# SONY<sub>®</sub>



# **DVCAM Family**



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# Introduction

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<sup>®</sup> has satisfied these demands and brought many notable benefits. Excellent picture and sound quality that only a digital format can provide, highperformance editing capabilities, and system versatility that makes it possible to migrate smoothly from analog to digital – these are just some of the factors behind the success of DVCAM. A full model line-up for digital acquisition, editing and program playout has led to the rapid acceptance of DVCAM by business users, production facilities and broadcasters around the world.

Many new models have been added to the DSR Series of DVCAM equipment, broadening the range of applications in ENG, field acquisition/editing, simple editing and so on.

Select from the Sony DVCAM lineup and you will be choosing innovative equipment to bring both new solutions to your production demands and added performance benefits to your system.



#### **Main Features**

#### The DVCAM Format

#### Digital Component Recording for Excellent Picture Quality

The DVCAM format is the professional extension of the worldwide standard DV format. The DVCAM format uses 8-bit digital component recording with a 5:1 compression ratio and a sampling rate of 4:1:1 (for NTSC) / 4:2:0 (for PAL). The unique compression algorithm provides excellent picture quality and superb multi-generation performance. The DVCAM format has a wider track pitch of 15  $\mu$ m (compared with 10  $\mu$ m for the DV format) which gives higher reliability for professional editing. It also offers superior digital audio performance, providing a wide dynamic range and excellent signal-to-noise ratio.

comparable to CD quality. Alternative audio channel modes can be selected: a twochannel mode with 48 kHz/16-bit recording or a four-channel mode with 32 kHz/12-bit recording.



# Excellent Performance from Professional DVCAM Tapes

To gain maximum performance from high-density digital recording, advanced Metal Evaporated tape technology has been developed for the DVCAM format. The use of Sony's pure cobalt advanced evaporated coating gives both high output and a high C/N (Carrier-to-Noise) ratio, resulting in superb quality pictures and a low error rate.

A DLC (Diamond Like Carbon) protective layer provides the enhanced protection of the tape surface that is essential to avoiding tape damage during long editing sessions. Finally, DVCAM tapes provide a low frequency of dropout and superior thermal stability.

A variety of cassettes, including tapes with IC Cassette Memory and Master Tapes, is available to suit different applications. The built-in 16-kbit Cassette Memory stores ClipLink<sup>™</sup> Log Data, Index Pictures, Photo mode and other shooting data, enhancing editing efficiency. Tapes without IC Cassette Memory fit a wide range of applications, with affordable price.

The Master Tapes, which use Sony Hyper Evaticle II Magnetic Particle technology to provide higher output and lower noise, are suitable for highspeed data transfer applications as well as for making master recordings.



#### **Recording Capability of Up to Three Hours**

DVCAM cassette tapes are available in two sizes: standard and mini. The standard-size cassette provides a recording time of

up to 184 minutes, while the mini-size cassette provides up to 40 minutes. These long recording times are achieved in very compact cassettes with a 1/4-inch (6.35 mm) tape width.



Mini-size Sta cassette c

Standard-size cassette

#### Main Features

# Unique Technology and Advantages

#### **True Digital Camcorders**

#### DSR-570WS DSR-390 DXC-D35+DSR-1 DSR-250 DSR-PD150 DSR-PDX10

Sony DVCAM camcorders are "True Digital Camcorders". They incorporate DSP (Digital Signal Processing) for full digital processing in the camera section and digital recording in the VTR section. The camera video signal remains in its digital component format through the recording process, resulting in outstanding image quality, free of artifacts and with none of the resolution loss typical of A/D and D/A conversion.



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

DSR-2000 DSR-1800 DSR-1600 DSR-1500A DSR-70A

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-2000/1800/1600/1500A/70A) support DVCPRO tape playback\*, and the DSR-2000 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-250\* DSR-PD150\* DSR-PDX10\* DSR-1500A DSR-50\* DSR-45\* DSR-25\*

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-2000 DSR-1800 DSR-85

Preread 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 preread 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.

Note: Unless otherwise noted, all references to specific models refer to both the NTSC and PAL versions. (i.e., DSR-570WS refers to the DSR-570WS and the DSR-570WSP)

#### Excellent Editing Performance • Preread Editing Capability\*

The DSR-2000 VTR offers preread editing, a function never before available on a 1/4-inch (6.35 mm) VTR. Preread heads are positioned ahead of the record 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. Preread 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.

#### <Over-dubbing of audio with preread editing capability>



#### • Enhanced Digital Jog Audio

#### DSR-2000 DSR-1800 DSR-1600 DSR-1500A DSR-70A DSR-DR1000

A digital jog audio function is included in the Master Series VTRs with a range of -1 to +1 (DSR-2000) or -0.5 to +0.5 (DSR-1800/1600/1500A/70A) 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.

#### ClipLink Operation

#### DSR-570WS DSR-390 DXC-035+05R-1 DSR-1800 DSR-1600 DSR-1500A DSR-70A DSR-85

The ClipLink feature is a unique Sony system that conveys shooting data into the digital production process. During acquisition with a camcorder equipped with this feature, the in-point/out-point time code data of each shot and its OK/NG status are recorded in the DVCAM Cassette Memory. At the same time, a still frame of each in-point, called an 'Index Picture'\*, is recorded on the DVCAM tape to provide visual information associated with the time code.

ClipLink data can be imported automatically to JZ-1 videocassette logging software, modified and then be exported to editing devices. This greatly enhances subsequent editing operations.

\* The DSR-570WS/390 require an optional board to record Index Pictures.



#### **Versatile Digital Interfaces**

#### • SDI (Serial Digital Interface)\*

DSR-2000 DSR-1800<sup>•••</sup> DSR-1600<sup>•••</sup> DSR-1500A<sup>••</sup> DSR-70A<sup>•••</sup> DSR-85<sup>•••</sup> DSR-85<sup>•••</sup> DSR-DR1000 With SDI, high-quality picture and sound can be transferred between DVCAM VTRs and SDI-equipped devices.

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

\*\* The DSR-1800/1600/1500A/70A/85 require an optional board for SDI

#### • SDTI (QSDI™)\*

#### DSR-2000 DSR-1800\*\* DSR-1600\*\* DSR-1500A\*\* DSR-70A\*\* DSR-85

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 (QSDI) also makes it possible to transfer data at four times normal speed (DSR-85 only).

- \* SDTI (Serial Data Transport Interface) is defined as SMPTE 305M. SDTI (QSDI) is the DV compressed signal interface defined as SMPTE 322M.
- \*\* The DSR-1800/1600/1500A/70A require an optional board for SDTI (QSDI).

#### • i.LINK<sup>™</sup> (DV)\*

DSR-570WS**	DSR-390**	DSR-250	DSR-PD150	DSR-PDX10	DSR-2000**	DSR-1800**
DSR-1600**	DSR-1500A	DSR-70A**	DSR-45	DSR-30	DSR-25	DSR-11
DSR-50	DSR-V10	DSR-DR1000	DSR-DU1			

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-570WS/390. The DSR-2000/1800/1600/70A require an optional board for i.LINK.
- 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.

i.LINK is a trademark of Sony used only to designate that a product contains an IEEE1394 connector. All products with an i.LINK connector may not communicate with each other. Please refer to the documentation that comes with any device having an i.LINK connector for information on compatibility, operating conditions and proper connection. For information on any Sony device having an i.LINK connector Sony at 1-800-686-7669.

#### • SDTI-CP (MPEG) Out\*

#### DSR-2000

SDTI-CP provides a direct connection to MPEG IMX<sup>™</sup> products. \* SDTI-CP is defined as SMPTE 326M.

#### • AES/EBU

#### DSR-2000 DSR-1800\* DSR-1600\* DSR-1500A\* DSR-85 DSR-DR1000

The DSR-2000/1800/1600/1500A/85 VTRs and DSR-DR1000 are fitted with digital audio interfaces conforming to the AES/EBU standard. With a sampling frequency of 48 kHz and 20-bit quantization, these interfaces ensure high-quality audio. \* The DSR-1800/1600/1500A require an optional board for AES/EBU.

#### **Sophisticated Mechanisms**

#### Quick, Responsive Mechanism DSR-2000 DSR-1800 DSR-1600 DSR-1500A DSR-70A

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-2000 DSR-1800 DSR-1600 DSR-1500A DSR-70A

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-570WS
 DSR-390
 DSR-1
 DSR-250
 DSR-85
 DSR-45
 DSR-30

 DSR-25
 DSR-11
 DSR-50
 DSR-250
 DSR-85
 DSR-45
 DSR-30

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

#### • Dual Interface Mechanism

The DSR-1 Dockable Recorder has both Pro 76-pin Digital and Pro 50-pin connectors with a unique seesaw construction. These allow direct connection of the DSR-1 to several alternative Sony digital



(DXC-D30\*/D30WS\*/D35/D35WS) <

and analog cameras (DXC-327B\*/637\*/537A\*/327A\*).

\* These cameras are no longer sold, but current owners can still connect with the DSR-1.

#### • High-speed Data Transfer Capability

The advanced drum mechanism and SDTI (QSDI) interface enable degradation-free data transfer and dubbing at four times normal speed.

#### • Further operational efficiency by DSR-DU1 DSR-570WS DSR-390 DSR-250 DSR-PD150 DSR-PD110

The DSR-DU1 is a compact videodisk unit that mounts on or interfaced with above camcorders. It provides up to three hours of DVCAM/DV stream recording as a file. Via an i.LINK (DV) connection, the camera output of the camcorder is recorded to the hard drive of the DSR-DU1 in parallel to the recording made on the camcorder's tape. The DSR-DU1 is an extremely versatile device. When detached from the camcorder, it is very effective for field off-line logging or EDL creation, as a player for making dubs, or as a source feeder machine for i.LINK equipped nonlinear editors. Moreover, when connected to an SBP2 compatible i.LINK equipped nonlinear editor\*1, the DSR-DU1 allows its DV files to be directly transferred to the media drives of the nonlinear editor. A maximum transfer speed of two times normal playback speed\*2 is achieved. The Rec. start and stop time codes of each scene are also transferred to the editor, eliminating the logging process common to nonlinear editing.

- \*1 Please contact your nearest Sony office or Authorized dealer for nonlinear products that support DV file transfer between the DSR-DU1.
- \*2 The time required to transfer DV files from the DSR-DU1 may vary depending on the nonlinear editor used.

# Lineup Features Digital Camcorders

# **One-piece Camcorder Common Features**

#### DSR-570WS DSR-390

- Highly mobile one-piece design
- Studio operation capability with a CCU-D50
- Intercom (DR-100) capability with a CA-370
- DSP (Digital Signal Processing)
- TruEye<sup>™</sup> process for faithful color reproduction
- DynaLatitude™ process minimizes video level distortion
- Skin Detail with auto detection of active area
- Black Stretch and Compress control functions
- Superb picture quality of the DVCAM format
- Playback capability of DV recorded tapes (SP mode only)
- Long recording time: up to 184 minutes with a standardsize cassette and 40 minutes with a mini-size cassette
- Total Level Control System (TLCS) for automatically extended range of Iris control
- Auto Tracing White Balance (ATW) function
- EZ Mode and EZ Focus for quick camera setup
- DynaFit<sup>™</sup> shoulder pad for comfortable molding to any shoulder
- Variable color temperature settings: 3200 K (19 steps in the range from 2200 K to 4300 K) or 5600 K (13 steps in the range from 4600 K to 12000 K)
- Video light connector for optional light equipment
- Menu control by Jog Dial operation
- Camera Setup File System

- Flexible Safety zone marker
- SetUpLog™ function for automatic recording of camera setting data
- Pool Feed operation\*1
- i.LINK (DV output only) interface for DVCAM/DV back up on an external VTR or on a DSR-DU1 video disk unit with a CA-DU1
- Multicore Studio CCU capable with CCU-D50
- Full color picture playback without an external adaptor
- Edit Search function
- Time code superimposed on viewfinder during playback and record
- Freeze Mix function
- ClipLink operation\*2
- Compact and lightweight BP-L40A/L90A/IL75 Lithium-ion Batteries or BP-M50/M100 Nickel Metal Hydride Batteries
- CA-WR855 Camera Adaptor for the WRR-855A/855B Wireless Receiver
- Compact crew package with the LC-400 Soft Carrying Case or LC-424 Hard Carrying Case
- DSR-DU1 Rec Trigger control function through i.LINK interface with three modes (Parallel/Int/Ext)
- \*1 The optional DSBK-501 Analog Composite Input Board is required.
- \*2 The optional DSBK-301A Index Picture Board is required.

#### DSR-570WS/DSR-570WSP One-piece Camcorder



- Compact and lightweight: 6.4 kg (14 lb 20 oz) including viewfinder, microphone, lens, battery and tape
- Low power consumption: 24 W (without viewfinder)
- Three 2/3-inch type Power HAD WS<sup>™</sup> CCDs providing high quality images with low smear level, high sensitivity, high S/N ratio (NTSC: 63 dB, PAL: 61 dB) and high horizontal resolution (800/850 TV lines in 16:9/4:3 mode)
- Hyper Gain (36 dB or 42 dB selectable)
- Aspect ratio switchable between 4:3 and 16:9
- SetUpNavi™ function for camera setup file storage
- Camera Setup File System

#### DSR-390/DSR-390P One-piece Camcorder

- Compact and lightweight: 6.2 kg (13 lb 10 oz) including viewfinder, microphone, lens, battery and tape
- Low power consumption: 21 W (without viewfinder)
- Three 1/2-inch type Power HAD<sup>™</sup> CCDs for low smear level, high sensitivity, high S/N ratio (NTSC: 65 dB, PAL: 62 dB) and high horizontal resolution (800 TV lines)
- Hyper Gain (36 dB)
- 4:3 aspect ratio
- SetUpNavi<sup>™</sup> function for camera setup file storage
- Camera Setup File System



#### DXC-D35/D35WS/DXC-D35P/D35WSP+DSR-1/DSR-1P Two-piece Camcorder



- Combination of the DXC-D35/D35WS Digital Video Camera and the DSR-1 Dockable Recorder, equivalent to a one-piece camcorder
- Compact and lightweight: 6.3 kg (13 lb 14 oz)\*1/6.4 kg (14 lb 2 oz)\*2 including viewfinder, battery, joint plate and carrying handle
- Three 2/3-inch type Power HAD CCDs\*1/Three 2/3-inch type Power HAD WS CCDs\*2 for low smear level, high sensitivity and high S/N ratio (NTSC: 63 dB, PAL: 61dB), and high horizontal resolution
- (880 TV lines\*3/850 TV lines (4:3 mode)\*4, 800 TV lines (16:9 mode)\*4)
- Hyper Gain (36 dB or 42 dB selectable)
- DSP (Digital Signal Processing)
- TruEye process for faithful color reproduction
- DynaLatitude process minimizes video level distortion

- Skin Detail with auto detection of active area
- Black Stretch and Compress control functions
- Variable color temperature settings: 3200 K (19 steps in the range from 2200 K to 4300 K) or 5600 K (13 steps in the range from 4600 K to 12000 K)
- Black halo-free
- Superb picture quality of the DVCAM format
- Playback capability of DV recorded tapes (SP mode only)
- Long recording time: up to 184 minutes with a standard-size cassette and 40 minutes with a mini-size cassette
- Total Level Control System (TLCS) for automatically extended range of Iris control
- Auto Tracing White Balance (ATW) function
- EZ Mode and EZ Focus for quick camera setup
- Camera Setup File System
- SetUpNavi function for Camera Setup File Storage
- SetUpLog function for automatic recording of camera setting data
- Edit Search function
- Time code superimposed during playback and record
- Freeze Mix function
- ClipLink operation
- 16:9 and 4:3 switchable\*2
- \*1 Combination of the DXC-D35/D35P+DSR-1/1P
- \*2 Combination of the DXC-D35WS/D35WSP+DSR-1/1P
- \*3 DXC-D35/D35P
- \*4 DXC-D35WS/D35WSP

# DSR-1/DSR-1P

#### Dockable Recorder

- Compact and lightweight: 3.1 kg (6 lb 13 oz) including battery
- Ideal operation as a digital camcorder by docking with the DXC-D35/D35WS/D35P/D35WSP Digital Video Camera
- Dual-size cassette mechanism: both standard- and mini-size cassettes accepted
- Dual interface mechanism: Pro 76-pin Digital and Pro 50-pin interfaces for direct connection with both Sony digital and analog cameras
- Superb picture quality of the DVCAM format
- Playback capability of DV recorded tapes (SP mode only)
  Long recording time: up to 184 minutes with a standard-size
- cassette and 40 minutes with a mini-size cassette
- ClipLink operation
- Full color picture playback capability without a playback adaptor
- Record review function
- Frame accurate back-space editing

- Built-in SMPTE/EBU time code generator/reader
- Time base stabilizer
- Full VTR function control (FastForward/Rewind/Play/Stop/Eject)
- Comprehensive 8-digit LCD



#### **Digital Camcorders**

## DSR-250/DSR-250P

One-piece Camcorder



- Compact and lightweight: 4.4 kg (9 lb 11 oz)
- Newly developed 1/3-inch type three CCDs for accurate color 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) color LCD monitor
- 12x lens<sup>\*2</sup> with Super SteadyShot<sup>™</sup> 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 minisize 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<sup>™</sup>
- Light output (DC 12 V, max. 30 W) and additional DC 12 V out for optional accessories
- Time code preset 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 1/15 second (NTSC) or 1/12.5 second (PAL).
- \*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
  - format is switched between DVCAM and DV, the transition may not be recorded smoothly.

# DSR-PD150/DSR-PD150P

#### Compact Camcorder

- Compact and lightweight: 1.6 kg (3 lb 8 oz)
- Newly developed 1/3-inch type three CCDs for accurate color 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) color LCD monitor
- 12x lens\*2 with Super SteadyShot system
- Manual control and a full range of auto modes
- 16:9 recording mode available (electronically processed)
- Superb picture quality of the DVCAM format
- Recording and Playback capability with mini-size DVCAM and DV tapes (SP mode only)\*3
- Long recording time : 40 minutes with a mini-cassette in DVCAM mode, or 60 minutes in DV SP mode
- Time/date data superimposition on output pictures
- Digital still camera functions with Memory Stick
- InfoLITHIUM<sup>™</sup> battery system displays the remaining capacity of the battery (accurate to the minute)
- Audio dubbing capability (48 kHz/16-bit or 32 kHz/12-bit selectable)
- 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
- Two XLR audio input connectors for professional microphones
- Supplied RMT-811 Wireless Remote Commander
- \*1 When recording moving images in progressive scan mode, the motion will display some jitter since the picture is read/output every 1/15 second (NTSC) or 1/12.5 second (PAL).
- \*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.



# DSR-PDX10/PDX10P

#### Handycam<sup>®</sup>-style Camcorder

- Compact and lightweight: 1050 g (2 lb 5 oz) with a battery and tape.
- Newly developed mega pixel 1/4.7-inch type 3-CCD camera system
- Switchable 4:3 and 16:9 image acquisition and recording modes (native 16:9 extraction)
- Precision 16:9 technology and wider angle of view in 16:9
   mode
- 14-bit DXP (Digital Extended Processor)
- Optical super SteadyShot function
- Custom presets
- 12x optical zoom/ 24x/48x precision digital zoom
- Manual adjustment :Audio levels, Exposure, Shutter speed, White balance
- Program AE (effects) :Soft portrait, sports lesson,beach & ski, sunset & moon, landscape
- Fader
- Zebra patterns (100% or 70%)
- Guide frame
- Index marking
- Date stamp (on to camera recording picture)
- Recording/Playback of DVCAM/DV (SP mode) formats<sup>\*1</sup>
- Various interfaces: i.LINK (DV) interface, analog audio and video In/Out (AV-mini, S-Video),USB (Mini-B),headphone (Stereo-mini), remote (LANC)
- XLR 2-ch audio adaptor for professional microphones

- USB port with streaming function
- 180,000-dot precision black-and-white LCD viewfinder
- 3.5-inch<sup>2</sup> type 246,400-dot precision color LCD monitor
- LCD Touch panel operation for adjusting frequently used camera functions
- InfoLITHIUM<sup>™</sup> 'M series' battery system
- Still-picture recording (Progressive shutter system)
- MPEG movie recording. Direct or from the DV/DVCAM tape
- Digital program editing<sup>3</sup> allows auto assembly-like editing without an edit controller.
- TC/User bit preset capability
- Audio dubbing (only for DVCAM recorded tape)
- Color bar (BARS)
- Hour meter indicator
- \*1 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. This is a normal and expected phenomenon. Audio dubbing is not possible when recorded in DV (SP) format.
- \*2 Viewable area measured diagonally.
- \*3 Frame accuracy is not guaranteed.

МЕМОКУ БТІСК

# Lineup Features Hard Disk Recorder

#### DSR-DU1 Video Disk Unit

- Compact hard drive unit (a 2.5-inch, hard drive) for use with DVCAM and Sony DV camcorders<sup>\*1</sup>
- Camera output can be recorded to the DSR-DU1's hard drive in parallel to the recordings made on the camcorder's tape via i.LINK(DV) connection.
- Recording in 25Mb/s DVCAM/DV stream for up to three hours
- Capable of docking directly to the rear of DVCAM camcorders\*<sup>2</sup> by use of the CA-DU1 optional Camera Adaptor
- The camera adapter's slot-in mechanism allows easy and quick replacement of the DSR-DU1
- Can interface with a variety of i.LINK(DV) equipped Sony hand-held type DVCAM/DV camcorders via its iLINK(DV) connector
- The DSR-DU1's DV video/audio files can be transferred to a compatible i.LINK equipped nonlinear editor\*<sup>3</sup>
- Compact and Lightweight
- VTR-like functions and operation keys
- Loop recording (8 seconds)
- Interval recording
- 525(NTSC)/625(PAL) Switchable\*4

- REC Trigger controlled from the REC On/Off button of Sony i.LINK(DV) equipped camcorders\*5
- Supplied remote controller for Rec, Cue and Rec Tally controls
- Flexible DC operation (DC 12 V\*6, DC 8.4 V)
- Shooting Data (Time codes of the rec in and out points, Cue points from the DSR-DU1 and the supplied remote controller)
- \*1 Please contact your nearest Sony office or Authorized dealer for compatible
- DV camcorders \*2 DSR-570WS/570WSP/390/390P/500WS/
- 500WSP/300A/300AP/250/250P \*3 Please contact your nearest Sony office or Authorized dealer for non-linear products that support DV file transfer between the DSR-DU1
- \*4 Signal conversion from 525(NTSC) to 625(PAL), or vice versa is not possible
- \*5 To use this function with camcorders other than the DSR-570WS/570WSP/390/390P, tape should be set in the cassette compartment.
- \*6 To use the AC 12V, the optional CA-DU1 is required. This photo shows the DSR-DU1 with a supplied case.



#### Lineup Features Digital VTRs

# Master Series VTR Common Features



Since its introduction, the DVCAM format has become widely accepted in the world of video production – from industrial to broadcast markets. Recognizing the increasing demands for DV-based production in broadcast applications, Sony introduced the DSR-2000 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 analog formats. Building on the advanced technologies of the DVCAM format and professional features of the flagship DSR-2000, Sony now presents the entire lineup of Master Series VTRs, our top-of-the-line DVCAM videocassette recorders and players. The Master Series VTRs (DSR-2000, DSR-1800, DSR-1600, DSR-1500A and DSR-70A) now bring the features and benefits introduced with the DSR-2000 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<sup>\*1</sup> 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
- $\bullet$  Audio cross-fade function for clean audio transitions at editing points  $^{\star_3}$
- Excellent jog audio capability
- DMC (Dynamic Motion Control) provides noiseless slowmotion playback\*4
- High-speed picture search over a range of 60 times\*<sup>2</sup> normal speed, in both forward and reverse
- Versatile digital interfaces\*5: SDI, SDTI (QSDI), i.LINK (DV) and AES/EBU digital audio
- Extensive analog interfaces: composite, component, S-Video and XLR audio
- RS-422A remote control interface
- Frame accurate editing capability
- ClipLink operation
- Full tape dubbing with ClipLink Log Data via SDTI (QSDI) and RS-422A interfaces

- 16:9 aspect ID signal recording
- Video process control for greater control of both analog and digital outputs
- Built-in SMPTE/EBU time code and VITC generator/reader
- Built-in signal generator (color 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
- Closed caption function (NTSC Model only)
- \*1 SDTI (QSDI) and i.LINK (DV) interfaces do not support DVCPRO playback.
- \*2 DSR-2000/DSR-1800/DSR-1600 only
- \*3 DSR-2000/DSR1800 only.
- \*4 DSR-2000/DSR1800/DSR-1600/DSR-70A only.
- \*5 Optional Input/Output Boards required. Please check Feature Comparison of Studio VTRs (p.16) for details.
- \*6 DSR-2000/DSR1800/DSR-1500A/DSR-70A 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.

#### DSR-2000/DSR-2000P Editing Recorder

- Playback capability of DV tapes recorded in LP mode
- Preread editing capability<sup>\*1</sup> 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<sup>\*2</sup> with two VTRs
- VTR-to-VTR editing without external controllers
- Wide range of digital slow speed from -1 to +1 times normal speed
- Optional SDTI-CP digital interface board (MPEG Out)
- 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

- DSBK-200 Control Panel for remote operation from a distance of up to 10 meters (approx. 33 ft.)
- \*1 Not available through SDTI (QSDI) and i.LINK interfaces. \*2 MIX and WIPE only.





# DSR-1800/DSR-1800P

- Preread 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

# DSR-1600/DSR-1600P



# 

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

#### DSR-1500A/DSR-1500AP Editing Recorder

- 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.

#### DSR-70A/70AP Portable Editing Recorder



aster

- Compact, all-in-one package features a 6.4-inch type VGA LCD monitor, a full cut-editing controller with a Jog/Shuttle dial and audio speaker
- Wide range of digital slow speeds from -0.5 to +0.5 times normal speed
- High-speed color picture search over a range of 32 times nomal speed, in both forward and reverse
- Audio mix/swap recording
- ClipLink operation: cue up to Mark In/Cue address, change of mark In/Out points, change of

OK/NG status and creation of new Mark In/Out points

- Edit List Memory Function
- Double Deck Editor by docking two DSR-70A units or a DSR-70A and a DNW-A25 Betacam SX<sup>®</sup> portable editing recorder
- SDI and i.LINK interfaces are provided by a single DSBK-160A optional board
- Two-camera switching recording<sup>\*1</sup>
- Sequential recording for up to 6 hours in the double deck configuration
- Parallel-run recording to control two docked DSR-70A units in parallel for simultaneous recording
- Two-way power supply system (AC/DC) for operation with either AC\*2 or DC power
- \*1 The optional DSBK-180 Dual Video Input Board is required.
- \*2 AC adaptor is required.

#### Digital VTRs

#### DSR-45/DSR-45P Recorder

- 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 analog 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 preset
- 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) color 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-45/45P is not equipped with the synchronization capability, therefore is recommended to be used only as a source feeder in A/B roll editing.



#### DSR-30/DSR-30P Recorder



- Superb picture quality of the DVCAM format
- 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

- i.LINK(DV) interface for simultaneous transfer of audio, video, and command signals
- LANC remote control interface
- Auto repeat / One program play function
- Duplication function with original time code
- Power-on recording and playback capabilities
- Clear frame picture
- External timer recording
- Index point search function (when using a cassette with Cassette Memory.)
- Built-in control tray with a Jog/Shuttle dial
- Headphone/microphone input
- Wireless remote controller RMT-DS30 supplied

#### DSR-25 Recorder

- 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
- $\bullet$  Recording and playback capability of both NTSC/PAL signals  $^{\star_2}$
- i.LINK(DV) interface for simultaneous transfer of audio, video, and command signals
- LANC and Control S interface
- Time code/ User bit preset
- 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) color 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.



#### DSR-11 Recorder



- 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<sup>\*2</sup>
- 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.

#### **Digital VTRs**

# DSR-50/DSR-50P

Portable Recorder



- 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.
- Analog 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) color 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.

#### DSR-V10/DSR-V10P DVCAM Video Walkman® Recorder

- Superb picture quality of the DVCAM format
- Playback capability of the DV format (SP mode only)
- Long recording time: up to 40 minutes with a mini-size cassette\* in DVCAM mode.
- Compact/lightweight design and compatibility with InfoLITHIUM battery system for portable use
- Built-in 5.5-inch type color LCD monitor
- i.LINK(DV) interface for simultaneous transfer of audio, video, and command signals
- LANC remote control interface
- Auto repeat function

- Duplication function with original time code
- Assemble editing capabilities with the optional DSRM-E1 Edit Adaptor
- Image shooting capabilities with the optional
- CVX-V1/V3/V18NS Mini Camera
- \* The DSR-V10/V10P is compatible to only mini-size DVCAM and DV cassettes.



# DSR-85/DSR-85P

High-speed Editing Recorder



- Superb picture quality of the DVCAM format
- Playback capability of DV recorded tapes (SP mode only)
- Long recording time: up to 184 minutes with a standard-size cassette and 40 minutes with a mini-size cassette
- Versatile digital interfaces: SDI\*, SDTI (QSDI) and AES/EBU digital audio
- Extensive analog interfaces: composite, component, S-Video and XLR audio

- RS-422A remote control interface
- High-speed data transfer at four times normal speed via SDTI (QSDI) interface
- High-speed tape dubbing with ClipLink Log Data at four times normal speed via SDTI (QSDI) and RS-422A interfaces
- ClipLink operation
- Frame accurate editing capability
- Built-in SMPTE/EBU time code generator/reader
- Time base corrector
- High-speed picture search over a range of 32 times normal speed, in both forward and reverse
- Digital slow function over a range from 0 to 0.24 times normal speed, in both forward and reverse
- Jog audio capability
- SIRCS (Sony Integrated Remote Control System) interface for the DSRM-10 Remote Control Unit
- \* The optional DSBK-120 SDI Input/Output Board is required.

# Lineup Features Hard Disk Recorder





- Hard disk recorder with 3.5-inch large-capacity hard drive
- Up to six 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
- 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
- Synchronous playback via RS-422A
- Versatile interfaces
- i.LINK interface (6-pin) with AV/C and SBP2 protocols
- High-speed file transfer via i.LINK interface using SBP2 protocol
- File transfer of DV video and audio using FTP via Ethernet connection

#### Feature Comparison **Digital Camcorders**

	DSR-570WS DSR-570WSP	DSR-390 DSR-390P	DXC-D35/D35WS+DSR-1 DXC-D35P/D35WSP+DSR-1P	DSR-250 DSR-250P	DSR-PD150 DSR-PD150P	DSR-PDX10 DSR-PDX10P
Cassette						
Standard-size Cassette	•	•	•		_	-
Mini-size Cassette	•	٠	٠	٠	٠	٠
Camera Section						
Image Device	Three 2/3-inch type Power HAD WS CCDs	Three 1/2-inch type Power HAD CCDs	Three 2/3-inch type Power HAD CCDs*1	Three 1/3-inch type CCDs	Three 1/3-inch type CCDs	Three 1/4.7-inch type CCDs
16:9 Aspect Ratio	٠	_	•*2	•*3	•*3	•
TruEye Process	•	٠	•	-	_	_
DynaLatitude Process	٠	٠	٠	-	_	-
Skin Detail	٠	٠	•	-	-	_
TLCS (Total Level Control System)	•	•	٠	-	_	-
ATW (Auto Tracing White Balance)	•	٠	٠	•	٠	•
EZ Mode	٠	•	•	-	_	-
EZ Focus	٠	٠	٠	-	_	_
Auto Focus	-	-	-	•	٠	•
Camera Setup File System	•	٠	•	-	_	-
SetUpNavi	٠	٠	٠	-	_	-
SetUpLog	•	•	•	_	_	-
Super SteadyShot	_	_	_	٠	•	•
CCU Capability	٠	٠	•*4	-	_	-
DynaFit Shoulder Pad	•	٠	٠	•	_	-
VTR Section						
ClipLink	•	•	•	-	-	-
Freeze Mix	٠	•	٠	-	-	-
Memory Mix	_	-	_		•	•
Photo Mode	-	-	-	•	•	
Interface						
i.LINK (DV)	*5	•*5	-		•	•
LANC	-	-	-	•	٠	•

\*1 Image Device of the DXC-D35WS/D35WSP is Three 2/3-type Power HAD WS CCDs.
\*2 Combination of the DXC-D35WS/D35WSP+DSR-1/1P only.

\*3 Electronically processed.

\*4 Combination with the DXC-D35/D35WS/D35P/D35WSP and the CA-D50

\*5 Output only. (input for video monitoring only)

Feature Comparison

# **Digital VTRs**

	DSR-2000 DSR-2000P	DSR-1800 DSR-1800P	DSR-1600 DSR-1600P	DSR-1500A DSR-1500AP	DSR-70A DSR-70AP	DSR-85 DSR-85P	DSR-45 DSR-45P	DSR-30 DSR-30P	DSR-25	DSR-11	DSR-50 DSR-50P	DSR-V10 DSR-V10P
Cassette												
Standard-size Cassette					•							_
Mini-size Cassette	Ŏ	Ŏ	Ŏ	Ŏ	Ŏ	Ŏ	Ŏ	Ŏ	Ŏ	Ŏ	Ŏ	
DVCPRO Medium-size Cassette	Ŏ	•		•	Ŏ	_	_	_	_	_	_	_
Digital Interface												
SDI		(Option)	(Option)	(Option)	(Option)	(Option)	-	_	_	_	_	_
SDTI (QSDI)		(Option)	(Option)	(Option)	(Option)	٠	_	_	_	_	_	-
i.LINK (DV)	(Option)	(Option)	(Option)		(Option)	-						
AES/EBU		(Option)	(Option)	(Option)	-		-	-	_	-	_	-
Analog Interface												
Composite			•*1	(Option)		٠	٠					٠
Component	•	•	•*1	(Option)	(Option)		•	-	_	_	•*1	_
S-Video	•	•	•*1	(Option)			•	٠		•	•	
Remote Control Interface												
RS-422A							•*3	_	-	-	-	-
RS-232C	-	-	-	-	-	-		-	-	-	-	-
LANC	-	-	-	_	-	-					•*4	
Control S	-				-		•*5		•*5		•*5	-
Foot Switch	-	-	-	-	-	-	-	-	-	-		
Wireless Remote Control	-	-	-	-	-	-					-	•*6
Editing Capability												
Preread Editing/Playback		•*7	-	-	-	-	-	_	-	-	-	-
Assemble Editing		•	-	•		•	-		_	_	_	(Option)
Insert Editing	(Video/Audio/TC)	) (Video/Audio/TC)	-	(Video/Audio/TC)	(Video/Audio/TC)	(Video/Audio/TC	)	(Video/Audio)	_	_	-	-
VITC			<u> </u>			-	-	-	-	-	-	-
Time Code Input/Outpu								-	-	-		_
ClipLink							-	-	-	-	-	
High-speed Data Transfer	_	-	-	-	-			-				
Search Speed	x ±60	x ±60	x ±60	x ±60	x ±32	x ±32	x ±17.48 (PAL)	x ±15	x ±17.48 (PAL)	x ±17.48 (PAL)	x ±17.48 (PAL)	x ±11.48 (PAL)
Digital Slow	X ± I	X ±0.5	X ±0.5	X ±0.5	X ±0.5	X ±0 to 0.24	X ± 1/ 10, 1/3	X ± 1/10, 1/5	X ± I/ IU, I/3	X ± I/ IU, I/3	X ± I/ IU, I/3	X ± 1/3
Others												
DV Playback Capability	(SP/LP)	(SP only)	(SP only)	(SP only)	(SP only)	(SP only)	(SP only)	(SP only)	(SP only)	(SP only)	(SP only)	(SP only)
DVCPRO Playback Capability						_	-	-	-	-	-	
DV (SP mode) Recording Capability	у —	_	_	*8	_	_	•*9	-	•*9	•*9	•*9	
Auto Repeat/ Power-on Playback/Recording	_	•*10	•*10	•*10	_	_	•	•	•	•*11	-	•*11
Index Points Search	-	-	-	-	- *12	_	*10	*12	*12	*12	<b>•</b>	- *10
Closed Caption	*12	*12	*12	*12	*12	-	*12	*12	*12	*12	*14	*12

1 Output only. 26-pin camera connector accepts component video input.
 2 These signals share the same BNC connectors.
 3 As a player o
 4 Control Jack (accepts LANC command as player)
 5 Input only.

\* 3 As a player only. \* 5 Input only.

\* 4 Control Jack (accepts LANC command as player)
 \* 5 Input only.
 \* 6 Wireless remote controller is not supplied.
 \* 7 Playback only.
 \* 8 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 9 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 smooth).
\*10 Auto repeat/Power-on playback only. \*11Auto repeat only.

\*12 NTSC model only. \*13 Output from Monitor out connector only.

\*14 Output from Video out connector only.

: Available

: Not available

#### Application Examples Field Editing

#### Lap-top Editing System

- Portable and compact cut-editing system package
- Simple cable connection with virtually no deterioration of picture and sound quality
- All-digital editing process
- DV/DVCAM/DVCPRO to Betacam SX format editing
- Betacam SX to DVCAM format editing

# DSR-702 DNW-A25 Portable Edition Dortable Edition Output Dortable Edition</td

# Two-camera Switching Recording System

- Flexible recording by alternately switching between two camcorders
- Ideal for field/event recording with a minimum system and smaller crew



#### Simple Field Editing System

- Portable and compact system package
- Assemble editing with up to 99 events × 4 programs



#### Newsgathering and Image Transmission System

- Minimum package for shooting and editing
- Simple cable connection with virtually no deterioration of picture and sound quality
- Internet transmission of urgently required images via a PC equipped with an i.LINK interface



# Application Examples Studio Editing – Nonlinear

#### **SDI-based Nonlinear Editing System**

- Direct digital connection with SDI-equipped nonlinear editing system
- High picture and sound quality by use of SDI and AES/EBU interfacing
- \* The DSR-70A does not support AES/EBU



#### SDTI (QSDI)-based Nonlinear Editing System

- Superior multi-generation picture and sound quality by use of SDTI (QSDI) interfacing
- The DSR-85 can transfer data at four times normal speed to compatible nonlinear editing system



#### i.LINK-based Nonlinear Editing System (AV/C Protocol)

- Superior multi-generation picture and sound by use of i.LINK Connector interfacing
- Quick mechanical response (DSR-DR2000/1800/1500A)

#### Sound DSR-100 DSR-1500A Recorder DSR-1500A Rec

#### i.LINK-based Nonlinear Editing System (SBP2 Protocol)

- Superior multi-generation picture and sound by use of i.LINK Connector interfacing
- High speed clip transfer to a compatible i.LINK equipped nonlinear editor.\*

\* Please contact your nearest sony office or authorized dealer for nonlinear products that support clip transfer.



Application Examples

# Studio Editing – Linear

#### Preread Editing System

- A/B roll editing with two VTRs\*
- Audio mix/swap and voice over with no delay between video and audio
- Title editing with one VTR and Audio Mixer
- \* MIX and WIPE only



#### VTR-to-VTR Editing System

- Convenient two-machine editing system
- Remote operation from a distance of up to 10 meters (approx. 33 ft.) with the optional DSBK-200 Control Panel\*
- \* For DSR-2000 System









\*When it is attached to the DSR-570WS/390, a mount bracket (A-8274-968-B) included in the CA-370 is required.



DSR-570WS DSR-390 DXC-D35+DSR-1









DSR-50







21



# **Optional Accessories & Peripheral Equipment**

22

Camera Adaptor for WRR-855A/855B

DSR-570WS DSR-390



CAC-12 Microphone Holder

DSR-570WS DSR-390 DXC-D35+DSR-1 DSR-250 DSR-PD150 DSR-PDX10

DSR-570WS DSR-390 DXC-D35+DSR-1 DSR-250 DSR-PD150

DSR-PDX10

**Optional Accessories & Peripheral Equipment** 



DSR-570WS D R-1 DSR-250 DSR-PD150



DSR-V10



DSR-PDX10

DSR-50



CVX-V1/V1P

olor Video Camera

Carrying Case (Hard type) DSR-570WS DSR-390 DXC-D35+DSR-1

LC-PD150

Hard Carrying Case



DSR-V10



LCR-1 Rain Cover

DSR-570WS DSR-390 DXC-D35+DSR-1

FS-20 Foot Switch



DSR-45 DSR-25 DSR-11 DSR-50





UVR-60/60P TBC Remote Control Unit

DSR-2000 DSR-1800 DSR-1600 DSR-85





SDI Input/Output Board

DSR-85

RMM-131

Rack Mount Kit



DSBK-140 i.LINK/DV Input/Output Board

DSR-70A







Digital Input/Output Board

DSR-1500A



DSBK-1504/1504P Analog Input Board

DSR-1500A





DSR-1600





1 DSBK-180/180P Dual Video Input Board

DSR-70A



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





DSR-1800

DSR-70A



i.LINK/DV Input/Output Board

DSR-1800 DSR-1600





DSR-2000





RCC-5G/10G/30G Remote Control Cable (5 m/10 m/30 m)

DSR-2000 DSR-1800 DSR-1600 DSR-1500A DSR-85 DSR-45 DSR-70A DSR-DR1000





DSR-570WS DSR-390



#### **Optional Accessories & Peripheral Equipment**





VMC-IL4615/IL4635 i.LINK Cable (4-pin to 6-pin,1.5 m/3.5 m) DSR-250 DSR-PD150 DSR-PDX10 DSR-2000 DSR-1800 DSR-1600 DSR-1500A DSR-70A DSR-45 DSR-25 DSR-30 DSR-11 DSR-V10 DSR-50 DSR-DR1000 DSR-DU1







 DSR-570WS
 DSR-390
 DSR-250
 DSR-PD150
 DSR-PD170

 DSR-45
 DSR-25
 DSR-30
 DSR-11
 DSR-50

 DSR-V10
 DSR-V10
 DSR-25
 DSR-30
 DSR-11
 DSR-50



Digital Video Cassette (Master tape/Standard size)

DSR-570WS	DSR-390	DSR-1	DSR-250	DSR-2000
DSR-1800	DSR-1600	DSR-1500A	DSR-85	DSR-45
DSR-25	DSR-30	DSR-11	DSR-70A	DSR-50



#### PDVM-32MEM/40MEM Digital Video Cassette

(Master tape/Mini size)					
DSR-570WS	DSR-390	DSR-1	DSR-250		
DSR-PDX10	DSR-2000	DSR-1800	DSR-1600		

Dak-Srows	D314-330	DOINT	D31(-230	DOIGHDID
DSR-PDX10	DSR-2000	DSR-1800	DSR-1600	DSR-1500A
DSR-85	DSR-45	DSR-25	DSR-30	DSR-11
DSR-70A	DSR-50	DSR-V10		



()							
DSR-570WS	DSR-390	DSR-1	DSR-250	DSR-2000			
DSR-1800	DSR-1600	DSR-1500A	DSR-85	DSR-45			
DSR-25	DSR-30	DSR-11	DSR-70A	DSR-50			





#### Digital Video Cassette

(Standard Size)						
DSR-570WS	DSR-390	DSR-1	DSR-250	DSR-2000		
DSR-1800	DSR-1600	DSR-1500A	DSR-85	DSR-45		
DSR-25	DSR-30	DSR-11	DSR-70A	DSR-50		



#### PDVM-12N/22N/32N/40N

Digital Video Cassette (Non IC type/Mini size)

DSR-570WS	DSR-390	DSR-1	DSR-250	DSR-PD150
DSR-PDX10	DSR-2000	DSR-1800	DSR-1600	DSR-1500A
DSR-85	DSR-45	DSR-25	DSR-30	DSR-11
DSR-70A	DSR-50	DSR-V10		



#### PDVM-12ME/22ME/32ME/40ME Digital Video Cassette

Vlini size)	lini	size)	
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DSR-570WS	DSR-390	DSR-1	DSR-250	DSR-PD150
DSR-PDX10	DSR-2000	DSR-1800	DSR-1600	DSR-1500A
DSR-85	DSR-45	DSR-25	DSR-30	DSR-11
DSR-70A	DSR-50	DSR-V10		



#### Cleaning Cassette Tape

DSR-570WS	DSR-390	DSR-1	DSR-250	DSR-2000	
DSR-1800	DSR-1600	DSR-1500A	DSR-85	DSR-45	
DSR-25	DSR-30	DSR-11	DSR-70A	DSR-50	



#### Peripheral Equipment











# DSR-570WS/DSR-390/DXC-D35/D35WS+DSR-1 Carncorders

	DSR-570WS	DSR-390	DXC-D35/D35WS+DSR-1	DSR-1
General Power requirements		DC 12 V (11 to 17 V)		DC 12 V +5/-1 V
Power consumption	26.1 W (with VF), 24 W (without VF)	22.1 W (with VF), 20 W (without VF)	24.8 W (with VF)	12 W
Operating temperature		0 °C to 40 °C (32 °F to 104 °F)		0 °C to 40 °C (32 °F to 104 °F)
Storage temperature		-20 °C to 60 °C (-4 °F to 140 °F)		-20 °C to 60 °C (-4 °F to 140 °F)
Recording/Playback time		28.1931111/s		26.1931111/s
Standard size		184 min.		184 min.
Mini size		40 min.		40 min.
Fast forward/Rewind time Standard size		Approx. 12 min.		Approx. 12 min.
Mini size		Approx. 3 min. 4 3/4 x 7 3/8 x 7 3/8 inches		Approx. 3 min.
Continuous recording time	Approx. 70 min. with BP-L40A, 90 min. with BP-M50,	Approx. 80 min. with BP-L40A, 100 min. with BP-M50,	Approx. 75 min with BP-L40A	Approx. 75 min. with BP-L40A
Weight	140 min. with BP-IL/5, 200 min. with BP-W100	13 lb 10 oz (6 2 kg)	D35: 16 lb 1 oz (7 3 kg) D35WS: 16 lb 5 oz (7 4 kg)	(DSR-1 + DXC-D35)
lingin	(with VF, microphone, lens, battery and tape)	(with VF, microphone, lens, battery and tape)	(with VF, microphone, lens, battery, tape and carrying handle)	6 lb 13 oz (3.1 kg) (with battery)
Dimensions (W x H x D)	4 7/8 x 7 5/8 x 11 1/8 inches	4 7/8 x 7 5/8 x 10 3/4 inches	4 7/8 x 8 1/8 x 13 5/8 inches	4.2/4 x 7.2/9 x 7.2/9 inchos
	9 5/8 x 9 3/4 x 21 1/8 inches	9 5/8 x 9 3/4 x 21 1/8 inches	(121 x 206 x 344 1111)	(118 x 185 x 185 mm)
	(242 x 247 x 536 mm) (with projections)	(242 x 247 x 536 mm) (with projections)		· · · · · · · · · · · · · · · · · · ·
Camera Section	3-chin 2/3-inch type Interline-Transfer CCD	3-chip 1/2-inch type Interline Transfer CCD	3-chip 2/3-inch type Interline-Transfer CCD	
Optics	5-chip 2/5-inch type, intenine-manaler COD	F1.4 medium index prism system	5-criip 2/5-inch type, intenine-manaler COD	
Effective picture elements	980 (H) × 494 (V)	768 (H) × 494 (V)	D35: 768 (H) x 494 (V), D35WS: 980 (H) x 494 (V)	—
Total picture elements	1038 (H) x 504 (V)	811 (H) × 508 (V)	D35: 811 (H) x 508 (V), D35WS: 1038 (H) x 504 (V)	
Built-in filters	1: 3200 K 2: 5600 K+1/8 ND	1: 3200 K 2: 5600 K+1/8 ND	1: 3200 K 2: 5600 K+1/8 ND	
	3: 5600 K 4: 5600 K+1/64 ND	3: 5600 K 4: 5600 K+1/64 ND	3: 5600 K 4: 5600 K+1/64 ND	
Lens mount	Sony 2/3-inch type bayonet mount	Sony 1/2-inch type bayonet mount	Sony 2/3-inch type bayonet mount	
Scanning system		2:1 interlaced, 525 lines, 60 fields/s		
Horizontal frequency		15.734 kHz		_
Vertical frequency		59.94 Hz		—
Sync system Horizontal resolution	Internal Sync, GENLOCK IN 16:9 mode: 800 TV lines(center) 4:3 mode: 850 TV lines (center)	VIDEO IN (VBS or BS), External Sync, VTR/CCU IN 800 TV lines (center)	Internal and external with VBS or BS signal D35-880 TV lines D35WS 850 TV lines (4:3 mode), 800 TV lines (16:9 mode).	
Vertical resolution		400 TV lines (without EVS), 450 TV lines (with EVS)		-
Minimum illumination	0.25 lx with F1.4, Hyper gain (42 dB)	0.4 lx with F1.4, Hyper gain (36 dB)	0.25 lx with F1.4, Hyper gain (36 dB+DPR)	-
Sensitivity	U.4 IX WITN F1.8, Hyper gain (42 dB) F11 at 2000 IX (3200 K 89 9% reflectance) (typical)	U.6 IX WITH F1.8, Hyper gain (36 dB) E13 at 2000 IX (3200 K, 89 9% reflectance) (typical)	U.4 IX WITH F1.8, Hyper gain (36 dB+DPR) F11 at 2000 IX (3200 K, 89.9% reflectance) (typical)	
Gain selection	-3 dB, 0 dB, 3 dB, 6 dB, 9 dB, 12 dB, 18 dB,	-3 dB, 0 dB, 3 dB, 6 dB, 9 dB, 12 dB, 18 dB,	-3 dB, 0 dB, 3 dB, 6 dB, 9 dB, 12 dB, 18 dB,	-
	18 dB+DPR*1, 24 dB, 24 dB+DPR,	18 dB+DPR*1, 24 dB, 24 dB+DPR,	18 dB+DPR, 24 dB, 24 dB+DPR,	
Shutter speed selection	Hyper gain (36 dB or 42 dB selectable)	OFE 1/100 1/250 1/500 1/1000 1/2000 (s)	Hyper gain (30 dB+DPR or 36 dB+DPR)	·
S/N ratio	63 dB (typical)	65 dB (typical)	63 dB (typical)	-
Registration		0.05% (all zones, without lens)		—
Geometric distortion		Below measurable level		
Video performance*2				Luminance: 30 Hz to 5.0 MHz ±1.0 dB
Bandwidth		Luminance: 30 Hz to 5.0 MHz ±1.0 dB		5.75 MHz +0/-3.0 dB (Typical measurement)
S/N ratio		More than 55 dB		More than 55 dB
K-factor (K2T, KPB)		Less than 2.0%		Less than 2.0%
Y/C delay		Less than 30 ns		Less than 30 ns
Frequency response		2 CH mode (48 kHz/16-bit): 20 Hz to 20 kHz +0.5/-1.0 dl	В	2 CH mode (48 kHz/16-bit): 20 Hz to 20 kHz +0.5/-1.0 dB
	4	CH mode (32 kHz/12-bit): 20 Hz to 14.5 kHz +0.5/-1.0 c	зВ	4 CH mode (32 kHz/12-bit):
Dynamic range		More than 80 dB		20 Hz to 14.5 kHz +0.5/-1.0 dB
Distortion (THD)		Less than 0.08% (1 kHz reference level, 48 kHz)		Less than 0.08%
Input/Output Connectors				
Signal inputs	Genlock Video In: E Analog Video In: Bl	NC, 1.0 Vp-p, 75 Ω JC, 1.0 Vp-p, 75 Ω	Genlock Video In: BNC, 1.0 Vp-p, 75 Ω Ext Audio CH-1/2: XLB 3-pin female x2	Genlock Video In: BNC, 1.0 Vp-p, /5 Ω Ext Audio CH-1/2: XLB 3-pin female x2
	(with DSBK-501 opt	ional board installed)	-60 dBu, 3 k $\Omega$ ±4 dBu, 10 k $\Omega$	-60 dBu, 3 k $\Omega$ ±4 dBu, 10 k $\Omega$
	Ext Audio CH-1/2: >	LR 3-pin female x2 60 dBu - 3 k0 + 4 dBu - 10 k0	TC In: BNC, 0.5 Vp-p to 18 Vp-p, 10 kΩ	TC In: BNC, 0.5 Vp-p to 18 Vp-p, 10 kΩ
	MIC In: XLR 3-pin f	emale x 1		
Circal autouts	TC In: BNC, 0.5 Vp	p to 18 Vp-p, 10 kΩ	Operation In the second	Video Out DNO 10 Vie e
Signal outputs	26-pin male	26-pin male	VBS: 1.0 Vp-p. svnc negative	svnc negative, 75 Ω
	VBS: 1.0 Vp-p, sync negative	VBS: 1.0 Vp-p, sync negative	26-pin connector of CA-537 docked	S-Video: DIN 4-pin
	R-Y/B-Y: 0.7 Vp-p	R-Y/B-Y: 1.0 Vp-p, sync negative R-Y/B-Y: 0.7 Vp-p	Y/B-Y/B-Y: Y: 1.0 Vp-p, sync negative Y/B-Y/B-Y: Y: 1.0 Vp-p, sync negative, B-Y/B-Y: 0.7 Vp-p	C: 0.286 Vp-p, 75 Ω
	Y/C: Y: 1.0 Vp-p, sync negative	Y/C: Y: 1.0 Vp-p, sync negative	Y/C: Y: 1.0 Vp-p, sync negative, C: 0.286 Vp-p (burst level)	Audio CH-1/2: RCA PIN, -10 dBu, 47 kΩ
	C: 0.286 Vp-p (burst level) S-Video: DIN 4-pin 1 0 Vp-p 75 0	C: 0.286 Vp-p (burst level) S-Video: DIN 4-nin 1.0 Vn-p. 75.0	KGB: 1.4 Vp-p Video Out: BNC 1.0 Vp-p sync negative 75.0	TC Out: BNC, 1.0 Vp-p, 75 Ω
	DV Out : 6-pin, IEEE1394	DV Out: 6-pin, IEEE1394	S-Video: DIN 4-pin	
	Audio CH-1/2: Phono, -10 dBu, 47 kΩ	Audio CH-1/2: Phono, -10 dBu, 47 kΩ Mapitar Out: PNC 1.0 Vp p. surge pagetive, 75 Ω	Y: 1.0 Vp-p, sync negative	
	TC Out: BNC, 1.0 Vp-p, 75 $\Omega$	TC Out: BNC, 1.0 Vp-p, 75 $\Omega$	Audio CH-1/2: Phono, -10 dBu, 47 kΩ	
01			TC Out: BNC, 1.0 Vp-p, 75 Ω	
Others	DC In: XLR 4-pin male DC Out: XLR 4-pin female	DC In: XLR 4-pin male DC Out: XLR 4-pin female	DC In: XLR 4-pin male DC Out: XLR 4-pin female	Digital Interface: Pro 50-pin Digital
	Battery Terminal: 5-pin	Battery Terminal: 5-pin	Earphone: Mini jack	DC In: XLR 4-pin male
	Earphone: Mini jack	Earphone: Mini jack Light Out: 2-pin female	Lens: 12-pin VF: 8-pin 20-pin	Earobone: Stereo Mini jack
	WRR Out: 7-pin	WRR Out: 7-pin	Remote1: Stereo mini jack	
	Lens: 12-pin VF: 20-pin	Lens: 12-pin VF: 20-pin	Remote2: 10-pin	
	Remote1: Stereo mini jack	Remote1: Stereo mini jack		
Supplied Accessories	Remote2: 10-pin	Remote2: 10-pin		
Supplied Accessories	1.5-inch RM/ Vie	wfinder (DXF-801)	1.5-inch B/W Viewfinder (DXF-801)	Shoulder Strap, Connector Can
	Microphone wi	th Wind Screen	Microphone with Wind Screen	Lithium Battery (type CR2032)
	Tripod Adap Shoulder Strap	bior v⊜l-U14 Lens Mount Cap	Iripod Adaptor VCT-U14 Bemote Control Unit (BM-LG1)	M4 x6 Screws (2), M4 x12 Screws (2) Operating Instructions
	Flange Focal Length	Adjustment Test Chart	Shoulder Strap, Lens Mount Cap	ClipLink Guide
	Bindi	ng Tic Instructions	Flange Focal Length Adjustment Test Chart	
			oportung manufullion	
*1: DPR is equivalent to	+6 dB gain up.	*2: The spec	cifications for "Video/Audio performance" were r	neasured by playing back material

18 dB+DPR: Equivalent to +2 dB gain up.
 24 dB+DPR: Equivalent to +24 dB gain up.
 Hyper gain (30 dB+DPR): Equivalent to +36 dB gain up.

"2: The specifications for "Video/Audio performance" were measured by playing back materia on a DSR-1800/1800P (via analog component out) that had been recorded by each camcorder

DSR-1 Dockable Recorder

# DSR-250/DSR-PD150/DSR-PDX10 Carncorders

	DSR-250	DSR-PD150	DSR-PDX10
General			
Power requirements	DC 12 V (11 V to 17 V)	DC 7 2 V (Battery) DC 8 4 V (AC adaptor)	DC 7 2 V (Battery operation) DC 8 4 V (AC Adaptor)
Power consumption	10.5 W (with VE) 12.1 W (with VE and LCD)	4.7 W (with VE) 5.4 W (with LCD)	5.2 W (with VE) 6.5 W (with LCD)
Operating temperature	10.5 W (WILLY ), 12.1 W (WILLY I AID EOD)	0 °C to 40 °C (32 °E to 104 °E)	3.2 W (Wat VI), 0.5 W (Wat EOD)
Storage temperature		-20 °C to 60 °C (-4 °E to 140 °E)	
		Approx 28.2 mm/s (D)/CAM mode)	
		Approx. 28.2 min/s (DVCAW mode) Approx. 18.8 mm/s (DV SP mode)	
Recording/Playback time	184 minutes (DVCAM mode), 270 minutes (DV SP mode with PDV-184ME) 40 minutes (DVCAM mode), 60 minutes (DV SP mode with PDVM-40ME)	40 minutes (E 60 minutes (DV SP mo	OVCAM mode) ode, with PDVM-40ME)
Weight	Approx. 9 lb 11 oz (4.4 kg)	Approx. 3 lb 8 oz (1.6 kg)	Approx. 2 lb 1 oz (950 g)
Dimensions (W x H x D)	9 5/8 x 10 x 20 1/8 inches	5 1/8 x 7 1/8 x 16 inches	3 3/4 x 4 x 8 inches
Long	(214.7 x 251.25 x 508.8 mm) including microphone	(128 x 180 x 405 mm) including microphone	(93 x 99 x 202 mm)
Zoom	12:1 Variable St	need zoom lens	12:1 variable speed zoom lens
20011	F =6.0 to 72.0 r	mm; F1.6 to 2.4	F=3.6 to 43.2 mm; F1.6 to 2.8
Filter diameter	2 3/8 inche	es (58 mm)	1 1/2 inches (37 mm)
Focus	Auto/Manual (ring)/Ir	nfinity/One push auto	Auto/Manual (ring)/Infinity/One push auto
Camera			
Image device	Three 1/3-inch type 0	CCDs, 380,000 pixels	Three 1/4.7-inch type CCDs, 1,070,000 pixels (gross)
Signal system		EIA Standard, NTSC color system	
Scanning system		Progressive/Interlace Scan	
Horizontal resolution		530 TV lines	
Minimum illumination	2	lx	7 lx
Gain selection	+0, +3, +6, +9, +	-12, +15, +18 dB	
Shutter speed selection		1/4, 1/8, 1/15, 1/30, 1/60, 1/90, 1/100, 1/125, 1/180, 1/2	50, 1/350, 1/500, 1/10000 c
Exposure	Auto/Manual (Iris ring)	Auto/Manual (Iris dial)	Auto/Manual (Exposure dial, Program AE)
White balance	Auto/One-push (Memory A, B)/Outdoor (5800 K)/Indoor (3200 K)	Auto/One-push/Outdoor	(5800 K)/Indoor (3200K)
Viewfinder	1.5-inch black and white CRT, Zebra Pattern	180,000 dot Black & W	hite LCD, Zebra Pattern
Built-in microphone	-	_	Stereo electret condenser microphone
Built-in speaker		Dynamic speaker	
LCD	TFT Active Matrix, 2.5-inch ty	pe, 200,640 dots (880 x 228)	TFT Active Matrix, 3.5-inch type 246,400 pixels (1,120 x 220)
Memory card slot	Memor Recording signals: Cam Image compr Image size: V0	<b>y Stick</b> era signals, VTR signals ession: JPEG GA (640 x 480)	Memory Stick Recording signals: Camera signal, VTR signal Image compression: JPEG, MPEG Image size: JPEG: 640 x 480, 1152 x 864 MPEG: 160 x 112, 320 x 240
Input/Output Connectors			
Signal inputs/outputs	Video IN/OUT: RCA pin x 1 Y: 1 Vp-p, 75 $\Omega$ , unbalanced, sync negative Video OUT: BNC pin x 1 Y: 1 Vp-p, 75 $\Omega$ , unbalanced, sync negative Audio IN/OUT: RCA pin x 2, 245 mV, Output impedance with less than 2.2 k $\Omega$ , Input impedance with more than 47 k $\Omega$ S-Video IN/OUT: Mini-DIN 4 pin x 1, Y:1 Vp-p, 75 $\Omega$ , unbalanced C: 0.286 Vp-p Audio IN: XLR 3-pin (female) x 3, -60 dBu, 6.8 k $\Omega$ , +4 dBu, 6.8 k $\Omega$ (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 $\Omega$ , unbalanced, sync negative Audio IN/OUT: RCA pin x 2, 327 mV Output impedance with less than 2.2 k $\Omega$ Input impedance with more than 47 k $\Omega$ S-Video IN/OUT: Mini-DIN 4 pin x 1 Y: 1 Vp-p, 75 $\Omega$ , unbalanced C: 0.286 Vp-p (NTSC) Audio IN: XLR 3-pin female, x 2-60 dBu, 3 k $\Omega$ , +4 dBu, 10 k $\Omega$ (0 dBu = 0.775 V rms) i.LINK (DV): 4-pin x 1	Audio/Video In/Out: AV mini jack x 1, 1.0 Vp-p, 75 Ω, sync negative S-Video In/Out: Mini DIN 4-pin x 1 Y: 1.0 Vp-p, 75 Ω, unbalanced C: 0.286 Vp-p (subcarrier burst), 75 Ω, unbalanced MIC In: Stereo mini jack x 1 i.LINK (DV): 4-pin x 1 XLR Audio In: XLR 3-pin female x 2 via adaptor
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	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 USB: Mini-B x1
Supplied Accessories			
	ECM-NV1 Monaural Microphone RMT-811 Remote Commander and R6 Batteries (2) MSA-4A IC Recording Media Memory Stick MSAC-US2 Memory Stick Reader/Writer Picture Gear 4.1 Lite Lens Hood Hood Cap	ECM-NV1 Monaural Microphone AC-L10 AC Adaptor NP-F330 InfoLITHIUM Rechargeable Battery Pack RMT-811 Remote Commander and R6 Batteries (2) MSA-4A IC Recording Media <b>Memory Stick</b> MSAC-US2 <b>Memory Stick</b> Reader/Writer Picture Gear 4.1 Lite, Stereo AV Cable Lens Hood, Hood Cap, Carrying Belt	ECM-NV1 Monaural Microphone AC-L10 AC Adaptor NP-FM50 InfoLITHIUM Rechargeable Battery Pack RMT-811 Remote Commander and R6 Batteries (2) MSA-8A IC Recording Media <b>Memory Stick</b> XLR Adaptor, Special Stereo AV Cable Lens Hood, Wide Lens Hood, Hood Cap Image Mixer for SONY/USB Driver Software CD-ROM

# DSR-2000/DSR-1800/DSR-1600/DSR-1500A/DSR-85 Studio VTRs

	DSR-2000	DSR-1800	DSR-1600	DSR-1500A	DSR-85
Power requirements		AC 100 V to 2	240 V, 50/60 Hz		AC 100 V to 120 V, 50/60 Hz
Power consumption (Max.)	120 W	100 W	70 W	55 W	175 W
Storage temperature			-20 °C to 60 °C (41 °F to 104 °F)		
Operating humidity			Less than 80%		
Tape speed	28.193 mm/s				
Recording/Playback time East forward/Rewind time	Standard size: 184 min.(DVCAM mo Star	de), 276 min (DV SP mode)* with PDV adard size: Less than 3 min, with PDV	/-184ME/184N/184MEM, Mini size: 40 n -184ME/184N/184MEM, Mini size: Less	nin.(DVCAM mode), 60 min.(DV SP mo than 1 min_with PDVM-40ME/40N/40N	de)* with PDVM-40ME/40N/40MEM
Search speed	Oldi		104ME/104N/104MEM, MINI 3/20. 2033		When controlling via RS-422A:
	Shuttle mode: still to ±60 times normal speed Digital slow mode: ±1 times normal speed	Shuttle mode: still to ±60 times normal spe Digital slow mode: ±0.5 times normal spe		eed eed	Search speed is up to ±32 times normal speed. When controlling via optional DSRM-10: Jog mode: still to ±2 times normal speed. Shuttle mode: 8 steps, from still to ±16 times normal speed. Digital slow mode: 3 steps, still, ±1/5, 1/10 times normal speed
Weight	39 lb 10 oz (18 kg) 16 7/8 x 7 x 19 5/8 inches	28 lb 10	oz (13 kg) x 15 3/4 inches	6 kg (13 lb 3 oz) 210 x 130 x 420 mm	21 kg (46 lb 4 oz)
(W x H x D, excluding projections)	(427 x 175 x 495.5 mm)	(427 x 174	x 400 mm )	(8 3/8 x 5 1/8 x 16 5/8 inches)	(16 7/8 x 6 7/8 x 19 1/2 inches)
Video Performance Bandwidth Luminance (via analog component I/O)	30 Hz to 5.0 MHz ±1.0 dB 5.75 MHz +0/-3.0 dB (Typical measurement)	30 Hz to 5.0	MHz ±1.0 dB	30 Hz to 5.0 MHz +1.0/-1.5 dB	30 Hz to 5.0 MHz ±1.0 dB
S/N ratio (via analog component I/O)			30 Hz to 1.5 MHz + 1.0/-5.0 dB More than 55 dB		
K-factor (K2T, KPB)			Less than 2.0%		
Audio Performance			Less than 30 hs		
Frequency response 2 CH mode (48 kHz/16-bit)		20 Hz to 20 kHz +0.5/-1.0 dB		20 Hz to 20 kHz +1 0 dB	20 Hz to 20 kHz +0.5/-1.0 dB
4 CH mode (32 kHz/12-bit)		20 Hz to 14.5 kHz +0.5/-1.0 dB		20 Hz to 14.5 kHz ±1.0 dB	20 Hz to 14.5 kHz +0.5/-1.0 dB
Dynamic range Distortion (THD+N)		More than 90 dB Less than 0.05%		More than 87 dB	More than 85 dB Less than 0.05%
Video Signal Inputs					
Analog Ref. Video (BNC x2.	0.286 Vp-p. 75 S	2. svnc negative	_	0.286Vp-p. 75Ω, svnc negative	1.0 Vp-p. 75 Ω, sync negative
loop-through connection)	Black	Burst		Composite 1.0.1/a	n 75 O auna nanativa
Component Y	1.0 Vp-p, 75 Ω	sync negative		1.0 Vp-p, 75 Ω	, sync negative
(BNC x3) *1 R-Y	0.7 Vp-p, 7	5 Ω (75 %)	-	0.7 Vp-p, 7	5 Ω (75 %)
S-Video *1	DIN 4-	pin x1	-	BNC x2 Y: 1.0 Vp-p, 75 Ω,	DIN 4-Pin x1 Y: 1.0 Vp-p, 75 Ω,
	Y: 1.0 Vp-p, 75 C C: 0.286 Vp-p, 75	<ol> <li>sync negative</li> <li>Ω (at burst level)</li> </ol>		sync negative C: 0.286 Vp-p, 75 Ω (at burst level)	sync negative C: 0.286 Vp-p, 75 Ω (at burst level)
<b>Digital</b> SDI *2.*3.*4	BNC x2, active-th Conforms to Seria	rough connection	-	BNC x1 Conforms to Serial Digital Interface	BNC x2, active-through connection Conforms to Serial Digital Interface
SDTI (QSDI) (BNC x1) *4.*5	Conforms to SDTI (270 MD/s),	b/s), SMPTE 305M/322M	_	Conforms to SDTI (270 M	(270 MD/s), SMPTE 259M 1b/s), SMPTE 305M/322M
i.LINK (DV) (6-pin x1)*6.*7	IEEE	1394	-	IEEE1394	_
Analog					
Audio *1	XLR 3-pin -6/0/+4 dBu, 600 Ω on/off	female x4 /-60 dBu, high impedance	—	XLR 3-pin female x2 -6/0/+4 dBu, high impedance	XLR 3-pin female x4 -6/0/+4 dBu, 600 Ω on/off/-60 dBu, high impedance
AES/EBU *3,*4	BNC	x 2	-	BNC x2	XLR 3-pin female x2
Video Signal Outputs	75 Ω, uni	palanced		75 Ω, unbalanced	110 Ω, balanced
Analog	I	0.000 \/			0.000 \/e == 75.0
Video (BNC XI)	Video 1/2/3(SUPER) BNC x3	U.286 Vp-p, 75 Ω, sync negative Video 1/2(SL	JPER) BNC x2	Video 1/2/3 (SUPER) BNC x3	Video 1/2 (SUPER) BNC x2
Component (BNC v2)		C	Composite, 1.0 Vp-p, 75 Ω, sync negative	Ve	
S-Video		DIN 4-pin x1	legalive, n-1. 0.7 vp-p, 75 22 (75 %), b	BNC x2	DIN 4-pin x1
Digital		Y: 1.0 Vp-p, 75	5 Ω, sync negative C: 0.286 Vp-p, 75 Ω	(at burst level)	
SDI *3,*4,*9	BNC x3		BNO	C x2	
SDTI (QSDI) *4,*5,*10		ENC x1	to Serial Digital Interface (270 Mb/s), Sl	BNC x2	BNC x1
1 INK (DV) (0 - 1 4)** *7		Confe	orms to SDTI (270 Mb/s), SMPTE 305M	/322M	
Audio Signal Outputs		IEEE	1394		
Analog Audio	XLR 3-pin male x4 XLR 3-pin male x -6/0/+4 dBu (selectable by menu)			XLR 3-pin male x2	XLR 3-pin male x4 4 dBu, 600 Ω loading, low
Monitor	600Ω, loading, low impedance, balanced Phono x1 -11 dBu, 47 kΩ, unbalanced (-20 dBFS)			-∞ to -11 dBu, 47 kΩ,	-6 dBu, 47 kΩ, unbalanced
Headphone (JM-60 headphone jack x1)	-∞ to -13 dBu, 8 Ω, unbalanced (-20 dBFS)			-16 dBu, 8 Ω, unbalanced	
Digital AFS/FBLI*3.*4.*9	BNC x 2			XI B 3-pin male x2	
Time Code Innut/Output		75 Ω, un	balanced		110 Ω, balanced
In (BNC x1)			0.5 Vp-p to 18 Vp-p, 3.3 kΩ, unbalance	ed	
Out (BNC x1)			2.2 Vp-p, 75 Ω, unbalanced		
	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-sut Video Control: D- Control S (SIRCS):	o 9-pin female x1 sub 15-pin male x1 Stereo mini jack x1	RS-422A: D-sub 9-pin female x1 Control S (SIRCS): Stereo mini jack x1	RS-422A: D-sub 9-pin female x1 TBC Remote: D-sub 15-pin male 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 Pov Operating Inst	ver Cord ructions (CD-R)	AC Power Cord CD-R (Operating Instructions)	AC Power Cord RCC-5G 9-pin Remote Control Cable Operating Instructions, ClipLink Guide
The DSR-1500A only     *1: The optional DSBK-1504 is require     *0. The optional DSDK/1504 is require	ed for the DSR-1500A.	*4: The optional DSBK1501 is requ *5: The optional DSBK1802 is requ	uired for the DSR-1500A. uired for the DSR-1800.	*8: The optional DSBK-120 is re *9: The optional DSBK-1601 is r	quired for the DSR-85. equired for the DSR-1600.

\*3: The optional DSBK1201s required for the DSR-35.

\*7: The optional DSBK1803 is required for the DSR-1800/1600.

# DSR-45/DSR-30/DSR-25/DSR-11 Studio VTRs

		DSR-45	DSR-30	DSR-25	DSR-11
General				<u> </u>	I
System		NT	SC	NTSC/PAL Switchable	
Power requirements		AC100 to 240V, 50 to 60Hz	AC120V, 60Hz	AC100 to 240V, 50 to 60Hz	AC100 to 240V, 50 to 60Hz
Power consumption		22 W	37 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		28.2	mm/s	
	DV SP mode		18.8	mm/s	
Recording/ Playback time in	Standard size		184 min. with PDV-1	84ME/184N/184MEM	
DVCAM mode	Mini size		40 min. with PDVM	I-40ME/40N/40MEM	
Tape rewind time			Less than 2 min. with	h PDV-184ME/184N/184MEM	_
Search speed		When controlling via optional DSRM-20: or supplied RMT-DS5 ± x1/10, x1/3, x1,x2,x9, x14 (DVCAM) ± x1/10, x1/3, x1,x2,x9, x24 (DV SP) 8 3/8 x 3 7/8 x 15 1/2 inches	± x1/5,x1,x2,x10,x15	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)
Weight		Approx. 10 lb 2 oz (4.6 kg)	Approx. 20 lb 4 oz (9.2 kg)	Approx. 9 lb 8 oz (4.3 kg)	Approx. 6 lb 2 oz (2.8 kg)
Dimensions		8 3/8 x 3 7/8 x 15 1/2 inches	17 x 5 1/8 x 14 3/4 inches	8 3/8 x 3 7/8 x 15 1/2 inches	7 1/8 x 2 7/8 x 10 1/2 inches
(W x H x D, including projec	tions)	(212 x 98 x 392.8 mm )	(430 x 129 x 374 mm )	(212 x 98 x 392.8 mm)	(180 x 73 x 265 mm)
Video Signal Inputs					
Rec mode		DVCAM/DV (SP mode only)	DVCAM	DVCAM/DV (SP mode only)	DVCAM/DV (SP mode only)
PB mode Ref. Video		BNC v1*1Black buret: 75 O svpc pegative	DVCAW/DV (	SF mode only)	
Composite		BNCx1(Shared with REF IN) 1.0Vp-p, 75 Ω, Sync Negative	BNCx1, PIN Jack x1 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: 0.286Vp-p (subcarrier burst) 75 Ω	4-pin mini DIN (frontx1, rearx1) Y: 1.0Vp-p, 75 Ω, Sync Negative C: 0.286Vp-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 $\Omega,$ sync negative R-Y/B-Y: 0.7 Vp-p, 75 $\Omega,$ (with 75 % color bar)		_	
Audio Signal Inputs					
Audio		PIN Jack x4 -10/-2/+4 dBu (full bits -20dB)	PIN Jack (rear L/R x1, front L/R x1) 2 Vrms (full bits)	PIN Jack (L/R x1) -10/-2/+4 dBu (full bits -20dB)	PIN Jack (L/R x1) 2 Vrms (full bits)
Video Signal Outputs			I		I
Composite		BNCx1 1.0Vp-p, 75 Ω, Sync Negative	BNCx2 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: 0.286Vp-p (subcarrier burst) 75 Ω	4-pin mini DIN (x2) Y: 1.0Vp-p, 75 Ω, Sync Negative C: 0.286Vp-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 $\Omega,$ sync negative R-Y/B-Y: 0.7 Vp-p, 75 $\Omega,$ (with 75 % color bar)		_	
Monitor		PIN Jackx1, 1.0Vp-p, 75 $\Omega$ , Sync Negative		—	
Audio Signal Outputs					
Audio		XLR 3pin x4 (Male) +4dBu(full bits -20dB) (*2)	PIN Jack (L/R x2) 2 Vrms (full bits)	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	
In		BNC x1, 0.5 to 18 Vp-p (time code input),		_	
Out BNC		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 <sup>ra</sup> (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 x2 (front x1/rear x1)* <sup>4</sup> Control S <sup>**</sup> (SIRCS) In: Mini jack x1 Control S(SIRCS) Out: Mini jack x1 Headphone: Stereo mini jack x1 Trigger In: RCA pin x1 (active short) MIC In: Mini jack x1	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-DSS Wireless Remote Controller Size AA (R6) Battery for Remote (2) AC Power Cord Cleaning Cassette Operating Manual Interface Manual for Programmers (RS-232C)	RMT-DS30 Wireless Remote Controller Size AA (R6) Batteries for Remote (2) AC Power Cord Cleaning Cassette Operating Manual LANC Cable	RMT-DS5 Wireless Remote Controller Size AA (R6) Batteries for Remote (2) AC Power Cord Cleaning Cassette Operating Manual	RMT-DS11 Wireless Remote Controller Size AA (R6) Batteries for Remote (2) AC Adaptor, Power Cord Cleaning Cassette Operating Manual Rack

\*1 Shared between composite IN and REF-IN. \*3 Recommended remote control unit: DSRM-20 \*2 The audio output level of the DSR-45 will be reduced by half when connected to an Unbalanced XLR input device. \*4 Priority on front LANC.

# DSR-70A Portable Editing Recorder

General		Video Signal Outputs	
Power requirements	DC 12 V	Analog	
Power consumption	46 W (without options)	Ref. Video (BNC x1)	0.286 Vp-p, 75 Ω, sync negative
Operating temperature	0 °C to 40 °C (32 °F to 104 °F)	Video 1/2(SUPER) (BNC x2)	Composite, 1.0 Vp-p, 75 Ω, sync negative
Storage temperature	-20 °C to 60 °C (-4 °F to 140 °F)	Component (BNC x3)*1	Y: 1.0 Vp-p, 75 Ω, sync negative
Operating humidity	Less than 80%		R-Y: 0.7 Vp-p, 75 Ω (75%)
Storage humidity	Less than 90%	S-Video (DIN 4-pip x1)	Y: 10 Vp-p, 75 Q sync negative
Tape speed	28.193 mm/s		C: 0.286 Vp-p, 75 $\Omega$ (at burst level)
Recording/Playback time	Standard size: 184 min. with PDV-184ME/184N/184MEM	Digital	
	Mini size: 40 min. with PDVM-40ME/40N/40MEM	SDI (BNC x2)*2	Conforms to Serial Digital Interface (270 Mb/s), SMPTE 259M
Fast forward/Rewind time	Standard size: Less than 3 min. with PDV-184ME/184N/184MEM	SDTI (QSDI) (BNC x1)*3	Conforms to SDTI (270 Mb/s), SMPTE 305M/322M
Course an ord	Mini size: Less than T min. with PDVM-40ME/40N/40MEM	i.LINK (DV) (6-pin x1)*4	IEEE1394
Search speed	X ±32	Audio Signal Outputs	
Weight	12 lb 12 oz (5.8 kg)	Analog	
Dimensions (W x H x D)	211 x 149 x 443 mm (8 3/8 x 5 //8 x 1/ 1/2 inches)	Audio (CH-1,2 or CH-3,4)	+4/0/-6 dBu (selectable by menu)
Video Signal Inputs		(ALR 3-pin male x2)	6 dBu 47 k0 unhalanaad
Analog			-6 ubu, 47 K2, unbalanceu
Ref. Video (BNC x2. loop-through connection)	0.286 Vp-p, 75 $\Omega$ , sync negative	(JM-60 headphone jack x1)	
Video		Time Code Input/Output	
(BNC x2, loop-through connection)	Composite, 1.0 Vp-p, 75 $\Omega$ , sync negative	Time Code In (BNC x1)	0.5 to 18 Vp-p, 3.3 kΩ, unbalanced
Component (BNC x3)*1	Y: 1.0 Vp-p, 75 Ω, sync negative	Time Code Out (BNC x1)	2.2 Vp-p ±3.0 dB, 600Ω, unbalanced
	R-Y: 0.7 Vp-p, 75 Ω (75%)	LCD	
	B-Y: 0.7 Vp-p, 75 Ω (75%)	LCD display (x1)	6.4-inch type VGA, 640 (H) x 480 (V)
S-Video (DIN 4-pin x1)	Y: 1.0 Vp-p, 75 Ω, sync negative	Speaker	
	C: 0.286 Vp-p, 75 $\Omega$ (at burst level)	Built-in speaker (x1)	Monaural
Digital		Remote	
SDI (BNC x1)*2	Conforms to Serial Digital Interface (270 Mb/s), SMPTE 259M		RS-422A: D-sub 9-pin female x1
SDTI (QSDI) (BNC x1)*3	Conforms to SDTI (270 Mb/s), SMPTE 305M/322M	Other	
i.LINK (DV) (6-pin x1)*4	IEEE1394	O	DC 12 V In: XLR 4-pin male x1
Audio Signal Inputs		Supplied Accessories	Corruine Delt
Analog			Connector Can (per interface)
Audio (CH-1,2) (XLR 3-pin female x2)	+4/0/-60 dBu, high impedance, balanced		Operating Instructions (CD-R) Warranty Card

\*1: The optional DSBK-170 Analog Component Input/Output Board is required. \*2: The optional DSBK-160A SDI/i.LINK (DV) Input/Output Board is required. \*3: The optional DSBK-160 SDI (QSDI) Input/Output Board is required. \*4: The optional DSBK-140 i.LINK/DV Input/Output Board or DSBK-160A SDI/i.LINK (DV) Input/Output Board is required.

# DSR-50 Portable Recorder

General		Audio IN	XLR 3-pin (female) (+4 dBu/-20 dBu/-60 dBu) x 4,
System	NTSC		impedance more than 3 k $\Omega$ with +48 V power supply
DC input	XLR 4-pin (male), +12 V		(independently switched for each channel)
Power consumption	15 W	Camera IN	26-pin camera connector
Operating temperature	5 °C to 40 °C (41 °F to 104 °F)	Composite	1.0 Vp-p, 75 Ω, Sync negative
Storage temperature	-20 °C to 60 °C (-4 °F to 140 °F)	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
lape speed	Approx. 28.2 mm/s (DVCAM mode),	Reference IN	BNC, Black Burst 75 $\Omega$ , Sync negative (use Video IN)
Recording/Playback time	184 minutes (DVCAM mode), 270 minutes (DV SP mode), with DDV 184ME accepte	Video OUT 1 (Monitor) Composite	BNC, 1.0 Vp-p, 75 Ω, Sync negative Superimpose On/Off
	40 minutes (DVCAM mode), 60 minutes (DV SP mode)	Video OUT 2 Composite	BNC, 1.0 Vp-p, 75 Ω, Sync negative
Mainht	with PDVM-40ME cassette	S (4-pin mini DIN)	Y: 1.0 Vp-p, 75 $\Omega$ , Sync negative C: 0.286 Vp-p (subcarrier burst) 75 $\Omega$
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 270 x 90 x 315 mm (11 x 4 x 12 1/2 inches)	Component OUT	BNC x 3 Y: 1.0 Vp-p, 75 Ω, Sync negative B-Y/R-Y: 0.7 Vp-p, 75 Ω
	including projections	Audio OUT	PIN Jack x 4, -10 dBu Standard output level -20 dB from full bit
Video		Audio OUT (Monitor)	PIN Jack
Recording mode	DVCAM/DV (SP mode only)	DV IN/OUT	6-pin (with lock)
Playback mode	DVCAM/DV (SP mode only)	Timecode IN	BNC, 0.5 to 18 Vp-p, 10 kΩ
Audio		Timecode OUT	BNC, 2.2 Vp-p, 600 Ω/1.2 Vp-p, 75 Ω
Recording mode	48.0 kHz/16-bit (2CH)/ 32.0 kHz/12 bit (4CH)/automatic (D)/ (N)	Control S	Stereo mini jack
Playback mode	48.0 kHz/16-bit (2CH)/32.0 kHz/12-bit (4CH) 32.0 kHz/16-bit (2CH)/42.1 kHz/16-bit (2CH) (automatically selected)	Remote Control	Stereo mini jack (Edge High/Edge Low/Level High/Level Low) (Tally) Stereo mini-mini jack (compatible with LANC as a player)
Input/Output Terminals		Headphone jack (left side)	Stereo standard jack, -19 dBu, with Level Control
Video IN Composite	1.0 Vp-p. 75 Ω. Sync negative	Other	
S (4-pin mini DIN)	Y: 1.0 Vp-p. 75 $\Omega$ . Sync negative	Color LCD monitor	2.5-inch type, 200,000 dots
	C: 0.286 Vp-p (subcarrier burst) 75 $\Omega$	Supplied accessories	LCD Protection Cover, Cleaning Cassette

# DSR-V10 DVCAM Video Walkman Recorder

General		Audio	
Power requirements	DC 7.2 V (with battery), DC 8.4 V (with AC adaptor)	Audio signal	Recording: 48 kHz/16-bit, 32 kHz/12-bit
Power consumption	11.5 W (LCD on)		Playback: 48 kHz/16-bit, 32 kHz/12-bit, 32 kHz/16-bit, 44.1 kHz/16-bit
Operating temperature	0 °C to 40 °C (32 °F to 104 °F)	Audio inputs/outputs	
Storage temperature	-20 °C to 60 °C (-4 °F to 140 °F)	(PIN Jack x1/stereo L/R)	-7.5 dBs (0 dBu=0.775 Vrms)
Tape speed	28.193 mm/s	(PIN Jack x2)	
Weight	970 g (2 lb 2 oz) (without battery and tape)	Others	
Dimensions (W x H x D)	148 x 62 x 135 mm (5 7/8 x 2 1/2 x 5 3/8 inches)		LANC: Stereo mini-mini jack x1
LCD screen	5.5-inch type		Headphone: Stereo mini jack x1
Video			Multi connector: 20-pin x1
Video signal	EIA standard, NTSC color	Supplied Accessories	
Video input/output Video (PIN Jack x1) S-Video (Mini DIN 4-pin x1)	Composite, 1.0 Vp-p, 75 $\Omega$ , unbalanced, sync negative Y: 1.0 Vp-p, 75 $\Omega$ , unbalanced, sync negative C: 0.286 Vp-p (subcarrier burst), 75 $\Omega$ , unbalanced		AC-V700 AC Adaptor/Charger DK-415 DK Cable Carrying belt Operating Instructions

DSRM-E1 (Edit Adapte	or for DSR-V10)	Connectors	
General			Multi connector: 20-pin x1 Control unit: Mini DIN 8-pin x1
Power requirements	DC 7.2 V (supplied from DSR-V10), DC 8.4 V (with AC Adaptor)		LANC: Stereo mini-mini jack x1
Power consumption	Approx. 1.8 W	Monitor Output	
Storage temperature	0 °C to 60 °C ( 4 °E to 140 °E)	Video output (PIN Jack x1)	Composite, 1.0 Vp-p, 75 Ω, unbalanced, sync negative
Weight	-20 0 10 00 (44 f 10 140 f )           Main unit: 160 g (5.6 oz)           Controller: 340 g (12 oz)	Audio output (PIN Jack x1/stereo L/R)	0.327 V, impedance 470 $\Omega$ or less
Dimensions (W x H x D)	Main unit: 69 x 61 x 134 mm (2 3/4 x 2 1/2 x 5 3/8 inches) Controller: 184 x 42 x 128 mm (7 1/4 x 1 11/16 x 5 1/8 inches)		

# DSR-DU1 Video Disk Unit

General		Remote	4-pin Stereo mini Jack x1
Power requirements	DC 8.4 V	DC IN	x1
Power consumption	8.5 W	Supplied Accessories	
Weight	600 g (1 lb 5 oz)		Warranty card
Dimensions (W x H x D)	44 x 101 x 142 mm		Operation manual
Operating temperature	0 °C to 40 °C		i LINK cable (4-pin to 4-pin)
Storage temperature	-20 °C to 60 °C		Remote controller (RM-LG2)
Operating Humidity	Less than 85 % (without condensation.)		Case
Input/Output Terminals			
DV IN/OUT	i.LINK x1 (IEEE1394 4-pin)		

# DSR-DR1000 Hard Disc Recorder

General					
Power requirements	AC 100 V to 240 V, 50/60 Hz	7			
Power consumption	60 W	60 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%				
Weight	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 inche	s, without projection)			
Video Performance					
Bandwidth (via analog component I/O)	Luminance Chrominance	30 Hz to 5.0 MHz ±1.0 30 Hz to 1.5 MHz +1.0/-5.0 dB			
S/N ratio (via analog 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) 4CH mode (32 kHz/12-bit)	20 Hz to 20 kHz ±1.0 dB 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					
Analog					
REF. Video (BNC x 2)	0.286 Vp-p, 75 Ω sync nega	itive			
Composite Video (BNC x 2), loop-through connection"	1.0 Vp-p, 75 Ω sync negative	e			
Component (BNC x 3)"	Y: 1.0 Vp-p, 75 Ω, sync negative R-Y: 0.7 Vp-p, 75 Ω(75% color bar) B-Y: 0.7 Vp-p, 75 Ω (75% color bar)				
S-Video (BNC x 2) <sup>2</sup>	Y: 1.0 Vp-p, 75 Ω, sync negative C: 0.286 Vp-p, 75 Ω (at burst level)				
Digital					
SDI (BNC x 2)	Conforms to Serial Digital Inter	Conforms to Serial Digital Interface (270 Mb/s), SMPTE259M			
i.LINK (DV)(6-pin x 1)	IEEE 1394-based				

Audio Signal Inputs	
Analog	
Audio (XLR 3-pin female x 2)	-6/0/+4 dBu (selectable by menu), high impedance
Digital	
AES/EBU (BNC x 2)	75 Ω, unbalanced
Video Signal Outputs	
Analog	
Composite 1/2(SUPER) (BNC x2) <sup>2</sup>	1.0 Vp-p, 75 Ω, sync negative
Component (BNC x 3) <sup>-2</sup>	Y: 1.0 Vp-p, 75 Ω, sync negative R-Y: 0.7 Vp-p, 75 Ω (75% color bar) B-Y: 0.7 Vp-p, 75 Ω (75% color bar)
S-Video (BNC x 2) <sup>2</sup>	Y: 1.0 Vp-p, 75 Ω, sync negative C: 0.286 Vp-p, 75 Ω (at burst level)
Digital	
SDI (BNC x 2)	Conforms to Serial Digital Interface (270 Mb/s), SMPTE259M
i.LINK (DV) (6-pin x 1)	IEEE 1394-based
Audio Signal Outputs	
Audio (Analog)	
Audio (XLR 3-pin male x 2)	-6/0/+4 dBu (selectable by menu)
Monitor (RCA x 1) <sup>-3</sup>	-∞ to -11 dBu, 47kΩ, unbalanced (-20 dBFS)
Headphone (JM-60 headphone jack x 1)	-∞ to -13 dBu, 8Ω, unbalanced (-20 dBFS)
Audio (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 (F Warranty card x 1	Remote Control Unit) x 1, Operation manual (CD-ROM) x 1,

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

# DSR-570WSP/DSR-390P/DXC-D35P/D35WSP+DSR-1P Carrorders

DSR-570WSP DSR-390P DXC-D35P/D35WSP+DSR-1P DSR-1P General Power requirements DC 12 V (11 to 17 V) DC 12 V +5/-1 V 22.1 W (with VF), 20 W (without VF) 0 °C to 40 °C (32 °F to 104 °F) -20 °C to 60 °C (-4 °F to 140 °F) 28.221 mm/s 26.1 W (with VF), 24 W (without VF) 24.8 W (with VF) 12 W Power consumption 12 W 0 °C to 40 °C (32 °F to 104 °F) -20 °C to 60 °C (-4 °F to 140 °F) 28.221 mm/s Operating temperature Storage temperature Tane sneed Recording/Playback time Standard size 184 min 184 min Mini size 40 min 40 min Fast forward/Rewind time Standard size Mini size Approx. 12 min. Approx. 12 min. Approx 3 min Approx. 3 min. prox. 80 min. with BP-L40A, 100 min. with BP-M 180 min. with BP-IL75, 230 min. with BP-M100 prox. 75 min. with BP-L40A (DSR-1P + DXC-D35P) Continuous recording time 70 min. with BP-L40A, 90 min. with BP-M50, with BP-M50 Approx, 75 min with BP-L404 Appro 140 min. with BP-IL75, 200 min with BP-M100 6.4 kg (14 lb 20 oz) 6.2 kg (13 lb 10 oz) Weight D35P: 7.3 kg (16 lb 1 oz), D35WSP: 7.4 kg (16 lb 5 oz) (with VF, microphone, lens, battery, tape and carrying handle) 121 x 206 x 344 mm (with VF, microphone, lens, battery and tape) 121 x 192 x 280 mm (with VF, microphone, lens, battery and tape) 121 x 192 x 270 mm 3.1 kg (6 lb 13 oz) (with battery) Dimensions (W x H x D) (4 7/8 x 7 5/8 x 11 1/8 inches) (without projections) 242 x 247 x 536 mm (9 5/8 x 9 3/4 x 21 1/8 inches) (with projections) 118 x 185 x 185 mm (4 3/4 x 7 3/8 x 7 3/8 inches) (4 7/8 x 7 5/8 x 10 3/4 inches) (without projections) 242 x 247 x 536 mm (4 7/8 x 8 1/8 x 13 5/8 inches) (9.5/8 x 9.3/4 x 21.1/8 inches) (with projections) **Camera Section** 3-chip 1/2-inch type, Interline-Transfer CCD F1.4 medium index prism system 752 (H) x 582 (V) 3-chip 2/3-inch type, Interline-Transfer CCE 3-chip 2/3-inch type. Interline-Transfer CCD Image device Optics Effective picture elements 980 (H) x 582 (\ D35P: 752 (H) x 582 (V), D35WSP: 980 (H) x 582 (V Total picture elements 1038 (H) x 594 (V) 795 (H) x 596 (V) D35P: 795 (H) x 596 (V), D35WSP: 1038 (H) x 594 (V) D35P: 8.8 mm x 6.6 mm, D35WSP: 9.6 mm x 5.4 mm Sensing area 96 mm x 54 mm 6.4 mm x 4.8 n 2: 5600 K+1/8 ND 4: 5600 K+1/64 ND 2: 5600 K+1/8 ND 4: 5600 K+1/64 ND 1: 3200 K 3: 5600 K 2: 5600 K+1/8 ND 4: 5600 K+1/64 ND Built-in filters 1. 3200 k · 3200 k 3: 5600 k 3: 5600 K Sony 1/2-inch type bayonet mount Lens mount Sony 2/3-inch type bayonet mount Sony 2/3-inch type bayonet mount PAL colour system 2:1 interlaced, 625 lines, 50 fields/s Signal system Scanning system 15.625 kHz Horizontal frequency Vertical frequency 50 Hz Internal Sync, GENLOCK IN/VIDEO IN (VBS or BS), External Sync, VTR/CCU IN 1 V lines (center) 43 mode: 850 TV lines (center) 800 TV lines (center) Internal and external with VBS or BS signa Sync system Horizontal resolution 16:9 mode: 800 TV lines (center) 4:3 mode: 850 TV lines (center) D35P 880 TV lines D39 5WSP: 850 TV lines (4:3 mode), 800 TV lines lines (without EVS), 530 TV lines (with EVS 0.4 lx with F1.4, Hyper gain (36 dB) Vertical resolution Minimum illumination 0.25 lx with F1.4, Hyper gain (42 dB 0.25 lx with F1.4, Hyper gain (36 dB+DPR) 0.4 lx with F1.8, Hyper gain (42 dB) 2000 lx (3200 K, 89.9% reflectance) 0.6 lx with F1.8, Hyper gain (36 dB) F13 at 2000 lx (3200 K, 89.9% reflectance) 0.4 lx with F1.8, Hyper gain (36 dB+DPR) at 2000 lx (3200 K, 89.9% reflectance) (typical) Sensitivity F11 at (typical) (typical) -3 dB, 0 dB, 3 dB, 6 dB, 9 dB, 12 dB, 18 dB, 18 dB+DPR\*i, 24 dB, 24 dB+DPR, Hyper gain (36 dB or 42 dB selectable) -3 dB, 0 dB, 3 dB, 6 dB, 9 dB. 12 dB. 18 dB Gain selection -3 dB 0 dB 3 dB 6 dB 9 dB 12 dB 18 dB 18 dB, 0 dB, 3 dB, 6 dB, 9 dB, 12 dB, 16 dB 18 dB+DPR\*1, 24 dB, 24 dB+DPR, Hyper gain (36 dB) OFF, 1/60, 1/250, 1/500, 1/1000, 1/2000 (s) 18 dB+DPR, 24 dB, 24 dB+DPR, Hyper gain (30 dB+DPR or 36 dB+DPR) Shutter speed selection S/N ratio 62 dB (typical) 61 dB (typical) 61 dB (typical) 0.05% (all zones, without lens) Below measurable level Registration Geometric distortio VTR Section Luminance: 25 Hz to 5.5 MHz +1.0/-2.0 dB 5.75 MHz +0/-3.0 dB (Typical measerement) Chrominance: 25 Hz to 2.0 MHz +1.0/-2.0 dB ideo performa/ Bandwidth Luminance: 25 Hz to 5.5 MHz +1.0/-2.0 dB Chrominance: 25 Hz to 2.0 MHz +1.0/-2.0 dB S/N ratio More than 55 dB More than 55 dB K-factor (K2T, KPB) Less than 2.0% Less than 2.0% Less than 30 ns 2 CH mode (48 kHz/16-bit) Y/C delay Less than 30 ns Audio performance 2 CH mode (48 kHz/16-bit): 20 Hz to 20 kHz +0.5/-1.0 dB 4 CH mode (32 kHz/12-bit): 20 Hz to 14.5 kHz +0.5/-1.0 dB 20 Hz to 20 kHz +0.5/-1.0 dB 4 CH mode (32 kHz/12-bit): 20 Hz to 14.5 kHz +0.5/-1.0 dB Frequency response More than 80 dB Less than 0.08% (1 kHz reference level, 48 kHz) More than 80 dB Less than 0.08% Dynamic range Distortion (THD) Input/Output Conn Genlock Video In: BNC, 1.0 Vp-p, 75  $\Omega$ Analog Video In: BNC, 1.0 Vp-p, 75  $\Omega$ (with DSBK-501P optional board installed) Ext Audio CH-1/2: XLR 3-pin female x2 Genlock Video In: BNC, 1.0 Vp-p, 75 Ω Ext Audio CH-1/2: XLR 3-pin female x2 -60 dBu, 3 kΩ ±4 dBu, 10 kΩ TC In: BNC, 0.5 Vp-p to 18 Vp-p, 10 kΩ Signal inputs Genlock Video In: BNC 1.0 Vp-p, 75  $\Omega$ Ext Audio CH-1/2: XLR 3-pin female x2 -60 dBu, 3 k $\Omega$  ±4 dBu, 10 k $\Omega$  
 EXI. Nutrit Of 1+1/2. A LET 3-pin termines A

 -60 0Bu, 3 Kg ± 4 dBu, 10 kΩ

 MIC In: XLR 3-pin termale x1

 TC In: BNC, 0.5 Vp-p to 18 Vp-p, 10 kΩ

 Video Out: BNC, 1.0 Vp-p, sync negative

 YBS: 1.0 Vp-p, sync negative

 YR-YB-Y, Y: 1.0 Vp-p, sync negative

 R/PF.Y 0.525 Vp-p

 YC: Y: 10 Vp-p, sync negative

 YR-YB-Y, Y: 1.0 Vp-p, sync negative

 YR-YB-Y, Y: 1.0 Vp-p, sync negative

 R-YPB-Y, 0.525 Vp-p

 YC: Y: 10 Vp-p, sync negative

 YC: Y: 10 Vp-p, -60 dBu, 3 kΩ ±4 dBu, 10 kΩ TC In: BNC. 0.5 Vp-p to 18 Vp-p, 10 kΩ Signal outputs Camera head BNC connector Video Out: BNC, 1.0 Vp-p, S-Video: DIN 4-pin VBS: 1.0 Vp-p, sync negative 26-pin connector of CA-537P docked to DXC-D35P: VBS: 1.0 Vp-p, sync negative S-VIGEO: DIN 4-pin Y: 1.0 Vp-p, sync negative, 75 Ω C: 0.3 Vp-p, 75 Ω Audio CH-1/2: RCA PIN, -10 dBu, 47 kΩ VBS: 1.0 Vp-p, sync negative Y/R-Y/B-Y: Y: 1.0 Vp-p, sync negative, R-V/B-Y: 0.525 Vp-p Y/C: Y: 1.0 Vp-p, sync negative, C: 0.3 Vp-p (burst level) RGB: 1.4 Vp-p Video Out: BNC, 1.0 Vp-p, sync negative, 75 Ω TC Out: BNC, 1.0 Vp-p, 75  $\Omega$ Video Out BNX - 1.0 Vp-p, sync hegat S-Video: DINX - 1.0 Vp-p, sync hegat Y: 1.0 Vp-p, sync hegative C: 0.3 Vp-p (burst level) Audio CH-1/2: Phono. - 10 dBu, 47 kΩ TC Out: BNC, 1.0 Vp-p, 75 Ω DC In: XLR 4-pin male DC Out; VL 4 d pin formale Others In: XLR 4-pin male In: XLR 4-pin male Analogue Interface: Pro 50-pin DC Out: XI R 4-pin female DC Out: XI R 4-pin female DC Out: XI R 4-pin female Digital Interface: Pro 76-pin Digital Earphone: Mini jack Lens: 12-pin VF: 8-pin, 20-pin Remote1: Stereo mini jack Battery Terminal: 5-pin Earphone: Mini jack Light Out: 2-pin female WRR Out: 7-pin Battery Terminal: 5-pin Earphone: Mini jack Light Out: 2-pin female WRR Out: 7-pin DC In: XLR 4-pin male DC Out: XLR 4-pin female Earphone: Stereo Mini jack VF: 20-pin VF: 20-pin Remote1: Stereo mini jack, Remote2: 10-pin VF: 20-pin VF: 20-pin Remote1: Stereo mini jack, Remote2: 10-pin Remote2: 10-pin Supplied Accessories 1.5-inch B/W Viewfinder (DXF-801) 1.5-inch B/W Viewfinder (DXF-801) Shoulder Strap Microphone with Wind Screen Microphone with Wind Screen Connector Can Microphone with Wind Screen Tripod Adaptor VCT-U14 Remote Control Unit (RM-LG1) Shoulder Strap, Lens Mount Cap Flange Focal Length Adjustment Test Chart Operating Instructions Tripod Adaptor VCT-U14 Shoulder Strap, Lens Mount Cap Lithium Battery (type CR2032) M4 x6 Screws (2) M4 x12 Screws (2) Flange Focal Length Adjustment Test Chart Binding Tie Operating Instructions Operating Instructions ClipLink Guide

\*1: DPR is equivalent to +6 dB gain up. 18 dB+DPR: Equivalent to +24 dB gain up. 24 dB+DPR: Equivalent to +30 dB gain up. Hyper gain (30 dB+DPR): Equivalent to +36 dB gain up.

\*2: The specifications for "Video/Audio performance" were measured by playing back material on a DSR-1800/1800P (via analog component out) that had been recorded by each camcorder.

DSR-1P Dockable Recorder

# DSR-250P/DSR-PD150P/DSR-PDX10P Carncorders

	DSR-250P	DSR-PD150P	DSR-PDX10P		
General	I				
Power requirements	DC 12 V(11 V to 17 V) DC 7.2 V (Battery), DC 8.4 V (AC adaptor)		DC 7.2 V (Battery operation), DC 8.4 V (AC Adaptor)		
Power consumption	10.5 W ( with VE) 12.1 W ( with VE and LCD) 4.7 W (with VE) 5.4 W (with LCD)		5.0 W (with VF), 6.3 W (with LCD)		
Operating temperature					
Storage temperature					
Tape speed	Approx. 28.2 mm/s (DVCAM mode)				
Recording/Playback time	184 minutes (DVCAM mode), 270 minutes (DV SP mode with PDV-184ME) cassette, 40 minutes (DVCAM mode)	40 minutes (I 60 minutes (DV SP m	DVCAM mode) ode, with PDVM-40ME)		
M/- 1	60 minutes (DV SP mode with PDVM-40ME)				
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)	(camcorder only) Approx. 1.6 kg (3 lb 8 oz) 128 x 180 x 405 mm (5 1/8 x 7 1/8 x 16 inches) including microphone	93 x 99 x 202 mm		
Lens					
Zoom	12:1 Variable Si	peed zoom lens	12:1 Variable speed zoom lens		
20011	F =6.0 to 72.0	mm; F1.6 to 2.4	F=3.6 to 43.2 mm; F1.6 to 2.8		
Filter diameter	58 mm (2	3/8 inches)	37 mm (1 1/2 inches)		
Focus	Auto/Manual (ring)/Ir	nfinity/One push auto	Auto/Manual (ring)/Infinity/One push auto		
Camera					
Image device	Three 1/3-inch type (	CCDs, 450,000 pixels	Three 1/4.7-inch type CCDs, 1,070,000 pixels (gross)		
Signal system		CCIR Standard, PAL color system			
Scanning system		Progressive/Interlace Scan			
Horizontal resolution		530 TV lines			
Minimum illumination	2	lx	7 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 1/600, 1/1000, 1/1250, 1/1750, 1/2500, 1/3500, 1/600	l/215, 1/300, 1/425, 0, 1/10000 s		
Exposure	Auto/Manual (Iris ring)	Auto/Manual (Iris dial)	Auto/Manual (Exposure dial, Program AE)		
White balance	Auto/One-push(Memory A, B)/Out door(5800 K)/Indoor(3200 K)	Auto/One-push/Outdoo	pr(5800K)/Indoor(3200K)		
Viewfinder	1.5-inch black and white CRT, Zebra Pattern	180,000 dot Black & W	/hite LCD, Zebra Pattern		
Built-in microphone	-	_	Stereo electret condenser microphone		
Built-in speaker		Dynamic speaker			
LCD	TFT Active Mate 200,640 dots	rix 2.5-inch type s (880 x 228)	TFT Active Matrix, 3.5-inch type 246,400 pixels (1,120 x 220)		
Memory card slot	Memor	ry Stick	Memory Stick		
	Recording signals: Cam Image comp Image size: V(	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 $\Omega$ , unbalanced, sync negative Video OUT: BNC pin x 1, Y:1 Vp-p, 75 $\Omega$ , unbalanced, sync negative Audio IN/OUT: RCA pin x 2,245 m Output impedance with less than 2.2 k $\Omega$ Input impedance with more than 47 k $\Omega$ S-Video IN/OUT: Mini-DIN 4 pin x 1 Y:1 Vp-p, 75 $\Omega$ , unbalanced, C: 0.3 Vp-p (PAL) Audio IN: XLR 3-pin(female) x 3, -60 dBu, 6.8 k $\Omega$ , 44 dBu, 6.8 k $\Omega$ (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 $\Omega$ , unbalanced, sync negative Audio IN/OUT: RCA pin x 2, 327 mV Output impedance with less than 2.2 k $\Omega$ Input impedance with more than 47 k $\Omega$ S-Video IN/OUT: Mini-DIN 4 pin x 1 Y: 1 Vp-p, 75 $\Omega$ , unbalanced C: 0.3 Vp-p Audio IN: XLR 3-pin female x 2, -60 dBu, 3 k $\Omega$ , +4 dBu, 10 k $\Omega$ (0 dBu = 0.775 V rms) i.LINK (DV): 4-pin x 1	Audio/Video In/Out: AV mini jack x1, Y: 1.0 Vp-p, 75 Ω, sync negative S-Video In/Out: Mini DIN 4-pin x1 Y: 1.0 Vp-p, 75 Ω, unbalanced C: 0.3 Vp-p (subcarrier burst), 75 Ω, unbalanced MIC In: Stereo mini jack x1 i.LINK (DV): 4-pin x1 XLR Audio in: XLR 3-pin female x2 via adaptor		
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	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 USB: Mini-B x1		
Supplied Accessories					
	ECM-NV1 Monaural Microphone RMT-811 Remote Commander and R6 Batteries (2) MSA-4A IC Recording Media <b>Memory Stick</b> MSAC-US2 <b>Memory Stick</b> Reader/Writer Picture Gear 4.1 Lite Lens Hood Lite Hood Cap	ECM-NV1 Monaural Microphone AC-L10 AC Adaptor NP-F330 InfoLTHIUM Rechargeable Battery Pack RMT-811 Remote Commander and R6 Batteries (2) MSA-4A IC Recording Media <b>Memory Stick</b> MSAC-US2 <b>Memory Stick</b> Reader/Writer Picture Gear 4.1 Lite Stereo AV Cable, Lens Hood Hood Cap, Carrying Belt	ECM-NV1 Monaural Microphone AC-L10 AC Adaptor NP-FM50 InfoLTHUM Rechargeable Battery Pack RMT-811 Remote Commander and R6 Batteries (2) MSA-8A IC Recording Media <b>Memory Stick</b> XLR Adaptor Special Stereo AV Cable, Lens Hood, Wide Lens Hood, Hood Cap, Image Mixor for Sony/USB Driver Software CD-ROM		

# DSR-2000P/DSR-1800P/DSR-1600P/DSR-1500AP/DSR-85P Studio VTRs

	DSR-2000P	DSR-1800P	DSR-1600P	DSR-1500AP	DSR-85P
General Power requirements		AC 100 V to 240 V 50/60 Hz			AC 220 V to 240 V 50/60 Hz
Power consumption (Max. )	120 W	100 W	70 W	55 W	185 W
Operating temperature		5 °C to 40 °C (41 °F to 104 °F)			
Operating humidity			Less than 80%		
Storage humidity			Less than 90%		
Recording/Playback time	Standard size: 184 min.(DVCAM mod	le), 276 min.(DV SP mode)* with PDV-	184ME/184N/184MEM, Mini size: 40 m	in.(DVCAM mode), 60 min.(DV SP mod	de)* with PDVM-40ME/40N/40MEM
Fast forward/Rewind time	Star	dard size: Less than 3 min. with PDV-	184ME/184N/184MEM, Mini size: Less	than 1 min. with PDVM-40ME/40N/40N	1EM
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 U Digital slow mode: ±0.5 times normal speed		
Weight	18 kg (39 lb 10 oz)	13 kg (28	3 lb 10 oz)	6 kg (13 lb 3 oz)	21 kg (46 lb 4 oz)
(W x H x D, excluding projections)	427 x 1/5 x 495.5 mm (16 7/8 x 7 x 19 5/8 inches)	427 x 174 (16 7/8 x 6 7/8	x 400 mm x 15 3/4 inches)	(8 3/8 x 5 1/8 x 16 5/8 inches)	42/ x 1/4 x 494 mm (16 7/8 x 6 7/8 x 19 1/2 inches)
Video Performance Bandwidth Luminance (via analog component I/O)	25 Hz to 5.0 MHz ±1.0dB 5.75 MHz ±0/-3.0 dB (Typical measurement)	25 Hz to 5.0	MHz ±1.0 dB	25 Hz to 5.0 MHz +1.0/-1.5 dB	25 Hz to 5.0 MHz ±1.0dB
Chrominance S/N ratio (via analog component I/O)			25 Hz to 2.0 MHz + 1.0/-2.0 dB More than 55 dB		
K-factor (K2T, KPB)			Less than 2.0%		
Y/C delay Audio Performance	<u> </u>		Less than 30 ns		
Frequency response					
2 CH mode (48 KHz/16-bit) 4 CH mode (32 kHz/12-bit)		20 Hz to 20 kHz +0.5/-1.0 dB 20 Hz to 14.5 kHz +0.5/-1.0 dB		20 Hz to 20 kHz ±1.0 dB 20 Hz to 14.5 kHz ±1.0 dB	20 Hz to 20 kHz +0.5/-1.0 dB 20 Hz to 14.5 kHz +0.5/-1.0 dB
Dynamic range		More than 90 dB		More than 87 dB	More than 85 dB
Video Signal Inputs		Less than 0.05%		Less than 0.07%	Less than 0.05%
Analog	0.01/5 = 75.0			0.00/6 = 750	
(BNC x2, loop-through connection)	0.3 vp-p, 75 Ω	sync negative	_	0.3vp-p, 75 <u>2</u> 2,	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
(BNC x3) *1 R-Y	0.7 Vp-p, 75 22,	5 Ω (100 %)		0.7 Vp-p, 75 22	$5 \Omega (100 \%)$
B-Y	0.7 Vp-p, 75	5 Ω (100 %)	-	0.7 Vp-p, 75	5 Ω (100 %)
S-video	Y: 1.0 Vp-p, 75 S C: 0.3 Vp-p, 75 S	2 (at burst level)	_	Y: 1.0 Vp-p, 75 $\Omega$ , sync negative C: 0.3 Vp-p, 75 $\Omega$ (at burst level)	Y: 1.0 Vp-p, 75 $\Omega$ , sync negative C: 0.3 Vp-p, 75 $\Omega$ (at burst level)
Digital SDI *2.*3.*4	BNC x 2. active-th	rough connection	_	BNC x 1	BNC x 2. active-through connection
	Conforms to Serial Digital Inter	face (270 Mb/s), ITU-R BT.656		Conforms to Serial Digital Interface	Conforms to Serial Digital Interface
SDTI (QSDI) (BNC x1) *4,*5	Conforms to SDTI (270 M	b/s), SMPTE 305M/322M	_	Conforms to SDTI (270 Mb/s),	Conforms to SDTI (270 Mb/s),
i LINK (DV) (6-pin v1) *6.*7	IFFE	139/		SMPTE 305M/322M	SMPTE 305M/322M
Audio Signal Inputs					
Analog Audio *1	XLR 3-pin -6/0/+4 dBu, 600 Ω on/off/ -60 dBu, high impedance	female x4 -6/-3/0/+4 dBu, 600 Ω on/off/ -60 dBu, high impedance		XLR 3-pin female x2 -6/-3/0/+4 dBu, high impedance	XLR 3-pin female x4 -6/0/+4 dBu, 600 Ω on/off/ -60 dBu, high impedance
AES/EBU *3,*4	BNC	x 2	_	BNC x 2	XLR 3-pin female x2
Video Signal Outpute	75 Ω, unt	balanced	_	75 Ω, unbalanced	110 Ω, balanced
Analog					
Ref. Video (BNC x1)	Video 1/2/3 (super) BNC x 3	0.3 Vp-p, 75 Ω, sync negative	inor) BNC x 2	Video 1/2/3 (super) BNC x 3	0.3 Vp-p, 75 Ω, sync negative
1000		Video 1/2(30	composite, 1.0 Vp-p, 75 Ω, sync negati	ve	
Component (BNC x3) S-Video	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%)		DIN 4-nin x 1		
		Y: 1.0 Vp-p, 7	75 $\Omega_{\rm r}$ sync negative C: 0.3 Vp-p, 75 $\Omega$	(at burst level)	p
SDI *3,*4,*9	BNC x 3		BNO	C x 2	
		Conforms t	to Serial Digital Interface (270 Mb/s), IT	U-R BT.656	DNO
9011 (Q901)		BING X 1 Confe	orms to SDTI (270 Mb/s), SMPTE 305M	/322M	RINC X 1
i.LINK (DV) (6-pin x1) *6.*7		IEEE	1394		-
Analog					
Audio	-6/0/+4 dBu (selectable by menu)	XLR 3-pin male x4	-6/-3/0/+4 dBu (selectable by menu)	XLR 3-pin male x2	XLR 3-pin male x4 4 dBu, 600 Ω loading,
Monitor	600Ω loading, low impedance, balanced		PCA1		low impedance, balanced
WOITLUI	-9 dBu, 47 kΩ, unbalanced	-9 dBu	, 47 kΩ,	-∞ to -9 dBu, 47 kΩ,	-6 dBu, 47 kΩ, unbalanced
Headobone	(-18 dBFS)	unbalanced	d (-18 dBFS)	unbalanced (-18 dBFS)	-16 dBu 8.0 unbalanced
(JM-60 headphone jack x1)	unbalanced (-18 dBFS)	unbalanced	d (-18 dBFS)	unbalanced (-18 dBFS)	
AES/EBU *3.*4.*9		BNC x 2 75	Ω, unbalanced		XLR 3-pin male x2 110 Ω balanced
Time Code Input/Output	1		0.51/6	e d	
IN (BNC x1) Out (BNC x1)			u.5 vp-p to 18 Vp-p, 3.3 kΩ, unbalance 2.2 Vp-p, 75 Ω. unbalanced	cea	
Remote					
	HS-422A: D-sub 9-pin female x2 Video Control: D-sub 15-pin male x1	HS-422A: D-sub Video Control: D-s	9 9-pin temale x1 sub 15-pin male x1	HS-422A: D-sub 9-pin female x1 Control S (SIRCS): Stereo mini jack x1	HS-422A: U-sub 9-pin female x1 TBC Remote: D-sub 15-pin male x1
Supplied Accessories	Control Panel: D-sub 15-pin female x1	Control S (SIRCS)	: Stereo mini jack x1		Control S (SIRCS): Stereo mini jack x1
Cappilou Accesolica	AC Power Cord		AC Power Cord		AC Power Cord
	Operating Instructions (CD-R)		Operating Instructions (CD-H)		Operating Instructions, ClipLink Guide
* The DSR-1500A only		*4: The optional DSBK1501 is requ	uired for the DSR-1500A.	*8: The optional DSBK-120 is r	equired for the DSR-85.

\*1: The optional DSBK-1504 is required for the DSR-1500A. \*2: The optional DSBK120 is required for the DSR-85. \*3: The optional DSBK1801 is required for the DSR-1800.

\*5: The optional DSBK1802 is required for the DSR-1800.
\*6: The optional DSBK1802 is required for the DSR-1800.
\*7: The optional DSBK1803 is required for the DSR-1800/1600.

\*9: The optional DSBK-1601 is required for the DSR-1600. \*10: The optional DSBK-1602 is required for the DSR-1600.

# DSR-45P/DSR-30P/DSR-25/DSR-11 Studio VTRs

		DSR-45P DSR-30P		DSR-25 DSR-11		
General						
System		PA	L	NTSC/PAL Switchable		
Power requirements		AC100 to 240V, 50 to 60Hz	AC220 to 240V, 50Hz	AC100 to 240V, 50 to 60Hz	AC100 to 240V, 50 to 60Hz	
Power consumption		22 W	37 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		28.2	mm/s		
	DV SP mode		18.8	mm/s		
Recording/Playback time	Standard size		184 min. with PDV-1	84ME/184N/184MEM		
III DVCAW Mode	Mini size		40 min. with PDVM	I-40ME/40N/40MEM		
Tape rewind time			Less than 2 min. with F	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)	± x1/5,x1,x2,x10,x18	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)	
Weight		Approx. 4.6 kg (10 lb 2 oz)	Approx. 9.2 kg (20 lb 4 oz)	Approx. 4.3 kg (9 lb 8 oz)	Approx. 2.8 kg (6 lb 2 oz)	
Dimensions		212 x 98 x 392.8 mm	430 x 129 x 374 mm	212 x 98 x 392.8 mm	180 x 73 x 265 mm	
(W X H X D, including proje	ections)	(8 3/8 x 3 7/8 x 15 1/2 inches)	(17 x 5 1/8 x 14 3/4 inches)	(8 3/8 x 3 7/8 x 15 1/2 inches)	(7 1/8 x 2 7/8 x 10 1/2 inches)	
Video Signal Inputs		DVCAM/DV (SP mode only)	DVCAM	DVCAM/DV (S	2P mode only)	
PB mode		DVCAW/DV (3r mode only)			SF mode only)	
Ref Video		BNC x1*1 Black burst: 75.0 sync negative	BYOANI, BY (			
Composite		BNCx1 Black bala. 70 Ω, syne risgative BNCx1(Shared with REF IN) 1.0Vp-p, 75 Ω, Sync Negative	BNCx1, PIN Jack x1 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 (frontx1, rearx1) Y: 1.0Vp-p, 75 $\Omega$ , Sync Negative C: 0.3Vp-p (subcarrier burst) 75 $\Omega$	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 % color bar)			· · · · · · · · · · · · · · · · · · ·	
Audio Signal Inputs						
Audio		PIN Jack x4 -10/-2/+4 dBu (full bits -18dB)	PIN Jack (rear L/R x1, front L/R x1) 2 Vrms (full bits)	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	BNCx2 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 (x2) 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 $\Omega,$ sync negative R-Y/B-Y: 0.7 Vp-p, 75 $\Omega,$ (with 100 % color bar)		_	I	
Monitor		PIN Jack x1, 1.0Vp-p, 75 $\Omega,$ Sync Negative		—		
Audio Signal Outputs						
Audio		XLR 3pin x4 (Male) +4dBu(full bits -18dB) <sup>(*2)</sup>	PIN Jack (L/R x2) 2 Vrms (full bits)	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		F				
i.LINK (DV)			4-pin x1,	IEEE 1394		
Time Code Input/Output		BNC x1, 0.5 to 18 Vp-p (time code input),				
Out		0.5 to 4 Vp-p (through output) BNC x1, 2.2 Vp-p, 600 Ω/1.2 Vp-p, 75 Ω,		_		
Others		0.5 to 4 Vp-p (through output)				
L CD Monitor		LANC: Stereo mini-mini jack x1 Control S <sup>ra</sup> (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	LANC: Stereo mini-mini jack x2 (front x1/rear x1)*4 Control S*3 (SIRCS) In: Mini jack x1 Control S (SIRCS) Out: Mini jack x1 Headphone: Stereo mini jack x1 Trigger In: RCA pin x1 (active short) MIC In: Mini jack x1	LANC: Stereo mini-mini jack x1 Control S* (SIRCS) In: Stereo mini jack x1 Headphone: Stereo mini jack x1	LANC: Stereo mini-mini jack x1 Control S <sup>*3</sup> (SIRCS): Stereo mini jack x1	
Supplied Accessories		2 11011 (390, 120,200 0010		z mon type, 120,200 dots		
Supplieu Autessories		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-DS30 Wireless Remote Controller Size AA (R6) Batteries for Remote (2) AC Power Cord Cleaning Cassette Operating Manual LANC Cable	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. \*3 Recommended remote control unit: DSRM-20 \*2 The audio output level of the DSR-45P will be reduced by half when connected to an Unbalanced XLR input device. \*4 Priority on front LANC.

# DSR-70AP Portable Editing Recorder

General		Video Signal Outputs		
Power requirements	Power requirements DC 12 V			
Power consumption	46 W (without options)	Ref. Video (BNC x1)	0.3 Vp-p, 75 Ω, sync negative	
Operating temperature	0 °C to 40 °C (32 °F to 104 °F)	Video 1/2(SUPER) (BNC x2)	Composite, 1.0 Vp-p, 75 Ω, sync negative	
Storage temperature	-20 °C to 60 °C (-4 °F to 140 °F)	Component (BNC x3)*1	Y: 1.0 Vp-p, 75 $\Omega$ , sync negative	
Operating humidity	Less than 80%		R-Y: 0.7 Vp-p, 75 Ω (100%) R-Y: 0.7 Vp-p, 75 Ω (100%)	
Storage humidity	Less than 90%	S-Video (DIN 4-pin x1)	Y: 1.0 Vp-p, 75 $\Omega$ , sync negative	
Tape speed	28.221 mm/s	- ······	C: 0.3 Vp-p, 75 Ω (at burst level)	
Recording/Playback time	Standard size: 184 min. with PDV-184ME/184N/184MEM	Digital		
	Mini size: 40 min. with PDVM-40ME/40N/40MEM	SDI (BNC x2)*2	Conforms to Serial Digital Interface (270 Mb/s), ITU-R BT.656	
Fast forward/Rewind time	Standard size: Less than 3 min. with PDV-184ME/184N/184MEM	SDTI (QSDI) (BNC x1)*3	Conforms to SDTI (270 Mb/s), SMPTE 305M/322M	
O secolo secolo	MINI SIZE: Less than I min. With PDVM-40ME/40N/40MEM	i.LINK (DV) (6-pin x1)*4	IEEE1394	
Search speed	X ±32	Audio Signal Outputs		
Weight	5.8 kg (12 lb 12 oz)	Analog		
Dimensions (W x H x D)	211 x 149 x 443 mm (8 3/8 x 5 7/8 x 17 1/2 inches)	Audio (CH-1,2 or CH-3,4)	+4/0/-6 dBu (selectable by menu)	
Video Signal Inputs		(ALR 3-pill male X2)	6 dDu 47 k0 unhalanaad	
Analog			to 20 dBu 20 unbalanced	
Ref. Video (BNC x2, loop-through connection)	0.3 Vp-p, 75 $\Omega$ , sync negative	(JM-60 headphone jack x1)	10 -20 dBu, 812, unbalanced	
Video		Time Code Input/Output		
(BNC x2, loop-through connection)	Composite, 1.0 vp-p, 75 $\Omega$ , sync negative	Time Code In (BNC x1)	0.5 to 18 Vp-p, 3.3 kΩ, unbalanced	
Component (BNC x3)*1	Y: 1.0 Vp-p, 75 Ω, sync negative R-Y: 0.7 Vp-p, 75 Ω (100%)	Time Code Out (BNC x1)	2.2 Vp-p, $\pm$ 3.0 dB, 600 $\Omega$ , unbalanced	
		LCD		
	B-Y: 0.7 Vp-p, 75 Ω (100%)	LCD display (x1)	6.4-inch type VGA, 640 (H) x 480 (V)	
S-Video (DIN 4-pin x1)	Y: 1.0 Vp-p, 75 Ω, sync negative	Speaker		
	C: 0.3 Vp-p, 75 Ω (at burst level)	Built-in speaker (x1)	Monaural	
Digital		Remote		
SDI (BNC x1)*2	Conforms to Serial Digital Interface (270 Mb/s), ITU-R BT.656		RS-422A: D-sub 9-pin female x1	
SDTI (QSDI) (BNC x1)*3	Conforms to SDTI (270 Mb/s), SMPTE 305M/322M	Other		
i.LINK (DV) (6-pin x1)*4	IEEE1394		DC 12 V In: XLR 4-pin male x1	
Audio Signal Inputs		Supplied Accessories		
Analog			Carrying Belt	
Audio (CH-1,2) (XLR 3-pin female x2)	+4/0/-60 dBu, high impedance, balanced		Operating Instructions (CD-R) Warranty Card	

T: The optional DSBK-170 Analog Component Input/Output Board is required.
 \*2: The optional DSBK-160A SDI/i LINK (DV) Input/Output Board is required.
 \*3: The optional DSBK-150 SDTI (QSDI) Input/Output Board is required.
 \*4: The optional DSBK-140 i.LINK/DV Input/Output Board or DSBK-160A SDI/i.LINK (DV) Input/Output Board is required.

# DSR-50P Portable Recorder

General		Audio IN	XLR 3-pin (female) (+4 dBu/-20 dBu/-60 dBu) x 4,	
System	PAL		(independently switched for each channel)	
DC input	XLR 4-pin (male), +12 V	Camera IN	26-pip camera connector	
Power consumption	15 W		1.0 Vp-p. 75.0. Sync negative	
Operating temperature	5 °C to 40 °C (41 °F to 104 °F)	Component	Y: 1 0 Vp p, 75 22, Syno negative	
Storage temperature	-20 °C to 60 °C (-4 °F to 140 °F)	Component	B-Y: 0.7 Vp-p, 75 Ω, R-Y: 0.7 Vp-p, 75 Ω	
Tape speed	Approx. 28.2 mm/s (DVCAM mode),	Reference IN	BNC, Black Burst 75 $\Omega$ , Sync negative (use Video IN)	
Recording/Playback time	184 minutes (DVCAM mode), 270 minutes (DV SP mode),	Video OUT 1 (Monitor) Composite	BNC, 1.0 Vp-p, 75 Ω, Sync negative Superimpose On/Off	
	WITT PDV-164WE casselle	Video OUT 2 Composite	BNC, 1.0 Vp-p, 75 Ω, Sync negative	
	40 minutes (DVCAM mode), 60 minutes (DV SP mode), with PDVM-40ME cassette		Y: 1.0 Vp-p, 75 $\Omega$ , Sync negative C: 0.3 Vp-p (subcarrier burst) 75 $\Omega$	
Weight	3.9 kg (8 lb 9 oz), excluding battery and tape	Component OUT	BNC x 3	
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		Y: 1.0 Vp-p, 75 Ω, Sync negative B-Y/R-Y: 0.7 Vp-p, 75 Ω	
	including projections	Audio OUT	PIN Jack x 4, -10 dBu Standard output level -18 dB from full bit	
Video		Audio OUT (Monitor)	PIN Jack	
Recording mode	DVCAM/DV (SP mode only)	DV IN/OUT	6-pin (with lock)	
Playback mode	DVCAM/DV (SP mode only)	Timecode IN	BNC, 0.5 to 18 Vp-p, 10 kΩ	
Audio		Timecode OUT	BNC, 2.2 Vp-p, 600 Ω/1.2 Vp-p, 75 Ω	
Recording mode	48.0 kHz/16-bit (2CH)/ 32.0 kHz/12-bit (4CH)/automatic (DV IN)	Control S	Stereo mini jack	
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)	Remote	Stereo mini jack (Edge High/Edge Low/Level High/Level Low) (Tally)	
		Control	Stereo mini-mini jack (compatible with LANC as a player)	
Input/Output Terminals		Headphone jack (left side)	Stereo standard jack, -19 dBu, with Level Control	
Video IN Composite	1.0 Vp-p, 75 Ω, Sync negative	Other		
S(4-pin mini DIN)	Y: 1.0 Vp-p, 75 Ω, Sync negative	Color LCD monitor	2.5-inch type, 200,000 dots	
	C: 0.3 Vp-p (subcarrier burst) 75 Ω	Supplied accessories	LCD Protection Cover, Cleaning Cassette	

# DSR-V10P DVCAM Video Walkman Recorder

General		Audio	
General		Addio	
Power requirements	DC 7.2 V (with battery), DC 8.4 V (with AC adaptor)	Audio signal	Recording: 48 kHz/16-bit, 32 kHz/12-bit
Power consumption	11.5 W (LCD on)		Playback: 48 kHz/16-bit, 32 kHz/12-bit, 32 kHz/16-bit,
Operating temperature	32 °F to 104 °F (0 °C to 40 °C)	Audio inputs/outputs	
Storage temperature	-4 °F to 140 °F (-20 °C to 60 °C)	(PIN Jack x1/stereo L/R)	-7.5 dBs (0 dBu=0.775 Vrms)
Tape speed	28.221 mm/s	(PIN Jack X2)	
Weight	2 lb 2 oz (970 g) (without battery and tape)	Others	
Dimensions (W x H x D)	5 7/8 x 2 1/2 x 5 3/8 inches (148 x 62 x 135 mm)		i.LINK (DV): 4-pin x1, IEEE1394
LCD screen	5.5-inch type		LANC: Stereo mini-mini jack x1
Video	did mon type		Headphone: Stereo mini jack x1
	COIR standard RML as lar		Multi connector: 20-pin x1
video signal	CUIR standard, PAL color	Supplied Accessories	
Video input/output			AC-V700 AC Adaptor/Charger
VIDEO (PIN JACK XI)	Composite, 1.0 vp-p, 75 $\Omega$ , unbalanced, sync negative		DK-415 DK Cable
S-Video (Mini DIN 4-pin x1)	Y: 1.0 Vp-p, 75 Ω, unbalanced, sync negative		Carrying belt
	C: 0.3 Vp-p (subcarrier burst), 75 Ω, unbalanced		Operating Instructions

#### DSRM-E1P (Edit Adaptor for DSR-V10P)

General			
Power requirements	DC 7.2 V (supplied from DSR-V10P), DC 8.4 V (with AC Adaptor)		
Power consumption	Approx. 1.8 W		Monitor Output
Operating temperature	32 °F to 104 °F (0 °C to 40 °C)	1	Video output (PIN Jack x1)
Storage temperature	-4 °F to 140 °F (-20 °C to 60 °C)	]	Audio output
Weight	Main unit: 5.6 oz (160 g) Controller: 12 oz (340 g)		(PIN Jack x1/stereo L/R)
Dimensions (W x H x D)	Main unit: 2 3/4 x 2 1/2 x 5 3/8 inches (69 x 61 x 134 mm) Controller: 7 1/4 x 1 11/16 x 5 1/8 inches (184 x 42 x 128 mm)		

	Multi connector: 20-pin x1 Control unit: Mini DIN 8-pin x1 LANC: Stereo mini-mini jack x1
Nonitor Output	
Video output (PIN Jack x1)	Composite, 1.0 Vp-p, 75 Ω, unbalanced, sync negative
Audio output (PIN Jack x1/stereo L/R)	0.327 V, impedance 470 Ω or less

# DSR-DU1 Video Disk Unit

General		Remote	4-pin Stereo mini Jack x1
Power requirements DC 8.4 V		DC IN	x1
Power consumption	8.5 W	Supplied Accessories	
Weight	1 lb 5 oz (600 g)		Warranty card
Dimensions (W x H x D) 44 x 101 x 142 mm			Operation manual
Operating temperature	32° F TO 104° F (0 °C to 40 °C)		I LINK cable (4-pin to 4-pin)
Storage temperature -4° TO 140° F (-20 °C to 60 °C)			Remote controller (RM-LG2)
Operating Humidity	Less than 85 % (without dew condensation.)		Case
Input/Output Terminals			
DV IN/OUT	i.LINK x1 (IEEE1394 4-pin)		

# DSR-DR1000P Hard Disk Recorder

General				
Power requirements	AC 100 V to 240 V,	50/60 Hz		
Power consumption	60 W	60 W		
Operating temperature	5 °C to 40 °C (41 °F	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%			
Weight	7.5 kg (16 lb 10 oz)	)		
Dimensions (W x H x D)	210 x 130 x 422 mr (8 3/8 x 5 1/8 x 16	n 5/8 inches, v	vithout projection)	
Video Performance				
Bandwidth (via analog component I/O)	Luminance Chrominance	25 Hz to 25 Hz to	5.0 MHz ±1.0 2.0 MHz +1.0/-2.0 dB	
S/N ratio (via analog 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 4CH mode (32 kHz	/16-bit) /12-bit)	20 Hz to 20 kHz ±1.0 dB 20 Hz to 14.5 kHz ±1.0 dB	
Dynamic range	More than 87 dB			
Distortion (THD + N)	Less than 0.07% (4	8 kHz)		
Video Signal Inputs	·			
Analog				
REF. Video (BNC x 2)	0.3 Vp-p, 75 Ω synd	c negative		
Composite Video (BNC x 2), loop-through connection <sup>*1</sup>	1.0 Vp-p, 75 Ω, syn	c negative		
Component (BNC x 3)"	Y: 1.0 Vp-p, 75 Ω, sync negative R-Y: 0.7 Vp-p, 75 Ω (100% color bar) B-Y: 0.7 Vp-p, 75 Ω (100% color bar)			
S-Video (BNC x 2)"	Y: 1.0 Vp-p, 75 Ω, s C: 0.3 Vp-p, 75 Ω (	at burst level	)	
Digital				
SDI (BNC x 1)	Conforms to Serial	Digital Interfa	ace (270 Mb/s), ITU-R BT.656	
i.LINK(DV) (6-pin x 1)	IEEE 1394-based			

Audia Cinnal Innuta	
Audio Signai Inputs	
Analog	
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	
Analog	
Composite 1/2(SUPER) (BNC x2) <sup>2</sup>	1.0 Vp-p, 75 Ω, sync negative
Component (BNC x 3) <sup>2</sup>	Y: 1.0 Vp-p, 75 Ω, sync negative
	R-Y: 0.7 Vp-p, 75 Ω (100% color bar)
	B-Y: 0.7 Vp-p, 75 Ω (100% color bar)
S-Video (BNC x 2) <sup>2</sup>	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	
Analog	
Audio (XLR 3-pin male x 2)	-6/0/+4 dBu (selectable by menu)
Monitor (RCA x 1) <sup>3</sup>	- ∞ 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 (Ren	mote Control Unit) x 1, Operation manual (CD-ROM) x 1, Warranty card x 1

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

#### SONY.

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