

Using Adobe® Premiere® Pro CS5 with tapeless Sony XDCAM content



What's included:

- Adobe Premiere Pro CS5
- Adobe OnLocation® CS5
- Adobe Encore® CS5
- Adobe Device Central CS5
- Adobe Bridge CS5
- Adobe Media Encoder CS5

Adobe Premiere Pro CS5 is also available as a component of Adobe Creative Suite® 5 Production Premium and Adobe Creative Suite 5 Master Collection.



Adobe Creative Suite 5 Production Premium combines:

- Adobe Premiere Pro CS5
- Adobe After Effects® CS5
- Adobe Photoshop® CS5 Extended
- Adobe Illustrator® CS5
- Adobe Flash® Catalyst™ CS5
- Adobe Flash CS5 Professional
- Adobe Soundbooth® CS5
- Adobe OnLocation™ CS5
- Adobe Encore CS5

Additional components:

- Adobe Dynamic Link
 - Adobe Bridge CS5
 - Adobe Device Central
- Integrates with new Adobe CS Live online services*.

Adobe Premiere Pro CS5 software provides native support for Sony XDCAM, XDCAM EX, and XDCAM HD (including XDCAM HD 50) 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.

Speed your production workflow with native tapeless support

The new generation of video cameras records to optical and solid-state media instead of videotape. When integrated with Adobe Premiere Pro, which 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 or two-thirds 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 CS5

Adobe Premiere Pro provides multiple benefits that make working with XDCAM media easier and more efficient. When you work with tapeless media in Adobe Premiere Pro, you gain three key advantages.

1. You save time because you're able to start working with footage immediately—sometimes directly from the camera—and thus eliminate the time-consuming transcoding and rewrapping process typically required when you use the same media in Final Cut Pro.

Editing tapeless formats such as XDCAM in Adobe Premiere Pro CS5 is much faster with the new Mercury Playback Engine—the completely redesigned playback engine which delivers dramatic performance and stability improvements. The Mercury Playback Engine is native 64-bit, optimized for OS, multicore, and GPU to provide an amazingly fluid, real-time editing experience.

2. You maintain the pristine image quality of your source footage throughout the production process.
3. Finally, because Adobe Premiere Pro does not convert the file to a proprietary format, all metadata acquired from the camera is retained throughout the production process.

As an Adobe Premiere Pro CS5 user, your XDCAM workflow just got even better with the 5.0.2 compatibility update that includes:

- **XDCAM 4:2:2 timecode**—You can see and work with source timecode from XDCAM 422 media.
- **XDCAM-HD export support**—Now you export to the XDCAM-HD format, increasing your ability to export for various uses and target devices.

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 immediately can start working using the complete and robust Adobe Premiere Pro toolset. Additionally, editors can work with XDCAM content using all the Adobe OnLocation capabilities for on-set logging and clip analysis. Import media directly into OnLocation in the following camera formats, without transcoding or rewrapping: Sony XDCAM, XDCAM HD, XDCAM EX, Panasonic P2, AVCHD, AVC-Intra, and HDV.

Accelerated editing workflows with the new Mercury Playback Engine

Work dramatically faster thanks to the revolutionary native 64-bit, GPU-accelerated Mercury Playback Engine. Open projects faster, scrub through HD and higher resolution footage more fluidly, and play back complex long-format and effects-heavy projects more reliably. With the Mercury Playback Engine, you can put two-hour, multithousand clip projects together as easily as a high-impact trailer:

- Work in real time on complex timelines and long-form projects with thousands of clips — whether your project is SD, HD, 2K, 4K, or beyond
- Open projects faster
- Load and play multithousand clip projects fluidly
- Mix and match formats such as XDCAM, RED, P2, AVCHD, AVC-Intra, and DSLR cameras freely in the timeline without rendering
- Experiment fluidly in realtime with multiple color corrections and effects, and see results in real time even on complex timelines
- Use real-time keying on multiple clips at all resolutions using the new Ultra[®] keyer

Broad XDCAM format support

Adobe Premiere Pro directly supports a broad range of XDCAM, XDCAM HD 50, 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.

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.

Editing tapeless media in Final Cut Pro usually requires you to convert the high-resolution source footage to lower resolution proxy files to make it easier for computers to handle playback. This process requires you to throw out any metadata acquired from the camera, thereby eliminating a way to efficiently manage and locate your media assets. Because Adobe Premiere Pro does not convert the footage to a proxy format, the metadata you acquire, plus that which you added during editing, lets you automatically track crucial details of each clip, such as camera settings, where a clip was shot, who's in it, and whether you have the rights to use it in your project.

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, P2, DSLR cameras 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.

Supported graphics cards for GPU-accelerated performance:

GeForce GTX 285 (Windows and Mac OS)
GeForce GTX 470 (Windows)
Quadro 4000 (Windows)
Quadro 5000 (Windows)
Quadro FX 3800 (Windows)
Quadro FX 4800 (Windows and Mac OS)
Quadro FX 5800 (Windows)
Quadro CX (Windows)

The list of graphics cards that are compatible with Adobe Premiere Pro CS5 is updated on a regular basis. For an up-to-date list of supported cards, visit www.adobe.com/go/64bitsupport.

Real-time effects with GPU acceleration

Adobe Premiere Pro CS5 requires a 64-bit operating system and works hand-in-hand with NVIDIA CUDA technology. The Mercury Playback Engine uses NVIDIA GPU cards to provide a GPU-accelerated 32-bit color pipeline, and most popular effects have been rewritten to run on it—for example, effects like color correction, the new Ultra Keyer, and motion control all run in real time.

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, Adobe Media Encoder, and Adobe Encore software, which is included with Adobe Premiere Pro. Options include DVD, Blu-ray Disc, web versions of DVDs, HDV, DVCPRO HD, QuickTime, FLV (video for Adobe Flash Player software), mobile devices, and more.

Recording and logging workflow

You can use the powerful real-time, onset logging options in Adobe OnLocation CS5 (included with Adobe Premiere Pro) when working with tapeless cameras, even during recording. Adobe OnLocation CS5 lets you add comments and metadata to placeholder clips while they are being recorded elsewhere on a tapeless camera. Then, using a unique system that tracks which clips were recorded while log notes were entered, at import time Adobe OnLocation CS5 merges the logging information with video and audio to create a tapelessly recorded, fully logged piece of media.

Adobe OnLocation also lets you browse contents of tapeless cameras without needing to understand camera file naming conventions with the Media Browser panel in Adobe OnLocation. The panel operates the same way as the one in Adobe Premiere Pro, displaying media clips along with their own metadata—plus Adobe OnLocation specific information such as take number, good rating, and so on.

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

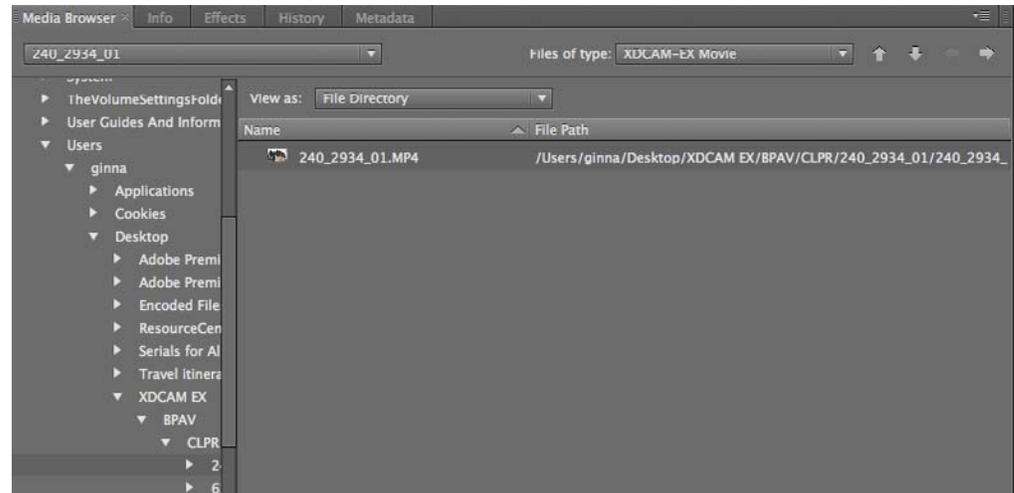
Although you can import XDCAM media through the standard File Import dialog box, Adobe Premiere Pro CS5 provides an easier and better means of finding and importing XDCAM and all other content into Adobe Premiere Pro projects.

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 discs and XDCAM EX cards.

The Media Browser makes finding XDCAM content simple. Both XDCAM HD and XDCAM EX record high-definition video as 4:2:2 or 4:2:0 MPEG-2 and audio as uncompressed linear pulse-code modulation (PCM). 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 resides within a BPAV folder.

The Media Browser in Adobe Premiere Pro displays the complex folder structures of file-based media (such as XDCAM) to give you access to the actual clips within.



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, you can first transfer files from the XDCAM optical or solid-state media to a local hard disk. Then, you can 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 220Mbps. 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. Adobe After Effects projects can be exported as Adobe Premiere Pro projects, maintaining folders as bins, individual edits, markers, keyframed effects, nested sequences, transitions, and more. Open Adobe Premiere Pro projects, including nested sequences, in After Effects. You can also initiate the process of capturing footage in Adobe Premiere Pro CS5 from within After Effects CS5 (in Production Premium only).

Deliver virtually everywhere

Using Adobe Media Encoder and Encore CS5 (both included in Adobe Premiere Pro CS5), XDCAM EX content can be output in a wide range of formats, including tape, DVD, Blu-ray Disc, web DVDs, FLV, QuickTime, mobile devices, and more. The Adobe Premiere Pro Mercury Playback Engine doesn't just deliver blazing performance and a fluid editing experience. By more optimally using your entire system performance, the Mercury Playback Engine also accelerates rendering and encoding too, reducing the time required to deliver content to your clients.

Encore CS5 provides professional and easy-to-use authoring, design, and mastering tools that tightly integrate with Adobe Premiere Pro CS5, Adobe After Effects CS5, and Adobe Photoshop CS5—and Encore delivers to multiple media formats (Blu-ray Disc, DVD, and web versions of DVD projects) in record time.

With Adobe Dynamic Link, you can send sequences directly from Adobe Premiere Pro CS5 to Encore CS5 without rendering first—a real-time saver. When you use Adobe Dynamic Link to open Adobe Premiere Pro sequences "live" in Encore, changes you make in Adobe Premiere Pro are automatically reflected. Plus, Encore also reads chapter markers from the sequence, making it easy to set chapters in Adobe Premiere Pro, see those chapters in Encore, and then update to the latest list with a single click.

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. Adobe Media Encoder can output content for the web and mobile devices, and Adobe Encore outputs to Blu-ray Disc, DVD, and web versions of DVDs.

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 bitrate. 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 Pro 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.

Summary

With native support for XDCAM, XDCAM EX, XDCAM HD 50, and XDCAM HD 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

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); XDCAM drives can connect to a computer via 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 or 720-line high-definition MPEG-2 video as MXF files at 18Mbps, 25Mbps, 35Mbps, and 50Mbps (HD422 cameras only). Content 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. IMX is supported in Adobe Premiere Pro CS5.

50Mbps MPEG HD422 is not fully supported in Adobe Premiere Pro CS5. You can import and playback footage, but timecode information does not come in from the importer.

Recording mode		High quality		Standard play	Long play
Bitrate		50Mbps VBR (variable bitrate)	35Mbps VBR (variable bitrate)	25Mbps CBR (constant bitrate)	18Mbps VBR (variable bitrate)
Video codec		4:2:2 long GOP MPEG-2 422P@HL	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		24-bit 48kHz linear PCM (uncompressed)	16-bit 48kHz linear PCM (uncompressed)	16-bit 48kHz linear PCM (uncompressed)	16-bit 48kHz linear PCM (uncompressed)
Image resolution		1920x1080, 1280x720	1440x1080	1440x1080	1440x1080
Frame rates		23.98p, 25p, 29.97p, 50i, 59.94i (1920x1080), 50p, 59.94p (1280x720)	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. 43 minutes	Approx. 68 minutes	Approx. 90 minutes	Approx. 122 minutes
	50GB disc	Approx. 95 minutes	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 specification, but use an 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.

Recording mode		High Quality		Standard Play
Bitrate		35Mbps VBR (variable bitrate)		25Mbps CBR (constant bitrate)
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

For more information
www.adobe.com/go/premiere



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