SONY

HVR-Z7E

HDV Handheld Camcorder with interchangeable lens

New flexibility, new features, new opportunities

The HVR-Z7E is the world's first HDV handheld camcorder with an interchangeable lens system, native progressive recording, and solid-state memory recording.

A variety of video lenses can be attached to the HVR-Z7E, which is equipped with a universal standard 1/3-inch bayonet mount mechanism for the quick changing of lenses.

Added to this a streamlined nonlinear editing workflow can be achieved using the supplied memory-recording unit, which provides HDV/DVCAM/DV file recording on a standard CompactFlash® solid-state memory card. This offers customers varying levels of flexibility and hybrid operation which is becoming an important requirement in video production.

The HVR-Z7E also features 25p HDV native progressive recording mode and HDMI output.

This new handheld Camcorder further enhances the operational versatility of the Sony professional HDV lineup, and opens up a world of possibilities for high-definition digital video production. Whether it's for documentaries, general TV production, low-budget movies, music videos, IPTV, education, or a wide range of corporate and event videography applications, Sony's new HVR-Z7E is ideal.

Features

Switchable Recording and Playback- HDV1080i/ DVCAM/DV

The HVR-Z7E can switch between HDV1080i, DVCAM, and DV recording, providing full flexibility to record in either standard definition or high definition depending on your production needs

Built-in Down-converter for SD Production

The HVR-Z7E can convert material from 1080i down to 576i, and output the video signals through its i.LINK interface and other SD output connectors.

This allows users to edit recorded material with a compatible nonlinear editing system using current DV editing software, as well as record SD signals to an external VTR.

1/3-inch type 3 ClearVid CMOS Sensor System

The newly developed 1/3-inch type 3 ClearVid CMOS Sensor™ system has 45-degree rotated pixels on each chip in order to increase the signal density, while each pixel maintains sufficient surface area.

In combination with Enhanced Imaging Processor™ (EIP), the 3 ClearVid CMOS Sensor system achieves high resolution, high sensitivity, wide dynamic range, and excellent colour reproduction.

The pixel shift interpolation technique has been traditionally used in low-end 3CCD camcorders. However, it normally requires the combination of all three colour element (RGB) signals to maximize resolution. If an object lacks one or more colour elements, the resolution of the object may be degraded.

The 3 ClearVid CMOS Sensor system is different. It can always produce maximum resolution, regardless of the

balance between colour elements, thanks to its unique and sophisticated interpolation technology.

Enhanced Functionality via the Technology of "Exmor"

The HVR-Z7E offers cutting-edge features, such as the technology of "Exmor" developed by Sony, which utilizes the full potential of the 3 ClearVid CMOS Sensor system.

The technology of "Exmor", which features the column-parallel A/D conversion technique, is also used in the PMW-EX1 XDCAM EX camcorder and Alpha Digital SLR (Single Lens-Reflex) camera from Sony.

Multiple A/D (analog to digital) converters on each pixel row convert analog signals to digital as soon as they are generated, unlike traditional technology that only has one A/D converter on each chip. The technology of "Exmor" can eliminate the influence of external noise that enters the signal chain during transfer to the A/D converter, resulting in high-quality digital signals with extremely low noise. This significantly enhances shooting in low-light environments.

By adopting this groundbreaking technology, the new 1/3-inch 3 ClearVid CMOS Sensor system enables the HVR-Z7E to achieve a low light sensitivity of just 1.5 lux.

This will be of extreme importance to customers who shoot in lighting conditions that they can't control, e.g. wedding videographers.

Wide Range of Lenses

The flexible bayonet lens attachment system allows you to use a wide range of lenses.

Standard 1/3-inch HD video lenses, from manufacturers such as Fujinon and Canon, can be attached directly to the HVR-Z7E.

If you'd like to attach a 2/3-inch or 1/2-inch HD video lens on to the HVR-Z7E, it is possible to do so by adding a standard lens adaptor from the lens manufacturer. The HVR-Z7E camcorder has 12-pin lens connectors allowing compatibility with professional ENG lenses.

This feature is very useful not only for those who already have these professional HD video lenses, but also for those who prefer to use HD digital cinema lenses for their unique contrast, colour, and atmosphere.

Carl Zeiss Lens for HD Video as Standard

A high-quality, multi-purpose Carl Zeiss lens for HD video comes as standard with the HVR-S270E and HVR-Z7E. Stunning resolution and contrast is achieved thanks to the Carl Zeiss Vario-Sonnar™ T* coating, which suppresses unwanted reflections. A specially designed wide-angle lens is also available as an option, to suit a diverse range of shooting requirements.

Alpha Lens Compatibility

With a special adaptor from Sony, it is also possible to use the Alpha lens series designed for Sony Digital SLR still cameras. By using Alpha lenses in various configurations, creative effects can be achieved. This approach is ideal for filmmakers on a budget or those who already own Alpha lenses.

25p HDV Native Progressive Recording Modes

The HVR-Z7E newly features 25p HDV native progressive recording modes.

The 3 ClearVid CMOS Sensor system and EIP create true 1080p images, which can then be recorded as progressive signals by the HVR-Z7E in HDV format.

The progressive HDV stream can be output from an i.LINK connector and used for progressive editing with compatible NLE software.

Native progressive recording modes are suitable for output to film, CG composition, viewing on a progressive monitor, or as an Internet movie.

Note: interlaced video is output from connectors other than i.LINK

25p Progressive Scan Modes

In these modes, the 1080p image captured by the 3 ClearVid CMOS Sensor system is also recorded as an interlaced signal by dividing each frame into two fields. This enables compatibility with current editing and monitoring equipment that only accept interlace signals, while maintaining the quality of the 1080p image.

Progressive scan modes are suitable for feature films, documentaries, and music videos, which have to be recorded as interlaced video for viewing on interlaced monitors, but want to offer a "progressive look" to their motion.

A streamlined nonlinear editing workflow for HDV

HDV signals can be recorded as a file on non-tape media. For example, when using the supplied CompactFlash (CF) solid-state memory recording unit - images can be stored on a standard CF card for quick nonlinear editing. The optional HVR-DR60 Hard Disk Recording Unit can be used in the same manner, with images being recorded on to its large-capacity 60GB hard drive, which provides 4.5 hours of recording time.

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Benefits

NEW Interchangeable Lens System

This camcorder is fitted with a new 1/3inch interchangeable lens system allowing customers either to use the supplied Carl Zeiss lens or use a whole range of other lenses available on the market.

- This is the first compact camcorder to offer interchangeable lens options.
- Flexible usage - the camera can be used for a myriad of different applications using different lenses, from TV work, through to budget movie making and with the use of stills lenses, wildlife videography.
- Various optional lens adaptor rings will allow conversion to 1/2inch or 2/3inch, plus an additional lens adaptor for Sony Alpha lenses.
- The supplied lens features professional operation with a new manual focus ring and zoom and iris rings.

NEW 1/3inch ClearVid CMOS Processor

Newly developed 1/3inch x 3 ClearVid CMOS processor offers high resolution, high sensitivity, wide dynamic range and excellent colour reproduction.

- Offers greater resolution than existing pixel-shift technologies regardless of the balance between colour elements.
- Offers great low-light capabilities especially important for camera operators who cannot control their ambient lighting., e.g. wedding videographers.
- Lower power consumption than traditional CCD's.
- 'Exmor' technology employed in the the new CMOS processor reduces noise in the A/D process.

NEW Selectable 25p Progressive Modes

The HVR-Z7E offers the ability to choose between a 25p scanning mode (sames as HVR-V1E) but also a 25p 'native' recording mode. In this native recording mode the picture is both scanned and recorded as a progressive image.

- Further improves the progressive reproduction by both scanning and recording progressively.
- Provides further flexibility of use. e.g. The camera can be used for a variety of applications from budget-movie making in 25p mode to standard interlace TV productions.
- Offers camera operators the use of the progressive 'filmic look', coupled with gamma curve correction makes the camera ideal for movie production.

Technical Specifications

Camera section

Supplied Lens	Carl Zeiss Vario-Sonnar T* zoom lens, 12x (optical), f = 4.4 to 52.8 mm, f = 32.0 to 384 mm* at 16:9 mode, f = 39.5 to 474 mm* at 4:3 mode, filter diameter: 72 mm
Built-in filter	Clear, 1/4, 1/16, 1/64
Imaging system	1/3-inch, progressive 3 ClearVid CMOS Sensor system with Exmor technology
Picture elements	Approx. 1,037,000 pixels (effective), approx. 1,120,000 pixels (total)
Focus	Auto,manual (focus ring/one push auto/infinity/AF assist/ focus macro)
White balance	Auto, one-push auto (A/B positions), indoor (3200 K), outdoor (selectable level -7 to +7, approx. 500K/step), manual WB Temp (selectable 2300K to 15000K, 100K/step)
Manual shutter speed	Auto: 1/50 - 1/1750 Manual: 50i/25p: 1/3 - 1/10000
Gain	-6, -3, 0 , 3, 6, 9, 12, 15, 18, 21 dB
Minimum illumination	1.5 lux (auto gain, auto iris, 1/25 shutter)

VTR section

Recording format	HDV1080/50i, DVCAM, DV SP 576/50i (PAL)
Play out/Down conversion format	HDV1080/50i, DVCAM, DV SP 576/50i (PAL)
Playback/Recording time	HDV/DV SP: Max. 63 min with PHDVM-63DM cassette DVCAM: Max. 41 min with PHDVM-63DM cassette

Input/Output connectors

Headphone	Stereo mini jack (ø3.5 mm)
LANC	Stereo mini-mini jack (ø2.5 mm)
Digital video output	HDMI connector
Audio/Video output	10-pin connector A/V OUT jack (composite, unbalanced audio x2ch with the supplied cable)
Component video output	Component out jack (special connector)
HDV/DV input/output	i.LINK interface (IEEE 1394, 6-pin)

XLR audio input	XLR 3-pin female x 2ch

Built-in output devices

LCD view finder	0.45-inch type (Viewable area measured diagonally), approx. 1,226,880 dots (852x480x3[RGB]), 16:9 aspect ratio
LCD monitor	3.2-inch type (Viewable area measured diagonally), XtraFine LCD, approx. 921,600 dots, hybrid type, 16:9 aspect ratio

General

Mass	Approx. 2.4 kg (5 lb 4 oz) (w/ the supplied lens, w/o tape, battery)
Power requirements	DC 7.2 V (battery pack), DC 8.4 V (AC adaptor)
Power consumption HDV	Approx. 7.0 W (with ECM-XM1 / LCD EVF ON)
Power consumption DVCAM/DV	Approx. 6.8 W (with ECM-XM1 / LCD EVF ON)
Operating temperature	0 to 40 °C (32 to 104 °F)
Storage temperature	-20 to +60 °C (-4 to 140 °F)

Supplied memory recording unit

Recording media	CompactFlash card (2GB or bigger, 133x or faster) (not supplied)
File system	FAT32
File format HDV	.M2T
File format DVCAM/DV	.AVI (DV-AVI, type 1) or .DV (Raw-DV)
Connectors	special hot shoe i.LINK-6pin (on the supplied cradle) DC power input (on the supplied cradle) infoLITHIUM L series battery slot (on the supplied cradle)

Accessories

Cases

LCS-G1BP

Soft Carry Case

LCS-BP1BP

Soft Carrying Case

LCH-GT1BP

Hard Carrying Case

Camera Adaptors

HVL-LBP

LED Battery Video Light

HVL-LBPA

LED Battery Video Light

Batteries and Power Supplies

AC-VQL1BP

Intelligent Quad Battery Charger and Dual AC adaptor

Viewfinders

SH-L32WBP

LCD Hood

SONY

Tripods

VCT-PG11RMB

Tripod

VCT-1BP

Bracket For Camera Rear Mount

VCT-SP1BP

Multi-purpose Camcorder Support System

Remote Controls

RM-1BP

Remote Commander

RM-1000BP

Remote Commander