway shot. It is used to provide the illusion of continuity during interviews. Interviews are usually edited for the verbal content. This can result in a series of jump cuts. Reaction shots of the interviewer nodding at a statement, smiling, taking notes, or listening attentively make useful cutaways that will help retain the flow of your video.

**Utility footage** is material that would include establishing shots, "art" shots, shots that will be used for titles, or shots that will help introduce the subject or special locations. Try to record ambient sound at each location. It is a good idea to keep all takes. You may find that a shot that looked wrong at first is precisely what you need when you are editing. Even initial out-takes will sometimes fit into a program later on.

### **Interviews**

Pre-planning is important when video taping interviews if the editing process is to be successful. Interviews are usually taped with a single camera. The following suggestions will make your interview easier to edit.

Zoom in or out to change the camera shots only when the interviewer is asking the question.

It can be distracting to zoom in or out while the subject is talking. Zoom in or out only for effect. If you might find yourself leaning in for a real good part of the interview, you may want to zoom in. Zooming out can create the notion of growing disinterest in the material of the interview.

Get lots of cutaway or utility shots. Get shots of items that the interviewee talks about. You can then insert these into the interview in the edit phase.

If someone makes a mistake or there is an interruption and you decide to stop and re-shoot, choose a point just before the problem occurred and reframe the shot. Make the shot either looser or tighter or change the angle to avoid a jump cut in your edit. If you do not do this you will need a cutaway or reaction shot to cover the jump cut.

### **Continuity**

Continuity is creating the illusion of continuous action in time even though individual shots are made at different locations and at different times. Think ahead, visualizing each separate shot. It is helpful to imagine that there are several cameras at your location, each positioned where the next shot will be taken. All movement through space and time will then flow properly once all the elements are edited together.

### **Logging your footage**

Once you have finished taping, view and create a log of your source material. Shot logs contain a simple description of the video and audio recorded, and commentary about the usefulness of the shot. Keep track of the location of your shots by time code. On the camera, you will find the time code number displayed in the upper right side of the viewer.

### **Technical considerations**

It is a good idea to allow for at least 5 seconds of pre-roll before you cue the talent for action for each shot. It is a good idea to record some black video at the beginning of each tape. This gets you past the area of high dropout at the beginning of videotapes.

# Audio

## PLUGGING INTO SOUND

Camcorder enthusiasts pay plenty of attention to the picture, but when it comes to the audio there's a tendency to ignore details. Try watching television for 10 minutes with the sound turned all the way down, and see how much you understand just from the picture. Television was invented by the engineers at the Radio Corporation of America (RCA), and all the popular television genres, from situation comedies to soap operas, originated on radio. Ultimately, sound quality can make or break your production.

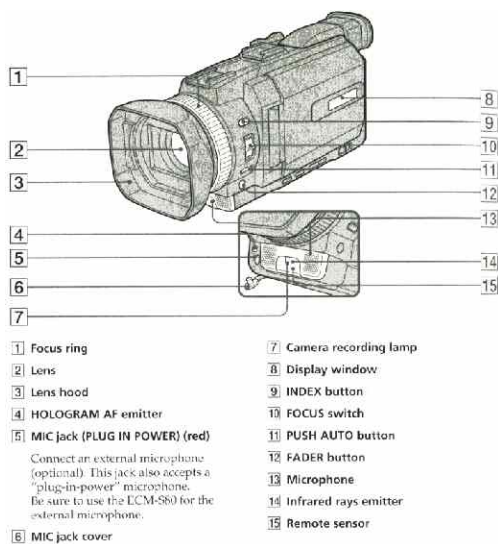
In some situation a camcorder's built-in mic is sufficient, but knowing when to plug in an external microphone, and what type to use, can make the difference between unintelligible, garbled sound and crisp, clear audio.

The human ear can hear an extremely wide range of sound levels; more importantly, it can discriminate between sound we want to hear and background noise. Our ears can pick up all the sounds in a room, but our brain only hears the sounds that we want it to hear.

The use of external microphones is largely an effort to compensate for the difference between the microphone and human hearing. In essence, you will be using microphone location, sensitivity and pick-up patterns to isolate sounds that are important for your recording.

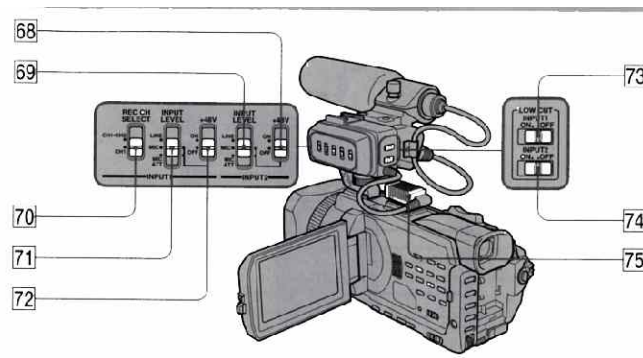
Usually, the best place to put a microphone is close to your subject. If your subject is close to the camera, or if the audio you are recording is loud (such as music) or if you just want to record the general sound of a place, the microphone on the camera might be your best choice.

## BUILT IN MICROPHONE OPTIONS

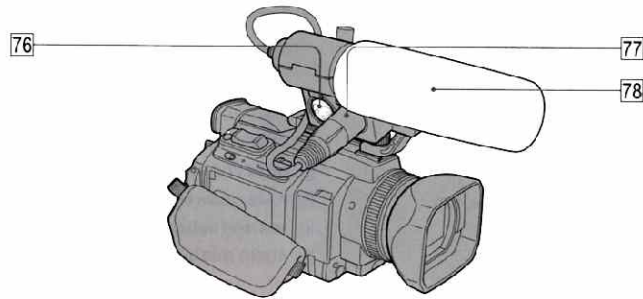


The Sony PDX-10 camera has a built in microphone (13) just under the lens. You will disable this microphone if you plug an external microphone into the red microphone mini-jack (5 - located to the left side of the camera microphone). You will also disable it if you plug in the optional XLR audio adapter.

You can ask at checkout for the optional XLR adapter. This includes two XLR audio inputs (76, 77) and an attached shotgun microphone (78). This microphone attachment has two plugs that slide into the two sets of grooves (shoes) on the top of the camera. First slide the intelligent plug (the one with all the small gold contacts on the bottom) onto the shoe closer to the viewfinder (75). Then slide the plug that supports the XLR mic structure onto the shoe nearest the camera lens (17). Turn the screw at the bottom of this plug to secure it to the camera body.



On one side of the XLR adapter you will see the 2 audio inputs (76, 77). These are labeled "Input 1" and "Input 2." You can plug the attached shotgun microphone into one of them or use both of them for two separate external microphones (such as lavalier microphones attached to an interviewer and a subject).



On the other side of the adapter you will see five switches. If you want the shotgun camera microphone to record on both audio channels of your tape, plug the shotgun camera microphone into Input 1 and put the "Rec Ch Select" switch (70) on "Ch 1 + Ch 2." If you might be working with more than one microphone, place it in the "Ch 1" position.

- |                                |                     |
|--------------------------------|---------------------|
| 68 INPUT2 +48 V switch         | 76 INPUT2 connector |
| 69 INPUT2 INPUT LEVEL selector | 77 INPUT1 connector |
| 70 INPUT1 REC CH SELECT switch | 78 Microphone       |
| 71 INPUT1 INPUT LEVEL selector |                     |
| 72 INPUT1 +48 V switch         |                     |
| 73 INPUT1 LOW CUT switch       |                     |
| 74 INPUT2 LOW CUT switch       |                     |
| 75 HOT SHOE plug               |                     |

audio on both of these channels. Therefore, the "Ch 1 + Ch 2" setting is the best position for this switch for iMovie projects.

If you have the attached shotgun microphone plugged into Input 1, set the input level button for Input 1 on "Mic" (71) and the +48 V switch to "On" (72).

## HEADPHONES

Use headphones to check the audio you are recording. The PDX-10 camera's headphone jack (41) is located under the "panel of plugs" on the tape door side of the camera. It is the Green jack. Plug headphones into this jack to check your sound. Adjust the volume of the headphones with the volume buttons (25) located on the top row of the buttons on the side of the camera and under the LCD screen when it is closed. The volume level here does not affect the audio level you are recording onto your tape.

## TYPES OF MICROPHONES

Two basic types of microphones are dynamic and condenser microphones. The difference lies in the way they generate an audio signal and their sensitivity. Condenser mics always require a battery or other power source and are more sensitive to sound, particularly to higher pitched sounds. Dynamic mics are more rugged and can handle extremely loud sounds.

## PICKUP PATTERNS

Microphones pick up sound from different directions. A dynamic handheld microphone like the ElectroVoice picks up sound in all directions (omnidirectional) but has a limited pickup (imagine a basketball with a center at the microphone) which helps to keep out unwanted sounds further away from your audio source. A shotgun microphone picks up audio only in front of the microphone, picking up less sound from the back and sides.

### **Omni-directional (EV90 lavalier, EV635 handheld)**

Picks up sound from all around the mic

EV 635 handheld has a limited pickup pattern which helps eliminate background sounds

EV90 lavalier tends to reproduce background sounds more

EV90 lavalier needs a battery, EV635 handheld does not

### **Cardioid (AKG D190 handheld)**

Maximum pickup from in front. Suppresses sound from the sides and rear

Has limited pickup, which helps to eliminate background sounds

### **Uni-directional (AT835 shotgun)**

Picks up sound only from in front of the mic

Works best closer to the subject

Can be attached to a fish pole to make a boom mic to record above or below the subject

### **Hemispheric (PZM)**

Mic is laid on a flat surface to facilitate sound pickup

Has a wide pickup pattern so it will pick up background sounds

Is useful for picking up sound from a conversation around a table

Picks up in a hemispheric pattern above the surface on which it is placed.



# LIGHTING

Light makes pictures. You have to see something to be able to videotape it, and you need light to see an image. Although a video camera may be able to give you a picture in a situation where there is not much light, you will get a better-looking image if you have more light.

The art of the image is how you light your subject. Some parts of the frame are bright and draw the attention of your audience. Other parts are in shadow, and your audience might look right past these things. Or sometimes they look into the shadows to see something that might not be quite visible.

Attention to light will make your video come alive.

## OUTDOORS

Keep track of where the sun is when you are shooting outdoors. Consider the intensity of the sun, its direction, and its position in the sky or whether it is hidden by clouds. Use the sun as your KEY LIGHT and keep it at your back.

Please remember never to shoot into the sun (or any light source) because you may damage the camera.

If you are shooting a subject that is in the shade you might try using some reflective material to bounce available sunlight onto your subject. Typical reflectors are foamcore sheets and silver photo reflectors. Aluminum foil spread out or attached to a piece of cardboard works too. Either silver or white will bounce back white light.

## INDOORS

Today's video cameras are capable of getting an image in just about any level of lighting, but when the light is low, the image might not be all that pleasing. All indoor locations present challenges. For this reason and others, it is important to always try to scout out a location ahead of time to know what equipment you will need to bring along.

In close situations (offices, small rooms, etc.), add extra light by bouncing your light source off a white ceiling or wall, or the silvered umbrella you will find in a light kit.

If you cannot bounce the light source and must use it directly on your subject at a close distance, try to diffuse the light with barn doors, gels, or some other kind of material. A diffused or indirect light can be a more pleasing light - it will make shadows gray instead of black and could help make your subject look a little younger.

## THREE POINT LIGHTING

If you want to add some sophistication to your lighting, and want to use light to "sculpt" your subject like an artist, try using a variation on Three Point Lighting. Three Point Lighting is the standard model for lighting a subject for video and film.

The three lights in Three Point Lighting are called:

**KEY LIGHT:** The Key light is located in front of, above and slightly to one side of the subject. The key light is the most intense beam. The camera is usually placed near this light. Think about the Key Light as being the stand-in for the sun.

**FILL LIGHT:** The Fill Light is located in front of, above and on the other side of the key light. It should be less intense than the Key Light. It is nice to diffuse the Fill Light by bouncing it. This light fills in and softens the shadows to keep your light level uniform.

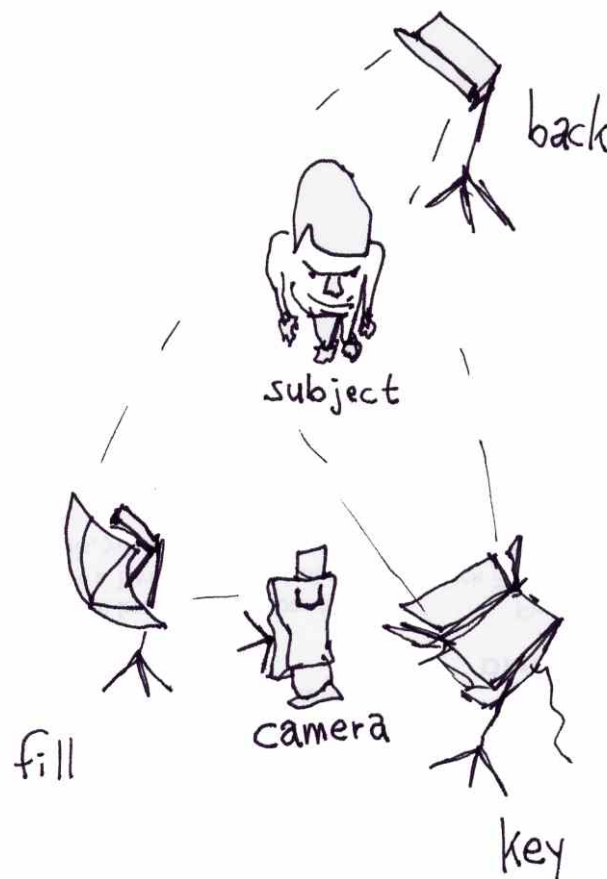
**BACK LIGHT:** The Back Light is located behind and above the subject. It gives the subject form and substance. It gives your image the feeling of three-dimensionality. It does this by separating the subject and the background with a halo of light on your subject's head and shoulders.

Light comes from above, so when you set up your lights, set them up high so they cast light down from the ceiling. If light comes from a low angle, it will make things look spooky. If lighting comes from eye level, it will make hard shadows directly behind your subject, and can shine right in your subject's eyes.

In the Lowell three-light kit, the Omni Light makes a good Key, while the two Totas may be used for the Fill Light and the Back Light. Use the umbrella reflector to soften the Fill.

Setting up lighting for video often involves moving the fixtures around and testing out the look in the camera viewfinder. Please switch off the light before moving it.

After your shoot is finished, let the lights cool for 15 minutes before taking them down and putting them back in the kit box.



## 3 Point Lighting

# Sony PDX10 Menu Detail

n/item	Mode	Meaning	POWER switch
<b>TC/UB SET</b>			
TC PRESET	-	Presets/resets the time code (p. 121).	VCR CAMERA
UB PRESET	-	Presets/resets user bits (p. 124).	VCR CAMERA
TC FORMAT	● AUTO	Automatically sets the frame mode in accordance with the inserted cassette.	VCR CAMERA
	DF	Sets the frame mode to drop-frame mode.	
	NDF	Sets the frame mode to non-drop-frame mode.	
TC RUN	● REC RUN	Time code value advances only while recording. When making the time code continuous at back space editing, select this setting.	VCR CAMERA
	FREE RUN	Time code advances freely regardless of the camcorder's current operation mode. When adjusting the discrepancy between time code value and real time.	
TC MAKE	● REGEN	Makes the time code continuous at back space editing. Regardless of the TC RUN setting, the running mode is automatically set to REC RUN.	VCR CAMERA
	PRESET	Does not make the time code continuous at back space editing.	
UB TIME	● OFF	Does not set user bits to the real time clock.	VCR CAMERA
	ON	Sets user bits to the real time clock.	

Icon/item	Mode	Meaning	POWER switch
<b>MANUAL SET</b>			
FLASH MODE	● ON	Makes the flash (optional) fire regardless of the surrounding brightness.	CAMERA MEMORY
	AUTO	Makes the flash (optional) fire automatically depending on the surrounding brightness.	
	AUTO ◀	Makes the flash (optional) fire before recording to reduce red-eye.	
FLASH LVL	HIGH	Makes the flash (optional) level higher than normal.	CAMERA MEMORY
	● NORMAL	Normal setting.	
	LOW	Makes the flash (optional) level lower than normal.	
AUTO SHTR	● ON	To automatically activate the electronic shutter when shooting in bright conditions.	CAMERA
	OFF	To not automatically activate the electronic shutter even when shooting in bright conditions.	
SETUP	● 0%	Recording with the SETUP 0% system.	CAMERA
	7.5%	Recording with the SETUP 7.5% system.	

#### Note on FLASH MODE and FLASH LVL

These items can be set only when the optional flash is attached.

#### Note on FLASH LVL

You cannot adjust FLASH LVL if the external flash (optional) is not compatible with the flash level.

Icon/item	Mode	Meaning	POWER switch
<b>TAPE SET</b>			
REC MODE	● DVCAM	To record in the DVCAM format.	VCR CAMERA
	DV SP	To record in the DV format (SP mode).	
AUDIO MODE	● F832K	To record in F832K (12-bit) mode (4-channel sounds).	VCR CAMERA
	F848K	To record in F848K (16-bit) mode (2-channel sounds with high quality).	
REMAIN	● AUTO	To display the remaining tape indicator. • For about eight seconds after a cassette is inserted and your camcorder calculates the remaining amount of tape. • For about eight seconds after ► or DISPLAY/TOUCH PANEL is pressed.	VCR CAMERA
	ON	To always display the remaining tape indicator.	
MIC NR	● ON	To reduce the drum noise via the microphone.	VCR
	OFF	To deactivate the function above (p. 31).	CAMERA
MIC LEVEL	● AUTO	Adjusts audio recording level of the built-in microphone automatically.	VCR CAMERA
	MANUAL	Adjusts audio recording level of the built-in microphone manually (p. 80).	
XLR SET	—	Adjusts the audio recording level of the XLR adaptor manually (p. 78).	VCR CAMERA

#### Note on REC MODE

You cannot dub any audio sound on a tape recorded in the DV format (SP mode), even if you recorded it in F832K (12-bit) mode.

#### Notes on AUDIO MODE

• You cannot dub audio sound on a tape recorded in the F848K (16-bit) mode.  
• When playing back a tape recorded in the F848K (16-bit) mode, you cannot adjust the balance in AUDIO MIX.

#### Note on MIC NR

You cannot set MIC NR when audio sound is input via the MIC jack.

#### Note on XLR SET

XLR SET can be set only when the supplied XLR adaptor is installed.

Icon/item	Mode	Meaning	POWER switch
<b>CAMERA SET</b>			
D ZOOM	● OFF	To deactivate the digital zoom. Up to 12x zoom is performed.	CAMERA
	21x	To activate the digital zoom. More than 12x to 21x zoom is performed digitally (p. 53).	
	48x	To activate the digital zoom. More than 12x to 48x zoom is performed digitally.	
PHOTO REC	● MEMORY	To record still images on a "Memory Stick" when you press PHOTO in the tape recording or recording standby (p. 48).	CAMERA
	TAPE	To record still images on a tape when you press PHOTO in the tape recording or recording standby (p. 51).	
16:9WIDE	● OFF	—	CAMERA
	ON	To record a 16:9 wide picture (p. 53).	
STEADYSHOT	● ON	To compensate for camera shake.	CAMERA MEMORY
	OFF	To cancel the SteadyShot. Natural pictures are produced when shooting a stationary object with a tripod.	
FRAME REC	● OFF	To deactivate frame recording.	CAMERA
	ON	To activate frame recording (p. 84).	
INT. REC	ON	To activate interval recording (p. 82).	CAMERA
	● OFF	To deactivate interval recording.	
	SET	To set the INTERVAL and REC TIME for interval recording.	
HOLOGRAM F	● AUTO	The HOLOGRAM AF emits when focusing on subjects is difficult in dark places (p. 148).	MEMORY
	OFF	The HOLOGRAM AF does not emit.	

#### Notes on the SteadyShot

• The SteadyShot will not correct excessive camera-shake.  
• Attachment of a converter or lens (optional) may influence the SteadyShot.

#### If you cancel the SteadyShot

The SteadyShot off indicator ★ appears. Your camcorder prevents excessive compensation for camera-shake.

#### Note on HOLOGRAM F

HOLOGRAM F can be set only when the optional flash is attached.

# Sony PDX10 Menu Detail

Icon/item	Mode	Meaning	POWER switch
<b>OTHERS</b>			
<b>DATA CODE*</b>	● DATE/CAM	To display date, time and various settings during playback when pressing DATA CODE on the Remote Commander (p. 43)	VCR MEMORY
	DATE	To display date and time during playback when pressing DATA CODE on the Remote Commander	
<b>WORLD TIME</b>	—	To set the clock to the local time. Turn the SEL/PUSH EXEC dial to set a time difference. The clock changes by the time difference you set here. If you set the time difference to 0, the clock returns to the originally set time.	CAMERA MEMORY
<b>BEEP</b>	MELODY	To output the melody when you start/stop recording or when an unusual condition occurs on your camcorder	VCR CAMERA MEMORY
	● NORMAL	To output the beep instead of the melody	
	OFF	To cancel all sound including shutter sound	
<b>COMMANDER</b>	● ON	To activate the Remote Commander supplied with your camcorder	VCR CAMERA MEMORY
	OFF	To deactivate the Remote Commander to avoid remote control operation caused by other VCR's remote control	

\* When using the Remote Commander

Item	Mode	Meaning	POWER switch
<b>OTHERS</b>			
<b>DISPLAY</b>	● LCD	To show the display on the LCD screen and in the viewfinder	VCR CAMERA MEMORY
	V-OUT/LCD	To show the display on a TV screen, LCD screen and in the viewfinder	
<b>DATE REC</b>	● OFF	To not superimpose the date and time on the picture	CAMERA
	ON	To superimpose the date and time on the picture (p. 85)	
<b>REC LAMP</b>	● ON	To light up the camera recording lamp at the front of your camcorder	CAMERA MEMORY
	OFF	To turn the camera recording lamp off so that the person is not aware of the recording	
<b>VIDEO EDIT</b>	● RETURN	To cancel video editing	VCR
	TAPE	To make program and dub on the tape in the other VCR (p. 101)	
	MEMORY	To make program and dub on a "Memory Stick" (p. 167)	
<b>HRS METER</b>	OPERATION	The cumulative total hours of operation is displayed in 10-operation increments	VCR CAMERA
	DRUM RUN	The cumulative total hours of drum rotation with tape threaded is displayed in 10-operation increments	
	TAPE RUN	The cumulative total hours of tape running is displayed in 10-operation increments	
	THREADING	The cumulative number of tape unthreading operation is displayed in 10-operation increments	

**Note**

If you press DISPLAY/TOUCH PANEL with DISPLAY set to V-OUT/LCD in the menu settings, the picture from a TV or VCR will not appear on the LCD screen even when your camcorder is connected to outputs on the TV or VCR.

**When recording a close subject**

When REC LAMP is set to ON, the red camera recording lamp on the front of the camcorder may reflect on the subject if it is close. In this case, we recommend that you set REC LAMP to OFF.