DSR-1800P/1600P

Digital Videocassette Recorder/Player

Professional choice without limitations.

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PAL

DVCAM™

Master Series

New, Powerful for Profess

Digital Videocassette Recorder
DSR-1800P

DSR-1800P/1600P

Partners ional Editing

Video production styles continue to evolve in response to the rapid and tremendous growth in visual communication.
In this fast-changing environment, the need is for equipment that meets the crucial demands for both higher productivity and greater creativity in professional video production.
Since its launch in 1996, Sony DVCAM™ has been satisfying these demands. It has brought many notable benefits: excellent picture and sound quality, high-performance editing capabilities, system versatility and professional reliability to mention a few.
Based on the DVCAM format, the DSR range of VTRs and Camcorders covers a wide range of applications from field acquisition through editing to transmission.

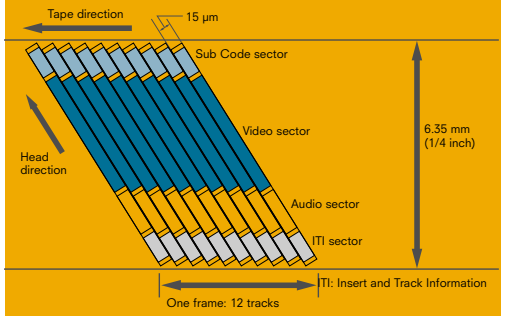
Now, two new models join the DSR family, the DSR-1800P Editing Recorder and the DSR-1600P Editing Player. These VTRs provide excellent performance in an editing environment. They have a full range of analogue and digital interfaces, a responsive search dial function, and many other powerful features. A key advantage is their playback compatibility with DV (25 Mb/s) family formats, including consumer DV (SP mode) and DVCPRO.

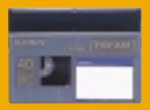
Filled with professional features and offering great flexibility, the DSR-1800P and the DSR-1600P are the perfect choice for today's demanding video production applications.

Main Features

The DVCAM Format for Professional Performance

The DSR-1800P and the DSR-1600P employ the DVCAM format, the professional extension of the worldwide standard DV format.
The DVCAM format uses 8-bit digital component recording with a 5:1 compression ratio and a sampling rate of 4:2:0.
The unique compression algorithm provides excellent picture quality and superb multi-generation performance.
The DVCAM format has a wider track pitch of 15 µm (compared with 10 µm for the DV format) which gives higher reliability for professional editing.
It also offers superior digital audio performance, providing a wide dynamic range and excellent signal-to-noise ratio, comparable to CD quality. Alternative audio channel modes can be selected:
a two-channel mode with 48 kHz/16-bit recording or a four-channel mode with 32 kHz/12-bit recording.
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.





Mini-size cassette

Standard-size cassette

Playback Compatibility

Playback Compatibility with DV (25 Mb/s) Family Formats

For maximum versatility, the DSR-1800P and the DSR-1600P are designed to playback DV (25 Mb/s) format recorded tapes without a mechanical adaptor – and without requiring menu switching of playback modes before use.
This playback versatility includes consumer DV recorded tapes (SP mode) and even DVCPRO* recorded tapes.
Moreover, it is possible to use these tapes directly as editing source material with ±0 frame accuracy.

* Playback signal of a DVCPRO recorded tape is not available via the SDTI (QSDI™) or i.LINK™ (DV In/Out) interface.

Excellent Editing Performance

Outstanding Audio Editing Capabilities

Thanks to newly-developed digital processing, the DSR-1800P offers excellent four-channel audio editing capabilities.
An audio cross-fade function is available for clean audio transitions at editing points.
Audio mix/swap and over dubbing are provided without any delay between the video and audio signals.
In addition, the four audio channels can be edited independently, which makes the DSR-1800P ideal for creating or editing video material with multiple languages or a variety of audio sources.

Excellent Digital Slow Motion and Jog Sound

The DSR-1800P and the DSR-1600P offer a variable speed playback function with a range of -0.5 to +0.5 times normal play speed.
Within this range, they play back noiseless, digital slow-motion pictures as well as clear jog sound, making it easy to locate editing points quickly and accurately. Moreover, this feature is available even for other DV (25 Mb/s) format recorded tapes like consumer DV (SP mode) and DVCPRO.

DMC (Dynamic Motion Control)

Equipped with the DMC function, the DSR-1800P and the DSR-1600P allow the playback speed of a specific section of tape to be varied over the range of -0.5 to +0.5 times normal speed. These speed variations and the start and end points of the tape section are stored for later playback.
This feature can also be used with other DV (25 Mb/s) format recorded tapes like consumer DV (SP mode) and DVCPRO.

Frame Accurate Editing Capability

The DSR-1800P and the DSR-1600P can be connected with Sony VTRs and editing controllers through their RS-422A interface. In addition, i.LINK-based control is available*. Both interfaces ensure frame-accurate editing.

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

Versatile Interfaces

Analogue Interfaces

Incorporating a comprehensive range of analogue interfaces for both video and audio, the DSR-1800P and the DSR-1600P interface with current analogue equipment to ensure smooth upgrading to digital systems. Composite, component, S-Video (Y/C) for video, and audio interfaces (via XLR connectors) are provided.

Digital Interfaces (Options)

The DSR-1800P and the DSR-1600P can also have a full range of digital interfaces such as SDI, SDTI (QSDI™) and i.LINK™ (DV In/Out), as well as an AES/EBU digital audio interface. These are available with the following optional boards:

- **SDI and AES/EBU:**
  DSBK-1801 for DSR-1800P
  DSBK-1601 for DSR-1600P (output only)
- **SDTI (QSDI):**
  DSBK-1802 for DSR-1800P
  DSBK-1602 for DSR-1600P (output only)
- **i.LINK (DV In/Out):**
  DSBK-1803 for DSR-1800P
  and DSR-1600P (output only)

By taking advantage of these digital interfaces, the DSR-1800P and the DSR-1600P offer full access to a wide variety of digital editing systems. These include SDI-based editing systems with Betacam SX® or Digital Betacam® VTRs, SDTI (QSDI)- or i.LINK-equipped nonlinear editing systems, and many more.

- 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.
- i.LINK stands for IEEE 1394-1995 standards and their revisions.
- i is the logo for products that implement i.LINK.

Comprehensive, Convenient Functions

16:9 Aspect Ratio Capability

By receiving a wide aspect ID signal, the DSR-1800P and the DSR-1600P record (DSR-1800P only) and play back 16:9 aspect ratio pictures captured with the Sony DXC-D35WSP Digital Video Camera, and the DSR-500WSP and DSR-PD100AP DVCAM Camcorders.

VITC (Vertical Interval Time Code)

In addition to time code conforming to the EBU format, the DSR-1800P and the DSR-1600P support VITC. This time code is recorded on the video tracks and inserted in the vertical blanking interval. The time code can also be read at low speeds and during still playback.

Video Process Control

The DSR-1800P and the DSR-1600P are both equipped with the Video Process Control function, enabling greater control of both analogue and digital outputs.
The Video Process Control can also be adjusted with an optional UVR-60 TBC Remote Control Unit, when connected to the Video Control port (D-sub 15-pin) on the rear panel.

Channel Condition Monitoring

The DSR-1800P and the DSR-1600P have a three-colour channel condition indicator, with each colour representing a particular error rate threshold level. This function enables operators to quickly recognise the condition of the VTR and tape.

Built-in Signal Generator

Equipped with a built-in signal generator, the DSR-1800P and the DSR-1600P can generate colour bars or black burst for video, and 1 kHz tone or silent signal for audio.

Flexible Input Selection

The DSR-1800P allows flexible combinations* of video and audio signals to be input.
It is possible to simultaneously select the digital interface for video and the analogue interface for audio.

* i.LINK interface cannot be combined with other signal interfaces. When SDTI (QSDI) is selected as the audio input, the video signal is presumed to be SDTI (QSDI). However, when it is selected as video, other signal interfaces can be selected for the audio input.

Sophisticated Mechanisms

Quick, Responsive Mechanism

Quick mechanical response is an essential requirement for professional video production. The DSR-1800P and the DSR-1600P provide this through the use of a reliable direct reel and drum motor mechanism.
In switching from Still mode to Play mode, the response is exceptionally quick.
Fast forward and rewind speeds are an impressive 85 times play speed, with a maximum search speed of 60 times during colour playback. In editing environments, where speed is of vital importance, this mechanism frees editors from the frustration of slow operation and speeds the editing process.

Triple-size Cassette Compartment

The triple-size cassette compartment ensures compatibility with DV (25 Mb/s) format recorded tapes of all sizes.
This innovative feature makes it possible to use standard- and mini-size consumer DV (SP mode) and DVCAM cassettes as well as medium DVCPRO cassettes without a mechanical adaptor. The cassette compartment is also designed for high durability, providing optimum performance in demanding editing environments.

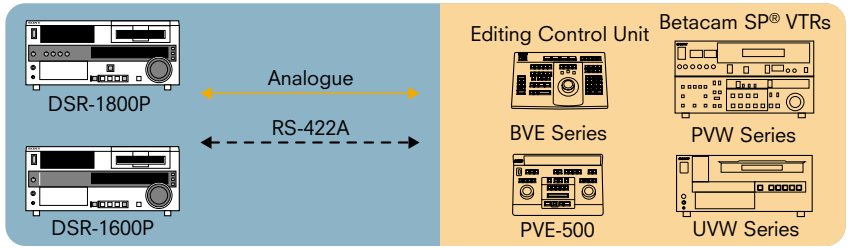
Other Features...

- ClipLink™ Operation
- Full Tape Dubbing with ClipLink Log Data
- Auto Repeat/Power-on Playback Function
- Time Code Input/Output
- Record Inhibit Function (DSR-1800P only)
- Built-in Character Generator
- Universal Powering System: AC 100 V to 240 V

Digital Videocassette Player

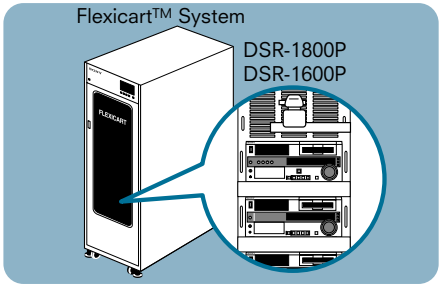
DSR-1600P

Application Examples



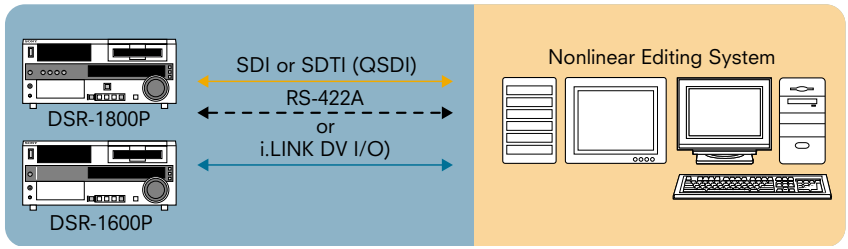
Feeder/Editor for Linear Editing Systems

- Easy to integrate into a current analogue editing system through the use of analogue interfaces
- Ideal first unit for smooth migration into a digital production system



Program Playout

- Ideal for automatic program/commercial playout, by installing in a Flexicart™ system



Feeder/Editor for Nonlinear Editing Systems

- Superior multi-generation picture and sound quality by use of SDI, SDTI (QSDI) and i.LINK interfacing through the entire production process
- Ideal as a feeder/editor machine in a nonlinear editing system

Peripheral Equipment & Optional Accessories

DSR-500WSP
Digital Camcorder

DSR-300AP
Digital Camcorder

DSBK-1801
SDI/AES/EBU Input/Output Board (for DSR-1800)

DSBK-1802
SDTI (QSDI) Input/Output Board (for DSR-1800)

DSBK-1803
i.LINK/DV Input/Output Board (for DSR-1800 and DSR-1600)

DSBK-1601
SDI/AES/EBU Output Board (for DSR-1600)

DSBK-1602
SDTI (QSDI) Output Board (for DSR-1600)

BVE-2000
Editing Control Unit

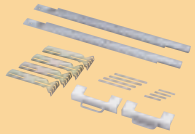
PVE-500
Editing Control Unit

DVS-2000C
Digital Video Switcher

BVS-3200C
Video Switcher

DFS-700
DME Switcher

UVR-60
TBC Remote Control Unit



RMM-130
Rack Mount Kit

RCC-5G/10G/30G
9-pin Remote Control Cable

RCC-5G/10G/30G
9-pin Remote Control Cable

PDVM-12ME/22ME/32ME/40ME
Digital Videocassette (Mini size)
PDV-34ME/64ME/94ME/124ME/184ME
Digital Videocassette (Standard size)

PDVM-32N/40N
Digital Videocassette (Non-IC type/Mini size)
PDV-64N/124N/184N
Digital Videocassette (Non-IC type/Standard size)

PDVM-32MEM/40MEM
Digital Videocassette (Master tape/Mini size)
PDV-64MEM/124MEM/184MEM
Digital Videocassette (Master tape/Standard size)

PDVM-12CL
Cleaning Cassette Tape (Mini size)
PDV-12CL
Cleaning Cassette Tape (Standard size)

Front View of DSR-1800P

Rear View of DSR-1800P (with full options)

Specifications

	DSR-1800P	DSR-1600P
GENERAL		
Power requirements	AC 100 V to 240 V, 50/60 Hz	
Power consumption	100 W (with all options)	70 W (with all options)
Operating temperature	5 °C to 40 °C (41 °F to 104 °F)	
Storage temperature	-20 °C to 60 °C (-4 °F to 140 °F)	
Operating humidity	Less than 80%	
Storage humidity	Less than 90%	
Weight	13 Kg (28lb 10 oz)	
Mass	3.9 kg (8 lb 9 oz), excluding battery and tape	
Dimensions (W x H x D)	427 x 174 x 400 mm (16 7/8 x 6 7/8 x 15 3/4 inches)	
Tape speed	28.221 mm/s	
Recording/Playback time		
Standard size	184 min.withPDV-184ME/184N/184MEM	
Mini size	40 min.with PDVM-40ME/40N/40MEM	
Fast forward/Rewind time		
Standard size	Less than 3 min.with PDV-184ME/184N/184MEM	
Mini size	Less than 1 min.with PDVM-40ME/40N/40MEM	
Search speed		
Shuttle mode	Still to ±60 times normal speed	
Digital slow mode	±0.5 times normal speed	
VIDEO PERFORMANCE		
Bandwidth (via analogue component I/O)		
Luminance	25 Hz to 5.0 MHz ±1.0 dB	
Chrominance	25 Hz to 2.0 MHz ±1.0/-2.0 dB	
S/N ratio (via analogue component I/O)	More than 55 dB	
K-factor (K2T, KPB)	Less than 2.0%	
Y/C delay	Less than 30 ns	
AUDIO PERFORMANCE		
Frequency response		
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 90 dB	
Distortion (THD + N)	Less than 0.05%	
INPUT SIGNALS		
VIDEO (ANALOGUE)		
REF. Video	0.3 Vp-p, 75 Ω, sync negative	
Video (BNC x 2, loop-through connection)	Composite, 1.0 Vp-p, 75 Ω, sync negative	—
Component (BNC x 3)	Y :1.0Vp-p, 75 Ω, sync negative R-Y :0.7Vp-p, 75 Ω (100%) B-Y :0.7Vp-p, 75 Ω (100%)	—
S-Video (DIN 4-pin x 1)	Y :1.0Vp-p, 75 Ω, sync negative C:0.3Vp-p, 75 Ω (at burst level)	—

	DSR-1800P	DSR-1600P
INPUT SIGNALS (continued)		
VIDEO (DIGITAL)		
SDI (BNC x 2,active-through connection) *using optional DSBK-1801 for DSR-1800P	Conforms to Serial Digital Interface (270 Mb/s), ITU-R BT.656	—
SDTI (QSDI) (BNC x 1) *using optional DSBK-1802 for DSR-1800P	Conforms to SDTI (270 Mb/s), SMPTE 305M/322M	—
i.LINK (DV In/Out) (6-pin x 1) *using optional DSBK-1803 for DSR-1800P	IEEE 1394-based	—
AUDIO (ANALOGUE)		
Audio (XLR 3-pin female x 4)	-6/-3/0/+4 dBu (selectable by menu), -60 dBu (high impedance)/600 Ω OFF/ON	—
AUDIO (DIGITAL)		
AES/EBU (BNC x 2) *using optional DSBK-1801 for DSR-1800P	75Ω, unbalanced	—
TIME CODE		
Time Code In (BNC x 1)	0.5 Vp-p, to 18 Vp-p, 3 KΩ unbalanced	—
OUTPUT SIGNALS		
VIDEO (ANALOGUE)		
Ref. Video (BNC x 1)	0.3 Vp-p, 75 Ω, sync negative	
Video 1/2 (SUPER) (BNC x 2)	Composite, 1.0 Vp-p, 75 Ω, sync negative	
Component (BNC x 3)	Y :1.0 Vp-p, 75 Ω, sync negative R-Y :0.7 Vp-p, 75 Ω (100%) B-Y :0.7 Vp-p, 75 Ω (100%)	
S-Video (DIN 4-pin x 1)	Y :1.0 Vp-p, 75 Ω, sync negative C:0.3 Vp-p, 75 Ω (at burst level)	
VIDEO (DIGITAL)		
SDI (BNC x 2) *using optional DSBK-1801 for DSR-1800P and DSBK-1601 for DSR-1600P	Conforms to Serial Digital Interface (270Mb/s), ITU-R BT.656	
SDTI (QSDI) (BNC x 1) *using optional DSBK-1802 for DSR-1800P and DSBK-1601 for DSR-1600P	Conforms to SDTI (270Mb/s), SMPTE 305M/322M	
i.LINK (DV In/Out) (6-pin x 1) *using optional DSBK-1803 for DSR-1800P and DSBK-1601 for DSR-1600P	IEEE 1394-based	
AUDIO (ANALOGUE)		
Audio (XLR 3-pin male x 4)	-6/-3/0/+4 dBu (selectable by menu)	
Monitor (RCA x 1)	-9 dBu, 47 KΩ unbalanced (-18 dBFS)	
Headphone (JM-60 headphone jack x 1)	∞ to –11dBu, 8 Ω, unbalanced (-18 dBFS)	
AUDIO (DIGITAL)		
AES/EBU (BNC x 2) *using optional DSBK-1801 for DSR-1800P and DSBK-1601 for DSR-1600P	75 Ω, unbalanced	
TIME CODE		
Time Code Out (BNC x 1)	2.2 Vp-p, 75 Ω unbalanced	
REMOTE		
RS-422A	D-sub 9-pin (female) x 1	
Video Control	D-sub 15-pin (male) x 1	
Control S (SIRCS)	Stereo mini jack x 1	
SUPPLIED ACCESSORIES		
	AC power cord x 1 Operating instructions x 1	

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Features and specifications are
subject to change without notice.
All non-metric weights and measures
are approximate.

CA-DSR-1800P/1600P/GB-03/11/2000

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