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PDW-F335L

A versatile XDCAM HD Camcorder recording onto the latest Dual Layer Professional Disc for even longer recording time - supplied without lens.



The most versatile camcorder in its price range; it's your choice to shoot in SD or HD, to use your familiar AV-based way of working or XDCAM's world-leading advanced AV/IT workflow.

The PDW-F335 is a true-shoulder mount camcorder, perfectly balanced to fit on your shoulder.

The PDW-F335 is exceptionally versatile; at the flick of a switch you have the choice of shooting 50i/59.94i/23.98P/25P/29.97P pictures in DV and HD. So you can shoot a local news assignment today, a wedding video tomorrow and your independent short film the day after - all with the same camera, all with the exact settings required to excel in each application.

At the heart of the PDW-F335 is XDCAM Professional Disc - the world's bestselling, most affordable and most widely supported non-linear acquisition system. The benefits of XDCAM begin from the moment you begin shooting. You can mark key scenes manually, then review scenes by simply selecting their thumbnail images on the colour fold-out screen. Non-linear media means instant scene access and there's no need to worry about overwriting content either.

And by using the latest 50GB Dual Layer Professional Disc, recording times are increased to more than 3 hours when shooting DVCAM, and to around 2.5 hours when shooting high quality HD.

With XDCAM HD you choose the pace at which you move to the full potential of an advanced AV/IT, file-based workflow. For post-production, the PDW-F335 outputs a standard DV-based stream so your existing NLE set-up will work with it just the same as a DV/DVCAM camcorder. You can also replay material via an XDCAM HD deck, such as the PDW-F75, for high definition MXF file transfer to your edit system.

The PDW-F335 is engineered to provide you with the most cost-effective and versatile camcorder you can imagine for the way you work today and tomorrow

Features

Providing a stunning array of features, the PDW-F335 is designed to get the best out of every shoot.

This Sony professional camcorder has been designed to provide the very best features at the very best price - there's no need to compromise on quality, functionality or results!

HD-native 16:9/4:3 Switchable CCDs

XDCAM HD Camcorders incorporate three HD-native, 16:9/4:3 switchable 1/2-inch CCDs, offering outstanding-quality images with a low smear level and a high signal-to-noise ratio.

Real-time SD output

Even when recording in MPEG HD, XDCAM HD camcorders output a real-time SD signal via i.LINK DV out and composite out, further enhancing versatility and operational compatibility (e.g. with monitors or recording equipment on location.)

Advanced Optical Features

The XDCAM HD Camcorder has a built-in optical Neutral Density (ND) filter wheel with four positions and a slow shutter - supporting up to 64-frame accumulations. An auto-focus function is built-in (compatible lens required) and there is also an optional lens adaptor for 2/3-inch lenses.

HD 1080 Recording at Selectable Frame & Bit Rates

XDCAM HD products can record video signals in 1080/59.94i, 50i, 29.97P, 25P and native 23.98P - using a "MPEG HD" codec with industry standard MPEG-2 MP@HL compression. The user can also select the following bit rates; 35, 25 or 18Mb/s depending on picture quality and recording length requirements. When using the new 50GB Dual Layer Professional Disc the highest bit rate of 35Mb/s results in a recording time of more than 145 minutes, while choosing 18Mb/s provides a recording time of more than 248 minutes - the longest recording time offered by any current HD camcorder. MPEG HD images are recorded at 1440x1080 pixels with 4:2:0 sampling.

DVCAM Recording and Up/Down conversion

To maximise HD/SD workflow flexibility, all XDCAM HD Camcorders can record in the ubiquitous DVCAM format with a choice of NTSC/PAL and 16:9/4:3 modes. In addition, both camcorder and decks incorporate a down-conversion capability that allows material recorded in the MPEG HD format to be converted to DV signals and output via the i.LINK port -

enabling users to edit the material using compatible DV-based non-linear editors. XDCAM is recorded at 25Mb/s allowing approximately 185 minutes recording per Dual Layer disc. In NTSC mode, sampling is 4:1:1 with 480 active lines per frame. In PAL mode, sampling is 4:2:0 with 576 active lines per frame.

High-quality Audio Recording

XDCAM HD products can record two or four-channel, 16-bit, 48-kHz uncompressed (Linear PCM) audio - delivering high sound quality.

File-based Disc Recording

Because the XDCAM system records video and audio as IT-type files rather than a linear AV stream, XDCAM HD products offer a range of powerful benefits:

- Instant random access to content
- Automatic recording onto empty disc space (no need to worry about overwriting valuable content)
- Easy integration into other IT-based equipment such as Non-Linear Editing and Archiving Systems and Archive
- Advanced network-based workflow via i.LINK FAM (File Access Mode) or Ethernet
- High Speed File Transfer

Advanced Scene Selection Functionality

The PDW-F335's 16:9 3.5-inch colour LCD displays a highly advanced interface giving access to features most camcorders leave to post production. For example, a thumbnail display provides immediate access to detailed metadata or key scenes (selected automatically and/or manually) for quickly reviewing content on site. You can even perform simple cuts-only editing on the camera itself.

Advanced Proxy Recording

XDCAM HD products automatically record low-resolution AV data simultaneously with the HD or SD resolution data on the same disc. This low resolution content - called "Proxy Data" - uses MPEG-4 for a low data rate (1.5Mb/s for video and 0.5Mb/s for audio) while still offering reasonable quality. For a fast-breaking news story, Proxy Data could even be relayed over a low bandwidth link (e.g. mobile phone) and broadcast. In normal circumstances, Proxy AV applications include:

- Immediate logging on location
- Off-line editing
- Daily rushes
- Client Approvals
- Content library browsing

Proxy Data can be browsed and edited on most popular NLEs. In addition, all XDCAM HD products are supplied with PDZ-1 Proxy

Browsing software for Windows PC which supports drag-and-drop content transfers.

High Level of Reliability

XDCAM HD camcorders share the same platform as the XDCAM SD products which have proven themselves in demanding applications all around the world. As there is no mechanical contact between media and recording heads, a high level of durability and long media life have been achieved. XDCAM products have also demonstrated exceptional resistance to shock, vibrations and extremes of climate.

Comprehensive interfaces

The PDW-F335 features a wide-range of input-outputs and interfaces for maximum production flexibility:

- Input: Front stereo microphone, analogue audio (2-channel), timecode, gen-lock
- Output: HD analogue component, SD analogue component, SD analogue composite, timecode
- i.LINK interface supports File Access Mode (FAM) and DV OUT
- HD down-conversion capability: DV output via i.LINK (DV OUT) port or base-band SD output via analogue component

Additional features

- Interval recording for time-lapse capture
- Freeze mix
- Remote Commander™ supplied
- Assignable buttons enable operators to assign frequently used functions
- Interval recording (automatic and manual) intermittently records signals at pre-determined intervals, ideal for recording over long periods
- "Memory Stick"™ function for storage of camcorder set-up files
- Metadata recording: UMID, Extended UMID, Essence Marks
- Auto Tracing White Balance for automatic adjustments in camera colour temperature according to lighting changes

Benefits

The PDW-F335 is the ideal bridge between today's DV/SD world and tomorrow's advanced AV/IT HD workflow. For the price of a standard definition tape-based camcorder you're ready for all the opportunities of High Definition and file-based production.

Enhanced Productivity

No matter how you work, the PDW-F335 offers productivity improvements impossible with tape-based media:

- The Professional Disc can be loaded and ready to shoot faster than tape
- No need to worry about accidentally overwriting precious content
- 'Essence Mark' key scenes at the touch of a button
- Thumbnail images representing key scenes can be browsed and instantly accessed using on-camera colour screen
- No frantic fast-forward/rewinding to find the clips you want to review
- Cut and edit content on the camera itself - no need for a PC!
- Import proxy files onto your PC at high speed for fast browsing and editing
- Smart import only the full resolution content you require faster than real-time
- More than 248 minutes when recording at 18Mb/s MPEG HD using Dual Layer Professional Disc - the longest recording time for any current professional HD camcorder
- Compatible with Single Layer Professional Disc media

Cost Effective

Cost of ownership is critical. The PDW-F335 is designed to offer you the lowest total system cost in its class due to:

- Highly competitive pricing for camcorder with or without lens
- Compatibility with existing SD or HD 1/2" lenses ensures wider choice of configurations at an affordable price-point
- Compatibility with most DVCAM accessories maximises existing investments
- Compatibility with all existing DV-based NLEs via i.LINK DV Stream
- Versatility - HD/SD, NTSC/PAL etc. - means with one camcorder you really can cover almost any assignment
- Little or no maintenance costs due to revolutionary optical drive

- Traditional Sony build quality and design ensures high reliability
- Professional Discs can be reused for 10,000 re-write cycles, equivalent to 30 years at one use/working day - all for the same price of a single tape!
- Multiple suppliers of Professional Disc media

Compatibility with today and tomorrow's workflow

The PDW-F335 is built around support for existing standards such as DV/DVCAM and open standards like MXF so you've got the maximum flexibility to use it just the way you want:

- Stay with DV/DVCAM format to work with existing non-linear editors via traditional i.LINK interface
- i.LINK, analogue video, analogue/digital audio interfaces for connectivity to a wide range of editing systems
- i.LINK File Access Mode (FAM) interface for high-speed, file-based in/out connectivity to a PC
- MXF open standard ensures maximum compatibility with new generation NLEs
- Long-term accessibility - storing content as files means you will always be able to access data in the future

Faster, Smarter Archiving

You don't need an expensive IT-storage system to revolutionise the way you store, retrieve and manage your archive material. While Professional Discs costs the same as tape, they're a true high-speed, non-linear media with a wealth of advanced meta-data automatically generated in camera:

- Import metadata and/or low resolution proxies onto your PC hard drive for a smart, searchable mirror of your high resolution archive
- Locate, watch and even edit proxy clips quickly using fast search of metadata, then instantly locate the archived high resolution content
- Non-linear media means faster, more reliable access to valuable archive content
- Professional Discs will retain information for 50 years in normal conditions
- Because information is stored as data files, there's no worries about video standards not being around in years to come

Technical Specifications

--General--	
Mass:	Approx. 3.8 kg (body, 8 lb 6 oz)
Power requirements:	DC 12 V +5.0 V/-1.0 V
Power consumption	Approx. 30 W
Operating temperature:	-5 to 40°C (+32 to +104°F)
Storage temperature:	-20 to +60°C (-4 to +140°F)
Humidity:	10 to 90% (relative humidity)
Continuous operating time:	Approx. 160 min. w/BP-GL95 battery
Recording format	Video: DVCAM (25 Mb/s) MPEG HD (MPEG-2 MP@HL) HQ mode (VBR, maximum bit rate: 35 Mb/s) SP mode (CBR 25 Mb/s) LP mode (VBR, maximum bit rate: 18 Mb/s) Proxy Video: MPEG-4 Audio: MPEG HD: 4ch or 2ch, 16 bits/48 kHz DVCAM: 4ch, 16 bits/48 kHz Proxy Audio: A-law (4ch / 2ch, 8 bit, 8 kHz)
Recording/Playback time	DVCAM (w/PFD50DLA): Approx. 185 min. DVCAM (w/PFD23A): Approx. 85 min. MPEG HD (HQ mode, w/PFD50DLA): Audio 2ch: more than 150 min. / Audio 4ch: more than 145 min. MPEG HD (HQ mode, w/PFD23A): Audio 2ch: more than 68 min. / Audio 4ch: more than 65 min. MPEG HD (SP mode, w/PFD50DLA): Audio 2ch: approx. 200 min. / Audio 4ch: approx. 190 min. MPEG HD (SP mode, w/PFD23A): Audio 2ch: approx. 90 min. / Audio 4ch: approx. 85 min. MPEG HD (LP mode, w/PFD50DLA): Audio 2ch: more than 265 min. / Audio 4ch: more than 248 min. MPEG HD (LP mode, w/PFD23A): Audio 2ch: more than 122 min. / Audio 4ch: more than 112 min.

--Signal inputs--	
Genlock video:	BNC x1, 1.0 Vp-p, 75 ohms
Audio input:	XLR-3pin (Female) x2, line / mic / mic +48 V selectable
Mic input:	XLR-5-pin (Female, stereo) x1

--Signal outputs--	
Component (HD/SD analog) video output:	BNC x3, Y/Pb/Pr, 1.0 Vp-p, 75 ohms
Composite video output:	BNC x1, 1.0 Vp-p, 75 ohms
Earphone:	Mini-jack x1 (stereo)
Audio output (CH-1/CH-2):	Pin-jacks x2, -10 dBu, 47 ohms

--Other inputs/ outputs--	
Timecode input:	BNC x1 (input or output, selectable), (input: 0.5 to 18 Vp-p, 10 kohms, output: 1.0 Vp-p, 75 ohms)
Timecode output:	BNC x1 (input or output, selectable), (input: 0.5 to 18 Vp-p, 10 kohms, output: 1.0 Vp-p, 75 ohms)
Lens:	12-pin
Remote:	8-pin
Light:	2-pin, DC 12 V, max. 50 W
DC input:	XLR-4-pin (Male) x1
DC output:	4-pin (for wireless microphone receiver), DC 12 V (MAX 0.2 A)
i.LINK:	IEEE 1394, 6-pin x1, AV/C (DV stream output) or File Access Mode

--Audio performance--	
Frequency response:	20 Hz to 20 kHz, +0.5 dB/-1.0 dB
Dynamic range:	More than 85 dB
Distortion:	Less than 0.08% (at 1 kHz, reference level)
Crosstalk:	Below measurable limit
Wow & flutter:	Below measurable limit
Headroom:	20/18/16/12 dB (selectable)

--Camera section--	
Pickup device:	3-chip 1/2-inch type HD Power HAD CCD
Effective picture elements:	Approx. 1.56 Mega Pixels (1,440 x 1,080)
Optical system:	F1.4 prism

Built-in optical filters:	1: Clear, 2: 1/4ND, 3: 1/16ND, 4: 1/64ND
Shutter speed	59.94i: 1/100, 1/125, 1/250, 1/500, 1/1000, 1/2000, ECS, SLS 29.97P: 1/40, 1/60, 1/120, 1/125, 1/250, 1/500, 1/1000, 1/2000, ECS, SLS 23.98P: 1/32, 1/48, 1/96, 1/125, 1/250, 1/500, 1/1000, 1/2000, ECS 50i: 1/60, 1/125, 1/250, 1/500, 1/1000, 1/2000, ECS, SLS 25P: 1/33, 1/50, 1/100, 1/125, 1/250, 1/500, 1/1000, 1/2000, ECS, SLS
Slow Shutter (SLS):	1 to 8, 16, 32, and 64 frame accumulation
Lens mount:	SONY 1/2-inch type bayonet mount

Sensitivity (2000 lx, 89.9% reflectance):	F9 (typical)
Minimum illumination:	Approx. 0.004 lx (F1.4 lens, +48 dB turbo gain, with 64 frame accumulation)
Gain selection:	-3, 0, 3, 6, 9, 12, 18, 24, 30, 36, 42, 48 dB
Smear level:	-120 dB (typical)
S/N ratio:	54 dB (typical, HD output)
Modulation depth at 21 MHz:	45% (typical)
Geometric distortion:	Below measurable level (w/o lens)

--Viewfinder--

CRT:	1.5-inch type monochrome
Indicators:	REC (x2), TALLY, BATT, SHUTTER, GAIN UP
--Built-in LCD monitor--	3.5-inch type color LCD monitor

Accessories

Lens Accessories

LO-32BMT

2/3-inch Lens Mount Adaptor

Viewfinders and Hoods

DXF-801

Sony Electronic Viewfinder



DXF-51

5-inch monochrome studio viewfinder

Batteries and Power Supplies



BP-L80S

Rechargeable Lithium-ion Battery Pack



BC-M150

Battery Charger



BP-GL95

Rechargeable Lithium-ion Battery Pack



BC-L500

Li-ion Battery Charger



BP-GL65

Battery Pack



AC-DN10

AC Adaptor/Charger



BC-L70

Li-ion Battery Charger

Camera Adaptors



CA-WR855

Camera Adaptor For DSR-300

Viewfinders



DXF-20W

2.0-inch Monochrome Viewfinder

Lapel (ECM-series)



ECM-674

Electret Condenser Microphone



ECM-680S

Shotgun electret condenser microphone



ECM-678

Electret Condenser Shotgun Microphone

Cases



LC-H300

Carrying Case for DSR-400/450WSL



LCR-1

CAMERA RAIN COVER (VINYL)



LC-DS300SFT

Soft Carr.case For Dsr-300p/500wsp