

# WORKING WITH YOUR DV CAMERA



**What follows is intended to give you some advice about common problems you'll encounter while you're out filming...**

**Please note that this manual is referring to Sony PD150 camera, but can be used as a reference to work with other DV/DVCAM camcorders, such as Sony PD170, Sony VX2000/2100, Sony Z1, Canon XM2, Panasonic DVC30...**

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## To begin with...

Get used to the way the camera works... the various buttons and what they do.

*You'll quickly learn that some of the time PD150 works best in completely **automatic** mode.*

In other words, you shouldn't see any icons or weird numbers in your screen, apart from the **zoom** and **battery indicators**, the **audio levels** and the **timecode**.

You will occasionally hit a button by accident and this will generally lead to a weird icon in the screen. The two most common buttons to hit by accident are **back light** and **spot light** - two consumer functions that will invariably ruin your shot. You can find these buttons at the bottom left of the camera. It's very easy to hit them by mistake. Press them and notice the icons they create. Press them again and watch the icons disappear.

Now, when you see these icons again, you'll know what's causing them and how to get rid of them.

The other thing that can freak you out is putting the camera into the wrong **mode**. Once you've started filming on a job, leave the camera in **camera mode**, on **standby**, using the red button to switch on and off. In other words, don't toggle between different functions or switch the camera on and off.

As time goes on and you get more comfortable with the camera, you'll switch into manual mode more often. But to begin with no icons in the screen = good news. There are (as always) a couple of exceptions - **ND Filters** and **Manual Focus**.

## ND Filter

This is the LCD message you'll see most often - even if you're in auto-mode. If you're filming out and about in bright sunshine, it won't be long before it pops up.

The message will either say **ND1**, **ND2** or **ND OFF**.

Sounds very complicated and scary.

In fact, it's very simple.

This is the camera telling you to use one of its **Neutral Density Filters** to combat the amount of sunlight around. And it's totally simple to do what the camera asks.

You can find the three-position toggle switch for the ND filters on the left hand side of the camera, towards the lens.

It's up to you if you obey each warning or not. You'll notice that if you're moving around a lot, the camera will be changing its mind all the time about what filter it wants. In this situation it might be best to opt for the middle ground of ND1 - though this is risky.

If, however, you're doing an interview, or have the camera on the tripod and are getting a particular shot, it would be silly not to do what the camera tells you...

## Manual focus

The icon you will most often put into the screen yourself is the one for manual focus. You switch to manual from the toggle switch on the left hand side of the camera. The icon which then appears looks like **hand**, or on some other cameras it says **MF**.

The reason you'll use the manual focus a lot is because focus is one of the weakest links in the PD150 and most of other DV cameras. The camera focuses electronically and in auto-focus it can easily be distracted by things like **vertical lines**, **bright light** or **low light**.

Here's an example: You are doing a sit-down interview. You put the camera on the tripod and sit the subject down in front of their bookcase. You zoom in a little to get a nice shot, leave the camera in auto and everything looks cool in the viewfinder. But when you watch the material back, you realise the subject is soft. This is because the camera's focus will have drifted towards the straight lines of the books behind.

The solution is **manual focus**, but what you want to know is when you should go into manual focus. So here goes...

### When you zoom

Zooming collapses the depth of field (makes it smaller) which will mean your auto focus will jump around more.

*So... whenever you zoom, go to manual focus.*

### In the dark

Another key factor that affects depth of field is your aperture. In low light situations the iris will open up fully to allow as much light in as possible, and this shrinks the depth of field.

*So... always go to manual focus in low light situations.*

### Any interview or bite

You have the time, so go to manual. This will stop the auto focus from shifting if say, the interviewee moves a little and the auto focus picks up on the background. Also it's obvious, but manual focus before you ask the question.

### **Whenever you are filming still photos, pieces of artwork etc.**

Especially if you are filming a photo with a glass frame - a nightmare because of reflection. Note - you will of course be using a tripod, right?

## **Whenever you are using the tripod**

You've gone to the trouble of putting the camera on sticks, now go to manual focus.

## **When your subject is out of focus**

Obvious, I know, but be aware of close-up (c/u) profile shots of people where there is a large backdrop. Even if you have a wide depth of field, sometimes your subject can be a little soft. This is because the auto focus has jumped onto something bright way in the backdrop, shifting the focal plane towards that point, and leaving your subject just on the edge of the front part of your focal plane.

## **Back focus**

These cameras do not have proper back-focus. You may have seen your crews setting focus zooming in on the subject, focusing and then pulling out - this is back focus. One of the prices you pay for these cameras is the lenses are not even close to being good as a Betacam SP. As a consequence, you have to set focus using the viewfinder or LCD screen. This can be a little tricky, although because you have large depth of field most of your shot will be in focus anyway - you just have to shove the plane of focus around a little bit. If you are zoomed in on someone, or are getting a bite or interview, then check the person's eyes. Go to manual focus, take the shot out of focus, and then drag the focus back until the person's eyes are sharp.

Also, be aware that in sunlight it can be sometimes be difficult to see the screen. You have 3 choices. Use the viewfinder, shade the LCD with your hand to check focus on the shots, or buy a sun shade for the LCD screen.

*Focus is really important.*

*Out of focus shots - particularly interviews - look amateurish and viewers notice them. They are at the top of the list of things you*

*shouldn't accept. Get used to slipping into manual focus and using it every time you find yourself in situations mentioned above.*

## Audio

A cliché we know, but the sound you capture is as important as the pictures. Natural sound in a sequence or an item can make the difference between a run-of-the-mill piece of television and something that really stands out. So you should be aware of what sound you're capturing.

**Use headphones.** You should never film anything that's heavily sound-dependent (and certainly not any interviews) without monitoring the sound through headphones.

The PD150 get its sound in two ways.

The **interview microphone** (handheld or radio-mic) is set up to record sound to **channel one**.

The **on-camera microphone** records to **channel two**. It's normally used to get natural sound, but it's OK for interviews, provided the camera is pointed at the subject, you aren't too far away and surrounding environment is not too noisy.

Your camera should be setup so that the radio-microphone or handheld microphone is in **manual** and the on-camera microphone is in **auto**.

This means that you control the levels of the interview microphone quite easily, but the camera microphone is set to record at a level that will not distort, however loud things get. (Remember, these are digital cameras and once your audio levels distort, there's nothing you can do to rescue them).

It's easy to adjust the levels on the interview microphone. At the back of the camera, hit the **Audio Level** button and then use the **wheel** to raise or lower the level. You can see what's happening to the levels on the LCD, but you'll also be wearing headphones. Won't you?

## **Filming into light sources (Exposure)**

One of the most common problems when you're filming material yourself is interviews where the subject is dark, most often because they are filmed in front of a strong light or light source in the picture, (usually a window) making the person's face dark by comparison to the light source - they are, in effect, silhouetted.

This will always look wrong. But why does it happen?

The answer is **exposure**.

The key to exposure is to pay very careful attention to what you want well exposed in the picture. When the camera is on automatic exposure it averages out the picture as a whole. It doesn't know that what you care about is person and not the background.

Look out the window with somebody sitting in front of it. You can see all the detail of the person's face as well as everything that is outside the window. That is because our eyes are very good at dealing with contrast (around 800:1) while video is much, much weaker (around 40:1) so if you point camera on that same window you'll see either face or window, not both.

There is nothing you can do about this ratio; it's just where video technology is at the moment. So, what to do?

### **Change the shot**

Move and find a different angle that cuts out as much of the back light as possible. This will narrow the contrast ratio and fix the backlight



problem. This is the easiest and most effective solution. Always do this before fiddling the camer

### **Move in closer**

Move in closer to your subject and this will have the same effect as changing the angle, cutting out the back light. So if you can't move the person, or change your own angle, try this - just move closer to the person.

### **Go to manual exposure**

This is the most effective way to do exposure right. Hit the manual exposure butoon (exposure) and change the exposure with wheel until you're satisfied with picture.

## **White balance and colour temperatures**

White balance controls how your camera sees the different colours in the colour spectrum. While our eyes are perfect in this, ballancing all the time colours we see, cameras are not so good at that and can sometimes get confused. A **white balance** tells the camera what is white, and from there it works out the rest of the colours. It does it automatically, and things looks fine. However, you'll probably notice sometimes that picture is leaning to blue or green tones which are very unpleasant to watch.

Solution to this is to do **manual white ballancing**.

### **How to do it?**

Well, first thing you should do is to find a light source - it can be single or mixed light source. What you must do is white ballancing on something **white**. Piece of white paper can do the trick. It may also be something else (tablecloth, t-shirt...), but this time we will do it with white A4 paper.

Put the paper on place, or near the person you want to film assuring that light illuminates that paper.

On the camera slide the knob from **auto lock** down one step to **manual**.

Hit the **white ballance button** on the back of the camera.

A little square with two triangles below it should appear. This is manual white balance. If you see a symbol like **sun**, or like a **light bulb**, then these are presets for outdoors and indoors. They are useless, **don't use them**. Use the scroll wheel to dial down to the square/triangle - manual white balance

**Zoom in** or **fill the frame** of the camera with white paper.

Hit the scroll wheel once - the manual white balance symbol will blink rapidly. When it stops blinking, you have manually white balanced for that shot.

Check the skin tones/colours in the room. If it still doesn't look right, readjust the shot and white ballance again.

Always remember to **switch back to automatic** (auto lock) when you leave the scene you have white ballanced for.

### **When should you white ballance?**

Whenever you are going to film a scene and notice that skin colours look wrong. I addition, you should always manually white balance for all sit down interviews.

Just for you to know, colour temperatures are measured in degrees Kelvin. Sunlight is measured at around 5600K, in the blue range, fluorescent at 4600K, in the green range, and incandescent at around 3200K, in the red range.

# SOME SAFETY PRECAUTIONS

## Shooting in the rain

Cameras generally don't like water. Just a small droplet of water on wrong place can destroy a camera. So what to do ?

**Find some cover.** Place yourself under some tent/overhang or simply ask your colleague to hold an umbrella for you. Always take care that there are **no water droplets on lens**. Droplets can totally ruin your shot, as well as confuse auto-focus system. Clean the lens with soft cloth.

## Shooting in humid/cold-hot places

Never start shooting in heated room after entering from cold outdoors.

For example, you are shooting kids during nice winter day playing at snow. You want also to film their parents drinking hot tea in room with nice fireplace... Only result you can have entering the room with camera turned on is lot of fog on viewfinder, lens and camera body. This usually leads to HUMID indicator in LCD and puff...camera is dead - at least for an hour. Only way to prevent this is to turn off the camera before entering room, and then leaving it for 20-30 minutes in that room before you start shooting. Use that time to have your own cup of tea.

## Never touch the lens with fingers

Putting finger on lens can leave a big greasy marking on glass, totally degrading the picture. Clean the lens with soft cloth and kick yourself for touching the glass.

## Avoid risky/ danger shooting

Well you want that shot, but ask yourself is that shot worth as much as your own or somebody's life.

## **Transporting/storing the camera**

Always store the camera in its case or bag when not shooting. Also avoid to carry your breakfast in the same bag.

## **Changing/charging the battery**

When changing battery, be sure that camera is in OFF position. Be sure that battery is always fully charged when going to location. You don't have to empty your battery to start charging again. Charge the battery as often as you can.

## **Make checklist of equipment**

Write down all of the contents of the camera bag, so you may check that you haven't lose anything during filming.