In 1996, Sony developed the Betacam SX™ system as the next generation digital video format, ideally suited for electronic news gathering. Adopting MPEG-2 4:2:2 Profile@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-A75 Digital Video Cassette Recorder includes a wide range of features, including frame-accurate video/audio insert editing, Preread editing, 525/625 operation, variable playback, Good Shot Mark support, and optional SDTI (Serial Data Transport Interface) output. It is ideally suited for many aspects of linear operation such as machine to machine editing, A/B roll editing controlled from the BVE series edit controllers, or installed in the Flexicart™ or LMS multicassette systems. The Betacam SP™ materials used by most broadcasters can be played back on the DNW-A75; analog Betacam™ playback features include Dynamic Tracking™ playback, NTSC/PAL viewing capability and 4-channel audio playback.

Note: SDTI is defined as SMPTE 305M.

### Main Features

#### High Quality Digital Video and Audio Recording
The DNW-A75 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-A75 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-A75 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 normal play speed for Betacam SX and -1 to +3 times for Betacam and Betacam SP.

#### DMC (Dynamic Motion Control)
Equipped with the Dynamic Motion Control functions, the DNW-A75 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-A75 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-A75 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-A75 can easily be switched from 525/60 to 625/50 modes. In addition, Analog Betacam/SP monitoring is available for both 525/60 and 625/50 mode. This enables the DNW-A75 to work in international environments.

Betacam/Betacam SP Playback Capability
As with many of the Betacam SX products, the DNW-A75 has the capability to play back analog Betacam and Betacam SP recordings on oxide or metal particle tape. This enables the existing Betacam SP camcorders to be used for news acquisition, and easy integration of the analog Betacam and Betacam SP tapes that most broadcasting stations already own. Playback of AFM (Audio FM) channels 3 and 4 is also available. Moreover, the DNW-A75 is capable of analog DT playback from -1 to +3 speed.

Versatile Interfaces
The DNW-A75 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-A75 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.

![Betacam SP Tape](image1.png)  ![Betacam Tape](image2.png)

![DNW-A75 Front Panel](image3.png)
High-speed Picture Search
Shuttle Search Speed Betacam SX mode: ±78 times normal play speed.
Shuttle Search Speed Betacam SP mode: ±35 times normal play speed.

Long Recording & Playback Time
The DNW-A75 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-A75 can be extended. Also, since the DNW-A75 is equipped with another connector on the rear panel, it can be controlled from two control panels, adding greater operational flexibility.
System Configuration

Linear A/B roll System

DNW-A75 in Flexicart & LMS

Digital Satellite Link System

Optional Accessories

Video Processor Controller
BVR-50

DV Interface Box
BKNW-25

Dynamic Motion Controller
DTR-3000

Digital Satellite Modulator/Demodulator
DSM-T1/R1

SDTI Multiplexer/Demultiplexer
DSM-M1/D1

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

Betacam SX Video Cassette
BCT-12SX/22SX/32SX/60SX/62SX
(Small)
BCT-945XL/1245XL/1645XL/1945XL
(Large)

Cleaning Cassette
BCT-D12CL

Cleaning Cassette
BCT-5CLN

Maintenance Manual (Part-2)
Specifications

DNW-A75

General

Power requirements AC 100 V to 240 V, 50/60 Hz
Power consumption 215 VA (205 W) / 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 28.5 kg (62 lb 12 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 Betacam SX
Betacam/Betacam SP
116.8 mm/s
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 10 times normal playback speed (Betacam SX)
15 times normal playback speed (Betacam/Betacam SP)
Servo lock time 0.5 s or less (from standby on)
Uses tape

Inputs/outputs signal

- Analog composite input BNC (x2), 1.0 Vp-p, 75 Ω, sync negative
- Analog composite output BNC (x2), including one character out, 1.0 Vp-p, 75 Ω, sync negative
- Analog component input BNC (x3, for 1 set, Y: 1.0 Vp-p, 75 Ω, sync negative, R-Y/B-Y: 0.7 Vp-p, 75 Ω)
- Analog component output BNC (x2, for 1 set, 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 output), SMPTE 259M, (ITU-R BT.656-3), 270 Mbit/s
- HDMI (option) BNC (x2), Maximum x2 speed, SMPTE 320M
- Audio input (CH1, 2, 3, 4) XLR (x4)
- 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 XLR (x2)
- 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)
- Video level ±3 dB to ±3 dB selectable
- Chroma level ±3 dB to ±3 dB selectable
- Setup/Black level ±30 IRE to ±210 mV
- Chroma phase/hue ±30 °
- System sync phase ±15 µs
- System Sx phase ±0.00 ns
- Y/C delay ±150 ns (Betacam/Betacam SP playback only)
- Composite input level ±3 dB
- Sampling frequency Y: 13.5 MHz, R-Y/B-Y: 6.75 MHz
- Quantization 8-bit/sample
- Error correction Reed-Solomon code
- Digital input to analog component output K-factor (2T pulse): 1 % or less
- Digital component input to analog component output K-factor (2T pulse): 1 % or less
- Analog component input to analog component 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
- Quantization 16 bits/sample
- Frequency response (0 dB at 1 kHz) 20 Hz to 20 kHz -0.5 dB to -1.0 dB
- Dynamic range (at 1 kHz, emphasis ON) More than 98 dB
- Distortion (at 1 kHz, emphasis ON, reference level) Less than 0.05 %
- Noise level (at 1 kHz, between any two channels) Less than 40 dB
- Wow & Flutter Below measurable level
- Supply voltage 20 dB (11 dB selectable)
- Headroom ±30 dB (11 dB selectable)
- Emphasis (ON/OF selectable in REC mode) ±30 µs ±15 µs
- Remote Cable (RCC-5G) x 1
- PSW 4 x16 Rack Mount Screw x 4
- Operation manual x 1
- Maintenance manual (part 1) x 1

Dimensions

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