# SONY®

**DVCAM**™

# DSR Series

# *Index*

**DVCAM** ™

# 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 arises for equipment that totally meets the crucial demands for reliability, higher productivity and greater creativity in professional video production.*

*Since its launch in 1996, Sony DVCAM equipment has met these challenges and ushered in 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 technology. A full model line-up for digital acquisition, editing and program playout has lead to the rapid acceptance of the DVCAM format 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.*

*When you select from the Sony DSR Series – you will be choosing innovative equipment to bring both new solutions to your production demands and performance benefits to your existing system.*
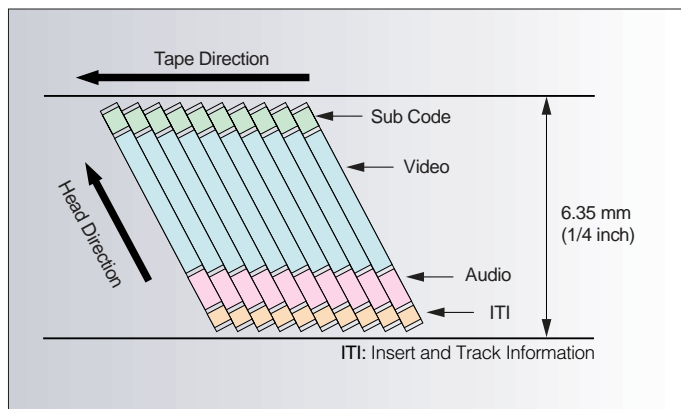
**DVCAM** ™

Image is everything

# The DVCAM Format

## Digital Component Recording for Excellent Picture Quality

The DVCAM format uses 8-bit digital component recording with a 5:1 compression ratio that is identical to the DV format. It also offers a sampling rate of 4:1:1 for excellent picture quality and superb multi-generation performance. The DVCAM format utilizes an intra-frame compression scheme and is based on DCT (Discrete Cosine Transform) techniques with each frame consisting of 10 tracks. Each track has video, audio, ITI (Insert and Track Information) and sub-code sectors. It is the combination of ITI – a reference signal used for precise tracking – and time code on the sub-code sector that helps to assure highly accurate editing performance.



Tape Direction

Head Direction

Sub Code
Video
6.35 mm (1/4 inch)
Audio
ITI

ITI: Insert and Track Information

## High-Quality Digital Audio

The DVCAM format also offers superior digital audio performance that is comparable to CD quality, thanks to a wide dynamic range and excellent signal-to-noise ratio. There are two selectable audio channel modes: a two-channel mode with 48 kHz/16-bit recording or a four-channel mode with 32 kHz/12-bit recording.

## Playback Compatibility with the DV Format

The DVCAM format is the professional extension of the world-wide standard DV format, with which it maintains playback compatibility. Thus all DVCAM equipment is capable of playing back DV recorded tapes* without any mechanical adaptor. A wider track pitch of 15 μm (compared with 10 μm for the DV format) and greater recording speeds give the DVCAM format higher reliability for professional editing.

* The DSR Series, with the exception of the DSR-2000, plays back SP mode only.

## 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 an enhanced protection of the tape surface that is essential to avoid the possibility of tape damage during long editing sessions. Finally, DVCAM tape provides a low frequency of dropout and superior thermal stability.

A variety of cassette types is available to suit different applications. These include types with or without an IC Cassette Memory, and a Master Grade Tape. The built-in 16-kbit Cassette Memory stores ClipLink Log Data, Index Pictures, Photo mode and other shooting data that enhance editing efficiency. The tapes without IC Cassette Memory fit a wide range of applications with affordable price. The Master Grade Tape, which uses Sony Hyper Evaticle II Magnetic Particle technology to provide higher output and lower noise, is equally 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 tape width of only 1/4 of an inch (6.35 mm).



* The DSR-200A accepts a standard-size cassette only.
  The DSR-PD100A/V10 and DRV-1000 accept a mini-size cassette only.

| | | DVCAM | DV | |
| --- | --- | --- | --- | --- |
| | | | SP mode | LP mode |
| **Video** | Video signal format | Digital component | | |
| | Sampling frequency | Y:13.5 MHz   C: 3.375 MHz | | |
| | Quantization | 8-bit | | |
| | Compression ratio | 5 : 1 | | |
| | Compression type | Intra-frame | | |
| | Sampling structure | 4 : 1 : 1 | | |
| | Video transfer rate | 25 Mb/s | | |
| **Audio** | Audio signal format | PCM | | |
| | Audio recording channels | 2 CH or 4 CH | | |
| | Sampling frequency | 2CH: 48 kHz, 4CH: 32 kHz | 2CH: 48 kHz / 44.1 kHz, 4CH: 32 kHz | |
| | Quantization | 2CH: 16-bit, 4CH: 12-bit | | |
| **Tape** | Tape material | Metal Evaporated or equivalent | | |
| | Tape width | 6.35 mm (1/4 inch) | | |
| | Tape track pitch | 15 μm | 10 μm | 7 μm |
| | Tape speed | 28.193 mm/s | 18.812 mm/s | 12.555 mm/s |
| | Cassette size | Standard size / Mini size | | |
| | Maximum recording time | 184 min. (standard size) 40 min. (mini size) | 270 min. (standard size) 60 min. (mini size) | 405 min. (standard size) 90 min. (mini size) |

# The Essence of the DSR Series — Unique Technologies and Advantages

## True Digital Camcorders

`DSR-500WS` `DSR-130` `DSR-300` `DSR-200A` `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.

Other Digital Camcorders

Sony DVCAM Camcorders
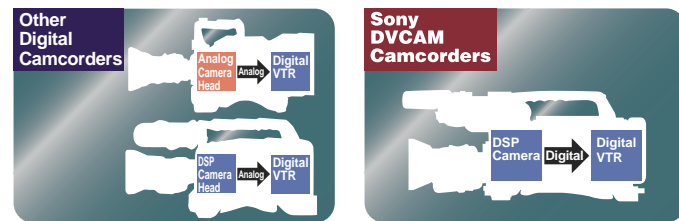
## Playback Capability of All DV (25 Mb/s) Format Recorded Tapes

`DSR-2000`

For maximum versatility in a wide range of video editing environments, the DSR-2000 VTR is designed to playback all DV (25 Mb/s) format recorded tapes without any mechanical adaptor. This includes DV tapes recorded in both SP/LP modes and even DVCPRO* format tapes. Moreover, it is possible to use these tapes directly as editing source material. This handy compatibility saves time and improves productivity, as there is no need to use different VTRs for each format or dub to other formats.

*Not compatible with SDTI (QSDI) and i.LINK (DV In/Out) interfaces.
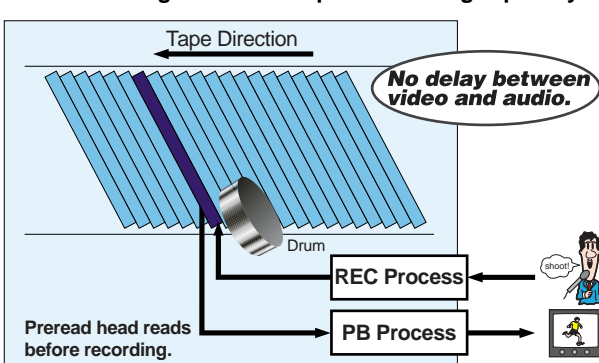
## Excellent Editing Performance
### •Preread Editing Capability*  `DSR-2000`

The DSR-2000 VTR offers preread editing, a function never before available on a 1/4-inch (6.35 mm) VTR. Preread heads are positioned ahead of the record heads on the drum to scan previously recorded video and audio signals. These signals can then be sent to a video switcher and an audio mixer, combined with signals from another source, such as a player, and then recorded back onto the same tracks.

This feature provides many advantages. It can be used as a sound-on-sound feature, or for audio mix/swap and over-dubbing of audio 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 In/Out) interfaces as these handle compressed signals.
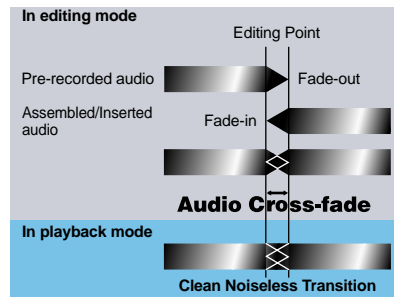
<Over-dubbing of audio with preread editing capability>

Tape Direction

No delay between video and audio.

Drum

REC Process

PB Process

Preread head reads before recording.

## •Audio Cross-fade Capability  `DSR-2000` `DSR-85` `DSR-80`

Preread heads also provide an audio cross-fade capability with clean audio transitions at editing points. During audio insert editing, previously recorded audio signals are read out by the preread heads, cross-faded with the VTR audio input signal and recorded back onto the same track.

This provides excellent audio cross-fade editing performance without audio clicks, providing high quality audio to complement the video performance. Moreover, it is easily accessible; complicated manual operation is not required.

In editing mode

Editing Point

Pre-recorded audio    Fade-out

Assembled/Inserted audio    Fade-in

Audio Cross-fade

In playback mode

Clean Noiseless Transition
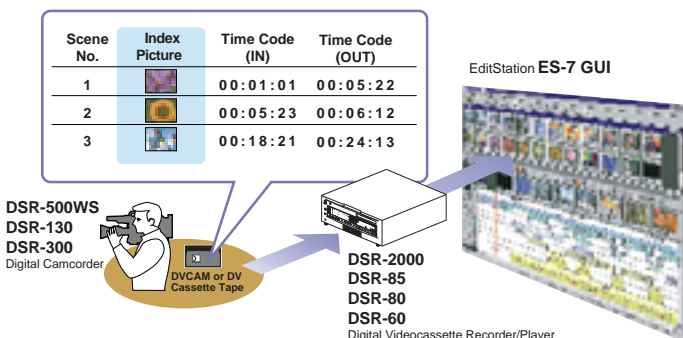
## •Digital Jog Audio  `DSR-2000`

A digital jog audio function is included with a range of –1 to +1 times normal speed. With its excellent, smooth audio quality, locating editing points is very easy. This is a particularly important feature for ENG applications that usually require audio-based editing.

This function is available when using any DV (25 Mb/s) format recorded tapes.

## •ClipLink™ Operation

`DSR-500WS` `DSR-130` `DSR-300` `DSR-2000` `DSR-85` `DSR-80` `DSR-60` `DSR-70`

The ClipLink feature is a unique Sony system that conveys shooting data into the digital production process. During acquisition with DSR-500WS, DSR-300 or DSR-130 Camcorders, 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 the 'Index Picture'*, is recorded on the DVCAM tape to provide visual information associated with the time code. When a cassette is loaded into a DSR-2000, DSR-85, DSR-80, DSR-60 or DSR-70 VTR interfaced with a Sony EditStation™ system ES-7 or 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.

* The DSR-500WS/300 require an optional board to record Index Pictures.

| Scene No. | Index Picture | Time Code (IN) | Time Code (OUT) |
|-----------|---------------|----------------|-----------------|
| 1 | | 00:01:01 | 00:05:22 |
| 2 | | 00:05:23 | 00:06:12 |
| 3 | | 00:18:21 | 00:24:13 |

EditStation **ES-7** GUI

DSR-500WS
DSR-130
DSR-300
Digital Camcorder

DVCAM or DV Cassette Tape

DSR-2000
DSR-85
DSR-80
DSR-60
Digital Videocassette Recorder/Player

## Versatile Digital Interfaces
### •SDI (Serial Digital Interface)*

`DSR-2000` `DSR-85**` `DSR-80**` `DSR-60**` `DSR-70**`

SDI is a broadcast standard digital interface. With just a single cable connection, high-quality picture and sound can be transferred between DSR Series VTRs and the SDI-equipped devices such as D-1, Digital Betacam® and Betacam SX® VTRs as well as nonlinear editing systems.

* The SDI used in DSR Series VTRs supports digital component video signals.
** The DSR-85/80/60/70 require optional boards for SDI.

### SDTI (QSDI™)*  `DSR-2000` `DSR-85` `DSR-80` `DSR-60**` `DSR-70**`

SDTI (QSDI) is a digital interface which 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 DSR Series VTRs and between these VTRs and the EditStation system in a nonlinear editing configuration.

In addition, the DSR-85 is able to transfer data at four times normal speed through the SDTI (QSDI) interface.

* The SDTI (Serial Data Transport Interface) is defined as SMPTE 305M. The SDTI (QSDI) is the DV compressed signal interface which is defined as SMPTE 322M.
** The DSR-60/70 require optional boards for SDTI (QSDI).

### •i.LINK™ (DV In/Out)*

`DSR-500WS*` `DSR-200A` `DSR-PD100A` `DSR-2000` `DSR-40` `DSR-30` `DSR-20` `DRV-1000` `DSR-70**` `DSR-V10`

i.LINK is a digital interface based on the IEEE1394 standard. It enables a single cable to simultaneously carry data and control signals as well as digital video and audio signals, with virtually no quality deterioration. This simple connection offers an ideal solution for interconnecting DSR Series 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.
** The DSR-500WS only has an output. The DSR-2000/70 require optional boards for i.LINK connectivity.
Note: Sony VAIO computer is checked with Sony DV products concerning the i.LINK interconnection, but not with DVCAM. Some VAIO application software may not work with DVCAM.

### •AES/EBU  `DSR-2000` `DSR-85` `DSR-80`

The DSR-2000, DSR-85 and DSR-80 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.

## Sophisticated Mechanisms
### •Quick, Responsive Mechanism

`DSR-2000` `DSR-85` `DSR-80` `DSR-60` `DSR-70`

Quick mechanical response is an essential requirement for professional video production. The VTRs above have this rapid response, which is combined with the use of a high-reliability direct reel drive and drum motor mechanism. In the editing environment, that always demands immediacy, this innovative mechanism releases editors from the frustration and irritation of slow operation.

## •Triple-size Cassette Compartment  `DSR-2000`

The DSR-2000 VTR incorporates a new design of triple-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-size DV and DVCAM cassettes, as well as medium DVCPRO cassettes, without any mechanical adaptor.

## •Dual-size Cassette Compartment

`DSR-500WS` `DSR-130` `DSR-300` `DSR-1` `DSR-85` `DSR-80` `DSR-60` `DSR-40` `DSR-30` `DSR-20` `DSR-70`

The above camcorders and VTRs have a dual-size cassette compartment which accepts both standard- and mini-size cassettes without any mechanical adaptor. As professional models, only Sony DVCAM camcorders have this remarkable mechanism.

## •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 with several alternative Sony digital and analog cameras: DXC-D30, DXC-D30WS digitally, and analog for: DXC-537, DXC-537A, DXC-327A and DXC-327B. This feature means that the DSR-1 can be configured with a variety of different cameras for a range of applications.

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 between the DSR-85 VTR and the EditStation system ES-7, or between two DSR-85 VTRs.

This brings a major reduction in the time-consuming uploading and dubbing process, without loss of picture and sound quality.

## Compact, Mobile Remote Controller RM-VJ1  `DSR-500WS` `DSR-300`

The RM-VJ1 is a compact, mobile and highly reliable remote controller with a professional microphone and an LCD screen. It connects directly to the DSR-500WS and DSR-300 Camcorders via a CCA-7-7A cable to control camcorder functions such as Rec start/stop, Rec review, Zoom control, Take/NG marking for ClipLink operation.

This unique-style controller greatly enhances operational convenience for one-person operation like video journalists.
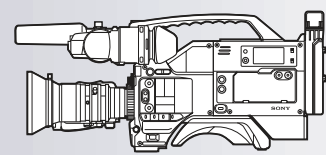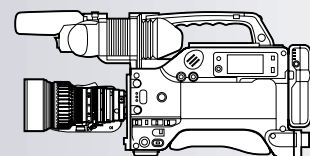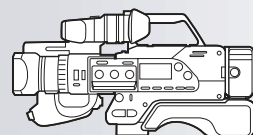
# Application Examples
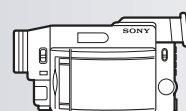
## Acquisition
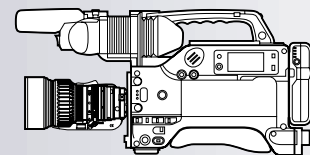
**DSR-500WS**
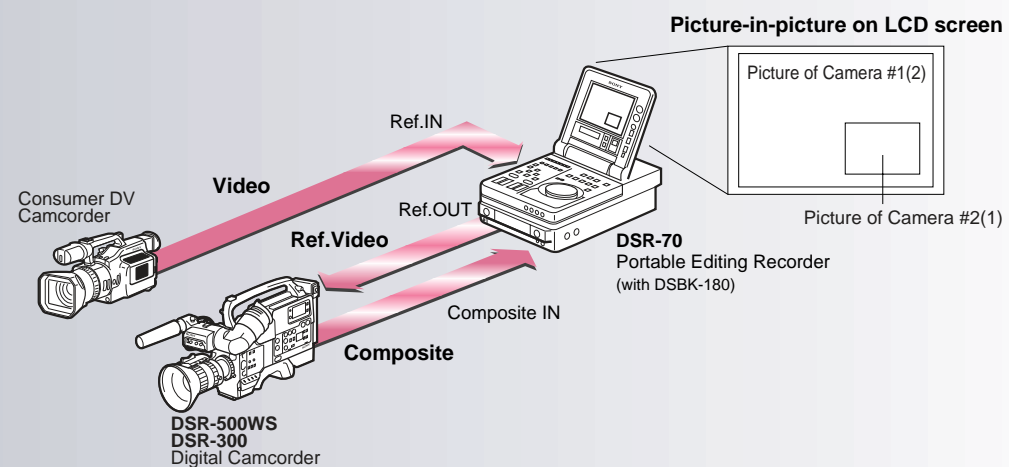
**DSR-130**

**DSR-300**

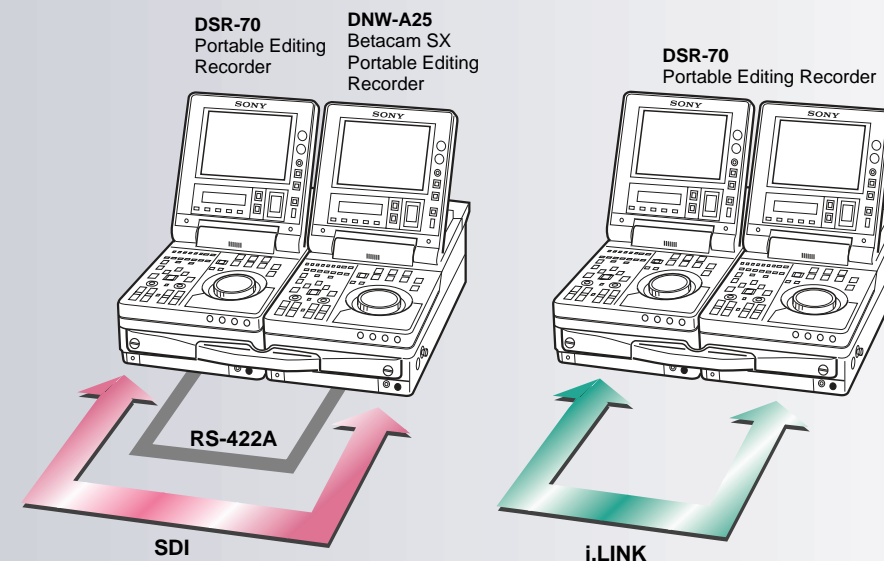**DSR-200A**

**DSR-PD100A**

## Field 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

**Picture-in-picture on LCD screen**

Picture of Camera #1(2)

Picture of Camera #2(1)

Ref.IN

Ref.OUT

**Video**

**Ref.Video**

Consumer DV Camcorder

Composite IN

**Composite**

DSR-70
Portable Editing Recorder
(with DSBK-180)

DSR-500WS
DSR-300
Digital Camcorder

### 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

**INTERNET**

**i.LINK**

Computer

DSR-70
Portable Editing Recorder

**i.LINK**
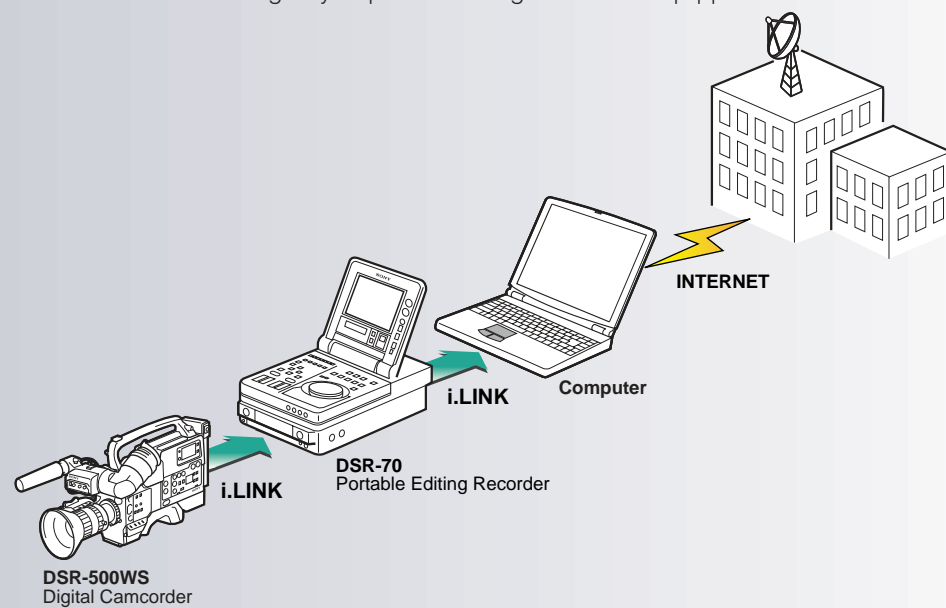
DSR-500WS
Digital Camcorder

### Rough 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 to Betacam SX format editing

DSR-70
Portable Editing Recorder

DNW-A25
Betacam SX
Portable Editing
Recorder

DSR-70
Portable Editing Recorder

**RS-422A**

**SDI**

**i.LINK**

### Simple Field Editing System

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

DSR-V10
Video Walkman Recorder

**LANC**

DSRM-E1
Edit Adaptpr

DSR-PD100A
Digital Camcorder

**i.LINK**
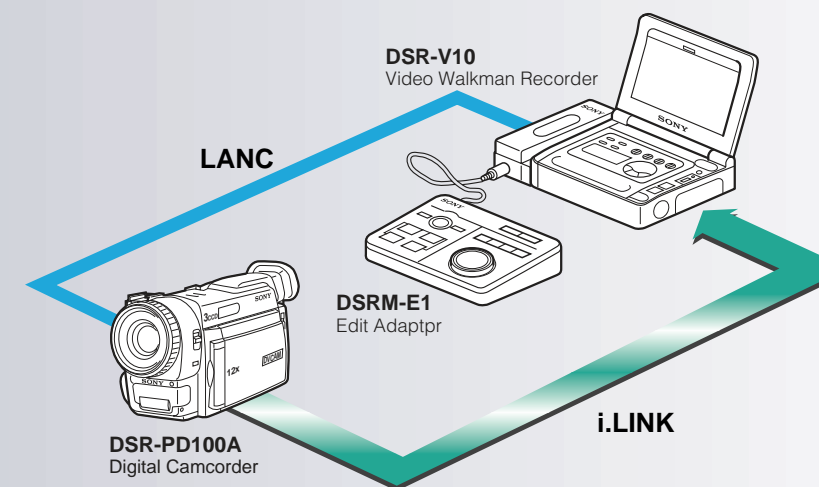
# Studio Editing — Nonlinear

## SDI-based Nonlinear Editing System

**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

**SDI**
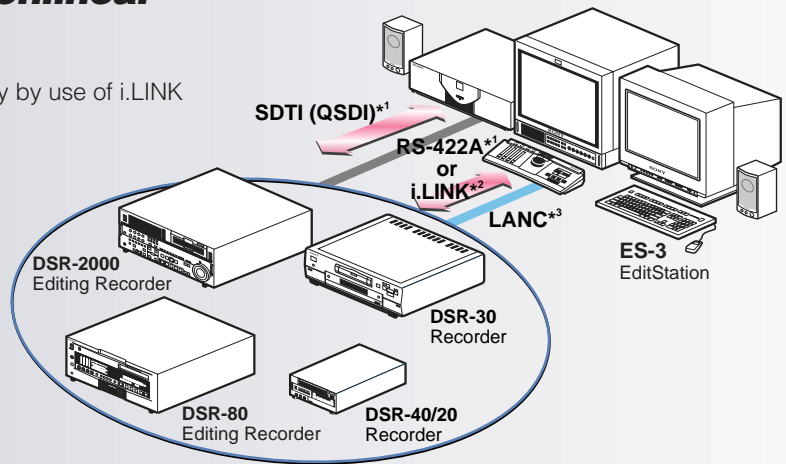
**RS-422A**

**AES/EBU**

**DSR-2000**
Editing Recorder

**DSR-80**
Editing Recorder

**DSR-70***
Portable Editing
Recorder
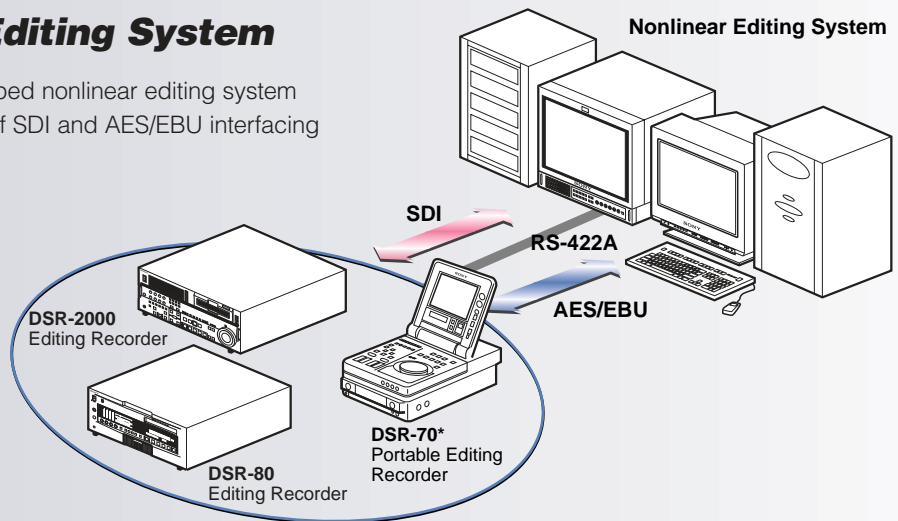
* The DSR-70 does not support AES/EBU.

## i.LINK/SDTI (QSDI)-based Nonlinear Editing System

- Superior multi-generation picture and sound quality by use of i.LINK or SDTI (QSDI) interfacing
- Efficient editing with ClipLink operation (DSR-2000 and DSR-80 only)

**SDTI (QSDI)*[1]**

**RS-422A*[1]**
**or**
**i.LINK*[2]**

**LANC*[3]**

**ES-3**
EditStation

**DSR-2000**
Editing Recorder

**DSR-30**
Recorder

**DSR-80**
Editing Recorder

**DSR-40/20**
Recorder

*[1] for DSR-2000 and DSR-80
*[2] for DSR-2000, DSR-40, DSR-30 and DSR-20
*[3] LANC is reguired when the DSR-30 interfaces with the ES-3

## High-speed Nonlinear Editing System

- Degradation-free picture and sound quality by use of SDTI (QSDI) interfacing throughout the entire production process
- Time saving by high-speed data transfer
- Efficient editing with ClipLink operation

**x4**
**SDTI (QSDI)**

**DSR-85**
High-speed Editing
Recorder

**RS-422A**

**ES-7**
EditStation
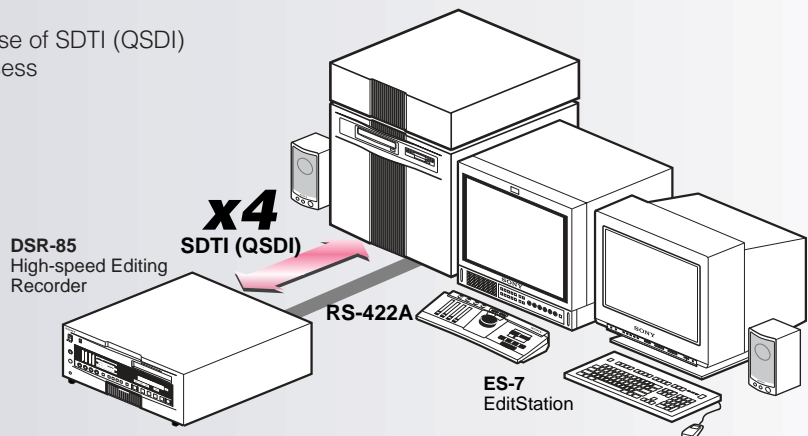
# Application Examples

## Studio Editing — Linear

### Preread Editing System

- Sound-on-sound (voice over) capability
- Audio cross-fade capability for clean audio transitions at editing points
- Audio mix/swap and over-dubbing of audio with no delay between video and audio
- A/B roll editing with two VTRs*
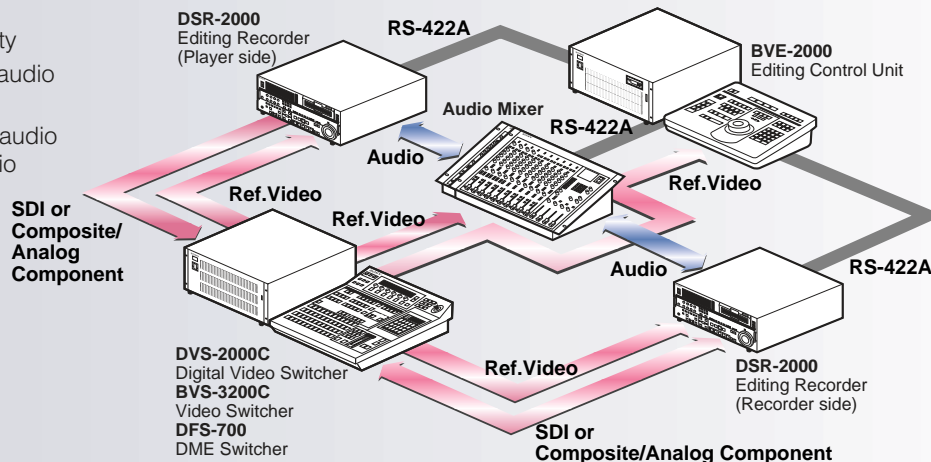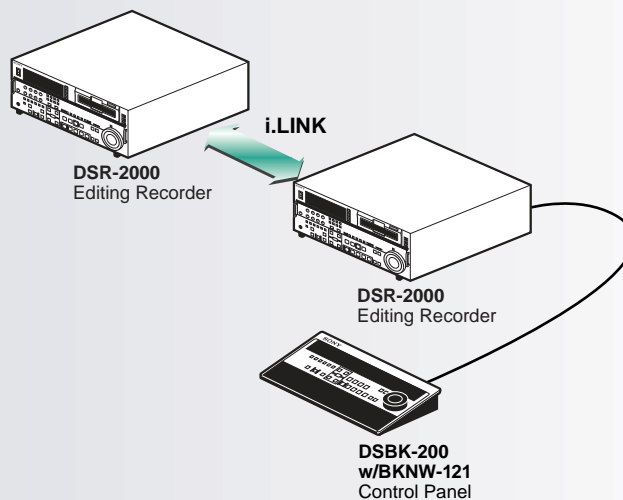
\* MIX and WIPE only

**DSR-2000**
Editing Recorder
(Player side)

**RS-422A**

**BVE-2000**
Editing Control Unit

**Audio Mixer**

**RS-422A**

**Audio**

**Ref.Video**

**Ref.Video**

**SDI or Composite/ Analog Component**

**Ref.Video**

**Ref.Video**

**Audio**

**RS-422A**

**DVS-2000C**
Digital Video Switcher
**BVS-3200C**
Video Switcher
**DFS-700**
DME Switcher

**Ref.Video**

**DSR-2000**
Editing Recorder
(Recorder side)
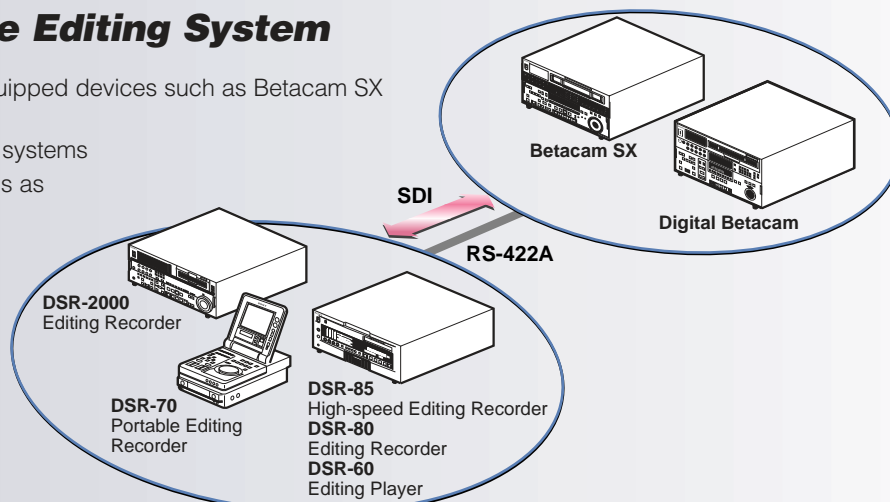
**SDI or Composite/Analog Component**

---

### 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

**DSR-2000**
Editing Recorder

**i.LINK**

**DSR-2000**
Editing Recorder

**DSBK-200 w/BKNW-121**
Control Panel

---

### Upwardly Compatible Editing System

- Direct digital connection with SDI-equipped devices such as Betacam SX and Digital Betacam
- Upward compatibility with broadcast systems
- Possible to upload DV recorded tapes as editing source material because of playback compatibility with the DV format

**Betacam SX**

**Digital Betacam**

**SDI**

**RS-422A**

**DSR-2000**
Editing Recorder

**DSR-70**
Portable Editing
Recorder

**DSR-85**
High-speed Editing Recorder
**DSR-80**
Editing Recorder
**DSR-60**
Editing Player

# Conventional Linear Editing System

- First step to a digital system
- Improvement in picture quality by adding digital equipment

**PVE-500**
Editing Control Unit

**PVW-2800**
Betacam SP
Editing Recorder

**UVW-1800**
Betacam SP
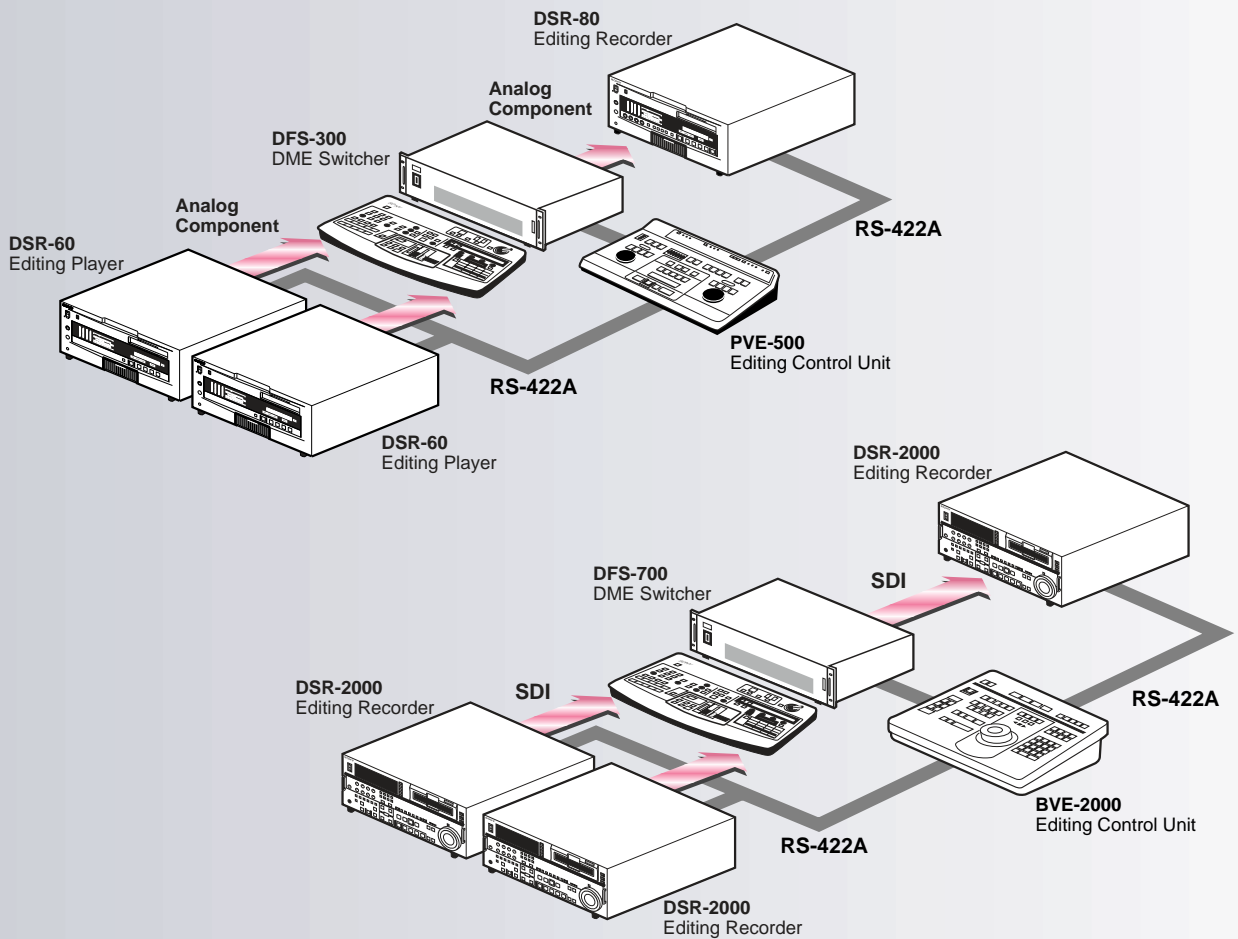Editing
Recorder

**RM-450A**
Editing Control Unit

**Analog Interfaces**

**RS-422A**

**DSR-2000**
Editing Recorder

**DSR-40**
Recorder

**DSR-85**
High-speed Editing
Recorder
**DSR-80**
Editing Recorder
**DSR-60**
Editing Player

**DSR-70**
Portable Editing
Recorder
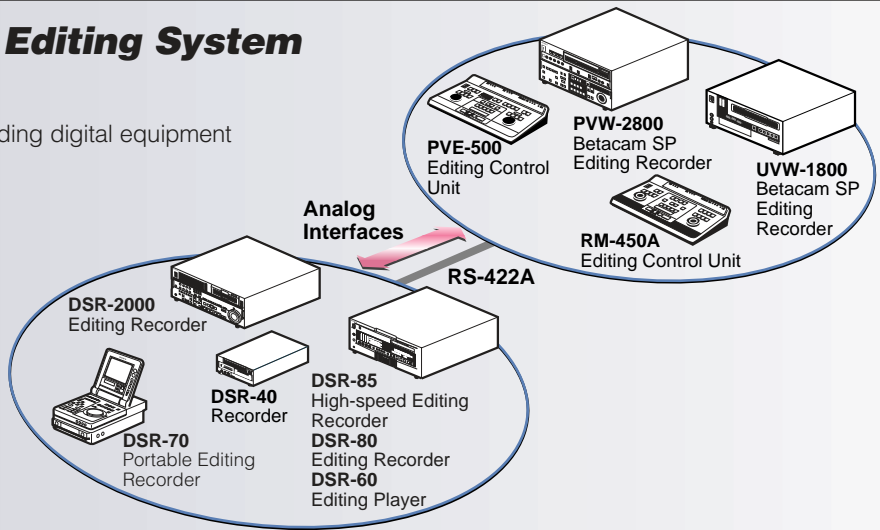
# Full DVCAM Linear Editing System

- Compatible with a conventional analog editing system
- Smooth migration to a full digital system

**DSR-80**
Editing Recorder

**Analog Component**

**DFS-300**
DME Switcher

**RS-422A**

**Analog Component**

**DSR-60**
Editing Player

**PVE-500**
Editing Control Unit

**RS-422A**

**DSR-60**
Editing Player

**DSR-2000**
Editing Recorder

**DFS-700**
DME Switcher

**SDI**

**RS-422A**

**DSR-2000**
Editing Recorder

**SDI**

**BVE-2000**
Editing Control Unit

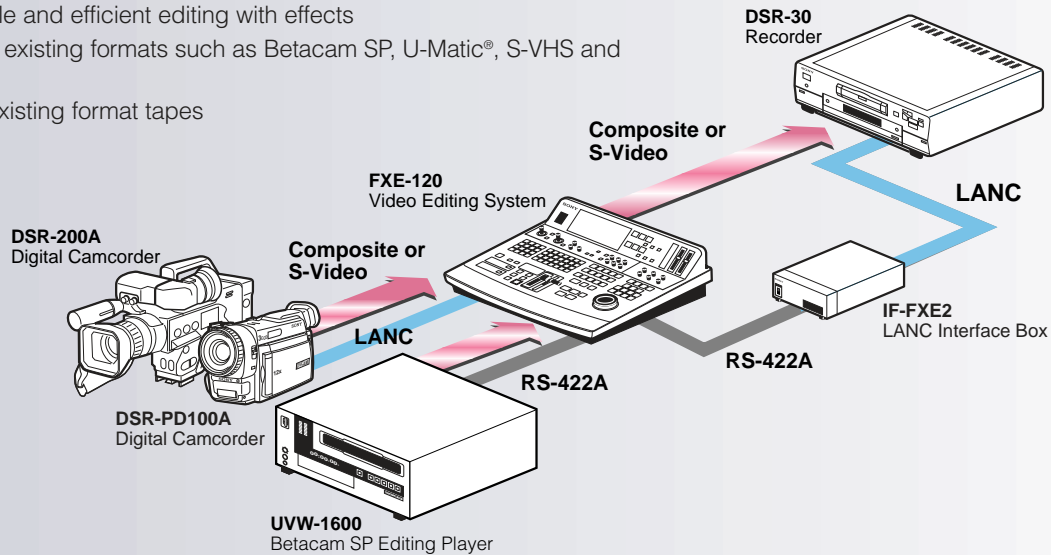**RS-422A**

**DSR-2000**
Editing Recorder
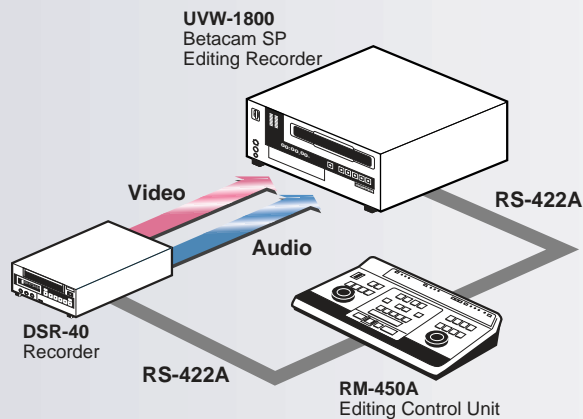
# Application Examples

## Studio Editing — Linear

### Low-cost, Simple Editing System

- LANC-based, simple and efficient editing with effects
- Efficiency in mixing existing formats such as Betacam SP, U-Matic®, S-VHS and Hi-8
- Possible to utilize existing format tapes

**DSR-30**
Recorder

**Composite or S-Video**

**FXE-120**
Video Editing System

**LANC**

**DSR-200A**
Digital Camcorder

**Composite or S-Video**

**LANC**

**RS-422A**

**RS-422A**

**IF-FXE2**
LANC Interface Box

**DSR-PD100A**
Digital Camcorder

**UVW-1600**
Betacam SP Editing Player

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

**UVW-1800**
Betacam SP Editing Recorder

**Video**

**Audio**

**RS-422A**

**DSR-40**
Recorder

**RS-422A**

**RM-450A**
Editing Control Unit

### PC-based Editing System

- Low-cost, PC-based editing system
- Full digital editing by use of i.LINK interfacing

**Computer***

**DRV-1000**
DVCAM Drive

**Monitor**
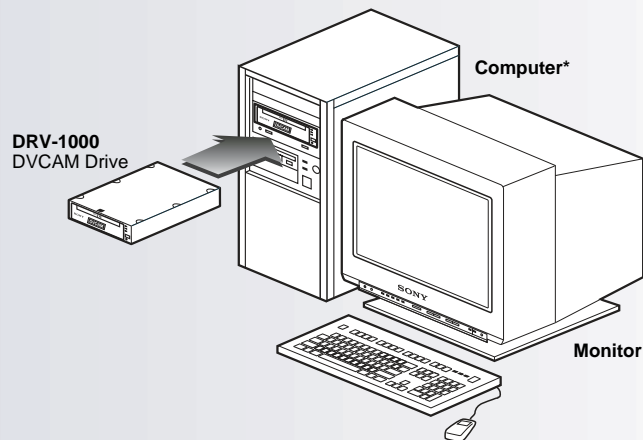
\* reguires i.LINK input connector.

# Program Playout

- Ideal for automatic program/commercial playout in CATV, corporate communications, etc.
- Outstanding picture and sound quality by maintaining the signal in the same digital domain from acquisition to program playout

**PVM Monitor**

**DSR-20**

**RS-232C**

**Computer**

**Program/Commercial Playout**

**VSR-2000**
VideoStore™

**SDI or Composite/ Analog Component**

**RS-232C**

**or**

**RS-422A**

**RS-422A**

**Computer**

**DSR-2000**
Editing Recorder

**DSR-85**
High-speed Editing Recorder
**DSR-80**
Editing Recorder
**DSR-60**
Editing Player

**Flexicart™ System**

FLEXICART

**DSR-80**
Editing Recorder
**DSR-60**
Editing Player
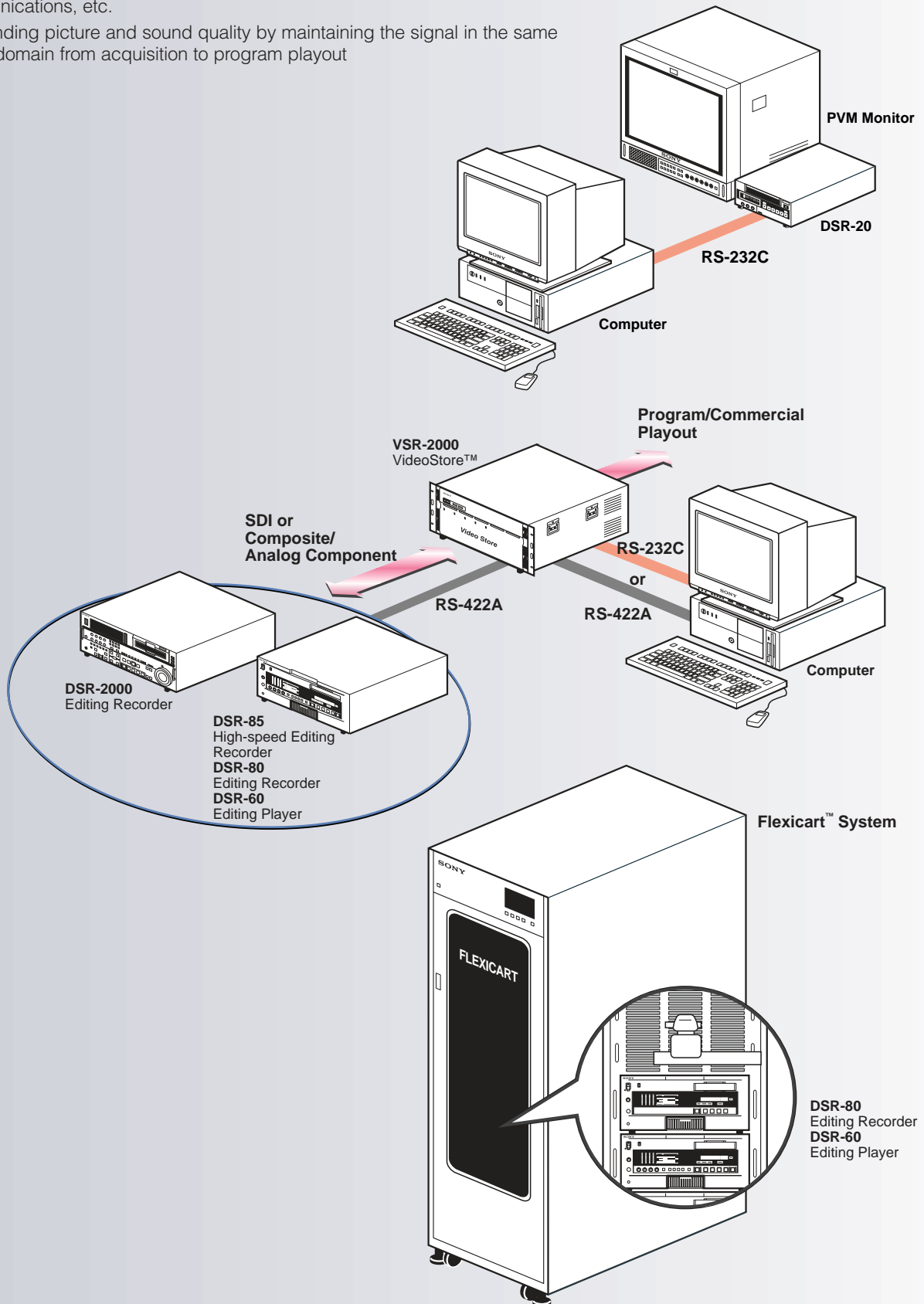
# Acquisition

# DSR-500WS
**One-piece Camcorder**

- Highly mobile one-piece design
- Compact and lightweight: 6.3 kg (13 lb 14 oz) including viewfinder, microphone, lens, battery and tape
- Compact crew package with the LC-DS300SFT Soft Carrying Case or LC-DS500 Hard Carrying Case
- Low power consumption: 24 W (without viewfinder)
- Three 2/3-inch Power HAD WS™ CCDs providing high quality images with low smear level, high sensitivity, high S/N ratio (63 dB) and high horizontal resolution (750/800 TV lines*1 in 16:9/4:3 mode)
- Switchable 4:3 and 16:9 aspect ratio modes
- DSP (Digital Signal Processing) – full digital signal transfer from camera to VTR
- 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
- Video light connector for Anton Bauer Ultralight 2

- Menu control by Jog Dial operation
- Camera Setup File System
- SetupNavi™ function for Camera Setup File storage
- SetupLog™ function for automatic recording of camera setting data
- Pool Feed operation*2
- 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*3
- RM-VJ1 Remote Control Unit with a professional microphone and a hand-held LCD screen for a one-person operation
- Remote control of lens*4 zoom/focus from the RM-VJ1
- Compact and lightweight BP-L40/L60A/L90A Lithium-ion Batteries
- CA-WR855 Camera Adaptor for the WRR-855A Wireless Receiver

*1 The 750 lines horizontal resolution at 16:9 aspect ratio are actually equivalent to 1000 lines which are converted by 4:3 aspect ratio camera measurement.
*2 The optional DSBK-501 Analog Composite Input Board is required.
*3 The optional DSBK-301A Index Picture Board is required.
*4 Focus remote control function is required.

# DSR-300
**One-piece Camcorder**

- Highly mobile one-piece design
- Compact and lightweight: 5.7 kg (12 lb 9 oz) including viewfinder, microphone, lens, battery and tape
- Compact crew package with the LC-300SZ Soft Carrying Case or LC-424CP Universal, LC-424TH Hard Carrying Case
- Low power consumption: 20 W (without viewfinder)
- Three 1/2-inch Power HAD™ CCDs for low smear level, high sensitivity, high S/N ratio (62 dB) and high horizontal resolution (800 TV lines)
- 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
- Video light connector for Anton Bauer Ultralight 2
- Pool feed
- Menu control by Jog Dial operation
- SetupLog function for automatic recording of camera setting data
- 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*1
- RM-VJ1 Remote Control Unit with a professional microphone and a hand-held LCD screen for a one-person operation
- Compact and lightweight BP-L40 Lithium-ion Battery
- CA-WR855 Camera Adaptor for the WRR-855A Wireless Receiver

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

# DSR-130

**Two-piece Camcorder**

- Combination of the DXC-D30 Digital Video Camera and the DSR-1 Dockable Recorder, equivalent to a one-piece camcorder
- Compact and lightweight: 7.3 kg (16 lb 1 oz) including viewfinder, microphone, lens, battery, tape and carrying handle
- Three 2/3-inch Power HAD CCDs for low smear level, high sensitivity and high S/N ratio (63 dB)
- 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
- 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

# DSR-1

**Dockable Recorder**

- Compact and lightweight: 2.85 kg (6 lb 4 oz) including battery
- Ideal operation as a digital camcorder by docking with the DXC-D30 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 any playback adaptor
- Record review function
- Frame accurate back-space editing
- Built-in SMPTE time code generator/reader
- Time base stabilizer
- Full VTR function control (Fast Forward/Rewind/Play/Stop/Eject)
- Comprehensive 8-digit LCD

# DSR-200A
**One-piece Camcorder**

- Compact and lightweight: 4.7 kg (10 lb 5 oz) including tape and battery holder with three battery packs
- Three 1/3-inch CCDs for accurate color reproduction
- DSP (Digital Signal Processing)
- Super SteadyShot® (optical) function for stable picture shooting without sacrificing picture quality
- 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*1
- 16:9 aspect ID signal recording
- Time/date data superimposition on output pictures
- Easy-to-use viewfinder, with high horizontal resolution

- Photo mode and frame interpolation for recording clear frame picture for seven seconds
- Audio dubbing capability (32 kHz/12-bit only)
- Time code capability
- i.LINK (DV In/Out) 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
- LANC interface for simple editing with a LANC-equipped recorder or editing system
- RMT-806 Remote Controller (supplied accessory) for control of basic functions

*1 The DSR-200A accepts only standard-size DVCAM and DV cassettes.

# DSR-PD100A
**Camcorder**

- Compact and lightweight: 1 kg (2 lb 3 oz) including battery and tape
- Three 1/4-inch CCDs with the capability to switch between Interlace Scan and Progressive Scan
- DSP (Digital Signal Processing)
- Super SteadyShot function with new optical system for stable picture shooting without sacrificing picture quality
- Extreme close-up shots with x 12 optical and x 48 digital zoom
- Manual control and a full range auto modes
- Switchable 4:3 and 16:9 recording modes
- 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*1
- Two ways of still image recording: Tape Photo Mode using the cassette tape and Memory Photo Mode using a removable memory media (**Memory Stick**™)
- Color 3.5-inch LCD monitor

- InfoLITHIUM™ battery system: Lithium-ion battery power system that shows the amount of power remaining in the battery, to an accuracy of less than one minute
- Audio dubbing capability (32 kHz/12-bit only)
- i.LINK (DV In/Out) 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
- LANC interface for simple editing with a LANC-equipped recorder or editing system
- XLR adaptor for connecting external professional microphones (supplied accessory)
- Wide-angle conversion lens (supplied accessory)
- RMT-811 Wireless Remote Commander (supplied accessory)

*1 The DSR-PD100A accepts only mini-size DVCAM and DV cassettes.

**MEMORY STICK**

# DSR-2000

**Editing Recorder**

- Superb picture quality of the DVCAM format
- Playback capability of all DV (25 Mb/s) recorded tapes including DV tapes recorded in LP mode and DVCPRO tapes[*1] without any mechanical adaptor
- Long recording time: up to 184 minutes with a standard-size cassette and 40 minutes with a mini-size cassette
- Preread editing capability[*2] 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[*3] with two VTRs
- Audio cross-fade function for clean audio transitions at editing points
- VTR-to-VTR editing without external controllers
- Wide range of digital slow speed from –1 to +1 times normal speed
- Jog audio capability
- DMC (Dynamic Motion Control) provides noiseless slow-motion playback
- High-speed picture search over a range of 60 times normal speed, in both forward and reverse
- Versatile digital interfaces: SDI, SDTI (QSDI), i.LINK (DV In/Out)[*4], SDTI-CP (MPEG Out)[*5] 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

- Process control for highly stable video signals
- Built-in SMPTE time code and VITC generator/reader
- Channel condition monitoring function
- Built-in signal generator
- Audio level control in both recording and playback modes
- Dial menu operation
- Key Inhibit and Rec Inhibit functions to prevent accidental operation
- Flexible input selection between video and audio[*6]
- Universal powering system, from AC 100 V to 240 V
- Closed caption function
- Triple-size cassette compartment to ensure compatibility with DV (25 Mb/s) recorded tapes of all sizes and types
- DSBK-200 Control Panel for remote operation from a distance of up to 10 meters (approx. 33 ft.)

*1 SDTI (QSDI) and i.LINK (DV In/Out) interfaces do not support DVCPRO playback.
*2 Not available through SDTI (QSDI) and i.LINK interfaces.
*3 MIX and WIPE only
*4 The optional DSBK-190 i.LINK/DV Input/Output Board is required.
*5 The optional board will be available in the near future.
*6 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-85

**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 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.

# DSR-80

**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*2, RGB*2, S-Video and XLR audio
- RS-422A remote control interface
- ClipLink operation
- Full tape dubbing with ClipLink Log Data via SDTI (QSDI) and RS-422A interfaces

- Frame accurate editing capability
- Built-in SMPTE 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 0.39 times normal speed, in both forward and reverse
- Jog audio capability
- Closed caption function
- 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.
*2 Selectable by a switch on the rear panel

# DSR-60

**Editing Player**

- Superb picture quality of the DVCAM format
- Playback capability of DV recorded tapes (SP mode only)
- Versatile digital interfaces: SDI*1 and SDTI (QSDI)*2
- Extensive analog interfaces: composite, component*3, RGB*3, S-Video and XLR audio
- RS-422A remote control interface
- ClipLink operation
- Frame accurate editing capability
- Built-in SMPTE time code 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 0.32 times normal speed, in both forward and reverse
- Jog audio capability
- Auto repeat/Power-on playback function
- Closed caption function
- SIRCS (Sony Integrated Remote Control System) interface for the DSRM-10 Remote Control Unit

*1 The optional DSBK-100 SDI Output Board is required.
*2 The optional DSBK-110 QSDI Output Board is required.
*3 Selectable by a switch on the rear panel

# DSR-40
**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*[1] or cut-editing system
- i.LINK (DV In/Out) 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

- 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 functions (when using a cassette with IC Cassette Memory)

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

# DSR-30
**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 In/Out) 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
- 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 15 times normal speed, in both forward and reverse
- Index Points search functions (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*

**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 In/Out) 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
- 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*1 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.

# *DRV-1000*

**DVCAM Drive**

- Superb picture quality of the DVCAM format
- Playback capability of DV recorded tapes (SP mode only)
- Designed to fit in a standard 5.25-inch disk drive PC bay
- i.LINK (DV In/Out) 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

- LANC interface for simple editing with a LANC-equipped recorder or editing system
- Analog video and audio outputs
- DC power operation

# DSR-70
**Portable 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
- Compact, all-in-one package including a 6.4-inch VGA LCD monitor, a full cut-editing controller with a Jog/Shuttle dial and an audio speaker
- VTR-to-VTR editing as a double deck editor by docking two DSR-70 units or a DSR-70 and a DNW-A25 Betacam SX portable editing recorder
- Two-camera switching recording*1
- Sequential recording for up to six hours in the double deck configuration
- Parallel-run recording to make two docked DSR-70 units record simultaneously
- 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
- Full tape dubbing with ClipLink Log Data via SDTI (QSDI) and RS-422A interfaces
- Versatile digital interfaces: SDI*2, SDTI (QSDI)*3 and i.LINK (DV In/Out)*4
- Extensive analog interfaces: composite, component*5, S-Video and XLR audio
- RS-422A remote control interface
- Frame accurate editing capability
- Built-in SMPTE time code generator/reader
- Process control for highly stable video signals
- High-speed picture search over a range of 32 times normal speed, in both forward and reverse
- Digital slow function over a range of 0 to 0.5 times normal speed, in both forward and reverse
- Jog audio capability
- Two-way power supply system for operation on either AC*6 or DC power
- 16:9 and 4:3 switchable
- Closed caption function

*1 The optional DSBK-180 Dual Video Input Board is required.
*2 The optional DSBK-160 SDI 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 is required.
*5 The optional DSBK-170 Analog Component Input/Output Board is required.
*6 AC adaptor is required.

Note: Optional interface boards (DSBK-140/150/160/170) cannot be used in combination with each other.
However, these boards can be used together with the optional DSBK-180.

# DSR-V10
**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*1
- Compact and lightweight: 970 g (2 lb 2 oz) without battery and tape
- Built-in 5.5-inch LCD monitor
- InfoLITHIUM battery system: Lithium-ion battery power system that shows the amount of power remaining in the battery, to an accuracy of less than one minute
- i.LINK (DV In/Out) 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
- 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

*1 The DSR-V10 accepts only mini-size DVCAM and DV cassettes.

# *Flexicart*
## Multi-cassette System

- Accepts a maximum of six DSR-80 or DSR-60 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-80 DSR-60 | 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 of Camcorders

| | DSR-500WS | DSR-130 | DSR-300 | DSR-200A | DSR-PD100A |
|---|---|---|---|---|---|
| **Cassette** | | | | | |
| Standard-size cassette | ● | ● | ● | ● | – |
| Mini-size cassette | ● | ● | ● | – | ● |
| **Camera Section** | | | | | |
| Image device | Three 2/3-inch Power HAD WS CCDs | Three 2/3-inch Power HAD CCDs | Three 1/2-inch Power HAD CCDs | Three 1/3-inch CCDs | Three 1/4-inch CCDs |
| 16:9 aspect ratio | ● | – | – | ● | ● |
| TruEye process | ● | ● | ● | – | – |
| DynaLatitude process | ● | ● | ● | – | – |
| Skin Detail | ● | ● | ● | – | – |
| TLCS (Total Level Control System) | ● | ● | ● | – | – |
| ATW (Auto Tracing White Balance) | ● | ● | ● | ● | ● |
| EZ Mode | ● | ● | ● | – | – |
| EZ Focus | ● | ● | ● | – | – |
| Camera Setup File system | ● | ● | – | – | – |
| SetupNavi | ● | ● | – | – | – |
| SetupLog | ● | ● | ● | – | – |
| Super SteadyShot | – | – | – | ● | ● |
| DynaFit shoulder pad | ● | – | ● | – | – |
| **VTR Section** | | | | | |
| ClipLink | ● | ● | ● | – | – |
| Freeze mix | ● | ● | ● | – | – |
| Photo mode | – | – | – | ● | ● |
| **Interface** | | | | | |
| i.LINK (DV In/Out) | ●*1 | – | – | ● | ● |
| LANC | – | – | – | ● | ● |

*1 Output only

● : Available
— : Not available

# Feature Comparison of Studio VTRs

| | DSR-2000 | DSR-85 | DSR-80 | DSR-60 | DSR-40 | DSR-30 | DSR-20 |
|---|---|---|---|---|---|---|---|
| **Cassette** | | | | | | | |
| Standard-size cassette | ● | ● | ● | ● | ● | ● | ● |
| Mini-size cassette | ● | ● | ● | ● | ● | ● | ● |
| DVCPRO Medium-size cassete | ● | – | – | – | – | – | – |
| **Digital Interface** | | | | | | | |
| SDI | ● | ● (Option) | ● (Option) | ●*1 (Option) | – | – | – |
| SDTI (QSDI) | ● | ● | ● | ●*1 (Option) | – | – | – |
| i.LINK (DV In/Out) | ● (Option) | – | – | – | ● | ● | ● |
| AES/EBU | ● | ● | ● | – | – | – | – |
| **Analog Interface** | | | | | | | |
| Composite | ● | ● | ● | ●*1 | ● | ● | ● |
| Component | ● | ● | ● | ●*1 | ●*1 | – | – |
| S-Video | ● | ● | ● | ●*1 | ● | ● | ● |
| RGB | – | – | ● | ●*1 | – | – | – |
| **Remote Control Interface** | | | | | | | |
| RS-422A | ● | ● | ● | ● | ●*2 | – | – |
| RS-232C | – | – | – | – | – | – | ● |
| LANC | – | – | – | – | – | ● | ● |
| Control S | – | ● | ● | ● | ●*3 | ● | ● |
| **Editing Capability** | | | | | | | |
| Preread editing | ● | – | – | – | – | – | – |
| Assemble editing | ● | ● | ● | – | – | ● | – |
| Insert editing | ● (Video/Audio/TC) | ● (Video/Audio/TC) | ● (Video/Audio/TC) | – | – | ● (Video/Audio) | – |
| VITC | ● | – | – | – | – | – | – |
| Time code input/output | ● | ● (Option) | ● (Option) | ●*1 (Option) | – | – | – |
| ClipLink | ● | ● | ● | ● | – | – | – |
| High-speed data transfer | – | ● | – | – | – | – | – |
| Search speed | x ±60 | x ±32 | x ±32 | x ±32 | x ±15 | x ±15 | x ±15 |
| Digital slow | x ±1 | x ±0 to 0.24 | x ±0 to 0.39 | x ±0 to 0.32 | x ±1/10, 1/5 | x ±1/10, 1/5 | x ±1/10, 1/5 |
| **Others** | | | | | | | |
| DV playback capability | ● (SP/LP) | ● (SP only) | ● (SP only) | ● (SP only) | ● (SP only) | ● (SP only) | ● (SP only) |
| DVCPRO playback capability | ● | – | – | – | – | – | – |
| Auto repeat/ Power-on playback/recording | – | – | – | ●*4 | ● | ● | ● |
| Index Points search | – | – | – | – | ● | ● | ● |
| Closed caption | ● | – | ● | ● | – | – | – |

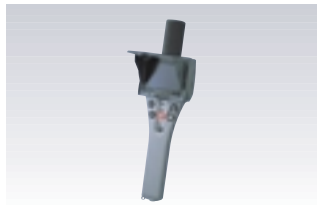*1 Output only
*2 As a player only
*3 Input only
*4 Power-on playback only

● : Available
— : Not available

# Optional Accessories & Peripheral Equipment

## For *Acquisition*

**RM-VJ1**
Remote Control Unit

`DSR-500WS` `DSR-300`

**RM-M7G**
Remote Control Unit

`DSR-500WS` `DSR-130` `DSR-300`

**RM-LG1**
Remote Control Unit

`DSR-500WS` `DSR-130` `DSR-300`

---

**BP-L40**
Rechargeable Battery Pack

`DSR-500WS` `DSR-130` `DSR-300` `DSR-1`

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

`DSR-500WS` `DSR-130` `DSR-300` `DSR-1`

**NP-1B**
Rechargeable Battery Pack

`DSR-500WS` `DSR-130` `DSR-300` `DSR-1`

**BP-90A**
Rechargeable Battery Pack

`DSR-500WS` `DSR-130` `DSR-300` `DSR-1`

---

**NP-F950/B**
Rechargeable Battery Pack

`DSR-200A` `DSR-PD100A`

**NP-F750/F550**
Rechargeable Battery Pack
(NP-F750)

`DSR-PD100A`
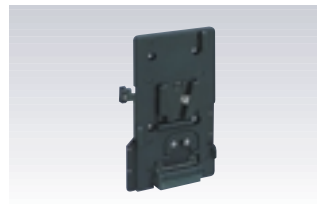
**BKW-L601**
Battery Adaptor for BP-L40/L60A/L90A

`DSR-130` `DSR-1`

**DC-520**
Battery Adaptor for NP-1B

`DSR-130` `DSR-1`

---

**DC-500**
Battery Adaptor for BP-90A

`DSR-130` `DSR-1`

**DC-210**
Battery Adaptor for BP-90A (waist belt type)

`DSR-130` `DSR-1`

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

`DSR-500WS` `DSR-130` `DSR-300` `DSR-1`

**DC-L90**
Battery Adaptor for BP-90A

`DSR-500WS` `DSR-130` `DSR-300` `DSR-1`

---

**NPA-10000/B**
Battery Adaptor for three NP-F950s

`DSR-200A`

**BC-L100**
Battery Charger for BP-L40/L60A/L90A/NP-1B/BP-90A

`DSR-500WS` `DSR-130` `DSR-300` `DSR-1`

**BC-L50**
Battery Charger for BP-L40/L60A/L90A

`DSR-500WS` `DSR-130` `DSR-300` `DSR-1`
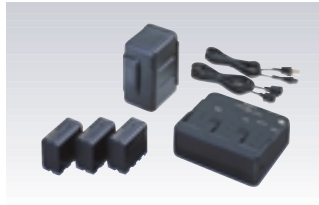
**BC-1WD**
Battery Charger for four NP-1Bs

`DSR-500WS` `DSR-130` `DSR-300` `DSR-1`

# Optional Accessories & Peripheral Equipment

**BC-410**
Battery Charger for four NP-1Bs/BP-90As

`DSR-500WS` `DSR-130` `DSR-300` `DSR-1`

**ACC KIT-201**
Accessory Kit for DSR-200A

`DSR-200A`

**CMA-8A**
Camera Adaptor

`DSR-500WS` `DSR-130` `DSR-300` `DSR-1`

**AC-550**
AC Adaptor

`DSR-500WS` `DSR-130` `DSR-300` `DSR-1`

**AC-DN1**
AC Adaptor

`DSR-500WS` `DSR-300`

**AC-DN2A**
AC Adaptor

`DSR-500WS` `DSR-300`

**AC-V900/B**
AC Adaptor/Charger

`DSR-200A`

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

`DSR-500WS` `DSR-130` `DSR-300` `DSR-200A` `DSR-PD100A`
(ECM-672 only) (ECM-670 only)
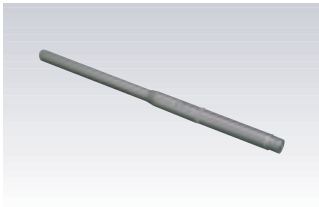
**C-74**
Condenser Microphone

`DSR-130`

**EC-0.5C2**
Microphone Cable

`DSR-130` `DSR-PD100A`

**CAC-12**
Microphone Holder

`DSR-500WS` `DSR-130` `DSR-300` `DSR-200A` `DSR-PD100A`

**WRR-855A**
UHF Synthesized Tuner

`DSR-500WS` `DSR-130` `DSR-300` `DSR-1`

**WRR-810A**
UHF Synthesized Tuner

`DSR-130` `DSR-1` `DSR-200A`

**WRR-805A**
UHF Synthesized Tuner

`DSR-200A` `DSR-PD100A`

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

`DSR-500WS` `DSR-300`

**BTA-801**
Adaptor for WRR-855A
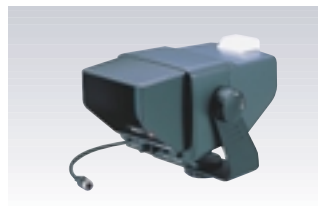
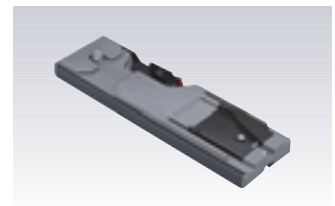`DSR-130` `DSR-1`
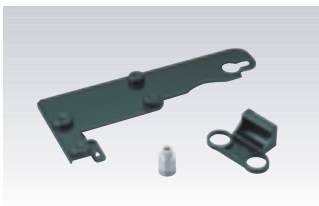
**DSBK-201**
Adaptor for WRR-810A

`DSR-200A`

**DXF-701WS**
1.5-inch Monochrome Viewfinder

`DSR-500WS` `DSR-130` `DSR-300`

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

`DSR-500WS` `DSR-130` `DSR-300`

**VCT-U14**
Tripod Adaptor

`DSR-500WS` `DSR-130` `DSR-300` `DSR-1` `DSR-200A`

**CAC-4**
Chest Pad

`DSR-130`

**CCA-7**
Camera Remote Control Cable

`DSR-500WS` `DSR-130` `DSR-300`

**CCQX-3**
Connecting Cable

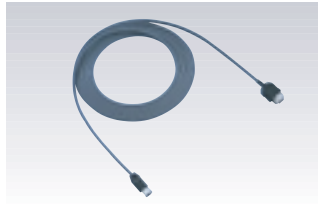`DSR-500WS` `DSR-130` `DSR-300` `DSR-1`

**CCZ-A2/A5/A10**
Connecting Cable (26-pin - 26-pin)
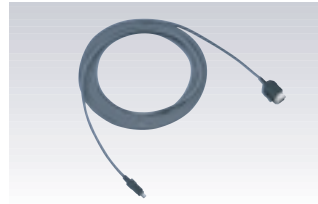
`DSR-500WS` `DSR-130`

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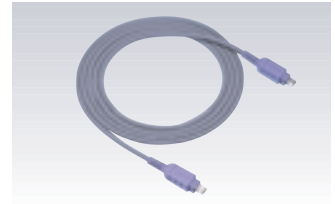Connecting Cable (26-pin - 14-pin)

`DSR-130`

**CCF-3L**
DV Cable (6-pin with lock - 6-pin)
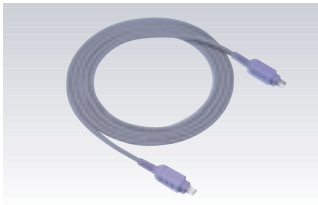
`DSR-500WS`

**CCFD-3L**
DV Cable (6-pin with lock - 4-pin)
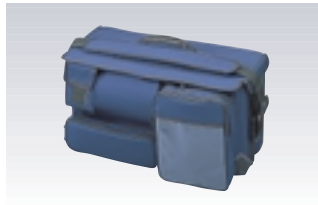
`DSR-500WS` `DSR-200A` `DSR-PD100A`

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

`DSR-200A` `DSR-PD100A`

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

`DSR-500WS` `DSR-200A` `DSR-PD100A`
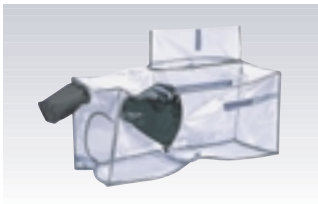
**LC-DS300SFT**
Carrying Case (soft type)

`DSR-500WS` `DSR-130` `DSR-300`
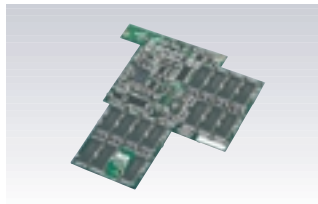
**LC-DS500**
Carrying Case (hard type)

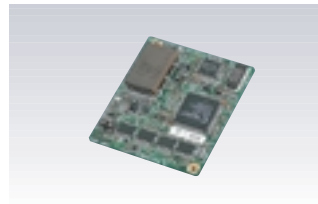`DSR-500WS` `DSR-300`

**LC-421**
Carrying Case (hard type)

`DSR-130` `DSR-300`

**LCR-1**
Rain Cover

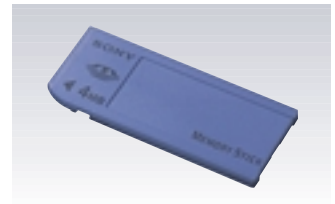`DSR-500WS` `DSR-130` `DSR-300`

**DSBK-301A**
Index Picture Board

`DSR-500WS` `DSR-300`

**DSBK-501**
Analog Composite Input Board
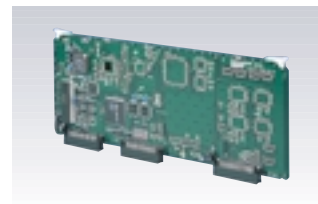
`DSR-500WS`

**MSA-4A/8A/16A**
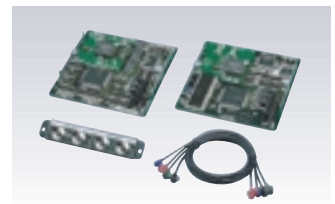Memory Stick (4 MB/8 MB/16 MB)

`DSR-PD100A`

*For*
*Video*
*Production*
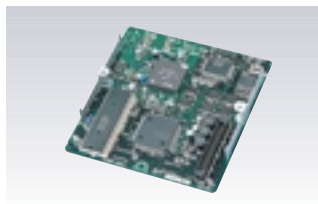
**DSBK-100**
SDI Output Board

`DSR-60`
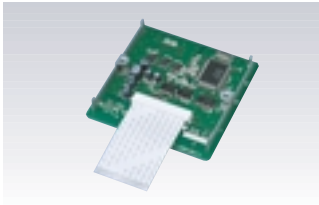
**DSBK-110**
QSDI Output Board

`DSR-60`

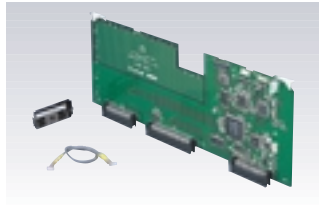**DSBK-120**
SDI Input/Output Board

`DSR-85` `DSR-80`

# *Optional Accessories & Peripheral Equipment*

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

DSR-85 · DSR-80 · DSR-60
(Output only)

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

DSR-2000
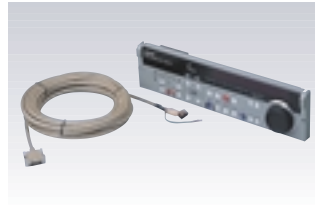
**DSBK-200**
Control Panel

DSR-2000

**ES-7**
EditStation

DSR-2000 · DSR-85 · DSR-80 · DSR-60

**ES-3**
EditStation

DSR-2000 · DSR-85 · DSR-80 · DSR-60 · DSR-40
DSR-30 · DSR-20

**BVE-2000**
Editing Control Unit

DSR-2000 · DSR-85 · DSR-80 · DSR-60

**PVE-500**
Editing Control Unit

DSR-2000 · DSR-85 · DSR-80 · DSR-60 · DSR-40

**RM-450A**
Editing Control Unit

DSR-2000 · DSR-85 · DSR-80 · DSR-60 · DSR-40

**DVS-2000C**
Digital Video Switcher

DSR-2000 · DSR-85 · DSR-80 · DSR-60

**BVS-3200C**
Video Switcher

DSR-2000 · DSR-85 · DSR-80 · DSR-60

**DFS-700**
DME Switcher

DSR-2000 · DSR-85 · DSR-80 · DSR-60

**DFS-300**
DME Switcher

DSR-2000 · DSR-85 · DSR-80 · DSR-60

**FXE-120**
Video Editing System

DSR-2000 · DSR-85 · DSR-80 · DSR-60 · DSR-40
DSR-30 · DSR-20

**DSRM-10**
Remote Control Unit

DSR-85 · DSR-80 · DSR-60

**DSRM-20**
Remote Control Unit

DSR-40 · DSR-30 · DSR-20

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

DSR-2000 · DSR-85 · DSR-80 · DSR-60

**IF-FXE2**
LANC Interface Box

DSR-40 · DSR-30 · DSR-20
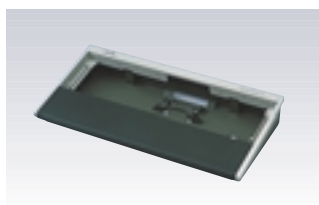
**BKNW-121**
Control Panel Case

DSR-2000
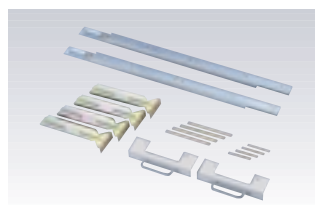
**RMM-130**
Rack Mount Kit

DSR-2000 · DSR-85 · DSR-80 · DSR-60

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

DSR-2000 · DSR-85 · DSR-80 · DSR-60 · DSR-40
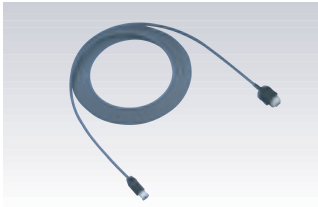
**CCF-3L**
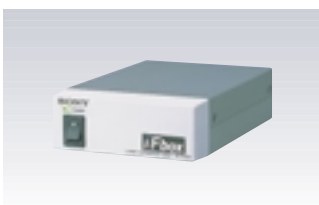DV Cable (6-pin with lock - 6-pin)

DSR-2000
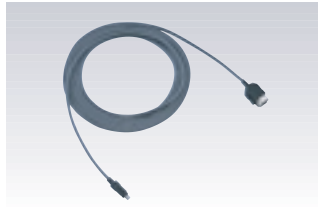
**CCFD-3L**
DV Cable (6-pin with lock - 4-pin)

DSR-2000  DSR-40  DSR-30  DSR-20
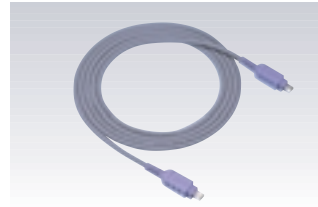
**VMC-IL4415/IL4435**
i.LINK Cable (4-pin - 4-pin, 1.5 m/3.5 m)

DSR-40  DSR-30  DSR-20
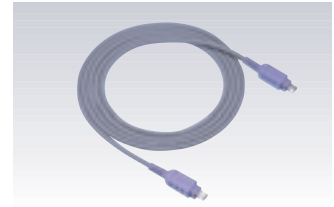
**VMC-IL4615/IL4635**
i.LINK Cable (4-pin - 6-pin, 1.5 m/3.5 m

DSR-2000  DSR-40  DSR-30  DSR-20

*For*
*Field*
*Operation*

**DSRM-E1**
Edit Adaptor

DSR-V10

**CVX-V1**
Color Video Camera

DSR-V10

**CVX-V3**
Color Video Camera
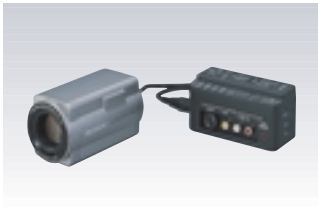
DSR-V10

**CVX-V18NS**
Color Video Camera

DSR-V10
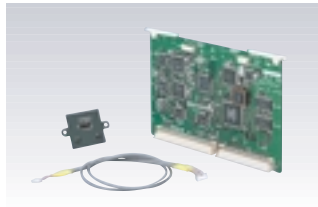
**DSBK-140**
i.LINK/DV Input/Output Board
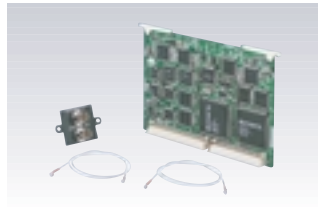
DSR-70

**DSBK-150**
SDTI (QSDI) Input/Output Board
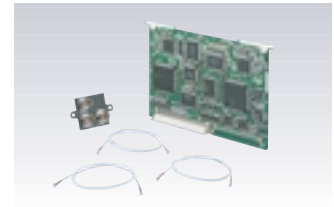
DSR-70

**DSBK-160**
SDI Input/Output Board
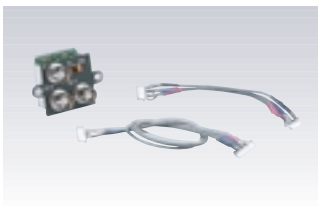
DSR-70

**DSBK-170**
Analog Component Input/Output Board
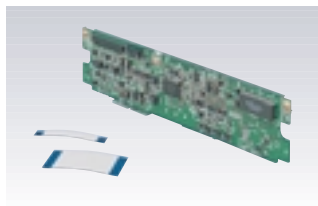
DSR-70

**DSBK-180**
Dual Video Input Board

DSR-70

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

DSR-70

**NP-F950/B**
Rechargeable Battery Pack

DSR-V10

**NP-F750**
Rechargeable Battery Pack

DSR-V10

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

DSR-70

**BC-L100**
Battery Charger for BP-L60A/L90A

DSR-70

**AC-V700**
AC Adaptor/Charger

DSR-V10

# Optional Accessories & Peripheral Equipment

**CMA-8A**
Camera Adaptor

`DSR-70`

**AC-550**
AC Adaptor

`DSR-70`

**AC-DN2A**
AC Adaptor

`DSR-70`
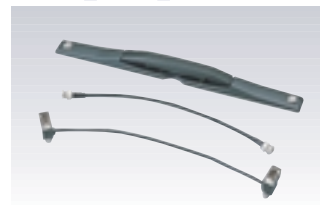
**BKNW-225**
Docking Kit

`DSR-70`
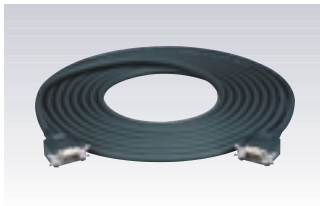
**RCC-5G/10G/30G**
Remote Control Cable (5 m/10 m/30 m)

`DSR-70`
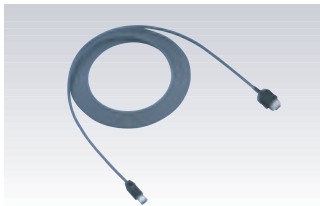
**CCF-3L**
DV Cable (6-pin wiht lock - 6-pin)
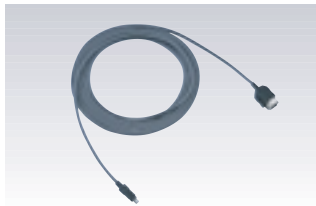
`DSR-70`

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

`DSR-V10`
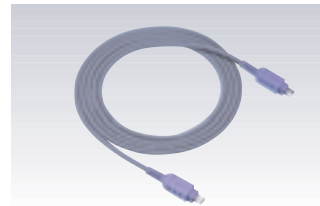
**VMC-IL4415/IL4435**
i.LINK Cable (4-pin - 4-pin, 1.5 m/3.5 m)

`DSR-V10`
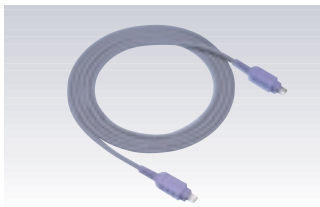
**VMC-IL4615/IL4635**
i.LINK Cable (4-pin - 6-pin, 1.5 m/3.5 m)

`DSR-70` `DSR-V10`

**LC-DN220**
Carrying Case

`DSR-70`

**AC-VQ800**
AC Adaptor/Chager

`DSR-V10P`

**DC-VQ800**
DC Adaptor/Chager

`DSR-V10P`

Note: The connector on one end of the CCF-3L/CCFD-3L DV Cables has a locking mechanism, and is attached to a DV connector with the same locking mechanism such as the DSR-500WS and DSR-2000.

# *Tapes*



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

| DSR-500WS | DSR-130 | DSR-300 | DSR-1 | DSR-PD100A |
|---|---|---|---|---|
| DSR-2000 | DSR-85 | DSR-80 | DSR-60 | DSR-40 |
| DSR-30 | DSR-20 | DRV-1000 | DSR-70 | DSR-V10 |



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

| DSR-500WS | DSR-130 | DSR-300 | DSR-1 | DSR-200A |
|---|---|---|---|---|
| DSR-2000 | DSR-85 | DSR-80 | DSR-60 | DSR-40 |
| DSR-30 | DSR-20 | DSR-70 | | |



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

| DSR-500WS | DSR-130 | DSR-300 | DSR-1 | DSR-PD100A |
|---|---|---|---|---|
| DSR-2000 | DSR-85 | DSR-80 | DSR-60 | DSR-40 |
| DSR-30 | DSR-20 | DRV-1000 | DSR-70 | DSR-V10 |



## PDV-64N/124N/184N
Digital Video Cassete
(Non IC type/Standard size)

| DSR-500WS | DSR-130 | DSR-300 | DSR-1 | DSR-200A |
|---|---|---|---|---|
| DSR-2000 | DSR-85 | DSR-80 | DSR-60 | DSR-40 |
| DSR-30 | DSR-20 | DSR-70 | | |



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

| DSR-500WS | DSR-130 | DSR-300 | DSR-1 | DSR-PD100A |
|---|---|---|---|---|
| DSR-2000 | DSR-85 | DSR-80 | DSR-60 | DSR-40 |
| DSR-30 | DSR-20 | DRV-1000 | DSR-70 | DSR-V10 |



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

| DSR-500WS | DSR-130 | DSR-300 | DSR-1 | DSR-200A |
|---|---|---|---|---|
| DSR-2000 | DSR-85 | DSR-80 | DSR-60 | DSR-40 |
| DSR-30 | DSR-20 | DSR-70 | | |



## PDVM-12CL
Cleaning Cassete Tape (Mini size)

| DSR-500WS | DSR-130 | DSR-300 | DSR-1 | DSR-PD100A |
|---|---|---|---|---|
| DSR-2000 | DSR-85 | DSR-80 | DSR-60 | DSR-40 |
| DSR30 | DSR-20 | DRV-1000 | DSR-70 | DSR-V10 |

## PDV-12CL
Cleaning Cassete Tape (Standard size)

| DSR-500WS | DSR-130 | DSR-300 | DSR-1 | DSR-200A |
|---|---|---|---|---|
| DSR-2000 | DSR-85 | DSR-80 | DSR-60 | DSR-40 |
| DSR30 | DSR-20 | DSR-70 | | |

# Specifications

## DSR-500WS/DSR-130/DSR-300 Camcorders

| | DSR-500WS | DSR-130 | DSR-300 |
|---|---|---|---|
| **General** | | | |
| Power requirements | DC 12 V (11 to 17 V) | | |
| Power consumption | 26.1 W (with VF), 24 W (without VF) | 24.8 W (with VF) | 22.1 W (with VF), 20 W (without VF) |
| 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 | 28.193 mm/s | | |
| Recording/Playback time | Standard size: 184 min. with PDV-184ME/184N/184MEM<br>Mini size: 40 min. with PDVM-40ME/40N/40MEM | | |
| Fast forward/Rewind time | Standard size: approx. 12 min. with PDV-184ME/184N/184MEM<br>Mini size: approx. 3 min. with PDVM-40ME/40N/40MEM | | |
| Continuous recording time | Approx. 70 min. with BP-L40<br>Approx. 140 min. with BP-L60A<br>Approx. 230 min. with BP-L90A | Approx. 60 min with NP-1B | Approx. 80 min. with BP-L40<br>Approx. 180 min. with BP-L60A<br>Approx. 290 min. with BP-L90A |
| Weight | 6.3 kg (13 lb 14 oz)<br>(with VF, microphone, lens, battery and tape) | 7.3 kg (16 lb 1 oz)<br>(with VF, microphone, lens, battery, tape and carrying handle) | 5.7 kg (12 lb 9 oz)<br>(with VF, microphone, lens, battery and tape) |
| Dimensions (W x H x D) | 121 x 192 x 280 mm<br>(4 7/8 x 7 5/8 x 11 1/8 inches) (without projections)<br>242 x 247 x 547 mm<br>(9 5/8 x 9 3/4 x 21 5/8 inches) (with projections) | 121 x 206 x 344 mm<br>(4 7/8 x 8 1/8 x 13 5/8 inches) | 121 x 192 x 270 mm<br>(4 7/8 x 7 5/8 x 10 3/4 inches) (without projections)<br>242 x 247 x 534 mm<br>(9 5/8 x 9 3/4 x 21 1/8 inches) (with projections) |
| **Camera Section** | | | |
| Image device | 3-chip 2/3-inch, Interline-Transfer CCD | 3-chip 2/3-inch, Interline-Transfer CCD | 3-chip 1/2-inch, Interline-Transfer CCD |
| Optics | F1.4 medium index prism system | | |
| Effective picture elements | 980 (H) x 494 (V) | 768 (H) x 494 (V) | |
| Total picture elements | 1038 (H) x 504 (V) | 811 (H) x 508 (V) | |
| Sensing area | 9.6 mm x 5.4 mm | 6.6 mm x 8.8 mm (equivalent to a 2/3-inch pickup tube) | 6.4 mm x 4.8 mm (equivalent to a 1/2-inch pickup tube) |
| Built-in filters | 1: 3200 K/3000 K   2: 5600 K+1/8 ND<br>3: 5600 K          4: 5600 K+1/64 ND | 1: 3200 K   2: 5600 K+1/8 ND<br>3: 5600 K   4: 5600 K+1/64 ND | 1: 3200 K/3000 K   2: 5600 K+1/8 ND<br>3: 5600 K          4: 5600 K+1/64 ND |
| Lens mount | Sony 2/3-inch bayonet mount | Sony 2/3-inch bayonet mount | Sony 1/2-inch 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: 750 TV lines    4:3 mode: 800 TV lines | 850 TV lines | 800 TV lines |
| Vertical resolution | 400 TV lines (without EVS), 450 TV lines (with EVS) | | |
| Minimum illumination | 0.5 lx with F1.4, Hyper gain (30 dB+DPR)*1<br>0.8 lx with F1.8, Hyper gain (30 dB+DPR)*1 | | |
| 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 (30 dB+DPR)*1 | | |
| Shutter speed selection | OFF, 1/100, 1/250, 1/500, 1/1000, 1/2000 s | | |
| S/N ratio | 63 dB (typical) | 63 dB (typical) | 62 dB (typical) |
| Registration | 0.05% (all zones, without lens) | | |
| Geometric distortion | Below measurable level | | |
| **VTR Section** | | | |
| Video performance*2 | | | |
|   Bandwidth | Luminance: 30 Hz to 5.0 MHz ±1.0 dB    Chrominance: 30 Hz to 1.5 MHz +1.0/-5.0 dB | | |
|   S/N ratio | More than 55 dB | | |
|   K-factor (K2T, KPB) | Less than 2.0% | | |
|   Y/C delay | Less than 30 ns | | |
| Audio performance*2 | | | |
|   Frequency response | 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 | | |
|   Dynamic range | More than 80 dB | | |
|   Distortion (THD) | Less than 0.08% (1 kHz reference level, 48 kHz) | | |
| **Input/Output Connectors** | | | |
| Signal inputs | Genlock Video In: BNC, 1.0 Vp-p, 75 Ω<br>Analog Video In: BNC, 1.0 Vp-p, 75 Ω<br>(with DSBK-501 optional board installed)<br>Ext Audio CH-1/2: XLR 3-pin female x2<br>   -60 dBu, 3 kΩ ±4 dBu, 10 kΩ<br>MIC In: XLR 3-pin female<br>TC In: BNC, 0.5 Vp-p to 18 Vp-p, 10 kΩ | Genlock Video In: BNC, 1.0 Vp-p, 75 Ω<br>Ext Audio CH-1/2: XLR 3-pin female x2<br>   -60 dBu, 3 kΩ ±4 dBu, 10 kΩ<br>TC In: BNC, 0.5 Vp-p to 18 Vp-p, 10 kΩ | Genlock Video In: BNC, 1.0 Vp-p, 75 Ω<br>Ext Audio CH-1/2: XLR 3-pin female x2<br>   -60 dBu, 3 kΩ ±4 dBu, 10 kΩ<br>MIC In: XLR 3-pin female<br>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<br>   26-pin male<br>VBS: 1.0 Vp-p, sync negative<br>Y/R-Y/B-Y:  Y: 1.0 Vp-p, sync negative<br>   R-Y/B-Y: 0.7 Vp-p<br>Y/C:  Y: 1.0 Vp-p, sync negative<br>   C: 0.286 Vp-p (burst level)<br>S-Video: DIN 4-pin, 1.0 Vp-p, 75 Ω<br>DV Out: 6-pin, IEEE1394-based<br>Audio CH-1/2: Phono, -10 dBu, 47 kΩ<br>Monitor Out: BNC, 1.0 Vp-p, sync negative, 75 Ω<br>TC Out: BNC, 1.0 Vp-p, 75 Ω | Camera head BNC connector:<br>  VBS: 1.0 Vp-p, sync negative<br>26-pin connector of CA-537 docked to DXC-D30:<br>  VBS: 1.0 Vp-p, sync negative<br>  Y/R-Y/B-Y:  Y: 1.0 Vp-p, sync negative<br>    R-Y/B-Y: 0.7 Vp-p<br>  Y/C:  Y: 1.0 Vp-p, sync negative<br>    C: 0.286 Vp-p (burst level)<br>  RGB: 1.4 Vp-p<br>Video Out: BNC, 1.0 Vp-p, sync negative, 75 Ω<br>S-Video: DIN 4-pin<br>  Y: 1.0 Vp-p, sync negative<br>  C: 0.286 Vp-p (burst level)<br>Audio CH-1/2: Phono, -10 dBu, 47 kΩ<br>TC Out: BNC, 1.0 Vp-p, 75 Ω | Video Out: BNC, 1.0 Vp-p, sync negative, 75 Ω<br>   26-pin male<br>VBS: 1.0 Vp-p, sync negative<br>Y/R-Y/B-Y:  Y: 1.0 Vp-p, sync negative<br>   R-Y/B-Y: 0.7 Vp-p<br>Y/C: Y: 1.0 Vp-p, sync negative<br>   C: 0.286 Vp-p (burst level)<br>S-Video: DIN 4-pin, 1.0 Vp-p, 75 Ω<br>Audio CH-1/2: Phono, -10 dBu, 47 kΩ<br>Monitor Out: BNC, 1.0 Vp-p, sync negative, 75 Ω<br>TC Out: BNC, 1.0 Vp-p, 75 Ω |
| Others | DC In: XLR 4-pin male<br>DC Out: XLR 4-pin female<br>Battery Terminal: 5-pin<br>Earphone: Mini jack<br>Light Out: 2-pin female<br>WRR Out: 7-pin<br>Lens: 12-pin<br>VF: 20-pin<br>Remote1: Stereo mini jack<br>Remote2: 10-pin | DC In: XLR 4-pin male<br>DC Out: XLR 4-pin female<br>Earphone: Mini jack<br>Lens: 12-pin<br>VF: 8-pin, 20-pin<br>Remote1: Stereo mini jack<br>Remote2: 10-pin | DC In: XLR 4-pin male<br>DC Out: XLR 4-pin female<br>Battery Terminal: 5-pin<br>Earphone: Mini jack<br>Light Out: 2-pin female<br>WRR Out: 7-pin<br>Lens: 14-pin hot-shoe type or 12-pin<br>VF: 20-pin<br>Remote1: Stereo mini jack<br>Remote2: 10-pin |
| **Supplied Accessories** | | | |
| | DXF-701WS Viewfinder (1)<br>RM-LG1 Remote Control Unit (1)<br>VCT-U14 Tripod Adaptor (1)<br>Microphone (1), Wind screen (1)<br>Shoulder strap (1), Lens mount cap (1)<br>Flange focal length adjustment test chart (1)<br>Binding tie (4), Operating Instructions (1) | LC-421 Carrying Case (1) (for DSR-130F1)<br>DXF-701WS Viewfinder (1)<br>VCL-918BY Zoom Lens (1) (for DSR-130F1/130K1)<br>RM-LG1 Remote Control Unit (1)<br>VCT-U14 Tripod Adaptor (1)<br>Microphone (1), Shoulder strap (1)<br>Handle (1), Operating Instructions (1)<br>ClipLink Guide (1) | LC-DS300SFT Soft Carrying Case (1) (for DSR-300F)<br>VCL-714BXA Zoom Lens (1) (for DSR-300F/300K)<br>DXF-701WS Viewfinder (1)<br>RM-LG1 Remote Control Unit (1)<br>VCT-U14 Tripod Adaptor (1)<br>Microphone (1), Wind screen (1)<br>Shoulder strap (1), Lens mount cap (1)<br>Flange focal length adjustment test chart (1)<br>Switching guard (1), Operating Instructions (1)<br>ClipLink Guide (1) |

*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/DSR-300/DSR-130.

# DSR-200A/DSR-PD100A Camcorders

|  | DSR-200A | DSR-PD100A |
|---|---|---|
| **General** | | |
| Power requirements | DC 7.2 V (Battery operation), DC 8.4 V (AC Adaptor) | |
| Power consumption | 11.6 W (during camera recording) | 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 | 28.193 mm/s | |
| Recording/Playback time | 184 min. with PDV-184ME/184N/184MEM | 40 min. with PDVM-40ME/40N/40MEM |
| Weight | Approx. 4.7 kg (10 lb 5 oz) (with three NP-F950s in NPA-10000/B and tape) | Approx. 1.28 kg (2 lb 13 oz) (with XLR adaptor, lens, lens hood, battery and tape) |
| Dimensions (W x H x D) | 216 x 237 x 474 mm (8 5/8 x 9 3/8 x 18 3/4 inches) | 93 x 112 x 193.5 mm (3 3/4 x 4 1/2 x 7 5/8 inches) |
| **Lens** | | |
| Zoom | x10 (optical), x20 (digital) (f=5.9 to 59 mm) | 12:1 variable speed zoom lens (1.83 to 26.5 s) (f=4.3 to 51.6 mm;  F1.6 to 2.8) |
| Filter diameter | 52 mm (2 1/8 inches) | |
| Iris | Auto/Manual (F1.6 to 11) and Close | Auto/Manual (ring)/Infinity |
| **Camera** | | |
| Image device | 3-chip 1/3-inch, Interline-Transfer CCD | 3-chip 1/4-inch color CCD, 380,000 pixels Progressive/Interlace Scan |
| Effective picture elements | 768 (H) x 494 (V) | — |
| Total picture elements | 811 (H) x 508 (V) | — |
| Signal system | EIA standards, NTSC color system | |
| Scanning system | 2:1 interlaced, 525 lines, 60 fields/s | — |
| Horizontal resolution | 500 TV lines | |
| Minimum illumination | 3 lx at F1.6 | 4 lx at F1.6 |
| Gain selection | Auto/Manual (-3 dB, 0 dB, 3 dB, 6 dB, 9 dB, 12 dB, 15 dB, 18 dB) | — |
| Shutter speed selection | Auto/Manual (1/4, 1/8, 1/15, 1/30, 1/60, 1/100, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000 s) | 1/4 to 1/10,000 s |
| Exposure | — | Auto/Manual (Exposure dial, Program AE) |
| White balance | Auto/One-push auto/5800 K/3200 K | Auto/One-push/Outdoor/Indoor |
| Viewfinder | 1-inch black and white CRT | 180,000 dot color LCD, Zebra Pattern |
| Built-in microphone | One-point stereo-type electret condenser microphone, directivity selectable (0 °/90 °/120 °) | Stereo electret condenser microphone |
| Built-in speaker | Dynamic speaker | |
| LCD | — | TFT Active Matrix, 3.5-inch 184,580 pixels (839 x 220) |
| Memory Card Slot | — | 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 |
| **Input/Output Connectors** | | |
| Signal inputs/outputs | Video Out: BNC x1, Phono jack x1 1.0 Vp-p, 75 Ω, sync negative S-Video Out: Mini DIN 4-pin x1 Y: 1.0 Vp-p, 75 Ω, unbalanced C: 0.286 Vp-p (subcarrier burst), 75 Ω, unbalanced Audio In: XLR 3-pin x2 (MIC/LINE selectable) Audio Out: Phono jack x1 (L&R x1) MIC In: Stereo mini jack x1 i.LINK (DV In/Out): 4-pin x1, IEEE1394-based | 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 In/Out): 4-pin x1, IEEE1394-based |
| Others | LANC: Stereo mini-mini jack x1 External DC In: 4-pin for DK-715 cable RFU DC Out: Special mini jack x1 (DC 5 V) Headphone: Stereo mini jack x1 VF: 8-pin | LANC: Stereo mini-mini jack x1 External DC In: 8.4 V (AC-L10 AC Adaptor) Headphone: Stereo mini jack x1 |
| **Supplied Accessories** | | |
| | RMT-806 Wireless Remote Controller (1) Size AA (R6) batteries (2) CR2025 lithium battery (1) AV cable (1) S-Video cable (1) AV cable (1) Operating Instructions (1) | RMT-811 Wireless Remote Controller (1) Wide conversion lens (1) Lens hood (1), Lens cap (1) AC-L10 AC Adaptor (1) NP-F330 Rechargeable Battery Pack (1) Size AA (R6) batteries (2) **Memory Stick** (1) **Memory Stick**/PC Card Adaptor (1) XLR adaptor (1) Special stereo AV cable (1) i.LINK cable (1), Carrying belt (1) Operating Instructions (1) |

# DSR-1 Dockable Recorder

| | |
|---|---|
| **General** | |
| Power requirements | DC 12 V +5/-1 V |
| Power consumption | 12 W (10 W in recording mode with the DXC-D30) |
| 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 | 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: approx. 12 min. with PDV-184ME/184N/184MEM Mini size: approx. 3 min. with PDVM-40ME/40N/40MEM |
| Continuous recording time | Approx. 60 min. with NP-1B (in docking to the DXC-D30) |
| Mass | 2.85 kg (6 lb 4 oz) (with battery) |
| Dimensions (W x H x D) | 118 x 185 x 210 mm (4 3/4 x 7 3/8 x 8 3/8 inches) |
| **Video Performance*1** | |
| Bandwidth | Luminance: 30 Hz to 5.0 MHz ±1.0 dB Chrominance: 30 Hz to 1.5 MHz +1.0/-5.0 dB |
| S/N ratio | More than 55 dB |
| K-factor (K2T, KPB) | Less than 2.0% |
| Y/C delay | Less than 30 ns |
| **Audio Performance*1** | |
| Frequency response | 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 |
| Dynamic range | More than 80 dB |
| Distortion (THD) | Less than 0.08% |
| **Input/Output Connectors** | |
| Signal inputs | 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 S-Video: DIN 4-pin Y: 1.0 Vp-p, sync negative, 75 Ω 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 |
| Others | Analog Interface: Pro 50-pin Digital Interface: Pro 76-pin Digital DC In: XLR 4-pin male DC Out: XLR 4-pin female Earphone: Mini jack |
| **Supplied Accessories** | |
| | Shoulder strap (1) Connector cap (1) Lithium battery (type CR2032) (1) M4 x6 screws (2) M4 x12 screws (2) Operating Instructions (1) ClipLink Guide (1) |

*1: 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-1.

# Specifications

## DSR-2000/DSR-85/DSR-80/DSR-60 Studio VTRs

| | DSR-2000 | DSR-85 | DSR-80 | DSR-60 |
|---|---|---|---|---|
| **General** | | | | |
| Power requirements | AC 100 V to 240 V, 50/60 Hz | AC 100 V to 120 V, 50/60 Hz | | |
| Power consumption | 110 W | 185 W | 140 W | 85 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:<br>still to ±60 times normal speed<br>Digital slow mode:<br>±1 times normal speed | When controlling via RS-422A: Search speed is up to ±32 times normal speed.<br>When controlling via optional DSRM-10: Jog mode: still to ±2 times normal speed<br>Shuttle mode: 8 steps, from still to ±16 times normal speed<br>Digital slow mode: 3 steps, still, ±1/5, 1/10 times normal speed | | |
| Weight | 18 kg (39 lb 10 oz) | 21 kg (46 lb 4 oz) | 19 kg (41 lb 14 oz) | 18 kg (39 lb 10 oz) |
| Dimensions<br>(W x H x D, excluding projections) | 427 x 175 x 496.5 mm<br>(16 7/8 x 7 x 19 5/8 inches) | 427 x 174 x 494 mm (16 7/8 x 6 7/8 x 19 1/2 inches) | | |
| **Video Performance** | | | | |
| Bandwidth<br>(via analog component I/O) | Luminance:   30 Hz to 5.0 MHz ±1.0 dB<br>5.75 MHz +0/-3.0 dB (Typical measurement)<br>Chrominance: 30 Hz to 1.5 MHz +1.0/-5.0 dB | | | |
| S/N ratio<br>(via analog component I/O) | More than 55 dB | | | |
| K-factor (K2T, KPB) | Less than 2.0% | | | |
| Y/C delay | Less than 30 ns | | | |
| **Audio Performance** | | | | |
| Frequency response | 2 CH mode (48 kHz/16-bit): 20 Hz to 20 kHz +0.5/-1.0 dB<br>4 CH mode (32 kHz/12-bit): 20 Hz to 14.5 kHz +0.5/-1.0 dB | | | |
| Dynamic range | More than 90 dB | More than 85 dB | | |
| Distortion (THD+N) | Less than 0.05% | | | |
| **Video Signal Inputs** | | | | |
| **Analog** | | | | |
| Ref. Video<br>(BNC x2, loop-through connection) | Composite, 1.0 Vp-p, 75 Ω, sync negative | Black burst: 0.286 Vp-p, 75 Ω, sync negative<br>Composite sync: 2.0 Vp-p, 75 Ω, sync negative<br>(when not adding sync to RGB output) | | |
| Video (BNC x2, loop-through connection) | Composite, 1.0 Vp-p, 75 Ω, sync negative | | | — |
| Component (BNC x3) | Y: 1.0 Vp-p, 75 Ω, sync negative<br>R-Y: 0.7 Vp-p, 75 Ω (75 %)<br>B-Y: 0.7 Vp-p, 75 Ω (75 %) | — | — | |
| RGB/Component (BNC x3)<br>(selectable) | — | — | Y/R-Y/B-Y:   Y: 1.0 Vp-p, 75 Ω, sync negative<br>R-Y/B-Y: 0.7 Vp-p, 75 Ω (75 %)<br>R.G (w/o sync).B: 0.7 Vp-p, 75 Ω<br>G (w/sync): 1.0 Vp-p, 75 Ω | — |
| 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) | | | — |
| **Digital** | | | | |
| SDI (BNC x2, active-through connection)*1 | Conforms to Serial Digital Interface (270 Mb/s), SMPTE 259M | | | — |
| SDTI (QSDI) (BNC x1) | Conforms to SDTI (270 Mb/s), SMPTE 305M/322M | | | |
| i.LINK (DV In/Out) (6-pin x1)*2 | IEEE1394-based | — | — | — |
| **Audio Signal Inputs** | | | | |
| **Analog** | | | | |
| Audio (XLR 3-pin female x4) | -6/0/+4 dBu, 600 Ω on/off/-60 dBu, high impedance | | | |
| **Digital** | | | | |
| AES/EBU (DSR-2000: BNC x2)<br>(DSR-85/80: XLR 3-pin female x2) | 75 Ω, unbalanced | 110 Ω, balanced | | — |
| **Video Signal Outputs** | | | | |
| **Analog** | | | | |
| Ref. Video (BNC x1) | 0.286 Vp-p, 75 Ω, sync negative | Black burst: 0.286 Vp-p, 75 Ω, sync negative<br>Composite sync: 2.0 Vp-p, 75 Ω, sync negative<br>(when not adding sync to RGB output) | | |
| Video (DSR-2000: Video 1/2/3(SUPER) BNC x3)<br>(DSR-85/80/60: Video 1/2(SUPER) BNC x2) | Composite, 1.0 Vp-p, 75 Ω, sync negative | | | |
| Component (BNC x3) | Y: 1.0 Vp-p, 75 Ω, sync negative<br>R-Y: 0.7 Vp-p, 75 Ω (75 %)<br>B-Y: 0.7 Vp-p, 75 Ω (75 %) | — | — | |
| RGB/Component (BNC x3)<br>(selectable) | — | — | Y/R-Y/B-Y:   Y: 1.0 Vp-p, 75 Ω, sync negative<br>R-Y/B-Y: 0.7 Vp-p, 75 Ω (75 %)<br>R.G (w/o sync): 0.7 Vp-p, 75 Ω<br>G (w/sync):   1.0 Vp-p, 75 Ω | — |
| 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) | | | |
| **Digital** | | | | |
| SDI (DSR-2000: BNC x3)<br>(DSR-85/80/60: BNC x2)*1 | Conforms to Serial Digital Interface (270 Mb/s), SMPTE 259M | | | |
| SDTI (QSDI) (BNC x1)*3 | Conforms to SDTI (270 Mb/s), SMPTE 305M/322M | | | |
| i.LINK (DV In/Out) (6-pin x1)*2 | IEEE1394-based | — | — | — |
| **Audio Signal Outputs** | | | | |
| **Analog** | | | | |
| Audio (XLR 3-pin male x4) | +4/0/-6 dBu (selectable by menu) | 4 dBu, 600 Ω loading, low impedance, balanced | | |
| Monitor (Phono x1) | -11 dBu, 47 kΩ, unbalanced (-18 dBFS) | -6 dBu, 47 kΩ, unbalanced | | |
| Headphone<br>(JM-60 headphone jack x1) | -∞ to -13 dBu, 8 Ω,<br>unbalanced (-18 dBFS) | -16 dBu, 8 Ω, unbalanced | | |
| **Digital** | | | | |
| AES/EBU (DSR-2000: BNC x2)<br>(DSR-85/80: XLR 3-pin male x2) | 75 Ω, unbalanced | 110 Ω, balanced | | — |
| **Time Code Input/Output** | | | | |
| Time Code In (BNC x1)*4 | 0.5 Vp-p to 18 Vp-p, 3 kΩ, unbalanced | | | — |
| Time Code Out (BNC x1)*4 | 2.2 Vp-p, 75 Ω, unbalanced | | | |
| **Remote** | | | | |
| | RS-422A: D-sub 9-pin female x2<br>Video Control: D-sub 15-pin male x1<br>Control Panel: D-sub 15-pin female x1 | RS-422A: D-sub 9-pin female x1<br>TBC Remote: D-sub 15-pin male x1<br>Control S (SIRCS): Stereo mini jack x1 | RS-422A: D-sub 9-pin female x1<br>TBC Remote: D-sub 15-pin male x1<br>Control S (SIRCS): Stereo mini jack x1 | RS-422A: D-sub 9-pin female x1<br>TBC Remote: D-sub 15-pin male x1<br>Control S (SIRCS): Stereo mini jack x1 |
| **Supplied Accessories** | | | | |
| | AC power cord (1)<br>RCC-5G 9-pin Remote Control Cable (1)<br>Operating Instructions (1) | AC power cord (1)<br>RCC-5G 9-pin Remote Control Cable (1)<br>Operating Instructions (1)<br>ClipLink Guide (1) | AC power cord (1)<br>RCC-5G 9-pin Remote Control Cable (1)<br>Operating Instructions (1)<br>ClipLink Guide (1) | AC power cord (1)<br>RCC-5G 9-pin Remote Control Cable (1)<br>Operating Instructions (1)<br>ClipLink Guide (1) |

*1: The optional DSBK-120 SDI Input/Output Board is required for the DSR-85 and DSR-80.
    The optional DSBK-100 SDI Output Board is required for the DSR-60.
*2: The optional DSBK-190 i.LINK/DV Input/Output Board is required for the DSR-2000.

*3: The optional DSBK-110 QSDI Output Board is required for the DSR-60.
*4: The optional DSBK-130 Time Code Input/Output Board is required for the DSR-85, DSR-80 and
    DSR-60.

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

| | DSR-40 | DSR-30 | DSR-20 |
|---|---|---|---|
| **General** | | | |
| Power requirements | AC 120V, 50/60 Hz | | AC: 120V, 50/60 Hz    DC: 12 V |
| Power consumption | 40 W | 32 W | AC: 28 W    DC: 2.0 A (4.0 A PEAK) |
| 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 playback mode: 18.812 mm/s | | |
| Recording/Playback time | Standard size: 184 min. with PDV-184ME/184N/184MEM<br>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:<br>Shuttle mode: ±1/10, 1/5, 1, 2, approx. 10, approx. 14 times<br>Jog mode: ±1/10, 1/5, 1, 2 times | Still, ±1/5, 1, 2 times, Cue/Review (±10 or 15 times) | When controlling via optional DSRM-20/RMT-DS20 (supplied):<br>Still, ±1/5, 1, 2 times, Cue/Review (±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) |
| Dimensions<br>(W x H x D, including projections) | 212 x 98 x 392 mm<br>(8 3/8 x 3 7/8 x 15 1/2 inches) | 430 x 129 x 374 mm<br>(17 x 5 1/8 x 14 3/4 inches) | 212 x 98 x 392 mm<br>(8 3/8 x 3 7/8 x 15 1/2 inches) |
| **Video Signal Inputs** | | | |
| Ref. Video (BNC x1) | Black burst: 75 Ω, sync negative | — | — |
| Video (DSR-40/20: BNC x1)*1<br>(DSR-30: BNC x1, Phono jack x1) | Composite, 1.0 Vp-p, 75 Ω, sync negative | | |
| S-Video<br>(DSR-40/20: Mini DIN 4-pin x1)<br>(DSR-30: Mini DIN 4-pin x2,<br>front x1/rear x1) | Y: 1.0 Vp-p, 75 Ω, sync negative<br>C: 0.286 Vp-p (subcarrier burst), 75 Ω | | |
| **Audio Signal Inputs** | | | |
| Audio (DSR-40/20:<br>Phono jack x2/stereo L/R)<br>(DSR-30: Phono jack x2/<br>stereo L/R, front x1/rear x1) | 2 Vrms (full bit) | | |
| **Video Signal Outputs** | | | |
| Video (DSR-40/20: BNC x1)<br>(DSR-30: BNC x2, Phono jack x1) | Composite, 1.0 Vp-p, 75 Ω, sync negative | | |
| S-Video<br>(DSR-40/20: Mini DIN 4-pin x1)<br>(DSR-30: Mini DIN 4-pin x2) | Y: 1.0 Vp-p, 75 Ω, sync negative<br>C: 0.286 Vp-p (subcarrier burst), 75 Ω | | |
| Component (BNC x3) | Y: 1.0 Vp-p, 75 Ω, sync negative<br>R-Y/B-Y: 0.7 Vp-p (with 75 % color burst) | — | — |
| Monitor (BNC x1) | Composite, 1.0 Vp-p, 75 Ω, sync negative | — | Composite, 1.0 Vp-p, 75 Ω, sync negative |
| **Audio Signal Outputs** | | | |
| Audio<br>(DSR-40: XLR 3-pin male x2, stereo L/R)<br>(DSR-30/20: Phono jack x1, stereo L/R) | 4 dBu, balanced | 2 Vrms (full bit) | |
| Monitor<br>(Phono jack x2, stereo L/R) | 2 Vrms (full bit) | — | 2 Vrms (full bit) |
| **Digital Input/Output** | | | |
| i.LINK (DV In/Out) (4-pin x1) | IEEE1394-based | | |
| **Others** | | | |
| | RS-422A: D-sub 9-pin female x1<br>Control S (SIRCS) In: Stereo mini jack x1<br>Headphone: Stereo mini jack x1 | LANC: Stereo mini-mini jack x2 (front x1/rear x1)*2<br>Control S (SIRCS) In: Mini jack x1<br>Control S (SIRCS) Out: Mini jack x1<br>Trigger In: Phono jack x1 (active short)<br>Headphone: Stereo mini jack x1<br>MIC In: Mini jack x1 | LANC: Stereo mini-mini jack x1<br>RS-232C: D-sub 9-pin male x1<br>Control S (SIRCS) In: Stereo mini jack x1<br>Control S (SIRCS) Out: Stereo mini jack x1<br>DC In (12 V): Canon 4-pin x1<br>Headphone: Stereo mini jack x1 |
| **Supplied Accessories** | | | |
| | AC power cord (1)<br>Cleaning cassette (1)<br>Operating Instructions (1) | RMT-DS30 Wireless Remote Controller (1)<br>Size AA (R6) batteries (2)<br>AC power cord (1)<br>LANC cable (1)<br>Cleaning cassette (1)<br>Operating Instructions (1) | RMT-DS20 Wireless Remote Controller (1)<br>Size AA (R6)  batteries (2)<br>AC power cord (1)<br>Cleaning cassette (1)<br>Operating Instructions (1)<br>RS-232C Protocol Manual (1) |

*1: shared with the External Sync In (DSR-20)
*2: priority on the front

# Specifications

## DSR-70 Portable Editing Recorder

### General

| | |
|---|---|
| Power requirements | DC 12 V |
| Power consumption | 46 W (without options) |
| Operating temperature | 0 °C to 40 °C (32 °F to 104 °F) |
| Storage temperature | -20 °C to 60 °C (-4 °F to 140 °F) |
| Operating humidity | 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<br>Mini size: 40 min. with PDVM-40ME/40N/40MEM |
| Fast forward/Rewind time | Standard size: Less than 3 min. with PDV-184ME/184N/184MEM<br>Mini size: Less than 1 min. with PDVM-40ME/40N/40MEM |
| Search speed | x ±32 |
| Weight | 5.8 kg (12 lb 12 oz) |
| Dimensions (W x H x D) | 211 x 149 x 443 mm (8 3/8 x 5 7/8 x 17 1/2 inches) |

### Video Signal Inputs

#### Analog

| | |
|---|---|
| Ref. Video (BNC x2, loop-through connection) | Composite, 1.0 Vp-p, 75 Ω, sync negative |
| Video (BNC x2, loop-through connection) | Composite, 1.0 Vp-p, 75 Ω, sync negative |
| Component (BNC x3)[*1] | Y: 1.0 Vp-p, 75 Ω, sync negative<br>R-Y: 0.7 Vp-p, 75 Ω (75%)<br>B-Y: 0.7 Vp-p, 75 Ω (75%) |
| S-Video (DIN 4-pin x1) | Y: 1.0 Vp-p, 75 Ω, sync negative<br>C: 0.286 Vp-p, 75 Ω (at burst level) |

#### Digital

| | |
|---|---|
| SDI (BNC x1)[*2] | Conforms to Serial Digital Interface (270 Mb/s), SMPTE 259M |
| SDTI (QSDI) (BNC x1)[*3] | Conforms to SDTI (270 Mb/s), SMPTE 305M/322M |
| i.LINK (DV In/Out) (6-pin x1)[*4] | IEEE1394-based |

### Audio Signal Inputs

#### Analog

| | |
|---|---|
| Audio (CH-1,2) | XLR 3-pin female x2 |

### Video Signal Outputs

#### Analog

| | |
|---|---|
| Ref. Video (BNC x1) | 0.286 Vp-p, 75 Ω, sync negative |
| Video 1/2(SUPER) (BNC x2) | Composite, 1.0 Vp-p, 75 Ω, sync negative |
| Component (BNC x3)[*1] | Y: 1.0 Vp-p, 75 Ω, sync negative<br>R-Y: 0.7 Vp-p, 75 Ω (75%)<br>B-Y: 0.7 Vp-p, 75 Ω (75%) |
| S-Video (DIN 4-pin x1) | Y: 1.0 Vp-p, 75 Ω, sync negative<br>C: 0.286 Vp-p, 75 Ω (at burst level) |

#### Digital

| | |
|---|---|
| SDI (BNC x2)[*2] | Conforms to Serial Digital Interface (270 Mb/s), SMPTE 259M |
| SDTI (QSDI) (BNC x1)[*3] | Conforms to SDTI (270 Mb/s), SMPTE 305M/322M |
| i.LINK (DV In/Out) (6-pin x1)[*4] | IEEE1394-based |

### Audio Signal Outputs

#### Analog

| | |
|---|---|
| Audio (CH-1,2 or CH-3,4) | XLR 3-pin male x2 |
| Monitor (R/L) | Phono x1 |
| Headphone | JM-60 headphone jack x1 |

### Time Code Input/Output

| | |
|---|---|
| Time Code In | BNC x1 |
| Time Code Out | BNC x1 |

### LCD

| | |
|---|---|
| LCD display (x1) | 6.4-inch VGA, 640 (H) x 480 (V) |

### Speaker

| | |
|---|---|
| Built-in speaker (x1) | Monaural |

### Remote

| | |
|---|---|
| | RS-422A: D-sub 9-pin female x1 |

### Other

| | |
|---|---|
| | DC 12 V In: XLR 4-pin male x1 |

### Supplied Accessories

| | |
|---|---|
| | Carrying belt (1)<br>Connector cap (1) (per interface)<br>Operating Instructions (1) |

*1: The optional DSBK-170 Analog Component Input/Output Board is required.
*2: The optional DSBK-160 SDI 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 is required.

---

## DSR-V10 DVCAM Video Walkman Recorder

### General

| | |
|---|---|
| Power requirements | DC 7.2 V (with battery), DC 8.4 V (with AC adaptor) |
| Power consumption | 11.5 W (LCD on) |
| 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 | 28.193 mm/s |
| Weight | 970 g (2 lb 2 oz) (without battery and tape) |
| 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 inches |

### Video

| | |
|---|---|
| Video signal | EIA standard, NTSC color |
| Video inputs/outputs<br>Video (RCA pin x1)<br>S-Video (Mini DIN 4-pin x1) | Composite, 1.0 Vp-p, 75 Ω, unbalanced, sync negative<br>Y: 1.0 Vp-p, 75 Ω, unbalanced, sync negative<br>C: 0.286 Vp-p (subcarrier burst), 75 Ω, unbalanced |

### Audio

| | |
|---|---|
| Audio signal | Recording: 48 kHz/16-bit, 32 kHz/12-bit<br>Playback: 48 kHz/16-bit, 32 kHz/12-bit, 32 kHz/16-bit, 44.1 kHz/16-bit |
| Audio inputs/outputs (Phono jack x1/stereo L/R) (RCA pin x2) | -7.5 dBs (0 dBu=0.775 Vrms) |

### Others

| | |
|---|---|
| | i.LINK (DV In/Out): 4-pin x1, IEEE1394-based<br>LANC: Stereo mini-mini jack x1<br>Headphone: Stereo mini jack x1<br>Camera/Editor connector: 20-pin x1 |

### Supplied Accessories

| | |
|---|---|
| | AC-V700 AC Adaptor/Charger (1)<br>DK-415 DK Cable (1)<br>Carrying belt (1)<br>Operating Instructions (1) |

---

### DSRM-E1 (Edit Adaptor for DSR-V10)

#### General

| | |
|---|---|
| Power requirements | DC 7.2 V (supplied from DSR-V10), DC 8.4 V (with AC Adaptor) |
| Power consumption | Approx. 1.8 W |
| Operating temperature | 0 °C to 40 °C (32 °F to 104 °F) |
| Storage temperature | -20 °C to 60 °C (-4 °F to 140 °F) |
| Weight | Main unit: 160 g (5.6 oz)<br>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)<br>Controller: 184 x 42 x 128 mm (7 1/4 x 1 11/16 x 5 1/8 inches) |

#### Connectors

| | |
|---|---|
| | Multi connector: 20-pin x1<br>Control unit: Mini DIN 8-pin x1<br>LANC: Stereo mini-mini jack x1 |

#### Monitor Output

| | |
|---|---|
| Video output (RCA pin x1) | Composite, 1.0 Vp-p, 75 Ω, unbalanced, sync negative |
| Audio output (Phono jack x1/stereo L/R) | 0.327 V, impedance 470 Ω or less |

---

### CVX-V1 / CVX-V3 / CVX-V18N (Color Video Cameras for DSR-V10)

#### General

| | |
|---|---|
| Power requirements | DC 7.2 V (with battery), DC 8.4 V (with AC adaptor) |
| Power consumption | CVX-V1/V3: 1.8 W  CVX-V18NS: 2.2 W |
| Operating temperature | 0 °C to 40 °C (32 °F to 104 °F) |
| Storage temperature | -20 °C to 60 °C (-4 °F to 140 °F) |
| Weight<br>Camera head<br>CCU (without battery) | CVX-V1: 25 g (0.85 oz)  CVX-V3: 75 g (2.6 oz)  CVX-V18NS: 343 g (12 oz)<br>CVX-V1: 135 g (4.8 oz)  CVX-V3: 135 g (4.8 oz)  CVX-V18NS: 153 g (5 oz) |
| Dimensions (W x H x D)<br>Camera head<br><br><br>CCU | CVX-V1: 22 x 18 x 60 mm (7/8 x 23/32 x 2 3/8 inches)<br>CVX-V3: 36 x 40 x 70 mm (1 7/16 x 1 5/8 x 2 7/8 inches)<br>CVX-V18NS: 63 x 66 x 115 mm (2 1/2 x 2 5/8 x 4 5/8 inches)<br>CVX-V1: 35 x 110 x 60 mm (1 7/16 x 4 3/8 x 2 3/8 inches)<br>CVX-V3: 35 x 110 x 60 mm (1 7/16 x 4 3/8 x 2 3/8 inches)<br>CVX-V18NS: 50 x 59 x 110 mm (2 x 2 3/8 x 4 3/8 inches) |

#### Camera

| | |
|---|---|
| Image device | 1/4-inch Interline-Transfer CCD |
| 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 |
| Focal length | CVX-V1: f=3.9 mm (35 mm conversion: 38 mm)<br>CVX-V3: f=3.5 mm to 10.5 mm (35 mm conversion: 35 mm to 105 mm)<br>CVX-V18NS: f=4.1 mm to 73.8 mm (35 mm conversion: 41 mm to 738 mm) |
| Minimum illumination | CVX-V1: 2 lx  CVX-V3: 5 lx  CVX-V18NS: 0.7 lx |
| Gain selection | CVX-V1: Auto/Hold  CVX-V3: Auto |
| White balance | CVX-V1: Auto/Hold  CVX-V3: Auto |
| Shutter speed | CVX-V1: Auto, 1/60, 1/100, 1/250, 1/500, 1/2000, 1/10000<br>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 |
| Night shot (CVX-18NSP only) | IR light effective distance: 20 m (with slow shutter on), 5 m (without slow shutter) |

#### Others (on CCU)

| | |
|---|---|
| | External MIC In: Stereo mini-mini jack x1<br>Multi connector: 20-pin x1<br>Camera cable connector: 12-pin x1<br>Battery connector |

#### Supplied Accessories

| | |
|---|---|
| | Video Walkman Attachment Unit (1)<br>Operating Instructions (1) |

# *DRV-1000* DVCAM Drive

| General | |
|---|---|
| Power requirements | 5 V: 5 A (Max.) / 700 mA (Stop)<br>12 V: 0.8 A (Max.) / 130 mA (loading/unloading) |
| Power consumption | 5 V: 25 VA (Max.)    12 V: 9.6 VA (Max.) |
| 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 | 28.193 mm/s |
| Weight | Approx. 1.4 kg (3 lb 1 oz) |
| Dimensions (W x H x D) | 149.2 x 42.8 x 225 mm (5 7/8 x 1 11/16 x 8 7/8 inches) |

| Video | |
|---|---|
| Video signal | EIA standard, NTSC color |
| Video outputs<br>Video (RCA pin x1)<br>S-Video (Mini DIN 4-pin x1) | Composite, 1.0 Vp-p, 75 Ω, unbalanced, sync negative<br>Y: 1.0 Vp-p, 75 Ω, unbalanced, sync negative<br>C: 0.286 Vp-p (subcarrier burst), 75 Ω, unbalanced |

| Audio | |
|---|---|
| Audio signal | 48 kHz/16-bit, 32 kHz/12-bit, 32 kHz/16-bit, 44.1 kHz/16-bit<br>(depending on input signals) |
| Audio output<br>(Phono jack x1/stereo L/R) | 327 mV with 47 kΩ load or more<br>Impedance: 2.2 kΩ |

| Others | |
|---|---|
| | i.LINK (DV In/Out): 4-pin x1, IEEE1394-based<br>LANC: Stereo mini-mini jack x1<br>EJECT: Monaural mini jack x1, TTL input<br>        low active (more than 100 ms)<br>DC In: PC-standard, 5 V/12 V/GND |

| Supplied Accessories | |
|---|---|
| | DV cable (4pin - 4pin, 50 cm) (1)<br>AV cable (1)<br>S-Video cable (1)<br>Mounting screws (4)<br>Operating Instructions (1) |

# *Flexicart* Multi-cassete 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)<br>(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<br>Time code In: (BNC)<br>Remote control interfaces: REMOTE1: RS-422A D-sub 9-pin<br>                                      REMOTE2: RS-232C D-sub 25-pin<br>Parallel interface: D-sub 50-pin |

| Supplied Accessories | |
|---|---|
| | AC power cord (1)<br>Operation Manual (1)<br>Maintenance Manual (1)<br>Installation Manual (1) |

# SONY