SONY®

BETACAM SX™

Digital Video Cassette Player

DNW-A65

The Digital Video Cassette Player - DNW-A65

In 1996, Sony developed the Betacam SX™ system as the next generation digital video format, ideally suited for electronic news gathering. Adopting MPEG2 4:2:2Profile@Main Level compression technology, Betacam SX equipment delivers exceptional video quality at very low data rates. Taking advantage of inherent opportunities provided by digital technologies, the Betacam SX products are designed to streamline news operations with equipment such as nonlinear editing systems and Hybrid Recorders. Sony also realizes the necessity to support and upgrade more conventional linear operations of news gathering and production, and includes more traditional products in the SX family. The DNW-A65 Digital Video Cassette Player includes a wide range of features, including DMC (Dynamic Motion Control), Freeze function, 525/625 operation, variable playback, Good Shot Mark support, and optional SDTI (Serial Data Transport Interface) output. It is ideally suited to enhance and migrate to digital current analog linear operations. The DNW-A65 can be installed in the Flexicart™ or Library Management System™ (LMS) multicassette systems. The Betacam SP™ materials used by many broadcasters can be played back on the DNW-A65; analog Betacam™ playback features include Dynamic Tracking™ playback, NTSC/PAL viewing capability and 4-channel audio playback.

Note: SDTI is defined as SMPTE 305M.

DNW-A65

High Quality Digital Video and Audio Playback

The DNW-A65 delivers exceptional video quality of the Betacam SX format, recording 8-bit, 4:2:2 component digital signals using MPEG2 4:2:2Profile@Main Level compression technology. The system also includes four 16-bit, uncompressed audio channels.

Long Playback Time

The DNW-A65 provides long playback time up to 194 minutes on a single L-cassette and 62 minutes on a single S-cassette.

Betacam/Betacam SP Playback Capability

As with many of the Betacam SX products, the DNW-A65 has the capability to playback analog Betacam and Betacam SP recordings on oxide or metal particle tape. This allows continued use of existing Betacam SP camcorders news acquisition and easy integration of the analog Betacam and Betacam SP tapes that many broadcasting stations already own. Playback of AFM (Audio FM) is also available. Moreover, the DNW-A65 is capable of analog DT playback from -1 to +3 speed.

Betacam SX Tape

Betacam SP Tape

Betacam Tape

Variable Speed Control

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

Freeze Function

The DNW-A65 is equipped with digital memory that enables an operator to freeze any picture and view it in a solid, stable, still format.

Playable in the Flexicart and LMS Systems

The DNW-A65 can be used as a player in the Flexicart or LMS systems, giving these multicassette systems the advantage of long playing times and lower maintenance costs associated with the Betacam SX format.

FLEXICART

LMS

525/60 or 625/50 Versatility

The DNW-A65 can easily be switched from 525/60 to 625/50 modes. In addition, analog Betacam and Betacam SP monitoring is available for both 525/60 and 625/50 mode. This enables the DNW-A65 to work in international environments.

Versatile Interfaces

The DNW-A65 is equipped with analog composite and component video out, component SDI out and 4 channels of analog audio out, AES/EBU out, and 2 audio monitor outputs as standard. In addition, RS-422A control, RS232C control, Parallel 50-pin remote control interface, video processor control interface (Parallel 15-pin), and Time Code Out are also included. SDTI (SX) Out is optional interface. SDTI (SX) output enables to transfer the material to an A/V Server at a maximum of 2 times normal speed and will apeed up the editing time.

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

DNW-A65 Front Panel

during the editing process. The DNW-A65 can scan the tapes at high speed 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-A65 has two additional types marks, the Record Start Mark and the Virtual Shot Marks. A record start mark is inserted at the beginning of every recording. A Virtual Shot Mark is inserted in the list by the operator to mark scenes for easy cueing at a later time. These features can dramatically speed up the edit search process.

DMC (Dynamic Motion Control)

Equipped with the Dynamic Motion Control functions, the DNW-A65 provides slow-motion playback from the control panel or from external controllers such as the BVE series editors or DTR-3000 slow motion controller.

Flexible Usage of the Control Panel

The remote control panel of the DNW-A65 can be extended. Since the DNW-A65 is equipped with a remote panel connector on the rear panel, it can be controlled from two control panels, adding greater operational flexibility.
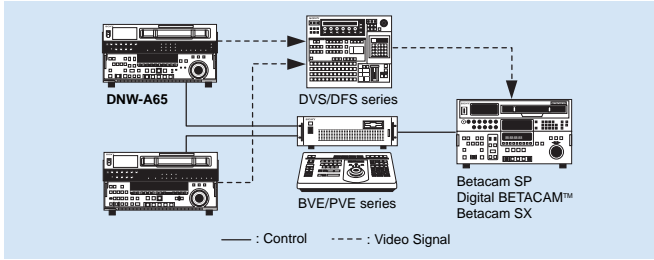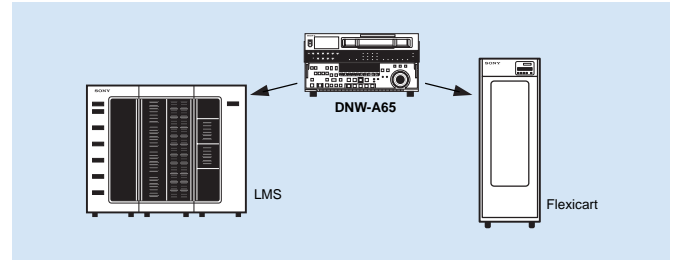

BKNW-119 with BKNW-121

DNW-A65 Front Sub-panel

DNW-A65 Rear Panel

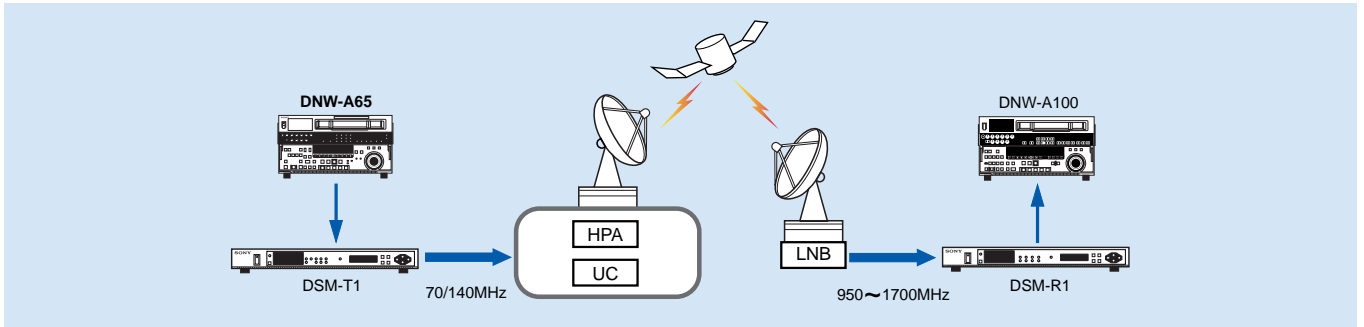### Linear A/B roll system

DNW-A65

DVS/DFS series

BVE/PVE series

Betacam SP
Digital BETACAM™
Betacam SX

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

DNW-A65 in Flexicart and LMS

DNW-A65

LMS

Flexicart

Digital Satellite Link System

DNW-A65

DSM-T1   70/140MHz

HPA

UC

LNB

950〜1700MHz   DSM-R1

DNW-A100

Optional Accessories
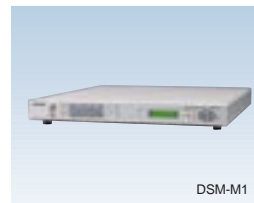

Video Processor Controller
BVR-50

Dynamic Motion Controller
DTR-3000

DSM-T1

Digital Satellite Modulator/Demodulator
DSM-T1/R1

DSM-M1

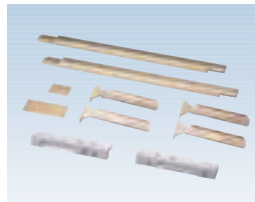SDTI Multiplexer/Demultiplexer
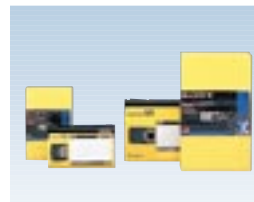**DSM-M1/D1**

Control Panel
BKNW-119

Control Panel Case
BKNW-121

Control Panel Extension Kit
BKNW-122

Rack Mount Kit
RMM-111

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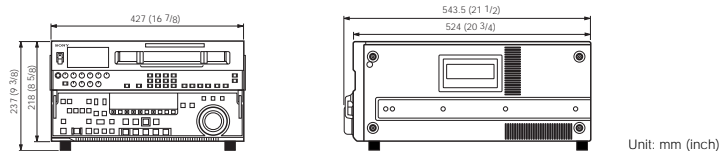**(Large)**

Cleaning Cassette
BCT-D12CL

SDTI (SX) Output Board BKNW-118
Maintenance Manual (Part-2)

Cleaning Cassette
BCT-5CLN

Specifications

DNW-A65

General		
	Power requirements	AC 100 V to 240 V, 50/60 Hz
	Power consumption	190 W (195 VA) / AC 240 V
	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	28 kg (61 lb 11oz)
	Dimensions (WxHxD)	427x237x524 mm (16 7/8 x 9 3/8 x 20 3/4 inches)
	Tape speed — Betacam SX	59.515 mm/s (525 mode), 59.575 mm/s (625 mode),
	Betacam/Betacam SP	118.6 mm/s
	Digital playback time	Max. 194 min with BCT-194SXLA cassette
	Fast forward/rewind time	Approx. 3 min with BCT-194SXLA cassette
	Search speed range	±50 times normal playback speed (Betacam SX)
		±35 times normal playback speed (Betacam/Betacam SP)
	Servo lock time	0.5 s or less (from standby on)
	Load/unload time	6 s or less

Outputs signal		
	Analog composite output	BNC (x3, including one character out), 1.0 Vp-p, 75Ω, sync negative
	Analog component output	BNC (x3, for 1 set, Y/R-Y/B-Y),Y: 1.0 Vp-p, 75Ω, sync negative, R-Y/B-Y: 0.7 Vp-p, 75Ω
	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 output (CH 1, 2, 3, 4)	XLR (x4)
	Digital audio output (CH 1/2, 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
	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
	Y/C delay	±100 ns (Betacam/Betacam SP playback only)

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 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		
	Remote Cable (RCC-5G)	x1
	PSW 4x16 Rack Mount Screw	x4
	Operation manual	x1
	Maintenance manual (part1)	x1

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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