SONY

PAL

BETACAM SX™

Digital Video Cassette Recorder

DNW-A75P

The Digital Video Cassette Recorder—DNW-A75P

In 1996, Sony introduced Betacam SX™ as a next-generation Total News System based on MPEG-2 4:2:2 Profile@Main Level strategy. Betacam SX is the Sony solution to speeding up news operations and reducing their costs with a range of equipment that includes hybrid recorders, camcorders, editing systems and so on.
However, although much attention is focussed on future news sysytems, it is important to maintain a bridge and support conventional analogue systems that are still in world wide use. The latest addition to the Betacam SX range satisfies this need. The DNW-A75P is a Betacam SX editing VTR, which also has the same functionality as the analogue Betacam SP™ VTR BVW-75P, including analogue Dynamic Tracking (DT)™, insert and assemble editing to zero frame accuracy, etc. This means that unique Betacam™ and Betacam SP recordings, which the majority of broadcasters hold in their archives, can be played back on the DNW-A75P. 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 Flexicart™ or Library Management Systems™ (LMS) as a multi-segment VTR.

DNW-A75P

High Picture Quality of MPEG-2 4:2:2P@ML

The DNW-A75P delivers the high picture quality of the Betacam SX format, recording 8-bit, 4:2:2 component digital signals using an advanced, industry standard compression algorithm, MPEG-2 4:2:2 Profile@Main Level.

±0 frame Insert/Assemble Editing

The DNW-A75P provides Insert, Assemble and Split editing with ±0 frame accuracy. This enables precise editing within a Betacam SX system under the control of operator-familiar BVE Series edit controllers.

Preread Editing Capability

Like Digital BETACAM™ VTRs, the DNW-A75P is equipped with a Preread editing function. 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. These signals can be processed by external equipment and recorded back onto the same track. This capability is ideal for titling, colour 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-A75P provides slow motion playback from its own control panel or from BVE Series editing controllers, DTR-3000 and so on.

Good Shot Mark

One of the most useful features of the Betacam SX Series is the Good Shot mark. The DNW-A75P can scan the tapes and automatically detect all the Good Shot marks recorded on the tape. Rec Start mark can be detected in the same way. After scanning for marks, a full list is displayed on the monitor, allowing easy cueing to any mark.
In addition, DNW-A75P has two types of additional marks. One can only memorize the marks during the Play, Shuttle, Jog and Still, called ‘Virtual Shot Marks’, and another can be recorded on the tape. These feature speed up the edit search process dramatically.

Main Features

625/50 or 525/60 Versatility

The DNW-A75P can easily be switched from 625/50 to 525/60 modes. In addition, analogue Betacam/SP monitoring is available for both 625/50 and 525/60 modes. This enables the DNW-A75P to work in international environments.

*When a 525-line recording is played back, the analogue composite outputs are NTSC monitoring quality.

Betacam/Betacam SP Playback Capability

As with the other Betacam SX VTRs, the DNW-A75P has the capability to play back analogue Betacam and Betacam SP recordings on oxide or metal particle tape. Moreover playback is available from -1 to +3 times normal speed with the Analogue DT feature. This enables existing Betacam SP camcorders to be used for news acquisition and allows playback of the enormous archives of Betacam and Betacam SP tapes that most of broadcasting stations keep. AFM (Audio FM) playback, which allows playback of audio channels 3 and 4, is also provided.

Betacam SP Tape

Betacam Tape

Versatile Interfaces

The DNW-A75P is equipped with Composite/Component/SDI inputs and outputs and analogue and AES/EBU inputs and outputs for four audio channels. Output for two-channel audio monitoring are provided. In addition an RS-422A input/output, RS-232C interface, Video Processor control Interface (parallel 15-pin), parallel 50-pin Remote Control Interface and a Time Code input/output are also included. An SDTI* (Serial Data Transport Interface) (SX) output is available as an option. This enables material to be transferred to an A/V Server at a maximum of twice normal speed to reduce editing time.

* SDTI is defined as SMPTE 305M.

Multi-segment Recorder in Flexicart and LMS

As well as functioning as a standalone studio VTR, the DNW-A75P can be used as a Multi-Segment Recorder in Flexicart or LMS.

LMS

FLEXICART

DNW-A75P Front Panel

High-speed Picture Search

Shuttle Search Speed Betacam SX mode : ±78 times normal play speed.
Shuttle Search Speed Betacam/SP mode : ±42 times normal play speed.

Long Recording and Playback Time

The DNW-A75P provides long Betacam SX recording and playback times 194 minutes using an L cassette and 62 minutes using an S cassette.

Betacam SX Tape

Flexible usage of the Control Panel

The remote control panel of the DNW-A75P can be extended. Also, since the DNW-A75P is equipped with a second connector on its rear panel, it can be controlled from two control panels. This can add extra flexibility to its operation.

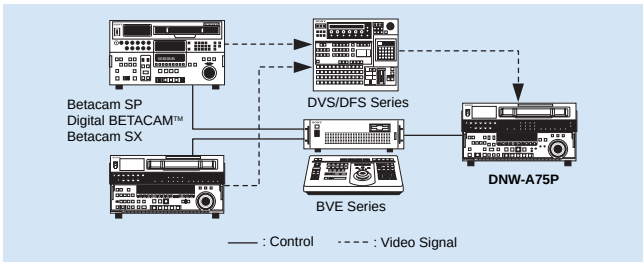
BKNW-119 with BKNW-121

DNW-A75P Front Sub-panel

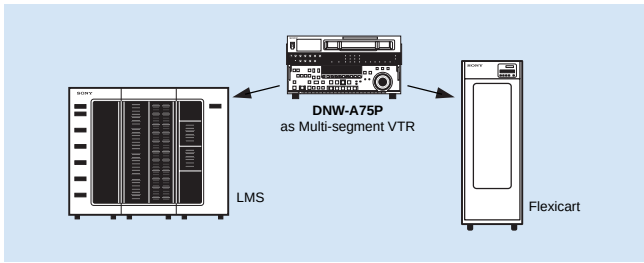
DNW-A75P Rear Panel

System Configuration

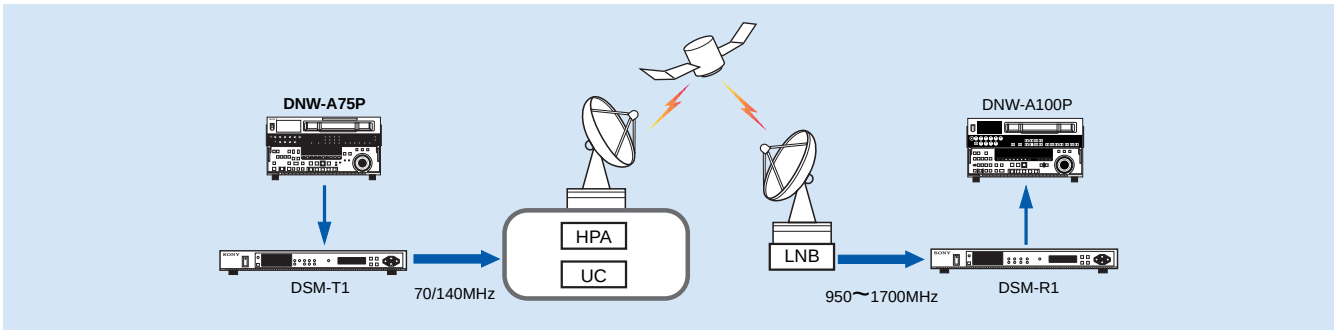
Linear A/B roll System



DNW-A75P in Flexicart & LMS



Digital Satellite Link System

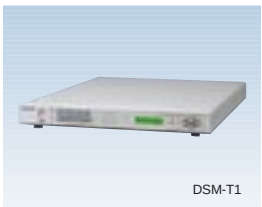


Optional Accessories

Video Processor Controller
BVR-50P

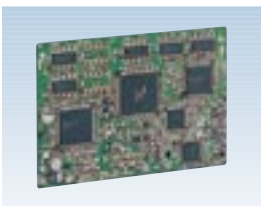
DV Interface Box
BKNW-25

Dynamic Motion Controller
DTR-3000



Digital Satellite Modulator/Demodulator
DSM-T1/R1

SDTI Multiplexer/Demultiplexer
DSM-M1/D1

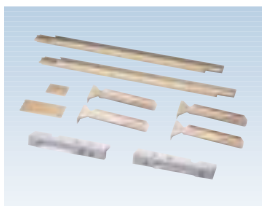


SDTI (SX) Output Board
BKNW-118

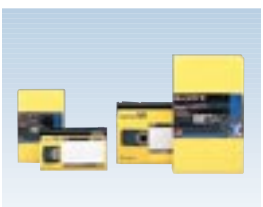
Control Panel
BKNW-119

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-64SXL/94SXL/124SXL/184SXL/194SXL
(Large)

Cleaning Cassette
BCT-D12CL

Cleaning Cassette
BCT-5CLN

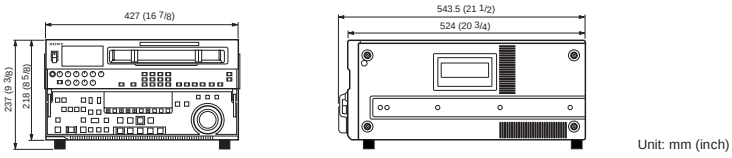
Maintenance Manual (Part-2)

Specifications

DNW-A75P

General	Power requirements		AC 100 V to 240 V, 50/60 Hz
	Power consumption		215 VA (205 W) / AC 240V
	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	59.575 mm/s (625 mode), 59.515 mm/s (525 mode)
		Betacam/Betacam SP	101.5 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		±78 times normal playback speed (Betacam SX) ±42 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
Inputs/outputs signal	Analogue composite input		BNC (x2), 1.0 Vp-p, 75 Ω, sync negative
	Analogue composite output		BNC (x3, including one character out), 1.0 Vp-p, 75 Ω, sync negative
	Analogue 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
	Analogue 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), ITU-R.BT.656-3, 270 Mbit/s
	SDI output		BNC (x3, including one character out), ITU-R.BT.656-3, 270 Mbit/s
	SDTI (SX) output (option)		BNC (x2), Maximum x2 speed, SMPTE 305M
	Analogue audio input (CH1, 2, 3, 4)		XLR (x4)
	Analogue 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
	Y/C delay		±100 ns (Betacam/Betacam SP playback only)
	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 analogue component output		K-factor (2T pulse): 1 % or less
	Analogue component input to analogue component output		Input A/D quantization: 8 bits/sample K-factor (2T pulse): 1 % or less LF non-linearity: 2.5 % or less
	Analogue composite input to analogue 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	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



Unit: mm (inch)

Features and specifications subject to change without notice.
All non-metric weights and measures are approximate.
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