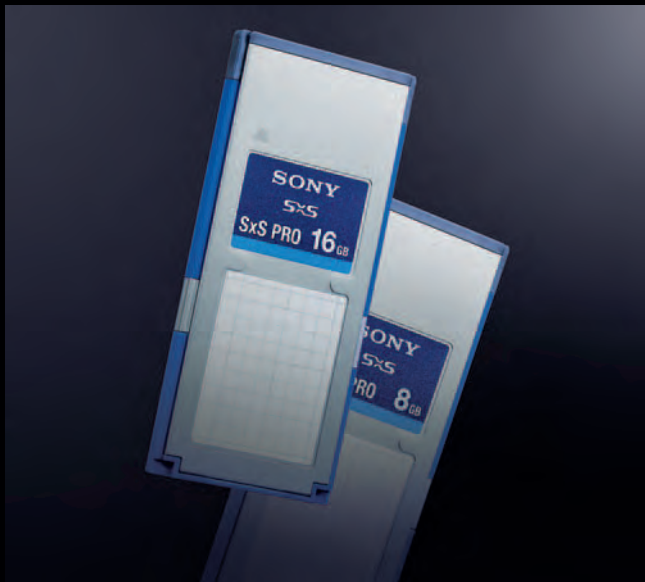


SONY®



XDCAM Family

XDCAM HD
Professional Disc System

XDCAM EX

XDCAM
Professional Disc System

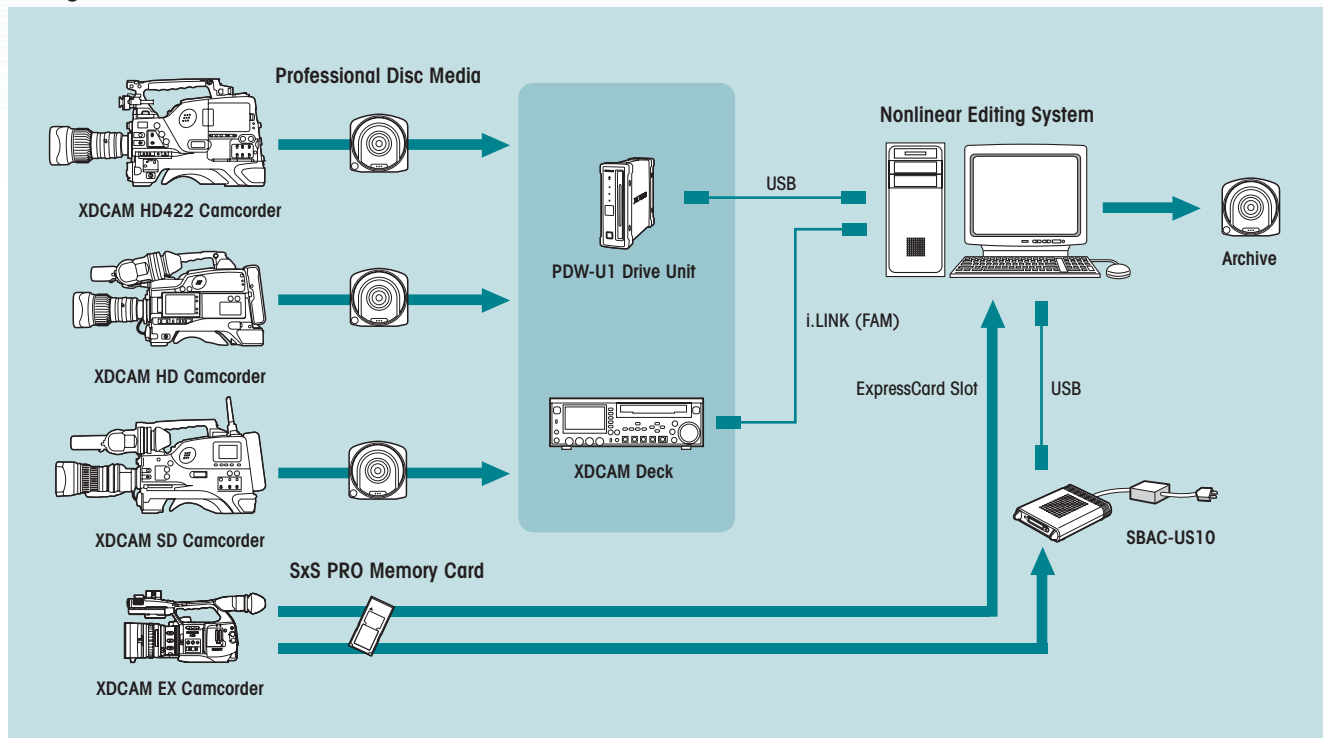
In 2003, Sony introduced a series of products for video recording using nonlinear media. Along with the advantages of a tapeless workflow, this heralded a number of other tremendous benefits including file based recording, split second random access capability, thumbnail search capability, no overwriting on existing footage and an IT/network capability. Sony named this epoch-making product line the XDCAM® Professional Disc™ System.

With the XDCAM family, users can now select the product best suited to the particular production being created, and enjoy all the great benefits and efficiencies of a nonlinear workflow.

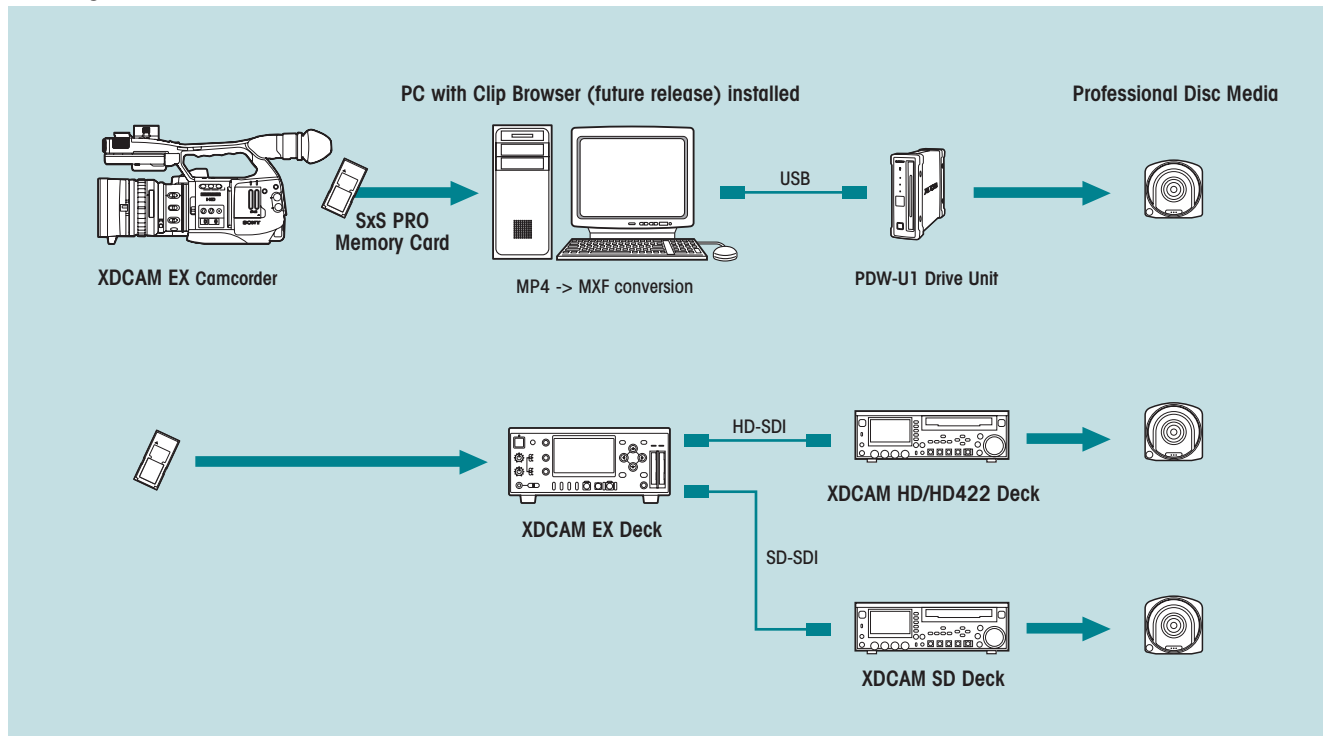
Professional Disc	XDCAM HD422 mPEG HD422   PDW-700  PDW-HD1500	Common Product
	XDCAM HD mPEG HD   PDW-F355  PDW-F335  PDW-F75  PDW-F30  PDW-U1	
	XDCAM SD   PDW-530/530P  PDW-510/510P  PDW-1500  PDW-R1  PDW-V1	
SxS PRO	XDCAM EX mPEG HD   PMW-EX1  PMW-EX3  PMW-EX30	

XDCAM Workflow

Editing



Dubbing



Two Types of Nonlinear Recording Medium – The Professional Disc and SxS PRO Media

Through detailed analysis of an optimum workflow for various types of production applications, Sony has selected two types of nonlinear recording media for the XDCAM family – optical disc and memory card. The XDCAM HD422, XDCAM HD and XDCAM SD lineup use an optical disc medium, called Professional Disc media, which offers large storage capacity of up to 50 GB at an affordable price. The XDCAM EX lineup uses a memory card, the SxS PRO™ card, having a highly compact design because the card itself is so slim, as well as offering data transfer rates of up to 800 Mb/s.*

Both product lines – disc-based products and memory card-based products – deliver the same tremendous benefits of a nonlinear workflow, including file based recording, an instant random access capability, a thumbnail search capability, no overwriting on existing footage, and IT/network capability.

*This data read speed is measured with benchmark software. Actual data transfer speeds vary according to measurement conditions. Please refer to <http://www.sony.net/SxS-Support/> for information on measuring methods.

The Professional Disc Media

The Professional Disc medium adopted in the XDCAM HD422, XDCAM HD and XDCAM SD lineup uses state-of-the-art blue-violet laser technology to enable extremely large-capacity recordings. The diameter of the Professional Disc media employed is a mere 12 cm, equal to that of other optical media such as CDs and DVDs. Yet, despite its small size, this disc provides an amazing storage capacity of 50 GB (PFD50DLA dual layer disc)/23.3 GB (PFD23A single layer disc), yet it is offered at a very affordable price.

- Extraordinary storage capacity in a 5-inch (12-cm) diameter disc

- PFD50DLA dual layer disc: 50 GB
- PFD23A single layer disc: 23 GB

- Long recording time*

Recording format	Recording bit rate	PFD50DLA (50 GB)	PFD23A (23 GB)
MPEG HD422	50 Mb/s	95 min.	43 min.
MPEG HD	35 Mb/s	145 min.	65 min.
	25 Mb/s	190 min.	85 min.
	18 Mb/s	248 min.	112 min.
MPEG IMX	50 Mb/s	100 min.	45 min.
	40 Mb/s	120 min.	55 min.
	30 Mb/s	150 min.	68 min.
DVCAM	25 Mb/s	185 min.	85 min.

- High data read speed: approx. 220 Mb/s**
- Highly reliable: no mechanical contact during recording and playback
- Durable mechanism: disc is packaged in an extremely durable and dust resistant disc cartridge
- Affordable cost-per-to-storage capacity media

*With four-channel audio. Actual recording time may vary depending on factors such as bit rate mode, number of audio channels, and number of video clips.

**Actual data read speeds may vary.





The SxS PRO Memory Card

The SxS PRO memory card adopted by the XDCAM EX series for recording is an ultra-compact nonlinear medium that uses flash memory, and is based on the SxS™ memory card specification. The SxS PRO memory card achieves an extremely high data transfer speed of 800 Mb/s*, allowing users to quickly transfer recorded footage to a compatible PC or nonlinear editing system.

The SxS PRO memory card also achieves long record times. Combining the moderate bit rates produced by the efficient MPEG-2 Long GOP compression to large-capacity SxS PRO memory card, the XDCAM EX products record high-quality HD images for a long recording time of 70 minutes on a single 16-GB SxS PRO memory card. Equipped with two SxS PRO memory card slots, the XDCAM EX products achieve up to 140 minutes of recording using two 16-GB memory cards in the SP mode and a minimum of up to 100 minutes in the HQ mode.

When a clip spans across two cards, the transition is seamless without any artifacts or frame loss. The SxS PRO memory cards can be hot-swapped while shooting without interrupting the recording. This feature makes the XDCAM EX products ideal for a wide variety of long form content-production applications.

Recording Time (approx.)*	HQ, 35 Mb/s VBR	50 minutes
	SP, 25 Mb/s CBR	70 minutes

*When recording in HQ (35 Mb/s) mode, recording time may be more than the above specified figure depending on the actual bit rate that is adopted during VBR encoding.

- Compatible with the ExpressCard™/34 standard
- Uses PCI Express interface, and achieves an extremely high data transfer speed of 800 Mb/s*
- Storage capacity: 16 GB (SBP-16) and 8 GB (SBP-8)
- Long recording time
- Most new Macintosh® systems and PCs are equipped with ExpressCard slots
- Compact size: approx. 3 x 1 3/8 x 7/32 inches (75 x 34 x 5 mm) (excluding the projecting parts) – about half the size of a conventional PC card
- Low power consumption
- Highly reliable: can resist shocks (1500 G) and vibrations (15 G)
- SxS Memory Card is also available from SanDisk Corporation

*This data read speed is measured with benchmark software. Actual data transfer speeds vary according to measurement conditions. Please refer to <http://www.sony.net/SxS-Support/> for information on measuring methods.



SxS

XDCAM HD422 System

The brand new XDCAM HD422 lineup sits at the top of the range in the XDCAM family – ideal for applications such as news gathering, where speed is a key concern, and for the production of TV dramas, documentaries and mainstream entertainment programs, where a high-quality impression is crucial.

The XDCAM HD422 line of products offers amazing quality HD video at a data rate of up to 50 Mb/s using MPEG-2 4:2:2P@HL compression technology referred to as MPEG HD422.

This lineup also offers multi-format recording flexibility including 1080P, 1080i, 720P and SD, which comes with HD/SD conversion and cross conversion between 1080P, 1080i and 720P.

XDCAM HD422 Products Common Features **MPEG HD422**

- HD recording at up to 50 Mb/s using MPEG HD422 codec (an MPEG-2 4:2:2P@HL compression technology)
- 1080P, 1080i and 720P recording with a choice of frame rates
- Support for MPEG IMX® and DVCAM™ formats*
- Dual layer (50 GB, PFD50DLA) and single layer (23.3 GB, PFD23A) Professional Disc support
- Long recording time (at 50 Mb/s with four-channel audio)
 - Approximately 95 minutes on dual layer disc and 43 minutes on single layer disc
- Proxy data (1.5 Mb/s for video and 0.5 Mb/s for audio) and metadata recording
- Built-in up-conversion to HD from SDI input* when recording
- HD/SD conversion and cross conversion between 1080 and 720* at output during playback

*This capability is planned to be available with a software upgrade targeted for release in fall 2008.



PDW-700 Camcorder Features

Power HAD FX



- Three 2/3-inch type Power HAD™ FX CCDs, each with 1920 x 1080 effective pixels
- High quality four channel audio recording (at 24-bit)
- 14-bit A/D conversion and advanced digital signal processing
- Dual HD/SD-SDI outputs and composite/HD-Y output
- Pool feed input (HD/SD-SDI and composite)*
- Picture cache recording (max. 30 sec.)
- Ethernet interface (100Base-TX) and i.LINK® (FILE ACCESS MODE)** interface
- Compatible with the DWR-S01D two-channel digital wireless microphone receiver***, which can be directly mounted in the camcorder's slot

*This capability is planned to be available with a software upgrade targeted for release in fall 2008. Will require an optional CBK-HD01 board for HD/SD-SDI input and CBK-SC02 board for composite input.

**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.

***This product may not be available in some areas.

PDW-HD1500 Deck Features



- Half rack wide recording deck
- High quality eight channel audio recording (at 24-bit)
- Dual optical pick up for higher speed file transfer
- 4.3-inch type* color LCD display
- VTR-like jog/shuttle operation
- Video control (via front panel and remote)
- AC, DC or battery powered
- Range of interfaces including HD-SDI and SD-SDI
- Ethernet interface (1000Base-T) and i.LINK interface

*Viewable area measured diagonally.

XDCAM HD System

The XDCAM HD lineup offers a choice of highly versatile production tools for an elegant and affordable route to HD for users looking to move up from analog and conventional DVCAM capabilities. The XDCAM HD lineup records 1080-line HD video at a data rate of up to 35 Mb/s using the MPEG HD codec that employs industry standard MPEG-2 MP@HL compression.

The newest members of the XDCAM HD lineup support 50 GB dual layer Professional Disc media, greatly extending recording time.* In addition, the XDCAM HD lineup offers flexible recording functionalities including a choice of video frame rates, interlace or progressive modes, recording data rates, and both HD and SD format support.

*The PFD50DLA dual layer disc cannot be used in the PDW-F30 XDCAM HD viewing deck

XDCAM HD Products Common Features



- HD recording at up to 35 Mb/s using MPEG HD codec (an MPEG-2 MP@HL compression technology)
- High quality four channel uncompressed audio recording
- Wide choice of video formats – 1080, interlace and progressive including native 23.98P mode
- Support for DVCAM format
- Dual layer (50 GB, PFD50DLA) and single layer (23.3 GB, PFD23A) Professional Disc support*
- Long recording time (at 18 Mb/s with two channel audio)
 - Up to 265 minutes of HD recording on dual layer disc
- Proxy data (1.5 Mb/s for video and 0.5 Mb/s for audio) and metadata recording
- Built-in down-conversion from HD to SD during playback

*The PFD50DLA dual layer disc cannot be used in the PDW-F30 XDCAM HD viewing deck..



PDW-F355/F335 Camcorder Features



PDW-F355



PDW-F335

- Three 1/2-inch type HD Power HAD CCDs, each with a high density of approximately 1.56 megapixels
- Wide choice of 1/2- and 2/3-inch type lenses*
- 3.5-inch type** color LCD display
- HD/SD-SDI, SD analog composite, timecode and stereo audio (XLR 5-pin) outputs (PDW-F355)
- HD/SD analog component (selectable), SD analog composite, timecode and audio (Pin jack) outputs (PDW-F335)
- Picture cache recording
- i.LINK (FILE ACCESS MODE) or i.LINK (DV) interface (selectable)
- Creative shooting features
 - Native 23.98P recording capability
 - Slow & Quick motion function for creation of elegant over and under cranked footage (PDW-F355 only)
 - Selectable gamma curves including CINE gamma modes

*Requires an optional LO-32BMT 2/3-inch type Lens Mount Adaptor to use 2/3-inch type lenses.

**Viewable area measured diagonally.

PDW-F75 Deck Features



- Recording deck can be placed either horizontally or vertically
- Up-conversion to HD from SDI/SD composite input when recording*
- Built-in up-conversion from SD to HD during playback
- 3.5-inch type** color LCD display
- VTR-like jog/shuttle operation
- A range of interfaces including HD-SDI input/output and SD-SDI input*/output
- Ethernet interface* (Gigabit Ethernet) and i.LINK interface***

*Requires optional boards.

**Viewable area measured diagonally.

***Requires the optional PDBK-102 board to input/output HDV™ stream via i.LINK connector.

PDW-F30 Deck Features



- Viewing deck can be placed either horizontally or vertically
- Built-in up-conversion from SD to HD during playback
- Support for single layer disc (23.3 GB, PFD23A)
- 3.5-inch type* color LCD display
- VTR-like jog/shuttle operation
- Ethernet interface** (Gigabit Ethernet) and i.LINK interface***

*Viewable area measured diagonally.

**Requires the optional PDBK-101 board.

***Requires the optional PDBK-102 board to input/output HDV stream via i.LINK connector.

XDCAM SD System

The XDCAM SD line up offers the ultimate solution for today's and tomorrow's SD video productions with a disc-based nonlinear workflow. The XDCAM SD lineup records outstanding quality SD video and audio on a single layer (23 GB) Professional Disc, and supports MPEG IMX and DVCAM formats.* The XDCAM SD line up consists of two camcorders, three companion decks, two drive units and two cart systems – all of which meet a diverse range of operational requirements and budgetary constraints.

*The PDW-510/510P camcorder supports DVCAM recording only.

XDCAM SD Products Common Features

- SD recording at up to 50 Mb/s using MPEG-2 4:2:2P@ML compression technology
- MPEG IMX and DVCAM format recording*
 - Selectable bit rate: MPEG IMX (50/40/30 Mb/s) and DVCAM format
- Support for interlace and progressive recording
 - NTSC model: 29.97P or 23.98P**
 - PAL model: 25P
- High quality four-channel audio recording
- Single layer disc (23.3 GB, PFD23A) support
- Long recording time (at 50 Mb/s with four-channel audio)
 - Approximately 45 minutes on single layer disc
- Proxy data (1.5 Mb/s for video and 0.5 Mb/s for audio) and metadata recording

*The PDW-510/510P camcorder supports DVCAM recording only.

**The PDW-530/530P/510/510P camcorder requires an optional pull-down (24p shooting) board. Recording to disc is in 59.94i via 2-3 pull-down.



PDW-510/510P, PDW-530/530P Camcorder Features



- Three 2/3-inch type Power HAD EX CCDs
- MPEG IMX and DVCAM switchable recording (PDW-530/530P)
- DVCAM recording (PDW-510/510P)
- 2.5-inch type* color LCD display
- Analog composite output, SDI output and analog composite input
- Ethernet interface (100Base-TX) and i.LINK interface

*Viewable area measured diagonally

PDW-1500 Deck Features



- Half rack wide recording deck
- VTR-like jog/shuttle operation
- High speed file transfers: 50x for Proxy, 5x for DVCAM and 2.5x for MPEG IMX (at 50 Mb/s) files when using a Gigabit Ethernet connection
- Insert and assemble editing capability*
- Metadata recording
- Ability to write EDL (Clip List) back onto disc
- SDI input/output, analog composite input/output, digital audio input/output and timecode input/output
- Ethernet interface (1000Base-T) and i.LINK interface
- RS-422A 9-pin remote interface

*Requires optional PDBZ-E1500 software. For this functionality, the PFD23A Professional Disc must be used (the PFD23 disc cannot be used).

PDW-R1 Deck Features



- Highly mobile field recorder
- 3.5-inch type* color LCD screen
- VTR-like jog/shuttle operation
- High speed file transfers: 30x for Proxy, 2.5x for DVCAM and 1.25x for MPEG IMX (50 Mb/s) files when using an i.LINK (File Access Mode) connection
- Metadata recording
- Ability to write EDL (Clip List) back onto disc
- SDI input/output, analog composite input/output, digital audio input/output and timecode input/output
- Ethernet interface (100Base-TX) and i.LINK interface
- RS-422A 9-pin remote interface
- Parallel recording function, which enables the deck's Rec start/stop to be synchronized with the Rec start/stop of the camcorder connected via the i.LINK interface

*Viewable area measured diagonally.

PDW-V1 Deck Features



- Highly mobile field viewer
- Recording of MPEG IMX/DVCAM files via Ethernet or i.LINK (File Access Mode) interfaces
- 3.5-inch type* color LCD display
- VTR-like jog/shuttle operation
- High-speed file transfers: 30x for Proxy, 2.5x for DVCAM and 1.25x for MPEG IMX (50 Mb/s) files when using an i.LINK (File Access Mode) connection
- Metadata recording
- Ability to write EDL (Clip List) back onto disc
- AC/battery-powered operation
- Ethernet interface (100Base-TX) and i.LINK (DV Stream) interface

*Viewable area measured diagonally.

XDCAM HD422/HD/SD Common Product

The PDW-U1 is a compact, mobile and highly cost effective solution for many different applications. It serves as an external drive connected via a common USB interface, and enables material recorded on the Professional Disc media to be viewed directly on a PC. The PDW-U1 can also be used as a source feeder for nonlinear editing systems. One of the most distinguishing features of the PDW-U1 is its ability to handle XDCAM HD422, XDCAM HD and XDCAM SD discs, providing a high level of versatility and cost efficiency.

PDW-U1 Drive Unit Features



- Compact, mobile, and highly cost effective drive unit
- Used as an external disc drive or source feeder for nonlinear editing systems
- Handles both dual layer disc (PFD50DLA) and single layer disc (PFD23A)
- Supports high speed USB (USB 2.0) – compatible with most PCs
- High-speed file transfers
- Can be operated either horizontally or vertically

XDCAM EX System

The XDCAM EX line of products represents an exciting low-cost entry point into the world of HD, making it fast and easy to shoot, edit and distribute great quality HD pictures.

This lineup is ideal for a wide range of customers, from broadcasters to independent videographers and film makers, who want exceptional HD picture quality and state-of-the-art workflow from compact and affordable tools. The XDCAM EX lineup records high-quality HD video at a data rate of up to 35 Mb/s using MPEG-2 Long GOP compression technology.

These products also offer multi-format recording flexibility including 1080P, 1080i and 720P.

XDCAM EX Products Common Features

- HD recording at up to 35 Mb/s using MPEG HD codec (an MPEG-2 MP@HL compression technology) with 1920 x 1080 resolution
- High-quality two-channel uncompressed audio recording
- Uses the PCI Express interface, and achieves an extremely high data transfer speed
- Wide choice of video format – 1080P, 1080i, and 720P, including native 23.98P*
- Records onto SxS PRO memory cards which comply with the ExpressCard® standard
- Built-in two SxS PRO memory card slots – capable of seamless recording between two slots
- Long recording time (at 35 Mb/s)
 - Approximately 50 minutes on a 16-GB SxS PRO memory card and 100 minutes on two SxS PRO memory cards
- Built-in down-conversion from HD to SD during playback
- Metadata recording**

*Native 23.98p input/output via HDSDI will be available on the PMW-EX30 with future software upgrade.

**XDCAM EX products do not support proxy recording.



PMW-EX1 Camcorder Features

CINEALTA **Exmor**
FULL HD 3CMOS



The shotgun microphone is an optional accessory.

- Handheld camcorder
- Three 1/2-inch type Exmor™ Full HD CMOS Sensors, each with 1920 x 1080 pixels
- Wide-angle Fujinon 14x zoom lens
- Professional manual focus and auto focus operation
- Slow & Quick motion capability
- 3.5-inch type* color LCD display
- HD-SDI output, down-converted SD-SDI output, i.LINK (HDV stream) input/output, analog composite/component output and USB interface (USB 2.0)

*Viewable area measured diagonally.

PMW-EX3 Camcorder Features

CINEALTA **Exmor**
FULL HD 3CMOS



The shotgun microphone is an optional accessory.

- Compact camcorder with an interchangeable lens system, allowing use of 1/2- and 2/3-inch type lenses*
- Three 1/2-inch type Exmor Full HD CMOS Sensors, each with 1920 x 1080 pixels
- Professional manual focus and auto focus operation
- Slow & Quick motion capability
- 3.5-inch type** color LCD viewfinder
- HD-SDI output, down-converted SD-SDI output, i.LINK (HDV stream) input/output, analog composite/component output and USB interface (USB 2.0)
- Built-in gen-lock input, timecode input/output and remote control interface for multi-camera operation

*Requires lens mount adaptor

**Viewable area measured diagonally.

PMW-EX30 Deck Features



- Highly compact design – can be placed either horizontally or vertically
- Built-in 3.5-inch type* LCD monitor
- Wide choice of recording formats – 1080P, 1080i, and 720P, including native 23.98P** mode
- Comprehensive range of HD interfaces – HD-SDI input/output, i.LINK (HDV) input/output and component output
- Down-converted SD outputs for migration to SD environments – SD-SDI, i.LINK (DVCAM), component, S-Video and composite
- HDMI output for digital connection to a range of consumer displays
- Adjustable audio input volume (CH1 and CH2)

*Viewable area measured diagonally.

**Native 23.98p input/output via HDSDI will be available on the PMW-EX30 with future software upgrades.

Application Software

PDZ-1

The PDZ-1 software is a simple-to-use PC application that allows users to easily browse and storyboard video clips recorded by an XDCAM system. It runs on Windows®-based PCs and supports three types of interface: i.LINK (File Access Mode), Ethernet and USB*.

Once Proxy Data recorded on Professional Disc media is transferred to a PC with the PDZ-1 software installed, users can conveniently view and storyboard recorded footage right on the PC.

*For PDW-U1 only.

Features

- Supported interface: i.LINK (File Access Mode), Ethernet, and USB (only for connection with the PDW-U1)
- High-speed ingestion of Proxy Data from the XDCAM devices
- Browsing of Proxy Data recorded by the XDCAM systems (including those recorded by the SD version of the XDCAM system)
- Simple and quick cuts-only editing (storyboarding)* with the following functions;
 - Preview a result of the storyboard on the PC
 - Save the results as a Clip List (XDCAM EDL)
 - Convert the Proxy Data on the storyboard to an ASF file for replay on Windows Media Player® software
 - Export the Clip List in AAF, BVE-9100, NewsBase™ XML, and ALE (Avid Log Exchange) formats
 - Transfer high-resolution clips according to the Clip List
- Disc copy – entire disc (all clips) or only selected clips

*The video and audio of a clip cannot be edited independently.



PDZK-P1 XDCAM Transfer for Apple Final Cut Pro Nonlinear Editing Systems



PDZK-P1 XDCAM Transfer is a plug-in application software for Apple Final Cut Pro® nonlinear editing systems that provides support for MXF files recorded by the XDCAM systems and MP4 files recorded by XDCAM EX systems. With this software installed, XDCAM devices can be mounted on Mac Finder® via a FireWire®/i.LINK connection, and users can seamlessly import, edit, and export recorded material.

Clip Browser Version 2 Future Release



The Clip Browser software for the XDCAM EX products is a simple-to-use PC application software that allows users to easily browse and copy video clips recorded by the XDCAM EX camcorder or deck to other devices such as hard disk drives. It also serves as a bridge tool between a variety of formats – converting XDCAM EX clips to be other file formats. The Clip Browser software is available for both Windows - based PCs and Macintosh computers.

Features

- Browsing of video clips recorded by the XDCAM EX products
- Copy XDCAM EX's clip files from the SxS PRO memory card to hard disk drive
- Combine segmented clips recorded across two SxS PRO memory cards
- File format conversion from MP4 to other file formats:
 - > MXF format for export to XDCAM HD discs or MXF-based nonlinear editing systems* (option)
 - > DV format for export to DV-based nonlinear editing systems
 - > AAF format for export to Avid nonlinear editing systems
 - > H.264/AVC format for field viewing on Sony PSP™, Apple iPod®/iPhone® as well as WMV format* (option)
- Create sub clips with Mark IN/OUT operation

*Requires an optional plug-in software supplied from MainConcept AG.
(<http://www.mainconcept.com/plugin4clipbrowser>)



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