


ProCoder 3

Installation and User Guide



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Manual Explanation

- Information not described in this manual may be displayed in some cases. Make sure to read the text file attached to the disc.
- If there are any variations between the explanation in this manual and the actual application method, priority is given to the actual application method.
- This manual is written for people who have a basic knowledge of how to use a computer. If there are no special instruction, perform the same operation as a normal computer operation.
- Windows XP (collective term of Home Edition, Professional and Professional x64 Edition) in this book means Microsoft® Windows® XP operating system.
- In this manual, ProCoder 3 is called 'ProCoder'.

DANGER

Health Precautions

In rare cases, flashing lights or stimulation from the bright light of a computer display or TV monitor may trigger temporary epileptic seizures or loss of consciousness. It is believed that even individuals whom have never experienced such symptoms may be susceptible. If you or close relatives have experienced any of these symptoms, consult a doctor before using this product.

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ProCoder 3
Installation and User Guide
March, 2007
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Chapter 1

Introduction



1 Before Installing ProCoder

Before Using ProCoder

◆ Precautions

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Support

◆ **Customer Support**

For questions regarding hardware setup and usage, please contact your local Grass Valley office, distributor or the store where you have purchased this product.

◆ **Web-site**

Including ProCoder, the latest company information is announced at our web-site:

<http://www.canopus.com/>

The latest drivers utilities, product manuals, FAQs, etc. are also available at our web-site.

◆ **Online User Registration**

You can register your ProCoder here.

<http://www.canopus.com/support/>

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2 Key Features

Whether you're encoding MPEG for DVD production or a Windows Media Video for Web streaming, ProCoder makes conversion from one video format to another quick and easy. Featuring Grass Valley's highly optimized DV and MPEG codec technologies, ProCoder provides high-quality output without the long wait and guesswork of similar tools.

◆ Supports the loading/exporting of Dolby Digital audio (.ac3)

Dolby Digital audio (.ac3) and MPEG files that contain Dolby Digital audio, such as a video recorded with a DVD recorder, can be used as audio sources, as can AVCHD files.

Dolby Digital audio can also be exported and you can map audio channels with an audio filter, channel mixer.

◆ Audio channel mixer

You can load a source file with multiple audio channels and allocate audio channels before exporting the file.

You can allocate the audio tracks of an EDIUS project to specified channels and export these as an audio file.

◆ High-speed HDV encoder (Speed Encoder)

On a PC with multiple CPU cores, ProCoder 3 can export HDV MPEG-TS files at high speed. By utilizing original GRID encoding technology, the encoding time can be reduced, depending on the number of CPU cores.

* RAM larger than [number of the CPU cores] x [512MB] is required.

◆ Supports Flash encoding

You can generate a file in the Flash7 format, which is suitable for Web Video contents.

◆ Supports H.264 encoding

You can generate an H.264 file that can be played on mobile terminals, including cellular phones.

◆ Convenient features for loading DVD files

When you load a DVD (VOB) onto the ProCoder, the chapter information can be retained for use. You can also load files and split these, based on the chapters.

◆ Improved progressive video quality

The noise reduction filter has been improved, which reduces the combing noise that ordinarily occurs when converting an interlaced video to a progressive format. Another filter that specializes in Inverse Telecine has been added.

◆ **Improved scaling quality**

Video quality when changing the video size (scaling) has been improved. ProCoder 3 excels at converting SD video to HD video and/or NTSC to PAL.

◆ **Marker function**

When you create a new file by joining multiple source files, markers can be added at the joining points.

◆ **Supports Drop/Non-Drop timecodes**

Drop/Non-drop timecodes can be used during file seek operations.

◆ **Supports conversion of files with VBI data**

When you convert files that have their original size data (720x512, 720x608, etc.) stored in a VBI (vertical blanking interval) format, scaling and cropping can done properly.

◆ **Supports retention of the original timecode**

When a file is being converted, the original timecode can be retained and when a file is exported from EDIUS version 4, the EDIUS project timecode will be retained.

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3 Navigating this Manual

- To install ProCoder 3 on your system, go to **Chapter 2: Installation.**
- To learn about the easy-to-use ProCoder 3 Wizard, go to **Chapter 3: ProCoder 3 Wizard.**
- For an overview on ProCoder 3 and its major features, go to **Chapter 4: Using ProCoder.**
- For some helpful hints and tips on how to improve video quality, go to **Chapter 5: Helpful Hints.**
- For a complete ProCoder Reference guide, go to **Chapter 6: ProCoder Reference.**
- For definitions of common video and compression terminology, go to **Chapter 7: Glossary.**

Minimum System Requirements

- **Intel® Celeron® / Intel Pentium® III 800MHz +, or AMD Athlon™ 800MHz +.**
- **Multiple processors and Hyper-Threading support included**
(If multiple CPU's are installed on a PC (including multi-core), the Speed Encoder feature of ProCoder 3 will improve the HDV/MPEG2 conversion speed.)
- **256MB RAM (512MB RAM for HD encoding, [Number of CPU Cores] x 512MB RAM for Speed Encoder feature)**
- **800MB free hard disk space**
- **DirectX 9.0 or later**
- **Windows® XP Home, Windows® XP Professional + SP2**
- **USB 1.1 port for USB Hardware Key**
(also compatible with USB hubs)

Chapter 2

Installation



1 Installing ProCoder

To install ProCoder:

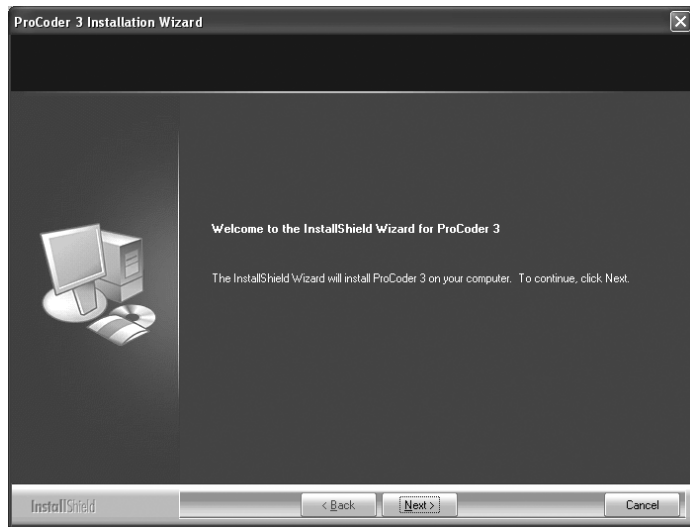


Before installing, make sure the USB hardware key that comes with your software is NOT plugged in.

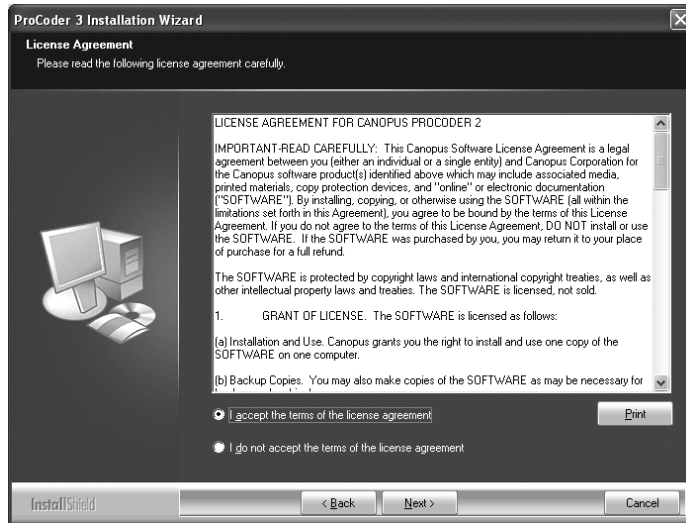
In order to install, you must log in as a user with administrator privileges.

If QuickTime has not been installed on your system, go to My Computer, open CD-ROM drive, QuickTime folder, and run QuickTimeInstaller_7.1.exe to install it.

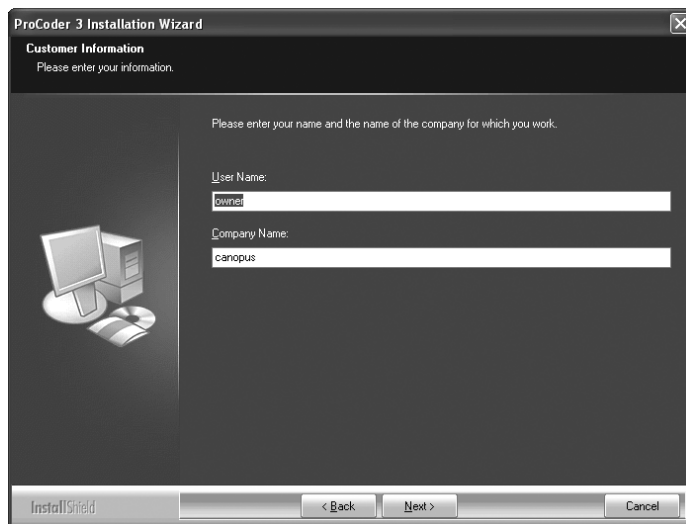
- 1** Insert the **ProCoder CD-ROM** in your CD drive. The CD launches automatically if Window's Autorun feature is enabled. If Autorun is not enabled, then go to My Computer, double-click on the CD-ROM drive and run **Setup.exe**.
- 2** The **Welcome** screen appears. Click the **Next** button to go to the next installation screen.



- 3** The **License Agreement** appears. Select **I accept the terms of the license agreement** to accept the terms of the license and click the **Next** button.

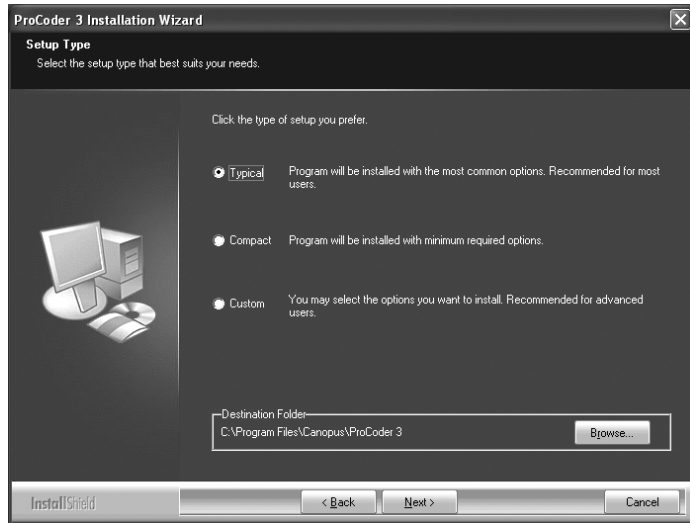


- 4** The **Customer Information** window appears. Enter your name and company name and click the **Next** button.

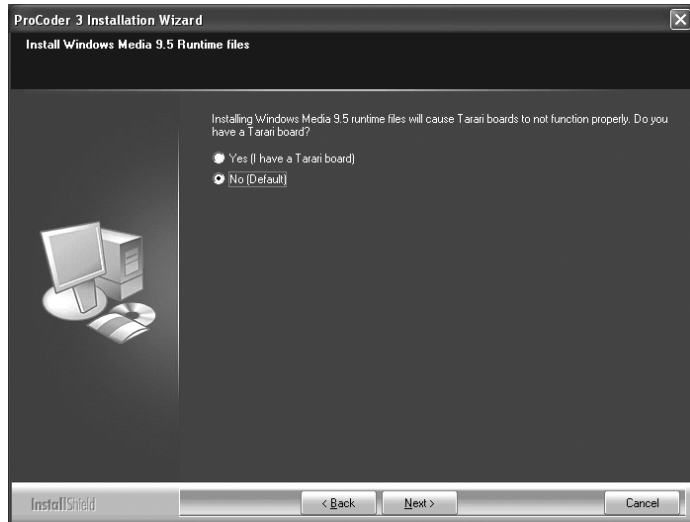


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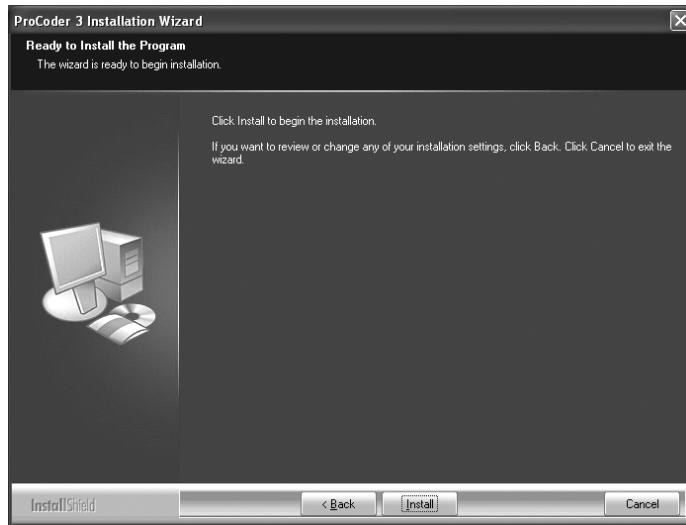
- 5** Choose **Typical**, specify a destination location for ProCoder, and click the **Next** button. To change the destination location, click the **Browse** button and select a new destination folder.



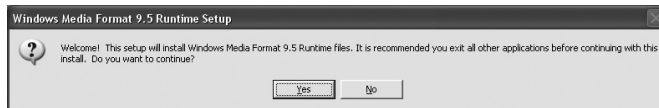
- 6** Select **No** and click the **Next** button. If you are going to use a Tarari board, select **Yes**.



7 Click the **Install** button.



8 Install Windows Media Format 9.5 runtime files. Click the **Yes** button.



9 The **License Agreement** appears. Click the **Yes** button to accept the terms of the license.



ProCoder 3

- 10 Click the **OK** button.



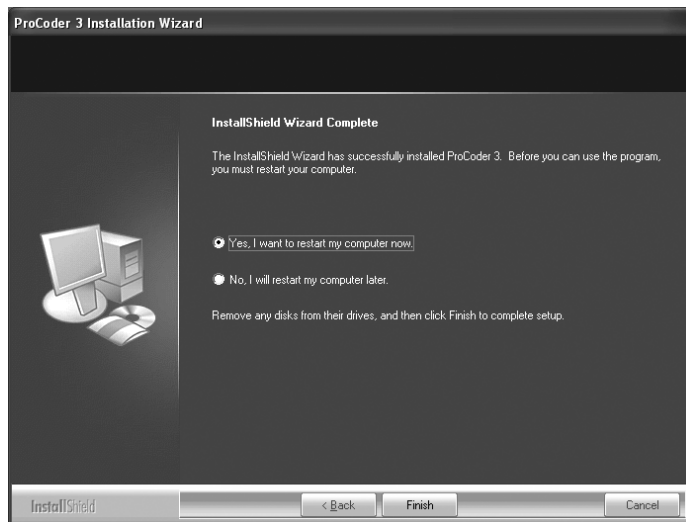
- 11 Click the **OK** button.



- 12 Click the **OK** button.



- 13 When the installation is finished, you must restart your computer to complete the installation. Choose **"Yes, I want to restart my computer now."** and click the **Finish** button to restart your computer.



- 14** When the computer finishes restarting, plug-in the USB Hardware Key that comes with your software. You can use the computer's on-board USB ports, a USB PCI card or a USB hub connected to either of these ports. The USB Hardware Key **MUST** be connected before starting ProCoder.

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2 Uninstalling ProCoder



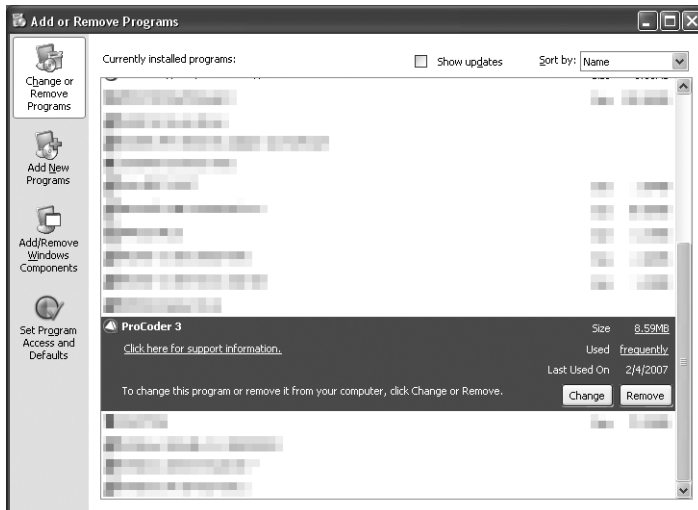
Note

Before starting uninstallation, close all the other applications that may be running in the task tray.

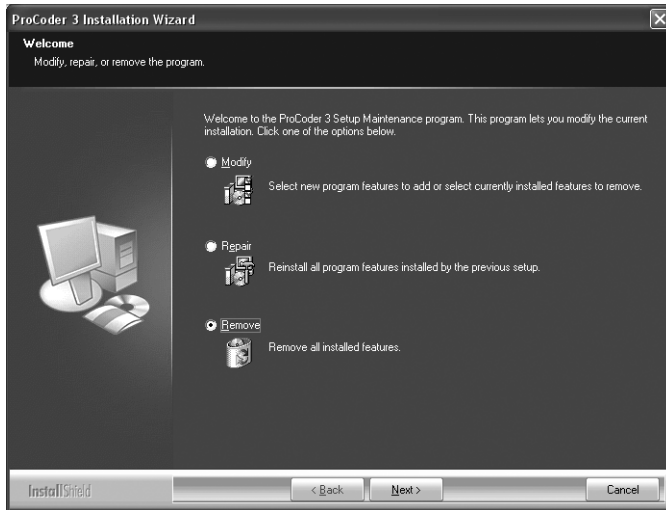
In order to uninstall, you must log in as a user with administrator privileges.

To uninstall ProCoder:

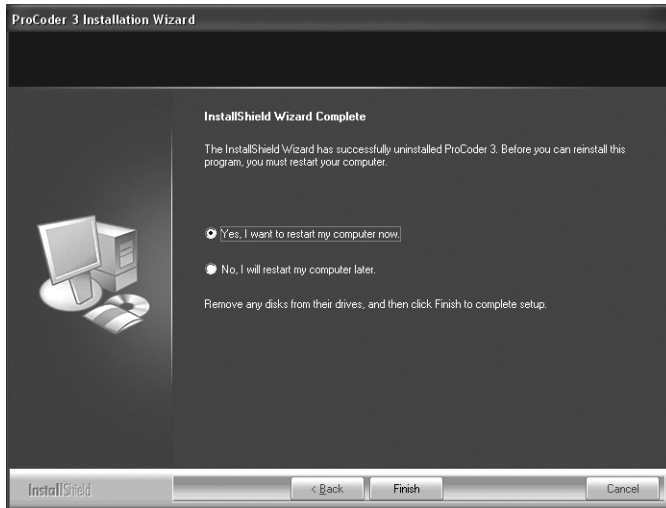
- 1 From the **Start** menu, select **Control Panel**, and choose **Add or Remove Programs**.
- 2 Select **ProCoder 3** and click the **Remove** button.



3 Select **Remove** and click the **Next** button.



4 Select **“Yes, I want to restart my computer now.”** and click the **Finish** button.



The computer will reboot. Uninstallation is completed.

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Chapter 3

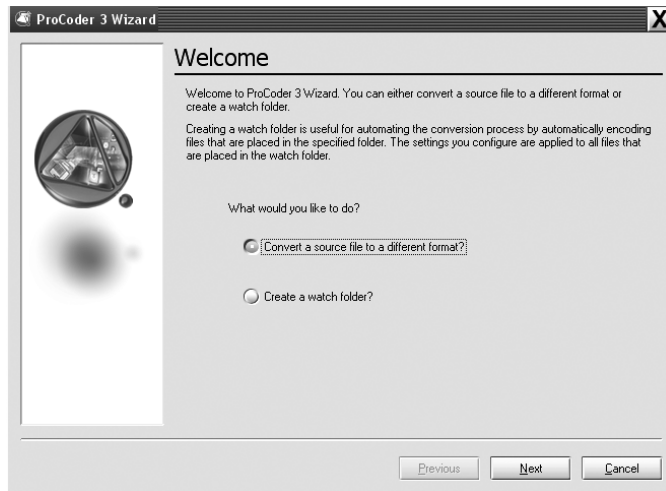
ProCoder 3 Wizard



1 Using ProCoder 3 Wizard

The ProCoder 3 Wizard is very easy-to-use. Its Wizard interface makes converting your videos as straightforward as answering a few simple questions. Simply launch the ProCoder 3 Wizard by going to the Start menu and choosing **All Programs > ProCoder 3 > ProCoder 3 Wizard**.

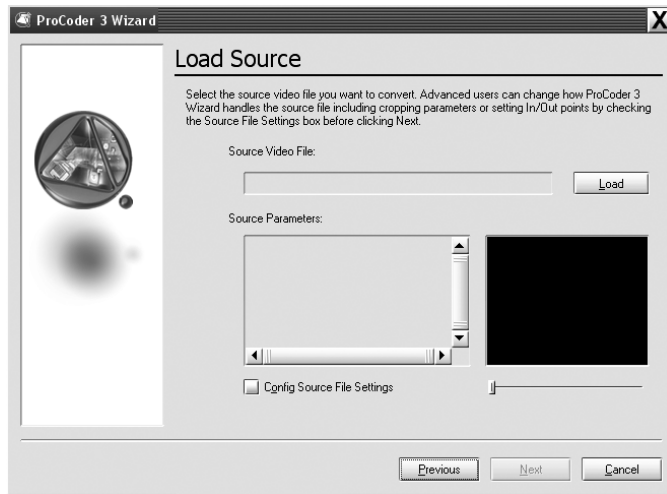
The ProCoder 3 Wizard lets you configure a conversion by simply answering the questions displayed in the dialog. ProCoder's online help has more detailed information regarding the questions you will be asked. Press the **F1** key on your keyboard to access the online help at any time.



The **Welcome** screen appears when you launch the application and gives you two choices – **Convert a source file to a different format** or **Create a watch folder**. Make a selection and click the **Next** button.

Convert a Source

If you choose to convert a source file, the **Load Source** screen appears. Click the **Load** button to choose the video file you want to convert.



The ProCoder 3 Wizard can load a variety of different video file formats for conversion. If you cannot see the file you want to load but you know it exists, the file may not be a supported source type. For example, some file types, such as RealMedia files, cannot be loaded due to licensing restrictions.

If the ProCoder 3 Wizard has problems loading the selected file, please make sure the file has the proper file extension for its format. For example, an MPEG-1 file that should have the **.mpg** file extension may be mislabelled with the **.wmv** file extension. Windows Media Player may play the file properly but also display an error message about the file extension not matching the file type.

● Checking the Source

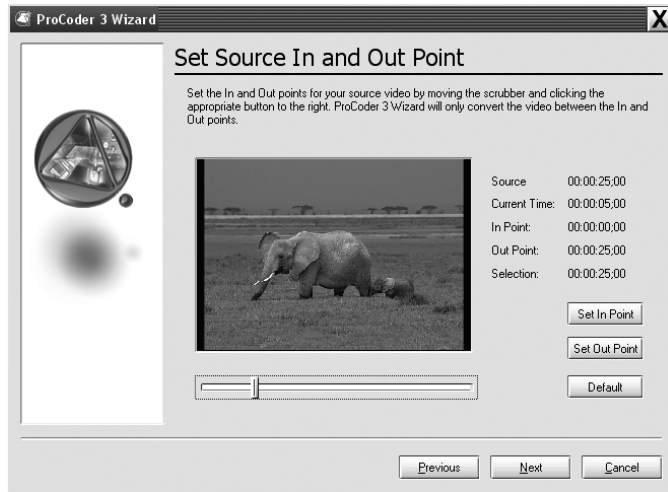
The **Source Parameters** section of the window shows the selected source's file information. You can see a preview of the video and scrub through it on the right side of the screen.

● Changing Source Parameters

If you want to modify the In/Out points or change the cropping parameters, click the **Config Source File Settings** option in the bottom left-hand corner and click the **Next** button.

◆ Setting In/Out points

Setting In and Out points on your video clip allows the ProCoder 3 Wizard to ignore portions of video at the start and end. For example, you may have a few seconds of blank video at the beginning or end that you don't need to encode.



Click and drag the scrubber below the Preview window to choose where you want the final encoded video to start and click the **Set In Point** button.

The timeline to the left of the scrubber turns gray, which means any footage that appears before the scrubber will not be included in your final converted video. Click and drag the scrubber to set the video's out point and click the **Set Out Point** button. The timeline to the right of the scrubber turns gray, which means any footage after this point will not be included in your final converted video.

The **Default** button restores the in and out points to their original settings.

Advanced Settings



Advanced Settings let you set the video cropping mode for your source video. Choose a cropping mode and click the **Next** button. If you choose the **Manual** option, then click the **Select Cropping** button to open the **Crop** dialog. To modify more advanced source settings, click the **Select Settings** button to open the **Config** dialog. The **Config** dialog lets you modify additional parameters that affect your source video. This is only recommended for advanced users and should be used with caution.

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Choose Conversion Settings

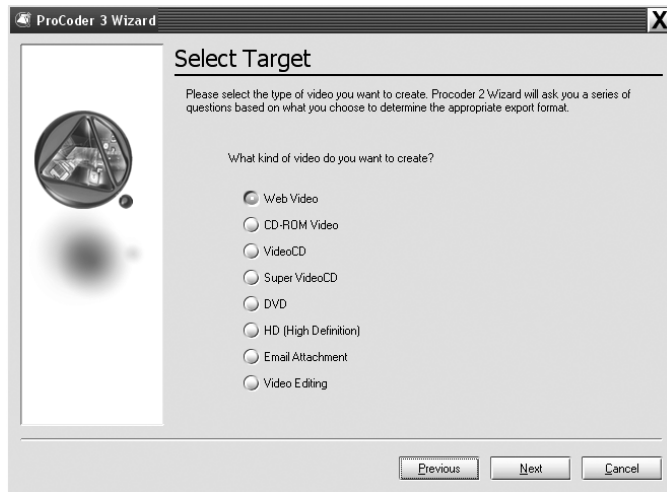
Next, the **Use the Wizard or Select a History Entry** screen appears. This screen gives you three options – you can use the Wizard to help you select a target; select a generic target format and modify the parameters yourself if you are an advanced user; or you can choose the settings from a previous encoding job from the history list. The last option is not available if you have not performed any previous encoding jobs. Click the **Next** button to proceed to the next screen.



The ProCoder 3 Wizard must be running in order for watch folder monitoring and file conversion to occur.

◆ Selecting a Target format

The **Select Target** screen appears and lets you choose the conversion settings for your source video.



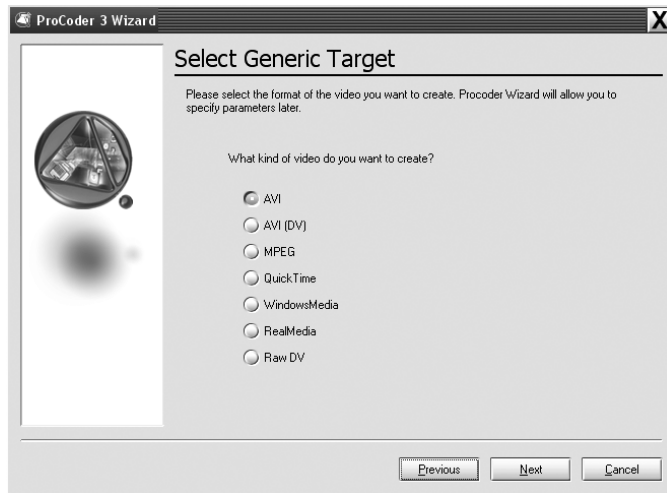
You can choose from any of the following formats.

Web Video	Create a QuickTime, RealMedia or Windows Media for viewing on a Web page.
CD-ROM Video	Create video files in AVI, MPEG-1, QuickTime or Windows Media format for delivery on CD-ROM.
VideoCD	Create MPEG-1 files that are ready to be used in VideoCD authoring software.
Super VideoCD	Create MPEG-2 files that are ready to be used in Super VideoCD authoring software.
DVD	Create high-quality MPEG-2 files that are ready to be used in DVD authoring software.
HD (High Definition)	Create HD-compliant video streams that can be viewed on an HDTV.
Email Attachment	Create a Windows Media file that is small enough to send via email.
Video Editing	Convert your source video to a format that is compatible with your video editing software.

After selecting your desired target format and clicking the **Next** button, the Wizard begins asking you a series of questions so that it can choose the appropriate settings for your final encoded video. Proceed through the Wizard's questions until you get to the **Saving Your File** screen.

◆ Selecting Generic Targets

Advanced users that know what output settings they want to use can select a generic target type and bypass the Wizard questions. The settings of the target can be specified later in the **Job Summary** screen by clicking the **Advanced Output Settings** button.



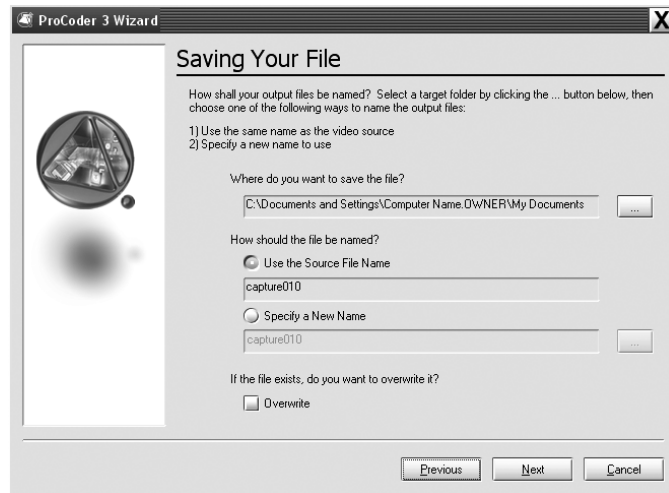
Choose one of the output types and click the **Next** button.

► About the Formats

AVI	AVI is used for a variety of applications ranging from CD-ROM video to video editing and archiving. It is really a file type, versus a compression type. AVI files can contain many types of compressed video data depending on the codecs installed on the system. Any available DirectShow codec on the system can be used as the compressor.
AVI (DV)	DV AVIs are usually used by DV video editing software.
MPEG	MPEG is commonly used as a delivery and distribution format because it provides small files sizes. VideoCD, Super VideoCD and DVD all use MPEG compression. Both MPEG-1 and MPEG-2 streams can be created.
QuickTime	QuickTime is also more of a file type versus a format. QuickTime files can contain many types of data depending on the codecs available on the system.
WindowsMedia	Windows Media files are often used for web video and more recently, high definition video.
RealMedia	RealMedia files are normally used for streaming video.
Raw DV	Raw DV files are used by some DV video editing systems.

Choosing Output Location

After answering choosing your settings, the **Saving Your File** screen appears. On this screen, you can choose where you want your encoded video file to be saved and how the file should be named.



There are three questions in the **Saving Your File** screen.

- *Where do you want to save the file?*
- *How should the file be named?*
- *If the file exists, do you want to overwrite it?*

➤ **Where do you want to save the file?**

Click on the ... button to choose the folder where you want your converted files to be saved.

➤ **How should the file be named?**

There are two options for this question. Choosing **Use the Source File Name** gives the converted video the same name as the source file but with the file extension (.mov, .m2p, .wmv) of the output type.

Choosing **Specify New Name** lets you give the converted video a different file name. Simply type the new file name in the field.

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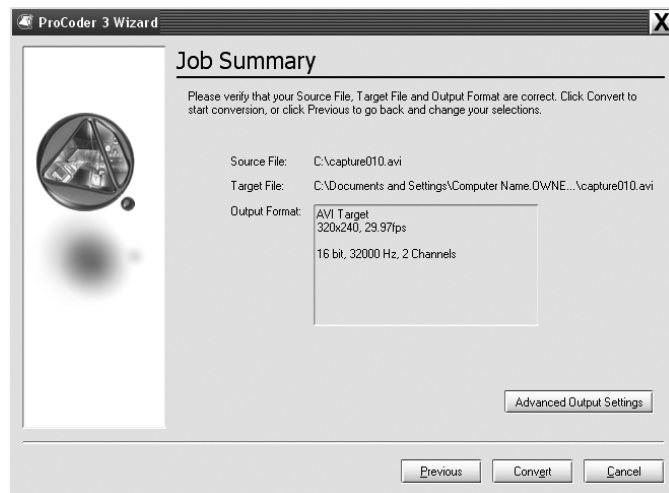
► If the file exists, do you want to overwrite it?

Checking this option lets the ProCoder 3 Wizard automatically overwrite any existing files in your Save folder if they have the same name as the file you're currently encoding. Leaving this option disabled simply adds a number to the file name to differentiate it from a file in the Save folder that has the same name.

Click the **Next** button to move to the **Job Summary** screen.

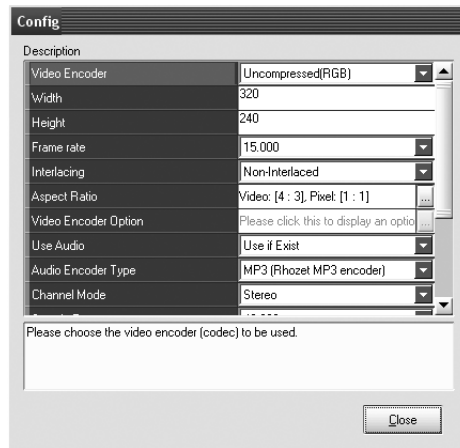
Confirming Your Settings

The **Job Summary** screen contains the information about your source file, the target file and the output format. Verify that this information is correct and click the **Convert** button to start converting your video.



◆ Advanced Output Settings

If you are an advanced user and want to make some last minute changes to your settings, click the **Advanced Output Settings** button to open the **Config** dialog. Clicking on any of the settings gives you a brief description at the bottom of the dialog.



When you are finished configuring your settings, click the **Close** button.

Converting Files

You can monitor the conversion status of your file on the next screen. The conversion status appears in Time elapsed, Time remaining, Total time and speed in terms of realtime. For example, **2.0x Realtime** means conversion is occurring twice as fast as realtime, or a 2-minute file will take 1 minute to convert.

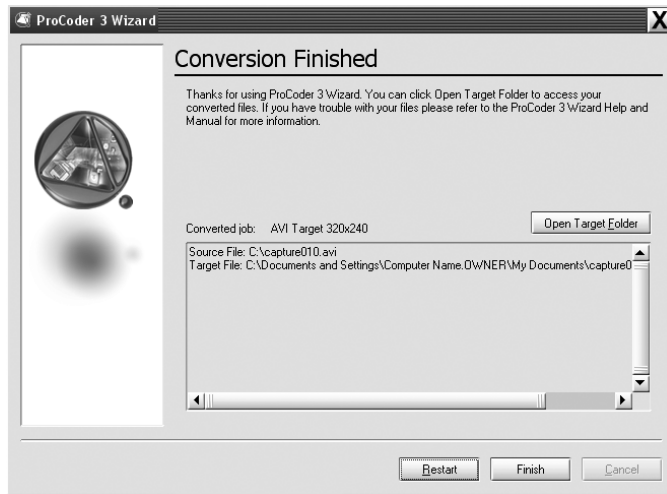


Click the **Stop** button to abort conversion.

When conversion is complete, click the **Next** button to continue.

Conversion Finished

Congratulations, your conversion is complete! A list of converted files appears at the bottom of the window.



Click the **Open Target Folder** button to access your converted videos. When the folder opens, double-click on the file you created and it should open in the appropriate media player. Watch the video and make sure it looks okay. If you want to try encoding the file again, launch the ProCoder 3 Wizard and go through the Wizard interview again. Click the **Restart** button to return to the start to set up another conversion or click **Finish** to exit the ProCoder 3 Wizard.

Create a Watch Folder

If you choose the **Create a watch folder** option on the **ProCoder 3 Wizard Welcome** screen, the **Select Watch Folder** screen appears. Watch folders are useful for streamlining the conversion process by automatically encoding files that are placed inside it. If you create a Watch folder, the settings you specify using the Wizard are used to convert any files that are placed in the Watch folder.



By sharing a watch folder on the network, you can easily accept files written by other computers for conversion.

Click the ... button to specify a Watch folder. Click the **Next** button to proceed to the next screen.

To create a watch folder that will be active regardless of whether the ProCoder 3 Wizard is open, use the **ProCoder Watch Folder Manager** to create a Permanent Watch Folder.



Note

Folders watched in this manner are only active while the ProCoder 3 Wizard is running. Once the ProCoder 3 Wizard is closed, the folder is no longer watched. To create a watch folder that is active regardless of whether the ProCoder 3 Wizard is open, use the ProCoder Watch Folder Manager to create a Permanent Watch Folder.

Monitoring Watch Folders

You can also monitor watch folders using the Wizard. The conversion status appears in Time elapsed, Time remaining, Total time and speed in terms of realtime.

For example, **2.0x Realtime** means conversion is occurring twice as fast as realtime.

In other words, a 2-minute file will take 1 minute to convert.



Click the **Stop** button to stop conversion of the current file and go on to the next file, if any.

Files to convert

A list of files remaining to convert appears in this section. Any files that have been put into the watch folder that have not already been converted or are in the process of conversion appear here.

Click the **Clear List** button to remove the remaining files from the list. Removing the files from the list will skip conversion of those files.

Click the **Unwatch** button to stop monitoring the selected folder. Any files that arrive in the watch folder will not be added to the list of files to convert until monitoring resumes. After clicking **Unwatch**, the button will change to **Watch** and you can click the **Watch** button to resume monitoring the watch folder.

Watch Folder

This section shows the path to the folder being watched.

Other Watch Folder Options

You can drag and drop files into the **Monitoring Watch Folders** window to begin encoding. Moving or saving file shortcuts instead of the real files into the Watch folder will also start the encoding process.

Chapter 4

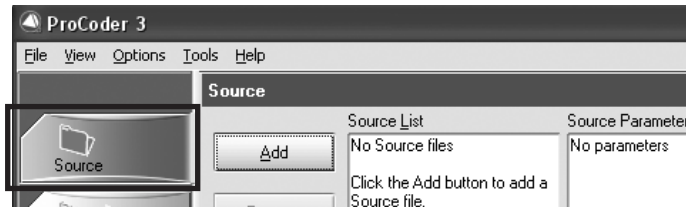
Using ProCoder



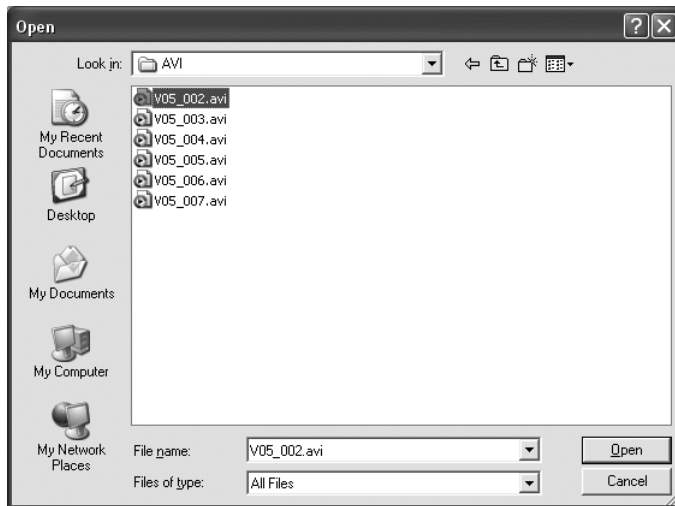
1 QuickStart

This QuickStart Guide gives you a basic overview of ProCoder's conversion workflow. To use ProCoder:

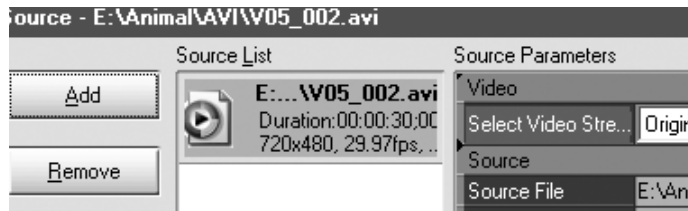
- 1 Click the **Source** tab.



- 2 Click the **Add** button and choose the file(s) you want to convert. If you want to add multiple files to the Source List, hold down the **Shift** or **Ctrl** keys and choose the files you want to convert. You can also drag and drop files directly onto the Source List.

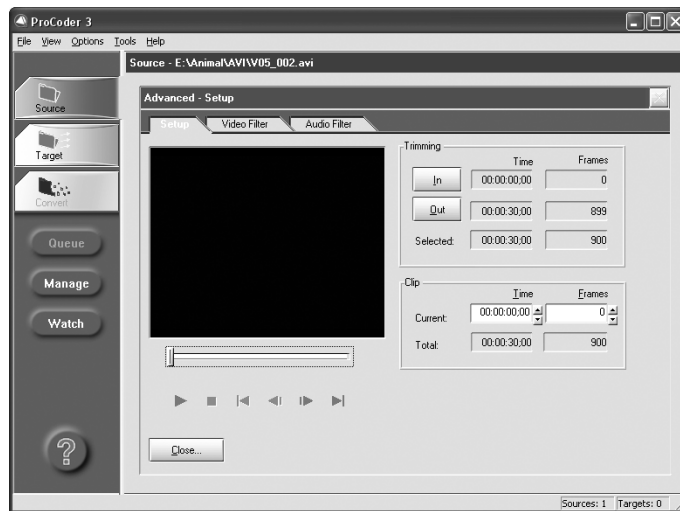


3 The file(s) appears in the Source List.



4 If you want to trim your source video or add video and/or audio filters, click the **Advanced** button. You can also access the **Advanced** window by:

- *Double-clicking the source's icon in the Source List.*
- *Right-clicking the source's icon in the Source List and choosing **Advanced** in the contextual menu that appears.*
- *Clicking the source's icon in the Source List and pressing the **Enter key** on your keyboard.*
- *Clicking the **Source** tab.*

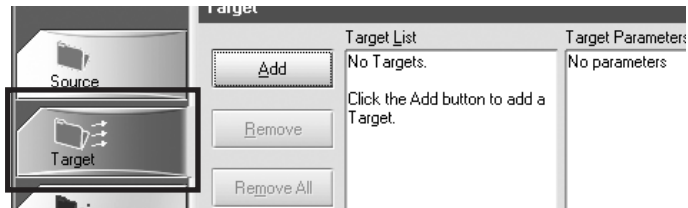


For more information, see the **Advanced window** section later in this chapter.

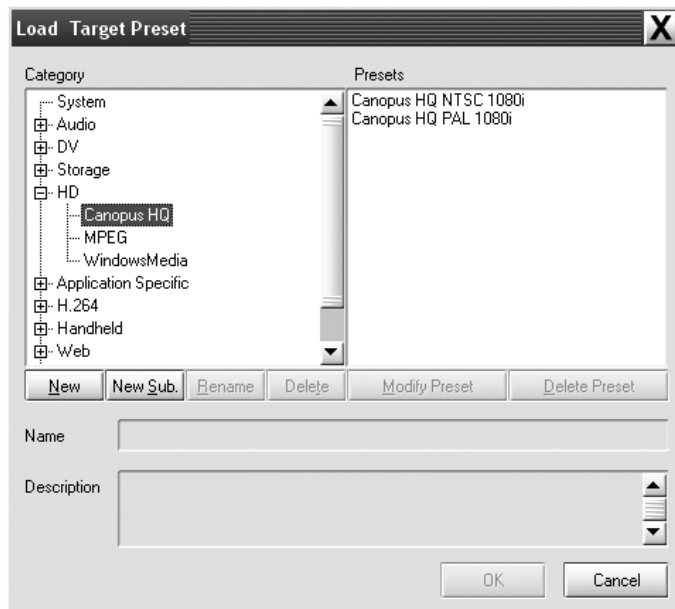
Assigning a Target format

Your source video(s) is converted to one of several target formats. You can choose the targets you want to create in the **Target** tab. To assign a target to your source video(s):

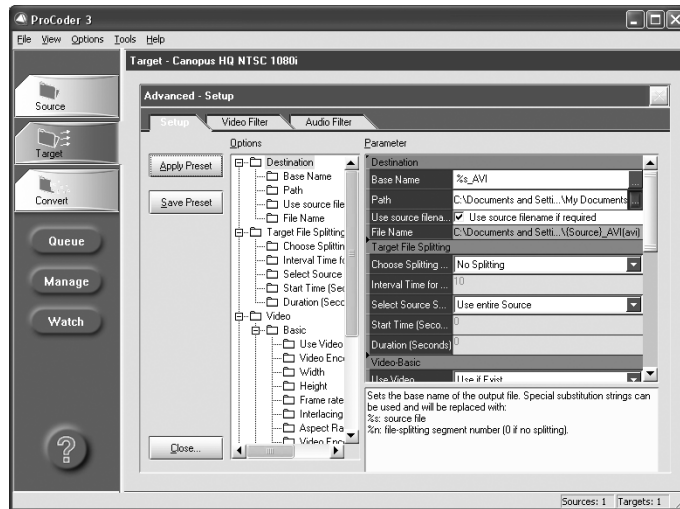
- 1 Click the **Target** tab.



- 2 Click the **Add** button to choose your source file's target format. You can add as many formats as you like for the specific source file(s). If you want to create multiple targets, simply hold down the **Shift** or **Ctrl** keys to select the target formats you want to create. Click the categories at the left to select different sets of presets.

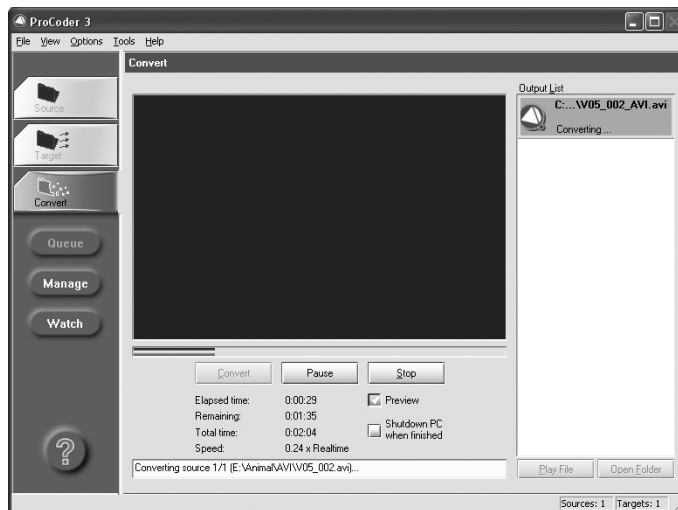


- 3** If you want to enhance the target's parameters, including adding video or audio filters, click the **Advanced** button. The modifications you make to the target's parameters in these tabs affect all the files in the Source List in the Source tab. For example, if you have five DV files in the Source List and you modify the parameters for an MPEG target setting in the Target tab, then the modified MPEG parameters will be applied to all five DV files you are converting.



Converting the file

To begin file conversion, click the **Convert** tab.



Your encoded video is saved to the path in the **Target** tab's Path field unless you have set a global or local preset output in the settings. For more information or if you want to change the default target folder, see **Transcoding Settings**.

You can stop encoding at any time by pressing the **Stop** button. If you decide to stop encoding, the file output is still written up until the point encoding was stopped (except for 2-pass encoding).

If you simply want to pause encoding, click the **Pause** button. Click it again to resume conversion from a paused state.

To enable or disable the Preview window, click the **Preview** box.

If the **Shutdown PC when finished** option is enabled, the computer will automatically shut down after it converts the file.

To preview the output of a different target, click it in the **Target List**.

If you want to play the file after it's encoded, click the file you want to view in the **Output List** on the right side of the window and then click the **Play File** button. The appropriate player for the file you select launches and plays the file. If you want to open the destination folder, click the **Open Folder** button.



Info

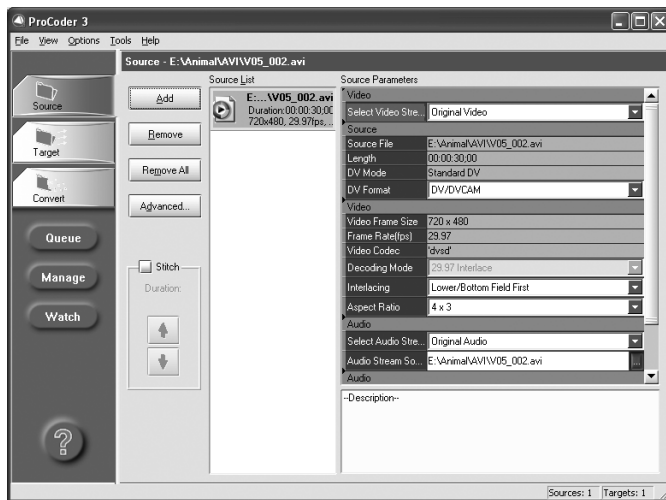
You may want to disable the Preview windows to improve encoding performance. This is especially useful if you are using ProCoder on an older or slower system.

2 Source Tab

The Source Tab lets you modify source video settings, enhancing and repairing video before it is encoded to the desired Target format.

Source Properties

The **Source Properties** window appears when you click on the **Source** tab. All of the resources necessary for managing and modifying your source video parameters are available in this window.



◆ Source List

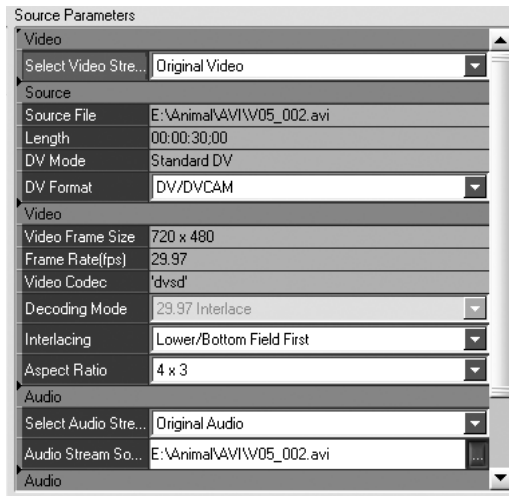
The **Source List** displays all of the source files you are planning to transcode. Use the buttons and options on the left to modify the list.

Add	Adds files to the list. You can also add files by dragging and dropping them onto the Source List.
Remove	Click the Remove button to remove the currently selected(s) from the list.
Remove All	Click the Remove All button to remove all of files from the list.
Advanced	Click the Advanced button to open the Advanced window, which appears on top of the main ProCoder window. Double-clicking on a item in the Source List also opens the Advanced window. To close the Advanced window, simply click the Close button. For more information on the Advanced Window , see the Advanced Window section later in this chapter.
Stitch	Check this option if you want ProCoder to connect all the items in the Source List into one big file. The arrow keys let you reorder the Source List before the files are stitched together. Stitching is a helpful feature if you are, for example, encoding two files, one an ad or commercial and the other your main video clip. By enabling the Stitching feature, you can encode both files into a single file that contains the commercial before your main video clip. It's also useful if you have a segmented source file that you need encoded into a single file.

Double-clicking on an item in the Source List opens the **Advanced Window**. For more information on the **Advanced** window, see the **Advanced Window** section later in this chapter.

Parameters

The Parameters section gives you a brief summary of your source file's settings. When you add a file to the Source List, ProCoder automatically reads the file properties, analyzes its parameters and makes the appropriate adjustments to read the Source correctly before it is encoded.



For example, if you add an interlaced source file to the Source List, the Parameters section tells you if the **Bottom Field** or the **Top Field** appears first in the **Interlacing** field. While ProCoder does its best to make the correct assessment, it may incorrectly identify which field is first. If this happens, you can use the **Interlacing** drop-down menu to override ProCoder and choose the correct setting. You can also override ProCoder's automatic deinterlacing by applying the **Adaptive Deinterlace** filter to your source video and modifying its parameters in the **Advanced** window.

The following parameters generally apply to all file types. Depending on your source file type, other parameters may appear in these sections. Consult the **Reference** section of this manual for information on more format-specific parameters. For more information on the **Advanced** window, see the **Advanced window** section later in this chapter.

► Source Parameters

Length	Displays the duration of the source file in hours:minutes:seconds;frames .
Source File	Displays the source file's current location on your computer.

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► Video Parameters

Video Frame Size	Displays the current frame size of the source file in pixels.
Frame Rate	Displays the source file's current frame rate in frames per second. The higher the frame rate, the more frames that are stored in the video file and the smoother playback appears. At lower frame rates, playback will be jerkier.
Video Codec	Displays the codec used to read the source file's video. In order to play the video, your system needs to have the appropriate codec module installed. If the appropriate codec is not installed, the system will not be able to play the video, and ProCoder will not be able to convert it to another format. However, you can usually find the codec you're looking for on the Internet and then download and install it, making it available to the system and to ProCoder, as well.
Interlacing	Displays whether or not your source video is interlaced or not. If your source file is interlaced, the drop-down menu displays which field is stored first (lower/bottom or upper/top). ProCoder determines how the frames of video are stored in the source file. Non-interlaced video stores and displays entire frames at one time. Interlaced mode splits each frame into sets of alternating lines, called fields, and displays each field in succession. In ProCoder, the Bottom field is the Lower field, and the Top field is the Upper field. Specifying the incorrect field order will result in a vertical jitter or ghosting during playback.
Aspect Ratio	Displays the source file's width-to-height ratio and its pixels. The video aspect ratio is the display size proportion of width to height. ProCoder has presets for both standard (4:3) and widescreen (16:9) video aspect ratios. An improper video aspect ratio will result in the image looking stretched or squashed, i.e. circles will appear as ovals. The pixel aspect ratio determines the displayed "shape" of each pixel. For computer use, pixels are normally square (1:1 ratio). However, for television and video use, pixels are mostly (but not always) rectangular. ProCoder has presets for square, television and DV standard, television and DV widescreen, and anamorphic pixel sizes. An improper pixel aspect ratio can cause the image to appear stretched or squashed, as well as cause filtering and other processing to appear strange. For example, a circle wipe may display as an oval wipe instead.



Info

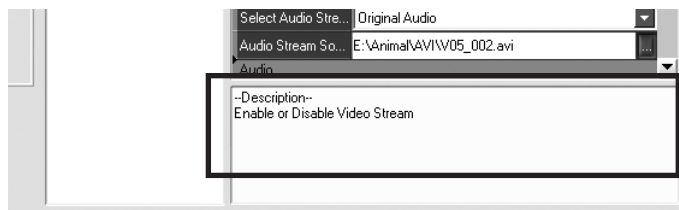
While ProCoder is fairly accurate at determining the interlacing properties of your source video, it's not always right. For best results, double-check this parameter and set it to the correct setting if it's set incorrectly.

► Audio

Channels	Displays whether the source file's audio is single channel (mono), stereo (left/right channel) or multi-channel (surround).
Sample Rate	Displays the number of audio samples per second in the source file's audio. The fidelity or dynamic range of the encoded audio depends on the sample rate. The higher the sample rate, the wider the range of frequencies that can be reproduced. The maximum reproducible frequency for a given sample rate is one-half the sample rate. For example, a standard audio CD uses audio that is at 44.100 kHz, or 44,100 samples per second. This equates to the ability to reproduce sounds up to frequencies of 22,050 Hz. The combination of sample rate and bits per sample determine the overall quality of the audio.
Bits / Sample	Displays the size of each source file's audio sample in bits per sample. The more bits per sample, the more accurate the digital recording will accurately represent the sound changes in a source. The combination of sample rate and bits per sample determine the source file's overall audio quality.
Audio Codec	Displays the codec used to play the source file's audio. In order to play the audio in a file, the system needs to have the appropriate codec module installed. If the appropriate codec is not installed, the system will not be able to play the audio in the file. For the most part, ProCoder should be able to read the majority of major audio codecs. If you don't have the appropriate codec, you can usually find it on the Internet and then download and install it, making it available to the system and to ProCoder, as well.

◆ Description

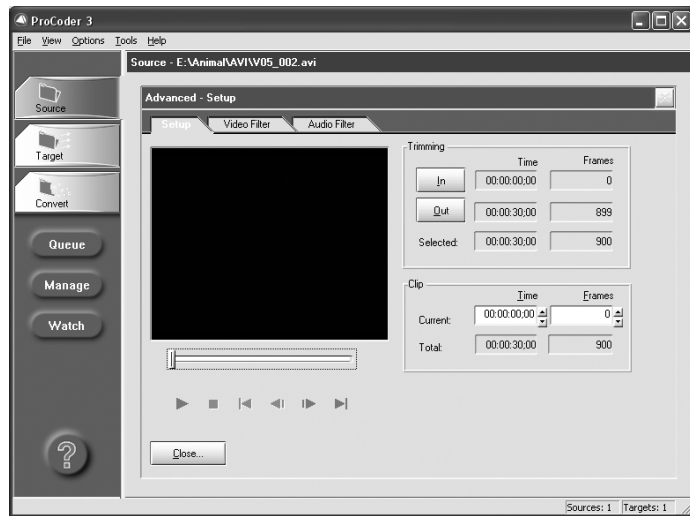
The Description section is a yellow box in the bottom right-hand corner of the Source or Target tab windows. It gives you a brief definition of the particular setting, button or parameter you are currently working on. Click on one of the parameters to see its description in this box.



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Advanced window

The Advanced window lets you modify and tweak your source file even further so it is at its highest quality before encoding. You can trim the overall length of the file, add a video filter to clean up the image or apply an audio filter in order to boost the overall volume or quality in this window. The Advanced window has three tabs – **Setup**, **Video Filter** and **Audio Filter**.



To access the Source's **Advanced** window from the basic view, do one of the following:

- Click the **Advanced** button.
- Double-click the **Source** entry.
- Right-click the **Source** entry and choose **Advanced**.
- Click the **Source** tab.



Info

If there is no audio data for the source, then the Audio Filter tab will not appear.

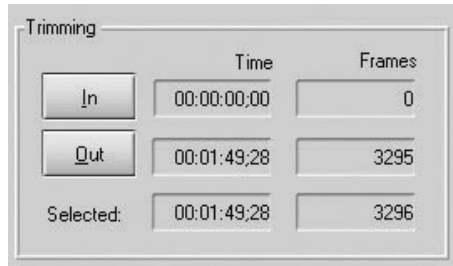
If there is no video data for the source, then the Video Filter tab will not appear.

Setup

The **Setup** tab lets you trim your video using a variety of controls.

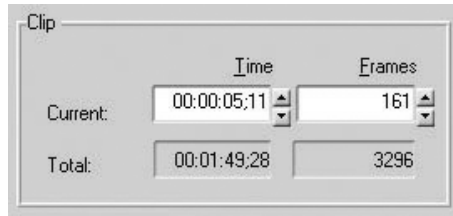
Scrubber/Play Controls	The Setup tab lets you trim your video using a variety of controls. Use the scrubber or play controls to choose your In point and then click the In button. Then choose your Out point and click the Out button.
-------------------------------	---

► Trimming section



In	Sets the In Point at the currently displayed frame. The In Point's Time and Frame number are listed in their respective boxes.
Out	Sets the Out Point at the currently displayed frame. The Out Point's Time and Frame number are listed in their respective boxes.

► Clip section



Time	Displays the time for the frame at which the scrubber is stopped. You can also use the arrow buttons to find a specific time at which you want to set the In or Out point, or simply enter a time in the Time field.
Frames	Displays the frame number at which the scrubber is stopped. You can also use the arrow buttons to find a specific frame at which you want to set the In or Out point. You can also simply enter a frame number in the Frame box.

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Total	Displays the source file's total duration after the In and Out Points are set. This value is calculated automatically and cannot be modified by hand. It can only be modified by setting the In and Out points. Duration time is displayed in hours:minutes:seconds;frames .
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➤ **Close button**

The **Close** button closes the **Advanced** window and returns you to the Source tab.



Note

Because MPEG is composed of a series of Groups of Pictures (GOPs), trimming MPEG files may not occur at the frame that appears in the Preview window, but rather at the nearest available GOP. Because of this, ProCoder can't guarantee the trimming positions of MPEG files.

Video Filter tab

The **Video Filter** tab lets you apply filters to your video to help improve image quality of your source files before they are converted. These filters can be previewed in this tab, but are applied when the video is being converted to its new format.

◆ **Video filters**

601 Correction - Expand Color Space	This video filter expands the RGB range of the video from 16-235 to 0-255. Use this filter to create output for a system that uses the full 0-255 range from input that uses 16-235.
601 Correction - Shrink Color Space	This video filter shrinks the RGB range of the video from 0-255 to 16-235. Use this filter when create output for a system that uses the 16-235 range from input that uses the full 0-255 range.
601 to 709 Color Correction	This video filter is used to convert video in the SD (601) colorspace to the HD (709) colorspace. Broadcast HD video uses YCbCr colors following Rec. ITU-R BT 709-5 where as broadcast SD video follows ITU-R BT 601.
709 to 601 Color Correction	This video filter is used to convert video in the HD(709) colorspace to SD(601) colorspace.
Adaptive De-interlace	This video filter combines the fields of an interlaced video source's fields back into whole frames using special processing to preserve full resolution while ensuring smooth motion.
Bitmap Keying	Superimpose a bitmap logo or graphic on the video. This is often used to watermark video so it can be personalized.

Black/White Correction	This filter lets you adjust and control the levels of black and white pixels in your video. By adjusting the sliders, you can specify at which point a pixel will become black and/or white. The higher the setting, the more nearly black pixels will be converted to true black and vice versa. This works best if you are encoding video for the Web and need to adjust the black and/or white levels of broadcast video so that they are truly black or white. It's also useful for making white titles on a black background more legible when viewing on a computer monitor.
Blur	This filter blurs the video in a rectangular pattern.
Broadcast Color Safe	Some colors that can be displayed on a computer cannot be displayed on television or video output. This filter restricts the colors in the source to only colors that are safe for television and video broadcast.
Circular Blur	This filter blurs the video in a circular pattern.
Color Correction	This filter allows you to adjust the brightness, contrast, hue and saturation of your video image.
Fade In/Out	This filter applies a fade in and/or out to your video in order to aid the encoding process. You should use this filter if your source video has a lot of fast motion in the first few frames. The fade in gives ProCoder a "running start" so it can encode your video more efficiently.
Gamma Correction	This filter adjusts your video's gamma settings.
Gaussian Blur	This filter applies a Gaussian blur to the video.
Median	This filter is designed to improve picture quality by removing single-pixel defects without affecting the sharpness.
Pulldown	This filter offers conversion without interpolation for progressive-to-interlaced (i.e. film-to-video) file conversion. This preserves full spatial image quality and creates target fields that are selected from the nearest temporal source frame. Displaying the resulting file on a progressive display, such as a computer monitor, produces very noticeable interlacing artifacts. However, displaying this on an interlaced display, such as a television, produces very good image quality. This method is generally used when cinematographic footage is encoded to a DVD and played on a TV.
Relative Crop	Remove unwanted edges on the video with this filter. This is often used for removing any edge blanking or other unwanted video information from the top or bottom of the video frame.
Rotate	This filter provides 90-degree rotation and axis-flipping for the video.
Sharpen	This filter sharpens the video using the "unsharpen mask" technique.

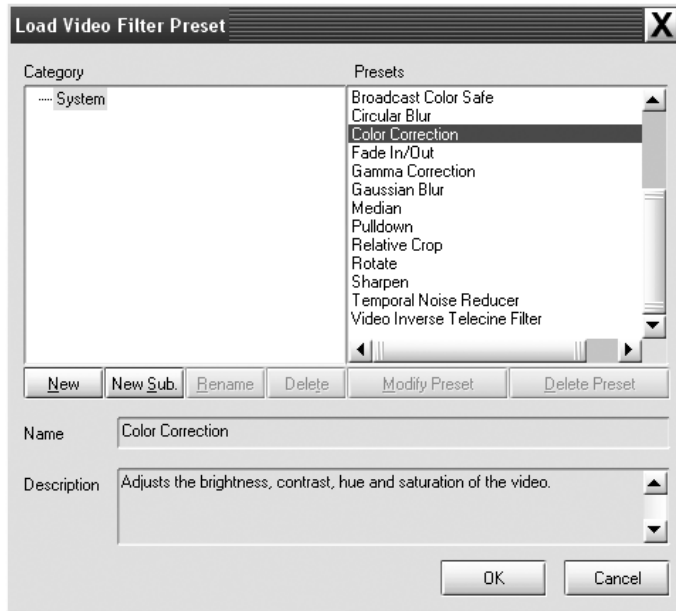
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Temporal Noise Reducer	This filter removes noise by using temporal noise reduction. Temporal noise reduction is effective for removing analog noise.
Video Inverse Telecine Filter	Use this filter to inverse telecine 2-3 telecined videos.

◆ Adding a Filter

To add a filter to the Video Filter list:

- 1 Simply click the **Add** button. The **Add Filter** dialog box appears and gives you several filters to choose from. A brief description of each filter is listed in the yellow **Description** box when the filter is highlighted.



- In the **Add Filter** dialog box, choose a filter by double-clicking on it. The filter's name appears in the **Filter List** and a preview of how it affects your source video appears in the **Result** window adjacent to the **Original** window. You can browse the different filter categories on the left and choose filters from the right. Holding down **Shift** or **Control** and selecting the desired filters lets you add multiple filters to the Filter list.



- Use the sliders to adjust the filter parameters to your desired specifications.

Removing a Filter

To remove a filter from the Filter List:

- Highlight the filter in the list.
- Click the **Remove** button to remove the filter. If you want to remove all the filters you've applied so far, click the **Remove All** button.

Saving and Loading filters

To save a custom setting for the currently selected filter:

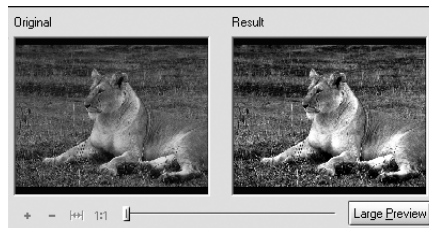
- Click the **Save Preset** button. A dialog appears asking you to name and enter a short description of your preset.

ProCoder 3

- 2** Custom presets are stored along with the default presets and can be categorized into folders and subfolders.
- 3** To add a customized filter preset, simply click **Add** and load it the same way you would load a default preset.
- 4** To remove a customized filter preset, simply click **Add** to open the **Load Video Filter Preset** dialog, click the filter preset you want to remove, then click the **Delete Preset** button.

Preview Windows

The **Original** window displays what the original file looks like before filtering. The **Result** window displays the original file with the filters applied.



The **Plus** button enlarges both preview images, and the **Minus** button makes both preview images smaller. If the preview image is larger than the window, scroll bars appear allowing you to navigate through the entire image. You can also click and drag on the image to navigate through the image.

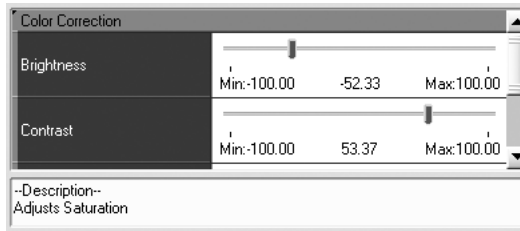
Fit to Window The **Fit to Window** button resizes the preview images to fit inside the window's current size. No matter what size the window, this preview mode preserves the aspect ratio assigned to the file. This button is useful if you enlarged or reduced the preview image and want to view the whole image in the window again.

1:1 The **1:1** button displays the video at 1-to-1 pixel size. (1 monitor pixel = 1 video pixel)

The **Scrubber** bar is used to find specific frames in the source video that you want to use so you can see the effect of the filter(s) on the specific frame. You can either click and drag the scrubber or use your keyboard's arrow keys to step through the video's individual frames.

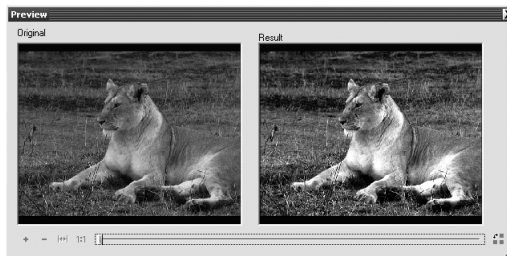
► Settings

This section displays the settings for the particular filter you are using. Use the sliders to adjust the degree of modifications for each filter.



► Large Preview

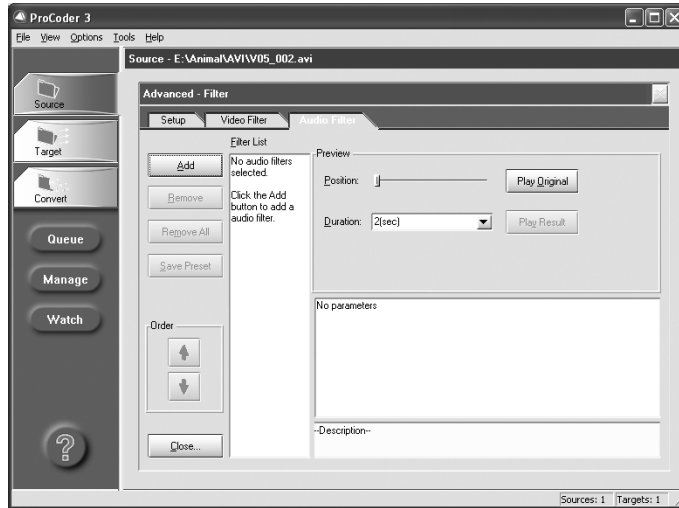
Clicking the **Large Preview** button opens a floating window that allow you to modify the preview size. This is helpful for scrutinizing the finer details of your video. You can use the scrubber bar to find specific points in the video. You can resize the window as needed, and it adjusts the size of the previews proportionally. It also contains the same controls as the **Video Filter** tab.



The **Orientation** button switches the orientation of the preview windows between horizontal and vertical.

Audio Filter tab

The **Audio Filter** tab lets you add audio filters to your source file to help improve the audio quality of your target files. These filters can be previewed in this tab and are applied to the source audio before any target audio filters are processed.



◆ Audio Filters

Channel Mixer	The Channel Mixer filter interchanges audio channels.
Fade In/Out	The Fade In/Out filter is used to add a fade in and/or fade out to the audio. This is most useful in conjunction with the Video Fade In/Out filter.
Lowpass	The Lowpass filter removes high-frequency signals, such as electrical noise and hiss, from the audio.
Normalize	The Normalize filter raises the audio to maximize volume without clipping. Adjust the volume of a batch of clips so they are all at the same level. This is a dual-pass filter and will increase your source file's overall conversion time.
Volume	The Volume filter lets you adjust the overall volume of the audio.

◆ Adding a Filter

To add a filter to the Filter List:

Simply click the **Add** button. The **Load Audio Filter Preset** dialog box appears and displays a list of filters to choose from. When the filter is highlighted, a brief description of each filter is listed in the Description box below when the filter is highlighted.



In the **Load Audio Filter Preset** dialog box, choose a filter by double-clicking on it. The filter's name appears in the Filter List, and you can listen to a preview of how it affects your source video by clicking **Play Result** here.

◆ Removing a Filter

To remove a filter from the Audio Filter list:

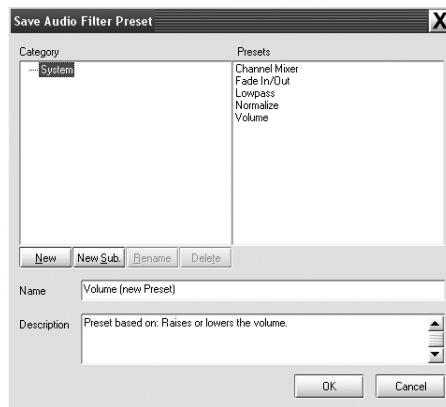
- 1** Highlight the filter from the list.
- 2** Click the **Remove** button to remove the filter.

Saving and Loading filters

- 1 To save a custom setting for the currently selected filter, click the **Save Preset** button.



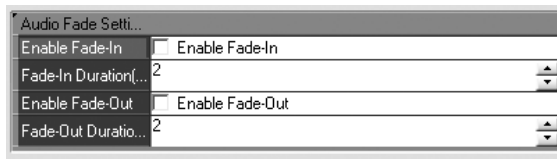
- 2 A dialog appears asking you to name and enter a short description of your preset.



- 3 Custom presets are stored along with the default presets and can be categorized into folders and subfolders.
- 4 To add a customized filter preset, simply click **Add** and load it the same way you would load a default preset.
- 5 To remove a customized filter preset, simply click **Add** to open the **Load Audio Filter Preset** dialog, click the filter preset you want to remove, then click the **Delete Preset** button.

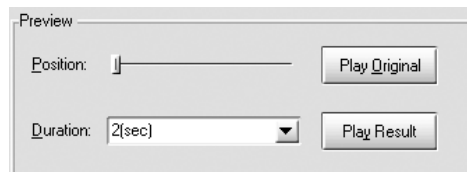
Settings

This section displays the settings for the particular filter you are using. Use the sliders to adjust the degree of modifications for each filter.



Preview

The Preview section lets you preview your audio – with or without filtering.



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3 Target Tab

A Target is basically the video format of your converted source file. You can assign multiple Targets to a single source file, which lets you create different formats of the same source file in one shot.

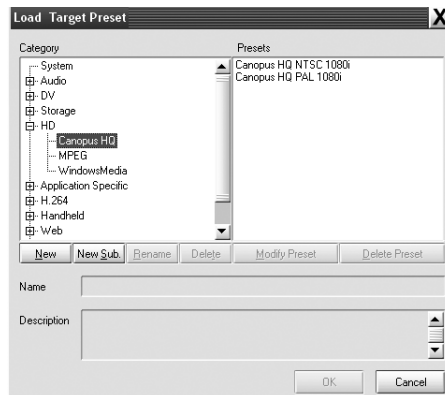
You can create various kinds of the following types of media with ProCoder, including:

- *AC3 Audio*
- *DV*
- *H.264*
- *MP3 Audio*
- *PCM Audio*
- *Preview DVD*
- *RawDV*
- *Windows Media*
- *AVI*
- *Flash*
- *HDV*
- *MPEG*
- *Poster Frame Exporter*
- *QuickTime*
- *RealMedia*

Assigning Targets

To assign a target to your source file:

- 1** Click on the **Target** tab.
- 2** Click the **Add** button. The **Load Target Preset** dialog appears.



- 3** Click the entry of the file type you want to create in the left column, then choose a preset from the right column. The **Description** box tells you exactly which type of target file you have selected.

System	contains base settings for all the formats ProCoder produces. These settings are a good starting point for creating a custom setting.
Audio	contains PCM and MP3 settings for audio-only output formats. These settings are good for exporting audio for use in other applications and for conforming audio files.
DV	contains AVI, QuickTime and RawDV profiles for different DV standards.
Storage	contains AVI, MPEG, or Windows Media targets for use as archival storage formats.
HD	contains Canopus HQ, MPEG and Windows Media HD settings.
Application Specific	contains Editing Software, DVD production/ authoring and MediaEdge / HDMA-4000 profiles.
H.264	contains HD, SD and Web profiles.
Handheld	contains iPod, 3GPP and RealMedia 10 for video files that are compatible with handheld devices, such as PDAs and cell phones.
Web	contains MPEG, QuickTime, RealMedia, Windows Media and Thumbnails profiles suitable for Web delivery.
CD/DVD	contains Computer, VCD, DVD and SVCD useful for video on CD and DVD media.
Image Sequence	exports a series of still images.

You can also create your own categories and subcategories to store and organize your own target presets.

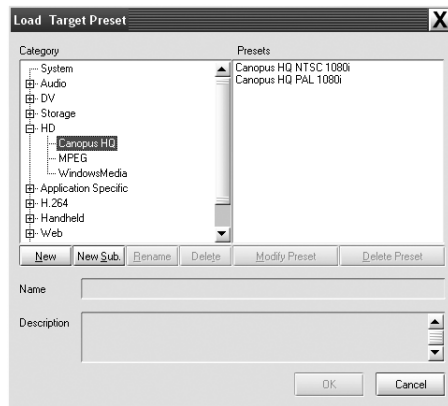
- 4** The format you selected appears in the **Target List**. You can modify a target's parameters in the **Target Parameters** section of the Target tab. Customizable parameters are those with a white background color. Depending on the setting, either enter the values you wish to use or make a selection from the drop-down menu.

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Modifying Targets

ProCoder offers a plethora of customizable parameters that help you easily encode high-quality video. These parameters can be edited in the **Target** tab either before or after you add videos to the Source List.

- 1 Click on the **Target** tab.
- 2 Click the **Add** button. The **Load Target Preset** dialog appears.



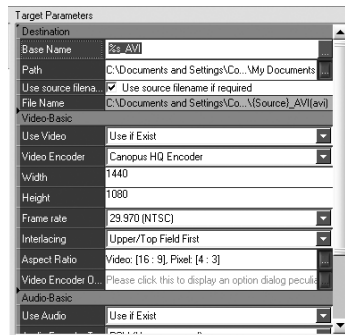
- 3 Choose the target you want to use and click the **OK** button. The chosen target appears in the **Target** List.



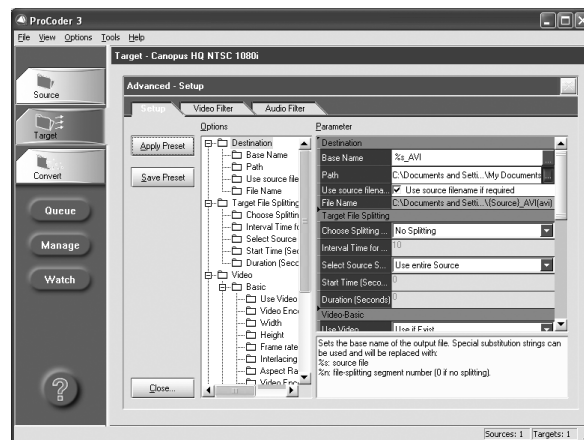
Info

You can also choose **File > Save Project** to save both your source files and custom target settings. Simply double-click the saved project file to launch ProCoder and continue working on or start encoding the project.

- 4** The target's basic parameters appear in the **Target Parameters** section. You can modify any of the parameters that aren't grayed out. Simply enter values in the fields, or use the drop-down menus to modify the default target parameters.



- 5** If you want to modify the target's more advanced settings, click the **Advanced** button or double-click on the target in the **Target List** to open the **Advanced** window. Use the **Setup**, **Video Filter** and **Audio Filter** tabs to modify the desired parameters. When you are finished modifying the advanced settings, click the **Close** button. For more information on the **Advanced** window, see the **Advanced window** section later in this chapter.



- 6** If you want to save the changes for a custom target, click the **Save Profile** button. Saved presets are visible in the **Custom** tab in the **Add Target** dialog. If you quit ProCoder, the targets revert to their default settings the next time you launch the program.

Customizing Advanced Settings

There are two different places in the **Target** tab where targets can be modified. When you add a target to the Target List, its basic parameters are displayed in the Target Parameters section of the tab, and you can easily modify nearly all of these settings. See the next section for more information on the **Advanced** window. If you want to modify the selected target's more advanced settings:

- 1** Click the **Advanced** button in the **Target** tab.
- 2** In the **Setup** tab, the list of **Target Parameters** is expanded, containing all the available parameters for the target you are modifying. Keep in mind, however, that not all parameters are available to all targets.
For example, there are generally more modifiable options for MPEG streams than there are for DV streams due to the varying number of parameters that are available for the MPEG codec.

Advanced window

The **Advanced window** in the Target tab is similar to the one used in the **Source** tab except that the parameters you set affect only the assigned target files and not the source file itself. Target filters are used for enhancing and optimizing the final output files created using the parameters you set for each specific target.

For example, if you are creating both MPEG and QuickTime files for a particular source and you want only the QuickTime files to have an extra brightness setting attached, then you can adjust the brightness using the **Color Correction** filter on only the QuickTime Target preset in the **Target** tab. This allows the brightness setting to only apply to the QuickTime settings and will not affect the MPEG output.

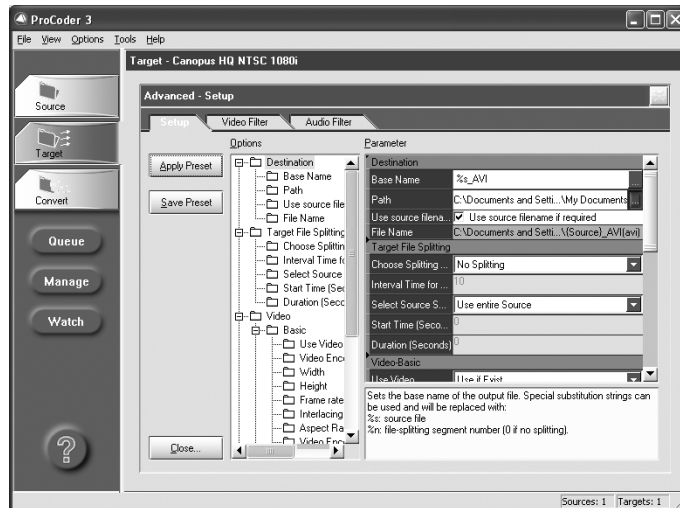
The **Target** tab's **Video Filter** and **Audio Filter** tabs are identical to those in the **Source** tab's **Advanced** window, but the parameters you set in the **Target** tab only apply to the target you are modifying. For more information on these tabs, see the rest of this manual.

To access the Target's **Advanced** window from the basic view, do one of the following:

- Click the **Advanced** button.
- Double-click the Target entry.
- Right-click the Target entry and choose **Advanced**.
- Click the **Target** tab.

Setup tab

The **Setup** tab lets you modify the parameters for the various different presets available for all the different formats ProCoder can encode. Since every format has its own set of parameters, this list changes depending on the target you choose.



You can navigate through the settings quickly by using the tree-based option list. Clicking on the profiles in the tree displays them immediately in the **Target Parameters** section of the **Advanced** window. Some profiles disable the modification of certain parameters in order to ensure that the setting adheres to a format's particular spec. You can only modify the parameters that have white backgrounds. When you click on an option, a description of the option appears in the yellow box under the parameter list.

➤ Target path name

In the Target section of the **Source** tab or **Setup** tab in the **Advanced** window, you can specify which folder you want the target file to be saved in by entering a file path in the **Path** field. You can also press the ... button at the end of the row and choose the path in the dialog box that appears.

Video Filter tab

The Video Filter tab lets you apply filters to your video to help improve image quality of your source files before they are converted. These filters can be previewed in this tab, but are applied when the video is being converted to its new format.

Video filters

601 Correction - Expand Color Space	This video filter expands the RGB range of the video from 16-235 to 0-255. Use this filter to create output for a system that uses the full 0-255 range from input that uses 16-235.
601 Correction - Shrink Color Space	This video filter shrinks the RGB range of the video from 0-255 to 16-235. Use this filter when create output for a system that uses the 16-235 range from input that uses the full 0-255 range.
601 to 709 Color Correction	This video filter is used to convert video in the SD (601) colorspace to the HD (709) colorspace. Broadcast HD video uses YCbCr colors following Rec. ITU-R BT 709-5 where as broadcast SD video follows ITU-R BT 601.
709 to 601 Color Correction	This video filter is used to convert video in the HD(709) colorspace to SD(601) colorspace.
Adaptive De-interlace	This video filter combines the fields of an interlaced video source's fields back into whole frames using special processing to preserve full resolution while ensuring smooth motion.
Bitmap Keying	Superimpose a bitmap logo or graphic on the video. This is often used to watermark video so it can be personalized.
Black/White Correction	This filter lets you adjust and control the levels of black and white pixels in your video. By adjusting the sliders, you can specify at which point a pixel will become black and/or white. The higher the setting, the more nearly black pixels will be converted to true black and vice versa. This works best if you are encoding video for the Web and need to adjust the black and/or white levels of broadcast video so that they are truly black or white. It's also useful for making white titles on a black background more legible when viewing on a computer monitor.
Blur	This filter blurs the video in a rectangular pattern.
Broad cast Color Safe	Some colors that can be displayed on a computer cannot be displayed on television or video output. This filter restricts the colors in the source to only colors that are safe for television and video broadcast.
Circular Blur	This filter blurs the video in a circular pattern.
Color Correction	This filter allows you to adjust the brightness, contrast, hue and saturation of your video image.

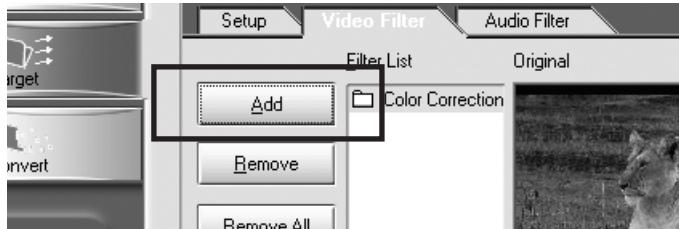
Fade In/Out	This filter applies a fade in and/or out to your video in order to aid the encoding process. You should use this filter if your source video has a lot of fast motion in the first few frames. The fade in gives ProCoder a “running start” so it can encode your video more efficiently.
Gamma Correction	This filter adjusts your video’s gamma settings.
Gaussian Blur	This filter applies a Gaussian blur to the video.
Median	This filter is designed to improve picture quality by removing single-pixel defects without affecting the sharpness.
Pulldown	This filter offers conversion without interpolation for progressive-to-interlaced (i.e. film-to-video) file conversion. This preserves full spatial image quality and creates target fields that are selected from the nearest temporal source frame. Displaying the resulting file on a progressive display, such as a computer monitor, produces very noticeable interlacing artifacts. However, displaying this on an interlaced display, such as a television, produces very good image quality. This method is generally used when cinematographic footage is encoded to a DVD and played on a TV.
Relative Crop	Remove unwanted edges on the video with this filter. This is often used for removing any edge blanking or other unwanted video information from the top or bottom of the video frame.
Rotate	This filter provides 90-degree rotation and axis-flipping for the video.
Sharpen	This filter sharpens the video using the "unsharpen mask" technique.
Temporal Noise Reducer	This filter removes noise by using temporal noise reduction. Temporal noise reduction is effective for removing analog noise.
Video Inverse Telecine Filter	Use this filter to inverse telecine 2-3 telecined videos.

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◆ Adding a Filter

To add a filter to the Video Filter list:

- 1 Simply click the **Add** button. The **Add Filter** dialog box appears and gives you several filters to choose from. A brief description of each filter is listed in the yellow **Description** box below when the filter is highlighted.



- 2 In the Add Filter dialog box, choose a filter by double-clicking on it. The filter's name appears in the **Filter List** and a preview of how it affects your source video appears in the **Result** window adjacent to the **Original** window. You can browse the different filter categories on the left and choose filters from the right. Holding down **Shift** or **Control** and selecting the desired filters lets you add multiple filters to the **Filter list**.



- 3 Use the sliders to adjust the filter parameters to your desired specifications.

◆ Removing a Filter

To remove a filter from the Filter List:

- 1 Highlight the filter in the list.
- 2 Click the **Remove** button to remove the filter. If you want to remove all the filters you've applied so far, simply click the **Remove All** button.

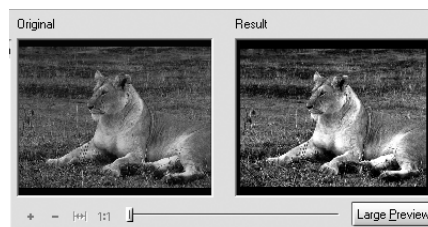
◆ Saving and Loading filters

To save a custom setting for the currently selected filter:

- 1 Click the **Save Preset** button. A dialog appears asking you to name and enter a short description of your preset.
- 2 Custom presets are stored along with the default presets and can be categorized into folders and subfolders.
- 3 To add a customized filter preset, simply click **Add** and load it the same way you would load a default preset.
- 4 To remove a customized filter preset, simply click **Add** to open the **Load Video Filter Preset** dialog, click the filter preset you want to remove, then click the **Delete Preset** button.


◆ Preview Windows


The **Original** window displays what the original file looks like before filtering. The **Result** window displays the original file with the filters applied.



The **Plus** button enlarges both preview images, and the **Minus** button makes both preview images smaller. If the preview image is larger than the window, scroll bars appear allowing you to navigate through the entire image. You can also click and drag on the image to navigate through the image.

ProCoder 3

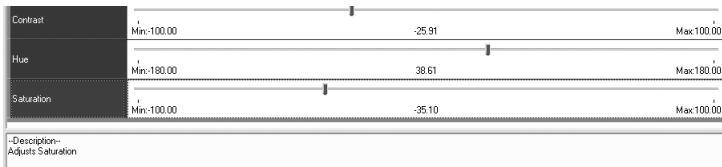
 The **Fit to Window** button resizes the preview images to fit inside the window's current size. No matter what size the window, this preview mode preserves the aspect ratio assigned to the file. This button is useful if you enlarged or reduced the preview image and want to view the whole image in the window again.

 The **1:1** button displays the video at 1-to-1 pixel size. (1 monitor pixel = 1 video pixel)

The **Scrubber** bar is used to find specific frames in the source video that you want to use so you can see the effect of the filter(s) on the specific frame. You can either click and drag the scrubber or use your keyboard's arrow keys to step through the video's individual frames.

► Settings


This section displays the settings for the particular filter you are using. Use the sliders to adjust the degree of modifications for each filter.



► Large Preview

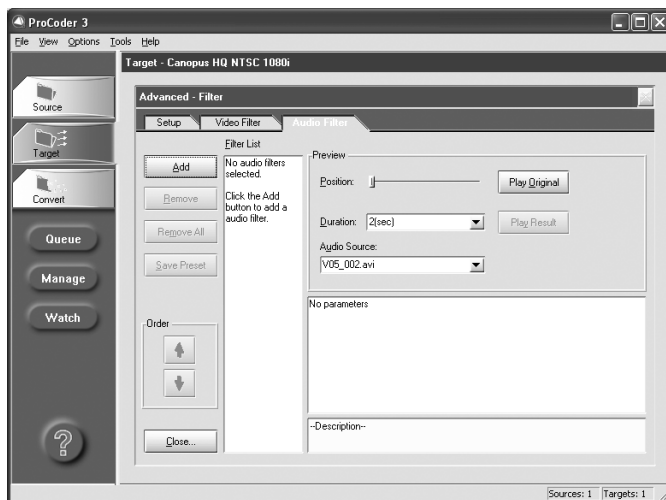
Clicking the **Large Preview** button opens a floating window that allow you to modify the preview size. This is helpful for scrutinizing the finer details of your video. You can use the scrubber bar to find specific points in the video. You can resize the window as needed, and it adjusts the size of the previews proportionally. It also contains the same controls as the **Video Filter** tab.



 The **Orientation** button switches the orientation of the preview windows between horizontal and vertical.

Audio Filter Tab

The **Audio Filter** tab lets you add audio filters to your target file to help improve the audio quality of your target files. These filters can be previewed in this tab and are applied to the target audio after any source audio filters are processed.



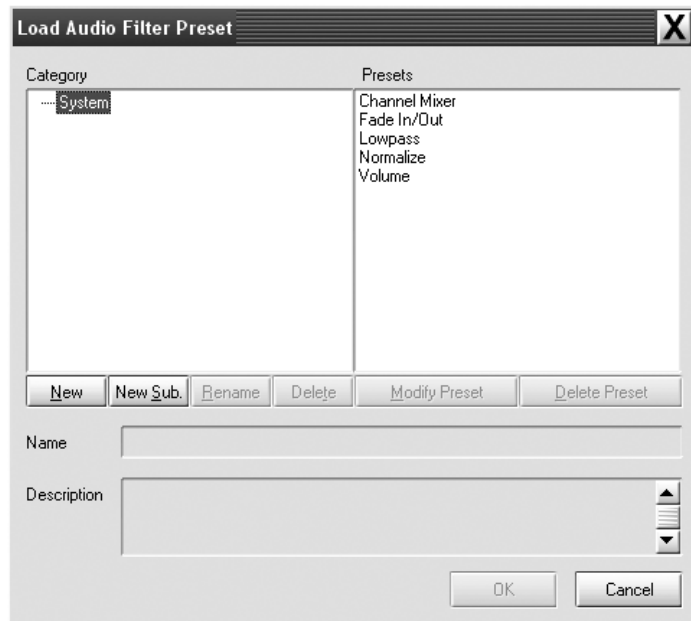
Audio Filters

Channel Mixer	The Channel Mixer filter interchanges audio channels.
Fade In/Out	The Fade In/Out filter is used to add a fade in and/or fade out to the audio. This is most useful in conjunction with the Video Fade In/Out filter.
Lowpass	The Lowpass filter removes high-frequency signals, such as electrical noise and hiss, from the audio.
Normalize	The Normalize filter raises the audio to maximize volume without clipping. Adjust the volume of a batch of clips so they are all at the same level. This is a dual-pass filter and will increase your source file's overall conversion time.
Volume	The Volume filter lets you adjust the overall volume of the audio.

◆ Adding a Filter

To add a filter to the Filter List:

- 1 Simply click the **Add** button. The **Load Audio Filter Preset** dialog box appears and displays a list of filters to choose from. When the filter is highlighted, a brief description of each filter is listed in the **Description** box below when the filter is highlighted.



- 2 In the **Load Audio Filter Preset** dialog box, choose a filter by double-clicking on it. The filter's name appears in the Filter List and you can listen to a preview of how it affects your source video by clicking **Play Result** here.

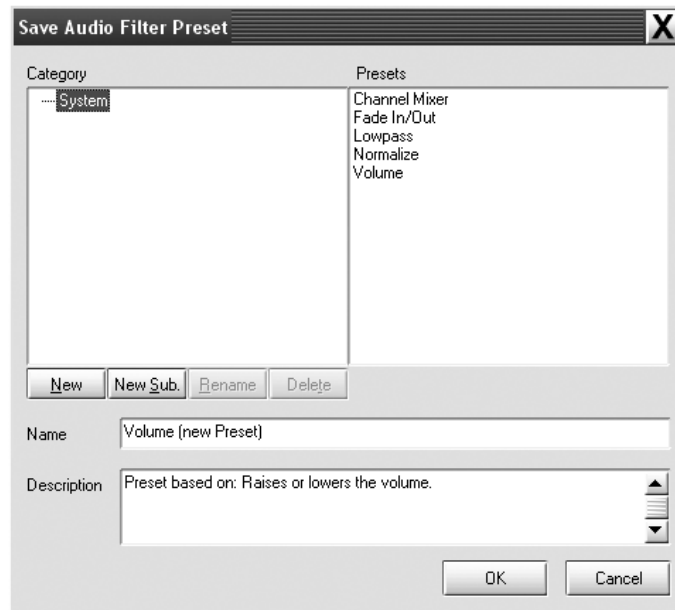
◆ Removing a Filter

To remove a filter from the Audio Filter list:

- 1 Highlight the filter from the list.
- 2 Click the **Remove** button to remove the filter.

◆ Loading and Saving filters

- 1 To save a custom setting for the currently selected filter, click the **Save Preset** button.
- 2 A dialog appears asking you to name and enter a short description of your preset.

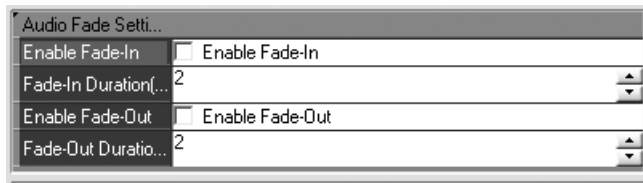


- 3 Custom presets are stored along with the default presets and can be categorized into folders and subfolders.
- 4 To add a customized filter preset, simply click **Add** and load it the same way you would load a default preset.
- 5 To remove a customized filter preset, simply click **Add** to open the **Load Audio Filter Preset** dialog, click the filter preset you want to remove, then click the **Delete Preset** button.

ProCoder 3

Settings

This section displays the settings for the particular filter you are using. Use the sliders to adjust the degree of modifications for each filter.



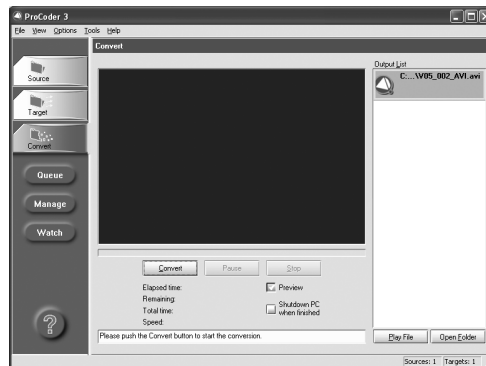
Preview

The Preview section lets you preview your audio – with or without filtering.



4 Convert Tab

The **Convert** tab is very straightforward. When you click it, the **Convert** window appears. You can watch your files encode in the **Convert** window's preview section.



To begin converting files, click the **Convert** button. The conversion process begins, and you can keep track of how each file will look in the preview window. If you are converting a batch of files, the **Output List** lets you know which files have been encoded. The file at the bottom of the list is the file that is currently being encoded. By clicking on a file in the **Output List**, you can preview each target as it's being encoded in realtime. This is handy for checking the picture quality of your converted files while they are being encoded. When ProCoder finishes encoding all the files, you'll hear ProCoder's exuberant "Done" sound. Don't worry, you can't miss it.

You can stop encoding at any time by pressing the **Stop** button. You can play the partially encoded file up to the point at which encoding was stopped. If you want to re-encode the file, press the **Convert** button and ProCoder will start encoding from the beginning of the file.

Note

When encoding is either stopped or completed, there may be some delay before ProCoder is available to the system. This is normal, so please do not terminate the application during this time.

Playing converted files

If you want to play a file after it's encoded, click the file you want to view in the **Output List** on the right side of the window and then click the **Play** button. The appropriate player for the file you select appears and plays the file. If you want to open the destination folder, click the **Open Folder** button. You can only open files that are finished encoding, so you should wait until ProCoder starts encoding the next file in the batch and then trying to open the previous file.

5 Presets and Profiles

ProCoder makes it easy to save and manage customized presets and profiles.

Loading and Saving Custom Settings

To save a custom setting for the currently selected filter, click the **Save Preset** button. A dialog appears asking you to name and enter a short description of your preset.

To load a custom setting for the currently selected filter, click the **Load Preset** button. The **Settings** dialog appears. Click the **Custom** tab and select the preset you want to load.

To remove a custom filter setting, simply select the filter you want to remove and click the **Remove** button.

Loading and Saving Target profiles

To save a custom setting for the current list of Targets, click the **Save Profile** button. A dialog appears asking you to name and enter a short description of your preset.

To load a custom Target setting, click the **Add Target** button. The **Add Target** dialog appears. Click the **Custom** tab and select the preset you want to load.

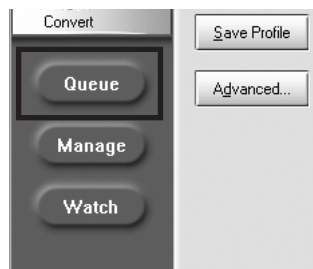
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6 Queue Manager

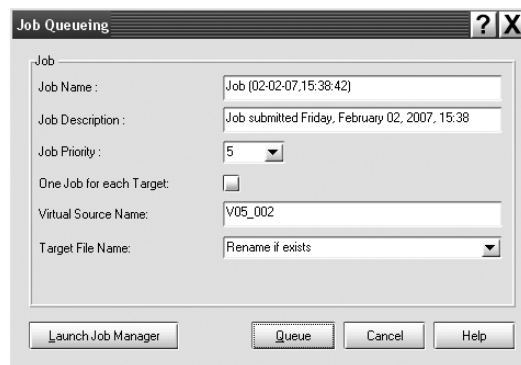
In addition to its normal conversion processes, ProCoder also provides job queuing capabilities. Instead of waiting for the ProCoder application to finish a conversion, you can queue jobs to the ProCoder **Queue Manager** which takes over and performs conversion of queued jobs much like the print spooler handles printing jobs. In this manner, the ProCoder application serves as a job set-up tool and the user can queue multiple jobs with different priorities and return later when they are complete.

◆ To queue a job:

- 1 To queue a job, set up the conversion in the ProCoder application as you normally would, but instead of clicking the **Convert** tab and starting conversion, click the **Queue** button below the **Convert** tab.



The **Job Queuing** window appears.



- 2 In the **Job Name** field, enter a name for the job. The job's name will appear in the **Queue Manager**.

- 3** Enter a description of the job in the **Job Description** field. The job’s description will also appear in the Queue Manager.
- 4** Choose a **Job Priority** from the drop-down box. The higher the job priority is, the sooner the Queue Manager will start the job. Higher-priority jobs are started before lower-priority jobs. The highest priority is 9 which means the job will be started as soon as any currently jobs are complete, unless there are more priority 9 jobs already waiting.
- 5** Check One Job for each Target, to add a job to the Job Manager for each target registered.
- 6** Enter a name for the target file in the Target File Name field.
- 7** Select the appropriate action to take an output file already exists from the **Target File Name** drop-down.

Rename if exists	Rename the output file if a file of the same name already exists
Overwrite if exists	Overwrite the output file if a file of the same name already exists
- 8** Click the **Queue** button to add the job to the queue. The **Launch Queue Manager** button launches the ProCoder Queue Manager so you can view the status of the conversion queue.

Canceling and managing jobs

Job management is handled by the ProCoder **Queue Manager**. There are three ways that you can access the ProCoder Job Queue Manager:

- *Clicking the **Manage** button on the left side of the ProCoder application.*
- *Clicking the **Launch Queue Manager** button in the **Job Queueing** window.*
- *Launching the Job Queue Manager separately by choosing **Start Menu > All Programs > ProCoder 3 > Job Queue Manager**.*

See **Managing Jobs** in the next section for more information on using the Queue Manager.

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Managing Jobs

The ProCoder Queue Manager is used to monitor the progress of conversion jobs the system is processing.

You can launch the Job Queue Manager by clicking the Manage button in the ProCoder application or by launching the ProCoder Job Queue Manager by choosing by choosing **Start Menu > All Programs > ProCoder 3 > Job Queue Manager**.

Any jobs that are pending or in progress are displayed in the list, along with information about the job and any sub-sections.

◆ Viewing Jobs

The job information is listed in the **Queue Manager** as follows:

Name	The name of the job as specified by the ProCoder application
Description	The description of the job as specified by the ProCoder application
Priority	Priority of the job from 1-9, 9 being highest. Queued jobs with higher priority values will be processed before jobs with lower priority values.
User	The method of submission for this job. Jobs normally appear as ProCoder 3.
Progress	The progress of the job in percent.
Progress Bar	A graphical representation of the progress of the job.
Time	The time of job submission.
Machine	The name of the machine where the job is executed.
Warning/Error	Any warnings or errors in a job appear here.

Managing Jobs

Jobs can be controlled by the contextual menu shown by right-clicking on them.

Changing job priority	You can change the priority of a job that has not started by right-clicking the job and choosing Change Priority to select a new priority. Jobs with higher priorities are processed before jobs with lower priorities. You can also change the priority of a job so that it can be processed next by right-clicking the job and choosing Start Next .
Starting a job	Queued jobs start automatically as processing resources are available. You can also force the job that is in the QUEUED state to start locally by right-clicking the job and choosing Start locally now .
Stopping a job	To stop a running job, right-click the job and choose Stop . To restart a stopped job, right-click it and choose Restart .
Pausing a job	A running job can be paused by right-clicking the job and choosing Pause . To resume a paused job, right-click it and choose Resume .
Removing a job	To remove a job, right-click the job and choose Remove .
Previewing a job	You can display a preview of a job in progress by right-clicking the job and choosing Preview .
Show Details	You can display the details of a job.

Clearing the Queue

There are options you can choose in the **Tools** menu to clear out the queue, including:

Clean List	Removes all completed jobs
Automatically Remove on Completion	Removes a job upon successful completion of encoding.

7 Watch Folders

A watch folder is used to automatically convert files placed into it. ProCoder “watches” the folder for new files and when a new file arrives, it is converted automatically according to the settings assigned without needing user input.

In ProCoder, there are two types of watch folders:

- **Permanent Watch Folders** are set up by ProCoder’s **Watch Folder Manager** tool. Files placed into permanent watch folders are converted using the associated target profile and are active regardless of whether the ProCoder application is open and remain watched until removed using the Watch Folder Manager tool.
- **Temporary Watch Folders** are set up using the ProCoder 3 Wizard. Files placed into a temporary watch folder are only converted while the ProCoder 3 Wizard is open. Once the ProCoder 3 Wizard is closed, the folder stops being watched and returns to being a normal folder.

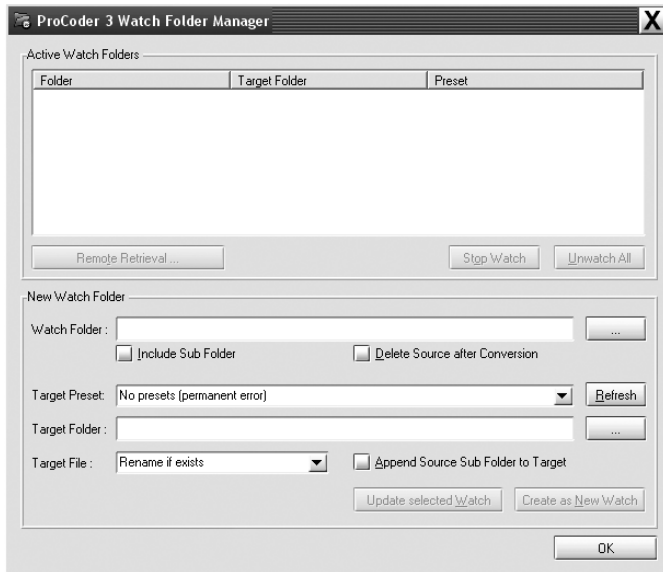


You can copy approximately 2000 files at once into the Watch folder. If you need to copy more than 2000 files, break them up into smaller groups before copying them into the Watch folder.

Creating Permanent Watch Folders

To create a permanent watch folder:

- 1 If the ProCoder Application is open, click the **Watch** button to open the Watch Folder Manager tool. Otherwise, run Watch Folder Setup from the **Start** menu in **All Programs > ProCoder 3**. The ProCoder Watch Folder Manager tool appears. Existing watch folders appear in the **Active Watch Folders** area.



ProCoder 3

- 2 Click the ... button next to **Watch Folder** under **New Watch Folder**. The **Browse for Watch Folder** dialog appears.



- 3 Select the folder to watch for new files. To create a new folder, click the **Make New Folder** button.
- 4 To convert files placed into subfolders of the selected folder, enable the **Include Sub Folder** option.
- 5 To delete Source file once the conversion is finished, enable the **Delete Source after Conversion** option.
- 6 Permanent Watch Folders use conversion settings from a preset. Choose a preset from the drop-down menu. Any custom presets you have saved from the ProCoder application appear in this list in addition to the basic presets.

- Click the ... button next to **Target Folder** to select the output folder. All files that arrive in the Watch Folder will be converted and the output is written to the Target Folder.

The **Browse for Target Folder** dialog appears.



- To output files in subfolders of the Watch Folder into matching subfolders in the Target Folder, enable the **Append Sub Source Folder to Target** option. If it is not enabled, files in subfolders of the Watch Folder will be output to root of the Target Folder.

- Click the drop-down next to Target File to choose what to do when conversion creates a file with the same name as an existing file in the Target Folder.

Rename if exists	renames the output file, appending a number starting from 00 to the name to make it unique.
Overwrite if exists	overwrites any existing output file in the Target Folder with the result of the conversion.

- Click **Update selected Watch** to update the Watch Folder.

- Click the **Create Watch** button to add the watch folder to the **Active Watch Folders** list.

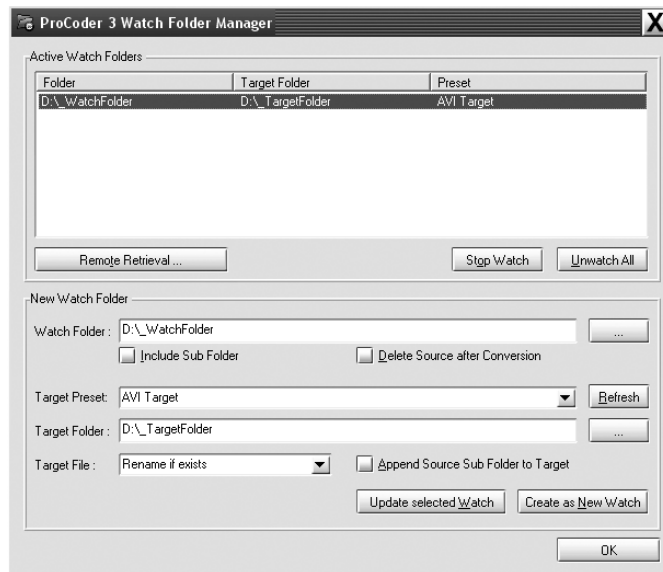
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Removing Permanent Watch Folders

To remove a permanent watch folder:

- 1 If the ProCoder Application is open, click the **Watch** button to open the **Watch Folder Manager** tool. Otherwise, run Watch Folder Setup from the Start menu in **All Programs > ProCoder 3**.

The ProCoder Watch Folder Manager tool appears. Existing watch folders appear in the Active Watch Folders area.



- 2 To remove individual watch folders, select a folder in the list by clicking on it then click the **Stop Watch** button. To remove all watch folders, click the **Unwatch All** button.

Creating Temporary Watch Folders

Temporary Watch Folders are part of the ProCoder 3 Wizard covered in the **Chapter 3: ProCoder 3 Wizard**.

8 Transcoding Settings

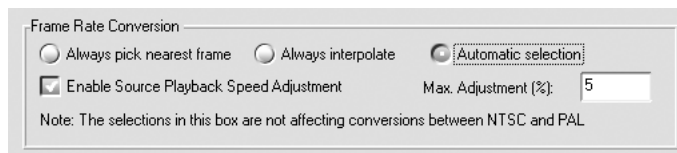
The Transcoding Settings window lets you set parameters for destination disks to save encoded files, as well as default processing options for the entire application. Setting these parameters is useful if you are going to be dealing with lots of source files from a single or similar sources. To open the **Transcoding Settings** dialog, choose **Options > Transcoding Settings**.

Processing Options tab

The **Processing Options** tab controls both **Frame Rate Conversion Chapter Points**, **TimeCode**, and **Scaling and Letterboxing** preferences.

◆ Frame Rate Conversion

If your source and your target have different frame rates, there are many different ways to converting the source frame rate to the target frame rate.



Always pick nearest frame	This option creates a target frame by picking the nearest temporal frame from the source stream. This preserves full spatial source image quality. However, depending on the ratio between the source and target frame rates, movement in the video may appear jerky.
Always interpolate	This option creates a target frame interpolating between the two nearest temporal source frames. This guarantees smooth movement. However, since every target frame is an interpolation between source frame, the spatial quality is degraded and “ghost” images may appear.
Automatic selection	When the source or target frame rate is below approximately 23fps, ProCoder will pick the nearest frame instead of interpolating in order to avoid ghosting.

If ProCoder needs to interpolate frames for doing frame rate conversions, ghost images might appear. Use the **Automatic selection** option to avoid ghosting. If ghosting still occurs, then use the **Always pick nearest frame** option.



Note

NTSC-PAL conversions between formats that have specific NTSC and PAL parameters are handled by ProCoder automatically and do not use this setting.

► Source Playback Speed Adjustment

ProCoder normally does not alter the playback rate of sources in order to preserve the source's original speed and visual intent. In other words, objects always move at the same speed through video regardless of the target frame rate and a 10-second source always converts to a 10-second target.

However, in some circumstances it is advantageous to slightly alter the source playback rate by a very small amount in order to aid conversion. For example, a 29.97fps source can be sped up to 30fps playback for conversion to a 15fps output, removing the possibility of interpolation artifacts and making the conversion faster. It is also standard that 24fps film transfers to PAL DVD-Video are not put through frame rate conversions. Instead, the 24fps film content is encoded and authored as if it was 25fps content, resulting in a 4% speed-up. This eliminates any interpolation or pulldown but makes PAL DVDs of film transfers ever-so-slightly shorter in length.

Enable Source Playback Speed Adjustment	Check this box to allow ProCoder to alter the playback speed of sources up to the percentage in the Max. Adjustment (%) box.
--	---

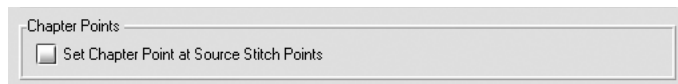


Note

Be careful not to set the Max. Adjustment percentage too high because it can cause undesirable results, such as distorted audio and video playback.

◆ Chapter Points

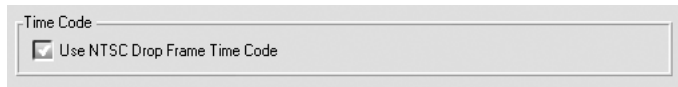
When a DVD is created with the multiple videos stitched together, the Chapter points can automatically be set at the source stitch points.



Set Chapter Point at Source Stitch Points	Check this box to allow ProCoder to set Chapter Points at the Source Stitch Points.
--	---

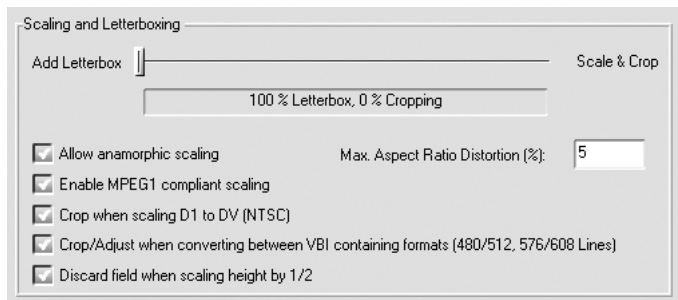
◆ Time Code

As a NTSC video is in 29.97fps, it takes more than a second to display 30 frames. To correct this difference, drop frame Time Code drops frame numbers.



Use NTSC Drop Frame Time Code	Check this option to use NTSC Drop Frame Time Code.
--------------------------------------	---

◆ Scaling and Letterboxing



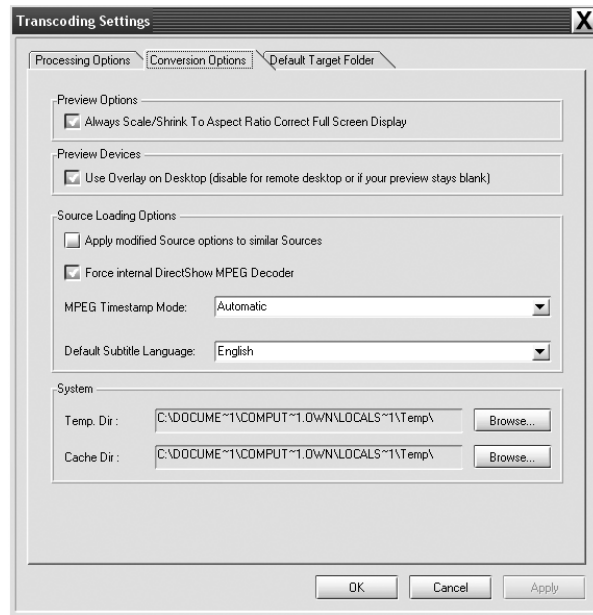
If your source and your target have different frame sizes, there are two different ways to handle this scenario. For example, you may have a 16:9 source file that needs to be encoded to a target file with a 4:3 aspect ratio frame size. Because of the different frame sizes, you either have to scale and crop your Source file, or add black bars to the video to compensate for the difference. If you want to crop your source file, you should use the Crop video filter in the **Source** tab.

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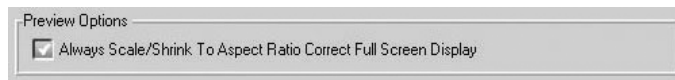
Add Letterbox/ Scale & Crop slider	Adjust the slider to the desired percentages. 100% letterbox, or sliding it to all the way to the left, leaves the source frame completely visible, with letterbox bars added if necessary. If the slider is at 0% letterbox, the image will fill the entire space without letterboxing, but the sides will be chopped off. Leaving the letterbox slider in the middle (50%) is a mixture of adding letterbox bars and scaling the file to fit the space. If you know you can afford to cut off a little of the video, then you should have the bar more toward the middle. Experiment with these settings to determine which ones are appropriate for your source files.	
	100% Letterbox	Scales the source image so the entire image fits within the target frame, which can result in unused areas which become letterbox bars.
	100% Scale & Crop	Scales the source image so the target frame is completely filled, resulting in no letterbox bars, but the possibility that part of the source image that has “spilled over” outside of the target frame has now been removed and is no longer visible.
Allow anamorphic scaling	This option enables anamorphic scaling.	
Enable MPEG-1 compliant scaling	ProCoder normally converts full-D1 sources to MPEG1 SIF using the Scaling and Letterboxing slider setting. However, the MPEG specification states to convert a full-D1 (720x480/576) source to MPEG1 SIF (352x240/288), crop 8 pixels from the left and right sides of the source to create a 704x480/576 frame then scale it to 50% for a 352x240/288 frame. Check this box to have ProCoder comply to the MPEG specification when converting full-D1 sources to MPEG1 SIF.	
Crop when scaling D1 to DV (NTSC)	Enable this option when converting a NTSC D1 720x486 source to NTSC DV 720x480. ProCoder will crop 4 lines from the top and 2 lines from the bottom of the source frame during conversion. This results in faster processing and higher quality since scaling is not performed.	
Crop/Adjust when converting between VBI containing formats	This option enables to convert videos which have VBI(Vertical Blanking Interval) where the original size information is stored.	
Discard field when scaling height by 1/2	When using full-size interlaced source files, this option discards one of the fields if you are scaling the file to half-size. In some cases, this eliminates the need for applying deinterlacing filters to your source file since discarding a field effectively deinterlaces the video.	

Conversion Options tab

The **Conversion Options** tab controls various preview, loading and system preferences.



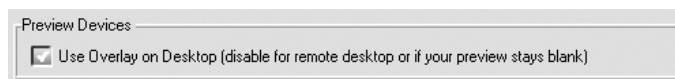
Preview Options



Always Scale/Shrink To Aspect Ratio Correct Full Screen Display

Enable this option to have ProCoder always compensate for pixel aspect ratio differences and provide an accurate on-screen display. It is recommended to keep this option enabled.

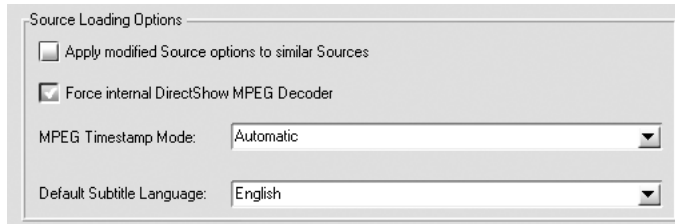
Preview Devices



Use Overlay on Desktop

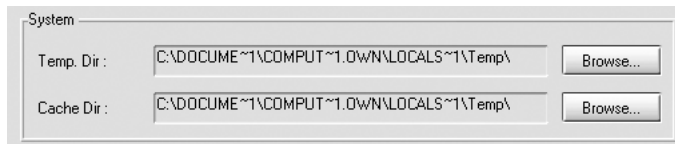
Enable this option to use video overlay for preview. Video overlay is faster than standard video writes and therefore causes less slowdown on conversions. You should disable this option for remote desktop or if your preview stays blank.

◆ Source Loading Options



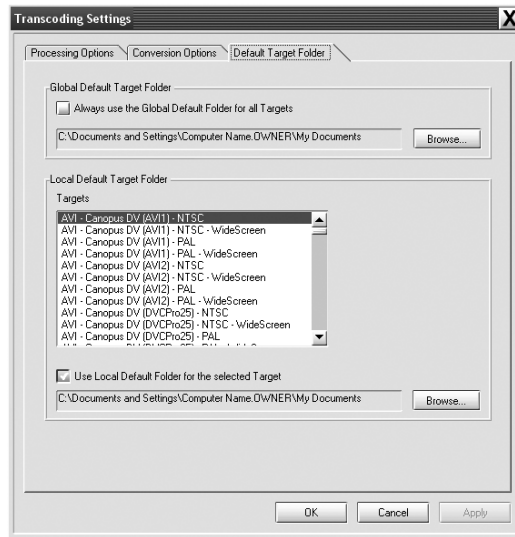
Apply modified Source options to similar Sources	Enable this option to use modified source options on subsequent source files. With this option enabled, subsequent sources of similar types will be loaded with the same source parameters as the previous source of the same file type. This is useful for Watch folders because it allows source files to be adjusted automatically without the need for the user to interact with the software. For example, let's say you have an AVI file that does not have square pixels and you set it so the pixel aspect ratio isn't square (i.e. DV NTSC). If Apply modified Source options to similar Sources is enabled, the next AVI source file you load will retain the same settings used before, and will loads the file with the pixel aspect ratio set to DV NTSC, instead of the default setting.	
Force internal DirectShow MPEG Decoder	Enable this option to use internal DirectShow MPEG Decoder to load source file.	
MPEG Timestamp Mode	Automatic	Sets timecode automatically.
	Always Use Timestamp	Sets timecode using timestamp.
	Never Use Timestamp	Does not use timestamp.
Default Subtitle Language	Specifies the default subtitle language.	

◆ System



Temp. Dir	Some conversions need to save temporary files. Click the Browse button to choose a location for your temporary directory.
Cache Dir	ProCoder retains some information in order to speed certain types of conversions. Click the Browse button to select the location to use for ProCoder's cache files.

Default Target Folder Tab



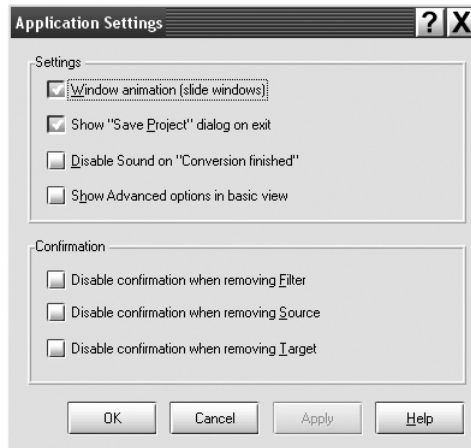
Global Default Target Folder	This option sets the output location for all formats and targets. Click the Browse button to select the folder you want to use. If you want the global settings to apply to all target folders, check the Always use the Global Default Folder for all Targets option. Checking this option disables and overrides any local settings you may specify in the next section.
Local Default Target Folder	Sets the output location for specific target presets. The local defaults override the global defaults. This is helpful for separating files that go to different projects or can be used to separate different target formats from each other.

To set the Local Default Target folder:

- 1** Uncheck the **Always use the Global Default Folder for all Targets** option.
- 2** Select the desired target from the list by clicking on it.
- 3** Check the **Use Local Default Folder** for the selected Target option.
- 4** Click the **Browse** button to choose the folder to use.
- 5** Click the **Apply** or **OK** button.

Application Settings

The Application Settings window lets you set enable or disable application-specific behaviors. To open the Application Settings, choose **Options > Application Settings**.



Settings

Window animation	This toggles whether or not the windows slide into place when they open or close.
Show "Save Project" dialog on exit	This toggles whether or not ProCoder prompts you to save your projects when you exit the application.
Disable Sound on "Conversion finished"	This option disables the exuberant "Done" sound that plays when ProCoder finishes a foreground conversion.
Show Advanced options in basic view	This option includes all advanced options within the basic view. When the advanced options are included in the basic view, the advanced view is only necessary for source trimming and adding filters to sources and targets.

Confirmation

Disable confirmation when removing Filter	This option lets you disable the prompt that appears when you want to remove a filter(s) from targets or sources.
Disable confirmation when removing Source	This option lets you disable the prompt that appears when you want to remove a source file(s) from the Source List.
Disable confirmation when removing Target	This option lets you disable the prompt that appears when you want to remove a target(s) from the Target List.

10 Advanced Features

ProCoder's advanced features give you some options for automating the application or integrating it into your workflow.

Droplets

You can automate your encoding by creating droplets. Droplets let you save a specific set of parameters into a mini-application that launches the ProCoder application with the predefined settings. Simply drag one or multiple files onto the droplet to automatically encode all the files to the selected settings. You can also double-click on a droplet, which opens the ProCoder application with the Source List empty and the droplet's saved targets listed in the Target List.

◆ To create a droplet,

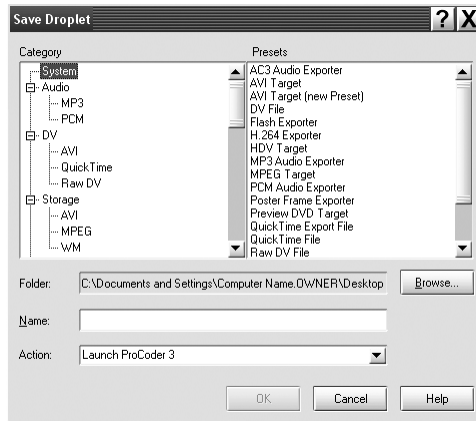
- 1** Click the **Target** tab.
- 2** Click the **Add** button to add a target to the **Target List**. You can have multiple targets encoding multiple files within your droplet.
- 3** Adjust the parameters for each target to your specifications. If necessary, click the **Advanced** button of the desired target to modify its advanced settings.
- 4** When you are finished adding and adjusting the targets, click the **Save Preset** button. This preserves all of your modifications and saves it to a custom preset. The saved preset can be selected later in the **Load Target Preset dialog** box.

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5 Choose **Tools > Create Droplet**. The **Save Droplet** dialog appears.



6 Select the preset you created by selecting the appropriate category and clicking on the preset at the right.

7 Choose a location for the droplet in the Folder section by clicking the **Browse** button. The default location is the Windows Desktop.

8 Enter a name for the droplet in the Name field. This will be the name of the Droplet executable file.

9 Choose the action the droplet should perform by clicking the **Action** drop-down.

Launch ProCoder 3	Dragging files onto the droplet will launch the ProCoder application with the dragged files as sources and the droplet's target settings applied.
Launch ProCoder 3 and Start Conversion	Dragging files onto the droplet will launch the ProCoder application with the dragged files as sources and the droplet's target settings applied. Conversion starts automatically.
Queue to ProCoder 3 Job Manager	Dragging files onto the droplet will launch the ProCoder application with the dragged files as sources and the droplet's target settings applied. The conversion job will be queued to the Job Manager. ProCoder shuts down immediately after queuing the project.

10 Click the **OK** button. The droplet appears as an executable file in the specified location.

11 To use the droplet, simply drag and drop one or more files onto the droplet icon. The ProCoder application will open with the dropped sources and droplet’s target settings. If the droplet’s action is to start conversion automatically or queue to the Queue Manager, it will do so.

You can also **double-click** on a droplet, which opens the ProCoder application with the Source List empty and the droplet’s saved targets listed in the Target List.

 **Note**

You can only drag files onto droplets. Dragging folders onto droplets will not work.

Command-line Automation

The Windows command-line interface can be used to process files with ProCoder droplets and ProCoder projects, allowing another level of automation and batch processing. You can either encode a single file or multiple files through Droplets, and entire projects through the ProCoder application. Simply create a Droplet or save a project file using the ProCoder application.

ProCoder Application Options

ProCoder3.exe [/Start] [/Closeapp] [/Shutdown] [/Queue]
 [/Log: <logfile>] [/Targetdir: <dir>] [Project file] [source files]

/Start	Starts conversion immediately as long as one valid source and target is loaded.
/Closeapp	Closes ProCoder after conversion finishes.
/Shutdown	Shuts down the PC after conversion finishes.
/Queue	Queue to job manager instead of converting within the ProCoder application.
/Log: <logfile>	Creates a log file that details the conversion and reports any errors that may have occurred.
/Targetdir: <dir>	Writes target files to the specified folder.
[project file]	The complete name and path of your ProCoder project file. If the filename contains a space, you should enclose the entire path in double-quotes (i.e. "C:\Windows\Desktop\My project.PCP").
[source files]	Any additional source files. If the filename contains a space, you should enclose the entire path in double-quotes (i.e. "C:\Windows\Desktop\My project.PCP").

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ProCoder 3

Example:

```
ProCoder3.exe /Start /Closeapp /Log:C:\MyJobs\Job1.log /Targetdir:D:\MyOutput C:\MyProjects\Job1.pcp D:\Misc\AdditionalFile.avi
```

Will start the ProCoder application with the the project file C:\MyProjects\Job1.pcp.

Conversion will start automatically and the ProCoder application will be closed automatically after conversion is complete.

A log will be saved to the file C:\MyJobs\Job1.log and output will be saved in D:\MyOutput.

In addition to the source files specified in C:\MyProjects\Job1.pcp,

D:\Misc\AdditionalFile.avi will also be used as a source.

◆ ProCoder Droplet Options

```
<Dropletname>.exe [/Start] [/Closeapp] [/Shutdown] [/Queue] [/Log:<logfile>] [/Targetdir:<dir>] [source files]
```

<Dropletname>	The name of the saved droplet executable file.
/Start	Starts conversion immediately as long as one valid source and target is loaded.
/Closeapp	Closes ProCoder after conversion finishes.
/Shutdown	Shuts down the PC after conversion finishes.
/Queue	Queue to job manager instead of converting within the ProCoder application.
/Log:<logfile>	Creates a log file that details the conversion and reports any errors that may have occurred.
/Targetdir:<dir>	Writes target files to the specified folder.
[source files]	Any additional source files If the filename contains a space, you should enclose the entire path in double-quotes (i.e. "C:\Windows\Desktop\My project.PCP").

Example:

```
VCD-NTSC.EXE /Start /Shutdown /Log:VCD-NTSCStatus.txt /Targetdir:D:\Output "D:\My Video\Horse.avi" E:\Video\Foo.m2p E:\TempVideo\Bar.mov
```

Will start ProCoder with the VCD-NTSC settings (assuming a droplet called VCD-NTSC was saved) with the source files D:\My Video\Horse.avi, E:\Video\Foo.m2p and E:\TempVideo\Bar.mov.

Conversion will start automatically and the PC will be shut down after conversion is complete.

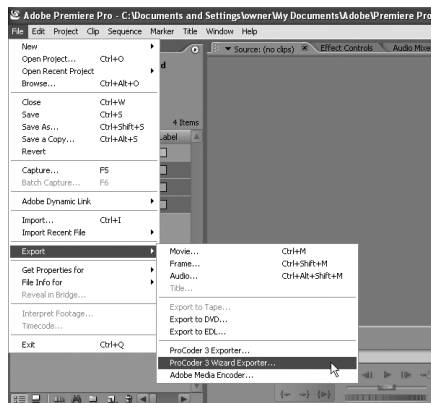
A log will be saved to the file **VCD-NTSCStatus.txt** and output will be saved in D:\Output.

Premiere Plug-in

If Adobe Premiere is installed on your system, the ProCoder Installation installs the ProCoder Premiere plug-in, which allows you to export your Premiere timeline directly to ProCoder for encoding. This means you can take either a complete finished project or a section of a project for a quick preview and export it directly into ProCoder so it can be encoded to multiple formats. You can also choose either the ProCoder Full Exporter, which launches the ProCoder application, or the ProCoder Easy Exporter, which launches the ProCoder 3 Wizard.

➤ To use the ProCoder Premiere plug-in (ProCoder 3 Wizard Exporter):

- 1** In Adobe Premiere, choose the section you want to export to ProCoder. This can be either the entire project or a section of the project that you want to simply preview.
- 2** In Premiere, choose **File > Export Timeline > ProCoder 3 Wizard Exporter...** The ProCoder Wizard launches.



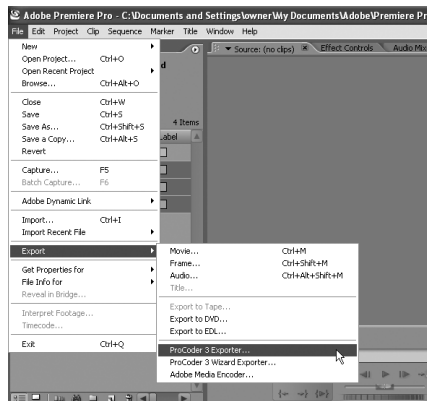
ProCoder 3

- 3 Source selection is skipped since the source is coming from the Premiere timeline. The rest of the ProCoder Wizard operation is the same as when using it as standalone application.

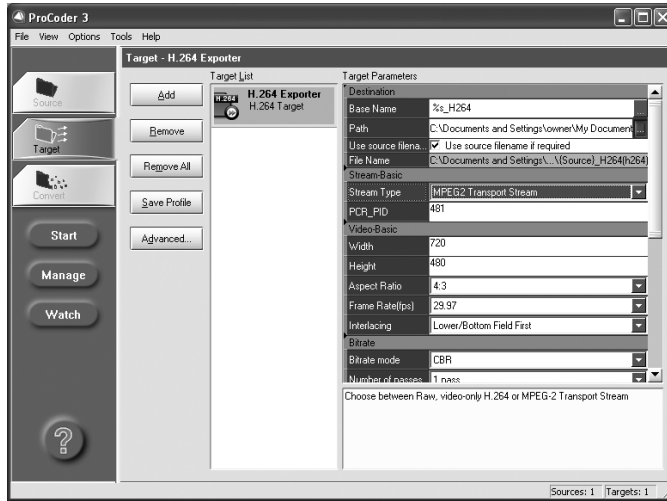


► To use the ProCoder Premiere plug-in (ProCoder 3 Exporter):

- 1 In Adobe Premiere, choose the section you want to export to ProCoder. This can be either the entire project or a section of the project that you want to simply preview.
- 2 In Premiere, choose **File > Export Timeline > ProCoder 3 Exporter...** ProCoder launches and the **Target** tab is enabled.



3 The **Source** and **Convert** tabs are disabled when you use the Premiere plug-in and the **Start** button starts the conversion. The rest of the ProCoder application operation is the same as when using it standalone.



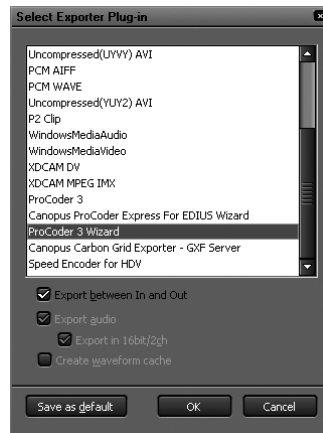
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EDIUS Plug-in

The ProCoder Installation installs the ProCoder EDIUS plug-in, which allows you to export your timeline directly from EDIUS version 4 to ProCoder for encoding. This means you can take either a complete finished project or a section of a project for a quick preview and drop it into ProCoder so it can be encoded to multiple formats. You can also choose either the **ProCoder 3 Exporter**, which launches the ProCoder application, or the **ProCoder 3 Wizard Exporter**, which launches the ProCoder 3 Wizard.

► **To use the ProCoder EDIUS plug-in (ProCoder 3 Wizard Exporter):**

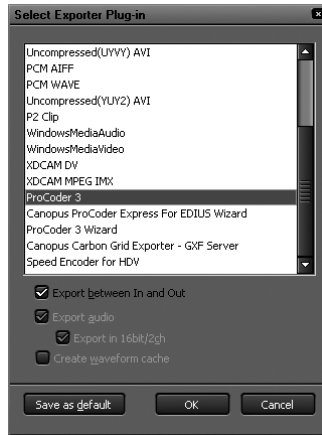
- 1** In EDIUS, choose the section you want to export to ProCoder. This can be either the entire project or a section of the project that you want to simply preview.
- 2** In EDIUS, choose the **Export to Tape** function in the Monitor window, then choose **ProCoder 3 Wizard** from the export list. The ProCoder Wizard launches.



- 3** Source selection is skipped since the source is coming from the EDIUS timeline. The rest of the ProCoder Wizard operation is the same as when using it standalone.

➤ To use the ProCorder EDIUS plug-in (ProCorder 3 Exporter):

- 1 In EDIUS, choose the section you want to export to ProCorder. This can be either the entire project or a section of the project that you want to simply preview.
- 2 In EDIUS, choose the **Export to Tape** function in the Monitor window, then choose **ProCorder 3** from the export list. ProCorder launches and the **Target** tab is enabled.



- 3 The **Source** and **Convert** tabs are disabled when you use the EDIUS plug-in and the Start button starts the conversion. The rest of the ProCorder application operation is the same as when using it standalone.

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Chapter 5

Helpful Hints



1 Maximizing ProCoder performance

While adding more RAM, upgrading to faster CPUs and adding additional CPUs are usually the best ways to increase ProCoder's performance, there are a few optimizations that you can do to increase ProCoder's speed without hardware upgrades.

● Close other tasks

Close any other applications that are running. Any background applications will take CPU cycles from ProCoder and slow conversion.

● Optimize drive speed

Defragmenting the source and target hard drive can significantly increase read and write speeds. Putting sources and targets on separate physical disks or writing to a fast network drive will also improve ProCoder's performance to a certain degree.

● Disable automatic scanning applications

Anti-virus software and recycle bin "protection" software can significantly increase disk and CPU loads. Consider temporarily disabling these types of software while ProCoder is running.

● Use separate source and target drives

Minimize the number of sources read from the same drive and minimize the number of targets written to the same drive. This will reduce the amount of seeking the drive needs to do, reducing the amount of delay introduced by disk access.

● Disable preview

Disabling the preview can result in faster conversions. While this is usually a very small speed increase, it can be a measurable amount, especially in longer jobs.

2 Using Filters

When to apply filters

ProCoder lets you apply filters on both Sources and Targets. It is important to know where to apply a filter in order to achieve the best result and keep ProCoder running at optimal speed.

◆ Source filters

If a filter is applied only for a particular Source, it should be applied to the Source.

◆ Target filters

If a filter should always be applied regardless of the Source, it should be applied to the Target.

Why filters are necessary

◆ Cropping unwanted data

Broadcast formats often have a larger frame than is normally visible. If your output target is for computer use, it may be helpful to apply the Crop filter to remove the portions of the frame containing garbage or static (overscan) that are not normally visible when viewing it on a television.

◆ Improve or correct sources

Use Source filters to apply filters that enhance or improve the source quality, such as Color Correction.

◆ Enhance encoding of specific targets

Use Target filters to apply filters that are useful for certain encoding types, such as Blur for streaming formats.

◆ Expand/shrink 601 color range

Different video editing systems and encoders use different color ranges to represent the minimum and maximum values. Use the 601 Correction filters to convert between 0-255 and 16-235 ranges when converting for systems that do not use the same ITU BT.601 conversion methods.

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3 Improving your Video

Even when using an intelligent tool like ProCoder, sometimes things just don't seem quite right. This section illustrates some common video encoding problems and how you can fix or avoid them.

Video is blocky or appears to break up



> Result



> Original image

The video image appears to break up into different moving blocks. Parts of previous video may appear in different locations. Notice in the example that elements of the correct video seem to be mixed with the older video. After some time, the image may recompose itself, producing a correct image.

◆ Cause: DVD media reading problem

If you are seeing this type of problem after authoring a DVD and playing it back on a set-top DVD player, it could simply be a difficulty reading the DVD-recordable media. Try the same disc in a computer-based DVD player. If it plays in the computer without problems, try a different set-top player or a different brand or type of DVD-recordable disc. Many set-top players cannot reliably play all DVD-recordable discs.

◆ Cause: Use of seek or trick-play in the player

If you were playing the file and playback was okay until you used the player's fast-forward, rewind or scrubber to reposition the playback location, then it's probably not a problem at all. Depending on the format and player, the video may take until the next keyframe to start displaying properly. Try letting the file play through from start to end without interrupting it to verify. If the video displays correctly in a straight-through playback, then the output file is fine.

◆ Cause: Video bitrate too low or not enough keyframes

If the break-up only appears after scene changes, then the video bitrate is too low to handle the large change in the video. Increase the video bitrate to allow faster recomposition. Alternatively, if the target format supports keyframing, decrease the keyframe interval, thus increasing the number of keyframes. Keyframes provide a full video frame so large changes can be tracked and better compensated for.

◆ Cause: Video bitrate too high

When using a hardware decoder, such as for MPEG playback, in some cases a video bitrate that is too high can cause the to image break up. If the video bitrate is at or near the maximum setting, try reducing it a bit. If it plays on a software-based player but not on a hardware-based player, this may also be because the bitrate is too high.

Video appears fuzzy or blurry



> Result



> Original image

The video appears fuzzy or blurry. When played zoomed, it appears blocky, almost like viewing something through a frosted glass window.

◆ Cause: DV playback not set to full quality

If the problem occurs only with Microsoft DV AVI files, the problem may be due to the Digital Video decode setting being set to **Low**. When set to Low, DV files are decoded in low resolution, regardless of what the resolution of the actual file is.

► To fix this problem in Windows Media Player:

- 1** Open Windows Media Player, and look for the **Options** selection in the menu (usually under Tools).
- 2** Look for a setting called Digital Video that has a slider with **Small** at one end and **Large** at the other. In Windows Media Player 9, this is found by clicking the **Advanced** button in the **Performance** tab.
- 3** Set the slider to **Large**.
- 4** Close all open programs including **Windows Media Player**, then open the file for playback again. The file should now play in full resolution.

◆ Cause: Video resolution too low

When stretched to the original size, a low-resolution image will appear blocky. If you want or need to view the image at the same size as the original, you should increase the video frame size. In order to preserve quality and avoid similar effects due to too low a bitrate, the bitrate should be increased when increasing the video resolution.

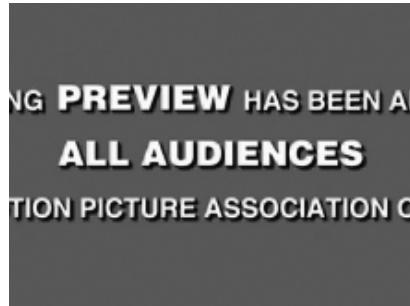
◆ Cause: Video bitrate too low

Depending on the encoding format, a video bitrate that is too low can also produce blocky video as shown above. Increase the video bitrate to see if this is the case. If increasing the bitrate does not help, the video frame size needs to be increased.

Video has halos or blocks near objects



> Result



> Original image

The video appears to have halos around the edges of objects and/or block-like noise around near objects. There does not seem to be a loss of resolution, just loss of sharpness and some changes to colors.

◆ Cause: Video bitrate too low

This type of effect is usually caused by setting the video bitrate too low. Increase the video bitrate to get a better result. If increasing the video bitrate produces too large a file, keep the video bitrate the same, but decrease the video frame size. When the choice is available, choosing **Optimize for Quality** instead of **Optimize for Speed** should also help.

Video appears to jitter

Movement in the video seems to jitter up and down. Moving objects may seem to take two steps forward then one step back.

◆ Cause: Single-field detail in interlaced output

If the video appears to have vertical jitter or flashing horizontal edges, the source image may have single-field detail. This usually occurs with still images used for video. ProCoder normally makes the appropriate adjustments to avoid this situation, but if you still have trouble, try applying an antiflicker or deinterlace filter to your source before bringing it to ProCoder.

◆ Cause: Improper source interlacing field order

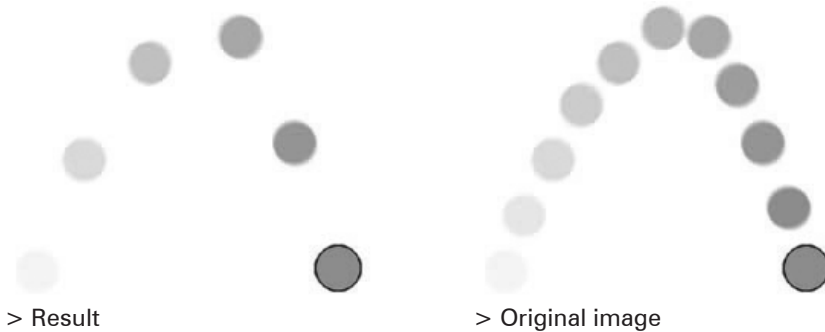
For interlaced sources, the interlacing mode may not be set correctly. Verify that the proper interlacing field order is set in the **Advanced Source Configuration**.

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● Cause: Improper target interlacing field order

For interlaced output, the target field order may be incorrect for the playback device. Check the requirements of the intended playback device to determine the proper interlacing setting.

Video movement appears jumpy



Movement in the video does not appear smooth – it seems to jump instead of move in a fluid fashion. Objects in motion seem to jump or “flash” to the next position like a strobe effect.

● Cause: Video frame rate too low

If the video frame rate is too low, motion in the video will not appear smooth. Increasing the frame rate will help to improve the fluidity of motion but will also make the file size larger. Generally speaking, a frame rate below 15fps will result in unsatisfactory playback.

● Cause: Streaming connection speed too slow

Users viewing a streaming file that was made for a faster connection speed may see this type of “snapshots in time” effect. The user needs a faster connection to the streaming server, a progressive download file should be used instead.

● Cause: Playback machine too slow

Some formats play with different frame rates depending on the speed of the viewer’s machine. Try playback on a faster computer to see if it plays better.

Audio and video are out of sync

Audio and video do not play in synchronization with each other. For example, a person talking may show their lips moving, but their speech may not be audible until a second or two later.

◆ **Cause: Use of seek or trick-play in the player**

If you were playing the file and playback was in-sync until you used the player's fast-forward, rewind or scrubber to reposition the playback location, then it's probably not a problem at all. Depending on the format and player, audio/video synchronization cannot be guaranteed after repositioning the playback point. Try letting the file play through from start to end without interrupting it to verify. If synchronization is maintained in a "straight-through" playback, then the problem is trick-play and not the output file.

◆ **Cause: Video and audio playing from different devices**

If you are playing the video on one device and using a different device for audio, synchronization is not guaranteed. For example, DV files playing audio from the PC but using a connected DV camera or converter for video output will be unsynchronized. This is because there is a slight delay between the DV camera or converter gets the DV data from the PC and when it outputs the decoded analog video. Thus, in this situation audio will appear to come slightly before the video.

◆ **Cause: Set-top DVD audio decoder problems**

If you're seeing the problem using a set-top DVD player for playback, it could be a problem with the player itself. Some set-top DVD players have problems with audio synchronization, especially when the audio is AC3 format. Try a commercially-produced DVD in the player and see if it has the same problem. Also try playing your DVD with a software-based DVD player.

◆ **Cause: DVD authoring error**

If your problem exists with an authored DVD, it could be a problem with the DVD authoring. Substandard DVD authoring can also cause audio/video sync problems. Try reauthoring the DVD with a different DVD authoring application.

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Video shows strange patterns or blocks



> Result



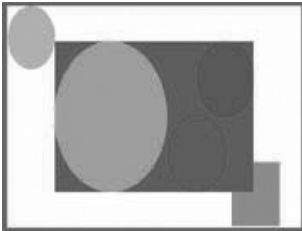
> Original image

The video shows strange patterns or blocks of different data.

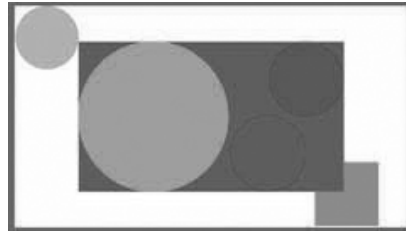
◆ **Cause: Corrupt video file**

The data of the video file is probably corrupt. Check to see that the source file does not show the same problem, as any problems in the source will be faithfully reproduced in the output. If the problem only occurs in the output, try writing the file to a different drive or directory, or try a different compression format.

Video appears stretched or squashed



> Result



> Original image

The video appears to be stretched in one direction. Circles now appear as ovals and people are taller or wider than they should be.

● Cause: Widescreen MPEG-2 output

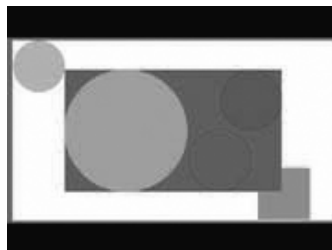
If your output is widescreen MPEG-2, then this is not a problem. Some MPEG-2 playback software does not properly size the video playback according to the aspect ratio set in the MPEG-2 file. Thus, widescreen MPEG-2 files play back squashed. Authoring a widescreen DVD using this file and playing that DVD on a DVD player will produce a correct widescreen result.

● Cause: Player does not compensate for pixel and frame aspect ratio

Some media players do not compensate for video with non-square pixels and thus do not display video in the proper aspect ratio. This is not a problem with the encoding or ProCoder, it is a problem with the player. Try to find a player that properly compensates for non-square pixel playback.

● Cause: Incorrect source aspect ratio setting

Check the aspect ratio setting in your source file. If it is set incorrectly, ProCoder will interpret the shape of the video image incorrectly and therefore process it incorrectly. ProCoder never does anything to stretch or squash the image – widescreen sources converted to standard screen size will be scaled to fit into the standard width, a process known as letterboxing, as shown in the image below.



> 4:3 Letterboxed video

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Cannot load encoded MPEG files into DVD authoring software

Your DVD authoring software does not accept the MPEG files you made with ProCoder.

● **Cause: File naming problem**

Some DVD authoring applications do not recognize the standard .m2p file extension for MPEG-2 program streams. Instead, they want files named .mp2 or .mpg instead. Try renaming the output file from .m2p to .mp2 or .mpg and try again.

● **Cause: Incorrect MPEG-2 file type**

Not all DVD authoring applications support MPEG-2 elementary streams (.m2v files and associated audio files) and MPEG-2 program streams (.m2p files), some will only accept one or the other. Check your DVD authoring software's documentation to see which type it supports and verify that you are creating the correct type with ProCoder.

● **Cause: Software does not accept MPEG files**

Some DVD authoring applications do not accept MPEG files as sources. If this is the case, you will need to use ProCoder to output a different file type (usually VOB) that the authoring application will accept or use a different authoring application. Consult your authoring software's documentation to find out what file types it accepts.

Chapter 6

ProCoder Reference



1 Source Options

Most sources contain these options, and they all have the same meanings. Some options may not appear in certain sources.

Common Source Options

- **Source**

- **Source File**

Displays the name of the source file.

- **Length**

Displays the length of the source in hours:minutes:seconds:frames for drop-frame timecode and hours:minutes:seconds:frames for non-drop frame timecode.

- **Video**

- **Select Video Stream**

Specifies whether to use the Original Video of the source or not.

Original Video	Use the video in the source.
None	Do not use the video in the source and treat it as an audio-only stream.

- **Video Frame Size**

Displays the size of the source as width x height in pixels.

- **Frame Rate (fps)**

Displays the number of frames per second of the source.

- **Video Bitrate (kbps)**

For non-fixed bitrate codecs, displays the video bitrate in kilobits-per-second. Generally, the higher the bitrate, the better the video quality is.

- **Video Codec**

Displays the video codec used to decode the video stream.

► Interlacing

Displays the interlacing mode of the video stream. This option determines how video frames are read from the video stream. If the Interlacing mode is set improperly, the video may not play smoothly.

Non-Interlaced (Progressive)	Entire frames are stored in the stream instead of separate fields.
Lower/Bottom Field First	Frames are stored as separate fields with the lower field first.
Upper/Top Field First	Frames are stored as separate fields with the upper field first.

► Aspect Ratio

Displays or selects the aspect ratio of the source image, as width x height, width: height or a width-to-height ratio for the video frame and/or the display pixels.

• Audio

► Select Audio Stream

Selects whether to use the audio from the source (if any), to use alternate audio from another file or to ignore the source audio entirely.

Original Audio	Use the audio in the source.
Alternate Audio	Use audio from an alternate file. Select the source for the audio in the Audio Stream Source field.
None	Do not use the audio in the source and treat it as a video-only stream.

► Audio Stream Source

Alternate Audio is selected for **Select Audio Stream**, select the file to get audio from by clicking the ... button. Audio can be retrieved from any supported source type.

► Channels

Displays the number of channels in the audio source.

► Sample Rate (kHz)

Displays the sampling rate or number of samples per second, of the source in thousands of samples per second. The reproducible frequency range of encoded audio depends on the sample rate.

► Bits / Sample

Displays the audio sample size for the source in bits per sample. The more bits per sample, the better the representation of changes in the audio level and the better the audio quality. The combination of sample rate and bits per sample determine the overall quality of the audio.

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➤ **Audio Bitrate (kbps)**

For non-fixed bitrate codecs, displays the audio bitrate in kilobits-per-second. Generally, the higher the bitrate, the better the audio quality is.

➤ **Audio Codec**

Displays the audio codec used to decode the source audio.

◆ **Notes**

Not all sources will include all of the common parameters. Some parameters are available only in certain cases. Most parameters are read-only and are for informational purposes only.

AC3 Audio Source

◆ **Common Options**

See **Common Source Options**.

◆ **AC3-specific options**

• *Audio*

➤ **Sample Precision**

Displays the sample precision (bits).

➤ **AC3 Data Rate**

Displays the audio bit rate (kbps)

➤ **Dynamic Range Compression**

Select the Dynamic Range mode.

Dynamic Range Compression is written into AC3 files as metadata, leaving the responsibility of performing Dynamic Range Compression for the decoder.

◆ **Notes**

No notes.

AVI Source

Common Options

See **Common Source Options**.

AVI-specific options

No AVI-specific options exist.

Notes

AVI files with odd (not evenly divisible by 2) width or height cannot be imported. Please use only AVI files with even width and height. To load AVI files with odd width or height, try using an AviSynth script to crop or matte the AVI to even width and height, then use the AviSynth script as a source.

DV Source

Common Options

See **Common Source Options**.

DV-specific options

- **Source**
 - **DV Mode**
Displays the DV mode.
 - **DV Format**
Specifies the DV format DV/DVCAM or DVCPRO. If your source does not process correctly, try changing this setting.
- **Video**
 - **Decoding Mode**
For Panasonic 24p DV sources, specifies whether it should be decoded as 23.976fps progressive or 29.97fps interlaced.

Notes

No notes.



Note

Preview playback will still occur at 23.97fps interlaced, even if 29.97fps is selected. Processing, however, will be performed properly at 29.97fps if it is selected.

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DVD (VIDEO TS.IFO) Source

◆ **Common Options**

See **Common Source Options**.

◆ **DVD-specific options**

• **Basic Settings**

➤ **Source File**

Displays the name of the source file.

➤ **Length**

Displays the length of the source in hours:nimutes:seconds;frames for drop-frame timecode and hours:nimutes:seconds;frames for non-drop-frame timecode.

➤ **Title**

Displays the number of the titles, chapters and the length.

➤ **First Chapter**

Specify the first chapter to use as a source.

➤ **Last Chapter**

Specify the last chapter to use as a source.

➤ **Use timestamp**

Enable this option to use the timestamps in the stream for setting precise in/out points.

• **Video**

➤ **Angle**

Select the Angle ID to use if there is more than one Angle present.

➤ **Use Film Decode**

Enable this option to ignore the 3-2 pulldown flag in an applicable video stream and provide 23.976fps output.

• **Audio**

➤ **Stream ID**

Select the stream ID to use if there is more than one audio stream present.

➤ **Stream Type**

Displays the stream type of the source audio stream.

➤ **Decoder**

Select a decoder to use.

► Decoder Properties

Click the browse button to open the properties for the selected decoder.

◆ Notes

No notes.

Flash Source

◆ Common Options

See **Common Source Options**.

◆ Flash-specific options

- **Source**

- **Movie Properties**

Click the ... button to display the detected movie properties.

- **Video**

- **Track Mode**

Select whether to use a particular track or all available tracks.

◆ Notes

Flash sources that have odd (not evenly divisible by 2) width or height will be cropped to even width and height on import.

ProCoder only decodes video from Flash files. It cannot decode the audio.



Note

Closed Caption (line 21) preservation requires setting the Track Mode option to a specific video track.

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H.264 Source

◆ Common Options

See **Common Source Options**.

◆ H.264-specific options

• *Video*

➤ **Video Size**

Displays the size of the source as width x height in pixels. See **Video Frame Size** in **Common Source Options**.

➤ **Field Order**

Displays the interlacing mode of the video stream. See **Interlacing** in **Common Source Options**.

➤ **Video Compression**

Displays the video codec used to decode source video.

➤ **Profile**

Displays the H.264 profile.

➤ **Level**

Displays the H.264 level.

• *Audio*

➤ **Audio Compression**

Displays the audio codec used to decode the source audio.

➤ **Sample Precision**

Displays the **Sample Precision** in bits.

◆ Notes

No notes.

HDV(m2t) Source

◆ Common Options

See **Common Source Options**.

◆ HDV(m2t)-specific options

- **Name**

- **Module Name**

Set this name to affect the target name handling. This setting can be used as a source file base name (use %s on the target side).

◆ Notes

No notes.

- **Basic Settings**

- **Length**

Displays the length of the source in hours:nimutes:seconds;frames for drop-frame timecode and hours:nimutes:seconds;frames for non-drop-frame timecode.

- **Source File**

Displays the name of the source file.

- **Use timestamp**

Enable this option to use timestamp to specify the In/Out positions.

- **Transport Stream**

- **Stream Type**

Displays the type of the stream.

- **Program Number**

A transport stream can have multiple programs. Specify the program ID to decode here.

- **Program/System**

- **Stream Type**

Displays the stream type of the multiplex source.

- **Flags**

Displays the list of flags declared in the stream.

- **Video Stream**

Specifies the video stream ID to decode.

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- **Audio**

- **Stream Type**

- Displays the stream type of the source audio stream.

- **Audio Stereo/Mono Mode**

- Displays the channel type of the audio.

- **Flags**

- Lists any flags in the audio stream.

- **Subpicture Stream**

- Specifies the subpicture stream ID to decode.

- **Video**

- **Stream Type**

- Displays the stream type of the source video.

- **Video Frame Size**

- Displays the video frame size.

- **Use Film Decode**

- Enables this option to ignore 3-2 pulldown and output 23.976fps/progressive sequence.

- **MPEG Aspect ration**

- Specifies the video/pixel aspect ratio declared in the MPEG stream.

- **Video Bitrate(kbps)**

- Displays the video data rate in kilobits per second.

- **Buffer Size(KB)**

- Displays the VBV Buffer Size. The playback hardware is required to have the specified size of buffer for decoding.

- **Profile@Level**

- Displays the Profile@Level. The MPEG2 stream is guaranteed to be decoded by the compliant decoder for the Profile@Level.

- **Chroma Format**

- Displays the Chroma Format for the stream.

- ◆ **Notes**

- No notes.

MP3 Audio Source

◆ Common Options

See **Common Source Options**.

◆ MP3-specific options

No MP3-specific options.

◆ Notes

No notes.

MPEG Source

◆ Common Options

See **Common Source Options**.

◆ MPEG-specific options

- **Name**
 - **Module Name**

Set this name to affect the target name handling. This setting can be used as a source file base name (use %s on the target side).
- **Basic Settings**
 - **Use timestamp**

Enable this option to use the timestamps in the stream for setting precise in/out points.
- **Program/System Stream**
 - **Stream Type**

Displays the stream type for multiplexed sources.
 - **Flags**

Lists any flags in the stream.
 - **Video Stream**

Select the stream ID to use if there is more than one video stream present.
 - **Audio Stream**

Select the stream ID to use if there is more than one audio stream present.
 - **Subpicture Stream**

Specifies the subpicture stream ID to decode.

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ProCoder 3

- **Video**

- **Stream Type**

- Displays the stream type of the source video stream.

- **Display Size**

- Indicates the intended display size which may be different from the size of the encoded frame.

- **Use Film Decode**

- Enable this option to ignore the 3-2 pulldown flag in an applicable video stream and provide 23.976fps output.

- **MPEG Aspect ratio**

- Displays the intended display aspect ratio of the source.

- **Video Bitrate (kbps)**

- Displays the video bitrate and mode of the source.

- **VBV Buffer Size (KB)**

- Displays the VBV buffer size of the source in kilobytes.

- **Profile@Level**

- Displays the Profile and Level the source is compliant to.

- **Chroma Format**

- Displays the chroma format of the source.

- **Audio**

- **Stream Type**

- Displays the stream type of the source audio stream.

- **Audio Stereo/Mono Mode**

- Displays the channel type of the audio.

- **Flags**

- Lists any flags in the audio stream.

PCM (WAVE) Audio Source

Common Options

See **Common Source Options**.

PCM Audio-specific options

No PCM audio-specific options.

Notes

No notes.

QuickTime Source

Common Options

See **Common Source Options**.

QuickTime-specific options

- **Source**
- **Movie Properties**
 - Click the ... button to display the detected movie properties.
- **Video**
- **Track Mode**
 - Select whether to use a particular track or all available tracks.
- **Audio**
- **Track Mode**
 - Select whether to use a particular track or all available tracks.

Notes

QuickTime sources that have odd (not evenly divisible by 2) width or height will be cropped to even width and height on import.



Note

Closed Caption (line 21) preservation requires setting this option to a specific video track.

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RawDV Source

◆ Common Options

See **Common Source Options**.

◆ RawDV-specific options

- **Source**

- **DV Mode**

- Displays the DV mode.

- **DV Format**

- Specifies the DV format - DV/DVCAM or DVCPRO. If your source does not process correctly, try changing this setting.

- **Video**

- **Decoding Mode**

- For Panasonic 24p DV sources, specifies whether it should be decoded as 23.976fps progressive or 29.97fps interlaced.

- **Audio**

- **Audio Mode**

- Displays the audio mode.

◆ Notes

No notes.

Still Image Source

◆ Common Options

See **Common Source Options**.

◆ Still Image-specific options

- **Loading Style**

- **Source Path**

- Displays the place where the source file is stored in full path.
See **Common Source Options**.

► Multi-Image Files

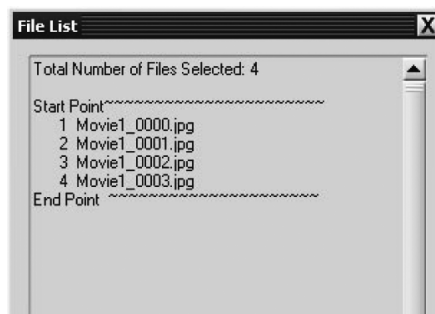
Enable this option to load a sequence of images as a video source.

► Wild Card File Name

Specify the file naming convention for multiple image files here. Use the standard “?” to specify any character and “*” to specify any number of characters. For example, Video1?.jpg will read Video1a.jpg, Video1b.jpg, but not Video10a.jpg while Video*.jpg will read Video1a.jpg, Video1b.jpg and Video10a.jpg

► File List

Click the ... button to display a numbered list of files matching the Wild Card File Name.



► Start Point

Set the number for the first file to use in the image sequence using the numbering from the File List. 1 is the first file.

► End Point

Set the number for the last file to use in the image sequence using the numbering from the File List. 1 is the first file.

• Video

► FramesPerImage

Sets the number of frames each image should create. For example, if there are 30 images and FramesPerImage is 4, the source output will be 120 frames.

◆ Notes

Image files with odd (not evenly divisible by 2) width or height cannot be imported. Please use only image files with even width and height.

Images loaded in a still image sequence must all have the same width and height.

Images that do not have the same width and height as the first image will be skipped during multi-image import.

Windows Media Source

◆ Common Options

See **Common Source Options**.

◆ Windows Media-specific options

- **Source**

- **Video Streams**

- In multistream video sources, select which track will be used as the source video for the encoded file.

- **Audio**

- **Audio Streams**

- In multistream audio sources, select which track will be used as the source audio for the encoded file.

◆ Notes

Windows Media files with odd (not evenly divisible by 2) width or height cannot be imported. Please use only Windows Media files with even width and height.

To load Windows Media files with odd width or height, try using an AviSynth script to crop or matte the video to even width and height, then use the AviSynth script as a source.

If you load a Windows Media file that was encoded with interlaced video, and you want to read the video as interlaced, you will need to manually set the **Interlacing** control to the correct mode (Upper/Lower field first).

2 Target Options

Most targets contain these options and they all have the same meanings. Some options may not appear in certain targets, may be in different locations or may only appear under certain circumstances. Certain settings may be disabled when using target presets.

Common Target Options

- **Target File Splitting (Advanced)**

- **Choose Splitting Method**

Selects the automatic file-splitting method. Automatic file-splitting can divide output files into separate files for easier archiving or transport. File-splitting is not related to multiplexing. File-splitting cannot be used with multi-pass encoding. Not all formats support file splitting or all options available for file splitting.

No Splitting	Do not automatically split output files.
Split using Time Interval	Start a new output file when the current output's video length reaches the specified maximum time.
Split using max. Size	Start a new output file when the current output's file size reaches the specified maximum size.

- **Interval Time for Splitting (Minutes)**

Sets the time interval to split output files at in minutes. For example, if the interval time is set to 10 minutes, a 35-minute source will be split into 4 output files.

- **Max. File Size for Splitting (MB)**

Sets the size to split output files at in megabytes. For example, if the max file size is set to 650 MB and the total output size is 1.5 GB, there will be 3 output files.

- **Quality/Size**

Click the ... button to bring up the **Quality/Size Configuration** window. The Quality/Size Configuration window displays the media requirements for your conversion parameters and can set the bitrate to an appropriate value based on the number of media you want to output.

For example, if your target media is a single CD-R (650MB) and your current setting will output 800 MB, the **Number of media** will be 2. You can then adjust the Quality slider until the **Number of media** reads 1. Alternatively, you can enable the **Fill Media if possible** option, then set the number of media to 1. ProCoder will automatically calculate an appropriate bitrate to fit within the media requirements, if possible.

This option is only available under the following circumstances:

ProCoder 3

- *The target supports a user-specified bit rate for encoding.*
- **Split using max. Size** is enabled.
- *There is only a single source or the Stitch function is enabled.*

Destination

► Base Name

Sets the name of the output file. A few special substitution strings can be used in the Base Name and ProCoder will replace them with the values during its processing. Periods are not allowed in the base name.

- *%s is replaced by the name of the source file (without extension) unless the **Stitch** function is used, in which case %s will be replaced by {Stitched Sources}.*
- *%n is replaced by the file-splitting segment number of the output file. If file-splitting is disabled, %n will be 0.*
- *%% is replaced by a percent-sign (%).*

► Path

Sets the output location for the target file(s). Click the ... button to set the output folder.

► Use source filename if required

Enable this option to automatically append the source filename to the output filename when the following is true:

- *There is more than one source.*
- *The Stitch option is not enabled.*
- *The %s substitution string is not present in the Base Name.*

► File Name

Displays the output file name or an example if one of the substitution strings is used.

- **Video**

- **Use Video**

Choose how ProCoder will output video for the target.

Use always	A video track is always output. If the source has no video, a black video track is generated.
Use if Exist	If the source has video, that video will be output. If the source has no video, no video track is generated.
Don't Use	A video track is not generated, even if the source contains video.

- **Width**

Specifies the width of the output video frame in pixels.

- **Height**

Specifies the height of the output video frame in pixels.

- **Video Bitrate (kbps)**

For non-fixed bitrate codecs, sets the video bitrate in kilobits-per-second. Generally, the higher the bitrate, the better the video quality is.

- **Frame rate**

Sets the number of frames per second for the output video. The higher the frame rate, the smoother motion will appear, but the video requires more bits. A good balance between video frame rate and video bitrate is the key to high-quality playback.

- **Interlacing**

For formats that support interlaced output, this option sets the interlacing mode for the output. This option determines how video frames are stored in the video stream. If playback hardware or software does not use the same interlacing method, the video may not play back smoothly.

Non-Interlaced (Progressive)	Entire frames are stored in the stream instead of separate fields.
Lower/Bottom Field First	Frames are stored as separate fields with the lower field first.
Upper/Top Field First	Frames are stored as separate fields with the upper field first.

- **Aspect Ratio**

Sets the aspect ratio of the video image, as *width x height*, *width:height* or a width-to-height ratio for the video frame and/or the display pixels. If available, click the ... button to select either a video frame aspect ratio or a pixel aspect ratio.

• *Audio*

➤ **Use Audio**

Selects whether the target will contain an audio track.

Use Always	The target will always contain an audio track, even if the source does not contain audio.
Use if Exist	The target will contain an audio track if the source contains audio. If the source does not contain audio, the target will not have an audio track.
Don't Use	The target will not have an audio track, even if the source contains audio.

➤ **Channels**

Sets the number of channels and if applicable, the channel type for the audio output.

Common options are:

Stereo	Two channels of audio (left/right).
Mono	One channel of audio.

➤ **Sample Rate(kHz)**

Sets the sampling rate or number of samples per second, of the audio in thousands of samples per second. The reproducible frequency range of encoded audio depends on the sample rate.

➤ **Bits / Sample**

Sets the audio sample size in bits per sample. The more bits per sample, the better the representation of changes in the audio level and hence the better the audio quality. The combination of sample rate and bits per sample determine the overall quality of the audio.

➤ **Audio Bitrate (kbps)**

For non-fixed bitrate codecs, sets the audio bitrate in kilobits-per-second. Generally, the higher the bitrate, the better the audio quality is.

➤ **Audio Codec**

Selects the audio codec used to decode the source audio.

◆ **Notes**

Not all targets will include all of the common parameters. Some parameters are available only in certain cases.

AC3 Audio Target

Common Options

See **Common Target Options**.

AC3 Audio-specific options

• *Ac3 Parameters*

➤ Audio Mode

Set the audio coding mode.

Mono Recording	Sets to monaural (1 channel).
Dual Recording	Sets to dual channel (2 independent channels).
Stereo Recording	Sets to stereo (2 channels - left/right)
Multichannel Recording	Sets to multichannel.

➤ Audio Data Rate

Set the bitrate of the audio data. For non-fixed bitrate codecs, sets the audio bitrate in kilobits-per-second. Generally, the higher the bitrate, the better the audio quality is.

➤ Audio Sampling Rate

Sets the sampling rate or number of samples per second, of the audio in thousands of samples per second. The reproducible frequency range of encoded audio depends on the sample rate.

➤ LFE On

Enable this option to enable LFE Channel.

➤ Use LFE Filter

Enable this option to use LFE Filter.

➤ Automatic Gain Control

Enable this option to enable Automatic Gain Control.

Notes

No notes.

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AVI Target

◆ Common Options

See **Common Target Options**.

◆ AVI-specific options

• *Video*

➤ **Video Encoder**

Selects the video encoder to use. Some video encoders may expose additional options.

➤ **Color Format**

Sets the color format to use for encoding. The appropriate color format normally depends on your application.

Automatic	ProCoder will select an appropriate color format based on the color format requested by the codec. Automatic is not always available as a selection.
RGB24	Uses the 24-bit RGB color representation.
YCbCr	Uses the YCbCr color representation.

➤ **Use Default Quality**

Enable this option to use the codec's default quality setting. If this option is enabled, the Video Quality option will be hidden.

➤ **Video Quality**

Sets the video quality level for encoding. The higher the video quality, the better the output will appear but encoding will take longer. If the codec allows specification of both video quality and bitrate, the combination of both settings will determine the visual quality of the final output.

➤ **Use Default Keyframe Interval**

Enable this option to use the codec's default keyframe interval. In temporal compression, most frames of video are represented as the change from a previous frame. Keyframes are full independent video frames in the output. Having more keyframes generally results in better video quality but creates larger files when bitrate is not constrained. When bitrate is constrained, more keyframes provides better random access and higher fault-tolerance, but too many keyframes can reduce video quality.

➤ **Max keyframe interval**

Sets the maximum keyframe interval. This is the maximum number of frames between keyframes. Some codecs will still insert additional keyframes if there is a large change in the video content so keyframes may occur more frequently than the interval set here.

In temporal compression, most frames of video are represented as the change from a previous frame. Keyframes are full independent video frames in the output. Having more keyframes generally results in better video quality but creates larger files when bitrate is not constrained. When bitrate is constrained, more keyframes provides better random access and higher fault-tolerance, but too many keyframes can reduce video quality.

• **Audio**

➤ **Audio Encoder Type**

Select the audio encoder to use. DirectShow codecs appear in the drop-down list. To use older ACM (Video for Windows-compatible) codecs, select ACM codecs... from the drop-down list and choose the ACM codec in the ACM Driver field.

➤ **ACM Driver**

Select the ACM driver to use for audio compression. This option only appears if ACM codecs... is selected for the Audio Encoder Type.

➤ **Format Type**

Some ACM drivers support more than one compression algorithm. Select the audio format to use. This option only appears if ACM codecs... is selected for the Audio Encoder Type.

➤ **Format**

If the the audio compressor supports multiple predefined audio formats (sampling rate, bits / sample, channels), select the desired format here.

➤ **Quality**

Sets the quality level for audio encoding. The higher the quality level, the better the output will sound but encoding will take longer. If the codec allows specification of both quality and bitrate, the combination of both settings will determine the audio quality of the final output.

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- **Multiplexer**

- **A/V interleaving period**

AVI files alternate video and audio in chunks. This setting determines the spacing between the audio chunks with respect to the video. Higher interleaving periods allow for better bitrate control, but some applications require a specific interleaving period to maintain audio/video synchronization. In general, it is best to use the default value.

- **Index Format**

The Index Format determines the compatibility of the output file with different AVI-compatible applications.

Non-compatible (AVI2 only)	The output AVI will only be compatible with DirectShow-based video applications. Applications that use the older Video for Windows AVI access methods will not be able to open the AVI.
Compatible(AVI1/AVI2)	The output AVI will be compatible with both DirectShow-based and Video for Windows-based video applications. However, Video for Windows-based applications may not be able to access beyond the first 1, 2 or 4 GB of the AVI content, depending on the application. To avoid size restriction problems, use ProCoder's automatic file-splitting function to generate multiple output files within the size your application supports.

- ◆ **Notes**

AVI file output must have even (evenly divisible by 2) width and height.

DV Target

Common Options

See **Common Target Options**.

DV-specific options

• Destination

➤ AVI 1/2 Index Format

The Index Format determines the compatibility of the output file with different AVI-compatible applications.

AVI1 + AVI2 (OpenDML)	The output AVI will be compatible with both DirectShow-based and Video for Windows-based video applications. However, Video for Windows-based applications may not be able to access beyond the first 1, 2 or 4 GB of the AVI content, depending on the application. To avoid size restriction problems, use ProCoder's automatic file-splitting function to generate multiple output files within the size your application supports.
AVI2 (OpenDML)	The output AVI will only be compatible with DirectShow-based video applications. Applications that use the older Video for Windows AVI access methods will not be able to open the AVI.

➤ DV type

The DV Type determines the structure of the data within the AVI file.

DV Type 1	The output DV AVI file contains one DV data stream containing both video and audio. This type of DV AVI is compatible with DirectShow-based video applications and codecs only.
DV Type 2	The output DV AVI file contains DV video as a vids stream and DV audio as an auds stream. This type of DV AVI is compatible with both DirectShow-based and Video for Windows-based video applications and codecs.

➤ A/V interleaving period

AVI files alternate video and audio in chunks. This setting determines the spacing between the audio chunks with respect to the video. Higher interleaving periods allow for better bitrate control, but some applications require a specific interleaving period to maintain audio/video synchronization. In general, it is best to use the default value.

► Canopus Reference DV

Enable this option to create a Canopus Reference AVI. Canopus Reference AVI files are DV Type 2 AVIs and can surpass the AVI filesize limits by creating separate reference data files. The AVI file points to these data files and accesses the AVI as if it was one large AVI file. Reference AVI files cannot be moved or renamed without using special tools such as the Canopus Ref. AVI Manager. This option is only available when the encoder is set to **Canopus DV**.

► DV Format

Set the DV encoding format here. DV and DVCAM use the same encoding format but DVCPRO25 uses a different method.

DV/DVCAM	Select this option if you require DV or DVCAM format output.
DVCPRO25	Select this option if you require DVCPRO25 format output.

• Profile

► Use Profile

Enable this option to use a settings profile. Profiles automatically set certain parameters.

► Select Profile

If Use Profile is selected, choose a profile from the drop-down box.

• Video

► Encoder

Selects the video encoder to use. Some video encoders may expose additional options.

► Video Standard

The DV format handles NTSC and PAL video differently. Select the appropriate video standard for your output.

► Use Line21

Select the action to take when Closed Caption (Line21) data is present in the source. Not all sources support Closed Caption data.

Use if Exist	If Closed Caption data exists in the source, include it in the DV output.
Don Use	Closed Caption data is not output, even if the source contains Closed Caption data...

● Notes

The DV specification states that DV data is always Lower/Bottom Field first. However, ProCoder allows you to change the output setting in order to work with decoders that do not follow the specification.

Flash Target

Common Options

See **Common Target Options**.

Flash-specific options

- **Video**

- **Multiplexer type**

Specifies the type of a file to create.

- **Number of passes**

For VBR encoding, select 1 pass or 2 pass encoding.

1 pass	Single-pass VBR encoding varies the bitrate on-the-fly, starting at the specified bitrate, increasing toward the specified maximum in complex segments and decreasing toward the specified minimum in less complex segments. In general, single-pass VBR output will be as-large or larger than CBR output at the same video bitrate.
2 pass	Two-pass VBR performs an analysis pass before the encoding pass. The analysis pass determines the best bit allocation for the encoding pass. The actual bitrate varies between the specified minimum and maximum bitrates. The increases and decreases in bitrate are balanced to keep the average bitrate to the specified video bitrate.

- **Audio**

- **Audio Compression**

Specifies the type of the compression used for audio.

- **Bits/Sample**

Specifies the file's audio sample size. The available bits per sample settings depend on the audio encoder selected.

The number of bits per sample determines how well a particular level can be represented. More bits per sample allows for better representation of audio changes in the Source but results in a larger file size.

The combination of sample rate and bits per sample determine the overall quality of the audio.

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ProCoder 3

► **Sample Rate(kHz)**

Specifies the number of audio sample per second (in thousands) for the Target. The reproducible frequency range of the encoded audio depends on the sample rate. Choosing a higher sample rate produces better sound quality but a larger file size. The combination of sample rate and bits per sample determine the overall quality of the audio. The available sample rates depend on the audio encoder selected. The higher the sample rate, the wider the range of frequencies that can be reproduced. The maximum reproducible frequency for a given sample rate is one-half the sample rate. For example, a standard audio CD uses audio that is at 44.1kHz, or 44,100 samples per second (Hz), which equates to the ability to reproduce sounds up to frequencies of 22,050 Hz.

► **Channels**

Specifies the number of channels (or channel encoding type) of audio for the Target. Normally audio is single channel (mono) or stereo (left/right channel), but some audio codecs allow for different encoding types such as Joint Stereo to store audio in a more efficient manner. The options listed here depend on the audio codec used - most codecs support Mono (1 channel) and Stereo (2 channels).

H.264 Target

Common Options

See **Common Target Options**.

H.264-specific options

• **Stream**

➤ **Stream Type**

Choose between Raw, video-only H.264 or MPEG2 Transport Stream.

➤ **PCR_PID**

Specifies the elementary value for PCR stream. Usually, the application which uses the transport stream defines the value.

• **Bitrate**

➤ **Bitrate mode**

Choose CBR(Constant Bitrate) or VBR(Variable Bitrate).

➤ **Number of passes**

For VBR encoding, select 1 pass or 2 pass encoding.

1 pass	Single-pass VBR encoding varies the bitrate on-the-fly, starting at the specified bitrate, increasing toward the specified maximum in complex segments and decreasing toward the specified minimum in less complex segments. In general, single-pass VBR output will be as-large or larger than CBR output at the same video bitrate.
2 pass	Two-pass VBR performs an analysis pass before the encoding pass. The analysis pass determines the best bit allocation for the encoding pass. The actual bitrate varies between the specified minimum and maximum bitrates. The increases and decreases in bitrate are balanced to keep the average bitrate to the specified video bitrate.

➤ **Video Bitrate(kbps)**

Specifies the video data rate in kilobits per second for this Target. This value will be the average bitrate in VBR mode.

➤ **Maximum bitrate(kbps)**

Specifies the maximum bitrate for VBR Target.

• **H.264 Encoder Settings**

➤ **Profile**

Specifies the Target profile.

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► **Level**

Combines with the profile, the level defines the minimum and maximum values for the frame size, frame rate, bitrate and other settings.

► **GOP size**

Specifies the size of a Group of Pictures. Set is to 1 to only generated I-frames. The GOP size must be a multiple of (Number of B-frames plus one).

► **Number of B-frames**

Specifies the number of B-frames between consecutive I and P frames. B-frames are not allowed when the Baseline profile is selected, or if GOP size is set to 1.

• **Audio**

► **Audio Compression**

Specifies the type of the compression used for audio.

► **Bits/Sample**

Specifies the file's audio sample size. The available bits per sample settings depend on the audio encoder selected.

The number of bits per sample determines how well a particular level can be represented. More bits per sample allows for better representation of audio changes in the Source but results in a larger file size.

The combination of sample rate and bits per sample determine the overall quality of the audio.

► **Channels**

Specifies the number of channels (or channel encoding type) of audio for the Target. Normally audio is single channel (mono) or stereo (left/right channel), but some audio codecs allow for different encoding types such as Joint Stereo to store audio in a more efficient manner. The options listed here depend on the audio codec used - most codecs support Mono (1 channel) and Stereo (2 channels).

► **Sample Rate(kHz)**

Specifies the number of audio sample per second (in thousands) for the Target. The reproducible frequency range of the encoded audio depends on the sample rate.

Choosing a higher sample rate produces better sound quality but a larger file size. The combination of sample rate and bits per sample determine the overall quality of the audio. The available sample rates depend on the audio encoder selected. The higher the sample rate, the wider the range of frequencies that can be reproduced. The maximum reproducible frequency for a given sample rate is one-half the sample rate. For example, a standard audio CD uses audio that is at 44.1kHz, or 44,100 samples per second (Hz), which equates to the ability to reproduce sounds up to frequencies of 22,050 Hz.

HDV Target

Common Options

See **Common Target Options**.

HDV-specific options

- **Video**

- **HDV Mode**

Specifies the HDV mode. Mode-1 is progressive, and Mode-2 is interlace.

- **HDV Format**

Specifies the detailed format for the selected mode.

- **Frame Size**

Displays the size of the frame as width x height in pixels.

- **Playback Frame Rate**

Displays the frame rate used for playback time.

- **Profile / Level**

Determines the profile and level compliance of the HDV output. The profile and level impose restrictions on various parameters in order to guarantee compatibility with MPEG hardware devices.

- **Audio**

- **Channels**

Displays the channel mode.

Notes

No notes.

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MP3 Audio Target

Common Options

See **Common Target Options**.

MP3 Audio-specific options

• *Audio*

➤ Channels

Displays the channel mode.

➤ Bitrate Type

Select the bitrate control type here.

CBR(Constant Bitrate)	Encodes using a constant average bitrate. Quality may vary depending on the complexity of the source.
VBR(Variable Bitrate)	Encodes using variable bitrate. The specified audio bitrate defines the base or average bitrate.

➤ Audio Quality

Sets the encoding quality level here. The higher the quality, the slower the encoding process.

➤ Quality/Speed

The Quality/Speed setting determines the quality vs speed trade-off the encoder uses.

Highest Quality	Optimize encoding for the highest quality.
High Quality	Balance encoding speed versus quality.
High Speed	Optimize encoding for the highest speed.

➤ Copyright

Enable this option to indicate the audio is copyrighted. The flag is informational.

➤ Original Flag

Enable this option to indicate the audio is an original work. The flag is informational.

Notes

MP3 does not stand for MPEG-3, it stands for MPEG-1 Layer III audio. There is no MPEG-3 format specification.

MPEG Target

Common Options

See **Common Target Options**.

MPEG-specific options

• Video-VOB Output

➤ Use Marker Point if exist

Enable this option to use marker points as chapter points when ProCoder is launched from an editing application. If this is option enabled, marker points from the application providing data to ProCoder will be used for chapter point creation instead of the specified Chapter Method. If this option is disabled, or no marker points are received from the application providing data, chapter points will be created following the specified Chapter Method. This option is only available when the Stream Format is set to **DVD (VOB Files)**.

➤ Chapter Method

Sets the chapter creation method. This option is only available when the Stream Format is set to DVD(VOB Files).

Periodic	Sets a chapter point at the specified chapter interval.
No Chapter Point	No chapter points are set.

➤ Chapter Interval (mins.)

Sets the chapter interval in minutes. For example, if the chapter interval is set to 5, a 13-minute source will have 3 chapter points set at the start, 5 minutes and 10 minutes. This option is only available when the Stream Format is set to **DVD (VOB Files)**.

• Stream

➤ Stream Format

The Stream Format specifies the type of MPEG stream to output. Different stream types have different constraints.

Video CD	Create VideoCD (VCD) compliant output.
SVCD	Create Super VideoCD (SVCD) compliant output.
DVD(MPEG Program/Elementary Stream)	Create DVD compliant output for authoring.
DVD (VOB Files)	Create DVD VOB compliant output for burning directly to DVD.
HDV HD-1 Mode	Create HDV compliant output compatible with JVC's GR-HD1 and JY-HD10 HD camcorders.
Generic ISO MPEG stream	Create a generic ISO compliant MPEG output.

► Stream Type

Select the stream type depending on your application requirements. Available stream types depend on the selected Stream Format.

MPEG-1 System Stream	Output as a multiplexed stream with audio and video.
MPEG-2 Program Stream	Output as a multiplexed stream with audio and video.
MPEG-1 Elementary Stream	Output as separate audio and video elementary streams.
MPEG-2 Elementary Stream	Output as separate audio and video elementary streams.
MPEG-2 Transport Stream	Output as a multiplexed transport stream with audio and video.

• Video

► Video Standard

MPEG files for broadcast handle NTSC and PAL formats differently. Set the **Video Standard** here. This option also affects which frame sizes are available.

► Quality/Speed

The Quality/Speed setting determines the quality vs speed trade-off the encoder uses.

High Speed	Optimize encoding for the highest speed.
High Quality	Balance encoding speed versus quality.
Highest Quality	Optimize encoding for the highest quality.
Mastering Quality	Perform all encoding optimizations to produce the absolute best quality at the specified bitrate setting without regard to encoding speed. This option should not be used for performance benchmarking as it is an exhaustive process that can take 10-20 times longer than the other modes.

► Bitrate Type

Select the bit rate control type here. The available rate control types depend on the selected Stream Format.

CQ (Constant Quality)	Encodes to achieve constant quality, varying bitrate up to the specified maximum.
VBR (Variable Bitrate)	Encodes using variable bitrate. The specified video bitrate defines the base or average bitrate.
CBR (Constant Bitrate)	Encodes using a constant average bitrate. Quality may vary depending on the complexity of the source footage.

➤ **Number of passes**

For VBR encoding, select 1 pass or 2 pass encoding.

1 pass	Single-pass VBR encoding varies the bitrate on-the-fly, starting at the specified bitrate, increasing toward the specified maximum in complex segments and decreasing toward the specified minimum in less complex segments. In general, single-pass VBR output will be as-large or larger than CBR output at the same video bitrate.
2 pass	Two-pass VBR performs an analysis pass before the encoding pass. The analysis pass determines the best bit allocation for the encoding pass. The actual bitrate varies between the specified minimum and maximum bitrates. The increases and decreases in bitrate are balanced to keep the average bitrate to the specified video bitrate.

➤ **Max Bitrate(kbps)**

Specifies the maximum bitrate in thousands of bits per second for non-CBR encoding. The encoded bitrate will not exceed the maximum bitrate.

➤ **Min Bitrate(kbps)**

Specifies the minimum bitrate in thousands of bits per second for non-CBR encoding. The encoded bitrate will not drop below the minimum bitrate.

➤ **Quantization Level**

The Quantization Level determines the picture quality for CQ encoding. Higher quantization levels provide better picture quality but require more bits to encode.

➤ **Reservoir Buffer Size (KB)**

Valid only in 1-pass VBR mode. The output file size is at least **[average bitrate] * [duration] [Reservoir Buffer Size]**.

➤ **Expense Buffer Size(KB)**

Valid only in 1-pass VBR mode. The output file size is at most **[average bitrate] * [duration] + [ExpenseReservoir Buffer Size]**.

➤ **Profile/Level**

Determines the profile and level compliance of the MPEG output. The profile and level impose restrictions on various parameters in order to guarantee compatibility with MPEG hardware devices.

➤ **Put Sequence Headers on each GOP**

Enable this option to add sequence headers at each GOP. Some applications require sequence headers at every GOP.

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➤ Aspect Ratio Code

The Aspect Ratio Code tells the decoder what the intended display frame size is.

➤ VBV Buffer Size (KB)

Specifies the video buffer verifier size in kilobytes. This is used by the encoder to ensure the stream can be properly decoded by hardware players.

➤ Max GOP size

Sets the maximum GOP (Group Of Pictures) size. Larger GOPs provide better compression while smaller GOPs provide faster access.

➤ GOP Structure

Specifies the maximum distance between I and P frames, which determines the GOP (Group Of Pictures) structure.

Automatic	Sets the GOP structure automatically based on the content.
I-Frame only	Creates output without P and B frames.
1 frame (IPPP ...)	Creates output with a maximum of 1 frame from I to P frames.
2 frames (IBBPBP...)	Creates output with a maximum of 2 frames from I to P frames.
3 frames (IBBPBP...)	Creates output with a maximum of 3 frames from I to P frames. This is the standard for DVD-compliant MPEG streams.

➤ Enable Scene Detection

When scene detection is enabled, the encoder distributes the available bandwidth better by splitting GOP over scene changes. For best quality, it is recommended to keep this option enabled.

➤ Picture Structure

The compression process can compress interlaced fields separately or combined as a frame to improve efficiency. This option sets the picture structure for the compression process. This does not affect the interlacing mode of the output.

Always Field	Always compress interlaced fields separately. This option should be avoided except in special circumstances.
Always Frame	Always compress interlaced fields together as frames. This method is compatible with all known DVD players.
Automatic	Selects the optimal mode for each frame. The output may not play correctly in all players.

➤ Use Closed GOP

Enable this option to encode closed GOPs. Closed GOPs do not allow prediction between frames at the ends of GOPs. Some DVD-authoring software requires Closed GOPs, as does multi-angle DVD content.

➤ **Chroma Format**

For profiles and levels that support multiple color sampling formats, select the desired format here.

➤ **Intra DC Precision**

The DC Precision determines how many bits are used for the coefficients of the Discrete Cosine Transform function. If you have very complex footage, increasing the number of bits can help improve the video quality...

➤ **Use Strict GOP bitrate control**

Enable this option to use strict bitrate control in each GOP. Some applications require that the GOP bitrate does not fall below the minimum. With this option enabled, padding bits will be inserted into the GOPs if necessary to adhere to the minimum rate.

➤ **Create DVD Compatible Stream**

Enable this option to add extra checks to ensure the stream is compatible with certain PAL DVD players. It is recommended to leave this box checked.

• **System**

➤ **Put the system header on every pack**

Enable this option to put the system header on every pack.

• **Audio**

➤ **Audio Stream Type**

Select the audio stream type here. Elementary streams and VOB file output support both MPEG audio and PCM audio.

➤ **Error Protection**

Enable this option to add CRC error checking data into the audio stream. Some applications require error checking data.

➤ **Copyright Flag**

Enable this option to indicate the audio is copyrighted. The flag is informational.

➤ **Original Flag**

Enable this option to indicate the audio is an original work. The flag is informational.

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ProCoder 3

► Emphasis

Select whether the audio was recorded with emphasis. This is used by the decoder to restore the audio to its original sound. Emphasis was frequently used for phonodisc recordings.

None	The audio was not recorded with emphasis and no de-emphasis is required on playback.
50/15	The audio was recorded with 50/15 emphasis and de-emphasis is required on playback.
CCITT.J17	The audio was recorded with CCITT.J17 emphasis and de-emphasis is required on playback.

◆ Notes

MPEG output must have a width that is an even multiple of 16 and a height that is an even multiple of 8.

PCM Audio Target

◆ Common Options

See **Common Target Options**.

◆ PCM Audio-specific options

- *Audio*

► Output wave files for each channel

Enable this option to get multiple wave files for each channel.

◆ Notes

The PCM Audio exporter writes uncompressed PCM audio WAV files.

Poster Frame (Still Image) Target

Common Options

See **Common Target Options**.

Poster frame-specific options

- **Destination**

- **File Type**

Select the file type to export.

- **Numbering Schema**

Choose how your file names are modified to store image sequences.

Sequential Number	Stores Image_0, Image_1,...
Frame Nr	Appends the number of the Video Frame in the source *Image_23, Image_2890,...
Frame Time Code	Saves images as Image_hh_mm_ss_ff

- **Video**

- **Video SizeX**

Set horizontal video resolution.

- **Video SizeY**

Set vertical video resolution.

- **Use Chapter Marks**

Certain formats (such as DVD's/VOB's) have Chapter Marks. If the engine can extract those, poster frames will be created at each mark.

- **Interval**

Set the intervals for Poster Frames in Seconds.

- **Frame Offset**

The actual Poster Frame will be extracted N frames after its occurrence. Use this to avoid black frames at chapter marks.

Notes

No notes.

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Preview DVD Target

◆ Common Options

See **Common Target Options**.

◆ Preview DVD-specific options

• *Stream Settings*

➤ **Format**

Specifies the file format of the target DVD.

• *Video-Basic*

➤ **Frame Size**

Specifies the frame size of the target DVD.

➤ **Quality/Speed**

The Quality/Speed setting determines the quality vs speed trade-off the encoder uses.

High Speed	Optimize encoding for the highest speed.
High Quality	Balance encoding speed versus quality.
Highest Quality	Optimize encoding for the highest quality.
Mastering Quality	Perform all encoding optimizations to produce the absolute best quality at the specified bitrate setting without regard to encoding speed. This option should not be used for performance benchmarking as it is an exhaustive process that can take 10-20 times longer than the other modes.

➤ **Max GOP size**

Sets the maximum GOP (Group Of Pictures) size. Larger GOPs provide better compression while smaller GOPs provide faster access.

➤ **GOP Structure**

Specifies the maximum distance between I and P frames, which determines the GOP (Group Of Pictures) structure.

Automatic	Sets the GOP structure automatically based on the content.
I-Frame only	Creates output without P and B frames.
1 frame (IPPP ...)	Creates output with a maximum of 1 frame from I to P frames.
2 frames (IBPBPP...)	Creates output with a maximum of 2 frames from I to P frames.
3 frames (IBBPBBP...)	Creates output with a maximum of 3 frames from I to P frames. This is the standard for DVDcompliant MPEG streams.

➤ **Use Closed GOP**

Enable this option to encode closed GOPs. Closed GOPs do not allow prediction between frames at the ends of GOPs. Some DVD-authoring software requires Closed GOPs, as does multi-angle DVD content.

➤ **Disable Scene Detection**

When scene detection is enabled, the encoder distributes the available bandwidth better by splitting GOP over scene changes. For best quality, it is recommended to keep this option enabled.

➤ **Use Strict GOP bitrate control**

Enable this option to use strict bitrate control in each GOP. Some applications require that the GOP bitrate does not fall below the minimum. With this option enabled, padding bits will be inserted into the GOPs if necessary to adhere to the minimum rate.

➤ **Intra DC Precision**

The DC Precision determines how many bits are used for the coefficients of the Discrete Cosine Transform function. If you have very complex footage, increasing the number of bits can help improve the video quality...

• **Audio-Basic**

➤ **Audio Type**

Specifies the audio type.

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QuickTime Export Target

◆ Common Options

See **Common Target Options**.

◆ QuickTime Export-specific options

· *Destination*

➤ **Select Exporter**

Select a QuickTime Exporter from the drop-down list. Additional exporters may be available with updates to QuickTime.

3GPP	Export a 3GPP video file.
AIFF	Export an AIFF audio file.
FLC	Export an AutoDesk Animator animation file.
QuickTime Movie	Export a QuickTime movie file.
uLaw	Export a uLaw audio file.
AVI	Export an AVI file using QuickTime codecs.
Wave	Export a WAV audio file.
DV Stream	Export a DV stream file.
Image Sequence	Export an image sequence.
MPEG-4	Export an MPEG-4 file.

➤ **Exporter Settings**

Click the ... button to access the QuickTime Exporter settings. The options in the QuickTime Exporter settings come from QuickTime itself and vary depending on the selected exporter. Available encoders for the QuickTime exporter depend on the installed QuickTime codecs.

◆ Notes

ProCoder cannot verify output file names from the Image Sequence exporter. This means the Image Sequence exporter will automatically overwrite any existing files that have the same file name as the project being encoded. To avoid confusion, make sure all Image Sequence outputs use different file names and remove any similarly named files from the output location before performing conversion.

The **name.img** filename is used as a placeholder and is not written.

Also, the output file shown by ProCoder does not represent the actual file(s) written when using the Image Sequence exporter. Please check the output folder to see the files that have been written.

QuickTime Target

Common Options

See **Common Target Options**.

QuickTime-specific options

• *Internet-Streaming*

➤ Streaming Mode

Select a Streaming Mode from the drop-down list. The Streaming Mode determines how the QuickTime file will be handled when it is requested for streaming playback.

No Internet streaming	The output is not intended for streaming. If requested for streaming playback, the file will need to be downloaded before playback can begin.
Fast Start	Sets the output so playback can begin before the download is complete. This is a good choice for files being delivered via HTTP.
Fast Start-Compressed Header	Sets the output so playback can begin before the download is complete. This is a good choice for files being delivered via HTTP that do not contain hint tracks. Files of this type cannot be used by a streaming server.
Hinted Streaming	Sets the output for hinted streaming playback. This is the best choice for playback from a streaming server.

➤ Settings

Click the ... button to access the Hint Exporter Settings. This option is only available if Hinted Streaming is selected as the Streaming Mode.

• *Video*

➤ Frame Rate Type

Select the type of frame rate to use for encoding.

FrameRate Fixed	Sets a fixed frame rate for encoding.
FrameRate Flexible	Allows variation of the frame rate to optimize encoding.
Max FrameRate	Specifies a limit to the maximum frame rate which leaves more bits available for each frame.

➤ Encoder

Select the encoder for QuickTime to use from the drop-down list. Any additional QuickTime codecs that are installed on the system will appear in addition to the default codecs that are installed with QuickTime.

► Codec Options

Click the ... button to access the codec options for the selected codec. Not all codecs have options and some do not have modifiable parameters.

► Bits / Pixel

Select the number of colors to reproduce in the output from the drop-down list. The number of bits per pixel, also called the color depth determines the number of colors that can be simultaneously reproduced. More bits per pixel allow for representation of more colors. Some encoders only support certain color depths. The common options are:

256 Colors (8 bits per pixel)	Up to 256 colors can be represented. This color depth is useful for animations and other content with flat colors and little gradation.
32,768 Colors (16 bits per pixel)	Up to 32,768 colors can be represented. This is a good trade-off between reproduction of color gradation and file size.
Millions of Colors (24 bits per pixel)	Up to 16.7 million colors can be represented. Most photographic image formats use 24 bits per pixel. This is often referred to as True Color.
Millions of Colors (32 bits per pixel)	Up to 16.7 million colors can be represented along with a 256-level transparency value.
256 Grays (8 bits per pixel)	Up to 256 shades of gray can be represented. This is fine for video that does not require color.

► Spatial Quality

Determines the spatial compression for each frame in terms of the video quality. Least provides the highest amount of compression but poorer image quality. Spatial compression reduces the information size of each frame by eliminating redundant information and/or discarding information. Best provides the least amount of compression but results in larger output size.

► Temporal Quality

Determines the temporal compression for successive frames in terms of the video quality. Temporal compression eliminates redundant information from one frame to the next. Least provides the highest amount of temporal compression but has poorer image quality. Best provides the least amount of compression but results in larger output size.

► User define "key frame"

Enable this option to manually set the number of frames per keyframe instead of letting the compressor determine the optimal keyframe interval.

➤ **Frames / Keyframe**

Sets the number of frames per keyframe. For example, a setting of 10 would generate 3 keyframes in a 30-frame source.

In temporal compression, most frames of video are represented as the change from a previous frame. Keyframes are full independent video frames in the output. Having more keyframes generally results in better video quality but creates larger files when bitrate is not constrained. When bitrate is constrained, more keyframes provides better random access and higher fault-tolerance, but too many keyframes can reduce video quality.

➤ **User define “Limit Data Rate”**

Enable this option to set a limit to the data rate of the output. This is useful for applications that have fixed bandwidth, like video being read from CD.

➤ **Max. Data Rate(kbps)**

Set the maximum data rate for the stream, in thousands of bits per second.

➤ **Use Precise NTSC Scale**

ProCoder uses a precise NTSC frame rate (29.97002997... fps) which is based on the industry-standard rate/scale information of 30000/1001. However, some video editing applications such as versions of Adobe Premiere prior to 6.5 do not properly import files with precise Rate/Scale information. Instead, these applications expect files with an incorrect rate/scale of 2997/100.

Only disable this option if your editing requires an incorrect rate/scale or you are using Adobe Premiere versions prior to 6.5.

➤ **Use Line21**

Select the action to take when Closed Caption (Line21) data is present in the source. Not all sources support Closed Caption data.

Use if Exist	If Closed Caption data exists in the source, include it in the DV output.
Don Use	Closed Caption data is not output, even if the source contains Closed Caption data...

• **Audio**

➤ **Encoder**

Select the audio encoder to use from the drop-down list.

➤ **Codec Options**

Click the ... button to access the codec options for the selected codec. Not all codecs have options and some do not have modifiable parameters.

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- **Attributes**

- **Title**

- Enter the title of the file. This value is added to the file's metadata and may be used by content management systems or shown by during playback.

- **Author**

- Enter the author of the file. This value is added to the file's metadata and may be used by content management systems or shown by during playback.

- **Copyright**

- Enter the copyright information for the file. This value is added to the file's metadata and may be used by content management systems or shown by during playback.

- **Keywords**

- Enter keywords for the file. This value is added to the file's metadata and may be used by content management systems or shown by during playback.

- **Description**

- Enter a description of the file. This value is added to the file's metadata and may be used by content management systems or shown by during playback.

- **Time Code**

- **Add Time Code Track**

- Enable this option to add a time code track to the file.

- **Display Time Code Mode**

- If **Add Time Code Track** is enabled, select the time code display mode here. This option is only available if the Frame Rate Type is set to **FrameRate Fixed**. QuickTime generates the timecode display from the file information during playback.

Do not display time code	Time code is not displayed on the video.
Display inside of video frame (top)	Time code is displayed within the video frame, over the video at the top of the frame.
Display inside of video frame (bottom)	Time code is displayed within the video frame, over the video at the bottom of the frame.
Display outside of video frame (bottom)	Time code is displayed outside the video frame beneath the bottom of the video frame.

- **Notes**

- Available encoders for the QuickTime exporter depend on the installed QuickTime codecs.

Raw DV Target

Common Options

See **Common Target Options**.

RawDV-specific options

• Destination

➤ DV Standard

Specify the data bitrate to use.

DV50	Uses 50Mbit per second data rate.
DV25	Uses 25Mbit per second data rate.

➤ DV Format

Set the DV encoding format here. DV and DVCAM use the same encoding format but DVCPPro25 uses a different method.

DV/DVCAM	Select this option if you require DV or DVCAM format output.
DVCPPro25	Select this option if you require DVCPPro25 format output.

• Video

➤ Video Standard

The DV format handles NTSC and PAL video differently. Select the appropriate video standard for your output.

➤ Use Line21

Select the action to take when Closed Caption (Line21) data is present in the source. Not all sources support Closed Caption data.

Use if Exist	If Closed Caption data exists in the source, include it in the DV output.
Dont Use	Closed Caption data is not output, even if the source contains Closed Caption data...

• Audio

➤ Audio Locked Mode

When locked audio mode is enabled, the number of audio samples per video frame follows a constant size pattern and the audio clock is precisely synchronized with the video. Locked audio ensures proper audio/video synchronization throughout the output since the number of audio samples per frame is always correct and there is no possibility of too many or too few audio samples.

◆ Notes

The DV specification states that DV data is always Lower/Bottom Field first. However, ProCoder allows you to change the output setting in order to work with decoders that do not follow the specification.

RealMedia Target

◆ Common Options

See **Common Target Options**.

◆ RealMedia-specific options

• *Destination*

➤ 2-Pass Encoding

Enable this option to perform 2-Pass Encoding. This generates higher-quality video performing an analysis pass to determine bit allocation before performing the encoding. 2-Pass Encoding cannot be used in conjunction with ProCoder's automatic file-splitting.

➤ File Type

Select the file type to export.

RealMedia	Exports RealMedia which contains audio and video.
RealAudio	Exports RealAudio which contains audio only.

• *Video*

➤ Encoder

Select the encoder to use from the drop-down list.

➤ Video Mode

Select an option to optimize the encoding for the desired result.

Normal	Optimize for normal video.
Smoothest Motion	Optimize to provide the smoothest motion.
Sharpest Image	Optimize to provide the sharpest image.
Slideshow	Optimize for slideshow presentation.

- **Audio**

- **Audio Type**

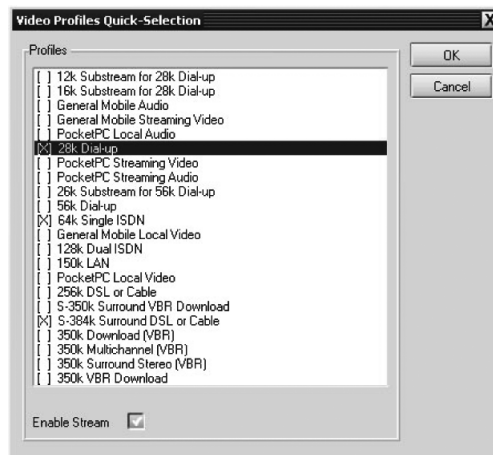
Select the type of audio to encode for.

Voice	Select this option if the source is mostly voice.
Music	Select this option if the source contains music or other non-voice sounds.

- **Profile**

- **Profile Selection**

Click the ... button to show the Video Profiles Quick-Selection dialog. You can select one or more streams from the dialog.



- **Active Profiles**

If more than one profile is selected, select the profile to view or modify from the drop-down list. The Profile-Stream, Profile-Video and Profile-Audio sections will change to reflect the active profile.

- **Use default settings**

Disable this option to customize the settings for the active profile.

- **Profile-Stream**

- **Avg. Bitrate (kbps)**

Set the average bitrate for the stream in kilobits per second. Higher bitrates provide better quality but create larger files.

► Max. Bitrate (kbps)

Set the maximum bitrate for the stream in kilobits per second. Higher bitrates provide better quality but create larger files. This option is only available if VBR encoding is selected.

• Profile-Video

► Max. Frame Rate (fps)

Specify the maximum frame rate for the output. The encoder will attempt to maintain this frame rate, but the rate may be reduced when scenes are complex.

► VBR Encoding

Select the encoding type here. VBR encoding methods cannot be used if more than one profile is enabled.

CBR	Selects constant bitrate encoding. The bitrate will correspond to the Avg. Bitrate setting.
VBR	Average Bit Rate Selects variable bitrate encoding maintaining the average bit rate. The video quality may vary as the encoding rate varies, but the average bit rate will correspond to the Avg. Bitrate setting.
VBR	Video Quality Selects variable bitrate encoding maintaining the video quality. The average bit rate is ignored but the encoding rate will not exceed the Max. Bitrate setting.

► VBR Quality

The VBR Quality setting determines the quality of video when the VBR Encoding type is set to VBR Video Quality mode. Higher values specify better video quality. A value of 100 will attempt to achieve a near-perfect reproduction of the source. The specified quality level may not be achieved depending on the specified frame size and frame rate.

► Use Loss Protection

Enable this option to use Loss Protection. Loss Protection provides better video quality for less-reliable connections but sacrifices effective bandwidth.

► Seconds / Keyframe

Specifies the keyframe interval in terms of the number of seconds per keyframe. For example, if set to 10, a 30-second source will have 3 keyframes. More keyframes generally results in better video quality but creates larger files.

► Startup Latency (sec)

Sets the amount of time allowed before playback must start. A larger latency increases picture quality but takes more time to start playback.

- **Profile-Audio**

- **Encoder**

- Select the audio encoder to use from the drop-down list.

- **Attributes**

- **Title**

- Enter the title of the file. This value is added to the file’s metadata and may be used by content management systems or shown by during playback.

- **Author**

- Enter the author of the file. This value is added to the file’s metadata and may be used by content management systems or shown by during playback.

- **Copyright**

- Enter the copyright information for the file. This value is added to the file’s metadata and may be used by content management systems or shown by during playback.

- **Keywords**

- Enter keywords for the file. This value is added to the file’s metadata and may be used by content management systems or shown by during playback.

- **Description**

- Enter a description of the file. This value is added to the file’s metadata and may be used by content management systems or shown by during playback.

- **Notes**

- Use the **Profile Selection** option to configure individual streams of a multi-stream RealMedia target.

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Windows Media Target

◆ Common Options

See **Common Target Options**.

◆ Windows Media-specific options

• *Destination*

➤ Output File Type

Select the type of file to output.

WMV file (Audio/Video)	Select this option to create a Windows Media video file with only video or both video and audio.
WMA file (audio only)	Select this option to create a Windows Media audio file with only audio.

➤ Total Bitrate

Displays the total data rate in kilobits per second for this target.

• *Profile*

➤ Load Profile

Click the ... button to load a profile saved using the Save as Profile option.

➤ Save as Profile

Click the ... button to save the current settings as a profile. This is a different profile from ProCoder's Target Profiles and can only be loaded in the Windows Media target.

➤ System Profiles

Click the ... button to show the System Profiles dialog. You can select a Windows Media profile from various versions of Windows Media in the dialog.



Note

You can load Windows Media Profiles created by sources other than ProCoder.

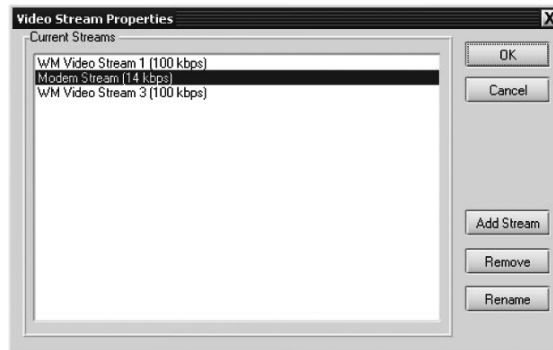
➤ Set Min Packet Size

Enable this option to force the writer to create packet sizes that are larger than the default size.

• **Video-Basic**

➤ **Multi Bitrate Streams**

Click the ... button to display the Video Stream Properties dialog where you can view the currently selected streams, add new streams, rename streams or remove streams.



➤ **Select Video Stream**

If more than one stream is defined, select the stream to view or modify from the drop-down list. The Video-Basic and Video-Advanced sections will change to reflect the selected stream.

➤ **Encoder**

Select the video encoder to use from the drop-down list.

➤ **Image Quality**

The Image Quality slider sets the balance between frame rate and image quality. A value of 0 maximizes the frame rate at the expense of image quality and a value of 100 maximizes image quality at the expense of frame rate.

➤ **Bitrate Mode**

Select the bitrate control mode from the drop-down list.

CBR	Selects constant bitrate mode. The bitrate will correspond to the Video Bitrate(kbps) setting. CBR mode is most useful for streaming.
Quality Based VBR	Selects Quality Based variable bitrate mode. The bitrate will vary in order to maintain the quality specified in the VBR Quality setting.
Constrained VBR	Selects Constrained variable bitrate mode. Constrained VBR mode varies the bitrate up to the Maximum Bitrate (kbps) setting in order to maintain video quality.
Unconstrained VBR	Selects Unconstrained variable bitrate mode. Unconstrained VBR mode varies the bitrate to maintain the selected video quality without a maximum bitrate limit.

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► **Number of Passes**

Select the number of passes to use for encoding from the drop-down list. 2-pass encoding provides better quality but takes longer to encode.

► **VBR Quality**

Sets the quality level for encoding. Higher values result in better video quality at the expense of larger file size. This option is only available when Quality Based VBR is selected as the Bitrate Mode.

► **Maximum Bitrate (kbps)**

Sets the maximum bitrate for encoding. Higher values result in better video quality at the expense of larger file size. This option is only available when Constrained VBR is selected as the Bitrate Mode.

• *Target Global Settings*

► **Enforce Fixed Frame Rate**

The Windows Media Encoder will drop frames if the image quality would be very low otherwise or insufficient bandwidth is available. This option forces the encoder to always encode all frames, even if the image quality becomes very low because of this.

► **Flexible Frame Duration**

Enable this option to allow flexible frame durations in the output. Flexible frame duration is most useful for video with freeze-frames and pauses since it allows a static frame to span more than one frame of output.

► **Transcoding by WME**

When enabled, the Windows Media Encoder Engine will perform all conversions such as frame rate conversion, sample rate conversion, etc..

This will typically result in faster encoding and sometimes better quality especially for multi-bitrate files.



Note

This effectively disables certain built-in aspect ration corrections performed by the transcoding engine. You will have to ensure that the source and target aspect ratio matches.

► **Deinterlacing/IVT by WME**

Select the built-in de-interlace, de-interlace by WME or WME's inverse telecine.

➤ **Inverse Telecine Pattern**

Select the inverse telecine pattern of your source video.

• **Video-Advanced**

➤ **Buffer Window (ms)**

Sets the streaming buffer window size in thousandths of a second. A larger buffer size results in smoother streaming but a requires longer delay before starting playback.

➤ **Maximum Buffer Window (ms)**

Sets the maximum size of the streaming buffer in thousandths of a second. This option is only available if Constrained VBR is selected as the Bitrate Mode.

➤ **Video Complexity**

Select the video codec complexity from the drop-down list. Higher complexity requires more processing power to encode and play back.

Auto	Allow automatic selection based on the complexity of the source.
Offline	Selects a complexity appropriate for offline editing and playback.
Min	Sets the minimum complexity. This allows a greater number of systems to play the result.
Max	Sets the maximum complexity. This limits the types of systems that can play the result.

➤ **Video Decoder Complexity**

Use this control to set a custom level for the video decoder complexity setting. The decoder complexity determines what devices can decode this stream. Please check with your device manufacturer for proper settings.

➤ **Seconds / Keyframe**

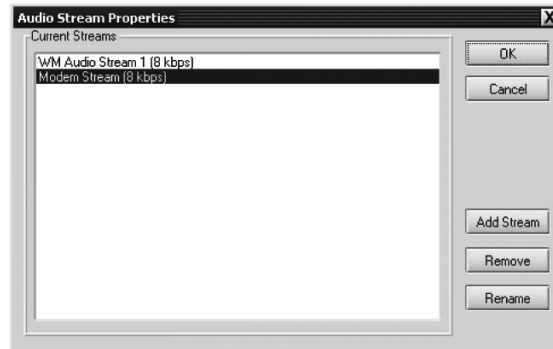
Specifies the keyframe interval in terms of the number of seconds per keyframe. For example, if set to 10, a 30-second source will have 3 keyframes. Having more keyframes generally results in better video quality but creates larger files when bitrate is not constrained. When bitrate is constrained, more keyframes provides better random access and higher fault-tolerance, but too many keyframes can reduce video quality.

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• *Audio-Basic*

➤ **Multi Bitrate Streams**

Click the ... button to display the Audio Stream Properties dialog where you can view the currently selected streams, add new streams, rename streams or remove streams.



➤ **Select Audio Stream**

If more than one stream is defined, select the stream to view or modify from the drop-down list. The Audio-Basic and Audio-Advanced sections will change to reflect the selected stream.

➤ **Encoder**

Select the audio encoder to use from the drop-down list.

➤ **Bitrate Mode**

Select the bitrate control mode from the drop-down list.

CBR	Selects constant bitrate mode. The bitrate will correspond to the Audio Bitrate(kbps) setting. CBR mode is most useful for streaming.
Quality Based VBR	Selects Quality Based Variable Bitrate mode. The bitrate will vary in order to maintain the quality specified in the VBR Quality setting.
Constrained VBR	Selects Constrained variable bitrate mode. Constrained VBR mode varies the bitrate up to the Maximum Bitrate(kbps) setting in order to maintain audio quality.
Unconstrained VBR	Selects Unconstrained variable bitrate mode. Unconstrained VBR mode varies the bitrate to maintain the selected audio quality without a maximum bitrate limit.

➤ **Number of Passes**

Select the number of passes to use for encoding from the drop-down list. 2-pass encoding provides better quality but takes longer to encode.

➤ **VBR Quality**

Sets the quality level for encoding. Higher values result in better video quality at the expense of larger file size. This option is only available when Quality Based VBR is selected as the Bitrate Mode.

➤ **Maximum Bitrate (kbps)**

Sets the maximum bitrate for encoding. Higher values result in better video quality at the expense of larger file size. This option is only available when Constrained VBR is selected as the Bitrate Mode.

➤ **Language**

Select the language setting for the current audio stream.

• **Audio-Advanced**

➤ **Buffer Window (ms)**

Sets the streaming buffer window size in thousandths of a second. A larger buffer size results in smoother streaming but a requires longer delay before starting playback.

➤ **Maximum Buffer Window (ms)**

Sets the maximum size of the streaming buffer in thousandths of a second. This option is only available if Constrained VBR is selected as the Bitrate Mode.

• **Attributes**

➤ **Title**

Enter the title of the file. This value is added to the file's metadata and may be used by content management systems or shown by during playback.

➤ **Author**

Enter the author of the file. This value is added to the file's metadata and may be used by content management systems or shown by during playback.

➤ **Description**

Enter a description of the file. This value is added to the file's metadata and may be used by content management systems or shown by during playback.

➤ **Rating**

Enter a rating for the file. This value is added to the file's metadata and may be used by content management systems or shown by during playback.

➤ **Copyright**

Enter the copyright information for the file. This value is added to the file's metadata and may be used by content management systems or shown by during playback.

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ProCoder 3

➤ **Marker Points**

You can add Marker/Chapter Points by either getting marker data from the source, for example, from an editing applications' timeline or from a QuickTime file, or you can specify periodic markers.

➤ **Marker Interval**

Adds Markers to the WindowsMedia file. A value of 0 will not add any markers, other values indicate the interval duration in seconds. Markers will be named with numbers, with 0 at the beginning of the stream.

◆ **Notes**

Use the **Multi Bitrate Streams** option to add/remove/rename audio and video streams. Use the **Select Video Stream** and **Select Audio Stream** options to configure individual streams of a multi-stream Windows Media target.

3 Video Filters

601 Correction - Expand Color Space Filter

◆ Description

The **601 Correction - Expand Color Space Filter** expands video RGB values from the ITU-R BT 601 recommended 16-235 range to the full 0-255 range. This filter is useful when transcoding files between different systems that use different YUV-RGB conversion methods. If you feel your result is missing brilliance the reason might be that the codec of your source file or the target codec are not handling the conversion between RGB and YCbCr properly. This filter can correct this.

◆ Options

There are no options.

◆ Notes

The Canopus DV and MPEG codecs use the ITU-R BT 601 recommended range of 16-235.

601 Correction - Shrink Color Space Filter

◆ Description

The **601 Correction - Shrink Color Space Filter** shrinks video RGB values from the full 0-255 range to the ITU-R BT 601 recommended 16-235 range. This filter is useful when transcoding files between different systems that use different YUV-RGB conversion methods. If you your converted file looks too much enhanced in contrast the reason might be that the codec of your source file or the target codec are not handling the conversion between RGB and YCbCr properly. This filter can correct this.

◆ Options

There are no options.

◆ Notes

The Canopus DV and MPEG codecs use the ITU-R BT 601 recommended range of 16-235.

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601 to 709 Color Correction Filter

◆ Description

This video filter is used to convert video in the SD (601) colorspace to the HD (709) color space. Broadcast HD video uses YCbCr colors following Rec. ITU-R BT 709-5 where as broadcast SD video is following ITU-R BT 601. Those color spaces are fairly close to each other so you typically will not see a difference. Because of this, ProCoder won't automatically perform this conversion, which maximizes performance. For the most correct handling in the broadcasting area, however, it is advised to use this filters when converting between HD and SD video.

◆ Options

There are no options.

◆ Notes

No notes.

709 to 601 Color Correction Filter

◆ Description

This video filter is used to convert video in the HD (709) color space to SD (601) colorspace. Broadcast HD video uses YCbCr colors following Rec. ITU-R BT 709-5 where as broadcast SD video is following ITU-R BT 601. Those color spaces are fairly close to each other so you typically will not see a difference. Because of this, ProCoder won't automatically perform this conversion, which maximizes performance. For the most correct handling in the broadcasting area, however, it is advised to use this filters when converting between HD and SD video.

◆ Options

There are no options.

◆ Notes

No notes.

Adaptive De-Interlace

◆ Description

The Adaptive De-Interlace Filter is used to apply custom deinterlacing settings when converting an interlaced source to a non-interlaced target.

◆ Options

- *Settings*

- **Detection**

Selects the deinterlacing method to use.

Adaptive	Uses motion detection to determine whether to interpolate or discard fields.
Interpolate from dominant field	Overwrites the non-dominant field by interpolating from the dominant field.
Discard non-dominant field	Retains only information from the dominant field and discards information from the non-dominant field.

- **Threshold**

Adjusts the motion detection error threshold for the **Adaptive Detection** mode. Higher values result in less motion detection, while lower values yield greater sensitivity to motion.

◆ Notes

If this filter is not applied, ProCoder will automatically perform deinterlacing when necessary. Adding this filter overrides the basic deinterlacing process and allows control of the deinterlacing settings.

Bitmap Keying Filter

◆ Description

The Bitmap Keying Filter is used to superimpose a text or graphic overlay onto the video. This is often used for adding station logos, copyright information and other watermarks to video. Images can be keyed by color or using an embedded alpha channel.

◆ Options

- *Settings*

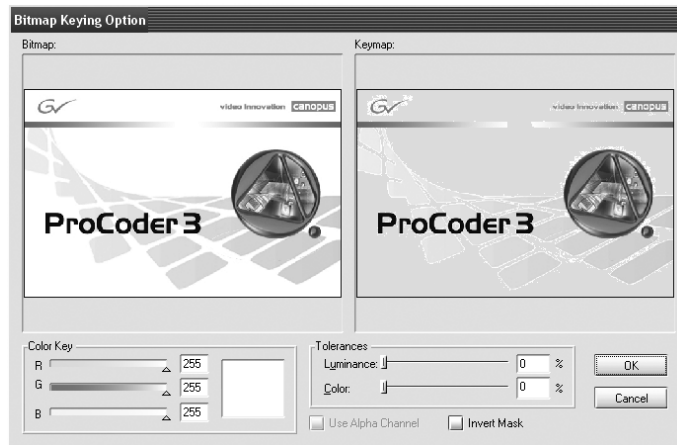
- **Filename**

Click the ... button to select a graphic file to use.

ProCoder 3

► Configuration

Click the ... button to access the Bitmap Keying Option window.



The left image is the original image. The image at the right shows the area to be transparent in a blue-gray color. If using the Color Key, select a color in the image to make transparent by clicking on the left side image or by adjusting the **R**, **G** and **B** sliders at the bottom and adjust the **Luminance** and **Color** tolerance sliders to achieve the desired transparency.

If the image contains an alpha channel, enable the **Alpha Channel** option to use the image's alpha channel information to determine the transparency. Disable the **Alpha Channel** option to pick a color instead of using the image's alpha channel. Enable the **Invert Mask** option to swap the transparent and opaque regions of the image.

► Position

Top Left	Places the graphic at the top left of the video frame.
Top Center	Places the graphic horizontally centered at the top of the video frame.
Top Right	Places the graphic at the top right of the video frame.
Left Places	the graphic vertically centered at the left of the video frame.
Center	Places the graphic at the center of the video frame.
Right Places	the graphic at the vertically centered at the right of the video frame.
Bottom Left Places	the graphic at the bottom left of the video frame.
Bottom Center Places	the graphic horizontally centered at the bottom of the video frame.
Bottom Right Places	the graphic at the bottom right of the video frame.

► Scale

Adjust the **Scale** slider to change the size of the keyed image. Image scaling always preserves the correct aspect ratio of the image. A value of 100 scales the image so it fits within the video frame and fills the frame horizontally and/or vertically.

► Offset

Adjust the **Offset** slider to change the position of the keyed image. Higher values move the image further toward the center of the video frame. A value of 100 positions the image at the center of the frame.

◆ Notes

No notes.

Black/White Correction Filter

◆ Description

The Black/White Correction Filter is used to adjust the black and white levels of the video. This is useful when converting between computer video and broadcast video.

◆ Options

• Settings

► White Threshold

Adjust the slider to determine the minimum value considered to be white.

► White Transition Range

Adjust the slider to determine the range of values that are transitioned to white. Values in this range are ramped from the original value toward white.

► Black Threshold

Adjust the slider to determine the minimum value considered to be white.

► Black Transition Range

Adjust the slider to determine the range of values that are transitioned to black. Values in this range are ramped from the original value toward black.

◆ Notes

Only black and/or white levels are adjusted. This filter does not apply a global luminance change.

Blur Filter

◆ Description

The Blur Filter is used to reduce detail. This filter applies a simple blur. Blurring can help compression by reducing video complexity.

◆ Options

- *Settings*

- **Radius**

Sets the radius of the blur. Higher values result in more blurring.

◆ Notes

No notes.

Broadcast Color Safe Filter

◆ Description

The Color Safe Filter restricts the color range of video to broadcast-safe colors. This is important to ensure proper playback when producing video for broadcast.

◆ Options

- *Settings*

- **Video Standard**

Select the broadcast standard to restrict the color range to. NTSC and PAL standards have different safe color ranges.

- **Correction Method**

Select the correction method to use out-of-range colors.

Reduce Luminance	Reduce the luminance of out-of-range colors to make them safe. This option is best for footage shot by a camera.
Reduce Saturation	Reduce the saturation of out-of-range colors to make them safe. This option is best for computer-generated and animation sources.

Circular Blur Filter

◆ Description

The Circular Blur Filter is used to reduce detail. This filter applies a circular blur. Blurring can help compression by reducing video complexity.

◆ Options

- **Settings**

- **Radius**

Use the slider to set the radius of the blur. Higher values result in more blurring.

◆ Notes

No notes.

Color Correction Filter

◆ Description

The Color Correction Filter can adjust the brightness, contrast, hue and saturation of the video.

◆ Options

- **Settings**

- **Brightness**

Use the slider to adjust the brightness.

- **Contrast**

Use the slider to adjust the contrast.

- **Hue**

Use the slider to adjust the hue.

- **Saturation**

Use the slider to adjust the saturation.

◆ Notes

No notes.

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Fade In/Out Filter

◆ Description

The Fade In/Out Filter can be used to reduce visible compression artifacts at the start or end of the video.

◆ Options

- *Settings*

- ▶ **Fade In Select**

Enable this option to apply a fade in to the video.

- ▶ **Fade In duration (sec)**

Select the number of seconds that the fade in lasts.

- ▶ **Fade Out Select**

Enable this option to apply a fade out to the video.

- ▶ **Fade Out duration (sec)**

Select the number of seconds that the fade out lasts.

◆ Notes

No notes.

Gamma Correction Filter

◆ Description

The Gamma Correction filter adjusts video for differences between computer gamma levels.

◆ Options

- *Settings*

- ▶ **Gamma**

Use the slider to select the gamma level appropriate for your content.

◆ Notes

No notes.

Gaussian Blur Filter

◆ Description

The Gaussian Blur Filter is used to reduce detail. This filter applies a Gaussian blur. Blurring can help compression by reducing video complexity.

◆ Options

- *Settings*

- ▶ **Blur Radius**

Sets the radius of the blur. Higher values result in more blurring.

◆ Notes

No notes.

Median Filter

◆ Description

The Median Filter is designed to remove single-pixel noise from video.

◆ Options

There are no options.

◆ Notes

No notes.

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Pulldown Filter

◆ Description

The Video Pulldown Filter is used to convert non-interlaced sources to interlaced targets without interpolation.

The most commonly used pulldown is 3:2 pulldown, used for converting film footage for playback on NTSC devices. DVD video is for example very often making use of this method. When your source is 23.976 frames per second progressive and your target is 29.97 frames per second interlaced, this filter will produce footage following the 3:2 pulldown rule. However, pulldown might be usefull for more conversions because it entirely avoids blurring caused by interpolation it will not modify the actual image data of your source video but rather prepare it for playback on an interlaced device. Occasionally, depending on your source and target frame rates, stuttering can happen in the playback. In that case it is recommended to remove this filter and use interpolated results which is automatically created during conversion.

◆ Options

- *Field Order*

- **Output Field Order**

Select the desired output field order from the drop-down list. Set it to Auto to have ProCoder determine the best field order for each source.

◆ Notes

No notes.

Relative Crop Filter

◆ Description

The Crop Filter is used to remove unwanted sections of video from the edge of the frame when encoding for computer display. Captured analog footage often has noise or distortion at the edges of the video frame. This noise or distortion is usually unseen as it occurs in the overscan area of the image, a portion which is displayed “beyond” the viewable television area.

◆ Options

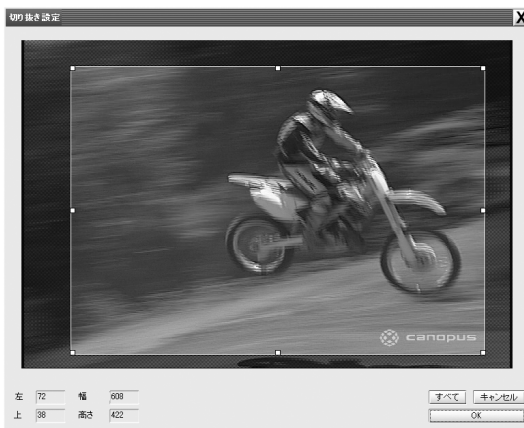
• Cropping

➤ Current Setting

The current cropping setting is displayed here.

➤ Cropping Rectangle

Click the ... button to display the Crop window.



Drag the handles to define the new video frame. Grayed-out areas will be removed from the video. Click the **Full** button to reset the video frame to the full frame.

➤ Scale after Crop

Enable the **Scale after Crop** option to scale the cropped video frame to fill the video frame. This will remove the cropped region and stretch the remaining video to fill the gap, maintaining proper aspect ratio. There may be areas of black remaining if the aspect ratio of the remaining video does not match the original video frame.

➤ **Constrain by Aspect Ratio**

Enable the **Constrain by Aspect Ratio** option to restrict the cropping rectangle to the aspect ratio of the uncropped video frame. This will ensure the remaining video will entirely fill the frame when **Scale after Crop** is enabled. This option only affects the **Crop** window. The Horizontal Cropping and Vertical Cropping settings are not affected by this option.

• **Horizontal Cropping**

➤ **Left**

Sets the position in pixels of the new left edge of the video. This is also the number of pixels removed from the left edge of the video.

➤ **Right**

Sets the position in pixels of the new right edge of the video.

➤ **Right (offset)**

Sets the number of pixels to remove from the right edge of the video. Adjusting this value also changes the value of the Right setting.

• **Vertical Cropping**

➤ **Top**

Sets the position in pixels of the new top edge of the video. This is also the number of pixels removed from the top edge of the video.

➤ **Bottom**

Sets the position in pixels of the new bottom edge of the video.

➤ **Bottom (offset)**

Sets the number of pixels to remove from the bottom edge of the video. Adjusting this value also changes the value of the Bottom setting.

◆ **Notes**

No notes.

Rotate Filter

◆ Description

The Video Rotate Filter can rotate and flip the video. This filter is useful for preparing rotated video for portrait-mode display and for flipping video for rear-projection display.

◆ Options

• *Settings*

➤ Flip Horizontal

Enable this option to flip the video horizontally about a vertically centered axis so left becomes right and right becomes left.

➤ Flip Vertical

Enable this option to flip the video vertically about a horizontally centered axis so top becomes bottom and bottom becomes top.

➤ Rotate +90 degrees

Enable this option to rotate the video clockwise by 90 degrees so the upper-right becomes the lower-right.

➤ Rotate -90 degrees

Enable this option to rotate the video counter-clockwise by 90 degrees so the upper-left becomes the lower-left.

◆ Notes

No notes.

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Sharpen Filter

◆ Description

The Video Sharpen Filter enhances fine details of the video. It is essentially the opposite of a blur and is useful for sharpening blurry video. It can also be used as a post-processing filter for transcoding or filter operations that unintentionally blur, such as scaling or deinterlacing, in order to obtain sharper video results.

◆ Options

- *Settings*

- ▶ **Radius of the blur**

Select the radius of the filter effect using the slider. The radius controls how wide the edge rims. Start with smaller amounts and adjust the radius value until you achieve an acceptable result.

- ▶ **Amount to blend**

Sets the level of detail enhancement. Larger values will make details more obvious.

- ▶ **Threshold for smoothness detection**

Sets the threshold for detecting smooth areas. Higher values prevent detail enhancement in smooth regions of video.

◆ Notes

No notes.

Temporal Noise Reducer

Description

The Video Temporal Noise Reducer Filter reduces noise in video by analyzing previous frames. This filter is recommended to clean noisy video sources such as old analog recordings.

Options

• Settings

➤ Radius of chrominance blur

Use the slider to determine the chrominance blur radius. Larger value will remove larger amount of chrominance noise. Use smaller values to maintain color sharpness. Use zero value to completely disable chrominance blur, other video noises (impulse, scratches, lines etc) will still be removed.

➤ Threshold for luminance locking

Sets the threshold for luminance locking and also helps in pixel change detection. Larger values allow large change in intensity to be locked but may cause motion blurring. Smaller values adversely affects the performance of noise filtering. Use smaller values for video containing more motion and vice versa.

➤ Threshold for chrominance locking

Sets the threshold for chrominance locking and also helps in pixel change detection. Larger values allow for more shifts in color to be locked. Smaller values adversely affects the performance of noise filtering. Generally the threshold of chrominance lock can be higher than the threshold for luminance locking.

➤ Pixel refresh rate

Determines the maximum number of times a pixel can be locked beyond which all corresponding prior information is flushed. However the pixel is still filtered with spatial techniques.

➤ Threshold for new scene detection

Determines the percentage of pixels in the frame that must change for the frame to be considered a new scene. Small values may cause false scene change detection and vice versa. For new scenes, all the pixel's prior information is flushed, however they are still filtered with spatial techniques.

Notes

No notes.

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Video Inverse Telecine Filter

◆ Description

Use this filter to inverse telecine 2-3 telecined videos.

◆ Options

· *Settings*

➤ Use Inverse telecine always

Enables this option to always force usage of inverse telecine.

➤ Maximum buffer duration

Specify the maximum buffer duration.

➤ Telecine Pattern

Select an expected telecine pattern of the source.

➤ Telecine Start Sequence

Expected telecine start sequence of the source.

Choose 'Automatic' to analyze and detect the sequence. If a fixed value is chosen, cadence breaks cannot be detected.

➤ Enable Lock-In

Enable this option to allow the filter to lock-in to a last detected telecine sequence within lock-in duration. If enabled, cadence breaks after the lock-in duration cannot be detected.

➤ Lock-In Duration

Duration in minutes after which the last detected telecine sequence is used for the rest of the video. Cadence breaks after this duration will not be detected.

◆ Notes

No notes.

4 Audio Filters

Channel Mixer Filter

◆ Description

The Channel Mixer Filter interchanges audio channels.

◆ Options

• Settings

➤ Channel Mixer

Interchanges audio channels.

➤ Input Channels

Specifies the number of audio channels.

◆ Notes

No notes.

Fade In/Out Filter

◆ Description

The Audio Fade In/Out Filter can be used to fade audio in and out.

◆ Options

• Settings

➤ Fade In Select

Enable this option to apply a fade in to the audio.

➤ Fade In duration (sec)

Select the number of seconds that the fade in lasts.

➤ Fade Out Select

Enable this option to apply a fade out to the audio.

➤ Fade Out duration(sec)

Select the number of seconds that the fade out lasts.

◆ Notes

No notes.

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Lowpass Filter

◆ Description

The Lowpass Filter can be used to remove high-frequency noise from the audio. This is useful when humming or buzzing is present in the audio.

◆ Options

- *Settings*

- **Cut-off Frequency (kHz)**

Sets the maximum audio frequency in kilohertz for audio to be preserved. Any sounds with a frequency higher than the selected frequency will be removed from the audio.

◆ Notes

No notes.

Normalize Filter

◆ Description

The Normalize Filter is used to equalize the audio volume level.

◆ Options

- *Normalize Method*

- **Audio Normalize Method**

Select the method of normalizing audio.

Normalize to Mean RMS of sources	Sets the average audio level to the average volume level of all sources. This option is useful for equalizing audio levels when multiple sources are stitched.
Normalize Peak to specified DB level	Adjusts the audio level so the loudest sound is occurs at the specified decibel level.

- *DB Level*

- **Normalize to DB level**

Sets the decibel level to normalize the maximum peak audio level to. This option is only available when the Audio Normalize Method is set to Normalize Peak to specified DB level.

◆ Notes

No notes.

Volume Filter

◆ Description

The Volume Filter can be used to change the audio volume level.

◆ Options

- **Settings**

- **Volume**

Set the volume adjustment level using the slider. A value of 1.00 leaves the volume level unchanged. Values lower than 1.00 reduce the volume level while values greater than 1.00 increase the volume level. 2.00 is the maximum value and represents doubling the volume.

◆ Notes

No notes.

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ProCoder Preset Categories

Audio	MP3 PCM
DV	AVI QuickTime RawDV
Storage	AVI MPEG WM
HD	Canopus HQ MPEG WindowsMedia
Application Specific	Editing Software DVD production/Authoring MediaEdge / HDMA-4000
H.264	HD SD Web
Handheld	iPod 3GPP RealMedia10
Web	Thumbnails MPEG QuickTime ReadMedia WindowsMedia
CD/DVD	Computer VCD DVD SVCD
Image Sequence	QT Exporter

Chapter 7

Glossary



◆ **Authoring**

Refers to the process of taking your converted video files and creating a DVD, VideoCD or Super VideoCD using a authoring software package. Authoring software lets you do things like add chapters or menus to your disc and allows it to be played on many set-top players or computers. Examples of authoring software include Adobe Encore DVD, Ulead DVD Workshop, Roxio Easy CD Creator and Nero Burning ROM.

◆ **AVI**

Short for Audio Video Interleave, an early video format developed by Microsoft for playback on Windows-based computers. AVI has been officially replaced by Windows Media Video but is still a popular format for both DV and Disk media.

◆ **Bitrate**

The measurement of the number of data bits per second in a file. Eight bits form one byte. Video files are normally measured in thousands of bits, or kilobits per second (kbps). The higher the bitrate, the larger the resulting file for a specified amount of time. Generally, the higher the bitrate, the better the quality of the video.

◆ **Bitrate, Constant**

A video encoding mode where each frame of video is encoded with a constant number of bits. There can be some variation in particular frames, but the overall average bitrate remains the same over a given time period. Constant bitrate video is generally easier to play back than variable bitrate video because it provides a constant flow of data.

◆ **Bitrate, 2-pass Variable**

A video encoding mode where two passes are performed on the video. The first pass analyzes the complexity of the video and the second pass encodes the video using different bitrates depending on the results of the analysis. 2-pass variable bitrate can produce better-looking video by reserving bits from areas of low complexity for use in areas of higher complexity.

◆ **Codec**

Short for compressor/decompressor, a codec is software that compresses video for storage purposes and then decompresses it for playback purposes. Codecs vary in quality - some are good for Web video while others are better for broadcast-quality video.

◆ Data Rate

The amount of data that is used in the video. Data rate is usually represented in thousands of bits per second or kilobits per second (kbps), however, it can also be represented in other units such as megabytes per second (MB/sec). Bitrate is a particular measurement of data rate.

◆ DivX

A popular video compression method used for a wide range of purposes including Web video and High Definition video storage and playback. DivX uses MPEG-4 technology to achieve low bitrates and small file sizes.

◆ DV

In general use, stands for digital video, meaning any digital representation of video. However, more recently it refers to the Consumer DV format which is a video compression format used in miniDV camcorders. In ProCoder, DV refers to the Consumer DV format.

◆ DVD

Popular format for storing and delivery high-quality video. DVDs use MPEG-2 video to provide broadcast-quality playback, as well as interactivity such as menus and chapter-points. DVDs can be played on set-top DVD players, as well as computers with a DVD-ROM drive and appropriate software.

◆ Frame Rate

The number of video frames shown per second. In general, the higher the frame rate, the smoother the playback.

◆ Frame Size

Refers to the pixel size of your converted video. You'll encounter a frame size option when you try to create CD-ROM or HD video. For CD-ROM video, 320x240 is half the size vertically and horizontally of full-screen video (640x480). For HD video, resolutions are much higher so your options are 1920x1080 interlaced for 1080i, and 1280x720 for 720p.

◆ MPEG

Short for Motion Picture Experts Group, the MPEG video format was created to provide a standard for compressing large-sized digital video files into a smaller size. MPEG-1 was intended for video delivered on CD-ROM, but can also be used for Web delivery. MPEG-2 is a broadcast-quality video format that is used for DVDs and digital television.

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◆ MPEG-1 Elementary Streams

MPEG-1 Elementary streams carry either audio or video, but not both.

The file extensions for MPEG-1 elementary streams are .mpv or .m1v for video elementary streams and .mpa or .m1a for audio elementary streams.

◆ MPEG-1 System Streams

MPEG-1 System streams carry both video and audio together in a multiplexed (mixed) arrangement where audio and video data occur together.

The file extension for MPEG-1 system streams is .mpg but elementary streams are often named .mpg as well.

◆ MPEG-2 Elementary Streams

MPEG-2 Elementary streams carry either audio or video, but not both. Higher-end DVD authoring software usually requires video in MPEG-2 elementary stream format.

The file extensions for MPEG-2 elementary streams are .m2v for video elementary streams and .m2a for audio elementary streams.

◆ MPEG-2 Program Streams

MPEG-2 Program streams carry both video and audio together in a multiplexed (mixed) arrangement where audio and video data occur together. Some DVD authoring applications require MPEG-2 Program streams for input.

The file extension for MPEG-2 Program streams is .m2p but some programs use .mp2 or .mpg instead.

◆ MPEG-2 Transport Streams

MPEG-2 Transport streams carry one or more MPEG-2 Program streams. Transport streams include extra data to provide additional robustness and are often used for satellite transmissions and off-air HDTV broadcasts.

The file extension for MPEG-2 Transport streams is .m2t but some programs use as .ts or .tp instead.

◆ MPEG-4 Streams

MPEG-4 streams can carry both video and audio as well as additional data together in a multiplexed (mixed) arrangement. MPEG-4 is often used for low-bandwidth video playback on handheld devices and on low-bandwidth devices such as wireless phones.

The file extension for MPEG-4 streams is usually .mp4 but MPEG-4 streams are sometimes “wrapped” in QuickTime or AVI files.

◆ Noise

For video, typically refers to noticeable dots, lines, or patterns that should not be in the video. Noise is generally noticeable in poor-quality source video.

◆ NTSC

Short for North American Television Standards Committee. NTSC defines a particular way a video signal can be communicated. The NTSC broadcast format is used primarily in the United States, Canada and Japan. NTSC signals cannot be displayed by non-NTSC devices, such as PAL format televisions. NTSC signals are displayed at 29.97 frames per second.

◆ Overscan Area

Most video output devices, such as televisions, don't show the entire video frame that is available. A small amount of the video's edges is hidden and not shown. Essentially, the video image shown is slightly smaller than the actual image being received. The unseen edges are called the overscan area.

◆ PAL

Short for Phase Alternating Lines. PAL defines a particular way a video signal can be communicated. The PAL broadcast format is used primarily in Asia (except Japan), Australia and Europe. PAL signals cannot be displayed by non-PAL devices, such as NTSC format televisions. PAL signals are displayed at 25 frames per second.

◆ Progressive Download

A method of viewing video where the viewer receives enough of the video file to start playback while it continues to receive the remainder of the video during playback. Progressive download allows the viewer to start watching the video before it has been fully downloaded.

◆ QuickTime

Apple's popular format for audio and video playback. QuickTime supports a variety of additional interactivity features though they are not used often. Mac OS systems use QuickTime as the primary video format.

◆ RealMedia

A popular streaming video format created by RealNetworks. RealMedia files provide varying quality video depending on the capabilities of the client machine and the encoded video.

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◆ Resolution

Typically refers to the frame size, but can also refer to the density of pixels. 640x480 is generally considered full-screen for computer video players.

◆ Source video

In ProCoder, source video refers to the source video file you are going to convert.

◆ Streaming

The process of simultaneously receiving and viewing video. Streaming video playback displays video as it is received, with minimal, if any delay before playback begins. For good streaming video quality, a fast connection to the streaming server is required.

◆ Streaming Server

A server which stores and delivers streaming content. A streaming server is usually a special machine running streaming server software that both stores and manages its viewers. Examples of streaming servers include QuickTime Streaming Server, Real Server and Windows Media Server.

◆ Super VideoCD

A CD-based video delivery format that uses MPEG-2 compression to provide better-than-VHS quality video playback and limited interactivity, such as menus and chapters. Super VideoCDs are popular because they use standard CD media and can be played in both computers as well as hardware Super VideoCD players and some DVD players. Super VideoCD is sometimes shortened to SVCD.

◆ Synchronization

Refers to the audio matching the video being displayed. The easiest way to check synchronization is to make sure the dialog being spoken matches the mouth movements of the speaker.

◆ Target video

In ProCoder, target video refers to the video file created after you convert your source file.

◆ VideoCD

A CD-based video delivery format that uses MPEG-1 compression to provide near-VHS quality video playback and limited interactivity, such as menus and chapters. VideoCDs are popular because they use standard CD media and can be played in both computers as well as hardware VideoCD players and some DVD players. VideoCD is sometimes shortened to VCD.

◆ **VOB**

Abbreviation for Video Object. VOB is the native file format for DVD-Video discs. VOB files contain the audio and video data for the DVD and may also contain additional information, such as subtitles.

◆ **Watch folder**

A folder or directory that is monitored by ProCoder so that it can encode any files that are placed inside it.

◆ **Windows Media**

A popular video format developed by Microsoft. Windows Media Video is the successor to the AVI format and is a common format for streaming video as well as video archiving and delivery.

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