



The new 'semi-shoulder mount' design PMW-EX3



Interchangeable 1/2" EX-Mount lens system. The EX3 comes with a 1/2" B4 mount adapter to allow the use of other lenses too



EX3 from the top showing PHU-60K SxS Professional 60 GB hard-disc recorder attached to rear hotshoe

# Sony PMW-EX3

## Review

Sony have gone after the low-budget independent filmmaker and wildlife filmmaker markets with the all-new PMW-EX3 solid-state interchangeable lens camcorder. GTC member Nigel Cooper tried one out for a day.

### EX3 – a grown-up EX1

Any readers who happen to have visited my website [www.dvuser.co.uk](http://www.dvuser.co.uk), will know that I'm a massive fan of Sony's XDCAM HD Optical Disc System and the SxS system. I own an F350 and have also spent four months using an EX1 solid-state camcorder (PMW-EX1). The PMW-EX3 is the latest addition to the EX family, and it is basically an EX1, only in a new semi-shoulder mount design and with 'EX-Mount' half-inch interchangeable lenses.

As the EX1 has been around a while now and will probably be familiar, I'm basically going to concentrate on the differences between the smaller EX1 and the new EX3 (although if you want more background you can find a full review of the EX1 at <http://dvuser.co.uk/content.php?CID=171>).

The PMW-EX3 uses all the same components as the PMW-EX1; the same 1920 x 1080 half-inch CMOS chips, same circuitry, same 35Mbps codec, same features. So

the picture quality from the PMW-EX3 is identical in every way to pictures taken with the PMW-EX1.

### New shape

The first thing you will notice about the PMW-EX3 is its shape. People (myself included) are comparing the shape to that of Canon's XL series camcorders, with the wedge/chainsaw ergonomics at the back end. Sony has designed the camera as a 'semi-shoulder' mount camcorder, rather like Canon's XL H1, to make

shooting with the extra weight of the camera, as well as that of larger lenses, more comfortable. The EX3's extendable shoulder rest sits at the front/top of your shoulder making holding the camera much easier than the 'out front' method used with the Z1 or EX1. The weight is reduced, although you still need to support the camcorder with your right hand, but the main advantage is in stabilisation as the camera is no longer suspended in mid-air. The shoulder rest/pad can be extended away from the





Wedge shape design with shoulder pad which slides in and out and will lock in position

EX3's body by about 1.5" by pushing in a small metal device on the base of the camera. Once out, it locks in place. Although the weight is better distributed and stabilisation greatly improved, I did find that my right forearm was angled back so my hand was almost touching my shoulder which was a bit uncomfortable, but this is probably because I'm used to a full-size shoulder-mount camcorder.

#### Getting up your nose!

The good news if you are one of those who swears at the box every time you see another of those wobbly, 'up the nose' shots which have become all too prevalent on news and current affairs programmes since the adoption of the likes of the Z1, is that at least the 'semi-shoulder' mount should help do away with that 'tell tale' chest height angle. Not only is the EX3's image quality good enough for ENG broadcast, but there will no longer be any good excuse for bad composition or unsteady shots either!

#### Interchangeable lenses

The other really big change is the move away from the fixed built-in lens. The EX3 is the first EX series camcorder to feature an interchangeable lens system. Sony is calling this new half-inch

mount the 'EX-Mount'. Although it is half-inch, it is not the same half-inch mount that Sony's full-size XDCAM camcorders use; however, Sony are including a half-inch B4 mount adaptor with the EX3 so you can still use professional half-inch lenses from full-size half-inch XDCAM camcorders if you choose. The EX3 comes with a standard lens, which is basically the same as that built into the EX1 (a Fujinon 14x5.8), only with the new EX-Mount on the back so it is interchangeable.

Sony has informed me that Fujinon are going to be manufacturing a wide-angle zoom lens in the dedicated EX-Mount specifically for the EX3, which will be useful for filming in confined spaces. Also, 35mm lens adaptor manufacturer Letus, are making an adaptor to allow their Letus Extreme 35mm adaptor to be fitted directly onto the EX3, bypassing the lens altogether. This means the picture quality will be superior, as it will only be using the 35mm lens fitted to the front of the Letus Extreme.

The attractions of the ability to choose from a range of lenses rather than just a built-in standard are obvious for the wildlife cameraman as well as the corporate or independent

feature filmmaker but there is more to recommend the EX3 than just the interchangeable lens system.

#### Viewfinder

The second most important thing you will notice about the EX3 is the viewfinder. Sony has decided to ditch the somewhat questionable quality viewfinder from the EX1 and has done an incredible monocular viewfinder conversion job to the LCD screen instead. The LCD screen on the EX3 is identical to the superb LCD screen on the EX1, only this one has a special coating on it to improve the viewing image quality when it is being viewed through the monocular lens. This design is similar to that used by Canon on their XL series, only Canon's screen is microscopic in comparison and the resolution on the XL viewfinder is nowhere near that of the EX3.

When you flip the monocular lens out of the way, the EX3's LCD viewfinder can be viewed just like the fold-out LCD screen on the smaller EX1. The quality is just as superb and, unlike most other fold-out LCD screens, this one can be used to adjust focus. I found that viewing the LCD screen directly (not through the monocular lens) it is good enough for focusing purposes, and you can

also press an 'expanded focus' button on the handgrip to aid further. This zooms in on the image on the LCD screen and stays zoomed in for 5 seconds to allow critical focusing. It only zooms on the LCD, and does not affect the recorded image. After 5 seconds, the LCD image reverts back to normal automatically, or you can press the button again to revert to normal straightaway. For the record, the monocular can be totally removed, as well as being flipped up and out of the way. You can even get a good idea of 'white balance' using the LCD – not for critical white balance, but for a general check it is fine.

When you flip the monocular lens down in front of the LCD you can then put your eye up to it just like a regular viewfinder. Viewing this way has to be seen to be believed, it is incredibly sharp and seriously high-definition.

Checking exposure on this new LCD/viewfinder is also very possible, something that has not been an option for serious applications in the past with LCD screens. The EX3's LCD screen can be viewed from various angles with little change in contrast and brightness, making it ideal for setting/adjusting exposure. Like the EX1, the EX3 also features an exposure



In the new EX3 this feature has moved out of the menus and directly onto the body by means of a push button dial. Now all you have to do to change the frame rate is simply push and hold the frame dial in for 3 seconds (the 3-second system is done for safety reasons, in case you press it accidentally). It will then light up with a funky blue ring light around it to inform you that you are now in variable frame rate mode. Then it is

camera control – for instance, the shutter, white balance and exposure can be controlled but not focus or zoom (lens control is undertaken on the Fujinon lens connector as per the EX1). The 8-pin studio connector is meant for camera engineers but does not include 'VTR' control.

The rear end of the EX3 looks much more professional due to all these BNC connectors, as opposed to the rather bland rear end of the EX1. Other connectors have been moved to the side of the camera. The SEL/SET push dial and the CANCEL button have been moved from the back and put in a more convenient place on the left side. The PICTURE PROFILE and CAMERA/OFF/MEDIA buttons have also been moved from the rear end of the camera to the left side. With the STATUS and MENU buttons also along this same row on the left side, all related buttons/dials are now on the same side of the camera making operation less fiddly than the EX1.

On the right side of the EX3 we now have a BNC MONITOR OUT, an S-video output connector and phono outputs for AUDIO OUT CH-1 and CH-2, as well as a COMPONENT OUT and USB; the latter is now easy to get to, unlike the EX1, which requires some rather awkward fiddling around under the hand grip. The audio select inputs and audio level dials on the side of the camera also give the EX3 a more professional feel and, in my opinion, make the EX3 the most versatile HD camcorder in its class.

There is also an additional hotshoe mount to the rear of the handle, as well as the one on top of the built-in stereo mic. The rear one is designed for the PHU-60K SxS Professional 60GB HardDisc Recorder. While I'm talking about the PHU-60K hard disc recorder, I'll also mention that the SxS card door works in a slightly different way to the one on the EX1. To open it you have to push it up a few millimeters, then open it out like a door on hinges; as opposed to the slide-only door on the EX1. This has been designed with the PHU-60K hard drive which plugs directly into the rear card slot B in mind.

**Build quality**

I was quite surprised at how light the EX3 actually is, expecting it to be considerably heavier than the EX1, whereas in fact it is only slightly so.

The overall build quality of the EX3 is identical to the EX1. While not as robust as the Canon XL H1, which for me is one of the better-built prosumer camcorders out there, the EX3 also doesn't feel as solid and chunky as JVC's ProHD camcorders such as the GY-HD111E. Both the Canon and JVC models are more 'metal' in build and feel – you can clearly see and feel the metal construction. The EX1 and EX3 on the other hand look and feel plasticky in comparison with no metal in sight (externally at least – internally the chassis is di-cast aluminum). If the Canon XL H1 and JVC GY-HD111E produced the same image quality as the EX1 and EX3 I'd recommend them over the Sonys any day, but sadly they don't.

Having said that, the build is no worse than Sony's own Z1 or Panasonic's HVX200 but I would have expected a little bit more in the way of external metal parts and overall build quality. That said, you don't hear of many broken Z1s, so I'm sure there won't be any issues with the EX1 or EX3 models in years to come. Like the EX1, the EX3 is built around a tough di-cast aluminum chassis so there should be no real problems using it in the field. I must confess to being the fussiest guy on the planet when it comes to build quality. If I pay £6,000 for a camcorder, I expect it to feel a bit more substantial than a Fisher-Price toy (though as any parent will know, Fisher-Price toys are indestructible, they just don't break!) This is one reason I think overall I still prefer my F350 XDCAM camcorder. Although the picture quality of the F350 and the EX3 are identical, at least when you pick up an F350 it feels like a serious piece of kit.

**Not so good bits**

Although Sony has informed me that the CAMERA/OFF/MEDIA switch has been redesigned, it is still just as fiddly to use as on the smaller EX1 i.e. it is too easy to turn the camera into Media mode when you think you have turned the camera off. The same applies to the ND switch on the camera body. Trying to set it to position 1 is a nightmare; it tends to flick straight past position 1 into position 2 so you have to grip it with your fingernails and try and 'nurse' it into the middle position. My tip here is to not cut your thumb and index fingernails for two weeks before a shoot; you'll need them!

histogram that can be turned on/off. It shows up at the bottom right corner of the LCD screen. The histogram works incredibly well; you aim to get the spike in the exposure to the general middle position as a rule of thumb, depending on the light. Once you get used to this (which doesn't take long), it's a very useful tool.

In other ways too the viewfinder has 'grown up' to resemble that of a full-size professional viewfinder. It now features dials on the front for peaking, contrast and brightness,

simply a case of turning the dial and setting the frame rate as desired; the frame rate is displayed and can be checked via the LCD screen display. Like the EX1, the EX3's variable frame rate can be set from 1 to 60 fps in 720p mode, or from 1 to 30 fps in 1080p mode. The frame dial cannot do 'frame cranking' like a proper film camera though – that would be asking just a little too much!

**Other differences**

Apart from the semi-shoulder shape design, interchangeable



as well as a mirror image switch, battery info and a zebra switch. Setting up and calibrating the viewfinder to 'Bars' is now easy.

**Frame rate dial**

While the EX1 has an overcrank/undercrank variable frame rate feature for slow and quick motion, this is accessed via the menus, which can be time-consuming, and a bit of a pain if (like me) you use it often.

lenses, new viewfinder design and variable frame rate dial, there are a few other little differences too.

The audio dials now have a plastic door cover to prevent accidental changes to audio levels. Other features over the EX1 include professional BNC connectors for timecode in/out and genlock in, as well as the usual HD/SDI out. There is also an 8-pin connector for studio operation





Nigel tests out the very high quality viewfinder

switches. As for the BARS/CAM and PICTURE PROFILE buttons, you almost need a pen or pencil tip to push these buttons they are so tiny. The ASSIGN 4 button is still impossible to find and use by touch, you have to flip the camera upside-down with the base towards

The SEL/SET wheel is still way too small and sunk back into the camcorder's body, making it difficult and fiddly to scroll through the menus; I'd much prefer to see a dial more like the ones Canon use on their EOS 40D and EOS 5D digital stills cameras. Most of the controls (with the FRAME dial being the exception) are too small and tricky to use, the words 'magnifying glass' and 'tweezers' springing to mind with regard to some of the tiny switches, for example, the AUDIO SELECT

you and lens pointing skywards; very awkward indeed, especially when there is in fact enough room to put this button next to the other three, where it would make more sense. Finally, the buttons for ejecting the SxS cards are just too small and they don't pop out enough. Again, you almost need the tip of a pen to eject the cards. Even when the SxS card does partially eject, it's only by about 4mm, so you almost need a pair of tweezers to grab the tiny bit of card that is sticking out.

I found that several times when trying to grab the SxS cards, I accidentally pushed them back in by mistake.

#### Summing up

At £5,995 inc VAT, the PMW-EX3 represents incredible value for money in terms of the superb image quality it produces. Unfortunately, the same can't really be said of the overall plasticky feel to the camera. When you pick it up, it doesn't feel like you are holding a piece of kit that costs £6,000. If superb image quality for 'full' broadcast applications generated from a highly portable, lightweight small camera is what you are after,

the EX3 makes the grade with ease. In fact, the EX1 and EX3 are the only camcorders in their class (compact non-shoulder) that actually meet full broadcast requirements. Unlike the HDV format which can only be used for 'no more than 30% of the total programme length using approved HDV camcorders, maximum 1 minute contiguous footage' with Discovery HD (Silver Level), for example, the EX1 and EX3 can be used for 100% of the coverage of the programme (after some acceptance trials for Discovery, the EX1 has been accepted as Silver). This is a first for a camcorder of this small size and price.

## Fact File

Nigel Cooper has been a lighting cameraman for 10 years. He runs Generic Pool Productions in Cambridgeshire where he specialises in corporate video, infomercials, training DVDs, music videos and the odd bit of TV work. He is also something of a video connoisseur; he shares his knowledge via his own magazine DVuser. [www.genericpool.co.uk](http://www.genericpool.co.uk) [www.dvuser.co.uk](http://www.dvuser.co.uk)

For further details of the EX series visit [www.sonybiz.net/ex](http://www.sonybiz.net/ex)



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