

# Adobe® Premiere® Pro CS4

## Using Adobe Premiere Pro with Sony XDCAM content

Adobe Premiere Pro CS4 software provides native support for Sony XDCAM, XDCAM EX, and XDCAM HD cameras and content with no transcoding, smooth importing, and strong metadata support, real-time editing, and flexible delivery options. This document describes the workflow benefits of using Adobe Premiere Pro with Sony XDCAM content.

The new generation of video cameras records to optical and solid-state media instead of videotape. When integrated with a nonlinear editing system that natively and transparently supports the cameras' media, the user can experience a complete and efficient video production and post-production workflow.

The Sony XDCAM family of professional cameras and decks records standard and high-definition video to optical disc and flash memory. Disc-based XDCAM cameras use half-inch or two-thirds-inch CCD imaging chips to record to high-capacity, blue laser Professional Disc media. Solid-state XDCAM EX camcorders use half-inch CMOS imaging chips to record high-definition video to solid-state SxS memory cards. Although different XDCAM cameras record to different media and formats, all XDCAM cameras and decks share core benefits: high-quality images, random-access media with long record times, and fast transfer rates.

Adobe Premiere Pro leverages these XDCAM benefits to accelerate post-production, replacing real-time tape capture with faster-than-real-time file import and robust metadata support, while preserving image quality through native support for XDCAM content.

### Advantages of using Adobe Premiere Pro

Adobe Premiere Pro provides multiple benefits that make working with XDCAM media easier and more efficient.

#### Native editing

By working with XDCAM content in its original form, Adobe Premiere Pro helps avoid image-degrading and time-consuming file transcoding. After rapid import of XDCAM content, editors can immediately start working using the complete and robust Adobe Premiere Pro toolset.

#### Broad XDCAM format support

Adobe Premiere Pro directly supports a broad range of XDCAM, XDCAM HD, and XDCAM EX content, from standard-definition DVCAM to high-definition 1080p MPEG-2. Adobe Premiere Pro supports all common XDCAM permutations and many less-common permutations. (See "XDCAM format overview" on page 7 for details about XDCAM formats and Adobe Premiere Pro support.)

#### Easy importing and robust metadata support

The Media Browser in Adobe Premiere Pro lets you easily browse and find XDCAM footage on optical discs, memory cards, and hard disks. The footage, with the associated metadata, can then easily and quickly be imported in a single step directly into Adobe Premiere Pro projects, with the metadata tracked through post-production and delivery. For fast turnaround projects, you can edit XDCAM media in the Adobe Premiere Pro timeline while the media is still on a Professional Disc or on SxS cards.



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*“Anyone who wants to create projects with unprecedented mobility, speed, ease, and outstanding picture quality should be looking at the combination of Adobe Premiere Pro and Sony XDCAM EX.”*

Jeff Patrick  
Owner, Current Communications, LLC

### Mixed formats in the timeline

Adobe Premiere Pro users can create content from a wide range of sources without complex format conversions. In the timeline, editors can freely mix all supported formats. For example, a single sequence could hold XDCAM EX, HDV, DVCPRO HD, RED R3D and other formats. Most mixed-format timelines can be edited in real time, with the formats that don't match the current sequence settings only requiring rendering before final output.

### Wide variety of output options

Adobe Premiere Pro software lets users distribute their content to the widest possible audience. XDCAM content can be output to all of the format options available in Adobe Premiere Pro and in Adobe Encore® software, which is included with Adobe Premiere Pro. Options include DVD, Blu-ray Disc, SWF files for web-version DVDs, HDV, DVCPRO HD, QuickTime, FLV (video for Adobe Flash® Player software), mobile devices, and more.

### Editing workflow

Adobe Premiere Pro software provides a straightforward, flexible, and comprehensive means of editing and delivering content created on Sony XDCAM cameras. Once XDCAM content is in Adobe Premiere Pro, you can edit it with the same ease and power that Adobe Premiere Pro delivers for all compatible video content.

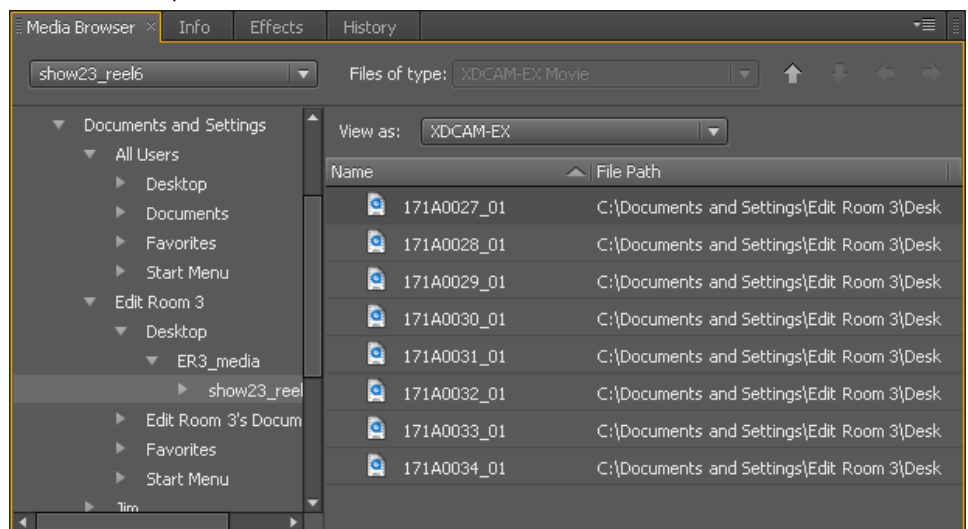
### Select a project preset

Adobe Premiere Pro provides a unique project preset for each supported XDCAM format, for example, XDCAM EX 1080 24p (HQ). The project preset helps ensure that the output render settings match the source content, and that the content appears in the Adobe Premiere Pro timeline without a red render bar above it. A red bar indicates content that does not match the current project settings and must be rendered before final output. Note that most content that does not match current project settings (for example, DVCPRO HD content in an XDCAM project) can still be edited in real time with Adobe Premiere Pro.

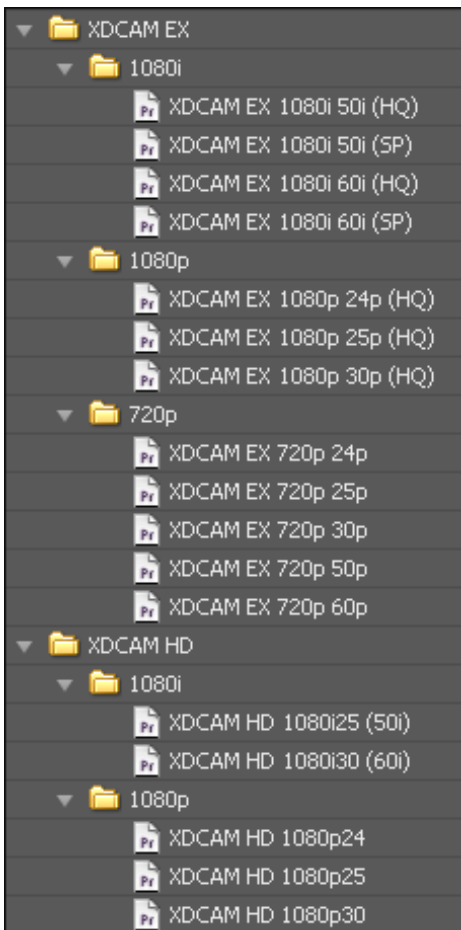
### Import clips

Although you can import XDCAM media through the standard File Import dialog box, Adobe Premiere Pro CS4 provides an easier and better means of finding and importing XDCAM and all other content into Adobe Premiere Pro projects.

The Media Browser gives users quick access to their hard drives and other storage media while they edit. Unlike the File Import dialog box, the Media Browser can be left open and docked like any other panel in Adobe Premiere Pro. You can import clips from hard disks and also directly from XDCAM HD discs and XDCAM EX cards.



The Media Browser, new in Adobe Premiere Pro CS4, makes it easy to browse, find, and import files on hard drives and removable media. Unlike the Import dialog box, the Media Browser can display just the individual clips on XDCAM media, rather than the entire folder hierarchy. The Media Browser can also be left open and docked to other panels, providing quick and constant access to all assets on a system while editing.



Adobe Premiere Pro CS4 software provides project presets—and native support—for 17 XDCAM HD and XDCAM EX format variations.

The Media Browser makes finding XDCAM content simple. Both XDCAM HD and XDCAM EX record high-definition video as 4:2:0 MPEG-2 and audio as uncompressed linear PCM (pulse-code modulation). But each format packages its video and audio in different file wrappers and folder structures, with metadata and media stored across several files. For XDCAM and XDCAM HD, video and audio are combined into MXF files in a Clip folder. In XDCAM EX, each shot is stored as an MP4 file that's placed in its own subfolder along with several metadata files. The individual shot subfolders are grouped within a CLPR folder that itself sits within a BPAV folder.

With the Media Browser, you don't need to navigate through those folders. You simply navigate to a mounted XDCAM disc or card, or to a copy of a disc or card on the editing system's hard drive or RAID system. On both Mac OS and Windows® operating systems, the Media Browser automatically digs through the XDCAM folder hierarchies and displays just the needed video files. Additionally, the Media Browser presents spanned clips (single shots that because of length run to more than one file) as single files. Double-clicking on a clip in the Media Browser lets a user preview it in the Source monitor before importing. The Media Browser lets you focus on the XDCAM content files, not the folders.

To import one or more shots from the Media Browser into Adobe Premiere Pro, select File > Import From Browser, drag the shots from the Media Browser into the Project panel, or drag them directly from the Media Browser into a timeline. Because Adobe Premiere Pro software natively supports XDCAM, you do not need to endure file conversions. As soon as you browse to the files needed, you can use them in projects with virtually no delay.

When users import an asset Adobe Premiere Pro leaves it in its current location, and creates a clip in the Project panel that points to it. For best performance, users can first transfer files from the XDCAM optical or solid-state media to a local hard disk. They then import from the hard disk into a Adobe Premiere Pro project.

XDCAM files can transfer to hard disks faster than real time. Sony XDCAM equipment can transfer from Professional Disc optical media at speeds up to 120Mbps for 23GB single-layer discs, and 172Mbps for 50GB dual-layer discs. Transfers from SxS memory cards approach 800Mbps. Five minutes of high-definition XDCAM content can transfer from a SxS card onto a hard disk in under 20 seconds. Importing XDCAM content already copied to a local hard disk into Adobe Premiere Pro is essentially instantaneous.

Adobe Premiere Pro can also edit XDCAM content directly from SxS cards or Professional Disc optical media without first moving the content to a hard drive. For projects with tight deadlines where every minute counts, this ability frees more time for editing and delivery. But to take full advantage of the real-time editing features of Adobe Premiere Pro, content on optical media should be transferred to an editing system's hard drive or RAID. With the Media Browser, importing XDCAM (and all content) into Adobe Premiere Pro projects is easy and fast.

#### View and add metadata

After an XDCAM file has been imported into an Adobe Premiere Pro Project panel, the file's metadata is converted to Adobe's Extensible Metadata Platform (XMP) information, which is embedded within the file. In the Project panel, you can view files as thumbnails or in spreadsheet-like rows with customizable views of column data, which speeds logging and other asset management tasks.

For example, producers can use keyboard-driven navigation and shortcuts to easily rename clips, add descriptions or logging notes, and enter other information to one or more files. And users can quickly search thousands of assets to find a particular file or group of files that match specific search criteria. The metadata features in Adobe Premiere Pro make media management and organization more efficient.

### **Edit in the timeline**

After the XDCAM clips are imported into an Adobe Premiere Pro project, they can be edited with the same comprehensive Adobe Premiere Pro toolset available to any supported video format.

As with every Adobe Premiere Pro project, content in other formats (for example, HDV, DV, and DVCPRO HD from tape or P2) can be added to XDCAM projects and edited in XDCAM timelines. Adobe Premiere Pro provides flexible tools that let you numerically and visually scale mixed content to match the resolution, aspect ratio, and other aspects of a project's master format.

Most mixed-format timelines play back in real time during editing, with the content that does not match the project's render settings only requiring rendering for final output.

### **Work with Adobe After Effects®**

Adobe After Effects® supports the same XDCAM formats as Adobe Premiere Pro. You can drag and drop or copy and paste clips and timelines between Adobe Premiere Pro and After Effects without transcoding, re-importing, or degrading the native XDCAM content.

### **Deliver virtually everywhere**

XDCAM EX content can be output in a wide range of formats, including tape, DVD, Blu-ray Disc, FLV, QuickTime, mobile devices, and more.

## Example workflows

Tapeless workflows can greatly accelerate post-production, letting editors and producers spend less time capturing and managing content and more time shaping that content into compelling and timely stories. Long-format projects with dozens or hundreds of hours of material can save significant time through efficient file import and metadata support. Just as important are the minutes saved on fast turnaround projects, such as breaking news, where all the source content fits on a single Professional Disc or SxS card, and every minute counts.

Different projects and environments require different workflows, but these two examples describe the key advantages of editing XDCAM content in Adobe Premiere Pro.

### Post-production

Working together, Sony XDCAM and Adobe Premiere Pro can help eliminate time-consuming content capture and streamline asset tracking. The Media Browser helps speed importing both individual files and the entire contents of an XDCAM disc or card into an Adobe Premiere Pro project, with the XDCAM metadata automatically converted into XMP metadata. Each shot appears as a separate clip in the Project panel. The Project panel can display a thumbnail of each clip's content, as well as present editable metadata.

The import and metadata features of Adobe Premiere Pro free users from having to log media before capturing content. Instead, you can quickly log and organize media directly in the Project panel at the time and place that best fits the workflow. Each file's logging and other metadata information is retained as XMP information embedded within the file itself. The information stays with the content through post-production and delivery, accessible by the editor, other Adobe products, and products from other companies that support XMP. The metadata support in Adobe Premiere Pro makes it easier for a producer or editor to annotate, manage, and find media throughout post-production.

The high-speed import of XDCAM into Adobe Premiere Pro also helps a producer or editor on location quickly execute simple and complex edits and color corrections to help ensure that sequences cut together well, that shots from different days match, and that the production team is getting the shots that it needs. When shooting with XDCAM EX, high-speed import means valuable SxS cards get put back to work rather than put into storage.

Because Adobe Premiere Pro imports XDCAM content natively, the initial import captures finishing-quality images. When moving from a rough cut to the finished color-corrected edit, there's no need to recapture media at a higher resolution. Instead, more time is available to improve the story, color, and finish.

When the edit is completed, tools included with Adobe Premiere Pro help simplify delivery to the widest possible audience. For example, Adobe Media Encoder can output content for the web and mobile devices. And Adobe Encore software, included with Adobe Premiere Pro, outputs to Blu-ray Disc and DVD.



Adobe Premiere Pro tools speed XDCAM import, help streamline post-production, and support a variety of delivery options: DVD, Blu-ray Disc, web, mobile devices, and more.

## Adobe TV covers XDCAM

Watch on-demand tips and tutorials about XDCAM workflows on Adobe TV. Go to [tv.adobe.com](http://tv.adobe.com) and search on "XDCAM."

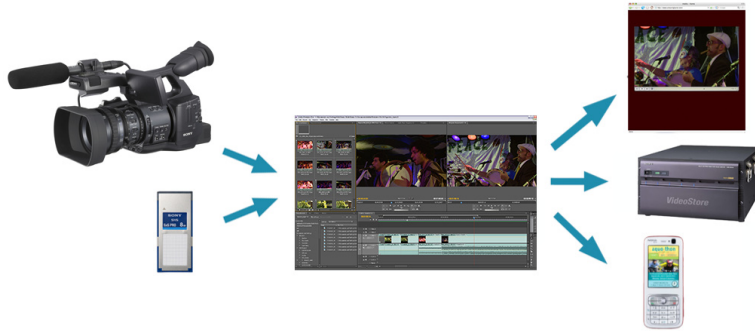
## Direct editing from camera for faster turnaround

Adobe Premiere Pro can edit XDCAM EX content while that content is still on a SxS memory card in an XDCAM EX camera. That ability, together with the real-time editing tools in Adobe Premiere Pro, helps enable a workflow for meeting extremely tight deadlines.

A single SxS card holds from 25 to 140 minutes of high-definition XDCAM EX material, depending on the card size and content bit rate. That is more than enough for the A-roll and B-roll in a short news package, web update, or quick corporate piece.

Through the Media Browser, you can access video files on an SxS memory card that is mounted in an XDCAM EX camera or inserted into a computer's ExpressCard slot. Without transferring files to a hard drive, you can import content into the Project panel, or drag one or several files from the Media Browser directly to an Adobe Premiere timeline. The files remain on the SxS card during editing. Disc-based XDCAM content can also be edited directly from Professional Disc media. File transfer rates from Professional Disc are slower than from SxS cards, so editing performance is restricted. Still, for basic editing with full image quality, this workflow can help a user meet a tight deadline.

All the standard Adobe Premiere Pro organization and editing tools can immediately work with the content. After editing is complete, the project can be output for the web, for mobile devices, or played from the Adobe Premiere Pro timeline to a playout server.



Adobe Premiere Pro can edit XDCAM content while still in the camera and then output to a variety of devices.

## Summary

With native support for XDCAM HD and XDCAM EX content, Adobe Premiere Pro provides rapid file import through the new Media Browser without transcoding, enables robust metadata control, and helps preserve image quality. That native support, together with strong real-time editing tools and comprehensive output options, puts Adobe Premiere Pro at the center of efficient and flexible XDCAM workflows.

## Appendix: XDCAM format overview

### Optical disc recording: XDCAM and XDCAM HD

Both standard-definition XDCAM and high-definition XDCAM HD cameras record to Professional Disc media, 12-cm rewritable optical discs enclosed in dust-resistant cartridges. XDCAM cameras and decks can connect to a computer via an IEEE 1394 (i.LINK) or USB 2.0 cable. Standard-definition XDCAM cameras record DVCAM at 25Mbps and MPEG IMX at 30Mbps, 40Mbps, and 50Mbps. XDCAM HD cameras record 1080-line high-definition MPEG-2 video as MXF files at 18Mbps, 25Mbps, and 35Mbps. IMX and 50Mbps MPEG HD422 are not currently supported in Adobe Premiere Pro CS4. Content in those formats can be played in an XDCAM or XDCAM HD deck with SDI or HD-SDI I/O and imported into Adobe Premiere Pro through a compatible third-party capture card.

### XDCAM HD format details

Recording mode		HQ (high quality)	SP (standard play)	LP (long play)
Bit rate		35Mbps VBR (variable bit rate)	25Mbps CBR (constant bit rate)	18Mbps VBR (variable bit rate)
Video codec		4:2:0 long GOP MPEG-2 MP@HL	4:2:0 long GOP MPEG-2 MP@HL	4:2:0 long GOP MPEG-2 MP@HL
Audio codec		16-bit 48kHz linear PCM (uncompressed)	16-bit 48kHz linear PCM (uncompressed)	16-bit 48kHz linear PCM (uncompressed)
Image resolution		1440x1080	1440x1080	1440x1080
Frame rates		23.98p, 25p, 29.97p, 50i, 59.94i	23.98p, 25p, 29.97p, 50i, 59.94i	23.98p, 25p, 29.97p, 50i, 59.94i
Recording time	23GB disc	Approx. 68 minutes	Approx. 90 minutes	Approx. 122 minutes
	50GB disc	Approx. 150 minutes	Approx. 200 minutes	Approx. 265 minutes

### Solid-state recording: XDCAM EX

XDCAM EX cameras record high-definition MPEG-2 video as MP4 files on solid-state SxS memory cards. SxS cards follow the ExpressCard spec, but use a 800Mbps PCIe bus rather than the slower USB bus found on low-cost ExpressCards. Computers without ExpressCard slots can access SxS cards through a USB 2.0 cable connected to an XDCAM EX camera or through a compatible card reader, such as the Sony SBAC-US10 USB Reader/Writer.

### XDCAM EX format details

Recording mode		HQ (high quality)		SP (standard play)
Bit rate		35Mbps VBR (variable bit rate)		25Mbps CBR (constant bit rate)
Video codec		4:2:0 long GOP MPEG-2 MP@HL		4:2:0 long GOP MPEG-2 MP@H14
Audio codec		16-bit 48kHz linear PCM (uncompressed)		16-bit 48kHz linear PCM (uncompressed)
Image resolution		1920x1080	1280x720	1440x1080
Frame rates	NTSC setting	59.94i 29.97p 23.98p	59.94p 29.97p 23.98p	59.94i 23.98p/59.94i with 3:2 pulldown**
	PAL setting	50i 25p	50p 25p	50i
Recording time	8GB SxS card	Approx. 25 minutes		Approx. 35 minutes
	16GB SxS card	Approx. 50 minutes		Approx. 70 minutes
	32GB SxS card	Approx. 100 minutes		Approx. 140 minutes
Note: Sony XDCAM EX cameras hold two SxS cards.				

**\*\*23.98 SP XDCAM EX is not currently supported in Adobe Premiere Pro CS4.**

### For more information

For more details about Adobe Premiere Pro CS4, visit [www.adobe.com/premiere](http://www.adobe.com/premiere).



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