



● HDV CAMCORDER

PC PRO  
A LIST

# Sony HDR-HC1

PRICE £1,050 (£1,234 inc VAT)

DELIVERY Free

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VERDICT **Awesome high-definition video quality, particularly in good lighting, and for an unbelievably reasonable price.**

The HDTV revolution could be here sooner than we thought. Just six months ago, Sony brought its first semi-professional, high-definition camcorder to the UK, the HDR-FX1E (see issue 126, p83). Now Sony has upstaged both itself and every other camcorder company with the first HDV model aimed at consumers. But that's not the only unusual thing about the HDR-HC1. It's also just the second camcorder ever to eschew the traditional Charge-Coupled Device (CCD) in favour of Complementary Metal-Oxide Semiconductor (CMOS) technology, the first being Sony's DCR-PC1000.

The CMOS works in a slightly different way to the CCD, which outputs an analog electrical signal digitised by separate circuitry. With a CMOS, the incoming light is turned into bits and bytes by the chip itself. In the past, poor low-light performance has precluded the use of CMOS chips in camcorders. But they do offer potential advantages, as the same CMOS can be programmed to do progressive scan or interlaced video, or work at any frame rate. The CMOS chip also eliminates the vertical smearing caused by CCDs, consumes less power, and is cheap to produce in volume. For the latter two reasons, it has already found a home in camera phones and cheap digital cameras.

So what's Sony doing using the technology in a high-definition camcorder? To get over the quality issues of CMOS, Sony has added digital signal processing in the form of its Enhanced Imaging Processor. It has invested significantly in CMOS production and is already the world leader in manufacturing, with the chips also being used for some of Nikon's high-end cameras, such as the D2X. In the case of the HC1, the CMOS is a single 2.97-megapixel chip. It's a rectangular 4:3 unit, so in high-definition mode only the middle 1.98 megapixels are actually used. As with the FX1E, the 1080i version of HDV is recorded. This captures interlaced images at a resolution of 1,440 x 1,080 with 50 fields per second, compressing them with MPEG2 to a standard MiniDV tape. But the HC1 can also record video in standard DV format, should the need arise.



Sony's HDR-HC1 brings HDV to the masses sooner than we expected.

As the first high-end CMOS camcorder we've tested, one of the main concerns was whether it could compete for image quality with the traditional three-CCD approach. So we pitted it against Panasonic's NVGS400B (see issue 123, p164), a long-term resident on the A List. In daylight conditions, colours were slightly more natural than the Panasonic and it even competed favourably with the HDR-FX1E. In well-lit indoor conditions, the HC1 still performed comparably. Only in very poor lighting did the single chip show its true colours – or rather lack of them. Some of the vibrancy was lost, with the Panasonic NVGS400B exhibiting better fidelity.

Still, in the kinds of lighting you're likely to shoot, the HC1 offers phenomenal colour performance, comparing favourably with similarly priced three-CCD models. And in all cases, the level of detail is in a different league to any standard-definition camcorder. With 1,440 x 1,080 pixels expanded anamorphically to a 16:9 aspect ratio, the HC1 has about four times the resolution of PAL, and it really shows.

We're pleased to see that Sony has made it easier to access popular controls on the HC1 than it has on its other recent premium consumer models, such as the DCR-HC1000 (see issue 123, p164). The touchscreen still makes an appearance, and its spot focusing and metering are exceptionally useful. But the HC1 has discrete buttons for exposure, making it much easier to adjust this quickly. The lens ring switches between manual focus and zoom,

with a separate rocker also available for the latter. There's an expanded focus button, which zooms in the LCD screen (but not the actual optics) so you can get a finer manual focus. However, you'll still need the touchscreen to access manual shutter speeds (which range from 1/2 to 1/10,000th of a second), white balance and the five-programme auto-exposure modes. Annoyingly, there's no sport AE mode. The manual audio controls are also only available through the screen.

However, the HC1 has one significant downside for the enthusiast: tapes load from the bottom, making this a difficult camcorder to use with a tripod – even the flawed HC1000 had a top-loading mechanism. The proprietary accessory shoe is also irritating, as you're either forced to buy only Sony accessories, or track down an adaptor. The Super

SteadyShot image stabilisation doesn't use an optical system either, although Sony's electronic implementation is one of the best (see p162 for details on how to remove camera shake).

Since we looked at the FX1E, HDV editing has moved on apace, with most of the semi-professional apps now supporting the format. FireWire is the primary computer capture interface, offering HDV recording back to tape as well as output. We tried Canopus EDIUS Pro 3.31, Adobe Premiere Pro 1.5 with the HDV plug-in, Media Studio Pro 7 with its HDV plug-in, and Pinnacle Liquid Edition 6.1. All were able to capture and edit the HDV footage without a hitch. The Sony can also down-convert HDV to DV, so you can edit the footage as widescreen DV. Both regular AV and component analog outputs are included.

But the most amazing thing of all about the HC1 is just how cheap it is, considering its capabilities. At roughly half the price of the HDR-FX1E, it's only marginally more expensive than high-quality enthusiast three-CCD models. If you can handle the bottom-loading tape mechanism, the HDR-HC1 produces awesome-quality high-definition video for a truly mainstream price.

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PC PRO RATINGS	
PERFORMANCE	★★★★★
FEATURES & DESIGN	★★★★★
VALUE FOR MONEY	★★★★★
OVERALL	★★★★★
<b>SPECIFICATIONS</b> 1080i/50 HDV format (1,440 x 1,080 pixels at 16:9 aspect ratio); DV recording; 2.97-megapixel CMOS; 10x optical zoom; electronic image stabiliser; colour viewfinder; 2.7in colour LCD panel; remote control. Dimensions: 71 x 188 x 94mm (WDH). Weight: 680g without tape or battery. Part code: HDR-HC1.	