

SONY[®]

NTSC

DSR Series

DVCAM[™]

DVCAM— Digital Innovation in

Since its launch in 1996, DVCAM™ technology has brought many notable benefits to video professionals. The outstanding picture quality, superb multigeneration recording and extended recording time for up to three hours are some of key advantages of working with DVCAM products. Additionally, the DVCAM format offers excellent playback capability with the consumer DV format.

Based on the DVCAM format, the Sony DSR Series of recorders and camcorders offers many advantages: high performance editing capability, compact shooting packages, system versatility, excellent digital interfacing and a professional standard of reliability.



Video Production

Now many new models have been added to the DSR Series to broaden its range of applications such as field acquisition/editing, simple editing, PC-based editing, dubbing and transmission.

Select from the Sony DSR Series and you will have chosen innovative equipment that will bring both new solutions to your production demands and performance benefits to your system.

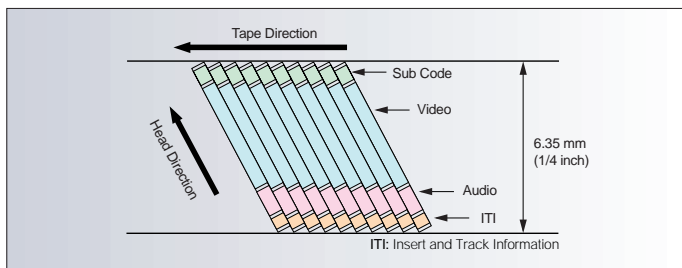


The DVCAM Format

Excellent Picture Quality via Digital Component Recording

The DVCAM format uses 8-bit digital component recording with a 5:1 compression ratio same as the DV format and a sampling rate of 4:1:1 to provide excellent picture quality and superb multigeneration performance.

The DVCAM format is based on an intra-frame compression scheme which is ideal for editing applications. Based on DCT (Discrete Cosine Transform) techniques, each frame consists of 10 tracks. Each track has video, audio, ITI (Insert and Track Information) and sub code areas. ITI, which is a reference



signal used for precise tracking, together with time code on the sub code area assure highly accurate editing performance. This technology provides much greater operational flexibility and facilitates complex multi-layering effects.

High Quality Digital Audio

The DVCAM format also has superior digital audio performance, with a wide dynamic range and an excellent signal-to-noise ratio that is comparable to CD quality audio. 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 a professional version of the consumer DV format, maintaining playback compatibility. All DVCAM equipment is capable of playing back DV recorded* tapes without any adaptor. A wider track pitch of 15 μ m (compared with 10 μ m for consumer DV) gives the DVCAM format higher reliability for professional editing.

* SP mode only

Unique Technologies and

High-speed Data Transfer 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 Sony ES-7 EditStation™ system, or between two DSR-85 VTRs.

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

Versatile Digital Interfaces

•SDTI(QSDI)* DSR-85 DSR-80 DSR-60 DSR-70

The SDTI(QSDI) is a digital interface which handles compressed video as well as the sub code data and digital audio signals of the DVCAM format. It allows virtually degradation-free transfer of both video and audio signals between DSR Series VTRs that have an SDTI(QSDI) I/O, and between these VTRs and the ES-7 EditStation system in a non-linear editing configuration. The SDTI(QSDI) interface ensures that high quality pictures and sound are maintained during these operations.

* SDTI (Serial Data Transport Interface) is defined in SMPTE 305M. SDTI(QSDI) is the DV signal interface which conforms to the SDTI standard. The DSR-60 and DSR-70 VTRs require optional boards for SDTI(QSDI) operation.

•SDI* DSR-85 DSR-80 DSR-60 DSR-70


SDI (Serial Digital Interface) is the broadcast standard digital interface. With just a single digital connection, high quality pictures and sound can be transferred between DSR Series VTRs with an SDI I/O, and SDI-equipped devices such as D-1, Digital BETACAM™ and Betacam SX™ VTRs.

* The DSR-85/80/60/70 require optional boards for SDI operation. These optional boards support digital component video signals.

•i.LINK™* (DV In/Out)

DSR-200A DSR-PD100 DSR-PD1 DSR-30 DSR-20 DRV-1000 DSR-70** DSR-V10

i.LINK is a digital interface based on the IEEE1394 standard. It offers digital dubbing of video, audio and data, with virtually no deterioration of image and sound quality and with the simplicity of a single wire connection between equipment.

* i.LINK stands for IEEE1394-1995 standards and their revisions.  is the logo for products that implement i.LINK.

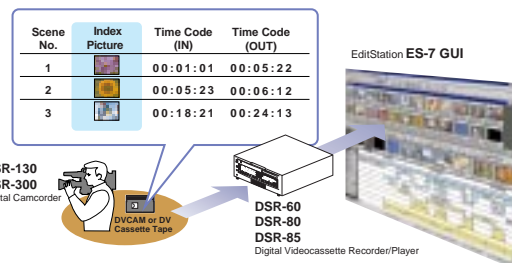
** The DSR-70 requires an optional board for i.LINK (DV In/Out) operation.

ClipLink™ Operation

DSR-130 DSR-300 DSR-85 DSR-80 DSR-60 DSR-70

ClipLink is a unique Sony system which conveys shooting data into the digital production process. During acquisition with the DSR-130 or DSR-300 Camcorder, the time code data of the in-point and out-point of each shot is recorded in the Cassette Memory of the DVCAM tape. 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 the DSR-85, DSR-80, DSR-60 or DSR-70 VTR interfaced with the Sony EditStation system, all of its shot log information is loaded into an EditStation system and appears on the display.

This visual information enables users to quickly select the shots they need to upload to the hard disk of an EditStation.



	DVCAM	Consumer 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 Mbps	
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	1/4 inch (6.35 mm)	
	Tape track pitch	15 µm	10 µm
	Tape speed	28.193 mm/s	18.8 mm/s
	Cassette size	Standard size / Mini size	
	Maximum recording time	184 min. (standard size) 40 min. (mini size)	405 min. (standard size) 90 min. (mini size)

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 high C/N (Carrier-to-Noise) ratio, resulting in



superb quality pictures and a low error rate. DLC (Diamond Like Carbon) protective layer provides the enhanced protection of the tape surface which is essential to avoid the possibility of damage during long editing sessions. Finally, DVCAM tape provides a low frequency of dropouts and superior thermal stability. Cassettes are available with or without an IC Cassette Memory. This 16 kbit Cassette Memory stores ClipLink Log Data and Index Pictures which can enhance editing efficiency.

Up to Three-hour Recording Capability

DVCAM video cassette tapes are available in two sizes: standard and mini.

Recording time of up to 184 minutes is provided with a standard size cassette and up to 40 minutes with a mini size cassette. These long recording times are achieved in very compact cassettes with a tape width of only 1/4 inch (6.35 mm).



* The DSR-200A Camcorder accepts a standard size cassette only. The DSR-PD100 Camcorder, the DSR-PD1 Camcorder, the DSR-V10 DVCAM Video Walkman® Recorder and the DRV-1000 DVCAM Drive accept a mini size cassette only.

Advantages

Remote Control Interfaces for High Performance Editing

•RS-422A DSR-85 DSR-80 DSR-60 DSR-70

An RS-422A remote control interface is used for professional editing. It allows for these VTRs to interface not only with the EditStation system but also with Sony VTRs and editing controllers that have the same interface. RS-422A is also used to transfer ClipLink Log Data from the DVCAM Cassette Memory to the EditStation system.

•LANC DSR-200A DSR-PD100 DSR-PD1 DSR-30 DSR-20 DRV-1000 DSR-V10

A LANC interface makes it easy to perform simple edits using other LANC-based devices including consumer DV products that have high editing accuracy (±5 frames).

Full Compatibility with Analog Equipment

•Analog Interfaces

DSR-85 DSR-80 DSR-60 DSR-30 DSR-20 DSR-70 DSR-V10

The DSR Series is compatible with current analog video equipment. With analog interfaces for both video and audio, the DSR Series VTRs interface with conventional analog equipment such as Betacam SP®, S-VHS and Hi-8 VTRs, facilitating a smooth and gradual migration to a future digital system. Composite, component* and S-Video connections are provided for video. Four channel or two channel (selectable) inputs and outputs are provided for audio.

* The DSR-30, DSR-20 and DSR-V10 are not equipped with a component interface. The DSR-70 requires an optional board for analog component.

•Dual Interface Mechanism DSR-1

The DSR-1 Dockable Recorder has both Pro 76-pin Digital and Pro 50-pin connectors. These connections allow direct connection with several alternative Sony digital and analog cameras:

DXC-D30, DXC-D30WS, DXC-637, DXC-537, DXC-537A, DXC-327A and DXC-327B. This feature allows the DSR-1 to be configured with a variety of different cameras to suit particular applications.



Pro 76-pin Digital

Pro 50-pin

Dual-size Cassette Mechanism

DSR-130 DSR-300 DSR-1 DSR-85 DSR-80 DSR-60 DSR-30 DSR-20 DSR-70

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

In the case of the DSR-1, this is a technological first for professional camcorders.

The Total Line-up for Highly Efficient Digital Production

DVCAM™

For Acquisition

For Field Operation

For Video Production

For Transmission



DSR-130



DSR-300



DSR-1



DSR-70



DSR-200A



DSR-PD100



DSR-V10



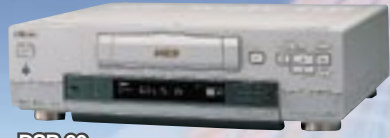
DSR-PD1



DSR-85



DSR-80



DSR-30



DSR-60

Flexicart



DSR-20



DRV-1000

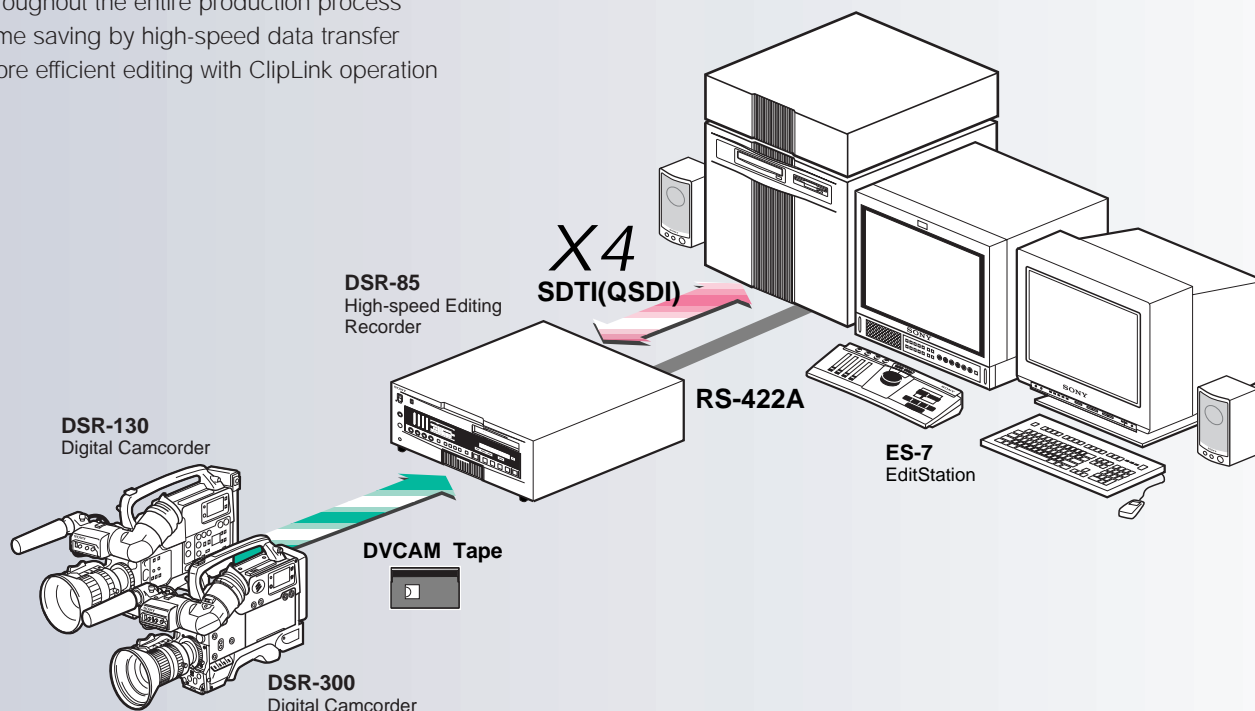


From Acquisition through Editing to Transmission—
The Entire Digital Chain

Application Examples

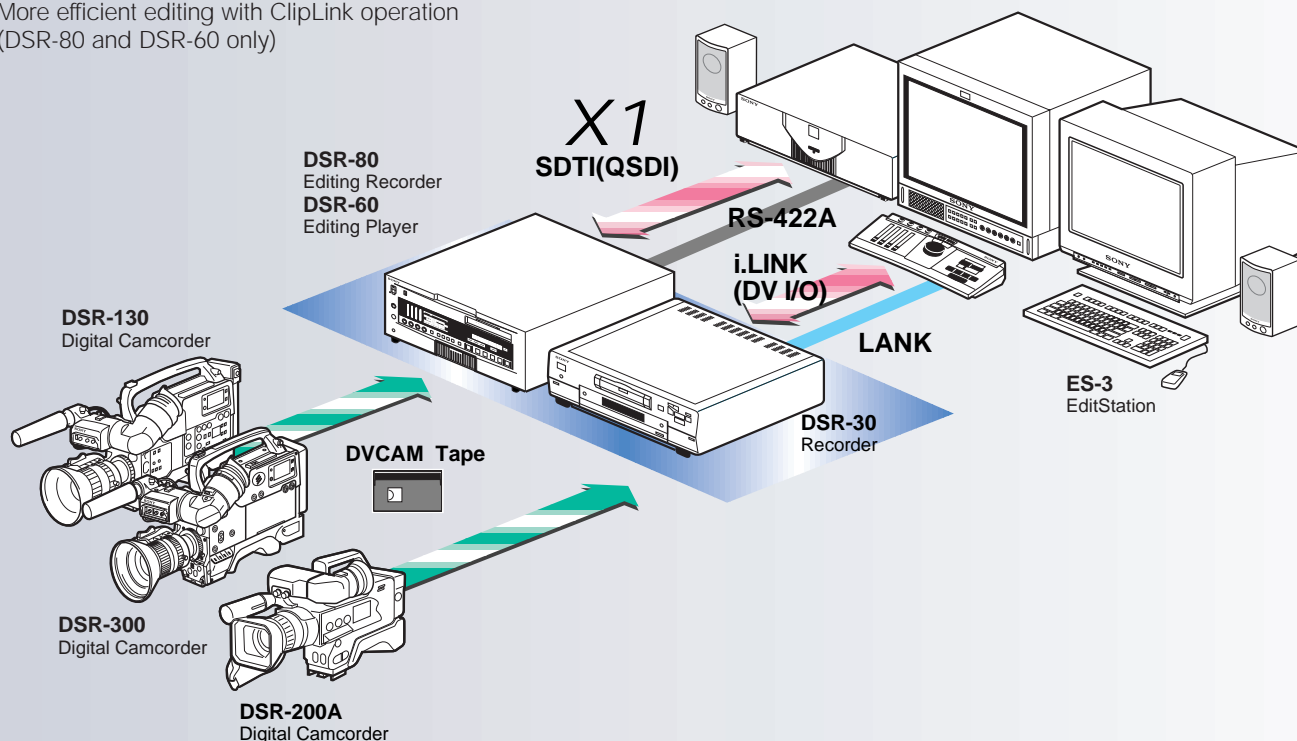
High-speed Nonlinear Editing System

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



Efficient Nonlinear Editing System

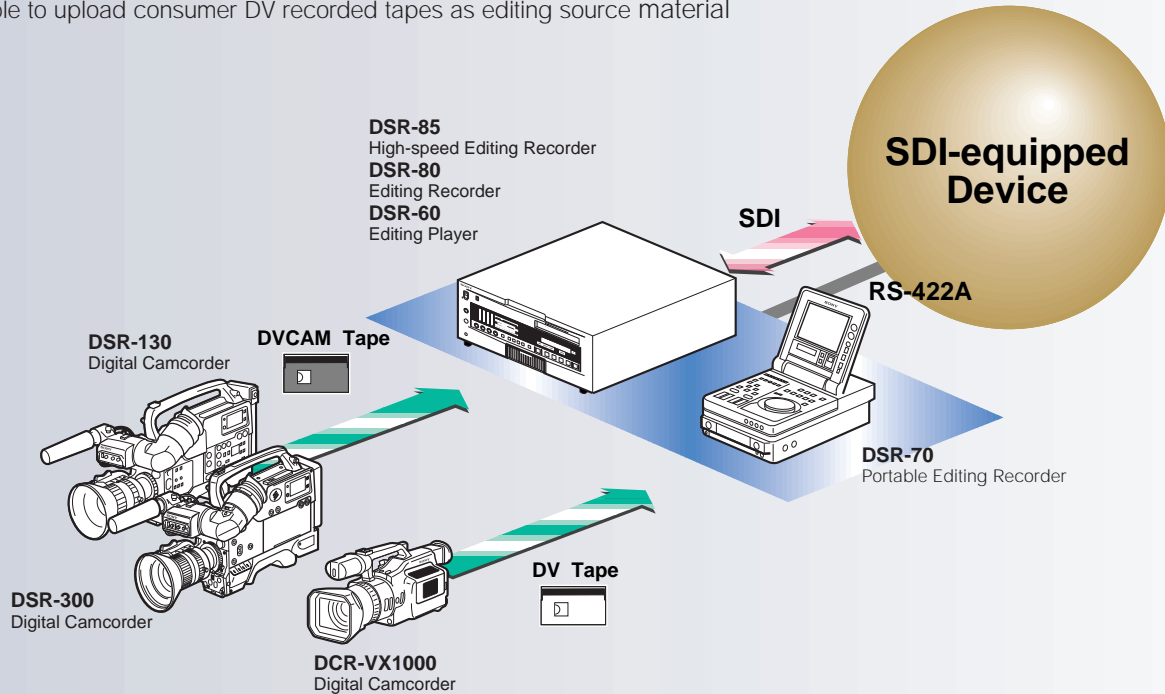
- Superior multigeneration picture and sound quality by using SDTI(QSDI) or i.LINK(DV In/Out) interfacing
- More efficient editing with ClipLink operation (DSR-80 and DSR-60 only)



Application Examples

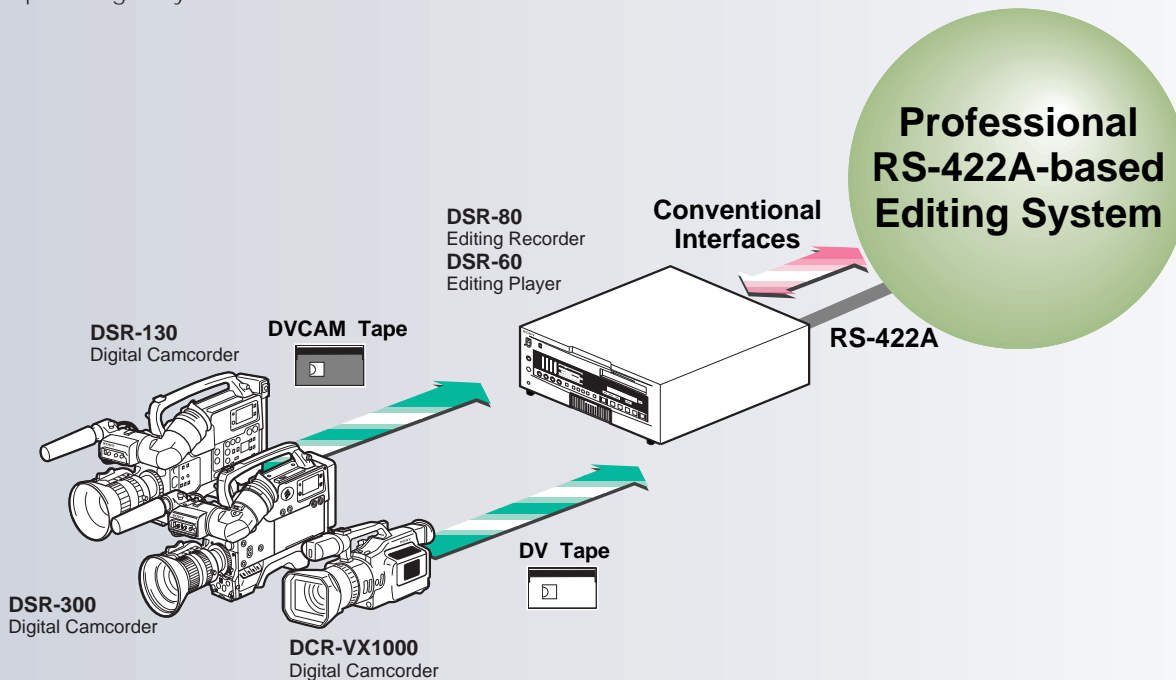
Upwardly Compatible Editing System

- Direct digital connection with SDI-equipped device
- Upward compatibility with the broadcasting system
- Possible to upload consumer DV recorded tapes as editing source material



Linear Editing System

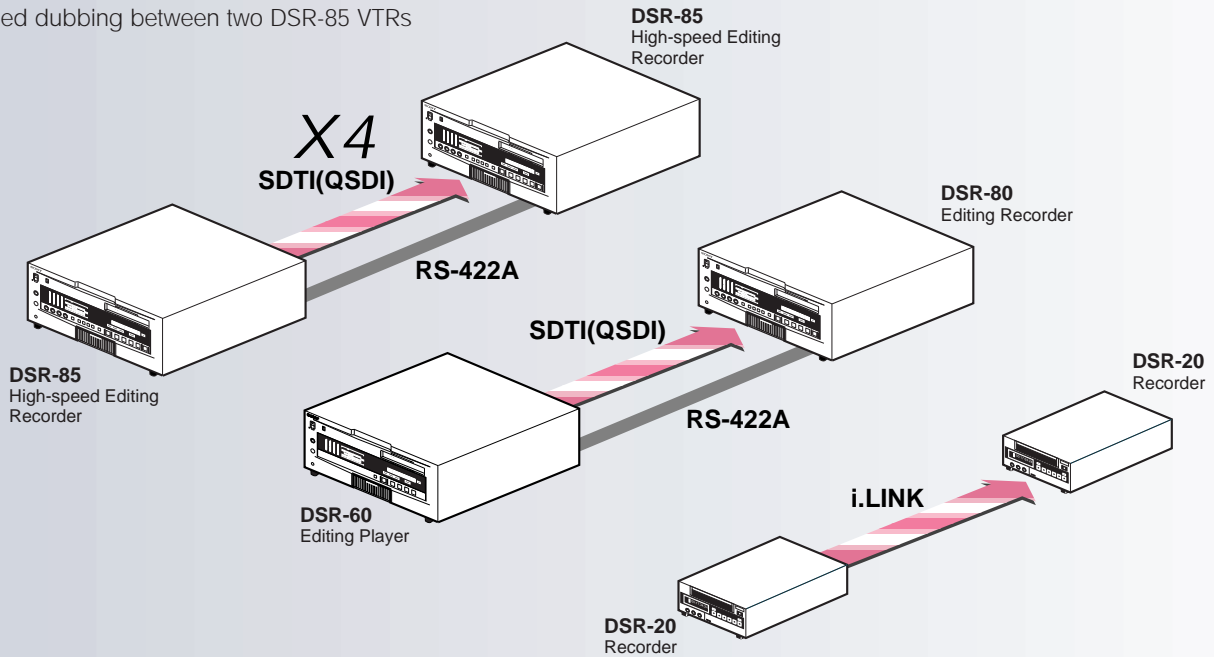
- Improvement in picture quality by adding digital acquisition
- First step to a digital system



Application Examples

Digital Dubbing System

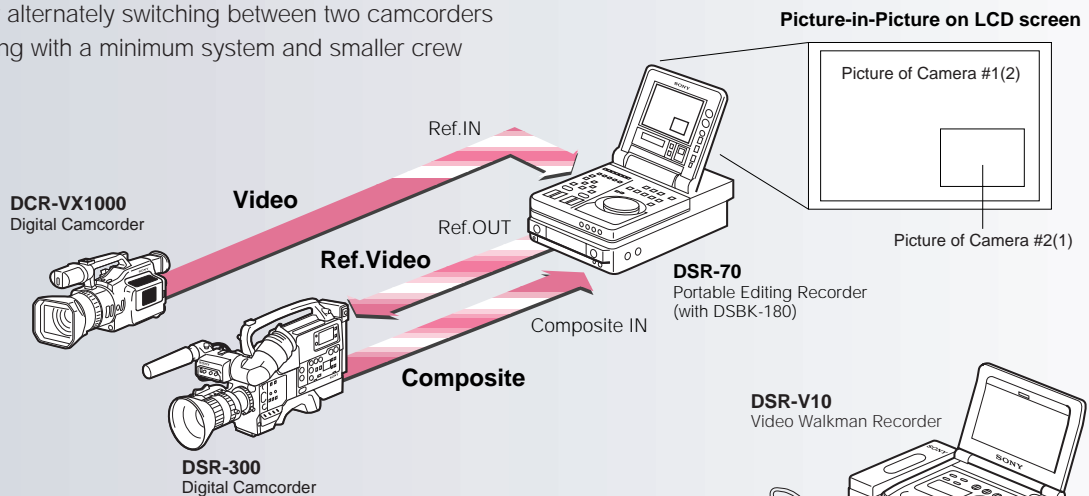
- Simple dubbing system that does not require an additional controller
- Degradation-free dubbing quality by using SDTI(QSDI) or i.LINK (DV In/Out) interfacing
- High-speed dubbing between two DSR-85 VTRs



Field Operation System

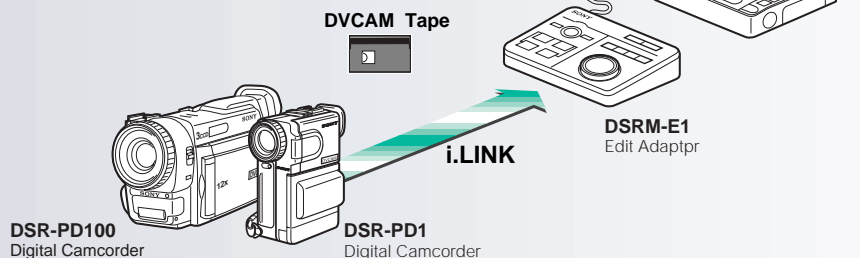
Two-camera Switching Recording System

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



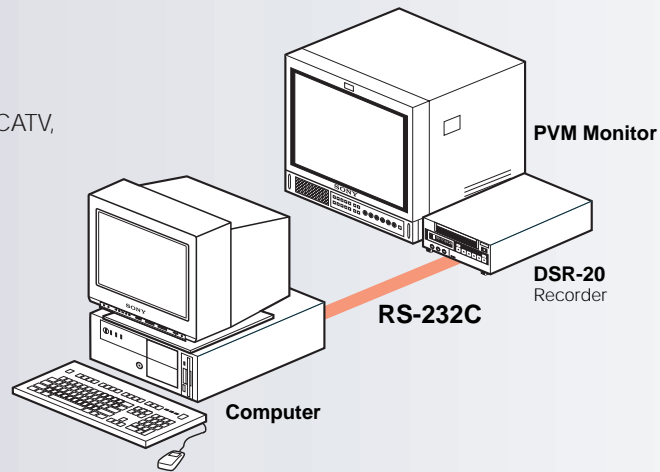
Simple Field Editing System

- Compact and portable system
- Assemble editing with up to 99 events x four programs



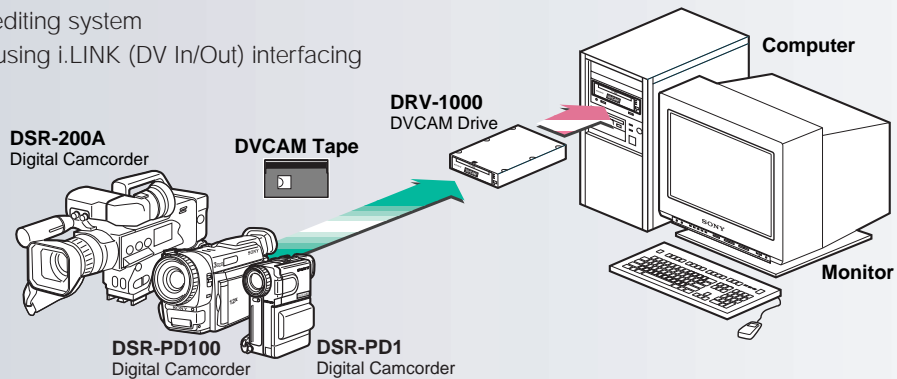
PC Control System

- Simple system using PC control
- Ideal for automatic program transmission in CATV, corporate communication, etc.



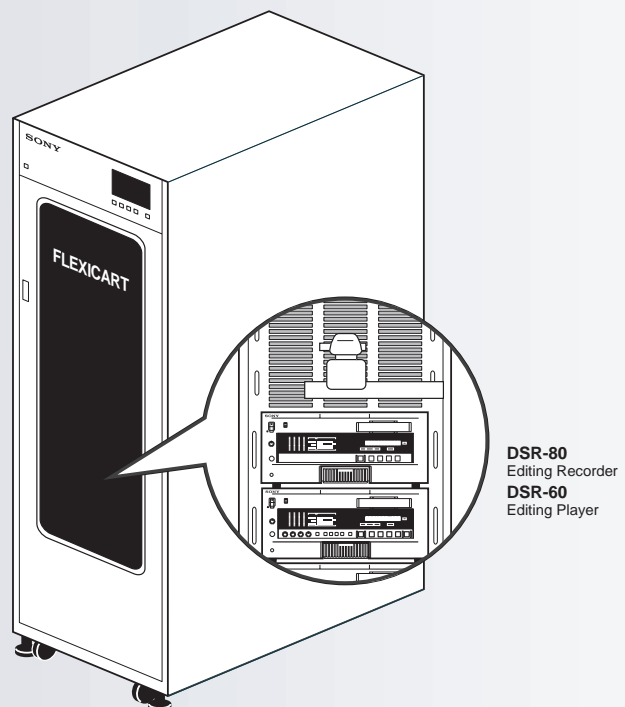
PC-based Editing System

- Low-cost, PC-based editing system
- Full digital editing by using i.LINK (DV In/Out) interfacing



Flexicart™ System

- Outstanding picture and sound quality by maintaining the signal in the same digital format from acquisition to transmission



Acquisition

DSR-130

Two-piece Camcorder



- Combination of the DXC-D30 Digital Video Camera and the DSR-1 Dockable Recorder, equivalent to one-piece camcorder
- Compact and lightweight: 7.3 kg (16 lb 2 oz) including a viewfinder, microphone, lens, battery, tape and carrying handle
- DSP (Digital Signal Processing)
- Three 2/3-inch Power HAD™ CCDs for low smear level, high sensitivity and high S/N ratio
- Superb picture quality for the DVCAM format
- Playback capability of consumer DV recorded tapes (SP mode only)
- Long recording time; up to 184 minutes with a standard cassette and 40 minutes with a mini cassette
- ClipLink operation
- TruEye™ process for faithful color reproduction
- DynaLatitude™ feature
- Skin Detail with skin tone detection
- Black halo-free, Clean Detail
- Camera Setup File system
- SetupNavi™ function for Camera Setup File storage
- SetupLog™ function for automatic recording of camera setting data
- Total Level Control System (TLCS) for automatically extended range of light control
- EZ Focus and EZ mode for quick camera setup
- Auto Tracing White Balance (ATW) function
- Adjustable Black Stretch and Compress
- Dual Zebra viewfinder indication of over exposure
- Time code superimposed during playback
- Edit Search function
- Freeze Mix function

DSR-1

Dockable Recorder



- Compact and lightweight: 2.85 kg (6 lb 4 oz) including battery
- Perfect camcorder operation by docking with the DXC-D30 Digital Video Camera
- Superb picture quality for the DVCAM format
- Playback capability of consumer DV recorded tapes (SP mode only)
- Long recording time; up to 184 minutes with a standard cassette and 40 minutes with a mini cassette
- Dual-size cassette mechanism: both standard cassettes and mini cassettes accepted
- ClipLink operation
- Dual interface mechanism: Pro 76-pin Digital and Pro 50-pin interfaces for direct connection with both Sony digital and analog cameras
- 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-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-300SFT Soft Carrying Case
- DynaFit™ shoulder pad for comfortable molding to any shoulder
- DSP (Digital Signal Processing)
- Three 1/2-inch Power HAD™ CCDs for low smear level, high sensitivity and high S/N ratio
- Superb picture quality for the DVCAM format
- Playback capability of consumer DV recorded tapes (SP mode only)
- Long recording time; up to 184 minutes with a standard cassette and 40 minutes with a mini cassette
- ClipLink operation*1
- RM-VJ1 Remote Control Unit with a professional microphone and a hand-held LCD screen for a one-person operation
- TruEye™ process for faithful color reproduction
- DynaLatitude™ feature
- Skin Detail with skin tone detection
- SetupLog™ function for automatic recording of camera setting data
- Total Level Control System (TLCS) for automatically extended range of light control
- EZ Focus and EZ mode for quick camera setup
- Auto Tracing White Balance (ATW) function
- Adjustable Black Stretch and Compress
- Dual Zebra viewfinder indication of over exposure
- Video light connection for Anton Bauer® Ultra Light 2
- Menu control by Jog Dial operation
- Time code superimposed during playback
- Edit Search function
- Freeze Mix function
- 26-pin VTR interface connection
- Compact and lightweight BP-L40 Lithium-ion Battery
- CA-WR855 Camera Adapter for the WRR-855A Wireless Receiver

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

DSR-200A

One-piece Camcorder



- Compact and lightweight: 4.7 kg (10 lb 8 oz) including tape and battery holder with three battery packs
- DSP (Digital Signal Processing)
- Three 1/3-inch CCDs for accuracy of color reproduction
- Superb picture quality for the DVCAM format
- Playback capability of consumer DV recorded tapes (SP mode only)
- Long recording time; up to 184 minutes with a standard cassette*1
- Long operating time; up to 450 minutes with three NP-F950 Battery Packs (fully charged)
- Optical SteadyShot® function for stable picture shooting without sacrificing picture quality
- Time/date data superimposition on output pictures
- Easy-to-use viewfinder, with high horizontal resolution
- Photo mode and frame interpolation for recording a clear frame picture for seven seconds
- Audio dubbing capability (32 kHz/12-bit only)
- Time code capability
- i.LINK (DV In/Out) interface based on the IEEE1394 standard
- 16:9 aspect ratio capability
- LANC interface for simple editing with a LANC-based recorder or editing system
- RMT-806 Remote Controller (supplied) for control of basic functions

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

DSR-PD100

Handycam®-style Camcorder



- Compact and lightweight: 1 kg (2.2 lbs) including tape and battery
- DSP (Digital Signal Processing)
- 1/4-inch CCD with the capability to switch to scan in two ways: Interlace Scan and Progressive Scan
- Superb picture quality for the DVCAM format
- Playback capability of consumer DV recorded tapes (SP mode only)
- 40 minutes recording time with a mini cassette*¹
- Super SteadyShot® function for stable picture shooting without sacrificing picture quality
- Extreme close-up shots with 48x digital and 12x optical zoom
- Color 3.5-inch LCD monitor
- InfoLITHIUM™ system; Lithium-ion battery power system which shows the amount of power remaining in the battery, to within one minute accuracy
- Two way of still image recording: Tape photo mode by using a tape and Memory photo mode by using a removable memory media (Memory Stick™)
- Switchable 4:3 and 16:9 recording modes
- Manual control and full range auto modes
- Audio dubbing capability (32 kHz/12-bit only)
- i.LINK (DV In/Out) interface based on the IEEE1394 standard
- LANC interface for simple editing with a LANC-based recorder or editing system
- RMT-811 Wireless Remote Commander (supplied)
- Wide angle conversion lens (supplied)
- XLR adaptor for connecting external professional microphones

*¹ The DSR-PD100 accepts only mini DVCAM and DV cassettes.

DSR-PD1

Compact Camcorder



- Compact and handy: 520 g (1.2 lb)
- 1/3-inch CCD
- Superb picture quality for the DVCAM format
- Playback capability of consumer DV recorded tapes (SP mode only)
- 40 minutes recording time with a mini cassette*¹
- Super SteadyShot® function for stable picture shooting without sacrificing picture quality
- Extreme close-up shots with 20x digital and 10x optical zoom
- 2 1/2-inch Swivelscreen™ color LCD advanced viewfinder
- InfoLITHIUM™ system; Lithium-ion battery power system which shows the amount of power remaining in the battery, to within one minute accuracy
- Photo mode for high quality still images
- A/V digital fade-to-black/silence function
- Audio dubbing capability (32 kHz/12-bit only)
- Time code capability
- i.LINK (DV In/Out) interface based on the IEEE1394 standard
- LANC interface for simple editing with a LANC-based recorder or editing system

*¹ The DSR-PD1 accepts only mini DVCAM and DV cassettes.

Video Production

DSR-85

High-speed Editing Recorder



- Superb picture quality for the DVCAM format
- Playback capability of consumer DV recorded tapes (SP mode only)
- Long recording time; up to 184 minutes with a standard cassette and 40 minutes with a mini cassette
- High-speed data transfer and full tape dubbing via SDTI(QSDI) interface
- ClipLink operation
- Versatile digital interfaces: SDTI(QSDI), SDI*¹ and AES/EBU digital audio
- Extensive analog interfaces: composite, component and S-Video
- Frame accurate editing capability
- RS-422A remote control interface

- 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 of 0 to 0.25 times normal speed, in both forward and reverse
- Jog audio over a range of 1/30 to 1 times normal speed, in both forward and reverse
- Newly developed digital laminated head for high quality and reliability
- SIRCS (Sony Integrated Remote Control System) interface for DSRM-10 Remote Control Unit

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

DSR-80

Editing Recorder



- Superb picture quality for the DVCAM format
- Playback capability of consumer DV recorded tapes (SP mode only)
- Long recording time; up to 184 minutes with a standard cassette and 40 minutes with a mini cassette
- ClipLink operation
- Full tape dubbing with ClipLink Log Data
- Versatile digital interfaces: SDTI(QSDI), SDI*¹ and AES/EBU digital audio
- Extensive analog interfaces: composite, component*², RGB*² and S-Video
- Frame accurate editing capability
- RS-422A remote control interface

- 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 of 0 to 0.39 times normal speed, in both forward and reverse
- Jog audio over a range of 1/30 to 1 times normal speed, in both forward and reverse
- Closed caption function
- SIRCS (Sony Integrated Remote Control System) interface for 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

Video Production

DSR-60

Editing Player



- Superb picture quality for the DVCAM format
- Playback capability of consumer DV recorded tapes (SP mode only)
- Long recording time; up to 184 minutes with a standard cassette and 40 minutes with a mini cassette
- ClipLink operation
- Versatile digital interfaces: SDTI(QSDI)*¹ and SDI*²
- Extensive analog interfaces: composite, component*³, RGB*³ and S-Video
- Frame accurate editing capability
- RS-422A remote control interface
- 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 of 0 to 0.33 times normal speed, in both forward and reverse
- Jog audio over a range of 1/30 to 1 times normal speed, in both forward and reverse
- Auto repeat/power-on playback function
- Closed caption function
- SIRCS (Sony Integrated Remote Control System) interface for DSRM-10 Remote Control Unit

*¹ The optional DSBK-110 QSDI Output Board is required.

*² The optional DSBK-100 SDI Output Board is required.

*³ Selectable by a switch on the rear panel

DSR-30

Recorder



- Superb picture quality of the DVCAM format
- Playback capability of consumer DV recorded tapes (SP mode only)
- Long recording time; up to 184 minutes with a standard cassette and 40 minutes with a mini cassette
- i.LINK (DV In/Out) interface based on the IEEE1394 standard
- LANC interface for simple editing with a LANC-based 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 capability

- 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/Photo/Date search functions (when using a cassette with IC Cassette Memory)
- Clear frame picture
- RMT-DS30 Wireless Remote Controller (supplied) for control of basic functions
- Headphone/microphone connections

DSR-20

Recorder



- Superb picture quality for the DVCAM format
- Playback capability of consumer DV recorded tapes (SP mode only)
- Long recording time; up to 184 minutes with a standard cassette and 40 minutes with a mini cassette
- i.LINK (DV In/Out) interface based on the IEEE1394 standard
- LANC interface for simple editing with a LANC-based recorder or editing system
- Auto repeat function
- Power-on playback/recording capability
- External Sync*¹ In connector for synchronized playback
- RS-232C and Control S interfaces for remote control operation
- Duplication mode with original time code
- Compact and lightweight (half-rack width)
- AC/DC operation
- Index/Photo/Date search functions (when using a cassette with IC Cassette Memory)
- RMT-DS20 Wireless Remote Controller (supplied) for control of basic functions

*¹ The DSR-20 locks to H-sync or V-sync.

DRV-1000

DVCAM Drive



- Superb picture quality for the DVCAM format
- Designed to fit directly into a standard PC 5.25-inch disk drive bay
- i.LINK (DV In/Out) interface based on the IEEE1394 standard
- LANC interface for simple editing with a LANC-based recorder or editing system
- Analog video and audio outputs
- DC power operation

Field Operation

DSR-70 Portable Editing Recorder



- Superb picture quality for the DVCAM format
- Playback capability of consumer DV recorded tapes (SP mode only)
- Long recording time; up to 184 minutes with a standard cassette and 40 minutes with a mini 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 the DSR-70 and the DNW-A25 Betacam SX portable editing recorder
- Two-way power supply system for operation on either AC or DC power
- Two-camera switching recording*¹
- Sequential recording in the double deck configuration
- Parallel-run recording to make two docked DSR-70 units record simultaneously
- 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
- Audio MIX/SWAP recording
- Versatile digital interfaces: SDTI(QSDI)*², SDI*³ and i.LINK (DV In/Out)*⁴

- Extensive analog interfaces: composite, component*⁵ and S-Video
- Frame accurate editing capability
- RS-422A remote control interface
- Built-in SMPTE time code generator/reader
- Process control for stabilizing 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 over a range of 1/30 to 1 times normal speed, in both forward and reverse
- Full tape dubbing with ClipLink Log Data
- 16:9/4:3 switchable

*¹ The optional DSBK-180 Dual Video Input Board is required.

*² The optional DSBK-150 SDTI(QSDI) Input/Output Board is required.

*³ The optional DSBK-160 SDI 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.

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 for the DVCAM format
- Playback capability of consumer DV recorded tapes (SP mode only)
- 40 minutes recording time with a mini cassette*¹
- Compact and lightweight: 970 g (2 lb 3 oz) without battery and tape
- Built-in 5.5-inch LCD monitor
- InfoLITHIUM™ system; Lithium-ion battery power system which shows the amount of power remaining in the battery, to within one minute accuracy

- i.LINK (DV In/Out) interface based on the IEEE1394 standard
- LANC interface for simple editing with a LANC-based recorder or editing system
- Auto repeat function
- Duplication mode with original time code
- Assemble editing with up to 99 events x four programs by using the optional DSRM-E1 Edit Adaptor
- Hands-free shooting capability with the optional CVX-V1 or CVX-V3 Mini Camera

*¹ The DSR-V10 accepts only mini 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 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 cassettes only

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

Feature Comparison of Camcorders

	DSR-130	DSR-300	DSR-200A	DSR-PD100	DSR-PD1
Cassette					
Standard size cassette	●	●	●	—	—
Mini size cassette	●	●	—	●	●
Camera Section					
TruEye process	●	●	—	—	—
DynaLatitude	●	●	—	—	—
Skin Detail	●	●	—	—	—
Clean Detail	●	—	—	—	—
Camera Setup File	●	—	—	—	—
SetupNavi	●	—	—	—	—
SetupLog	●	●	—	—	—
TLCS (Total Level Control System)	●	●	—	—	—
EZ Focus	●	●	—	—	—
EZ mode	●	●	—	—	—
ATW (Auto Tracing White Balance)	●	●	—	—	—
Super SteadyShot	—	—	●	●	●
VTR Section					
ClipLink	●	●	—	—	—
Photo mode	—	—	●	●	●
Interface					
i.LINK (DV In/Out)	—	—	●	●	●
LANC	—	—	●	●	●

● : Available
 — : Not available

Feature Comparison of VTRs

	DSR-85	DSR-80	DSR-70	DSR-60	DSR-30	DSR-20
Cassette						
Standard size cassette	●	●	●	●	●	●
Mini size cassette	●	●	●	●	●	●
Digital Interface						
SDTI(QSDI)	●	●	● (Option)	●* (Option)	—	—
SDI	● (Option)	● (Option)	● (Option)	●* (Option)	—	—
i.LINK (DV In/Out)	—	—	● (Option)	—	●	●
AES/EBU	●	●	—	—	—	—
Analog Interface						
Composite	●	●	●	●* *	●	●
Component	●	●	● (Option)	●* *	—	—
S-Video	●	●	●	●* *	●	●
RGB	—	●	—	●* *	—	—
Remote Control Interface						
RS-422A	●	●	●	●	—	—
RS-232C	—	—	—	—	—	●
LANC	—	—	—	—	●	●
Editing Capability						
ClipLink	●	●	●	●	—	—
Time code generator/reader	●	●	●	●**	●	●
High-speed data transfer	●	—	—	—	—	—
Assemble editing	●	●	●	—	●	●
Insert editing	● (Video/Audio/TC)	● (Video/Audio/TC)	● (Video/Audio/TC)	—	● (Video/Audio)	—
Search speed	Up to x ±32	Up to x ±32	Up to x ±32	Up to x ±32	Up to x ±15	Up to x ±15
Digital slow	x ±0 to 0.25	x ±0 to 0.39	x ±0 to 0.5	x ±0 to 0.33	x ±1/10, 1/5	x ±1/10, 1/5
Jog audio	x ±1/30 to 1	x ±1/30 to 1	x ±1/30 to 1	x ±1/30 to 1	x ±1/10, 1/5, 1	x ±1/10, 1/5, 1
Others						
DV playback capability	●	●	●	●	●	●
Auto repeat/power-on playback	—	—	—	●	●	●

* Output only

** Reader only

● : Available

— : Not available

Optional Accessories & Peripheral Equipment

For
Acquisition



RM-VJ1
Remote Control Unit

DSR-300



RM-M7G
Remote Control Unit

DSR-130 DSR-300



RM-LG1
Remote Control Unit

DSR-130 DSR-300



CCU-M5
Camera Control Unit

DSR-130



CCU-M7
Camera Control Unit

DSR-130



CA-WR855
Camera Adaptor

DSR-300



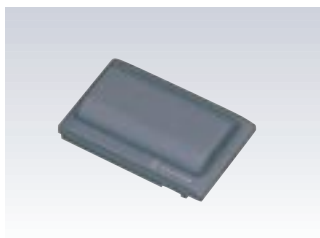
NP-1B
Rechargeable Battery Pack

DSR-130 DSR-1 DSR-300



NP-F950/B
Rechargeable Battery Pack

DSR-200A DSR-PD100



NP-F200/B
Rechargeable Battery Pack

DSR-PD1



BP-90A
Rechargeable Battery Pack

DSR-130 DSR-1 DSR-300



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 DSR-300



DC-L1
Battery Adaptor for NP-1B

DSR-130 DSR-300



DC-L90
Battery Adaptor for BP-90A

DSR-130 DSR-300



NPA-10000/B
Battery Adaptor for three NP-F950/Bs

DSR-200A



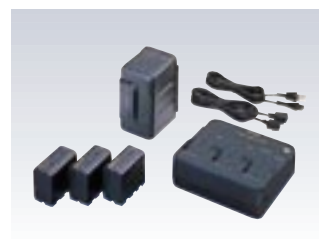
BC-1WD
Battery Charger for four NP-1Bs

DSR-130 DSR-1 DSR-300



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

DSR-130 DSR-1 DSR-300



ACC KIT-201
Accessory Kit for DSR-200A

DSR-200A



ACC KIT-PD1
Accessory Kit for DSR-PD1

DSR-PD1



BP-L60A/L90A
Rechargeable Battery Pack

DSR-130 DSR-1 DSR-300



BP-L40
Rechargeable Battery Pack

DSR-300



BKW-L601
Battery Adaptor for BP-L60A/L90A

DSR-130 DSR-1



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

DSR-300



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

DSR-130 DSR-1 DSR-300



CMA-8A
Camera Adaptor

DSR-130 DSR-1 DSR-300



AC-550
AC Adaptor

DSR-130 DSR-1 DSR-300



AC-DN1
AC Adaptor

DSR-300



AC-DN2A
AC Adaptor

DSR-300



AC-V900/B
AC Adaptor/Charger

DSR-200A



AC-V615/B
AC Adaptor/Charger

DSR-200A



AC-V100/B
AC Adaptor/Charger

DSR-PD1



ECM-672/670
Electret Condenser Microphone

DSR-130 DSR-300 DSR-200A DSR-PD100



C-74
Condenser Microphone

DSR-130 DSR-300



EC-0.5C2
Microphone Cable

DSR-130 DSR-300 DSR-1000



CAC-12
Microphone Holder

DSR-130 DSR-300 DSR-200A DSR-PD100



WRT-810A
UHF Synthesized Wireless Microphone

DSR-130 DSR-1



WRT-820A
UHF Synthesized Transmitter

DSR-130



WRR-855A
UHF Synthesized Tuner

DSR-130 DSR-1 DSR-300

Optional Accessories & Peripheral Equipment



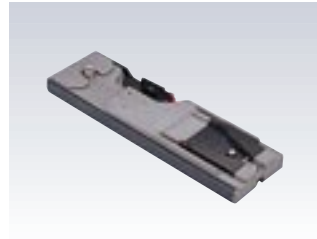
DXF-701WS
1.5-inch Monochrome Viewfinder

DSR-130 DSR-300



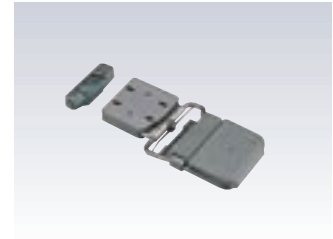
DXF-51
5-inch Monochrome Viewfinder

DSR-130 DSR-300



VCT-U14
Tripod Adaptor

DSR-130 DSR-300 DSR-200A



CAC-4
Chest Pad

DSR-130



DR-100
Intercommunication Headset

DSR-130



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

DSR-130



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

DSR-130



LC-304SFT
Soft Carrying Case

DSR-130



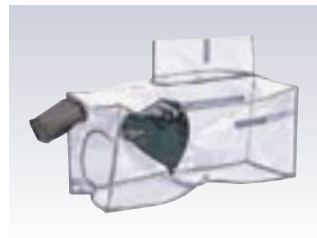
LC-300SFT
Soft Carrying Case

DSR-300



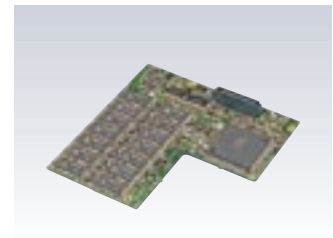
LC-421
Carrying Case

DSR-130 DSR-300



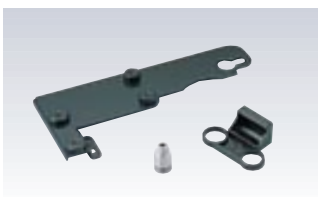
LCR-1
Rain Cover

DSR-130 DSR-300



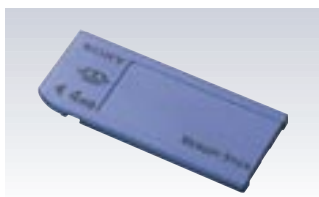
DSBK-301
Index Picture Board

DSR-300



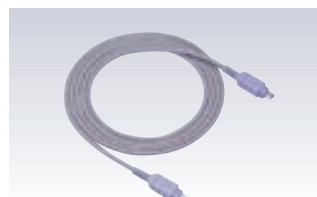
DSBK-201
Adaptor for WRR-810A

DSR-200A



MSA-4A Memory Stick (4 MB)
MSA-8A Memory Stick (8 MB)

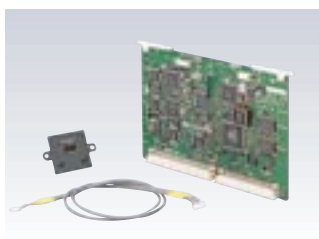
DSR-PD100



VMC-IL4415/IL4435/IL4615/IL4635
i.LINK Cable (1.5 m/3.5 m)

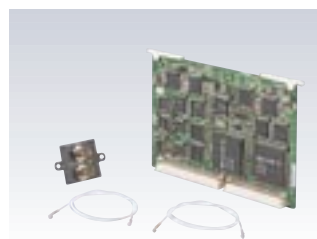
DSR-200A DSR-PD100 DSR-PD1

For
Field
Operation



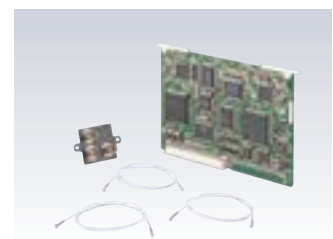
DSBK-140
i.LINK/DV Input/Output Board

DSR-70



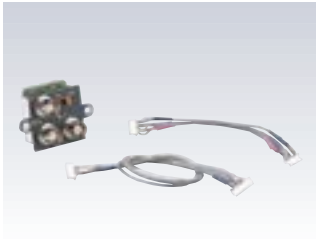
DSBK-150
SDTI(QSDI) Input/Output Board

DSR-70



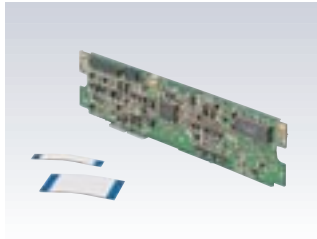
DSBK-160
SDI Input/Output Board

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



BC-L50
Battery Charger for BP-L60A/L90A

DSR-70



BC-L100
Battery Charger for BP-L60A/L90A

DSR-70



CMA-8A
Camera Adaptor

DSR-70



AC-550
AC Adaptor

DSR-70



AC-DN2A
AC Adaptor

DSR-70



BKNW-225
Docking Kit

DSR-70



LC-DN220
Carrying Case

DSR-70



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

DSR-70



DSRM-E1
Edit Adaptor

DSR-V10



CVX-V1
Color Video Camera

DSR-V10



CVX-V3
Color Video Camera

DSR-V10



NP-F950/B
Rechargeable Battery Pack

DSR-V10



NP-F750
Rechargeable Battery Pack

DSR-V10



AC-V700
AC Adaptor/Charger

DSR-V10

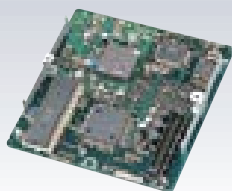


**VMC-IL4415/IL4435/
IL4615/IL4635**
i.LINK Cable (1.5 m/3.5 m)

DSR-V10

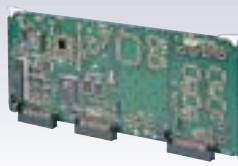
Optional Accessories & Peripheral Equipment

For
Video
Production



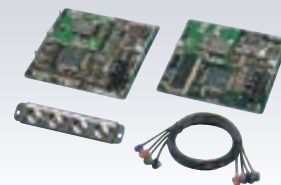
DSBK-100
SDI Output Board

DSR-60



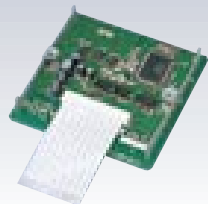
DSBK-110
QSDI Output Board

DSR-60



DSBK-120
SDI Input/Output Board

DSR-85 DSR-80



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

DSR-85 DSR-80 DSR-60*



ES-7
EditStation System

DSR-85 DSR-80 DSR-60



ES-3
EditStation System

DSR-85 DSR-80 DSR-60 DSR-30 DSR-20



PVE-500
Editing Control Unit

DSR-85 DSR-80 DSR-60



DFS-500
DME Switcher

DSR-85 DSR-80 DSR-60



DFS-300
DME Switcher

DSR-85 DSR-80 DSR-60



RM-450A
Editing Remote Controller

DSR-85 DSR-80 DSR-60



FXE-120
Editing System

DSR-85 DSR-80 DSR-60 DSR-30 DSR-20



IF-FXE2
LANC Interface Box

DSR-30 DSR-20



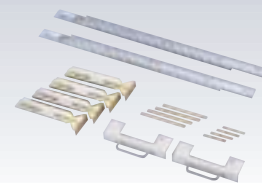
DSRM-10
Remote Control Unit

DSR-85 DSR-80 DSR-60 DSR-30 DSR-20



UVR-60
TBC Remote Control Unit

DSR-85 DSR-80 DSR-60



RMM-130
Rack Mount Kit

DSR-85 DSR-80 DSR-60



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

DSR-85 DSR-80 DSR-60



**VMC-IL4415/IL4435/
IL4615/IL4635**
i.LINK Cable (1.5 m/3.5 m)

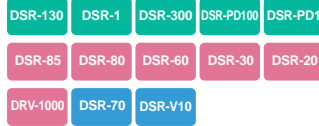
DSR-30 DSR-20

Tapes



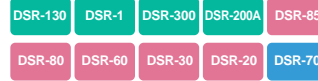
PDVM-12ME/22ME/ 32ME/40ME

Digital Video Cassette (Mini size)



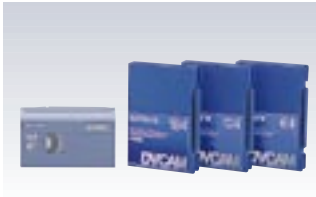
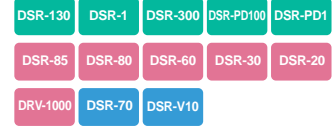
PDV-34ME/64ME/ 94ME/124ME/184ME

Digital Video Cassette (Standard size)



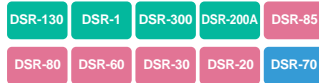
PDVM-32N/40N

Digital Video Cassette
(Non IC type/Mini size)



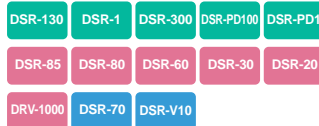
PDV-64N/124N/184N

Digital Video Cassette
(Non IC type/Standard size)



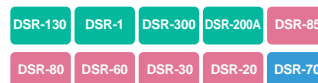
PDVM-32MEM/40MEM

Digital Video Cassette
(Master tape/Mini size)



PDV-64MEM/124MEM/ 184MEM

Digital Video Cassette
(Master tape/Standard size)



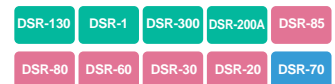
PDVM-12CL

Cleaning Cassette Tape (Mini size)



PDV-12CL

Cleaning Cassette Tape (Standard size)



Specifications

DSR-130/DSR-300/DSR-200A/DSR-PD100/DSR-PD1 Camcorders

	DSR-130 Two-piece Camcorder	DSR-300 One-piece Camcorder
General		
Power requirements	DC 12 V (10.5 to 17 V)	
Power consumption	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 Mini size: 40 min. with PDVM-40ME/40N	
Fast forward/Rewind time	Standard size: approx. 12 min. with PDV-184ME/184N Mini size: approx. 3 min. with PDVM-40ME/40N	
Continuous recording time	Approx. 60 min. with NP-1B Battery	Approx. 80 min. with BP-L40 Approx. 180 min. with BP-L60A Approx. 290 min. with BP-L90A
Mass	7.3 kg (16 lb 1 oz) (including VF, microphone, lens, battery, tape and carrying handle)	5.7 kg (12 lb 9 oz) (including VF, microphone, lens, battery and tape)
Dimensions (WxHxD)	121 x 206 x 344 mm (4 7/8 x 8 1/8 x 13 5/8 inches)	121 x 192 x 270 mm (4 7/8 x 7 5/8 x 10 3/4 inches) (without projections) 242 x 247 x 534 mm (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 1/2-inch, Interline Transfer CCD
Optics	F1.4 medium index prism system	
Effective picture elements	768 (H) x 494 (V)	
Total picture elements	811 (H) x 508 (V)	
Sensing area	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 2: 5600 K+1/8ND 3: 5600 K 4: 5600 K+1/64ND	1: 3200 K/3000 K (Switchable) 2: 5600 K+1/8ND 3: 5600 K 4: 5600 K+1/64ND
Lens 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 the VBS or BS signal	
Horizontal resolution	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 ^{**}) 0.8 lx with F1.8, Hyper Gain (30 dB+DPR)	
Sensitivity	F11 at 2000 lx (3200 K, 89.9% reflectance) (typical)	
Gain selection	-3 dB, 0 dB, 3 dB, 6 dB, 9 dB, 12 dB, 18 dB, 18dB+DPR, 24 dB, 24 dB+DPR, Hyper Gain (30 dB+DPR)	
Shutter speed selection	OFF, 1/100, 1/250, 1/500, 1/1000, 1/2000 sec.	
S/N ratio	63 dB (typical)	62 dB (typical)
Registration	0.05 % (all zones, without lens)	
Geometric distortion	Below measurable level	
VTR Section		
Video performance ^{**} Bandwidth	Luminance: 30 Hz to 5.0 MHz ±1.0 dB, 5.75 MHz +0/-3.0 dB (typical measurement), Chrominance: 30 Hz to 1.5 MHz +1.0/-5.0 dB	
S/N ratio	More than 55 dB	
K-factor (K2T, KPb)	Less than 2.0 %	
Y/C delay	Less than 30 nsec.	
Audio performance ^{**} Frequency response	2CH mode (48 kHz/16-bit): 20 Hz to 20 kHz +0.5/-1.0 dB, 4CH 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 In CH-1/2: XLR 3-pin x2 female, -60 dBu, 3 kΩ/+4 dBu, 10 kΩ Time Code In: BNC, 0.5 Vp-p to 18 Vp-p, 10 kΩ	Genlock Video In: BNC, 1.0 Vp-p, 75 Ω Ext Audio In CH-1/2: XLR 3-pin x2 female, -60 dBu, 3 kΩ/+4 dBu, 10 kΩ Time Code In: BNC, 0.5 Vp-p to 18 Vp-p, 10 kΩ MIC In: XLR 3-pin female
Signal outputs	Camera Head BNC Connector of CA-537 docked to DXC-D30 VBS: 1.0 Vp-p, sync negative 26-pin Connector: VBS: 1.0 Vp-p, sync negative Y/R-Y/B-Y: Y: 1.0 Vp-p, sync negative R-Y/B-Y: 700 mVp-p RGB: 1.4 Vp-p Y/C: Y: 1.0 Vp-p, sync negative C: 0.286 Vp-p (at burst level) Video Out: BNC, 1.0 Vp-p, sync negative, 75 Ω S-Video: DIN 4-pin Y: 1.0 Vp-p, sync negative, 75 Ω C: 0.286 Vp-p, 75 Ω Audio CH-1/2 Out: RCA pin, -10 dBu, 47 kΩ Monitor Out: BNC, 1.0 Vp-p, sync negative, 75 Ω Time Code Out: BNC, 1.0 Vp-p, 75 Ω	Video Out: BNC, 1.0 Vp-p, sync negative, 75 Ω VBS: 1.0 Vp-p, sync negative Y/R-Y/B-Y: Y: 1.0 Vp-p, sync negative R-Y/B-Y: 700 mVp-p Y/C: Y: 1.0 Vp-p, sync negative C: 0.286 Vp-p (at burst level) S-Video: DIN 4-pin Y: 1.0 Vp-p, sync negative, 75 Ω C: 0.286 Vp-p, 75 Ω Audio CH-1/2 Out: RCA pin, -10 dBu, 47 kΩ Monitor Out: BNC, 1.0 Vp-p, sync negative, 75 Ω Time Code Out: BNC, 1.0 Vp-p, 75 Ω
Others	Interface: Pro 76-pin Digital, Pro 50-pin DC In: XLR 4-pin, male DC Out: 4-pin Earphone Out: Stereo mini jack Lens: 12-pin VF: DIN 8-pin, 20-pin REMOTE 1: Stereo mini REMOTE 2: 10-pin	VTR Connector: 26-pin, male DC In: XLR 4-pin, male DC Out: 4-pin, female Earphone Out: Stereo mini jack Battery Terminal: 5-pin Light Out: 2-pin, female WRR Out: 7-pin Lens: 14-pin hot-shoe type or 12-pin VF: 20-pin REMOTE 1: Stereo mini REMOTE 2: 10-pin
Supplied Accessories		
	LC-421 Carrying Case (x1) (for DSR-130F1), VCL-918BY Zoom Lens (x1) (for DSR-130F1/DSR-130K1), DXF-701WS Viewfinder (x1), Microphone (x1), VCT-U14 Tripod Adaptor (x1), Shoulder Strap (x1), RM-LG1 Remote Control Unit (x1), Handle (x1), Operation Manual (x1), ClipLink Guide (x1)	LC-300SFT Soft Carrying Case (x1) (for DSR-300F), VCL-714BXA Zoom Lens (x1) (for DSR-300F/DSR-300K), DXF-701WS Viewfinder (x1), Microphone (x1), Wind Screen (x1), VCT-U14 Tripod Adaptor (x1), Shoulder Strap (x1), RM-LG1 Remote Control Unit (x1), Lens Mount Cap (x1), Flange Focal Length Adjustment Test Chart (x1), Switch Guard (x1), Operation Manual (x1), ClipLink Guide (x1)
	^{**} 1 DPR is equivalent to +6 dB gain up. 18 dB+DPR: Equivalent to +24 dB 24 dB+DPR: Equivalent to +30 dB Hyper Gain (30 dB+DPR): Equivalent to +36 dB	^{**} 2 The specifications of "Video/Audio Performance" of the DSR-130/300 were measured by playing back material on the DSR-85 (via analog component out) that had been recorded on the DSR-130/300.

Specifications

DSR-1 Dockable Recorder

DSR-20/DSR-30/DSR-60/DSR-80/DSR-85

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 Mini size: 40 min. with PDVM-40ME/40N
Fast forward/ Rewind time	Standard size: approx. 12 min. with PDV-184ME/184N Mini size: approx. 3 min. with PDVM-40ME/40N
Continuous e recording tim	Approx. 60 min. with NP-1B Battery (DSR-1+DXC-D30)
Mass	2.85 kg (6 lb 4 oz) (including battery)
Dimensions (WxHxD)	118 x 185 x 210 mm (4 3/4 x 7 3/8 x 83/8 inches)
Video Performance**	
Bandwidth	Luminance: 30 Hz to 5.0 MHz ±1.0 dB 5.75 MHz +0/-3.0 dB (typical measurement) Chrominance: 30 Hz to 1.5 MHz +1.0/-5.0 dB
S/N ratio	More than 55 dB
K-factor (K2T, KPB)	Less than 2.0 %
Y/C delay	Less than 30 nsec.
Audio Performance**	
Frequency response	2CH mode (48 kHz/16-bit): 20 Hz to 20 kHz +0.5/-1.0 dB 4CH mode (32 kHz/12-bit): 20 Hz to 14.5 kHz +0.5/-1.0 dB
Dynamic range	More than 80 dB
Distortion (THD+N)	Less than 0.08 %
Input/Output Connectors	
Signal inputs	Genlock Video In: BNC, 1.0 Vp-p, 75 Ω Ext Audio In CH-1/2: XLR 3-pin x2 female -60 dBu, 3 kΩ/+4 dBu, 10 kΩ Time Code 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, 75 Ω, sync negative C: 0.286 Vp-p, 75 Ω Audio CH-1/2 Out: RCA pin, -10 dBu, 47 kΩ Time Code Out: BNC, 1.0 Vp-p, 75 Ω
Others	Interface: Pro 76-pin Digital, Pro 50-pin DC 12 V (rear): XLR 4-pin, male DC Out: 4-pin Earphone Out: Stereo mini jack
Supplied Accessories	
	Shoulder Strap (x1) Connector Cap (x1) Lithium Battery (type CR2032) (x1) M4 x 6 Screws (x2) M4 x 12 Screws (x2) Operation Manual (x1) ClipLink Guide (x1)

** The specifications of "Video/Audio performance" of the DSR-1 were measured by playing back material on the DSR-85 (via analog component out) that had been recorded on the DSR-1.

	DSR-20 Recorder	DSR-30 Recorder
General		
Power requirements	AC: 120 V, 50/60 Hz DC: 12 V	AC 120 V, 50/60 Hz
Power consumption	AC: 28 W DC: 2.0 A (4.0 A PEAK)	32 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)	
Mass	Approx. 5.0 kg (11 lb)	Approx. 9.2 kg (20 lb 4 oz)
Dimensions (WxHxD)	215 x 98 x 392 mm (8 1/2 x 3 7/8 x 15 1/2 inches) (including external projections)	430 x 129 x 374 mm (17 x 5 1/8 x 14 3/4 inches) (including external projections)
Tape speed	28.193 mm/s	
Recording/Playback time	Standard size: More than 184 min. with PDV-184ME/184N, Mini size: More than 40 min. with PDVM-40ME/40N	
Fast forward/Rewind time	Less than 2 min. with PDV-184ME/184N (Tape rewind time)	
Search speed	When controlling via RMT-DS20 (for DSR-20), RMT-DS30 (for DSR-30), or DSRM-10: x-2, x-1, x-1/5, still, x1/5, x1, x2, Cue/Review (10 or 15 times)	
Video Performance		
Bandwidth (via analog component I/O)	—	—
Luminance:	—	—
Chrominance:	—	—
S/N ratio (via analog component I/O)	—	—
K-factor (K2T, KPB)	—	—
Y/C delay	—	—
Audio Performance		
Frequency response	—	—
Dynamic range	—	—
Distortion (THD+N)	—	—
Video Signal Inputs		
<Analog> Ref.Video	—	—
Video	Composite, BNC x1*, 1.0 Vp-p, 75 Ω, sync negative * shared with the External Sync IN	Composite, BNC x1, Pin jack x1, 1.0 Vp-p, 75 Ω, sync negative
Component	—	—
RGB/Component (selectable)	—	—
S-Video	DIN 4-pin x1, Y: 1.0 Vp-p, 75 Ω, sync negative C: 0.286 Vp-p, 75 Ω (subcarrier)	DIN 4-pin x2, Y: 1.0 Vp-p, 75 Ω, sync negative C: 0.286 Vp-p, 75 Ω (subcarrier)
<Digital> SDI	—	—
SDTI(QSDI)	—	—
i.LINK (DV In/Out)	4-pin jack x1, IEEE1394-based	
Audio Signal Inputs		
<Analog> Audio	Phono jacks (L&R) x1, 2 Vrms (full bit)	Phono jacks (stereo) rear x1/front x1, 2 Vrms (full bit)
<Digital> AES/EBU	—	—
Video Signal Outputs		
<Analog> Ref.Video	—	—
Video	Composite, BNC x1, Monitor Out x1, 1.0 Vp-p, 75 Ω, sync negative	Composite, BNC x2, Pin jack x1, 1.0 Vp-p, 75 Ω, sync negative
Component	—	—
RGB/Component (selectable)	—	—
S-Video	DIN 4-pin x1, Y: 1.0 Vp-p, 75 Ω, sync negative C: 0.286 Vp-p, 75 Ω (subcarrier)	DIN 4-pin x2, Y: 1.0 Vp-p, 75 Ω, sync negative C: 0.286 Vp-p, 75 Ω (subcarrier)
<Digital> SDI*	—	—
SDTI(QSDI)	—	—
i.LINK (DV In/Out)	4-pin jack x1*, IEEE1394-based	* shared with input connector
Audio Signal Outputs		
<Analog> Audio	Phono jacks (L&R) x2, 2 Vrms (full bit) L: CH1, CH3 or CH1/3 mix R: CH2, CH4 or CH2/4 mix	Phono jacks x1 (stereo), 2 Vrms (full bit)
<Digital> AES/EBU	—	—
Time Code		
Time code In	—	—
Time code Out	—	—
Remote		
	LANC: Stereo mini-mini jack x1 RS-232C: D-sub 9-pin (cross) connector x1 Control-S (SIRCS) In: Mini jack x1 Control-S (SIRCS) Out: Mini jack x1	LANC: Stereo mini-mini jack x2(front x1, rear x1, priority on the front) Control-S (SIRCS) In: Mini jack x1 Control-S (SIRCS) Out: Mini jack x1
Others		
	DC In: Canon 4-pin x1, 12 V Headphones: Stereo mini jack x1	Microphone In: Mini jack x1 (low impedance) Headphones: Stereo mini jack x1 Trigger In: Phono jack x1 (active short)
Supplied Accessories		
	AC Power Cord (x1), RMT-DS20 Wireless Remote Controller (x1), Size AA (R6) Batteries (x2), DVM12CLE Cleaning Cassette (x1), Operation Manual (x1), RS-232C Protocol Manual (x1)	AC Power Cord (x1), RMT-DS30 Wireless Remote Controller (x1), Size AA (R6) Batteries (x2), LANC Cable (x1), DVM12CLE Cleaning Cassette (x1), Operation Manual (x1)

Studio VTRs

	DSR-60 Editing Player	DSR-80 Editing Recorder	DSR-85 High-speed Editing Recorder
	AC 100 to 120 V, 50/60 Hz		
	85 W	140 W	185 W
	5 °C to 40 °C (41 °F to 104 °F)		
	-20 °C to 60 °C (-4 °F to 140 °F)		
	18 kg (39 lb 10 oz)	19 kg (41 lb 14 oz)	21 kg (46 lb 4 oz)
	427 x 174 x 494 mm (16 7/8 x 6 7/8 x 19 1/2 inches) (excluding external projections)		
	28.193 mm/s		
	Standard size: More than 184 min. with PDV-184ME/184N, Mini size: More than 40 min. with PDVM-40ME/40N		
	Standard size: Less than 3 min. with PDV-184ME/184N, Mini size: Less than 1 min. with PDVM-40ME/40N		
	When controlling via RS-422A: Search speed is up to 32 times, forward and reverse When controlling via DSRM-10: Jog mode: Frame by frame to x2, forward and reverse Shuttle mode: 8 steps, still to x16 normal speed, forward and reverse Digital slow mode: 3 steps, still, x1/5 and x1/10 normal speed, forward and reverse Jog audio mode: x1/30 to x1, forward and reverse		
	30 Hz to 5.0 MHz ±1.0 dB 5.75 MHz +0/-3.0 dB (typical measurement) 30 Hz to 1.5 MHz +1.0/-5.0 dB		
	More than 55 dB		
	Less than 2.0 %		
	Less than 30 nsec.		
	2CH mode (48 kHz/16-bit): 20 Hz to 20 kHz +0.5/-1.0 dB, 4CH mode (32 kHz/12-bit): 20 Hz to 14.5 kHz +0.5/-1.0 dB		
	More than 85 dB		
	Less than 0.05 %		
	Composite, BNC x2, loop-through connection, 1.0 Vp-p, 75 Ω, sync negative		
	—	Composite, BNC x2, loop-through connection, 1.0 Vp-p, 75 Ω, sync negative	
	—	—	BNC x3, Luminance: 1.0 Vp-p, 75 Ω, sync negative Chrominance: 0.7 Vp-p, 75 Ω
	—	BNC x3, Y/R-Y/B-Y: Y: 1.0 Vp-p, 75 Ω, sync negative R-Y/B-Y: 0.7 Vp-p, 75 Ω (75 %) R,G (w/o Sync): B: 0.7 Vp-p, 75 Ω G (w/Sync): 1.0 Vp-p, 75 Ω, sync negative	—
	—	DIN 4-pin, Y: 1.0 Vp-p, 75 Ω, sync negative C: 0.286 Vp-p, 75 Ω (at burst level)	
	—	BNC x2*, active-through connection, Conforms to Serial Digital Interface (270 Mbps), SMPTE 259M * Using optional DSBK-120 SDI Input/Output Board	
	—	BNC x1, Conforms to SDTI (270 Mbps), SMPTE 305M	
	—	—	—
	—	XLR 3-pin female x4, -9 dBu to 28 dBu, 600 Ω/10 kΩ, balanced	
	—	XLR 3-pin female x2, 110 Ω, balanced	
	BNC x1, Black burst: 0.286 Vp-p, 75 Ω, sync negative, Composite sync*: 2.0 Vp-p, 75 Ω, sync negative *when not adding sync to RGB output		BNC x1, 0.286 Vp-p, 75 Ω, sync negative
	Composite, BNC x2, 1.0 Vp-p, 75 Ω, sync negative * Video 1/2 (SUPER)		
	—	—	BNC x3, Luminance: 1.0 Vp-p, 75 Ω, sync negative Chrominance: 0.7 Vp-p, 75 Ω
	BNC x3, Y/R-Y/B-Y: Y: 1.0 Vp-p, 75 Ω, sync negative R-Y/B-Y: 0.7 Vp-p, 75 Ω (75 %) R,G (w/o Sync): B: 0.7 Vp-p, 75 Ω G (w/Sync): 1.0 Vp-p, 75 Ω, sync negative		—
	DIN 4-pin, Y: 1.0 Vp-p, 75 Ω, sync negative C: 0.286 Vp-p, 75 Ω (at burst level)		
	BNC x2, Conforms to Serial Digital Interface (270 Mbps), SMPTE 259M * Using optional DSBK-120 SDI Input/Output Board for DSR-85/80 and DSBK-100 SDI Output Board for DSR-60		
	BNC x1, Conforms to SDTI (270 Mbps), SMPTE 305M *Using optional DSBK-110 QSDI Output Board for DSR-60		
	—	—	—
	XLR 3-pin male x4, 4 dBu, 600 Ω loading, low impedance, balanced		
	—	XLR 3-pin male x2, 2 to 7 Vp-p, 110 Ω, balanced	
	—	BNC x1, 0.5 Vp-p to 18 Vp-p, 3 kΩ, unbalanced * Using optional DSBK-130 Time Code Input/Output Board	
	BNC x1, 2.2 Vp-p, 600 Ω, unbalanced * Using optional DSBK-130 Time Code Input/Output Board		
	RS-422A: 9-pin multi connector x1 TBC: D-sub 15-pin connector x1 Control-S (SIRCS): Stereo mini jack x1		
	Audio monitor: RCA phono jack x1, -6 dBu, 47 kΩ, unbalanced Headphones: JM-60 headphone jack x1, -16 dBu, 8 Ω, unbalanced		
	AC Power Cord (x1), RCC-5G Remote Control Cable (x1), Operation Manual (x1), ClipLink Guide (x1)		

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)
Mass	5.8 kg (12 lb 12 oz)
Dimensions (WxHxD)	211 x 149 x 443 mm (8 3/8 x 5 7/8 x 17 1/2 inches)
Tape speed	28.193 mm/s
Recording/Playback time	Standard size: More than 184 min. with PDV-184ME/184N Mini size: More than 40 min. with PDVM-40ME/40N
Fast forward/Rewind time	Standard size: Less than 3 min. with PDV-184ME/184N Mini size: Less than 1 min. with PDVM-40ME/40N
Search speed	x32, forward and reverse
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, Y: 1.0 Vp-p, 75 Ω, sync negative R-Y: 0.7 Vp-p, 75 Ω (75%) B-Y: 0.7 Vp-p, 75 Ω (75%) * Using optional DSBK-170 Analog Component Input/Output Board
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 x1, Conforms to Serial Digital Interface (270 Mbps), SMPTE 259M * Using optional DSBK-160 SDI Input/Output Board
SDTI(QSDI)	BNC x1, Conforms to SDTI (270 Mbps), SMPTE 305M * Using optional DSBK-150 SDTI(QSDI) Input/Output Board
i.LINK (DV In/Out)	6-pin x1, IEEE1394-based * Using optional DSBK-140 i.LINK/DV Input/Output Board
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, Y: 1.0 Vp-p, 75 Ω, sync negative R-Y: 0.7 Vp-p, 75 Ω (75%) B-Y: 0.7 Vp-p, 75 Ω (75%) * Using optional DSBK-170 Analog Component Input/Output Board
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, Conforms to Serial Digital Interface (270 Mbps), SMPTE 259M * Using optional DSBK-160 SDI Input/Output Board
SDTI(QSDI)	BNC x1, Conforms to SDTI (270 Mbps), SMPTE 305M * Using optional DSBK-150 SDTI(QSDI) Input/Output Board
i.LINK (DV In/Out)	6-pin x1, IEEE1394-based * Using optional DSBK-140 i.LINK/DV Input/Output Board
Audio Signal Outputs	
Analog	
Audio (CH-1, 2 or CH-3, 4)	XLR 3-pin male x2
Time Code	
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	Monaural
Remote	
RS-422A	9-pin multi connector x1
Others	
	DC In: XLR 4-pin x1, DC 12 V Audio monitor (R/L): RCA phono jack x1 Headphones: JM-60 stereo phone jack x1
Supplied Accessories	
	Carrying Belt (x1) Connector Cap (x1 / per interface) Operation Manual (x1)

DSR-V10 DVCAM Video Walkman Recorder

General	
Power requirements	DC: 7.2 V (Battery operation) DC: 8.4 V (AC adaptor operation)
Power consumption	11.5 W (with LCD panel 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)
Mass	970 g (2 lb 3 oz) (without tape and battery)
Dimensions (WxHxD)	148 x 62 x 135 mm (5 13/16 x 2 7/16 x 5 5/16 inches)
Tape speed	28.193 mm/s
LCD screen	5.5-inch
Video	
Video signal	EIA standard, NTSC color
Video input/output	Composite: RCA pin x1, 1.0 Vp-p, 75 Ω, unbalanced, sync negative S-Video: Mini DIN 4-pin x1, Y: 1.0 Vp-p, 75 Ω, sync negative C: 0.286 Vp-p, 75 Ω (subcarrier)

Audio	
Audio signals	Recording: 48 kHz/16-bit, 32 kHz/12-bit Playback: 48 kHz/16-bit, 32 kHz/12-bit, 32 kHz/16-bit, 44.1 kHz/16-bit
Audio input/output	Phono jack (Stereo (L/R) x1, RCA x2), -7.5 dBs (0 dBu=0.775 Vrms)
Others	
	i.LINK (DV In/Out): 4-pin, IEEE1394-based LANC: Stereo mini-mini jack Headphone: Stereo mini jack, 8 Ω Camera/Editor connector: 20-pin
Supplied Accessories	
	AC-V700 AC Adaptor/Charger (x1) DK-415 DK Cable (x1) Carrying Belt (x1) Operation Manual (x1)

DSRM-E1 (Edit Adaptor for DSR-V10)	
General	
Power requirements	DC: 7.2 V (supplied from the DSR-V10) DC: 8.4 V (AC adaptor operation)
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)
Mass	Main unit: 160 g (5.6 oz) Controller: 340 g (12 oz)

Dimensions (WxHxD)	Main unit: 69 x 61 x 134 mm (2 3/4 x 2 1/2 x 5 3/8 inches) Controller: 184 x 42 x 128 mm (7 1/4 x 1 11/16 x 5 1/8 inches)
Connectors	
	Multi connector: 20-pin Control unit: Mini DIN 8-pin LANC: Stereo mini-mini jack
Monitor Output	
Video output	RCA pin x1, Composite, 1.0 Vp-p, 75 Ω, unbalanced, sync negative
Audio output	Phono jack (Stereo (L1, R1) x1), 0.327 V, impedance 470 Ω or less

CVX-V1/CVX-V3 (Color Video Camera for DSR-V10)	
General	
Power requirements	DC: 7.2 V (Battery operation) DC: 8.4 V (AC adaptor operation)
Power consumption	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)
Mass	Camera head: CVX-V1: 25 g (0.85 oz) CVX-V3: 75 g (2.6 oz) CCU: CVX-V1/CVX-V3: 135 g (4.8 oz) (without battery)
Dimensions (WxHxD)	Camera head: CVX-V1: 22 x 18 x 60 mm (1 4/16 x 23/32 x 2 3/8 inches) CVX-V3: 36 x 40 x 70 mm (1 7/16 x 1 5/8 x 2 7/8 inches) CCU: CVX-V1/CVX-V3: 35 x 110 x 60 mm (1 7/16 x 4 3/8 x 2 3/8 inches)

Camera	
Image device	1/4-inch Interline Transfer CCD
Picture elements	Total: 410 k Effective: 380 k
Lens	CVX-V1: F1.8 CVX-V3: F2.8 to 4
Focal length	CVX-V1: f=3.9 mm (35 mm conversion: 38 mm) CVX-V3: f=3.5 to 10.5 mm (35 mm conversion: 35 to 105 mm)
Minimum illumination	CVX-V1: 2 lx CVX-V3: 5 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
Other Connectors (on CCU)	
	External mic In: Stereo mini-mini jack Multi connector: 20-pin Battery connector
Supplied Accessories	
	Video Walkman Attachment Unit (x1) Operation Manual (x1)

DRV-1000 DVCAM Drive

General		Audio	
Power requirements	5 V: 5 A (Max.) / 700 mA (Stop) 12 V: 0.8 A (Max.) / 130 mA (loading/unloading)	Audio signals	48 kHz/16-bit, 32 kHz/12-bit, 32 kHz/16-bit, 44.1 kHz/16-bit (depending on input signals)
Power consumption	5 V: 25 VA (Max.) 12 V: 9.6 VA (Max.)	Audio output	Phono jacks (L/R) x1, 0.327 V, 47 k Ω load or more, 2.2 k Ω impedance
Operating temperature	5 °C to 40 °C (41 °F to 104 °F)	Others	
Storage temperature	-20 °C to 60 °C (-4 °F to 140 °F)	i.LINK (DV In/Out): 4-pin, IEEE1394-based LANC: Stereo mini-mini jack Eject: Monaural mini jack, TTL input, low active (more than 100 ms) DC In: PC standard, 5 V/12 V/GND	
Tape speed	28.193 mm/s	Supplied Accessories	
Mass	Approx. 1.4 kg (3 lb 1 oz)	DV Cable (4-pin - 4-pin, 50 cm) (x1) AV Cable (x1) S-Video Cable (x1) Mounting Screw (x4) Operation Manual (x1)	
Dimensions (WxHxD)	Approx. 149 x 43 x 225 mm (5 7/8 x 1 3/4 x 8 7/8 inches)		
Video			
Video signal	EIA standard, NTSC color		
Video output	Composite: RCA pin x1, 1.0 Vp-p, 75 Ω , unbalanced, sync negative S-Video: Mini DIN 4-pin x1, Y: 1.0 Vp-p, 75 Ω , sync negative C: 0.286 Vp-p, 75 Ω (subcarrier)		

Flexicart Multi-cassette System

General	
Power requirements	AC 100/120/220/230/240 V, 50/60 Hz
Power consumption	600 VA (without VTRs)
Operating temperature	5 °C to 35 °C (41 °F to 95 °F)
Mass	250 kg (551 lb 2.5 oz) (without VTRs, cassette bin units and cassettes)
Dimensions (WxHxD)	600 x 1980 x 1090 mm (23 5/8 x 78 x 43 inches)
Connections	
Remote control interface	REMOTE-1: RS-422A D-sub 9-pin REMOTE-2: RS-232C D-sub 25-pin
Parallel interface	D-sub 50-pin
Reference video In	BNC, Black burst or Composite video
Time code In	BNC
Supplied Accessories	
	Power Cable (x1) Operation Manual (x1) Maintenance Manual (x1) Installation Manual (x1)

SONY

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