SONY

NTSC

BETACAM SX™

Digital Video Cassette Player

DNW-A30/30

ISR Interactive Status Reporting

The Sony Betacam SX™ System achieves superior picture quality, faster editing, increased system flexibility, and greater productivity in every aspect of news gathering and production compared to conventional analog systems.

The Betacam SX format is the next generation Betacam® format, drawing on the long experience of Sony in serving the ever-changing, real-world needs of the broadcast community. Complying with a compression algorithm of MPEG2 4:2:2 Profile at Main Level (MPEG2 4:2:2P@ML), the Betacam SX system brings all the many benefits of digital technology to the broadcast industry.

The DNW-A30/30 Digital Video Cassette Player is especially designed for easy integration into current analog systems, providing the superb picture quality and cost-efficiency of the Betacam SX format.

The DNW-A30/30 can be installed in the current Sony Flexicart® multicassette systems (single-segment play mode). Furthermore, the DNW-A30 has the capability to play back tapes recorded in the current analog Betacam and Betacam SP® formats. Thus, the DNW-A30 and DNW-30 provide a logical, cost-efficient migration path towards a totally digital environment.

Features

High Picture Quality of MPEG2 4:2:2P@ML

The DNW-A30/30 Digital Video Cassette Player delivers the superb digital picture quality of the Betacam SX format, which records 8-bit, 4:2:2 component digital signals using an advanced compression algorithm. The robust compression algorithm of the Betacam SX format results in a reduced bit rate of 18Mbps for the video signal, achieving greater efficiency in transmitting the signal from the field to the station and in storage onto disk.

Betacam SX picture quality exceeds that of Betacam SP format, maintaining broadcast-quality pictures with excellent luminance detail and improved color resolution.

The Betacam SX recording format also preserves 507 active lines per frame as well as vertical blanking signal information and supports 4-channel, 16-bit/48kHz digital audio.

Installation into the Sony Flexicart System

The DNW-A30/30 incorporates analog component and composite output ports in addition to the SDI interfaces, providing a direct link with existing analog systems. Overall dimensions of the DNW-A30/30 are identical to those of Betacam SP VTRs, allowing it to be integrated into existing Sony Flexicart multicassette systems.

Analog Playback Capability

The DNW-A30 has the capability to play back analog Betacam and Betacam SP recordings made on oxide or metal particle tape. This analog playback capability ensures the preservation of existing analog tape archives and enables existing Betacam SP camcorders to be used for acquisition.

DNW-A30 Front Panel

Long Playing Time
Both S-size cassettes and L-size cassettes can be used with the DNW-A30/30. With newly developed Betacam SX tapes, a single S-cassette provides up to 60 minutes of playback time while an L-cassette provides up to 184 minutes.

Simple, User-friendly Operation
The DNW-A30/30 provides simple operation from the control panel, with a familiar Jog/Shuttle dial to give editors a "hands-on" feel.

Picture Search Functions
High-speed picture search is available in shuttle mode at up to 50 times normal play speed in both forward and reverse directions. Variable-speed playback is also available over the range of -1 to +1 times normal play speed.

Jog Speed Control
Jog speed control is available over the range of -1 to +1 times normal play speed.

Easy Maintenance
A self-diagnostic system advises of malfunctions within the player. The DNW-A30/30 also incorporates the Sony Interactive Status Reporting (ISR) features to provide precise reporting on errors/warnings on the equipment, thereby enabling engineers to take appropriate action to correct the situation.
In addition, the drum assembly has been designed to achieve easy, low-cost maintenance and to simplify both mechanical and electric alignment after drum replacement.

Adjustment Free Operation
The DNW-A30/30 incorporates an Automatic Alignment System to maximize the accurate reproduction of digital data. An Automatic RF Equalizer optimizes the gain and phase of off-tape RF signals. These automatic systems minimize the need for time-consuming manual equalization and servo system adjustments, which can lower maintenance costs.

525/60 or 625/50 Versatility
SDI, component, and composite outputs are all switchable from 525/60 to 625/50. When playing back Betacam SX tape, the DNW-A30/30 operates in 625/50 mode without an external adaptor. This flexibility enables the DNW-A30/30 to perform in international environments.

System Interface

SDI Output
The DNW-A30/30 is equipped with two SDI output ports, allowing easy interfacing with existing SDI systems. SDI carries single-channel digital video, 4-channel digital audio and time code through a single coaxial cable.

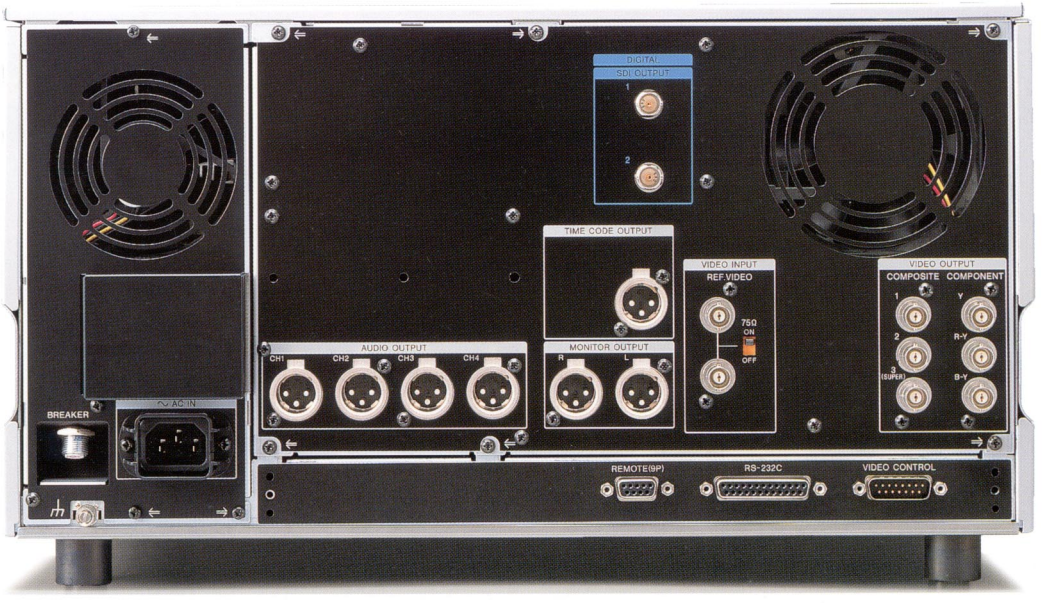
Analog Composite/Component Output
The DNW-A30/30 is equipped with three analog composite outputs (including one monitor output with character superimposition) and one component output.

Analog 4ch Audio Output
The DNW-A30/30 is equipped with outputs for four channels of analog audio. AES/EBU digital audio outputs can be fitted as an option (BKNW-105) in place of the analog outputs.

Remote Control Interface
Through a Sony 9-pin remote interface, the DNW-A30/30 can be remotely controlled from the current BVE Series editing controllers.

RS-232C Remote Control
Various parameters can be set up and monitored via this port using the Sony ISR system.

Video Control
The DNW-A30/30 also has a 15-pin video control port through which the video processor can be adjusted from an optional BVR-50 Video Processor Controller.



DNW-A30 Rear Panel

Specifications

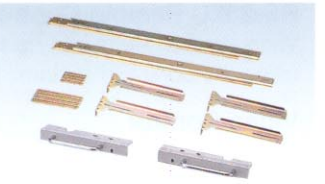
		DNW-A30	DNW-30
General			
Power requirements		AC 90V to 265V, 48Hz to 64Hz	
Power consumption		300W	170W
Operating temperature		+5°C to +40°C (+41°F to +104°F)	
Storage temperature		-20°C to +60°C (-4°F to +140°F)	
Humidity		25% to 80% (relative humidity)	
Mass		33kg (72 lb 12 oz)	32kg (70 lb 7 oz)
Dimensions (W x H x D)(including feet)		427 x 237 x 524mm (16 7/8 x 9 3/8 x 20 3/4 inches)	
Playback formats		Betacam SX Betacam/Betacam SP	Betacam SX
Tape speed	Betacam SX	59.6mm/s	
	Betacam/Betacam SP	118.6mm/s	
Digital playback time		Max. 184 min. with BCT-184SXL cassette	
Fast forward/rewind time		Approx. 3 min.	
Servo lock time		0.5s or less (from standby on)	
Load/unload time		6s or less	
Smooth JOG speed range		-1 to +1 times normal playback speed	
Search speed range		±50 times normal playback speed	
Signal input/output			
Video input	Reference	BNC (x2 in loop through), 0.3Vp-p, 75Ω, sync negative	
Video output	SDI	BNC (x2), SMPTE259M, 270Mbits/s	
	Analog component	BNC (3 for 1 set) Y: 1.0Vp-p, 75Ω, sync negative R-Y/B-Y: 0.7Vp-p 75Ω	
	Analog composite	BNC (x3, including one character out), 1.0Vp-p, 75Ω, sync negative	
Audio output	Analog (CH 1,2,3,4)	XLR-3-32 type (x4), +4dBu at 600Ω load, low impedance, balanced	
	Digital (CH 1/2,3/4)*	AES/EBU format, stereo mode, BNC (x2)	
	Headphones	JM-60 stereo phone jack, -∞ to -12dBu at 8Ω load, unbalanced	
	Monitor L/R	XLR-3-32 type (x2), +4dBu at 600Ω load, low impedance, balanced	
Time code output		XLR-3-32 type (x1), 2.2Vp-p, low impedance, balanced	
Others			
Remote	Remote 1 (In)	D-sub 9-pin(x1), female, Sony 9-pin interface	
	RS-232C	D-sub 25-pin, female (ISR protocol)	
	Video control	D-sub 15-pin, male (for optional BVR-50 Remote Controller)	

*Selectable as an option(BKNW-105) in place of the analog audio outputs.

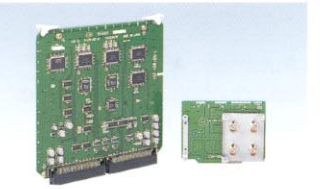
	DNW-A30	DNW-30
Processor adjustment range		
Video level	±3dB/-∞ to 3dB selectable	
Chroma level	±3dB/-∞ to 3dB selectable	
Set up level	±30IRE	
Chroma phase/hue	±30°	
System sync phase	±15µs	
System SC phase	±200ns	
Y/C delay	±100ns (Betacam/Betacam SP playback only)	
Digital video performance		
Sampling frequency	Y: 13.5MHz R-Y/B-Y: 6.75MHz	
Quantization	8 bits/sample	
Error correction	Reed-Solomon code	
Analog component output	K-factor (2T pulse): 1% or less LF non-linearity: 3% or less	
Analog composite output	Differential gain: 2% or less Differential phase: 2°or less Y/C delay: 15ns or less K-factor (2T pulse): 1% or less	
Digital audio performance		
Sampling frequency	48kHz (synchronized with video)	
Quantization	16 bits/sample	
Analog output D/A quantization	16 bits/sample	
Frequency response (0dB at 1kHz)	20Hz to 20kHz +0.5dB/-1.0dB	
Dynamic range (at 1kHz, emphasis ON)	More than 90dB	
Distortion (at 1kHz, emphasis ON,reference level)	Less than 0.05%	
Cross talk (at 1kHz, between any two channels)	Less than -80dB	
Wow & flutter	Below measurable level	
Head room	20dB (18dB selectable)	
Emphasis (ON/OFF selectable)	T1=50µs, T2=15µs	
Supplied accessories		
RCC-5G 9-pin remote control cable (x1)		
PSW 4 x 16 screws for rack mounting (x4)		
Operation manual (x1)		
Maintenance manual (Part 1) (x1)		

Optional Accessories

Video Processor Controller
BVR-50



Rack Mount Kit
RMM-111

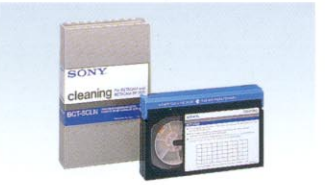


AES/EBU I/F Kit
BKNW-105

Betacam SX Video Cassette
BCT-12SX/22SX/32SX/60SX
(Small Cassette)

BCT-64SXL/94SXL/124SXL/184SXL
(Large Cassette)

Cleaning Cassette
BCT-D12CL



Cleaning Cassette
BCT-5CLN

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