DSR-20MDP

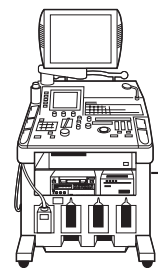## Digital Videocassette Recorder

this is not a rehearsal.

SONY

PAL

Digital VTR for Medical

The DSR-20MDP is a digital videocassette recorder specially designed for use in medical environments such as ultrasound diagnosis, endoscopic examinations, radiology and operating theatre monitoring. It provides long duration, high quality, video recordings in an easy-to-operate, lightweight, highly mobile unit that complies with MDD safety regulations.

An i.LINK™ (DV IN/OUT) interface provides a single cable connection to a PC so that recorded video images can be imported into training and presentation material. Using this same interface, recordings can be copied for archiving or for distribution with virtually no quality loss. With a comprehensive list of features that includes operation on either AC power or 12 V DC, foot switch recording control, high quality still-frame pictures and rapid tape searching to index points, the DSR-20MDP delivers the major benefits of digital video recording to a wide range of medical specialities.

System Example

Colour Doppler
Ultrasound

Front Panel

RMT-DS20

The DVCAM™ Format

Superior Picture Quality
In medical applications, picture quality is robably the most important parameter in the performance of a VTR. The DSR-20MDP is based on the DVCAM compression ratio and 8-bit 4:2:0 sampling to provide excellent picture quality and superb multi-generation performance.

Playback Compatibility with the DV Format
The DVCAM format is the professional extension of the consumer DV format. This means that the DSR-20MDP can play back tapes recorded on a DV format* without any special adaptor being required. For example, a cassette recorded on a DV consumer camcorder can be inserted into a DSR-20MDP and immediately played back.

*SP mode only

184-minute Recording Time
The DSR-20MDP records for over three hours on a standard Sony PDV-184ME DVCAM videocassette and for 40 minutes on a PDVM-40ME mini cassette. Despite a narrow tape width (1/4-inch or 6.35 mm) and compact cassette size, long recording time is achieved by the use of advanced Sony ME (Metal Evaporated) tape technology.

Dual-size Cassette Mechanism
In spite of its small dimensions, the DSR-20MDP has a dual-size cassette mechanism that accepts both mini and standard DVCAM cassette tapes without any special adaptor.

i.LINK™ (DV IN/OUT)*
The DSR-20MDP features an i.LINK (DV IN/OUT) interface based on the IEEE1394 standard.

Optional Accessories

DVCAM Digital Camcorder
DSR-PD100AP

DVCAM Video Walkman® Recorder
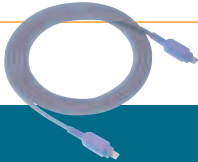## DSR-V10P

Edit Adaptor
DSRM-E1P

DC Power Cord
CCDD-X2

Foot Switch
FS-20

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

Remote Control Unit
DSRM-10

LANC Cable
VK-820

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

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

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

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

DSR-20MDP/GB-26/11/99

Specifications

GENERAL

Video signal standard	CCIR standard, PAL colour
Power requirement	AC: 220 to 240 V, 50/60 Hz DC: 12 V
Power consumption	AC: 28 W DC: 2.0 A
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)
Dimensions	Approx. 212 (W) x 98 (H) x 395 (D) mm (8 3/8 x 3 7/8 x 15 5/8 inches) (including external projections)
Tape speed	
DVCAM mode	28.2 mm/s
DV SP playback mode	18.79 mm/s
Recording/Playback time	
Standard cassette	184 min. with a PDV-184ME/184N
Mini cassette	40 min. with a PDVM-40ME/40N
Tape rewind time	Less than 2 min. with a PDV-184ME/184N
Search speed Cue/Review (via RMT-DS20 or DSRM-10)	-2, -1, -1/5, -1/10, Still, 1/10, 1/5, 1, 2, (10 or 18 times)

SIGNAL INPUTS AND OUTPUTS

Video inputs	
Composite (BNC x1)*	1.0 Vp-p, 75 Ω, unbalanced, sync negative
S Video (4-pin mini DIN x1) negative	Y: 1.0 Vp-p, 75 Ω, unbalanced, sync
unbalanced	C: 0.3 Vp-p (subcarrier burst), 75 Ω,
Audio inputs	
RCA pin (x2) (stereo L, R)	2 Vrms (full bit)
Video outputs	
Composite (BNC x1, BNC for monitor OUT x1)	1.0 Vp-p, 75 Ω, unbalanced, sync negative
S-Video (4-pin mini DIN x1) negative	Y: 1.0 Vp-p, 75 Ω, unbalanced, sync
unbalanced	C: 0.3 Vp-p (subcarrier burst), 75 Ω,
Audio outputs	
RCA pin (x2) (stereo L, R)	2 Vrms (full bit) L: CH1, CH3 or CH1/3 mix R: CH2, CH4 or CH2/4 mix
Digital inputs/output	
i.LINK (DV IN/OUT)	(4-pin x1) IEEE1394 based

OTHERS

LANC	Stereo mini-mini jack (x1)
DC IN	12 V XLR 4-pin (x1)
Control S	Stereo mini jack (IN x1)
Headphone jack	Stereo mini jack (x1)
RS-232C	D-sub 9-pin, male (x1)
Foot switch	Stereo mini Jack (x1)
Equal potential terminal	(x1)

SUPPLIED ACCESSORIES

- RMT-DS20 wireless remote commander (x1)
- AC power cord (x1)
- Cleaning cassette (x1)
- Operation manual (x1)

OPTIONAL ACCESSORIES

- DSRM-10 remote control unit
- FS-20 foot control unit
- CCDD-X2 DC power cord

OPTIONAL CONSUMER ACCESSORIES

- VMC-IL4415/4435/4615/4635/4406 i.LINK cables
- VK-820 LANC cable

VIDEOCASSETTES

- PDVM-12ME/22ME/32ME/40ME (Mini size)
- PDV-34ME/64ME/94ME/124ME/184ME (Standard size)
- PDVM-32N/40N (Non-IC type/Mini size)
- PDV-64N/124N/184N (Non-IC type/Standard size)

* Shared with the External Sync IN

Distributed by

Applications

Graphic Monitor

DSR-20MDP

Colour Monitor

Colour Video Printer

Colour Monitor

This interface provides a single-cable connection to a PC or to a second i.LINK VTR for tape copying. Connecting a DSR-20MDP to a PC fitted with a video capture board means that still frames can be imported and then easily inserted into presentation material. This can provide a powerful sense of immediacy and reality to academic conferences, clinics and seminars. With a DSR-20MDP connected to a second i.LINK interface-equipped VTR, the digitally recorded video, audio and data recordings are dubbed with virtually no detectable deterioration in image and sound quality. This is an ideal way of making back-up tapes for hospital archiving.

* i.LINK stands for IEEE1394-1995 standards and their revisions.

Rear Panel

Compact Size and High Mobility

Compact and Light Weight

The DSR-20MDP is both lightweight and compact. Weighing only 5 kg, it fits comfortably on a medical cart, while two units mount side-by-side in a 19-inch equipment rack and occupy just two units of rack height.

AC/DC Operation

The DSR-20MDP has inputs for both AC and DC power. It performs as well mounted in an equipment rack and operated on AC power as it does when connected to a 12 V battery and moved from location to location.

* The DSR-20MDP can be used for outdoor applications, but is designed for stationary use. Vibration resistance is not guaranteed.

Powerful Features

Frame Still Picture

For detailed inspection of individual images, the DSR-20MDP provides frame still pictures. When in its still mode (Playback Pause), the picture is shown as a complete frame, which provides high vertical resolution.

Index Picture Search

The DSR-20MDP is capable of searching for tape index points. These points are automatically recorded on a DVCAM tape as in-point marks at the start of every recording. As well as being able to search for index points, the DSR-20MDP can also search for the photo data recorded on cassettes by Sony DSR-200AP or DSR-PD100P camcorders, or for the point where the recording date has been changed.

Versatile Interfaces

Foot Switch

An optional wired Foot Switch, such as a Sony FS-20, can be connected to a DSR-20MDP. The user then has hands-free control of Pause and Record modes.

RS-232C

With its RS-232C interface, the basic functions of a DSR-20MDP can be controlled from a PC or video editing equipment.

* Operation using RS-232C is dependent on third party system developers.

• A **Control S** port is provided for control from an optional DSRM-10 Wired Remote Control Unit.

• A **LANC** connector allows editing to be carried out using an editing controller with a LANC interface.

• The **RMT-DS20 Wireless Remote Commander** is supplied with the DSR-20MDP.

Other Features

External Sync Input for Synchronised Playback

The DSR-20MDP has an external reference input for playback synchronisation with other VTRs*. This is convenient when a number of machines are played back in turn, or when a DSR-20MDP is one of a number of playback sources in an editing system.

*DSR-20MDP is locked to the V-sync only.
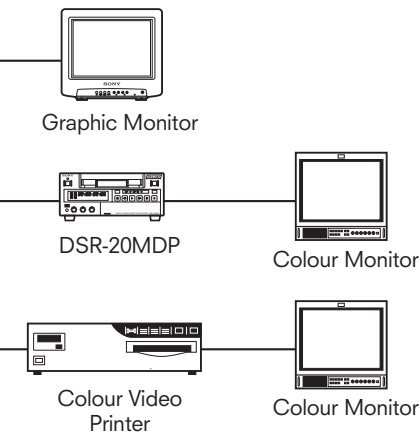
Auto Repeat Function

When this mode is set to Repeat, the DSR-20MDP rewinds a cassette to the beginning of the tape and starts playing back the programme the moment power is turned on. Then, just after it reaches the end of the tape, the first complete blank portion or the first index point, it automatically rewinds the tape and starts playing back the same segment again.

Power-on Recording

The DSR-20MDP can make recordings at specific times by controlling the power with an external time switch. When the TIMER switch on the front panel is set to REC, the DSR-20MDP automatically starts recording as soon as the timer switches the power on.

Compliance with Medical Safety Regulations

The DSR-20MDP with the CE marking complies with the MDD (Medical Device Directive) issued by the Commission of the European Community.