

HDCAM**HDW-750P****DIGITAL CAMCORDER**

Creativity Enabled

The HDW-750P from Sony is a camcorder that destroys any outdated notions about high definition as a bulky, inflexible, prohibitively expensive choice for quality programme making. The compact new HDW-750P puts all the advantages of shooting High Definition at 25P/50i into the hands of the cinematographer, maximising creative opportunities and control without sacrificing portability or battery life.

The HDW-750P makes it easier than ever to capture pictures that will satisfy the most exacting Director of Photography. Levels of detail, colour depth and contrast are comparable with 35mm film, and easily surpass Super16. By shooting 25 frames per second in progressive scan mode (25P), your shots will carry a distinctive "filmic" portrayal of moving subjects that can add a subjective richness to any production. Alternatively, you can opt to shoot 50 fields per second interlaced (50i) as a natural partner to the PAL world. The choice is yours.

The appeal doesn't end there, either. Faster set-ups for each shot and versatile control over picture parameters maximises your creative options under any shooting conditions. Instant replay of each "take" at full resolution allows on-the-spot evaluation of colour pictures just as your audience will see them, while a generous 48 minute shooting load and super-fast tape changeover reduces on-set downtime.

Whether you're post producing in Standard Definition and want to maximise image quality up-front, or following an end-to-end HD 25P workflow with the Sony HDW-2000 series of VTR recorder/players for maximum quality and marketability of your product, the HDW-750P redefines High Definition acquisition as the choice that's practical and affordable for programme making today... and tomorrow.



Uncompromised Image Capture

The HDW-750P uses the finest sensor technology to capture full high definition images with 2.2 million pixels per colour to deliver dazzlingly natural picture sharpness, exposure latitude and colour depth. Unique Sony Power HAD™ 2/3-inch type, FIT CCD sensors capture images at 1920 x 1080 CIF (Common Image Format) resolution in 25 frames progressive or 50 Hz interlace modes. Sensitivity is boosted to an industry-leading f10 at 2,000 Lux, enabling image capture in extremely low light conditions to deliver outstandingly quiet pictures with subtle tonal reproduction. Signal-to-noise ratio is 54 dB and vertical smear less than -135 dB*.

*Typical figures.

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CREATIVITY ENABLED



HDW-750P

Options

Remote Control Unit RM-B750

Picture Cache Board HKDW-703

Down Converter Board HKDW-702

Camera Adapter HDCA-901

6-inch type LCD colour viewfinder

HDVF-750W

(Continued on specification page)

Advanced Digital Signal Processing Gives a Unique "Look"

Every Director of Photography can compose superb looking pictures from the first moment they switch on the HDW-750P. Thanks to Sony Advanced HD Digital Signal Processing, however, cinematographers are afforded the freedom to define their own personal look and feel for the story they are telling. At last, it's your option whether to determine the visual boundaries of a production while shooting or to leave it for the post production stage. With the HDW-750P, cinematographers now have at their disposal the most sophisticated and comprehensive set of adjustment options via friendly menus for simple creation of versatile in-camera effects. Set-up parameters can be stored and recalled using MemoryStick™ for fast re-configuration between takes and to maintain visual integrity when re-shooting at the later stage or on different location. With wide dynamic range, exceptional tonal reproduction and selection of versatile gamma curves, including film gamma settings, HDW-750P is well placed to meet even the most demanding production needs for wide range of shooting applications.

HDCAM – Your Trusted Partner with a Proven Track Record

With well over 6,000 HDCAM units delivered worldwide, the HDCAM format offers the most reliable and cost effective medium for acquisition, post production and delivery of high-quality programmes for TV, HDTV and DVD as well as theatrical and digital distribution. Its robustness and reliability has been emphatically proven in every corner of the globe and beyond – including the Space Shuttle. Moreover, the ability to make indistinguishable "clones" of original rushes at minimal cost makes HDCAM particularly attractive for insurance companies. Better still,

there's plenty of headroom for post production colour grading and image manipulation – even in the most demanding circumstances. The sheer quality of the results have been demonstrated time after time in productions that range from epic movies to highly sophisticated advertising campaigns.

Superb Ergonomic Design for Real-World Shooting

Underneath the tough, compact, easy-to-handle body of the HDW-750P you'll find many technological innovations. Robust and compact with an on-the-shoulder weight of just 5.4 kilograms (including viewfinder, battery, cassette and microphone), the HDW-750P features a new-generation body design with ergonomic control layout. Superb weight distribution and balance combined with a low optical axis make the camcorder ideal for hand-held shots.

HD SDI Output for Field Monitoring and External Recording

HD-SDI output with four channels of embedded digital audio allows direct monitoring of HD images from the main camera body. It also allows the camera to be interfaced in a complex system for multi-camera shooting, or to allow extended uninterrupted external recording beyond a single cassette load (up to 48 minutes).

Built-in Down-converter

Optional down converter board HKDW-702/1 that can be fitted into the main camera body, providing simultaneous down-converted standard definition video output as either digital SDI or composite PAL output. This is in addition to the HD-SDI output and allows parallel standard definition video monitoring. To simplify camera operation, a test output offers PAL output with inserted viewfinder features.



Multi Matrix

Multi Matrix allows selective hue and saturation adjustment at full bit depth to create in-camera effects similar to secondary colour correction normally performed in post production. Any colour can be individually “grabbed”, allowing it its hue to be altered within a range of approximately 20 degrees and its saturation transformed from almost nothing to “over the top” levels. This can be particularly useful when some specific colours require exact colour rendition or alteration, as well as for perfect camera matching on multi-camera shoots.

Colour Balance

Consistent scene-by-scene colour balance can be achieved using Auto White (and Black)

Balance with a Menu “Paint” functions that allow colour levels to be adjusted for maximum creativity on-set. Optional RM-B750/150 paint controller allows remote adjustment of parameters.

Auto Tracing White Balance

Automatic tracing of white balance is particularly useful in situations where overall colour temperature is changing, for example during continuous takes when the main action moves from exterior (daylight) to interior (tungsten) or vice versa.

Colour Temperature Control

Digital Colour Temperature Control can be used creatively to make a picture ‘warmer’ or ‘colder’ irrespective of the overall auto white setting. Supplied Neutral Density (ND) and Colour Correction (CC) filter wheels offer optical adjustment, controllable remotely using

optional BKDW-701 servo filter drive and RM-B750/150 Remote Control Unit.

Selectable Gamma Curves

A selection of Gamma curves is instantly available, including “film-gamma” settings helping to fine-tune overall picture look. Each curve is also individually adjustable – giving additional choice in tailoring overall visual expression to the production’s needs.

RGB Gamma Balance

RGB gamma balance offers adjustment of mid-tones without affecting black or white balance.

Variable Black Gamma Range

Variable Black Gamma Range function allows fine adjustment of tonal reproduction to bring out dark details without affecting mid-tones.

Black Stretch

Limits Variable Black Gamma Range function to picture luminance without affecting other parts of the video signal, ensuring that blacks stay black even when more detail is required.

Greater Contrast Range

Thanks to its sophisticated sensors and industry leading Advanced Digital Signal Processing, the HDW-750P effortlessly accommodates a wider exposure latitude that compares favourably with many film emulsions. As well as a wide contrast range that aids precise reproduction of any scene, the ability to view every shot “the way it really is” allows you to make optimal exposure adjustments as you shoot.

Built-in Picture Cache

The optional picture cache board HKDW-703/1 allows either 8 seconds picture and sound recording buffer, or it can be configured for Time Lapse and Animation recording. This is particularly useful feature on Natural History programmes when the unexpected can happen at any time, or on programmes with “uncontrollable” cast members such as children and animals.

Lens Mount

B-4 bayonet mount accepts a full range of compatible HD and SD lenses.

Dual Optical Filter Wheels

Neutral Density (ND) and Colour Correction (CC) filter wheels can also be controlled remotely using optional BKDW-701 servo filter drive and RM-B750/150 Remote Control Unit.

Two Assignable Buttons

For simple operational customisation, two buttons are available for assigning frequently needed tasks. A push button and a slide switch can be used to independently assign instant access to frequently used functions.

EZ focus

This allows easy and precise focusing when using fully automatic lens by fully opening iris and changing shutter speed maintaining constant exposure. All is back to normal after 10 seconds or by pressing the button again before the time expires.

Dual Earphone Output

Offers simultaneous audio monitoring outputs from front and rear side of camcorder body.

TurboGain

TurboGain function boosts gain levels up to an incredible +42 dB at the touch of the button to capture critical scenes down to around 0.3 lux.

Slot-in Wireless Microphone Receiver

Optional WRR-855A/855B UHF Synthesizer Wireless Microphone Receiver can be fitted directly, increasing mobility by maintaining compact overall dimensions even when receiver is installed.

LCD Status Panel and Diagnostic System

LCD panel shows a wide range of status and diagnostic displays such as Tape Remaining, Battery Level and Audio Levels.

Stereo Audio Output

Stereo audio line output via 5-pin XLR connector provides two analogue audio output channels, selectable either as Channel-1/2 or Channel-3/4.

Tally Lamp

Bottom Tally light located in the connector panel to rear of camcorder body.

Cassette Loading

Fast, reliable mechanism with dust- and drip-proof design allows cassette changeover in less than 5 seconds*. 48 minute shooting time per cassette further reduces wasted re-load time.

*Sony measurement.

Extended Clear Scan

Extended Clear Scan (ECS) function with variable shutter speed minimizes horizontal bars when shooting scenes that contain computer or TV screens.

Intelligent Light Shoe

Intelligent light shoe on the upper part of the carrying handle with standard two-pin socket provides up to 50 watts of power from the attached battery. Power can be switched manually or synchronized with REC button operation in Auto mode.

Processing Innovations for Enhanced Creativity

With a comprehensive array of image adjustment parameters, the HDW-750P affords cinematographers immense creative freedom. Most importantly, however, control isn't at the expense of usability. Simple menu speed access to picture functions, and adjusted parameters can be stored and then transferred between camcorders using Sony MemoryStick™. For even greater creative flexibility and convenience, menu page layouts can be customised for quicker access to the desired group of parameters. The camera itself holds five scene files, while an optional MemoryStick™ can store up to 100 user files and 100 scene files – it can also be used for storing UMID data such as Good Shot Marks, and GPS information. MemoryStick™ also facilitates easy software upgrades.

Colourimetry

Producing pictures with astonishing tonal reproduction, the HDW-750P offers sophisticated control over a vast range of creative colour adjustment options.





BBC's Rockface shot on HDCAM

An optional colour viewfinder offers the ability to monitor shots in colour while on location, while individually adjustable zebra patterns warn of possible overexposure for additional peace of mind. Shooting digitally also copes more gracefully with underexposure, helping cinematographers to achieve the exact pictorial results they desire with any scene.

Highlight Handling

Sony Advanced TruEye™ processing improves highlight handling with faithful colour reproduction. Adaptive Highlight Control (Auto Knee mode) intelligently monitors brightness of all picture areas, adapting knee point/slope for optimum reproduction – even with “difficult” scenes like a sunlit exterior seen through a window. Knee Saturation Function reproduces natural colours like skin tones in high contrast scenes.

Picture sharpness

Thanks to an enviable 2.2 million pixels per colour CCD, the HDW-750P captures every frame with superb natural sharpness to portray finest picture details with superb fidelity. This is particularly apparent in progressive mode, obtaining astonishingly clear and precise images with the finest textures. It is therefore no surprise that down-converted HDCAM pictures exceed the expectations of even of the most demanding filmmakers producing for television. This helps distinguish television programmes produced with HDCAM from other productions: DVDs, too, stand out from the crowd. While the HDW-750P delivers outstandingly sharp pictures even without the aid of additional enhancements, there are a number of adjustments that can be used to achieve virtually any desired effect.

Triple Skin Tone Detail control

It is possible to select and control the level of details independently for tri individual colours in the same scene. Saturation, hue phase and width of the colour range can be separately adjusted, allowing full control of detail levels.

Level Dependent Detail

By automatically limiting the amplitude of edge signals in high contrast areas, natural detail enhancement is retained – even in extreme highlights.

Enhanced Metadata Handling for Improved Workflows

The HDW-750P generates and records onto tape UMID (Unique Material Identifier) metadata for each take, dramatically streamlining the entire production process.

Tele-File™

The Sony Tele-File™ system can significantly raise efficiency in post production and management of archives. The HDW-750P features a Tele-File™ reader/writer module that stores production data including shot data and shot marks onto an optional cassette label with a built-in memory IC.

Shot Mark and Shot Data Handling

Shot marks and shot data recorded to tape are automatically detected and displayed on a video monitor when the cassette is replayed on a Sony HDW-2000 series VTR, allowing operators to select and cue-up scenes of interest quickly and easily.

GPS Unit HKDW-704 (Optional)

The optional HKDW-704 offers real-time recording of global positioning (GPS) information on tape and MemoryStick™. Data can be displayed on a PC running suitable map illustration software*.

Options (Supplied and Optional Accessories are listed at foot of Specifications)

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HDW-750P SPECIFICATIONS

General

Mass	Approx. 5.4 kg (11lb. 15oz) with cassette, BP-L60A Battery, HDVF-20A, Microphone
Power requirement	DC 12V (+5.0 V/-1.0 V)
Power consumption	34 W (With 12 V power supply, REC mode, without HDVF-20A)
Operating temperature	0 °C to +40 °C (+32 °F to +104 °F)
Storage temperature	-20 °C to +60 °C (-4 °F to +140 °F)
Operating humidity	25% to 80% (Relative humidity)
Continuous operating time	Approx. 110 min (With BP-L60A)

Inputs/outputs

Genlock video input	BNC, 1.0 V p-p 75 ohm
Time code input	BNC, 0.5 V to 18 V p-p 10 Kohm
Audio CH1/CH2 input	XLR-3-pin type (Female), -60 dBu/+4dBu selectable, high impedance, balanced
Mic input (Stereo)	XLR-5-pin type (Female), -60 dBu
HD-SDI output	BNC (x1), 0.8 V p-p, 75 ohm, unbalanced
Audio output	XLR-5-pin Type (Male), 0 dBm
Time code output	BNC, 1.0 V p-p 75 ohm
TEST OUT	BNC, 1.0 V p-p 75 ohm
Earphone	Mini-jack (x2), 8 ohm, -infinity to -18 dBs variable
DC input	XLRT-4-pin type (Male), 11 to 17 V DC
DC output	11 to 17 V DC, Max. 100mA
Lens	12-pin
Remote	8-pin

VTR section

Recording format	HDCAM
Tape speed	Approx. 80.6mm/s
Playback/Recording time	Max. 48 min
Fast forward/rewind time	Approx. 5 min with BCT-40HD
Recommended tape	Sony BCT-40HD/22HD
Sampling frequency	Y: 74.25 MHz, Pb/Pr: 37.125 MHz
Quantisation	10 bit/sample of input-output signals (8 bit sample for internal compression process)
Error correction	Reed-Solomon code
Error concealment	Adaptive three dimensional

Audio performance (Playback with Standard HDW-500/HDW-F500/HDW-M2000/HDW-M2100)

Frequency response	20 Hz to 20 kHz, +0.5 dB/-1.0 dB
Dynamic range	More than 85 dB (Emphasis ON)
Distortion	0.08 % Max
Cross talk	-70 dB
Wow & flutter	Below measurable limit

Camera section (Performance)

Pickup device	3-chip 2/3-type FIT type CCD
Picture elements	2,200,000 pixels
Optical system	F1.4 prism system
Sensitivity	f10.0 at 2000 Lux equivalent to around ISO 320 at 25P and 1/50 (180 degree) shutter
Minimum illumination	0.15 Lux (+42 dB gain up)
S/N ratio	54 dB (typical)
Modulation depth	45+/-5 % (at 800 TVL/pph, 27.5 MHz)
Vertical resolution	1000 TVL
Registration	0.02% (All zones, without lens)
Smear Level	-135 dB

Camera section (Operational)

Lens mount	Special bayonet mount
Built-in filters	ND 1: Clear, 2: 1/4 ND, 3: 1/16 ND, 4: 1/64 ND CC A: CROSS, B: 3200K, C: 4300K, D: 6300K
Shutter speed	1/60, 1/125, 1/250, 1/500, 1/1000, 1/2000 (sec)
Clear scan	(ECS) 25 Hz to 4700 Hz
Viewfinder	
CRT	2.0-type monochrome
Controls	Brightness control, Contrast control, Peaking control, Tally switch, Zebra Pattern switch, Display/Aspect switch
Horizontal resolution	500 TV Line (At centre)
Microphone	Ultra-directional (Detachable)

SUPPLIED ACCESSORIES:

- HDVF-20A, HD Electric Viewfinder (1)
- Stereo Microphone, Super cardioid directional, external power supply type (1)
- Shoulder strap (1)
- Operation manual (1)

OPTIONAL ACCESSORIES:

- HKDW-702/1, Down Converter Board
- HKDW-703/1, Picture Cache Board
- VCT-14, Tripod adapter
- HDCA-901, HD-SDI adapter
- HDVF-C750W, HD LCD Colour Viewfinder
- BP-L60A Lithium-ion battery
- BC-L120, Battery charger
- AC-550/550CE, AC adapter
- BCT-40HD/22HD, HDCAM tape cassette
- BKDW-701, Servo filter unit
- BKW-401, Viewfinder rotation bracket
- RM-B150, Remote control unit
- C-74, Microphone



CONNECTOR PANEL



CONTROL PANELS

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