

Sony XDCAM Workflow

Using Avid Media Access (AMA)

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1 – Introduction

XDCAM® HD Overview

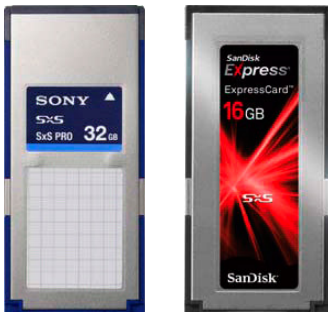


Sony's XDCAM HD format is based on optical media, Sony's Professional Disc™ system.

Sony's XDCAM HD format cameras and decks may also operate as VTR replacement units; essentially emulating traditional linear-based workflows.

Sony XDCAM HD records high-resolution MPEG-2 Long-GOP files, using the standardized Material Exchange Format container, otherwise known as MXF. A low-resolution MPEG-4 video stream for proxy-based video editing is also created simultaneously with the high resolution content during recording.

XDCAM EX Overview



The Sony XDCAM EX format provides another tapeless format for HD video acquisition and storage. XDCAM EX format is a cost-effective addition to the XDCAM HD family.

The primary difference between XDCAM HD and XDCAM EX is the recording medium. Rather than using the Sony Professional Disc media for recording video, XDCAM EX uses solid state SxS PRO™ removable media, based on the latest ExpressCard® technology, the successor to the older CardBus® PC card technology. Both ExpressCard and CardBus are PCMCIA standards. With the proper drivers installed, SxS media may be read by any Macintosh or PC fitted with an internal ExpressCard slot or externally-connected reader.

You can also use the camera as a reader by connecting it through the USB port. However, unlike XDCAM HD, XDCAM EX devices are only capable of being accessed via file-based methods. They do not support VTR emulation. The PMW-EX1 and PMW-EX3 camcorders have an HDSDI output that can be used in a manual control mode.

Avid Media Access Overview

Avid Media Access, or AMA, is a plug-in architecture that allows the user to link clips from a third-party volume into a bin without storing the media directly on the Avid system. AMA uses plug-ins to support various media formats directly. These plug-ins are supplied by the format owners after Avid has added support for the codec to the editing system.

Each time a storage device is connected to the Avid editing system, it will be scanned to see if it contains media supported by one of these plug-ins. If it does, and if AMA is active, a new bin is created automatically and the bin will populate with clips that link to the original high resolution media on the media device. The user can then begin viewing, editing and consolidating immediately.

The AMA feature is only available in the following versions of Avid software:

- Media Composer® 3.5 and later

- Symphony 3.5™ and later

- NewsCutter 7.5® and later

2 – Configuring AMA

Enabling AMA in Avid

Note: AMA, by default, is enabled in Avid. In the event that AMA is disabled, follow this procedure to enable the feature.

- 1– Create a new project in Avid.
- 2– Navigate to the Settings tab in the Project Window.
- 3– Double-click on AMA to open the AMA Settings dialog box.
- 4– Click on the Volume mounting tab.
- 5– Place a checkmark in the **Enable AMA Volume Management** checkbox. The **Always mount volume** option is used to automatically scan drives (volumes) every time they are connected.
- 6– Restart Avid.
- 7– AMA is now enabled.



Note: When AMA is enabled, the Import XDCAM Proxy option in the File menu is disabled.

AMA Bin Setup

- 1– Open the AMA Settings by navigating to the Settings tab and double-clicking on AMA.
- 2– Under the Bins tab, there are settings which take effect every time an XDCAM EX or XDCAM HD device is connected.
 - a. **Use active Bin** — will bring in XDCAM clips into the highlighted bin. When the last highlighted bin is undetermined, a pop-up dialog will ask the user to select the destination bin..



- b. **Create new bin** — creates a new bin every time an AMA volume is connected to the computer.
 - i. **Default bin** — uses the project name for the bin
 - ii. **Volume name** — uses the name or label of the volume
 - iii. **Specify bin name** — a user-specified name for each new bin

Note: The “Display imported headframe” and “Display editor headframe” options are not used for XDCAM HD content. For XDCAM EX content, the “Display imported headframe” is used to display the index picture of the clip in the bin and in the timeline rather than the first frame of the clip. To display the first frame of the clip in the bin and the timeline select the option to “Display editor headframe” from the AMA Settings dialog.

3 – Using AMA

XDCAM EX Format

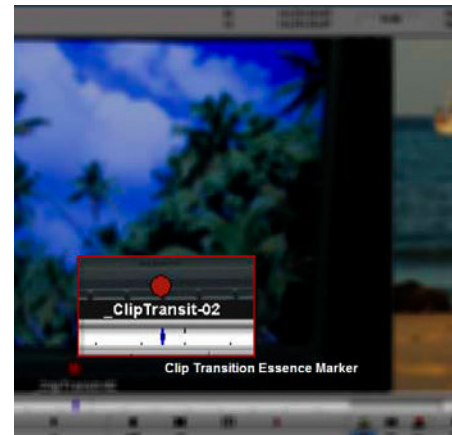
- 1- Connect the device to the editing computer via the USB 2.0 connection or the PCI Express Slot on the computer.
- 2- If required, select Execute to enable communication with Avid.

Note: Spanned clips may be created when clips on the SxS media are larger than 4GB. At that point, two separate files are created on the same SxS card. Spanned clips may also be created if, for example, Card A and Card B contain a spanned clip that started recording on Card A and ended recording on Card B. When imported into Avid, the two files are seamlessly merged together to create a single clip which resides in the project bin.

Suggested Workflow

- 1- Import Card A.
- 2- Import Card B.
- 3- A clip with the entire portion of the spanned clip will be placed in the AMA created bin.

Name	ape	Video	TapeID	CreationDate	manufacturer
345_002		XDCAM EX 35Mbit/s (1080i/60)		2005-12-31T05:42:17-05:00	Sony
345_002		XDCAM EX 35Mbit/s (1080i/60)		2005-12-31T05:36:45-05:00	Sony
345_002		XDCAM EX 35Mbit/s (1080i/60)		2005-12-31T05:27:30-05:00	Sony
345_002		XDCAM EX 35Mbit/s (1080i/60)		2005-12-31T05:21:21-05:00	Sony
345_002		XDCAM EX 35Mbit/s (1080i/60)		2005-12-31T05:17:29-05:00	Sony
345_002		XDCAM EX 35Mbit/s (1080i/60)		2005-12-31T05:11:06-05:00	Sony
345_001		XDCAM EX 35Mbit/s (1080i/60)		2005-12-31T05:08:56-05:00	Sony
345_001		XDCAM EX 35Mbit/s (1080i/60)		2005-12-31T04:56:45-05:00	Sony
345_001		XDCAM EX 35Mbit/s (1080i/60)		2005-12-31T04:50:38-05:00	Sony
345_001		XDCAM EX 35Mbit/s (1080i/60)		2005-12-31T04:44:30-05:00	Sony
345_001		XDCAM EX 35Mbit/s (1080i/60)		2005-12-31T04:37:22-05:00	Sony
345_001		XDCAM EX 35Mbit/s (1080i/60)		2005-12-31T04:32:41-05:00	Sony
345_001		XDCAM EX 35Mbit/s (1080i/60)		2005-12-31T04:31:13-05:00	Sony
345_000		XDCAM EX 35Mbit/s (1080i/60)		2005-12-31T04:27:01-05:00	Sony
345_000		XDCAM EX 35Mbit/s (1080i/60)		2005-12-31T04:24:09-05:00	Sony
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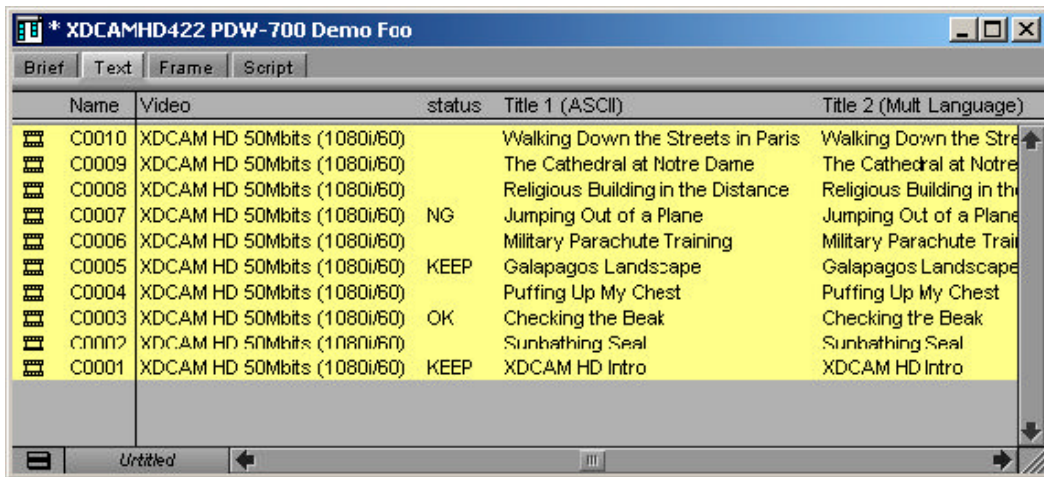
Warning: If a user removes either one of the cards, that missing portion will now display Media Offline when loaded in the Source Viewer. The merged clip Name will be displayed in the bin as the name of the folder on Card A. The newly created spanned clip can be easily identified by the *_ClipTransit* Essence marker that is placed at the point where the files were merged together.

XDCAM HD Format

- 1- Connect the device via IEEE 1394 (i.LINK®/FireWire®) connection to the computer.
- 2- Ensure that the device displays **PC REMOTE** on its screen.

If AMA has been configured for automatic Volume Mounting, Avid will automatically recognize the newly mounted media device and search for supported media. When the media is found, clips will be imported into the bin specified by the user under the Bin tab in AMA settings no matter what the project format is and the clip formats are. There is no proxy support in the AMA workflow.

*i.LINK is a trademark of Sony Corporation used only to designate that a product contains an IEEE 1394 connector. Not all products with an i.LINK connector will necessarily communicate with each other. For information on compatibility, operating conditions and proper connection, please refer to the documentation supplied with any device with an i.LINK connector. For information on devices that include an i.LINK connection, please contact your nearest Sony office or authorized dealer.



The clips in the bin will be highlighted in yellow, indicating that they reference media on removable storage.

Note: If the media device is disconnected from the Avid editing system, any media that has not been consolidated will go offline.

Manual Import

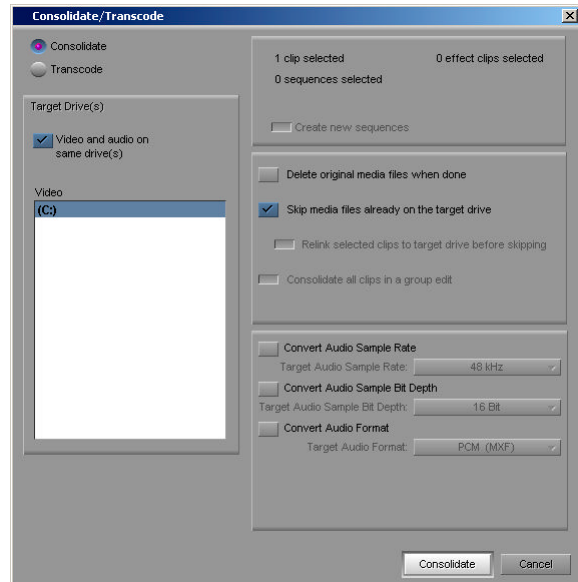
To manually import XDCAM clips into Avid via AMA, the clips must be in the same structure as they were created on the XDCAM device. (Note: MP4 files created by the XDCAM EX devices cannot be individually imported.)

- 1- Navigate to File → **Link to AMA Volume**. This will give a Browse dialog.
- 2- For XDCAM EX footage, select the folder or drive letter above the BPAV folder for the import to work. (If the BPAV folder or any folders below that are selected, the import will not work.) For XDCAM Optical Disc footage, select the folder or drive letter corresponding to the XDCAM device.
- 3- Click **OK**.

Method 1: Clip Ingest

Note: Clips imported through the **Link to AMA Volume** option or through a direct connection using the XDCAM device will only reference the clips on the XDCAM device or at the drive location. To import the material into Avid, use the **Consolidate/Transcode** option. This will cause the video/audio files to be written to Avid's media drives. Then the material will no longer reference the XDCAM device or the clips on the AMA Volume.

- 1- Select the clip on the AMA volume that is to be imported to the project.
- 2- Go to Clip → **Consolidate/Transcode**.
- 3- Select the appropriate preferences in the Consolidate/Transcode dialog box.
- 4- Click **OK**.



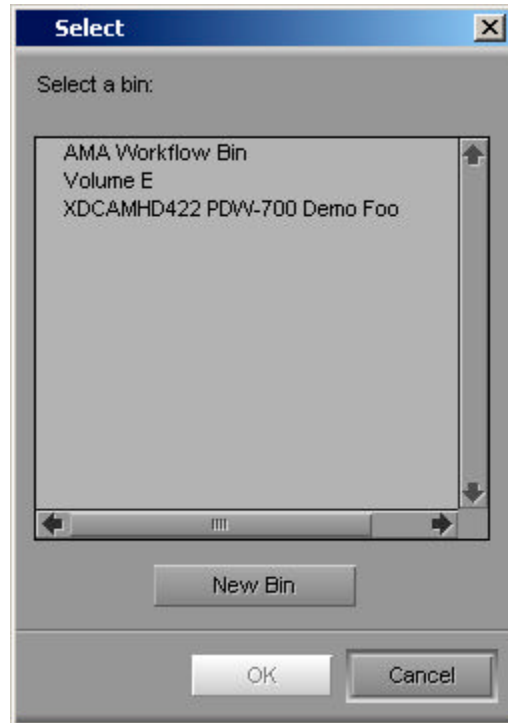
The selected clips will now be ingested to the Avid storage location of the user's choice.

Method 2: Partial Clip Ingest



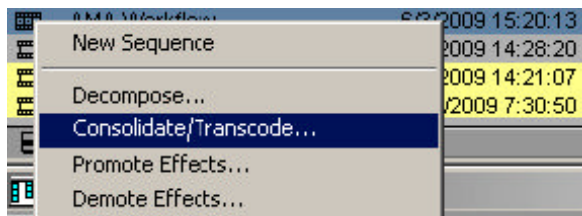
- 1- From the AMA created bin, double-click on a clip to be used in the sequence. The clip should now be loaded in the Avid Preview window.
- 2- Search through the clip to find the footage to be used.
- 3- Set In and Out points to set the duration of the footage to be used in the sequence.
- 4- Once the In and Out points have been set, insert the footage in the sequence.

- 5- A Bin Selection Dialog box may appear when multiple bins are open and a user performs a source record when no sequence is open.



- 6- Select the project bin as the destination for the newly created sequence.
- 7- Click **OK**.

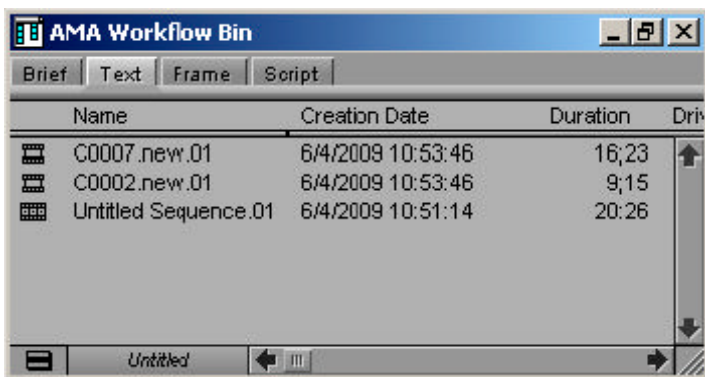
- 8- Once the sequence has been created, right-click on the sequence in the Project bin and select Consolidate/Transcode.



- 9- Select the appropriate preferences in the Consolidate/Transcode dialog box.

- 10- Click **OK**.

When a sequence is consolidated a user will have the option to set the handle length of the resulting clips. So, it is possible to have more media than what was represented on the timeline. A user can also consolidate a sequence that contains in and out point. The result is that only the material on the timeline.



4 - Extended Metadata Support

PDZ-1 is the XDCAM AV proxy browsing software which allows users to create metadata about the footage on the XDCAM Optical disc. This metadata greatly enhances the media management process and is entered prior to being ingested into the Avid editing system. The AMA feature now supports more of the metadata created by the PDZ-1 application. Supported metadata now also includes Clip Name, Title 1, Title 2, Comments/Description, Sony Status flags (NONE, OK, NG, KP)(supported by PDW-700 and PDW-F800 camcorders), and Essence Marks®, which appear as locators on the clip.



Name	Video	status	Title 1 (ASCII)	Title 2 (Multi Language)	Description
C0010	XDCAM HD 50Mbps (1080i/60)		Walking Down the Streets in Paris	Walking Down the Streets in Paris	
C0009	XDCAM HD 50Mbps (1080i/60)		The Cathedral at Notre Dame	The Cathedral at Notre Darre	Shots of the famcus cathedr
C0008	XDCAM HD 50Mbps (1080i/60)		Religious Building in the Distance	Religious Building in the Disance	A shot of a religious monume
C0007	XDCAM HD 50Mbps (1080i/60)	NG	Jumping Out of a Plane	Jumping Out of a Plane	Shot of a soldier jumping out
C0006	XDCAM HD 50Mbps (1080i/60)		Military Parachute Training	Military Parachute Training	Special Operation Command
C0005	XDCAM HD 50Mbps (1080i/60)	KEEP	Galapagos Landscape	Galapagos Landscape	Landscape shot of the Coast
C0004	XDCAM HD 50Mbps (1080i/60)		Puffing Up My Chest	Puffing Up My Chest	A bird with a puffed chest p
C0003	XDCAM HD 50Mbps (1080i/60)	OK	Checking the Beak	Checking the Beak	's beeks.
C0002	XDCAM HD 50Mbps (1080i/60)		Sunbathing Seal	Sunbathing Seal	A seal bathing in the sun in t
C0001	XDCAM HD 50Mbps (1080i/60)	KEEP	XDCAM HC Intro	XDCAM HD Intro	XDCAM HD Logo with XDCAM

Metadata about clips located in the AMA volume can be seen by scrolling through the columns in the AMA created bin.

Note: For all column headings to appear, the user must enable them in the Columns View Settings.

XDCAM Workflow Using Avid Media Access (AMA)

With PDZ-1, users can also:

- Create simple storyboards and trim clips
- Generate XDCAM EDL (Clip List) for 'write-back' to the XDCAM Optical disc
- Export EDLs and ALE (Avid Log Exchange) formats
- Transfer Proxy AV Data from XDCAM products over an Ethernet network