NTSC/PAL | Digital Videocassette Recorder

SONY

DVCAM

DSR-45

DSR-45P

For

Professional

Results

The Versatile DVCAM Recorder For Professional Editing

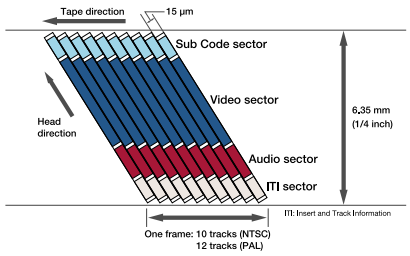
As digital videocassette recorders evolve, they give users more tools to get the job done quickly and properly. The DSR-45* is a new versatile DVCAM digital video recorder that is perhaps the best in its class. Place the DSR-45 in a small to medium sized production house to create an ideal system for both nonlinear editing and linear A/B roll editing as a source feeder.[1] Whether editing weddings, corporate training videos or cable television programs, the DSR-45 gets the job done in a timely manner with professional results. Its i.LINK™[2] interface allows seamless integration into compatible DV-based editing suites. In addition, analog component connectors allow the unit to accept and transfer high-quality video and audio. For external control, the DSR-45 comes standard with RS-422A and RS-232C interfaces. Equipped with a 2-inch[3] built-in LCD, the DSR-45 displays information including; audio level, system status, and the working image as they are needed. The DSR-45 is the videocassette recorder of choice for small to medium-sized production houses.

**In the following text, "DSR-45" refers to both the DSR-45 (525/60 model) and the DSR-45P (625/50 model).*

DVCAM Format For Excellent Picture And Sound Quality

The DVCAM Format

The DSR-45 uses 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 4:1:1 (for 525/60)/4:2:0 (for 625/50). The unique compression algorithm provides excellent picture quality and superb multi-generation dubbing performance.



Up to Four Independent, High-quality, Audio Channels

The DSR-45 provides two selectable audio channel modes; a two-channel mode with 48 kHz/16-bit recording and a four-channel mode with 32 kHz/12-bit recording. Thanks to its PCM (Pulse Code Modulation) digital stereo recording system, the DSR-45 offers superb digital audio performance with a wide dynamic range and an excellent signal-to-noise ratio, comparable to CD-quality audio.

Playback Compatibility with the DV (25 Mb/s) Format

The DVCAM format maintains playback compatibility with the consumer DV format.[4] This compatibility allows the user to play back DV recorded tapes on the DSR-45. Such versatility is quite advantageous to users working with DV cameras for their great portability and long recording times.

Dual-size Cassette Mechanism

The DSR-45 has a dual-size cassette mechanism, which accepts both mini and standard size DVCAM and DV cassette tapes without any special adaptor. This innovative feature allows the four different types of cassette tapes to be used without the cumbersome process associated with additional mechanical hardware.

Long-duration Recording Capability

DVCAM videocassette tapes come in two sizes: standard and mini. A maximum recording time of 184-minutes is possible with a standard size cassette (PDV-184ME), while the mini cassette (PDVM-40ME) allows up to 40-minutes. Although the tape is relatively narrow, 1/4-inch (6.35 mm), and the cassette compact, these long recording times are achieved by using Sony advanced ME (Metal Evaporated) tape.

Capability of Recording in DV Format[5]

Should you require a longer record time than what is available with the DVCAM format, the DSR-45 is capable of recording in the DV format. In this format, a standard-sized cassette records up to 270 minutes.

Versatile Video and Audio Interfaces

i.LINK Interface

The DSR-45 is equipped with a 4-pin i.LINK (DV) interface based on the IEEE1394 standard. The i.LINK interface provides a digital link from the DSR-45 to a variety of compatible equipment including Sony DVCAM VTRs and third-party nonlinear editors. Signals including video, audio, time code, and control can be transferred through this I/O with virtually no degradation of image or sound quality. In addition, when the DVCAM cassette with IC memory is loaded into a DSR-45, the ClipLink(tm) data recorded on the cassette memory can be uploaded to a nonlinear editing system.[6]

Analog Component Input/Output and S-Video

The DSR-45 provides a full range of analog video inputs and outputs; component, composite, and S-Video inputs and outputs are all available. The DSR-45 can also be used as a signal converter. Component, composite, and S-Video analog signals can easily be converted to and from i.Link digital signals.

1. The DSR-45 is best used as a player/recorder in a nonlinear editing suite. When used in A/B roll editing, the DSR-45 can be used as a source feeder. The DSR-45 cannot perform insert or assemble editing nor does it have a synchronization capability. **2.** i.LINK is a Sony trademark used only to designate that a product is equipped with an IEEE 1394 connector. All products with an i.LINK connector may not communicate with each other. Please refer to the documentation that comes with any device having an i.LINK connector for information on compatibility, operating conditions, and proper connection. **3.** Viewable area measured diagonally. **4.** In SP mode only

4-channel Separate Audio Inputs/Outputs

The DSR-45 has four, independently selectable, audio inputs and outputs. Four XLR connectors carry analog audio outputs, making the DSR-45 easy to integrate into current analog-based systems.

REF Input

The DSR-45 has an external reference input for synchronized playback with other VTRs.[7] This is essential when a DSR-45 is one of a number of playback sources in an editing system.

Time Code Input/Output

The DSR-45 is equipped with a time code input/output capability, enabling time code synchronization with external equipment, which is ideal for dubbing purposes. The unit can output time code read from the tape when played back at normal speed, and can also receive a time code signal from an external source.

Simple Editing Control

RS-422A Interface

Equipped with an RS-422A interface, the DSR-45 can perform as a source feeder in a professional A/B roll-editing system[1]. The system can be controlled from a number of different Sony edit controllers, including the FXE Series, PVE-500, RM-450, and the BVE Series.[8] It is also possible to add the DSR-45 to a current analog editing system. For example, in an A/B roll editing system where DV or DVCAM recorded tapes are being used as source material, an S-VHS feeder could be replaced by a DSR-45.

RS-232C Interface

The DSR-45 is equipped with an RS-232C control interface allowing basic VTR functions to be controlled from a PC.

Versatile Recording And Playback Functions

Effortless Duplication

The DSR-45 has three duplication modes, which can be set from the menu to copy videocassette tapes. In all modes, the original time codes are maintained. The different modes are as follows:

AUTO TAPE COPY WITH CASSETTE MEMORY COPY	This mode is used to create an exact duplicate of the original tape without blank segments. Both the material on the original tape and the information on the IC memory of the original tape are duplicated.
AUTO TAPE COPY	This mode is used for duplication of the original tape material without blank segments. The information on the IC memory is not duplicated.
MANUAL TAPE COPY	This mode is used to copy the original tape from any position on the tape. The information on the IC memory is not duplicated.

These functions are ideal when making work tapes and preserving an original master tape.

Auto Repeat Function

The DSR-45 has an Auto Repeat function that enables it to repeatedly play back a program. Just after the end of the tape is reached, or the first complete blank portion or the first index point is detected, the tape is automatically rewound and playback of the segment is repeated.[9]

Power-on Recording/Playback Capabilities

An external timer can be used to trigger the DSR-45 to record or playback. When the TIMER switch on the front panel is set to REC, the DSR-45 automatically starts recording as soon as the AC power is turned on. Likewise, when the TIMER switch is set to REPEAT, the DSR-45 goes into the Auto Repeat mode and starts playing back a program the moment that power is turned on. These convenient features enable unattended automatic VTR operation.

User-Friendly Features

Built-in LCD Front Panel Monitor

The DSR-45 is equipped with a 2-inch[3] high-resolution color LCD monitor. Easy set-up is an advantage of this monitor, as the set-up menu clearly displays the appropriate parameters to select. While editing, working images are displayed, audio level meters are available, and the system status can be displayed to simplify the editing process.

Compact Size and Light Weight

The DSR-45 is both compact and lightweight. Two units can be mounted side-by-side in a 19-inch equipment rack, where they occupy just two units of rack height.[10] The DSR-45 weighs only 4.6 kg (10 lb 2 oz).

Cassette Memory Search

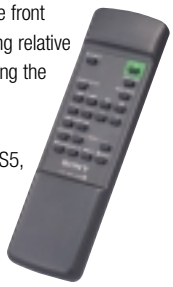
The DSR-45 has a cassette memory search function. Searchable index points are marked at the start of every recording. The DSR-45 can also search for the photo data recorded on cassettes by DSR-250, DSR-PD150 or DSR-PD100A camcorders, or the point where the recording date has been changed. These operations are controlled from the supplied wireless remote controller, RMT-DS5, or an optional DSRM-20 Remote Control Unit.

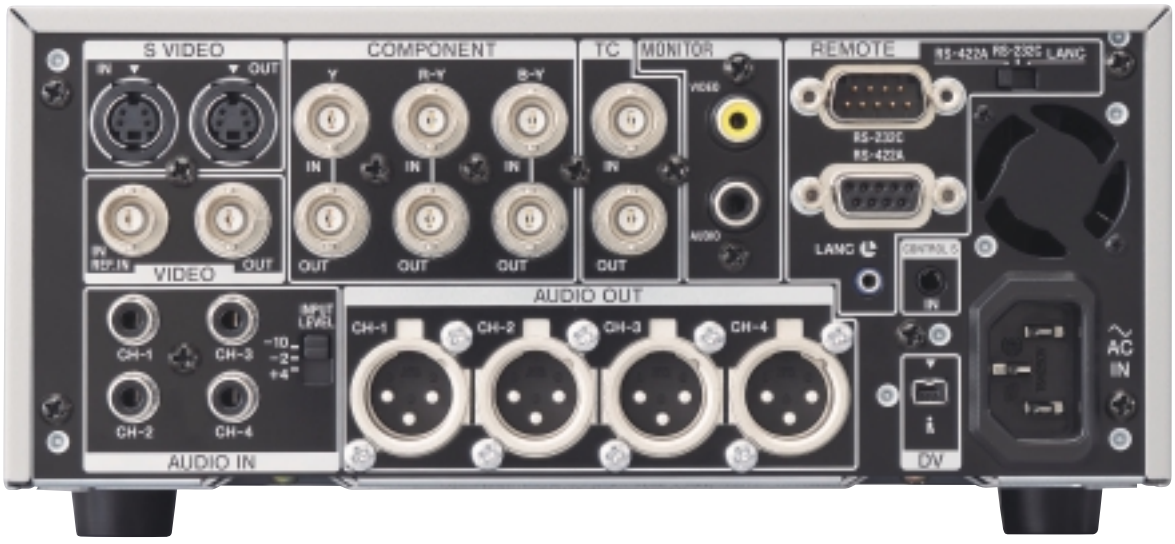
Color Bar Generator and Tape Counter

The DSR-45 has a color bar generator that can be activated from the set-up menu.[11] In addition, the system comes with a digital tape counter on the front panel, which is convenient for performing relative time code data editing, and for monitoring the operation of the unit.

Wireless Remote Controller

The Wireless Remote Controller, RMT-DS5, supplied with the DSR-45, can be used for control of basic functions.





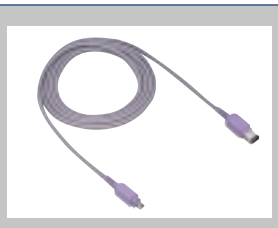
5. When recording in DV (SP) format, transitions between cut to cut may not be smooth. In addition, when the recording format is switched between DVCAM and DV, the transition may not be recorded smoothly. This is a normal and expected phenomenon. **6.** Although the DSR-45 can send ClipLink data via i.LINK, ClipLink data cannot be modified by the DSR-45. **7.** The reference input and the composite input share the same connector.
8. Excluding the BVE-800. **9.** The DSR-45 ignores any blank or index point in the first 20 seconds of the tape. **10.** Third party rack-mount kits are available. **11.** These color bars are not compatible with the SMPTE standard.

Specifications

	DSR-45	DSR-45P
GENERAL		
Power requirements	AC 100 V to 240 V, 50/60 Hz	
Power consumption	22 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	4.6 kg (10 lb 2 oz)	
Dimensions (W x H x D)	212 x 98 x 392.8 mm (8 3/8 x 3 7/8 x 15 1/2 inches) (including external projections)	
Tape speed	Approx. 28.2 mm/s (DVCAM mode), Approx. 18.8 mm/s (DV SP mode)	
Recording/Playback time	184 minutes (DVCAM mode), 270 minutes (DV SP mode), with PDV-184ME cassette 40 minutes (DVCAM mode), 60 minutes (DV SP mode), with PDVM-40ME cassette	
Fast forward/Rewind time	Less than 2 min. with PDV-184ME/184N/184MEM	
Search speed (Using supplied RMT-DS5 or optional DSRM-20)	± x1/10, x1/3, x1,x2,x9, x14 (DVCAM) ± x1/10, x1/3, x1,x2,x9, x24 (DV SP)	± x1/10, x1/3, x1,x2,x11, x17 (DVCAM) ± x1/10, x1/3, x1,x2,x11, x24 (DV SP)
VIDEO		
Video system	525/60 (NTSC)	625/50 (PAL)
Rec mode	DVCAM/DV (SP mode only)	
Playback mode	DVCAM/DV (SP mode only)	
AUDIO		
Rec mode	2CH mode (48 kHz/16-bit) / 4CH mode (32 kHz/12-bit) / automatic (DV IN)	
Playback mode (automatically selected)	2CH mode (48 kHz/16-bit) / 4CH mode (32 kHz/12-bit) 2CH mode (32 kHz/16-bit) / 2CH mode (44.1 kHz/16-bit)	
INPUT SIGNALS		
VIDEO (ANALOG)	Composite: BNC (x1) (Shared with Reference IN) 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%)	Component: BNC (x3) 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 (x1) Y: 1.0 Vp-p, 75 Ω, sync negative C: 0.286 Vp-p, (subcarrier burst) 75 Ω	S-Video: DIN 4-pin (x1) Y: 1.0 Vp-p, 75 Ω, sync negative C: 0.3 Vp-p, (subcarrier burst) 75 Ω
AUDIO (ANALOG)	Audio: PIN jack (x4)	
	-10/-2/+4 dBu (full bit -20dB)	-10/-2/+4 dBu (full bit -18dB)
TIME CODE	BNC (x1), 0.5 to 18 Vp-p / 0.5 to 4 Vp-p (with loop-through)	
OUTPUT SIGNALS		
VIDEO (ANALOG)	Composite: BNC (x1) 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%)	Component: BNC (x3) 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 (x1) Y: 1.0 Vp-p, 75 Ω, sync negative C: 0.286 Vp-p, (subcarrier burst) 75 Ω	S-Video: DIN 4-pin (x1) Y: 1.0 Vp-p, 75 Ω, sync negative C: 0.3 Vp-p, (subcarrier burst) 75 Ω
	Monitor: RCA pin (x1) 1.0 Vp-p, 75 Ω, sync negative	
AUDIO (ANALOG)	Audio: XLR 3-pin male (x4) +4 dBu	
	Monitor: RCA pin (x1) monaural	
	Headphone: Stereo mini jack (x1)	
TIME CODE	BNC (x1), 2.2 Vp-p 600 Ω/ 1.2 Vp-p 75 Ω	
DIGITAL INPUT/OUTPUT SIGNALS		
	i.LINK (DV In/Out): IEEE 1394 based (4-pin x1)	
OTHERS		
	Color LCD monitor 2-inch type, 123,200 dots	
	RS-232C D-sub 9-pin, male (x1)	
	RS-422A D-sub 9-pin, female (x1)	
	LANC Stereo mini-mini jack (x1)	
	Control S Stereo mini jack (IN x1)	
SUPPLIED ACCESSORIES		
	AC power cord, Wireless Remote Commander RMT-DS5, AA Dry Batteries x2, Operating manual, Interface manual for programmers (RS-232C), Cleaning Cassette	

Optional Accessories

VMC-IL4408A/4415/4435
i.LINK Cable (4-pin to 4-pin)



VMC-IL4615/4635
i.LINK Cable (4-pin to 6-pin)

DSRM-20
Remote Control Unit

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