SONY®

BETACAM SX ™

Digital Video Cassette Recorder

DNW-75

The Digital Video Cassette Recorder—DNW-75

In the relatively short time since its launch, Betacam SX™ has provided broadcasters and production companies with superb picture quality, outstanding operational functionality and significantly reduced operating costs. Based on MPEG-2 4:2:2 Profile@Main Level compression strategy, the Betacam SX format has been the foundation for a range of recorders and players supporting both non-linear and linear video tape operations.

Previous models have provided the facility to play back analog Betacam™ and Betacam SP™ recordings. When this feature is not required, the Sony DNW-75 Digital Video Cassette Recorder can be the ideal choice. The DNW-75 is a Betacam SX editing VTR capable of insert and assemble editing to zero frame accuracy. It can also be used for linear operations, such as in A/B roll systems controlled from the familiar Sony BVE edit controllers, or installed in Sony Flexicart™ and Library Management System™ (LMS) as a multi-segment VTR.

It includes a wide range of features, including DMC (Dynamic Motion Control), Freeze function, 525/625 operation, variable speed playback, Good Shot Mark support, and an optional SDTI (Serial Data Transport Interface) carrying MPEG data.

Note: SDTI is defined by SMPTE 305M.

DNW-75

High Quality Digital Video and Audio Recording
The DNW-75 delivers the exceptional video quality of the Betacam SX format, recording 8-bit, 4:2:2 component digital signals using MPEG-2 4:2:2 Profile@Main Level compression technology. The system also includes four 16-bit, uncompressed audio channels.

±0 frame Insert/Assemble Editing
The DNW-75 enables insert and assemble editing with the ±0 frame accuracy. This enables precise editing on Betacam SX tape in machine-to-machine or A/B roll configurations.

Preread Editing Capability
The DNW-75 is equipped with Preread technology, which has proven invaluable in the Digital Betacam series VTRs. Preread heads are located ahead of the record heads on the drum scanner, and previously recorded video and audio signals are read by these Preread heads. This signal can be processed by external equipment and recorded back onto the same track. This capability is ideal for titling, color correction and layering for video, and mixing or sweetening for audio.

Variable Speed Control
The range of the Variable Speed Control is from -1 to +2 times with noiseless image and digital jog sound.

DMC (Dynamic Motion Control)
Equipped with the Dynamic Motion Control functions, the DNW-75 provides slow-motion playback from the control panel or from external controllers such as the BVE series editors or DTR-3000 slow motion controller.

Good Shot Mark

One of the most useful features of the Betacam SX series is the Good Shot Mark system, providing a method for qualitative decisions made in the camcorder to be utilized during the editing process. The DNW-75 can scan the tapes and automatically detect shot marks recorded on the tape. After scanning for marks, a list of all the marks is displayed on the monitor, allowing easy cueing to any mark. In addition, the DNW-75 has two types of the additional marks. One can only be memorized during the Play, Shuttle, Jog and Still, called "Virtual Shot Marks", and another can be recorded on the tape. These features can speed up the edit search process dramatically.

525/60 or 625/50 Versatility

The DNW-75 can easily be switched from 525/60 to 625/50 modes. This enables the DNW-75 to work in international environments.

Versatile Interfaces

The DNW-75 is equipped with analog composite and component video I/O, component SDI I/O and 4 channels of analog audio I/O, AES/EBU I/O, and 2 audio monitor outputs as standard. In addition, RS-422A control, RS-232C control, Parallel 50-pin remote control interface, video processor control interface (Parallel 15-pin), and Time Code I/O are also included. SDTI (SX) output is an optional interface. It enables to transfer the material to an A/V Server at a maximum of 2 times normal speed and will speed up the editing time.

Multi-segment Recorder in the Flexicart and LMS Systems

The DNW-75 can be used as a multi-segment recorder in the Flexicart or LMS, giving these multicassette systems the advantage of long playing times and lower maintenance costs associated with the Betacam SX format.

LMS   FLEXICART

DNW-75 Front Panel

High-speed Picture Search

Shuttle Search Speed Betacam SX mode : ±78 times normal play speed.

Long Recording & Playback Time

The DNW-75 provides long time Recording and Playback time for 194 minutes using the L cassette and 62 minutes using the S cassette.

Flexible Usage of the Control Panel

The remote control panel of the DNW-75 can be extended. Also, since the DNW-75 is equipped with another connector on the rear panel, it can be controlled from two control panels, adding greater operational flexibility.
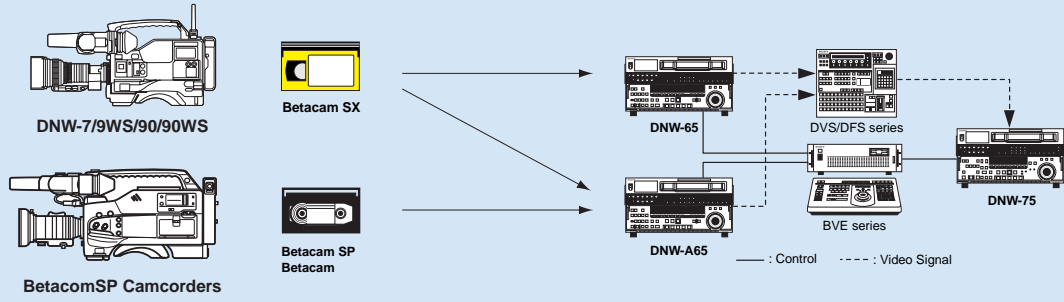
Betacam SX Tape

BKNW-119 with BKNW-121

DNW-75 Front Sub-panel

DNW-75 Rear Panel

System Configuration

Acquisition

DNW-7/9WS/90/90WS

Betacam SX

BetacomSP Camcorders

Betacam SP
Betacam

DNW-65

DVS/DFS series

DNW-75

DNW-A65

BVE series

DNW-75

——— : Control   - - - - : Video Signal

Digital Satellite Link System

DNW-75

DNW-A100

DSM-T1   70/140MHz

HPA
UC

LNB   950~1700MHz   DSM-R1
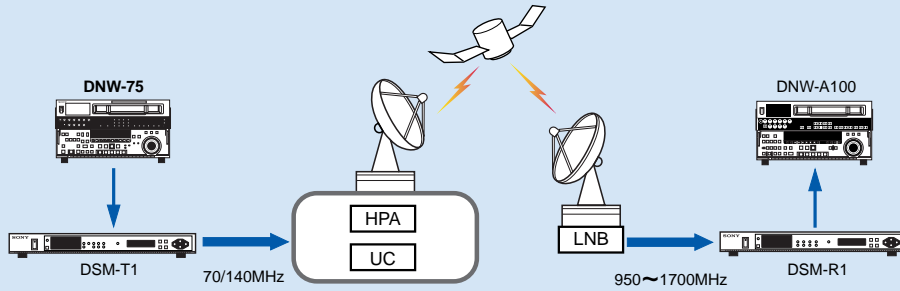
Optional Accessories

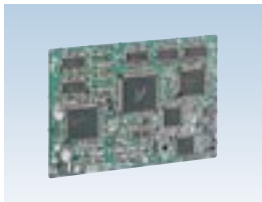Video Processor Controller
BVR-50

DV Interface Box
BKNW-25

Dynamic Motion Controller
DTR-3000

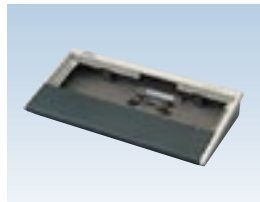Digital Satellite Modulator/Demodulator
DSM-T1/R1

DSM-T1
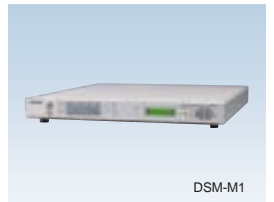
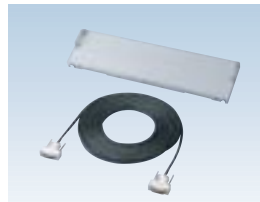SDTI Multiplexer/Demultiplexer
DSM-M1/D1
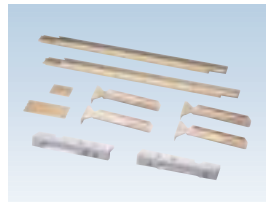
DSM-M1

SDTI (SX) Output Board
BKNW-118

Control Panel
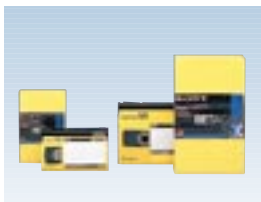**BKNW-119**

Control Panel Case
BKNW-121

Control Panel Extension Kit
BKNW-122

Rack Mount Kit
RMM-111

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

Betacam SX Video Cassette
BCT-12SX/22SX/32SX/60SX/62SX
(Small)
BCT-64SXL/94SXL/124SXL/184SXL/194SXL
(Large)

Cleaning Cassette
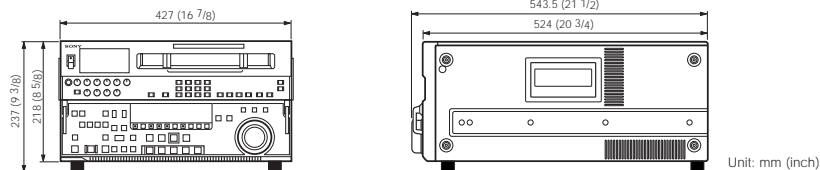**BCT-D12CL**

Cleaning Cassette
BCT-5CLN

Maintenance Manual

Specifications

DNW-75

General

Power requirements	AC 100 V to 240 V, 50/60 Hz
Power consumption	184 VA (175 W) /AC 240
Operating temperature	+5 °C to +40 °C (+41 °F to +104 °F)
Storage temperature	-20 °C to +60 °C (-4 °F to +140 °F)
Humidity	25 % to 80 % (relative humidity)
Mass	26.7 kg (58 lb 13 oz)
Dimensions (W x H x D)	427 x 237 x 524 mm (16 7/8 x 9 3/8 x 20 3/4 inches)
Tape speed	59.515 mm/s (525 mode), 59.575 mm/s (625 mode)
Digital playback/recording time	Max. 194 min with BCT-194SXL cassette
Fast forward/rewind time	Approx. 3 min with BCT-194SXL cassette
Search speed range	±78 times normal playback speed (Betacam SX)
Servo lock time	0.5 s or less (from standby on)
Load/unload time	6 s or less

Inputs/outputs signal

Analog composite input		BNC (x2), 1.0 Vp-p, 75 Ω, sync negative
Analog composite output		BNC (x3, including one character out), 1.0 Vp-p, 75 Ω, sync negative
Analog component input		BNC (x3, for 1 set, Y/R-Y/B-Y), Y:1.0 Vp-p, 75 Ω, sync negative, R-Y/B-Y: 0.7 Vp-p, 75 Ω
Analog component output		BNC (x3, for 1 set, Y/R-Y/B-Y), Y:1.0 Vp-p, 75 Ω, sync negative, R-Y/B-Y: 0.7 Vp-p, 75 Ω
SDI input		BNC (x2, including one active through out), SMPTE 259M, (ITU-R BT.656-3) 270 Mbit/s
SDI output		BNC (x3, including one character out), SMPTE 259M, (ITU-R BT.656-3) 270 Mbit/s
SDTI (SX) output (option)		BNC (x2), Maximum x2 speed, SMPTE 305M
Analog audio input (CH1, 2, 3, 4)		XLR (x4)
Analog audio output (CH1, 2, 3, 4)		XLR (x4)
Digital audio input (CH1/2, 3/4)		BNC (x2), AES/EBU
Digital audio output (CH1/2, 3/4)		BNC (x2), AES/EBU
Remote control	Remote	D-sub 9-pin (x2), Sony 9-pin remote interface
	RS-232C	D-sub 9-pin (x1), RS-232C interface
	Processor Control	D-sub 15-pin (x1)
	Connector for Control Panel	Mini D-sub 29-pin (x1)
	Parallel Remote	50-pin x1
Reference input		BNC (x1), 0.3 Vp-p, 75 Ω, sync negative (with loop through out)
Time code input		XLR (x1)
Time code output		XLR (x1)
Monitor Output L/R		XLR (x2)

Processor adjustment range

Video level	±3 dB/ -∞ to 3 dB selectable
Chroma level	±3 dB/ -∞ to 3 dB selectable
Set up/Black level	±30 IRE/±210 mV
Chroma phase/hue	±30 °
System sync phase	±15 µs
System SC phase	±200 ns
Composite input level	±3 dB

Digital video performance

Sampling frequency	Y: 13.5 MHz R-Y/B-Y: 6.75 MHz
Quantization	8 bits/sample
Error correction	Reed-Solomon code
Digital input to analog component output	K-factor (2T pulse): 1 % or less
Analog component input to analog component output	Input A/D quantization: 8 bits/sample K-factor (2T pulse): 1 % or less LF non-linearity: 2.5 % or less
Analog composite input to analog composite output	Differential gain: 2 % or less Differential phase: 2 ° or less Y/C delay: 15 ns or less K-factor (2T pulse): 1 % or less

Digital audio performance

Sampling frequency	48 kHz (synchronized with video)
Quantization	16 bits/sample
Frequency response (0 dB at 1 kHz)	20 Hz to 20 kHz +0.5 dB/-1.0 dB
Dynamic range (at 1 kHz, emphasis ON)	More than 90 dB
Distortion (at 1 kHz, emphasis ON, reference level)	Less than 0.05 %
Cross talk (at 1 kHz, between any two channels)	Less than -80 dB
Wow & flutter	Below measurable level
Head room	20 dB (18 dB selectable)
Emphasis (ON/OFF selectable in REC mode)	T1=50 µs , T2=15 µs

Supplied accessories

PSW 4 x16 Rack Mount Screw	x 4
Operation manual	x 1

Dimensions

427 (16 7/8)
237 (9 3/8)
218 (8 5/8)
543.5 (21 1/2)
524 (20 3/4)

Unit: mm (inch)

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