

# SONY®

NTSC/PAL

DVCAM FAMILY 2001

## DVCAM®

### DVCAM Family



F o r  
P r o f e s s i o n a l  
R e s u l t s



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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 has satisfied these demands and brought many notable benefits. Excellent picture and sound quality that only a digital format can provide, high-performance editing capabilities, and system versatility that makes it possible to migrate smoothly from 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 payout 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.*

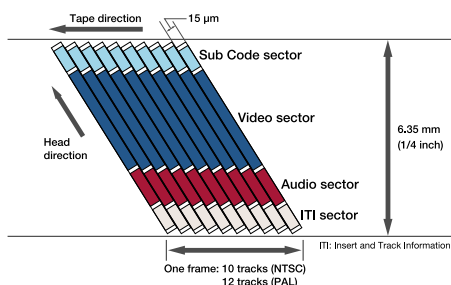


## Main Features

### 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  $\mu\text{m}$  (compared with 10  $\mu\text{m}$  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 two-channel 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™ 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 high-speed data transfer applications as well as for making master recordings.

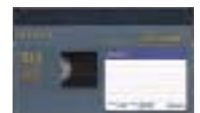


#### Recording Capability of Up to Three Hours

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 cassette



Standard-size cassette

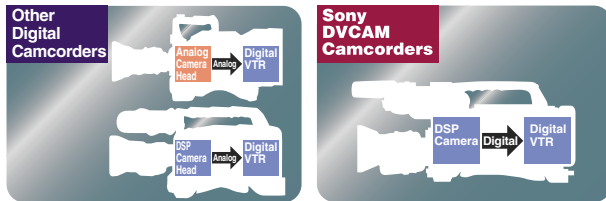
# Main Features

## Unique Technology and Advantages

### True Digital Camcorders

DSR-500WS DSR-300A DXC-D35+DSR-1 DSR-250 DSR-PD150 DSR-PD100A

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-1500 DSR-70A

For maximum versatility in playback, the DVCAM VTRs are designed to playback DVCAM and DV (SP mode) tapes without a mechanical adapter or menu adjustment. The DVCAM Master Series VTRs (DSR-2000/1800/1600/1500/70A) 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 In/Out) interfaces.

### Excellent Editing Performance

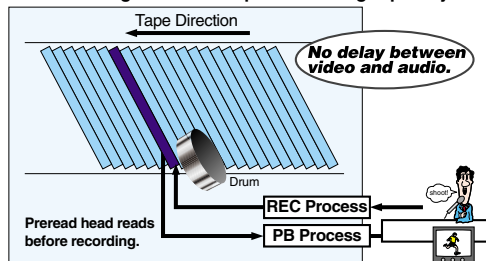
#### • Pre-read Editing Capability\*

DSR-2000

The DSR-2000 VTR offers pre-read editing, a function never before available on a 1/4-inch (6.35 mm) VTR. Pre-read 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. Pre-read editing provides many advantages since it enables single-VTR titling, audio mix/swap and voice over with no delay between video and audio. In addition, A/B roll editing with two VTRs is available (MIX and WIPE only).

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

#### <Over-dubbing of audio with pre-read editing capability>



Note: Unless otherwise noted, all references to specific models refer to both the NTSC and PAL versions. (i.e., DSR-500WS refers to the DSR-500WS and the DSR-500WSP)

#### • Audio Cross-fade Capability

DSR-2000 DSR-1800 DSR-85

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

#### • Enhanced Digital Jog Audio

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

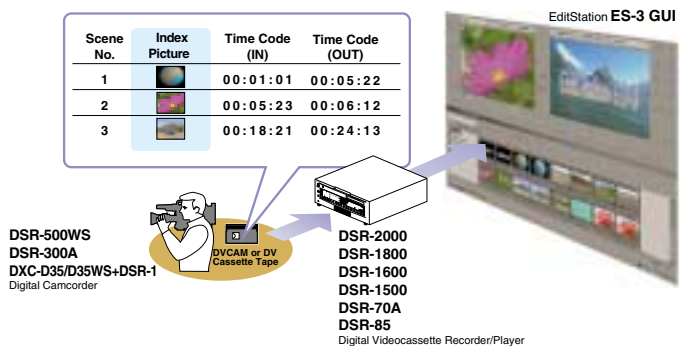
A digital jog audio function is included in the Master Series VTRs with a range of -1 to +1 (DSR-2000) or -0.5 to +0.5 (DSR-1800/1600/1500/70A) times normal speed. With its quick and smooth response, locating editing points is very easy. This is a particularly important feature for ENG applications that usually require audio-based editing. Moreover, this function is even available when using DV and DVCPRO tapes.

#### • ClipLink Operation

DSR-500WS DSR-300A DXC-D35+DSR-1 DSR-1800 DSR-1600 DSR-1500 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. When a cassette is loaded into a Master Series or DSR-85 VTR interfaced with a Sony EditStation® System ES-3, all of its shot log information is loaded from the cassette into the EditStation System, where it is displayed. This visual information enables users to quickly select the shots they need to upload to the hard disk of the EditStation System. ClipLink data can also 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-500WS/300A require an optional board to record Index Pictures.



## Versatile Digital Interfaces

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

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

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-1800/1600/1500/70A/85 require an optional board for SDI.

### • SDTI (QSDI™)\*

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

The SDTI (QSDI) digital interface 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 equipped VTRs and between these VTRs and the EditStation System in a non-linear editing configuration.

The SDTI (QSDI) interface 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-1800/1600/1500/70A require an optional board for SDTI (QSDI).

### • i.LINK™ (DV)\*

DSR-500WS\*\* DSR-300A\*\* DSR-250 DSR-PD150 DSR-PD100A DSR-2000\*\* DSR-1800\*\*  
DSR-1600\*\* DSR-1500\*\* DSR-70A\*\* DSR-40 DSR-30 DSR-20 DSR-11  
DSR-50 DSR-V10

The i.LINK interface 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.
- i is the logo for products that implement i.LINK.
- \*\* Output only from the DSR-500WS/300A. The DSR-2000/1800/1600/1500/70A 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 IEEE 1394 connector. All products with an i.LINK connector may not communicate with each other. Please confirm interoperability with third party manufacturers. For more information contact Sony at 1-800-686-7669.

### • SDTI-CP (MPEG) Out\*

DSR-2000

SDTI-CP provides a direct connection to MPEG IMX™ products.

- \* SDTI-CP is defined as SMPTE 326M.

### • AES/EBU

DSR-2000 DSR-1800\* DSR-1600\* DSR-1500\* DSR-85

The DSR-2000/1800/1600/1500/ and DSR-85 VTRs 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-1800/1600/1500 require an optional board for AES/EBU.

## Sophisticated Mechanisms

### • Quick, Responsive Mechanism

DSR-2000 DSR-1800 DSR-1600 DSR-1500 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-1500 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 adapter.

### • Dual-size Cassette Compartment

DSR-500WS DSR-300A DSR-1 DSR-250 DSR-85 DSR-40 DSR-30  
DSR-20 DSR-11 DSR-50

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

### • Dual Interface Mechanism

DSR-1

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.



<Pro 76-pin Digital>

<Pro 50-pin>

### • High-speed Data Transfer Capability

DSR-85

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

## Lineup Features

**Digital Camcorders****One-piece Camcorder Common Features**

DSR-500WS DSR-300A

- Highly mobile one-piece design
- 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
- 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
- DynaFit™ 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
- SetupLog™ function for automatic recording of camera setting data
- Pool Feed operation\*1
- i.LINK (DV output only) interface providing a single cable connection to simultaneously transfer data and control signals as well as digital video and audio signals, with virtually no generation loss
- 26-pin VTR interface
- Full color picture playback without an external adaptor
- Edit Search function
- Time code superimposed during playback and record
- Freeze Mix function
- ClipLink operation\*2
- Compact and lightweight BP-L40A/L60A/L90A Lithium-ion Batteries
- CA-WR855 Camera Adaptor for the WRR-855A Wireless Receiver
- Compact crew package with the LC-DS300SFT Soft Carrying Case or LC-DS500 Hard Carrying Case

\*1 The optional DSBK-501 Analog Composite Input Board is required.

\*2 The optional DSBK-301A Index Picture Board is required.

**DSR-500WS/DSR-500WSP****One-piece Camcorder**

- Compact and lightweight: 6.3 kg (13 lb 14 oz) including viewfinder, microphone, lens, battery and tape
- Low power consumption: 24 W (without viewfinder)
- Three 2/3-type Power HAD WS™ 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

**DSR-300A/DSR-300AP****One-piece Camcorder**

- Compact and lightweight: 6.0 kg (13 lb 4 oz) including viewfinder, microphone, lens, battery and tape
- Low power consumption: 21 W (without viewfinder)
- Three 1/2-type Power HAD™ CCDs for low smear level, high sensitivity, high S/N ratio (NTSC: 62 dB, PAL: 60 dB) and high horizontal resolution (800 TV lines)
- Hyper Gain (36 dB)
- 4:3 aspect ratio

## 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-type Power HAD CCDs\*1/Three 2/3-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\*1/850 TV lines (4:3 mode)\*2, 800 TV lines (16:9 mode)\*2)
- 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

## 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-type CCDs for accurate color reproduction
- Capable of both interlace scan, for moving images, and progressive scan, for still images or shooting a moving subject\*<sup>1</sup> and exporting a frame of the image as a still picture
- DSP (Digital Signal Processing)
- 2.5-inch (200,000 dot) color LCD monitor
- 12x lens\*<sup>2</sup> with Super SteadyShot® system
- New, high-resolution 1.5-inch black & white viewfinder
- 16:9 recording mode available (electronically processed)

- Superb picture quality of the DVCAM format
- Recording and playback capability with standard and mini-size DVCAM and DV tapes (SP mode only)
- 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™** media
- 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® controller

\*<sup>1</sup> 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).

\*<sup>2</sup> Digital zoom of 24x or 48x available via menu selection.



## DSR-PD150/DSR-PD150P

### Compact Camcorder

- Compact and lightweight: 1.5 kg (3 lb 5 oz) including battery and tape
- Newly developed 1/3-type CCDs for accurate color reproduction
- Capable of both interlace scan, for moving images, and progressive scan, for still images or shooting a moving subject\*<sup>1</sup> and exporting a frame of the image as a still picture
- DSP (Digital Signal Processing)
- 2.5-inch (200,000 dot) color LCD monitor
- 12x lens\*<sup>2</sup> 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
- Playback capability of DV recorded tapes\*<sup>3</sup> (SP mode only)
- 40 minutes recording time with a mini-size cassette
- Time/date data superimposition on output pictures
- Digital still camera functions with **Memory Stick** media
- InfoLITHIUM® 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 controller

\*<sup>1</sup> 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).

\*<sup>2</sup> Digital zoom of 24x or 48x available via menu selection.

\*<sup>3</sup> Only mini-size DVCAM and DV cassettes can be used.





## DSR-PD100A/DSR-PD100AP

Handycam®-style Camcorder



- Compact and lightweight: 1 kg (2 lb 3 oz) including battery and tape
  - Three 1/4-type CCDs
  - Capable of both interlace scan, for moving images, and progressive scan, for still images or shooting a moving subject\*<sup>1</sup> and exporting a frame of the image as a still picture
  - DSP (Digital Signal Processing)
  - Super SteadyShot function with new optical system for stable picture shooting without sacrificing picture quality
  - Extreme close-up shots with 12x optical/48x digital zoom
  - Manual control and a full range of auto modes
  - 16:9 recording mode available (electronically processed)
  - Superb picture quality of the DVCAM format
- Playback capability of DV recorded tapes (SP mode only)
  - 40 minutes recording time with a mini-size cassette\*<sup>2</sup>
  - Two ways of still image recording: Tape Photo Mode using the cassette tape and Memory Photo Mode using **Memory Stick** removable memory media.
  - Color 3.5-inch LCD monitor
  - InfoLITHIUM battery system displays the remaining capacity of the battery (accurate to the minute)
  - Audio dubbing capability (32 kHz/12-bit only)
  - 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
  - XLR adapter for connecting external professional microphones (supplied accessory)
  - Wide-angle conversion lens (supplied accessory)
  - RMT-811 Wireless Remote Commander controller (supplied accessory)

\*<sup>1</sup> 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).

\*<sup>2</sup> The DSR-PD100A accepts only mini-size DVCAM and DV cassettes.



## Lineup Features

**Digital VTRs**

# Master Series VTR Common Features

**Master**  
Series

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

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-1500 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 adapter 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\*<sup>2</sup>
- Audio cross-fade function for clean audio transitions at editing points\*<sup>3</sup>
- Excellent jog audio capability
- DMC (Dynamic Motion Control) provides noiseless slow-motion playback\*<sup>4</sup>
- High-speed picture search over a range of 60 times\*<sup>2</sup> normal speed, in both forward and reverse
- Versatile digital interfaces\*<sup>5</sup>: 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)\*<sup>6</sup>
- Flexible input selection between video and audio\*<sup>7</sup>
- 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)

\*<sup>1</sup> SDTI (QSDI) and i.LINK (DV) interfaces do not support DVCPRO playback.\*<sup>2</sup> DSR-2000/DSR-1800/DSR-1600 only.\*<sup>3</sup> DSR-2000/DSR1800 only.\*<sup>4</sup> DSR-2000/DSR1800/DSR-1600/DSR-70A only.\*<sup>5</sup> Optional Input/Output Boards required. Please check Feature Comparison of Studio VTRs (p.16) for details.\*<sup>6</sup> DSR-2000/DSR1800/DSR-1500/DSR-70A only\*<sup>7</sup> 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.)

\*<sup>1</sup> Not available through SDTI (QSDI) and i.LINK interfaces.\*<sup>2</sup> MIX and WIPE only.**Master**  
Series

## DSR-1800/DSR-1800P

### Editing Recorder

- Pread 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



**Master**  
Series

## DSR-1600/DSR-1600P

### Editing Player



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

**Master**  
Series

## DSR-1500/DSR-1500P

### Editing Recorder

- 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



**Master**  
Series

## DSR-70A/70AP

### Portable Editing Recorder



- Compact, all-in-one package features a 6.4-inch 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 normal 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® portable editing recorder
- SDI and i.LINK interfaces are provided by a single DSBK-160A optional board
- Two-camera switching recording\*1
- 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.

**Master**  
Series

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 Digital VTRs
 

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## DSR-40/DSR-40P

### 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
- RS-422A remote control interface enables this unit to perform as the editing player in an A/B roll editing system\*<sup>1</sup> or cut-editing system
- i.LINK (DV) interface providing a single cable connection to simultaneously transfer audio, video and command signals
- Full range of analog outputs: composite, component, S-Video and XLR audio
- Control S interface for remote control operation
- External Sync In connector for synchronized playback
- Auto repeat function

- Compact and lightweight (half-rack width)
- Index Points search function (when using a cassette with IC Cassette Memory)

\*<sup>1</sup> Since the DSR-40 is not equipped with the synchronization capability, the editing accuracy is performed by pre-roll and play.



## DSR-30/DSR-30P

### 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
- 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

- Auto repeat function
- One-program playback function to automatically rewind to the beginning of a tape and enter Standby mode
- Power-on playback/recording capabilities
- External timer recording
- Duplication mode with original time code
- Function lock to avoid accidental operation
- Built-in control tray with a Jog/Shuttle dial with a range of 1/5 to 18 times normal speed, in both forward and reverse
- Index Points search function (when using a cassette with IC Cassette Memory)
- Clear frame picture
- RMT-DS30 Wireless Remote Controller (supplied accessory) for control of basic functions
- Headphone/microphone connections

## DSR-20/DSR-20P 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
- 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
- RS-232C and Control S interfaces for remote control operation
- External Sync\*<sup>1</sup> In connector for synchronized playback
- Auto repeat function
- Power-on playback/recording capabilities
- Duplication mode with original time code
- Compact and lightweight (half-rack width)
- AC/DC operation

- Index Points search functions (when using a cassette with IC Cassette Memory)
- RMT-DS20 Wireless Remote Controller (supplied accessory) for control of basic functions

\*1 The DSR-20 locks to V-sync only.



## DSR-11 Recorder



- Superb picture quality of the DVCAM format
- Long recording time: up to 184 minutes with a standard-size cassette and 40 minutes with a mini-size cassette
- Recording and playback of DV format tapes (SP mode only)
- NTSC/PAL compatible\*<sup>1</sup>
- Composite and S Video inputs

- i.LINK (DV) interface providing a single cable connection to simultaneously transfer audio, video and command signals
- Unique design enables both horizontal and vertical installation
- LANC and Control S terminals
- Auto repeat function
- DC power operation
- Supplied RMT-DS11 Wireless Remote Commander

\*1 The DSR-11 does not convert signals from NTSC to PAL, or vice versa.

## Digital VTRs

## DSR-50/DSR-50P

### Portable 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
- Four-channel independent digital audio recording

- 2.5-inch (200,000 dot) color LCD monitor
- Duplication options (tape copy, tape copy with original time code, or tape copy with cassette memory data)
- Compact & lightweight design: 3.9 kg (8 lb 9 oz) without battery and tape
- Playback capability of both NTSC and PAL recorded tapes\*<sup>1</sup>
- i.LINK (DV) interface providing a single cable connection to simultaneously transfer audio, video and command signals
- 26-pin Camera Connector
- Analog Component Output
- Timecode IN/OUT

\*<sup>1</sup> The output signal level is not standard and therefore recommended for simple monitoring only, with a monitor of the same color system as the original source.

## DSR-V10/DSR-V10P

### DVCAM Video Walkman® Recorder

- Superb picture quality of the DVCAM format
- Playback capability of DV recorded tapes (SP mode only)
- 40 minutes recording time with a mini-size cassette\*<sup>1</sup>
- Compact and lightweight: 970 g (2 lb 2 oz) without battery and tape
- Built-in 5.5-inch LCD monitor
- InfoLITHIUM battery system displays the remaining capacity of the battery (accurate to the minute)
- 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
- Assemble editing with up to 99 events x four programs with the optional DSRM-E1 Edit Adaptor

- Auto repeat function
- Duplication mode with original time code
- Hands-free shooting capability with the optional CVX-V1/V3/V18NS Mini Camera

\*<sup>1</sup> The DSR-V10 accepts 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\*1, 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

\*1 The optional DSBK-120 SDI Input/Output Board is required.

### Lineup Features

## Program Playout

### Flexicart® Multi-cassette System

- Accepts a maximum of six DSR-2000/1800/1600 units\*1
- Designed to be modular and reconfigurable with optional VTRs and cassette bin units to meet differing applications
- Multiple inputs and outputs
- Fully automated, simultaneous record, playback and time delay
- Standard traffic and automation interface
- PC-driven, user-friendly Windows® environment



Applicable VTRs	VTR Mount Kit	Cassette Bin Unit	Configuration (VTR/Bin Unit ratio)		Standard-size Cassette Capacity
			VTRs	Bin Units (4U high)	
DSR-2000/2000P DSR-1800/1800P DSR-1600/1600P	BKFC-54	BKFC-21DV BKFC-210*2	1	7	147
			2	7	147
			3	6	126
			4	5	105
			5	4	84
			6	3	63

\*1 Available for standard-size cassettes only.

\*2 BKFC-210 DV Hand Kit: a robotics hand for handling DVCAM standard-size cassettes.

## Feature Comparison

**Digital Camcorders**

	DSR-500WS DSR-500WSP	DSR-300A DSR-300AP	DXC-D35/D35WS+DSR-1 DXC-D35P/D35WSP+DSR-1P	DSR-250 DSR-250P	DSR-PD150 DSR-PD150P	DSR-PD100A DSR-PD100AP
<b>Cassette</b>						
Standard-size Cassette	●	●	●	●	–	–
Mini-size Cassette	●	●	●	●	●	●
<b>Camera Section</b>						
Image Device	Three 2/3-type Power HAD WS CCDs	Three 1/2-type Power HAD CCDs	Three 2/3-type Power HAD CCDs*1	Three 1/3-type CCDs	Three 1/3-type CCDs	Three 1/4-type CCDs
16:9 Aspect Ratio	●	–	●*2	●*3	●*3	●*3
TruEye Process	●	●	●	–	–	–
DynaLatitude Process	●	●	●	–	–	–
Skin Detail	●	●	●	–	–	–
TLCS (Total Level Control System)	●	●	●	–	–	–
ATW (Auto Tracing White Balance)	●	●	●	●	●	●
EZ Mode	●	●	●	–	–	–
EZ Focus	●	●	●	–	–	–
Auto Focus	–	–	–	●	●	●
Camera Setup File System	●	–	●	–	–	–
SetupNavi	●	–	●	–	–	–
SetupLog	●	●	●	–	–	–
Super SteadyShot	–	–	–	●	●	●
DynaFit Shoulder Pad	●	●	●	●	–	–
<b>VTR Section</b>						
ClipLink	●	●	●	–	–	–
Freeze Mix	●	●	●	–	–	–
Memory Mix	–	–	–	●	●	–
Photo Mode	–	–	–	●	●	●
<b>Interface</b>						
i.LINK (DV)	●*4	●*4	–	●	●	●
LANC	–	–	–	●	●	●

\*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 Output only.

● Available

– Not available



## Feature Comparison

## Digital VTRs

	DSR-2000 DSR-2000P	DSR-1800 DSR-1800P	DSR-1600 DSR-1600P	DSR-1500 DSR-1500P	DSR-70A DSR-70AP	DSR-85 DSR-85P	DSR-40 DSR-40P	DSR-30 DSR-30P	DSR-20 DSR-20P	DSR-11	DSR-50 DSR-50P	DSR-V10 DSR-V10P
<b>Cassette</b>												
Standard-size Cassette	●	●	●	●	●	●	●	●	●	●	●	—
Mini-size Cassette	●	●	●	●	●	●	●	●	●	●	●	●
DVCPRO Medium-size Cassette	●	●	●	●	●	—	—	—	—	—	—	—
<b>Digital Interface</b>												
SDI	●	● (Option)	● <sup>*1</sup> (Option)	● (Option)	● (Option)	● (Option)	—	—	—	—	—	—
SDTI (QSDI)	●	● (Option)	● <sup>*1</sup> (Option)	● (Option)	● (Option)	●	—	—	—	—	—	—
i.LINK (DV)	● (Option)	● (Option)	● <sup>*1</sup> (Option)	● (Option)	● (Option)	—	●	●	●	●	●	●
AES/EBU	●	● (Option)	● <sup>*1</sup> (Option)	● (Option)	—	●	—	—	—	—	—	—
<b>Analog Interface</b>												
Composite	●	●	● <sup>*1</sup>	● <sup>*2</sup> (Option)	●	●	●	●	●	●	●	●
Component	●	●	● <sup>*1</sup>	● <sup>*2</sup> (Option)	● (Option)	●	● <sup>*1</sup>	—	—	—	● <sup>*1</sup>	—
S-Video	●	●	● <sup>*1</sup>	● <sup>*2</sup> (Option)	●	●	●	●	●	●	●	●
<b>Remote Control Interface</b>												
RS-422A	●	●	●	●	●	●	● <sup>*3</sup>	—	—	—	—	—
RS-232C	—	—	—	—	—	—	—	—	●	—	—	—
LANC	—	—	—	—	—	—	—	●	●	●	● <sup>*4</sup>	●
Control S	—	●	●	●	—	●	● <sup>*5</sup>	●	●	●	●	—
<b>Editing Capability</b>												
Pre-read Editing/Playback	●	● <sup>*6</sup>	—	—	—	—	—	—	—	—	—	—
Assemble Editing	●	●	—	●	●	●	—	●	—	—	—	● (Option)
Insert Editing	● (Video/Audio/TC)	● (Video/Audio/TC)	—	● (Video/Audio/TC)	● (Video/Audio/TC)	● (Video/Audio/TC)	—	● (Video/Audio)	—	—	—	—
VITC	●	●	●	●	●	—	—	—	—	—	—	—
Time Code Input/Output	●	●	●	●	●	● (Option)	—	—	—	—	●	—
ClipLink	●	●	●	●	●	●	—	—	—	—	—	—
High-speed Data Transfer	—	—	—	—	—	●	—	—	—	—	—	—
Search Speed	x ±60	x ±60	x ±60	x ±60	x ±32	x ±32	x ±15	x ±15	x ±15	x ±14.48 (NTSC), x ±17.48 (PAL)	x ±14.48 (NTSC), x ±17.48 (PAL)	x ±9.48 (NTSC), x ±11.48 (PAL)
Digital Slow	x ±1	x ±0.5	x ±0.5	x ±0.5	x ±0.5	x ±0 to 0.24	x ±1/10, 1/5	x ±1/10, 1/5	x ±1/10, 1/5	x ±1/10, 1/3	x ±1/10, 1/3	x ±1/3
<b>Others</b>												
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	●	●	●	●	●	—	—	—	—	—	—	—
Auto Repeat/ Power-on Playback/Recording	—	● <sup>*7</sup>	● <sup>*7</sup>	● <sup>*7</sup>	—	—	●	●	●	● <sup>*8</sup>	—	● <sup>*8</sup>
Index Points Search	—	—	—	—	—	—	●	●	●	●	●	—
Closed Caption	● <sup>*9</sup>	● <sup>*9</sup>	● <sup>*9</sup>	● <sup>*9</sup>	● <sup>*9</sup>	—	● <sup>*9</sup> ● <sup>*10</sup>	● <sup>*9</sup>	● <sup>*9</sup>	● <sup>*9</sup>	● <sup>*9</sup> ● <sup>*11</sup>	● <sup>*9</sup>

\*1 Output only.

\*2 These signals share the same BNC connectors.

\*3 As a player only.

\*4 Control Jack (accepts LANC command as player)

\*5 Input only.

\*6 Playback only.

\*7 Auto repeat/Power-on playback only.

\*8 Auto repeat only.

\*9 NTSC model only.

\*10 Output from Monitor out connector only.

\*11 Output from Video out connector only.

● Available

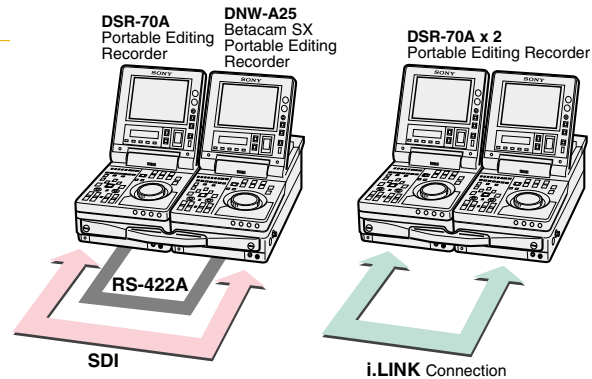
— Not available

## Application Examples

## Field Editing

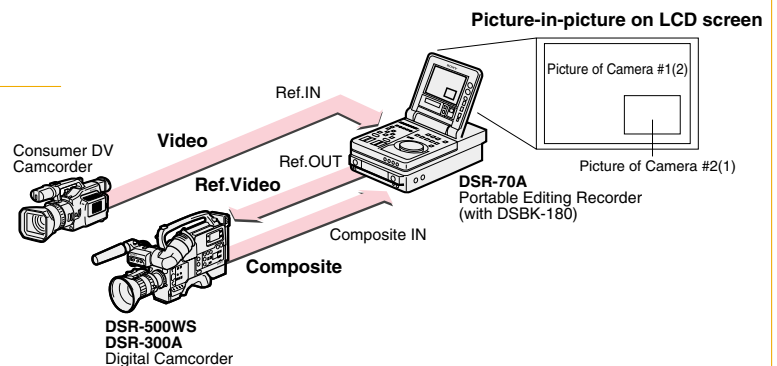
## Lap-top Editing System

- 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



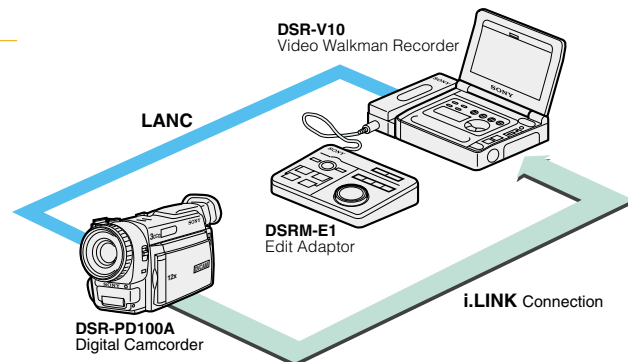
## Two-camera Switching Recording System

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



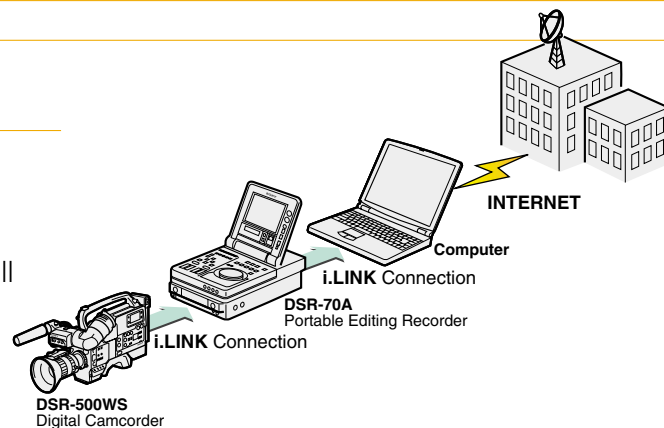
## Simple Field Editing System

- Portable and compact system package
- Assemble editing with up to 99 events x four programs



## Newsgathering and Still 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 still images via a PC equipped with an i.LINK interface



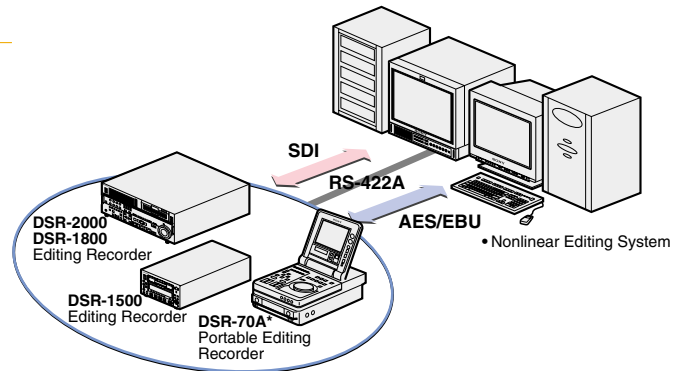
## Application Examples

## Studio Editing – Nonlinear

### SDI-based Nonlinear Editing System

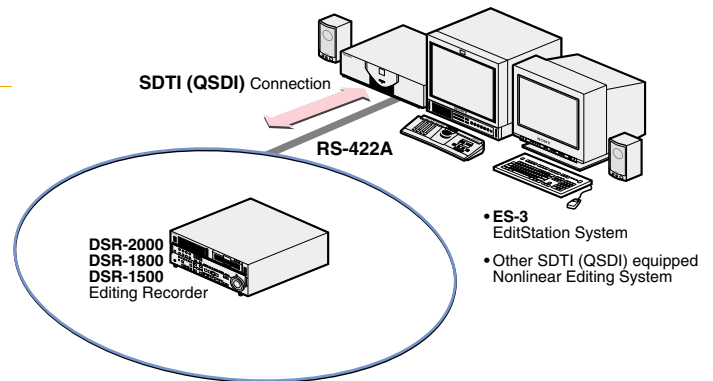
- Direct digital connection with SDI-equipped nonlinear editing system
- High picture and sound quality by use of SDI and AES/EBU interfacing

\* The DSR-70A does not support AES/EBU.



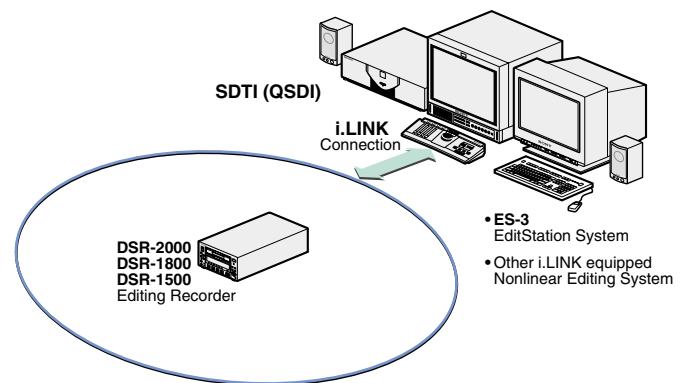
### SDTI (QSDI)-based Nonlinear Editing System

- Superior multi-generation picture and sound quality by use of SDTI (QSDI) interface



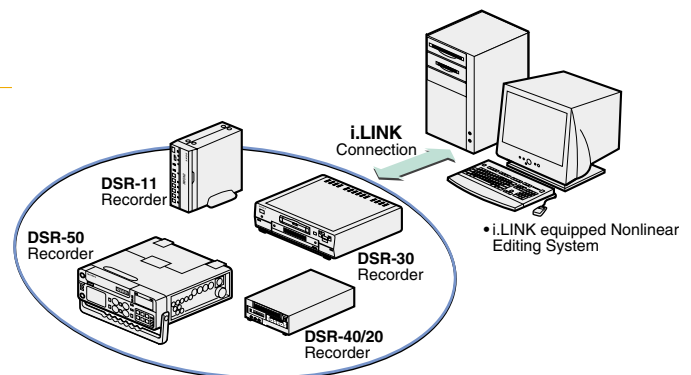
### High-end, i.LINK-based Nonlinear Editing System

- Superior multi-generation picture and sound by use of i.LINK interface
- Quick mechanical response



### DV-based, i.LINK Nonlinear Editing System

- Superior multi-generation picture and sound by use of i.LINK interface



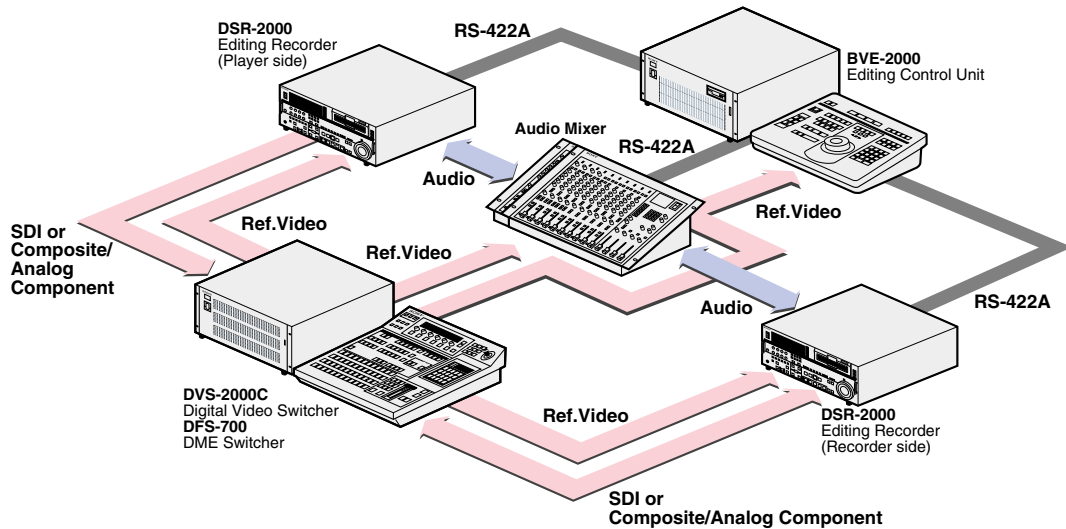
## Application Examples

## Studio Editing – Linear

### Preread Editing System

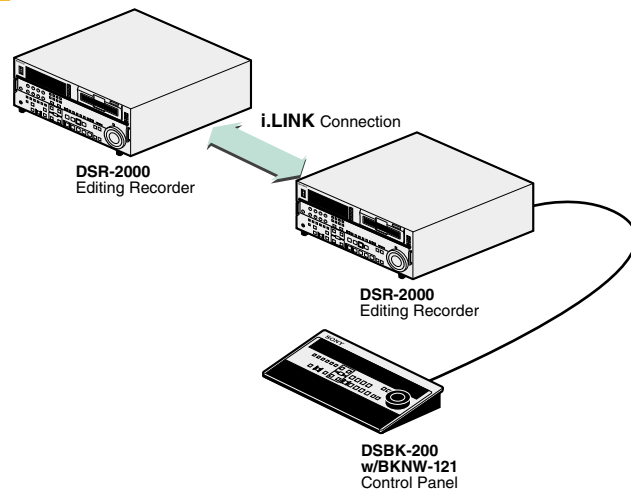
- A/B roll editing with two VTRs\*
- Audio mix/swap and voice over with no delay between video and audio
- Title editing with one VTR and Audio Mixer

\* MIX and WIPE only



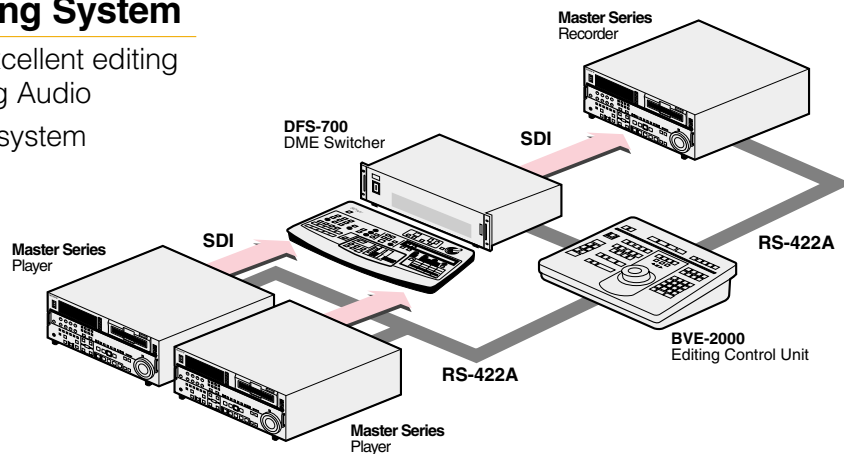
### VTR-to-VTR Editing System

- 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



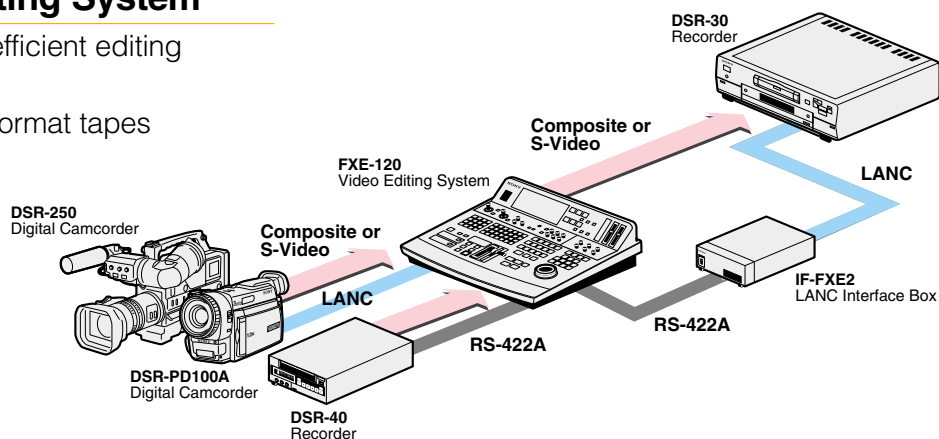
### Master Series Linear Editing System

- Full A/B-roll digital system with excellent editing performance and high quality Jog Audio
- Smooth migration to a full digital system

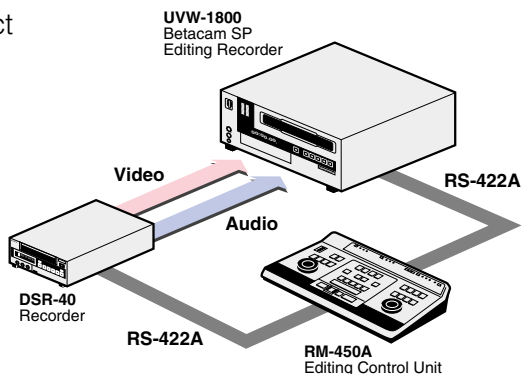


### Low-cost, Simple Editing System

- LANC-based, simple and efficient editing with effects
- Possible to utilize existing format tapes



- Simple cut-editing system
- Space-saving with the compact DSR-40



# Optional Accessories & Peripheral Equipment



**BP-L40A/L60A/L90A**  
Rechargeable  
Battery Pack

DSR-500WS DSR-300A DSR-1 DSR-250 DSR-70A  
DSR-50



**NP-1B**  
Rechargeable  
Battery Pack

DSR-500WS DSR-300A DSR-1 DSR-250



**NP-F550**  
Rechargeable  
Battery Pack

DSR-PD150 DSR-PD100A



**NP-F750**  
Rechargeable  
Battery Pack

DSR-PD150 DSR-PD100A DSR-V10



**NP-F960/B**  
Rechargeable  
Battery Pack

DSR-PD150 DSR-PD100A DSR-V10



**AC-DN1**  
AC Adaptor

DSR-500WS DSR-300A



**AC-DN2B**  
AC Adaptor

DSR-500WS DSR-300A DSR-250 DSR-70A



**AC-V700**  
AC Adaptor/Charger

DSR-V10



**AC-VQ800/DC-VQ800**  
AC Adaptor/Charger/DC Adaptor/Charger

DSR-PD150 DSR-PD100A DSR-V10



**DC-L1**  
Battery Adaptor for  
NP-1B

DSR-500WS DSR-300A DSR-1



**BC-1WD/1WDCE**  
Battery Charger for  
four NP-1Bs

DSR-500WS DSR-300A DSR-1 DSR-250



**BC-L120/L120CE**  
Battery Charger for  
BP-L40A/L60A/L90A, NP-1B, BP-90A

DSR-500WS DSR-300A DSR-1 DSR-250 DSR-70A  
DSR-50



**BC-L50**  
Battery Charger for  
BP-L40A/L60A/L90A

DSR-500WS DSR-300A DSR-1 DSR-250 DSR-70A  
DSR-50



**CMA-8A/8ACE**  
Camera Adaptor

DSR-500WS DSR-300A DSR-1 DSR-70A DSR-50



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

DSR-2000 DSR-1800 DSR-1600 DSR-1500 DSR-85  
DSR-40 DSR-70A



**CCA-7**  
Camera Remote  
Control Cable

DSR-500WS DSR-300A



**CCQX-3**  
Connecting Cable

DSR-1



**CCZ-A2/A5/A10**  
Connecting Cable  
(26-pin - 26-pin)

DSR-500WS DXC-D35+DSR-1



**CCZQ-A2/A5/A10**  
Connecting Cable  
(26-pin - 14-pin)

DXC-D35+DSR-1



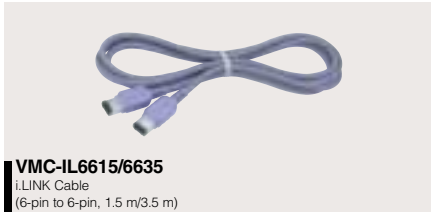
**VMC-IL4408/IL4415/IL4435**  
iLINK Cable  
(4-pin to 4-pin, 0.8 m/1.5 m/3.5 m)

DSR-PD150 DSR-PD100A DSR-40 DSR-30 DSR-20  
DSR-11 DSR-V10



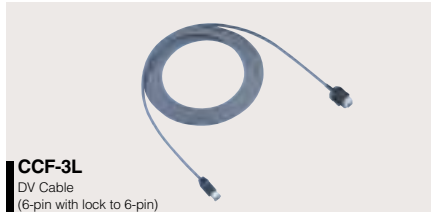
**VMC-IL4615/IL4635**  
iLINK Cable  
(4-pin to 6-pin, 1.5 m/3.5 m)

DSR-PD150 DSR-PD100A DSR-2000 DSR-1800 DSR-1600  
DSR-1500 DSR-70A DSR-40 DSR-30 DSR-20  
DSR-11 DSR-V10



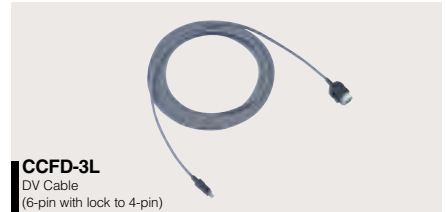
**VMC-IL6615/6635**  
iLINK Cable  
(6-pin to 6-pin, 1.5 m/3.5 m)

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



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

DSR-500WS DSR-300A DSR-250 DSR-2000 DSR-1800  
DSR-1600 DSR-1500 DSR-70A DSR-50



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

DSR-500WS DSR-300A DSR-250 DSR-PD150 DSR-PD100A  
DSR-40 DSR-30 DSR-20 DSR-11 DSR-50  
DSR-V10



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

DSR-500WS DSR-300A DSR-1 DSR-250 DSR-2000  
DSR-1800 DSR-1600 DSR-1500 DSR-85 DSR-40  
DSR-30 DSR-20 DSR-11 DSR-70A DSR-50



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

DSR-500WS DSR-300A DSR-1 DSR-250 DSR-PD150  
DSR-PD100A DSR-2000 DSR-1800 DSR-1600 DSR-1500  
DSR-85 DSR-40 DSR-30 DSR-20 DSR-11  
DSR-70A DSR-50 DSR-V10



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

DSR-500WS DSR-300A DSR-1 DSR-250 DSR-2000  
DSR-1800 DSR-1600 DSR-1500 DSR-85 DSR-40  
DSR-30 DSR-20 DSR-11 DSR-70A DSR-50



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

DSR-500WS DSR-300A DSR-1 DSR-250 DSR-PD150  
DSR-PD100A DSR-2000 DSR-1800 DSR-1600 DSR-1500  
DSR-85 DSR-40 DSR-30 DSR-20 DSR-11  
DSR-70A DSR-50 DSR-V10



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

DSR-500WS DSR-300A DSR-1 DSR-250 DSR-2000  
DSR-1800 DSR-1600 DSR-1500 DSR-85 DSR-40  
DSR-30 DSR-20 DSR-11 DSR-70A DSR-50



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

DSR-500WS DSR-300A DSR-1 DSR-250 DSR-PD150  
DSR-PD100A DSR-2000 DSR-1800 DSR-1600 DSR-1500  
DSR-85 DSR-40 DSR-30 DSR-20 DSR-11  
DSR-70A DSR-50 DSR-V10



**PDV-12CL**  
Cleaning Cassette Tape  
(Standard size)

DSR-500WS DSR-300A DSR-1 DSR-250 DSR-2000  
DSR-1800 DSR-1600 DSR-1500 DSR-85 DSR-40  
DSR-30 DSR-20 DSR-11 DSR-70A DSR-50



**PDVM-12CL**  
Cleaning Cassette Tape  
(Mini size)

DSR-500WS DSR-300A DSR-1 DSR-250 DSR-PD150  
DSR-PD100A DSR-2000 DSR-1800 DSR-1600 DSR-1500  
DSR-85 DSR-40 DSR-30 DSR-20 DSR-11  
DSR-70A DSR-50 DSR-V10



**MSA-8A/16A/32A/64A**  
Memory Stick  
(8 MB/16 MB/32 MB/64 MB)

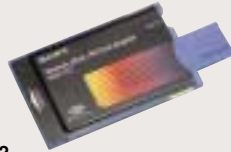
DSR-250 DSR-PD100A DSR-PD150

## Optional Accessories & Peripheral Equipment



**MSAC-FD2**  
Floppy Disc Adaptor for  
Memory Stick

DSR-250 DSR-PD100A DSR-PD150



**MSAC-PC2**  
PC Card for  
Memory Stick

DSR-250 DSR-PD100A DSR-PD150



**CVX-V1/V1P**  
Color Video Camera

DSR-V10



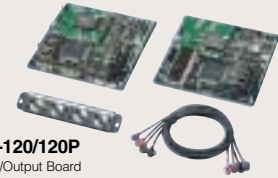
**CVX-V3/V3P**  
Color Video Camera

DSR-V10



**CVX-V18NS/  
V18NSP**  
Color Video Camera

DSR-V10



**DSBK-120/120P**  
SDI Input/Output Board

DSR-85



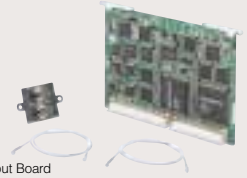
**DSBK-130/130P**  
Time Code  
Input/Output Board

DSR-85



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

DSR-70A



**DSBK-150**  
SDTI (QSDI) Input/Output Board

DSR-70A



**DSBK-150I**  
Digital Input/Output Board

DSR-1500



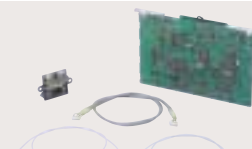
**DSBK-1503**  
i.LINK/DV Input/Output Board

DSR-1500



**DSBK-1504**  
Analog Input Board

DSR-1500



**DSBK-160A**  
SDI/i.LINK (DV) Input/Output Board

DSR-70A



**DSBK-1601**  
SDI/AES/EBU Output Board

DSR-1600



**DSBK-1602**  
SDTI (QSDI) Output Board

DSR-1600



**DSBK-170**  
Analog Component Input/Output Board

DSR-70A



**DSBK-180/180P**  
Dual Video Input Board

DSR-70A



**DSBK-180I**  
SDI/AES/EBU Input/Output Board

DSR-1800





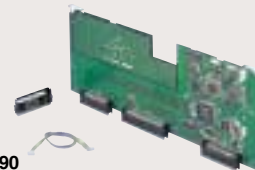
**DSBK-1802**  
SDTI (QSDI) Input/Output Board

DSR-1800



**DSBK-1803**  
i.LINK/DV Input/Output Board

DSR-1800 DSR-1600



**DSBK-190**  
i.LINK/DV Input/Output Board

DSR-2000



**DSBK-200**  
Control Panel

DSR-2000



**DSBK-210**  
SDTI-CP Output Board

DSR-2000



**DSBK-301A**  
Index Picture Board

DSR-500WS DSR-300A



**DSBK-501/501P**  
Analog Composite Input Board

DSR-500WS



**RM-LG1**  
Remote Control Unit

DSR-500WS DSR-300A DXC-D35+DSR-1



**RM-M7G**  
Remote Control Unit

DSR-500WS DSR-300A DXC-D35+DSR-1



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

DSR-250 DSR-PD150



**VCL-HG0758**  
Tele Conversion Lens 0.7x

DSR-250 DSR-PD150



**VCL-HG1758**  
Tele Conversion Lens 1.7x

DSR-250 DSR-PD150



**VCT-1170RM**  
Video Tripod with  
Remote Control

DSR-PD150 DSR-PD100A



**DXF-51**  
5-inch Monochrome  
Viewfinder

DSR-500WS DSR-300A DXC-D35+DSR-1



**VCT-U14**  
Tripod Adaptor

DSR-500WS DSR-300A DXC-D35+DSR-1



**CAC-4**  
Chest Pad

DXC-D35+DSR-1



**WRR-805A**  
UHF Synthesized Tuner

DSR-PD150 DSR-PD100A



**WRR-810A**  
UHF Synthesized Tuner

DXC-D35+DSR-1

## Optional Accessories & Peripheral Equipment



**WRR-855A**  
UHF Synthesized Tuner

DSR-500WS DSR-300A DXC-035+DSR-1



**WRT-805A**  
UHF Synthesized Wireless Transmitter

DSR-PD150



**BTA-801**  
Adapter for WRR-855A

DXC-035+DSR-1



**CA-WR855**  
Adapter for WRR-855A

DSR-500WS DSR-300A



**CAC-12**  
Microphone Holder

DSR-500WS DSR-300A DXC-035+DSR-1 DSR-250 DSR-PD150  
DSR-PD100A



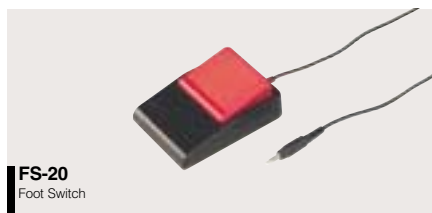
**EC-0.5C2**  
Microphone Cable

DXC-035+DSR-1 DSR-PD100A



**ECM-672/670**  
Electret Condenser Microphone

DSR-500WS DSR-300A DXC-035+DSR-1 DSR-250 DSR-PD100A



**FS-20**  
Foot Switch

DSR-50



**IF-FXE2**  
LANC Interface Box

DSR-30



**DSRM-10**  
Remote Control Unit

DSR-1500 DSR-85 DSR-40 DSR-20 DSR-11  
DSR-50



**DSRM-20**  
Remote Control Unit

DSR-40 DSR-20 DSR-11 DSR-50



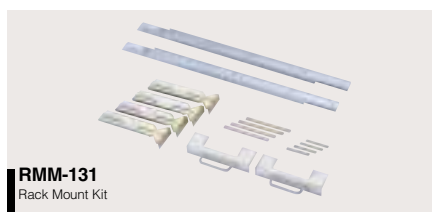
**DSRM-E1/E1P**  
Edit Adapter

DSR-V10



**UVR-60/60P**  
TBC Remote Control Unit

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



**RMM-131**  
Rack Mount Kit

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



**BKNW-121**  
Control Panel Case

DSR-2000



**BKNW-225**  
Docking Kit

DSR-70A



**LC-DN220**  
Carrying Case

DSR-70A



**LC-424**  
Carrying Case  
(Hard type)

DSR-500WS DSR-300A DXC-035+DSR-1 DSR-250



**LC-300SZ**  
Carrying Case  
(Soft type)

DSR-500WS DSR-300A DXC-D35+DSR1 DSR-250



**LC-PD150**  
Hard Carrying Case

DSR-PD150



**LCR-1**  
Rain Cover

DSR-500WS DSR-300A DXC-D35+DSR1



**JZ-1**  
Videocassette Logging Software

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

## Specifications (NTSC Models)

**DSR-500WS/DSR-300A/DXC-D35/D35WS+DSR-1** Camcorders**DSR-1** Dockable Recorder

	DSR-500WS	DSR-300A	DXC-D35/D35WS+DSR-1	DSR-1
<b>General</b>				
Power requirements	DC 12 V (11 to 17 V)			DC 12 V +/-1 V
Power consumption	26.1 W (with VF), 24 W (without VF)	23.1 W (with VF), 21 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)
Tape speed	28.193 mm/s			28.193 mm/s
Recording/Playback time	184 min.			184 min.
Standard size	40 min.			40 min.
Mini size	Approx. 12 min.			Approx. 12 min.
Fast forward/Rewind time	Approx. 3 min.			Approx. 3 min.
Standard size	Approx. 75 min with BP-L40A			Approx. 75 min with BP-L40A
Mini size	Approx. 75 min with BP-L40A (DSR-1 + DXC-D35)			Approx. 75 min with BP-L40A (DSR-1 + DXC-D35)
Continuous recording time	Approx. 60 min. with BP-L40A Approx. 130 min. with BP-L60A Approx. 220 min. with BP-L90A	Approx. 80 min. with BP-L40A Approx. 180 min. with BP-L60A Approx. 290 min. with BP-L90A	Approx. 75 min with BP-L40A	Approx. 75 min with BP-L40A (DSR-1 + DXC-D35)
Weight	6.3 kg (13 lb 14 oz) (with VF, microphone, lens, battery and tape)	6.0 kg (13 lb 4 oz) (with VF, microphone, lens, battery and tape)	D35: 7.3 kg (16 lb 1 oz), D35WS: 7.4 kg (16 lb 5 oz) (with VF, microphone, lens, battery, tape and carrying handle)	3.1 kg (6 lb 13 oz) (with battery)
Dimensions (W x H x D)	121 x 192 x 280 mm (4 7/8 x 7 5/8 x 11 1/8 inches) (without projections) 242 x 247 x 547 mm (9 5/8 x 9 3/4 x 21 5/8 inches) (with projections)	121 x 192 x 270 mm (4 7/8 x 7 5/8 x 10 3/4 inches) (without projections) 242 x 247 x 536 mm (9 5/8 x 9 3/4 x 21 1/8 inches) (with projections)	121 x 206 x 344 mm (4 7/8 x 8 1/8 x 13 5/8 inches)	118 x 185 x 185 mm (4 3/4 x 7 3/8 x 7 3/8 inches)
<b>Camera Section</b>				
Image device	3-chip 2/3-type, Interline-Transfer CCD			3-chip 2/3-type, Interline-Transfer CCD
Optics	F1.4 medium index prism system			—
Effective picture elements	980 (H) x 494 (V)			—
Total picture elements	1038 (H) x 504 (V)			—
Sensing area	6.4 mm x 4.8 mm			—
Built-in filters	1: 3200 K 2: 5600 K+1/8 ND 3: 5600 K 4: 5600 K+1/64 ND	1: 3200 K 2: 5600 K+1/8 ND 3: 5600 K 4: 5600 K+1/64 ND	1: 3200 K 2: 5600 K+1/8 ND 3: 5600 K 4: 5600 K+1/64 ND	—
Lens mount	Sony 2/3-type bayonet mount			—
Signal system	NTSC color system			—
Scanning system	2:1 interlaced, 525 lines, 60 fields/s			—
Horizontal frequency	15.734 kHz			—
Vertical frequency	59.94 Hz			—
Sync system	Internal and external with VBS or BS signal			—
Horizontal resolution	16:9 mode: 800 TV lines 4:3 mode: 850 TV lines	800 TV lines		—
Vertical resolution	400 TV lines (without EVS), 450 TV lines (with EVS)			—
Minimum illumination	0.25 lx with F1.4, Hyper gain (36 dB+DPR) 0.4 lx with F1.8, Hyper gain (36 dB+DPR)	0.5 lx with F1.4, Hyper gain (30 dB+DPR)** 0.8 lx with F1.8, Hyper gain (30 dB+DPR)**	0.25 lx with F1.4, Hyper gain (36 dB+DPR) 0.4 lx with F1.8, Hyper gain (36 dB+DPR)	—
Sensitivity	F11 at 2000 lx (3200 K, 89.9% reflectance) (typical)			—
Gain selection	-3 dB, 0 dB, 3 dB, 6 dB, 9 dB, 12 dB, 18 dB, 18 dB+DPR, 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, 18 dB+DPR, 24 dB, 24 dB+DPR, Hyper gain (30 dB+DPR)**	-3 dB, 0 dB, 3 dB, 6 dB, 9 dB, 12 dB, 18 dB, 18 dB+DPR, 24 dB, 24 dB+DPR, Hyper gain (30 dB+DPR or 36 dB+DPR)	—
Shutter speed selection	OFF, 1/100, 1/250, 1/500, 1/1000, 1/2000 s			—
S/N ratio	63 dB (typical)	62 dB (typical)	63 dB (typical)	—
Registration	0.05% (all zones, without lens)			—
Geometric distortion	Below measurable level			—
<b>VTR Section</b>				
Video performance**	Luminance: 30 Hz to 5.0 MHz ±1.0 dB Chrominance: 30 Hz to 1.5 MHz +1.0/-5.0 dB			Luminance: 30 Hz to 5.0 MHz ±1.0 dB 5.75 MHz +0/-3.0 dB (Typical measurement) Chrominance: 30 Hz to 1.5 MHz +1.0/-5.0 dB
Bandwidth	More than 55 dB			More than 55 dB
S/N ratio	Less than 2.0%			Less than 2.0%
K-factor (K2T, KPB)	Less than 30 ns			Less than 30 ns
Y/C delay	Less than 30 ns			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			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
Frequency response	More than 80 dB			More than 80 dB
Dynamic range	Less than 0.08% (1 kHz reference level, 48 kHz)			Less than 0.08%
Distortion (THD)	Less than 0.08% (1 kHz reference level, 48 kHz)			Less than 0.08%
<b>Input/Output Connectors</b>				
Signal inputs	Genlock Video In: BNC, 1.0 Vp-p, 75 Ω Analog Video In: BNC, 1.0 Vp-p, 75 Ω (with DSBK-501 optional board installed) Ext Audio CH-1/2: XLR 3-pin female x2 -60 dBu, 3 kΩ ±4 dBu, 10 kΩ MIC In: XLR 3-pin female TC In: BNC, 0.5 Vp-p to 18 Vp-p, 10 kΩ	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 MIC In: XLR 3-pin female TC In: BNC, 0.5 Vp-p to 18 Vp-p, 10 kΩ	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	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 outputs	Video Out: BNC, 1.0 Vp-p, sync negative, 75 Ω 26-pin male VBS: 1.0 Vp-p, sync negative Y/R-Y/B-Y: Y: 1.0 Vp-p, sync negative R-Y/B-Y: 0.7 Vp-p Y/C: Y: 1.0 Vp-p, sync negative C: 0.286 Vp-p (burst level) S-Video: DIN 4-pin, 1.0 Vp-p, 75 Ω DV Out: 6-pin, IEEE1394 Audio CH-1/2: Phono, -10 dBu, 47 kΩ Monitor Out: BNC, 1.0 Vp-p, sync negative, 75 Ω TC Out: BNC, 1.0 Vp-p, 75 Ω	Video Out: BNC, 1.0 Vp-p, sync negative, 75 Ω 26-pin male VBS: 1.0 Vp-p, sync negative Y/R-Y/B-Y: Y: 1.0 Vp-p, sync negative R-Y/B-Y: 0.7 Vp-p Y/C: Y: 1.0 Vp-p, sync negative C: 0.286 Vp-p (burst level) S-Video: DIN 4-pin, 1.0 Vp-p, 75 Ω DV Out: 6-pin, IEEE1394 Audio CH-1/2: Phono, -10 dBu, 47 kΩ Monitor Out: BNC, 1.0 Vp-p, sync negative, 75 Ω TC Out: BNC, 1.0 Vp-p, 75 Ω	Camera head BNC connector: VBS: 1.0 Vp-p, sync negative 26-pin connector of CA-537 docked VBS: 1.0 Vp-p, sync negative Y/R-Y/B-Y: Y: 1.0 Vp-p, sync negative, R-Y/B-Y: 0.7 Vp-p Y/C: Y: 1.0 Vp-p, sync negative, C: 0.286 Vp-p (burst level) RGB: 1.4 Vp-p Video Out: BNC, 1.0 Vp-p, sync negative, 75 Ω S-Video: DIN 4-pin Y: 1.0 Vp-p, sync negative C: 0.286 Vp-p (burst level) Audio CH-1/2: Phono, -10 dBu, 47 kΩ TC Out: BNC, 1.0 Vp-p, 75 Ω	Video Out: BNC, 1.0 Vp-p, sync negative, 75 Ω S-Video: DIN 4-pin Y: 1.0 Vp-p, sync negative, 75 Ω C: 0.286 Vp-p, 75 Ω Audio CH-1/2: RCA PIN, -10 dBu, 47 kΩ TC Out: BNC, 1.0 Vp-p, 75 Ω
Others	DC In: XLR 4-pin male DC Out: XLR 4-pin female Battery Terminal: 5-pin Earphone: Mini jack Light Out: 2-pin female WRR Out: 7-pin Lens: 12-pin VF: 20-pin Remote1: Stereo mini jack Remote2: 10-pin	DC In: XLR 4-pin male DC Out: XLR 4-pin female Battery Terminal: 5-pin Earphone: Mini jack Light Out: 2-pin female WRR Out: 7-pin Lens: 12-pin VF: 20-pin Remote1: Stereo mini jack Remote2: 10-pin	DC In: XLR 4-pin male DC Out: XLR 4-pin female Earphone: Mini jack Lens: 12-pin VF: 8-pin, 20-pin Remote1: Stereo mini jack Remote2: 10-pin	Analog Interface: Pro 50-pin Digital Interface: Pro 76-pin Digital DC In: XLR 4-pin male DC Out: XLR 4-pin female Earphone: Stereo Mini jack
<b>Supplied Accessories</b>				
	1.5-inch B/W Viewfinder (DXF-801) Microphone with Wind Screen Tripod Adaptor VCT-U14 Remote Control Unit (RM-LG1) Shoulder Strap, Lens Mount Cap Flange Focal Length Adjustment Test Chart Switch Guard, Binding Tie Operating Instructions	1.5-inch B/W Viewfinder (DXF-801) 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	1.5-inch B/W Viewfinder (DXF-801) 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	Shoulder Strap, Connector Cap Lithium Battery (type CR2032) M4 x6 Screws (2), M4 x12 Screws (2) 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 the DSR-85 (via analog component out) that had been recorded on the DSR-500WS.

## Specifications (NTSC Models)

**DSR-250/DSR-PD150/DSR-PD100A** Camcorders

	DSR-250	DSR-PD150	DSR-PD100A
<b>General</b>			
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 VF), 12.1 W (with VF and LCD)	4.7 W (with VF), 5.4 W (with LCD)	4.3 W (with VF), 5.3 W (with LCD)
Operating temperature	0 °C to 40 °C (32 °F to 104 °F)		
Storage temperature	-20 °C to 60 °C (-4 °F to 140 °F)		
Tape speed	Approx. 28.2 mm/s (DVCAM mode) Approx. 18.8 mm/s (DV SP mode)		28.2 mm/s
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 (DVCAM mode) 60 minutes (DV SP mode, with PDVM-40ME)	40 min. with PDVM-40ME/40N/40MEM
Weight	Approx. 4.4 kg (9 lb 11 oz)	Approx. 1.5 kg (3 lb 5 oz)	Approx. 1.28 kg (2 lb 13 oz) (with XLR adaptor, lens, lens hood, battery and tape)
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) including microphone	128 x 180 x 405 mm (5 1/8 x 7 1/8 x 16 inches) including microphone	93 x 112 x 193.5 mm (3 3/4 x 4 1/2 x 7 5/8 inches)
<b>Lens</b>			
Zoom	12:1 Variable Speed (1.2-22 s) zoom lens F =6.0 to 72.0 mm; F1.6 to 2.4		12:1 variable speed (1.83 to 26.5 s) zoom lens F=4.3 to 51.6 mm; F1.6 to 2.8
Filter diameter	58 mm (2 3/8 inches)		52 mm (2 1/8 inches)
Focus	Auto/Manual (ring)/Infinity/One push auto		Auto/Manual (ring)/Infinity
<b>Camera</b>			
Image device	Three 1/3-type CCDs, 380,000 pixels		Three 1/4-type CCDs, 380,000 pixels
Signal system	EIA Standard, NTSC color system		
Scanning system	Progressive/Interlace Scan		
Horizontal resolution	530 TV lines		500 TV lines
Minimum illumination	2 lx		4 lx
Gain selection	—		—
Shutter speed selection	1/4, 1/8, 1/15, 1/30, 1/60, 1/90, 1/100, 1/125, 1/180, 1/250, 1/350, 1/500, 1/725, 1/1000, 1/1500, 1/2000, 1/3000, 1/4000, 1/6000, 1/10000 s		1/4 to 1/10000 s
Exposure	Auto/Manual (Exposure ring)	Auto/Manual (Exposure dial)	Auto/Manual (Exposure dial, Program AE)
White balance	Auto/One-push/Outdoor (5800 K)/Indoor (3200 K)		Auto/One-push/Outdoor/Indoor
Viewfinder	1.5-inch black and white CRT, Zebra Pattern	180,000 dot Black & White LCD, Zebra Pattern	180,000 dot color LCD, Zebra Pattern
Built-in microphone	Electret condenser microphone		Stereo electret condenser microphone
Built-in speaker	Dynamic speaker		Dynamic speaker
LCD	TFT Active Matrix, 2.5-inch, 200,640 dots (880 x 228)		TFT Active Matrix, 3.5-inch 184,580 pixels (839 x 220)
Memory card slot	<b>Memory Stick</b> Recording signals: Camera signals, VTR signals Image size: VGA (640 x 480) Image compression: JPEG		PC Card Standard ATA specifications Type II Power requirements: 3.3/5 V Capacity: 2 MB to 64 MB (when formatted by DSR-PD100A) Recording signals: Camera signal, VTR signal Image size: VGA (640 x 480) Image compression: JPEG
<b>Input/Output Connectors</b>			
Signal inputs/outputs	Video IN/OUT: RCA pin x 1 Luminance signal: 1 Vp-p, 75 Ω, unbalanced, sync negative Video OUT: BNC pin x 1 Luminance signal: 1 Vp-p, 75 Ω, unbalanced, sync negative Audio IN/OUT: RCA pin x 2, 245 mV, Output impedance with less than 2.2 kΩ, Input impedance with more than 47 kΩ S-Video IN/OUT: Mini-DIN 4 pin x 1, Luminance signal: 1 Vp-p, 75 Ω, unbalanced Chrominance signal: 0.286 Vp-p Audio IN: XLR 3-pin (female) x 3, -60 dBu, 6.8 kΩ, +4 dBu, 6.8 kΩ (0 dBu = 0.775 V rms) i.Link (DV): 6 pin (with lock) x 1	Video IN/OUT: RCA pin x 1 Luminance signal: 1 Vp-p, 75 Ω, unbalanced, sync negative Audio IN/OUT: RCA pin x 2, 327 mV Output impedance with less than 2.2 kΩ Input impedance with more than 47 kΩ S-Video IN/OUT: Mini-DIN 4 pin x 1 Luminance signal: 1 Vp-p, 75 Ω, unbalanced Chrominance signal: 0.286 Vp-p (NTSC) Audio IN: XLR 3-pin female, x 2 -60 dBu, 3 kΩ, +4 dBu, 10 kΩ (0 dBu = 0.775 V rms) i.LINK (DV): 4-pin x 1	Audio/Video In/Out: Special AV mini jack (converts to Phono) x1, 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: 0.286 Vp-p (subcarrier burst), 75 Ω, unbalanced MIC In: Stereo mini jack x1 (XLR 3-pin x1, via adaptor) i.LINK (DV): 4-pin x1, IEEE1394
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 x1 External DC In: 8.4 V (AC-L10 AC Adaptor) Headphone: Stereo mini jack x1
<b>Supplied Accessories</b>			
	ECM-NV1 Monaural Microphone RMT-811 Remote Commander and R6 Batteries (2) MSA-4A IC Recording Media <b>Memory Stick</b> MSAC-US1 <b>Memory Stick</b> 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-US1 <b>Memory Stick</b> Reader/Writer Picture Gear 4.1 Lite, Stereo AV Cable Lens Hood, Hood Cap, Carrying Belt	Wide conversion Lens 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> <b>Memory Stick</b> /PC Card Adaptor XLR Adaptor, Special Stereo AV Cable Lens Hood, Lens Cap, i.LINK Cable, Carrying Belt

## Specifications (NTSC Models)

**DSR-2000/DSR-1800/DSR-1600/DSR-1500/DSR-85** Studio VTRs

	DSR-2000	DSR-1800	DSR-1600	DSR-1500	DSR-85
<b>General</b>					
Power requirements	AC 100 V to 240 V, 50/60 Hz				
Power consumption (Max.)	110 W	100 W	70 W	60 W	185 W
Operating temperature	5 °C to 40 °C (41 °F to 104 °F)				
Storage temperature	-20 °C to 60 °C (-4 °F to 140 °F)				
Operating humidity	Less than 80%				
Storage humidity	Less than 90%				
Tape speed	28.193 mm/s				
Recording/Playback time	Standard size: 184 min. with PDV-184ME/184N/184MEM Mini size: 40 min. with PDVM-40ME/40N/40MEM				
Fast forward/Rewind time	Standard size: Less than 3 min. with PDV-184ME/184N/184MEM Mini size: Less than 1 min. with PDVM-40ME/40N/40MEM				
Search speed	Shuttle mode: still to ±60 times normal speed Digital slow mode: ±1 times normal speed	Shuttle mode: still to ±60 times normal speed Digital slow mode: ±0.5 times normal speed			When controlling via RS-422A: 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	18 kg (39 lb 10 oz)	13 kg (28 lb 10 oz)	6 kg (13 lb 3 oz)	21 kg (46 lb 4 oz)	
Dimensions (W x H x D, excluding projections)	427 x 175 x 496.5 mm (16 7/8 x 7 x 19 5/8 inches)	427 x 174 x 400 mm (16 7/8 x 6 7/8 x 15 3/4 inches)	210 x 130 x 420 mm (8 3/8 x 5 1/8 x 16 5/8 inches)	427 x 174 x 494 mm (16 7/8 x 6 7/8 x 19 1/2 inches)	
<b>Video Performance</b>					
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 5.75 MHz +0/-3.0 dB (Typical measurement)
Chrominance	30 Hz to 1.5 MHz + 1.0/-5.0 dB				
S/N ratio (via analog component I/O)	More than 55 dB				
K-factor (K2T, KP8)	Less than 2.0%				
Y/C delay	Less than 30 ns				
<b>Audio Performance</b>					
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 ±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				
Distortion (THD+N)	Less than 0.05%				
<b>Video Signal Inputs</b>					
<b>Analog</b>					
Ref. Video (BNC x2, loop-through connection)	Composite, 1.0 Vp-p, 75 Ω, sync negative	0.286 Vp-p, 75 Ω, sync negative	—	Composite, 1.0 Vp-p, 75 Ω, sync negative	
Video (BNC x2, loop-through connection) **	Composite, 1.0 Vp-p, 75 Ω, sync negative		—	Composite, 1.0 Vp-p, 75 Ω, sync negative	
Component (BNC x3) **	1.0 Vp-p, 75 Ω, sync negative		—	1.0 Vp-p, 75 Ω, sync negative	
	R-Y: 0.7 Vp-p, 75 Ω (75 %)		—	0.7 Vp-p, 75 Ω (75 %)	
	B-Y: 0.7 Vp-p, 75 Ω (75 %)		—	0.7 Vp-p, 75 Ω (75 %)	
S-Video **	DIN 4-pin x1 Y: 1.0 Vp-p, 75 Ω, sync negative C: 0.286 Vp-p, 75 Ω (at burst level)		—	BNC x2 Y: 1.0 Vp-p, 75 Ω, sync negative C: 0.286 Vp-p, 75 Ω (at burst level)	DIN 4-pin x1 Y: 1.0 Vp-p, 75 Ω, sync negative C: 0.286 Vp-p, 75 Ω (at burst level)
<b>Digital</b>					
SDI **x3,x4	BNC x2, active-through connection Conforms to Serial Digital Interface (270 Mb/s), SMPTE 259M		—	BNC x1 Conforms to Serial Digital Interface (270 Mb/s), SMPTE 259M	BNC x2, active-through connection Conforms to Serial Digital Interface (270 Mb/s), SMPTE 259M
SDTI (OSDI) (BNC x1) **x5	Conforms to SDTI (270 Mb/s), SMPTE 305M/322M		—	Conforms to SDTI (270 Mb/s), SMPTE 305M/322M	Conforms to SDTI (270 Mb/s), SMPTE 305M/322M
i.LINK (DV) (6-pin x1) **x7,x8	IEEE1394		—	IEEE1394	—
<b>Audio Signal Inputs</b>					
<b>Analog</b>					
Audio **	XLR 3-pin female x4 -6/0/+4 dBu, 600 Ω on/off/-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
<b>Digital</b>					
AES/EBU **x9,x10	BNC x 2 75 Ω, unbalanced		—	BNC x2 75 Ω, unbalanced	XLR 3-pin female x2 110 Ω, balanced
<b>Video Signal Outputs</b>					
<b>Analog</b>					
Ref. Video (BNC x1)	0.286 Vp-p, 75 Ω, sync negative		—	0.286 Vp-p, 75 Ω, sync negative	
Video	Video 1/2/3(SUPER) BNC x3	Video 1/2(SUPER) BNC x2	Video 1/2/3 (SUPER) BNC x3	Video 1/2 (SUPER) BNC x2	
Component (BNC x3)	Composite, 1.0 Vp-p, 75 Ω, sync negative				
S-Video	Y: 1.0 Vp-p, 75 Ω, sync negative, R-Y: 0.7 Vp-p, 75 Ω (75 %), B-Y: 0.7 Vp-p, 75 Ω (75 %)		DIN 4-pin x1		
	DIN 4-pin x1		BNC x2		
	Y: 1.0 Vp-p, 75 Ω, sync negative C: 0.286 Vp-p, 75 Ω (at burst level)				
<b>Digital</b>					
SDI **x4,x10	BNC x3		BNC x2		
SDTI (OSDI) **x5,x11	Conforms to Serial Digital Interface (270 Mb/s), SMPTE 259M		Conforms to Serial Digital Interface (270 Mb/s), SMPTE 259M		
i.LINK (DV) (6-pin x1) **x7,x8	BNC x1		BNC x2		
	Conforms to SDTI (270 Mb/s), SMPTE 305M/322M		Conforms to SDTI (270 Mb/s), SMPTE 305M/322M		
	IEEE1394		IEEE1394		
<b>Audio Signal Outputs</b>					
<b>Analog</b>					
Audio	XLR 3-pin male x4 -6/0/+4 dBu (selectable by menu)		XLR 3-pin male x2		XLR 3-pin male x4 4 dBu, 600 Ω loading, low impedance, balanced
Monitor	Phono x1 -11 dBu, 47 kΩ, unbalanced (-18 dBFS)	RCA x1 -11 dBu, 47 kΩ, unbalanced (-20 dBFS)	ω, unbalanced (-20 dBFS)		Phono x1 -6 dBu, 47 kΩ, unbalanced
Headphone (JM-60 headphone jack x1)	∞ to -13 dBu, 8 Ω, unbalanced (-18 dBFS)		∞ to -13 dBu, 8 Ω, unbalanced (-20 dBFS)		-16 dBu, 8 Ω, unbalanced
<b>Digital</b>					
AES/EBU **x9,x10	BNC x 2 75 Ω, unbalanced		XLR 3-pin male x2 110 Ω, balanced		
<b>Time Code Input/Output</b>					
In (BNC x1) **12	0.5 Vp-p to 18 Vp-p, 3 kΩ, unbalanced				
Out (BNC x1) **12	2.2 Vp-p, 75 Ω, unbalanced				
<b>Remote</b>					
	RS-422A: D-sub 9-pin female x2 Video Control: D-sub 15-pin male x1 Control Panel: D-sub 15-pin female x1	RS-422A: D-sub 9-pin female x1 Video Control: D-sub 15-pin male x1 Control S (SIRCS): Stereo mini jack x1	RS-422A: D-sub 9-pin female x1 Control S (SIRCS): Stereo mini jack x1	RS-422A: D-sub 9-pin female x1 TBC Remote: D-sub 15-pin male x1 Control S (SIRCS): Stereo mini jack x1	
<b>Supplied Accessories</b>					
	AC Power Cord RCC-5G 9-pin Remote Control Cable Operating Instructions	AC Power Cord Operating Instructions		AC Power Cord RCC-5G 9-pin Remote Control Cable Operating Instructions, ClipLink Guide	

\*1: The optional DSBK-1504 is required for the DSR-1500.  
 \*2: The optional DSBK-120 is required for the DSR-85.  
 \*3: The optional DSBK-1801 is required for the DSR-1800.  
 \*4: The optional DSBK-1501 is required for the DSR-1500.

\*5: The optional DSBK-1802 is required for the DSR-1800.  
 \*6: The optional DSBK-190 is required for the DSR-2000.  
 \*7: The optional DSBK-1803 is required for the DSR-1800/1600.  
 \*8: The optional DSBK-1503 is required for the DSR-1500.

\*9: The optional DSBK-120 is required for the DSR-85.  
 \*10: The optional DSBK-1601 is required for the DSR-1600.  
 \*11: The optional DSBK-1602 is required for the DSR-1600.  
 \*12: The optional DSBK-130 is required for the DSR-85.

## Specifications (NTSC Models)

**DSR-40/DSR-30/DSR-20/DSR-11** Studio VTRs

	DSR-40	DSR-30	DSR-20	DSR-11
<b>General</b>				
System	NTSC			NTSC/PAL Switchable
Power requirements	AC 120V, 50/60 Hz		AC: 120V, 50/60 Hz DC: 12 V	DC: 12 V
Power consumption	40 W	32 W	AC: 28 W DC: 2.0 A (4.0 A PEAK)	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	28.193 mm/s		
	DV SP mode	18.812 mm/s		
Recording/ Playback time	Standard size	184 min. with PDV-184ME/184N/184MEM		
	Mini size	40 min. with PDVM-40ME/40N/40MEM		
Tape rewind time	Less than 2 min. with PDV-184ME/184N/184MEM			—
Search speed	When controlling via optional DSRM-20: Shuttle mode: $\pm 1/10$ , $1/5$ , $1$ , $2$ , approx. 10, approx. 14 times Jog mode: $\pm 1/10$ , $1/5$ , $1$ , $2$ times	Still, $\pm 1/5$ , $1$ , $2$ times, Cue/Review ( $\pm 10$ or 15 times)	When controlling via optional DSRM-20 or supplied RMT-DS20: Still, $\pm 1/5$ , $1$ , $2$ times, Cue/Review ( $\pm 10$ or 15 times)	When controlling via optional DSRM-20 or supplied RMT-DS11: Still, $\pm 1/5$ , $1$ , $2$ times, Cue/Review ( $\pm 10$ or 15 times)
Weight	Approx. 5.0 kg (11 lb)	Approx. 9.2 kg (20 lb 4 oz)	Approx. 5.0 kg (11 lb)	Approx. 2.8 kg (6 lb 2 oz)
Dimensions (W x H x D, including projections)	212 x 98 x 392 mm (8 3/8 x 3 7/8 x 15 1/2 inches)	430 x 129 x 374 mm (17 x 5 1/8 x 14 3/4 inches)	212 x 98 x 392 mm (8 3/8 x 3 7/8 x 15 1/2 inches)	180 x 73 x 265 mm (7 1/8 x 2 7/8 x 10 1/2 inches)
<b>Video Signal Inputs</b>				
Rec mode	DVCAM			DVCAM/DV (SP mode only)
PB mode	DVCAM/DV (SP mode only)			
Ref. Video (BNC x1)	Black burst: 75 $\Omega$ , sync negative	—		
Video (DSR-40/20: BNC x1)* (DSR-30: BNC x1, Phono jack x1) (DSR-11: Phono jack x1)	Composite, 1.0 Vp-p, 75 $\Omega$ , sync negative			
S-Video (DSR-40/20/11: Mini DIN 4-pin x1) (DSR-30: Mini DIN 4-pin x2, front x1/rear x1)	Y: 1.0 Vp-p, 75 $\Omega$ , sync negative C: 0.286 Vp-p (subcarrier burst), 75 $\Omega$			
<b>Audio Signal Inputs</b>				
Audio (DSR-40/20/11: Phono jack x2/stereo L/R) (DSR-30: Phono jack x2/ stereo L/R, front x1/rear x1)	2 Vrms (full bit)			
<b>Video Signal Outputs</b>				
Video (DSR-40/20: BNC x1) (DSR-30: BNC x2, Phono jack x1) (DSR-11: Phono jack x1)	Composite, 1.0 Vp-p, 75 $\Omega$ , sync negative			
S-Video (DSR-40/20/11: Mini DIN 4-pin x1) (DSR-30: Mini DIN 4-pin x2)	Y: 1.0 Vp-p, 75 $\Omega$ , sync negative C: 0.286 Vp-p (subcarrier burst), 75 $\Omega$			
Component (BNC x3)	Y: 1.0 Vp-p, 75 $\Omega$ , sync negative R-Y/B-Y: 0.7 Vp-p (with 75 % color burst)	—		
Monitor (BNC x1)	Composite, 1.0 Vp-p, 75 $\Omega$ , sync negative	—	Composite, 1.0 Vp-p, 75 $\Omega$ , sync negative	—
<b>Audio Signal Outputs</b>				
Audio (DSR-40: XLR 3-pin male x2, stereo L/R) (DSR-30/20: RCA pin x1, stereo L/R) (DSR-11: RCA pin x2/stereo L/R)	4 dBu, balanced	2 Vrms (full bit)		
Monitor (RCA pin x2, stereo L/R)	2 Vrms (full bit)	—	2 Vrms (full bit)	—
<b>Digital Input/Output</b>				
i.LINK (DV) (4-pin x1)	IEEE1394			
<b>Others</b>				
	RS-422A: D-sub 9-pin female x1 Control S (SIRCS) In: Stereo mini jack x1 Headphone: Stereo mini jack x1	LANC: Stereo mini-mini jack x2 (front x1/rear x1)* <sup>2</sup> Control S (SIRCS) In: Mini jack x1 Control S (SIRCS) Out: Mini jack x1 Trigger In: RCA pin x1 (active short) Headphone: Stereo mini jack x1 MIC In: Mini jack x1	LANC: Stereo mini-mini jack x1 RS-232C: D-sub 9-pin male x1 Control S (SIRCS) In: Stereo mini jack x1 Control S (SIRCS) Out: Stereo mini jack x1 DC In (12 V): Canon 4-pin x1 Headphone: Stereo mini jack x1	LANC: Stereo mini-mini jack Control S: Stereo mini jack
<b>Supplied Accessories</b>				
	AC Power Cord Cleaning Cassette Operating Instructions	RMT-DS30 Wireless Remote Controller Size AA (R6) Batteries for Remote (2) AC Power Cord LANC Cable Cleaning Cassette Operating Instructions	RMT-DS20 Wireless Remote Controller Size AA (R6) Batteries for Remote (2) AC Power Cord Cleaning Cassette Operating Instructions RS-232C Protocol Manual	RMT-DS11 Wireless Remote Commander Size AA (R6) Batteries for Remote (2) AC Adaptor, Power Cord Rack Cleaning Cassette Operation Manual

## Specifications (NTSC Models)

**DSR-70A** Portable Editing Recorder

General		Video Signal Outputs	
Power requirements	DC 12 V	<b>Analog</b>	
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 R-Y: 0.7 Vp-p, 75 Ω (75%) B-Y: 0.7 Vp-p, 75 Ω (75%)
Operating humidity	Less than 80%	S-Video (DIN 4-pin x1)	Y: 1.0 Vp-p, 75 Ω, sync negative C: 0.286 Vp-p, 75 Ω (at burst level)
Storage humidity	Less than 90%	<b>Digital</b>	
Tape speed	28.193 mm/s	SDI (BNC x2)*2	Conforms to Serial Digital Interface (270 Mb/s), SMPTE 259M
Recording/Playback time	Standard size: 184 min. with PDV-184ME/184N/184MEM Mini size: 40 min. with PDVM-40ME/40N/40MEM	SDTI (QSDI) (BNC x1)*3	Conforms to SDTI (270 Mb/s), SMPTE 305M/322M
Fast forward/Rewind time	Standard size: Less than 3 min. with PDV-184ME/184N/184MEM Mini size: Less than 1 min. with PDVM-40ME/40N/40MEM	i.LINK (DV) (6-pin x1)*4	IEEE1394
Search speed	x ±32	<b>Audio Signal Outputs</b>	
Weight	5.8 kg (12 lb 12 oz)	<b>Analog</b>	
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) (XLR 3-pin male x2)	+4/0/-6 dBu (selectable by menu)
<b>Video Signal Inputs</b>		Monitor (R/L) (Phono x1)	-6 dBu, 47 kΩ, unbalanced
<b>Analog</b>		Headphone (JM-60 headphone jack x1)	∞ to -20 dBu, 8 Ω, unbalanced
Ref. Video (BNC x2, loop-through connection)	0.286 Vp-p, 75 Ω, sync negative	<b>Time Code Input/Output</b>	
Video (BNC x2, loop-through connection)	Composite, 1.0 Vp-p, 75 Ω, 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 (75%) B-Y: 0.7 Vp-p, 75 Ω (75%)	Time Code Out (BNC x1)	2.2 Vp-p ±3.0 dB, 600Ω, unbalanced
S-Video (DIN 4-pin x1)	Y: 1.0 Vp-p, 75 Ω, sync negative C: 0.286 Vp-p, 75 Ω (at burst level)	<b>LCD</b>	
<b>Digital</b>		LCD display (x1)	6.4-inch VGA, 640 (H) x 480 (V)
SDI (BNC x1)*2	Conforms to Serial Digital Interface (270 Mb/s), SMPTE 259M	<b>Speaker</b>	
SDTI (QSDI) (BNC x1)*3	Conforms to SDTI (270 Mb/s), SMPTE 305M/322M	Built-in speaker (x1)	Monaural
i.LINK (DV) (6-pin x1)*4	IEEE1394	<b>Remote</b>	
<b>Audio Signal Inputs</b>			RS-422A: D-sub 9-pin female x1
<b>Analog</b>		<b>Other</b>	
Audio (CH-1,2) (XLR 3-pin female x2)	+4/0/-60 dBu, high impedance, balanced		DC 12 V In: XLR 4-pin male x1
		<b>Supplied Accessories</b>	
		Carrying Belt Connector Cap (per interface) Operating Instructions 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-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-50** Portable Recorder

General		Audio IN	
System	NTSC	XLR 3-pin (female) (+4 dBu/-20 dBu/-60 dBu) x 4, impedance more than 3 kΩ with +48 V power supply (independently switched for each channel)	
DC input	XLR 4-pin (male), +12 V	Camera IN	26-pin camera connector
Power consumption	15 W	Composite	1.0 Vp-p, 75 Ω, Sync negative
Operating temperature	5 °C to 40 °C (41 °F to 104 °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
Storage temperature	-20 °C to 60 °C (-4 °F to 140 °F)	Reference IN	BNC, Black Burst 75 Ω, Sync negative (use Video IN)
Tape speed	Approx. 28.2 mm/s (DVCAM mode), Approx. 18.8 mm/s (DV SP mode)	Video OUT 1 (Monitor) Composite	BNC, 1.0 Vp-p, 75 Ω, Sync negative Superimpose On/Off
Recording/Playback time	184 minutes (DVCAM mode), 270 minutes (DV SP mode), with PDV-184ME cassette 40 minutes (DVCAM mode), 60 minutes (DV SP mode), with PDVM-40ME cassette	Video OUT 2 Composite	BNC, 1.0 Vp-p, 75 Ω, Sync negative
Weight	3.9 kg (8 lb 9 oz), excluding battery and tape	S (4-pin mini DIN)	Y: 1.0 Vp-p, 75 Ω, Sync negative C: 0.286 Vp-p (subcarrier burst) 75 Ω
Dimensions (W x H x D)	247 x 92.5 x 311 mm (9 3/4 x 3 3/4 x 12 1/4 inches), excluding projections 279 x 99 x 315 mm (11 x 4 x 12 1/2 inches), including projections	Component OUT	BNC x 3 Y: 1.0 Vp-p, 75 Ω, Sync negative B-Y/R-Y: 0.7 Vp-p, 75 Ω
<b>Video</b>		Audio OUT	RCA pin x 4, -10 dBu Standard output level -20 dB from full bit
Rec mode	DVCAM/DV (SP mode only)	Audio OUT (Monitor)	RCA pin
PB mode	DVCAM/DV (SP mode only)	DV IN/OUT	6-pin (with lock)
<b>Audio</b>		Timecode IN	BNC, 0.5 to 18 Vp-p, 10 kΩ
Rec mode	48.0 kHz/16-bit (2CH)/ 32.0 kHz/12-bit (4CH)/automatic (DV IN)	Timecode OUT	BNC, 2.2 Vp-p, 600 Ω/1.2 Vp-p, 75 Ω
PB 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)	Control S	Stereo mini jack
<b>Input/Output Terminals</b>		Remote	Stereo mini jack (Edge High/Edge Low/Level High/Level Low) (Tally)
Video IN Composite	1.0 Vp-p, 75 Ω, Sync negative	Control	Stereo mini-mini jack (compatible with LANC as a player)
S (4-pin mini DIN)	Y: 1.0 Vp-p, 75 Ω, Sync negative C: 0.286 Vp-p (subcarrier burst) 75 Ω	Headphone jack (left side)	Stereo standard jack, -19 dBu, with Level Control
		<b>Other</b>	
		Color LCD monitor	2.5-inch, 200,000 dots
		Supplied accessories	LCD Protection Cover, Cleaning Cassette



## Specifications (NTSC Models)

### DSR-V10 DV CAM 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 Playback: 48 kHz/16-bit, 32 kHz/12-bit, 44.1 kHz/16-bit
Power consumption	11.5 W (LCD on)	Audio inputs/outputs (Phono jack x1/stereo L/R) (RCA pin x2)	-7.5 dBs (0 dBu=0.775 Vrms)
Operating temperature	0 °C to 40 °C (32 °F to 104 °F)	<b>Others</b>	
Storage temperature	-20 °C to 60 °C (-4 °F to 140 °F)	i.LINK (DV): 4-pin x1, IEEE1394 LANC: Stereo mini-mini jack x1 Headphone: Stereo mini jack x1 Multi connector: 20-pin x1	
Tape speed	28.193 mm/s	<b>Supplied Accessories</b>	
Weight	970 g (2 lb 2 oz) (without battery and tape)	AC-V700 AC Adaptor/Charger DK-415 DK Cable Carrying belt Operating Instructions	
Dimensions (W x H x D)	148 x 62 x 135 mm (5 7/8 x 2 1/2 x 5 3/8 inches)		
LCD screen	5.5-inch		
Video			
Video signal	EIA standard, NTSC color		
Video inputs/outputs Video (RCA pin x1) S-Video (Mini DIN 4-pin x1)	Composite, 1.0 Vp-p, 75 Ω, unbalanced, sync negative Y: 1.0 Vp-p, 75 Ω, unbalanced, sync negative C: 0.286 Vp-p (subcarrier burst), 75 Ω, unbalanced		

DSRM-E1 (Edit Adapter for DSR-V10)		Connectors	
<b>General</b>			
Power requirements	DC 7.2 V (supplied from DSR-V10), DC 8.4 V (with AC Adaptor)	Multi connector: 20-pin x1 Control unit: Mini DIN 8-pin x1 LANC: Stereo mini-mini jack x1	
Power consumption	Approx. 1.8 W	<b>Monitor Output</b>	
Operating temperature	0 °C to 40 °C (32 °F to 104 °F)	Video output (RCA pin x1)	Composite, 1.0 Vp-p, 75 Ω, unbalanced, sync negative
Storage temperature	-20 °C to 60 °C (-4 °F to 140 °F)	Audio output (Phono jack x1/stereo L/R)	0.327 V, impedance 470 Ω or less
Weight	Main unit: 160 g (5.6 oz) Controller: 340 g (12 oz)		
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)		

CVX-V1 / CVX-V3 / CVX-V18N (Color Video Cameras for DSR-V10)		Focal length	
<b>General</b>		CVX-V1: f=3.9 mm (35 mm conversion: 38 mm) CVX-V3: f=3.5 mm to 10.5 mm (35 mm conversion: 35 mm to 105 mm) CVX-V18NS: f=4.1 mm to 73.8 mm (35 mm conversion: 41 mm to 738 mm)	
Power requirements	DC 7.2 V (with battery), DC 8.4 V (with AC adaptor)	Minimum illumination	CVX-V1: 2 lx CVX-V3: 5 lx CVX-V18NS: 0.7 lx
Power consumption	CVX-V1/V3: 1.8 W CVX-V18NS: 2.2 W	Gain selection	CVX-V1: Auto/Hold CVX-V3: Auto
Operating temperature	0 °C to 40 °C (32 °F to 104 °F)	White balance	CVX-V1: Auto/Hold CVX-V3: Auto
Storage temperature	-20 °C to 60 °C (-4 °F to 140 °F)	Shutter speed	CVX-V1: Auto, 1/60, 1/100, 1/250, 1/500, 1/2000, 1/10000 CVX-V18NS: Auto, 1/4, 1/8, 1/15, 1/30, 1/60, 1/90, 1/100, 1/125, 1/180, 1/250, 1/350, 1/500, 1/725, 1/1000, 1/1500, 1/2000, 1/3000, 1/4000, 1/6000, 1/10000
Weight	Camera head CCU (without battery)	Night shot (CVX-18NSP only)	IR light effective distance: 20 m (with slow shutter on), 5 m (without slow shutter)
Dimensions (W x H x D)	Camera head	<b>Others (on CCU)</b>	
	CCU	External MIC In: Stereo mini-mini jack x1 Multi connector: 20-pin x1 Camera cable connector: 12-pin x1 (CVX-V18N only) Battery connector	
<b>Camera</b>		<b>Supplied Accessories</b>	
Image device	1/4-inch Interline-Transfer CCD	Video Walkman Attachment Unit Operating Instructions	
Effective picture elements	CVX-V1/V3: 380,000 pixels CVX-V18NS: 300,000 pixels		
Total picture elements	CVX-V1/V3: 410,000 pixels CVX-V18NS: 470,000 pixels		
Lens	CVX-V1: F1.8 CVX-V3: F2.8 to 4 CVX-V18NS: F1.4		

## Flexicart Multi-cassette System

General	
Power requirements	AC 100/120/220/230/240 V, 50/60 Hz
Power consumption	600 VA
Operating temperature	5 °C to 35 °C (4 °F to 95 °F)
Operating humidity	25% to 80% (non-condensing)
Weight	Approx. 250 kg (551 lb 2.5 oz) (without VTRs, cassette bin units and tapes)
Dimensions (W x H x D)	600 x 1980 x 1090 mm (23 5/8 x 78 x 43 inches)
Connections	
Ref. Video In (BNC): Black burst or composite video Time code In: (BNC) Remote control interfaces: REMOTE1: RS-422A D-sub 9-pin REMOTE2: RS-232C D-sub 25-pin Parallel interface: D-sub 50-pin	
Supplied Accessories	
AC Power Cord Operation Manual Maintenance Manual Installation Manual	

## Specifications (PAL Models)

## DSR-500WSP/DSR-300AP/DXC-D35P/D35WSP+DSR-1P Camcorders

## DSR-1P Dockable Recorder

	DSR-500WSP	DSR-300AP	DXC-D35P/D35WSP+DSR-1P	DSR-1P
<b>General</b>				
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)	23.1 W (with VF), 21 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)
Tape speed	28.221 mm/s			28.221 mm/s
Recording/Playback time	184 min.			184 min.
Standard size	40 min.			40 min.
Mini size	Approx. 12 min.			Approx. 12 min.
Fast forward/Rewind time	Approx. 3 min.			Approx. 3 min.
Standard size	Approx. 75 min with BP-L40A			Approx. 75 min with BP-L40A
Mini size	Approx. 3 min.			Approx. 3 min.
Continuous recording time	Approx. 60 min. with BP-L40A Approx. 130 min. with BP-L60A Approx. 220 min. with BP-L90A	Approx. 80 min. with BP-L40A Approx. 180 min. with BP-L60A Approx. 290 min. with BP-L90A	Approx. 75 min with BP-L40A	Approx. 75 min. with BP-L40A (DSR-1P + DXC-D35P)
Weight	6.3 kg (13 lb 14 oz) (with VF, microphone, lens, battery and tape)	6.0 kg (13 lb 4 oz) (with VF, microphone, lens, battery and tape)	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)	3.1 kg (6 lb 13 oz) (with battery)
Dimensions (W x H x D)	121 x 192 x 280 mm (4 7/8 x 7 5/8 x 11 1/8 inches) (without projections) 242 x 247 x 547 mm (9 5/8 x 9 3/4 x 21 5/8 inches) (with projections)	121 x 192 x 270 mm (4 7/8 x 7 5/8 x 10 3/4 inches) (without projections) 242 x 247 x 536 mm (9 5/8 x 9 3/4 x 21 1/8 inches) (with projections)	121 x 206 x 344 mm (4 7/8 x 8 1/8 x 13 5/8 inches)	118 x 185 x 185 mm (4 3/4 x 7 3/8 x 7 3/8 inches)
<b>Camera Section</b>				
Image device	3-chip 2/3-type, Interline-Transfer CCD		3-chip 2/3-type, Interline-Transfer CCD	3-chip 2/3-type, Interline-Transfer CCD
Optics	F1.4 medium index prism system			
Effective picture elements	980 (H) x 582 (V)		D35P: 752 (H) x 582 (V), D35WSP: 980 (H) x 582 (V)	
Total picture elements	1038 (H) x 594 (V)		D35P: 795 (H) x 596 (V), D35WSP: 1038 (H) x 594 (V)	
Sensing area	9.6 mm x 5.4 mm		D35P: 8.8 mm x 6.6 mm, D35WSP: 9.6 mm x 5.4 mm	
Built-in filters	1: 3200 K 3: 5600 K	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
Lens mount	Sony 2/3-type bayonet mount		Sony 2/3-type bayonet mount	
Signal system	PAL color system			
Scanning system	2:1 interlaced, 625 lines, 50 fields/s			
Horizontal frequency	15.625 kHz			
Vertical frequency	50 Hz			
Sync system	Internal and external with VBS or BS signal			
Horizontal resolution	16:9 mode: 800 TV lines 4:3 mode: 850 TV lines	800 TV lines		D35P: 880 TV lines, D35WSP: 850 TV lines (4:3 mode), 800 TV lines (16:9 mode)
Vertical resolution	480 TV lines (without EVS), 530 TV lines (with EVS)			
Minimum illumination	0.25 lx with F1.4, Hyper gain (36 dB+DPR) 0.4 lx with F1.8, Hyper gain (36 dB+DPR)	0.5 lx with F1.4, Hyper gain (30 dB+DPR)** 0.8 lx with F1.8, Hyper gain (30 dB+DPR)**		0.25 lx with F1.4, Hyper gain (36 dB+DPR) 0.4 lx with F1.8, Hyper gain (36 dB+DPR)
Sensitivity	F11 at 2000 lx (3200 K, 89.9% reflectance) (typical)			
Gain selection	-3 dB, 0 dB, 3 dB, 6 dB, 9 dB, 12 dB, 18 dB, 18 dB+DPR, 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, 18 dB+DPR, 24 dB, 24 dB+DPR, Hyper gain (30 dB+DPR)**		-3 dB, 0 dB, 3 dB, 6 dB, 9 dB, 12 dB, 18 dB, 18 dB+DPR, 24 dB, 24 dB+DPR, Hyper gain (30 dB+DPR or 36 dB+DPR)
Shutter speed selection	OFF, 1/60, 1/250, 1/500, 1/1000, 1/2000 s			
S/N ratio	61 dB (typical)		60 dB (typical)	
Registration	0.05% (all zones, without lens)			
Geometric distortion	Below measurable level			
<b>VTR Section</b>				
Video performance**	Luminance: 25 Hz to 5.5 MHz +1.0/-2.0 dB Chrominance: 25 Hz to 2.0 MHz +1.0/-2.0 dB			Luminance: 25 Hz to 5.5 MHz +1.0/-2.0 dB 5.75 MHz +0/-3.0 dB (Typical measurement) Chrominance: 25 Hz to 2.0 MHz +1.0/-2.0 dB
Bandwidth	More than 55 dB			More than 55 dB
S/N ratio	Less than 2.0%			Less than 2.0%
K-factor (K2T, KPb)	Less than 30 ns			Less than 30 ns
Y/C delay	Less than 30 ns			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			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
Frequency response	More than 80 dB			More than 80 dB
Dynamic range	Less than 0.08% (1 kHz reference level, 48 kHz)			Less than 0.08%
Distortion (THD)	Less than 0.08% (1 kHz reference level, 48 kHz)			Less than 0.08%
<b>Input/Output Connectors</b>				
Signal inputs	Genlock Video In: BNC, 1.0 Vp-p, 75 Ω Analog Video In: BNC, 1.0 Vp-p, 75 Ω (with DSBK-501P optional board installed) Ext Audio CH-1/2: XLR 3-pin female x2 -60 dBu, 3 kΩ ±4 dBu, 10 kΩ MIC In: XLR 3-pin female -60 dBu, 3 kΩ ±4 dBu, 10 kΩ TC In: BNC, 0.5 Vp-p to 18 Vp-p, 10 kΩ	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 MIC In: XLR 3-pin female TC In: BNC, 0.5 Vp-p to 18 Vp-p, 10 kΩ	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	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 outputs	Video Out: BNC, 1.0 Vp-p, sync negative, 75 Ω 26-pin male VBS: 1.0 Vp-p, sync negative Y/R-Y/B-Y: Y: 1.0 Vp-p, sync negative R-Y/B-Y: 0.525 Vp-p Y/C: Y: 1.0 Vp-p, sync negative C: 0.3 Vp-p (burst level) S-Video: DIN 4-pin, 1.0 Vp-p, 75 Ω DV Out: 6-pin, IEEE1394 Audio CH-1/2: Phono, -10 dBu, 47 kΩ Monitor Out: BNC, 1.0 Vp-p, sync negative, 75 Ω TC Out: BNC, 1.0 Vp-p, 75 Ω	Video Out: BNC, 1.0 Vp-p, sync negative, 75 Ω 26-pin male VBS: 1.0 Vp-p, sync negative Y/R-Y/B-Y: Y: 1.0 Vp-p, sync negative R-Y/B-Y: 0.525 Vp-p Y/C: Y: 1.0 Vp-p, sync negative C: 0.3 Vp-p (burst level) S-Video: DIN 4-pin, 1.0 Vp-p, 75 Ω DV Out: 6-pin, IEEE1394 Audio CH-1/2: Phono, -10 dBu, 47 kΩ Monitor Out: BNC, 1.0 Vp-p, sync negative, 75 Ω TC Out: BNC, 1.0 Vp-p, 75 Ω	Camera head BNC connector: VBS: 1.0 Vp-p, sync negative 26-pin connector of CA-537P docked to DXC-D35P: VBS: 1.0 Vp-p, sync negative Y/R-Y/B-Y: Y: 1.0 Vp-p, sync negative, R-Y/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 DV Out: 6-pin, IEEE1394 S-Video: DIN 4-pin Y: 1.0 Vp-p, sync negative 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	Video Out: BNC, 1.0 Vp-p, sync negative, 75 Ω S-Video: 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 TC Out: BNC, 1.0 Vp-p, 75 Ω
Others	DC In: XLR 4-pin male DC Out: XLR 4-pin female Battery Terminal: 5-pin Earphone: Mini jack Light Out: 2-pin female WFR Out: 7-pin Lens: 12-pin VF: 20-pin Remote1: Stereo mini jack, Remote2: 10-pin	DC In: XLR 4-pin male DC Out: XLR 4-pin female Battery Terminal: 5-pin Earphone: Mini jack Light Out: 2-pin female WFR Out: 7-pin Lens: 12-pin VF: 20-pin Remote1: Stereo mini jack, Remote2: 10-pin	DC In: XLR 4-pin male DC Out: XLR 4-pin female Earphone: Mini jack Lens: 12-pin VF: 8-pin, 20-pin Remote1: Stereo mini jack Remote2: 10-pin	Analogue Interface: Pro 50-pin Digital Interface: Pro 76-pin Digital DC In: XLR 4-pin male DC Out: XLR 4-pin female Earphone: Stereo Mini jack
<b>Supplied Accessories</b>				
	1.5-inch B/W Viewfinder (DXF-801) Microphone with Wind Screen Tripod Adaptor VCT-U14 Remote Control Unit (RM-LG1) Shoulder Strap, Lens Mount Cap Flange Focal Length Adjustment Test Chart Switch Guard, Binding Tie Operating Instructions		1.5-inch B/W Viewfinder (DXF-801) 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	
	Shoulder Strap Connector Cap Lithium Battery (type CR2032) M4 x6 Screws (2) M4 x12 Screws (2) Operating Instructions Clip/Link 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 the DSR-85P (via analog component out) that had been recorded on the DSR-500WSP.

## Specifications (PAL Models)

**DSR-250P/DSR-PD150P/DSR-PD100AP** Camcorders

	DSR-250P	DSR-PD150P	DSR-PD100AP
<b>General</b>			
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 VF), 12.1 W ( with VF and LCD)	4.7 W (with VF), 5.4 W (with LCD)	4.3 W (with VF), 5.3 W (with LCD)
Operating temperature	0 °C to 40 °C (32 °F to 104 °F)		
Storage temperature	-20 °C to 60 °C (-4 °F to 140 °F)		
Tape speed	Approx. 28.2 mm/s (DVCAM mode) Approx. 18.8 mm/s (DV SP mode)		28.2 mm/s
Recording/Playback time	184 minutes (DVCAM mode), 270 minutes (DV SP mode with PDV-184ME) cassette, 40 minutes (DVCAM mode) 60 minutes (DV SP mode with PDVVM-40ME)	40 minutes (DVCAM mode) 60 minutes (DV SP mode, with PDVVM-40ME)	40 min. with PDVVM-40ME/40N/40MEM
Weight	Approx. 4.4 kg (9 lb 11 oz)	(camcorder only) Approx. 1.5 kg (3 lb 5 oz)	Approx. 1.28 kg (2 lb 13 oz) (with XLR adaptor, lens, lens hood, battery and tape)
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)	128 x 180 x 405 mm (5 1/8 x 7 1/8 x 16 inches) including microphone	93 x 112 x 193.5 mm (3 3/4 x 4 1/2 x 7 5/8 inches)
<b>Lens</b>			
Zoom	12:1 Variable Speed (1.2-22 s) zoom lens F =6.0 to 72.0 mm; F1.6 to 2.4		12:1 Variable speed (1.83 to 26.5 s) zoom lens F=4.3 to 51.6 mm; F1.6 to 2.8
Filter diameter	58 mm (2 3/8 inches)		52 mm (2 1/8 inches)
Focus	Auto/Manual (ring)/Infinity/One push auto		Auto/Manual (ring)/Infinity
<b>Camera</b>			
Image device	Three 1/3-type CCDs, 450,000 pixels		Three 1/4-type CCDs, 450,000 pixels
Signal system	CCIR Standard, PAL color system		
Scanning system	Progressive/Interlace Scan		
Horizontal resolution	530 TV lines		500 TV lines
Minimum illumination	2 lx		4 lx
Gain selection	—		—
Shutter speed selection	1/3, 1/6, 1/12, 1/25, 1/50, 1/60, 1/100, 1/120, 1/150, 1/215, 1/300, 1/425, 1/600, 1/1000, 1/1250, 1/1750, 1/2500, 1/3500, 1/6000, 1/10000 s		1/3 to 1/10000 s
Exposure	Auto/Manual (Exposure ring)	Auto/Manual (Exposure dial)	Auto/Manual (Exposure dial, Program AE)
White balance	Auto/One-push/Out door (5800 K)/Indoor (3200 K)		Auto/One-push/Outdoor/Indoor
Viewfinder	1.5-inch black and white CRT, Zebra Pattern	180,000 dot Black & White LCD, Zebra Pattern	180,000 dot color LCD, Zebra Pattern
Built-in microphone	Electret condenser microphone		Stereo electret condenser microphone
Built-in speaker	Dynamic speaker		Dynamic speaker
LCD	TFT Active Matrix 2.5-inch 200,640 dots (880 x 228)		TFT Active Matrix, 3.5-inch 184,580 pixels (839 x 220)
Memory card slot	<b>Memory Stick</b> Recording signals: Camera signals, VTR signals Image size: VGA (640 x 480) Image compression: JPEG		PC Card Standard ATA specifications Type II Power requirements: 3.3/5 V Capacity: 2 MB to 64 MB (when formatted by DSR-PD100AP) Recording signals: Camera signal, VTR signal Image size: VGA (640 x 480) Image compression: JPEG
<b>Input/Output Connectors</b>			
Signal inputs/outputs	Video IN/OUT: RCA pin x 1, Luminance signal:1 Vp-p, 75 Ω, unbalanced, sync negative Video OUT: BNC pin x 1, Luminance signal:1 Vp-p, 75Ω, unbalanced, sync negative Audio IN/OUT: RCA pin x 2,245 m Output impedance with less than 2.2 kΩ Input impedance with more than 47 kΩ S-Video IN/OUT: Mini-DIN 4 pin x 1 Luminance signal:1 Vp-p, 75 Ω, unbalanced, Chrominance signal: 0.3 Vp-p (PAL) Audio IN: XLR 3-pin(female) x 3, -60 dBu, 6.8 kΩ, +4 dBu, 6.8 kΩ (0 dBu = 0.775 V rms) i.LINK (DV): 6 pin (with lock) x 1	Video IN/OUT: RCA pin x 1 Luminance signal: 1 Vp-p, 75 Ω, unbalanced, sync negative Audio IN/OUT: RCA pin x 2, 327 mV Output impedance with less than 2.2 kΩ Input impedance with more than 47 kΩ S-Video IN/OUT: Mini-DIN 4 pin x 1 Luminance signal: 1 Vp-p, 75 Ω, unbalanced Chrominance signal: 0.3 Vp-p Audio IN: XLR 3-pin female x 2, -60 dBu, 3 kΩ, +4 dBu, 10 kΩ (0 dBu = 0.775 V rms) i.LINK (DV): 4-pin x 1 LANC: Stereo 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	Audio/Video In/Out: Special AV mini jack (converts to Phono) x1, 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 (XLR 3-pin x1, via adaptor) i.LINK (DV): 4-pin x1, IEEE1394
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 x1 External DC In: 8.4 V (AC-L10 AC Adaptor) Headphone: Stereo mini jack x1
<b>Supplied Accessories</b>			
	ECM-NV1 Monaural Microphone RMT-811 Remote Commander and R6 Batteries (2) MSA-4A IC Recording Media <b>Memory Stick</b> MSAC-US1 <b>Memory Stick</b> Reader/Writer Picture Gear 4.1 Lens Hood Lite 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-US1 <b>Memory Stick</b> Reader/Writer Picture Gear 4.1 Lite Stereo AV Cable, Lens Hood Hood Cap, Carrying Belt	Wide conversion Lens 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> <b>Memory Stick</b> /PC Card Adaptor XLR Adaptor Special Stereo AV Cable, Lens Hood, Lens Cap, Carrying Belt i.LINK Cable

## Specifications (PAL Models)

**DSR-2000P/DSR-1800P/DSR-1600P/DSR-1500P/DSR-85P** Studio VTRs

	DSR-2000P	DSR-1800P	DSR-1600P	DSR-1500P	DSR-85P
<b>General</b>					
Power requirements	AC 100 V to 240 V, 50/60 Hz				
Power consumption (Max.)	110 W	100 W	70 W	60 W	185 W
Operating temperature	5 °C to 40 °C (41 °F to 104 °F)				
Storage temperature	-20 °C to 60 °C (-4 °F to 140 °F)				
Operating humidity	Less than 80%				
Storage humidity	Less than 90%				
Tape speed	28.221 mm/s				
Recording/Playback time	Standard size: 184 min. with PDV-184ME/184N/184MEM Mini size: 40 min. with PDVM-40ME/40N/40MEM				
Fast forward/Rewind time	Standard size: Less than 3 min. with PDV-184ME/184N/184MEM Mini size: Less than 1 min. with PDVM-40ME/40N/40MEM				
Search speed	Shuttle mode: still to ±60 times normal speed Digital slow mode: ±1 times normal speed	Shuttle mode: still to ±60 times normal speed Digital slow mode: ±0.5 times normal speed			When controlling via RS-422A: 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	18 kg (39 lb 10 oz)	13 kg (28 lb 10 oz)	6 kg (13 lb 3 oz)	21 kg (46 lb 4 oz)	
Dimensions (W x H x D, excluding projections)	427 x 175 x 496.5 mm (16 7/8 x 7 x 19 5/8 inches)	427 x 174 x 400 mm (16 7/8 x 6 7/8 x 15 3/4 inches)	210 x 130 x 420 mm (8 3/8 x 5 1/8 x 16 5/8 inches)	427 x 174 x 494 mm (16 7/8 x 6 7/8 x 19 1/2 inches)	
<b>Video Performance</b>					
Bandwidth Luminance (via analog component I/O)	25 Hz to 5.0 MHz +1.0/-2.0 dB 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 +1.0/-2.0 dB 5.75 MHz +0/-3.0 dB (Typical measurement)
Chrominance	25 Hz to 2.0 MHz + 1.0/-2.0 dB				
S/N ratio (via analog component I/O)	More than 55 dB				
K-factor (K2T, KPb)	Less than 2.0%				
Y/C delay	Less than 30 ns				
<b>Audio Performance</b>					
Frequency response	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	
2 CH mode (48 kHz/16-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	
4 CH mode (32 kHz/12-bit)	More than 90 dB		More than 87 dB	More than 85 dB	
Dynamic range	Less than 0.05%		Less than 0.07%	Less than 0.05%	
Distortion (THD+N)					
<b>Video Signal Inputs</b>					
<b>Analog</b>					
Ref. Video (BNC x2, loop-through connection)	Composite, 1.0 Vp-p, 75 Ω, sync negative		—	Composite, 1.0 Vp-p, 75 Ω, sync negative	
Video (BNC x2, loop-through connection)*	Composite, 1.0 Vp-p, 75 Ω, sync negative		—	Composite, 1.0 Vp-p, 75 Ω, sync negative	
Component Y	1.0 Vp-p, 75 Ω, sync negative		—	1.0 Vp-p, 75 Ω, sync negative	
(BNC x3) **	R-Y: 0.7 Vp-p, 75 Ω (100 %)		—	0.7 Vp-p, 75 Ω (100 %)	
	B-Y: 0.7 Vp-p, 75 Ω (100 %)		—	0.7 Vp-p, 75 Ω (100 %)	
S-Video **	DIN 4-pin x 1 Y: 1.0 Vp-p, 75 Ω, sync negative C: 0.3 Vp-p, 75 Ω (at burst level)		—	BNC x 2 Y: 1.0 Vp-p, 75 Ω, sync negative C: 0.3 Vp-p, 75 Ω (at burst level)	
<b>Digital</b>					
SDI **,*1,*2	BNC x 2, active-through connection Conforms to Serial Digital Interface (270 Mb/s), ITU-R BT.656		—	BNC x 1 Conforms to Serial Digital Interface (270 Mb/s), ITU-R BT.656	
SDTI (QSDI) (BNC x1) **,*3	Conforms to SDTI (270 Mb/s), SMPTE 305M/322M		—	Conforms to SDTI (270 Mb/s), SMPTE 305M/322M	
iLINK (DV) (6-pin x1) **,*4,*5	IEEE1394		—	IEEE1394	
<b>Audio Signal Inputs</b>					
<b>Analog</b>					
Audio **	XLR 3-pin female x4 -6/0/+4 dBu, 600 Ω on/off/ -60 dBu, high impedance		—	XLR 3-pin female x2 -6/-3/0/+4 dBu, 600 Ω on/off/ -60 dBu, high impedance	
<b>Digital</b>					
AES/EBU **,*6	BNC x 2 75 Ω, unbalanced		—	BNC x 2 75 Ω, unbalanced	
<b>Video Signal Outputs</b>					
<b>Analog</b>					
Ref. Video (BNC x1)	0.3 Vp-p, 75 Ω, sync negative		—	0.3 Vp-p, 75 Ω, sync negative	
Video	Video 1/2/3 (super) BNC x 3	Video 1/2(super) BNC x 2	Video 1/2/3 (super) BNC x 3	Video 1/2 (super) BNC x 2	
Component (BNC x3)	Composite, 1.0 Vp-p, 75 Ω, sync negative Y: 1.0 Vp-p, 75 Ω, sync negative R-Y: 0.7 Vp-p, 75 Ω (100%) B-Y: 0.7 Vp-p, 75 Ω (100%)				
S-Video	DIN 4-pin x 1		BNC x 2	DIN 4-pin x 1	
	Y: 1.0 Vp-p, 75 Ω, sync negative C: 0.3 Vp-p, 75 Ω (at burst level)				
<b>Digital</b>					
SDI **,*7,*8,*9	BNC x 3		BNC x 2		
	Conforms to Serial Digital Interface (270 Mb/s), ITU-R BT.656				
SDTI (QSDI) **,*10,*11	BNC x 1		BNC x 2		BNC x 1
	Conforms to SDTI (270 Mb/s), SMPTE 305M/322M				
iLINK (DV) (6-pin x1) **,*12,*13	IEEE1394		—		
<b>Audio Signal Outputs</b>					
<b>Analog</b>					
Audio	XLR 3-pin male x4 -6/0/+4 dBu (selectable by menu)		XLR 3-pin male x2 -6/-3/0/+4 dBu (selectable by menu)		XLR 3-pin male x4 4 dBu, 600 Ω loading, low impedance, balanced
Monitor	Phono x 1 -11 dBu, 47 kΩ, unbalanced (-18 dBFS)		RCA x 1 -9 dBu, 47 kΩ, unbalanced (-18 dBFS)		Phono x 1 -6 dBu, 47 kΩ, unbalanced
Headphone (JM-60 headphone jack x1)	∞ to -13 dBu, 8 Ω, unbalanced (-18 dBFS)		∞ to -13 dBu, 8 Ω, unbalanced (-20 dBFS)		-16 dBu, 8 Ω, unbalanced
<b>Digital</b>					
AES/EBU **,*14,*15	BNC x 2 75 Ω, unbalanced		XLR 3-pin male x2 110 Ω, balanced		
<b>Time Code Input/Output</b>					
In (BNC x1)*12	0.5 Vp-p to 18 Vp-p, 3 kΩ, unbalanced				
Out (BNC x1)*13	2.2 Vp-p, 75 Ω, unbalanced				
<b>Remote</b>					
	RS-422A: D-sub 9-pin female x2 Video Control: D-sub 15-pin male x1 Control Panel: D-sub 15-pin female x1	RS-422A: D-sub 9-pin female x1 Video Control: D-sub 15-pin male x1 Control S (SIRCS): Stereo mini jack x1	RS-422A: D-sub 9-pin female x1 Control S (SIRCS): Stereo mini jack x1	RS-422A: D-sub 9-pin female x1 TBC Remote: D-sub 15-pin male x1 Control S (SIRCS): Stereo mini jack x1	
<b>Supplied Accessories</b>					
	AC Power Cord RCC-5G 9-pin Remote Control Cable Operating Instructions	AC Power Cord Operating Instructions		AC Power Cord RCC-5G 9-pin Remote Control Cable Operating Instructions, ClipLink Guide	

\*1: The optional DSBK-1504 is required for the DSR-1500.

\*2: The optional DSBK120 is required for the DSR-85.

\*3: The optional DSBK1801 is required for the DSR-1800.

\*4: The optional DSBK1501 is required for the DSR-1500.

\*5: The optional DSBK1802 is required for the DSR-1800.

\*6: The optional DSBK-190 is required for the DSR-2000.

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

\*8: The optional DSBK1503 is required for the DSR-1500.

\*9: The optional DSBK-120 is required for the DSR-85.

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

\*11: The optional DSBK-1602 is required for the DSR-1600.

\*12: The optional DSBK-130 is required for the DSR-85.

## Specifications (PAL Models)

**DSR-40P/DSR-30P/DSR-20P/DSR-11** Studio VTRs

	DSR-40P	DSR-30P	DSR-20P	DSR-11
<b>General</b>				
System	PAL			NTSC/PAL Switchable
Power requirements	AC 220 V to 240 V, 50/60 Hz		AC: 220 V to 240 V, 50/60 Hz DC: 12 V	DC: 12 V
Power consumption	40 W	32 W	AC: 28 W DC: 2.0 A (4.0 A PEAK)	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	28.221 mm/s		
	DV SP mode	18.831 mm/s		
Recording/Playback time	Standard size	184 min. with PDV-184ME/184N/184MEM		
	Mini size	40 min. with PDVM-40ME/40N/40MEM		
Tape rewind time	Less than 2 min. with PDV-184ME/184N/184MEM			—
Search speed	When controlling via optional DSRM-20: Shuttle mode: $\pm 1/10$ , $1/5$ , $1$ , $2$ , approx. 10, approx. 17 times Jog mode: $\pm 1/10$ , $1/5$ , $1$ , $2$ times	Still, $\pm 1/5$ , $1$ , $2$ times, Cue/Review ( $\pm 10$ or 18 times)	When controlling via optional DSRM-20 or supplied RMT-DS20: Still, $\pm 1/5$ , $1$ , $2$ times, Cue/Review ( $\pm 10$ or 18 times)	When controlling via optional DSRM-20 or supplied RMT-DS11: Still, $\pm 1/5$ , $1$ , $2$ times, Cue/Review ( $\pm 10$ or 18 times)
Weight	Approx. 5.0 kg (11 lb)	Approx. 9.2 kg (20 lb 4 oz)	Approx. 5.0 kg (11 lb)	Approx. 2.8 kg (6 lb 2 oz)
Dimensions (W x H x D, including projections)	212 x 98 x 392 mm (8 3/8 x 3 7/8 x 15 1/2 inches)	430 x 129 x 374 mm (17 x 5 1/8 x 14 3/4 inches)	212 x 98 x 392 mm (8 3/8 x 3 7/8 x 15 1/2 inches)	180 x 73 x 265 mm (7 1/8 x 2 7/8 x 10 1/2 inches)
<b>Video Signal Inputs</b>				
Rec mode	DVCAM			DVCAM/DV (SP mode only)
PB mode	DVCAM/DV (SP mode only)			
Ref. Video (BNC x1)	Black burst: 75 $\Omega$ , sync negative	—		
Video (DSR-40P/20P: BNC x1)* (DSR-30P: BNC x1, Phono jack x1) (DSR-11: Phono jack x1)	Composite, 1.0 Vp-p, 75 $\Omega$ , sync negative			
S-Video (DSR-40P/20P/11: Mini DIN 4-pin x1) (DSR-30P: Mini DIN 4-pin x2, front x1/rear x1)	Y: 1.0 Vp-p, 75 $\Omega$ , sync negative C: 0.3 Vp-p (subcarrier burst), 75 $\Omega$			
<b>Audio Signal Inputs</b>				
Audio (DSR-40P/20P/11: Phono jack x2/stereo L/R) (DSR-30P: Phono jack x2/ stereo L/R, front x1/rear x1)	2 Vrms (full bit)			
<b>Video Signal Outputs</b>				
Video (DSR-40P/20P: BNC x1) (DSR-30P: BNC x2, Phono jack x1) (DSR-11: Phono jack x1)	Composite, 1.0 Vp-p, 75 $\Omega$ , sync negative			
S-Video (DSR-40P/20P/11: Mini DIN 4-pin x1) (DSR-30P: Mini DIN 4-pin x2)	Y: 1.0 Vp-p, 75 $\Omega$ , sync negative C: 0.3 Vp-p (subcarrier burst), 75 $\Omega$			
Component (BNC x3)	Y: 1.0 Vp-p, 75 $\Omega$ , sync negative R-Y/B-Y: 0.7 Vp-p (with 100 % colour burst)	—		
Monitor (BNC x1)	Composite, 1.0 Vp-p, 75 $\Omega$ , sync negative	—	Composite, 1.0 Vp-p, 75 $\Omega$ , sync negative	—
<b>Audio Signal Outputs</b>				
Audio (DSR-40P: XLR 3-pin male x2, stereo L/R) (DSR-30P/20P: RCA pin x1, stereo L/R) (DSR-11: RCA pin x2/stereo L/R)	4 dBu, balanced	2 Vrms (full bit)		
Monitor (RCA pin x2, stereo L/R)	2 Vrms (full bit)	—	2 Vrms (full bit)	—
<b>Digital Input/Output</b>				
i.LINK (DV) (4-pin x1)	IEEE1394			
<b>Others</b>				
	RS-422A: D-sub 9-pin female x1 Control S (SIRCS) In: Stereo mini jack x1 Headphone: Stereo mini jack x1	LANC: Stereo mini-mini jack x2 (front x1/rear x1)* Control S (SIRCS) In: Mini jack x1 Control S (SIRCS) Out: Mini jack x1 Trigger In: RCA pin x1 (active short) Headphone: Stereo mini jack x1 MIC In: Mini jack x1	LANC: Stereo mini-mini jack x1 RS-232C: D-sub 9-pin male x1 Control S (SIRCS) In: Stereo mini jack x1 Control S (SIRCS) Out: Stereo mini jack x1 DC In (12 V): Canon 4-pin x1 Headphone: Stereo mini jack x1	LANC: Stereo mini-mini jack Control S: Stereo mini jack
<b>Supplied Accessories</b>				
	AC Power Cord Cleaning Cassette Operating Instructions	RMT-DS30 Wireless Remote Controller Size AA (R6) Batteries for Remote (2) AC Power Cord LANC Cable Cleaning Cassette Operating Instructions	RMT-DS20 Wireless Remote Controller Size AA (R6) Batteries for Remote (2) AC Power Cord Cleaning Cassette Operating Instructions RS-232C Protocol Manual	AC Adaptor, Power Cord RMT-DS11 Wireless Remote Commander Size AA (R6) Batteries for Remote (2) Rack Cleaning Cassette Operation Manual

## Specifications (PAL Models)

# DSR-70AP

Portable Editing Recorder

General		Video Signal Outputs	
Power requirements	DC 12 V	<b>Analog</b>	
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 Ω, sync negative R-Y: 0.7 Vp-p, 75 Ω (100%) B-Y: 0.7 Vp-p, 75 Ω (100%)
Operating humidity	Less than 80%	S-Video (DIN 4-pin x1)	Y: 1.0 Vp-p, 75 Ω, sync negative C: 0.3 Vp-p, 75 Ω (at burst level)
Storage humidity	Less than 90%	<b>Digital</b>	
Tape speed	28.221 mm/s	SDI (BNC x2)*2	Conforms to Serial Digital Interface (270 Mb/s), ITU-R BT.656
Recording/Playback time	Standard size: 184 min. with PDV-184ME/184N/184MEM Mini size: 40 min. with PDVM-40ME/40N/40MEM	SDTI (QSDI) (BNC x1)*3	Conforms to SDTI (270 Mb/s), SMPTE 305M/322M
Fast forward/Rewind time	Standard size: Less than 3 min. with PDV-184ME/184N/184MEM Mini size: Less than 1 min. with PDVM-40ME/40N/40MEM	i.LINK (DV) (6-pin x1)*4	IEEE1394
Search speed	x ±32	<b>Audio Signal Outputs</b>	
Weight	5.8 kg (12 lb 12 oz)	<b>Analog</b>	
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) (XLR 3-pin male x2)	+4/0/-6 dBu (selectable by menu)
<b>Video Signal Inputs</b>		Monitor (R/L) (Phono x1)	-6 dBu, 47 kΩ, unbalanced
<b>Analog</b>		Headphone (JM-60 headphone jack x1)	-∞ to -20 dBu, 8Ω, unbalanced
Ref. Video (BNC x2, loop-through connection)	0.3 Vp-p, 75 Ω, sync negative	<b>Time Code Input/Output</b>	
Video (BNC x2, loop-through connection)	Composite, 1.0 Vp-p, 75 Ω, 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%) B-Y: 0.7 Vp-p, 75 Ω (100%)	Time Code Out (BNC x1)	2.2 Vp-p, ±3.0 dB, 600 Ω, unbalanced
S-Video (DIN 4-pin x1)	Y: 1.0 Vp-p, 75 Ω, sync negative C: 0.3 Vp-p, 75 Ω (at burst level)	<b>LCD</b>	
<b>Digital</b>		LCD display (x1)	6.4-inch VGA, 640 (H) x 480 (V)
SDI (BNC x1)*2	Conforms to Serial Digital Interface (270 Mb/s), ITU-R BT.656	<b>Speaker</b>	
SDTI (QSDI) (BNC x1)*3	Conforms to SDTI (270 Mb/s), SMPTE 305M/322M	Built-in speaker (x1)	Monaural
i.LINK (DV) (6-pin x1)*4	IEEE1394	<b>Remote</b>	
<b>Audio Signal Inputs</b>		RS-422A: D-sub 9-pin female x1	
<b>Analog</b>		<b>Other</b>	
Audio (CH-1,2) (XLR 3-pin female x2)	+4/0/-60 dBu, high impedance, balanced	DC 12 V In: XLR 4-pin male x1	
		<b>Supplied Accessories</b>	
		Carrying Belt Connector Cap (per interface) Operating Instructions 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-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	
System	PAL	XLR 3-pin (female) (+4 dBu/-20 dBu/-60 dBu) x 4, impedance more than 3 kΩ with +48 V power supply (independently switched for each channel)	
DC input	XLR 4-pin (male), +12 V	Camera IN	26-pin camera connector
Power consumption	15 W	Composite	1.0 Vp-p, 75 Ω, Sync negative
Operating temperature	5 °C to 40 °C (41 °F to 104 °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
Storage temperature	-20 °C to 60 °C (-4 °F to 140 °F)	Reference IN	BNC, Black Burst 75 Ω, Sync negative (use Video IN)
Tape speed	Approx. 28.2 mm/s (DVCAM mode), Approx. 18.8 mm/s (DV SP mode)	Video OUT 1 (Monitor) Composite	BNC, 1.0 Vp-p, 75 Ω, Sync negative Superimpose On/Off
Recording/Playback time	184 minutes (DVCAM mode), 270 minutes (DV SP mode), with PDV-184ME cassette	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	S (4-pin mini DIN)	Y: 1.0 Vp-p, 75 Ω, Sync negative C: 0.3 Vp-p (subcarrier burst) 75 Ω
Weight	3.9 kg (8 lb 9 oz), excluding battery and tape	Component OUT	BNC x 3 Y: 1.0 Vp-p, 75 Ω, Sync negative B-Y/R-Y: 0.7 Vp-p, 75 Ω
Dimensions (W x H x D)	247 x 92.5 x 311 mm (9 3/4 x 3 3/4 x 12 1/4 inches), excluding projections 279 x 99 x 315 mm (11 x 4 x 12 1/2 inches), including projections	Audio OUT	RCA pin x 4, -10 dBu Standard output level -18 dB from full bit
<b>Video</b>		Audio OUT (Monitor)	RCA pin
Rec mode	DVCAM/DV (SP mode only)	DV IN/OUT	6-pin (with lock)
PB mode	DVCAM/DV (SP mode only)	Timecode IN	BNC, 0.5 to 18 Vp-p, 10 kΩ
<b>Audio</b>		Timecode OUT	BNC, 2.2 Vp-p, 600 Ω/1.2 Vp-p, 75 Ω
Rec mode	48.0 kHz/16-bit (2CH)/ 32.0 kHz/12-bit (4CH)/automatic (DV IN)	Control S	Stereo mini jack
PB 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)
<b>Input/Output Terminals</b>		Control	Stereo mini-mini jack (compatible with LANC as a player)
Video IN Composite	1.0 Vp-p, 75 Ω, Sync negative	Headphone jack (left side)	Stereo standard jack, -19 dBu, with Level Control
S(4-pin mini DIN)	Y: 1.0 Vp-p, 75 Ω, Sync negative C: 0.3 Vp-p (subcarrier burst) 75 Ω	<b>Other</b>	
		Color LCD monitor	2.5-inch, 200,000 dots
		Supplied accessories	LCD Protection Cover, Cleaning Cassette

## Specifications (PAL Models)

# DSR-V10P

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 Playback: 48 kHz/16-bit, 32 kHz/12-bit, 32 kHz/16-bit, 44.1 kHz/16-bit
Power consumption	11.5 W (LCD on)	Audio inputs/outputs (Phono jack x1/stereo L/R) (RCA pin x2)	-7.5 dBs (0 dBu=0.775 Vrms)
Operating temperature	0 °C to 40 °C (32 °F to 104 °F)	<b>Others</b>	
Storage temperature	-20 °C to 60 °C (-4 °F to 140 °F)	i.LINK (DV): 4-pin x1, IEEE1394 LANC: Stereo mini-mini jack x1 Headphone: Stereo mini-jack x1 Multi connector: 20-pin x1	
Tape speed	28.221 mm/s	<b>Supplied Accessories</b>	
Weight	970 g (2 lb 2 oz) (without battery and tape)	AC-V700 AC Adaptor/Charger DK-415 DK Cable Carrying belt Operating Instructions	
Dimensions (W x H x D)	148 x 62 x 135 mm (5 7/8 x 2 1/2 x 5 3/8 inches)		
LCD screen	5.5-inch		
Video			
Video signal	CCIR standard, PAL color		
Video inputs/outputs Video (RCA pin x1) S-Video (Mini DIN 4-pin x1)	Composite, 1.0 Vp-p, 75 Ω, unbalanced, sync negative Y: 1.0 Vp-p, 75 Ω, unbalanced, sync negative C: 0.3 Vp-p (subcarrier burst), 75 Ω, unbalanced		

DSRM-E1P (Edit Adapter for DSR-V10P)		Connectors	
<b>General</b>		Multi connector: 20-pin x1 Control unit: Mini DIN 8-pin x1 LANC: Stereo mini-mini jack x1	
Power requirements	DC 7.2 V (supplied from DSR-V10P), DC 8.4 V (with AC Adaptor)	<b>Monitor Output</b>	
Power consumption	Approx. 1.8 W	Video output (RCA pin x1)	
Operating temperature	0 °C to 40 °C (32 °F to 104 °F)	Composite, 1.0 Vp-p, 75 Ω, unbalanced, sync negative	
Storage temperature	-20 °C to 60 °C (-4 °F to 140 °F)	Audio output (Phono jack x1/stereo L/R)	
Weight	Main unit: 160 g (5.6 oz) Controller: 340 g (12 oz)	0.327 V, impedance 470 Ω 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)		

CVX-V1P / CVX-V3P / CVX-V18NSP (Color Video Cameras for DSR-V10P)		Lens	
<b>General</b>		CVX-V1P: F1.8 CVX-V3P: F2.8 to 4 CVX-V18NSP: F1.4	
Power requirements	DC 7.2 V (with battery), DC 8.4 V (with AC adaptor)	Focal length	
Power consumption	CVX-V1P/V3P: 1.8 W CVX-V18NSP: 2.2 W	CVX-V1P: f=3.9 mm (35 mm conversion: 38 mm) CVX-V3P: f=3.5 mm to 10.5 mm (35 mm conversion: 35 mm to 105 mm) CVX-V18NSP: f=4.1 mm to 73.8 mm (35 mm conversion: 41 mm to 738 mm)	
Operating temperature	0 °C to 40 °C (32 °F to 104 °F)	Minimum illumination	
Storage temperature	-20 °C to 60 °C (-4 °F to 140 °F)	CVX-V1P: 2 lx CVX-V3P: 5 lx CVX-V18NSP: 0.7 lx	
Weight	Camera head CCU (without battery)	Gain selection	
Dimensions (W x H x D)	CVX-V1P: 25 g (0.85 oz) CVX-V3P: 75 g (2.6 oz) CVX-V18NSP: 343 g (12 oz) CVX-V1P: 135 g (4.8 oz) CVX-V3P: 135 g (4.8 oz) CVX-V18NSP: 153 g (5 oz)	CVX-V1P: Auto/Hold CVX-V3P: Auto	
Camera head	CVX-V1P: 22 x 18 x 60 mm (7/8 x 23/32 x 2 3/8 inches) CVX-V3P: 36 x 40 x 70 mm (1 7/16 x 1 5/8 x 2 7/8 inches) CVX-V18NSP: 63 x 66 x 115 mm (2 1/2 x 2 5/8 x 4 5/8 inches)	White balance	
CCU	CVX-V1P: 35 x 110 x 60 mm (1 7/16 x 4 3/8 x 2 3/8 inches) CVX-V3P: 35 x 110 x 60 mm (1 7/16 x 4 3/8 x 2 3/8 inches) CVX-V18NSP: 50 x 59 x 110 mm (2 x 2 3/8 x 4 3/8 inches)	CVX-V1P: Auto/Hold CVX-V3P: Auto	
Camera		Shutter speed	
Image device	1/4-inch Interline-Transfer CCD	CVX-V1P: Auto, 1/50, 1/120, 1/250, 1/500, 1/2000, 1/10000 CVX-V18NSP: Auto, 1/3, 1/6, 1/12, 1/25, 1/50, 1/75, 1/100, 1/125, 1/150, 1/215, 1/300, 1/425, 1/600, 1/1000, 1/1250, 1/1750, 1/2500, 1/3500, 1/6000, 1/10000	
Effective picture elements	CVX-V1P/V3P: 440,000 pixels CVX-V18NSP: 360,000 pixels	Night shot (CVX-V18NSP only)	
Total picture elements	CVX-V1P/V3P: 470,000 pixels CVX-V18NSP: 570,000 pixels	IR light effective distance: 20 m (with slow shutter on), 5 m (without slow shutter)	
		<b>Others (on CCU)</b>	
		External MIC In: Stereo mini-mini jack x1 Multi connector: 20-pin x1 Camera cable connector: 12-pin x1 (CVX-V18NSP only) Battery connector	
		<b>Supplied Accessories</b>	
		Video Walkman Attachment Unit Operating Instructions	

## Flexicart

Multi-cassette System

General	
Power requirements	AC 100/120/220/230/240 V, 50/60 Hz
Power consumption	600 VA
Operating temperature	5 °C to 35 °C (4 °F to 95 °F)
Operating humidity	25% to 80% (non-condensing)
Weight	Approx. 250 kg (551 lb 2.5 oz) (without VTRs, cassette bin units and tapes)
Dimensions (W x H x D)	600 x 1980 x 1090 mm (23 5/8 x 78 x 43 inches)
Connections	
Ref. Video In (BNC): Black burst or composite video Time code In: (BNC) Remote control interfaces: REMOTE1: RS-422A D-sub 9-pin REMOTE2: RS-232C D-sub 25-pin Parallel interface: D-sub 50-pin	
Supplied Accessories	
AC Power Cord Operation Manual Maintenance Manual Installation Manual	

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