

SONY



DVCAM Family 2005/2006

DVCAM

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Video production styles continue to diversify in response to the rapid and tremendous growth in visual communication. In this fast-changing environment, the need is for equipment that meets the crucial demands for both higher productivity and greater creativity in professional video production.

Since its launch in 1996, Sony DVCAM™ has satisfied these demands and brought many notable benefits. Excellent picture and sound quality that only a digital format can provide, high-performance editing capabilities, and system versatility that makes it possible to migrate smoothly from analogue to digital – these are just some of the factors behind the success of DVCAM.

A full model line-up for digital acquisition, editing and programme playout has led to the rapid acceptance of DVCAM by business users, production facilities and broadcasters around the world.

The DVCAM product family is expanding with many new models added, broadening the range of applications in ENG, field acquisition/editing and simple editing.

With HDV and XDCAM also supporting the DVCAM format, you will be choosing innovative, equipment to bring both new solutions to your production demands and added performance benefits to your system.

The DVCAM Format

Superior performance and cost effectiveness distinguish Sony DVCAM media. Designed for professional video production, DVCAM is a durable and reliable tape format offering excellent archival stability. As well as providing enhanced picture quality with a radically lower dropout rate, DVCAM is less abrasive than DV media and reduces VTR head wear. This makes it an ideal solution for today's cost conscious professionals who want outstanding recording performance with reduced running costs.

Unrivalled Performance

DVCAM features advanced metal evaporated tape technology and a super thick DLC (Diamond Like Carbon) protective layer to give superior quality and exceptionally low error rates. With half the tape shrinkage and dropouts of DV media plus reduced head wear, DVCAM is setting new standards for professional video production.

Items		DV	DVCAM
DLC		Standard	1.3 times thicker DLC than DV Consumer
Edit Simulation	[pass]	>50	>150
Tape shrinkage	[%]	<0.10	<0.05
Friction coefficient	(5000 passes)	0.45	0.3
Still	(+5°C) [min]	>60	>120
Dropouts (Average)	[counts/min]	100	50
Head Wear (Average)	[µm/100h]	0.65	0.19

Less Head Wear means Lower Running Costs

In today's cost-conscious world, operating efficiency is crucial. DVCAM incorporates a much smoother tape surface than DV media, dramatically reducing wear on the VTR head drums. That means you won't need to change the heads so frequently, allowing you to save on running costs.

Always Use DVCAM Media in DVCAM

By developing DVCAM hardware and media in partnership, Sony has increased the guaranteed operational life of the VTR head drum to an exceptional level. Using DV media in professional DVCAM equipment is possible but not recommended as head wear is almost three times higher, shortening its life by almost one third.

With high head drum costs and ever-tightening budgets, it makes sound business sense to invest in media that delivers superior performance while protecting the life of your equipment. DVCAM is a stable, durable and reliable format for digital video production that offers superb cost effectiveness. Use DVCAM, the media designed for professionals!



DVCAM cassettes

Unique Technology and Advantages

Playback Capability of DV (25 Mb/s) Format Recorded Tapes

DSR-2000AP DSR-1800AP DSR-1600AP DSR-1500AP

For maximum versatility in playback, the DVCAM VTRs are designed to playback DVCAM and DV (SP mode) tapes without a mechanical adaptor or menu adjustment. The DVCAM Master Series VTRs (DSR 2000AP/1800AP/1600AP/1500AP) support DVCPRO tape playback*, and the DSR-2000AP even supports DV (LP mode) playback. Furthermore, it is possible to use these tapes directly as editing source material, improving productivity.

* Not compatible with SDTI (QSDI) and i.LINK (DV) interfaces.

Recording Capability of the Consumer DV (25 Mb/s) Format

DSR-450WSP* DSR-400P* DSR-250P* DSR-PD170P* DSR-1500AP DSR-50P* DSR-45P*
DSR-25* DSR-11*

In the event a longer recording time is required, the above DVCAM camcorder and VTRs are also designed to record in the DV Format. Thanks to this feature, recording of up to 276 minutes is possible with a standard-size cassette and 60 minutes with a mini-size cassette.

* The transition from cut to cut may not be smooth when recorded in DV (SP) format. In between scenes where the recording format is changed from DV to DVCAM, or vice versa, transition may not be smooth. Not available for editing.

• Audio Cross-fade Capability

DSR-2000AP DSR-1800AP

Pre-read heads also provide an audio cross-fade capability with clean audio transitions at editing points. During audio insert editing, the previously recorded audio signal is read out by pre-read heads, cross-faded with the VTR audio input signal and recorded back onto the same track. This provides excellent audio cross-fade editing performance without audio clicks at edit points and provides high quality audio to complement the video performance.

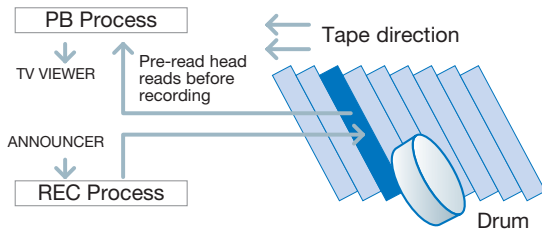
Excellent Editing Performance

- Pre-read Editing Capability*

DSR-2000AP

The DSR-2000AP VTR offers pre-read editing, a function

Over-dubbing of audio with pre-read editing capability



No delay between video and audio

never before available on a 1/4-inch (6.35 mm) VTR. Pre-read heads are positioned ahead of the recording heads on the drum to scan previously recorded video and audio signals. These signals can then be sent to a character generator, a video switcher and/or an audio mixer, combined with signals from another source, and then recorded back onto the same tracks. Pre-read editing provides many advantages since it enables single-VTR titling, audio mix/swap and voice over with no delay between video and audio. In addition, A/B roll editing with two VTRs is available (MIX and WIPE only).

* Not available for SDTI (QSDI) and i.LINK (DV) interfaces as these handle compressed signals.

- Enhanced Digital Jog Audio

DSR-2000AP DSR-1800AP DSR-1600AP DSR-1500AP DSR-DR1000AP

A digital jog audio function is included in the Master Series VTRs with a range of -1 to +1 (DSR-2000AP) or -0.5 to +0.5 (DSR-1800AP/1600AP/1500AP) times normal speed. With its quick and smooth response, locating editing points is very easy. This is a particularly important feature for ENG applications that usually require audio-based editing. Moreover, this function is even available on the Master Series VTRs when using DV and DVCPRO tapes.

Versatile Digital Interfaces

- SDI (Serial Digital Interface)*

DSR-450WSP** DSR-2000AP DSR-1800AP** DSR-1600AP** DSR-1500AP** DSR-DR1000AP

With SDI, high-quality picture and sound can be transferred between DVCAM camcorders, DVCAM VTRs and SDI-equipped devices.

* The SDI used in DVCAM camcorders and DVCAM VTRs supports digital component video signals.

** The DSR-450WSP/1800AP/1600AP/1500AP require an optional board for SDI.

- SDTI (QSDI)**

DSR-2000AP DSR-1500AP**

SDTI (QSDI) is a digital interface that handles compressed video as well as the sub-code data and digital audio signals of the DV/DVCAM formats. It allows virtually degradation-free transfer of both video and audio signals between SDTI (QSDI) equipped VTRs.

* SDTI (Serial Data Transport Interface) is defined as SMPTE 305M. SDTI (QSDI) is the DV compressed signal interface defined as SMPTE 322M.

** The DSR-1500AP requires an optional board for SDTI (QSDI).

- i.LINK™ (DV)*

DSR-450WSP** DSR-400P** DSR-250P DSR-PD170P DSR-2000AP** DSR-1800AP**

DSR-1600AP** DSR-1500AP DSR-45P DSR-25

DSR-11 DSR-50P DSR-DR1000AP

i.LINK enables a single cable to simultaneously carry digital video and audio signals, as well as data and control signals, with virtually no quality deterioration. This simple connection offers an ideal solution for connecting DVCAM equipment with consumer AV equipment and computer-related products.

* i.LINK stands for IEEE1394-1995 standards and their revisions.

** is the logo for products that implement i.LINK.

** Output only from the DSR-450WSP/400P.

Note: Sony VAIO computers are checked with Sony DV products, but not with DVCAM, concerning the i.LINK interconnection. Some VAIO application software may not work with DVCAM.

- AES/EBU

DSR-2000AP DSR-1800AP* DSR-1600AP* DSR-1500AP* DSR-DR1000AP

The DSR-2000AP/1800AP/1600AP/1500AP VTRs and DSR-DR1000AP are fitted with digital audio interfaces conforming to the AES/EBU standard. With a sampling frequency of 48 kHz and 20-bit quantisation, these interfaces ensure high-quality audio.

* The DSR-1800AP/1600AP/1500AP require an optional board for AES/EBU.

Sophisticated Mechanisms

- Quick, Responsive Mechanism

DSR-2000AP DSR-1800AP DSR-1600AP DSR-1500AP

Quick mechanical response is an essential requirement for professional video production. The Master Series VTRs provide this rapid response with a combination of highly reliable direct reel drive and drum motor mechanisms. The result is a tape drive with rapid response to Jog and Shuttle commands when searching for edit points, and a rapid start in Play mode.

- Three-size Cassette Compartment

DSR-2000AP DSR-1800AP DSR-1600AP DSR-1500AP

The Master Series VTRs incorporate a newly designed three-size cassette compartment to ensure compatibility with DV (25 Mb/s) format recorded tapes of all sizes and types. Thanks to this feature, it is possible to use standard and mini DV and DVCAM cassettes, as well as medium DVCPRO cassettes, without a mechanical adaptor.

- Dual-size Cassette Compartment

DSR-450WSP DSR-400P DSR-250P DSR-45P DSR-25

DSR-11 DSR-50P

The above camcorders and VTRs have a dual-size cassette compartment which accepts both standard and mini cassettes without a mechanical adaptor.

- Film-like Images with Progressive Mode

DSR-450WSP

The DSR-450WSP generates a native progressive image of 25P, delivering outstanding clarity as well as a cinematic look.

- Selectable Gamma Table Including Film-like Gamma

DSR-450WSP

The DSR-450WSP provides a selectable gamma table to easily give a specific look to a picture by selecting from multiple fixed gamma patterns including so-called film-like gamma.

DSR-450WSP/400P Series Camcorder Common Features

- Rugged and ergonomic design
- Compact and lightweight: approx. 6.5 kg (14 lb 5 oz) with the DXF-801 viewfinder, microphone, BP-GL65 battery pack and mini-size DVCAM cassette and VCL-917BY lens (supplied with the DSR-400PK package)
- Low power consumption: approx. 17 W (with DC 12 V power supply, REC mode, viewfinder off and LCD monitor off)
- 12-bit A/D conversion for faithful contrast reproduction
- Advanced digital signal processing (ADSP)
- DVCAM/DV (SP) selectable recording
- Long recording time in DV (SP) mode: up to 276 minutes with a standard-size cassette
- Digital output to external devices via an i.LINK interface
- Quick FF/REW capabilities: approx. 40 seconds for a mini-size cassette and approx. 2 minutes and 30 seconds for a standard-size cassette
- 2.5-inch type¹ colour LCD monitor
- Supplied DXF-801, 1.5-inch type*¹ black and white viewfinder
- Battery remaining display in the camcorder viewfinder and LCD monitor
- Shoulder pad to be adjusted either forwards or backwards
- User-friendly menu controls
- Memory Stick™ system for storage of camera setup parameters
- Four assignable buttons to enable operators to assign frequently used functions
- Turbo gain to boost up the gain level up to +36 dB
- Intelligent light system to synchronise an optional portable light (max. 50 W) on/off to the REC button
- CA-WR855 Camera Adaptor for the WRR-855B Wireless Microphone Receiver
- Optical ND (Neutral Density) filter and electric CC (Colour Correction) filter
- TruEye™ process for faithful colour reproduction
- Triple Skin Tone Detail control
- Auto-Tracing White Balance (ATW) function
- Multi-matrix function
- Colour temperature control
- Interval recording to intermittently record signals at pre-determined intervals
- Programmable gain (-3/0/3/6/9/12/18/24/30/36 dB)
- Dual zebra (70 IRE to 90 IRE or more than 100 IRE)
- Marker (centre, safety zone, 4:3/13:9/14:9 aspect (DSR-450WSP only))
- Edit search for easy access to edit points
- Stereo audio output (pin jacks)

¹ Viewable area measured diagonally



Camcorder DSR-450WSP



- Three wide-aspect 2/3-inch type Power HAD™ EX CCDs providing high quality images with low smear level (-140 dB), high sensitivity, high S/N ratio (63 dB) and high horizontal resolution (800/850 TV lines in 16:9/4:3 mode)
- Aspect ratio switchable between 16:9 and 4:3
- Film-like shooting with progressive scan mode 25P
- Selectable gamma table including film-like gamma
- Slow shutter (1 to 8 and 16 frames accumulation)
- Versatile interfaces such as analogue composite output, SDI output (with the CBK-SD01 board), and analogue composite input (with the CBK-SC01 board)
- Camera remote control via the RM-B150/B750 Remote Control Unit

Camcorder DSR-400P



- Three 2/3-inch type Power HAD EX CCDs providing high quality images with low smear level (-140 dB), high sensitivity, high S/N ratio (63 dB) and high horizontal resolution (920 TV lines)
- Supplied VCL-917BY, 17x zoom lens for the DSR-400PK package

Camcorder DSR-250P

- Compact and lightweight: 4.4 kg (9 lb 11 oz)
- Newly developed 1/3-inch type three CCDs for accurate colour reproduction
- Capable of both interlace scan, for moving images, and progressive scan, for still images or shooting a moving subject^{*1} and exporting a frame of the image as a still picture
- DSP (Digital Signal Processing)
- 2.5-inch type (200,000 dot) colour LCD monitor
- 12x lens^{*2} with Super SteadyShot™ system
- New, high-resolution 1.5-inch black & white viewfinder
- 16:9 recording mode available (electronically processed)
- Superb picture quality of the DVCAM format
- Recording and playback capability with standard and mini-size DVCAM and DV tapes (SP mode only)^{*3}
- Three XLR audio input connectors for professional microphones (one at front, two at rear)
- Audio dubbing capability (48 kHz/16-bit or 32 kHz/12-bit selectable)
- Long recording time: 184 minutes with a standard-size cassette in DVCAM mode, or 270 minutes in DV SP mode
- Time/date data superimposition on output pictures
- Digital still camera functions with Memory Stick



- Light output (DC 12 V, max. 30 W) and additional DC 12 V out for optional accessories
- Time code pre-set capability
- i.LINK (DV) interface providing a single cable connection to simultaneously transfer audio, video and command signals
- LANC interface for simple editing with a LANC-equipped recorder or editing system
- Supplied RMT-811 Remote Commander

*1 When recording moving images in progressive scan mode, the motion will display some jitter since the picture is read/output every 1/12.5 second.

*2 Digital zoom of 24x or 48x available via menu selection.

*3 when recording in DV (SP) format, transitions between cut to cut may not be smooth. In addition, when the recording format is switched between DVCAM and DV, the transition may not be recorded smoothly.



Compact Camcorder DSR-PD170P

- Compact and lightweight: Approx 1.6 kg (3 lb 6 oz) (camcorder only)
- Newly developed 1/3-inch type three CCDs for accurate colour reproduction
- Capable of both interlace scan to acquire moving images and progressive scan to capture still images
- Advanced HAD™ technology for high sensitivity and excellent signal to noise ratio
- Low light shooting of 1 lx with F1.6 at 18 dB gain
- Large 180,000-dot LCD precision black and white viewfinder
- Optical 12x zoom lens^{*1} with Super SteadyShot™ system
- 16:9 widescreen acquisition mode
- DVCAM/DV selectable recording
- 2 ch. XLR audio input and supplied directional microphone
- 16-bit/12-bit PCM digital sound and audio dub capabilities
- Newly developed hybrid LCD monitor with a high resolution of more than 210,000 pixels
- Simultaneous operation of LCD monitor and viewfinder
- Large-sized handle to allow for a better and easier grip
- On-handle zoom lever and rec. start/stop button



- Long operating time of up to ten hours with the optional NP-F970 InfoLITHIUM™ battery pack
- Digital still camera functions with Memory Stick media
- Supplied lens hood with built-in lens cap
- Supplied wide conversion lens and additional lens hood
- i.LINK (DV) interface providing a single cable connection to simultaneously transfer audio, video and command signals

*1 Digital zoom of 24x or 48x available via menu selection





Master Series VTR Common Features

DSR-2000AP DSR-1800AP DSR-1600AP DSR-1500AP **Master**

Since its introduction, the DVCAM format has become widely accepted in the world of video production – from industrial to broadcast markets. Recognising the increasing demands for DV-based production in broadcast applications, Sony introduced the DSR-2000P in 1999 complete with compatibility with all DV family formats and professional features, such as excellent editing performance and high-quality jog audio, inherited from analogue formats. Building on the advanced technologies of the DVCAM format and professional features of the flagship DSR-2000AP, Sony now presents the entire line-up of Master Series VTRs, our top-of-the-range DVCAM videocassette recorders and players. The Master Series VTRs (DSR-2000AP, DSR-1800AP, DSR-1600AP and DSR-1500AP) now bring the features and benefits introduced with the DSR-2000AP to a wider market, from industrial to broadcast for a wider range of applications and requirements.

- Superb picture quality of the DVCAM format
- Playback capability of DV (25 Mb/s) recorded tapes including DV tapes recorded in SP mode and DVCPRO tapes*¹ without an adaptor or menu setting changes
- Long recording time: up to 184 minutes with a standard-size cassette and 40 minutes with a mini-size cassette
- Four-channel audio editing capability*²
- Audio cross-fade function for clean audio transitions at editing points*³
- Excellent jog audio capability
- DMC (Dynamic Motion Control) provides noiseless slow-motion playback*⁴
- High-speed picture search over a range of 60 times*² normal speed, in both forward and reverse
- Versatile digital interfaces*⁵: SDI, SDTI (QSDI), i.LINK (DV) and AES/EBU digital audio
- Extensive analogue interfaces: composite, component, S-Video and XLR audio
- HD-SDI up-conversion capability*⁵
- RS-422A remote control interface
- Frame accurate editing capability
- ClipLink operation
- Full tape dubbing with RS-422A interfaces
- 16:9 aspect ID signal recording
- Video process control for greater control of both analogue and digital outputs
- Built-in SMPTE/EBU time code and VITC generator/reader
- Built-in signal generator (colour bars, black burst, 1 kHz tone, silent signal)*⁶
- Flexible input selection between video and audio*⁷
- Universal powering system (AC 100 V to 240 V)
- Three-size cassette compartment to ensure compatibility with DV(25Mb/s) recorded tapes

*¹ SDTI (QSDI) and i.LINK (DV) interfaces do not support DVCPRO playback.

*² DSR-2000AP/DSR-1800AP/DSR-1600AP only.

*³ DSR-2000AP/DSR1800AP only.

*⁴ DSR-2000AP/DSR1800AP/DSR-1600AP only.

*⁵ Optional Input/Output Boards required. Please check Feature Comparison of Digital VTRs (p.20) for details.

*⁶ DSR-2000AP/DSR1800AP/DSR-1500AP only

*⁷ i.LINK cannot be combined with other signal interfaces.

When SDTI (QSDI) is selected as the audio input, the video signal is assumed to be SDTI (QSDI). However, when it is selected as the video input, other signal interfaces can be selected for the audio.

Editing recorder
DSR-2000AP



- Playback capability of DV tapes recorded in LP mode
- Pre-read editing capability*1 to perform sound-on-sound capability, audio mix/swap and over-dubbing of audio with no delay between video and audio as well as A/B roll editing*2 with two VTRs
- VTR-to-VTR editing without external controllers
- Wide range of digital slow speed from -1 to +1 times normal speed
- Channel condition monitoring function

- Audio level control in both recording and playback modes
- Dial menu operation
- Key Inhibit and Rec Inhibit functions to prevent accidental operation

*1 Not available through SDTI (QSDI) and i.LINK interfaces.

*2 MIX and WIPE only.



Editing recorder
DSR-1800AP



- Pre-read playback capability to perform audio mix/swap and over dubbing without any delay between video and audio signals
- Wide range of digital slow speed from -0.5 to +0.5 times normal speed
- Channel condition monitoring function
- Jog dial on front panel



Editing player
DSR-1600AP



- Wide range of digital slow speed from -0.5 to +0.5 times normal speed
- Channel condition monitoring function
- Jog dial on front panel



Editing recorder
DSR-1500AP



- Recording capability with standard and mini-size DV tapes. (SP mode only)*
- Wide range of digital slow speed from -0.5 to +0.5 times normal speed
- Compact, half-rack size
- Menu keys on front panel for picture search
- i.LINK interface as a standard

* Assemble or insert editing is not possible in the consumer DV format mode. However, back space editing is possible using the optional DSRM-10 Remote Control Unit. The transition from cut to cut may not be smooth when performed over a DV recording made on a different DV or DVCAM deck. In between scenes where the recording format is changed from DVCAM to consumer DV format, the transition may not be smooth either. This is a normal and expected phenomenon. The audio reference level is fixed to -12 dB at DV(SP) recording.



Recorder DSR-45P

- Superb picture quality of the DVCAM format
- Recording and playback capability of the DV format (SP mode only)^{*1}
- Long recording time: up to 184 minutes with a standard-size cassette, 40 minutes with a mini-size cassette in DVCAM mode
- Full range of analogue Video IN/OUT: Component, Composite, S-Video
- Four channel independent Audio IN/OUT with XLR connectors for Audio OUT
- i.LINK(DV) interface for simultaneous transfer of audio, video, and command signals
- RS-422A remote control interface^{*2}
- RS-232C interface for basic control from a PC
- LANC and Control S interface
- Time code IN/OUT
- Time code/ User bit pre-set
- Time code IN through DV IN
- Duplication function (Including the duplication of Cassette Memory data)
- Compact size (half-rack size width, 2U height)
- Low power consumption (22W during playback)
- Built-in 2-inch type (123,200 dot) colour LCD monitor
- Tape counter
- Wireless remote controller RMT-DS5 supplied



^{*1} When recording in DV (SP) format, the transition between cut to cut may not be smooth. In addition, when the recording format is switched between DVCAM and DV, the transition may not be recorded smoothly.

^{*2} The DSR-45P is not equipped with the synchronisation capability, therefore is recommended to be used only as a source feeder in A/B roll editing.

Recorder DSR-25

- Superb picture quality of the DVCAM format
- Recording and playback capability of the DV format (SP mode only)^{*1}
- Long recording time: up to 184 minutes with a standard-size cassette, 40 minutes with a mini-size cassette in DVCAM mode
- Recording and playback capability of both NTSC/PAL signals^{*2}
- i.LINK(DV) interface for simultaneous transfer of audio, video, and command signals
- LANC and Control S interface
- Time code/ User bit pre-set
- Time code IN through DV IN
- Duplication function (Including the duplication of Cassette Memory data)
- Power-on recording and playback capabilities
- Compact size (half-rack size width, 2U height)
- Low power consumption (16W during playback)
- Built-in 2-inch type (123,200 dot) colour LCD monitor
- Tape counter
- Wireless remote controller RMT-DS5 supplied



^{*1} When recording in DV (SP) format, the transition between cut to cut may not be smooth. In addition, when the recording format is switched between DVCAM and DV, the transition may not be recorded smoothly.

^{*2} The DSR-25 is not equipped to convert signals from NTSC to PAL, or vice versa.

Recorder DSR-11

- Superb picture quality of the DVCAM format
- Recording and playback capability of the DV format (SP mode only)*¹
- Long recording time: up to 184 minutes with a standard-size cassette, 40 minutes with a mini-size cassette in DVCAM mode
- Recording and playback capability of both NTSC/PAL signals*²
- i.LINK(DV) interface for simultaneous transfer of audio, video, and command signals
- LANC and Control S interface
- Time code IN through DV IN
- Auto-repeat function
- Compact/lightweight design for both horizontal and vertical layout
- Wireless remote controller RMT-DS11 supplied



*¹ When recording in DV (SP) format, the transition between cut to cut may not be smooth. In addition, when the recording format is switched between DVCAM and DV, the transition may not be recorded smoothly.

*² The DSR-11 is not equipped to convert signals from NTSC to PAL, or vice versa.

Recorder DSR-50P

- Superb picture quality of the DVCAM format
- Recording and playback capability of the DV format (SP mode only)*
- Long recording time: up to 184 minutes with a standard-size cassette, 40 minutes with a mini-size cassette in DVCAM mode.
- Analogue component video OUT
- Four channel independent Audio IN/OUT with XLR connectors for Audio OUT
- i.LINK(DV) interface for simultaneous transfer of audio, video, and command signals
- Control S and Remote control (Foot Switch) interface.
- 26-pin camera connector
- Time code IN/OUT
- Time code IN through DV IN
- Duplication function (Including the duplication of Cassette Memory data)
- Compact/lightweight design and compatibility with BP-L series batteries for portable use
- Built-in 2.5-inch type (200,000 dot) colour LCD monitor



* When recording in DV (SP) format, the transition between cut to cut may not be smooth. In addition, when the recording format is switched between DVCAM and DV, the transition may not be recorded smoothly.



Hard disk recorder DSR-DR1000AP

- Hard disk recorder (160 GB) with 3.5-inch large-capacity hard drive
- Up to twelve hours of 25 Mb/s DVCAM/DV video and audio recording
- Compact and lightweight (210 x 130 x 422 mm/ 8 3/8 x 5 1/8 x 16 5/8 inches, 7.5 kg/ 16 lb 10 oz)
- Simultaneous recording and playback capability
- Variable speed playback within a wide range of -2 to +2 times normal speed
- Smooth jog sound capability for easy designation of editing points
- Clip segment playback for continuous playback of designated video segments
- Repeat function* to allow loop playback of a selected clip or clip segment
- Continuous loop recording allows recording to continue until stopped by operator
- Interval recording to produce recordings over extended periods
- Pre-alarm recording automatically triggers cache recording to start when an external alarm signal is detected
- VTR-like control panel with Jog/Shuttle dial
- Random access to files



- Control by external devices supporting Sony Virtual File List (VFL) disk protocol via an RS-422A interface
- Synchronous playback via an RS-422A interface
- Versatile interfaces
- i.LINK interface (6-pin) with AV/C and SBP2 protocols
- High-speed file transfer via an i.LINK interface using SBP2 protocol
- File transfer of DV video and audio using FTP via Ethernet connection

* The repeat function cannot be used for loop play back of multiple clips or multiple clip segments.

ANYCAST STATION

Ancast Station – an integrated, portable and easy to use solution to help you deliver your live event.

Designed as a highly portable and easy to use content management and delivery tool for live production, the Ancast Station combines an audio mixer, video switcher, streamer encoder, and LCD monitor in one briefcase sized unit weighing only around 17 lbs 10 oz (8kg).

The Ancast Station (AWS-G500) provides a range of inputs including DV, S-Video, Composite and RGB to allow the user to bring together both Video and PC content in an event without the need for external line converters.

The Ancast Station is adaptable to your needs – giving you a choice of inputs for up to six sources, and the ability to deliver content to your audience – both at the venue and to remote audiences via a web stream. In addition live source material can be recorded on external hard disk drives for archive or later editing on a PC.

With all of these features, the Ancast Station is an ideal tool to help you deliver a wide range of events such as business conferences, seminars, press conferences, product promotions, live staging and distance learning.



Vegas® 6

Only Vegas® 6 software combines real-time SD, DV, and HDV video editing with unrivaled audio tools to provide the ultimate all-in-one environment for creative professionals — high-definition and high-fidelity.

With its unique, visual approach to digital video and audio production, Vegas delivers tremendous power, incredible speed, and maximum productivity in an uncomplicated, efficient platform.

Key features include: HDV support, unlimited tracks for audio and video, real-time play back and editing, and over 190 video effects and 175 2D and 3D transitions.

Vegas also includes Boris® Graffiti LTD titling software and a limited-edition Sony Pictures Sound Effects™ Series sampler CD.



Vegas®+DVD Production Suite

The Vegas+DVD Production Suite combines Vegas 6, DVD Architect™ 3, and Dolby Digital® AC-3 encoding software to offer an integrated environment for all phases of video, audio, DVD, and broadcast production.

A must for the professional media producer, this suite lets you edit and process DV, HDV, and SD/HD-SDI in real-time, manipulate audio with unparalleled precision, and efficiently author menu-based and single-title DVDs.

Key features include: HDV support, unlimited tracks for audio and video, customisable 2D and 3D effects, project nesting, subtitles, multiple camera angle support, and advanced media management.



The Vegas+DVD Production Suite also includes a limited-edition Sony Pictures Sound Effects™ Series sampler CD, and the Boris® Graffiti LTD, Boris FX LTD for Vegas, and Magic Bullet Movie Looks™ HD 50 plug-ins.

Sound Forge 8

Sound Forge® software is the leading professional digital audio-editing application for recording, editing, effects processing, and streaming media creation. Cut, paste, mix, crossfade, and delete audio with speed and precision. Edit files non-destructively in real-time at the sample level.

Synchronise audio and video frame-by-frame to create professional multimedia productions.

More than 40 built-in professional audio effects and processes with over 200 pre-sets for comprehensive audio manipulation.

Supports multiple file formats and full resolution 24-bit/32-bit, 192 kHz files for the ultimate in audio fidelity.

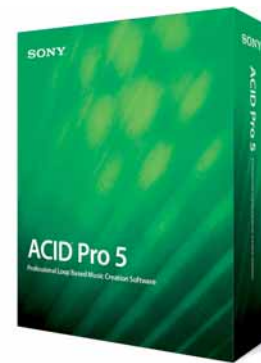


Version 8 new features include application scripting, batch conversion, and VST effects support. Includes CD Architect software for Red Book CD burning.

Acid® Pro 5

ACID® Pro software is the ideal loop-based music creation application. This award-winning program lets you create original songs, remix tracks, produce 5.1 surround mixes, develop music beds, score videos, and create music for Web sites and Flash™ animations. Record MIDI, music, or vocals into your project, or extract audio from CDs. Edit audio and apply effects in real time.

Advanced professional features include Groove Mapping™ quantisation tools, Media Manager™ technology, native VST effects support, event reverse, and nestable folder tracks. Intuitive “pick, paint, and play” interface. Includes over 1,000 royalty-free loops and Native Instruments™ Xpress Keyboards VSTi soft synth bundle.



DVStation

High quality, flexible, networked production for workgroups

Sony DVStation is the ideal shared storage solution for those who acquire or produce media in DV, DVCAM and now, HDV-based formats.

With DVStation, material is always held centrally and streamed on demand to users. This means multiple users can concurrently access and utilise library clips.

DVStation is more than a content store - it has a full and comprehensive asset management system. This provides the tools to ingest and index material, search and browse clips - and perform simple editing.

Full programme finishing can then be completed in any of the supported non-linear editing packages, which includes both Sony Vegas and Sound Forge. Completed projects can be distributed via a choice of delivery options - from broadcast playout, DVD or tape to streaming via the web or handheld devices.





Recommended Wireless Microphone Systems for DVCAM

The UWP Series of wireless microphones have two specific packages designed for portable/camera use. Each package has been carefully compiled to meet with a range of operational requirements that are able to adapt to all your operational needs. The UWP Series excels in transmission stability. Sophisticated wireless technologies, developed for top-of-the-line Sony wireless microphone systems, have been incorporated, including the UHF PLL-synthesised system, space-diversity reception and a tone squelch function. These capabilities are typically found only on high-end wireless systems.



Photo shows wireless microphone UWP-C1 mounted on a DSR-PD170P camcorder.

Features

Stable Transmission and Reception

The UWP Series Wireless Microphone System uses three core technologies to provide stable transmission and reception:

PLL Synthesised System

Key to achieving stable transmission and reception is the use of a stable carrier signal to avoid interference with other frequency channels and to allow the selection of a preferred channel from multiple frequencies. The UWP Series achieves this by using a UHF PLL (Phase Locked Loop) frequency synthesised system, which provides the use of accurate carrier signal frequencies. This system is used in both the transmitters and tuners, so that a stable carrier is generated at the transmitter and accurately tuned in at the tuner. This PLL-controlled system provides highly stable, user-selectable frequencies.

Space Diversity Reception System

In general, wireless microphone transmission systems can be subject to reception interruptions (signal dropout), but the UWP Series reduces this to a minimum. By utilising a space diversity reception system, it achieves stable reception by using dual-antenna inputs/reception circuits that receive signals over two different paths and automatically selecting the stronger RF signal for output.

Tone Squelch Circuitry

When operating a wireless microphone system, it is essential that the tuner does not pick up carrier signals transmitted from other systems. In order to avoid this, the UWP Series handheld microphone and portable transmitter transmit a 32-kHz pilot-tone signal along with the audio signal. The squelch circuit of the UWP Series tuners recognises this tone signal, and will output the audio signal only when this tone signal is received. This function virtually prevents the output of unwanted signals or noise from other signal transmissions in the air, as well as the RF noise and popping noise that occur when the transmitter is powered on or off.

Pre-Programmed Operating Frequencies

The transmitters and tuners included in the UWP Series incorporate pre-programmed frequencies that meet the wireless-communication regulations of each country. The UWP Series operates within the following frequency ranges: 798 MHz to 822 MHz or 838 MHz to 862 MHz (189 selectable frequencies).

Simultaneous Multi-Channel Operation

The UWP Series allows simultaneous operation of up to 16 wireless microphones. Optimum combinations of practically tested, interference-free frequencies are stored in the UWP tuners. By using the pre-programmed frequency groups, users can easily choose interference-free frequencies for the transmitters and tuners, simplifying the task of system setup.

UWP-C1 Turnkey Package

- Consists of an omni-directional lavalier microphone, bodypack transmitter and portable diversity receiver
- Suitable for a wide range of applications, from news gathering and interviews to talk shows and conferences
- The lavalier microphone is supplied with a microphone windscreen and microphone-holder clip
- The bodypack transmitter is supplied with a belt clip
- The portable diversity receiver is supplied with a microphone stand adaptor, screw adaptor, shoe-mount adaptor for mounting on a camcorder and microphone cable (3-pole mini-plug/XLR-type)
- Space diversity reception system for stable RF reception
- RF squelch function virtually eliminates ambient noise and unwanted signals from other wireless microphone systems
- Compact and lightweight design
- LCD screens provide extensive information, including the operating channel number and its frequency in MHz, audio status, RF level, battery status and accumulated operating time



UWP-C2 Turnkey Package

- Consists of a handheld microphone and portable diversity receiver
- Ideal for a variety of situations, from news gathering to interview scenarios
- The handheld microphone is supplied with a microphone holder and screw adaptor
- The portable diversity receiver is supplied with a microphone stand adaptor, screw adaptor, shoe-mount adaptor for mounting on a camcorder, belt clip and microphone cable (3-pole mini-plug/XLR type)
- Space diversity reception system for stable RF reception
- RF squelch function virtually eliminates ambient noise and unwanted signals from other wireless microphone systems
- Compact and lightweight design
- Uni-directional, dynamic microphone capsule
- LCD screens provide extensive information, including the operating channel number and its frequency in MHz, audio status, RF level, battery status and accumulated operating time



Developed by Sony to meet the real needs of camera operators, editors, producers, facilities houses and rental houses, Professional Disc offers all the qualities you'd expect from a rugged, reliable platform for acquisition, production and distribution.

Whether you need the outstanding picture quality of MPEG IMX or the economy and convenience of working in DVCAM, Sony XDCAM products offer the ability to record* and play back both HD, MPEG IMX** and DVCAM 8-bit digital component recording with a 5:1 compression ratio and a sampling rate of 4:2:0 streams.

* The PDW-V1 Mobile Deck only allows recording using network and i.LINK File Access Mode.

** The PDW-510P Camcorder is capable of DVCAM recording only.

PDW-530P/510P MPEG IMX / DVCAM* Switchable Camcorder

- MPEG IMX 50, 40 & 30 Mb/s & DVCAM recording (*PDW-510P: DVCAM recording only)
- Three 2/3-inch Power HAD EX CCDs
- Progressive mode (25P)
- 16:9/4:3 switchable
- Thumbnail operation on LCD display
- i.LINK In and Out & Ethernet Option (100Base-T)
- 7-year warranty supplied as standard



XDCAM™
Professional Disc System

PDW-1500 Compact Deck

- MPEG IMX & DVCAM recording
- Proxy & Metadata recording
- Slow Motion -2/+2
- High-speed transfer
- Versatile interface
- Gigabit Ethernet
- i.LINK AV/C and FAM* In and Out
- Thumbnail and EDL operations
- 7-year warranty supplied as standard

* FAM: File Access Mode



XDCAM™
Professional Disc System

PDW-V1 Mobile Deck

- MPEG IMX & DVCAM playback
- Slow Motion -1/+2
- Thumbnail and EDL operations
- 3.5-inch LCD display
- Ethernet (100Base-T), VGA out
- i.LINK FAM* In and Out (Files)
- Battery & AC operation
- 7-year warranty supplied as standard

* FAM: File Access Mode



XDCAM™
Professional Disc System

PDW-D1 Mobile NLE Deck

- MPEG IMX & DVCAM recording
- Proxy & Metadata recording
- i.LINK In and Out (DV Stream)
- Realtime MPEG IMX to DV conversion through i.Link
- i.LINK FAM* In and Out (Files)
- 12V DC & AC operation
- 7-year warranty supplied as standard

* FAM: File Access Mode



XDCAM™
Professional Disc System

HDV CAMCORDERS & VTR

The rapid transition to HD programming in broadcasting and post production has created tremendous demand for an entry-level path into the HD world. Sony have responded to this demand with the introduction of a range exciting new Digital HD products.

They adopt the all-new, 1/4-inch HD format - the HDV 1080i specification of the HDV format - while maintaining the DVCAM/DV recording and playback capabilities provided on current Sony DVCAM models.

HVR-Z1E HDV Handheld Camcorder

- HDV, DVCAM & DV (SP)*1 formats recording & playback
- Three 1/3-inch type HD CCDs (16:9)
- 14-bit HD DXP (Digital Extended Processor)
- Wide-angle Carl Zeiss™ lens
- 3.5-inch LCD panel (16:9)
- Large B/W & Colour switchable Viewfinder (16:9)
- On-board down conversion to DV
- 50Hz/60Hz (PAL/NTSC) switchable*2
- Cineframe mode (24/25/30 frames)
- 2-mode Cinematone Gamma
- 2ch XLR Audio Inputs
- Independent 2ch Audio Rec Level Control
- Time code preset
- 6 assignable buttons



Model shown features ECM-678 Microphone which is not included as standard.

- i.LINK (HDV/DV) interface
- Analogue Component Output
- Silver Support supplied as standard

*1 When recording in DV (SP) format, the transition between cut to cut may not be smooth. In addition, when the recording format is switched between HDV, DVCAM and DV, the transition may not be recorded smoothly.

*2 The HVR-Z1E is not equipped to convert signals from NTSC to PAL, or vice versa.

HDV

HVR-A1E HDV Palm Camcorder

- HDV, DVCAM & DV (SP)*1 formats recording & playback
- Bigger single chip 1/8-inch 3-mega pixel CMOS sensor
- Enhanced Imaging Processor (EIP)
- Carl Zeiss™ lens
- 2.7-inch Hybrid LCD Panel (16:9) with touch panel function
- B&W / Colour switchable viewfinder (16:9)
- On-board down conversion to DV
- Still image recording onto Memory Stick
- Cineframe mode (25 frames)
- 2-mode Cinematone Gamma
- 2ch XLR Audio Inputs
- Microphone included as standard
- Time code preset



- Assignable button
- i.LINK (HDV/DV) interface
- Analogue Component Output
- Silver Support supplied as standard

*1 When recording in DV (SP) format, the transition between cut to cut may not be smooth. In addition, when the recording format is switched between HDV, DVCAM and DV, the transition may not be recorded smoothly.

HDV

HVR-M10E HDV Recorder

- HDV, DVCAM & DV (SP)*1 formats recording & playback
- On-board down conversion to DV
- 50Hz/60Hz (PAL/NTSC) switchable*2
- 3.5-inch LCD panel (16:9)
- Independent 2ch Audio Rec Level Control
- Time code preset
- i.LINK (HDV/DV) interface
- Analogue Component Output
- LANC control
- Compact & layout free design



- Battery & DC power operation
- Silver Support supplied as standard

*1 When recording in DV (SP) format, the transition between cut to cut may not be smooth. In addition, when the recording format is switched between HDV, DVCAM and DV, the transition may not be recorded smoothly.

*2 The HVR-M10E is not equipped to convert signals from NTSC to PAL, or vice versa.

HDV



DIGITAL CAMCORDER FEATURES COMPARISON

	DSR-450WSP	DSR-400P	DSR-250P	DSR-PD170P
General				
CCD size	3CCD 2/3-inch	3CCD 2/3-inch	3CCD 1/3-inch	3CCD 1/3-inch
CCD type	16:9, Power HAD EX	4:3, Power HAD EX	4:3	4:3
16:9 or 4:3 commutation	4:3 Commutation		16:9 Commutation	16:9 Commutation
Standard lens	Recommended Canon: Canon : YJ19x9BKRS Fujinon : A20x8.6BRM-SD	VCL-917BY (supplied in K package)	12x (6.0 to 72 mm)	12x (6.0 to 72 mm)
Interchangeable lens	•	•		
Viewfinder type	BW CRT	BW CRT	BW CRT	High resolution BW LCD
Colour LCD screen	2.5-inch	2.5-inch	2.5-inch	2.5-inch, Hybrid
Tape size	Standard & Mini	Standard & Mini	Standard & Mini	Mini only
Recording & playback format	DVCAM / DV	DVCAM / DV	DVCAM / DV	DVCAM / DV
Manual iris	Yes (Ring)	Yes (Ring)	Yes (Ring)	Yes (Dial)
Manual zoom	Electric or Manual	Electric or Manual	Electric or Manual	Electric or Manual
Focus ring	•	•	•	•
Assignable buttons	•	•		
Adjustable shoulder pad	•	•		
On-handle zool lever & Rec button				•
Time code preset	•	•	•	•
Memory Stick	For scene file store	For scene file store	For still image capture	For still image capture
Mass	6.5 kg	6.5 kg	4.4 kg	1.5 kg
Camera Specification				
Sensitivity	F11 at 2000 lx (Typical)	F11 at 2000 lx (Typical)		
S/N Ratio	63 dB Typical	63 dB Typical		
Smear Level	-140 dB	-140 dB		
Minimum illumination	0.5 lux	0.5 lux	2 lux	1 lux
Resolution	800 lines (in 16:9 mode) 850 lines (in 4:3 mode)	920 lines	530 lines	530 lines
Advanced Camera Features				
25P (progressive)	•			
Slow Shutter	•			
Selectable Gamma	•			
TruEye Processor		•		
Adaptive Highlight Control	•	•		
Skin Tone Detail	•	•		
Variable Black Gamma Range	•	•		
ATW (Auto Tracing White Balance)	•	•		
Electronic Soft Focus	•	•		
Multi-matrix Function	•	•		
Colour Temperature Control	•	•		
Camera Setup File	•	•		
Interval Recording	•	•	•	•
Super SteadyShot			•	•
Still image recording			•	•
Output connectors				
Composite Video	Yes (BNC)		Yes (RCA+BNC)	Yes (Jack)
Monitor	Yes (BNC)	Yes (BNC)		
S-Video			•	•
i.LINK (IEEE1394)	Yes (6-pin)	Yes (6-pin)	Yes (6-pin)	Yes (4-pin)
SDI	Yes (option CBK-SD01)			
Audio (2x RCA)	•	•	•	•
DC (4-pin)	•	•	•	
Time Code	•	•		
Input connectors				
Composite	Yes (option CBK-SC01)		Yes (RCA)	Yes (RCA)
S-Video			•	•
Gen Lock	•	•		
LANC			•	•
Lens connector	•	•		
Audio XLR	Yes (1x front + 2x rear)	Yes (1x front + 2x rear)	Yes (1x front + 2x rear)	Yes (2x)
Time Code	•	•		
DC 12V (XLR 4-pin)	•	•	•	
i.LINK (IEEE1394)			Yes (6-pin)	Yes (4-pin)
Accessories				
AC adaptor	AC-DN10 / DN2B	AC-DN10 / DN2B	AC-DN10 / DN2B	AC-L15 (supplied)
Battery	BP-GL95/GL65/L60S	BP-GL95/GL65/L60S	BP-L60S	NP-F970/770/570
i-LINK cable	CCF-3L (6P-6P) CCFD-3L (4P-6P)	CCF-3L (6P-6P) CCFD-3L (4P-6P)	CCF-3L (6P-6P) CCFD-3L (4P-6P)	VMC-IL4415/4435 (4P-4P) VMC-IL4615/4635 (4P-6P)
Battery charger	BC-M150/L70	BC-M150/L70	BC-M150/L70	AC-V700A/VQ1050B
UHF Receiver & Beltpack Transmitter			UWP-C1	UWP-C1
UHF Receiver & Handheld Transmitter			UWP-C2	UWP-C2
UHF Wireless Receiver	WRR-855B (+CA-WR855)	WRR-855B (+CA-WR855)		
UHF Wireless Beltpack Transmitter	WRT-822B	WRT-822B		
UHF Wireless Handheld Transmitter	WRT-807B	WRT-807B		
High Quality Shotgun Microphone	ECM-678	ECM-678	ECM-670	ECM-670
Wide angle	Canon YJ12x6.5 KRS Fujinon A12x6.8	Canon YJ12x6.5 KRS Fujinon A12x6.8	option: Sony VCL-HG0758 (without lens hood) Canon WR-58 Century Optics	Sony VCL-HG0758 (supplied) Canon WR-58 Century Optics
Rain cover	LCR-1	LCR-1	LCR-1	LCR-VX2000A
Camcorder light	Anton Bauer Ultra Light2 20W (UL2-6)+ (DIFFUSION FILTER uld-f)	Anton Bauer Ultra Light2 20W (UL2-6)+ (DIFFUSION FILTER uld-f)	Anton Bauer Ultra Light2 20W(UL2-6)+ (DIFFUSION FILTER uld-f)	HVL-20DW2
Tripod adaptor	VCT-U14 (supplied)	VCT-U14 (supplied)	VCT-U14 (option)	(photo type)
Hard carrying case	LC-H300	LC-H300		LCR-VX2000A
Soft carrying case	LC-DS300SFT	LC-DS300SFT	LC-DS300SFT	LCS-VCB
Large viewfinder	DXF-51 + accessories*	DXF-51 + accessories*	DXF-51 + accessories*	
Silver Support	•	•	•	•

* Spare part ref. for assembling kit = A-8278-177-A.

• Available



DIGITAL VTR FEATURES COMPARISON

	DSR-2000AP	DSR-1800AP	DSR-1600AP	DSR-1500AP	DSR-50P	DSR-45P	DSR-25	DSR-11
Cassette								
Standard-size Cassette	•	•	•	•	•	•	•	•
Mini-size Cassette	•	•	•	•	•	•	•	•
DVCPRO Medium-size Cassette	•	•	•	•	–	•	–	–
Digital Interface								
SDI	•	• (Option)	• ^{*1} (Option)	• (Option)	–	–	–	–
SDTI (QSDI)	•	–	–	–	–	–	–	–
i.LINK (DV)	•	•	• ^{*1}	•	•	•	•	•
AES/EBU	•	• (Option)	• ^{*1} (Option)	• (Option)	–	–	–	–
HD-SDI	• ^{*1} (Option)	• ^{*1} (Option)	• ^{*1} (Option)	–	–	–	–	–
Analogue Interface								
Composite	•	•	• ^{*1}	• ^{*2} (Option)	•	•	•	•
Component	•	•	• ^{*1}	• ^{*2} (Option)	• ^{*1}	•	–	•
S-Video	•	•	• ^{*1}	• ^{*2} (Option)	•	•	•	•
Remote Control Interface								
RS-422A	•	•	•	•	–	• ^{*3}	–	–
RS-232C	–	–	–	–	–	•	–	–
LANC	–	–	–	–	• ^{*4}	•	•	•
Control S	–	•	•	•	• ^{*5}	• ^{*5}	•	• ^{*5}
Foot Switch	–	–	–	–	•	–	–	–
Wireless Remote Control	–	–	–	–	–	•	•	•
Editing Capability								
Pre-read Editing/Playback	•	• ^{*6}	–	–	–	–	–	–
Assemble Editing	•	•	•	–	–	–	–	–
Insert Editing	• (Video/Audio/TC)	• (Video/Audio/TC)	–	• (Video/Audio/TC)	–	–	–	–
VITC	•	•	•	•	–	–	–	–
Time Code Input/Output	•	•	•	•	–	•	–	–
ClipLink	•	•	•	•	–	–	–	–
High-speed Data Transfer	–	–	–	–	–	–	–	–
Search Speed	x ±60	x ±60	x ±60	x ±60	x ±17.48	x ±17.48	x ±14.48 (NTSC) x ±17.48 (PAL)	x ±14.48 (NTSC) x ±17.48 (PAL)
Digital Slow	x ±1	x ±0.5	x ±0.5	x ±1/10, 1/3	x ±1/10, 1/3	x ±1/10, 1/5	x ±1/10, 1/3	x ±1/10, 1/3
Others								
DV Playback Capability	• (SP/LP)	• (SP only)	• (SP only)	• (SP only)	• (SP only)	• (SP only)	• (SP only)	• (SP only)
DVCPRO Playback Capability	•	•	•	•	–	–	–	–
DV (SP mode) Recording Capability	–	–	–	• ^{*7}	• ^{*8}	• ^{*8}	• ^{*8}	• ^{*8}
Auto Repeat/ Power-on Playback/Recording	–	• ^{*9}	• ^{*9}	• ^{*9}	–	•	•	• ^{*10}
Index Points Search	–	–	–	–	•	•	•	•
Closed Caption	–	–	–	–	–	–	–	–

* 1 Output only.

* 2 These signals share the same BNC connectors.

* 3 As a player only.

* 4 Control Jack (accepts LANC command as player)

* 5 Input only.

* 6 Playback only.

* 7 Assemble or insert editing is not possible in the consumer DV format mode. However, back space editing is possible using the optional DSRM-10 Remote Control Unit. The transition from cut to cut may not be smooth when performed over a DV recording made on a different DV or DVCAM deck. In between scenes where the recording format is changed from DVCAM to consumer DV format, the transition may not be smooth either. This is a normal and expected phenomenon. The audio reference level is fixed to -12 dB at DV(SP) recording.

* 8 When recording in DV (SP) format, transitions between cut to cut may not be smooth. In addition, when the recording format is switched between DVCAM and DV, the transition may not be recorded smoothly.

* 9 Auto repeat/Power-on playback only.

* 10 Auto repeat only.

• : Available
– : Not available

DVCAM OPTIONAL ACCESSORIES & PERIPHERAL EQUIPMENT



BP-GL65/GL95
Lithium Ion Battery Pack

DSR-450WSP DSR-400P DSR-250P DSR-50P



BP-L60S
Lithium Ion Rechargeable Battery Pack

DSR-450WSP DSR-400P DSR-250P DSR-50P



NP-F770
InfoLITHIUM Rechargeable Battery Pack

DSR-PD170P



2NP-F970/B
InfoLITHIUM Rechargeable Battery Pack

DSR-PD170P



HVL-20DW2
Battery-Operated Light

DSR-PD170P



AC-DN10
AC Adaptor

DSR-450WSP DSR-400P DSR-250P



AC-DN2B
AC Adaptor

DSR-450WSP DSR-400P DSR-250P



AC-V700A
AC Adaptor/Charger

DSR-PD170P



AC-VQ1050B
AC Adaptor/Charger

DSR-PD170P



BC-M150
Battery Charger for BP-GL65/GL95

DSR-450WSP DSR-400P DSR-250P DSR-50P



BC-L70
Battery Charger for BP-GL65/GL95

DSR-450WSP DSR-400P DSR-250P DSR-50P



DXF-51
5-inch Monochrome Viewfinder

DSR-450WSP DSR-400P

* When it is attached to the DSR-450WS/400, a mount bracket (A-8274-968-B) is required.



RM-B750
Remote Control Unit

DSR-450WSP



RM-B150
Remote Control Unit

DSR-450WSP



RM-280
Editing Controller

DSR-DR1000AP DSR-1500AP DSR-1600AP DSR-1800AP
DSR-2000AP DSR-45P



YJ19x9BKRS
2/3-inch type Format 19x Lens

DSR-450WSP DSR-400P



A20x8.6BRM-SD
2/3-inch type Format 20x Lens

DSR-450WSP DSR-400P



DVCAM OPTIONAL ACCESSORIES & PERIPHERAL EQUIPMENT



VF-58PK
Filter Kit
PL Filter and Multi-coat Filter

DSR-250P DSR-PD170P



VCL-HG0758
Wide Conversion Lens 0.7x

DSR-250P DSR-PD170P



VCL-HG1758
Tele Conversion Lens 1.7x

DSR-250P DSR-PD170P



LSF-S58
Lens Hood

DSR-PD170P



VCT-PG11RMB
Video Tripod

DSR-PD170P
Available Dec. 2005



RM-1BP
Remote Control for VCT-PG11RMB Video Tripod

DSR-PD170P
Available Dec. 2005



VCT-U14
Tripod Adaptor

DSR-450WSP DSR-400P DSR-250P



UWP-C1
Wireless
Microphone Package

DSR-450WSP DSR-400P DSR-250P
DSR-PD170P



UWP-C2
Wireless
Microphone Package

DSR-450WSP DSR-400P DSR-250P
DSR-PD170P



WRR-862B
Dual UHF Synthesized Tuner

DSR-450WSP DSR-400P

*When using the WRR-862B, a mount bracket (A-8278-057-A) is required.



WRR-855B
UHF Synthesized Tuner

DSR-450WSP DSR-400P



WRT-822B
UHF Synthesized
Wireless Transmitter

DSR-450WSP DSR-400P



CA-WR855
Camera Adaptor for
WRR-855B

DSR-450WSP DSR-400P



CAC-12
Microphone Holder

DSR-450WSP DSR-400P DSR-250P



ECM-672/670
Electret Condenser
Microphone

DSR-450WSP DSR-400P DSR-250P
DSR-PD170P



ECM-678
Electret Condenser
Microphone

DSR-250P DSR-PD170P



LC-DS300SFT
Carrying Case
(Soft type)

DSR-450WSP DSR-400P



LCS-VCB
Camcorder Carrying Case
(Soft type)

DSR-PD170P

DVCAM OPTIONAL ACCESSORIES & PERIPHERAL EQUIPMENT



LC-H300
Hard Carrying Case

DSR-450WSP DSR-400P



LCH-VX2000A
Hard Carrying Case

DSR-PD170P



LCR-VX2000A
Rain Jacket

DSR-PD170P



LCR-1
Rain Cover

DSR-450WSP DSR-400P



FS-20
Foot Switch

DSR-50P



DSRM-10
Remote Control Unit

DSR-1800AP DSR-1600AP DSR-1500AP DSR-45P
DSR-25 DSR-11 DSR-50P



RMM-131
Rack Mount Kit

DSR-2000AP DSR-1800AP DSR-1600AP



DSBK-1501
Digital Input/Output Board

DSR-1500AP



DSBK-1505
Analogue Input Board

DSR-1500AP



DSBK-1601
SDI/AES/EBU Output Board

DSR-1600AP



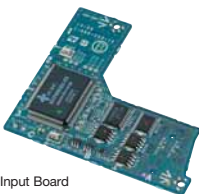
DSBK-1801
SDI/AES/EBU Input/Output Board

DSR-1800AP



DSBK-2020, DSBK-1820*
HD Up-conversion Boards
*Not pictured here

DSR-2000AP DSR-1800AP DSR-1600AP



CBK-SC01
Analogue Composite Input Board

DSR-450WSP



CBK-SD01
SDI Output Board

DSR-450WSP



RCC-5G
Remote Control Cable
(5 m)

DSR-2000AP DSR-1800AP DSR-1600AP DSR-1500AP
DSR-45P DSR-DR1000AP

DVCAM OPTIONAL ACCESSORIES & PERIPHERAL EQUIPMENT



VMC-IL4408A/IL4415/IL4435
i.LINK Cable
(4-pin to 4-pin, 0.8 m/1.5 m/3.5 m)

DSR-PD170P DSR-45P DSR-25 DSR-11



VMC-IL4615/IL4635
i.LINK Cable
(4-pin to 6-pin, 1.5 m/3.5 m)

DSR-250P DSR-PD170P DSR-2000AP DSR-1800AP
DSR-1600AP DSR-1500AP DSR-45P DSR-25
DSR-11 DSR-50P DSR-DR1000AP



VMC-IL6615/IL6635
i.LINK Cable
(6-pin to 6-pin, 1.5 m/3.5 m)

DSR-250P DSR-2000AP DSR-1800AP DSR-1600AP
DSR-1500AP DSR-50P DSR-DR1000AP



CCF-3L
DV Cable
(6-pin with lock to 6-pin)

DSR-450WSP DSR-400P DSR-250P DSR-2000AP
DSR-1600AP DSR-1500AP DSR-50P DSR-DR1000AP
DSR-1800AP



CCFD-3L
DV Cable
(6-pin with lock to 4-pin)

DSR-450WSP DSR-400P DSR-250P DSR-PD170P
DSR-45P DSR-25 DSR-11 DSR-50P



PDV-64MEM/124MEM/184MEM
Digital Video Cassette
(Master tape/Standard size)

DSR-450WSP DSR-400P DSR-250P DSR-2000AP
DSR-1800AP DSR-1600AP DSR-1500AP DSR-45P
DSR-25 DSR-11 DSR-50P



PDVM-32MEM/40MEM
Digital Video Cassette
(Master tape/Mini size)

DSR-450WSP DSR-400P DSR-250P DSR-PD170P
DSR-2000AP DSR-1800AP DSR-1600AP DSR-1500AP
DSR-45P DSR-25 DSR-11 DSR-50P



PDV-34ME/64ME/94ME/124ME/184ME
Digital Video Cassette
(Standard size)

DSR-450WSP DSR-400P DSR-250P DSR-2000AP
DSR-1800AP DSR-1600AP DSR-1500AP DSR-45P
DSR-25 DSR-11 DSR-50P



PDVM-12ME/22ME/32ME/40ME
Digital Video Cassette
(Mini size)

DSR-450WSP DSR-400P DSR-250P DSR-PD170P
DSR-2000AP DSR-1800AP DSR-1600AP DSR-1500AP
DSR-45P DSR-25 DSR-11 DSR-50P



PDV-34N/64N/94N/124N/184N
Digital Video Cassette
(Non IC type/Standard size)

DSR-450WSP DSR-400P DSR-250P DSR-2000AP
DSR-1800AP DSR-1600AP DSR-1500AP DSR-45P
DSR-25 DSR-11 DSR-50P



PDVM-12N/22N/32N/40N
Digital Video Cassette
(Non IC type/Mini size)

DSR-450WSP DSR-400P DSR-250P DSR-PD170P
DSR-2000AP DSR-1800AP DSR-1600AP DSR-1500AP
DSR-45P DSR-25 DSR-11 DSR-50P



PDV-12CL
Cleaning Cassette Tape
(Standard size)

DSR-450WSP DSR-400P DSR-250P DSR-2000AP
DSR-1800AP DSR-1600AP DSR-1500AP DSR-45P
DSR-25 DSR-11 DSR-50P



PDVM-12CL
Cleaning Cassette Tape
(Mini size)

DSR-450WSP DSR-400P DSR-250P DSR-PD170P
DSR-2000AP DSR-1800AP DSR-1600AP DSR-1500AP
DSR-45P DSR-25 DSR-11 DSR-50P



MSH-32/64/128/128S2
IC Recording Media Memory Stick
(32 MB/64 MB/128 MB/256 MB)

DSR-450WSP DSR-400P DSR-250P DSR-PD170P



PHDVM-63DM
HDV Video Cassettes

DSR-450WSP DSR-400P DSR-250P DSR-PD170P
DSR-2000AP DSR-1800AP DSR-1600AP DSR-1500AP
DSR-45P DSR-25 DSR-11 DSR-50P

Sony Professional Services

Services from Sony: working with you, working for you.

Recognising that every company and every challenge is unique, we offer a complete and comprehensive range of services all the way through consulting, planning, financing, implementation, training, servicing, maintenance and support. Choose exactly what's right for you, when and where you need it.

Sony Professional Services: Tailor-made design, installation and project management of audio-visual and IT (AV/IT) systems using skills developed over 25 years of systems integration.

Sony Financial Services: Innovative and flexible finance solutions designed to meet budgetary and financial requirements and constraints, enabling businesses to always have the most current technology.

Sony Training Services: A range of off-the-shelf or customised training services from basic operation through to high-level technical maintenance.

Sony Support Services: Fully integrated and customised support for products and systems throughout their operational life, combining proactive and reactive technical services

Not all services are available in all countries. If you'd like to find out more about what we do, who we do it for and how we do it, visit www.sonybiz.net or contact your local Sony office.



Silver Support for DVCAM and HDV



2-year Support

The Silver Support Pack extends the support period from the standard 1-year warranty to 2 years with the option to extend to a 3-year period. Not only that, extra features and services are also included.



Operational Helpdesk

Operational phone support is provided to give advice and help so that you can get the most out of your HDV and DVCAM equipment and maximise its performance. The multi-lingual helpdesk is available from Monday to Friday.



Collection Anywhere

In the event of equipment failure, Sony will arrange for the collection, repair and return of the unit directly to your location, anywhere in mainland EU, Norway or Switzerland. That makes it simpler, quicker and even more convenient for you.



Repair within 7 days

Sony will collect, repair and return the unit to your preferred location within 7 working days. So, minimum downtime, increased confidence and the ability to plan your business are guaranteed.



Loan

If the repair is likely to exceed 7 working days, Sony will contact you and offer to send a loan unit for the remainder of the repair.



7-year warranty for XDCAM optical drive.

**How do you make a great product even greater? Easy.
Give it the best warranty available for even more peace of mind.**

To further emphasise the robustness and long life-span of the optical drive components used in XDCAM hardware, Sony is offering a unique 7-year warranty on XDCAM optical drive components, parts and labour for 7 years from the date of purchase. The warranty applies to the optical drive in both Camcorder and Deck XDCAM products, while for other component parts of XDCAM products, the standard Sony warranty of 1 year parts and labour from the date of purchase applies.

Intensive worldwide testing has proven the robustness of XDCAM hardware to be at the very least equivalent to the toughest tape-based products.

There is no charge for the 7-year optical drive warranty and a registration form is included with every XDCAM product.

XDCAM provides you with an unprecedented level of reliability from your equipment.



DSR-450WSP/DSR-400P Camcorders

		DSR-450WSP	DSR-400P	
General				
Power requirements		DC 12 V (11 to 17V)		
Power consumption		Approx. 17 W (with DC 12 V power supply, REC mode, viewfinder off, LCD monitor off)		
Operating temperature		0 to +40 °C (+32 to +104 °F)		
Storage temperature		-20 to +60 °C (-4 to +140 °F)		
Operating humidity		25 to 85%		
Mass		Approx. 6.5 kg (14 lb 5 oz) (with viewfinder, microphone, BP-GL65 battery, mini-size DVCAM cassette, VCL-917BY lens)		
Continuous operating time		Approx. 300 min. with BP-GL95 battery, REC mode		
Signal inputs/outputs				
Video inputs	Analogue composite	BNC, 1.0 Vp-p, 75 Ω (with the CBK-SC01)	-	
	Genlock video		BNC, 1.0 Vp-p, 75 Ω	
Audio input (CH-1/2)		XLR-3 (2), female, -60 dBu/+4 dBu, 10 kΩ, balanced		
Microphone input		XLR-3, female, -60 dBu		
Time code input		BNC, 0.5 to 18 Vp-p, 10 kΩ		
Video outputs	SDI	BNC, 0.8 Vp-p, 75 Ω (with the CBK-SD01)	-	
	i.LINK		i.LINK, 6-pin IEEE 1394-based	
	Analogue composite	BNC, 1.0 Vp-p, 75 Ω	-	
Audio output (CH-1/2)		Pin-jacks (2), -10dBu, 47kΩ		
Time code output		BNC, 1.0 Vp-p, 75 Ω		
Monitor output		BNC, 1.0 Vp-p, 75 Ω		
Earphone output		Mini-jack		
Other inputs/outputs				
Lens		12-pin		
VF		20-pin		
Remote		8-pin	-	
Wireless microphone			7-pin	
Light		2-pin, DC 12 V, max. 50 W		
DC input		XLR-4-pin, male, DC 11 to 17 V		
DC output		4-pin (for wireless microphone receiver), DC 12 V (max. 0.2 A)		
Battery terminal		5-pin		
Camera performance				
Pickup device	Pickup device	3-chip 2/3-inch type Power HAD EX CCD		
	Aspect ratio	16:9/4:3 switchable	4:3	
	Total picture elements (H x V)	1038 x 1188		
	Effective picture elements (H x V)	980 x 1064		
Optical system	Spectral system	F1.4 prism (with quartz filter)		
	Built-in filters	1: Clear, 2: 1/4ND, 3: 1/16ND, 4: 1/64ND		
	Lens mount	2/3-inch type Sony bayonet mount		
Electrical characteristics	Signal system	PAL colour system		
	Scan format	625/50i, 625/25P	625/50i	
	Sync system	Internal and External with the VBS or BS signal		
	A/D conversion	12 bits		
	Sensitivity	F11 (typical) (2000 lx, 89.9% reflectance)		
	Minimum illumination	0.5 lx (F1.4 lens, +36 dB gain, shutter off)		0.5 lx (F1.4 lens, +36 dB gain, shutter off)
		0.03 lx (with slow shutter, 16 frames accumulation)		
	Smear level	-140 dB (typical)		
	Video S/N ratio	63 dB (typical)		
	Horizontal resolution	850 TV lines (4:3 mode), 800 TV lines (16:9 mode)		920 TV lines
	Vertical resolution	480 TV lines (with EVS) and 530 TV lines (without EVS) at 625/50i mode		480 TV lines (with EVS), 530 TV lines (without EVS)
		575 TV lines at 625/25P mode		
Shutter speed	1/60, 1/125, 1/250, 1/500, 1/1000, 1/2000 s at 625/50i mode		1/60, 1/125, 1/250, 1/500, 1/1000, 1/2000 s	
	1/33, 1/50, 1/100, 1/125, 1/250, 1/500, 1/1000, 1/2000 s at 625/25P mode			
ECS	50 to 6000 Hz at 625/50i mode		50 to 6000 Hz	
	25 to 6000 Hz at 625/25P mode			
Slow shutter	1/25, 1/12.5, 1/8.3, 1/6.3, 1/5, 1/4.2, 1/3.6, 1/3., 1/1.6 s (1 to 8, 16 frames)		-	
Gain selection	-3, 0, 3, 6, 9, 12, 18, 24, 30, 36 dB (for GAIN LOW, GAIN MID, GAIN HIGH and GAIN TURBO positions)			
Video performance				
Recording format	Video	DVCAM/DV (SP) (25 Mb/s)		
	Audio	2 ch/16-bit/48 kHz, 2 ch/12-bit/32 kHz, 4 ch/12-bit/32 kHz (for use with a studio VTR)		
Record/playback time		DVCAM: 184 min (with the PDV-184ME), DV SP: 276 min (with the PDV-184ME)		
Fast forward time		Approx. 45 s (with the PDVM-40ME), approx. 2 min 30 s (with the PDV-184ME)		
Rewind time		Approx. 45 s (with the PDVM-40ME), approx. 2 min 30 s (with the PDV-184ME)		
Recommended recording media		PDV-184ME/124ME/94ME/64ME/34ME/184N/124N/94N/64N/34N, PDVM-184ME/124ME/94ME/64ME/34ME/184N/124N/94N/64N/34N		
Sampling frequency		Y: 13.5 MHz, R-Y/B-Y: 6.75 MHz		
Quantization		8 bits		
Audio performance				
Frequency response		48 kHz: 20 Hz to 20 kHz +0.5/-1.0 dB, 32 kHz: 20 Hz to 14.5 kHz +0.5/-1.0 dB		
Dynamic range		More than 80 dB		
Distortion (at 1 kHz, emphasis ON, reference level)		Less than 0.12% (at 1 kHz, reference level, 48 kHz)		
Built-in LCD monitor				
		2.5-inch type colour LCD monitor, resolution: 214,000 (964 x 222) pixels		
Viewfinder				
		1.5-inch type monochrome		
Indicators		REC TALLY (2), TAKE TALLY, BATT, SHUTTER, GAIN UP		
Horizontal resolution		600 TV lines		
Microphone		Electret condenser microphone (detachable)		
Eco-info				
		Lead-free solder is used for soldering all the parts including circuit component electrodes. Halogenated flame retardants are not used in the printed wiring boards.(100%)		
Supplied Accessories				
		DXF-801 Viewfinder, Microphone, VCT-U14 Tripod Adaptor, Shoulder Strap, Lens Mount Cap, Test Chart for Flange Focal Length Adjustment, VCL-917BY Zoom Lens (DSR-400PK Package)		

DSR-250P/DSR-PD170P Camcorders

	DSR-250P	DSR-PD170P
General		
Power requirements	DC 12 V (11 V to 17 V)	DC 7.2 V (Battery), DC 8.4 V (AC adaptor)
Power consumption	10.5 W (with VF), 12.1 W (with VF and LCD)	4.7 W (with VF), 5.7 W (with VF and LCD)
Operating temperature	0 °C to 40 °C (32 °F to 104 °F)	
Storage temperature	-20 °C to 60 °C (-4 °F to 140 °F)	
Tape speed	Approx. 28.2 mm/s (DVCAM mode) Approx. 18.8 mm/s (DV SP mode)	
Recording/Playback time	184 minutes (DVCAM mode), 270 minutes (DV SP mode with PDV-184ME) cassette, 40 minutes (DVCAM mode) 60 minutes (DV SP mode with PDVM-40ME)	40 minutes (DVCAM mode) 60 minutes (DV SP mode, with PDVM-40ME)
Mass	Approx. 4.4 kg (9 lb 11 oz)	(camcorder only) Approx. 1.6 kg (3 lb 8 oz)
Dimensions (W x H x D)	214.7 x 251.25 x 508.8 mm (9 5/8 x 10 x 20 1/8 inches)	133 x 180 x 456 mm (5 1/4 x 7 1/8 x 18 inches) including microphone
Lens		
Zoom	12:1 Variable Speed zoom lens F =6.0 to 72.0 mm; F1.6 to 2.4	
Filter diameter	58 mm (2 3/8 inches)	
Focus	Auto/Manual (ring)/Infinity/One push auto	
Camera		
Image device	Three 1/3-inch type CCDs, 450,000 pixels	
Signal system	CCIR Standard, PAL colour system	
Scanning system	Progressive/Interlace Scan	
Horizontal resolution	530 TV lines	
Minimum illumination	2 lx	1 lx
Gain selection	+0, +3, +6, +9, +12, +15, +18 dB	
Shutter speed selection	1/3, 1/6, 1/12, 1/25, 1/50, 1/60, 1/100, 1/120, 1/150, 1/215, 1/300, 1/425, 1/600, 1/1000, 1/1250, 1/1750, 1/2500, 1/3500, 1/6000, 1/10000 s	
Exposure	Auto/Manual (Iris ring)	Auto/Manual (Iris dial)
White balance	Auto/One-push(Memory A, B)/Out door(5800 K)/Indoor(3200 K)	Auto/One-push/Outdoor(5800K)/Indoor(3200K)
Viewfinder	1.5-inch black and white CRT, Zebra Pattern	180,000 dot Black & White LCD, Zebra Pattern
Built-in microphone	—	
Built-in speaker	Dynamic speaker	
LCD	TFT Active Matrix 2.5-inch type, 200,640 dots (880 x 228)	Hybrid, 2.5-inch type, 211,200 dots (960 x 220)
Memory card slot	Memory Stick Recording signals: Camera signals, VTR signals Image compression: JPEG Image size: VGA (640 x 480)	
Input/Output Connectors		
Signal inputs/outputs	Video IN/OUT: RCA pin x 1, Y: 1 Vp-p, 75 Ω, unbalanced, sync negative Video OUT: BNC pin x 1, Y: 1 Vp-p, 75Ω, unbalanced, sync negative Audio IN/OUT: RCA pin x 2, 2.245 m Output impedance with less than 2.2 kΩ Input impedance with more than 47 kΩ S-Video IN/OUT: Mini-DIN 4 pin x 1 Y: 1 Vp-p, 75 Ω, unbalanced, C: 0.3 Vp-p Audio IN: XLR 3-pin (female) x 3, -60 dBu, 6.8 kΩ, +4 dBu, 6.8 kΩ (0 dBu = 0.775 V rms) i.LINK (DV): 6 pin (with lock) x 1	Video IN/OUT: RCA pin x 1 Y: 1 Vp-p, 75 Ω, unbalanced, sync negative Audio IN/OUT: RCA pin x 2, 327 mV Output impedance with less than 2.2 k Input impedance with more than 47 k S-Video IN/OUT: Mini-DIN 4 pin x 1 Y: 1 Vp-p, 75 Ω, unbalanced C: 0.3 Vp-p Audio IN: XLR 3-pin female x 2, -60 dBu, 3 kΩ, +4 dBu, 10 kΩ (0 dBu = 0.775 V rms) i.LINK (DV): 4-pin x 1
Others	LANC: Stereo mini-mini jack (0.25 mm) x 1 Headphone: Stereo mini jack (0.35 mm) x 1 External DC IN: 12 V, XLR 4-pin (male) DC OUT for Light: 12 V, max. 30 W DC OUT: 12 V, 4 pin	LANC: Stereo mini-mini jack (0.25 mm) x 1 Headphone: Stereo mini jack (0.35 mm) x 1 External DC IN: 8.4 V for AC-L10 AC adaptor
Supplied Accessories		
	ECM-NV1 Monaural Microphone RMT-811 Remote Commander and R6 Batteries (2) Hood Cap	ECM-NV1 Monaural Microphone AC-L15 AC Adaptor NP-F570 InfoLITHIUM Rechargeable Battery Pack RMT-811 Remote Commander and B6 Batteries (2) VCL-HG0758 Wide Conversion Lens LSF-S58 Lens Hood for Wide Conversion Lens and Hood Cap Lens Hood with Built-in Lens Cap Carrying Belt i.LINK Cable Strap Stereo AV Cable



SPECIFICATIONS

DSR-2000AP/DSR-1800AP/DSR-1600AP/DSR-1500AP Studio VTRs

	DSR-2000AP	DSR-1800AP	DSR-1600AP	DSR-1500AP
General				
Power requirements	AC 100 V to 240 V, 50/60 Hz			
Power consumption (Max.)	120 W	100 W	70 W	55 W
Operating temperature	5 °C to 40 °C (41 °F to 104 °F)			
Storage temperature	-20 °C to 60 °C (-4 °F to 140 °F)			
Operating humidity	Less than 80%			
Storage humidity	Less than 90%			
Tape speed	28.221 mm/s			
Recording/Playback time	Standard size: 184 min.(DVCAM mode), 276 min.(DV SP mode)* with PDV-184ME/184N/184MEM, Mini size: 40 min.(DVCAM mode), 60 min.(DV SP mode)* with PDVM-40ME/40N/40MEM			
Fast forward/Rewind time	Standard size: Less than 3 min. with PDV-184ME/184N/184MEM, Mini size: Less than 1 min. with PDVM-40ME/40N/40MEM			
Search speed	Shuttle mode: still to ± 60 times normal speed Digital slow mode: ± 1 times normal speed		Shuttle mode: still to ± 60 times normal speed Digital slow mode: ± 0.5 times normal speed	
Mass	18 kg (39 lb 10 oz)	13 kg (28 lb 10 oz)		6 kg (13 lb 3 oz)
Dimensions (W x H x D, excluding projections)	427 x 175 x 495.5 mm (16 7/8 x 7 x 19 5/8 inches)	427 x 174 x 400 mm (16 7/8 x 6 7/8 x 15 3/4 inches)		210 x 130 x 420 mm (8 3/8 x 5 1/8 x 16 5/8 inches)
Video Performance				
Bandwidth Luminance (via analogue component I/O)	25 Hz to 5.0 MHz ± 1.0 dB 5.75 MHz $\pm 0/-3.0$ dB (Typical measurement)	25 Hz to 5.0 MHz ± 1.0 dB		25 Hz to 5.0 MHz $\pm 1.0/-1.5$ dB
Chrominance		25 Hz to 2.0 MHz $\pm 1.0/-2.0$ dB		
S/N ratio (via analogue component I/O)		More than 55 dB		
K-factor (K2T, KPb)		Less than 2.0%		
Y/C delay		Less than 30 ns		
Audio Performance				
Frequency response		20 Hz to 20 kHz $\pm 0.5/-1.0$ dB		20 Hz to 20 kHz ± 1.0 dB
2 CH mode (48 kHz/16-bit)		20 Hz to 14.5 kHz $\pm 0.5/-1.0$ dB		20 Hz to 14.5 kHz ± 1.0 dB
4 CH mode (32 kHz/12-bit)				
Dynamic range		More than 90 dB		More than 87 dB
Distortion (THD+N)		Less than 0.05%		Less than 0.07%
Video Signal Inputs				
Analogue				
Ref. Video (BNC x2, loop-through connection)	0.3 Vp-p, 75 Ω , sync negative		—	0.3Vp-p, 75 Ω , sync negative
Video (BNC x2, loop-through connection) ¹	Composite, 1.0 Vp-p, 75 Ω , sync negative		—	Composite, 1.0 Vp-p, 75 Ω , sync negative
Component Y (BNC x3) ¹	1.0 Vp-p, 75 Ω , sync negative		—	1.0 Vp-p, 75 Ω , sync negative
R-Y	0.7 Vp-p, 75 Ω (100 %)		—	0.7 Vp-p, 75 Ω (100 %)
B-Y	0.7 Vp-p, 75 Ω (100 %)		—	0.7 Vp-p, 75 Ω (100 %)
S-Video ¹	DIN 4-pin x 1 Y: 1.0 Vp-p, 75 Ω , sync negative C: 0.3 Vp-p, 75 Ω (at burst level)		—	BNC x 2 Y: 1.0 Vp-p, 75 Ω , sync negative C: 0.3 Vp-p, 75 Ω (at burst level)
Digital				
SDI ^{2,3}	BNC x 2, active-through connection Conforms to Serial Digital Interface (270 Mb/s), ITU-R BT.656	—	—	BNC x 1 Conforms to Serial Digital Interface (270 Mb/s), ITU-RBT.656
SDTI (QSDI) (BNC x1) ³	Conforms to SDTI (270 Mb/s), SMPTE 305M/322M	—	—	Conforms to SDTI (270 Mb/s), SMPTE 305M/322M
i.LINK (DV) (6-pin x1)	IEEE1394		—	IEEE1394
HD-SDI ³	BNC x 2, SMPTE-292M		—	—
Audio Signal Inputs				
Analogue				
Audio ¹	XLR 3-pin female x4			XLR 3-pin female x2
	-6/0/+4 dBu, 600 Ω on/off/ -60 dBu, high impedance	-6/-3/0/+4 dBu, 600 Ω on/off/ -60 dBu, high impedance	—	-6/-3/0/+4 dBu, high impedance
Digital				
AES/EBU ^{3,3}	BNC x 2 75 Ω , unbalanced		—	BNC x 2 75 Ω , unbalanced
Video Signal Outputs				
Analogue				
Ref. Video (BNC x1)	0.3 Vp-p, 75 Ω , sync negative			—
Video	Video 1/2/3 (super) BNC x 3	Video 1/2(super) BNC x 2	Video 1/2/3 (super) BNC x 3	Video 1/2/3 (super) BNC x 3
Component (BNC x3)	Y: 1.0 Vp-p, 75 Ω , sync negative R-Y: 0.7 Vp-p, 75 Ω (100%) B-Y: 0.7 Vp-p, 75 Ω (100%)			
S-Video	DIN 4-pin x 1			BNC x 2
	Y: 1.0 Vp-p, 75 Ω , sync negative C: 0.3 Vp-p, 75 Ω (at burst level)			
Digital				
SDI ^{2,3}	BNC x 3	BNC x 2		
		Conforms to Serial Digital Interface (270 Mb/s), ITU-R BT.656		
SDTI (QSDI) ³	BNC x 1	—		BNC x 2
		Conforms to SDTI (270 Mb/s), SMPTE 305M/322M		
i.LINK (DV) (6-pin x1)	IEEE1394			
Audio Signal Outputs				
Analogue				
Audio	XLR 3-pin male x4			XLR 3-pin male x2
	-6/0/+4 dBu (selectable by menu) 600 Ω loading, low impedance, balanced	-6/-3/0/+4 dBu (selectable by menu)		
Monitor	Phono x 1 -9 dBu, 47 k Ω , unbalanced (-18 dBFS)	RCA x 1 -9 dBu, 47 k Ω , unbalanced (-18 dBFS)		$-\infty$ to -9 dBu, 47 k Ω , unbalanced (-18 dBFS)
Headphone (JM-60 headphone jack x1)	$-\infty$ to -11 dBu, 8 Ω , unbalanced (-18 dBFS)	$-\infty$ to -11 dBu, 8 Ω , unbalanced (-18 dBFS)		$-\infty$ to -11 dBu, 8 Ω , unbalanced (-18 dBFS)
Digital				
AES/EBU ^{3,3}	BNC x 2 75 Ω , unbalanced			
Time Code Input/Output				
In (BNC x1)	0.5 Vp-p to 18 Vp-p, 3.3 k Ω , unbalanced			
Out (BNC x1)	2.2 Vp-p, 75 Ω , unbalanced			
Remote				
	RS-422A: D-sub 9-pin female x2 Video Control: D-sub 15-pin male x1 Control Panel: D-sub 15-pin female x1	RS-422A: D-sub 9-pin female x1 Video Control: D-sub 15-pin male x1 Control S (SIRCS): Stereo mini jack x1		RS-422A: D-sub 9-pin female x1 Control S (SIRCS): Stereo mini jack x1
Supplied Accessories				
	AC Power Cord RCC-5G 9-pin Remote Control Cable Operating Instructions (CD-R)	AC Power Cord Operating Instructions (CD-R)		

*1: The DSR-1500AP only for recording and playback.

The optional DSBK-1504 is required for the DSR-1500AP.

*2: The optional DSBK1801 is required for the DSR-1800AP.

*3: The optional DSBK1501 is required for the DSR-1500AP.

*4: The optional DSBK-1601 is required for the DSR-1600AP.

*5: The optional DSBK-2020 is required for the DSR-2000AP and DSBK-1820 for the DSR-1800AP/DSR-1600AP.

DSR-45P/DSR-25/DSR-11 Studio VTRs

	DSR-45P	DSR-25	DSR-11
General			
System	PAL NTSC/PAL Switchable		
Power requirements	AC100 to 240V, 50 to 60Hz	AC100 to 240V, 50 to 60Hz	AC100 to 240V, 50 to 60Hz
Power consumption	22 W	16 W	15 W
Operating temperature	5 °C to 40 °C (41 °F to 104 °F)		
Storage temperature	-20 °C to 60 °C (-4 °F to 140 °F)		
Tape speed	DVCAM mode DV SP mode	28.2 mm/s 18.8 mm/s	
Recording/Playback time in DVCAM mode	Standard size Mini size	184 min. with PDV-184ME/184N/184MEM 40 min. with PDVM-40ME/40N/40MEM	
Tape rewind time	Less than 2 min. with PDV-184ME/184N/184MEM		—
Search speed	When controlling via optional DSRM-20: or supplied RMT-DS5 ± x1/10, x1/3, x1,x2,x11, x17 (DVCAM) ± x1/10, x1/3, x1,x2,x11, x24 (DV SP)	When controlling via optional DSRM-20 or supplied RMT-DS5: ± x1/10, x1/3, x1,x2,x9, x14 (DVCAM NTSC) ± x1/10, x1/3, x1,x2,x9, x24 (DV SP NTSC) ± x1/10, x1/3, x1,x2,x11, x17 (DVCAM PAL) ± x1/10, x1/3, x1,x2,x11, x24 (DV SP PAL)	When controlling via optional DSRM-20 or supplied RMT-DS11: ± x1/10, x1/3, x1,x2,x9, x14 (DVCAM NTSC) ± x1/10, x1/3, x1,x2,x9, x24 (DV SP NTSC) ± x1/10, x1/3, x1,x2,x11, x17 (DVCAM PAL) ± x1/10, x1/3, x1,x2,x11, x24 (DV SP PAL)
Mass	Approx. 4.6 kg (10 lb 2 oz)	Approx. 4.3 kg (9 lb 8 oz)	Approx. 2.8 kg (6 lb 2 oz)
Dimensions (W x H x D, including projections)	212 x 98 x 392.8 mm (8 3/8 x 3 7/8 x 15 1/2 inches)	212 x 98 x 392.8 mm (8 3/8 x 3 7/8 x 15 1/2 inches)	180 x 73 x 265 mm (7 1/8 x 2 7/8 x 10 1/2 inches)
Video Signal Inputs			
Rec mode	DVCAM/DV (SP mode only)		
PB mode	DVCAM/DV (SP mode only)		
Ref. Video	BNC x1 ¹ Black burst: 75 Ω , sync negative	—	
Composite	BNCx1(Shared with REF IN) 1.0Vp-p, 75 Ω , Sync Negative	BNCx1 1.0Vp-p, 75 Ω , Sync Negative	PIN Jack x1 1.0Vp-p, 75 Ω , Sync Negative
S-Video	4-pin mini DIN (x1) Y: 1.0Vp-p, 75 Ω , Sync Negative C: 0.3Vp-p (subcarrier burst) 75 Ω	4-pin mini DIN (x1) Y: 1.0Vp-p, 75 Ω , Sync Negative C: 0.286Vp-p (NTSC Mode)(subcarrier burst) 75 Ω C: 0.3Vp-p (PAL Mode)(subcarrier burst) 75 Ω	4-pin mini DIN (x1) Y: 1.0Vp-p, 75 Ω , Sync Negative C: 0.286Vp-p (NTSC Mode)(subcarrier burst) 75 Ω C: 0.3Vp-p (PAL Mode)(subcarrier burst) 75 Ω
Component	BNC x3 Y: 1.0 Vp-p, 75 Ω , sync negative R-Y/B-Y: 0.7 Vp-p, 75 Ω , (with 100 % colour bar)	—	
Audio Signal Inputs			
Audio	PIN Jack x4 -10/-2/+4 dBu (full bits -18dB)	PIN Jack (L/R x1) -10/-2/+4 dBu (full bits -20dB)	PIN Jack (L/R x1) 2 Vrms (full bits)
Video Signal Outputs			
Composite	BNCx1 1.0Vp-p, 75 Ω , Sync Negative	BNCx1 1.0Vp-p, 75 Ω , Sync Negative	PIN Jack x1 1.0Vp-p, 75 Ω , Sync Negative
S-Video	4-pin mini DIN (x1) Y: 1.0Vp-p, 75 Ω , Sync Negative C: 0.3Vp-p (subcarrier burst) 75 Ω	4-pin mini DIN (x1) Y: 1.0Vp-p, 75 Ω , Sync Negative C: 0.286Vp-p (NTSC Mode)(subcarrier burst) 75 Ω C: 0.3Vp-p (PAL Mode)(subcarrier burst) 75 Ω	4-pin mini DIN (x1) Y: 1.0Vp-p, 75 Ω , Sync Negative C: 0.286Vp-p (NTSC Mode)(subcarrier burst) 75 Ω C: 0.3Vp-p (PAL Mode)(subcarrier burst) 75 Ω
Component	BNC x3, Y: 1.0 Vp-p, 75 Ω , sync negative R-Y/B-Y: 0.7 Vp-p, 75 Ω , (with 100 % colour bar)	—	
Monitor	PIN Jack x1, 1.0Vp-p, 75 Ω , Sync Negative		
Audio Signal Outputs			
Audio	XLR 3pin x4 (Male) +4dBu(full bits -18dB) ²	PIN Jack (L/R x1) 2 Vrms (full bits)	PIN Jack (L/R x1) 2 Vrms (full bits)
Monitor	PIN Jack x1, 2 Vrms (maximum)		
Digital Input/Output			
i.LINK (DV)	4-pin x1, IEEE1394		
Time Code Input/Output			
In	BNC x1, 0.5 to 18 Vp-p (time code input), 0.5 to 4 Vp-p (through output)	—	
Out	BNC x1, 2.2 Vp-p, 600 Ω /1.2 Vp-p, 75 Ω , 0.5 to 4 Vp-p (through output)	—	
Others			
LCD Monitor	LANC: Stereo mini-mini jack x1 Control S ³ (SIRCS) In: Stereo mini jack x1 Headphone: Stereo mini jack x1 RS-422A: D-sub 9-pin female x1 RS-232C: D-sub 9-pin male x1 2-inch type, 123,200 dots	LANC: Stereo mini-mini jack x1 Control S ³ (SIRCS) In: Stereo mini jack x1 Headphone: Stereo mini jack x1 2-inch type, 123,200 dots	LANC: Stereo mini-mini jack x1 Control S ³ (SIRCS): Stereo mini jack x1
Supplied Accessories			
	RMT-DS5 wireless Remote Controller Size AA (R6) Battery for Remote (2) AC Power Cord Cleaning Cassette Operating Manual Interface Manual for Programmers (RS-232C)	RMT-DS5 Wireless Remote Controller Size AA (R6) Batteries for Remote (2) AC Power Cord Cleaning Cassette Operating Manual	AC Adaptor, Power Controller RMT-DS11 Wireless Remote Commander Size AA (R6) Batteries for Remote (2) Cleaning Cassette Operating Manual Rack

*1 Shared between composite IN and REF-IN.

*2 The audio output level of the DSR-45P will be reduced by half when connected to an Unbalanced XLR input device.

*3 Recommended remote control unit: DSRM-20

*4 Priority on front LANC.



DSR-50P Portable Recorder

General	
DC input	XLR 4-pin (male), +12 V
Power consumption	15 W
Operating temperature	5 °C to 40 °C (41 °F to 104 °F)
Storage temperature	-20 °C to 60 °C (-4 °F to 140 °F)
Tape speed	Approx. 28.2 mm/s (DVCAM mode), Approx. 18.8 mm/s (DV SP mode)
Recording/Playback time	184 minutes (DVCAM mode), 270 minutes (DV SP mode), with PDV-184ME cassette 40 minutes (DVCAM mode), 60 minutes (DV SP mode), with PDVM-40ME cassette
Mass	3.9 kg (8 lb 9 oz), excluding battery and tape
Dimensions (W x H x D)	247 x 92.5 x 311 mm (9 3/4 x 3 3/4 x 12 1/4 inches), excluding projections 279 x 99 x 315 mm (11 x 4 x 12 1/2 inches), including projections
Video	
Recording mode	DVCAM/DV (SP mode only)
Playback mode	DVCAM/DV (SP mode only)
Audio	
Recording mode	48.0 kHz/16-bit (2CH)/ 32.0 kHz/12-bit (4CH)/automatic (DV IN)
Playback mode	48.0 kHz/16-bit (2CH)/32.0 kHz/12-bit (4CH)/ 32.0 kHz/16-bit (2CH)/44.1 kHz/16-bit (2CH) (automatically selected)
Input/Output Terminals	
Video IN Composite	1.0 Vp-p, 75 Ω , Sync negative
S (4-pin mini DIN)	Y: 1.0 Vp-p, 75 Ω , Sync negative C: 0.3 Vp-p (subcarrier burst) 75 Ω

Audio IN	XLR 3-pin (female) (+4 dBu/-20 dBu/-60 dBu) x 4, impedance more than 3 kΩ with +48 V power supply (independently switched for each channel)
Camera IN	26-pin camera connector
Composite	1.0 Vp-p, 75 Ω , Sync negative
Component	Y: 1.0 Vp-p, 75 Ω , Sync negative B-Y: 0.7 Vp-p, 75 Ω , R-Y: 0.7 Vp-p, 75 Ω
Reference IN	BNC, Black Burst 75 Ω , Sync negative (use Video IN)
Video OUT 1 (Monitor)	BNC, 1.0 Vp-p, 75 Ω , Sync negative Composite Superimpose On/Off
Video OUT 2 Composite	BNC, 1.0 Vp-p, 75 Ω , Sync negative
S (4-pin mini DIN)	Y: 1.0 Vp-p, 75 Ω , Sync negative C: 0.3 Vp-p (subcarrier burst) 75 Ω
Component OUT	BNC x 3 Y: 1.0 Vp-p, 75 Ω , Sync negative B-Y/R-Y: 0.7 Vp-p, 75 Ω
Audio OUT	PIN Jack x 4, -10 dBu Standard output level -18 dB from full bit
Audio OUT (Monitor)	PIN Jack
DV IN/OUT	6-pin (with lock)
Timecode IN	BNC, 0.5 to 18 Vp-p, 10 kΩ
Timecode OUT	BNC, 2.2 Vp-p, 600 Ω /1.2 Vp-p, 75 Ω
Control S	Stereo mini jack
Remote	Stereo mini jack (Edge High/Edge Low/ Level High/Level Low) (Tally)
Control	Stereo mini-mini jack (compatible with LANC as a player)
Headphone jack (left side)	Stereo standard jack, -19 dBu, Control with Level
Other	
Colour LCD monitor	2.5-inch type, 200,000 dots
Supplied accessories	LCD Protection Cover, Cleaning Cassette

DSR-DR1000AP Hard Disk Recorder

General	
Power requirements	AC 100 V to 240 V, 50/60 Hz
Power consumption	75 W
Recording Time	Up to 12 hours
Hard Drive	160GB
Operating temperature	5 °C to 40 °C (41 °F to 104 °F)
Storage temperature	-20 °C to 60 °C (-4 °F to 140 °F)
Operating humidity	Less than 80%
Storage humidity	Less than 90%
Mass	7.5 kg (16 lb 10 oz)
Dimensions (W x H x D)	210 x 130 x 422 mm (8 3/8 x 5 1/8 x 16 5/8 inches, without projection)
Video Performance	
Bandwidth (via analogue component I/O)	Luminance 25 Hz to 5.0 MHz ±1.0 Chrominance 25 Hz to 2.0 MHz +1.0/-2.0 dB
S/N ratio (via analogue component I/O)	More than 54 dB
K-factor (K2T, KPb)	Less than 2.0%
Y/C delay	Less than 30 ns
Audio Performance	
Frequency response	2CH mode (48 kHz/16-bit) 20 Hz to 20 kHz ±1.0 dB 4CH mode (32 kHz/12-bit) 20 Hz to 14.5 kHz ±1.0 dB
Dynamic range	More than 87 dB
Distortion (THD + N)	Less than 0.07% (48 kHz)
Video Signal Inputs	
Analogue	
REF. Video (BNC x 2)	0.3 Vp-p, 75 Ω sync negative
Composite Video (BNC x 2), loop-through connection ¹	1.0 Vp-p, 75 Ω , sync negative
Component (BNC x 3) ¹	Y: 1.0 Vp-p, 75 Ω , sync negative R-Y: 0.7 Vp-p, 75 Ω (100% colour bar) B-Y: 0.7 Vp-p, 75 Ω (100% colour bar)
S-Video (BNC x 2) ¹	Y: 1.0 Vp-p, 75 Ω , sync negative C: 0.3 Vp-p, 75 Ω (at burst level)
Digital	
SDI (BNC x 1)	Conforms to Serial Digital Interface (270 Mb/s), ITU-R BT.656
i.LINK(DV) (6-pin x 1)	IEEE 1394-based

Audio Signal Inputs	
Analogue	
Audio (XLR 3-pin female x 2)	-6/-3/+4 dBu (selectable by menu), high impedance
Digital	
AES/EBU (BNC x 2)	75 Ω , unbalanced
Video Signal Outputs	
Analogue	
Composite 1/2(SUPER) (BNC x 2) ²	1.0 Vp-p, 75 Ω , sync negative
Component (BNC x 3) ²	Y: 1.0 Vp-p, 75 Ω , sync negative R-Y: 0.7 Vp-p, 75 Ω (100% colour bar) B-Y: 0.7 Vp-p, 75 Ω (100% colour bar)
S-Video (BNC x 2) ²	Y: 1.0 Vp-p, 75 Ω , sync negative C: 0.3 Vp-p, 75 Ω (at burst level)
Digital	
SDI (BNC x 2)	Conforms to Serial Digital Interface (270 Mb/s), ITU-R BT.656
i.LINK (DV) (6-pin x 1)	IEEE 1394-based
Audio Signal Outputs	
Analogue	
Audio (XLR 3-pin male x 2)	-6/0/+4 dBu (selectable by menu)
Monitor (RCA x 1) ³	-∞ to -9 dBu, 47 kΩ , unbalanced (-18 dBFS)
Headphone (JM-60 headphone jack x 1)	-∞ to -11 dBu, 8 Ω , unbalanced (-18 dBFS)
Digital	
AES/EBU (BNC x 2)	75 Ω , unbalanced
Time Code	
Time Code In (BNC x 1)	0.5 Vp-p to 18.0 Vp-p, 3 kΩ , unbalanced
Time Code Out (BNC x 1)	2.2 Vp-p, 600 Ω , unbalanced
Remote	
RS-422A	D-sub 9-pin, female x 2
Control	Mini jack x 1
Network	
Ethernet (x 1)	10/100 Base-T Ethernet, RJ-45 modular jack
Supplied Accessories	
	AC power cord x 1, RM-LG2 (Remote Control Unit) x 1, Operation manual (CD-ROM) x 1, Warranty card x 1

¹: Composite, Component and S-video inputs share the same BNC connectors.
²: Composite, Component and S-video outputs share the same BNC connectors.
³: The volume of monitor can be controlled by the PHONE LEVEL control knob.



VTR Rear connector panels

DSR-2000AP



DSR-1500AP



DSR-1800AP



DSR-DR1000AP



DSR-1600AP



DSR-45P



DSR-50P



DSR-25



DSR-11



HVR-M10E



SONY



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