

## PDW-HD1500

XDCAM HD422 Professional Disc recorder up to 50 Mb/s



### Overview

The XDCAM production system was first introduced in 2003, offering revolutionary file-based acquisition onto optical Professional Disc. In 2005, XDCAM HD was launched with camcorders and decks recording high definition pictures at up to 35 Mb/s onto the same 23 GB Professional Discs.

At IBC 2007, Sony demonstrated the latest development of products to expand of the XDCAM HD line up - the PDW-700 camcorder and the PDW-HD1500 deck.

The PDW-HD1500 will record and replay XDCAM HD 50 Mb/s 4:2:2 data onto 50 GB Dual-layer Professional Disc. With interfaces including i.LINK and Ethernet, the PDW-HD1500 can operate at the heart of small or large scale file-based networked systems. VTR-like JOG/shuttle operation and video interfaces including HD-SDI and SD-SDI also makes the PDW-HD1500 ideal for operation in more traditional vide-based installations.

The PDW-HD1500 has been designed to increase the appeal of XDCAM HD for high-end applications such as drama, documentary and natural history and for mainstream entertainment programmes that required a prestige quality look.

File-based acquisition onto Professional Disc, with thumbnail and proxy operation will also make the PDW-HD1500 ideal for

networked applications where speed of production is a critical.

## Features

**High definition recording using MPEG-2 422P@HL compression at 50Mb/s data rate**

**Support for existing XDCAM HD and XDCAM SD formats**

**8 channels of digital audio**

**Dual-layer Disc (50GB) and Single-layer Disc (23.3GB) support**

**Dual optical pick-up for higher speed file transfer**

**4.3-inch colour LCD**

**VTR-like JOG/SHUTTLE operation**

**TBC control (via front panel and remote)**

**Compact and lightweight at 6.3kg and half-rack width**

**AC, DC or battery powered**

**Built-in up/down converter and 1080/720 cross converter**

**HD up-conversion from SDI input (recording)**

**HD/SD conversion and cross conversion output between 1080 and 720 (playback)**

**Ethernet interface (100Base-T)**

**i.LINK interface**

## Specifications

| General                           |   |
|-----------------------------------|---|
| Power Requirements                | AC 100 V to 240 V, 50/60 Hz, DC 12 V  |
| Power Consumption                 | AC: 80 W, DC: 65 W, SAVEMODE (DC): 55 W   |
| Operating Temperature             | 5°C to 40°C<br>42°F to 104°F  |
| Storage Temperature               | -20°C to +60°C<br>-4°F to +140°F  |
| Humidity                          | 25% to 90% (relative humidity)  |
| Mass                              | 6.5 kg<br>14 lb 5 oz  |
| Dimensions (W x H x D)<br>*1      | 210 x 132 x 396 mm (excluding protrusions)<br>8 3/8 x 5 1/4 x 15 5/8 inches (excluding protrusions)   |
| Recording/Playback Format (Video) | MPEG HD422 (CBR, 50 Mbps)<br>MPEG HD:<br>- HQ mode (VBR, maximum bit rate: 35 Mbps)<br>- SP mode (CBR, 25 Mbps)<br>- LP mode (VBR, maximum bit rate: 18 Mbps) *2<br>MPEG IMX *3 (CBR, 50/40/30 Mbps)<br>DVCAM *3 (CBR, 25 Mbps) |

|   |  |
|---|--|
| Recording/Playback Format (Audio)       | MPEG HD422: 8 ch/24 bits/48 kHz<br>MPEG HD: 4 ch/16 bits/48 kHz<br>MPEG IMX *3 : 4 ch/24 bits/48 kHz<br>or 8 ch/16 bits/48 kHz<br>DVCAM *3 : 4 ch/16 bits/48 kHz   |
| Recording/Playback Format (Proxy Video) | MPEG-4   |
| Recording/Playback Format (Proxy Audio) | A-law (8 ch/8 bits/8 kHz)  |
| Recording/Playback Time (MPEG HD422)    | 50 Mbps: Approx. 95 min (PFD50DLA), Approx. 43 min (PFD23A)  |
| Recording/Playback Time (MPEG HD)       | 35 Mbps, 4-ch audio: More than 145 min (PFD50DLA), More than 65 min (PFD23A)<br>35 Mbps, 2-ch audio (playback only): More than 150 min (PFD50DLA), More than 68 min (PFD23A)<br>25 Mbps, 4-ch audio: Approx. 190 min (PFD50DLA), Approx. 85 min (PFD23A)<br>25 Mbps, 2-ch audio (playback only): Approx. 200 min (PFD50DLA), Approx. 90 min (PFD23A) |

|                                    |   |
|------------------------------------|---|
|                                    | <p>18 Mbps, 4-ch audio (playback only): More than 248 min (PFD50DLA), More than 112 min (PFD23A)</p> <p>18 Mbps, 2-ch audio (playback only): More than 265 min (PFD50DLA), More than 122 min (PFD23A)</p>   |
| Recording/Playback Time (MPEG IMX) | <p>50 Mbps: Approx. 100 min (PFD50DLA), Approx. 45 min (PFD23A)</p> <p>40 Mbps: Approx. 120 min (PFD50DLA), Approx. 55 min (PFD23A)</p> <p>30 Mbps: Approx. 150 min (PFD50DLA), Approx. 68 min (PFD23A)</p> <p>Optional PDBK-S1500 hardware key is required for MPEG IMX recording.</p> |
| Recording/Playback Time (DVCAM)    | <p>25 Mbps: Approx. 185 min (PFD50DLA), Approx. 85 min (PFD23A) *3</p>  |
| Search Speed Range (Shuttle Mode)  | -20 times to +20 times normal speed   |
| Search Speed Range                 |   |

(Variable Mode) -2 times to +2 times normal speed

Search Speed Range (Jog Mode) -1 time to +1 time normal speed

Search Speed Range (Fast Forward/Reverse) -35/+35 times normal speed

## Media Drive

Media Type Professional Disc Drive (x1)

## Input/Output

Reference Input BNC (x2) (including loop-through), HD Tri-level sync (0.6 Vp-p/75 Ω/negative) or SD blackburst/composite sync (0.286 Vp-p/75 Ω/negative)

HD-SDI Input BNC (x1) (HD/SD switchable)  
 HD-SDI: SMPTE 292M (w/embedded audio)  
 SD-SDI: SMPTE 259M (w/embedded audio)

XLR-type 3-pin (female) (x2)

|                               |   |
|-------------------------------|---|
| Analog Audio Input            | (channel selectable), +4/0/-3/-6 dBu (selectable), 10 k $\Omega$ , balanced   |
| Digital Audio Input (AES/EBU) | BNC (x2), 4 ch (2 ch each, 1/2 ch and 3/4 ch), AES-3id-1995   |
| Timecode Input                | BNC (x1), SMPTE timecode, 0.5 Vp-p to 18 Vp-p/3.3 k $\Omega$ /unbalanced  |
| Analog Composite Output       | BNC (x2),<br>1: 1.0 Vp-p/75 $\Omega$ /negative, SMPTE 170M<br>2: 1.0 Vp-p/75 $\Omega$ /negative, SMPTE 170M, character On/Off |
| HD-SDI Output                 | BNC (x2),<br>1: SMPTE 292M (w/embedded audio)<br>2: SMPTE 292M (w/embedded audio), character on/off                           |
| SD-SDI Output                 | BNC (x2),<br>1: SMPTE 259M (w/embedded audio)<br>2: SMPTE 259M (w/embedded audio), character on/off                           |
| Analog Audio Output           | XLR-type 3-pin (male) (x2) (channel selectable), +4/0/-3/-6 dBu (selectable), 600 $\Omega$ , Lo-z, balanced                   |

|                                |   |
|--------------------------------|---|
| Analog Audio Monitor           | XLR-type 3-pin (male) (x2), +4 dBu, 600 $\Omega$ , Lo-Z, balanced   |
| Digital Audio Output (AES/EBU) | BNC (x2), 4 ch (2 ch each, 1/2 ch and 3/4 ch), AES-3id-1995   |
| Headphone Output               | JM-60 Stereo phone jack (x1), -13 dBu, 8 $\Omega$ , unbalanced  |
| Timecode Output                | BNC (x1), SMPTE timecode, 1.0 Vp-p/75 $\Omega$ /unbalanced  |
| Video Control                  | D-sub 9-pin (female) (x1), EIA RS-423   |
| i.LINK                         | IEEE 1394 6-pin (x1)*<br>File Access Mode or HDV TS* (1080i/720p) (selectable)<br>*Optional PDBK-201 is required for HDVIN/OUT. |
| Ethernet                       | RJ-45 (x1)<br>1000BASE-T: IEEE 802.3ab<br>100BASE-TX: IEEE 802.3u<br>10BASE-T: IEEE 802.3                                       |
| Remote Input (9-pin)           | D-sub 9-pin (female) (x1), RS-422A  |
| DC Input (12 V)                | XLR-type 4-pin (male) (x1)  |
| DC Output (12 V)               | 4-pin (female) (x1), DC 12 V, 7.5 W   |



|             |          |
|-------------|----------|
| Maintenance | USB (x2) |
|-------------|----------|

|          |   |
|----------|---|
| AC Input | AC Input (x1), 100 V to 240 V,<br>50/60Hz |
|----------|---|

## Video Performance

|                    |                                |
|--------------------|--------------------------------|
| Sampling Frequency | Y: 74.25 MHz, Pb/Pr: 37.125MHz |
|--------------------|--------------------------------|

|              |               |
|--------------|---------------|
| Quantization | 8 bits/sample |
|--------------|---------------|

|                  |                   |
|------------------|-------------------|
| Error Correction | Reed Solomon Code |
|------------------|-------------------|

## Processor Adjustment Range

|             |                    |
|-------------|--------------------|
| Video Level | $-\infty$ to +3 dB |
|-------------|--------------------|

|              |                    |
|--------------|--------------------|
| Chroma Level | $-\infty$ to +3 dB |
|--------------|--------------------|

|                    |   |
|--------------------|---|
| Set Up/Black Level | -30 IRE to +30 IRE/<br>-210 mV to +210 mV |
|--------------------|---|

|              |                            |
|--------------|----------------------------|
| Chroma Phase | $-30^\circ$ to $+30^\circ$ |
|--------------|----------------------------|

|                   |  |
|-------------------|--|
| System Sync Phase | $-15 \mu\text{s}$ to $+15 \mu\text{s}$ |
|-------------------|--|

|                 |                |
|-----------------|----------------|
| System SC Phase | 0 ns to 400 ns |
|-----------------|----------------|

## Audio Performance

48 kHz

## Sampling Frequency

|                    |  |
|--------------------|--|
| Quantization       | 24 bits                                      |
| Frequency Response | 20 Hz to 20 kHz +0.5/-1.0 dB (0 dB at 1 kHz) |
| Dynamic Range      | More than 90 dB                              |
| Distortion         | Less than 0.05% (at 1 kHz)                   |
| Headroom           | 20/18/16/12 dB (selectable)                  |

## Other Equipment

|                  |                                 |
|------------------|---------------------------------|
| Built-in Display | 4.3-inch type color LCD monitor |
| Built-in Speaker | Monaural (x1)                   |

## Supplied Accessories

|                      |  |
|----------------------|--|
| Supplied Accessories | Operation manual (1)<br>Installation manual (1)<br>XDCAM Application Software CD-ROM (1) |
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## Notes

[\*1] The values for dimensions are approximate.

Note

[\*2] Playback only.

[\*3] Optional PDBK-S1500 hardware key is required for DVCAM and MPEG IMX recording.

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## Gallery

