



## **Sony XDCAM HD 422 Firmware Version 1.5 Overview**

Since its introduction in 2003,, the Sony XDCAM system has revolutionised video production. The combination of file-based operation, optical recording and Sony's industry-leading camcorder technology has opened up new ways of working to broadcast and production facilities around the world.

With fast file-based operations and outstanding picture quality, the XDCAM HD422 line up provides invaluable tools for applications such as news gathering, where speed is a key concern, and for production of TV dramas, documentaries and mainstream entertainment programmes, where a high-quality impression is crucial.

We are proud to now offer our customers new features and benefits with the release of Version 1.5 Firmware for the PDW-700 camcorder and PDW-HD1500 deck.

This release brings additional features to the camcorder such as Proxy Recording on USB Memory, ALAC (Automatic Lens Aberration Compensation), Mixed Format Recording Mode, Continuous Clip Recording and 23.98P Option (chargeable).

The deck also benefits from the introduction of 23.98P Option (chargeable), upload files via FTP without an external PC, FTP / FAM speed to General and Userdata folders improved performance, and new Clip Filtering feature to name a few.

Please follow the installation instructions very carefully, paying particular attention to compatibility issues with other XDCAM equipment and XDCAM supporting software.

# Table of Contents

Feature Summary .....	3
New Features for the PDW-700 XDCAM HD 422 Camcorder.....	3
New Features for the PDW-HD1500 XDCAM HD 422 Deck .....	4
Version 1.5 Update Notes.....	5
Introduction .....	5
Before Applying the Version 1.5 Firmware Update.....	5
A Note for PDW-U1 Users.....	5
New Windows and Mac Software For Version 1.5 Machines .....	6
Using Version 1.5 Discs in Earlier XDCAM Models .....	7
“Clip Folder”, “General Folder”, and “UserData Folder” Capability	
Comparison and Usage Notes.....	8
“Mixed Format Recording” Capability Comparison and Usage Notes.....	9

## Feature Summary

### ***New Features for the PDW-700 XDCAM HD 422 Camcorder***

Each feature is described on the indicated page in the PDW-700 Operation Manual (1<sup>st</sup> Edition, Revision 3)

- 23.98p and additional SD formats can be supported with installable options (p. 12 – Multi-format Support)
- ALAC (Automatic Lens Aberration Compensation) (p. 183)
- ATW (Auto Tracing White Balance) Hold (p. 64)
- Clip Continuous Recording (p. 95)
- Single Clip Playback (p. 84)
- Clip Filtering (p. 120)
- Mixed Format Recording Mode (p. 58)
- Upload files via FTP without an external PC (Direct FTP) (p. 141)
- Multi-national Support (for Clip/Disc Names and Title2 in Chinese and Korean)
- Proxy Recording on USB Memory (p. 104)
- Planning Metadata FTP support (p. 100)
- Metadata Transfer via a MPEG transport stream (when used with HDCA-702 adapter upgrade to v1.1 firmware)
- Recording can be triggered over i.LINK connection with HDCA-702 connected via 50-pin connection
- Fan Motor Slow Down Mode (p. 182)

## ***New Features for the PDW-HD1500 XDCAM HD 422 Deck***

Each feature is described on the indicated page in the PDW-HD1500 Operation Manual (1<sup>st</sup> Edition, Revision 3)

- 23.98p and additional SD formats can be supported with installable options (p. 12 – Recording and Playback functions)
- Clip Continuous Recording (p. 57)
- Single Clip Playback (p. 62)
- Clip Filtering (p. 78)
- Mixed Format Recording Mode (p. 54)
- Upload files via FTP without an external PC (Direct FTP) (p. 97)
- Multi-national Support (for Clip/Disc Names and Title2 in Chinese and Korean)
- Planning Metadata FTP support (p. 151)
- Manual Frame Sync (p. 65)
- SD Closed Caption data (EIA-608) on SD-SDI input converted to (EIA-708) during HD up-conversion and recorded to XDCAM disc
- FTP / FAM read and write speed to General and Userdata folders improved from v1.2.

# Version 1.5 Update Notes

## ***Introduction***

This version 1.5 update provides many new features for the PDW-700 camcorder and PDW-HD1500 deck. It also provides enhancements to the XDCAM format file system for using XDCAM discs to archive video and other file types: Mixed Format Recording and the Userdata folder.

These file system enhancements require that you also upgrade your other XDCAM equipment (i.e. standard definition XDCAM and the 4:2:0 XDCAM HD products) to a required minimum firmware version, so discs which take advantage of these new file system enhancements are appropriately handled by the earlier XDCAM models.

Discs *formatted* by the XDCAM HD 422 machines running version 1.5 firmware will be referred in this document as “version 1.5 discs”.

## ***Before Applying the Version 1.5 Firmware Update***

Before upgrading your PDW-HD1500 or PDW-700, please check to see if your machine is running firmware version 1.2x. Do NOT apply the version 1.5 firmware update if your XDCAM machine is not at version 1.2x. Applying version 1.5 on an XDCAM machine lower than this version may disable it. Please contact your Sony Service Team or your dealer for guidance.

## ***A Note for PDW-U1 Users***

**The corresponding upgrade (version 2.20) for the PDW-U1 XDCAM Drive which provides compatibility with the version 1.5 must be installed on the computer you wish to view or ingest V1.5 XDCAM content. VFAM 2.20 supports read or write 23.98p 50 Mbps XDCAM 422 MXF files, version 1.5 discs with files stored in the Userdata folder, and version 1.5 discs written with the “mixed format recording” enabled.**

Specifically, the PDW-U1 version 2.20 release provides support for the following features:

- 50 Mbps XDCAM HD 422, 23.98p MXF file reading/writing support
- Reading and Writing to the Userdata folder
- Discs created by version 1.5 with Mixed Format Recording feature enabled

“Memory Stick”, “i.LINK”, and “XDCAM” are trademarks of Sony Corporation  
“Microsoft” is a registered trademark and “Windows” is a trademark of Microsoft Corporation  
“Apple”, “Final Cut Pro”, and, “Mac OS” are registered trademarks of Apple Computer, Inc.

## ***New Windows and Mac Software for Version 1.5 Machines***

It is critical that the following new software and drivers be used in conjunction with the XDCAM HD 422 version 1.5 machines. Using older versions of drivers may prevent applications from properly reading the version 1.5 discs and recognizing the 50 Mbps XDCAM HD 422 clips recorded at 23.98p.

The following new applications are available for download from [www.sonybiz.net](http://www.sonybiz.net)

### 32-bit Windows XP SP3 and Vista Business and Ultimate Editions

PDZ-1 Proxy Browsing Software version 2.6 / FAM driver version 2.2  
PDZ-VX10 Sony XDCAM Viewer version 2.30

### Mac OS X

PDZK-P1 XDCAM Transfer version 2.10  
This installer will also load an updated FAM driver for Mac OS X

## Using Version 1.5 Discs in Earlier XDCAM Models

In a facility which has a mixture of earlier XDCAM SD and XDCAM HD (4:2:0, 1440x1080) models and will be used with version 1.5 discs, please make sure all machines are running the following minimum firmware versions listed below.

This is important to make sure that the earlier decks are able to correctly detect discs formatted by version 1.5 machines and appropriately handle discs which are written with the version 1.5 “mixed format recording” function enabled.

### Standard Definition XDCAM machines: Package Version 1.56

#### Camcorders

PDW-510/530

#### Decks

PDW-1500

PDW-R1

PDW-V1

PDW-D1 XDCAM Drive

### XDCAM HD (4:2:0) machines: Package Version 1.56 or higher

Note: The current package version 1.9x is highly recommended

#### Camcorders

PDW-F350

PDW-F355

#### Decks

PDW-F70

PDW-F75

PDW-F30

### PDW-U1 XDCAM Drive

Please use upgrade to v2.20

## **“Clip Folder”, “General Folder”, and “UserData Folder” Capability Comparison and Usage Notes**

The “Clip” and “General” folders have been part of the XDCAM format definition from the initial introduction of the optical XDCAM products.

The General folder is a 500 MB area on the disc which can be used to store any files on the XDCAM disc without impacting video / audio recording capacity. The Clip and General folders are created when the disc is formatted in any optical XDCAM machine.

The Clip folder is used to hold all of the high resolution MXF files which are shot / recorded by an optical disc based, XDCAM product. MXF files stored in the Clip folder can be played back by the XDCAM disc camcorder or deck.

Prior to the introduction of “Mixed Format Recording” feature, only certain combinations of files (i.e. SD, HD, 1080i, 720p) are permitted to be mixed together in the Clip folder on the same disc.

The “UserData” folder was introduced in the XDCAM HD 422 products (i.e. PDW-700 and PDW-HD1500) running version 1.2x firmware.

The UserData folder enables users to store any files (i.e. graphics or XDCAM EX format SxS card images) on the XDCAM disc and use nearly the full capacity of the XDCAM disc (i.e. approximately 21 GB on a 23 GB PFD-23 disc and approximately 46.4 GB on a 50 GB PFD-50 disc).

Naturally, this capability also means that these files reduce the video/audio recording time. However, files in the UserData folder cannot be directly played back by the XDCAM disc machine.

## **“Mixed Format Recording” Capability and Usage Notes**

Version 1.5 firmware for the XDCAM HD 422 machines introduces a new XDCAM format file system functionality called “Mixed Format Recording.” This feature enables PDW-700 and PDW-HD1500 operators to consolidate a greater diversity of MXF files which can be created by the optical XDCAM products into the Clip folder of a single disc.

This feature is designed to be used when the operator needs to force the maximum number of files on the disc for file based ingesting or archiving. The main premise is to store as many files in the Clip folder which can be played back directly by the deck or camcorder to identify content, but not for seamless, on air playback. Other files will be stored in the UserData folder (and must be played back by a software application)

By default, this function is disabled in the menu so XDCAM discs created by the version 1.5 XDCAM machines will follow the same file writing restrictions as the earlier XDCAM model and the resulting discs will have the highest backward compatibility with the earlier XDCAM models.

When mixed format recording is enabled (and a disc is created with a mixture of files which are not normally allowed together), these discs will not be accepted by the earlier XDCAM models.

An early XDCAM model running the recommended minimum firmware version described a previous section will display the following message when a Mixed Format disc is inserted:

**“No Support – Format not supported. Recording and Playback is not possible.”**

This disc will need to be read by a XDCAM HD 422 machine running version 1.5 firmware (and eventually the PDW-U1 with version 2.20 software).