

Overview: Working with XDCAM in Vegas Pro 8

Vegas® Pro 8 software provides all the tools you need to edit proxy and full-resolution HD and SD XDCAM MSF files natively, with no transcoding required. Vegas supports all HD and SD XDCAM compression types, all framerates, all aspect ratios, multichannel audio, and essence marks. All proxy and full-resolution XDCAM source file types can be mixed in a single timeline, edited, and transferred back to XDCAM via i.LINK, network FTP, or SDI.

The following sections provide workflows for efficient editing of video from an XDCAM EX camera or an XDCAM/XDCAM HD camera or deck.

XDCAM EX workflow

The following help topic provides a workflow for efficient editing of video from an XDCAM EX camera.

XDCAM EX differs from XDCAM/XDCAM HD in several key areas.

- XDCAM EX cameras record to SxS flash memory rather than optical disc.
- XDCAM EX cameras record full-HD video to MPEG-2 (MP4) format.
- XDCAM EX video is not visible in the XDCAM Explorer window. You must use XDCAM EX Clip Browsing software to convert your .mp4 files to MXF format before adding them to your Vegas project.

When editing XDCAM EX video, you'll edit full-resolution MXF files. Proxies are not available.

1. Shoot your video with your XDCAM EX camera.
2. Transfer your clips from your camera to your computer.
 - a. Install the SxS device driver and XDCAM EX Clip Browsing Software.
 - b. Connect your camera (or card reader) to your computer with a USB cable.
 - c. Your camera will prompt you to **Connect USB Now?** Choose **Execute**.
 - d. In the Clip Browsing Software window, select the clips you want to transfer to your computer.
 - e. From the **File** menu, choose **Export**, and then choose **MXF** from the submenu.
 - f. In the Export to MXF dialog, choose the folder and file name you want to use to save your clips.
 - g. Click **Start**. The clips are converted to MXF format and copied to your computer.
3. Drag your captured clips from the Explorer or Project Media window to the timeline to create events.
4. Edit your project as needed.
5. Render your project for your destination format.

XDCAM and XDCAM HD workflow

You can use MXF files just like any other supported media type. The following sections provide a workflow for efficient editing.

Note: *The XDCAM deck is not available for external monitor or print to tape via iLink® while in file-access mode. Click the **Safely Remove Hardware** icon (🗑️) in the Windows system tray and choose your XDCAM device from the menu to disconnect the device. You can then switch to AV/C mode and reconnect to enable external monitor and print to tape functionality.*

The basic workflow for working with XDCAM is as follows:

1. Set up your XDCAM device.

The first step in working with XDCAM is to set up your computer to communicate with your XDCAM camera or deck. You can use FTP (file transfer protocol) or FAM (file-access mode or i.LINK) to transfer between your computer and device. For specific information on setting up your device and installing any necessary drivers, please see its documentation. Your device must be properly installed and recognized on your computer before it can be used with Vegas.

For information on setting up your device to work with Vegas, please see [Setting up an XDCAM device](#) on page 3.

2. Import video from the XDCAM disc.

Note: *Before you get started importing video into Vegas, ensure the **Enable XDCAM Explorer** check box is selected on the **General** tab of the Preferences dialog.*

Next, you need to transfer video from your XDCAM disc to your computer for editing. Depending on your project and requirements, you can transfer full-resolution files, proxy-resolution files, or both.

For more information, see [Importing XDCAM discs](#) on page 6.

3. Edit the video on the timeline.

Editing XDCAM video is identical to editing DV on the timeline. You can choose whether you want to edit full- or proxy-resolution files on the timeline.

For more information, see [Editing XDCAM Clips on the timeline](#) on page 7.

4. Replace proxy files with full-resolution versions (optional).

If you're using proxy files for timeline editing, replace the clips with full-resolution versions before rendering or exporting back to XDCAM disc.

For more information, see [Replacing proxy-resolution clips with full-resolution media \(conforming media\)](#) on page 9.

5. Export video back to an XDCAM disc.

If you're planning to render your movie to a different format, render just as you would any other project.

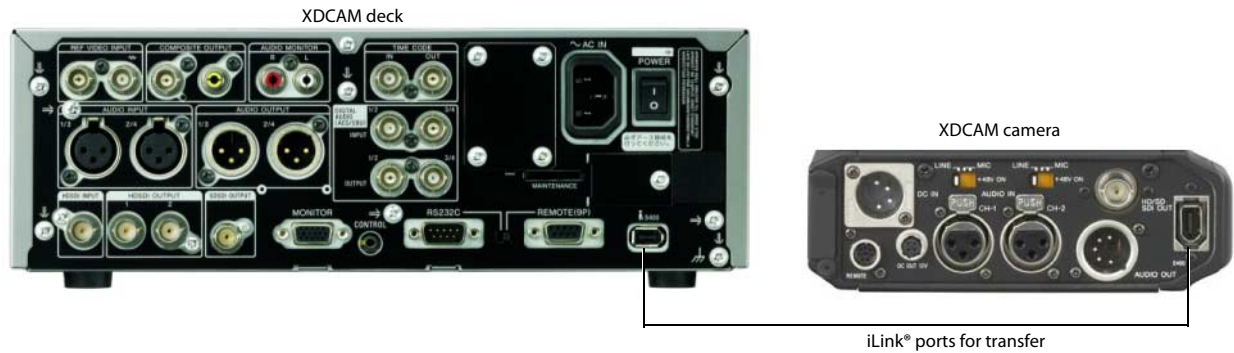
If you want to export your movie to an XDCAM disc, you can either export the current project or export a rendered MXF file.

For more information, see [Exporting video to an XDCAM disc](#) on page 10.

Note: *The XDCAM deck is not available for external monitor or print to tape via iLink® while in file-access mode. Click the **Safely Remove Hardware** icon in the Windows system tray and choose your XDCAM device from the menu to disconnect the device. You can then switch to AV/C mode and reconnect to enable external monitor and print to tape functionality.*

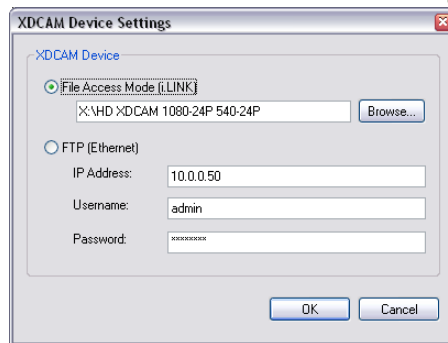
Setting up an XDCAM device

Use the following procedure if you need to set up an XDCAM deck or camera for transferring clips, replacing proxy files with full-resolution clips, or exporting video to an XDCAM device.



Note: The XDCAM deck is not available for external monitor or print to tape via iLink® while in file-access mode. Click the **Safely Remove Hardware** icon (🗑️) in the Windows system tray and choose your XDCAM device from the menu to disconnect the device. You can then switch to AV/C mode and reconnect to enable external monitor and print to tape functionality.

1. Click the **Device** button in the Export Video to XDCAM Disc or Import XDCAM Disc dialog. The XDCAM Device Settings dialog is displayed.
 - To display the Export Video to XDCAM Disc dialog, click the **Export Video to Sony XDCAM Disc** button (📁) in the XDCAM Explorer window.
 - To display the Import XDCAM Disc dialog, click the **Import XDCAM Disc** button (📁) in the XDCAM Explorer window.



2. Choose the XDCAM device where you want to import/export clips.
 - Select the **File Access Mode (i.LINK)** radio button if your XDCAM camera or deck is connected directly to your computer via an IEEE-1394 cable. In this mode, your camera or deck is accessible much like an external drive. Click the **Browse** button and choose the drive letter of the camera or deck.

Note: Choose the drive letter of the camera or deck only; do not navigate into the folders on the disc.

- Select the **FTP (Ethernet)** radio button if your camera or deck is connected to your network. Type the camera or deck's IP address in the **IP Address** box. In the **Username** box, type admin. In the **Password** box, type the device/model number of your camera or deck. For example, if you're exporting clips to a PDW-1500 deck, type PDW-1500.

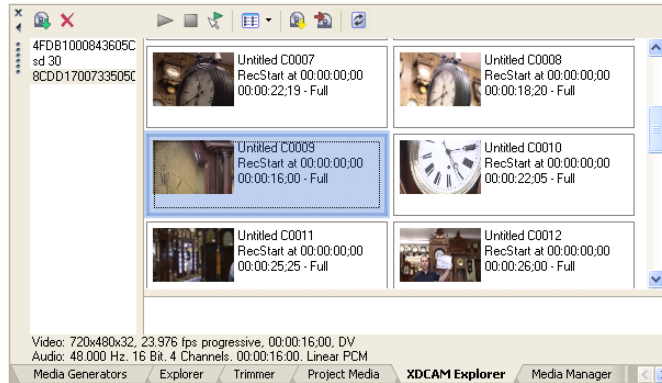
Tip: The XDCAM deck is not available for external monitor or print to tape via iLink® while in file-access mode. Using FTP transfers allows you to export to a remote device and or use the device's i.LINK connection in AV/C mode for external monitor previewing.

3. Click OK.







Note: For information about using your camera or deck, please refer to its documentation.





Using the XDCAM Explorer window

From the **View** menu, choose **XDCAM Explorer** (or press Ctrl+Alt+F5) to display the XDCAM Explorer window, which you can use to locate, import, and export XDCAM clips.



Note: The XDCAM Explorer is not available unless the **Enable XDCAM Explorer** check box on the **General** tab of the **Preferences dialog** is selected. If you're not using the XDCAM Explorer, you may want to turn it off to conserve processing power or memory. When the check box is selected, the XDCAM Explorer window will start when you start Vegas® software.

Item	Name	Description
	Disc List	<p>Displays a list of all XDCAM discs from which you've imported clips. Select a disc name to display its clips in the right side of the window.</p> <p>The imported disc is not associated with the current project. Imported discs are available in the XDCAM Explorer window until you delete them from your computer.</p> <p>Right-click a disc and choose Rename from the shortcut menu to change a disc's name.</p> <p>For example, if you've written "Joe's Tire Spot" on your XDCAM disc, you can type that name so you don't have to try to identify the disc in the XDCAM Explorer window using its 32-digit identifier.</p>
	Contents Pane	<p>Displays the clips from the selected disc.</p> <p>Full-resolution clips are labeled Full, and proxy files are labeled Proxy.</p> <p>If you've transferred proxy files only, you can right-click a proxy file and choose Import Full Resolution Files from the shortcut menu to transfer the full-resolution version of the proxy clip to your computer. Files are imported to the same folder where you transferred the proxy files.</p> <p>If you've transferred metadata only without transferring clips, no thumbnail is displayed. Right-click a metadata entry and choose Import Full Resolution Files or Import Proxy Files from the shortcut menu.</p> <p>If the disc contains edit lists that you created on your deck or camera, they are displayed at the bottom of the contents pane. Click the down arrow next to the Views button () and choose Edit Lists from the menu to show or hide edit lists.</p>
	Import XDCAM Disc	Click to import clips from an XDCAM disc. You can choose to import proxy-resolution clips, full-resolution clips, or both. For more information, see Importing XDCAM discs on page 6 .
	Delete Selected XDCAM Disc from Capture Folder	Select a disc in the left pane and click this button to delete the disc's clips from your computer.
	Play Clip	Click to play the selected clip.
	Stop	Click to stop playback.
	Auto Preview	Automatically preview media files when you click them in the XDCAM Explorer window.

Item	Name	Description
	Views	Click the down arrow and choose a command from the menu to change the way clips are displayed in the XDCAM Explorer.
		All Essence Marks Displays a separate thumbnail for each essence marker in a clip.
		Shot Marks 1 & 2 Displays a separate thumbnail for each shot marker in a clip.
		Clips Displays a single thumbnail for each clip.
		Custom Displays the Custom Essence Mark Filter dialog. Select the check box for each essence mark you want to display as thumbnails, and then click OK to close the dialog.
		Record Start Created when recording begins and stops.
		Record End
		Shot Mark 1 Created manually during recording.
		Shot Mark 2
		Flash Created when a sudden change in brightness occurs.
		Filter Change Created when the filter is changed on the camera.
		Gain Change Created when the gain value is changed on the camera.
		Shutter Speed Change Created when the shutter speed is changed on the camera.
		White Balance Change Created when the white balance is changed on the camera.
		Over Audio Limiter Created when the audio level exceeds 0 dB.
Edit Lists	If you've created an edit list on your camera or deck, you can display those edit lists in the XDCAM Explorer. Edit lists are displayed in the lower half of the XDCAM Explorer. Right-click an edit list and choose Add to Current Project Using Proxy Files or Add to Current Project Using Full Resolution Files from the shortcut menu to add the edit list to the timeline at the cursor position.	
	Conform XDCAM Media in Current Project	Click to replace proxy-resolution files with full-resolution files before rendering your project or exporting your video to an XDCAM disc. If the full-resolution clips are not available on your computer, the Conform XDCAM Media in Current Project dialog is displayed. Insert the specified disc and click Continue to import the full-resolution clips to your computer. If you need to choose a different XDCAM device or import method, click the Device button. For more information, see Setting up an XDCAM device on page 3 . Clips are imported if necessary, and the events on the timeline are updated to use the full-resolution files.
	Export Video to XDCAM Disc	Click to transfer video to an XDCAM disc in a camera or deck. You can choose to render the current project to MXF or export an already-rendered MXF file. For more information, see Exporting video to an XDCAM disc on page 10 .
	Refresh XDCAM Discs by Examining Capture Folders	Click to examine capture folders for files that have been added since the application was started. You can use this button to view files that you copy manually from an XDCAM disc to your computer.

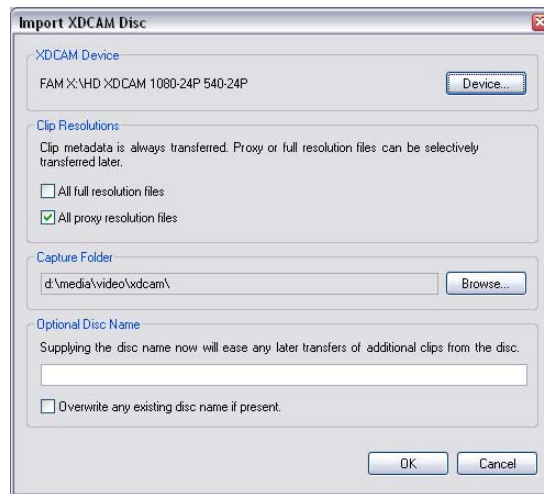
Importing XDCAM discs

You can use the XDCAM Explorer window to import full- or proxy-resolution clips from XDCAM discs to your computer for editing.

Tips:

- If you delete XDCAM clips from your computer, those clips will appear offline in your projects. You can reimport the clips by right-clicking the clips in the Project Media window and choosing **Recapture** from the shortcut menu.
- The XDCAM deck is not available for external monitor or print to tape via iLink® while in file-access mode. Click the **Safely Remove Hardware** icon (🔌) in the Windows system tray and choose your XDCAM device from the menu to disconnect the device. You can then switch to AV/C mode and reconnect to enable external monitor and print to tape functionality.
- Before using clips from an XDCAM EX camera, you'll need to use XDCAM EX Clip Browsing software to convert your .mp4 files to MXF format.

1. From the **View** menu, choose **XDCAM Explorer** to display the XDCAM Explorer window if it isn't already visible.
2. Click the **Import XDCAM Disc** button (📀) in the XDCAM Explorer window. The Import XDCAM Disc dialog is displayed.

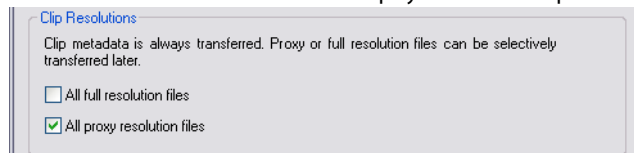


3. The XDCAM Device box displays the current XDCAM camera or deck.

If you need to choose a different XDCAM device or import method, click the **Device** button. For more information, see [Setting up an XDCAM device](#) on page 3.

Note: For information about using your camera or deck, please refer to its documentation.

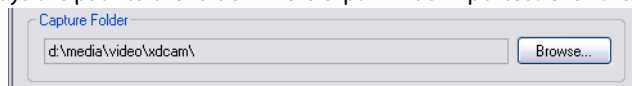
4. In the **Clip Resolutions** box, select check boxes to indicate which clips you want to import:



Tip: Proxy files are much smaller than the full-resolution versions. If you're working on a system with limited disk space or processing power, you can edit the smaller proxy files on the timeline and replace the proxies with full-resolution files before rendering. Proxy editing is ideal for storyboarding or rough-cut editing.

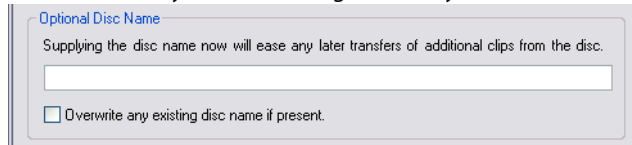
- Clear both check boxes if you want to import clip information (metadata) only without importing clips. You can import clips later by right-clicking a clip in the XDCAM Explorer and choosing **Import Full Resolution Files** or **Import Proxy Files** from the shortcut menu.
- Select the **All full resolution files** check box to import full-resolution clips.
- Select the **All proxy resolution files** check box to import low-resolution clips for quick timeline editing and preview. If you're working on a system with limited disk space or processing power, you can edit the smaller proxy files on the timeline and replace the proxies with full-resolution files before rendering.

5. The **Capture Folder** box displays the path to the folder where clips will be imported. Click the **Browse** button to choose a folder.



Tip: You can also copy XDCAM discs to the capture folder manually. Simply copy the files and folders to the specified capture folder (preserving the XDCAM disc folder/file structure). The next time you start Vegas, the disc will be available in the XDCAM Explorer window.

6. Type a name in the **Optional Disc Name** box if you want to assign a friendly name to the disc.



For example, if you've written "Joe's Tire Spot" on your XDCAM disc, you can type that name so you don't have to try to identify the disc in the XDCAM Explorer window using its 32-digit identifier.

7. Click the **OK** button to start importing clips. The disc label is added to the left pane in the XDCAM Explorer window, and the clips are displayed in the right pane. *For more information, see [Using the XDCAM Explorer window](#) on page 4.*
8. You're ready to start editing your XDCAM clips on the timeline.

Notes:

- Select the **Import MXF as multichannel** check box on the **General** tab of the Preferences dialog if you want to import MXF files from XDCAM cameras and decks with multichannel audio. When the check box is cleared, audio from MXF files will be imported as stereo, but you can access the other channels by right-clicking the event and choosing **Channels** from the shortcut menu.
- The imported disc is not associated with the current project. Imported discs are available in the XDCAM Explorer window until you delete them from your computer.
- Imported clips are not added to the Project Media window. Drag a clip to the timeline to add it to your project or right-click a clip and choose **Add to Project Media List** from the shortcut menu.

Editing XDCAM Clips on the timeline

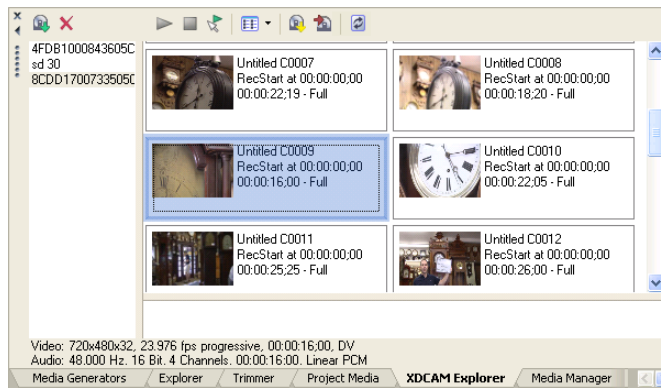
Creating and editing a project


You can use MXF files just like any other supported media type on the timeline. Depending on your workflow, you may want to use proxy or full-resolution files on the timeline.

Tip: Proxy files are much smaller than the full-resolution versions. If you're working on a system with limited disk space or processing power, you can edit the smaller proxy files on the timeline and replace the proxies with full-resolution files before rendering. Proxy editing is ideal for storyboarding or rough-cut editing.

1. Import the clips from your XDCAM camera or deck to your local hard drive. *For more information, see [Importing XDCAM discs](#) on page 6.*

2. Select an imported XDCAM disc on the left side of the XDCAM Explorer window. The imported clips are displayed in the right pane.




If the disc contains edit lists that you created on your deck or camera, they are displayed at the bottom of the contents pane. Click the down arrow next to the **Views** button () and choose **Edit Lists** from the menu to show or hide edit lists.

3. Drag clips from the XDCAM Explorer window to the timeline if you want to create events, or drag them to the Project Media window to add to your project without creating events.

Right-click an edit list and choose **Add to Current Project Using Proxy Files** or **Add to Current Project Using Full Resolution Files** from the shortcut menu to add the edit list to the timeline at the cursor position.

Note: *Essence marks from the MXF files are displayed as named media markers (media markers are visible in the timeline events and in the Trimmer window). Choose **View > Event Media Markers > Show Markers** to toggle their display.*

4. Edit your project as needed.
5. If you're working with proxy-resolution clips, replace them with full-resolution clips before rendering your project or exporting it to an XDCAM disc:
 - a. Click the **Conform XDCAM Media in Current Project** button () in the XDCAM Explorer window.
 - b. If the full-resolution clips are not available on your computer, the Conform XDCAM Media in Current Project dialog is displayed.
 - c. Insert the specified disc.
If the events on the timeline have been trimmed, you can select the **Trim clips to used regions when possible** check box (available only in file-access mode) to import only the portions of the media files required for the events.
If you need to choose a different XDCAM device or transfer method, click the **Device** button. *For more information, see [Setting up an XDCAM device](#) on page 3.*
 - d. Select the **Trim clips to used regions when possible** check box (available only in file-access mode) if you want to trim full-resolution clips to import only the portions used in your project.

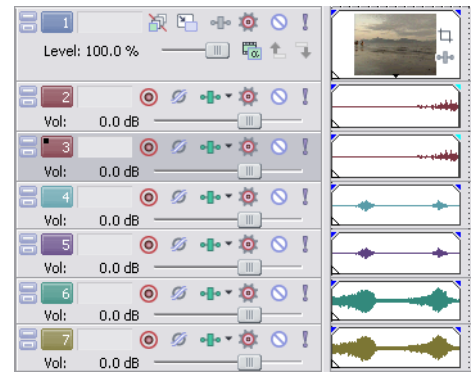
Note: *Some XDCAM decks may require updated firmware to support trimming clips when connecting via Ethernet (FTP).*



- e. Click **Continue** to import the full-resolution clips.
 - f. Repeat steps 5c and 5d as needed.
Clips are imported to your computer if necessary, and the events on the timeline are updated to use the full-resolution files.
6. You can now render your project or export it to an XDCAM deck or camera.

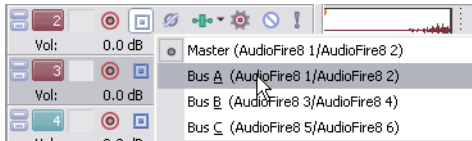
Setting up your project for multichannel audio

If you imported your XDCAM clips with the **Import MXF as multichannel** check box selected on the General tab of the Preferences dialog, your MXF files will be imported with multichannel audio. When you add the clip to the timeline, the audio channels will be added across tracks.

The example on the right shows an MXF clip with six-channel audio. To take advantage of multichannel mapping in Vegas, set up your project to map each audio channel to a separate bus.



1. From the **Insert** menu, choose **Audio Bus** (or click the **Insert Bus** button  in the Mixer window) to create a bus in the Mixer window. Because we're working with six-channel audio, we'll add three stereo busses.
2. Now click the bus button  on each track to assign the channels to busses.

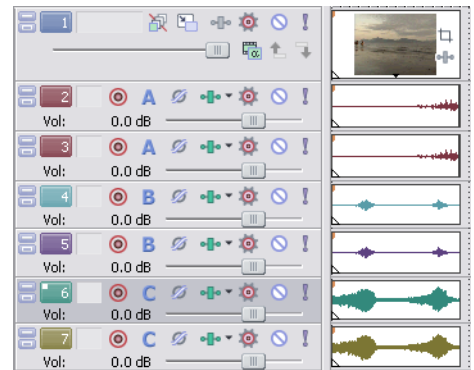


We'll assign channels one and two to Bus A, channels three and four to Bus B, and channels five and six to Bus C.

Alternatively, you could create one bus per channel.


We'll use this channel mapping when you render your video or export it to an XDCAM camera or deck.

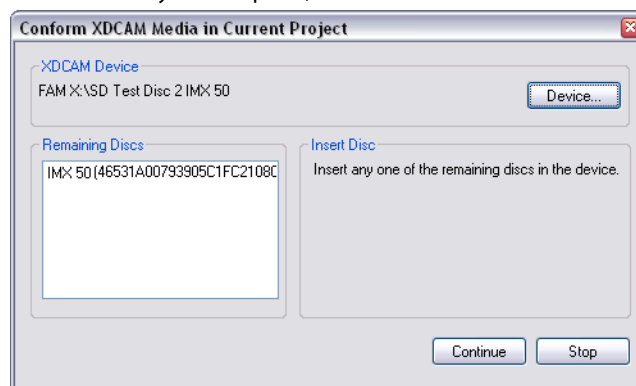
For more information, see [Exporting video to an XDCAM disc on page 10](#).



Replacing proxy-resolution clips with full-resolution media (conforming media)

If you're working with proxy-resolution clips, replace them with full-resolution clips before rendering your project or exporting it to an XDCAM disc:

1. Click the **Conform XDCAM Media in Current Project** button () in the XDCAM Explorer window.
2. If the full-resolution clips are not available on your computer, the Conform XDCAM Media in Current Project dialog is displayed.




3. Insert the specified disc.

If the events on the timeline have been trimmed, you can select the **Trim clips to used regions when possible** check box to import only the portions of the media files required for the events. This option is not available when connecting to an XDCAM deck or camera via file access mode (i.Link).

If you need to choose a different XDCAM device or transfer method, click the **Device** button. For more information, see [Setting up an XDCAM device on page 3](#).

4. Click **Continue** to import the full-resolution clips.
5. Repeat steps 3 and 4 as needed.
6. Clips are imported to your computer if necessary, and the events on the timeline are updated to use the full-resolution files.


Exporting video to an XDCAM disc

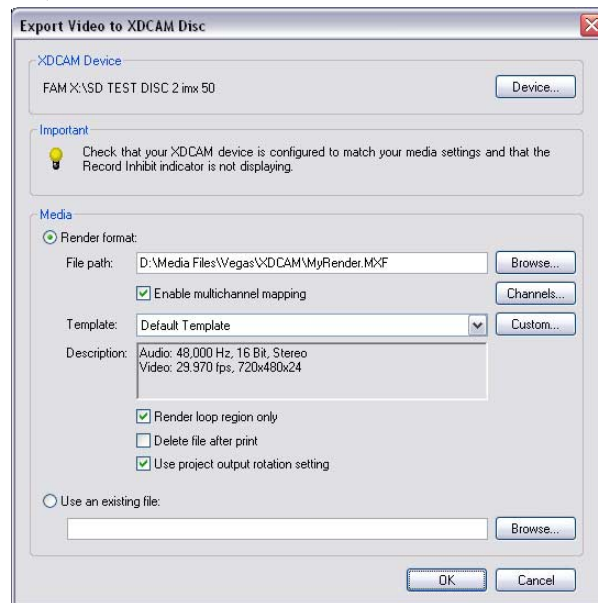
From the **Tools** menu, choose **Export Video to XDCAM Disc** (or click the  button in the XDCAM Explorer window) to save your project to a disc in an XDCAM camera or deck.

Exporting video from the timeline

Use this procedure to export the current project to an XDCAM disc.

Important: *If you are exporting a rendered file to an XDCAM disc, the file must precisely conform to the target disc format, or the export will fail.*

1. If you want to export only a portion of your project, create a time selection that includes the section of your project.
2. From the **Tools** menu, choose **Export Video to XDCAM Disc** (or click the  button in the XDCAM Explorer window). The Export Video to XDCAM Disc dialog is displayed.



3. The XDCAM Device box displays the current XDCAM camera or deck.

If you need to choose a different XDCAM device or transfer method, click the **Device** button. *For more information, see [Setting up an XDCAM device](#) on page 3.*

Note: *For information about using your camera or deck, please refer to its documentation.*

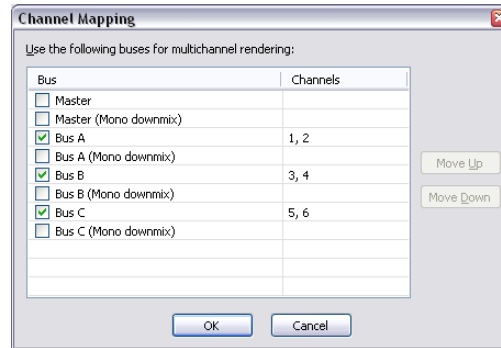
4. Choose render settings:

- a. Select the **Render format** radio button.
- b. In the **File path** box, type the path to the file you want to render, or click the **Browse** button to browse to the folder you want to use and then type a file name.

This path is used to render an MXF file to your hard drive before transferring to your XDCAM device. You can delete the file after the transfer is complete.

- c. Select the **Enable multichannel mapping** check box if you want to map render multiple channels of audio.

You can click the **Channels** button if you want to map the busses in your project to channels in the rendered file. If you don't specify a channel mapping, Vegas will not render a multichannel file.



•In the Channel Mapping dialog, select the check box for each bus you want to include in the rendered file. Each stereo bus will be saved to two channels in the rendered file. If you want to save a bus to a single channel, select the **(Mono downmix)** check box for that bus.

•If you want to change order of the busses in the channel mapping, select the bus and click the **Move Up** or **Move Down** button.

•Click **OK** to close the Channel Mapping dialog and return to the Export Video to XDCAM Disc dialog.

For more information, see [Setting up your project for multichannel audio](#) on page 9.

- d. From the **Template** drop-down list, choose the setting that matches your destination disc.

Information about the selected rendering template is displayed in the **Description** box.

If you choose **Default Template**, the number of channels will match the number of channels specified in the Channel Mapping dialog.

- e. Select the **Render loop region only** check box if you want to export only the portion of your project that you selected in step 1.
- f. Select the **Delete file after print** check box if you want to delete the rendered file from your hard drive after exporting it to disc. If the export fails, the rendered file remains on disk so you can adjust your XDCAM device settings and export again without having to render again.
- g. Select the **Use project output rotation setting** check box if you're rendering a rotated project and want to use the **Output rotation** setting from the Project Properties dialog for your rendered file.


When the check box is cleared, the media is rotated according to its Media Properties setting, but the project itself is unrotated—you can use this setting to proof your project on an unrotated display.

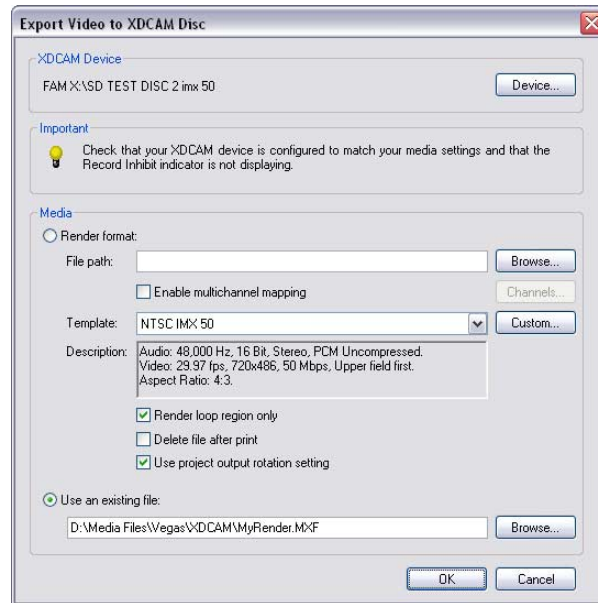
5. Click **OK**. Your project is rendered and transferred to your camera or deck.

Exporting a rendered file

Use this procedure when you have a rendered MXF file that you want to save to an XDCAM disc.

Important: If you are exporting a rendered file to an XDCAM disc, the file must precisely conform to the target disc format, or the export will fail.

1. From the **Tools** menu, choose **Export Video to XDCAM Disc** (or click the  button in the XDCAM Explorer window). The Export Video to XDCAM Disc dialog is displayed.



2. The **XDCAM Device** box displays the current XDCAM camera or deck.

If you need to choose a different XDCAM device or transfer method, click the **Device** button. For more information, see [Setting up an XDCAM device](#) on page 3.

Note: For information about using your camera or deck, please refer to its documentation.

3. Choose the file you want to export:
 - a. Select the **Use an existing file** radio button.
 - b. In the **File path** box, type the path to the file you want to print, or click the **Browse** button to choose the file you want to print.
4. Click **OK**. The selected file is transferred to your camera or deck.