

## DNW-9WS(NTSC)/9WSP(PAL)

# BETACAM SX

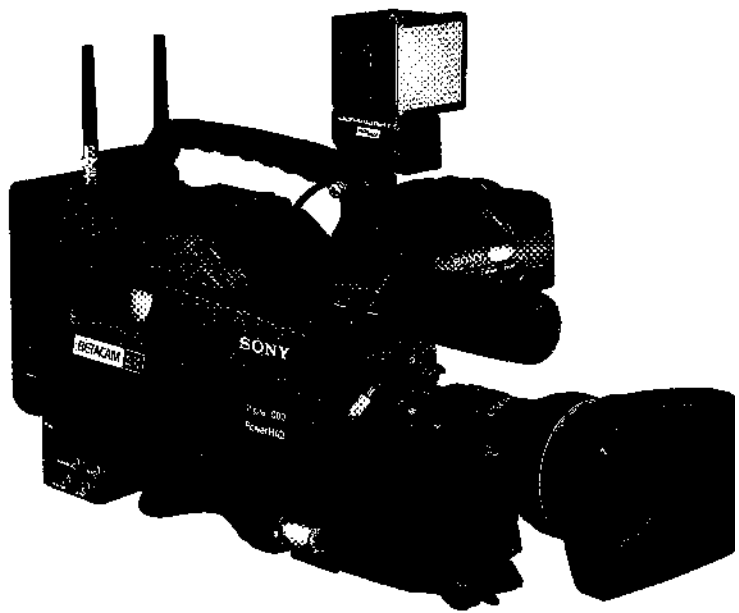
### Betacam SX Camcorder

- Superb picture and high sound quality of Betacam SX format
- Component digital recording using the advanced compression algorithm of MPEG-2 4:2:2P@ML
- 4 channels of 16-bit/48kHz digital audio
- Incorporates 10-bit/36MHz full digital signal processing in the camera section and Betacam SX digital recording in the VTR section
- 16:9/4:3 switchable
- Same size cassette tape as Betacam SP provides longer recording time of up to 62 minutes on a single S-cassette
- Current Betacam SP metal tape cassettes can be used for Betacam SX recording (with Betacam SX, recording time is double the stated duration of the Betacam SP tape)
- Approximately 165 minutes of continuous operation with a BP-L90A lithium-ion battery and 110 minutes with a BP-L60A
- Compact and lightweight design approximately 6kg including battery, tape and lens
- Equipped with 2/3-inch Switchable 16:9/4:3 Widescreen Power HAD 1000 IT CCDs with 520K(NTSC) / 620K(PAL) picture elements
- Auto Tracing White Balance (ATW) capability
- Turbo Gain function
- Provides Good Shot Mark & REC. Start Mark functions to speed the editing process
- Variable speeds of electronic shutter for clear images of high-speed moving objects

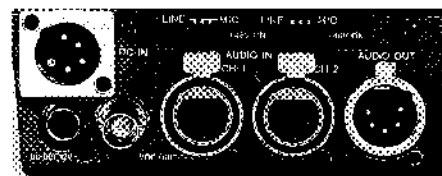
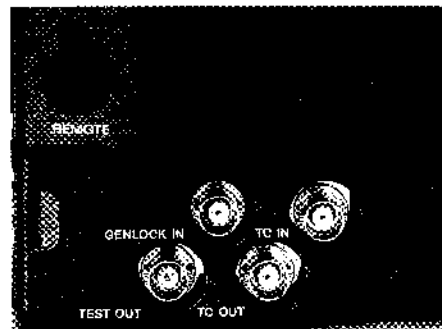
NTSC: 1/100, 1/125, 1/250, 1/500, 1/1000, 1/2000 (s)

PAL: 1/60, 1/125, 1/250, 1/500, 1/1000, 1/2000 (s)

- Equipped with a wide 2-inch monochrome viewfinder (with horizontal resolution of 600 TV lines in 4:3 mode and 450TV lines in 16:9 mode)
- Color playback in the field without an external adaptor
- Viewfinder playback
- Two-layer menu control system consisting of User Menus and Engineer Menus
- Setup Card system to store a large number of setup parameters on removable setup cards so as to allow quick, easy and accurate camcorder settings
- Slot-in mechanism to accommodate an optional WRR-855A Wireless Microphone Receiver
- Internal light system
- 6-pin remote interface for connecting RM-P9 Remote Control Unit (option)
- Full color genlock capability
- Built-in time code regenerator
- A camera tally on the viewfinder in addition to the tally function on the front and the back of a camcorder
- Extensive LCD display indicating Time Code, CTL and User-bit data, Tape Remaining, Battery Capacity and audio recording levels
- Stereo audio line output
- High reliability and easy maintenance with sophisticated diagnostic system



Lens, light, WRR-855A and battery are options.  
Lens with 'shrinker' function are recommended for WS models.



Supplied accessories: Shoulder belt (1)  
Microphone (1)  
XLR cap (4)  
Maintenance manual <Part 1> (1)  
Operation manual

Optional accessories: BSC-1-Pack Setup Card  
WRR-855A Slot-in Wireless Microphone Receiver  
WRR-860A Wireless Microphone Receiver (adaptor required)  
WRR-810A Wireless Microphone Receiver (adaptor required)  
BP-L90A Rechargeable Lithium-ion Battery  
BP-L60A Rechargeable Lithium-ion Battery  
AC-DN2A AC Adaptor  
AC-550/550CE AC Adaptor  
RM-P9 Remote Control Unit  
CA-701 Camcorder Adaptor  
CA-702/702P Camcorder Adaptor  
CA-755/755P Camcorder Adaptor  
LC-DN7 Carrying Case  
BVF-V20W/V20WCE 2.0-inch 16:9 B/W Viewfinder  
BVF-VC10W 1.35-inch 16:9 Color Viewfinder

# Specifications

		DNW-SWS		DNW-DWSP	
General	Mass	Approx. 4.0kg (8 lb 13 oz)			
	Operating mass	Approx. 6.0kg (13 lb 3 oz)			
	Power requirements	DC 12V +5.0V/-1.0V			
	Power consumption	31.5W (REC mode)			
	Operating temperature	0°C to +40°C (+32°F to +104°F)			
	Storage temperature	-20°C to +60°C (-4°F to +140°F)			
	Humidity	25% to 85% (relative humidity)			
	Continuous operating time	Approx. 110 min. (with BP-L60A) Approx. 165 min. (with BP-L90A)			
Inputs/Outputs	Genlock video input	BNC (1), 1.0Vp-p, 75Ω			
	Time code input	BNC (1), 0.5 to 18Vp-p, 10kΩ			
	Audio CH-1/2 input/Mic input	XLR-3-31 type (2), -60dBu/+4dBu selectable, high impedance, balanced			
	Video output	BNC (1), 1.0Vp-p, 75Ω, sync negative			
	Test output	BNC (1), 1.0Vp-p, 75Ω, sync negative			
	Time code output	BNC (1), 1.0Vp-p, 75Ω			
	Earphone	Mini jack			
	Audio output	XLR 5-pin male (stereo)			
	Lens	12-pin			
	Remote	6-pin			
	Light	2-pin, DC12V, Max. 30W			
	DC input	XLR 4-pin male with switch (for the optional AC-550/550CE)			
	DC output	4-pin (for wireless microphone receiver), DC 12V			
	VTR Section	Recording format	Betacam SX		
Tape speed		59.515 mm/s (525 mode)		59.575 mm/s (625 mode)	
Playback/Recording time		Max. 62 min. with BCT-62SXA cassette			
Fast forward time		Approx. 5.5 min. with BCT-62SXA			
Rewind time		Approx. 5 min. with BCT-62SXA			
Recommended tape		Sony Betacam SX BCT-62SXA series Sony BCT-30MA series Sony UVWT-30MA series			
Sampling frequency		Y: 13.5MHz R-Y/B-Y: 6.75MHz			
Quantization		8bits/sample			
Error correction		Reed-solomon code			
Video performance					
K-factor (2T pulse)		1% or less			
Y/R-Y/B-Y delay		15ns or less			
Digital audio performance					
Sampling frequency		48kHz (synchronized with video)			
Quantization		16bits/sample			
Frequency response		20Hz to 20kHz +0.5dB/-1.0dB			
Dynamic range (emphasis ON)		More than 85dB			
Distortion (at 1kHz, emphasis ON, reference level)	Less than 0.08%				
Cross talk (at 1kHz, reference level)	Less than -70dB				
Wow & flutter	Below measurable limit				
Head room	20dB				
Emphasis (ON/OFF selectable)	T1=50μs, T2=15μs				
Camera Section		16:9 MODE		4:3 MODE	
	Pickup device	3-chip 2/3-inch Power HAD 1000 IT 16:9 Widescreen CCD			
	Picture elements	1038(H) x 504(V)		1038(H) x 594(V)	
	Optical system	F1.4 prism system			
	Built-in filters	1: CLEAR 2:5600K+1/8ND 3:5600K 4:5600K+1/64ND			
	Shutter speed	1/100, 1/125, 1/250, 1/500, 1/1000, 1/2000 (s)		1/60, 1/25, 1/250, 1/500, 1/1000, 1/2000 (s)	
	Clear scan	CLS: 60.1 to 7000Hz (260 steps)		CLS: 50.2 to 9000Hz (310 steps)	
	Lens mount	Special bayonet mount			
	Sensitivity (2000lx, 89.9% reflective)	F9			
	Minimum illumination	Approx. 0.35 lx (F1.4 lens, +42dB Turbo Gain)			
	Video S/N ratio (typical)	63dB		61dB	
	Vertical resolution	(without Super EVS) 400 TV lines (with Super EVS) 450 TV lines		(without Super EVS) 480 TV lines (with Super EVS) 530 TV lines	
	Registration	0.05% (all zones, without lens)			
	Geometric distortion	Below measurable level (without lens)			
Warm-up time	2 sec.				
Modulation depth at 5MHz	70% (Typical)	55% (Typical)	70% (Typical)	55% (Typical)	
Viewfinder	CRT	2-inch monochrome			
	Controls	BRIGHT control, CONTRAST control, PEAKING control, TALLY, ZEBRA, DISPLAY switches			
	Horizontal resolution	450 TV lines	600 TV lines	450 TV lines	600 TV lines
	Microphone	Ultra-directional (detachable)			

The specifications given above were measured by CA-701.