

SONY[®]

HDCAM SR[™]

CAL
CINEALTA[™]

PRELIMINARY



SRW-5800

HD Digital Video Cassette Recorder

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SRW-5800

A Great New Addition
to the Sony HDCAM-SR
Studio VTR Line-up



HDCAM SR™

CINEALTA™

SONY HDCAM-SR™ VTRs are the RGB 4:4:4 full-bandwidth high-definition VTRs at the top of the Sony HD VTR line-up. They have been well received, especially in movie-making, commercial productions and high-end television production applications, thanks to their unprecedented picture quality and system functionalities.

As HD-based programme origination has become more commonplace, demand has steadily escalated for increased levels of quality criteria: even more video bit rates, higher frame rates and greater format flexibility.

Reflecting these new criteria, Sony has announced a new HDCAM-SR studio recorder, the SRW-5800, capable of recording at an amazingly high video bit rate of 880 Mb/s. This new recorder is equipped with the same key features* as the SRW-5500 and SRW-5000 recorders in the series, but exclusively provides the outstanding capability of 1080/60P and 50P recording through the use of 880 Mb/s data rate.

The 1080/60P and 50P recording system is equally ideal for origination of progressive-based programmes, 720P programmes and high-quality slow-motion programmes.

With the support of an extensive range of signal formats, including 1080/60P and 50P, plus outstanding system versatility and reliability, the SRW-5800 HDCAM-SR Studio Recorder should be the universal choice for high-end content creation today and in the future.

* Key features available on each model of the HDCAM-SR line-up are as follows:

		Recording Format	Playback Format	Double-speed Recording
Studio Recorder	SRW-5800	HDCAM-SR	HDCAM-SR, HDCAM, Digital Betacam	Yes
	SRW-5500	HDCAM-SR, HDCAM	HDCAM-SR, HDCAM, Digital Betacam	No
	SRW-5000	HDCAM-SR	HDCAM-SR, HDCAM, Digital Betacam	No
Portable Recorder	SRW-1	HDCAM-SR	HDCAM-SR	Yes

Pre-read editing and audio cross-fade function are not available on the SRW-5800.





FEATURES

HDCAM-SR Format – for Exceptionally High Picture Quality Recording

The SRW-5800 recorder adopts the HDCAM-SR format, which records 1920 x 1080 resolution high-definition signals using the MPEG-4 Studio Profile compression scheme with a very mild compression ratio of 2.7:1 (4:2:2)/4:1 (4:4:4) and 10-bit colour depth. It enables both full-bandwidth 4:4:4 RGB and high-quality 4:2:2 Y/Cb/Cr recording, delivering optimal picture performance to suit many different production requirements.

Double-speed Recording for 1080/60P and 50P Mode and HQ Mode

The SRW-5800 recorder provides its recording capability at a high data rate of 880 Mb/s, which was only previously available on the SRW-1 HDCAM-SR Portable VTR. With this high bit rate of 880 Mb/s, high-quality recording is available in two different recording modes: 4:2:2/1080/60P and 50P mode and 4:4:4 High Quality (HQ) mode.

The 4:2:2/1080/60P and 50P recording mode is highly compatible with computer graphics, games and other progressive-based programmes such as demonstration reels for flat-panel displays. It also offers exceptional picture performance when converting material originated in 1080/60P or 50P format to 720P format, due to its original high resolution of 1920 x 1080. Another benefit of using the 4:2:2/1080/60P and 50P recording mode is that it enables image creation with extremely high-quality slow-motion effects.

The 4:4:4 High Quality (HQ) mode enables 880 Mb/s 4:4:4 RGB recording with a milder compression ratio of 2:1. This achieves much greater picture quality compared with recording at 440 Mb/s. This is ideal when the highest possible image quality is the top priority.

Twice-speed Material Transfer

The SRW-5800 allows 4:2:2 material to be transferred to servers and nonlinear editing systems at twice the normal speed using a standard Dual-link HD-SDI interface. This is achieved by playing back tapes at 880 Mb/s (double the normal 440 Mb/s speed) and transferring the data using two linked HD-SDI cables. This capability can greatly reduce the time required for material transfer.

Multiple Frame Rates

With the SRW-5800, the entire range of both interlace and progressive frame rates are available, ranging from 24-frame progressive imaging, to 60-frame interlace for high-end HDTV production applications. This includes 60P, 59.94P, 50P, 60i, 59.94i, 50i, 30PsF, 29.94PsF, 25PsF, 24PsF and 23.98PsF.

720P Recording Capability

The SRW-5800 recorder can also record in 720/59.94P or 720/50P formats, meeting different needs for DTV programming and transmission.

12-channel Independently-editable Audio

The SRW-5800 recorder offers up to 12 channels of 24-bit audio at 48 kHz in both 1080- and 720-line recordings, to meet the most demanding audio recording requirements in digital content mastering.

The SRW-5800 can also record non-audio data streams within the audio recording area by packaging this data within an AES/EBU wrapper.

Furthermore, the SRW-5800 can accept AES/EBU data with 44.1, 32-kHz audio, or unsynchronised with video in audio tracks.

System Format		Recording Mode	
Signal Format	Frame Rate	Standard	Double-speed
1080	4:2:2	60/59.94/50	○
		30/29.97/25/24/23.98	○
	4:4:4 HQ	30/29.97/25/24/23.98	○
	4:4:4 SQ	30/29.97/25/24/23.98	○
720	4:2:2	59.94/50	○



FEATURES

Legacy Playback Capability

The SRW-5800 recorder can play back HDCAM™ and Digital Betacam™ format tapes for more flexible operations.

Internal Format Conversion

The SRW-5800 is equipped with a powerful internal format converter that enables many different types of conversion such as 3-2 pull-down, up-conversion, down-conversion, cross-conversion, colour-space conversion and P-to-i conversion. This powerful built-in converter makes the SRW-5800 very versatile in post-production.

Easy Management of Setup/System Menus

The SRW-5800 offers a highly effective way to manage its System Menu. Up to eight groups of parameters in the System Menu and Setup Menu can be individually saved as bank memory onto the internal memory of the VTR. They can also be saved onto Memory Stick™ media, enabling them to be copied onto other SRW-5800 VTRs for quick and consistent setup of multiple VTRs.

Furthermore, equipped with an Ethernet interface, the SRW-5800 allows operators to remotely view the setup parameters saved in the VTR's memory bank and to select a bank they want to use through a PC.

Other Features

- > Long recording time: up to 155 minutes on BCT-124SRL cassette
- > Frame-accurate insert/assemble editing
- > Digital jog sound
- > Confidence playback
- > Large 6.4-inch type* colour LCD that displays both playback pictures and various information such as timecode, audio level meters and operational menus
- > Audio output channel exchange
- > Dual-sync feature for pull-down operation
- > Off-speed playback capability
- > Selectable picture modes: SQUEEZE, LETTER BOX and EDGE CROP

* Viewable area measured diagonally

Internal Format Conversion (FC)

REC/PLAY TAPE FORMAT			HD-SDI OUT		SD -SDI OUT	FC OUT
HDCAM-SR	1080/4:4:4 (SQ/HQ)	23.98PsF	1080/4:4:4	23.98PsF	—	1080/4:2:2/23.98PsF
		24PsF		—	1080/4:2:2/59.94i	
		25PsF		—	720/4:2:2/59.94P	
		29.97PsF		—	1080/4:2:2/24PsF	
		30PsF		—	1080/4:2:2/60i	
	50i	625/50i	1080/4:2:2/25PsF			
	59.94i	525/59.94i	720/4:2:2/50P			
	60i	—	1080/4:2:2/29.97PsF			
	50P	625/50i	720/4:2:2/59.94P			
	59.94P	525/59.94i	1080/4:2:2/30PsF			
1080/4:2:2	50P	—	1080/4:2:2	50P	625/50i	1080/4:2:2/50i
		59.94P		525/59.94i	720/4:2:2/50P	
	60P	—		50P	625/50i	1080/4:2:2/59.94i
	59.94P	525/59.94i		720/4:2:2/59.94P		
720/4:2:2	50P	—	720/4:2:2	50P	625/50i	1080/4:2:2/60i
		59.94P		525/59.94i	1080/4:2:2/50i	

	PROFESSIONAL HIGH DEFINITION VIDEOCASSETTE RECORDING TIME IN MINUTES*				
	23.98 PsF 24 PsF	25 PsF	29.97 PsF 30 PsF	50 i	59.9 60 i
BCT-6SR	7.5	7.2	6	7.2	6
BCT-33SR	40	38.4	32	38.4	32
BCT-40SR	50	48	40	48	40
BCT-64SRL	80	76.8	64	76.8	64
BCT-94SRL	117.5	112.8	94	112.8	94
BCT-124SRL	155	148.8	124	148.8	124

* In 880 Mb/s mode all the times are halved.

REC/PLAY TAPE FORMAT			HD-SDI OUT		SD -SDI OUT	FC OUT
HDCAM-SR or HDCAM	1080/4:2:2	23.98PsF	1080/4:2:2	23.98PsF	625/59.94i	1080/4:2:2/59.94i
				24PsF	—	720/4:2:2/59.94P
				25PsF	—	1080/4:4:4/23.98PsF
				29.97PsF	—	1080/4:2:2/60i
				30PsF	—	1080/4:4:4/24PsF
		50i		625/50i	720/4:2:2/50P	
		59.94i		525/59.94i	1080/4:4:4/25PsF	
		60i		—	1080/4:2:2/59.94P	
		50P		625/50i	1080/4:4:4/29.97PsF	
		59.94P		525/59.94i	1080/4:4:4/30PsF	
Digital Betacam	625	50i	1080/4:2:2	50i	625/50i	720/4:2:2/50P
				59.94i	525/59.94i	1080/4:4:4/50i
	50P	625/50i		1080/4:4:4/59.94i		
	59.94P	525/59.94i		1080/4:4:4/60i		
525	59.94i	59.94P	50P	625/50i	720/4:2:2/50P	
			59.94P	525/59.94i	1080/4:4:4/50i	



Rear Panel

SPECIFICATIONS

General

Power requirements	100 to 240 V AC (50/60 Hz)
Operating temperature	+5 °C to +40 °C (+41 °F to +104 °F)
Storage temperature	-20 °C to +60 °C (-4 °F to +140 °F)
Operating humidity	25% to 80% (relative humidity)
Dimensions (W x H x D excluding protrusions)	427 x 218 x 544 mm (16 3/4 x 8 5/8 x 21 1/2 inches)
Tape speed	HDCAM-SR: 94.2 mm/s (24 Hz) HDCAM: 77.4 mm/s (24 Hz) Digital Betacam: 96.7 mm/s
HDCAM-SR recording/playback time	155 min with BCT-124SRL cassette (24 Hz)
HDCAM playback time	155 min with BCT-124HDL cassette (24 Hz)
Digital Betacam playback time	124 minutes with BCT-D124L tape
Fast-forward/rewind time	Approx. 4 min with BCT-124SRL cassette
Search speed range	
Shuttle mode	HDCAM-SR: Still to ±50 times normal playback speed (24 Hz) HDCAM: Still to ±60 times normal playback speed (24 Hz) Digital Betacam: Still to ±50 times normal playback speed
Variable mode	HDCAM-SR: -0.5 to 1 times normal playback speed HDCAM: -1 to 2 times normal playback speed Digital Betacam: -1 to 3 times normal playback speed

Input/Output

HD-SDI input A	BNC (1 + 1 for monitoring loop-through)
HD-SDI input B	BNC (1 + 1 for monitoring loop-through)
HD/SD reference video input 1	BNC (1 + 1 for loop-through), Tri Level sync
HD/SD reference video input 2	BNC (1 + 1 for loop-through), Tri Level sync
Digital audio input (CH1/2, CH3/4, CH5/6, CH7/8, CH9/10, CH11/12)	BNC (x6, AES/EBU)

Input/Output

Timecode input	XLR-3-pin type, (female x1)
HD-SDI output A	BNC (2 + 1, with character out)
HD-SDI output B	BNC (2 + 1, with character out)
Format converter output A	BNC (x2, with character out)
Format converter output B	BNC (x2, with character out)
SD-SDI D1 output	BNC (2 + 1 with character out)
Analogue composite output	BNC (x1, with character out)
Analogue SD reference output	BNC (x1), Black Burst
Analogue HD reference output	1125 Sync: BNC (x2), Tri Level sync
Digital audio output (CH1/2, CH3/4, CH5/6, CH7/8, CH9/10, CH11/12)	BNC (x6), AES/EBU
Analogue audio monitor output (L/R)	XLR-3-pin type, (male x2)
Analogue audio (cue) output*	XLR-3-pin type, (male x1)
Timecode output	XLR-3-pin type, (male x1)
Phones	JM-60 stereo phone jack
Remote 1 input	D-sub 9-pin, (female x1), Sony 9-pin remote interface
Remote 1 input/output	D-sub 9-pin, (female x1), Sony 9-pin remote interface
Video control	D-sub 9-pin, (female x1), (for optional HKDV-900)
Parallel remote	D-sub 50-pin, (female x1)
Ethernet	10Base-T modular jack

Digital Video Performance

Sampling frequency	HDCAM-SR: Y: 74.25 MHz, Cb/Cr: 37.125 MHz, G/B/R: 74.25 MHz
Quantisation	10 bits/sample
Compression	MPEG-4 Studio Profile

Digital Audio Performance

Sampling frequency	48 kHz (synchronised with video)
Quantisation	24 bits/sample

*HDCAM and Digital Betacam playback only

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