



PDW-HR1

XDCAM HD422 Field Recorder

Sony's top-of-the-line XDCAM® HD422 Series is being embraced around the world for its file-based recording capability utilizing high-capacity and highly reliable Professional Disc™ media. Thanks to its newly developed MPEG HD422 codec, the XDCAM HD422 Series provides high quality video and audio recording capabilities, with an image resolution of 1920 x 1080 and eight-channel 24-bit uncompressed audio. The newly developed PDW-HR1 XDCAM HD422 Field Recorder further enhances the operational capability of this series. The PDW-HR1 packs a large number of functions into its compact yet robust body. With a large 9-inch^{*1} WVGA LCD, material can be checked on the spot and a wide variety of GUIs offers superb operational efficiency. It provides multi-format recording capability as standard, including a frame rate of 23.98P in 1080 mode and SD recording. A wide range of signal interfaces, including baseband video (composite, HD/SD-SDI), Gigabit Ethernet, MPEG TS^{*2}, DVB-ASI^{*2}, and HDMI are also provided. What's more, an FTP client capability^{*3} allows the PDW-HR1 to transfer files via its Ethernet connection without the need for a PC.

With its great operational versatility, the PDW-HR1 further expands the operational applications of the XDCAM HD422 Series.

*1: Viewable area measured diagonally. *2: Requires optional PDBK-202 board.

*3: Requires a software upgrade, planned to be available in the second half of 2009.

Robust, Compact and Versatile Field Recorder added to the World Leading XDCAM HD422 Series

PDW-HR1 Features

- MPEG HD422 codec
 - HD 1920 x 1080 and 1280 x 720 recording
 - High-quality 24-bit eight channel uncompressed audio recording*1

MPEG HD422

- Wide choice of recording modes: including 23.98P format recording and playback capability as standard
- CINEALTA**

- Supports a choice of HD (MPEG HD*2) and SD (MPEG IMX®/DVCAM™) recording modes as standard

MPEG HD MPEG IMX DVCAM

- Built-in up/down- (HD/SD) and cross-conversion (1080/720) system

- Dual-layer (50 GB, PFD50DLA) and single-layer (23.3 GB, PFD23A) Professional Disc support



PFD50DLA



PFD23A

- 9-inch type*3 WVGA LCD
- Built-in stereo speaker
- AC, DC and battery powered



- Easy-to-use Jog/Shuttle dial (Jog: -1 to +1 time normal speed, Shuttle: -20 to +20 times normal speed)
- Picture Cache Recording (up to 30 seconds) and Disc Exchange Cache
- Trigger REC function (synchronized recording with compatible camcorders*4)



- Excellent user interface for EDL-based (nondestructive) editing



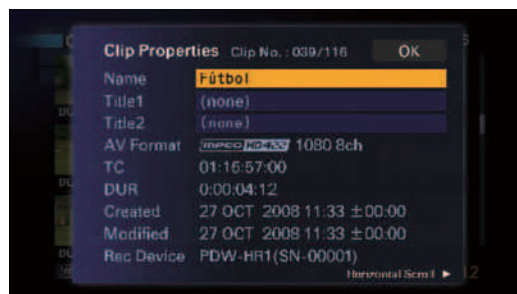
Key Panel

- Intuitively operable key panel
- VTR-editing-like GUIs
- External-player device control (e.g., a VTR/XDCAM deck) via the RS-422A interface

- Key panel illumination light for use in low-light environments
- TBC control
- Phantom powered stereo microphone input
- Audio level control
- Audio channel mix monitor output
- FTP client capability*5: allows file transfer via Ethernet without a PC
- EDL-based voice over (video over and audio over)*6
- Data file recording by User Data folder: allows recording of any file type onto Professional Disc media
- Composite input
- HDMI output for viewing
- Gigabit Ethernet (1000Base-T)
- Input and output of an HDV™-compatible stream in 1080i/720P format (Option: PDBK-202)
- DVB-ASI output (Option: PDBK-202)
- i.LINK™*7 interface (File Access Mode)
- Clip Continuous REC mode*5*8
- Proxy Data (1.5 Mb/s for video and 0.5 Mb/s for audio) and metadata recording
- File-based search operation
 - Thumbnail Search function
 - Expand function
 - Clip Filtering*5
- Metadata recording : UMID, Extended UMID, EssenceMark™ (Shot Mark), Clipflag



- Easy metadata input via USB keyboard*9 or software keyboard
- Local language in clip/disc properties: Chinese*5, German, French, Korean*5, Japanese, Russian, Spanish, and more



Local Language Support

- SxS™ Memory Card adaptor (Option)*10

- *1: Audio specifications vary according to recording mode.
- *2: 18 Mb/s mode is playback only.
- *3: Viewable area measured diagonally.
- *4: PDW-F800/700, HDW-650/730/750 series, HDW-790 and HDW-F900R camcorders.
- *5: Requires a software upgrade, planned to be available in the second half of 2009.
- *6: Audio track must be less than three minutes. Requires a software upgrade, planned to be available in the first half of 2010.
- *7: i.LINK is a Sony trademark used only to designate that a product is equipped with an IEEE 1394 connector. Not all products with an i.LINK connector may communicate with each other. Please refer to the documentation that comes with any device having an i.LINK connector for information on compatibility, operating conditions, and proper connection.
- *8: Available when recording is remotely controlled via RS-422A interface, or during Trigger REC mode via an HD-SDI interface.
- *9: Some keyboards can not be used. Please refer to the supplied manual for details.
- *10: Planned to be available in the first half of 2010.



Rear Panel



Hand Grip

PDW-HR1 Recording/Playback Specifications

Mode (Codec)	Number of Pixels	Bit Rate (Mb/s)	Audio Bits	Audio Channels	Y/C Sampling	Frame Frequency	Recording Time (Unit: Minutes)		
							PFD23A 23.3 GB	PFD50DLA 50 GB	
MPEG HD422 (MPEG-2 4:2:2P@HL)	1920 x 1080	50	24	8	4:2:2	59.94i, 50i, 29.97P, 25P, 23.98P	Approx. 43	Approx. 95	
	1280 x 720						Approx. 43	Approx. 95	
MPEG HD (MPEG-2 MP@HL)	1440 x 1080	35	16	4	4:2:0	59.94i, 50i, 29.97P, 25P, 23.98P	more than 65	more than 145	
				2 ⁻¹			more than 68	more than 150	
		4		Approx. 85			Approx. 190		
		2 ⁻¹		Approx. 90			Approx. 200		
	1280 x 720	18 ⁻¹	4 ⁻¹	more than 112	more than 248				
		2 ⁻¹	more than 122	more than 265					
MPEG IMX (MPEG-2 4:2:2P@ML)	720 x 480 (NTSC) / 720 x 576 (PAL)	35	16	4	4:2:2	59.94i, 50i	more than 65	more than 145	
				25			Approx. 85	Approx. 190	
		50		24			4	Approx. 45	Approx. 100
				16			8		
		40		24			4	Approx. 55	Approx. 120
				16			8		
30	24	4	Approx. 68	Approx. 150					
16	8								
DVCAM	720 x 480 (NTSC) / 720 x 576 (PAL)	25	16	4	4:2:0 (NTSC) / 4:1:1 (PAL)	59.94i, 50i	Approx. 85	Approx. 185	

*1: Playback only.

SPECIFICATIONS

PDW-HR1		
General		
Dimensions (W x H x D)	11 7/8 x 5 1/8 x 15 3/4 inches (300 x 129 x 400 mm)	
Weight	Approx. 1.6 lb 5 oz (7.4 kg)	
Power requirements	100 V to 240 V AC, 50/60 Hz, 12 V DC, Battery	
Power consumption	AC: 65 W, DC: 55 W	
Operating temperature	+23 to 113 °F (-5 to +45 °C)	
Storage temperature	-4 to +140 °F (-20 to +60 °C)	
Humidity	20 to 90% (relative humidity)	
Recording/playback time	MPEG HD422 mode: Approx. 95 min. with PFD50DLA. Approx. 43 min. with PFD23A	
Search speed	Jog mode	-1 to +1 time normal speed
	Variable speed	-1 to +1 time normal speed
	Shuttle mode	-20 to +20 times normal speed
	F.Fwd / Rev	-20 / +20 times normal speed
Inputs/Outputs		
HDSDI IN	BNC x 1 HD-SDI: SMPTE 292M (w / embedded audio) (switchable) SD-SDI: SMPTE 259M (w / embedded audio)	
COMPOSITE IN	BNC x 1, 1.0 Vp-p / 75 Ω / negative, SMPTE 170M	
REF:VIDEO IN	BNC x 2 (including active through), HD Tri-level sync (0.6 Vp-p / 75 Ω / negative) or SD blackburst / composite sync (0.286 Vp-p / 75 Ω / negative)	
ANALOG AUDIO IN	XLR 3-pin (female) x 4, +4 dBu, Hi-Z, balanced, CH1 and CH2: switchable phantom powered mic input	
TIME CODE IN	BNC x 1, SMPTE time code, 0.5 to 18 Vp-p/3.3 kΩ / unbalanced	
HDSDI OUT 1	BNC x 1, SMPTE 292M (w / embedded audio)	
HDSDI OUT 2 (SUPER)	BNC x 1, SMPTE 292M (w / embedded audio), character On/Off	
HDMI	x 1, output	
SDDI OUT (SUPER)	BNC x 1, SMPTE 259M (w / embedded audio), character On / Off	
COMPOSITE OUT (SUPER)	BNC x 1, 1.0 Vp-p / 75 Ω / negative, SMPTE 170M, character On / Off	
ANALOG AUDIO OUT	XLR 3-pin (male) x 4, +4 dBu, 600Ω, Lo-Z, balanced CH3 and CH4: switchable analog audio monitor	
TIME CODE OUT	BNC x 1, SMPTE time code, 1.0 Vp-p/75 Ω/unbalanced	
PHONES	Stereophone-jack x 1	
i.LINK S400	6-pin x 1*, File Access Mode	
i.LINK HDV	6-pin x 1*, HDV 1080i / 720P	
ETHERNET	RJ-45 x 1, 1000Base-T: IEEE802.3ab, 100Base-TX: IEEE802.3u, 10Base-T: IEEE802.5	
DVB-ASI OUT	x 1*, ISO / IEC-13818-2	
REMOTE (9P) IN/OUT	D-sub 9-pin (female) x 1, RS-422A	
USB	x 2	
AC IN	x 1, 100 to 240 V	
DC IN	XLR 4-pin (male) x 1	
DC OUT	4-pin (female) x 1, DC 12 V, 7.5 W	
Video Performance		
Sampling frequency	Y: 74.25 MHz, Pb / Pr: 37.125MHz	
Quantization	8 bit/sample	
Compression	MPEG-2 4:2:2P@HL	
Composite output	Frequency response: 0.5 to 5.75 MHz +0.5 dB/-2.0 dB S / N (Y): 53 dB or more Y / C delay: ± 20 ns or less K-factor (K2T): 1% or less	
Processor Adjustment Range		
Video level	-∞ to +3 dB	
Chroma level	-∞ to +3 dB	
Set up/black level	± 30 IRE / ± 210 mV	
Chroma phase	± 30 °	
System sync phase	± 15 μs	
System sync phase (fine)	0 to 400 ns	
Audio Performance		
Sampling frequency	48 kHz	
Quantization	24 bit	
Frequency response	20 Hz to 20 kHz +0.5 dB / -1.0 dB	
Dynamic range	90 dB or more	
Distortion	0.05% or less	
Headroom	12/16/18/20 dB (selectable)	
Built-in LCD Monitor		
	9-inch*3 type color LCD monitor	
Built-in Audio Speaker		
	x 2, L/R	
Supplied Accessories		
	Operation manual (x 1), Installation manual (x 1), XDCAM Application Software CD-ROM (x 1)	
Optional Accessories		
	PFD50DLA/PFD23A Professional Disc, PDBK-202 MPEG TS Adaptor Board for PDW-HR1, BP-GL95/BP-L80S Lithium-ion Battery Pack, RCC-5G Remote Control Cable (5 m)	

*1: A/V/C (DV) interface is NOT supported. *2: Requires optional PDBK-202 board. *3: Viewable area measured diagonally.

SONY

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