How to use the Adobe Media Encoder

The Adobe Media Encoder converts sequences and clips into media suited for distribution on the web or on DVDs, iPods, cell phones, and other mobile devices. Here is an overview of the Adobe Media Encoder formats:

- *Audio Interchange File Format (AIFF):* An audio file container format developed by Apple Computer, which is the standard audio file format used for storing sound data for Apple Macintosh and other electronic audio devices.
- *Microsoft AVI (AVI):* Audio Video Interleave is a multimedia file format developed by Microsoft. AVI files can contain both audio and video data in a container that allows synchronous playback. AVI files are easily played back on personal computers with Windows operating systems by using the Windows Media Player.
- *Windows Bitmap (BMP):* The BMP file format, sometimes called bitmap or DIB file format (for *device-independent bitmap*), is an image file format used to store bitmap digital images, especially on Microsoft Windows and OS/2 operating systems. The simplicity of the BMP file format and its widespread familiarity in Windows makes it a very common format for graphics programs that operating systems can read and write.
- *GIF:* Graphics Interchange Format is a graphic image file format suitable for sharp-edged line art (such as logos) with a limited number of colors. This takes advantage of the format's lossless compression which preserves very sharp edges (in contrast to JPEG).
- *Animated GIF:* A small animation based on successively displayed GIF images. Animated GIFs are the simplest form of animation and are supported natively by most browsers. Looping and minimal timing information can be set in an animated GIF, but complex animation is beyond this format's capabilities.
- *MP3:* MPEG1 Audio Layer 3 is an audio file compression format with CD quality. MP3 is a standard file format on the Internet and many portable digital audio players.
- *P2 Movie:* DVCPRO P2 (P2 is short form for "Professional Plug-In") is a professional digital video storage media format introduced by Panasonic. P2 is basically a professional video file format used for storing media on a data card for compatible tapeless recording devices.
- *QuickTime (MOV):* QuickTime is a format developed by Apple Computer and is used for storing digital video, media clips, sound, text, animation, and music. QuickTime is the Apple multimedia architecture for HDTV and for web delivery as streaming media or for download.
- *Targa:* TGA File Format, often referred to as TARGA File Format, is a raster graphics file format. The Targa format is used to create images in some video game programs. TARGA and VISTA boards were the first graphic cards for IBM-compatible PCs to support high color/true color display. This family of graphic cards was intended for professional computer image synthesis and video editing with PCs. For this reason, usual resolutions of TGA image files match those of the NTSC and PAL video formats.
- *TIFF:* Tagged Image File Format is a file format for storing images, including photographs and line art. It is now under the control of Adobe Systems. Originally created by the company Aldus for use with what was then called "desktop publishing", the TIFF format is widely supported by image-manipulation applications, by publishing and page layout applications, by scanning, faxing, word processing, optical character recognition and other applications.
- *Uncompressed Microsoft AVI:* See Microsoft AVI above. Exporting as uncompressed AVI will export the clip or sequence without applying additional compression to the output file.
- *Windows Waveform (WAV):* WAV (or WAVE), short for Waveform audio format, is a Microsoft and IBM audio file format standard. Uncompressed WAV files are quite large in size, so, as file sharing over the Internet has become popular, the WAV format has declined in popularity. However, it is still a commonly used, relatively “pure”, i.e. lossless, file type, suitable for retaining “first generation” archived files of high quality, or use on a system where high fidelity sound is required and disk space is not restricted.
- *Audio Only (AAC):* Compression for digital audio compatible with Apple iPod technology, designed to be the successor of the MP3 format. AAC generally achieves better sound quality than MP3.

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- *FLV | H4V (H.264):* Adobe Flash Video, the format for delivering audio and video over the web and other networks. Adobe Flash Video will play on any computer with a Flash-enabled browser.
- *H.264*: An MPEG-4-based standard for encoding for web delivery specifically and for a variety of devices, including HD video, 3GPP cell phones, video iPods, and PlayStation Portable (PSP) devices. The Adobe Media Encoder has H.264 format presets specifically for Google Video, MySpace, Yahoo! Video, and YouTube.
- *H.264 Blu-ray*: An MPEG-4-based standard for encoding in HDTV for Blu-ray disc media.
- *MPEG1* a*nd MPEG1-VCD* (Windows only): A set of standards defined by the Motion Picture Experts Group (MPEG) designed to deliver video and associated audio at bit rates of about .5 to 1.5 Mbps (megabits per second). Video Compact Disc (VCD) videos play only on CDs. MPEG1 movies play on CDs and as progressively downloadable files on the web.
- *MPEG2*: Delivers high-quality, full-screen, full-motion video at bit rates around 15 Mbps or about 10–30 times the data rate of MPEG1 or MPEG1-VCD.
- *MPEG2 Blu-ray*: A subset of the MPEG-2 standard designed for encoding for high-definition (HD) Blu-ray Disc media.
- *MPEG2-DVD*: A subset of the MPEG-2 standard designed for DVDs with a data rate up to 9 Mbps. An MPEG2-DVD file can be encoded directly onto a DVD to create a movie that plays automatically (known as an autoplay disc), or it can be used in an authoring program (such as Adobe Encore) to create a disc with navigational menus and other features.
- *MPEG2-SVCD*: A variant of the MPEG-2 standard designed for the Super Video Compact Disc (SVCD) format. Up to an hour of relatively high-quality video can fit on a single CD. SVCDs can play on most set-top DVD players.
- *MPEG4:* MPEG-4 absorbs many of the features of MPEG-1 and MPEG-2 and other related standards, adding new features such as extended support for 3D rendering, object-oriented composite files (including audio, video and VRML objects), support for externally-specified Digital Rights Management and various types of interactivity.
- *Windows Media* (Windows only): A Microsoft multimedia architecture for HDTV, web delivery, and Palm devices.

Each of these formats has many presets, so most editors will not need to adjust any parameters. However, there are numerous customizable options.

For example, you may want to encode video for playback on mobile devices running Flash Lite. To do this you should first understand the specifications of the mobile device for which you are encoding the video. You can begin with a preset that most closely matches your specifications. You can then apply the necessary custom settings by opening the Export Settings dialog box and selecting custom settings on the Video and Audio tabs. Once you define the custom settings for a specific device, save these settings as a custom preset. For Flash Lite, a good format to begin with is MPEG-4 3GP video and specify screen dimension to match the target devices, such as 240x240.

You can also output video for Flash Lite on mobile devices from Adobe After Effects CS4 opening the composition, selecting File > Export > 3G… and selecting 3GPP (Mobile MP4) as the file format.

To explain each format's unique characteristics would go well beyond the scope of this guide. Instead, this guide shows you how to access the formats. The first task, "Overview of the Adobe Media Encoder," has you select several different formats and then explains some concepts common to most of them. (For detailed explanations on each encoder, Adobe recommends that you visit the respective company's website.) Then the guide gives a rundown of the specific steps you need to follow to use the Adobe Media Encoder to export a clip or sequence.

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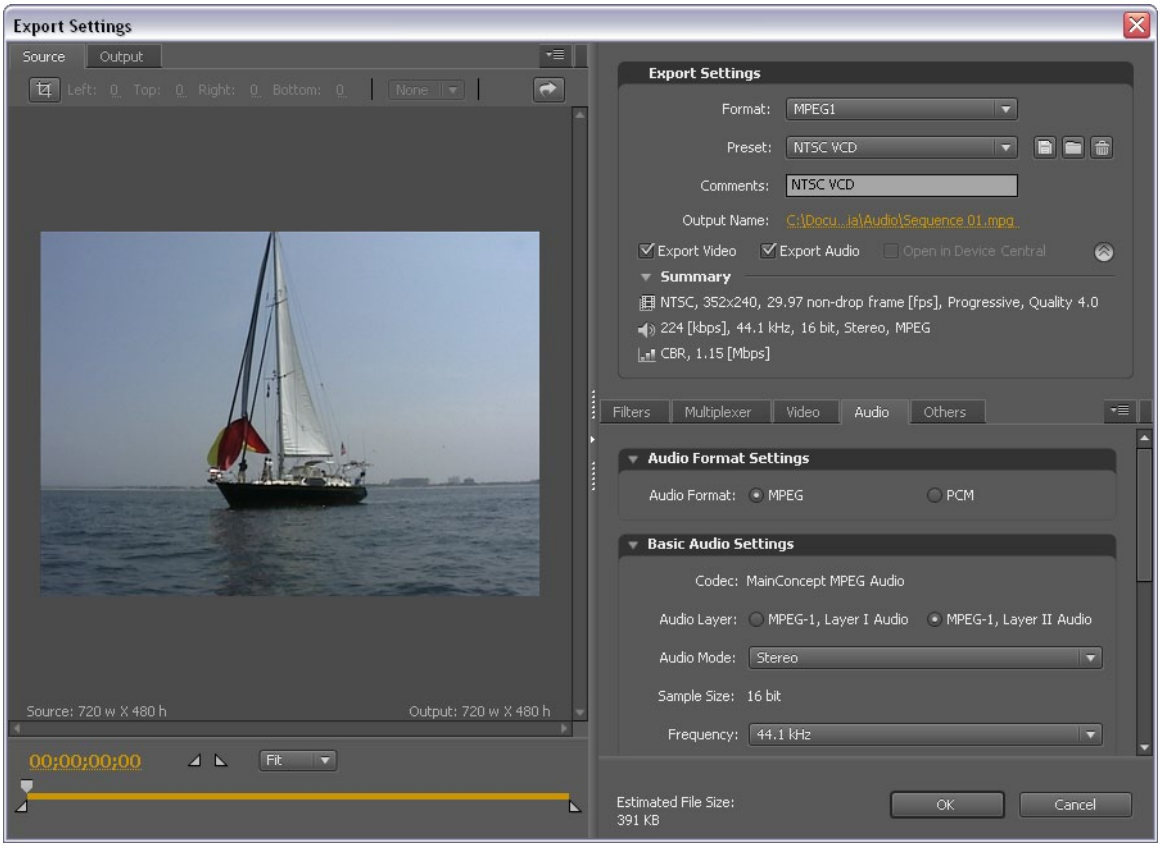

Figure 1 Export Settings dialog box

Overview of the Adobe Media Encoder

1. Start Adobe Premiere Pro and open a project with a sequence or clip you want to export.
2. Select the sequence or clip in the Project panel, and then select File > Export > Media.

   After a few seconds, the Adobe Media Encoder starts and the Export Settings dialog box appears.

   Note: If the Adobe Media Encoder window is in front, bring the Export Settings dialog box to the foreground.

   The export settings include a preview display on the left and tabs containing export settings on the right (**Figure 1**). The tabs display the settings that were used most recently.
3. In the Export Settings area, select H.264 in the Format menu (**Figure 2**).
4. Click the Output tab in the upper-left corner of the dialog box.

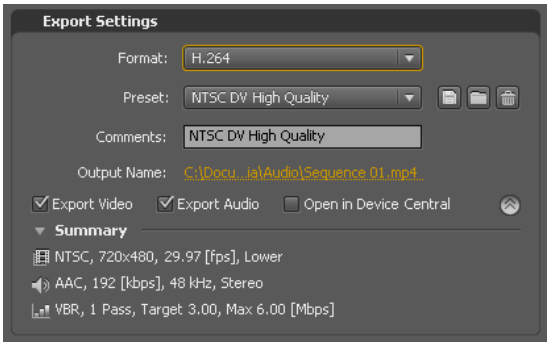

Figure 2 Export Settings area menus

5. In the Preset menu, select 3GPP 176 x 144 15fps.
   - The image quality in the Output preview screen becomes blurry due to the small frame size of this preset.
   - The estimated file size is shown at the bottom of the dialog box (**Figure 3**). You will compare it to the file size of another format in the next step.
6. In the Format menu, select MPEG2-DVD.

   Note: The output image quality becomes very sharp and the estimated file size jumps to about 15 times the size of the low-resolution H.264 format.
7. In the Format menu, select FLV | F4V (H.264).
8. Open the Preset menu and look at the 20+ presets.

   Figure 4 shows a few of those presets.
9. Select FLV (Same As Source) Flash 9.2 And Higher.
10. In the Export Settings area, view the Summary information (**Figure 5**).

    This lists frame size and frame rate as well as audio and video encoder information.
11. In the Format menu, select QuickTime.
12. Click the Video tab, open the Video Codec menu, and select H.264 (**Figure 6**).

    Note: H.264 is one of the formats in the Adobe Media Encoder. H.264 delivers video more efficiently than previous standards such as MPEG-2, and it's built into the Apple QuickTime 7 multimedia architecture.

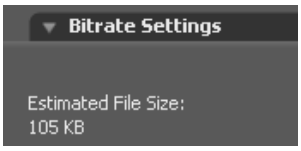

Figure 3 Estimated File Size

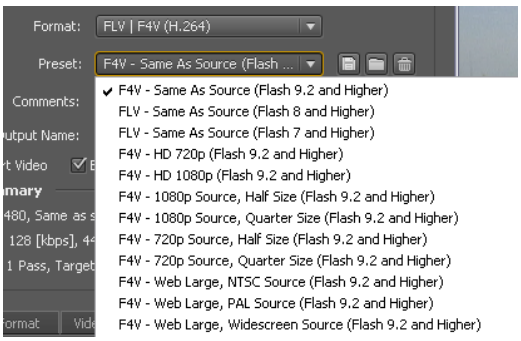

Figure 4 Adobe Flash Video Preset menu (segment)

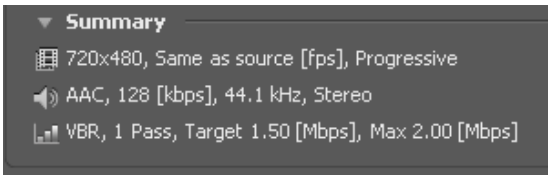

Figure 5 Export Settings Summary area

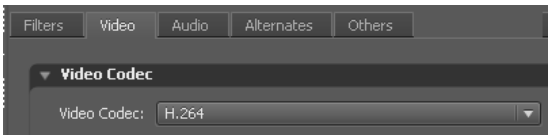

Figure 6 Video tab Video Codec menu

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Note: Macintosh users, skip to step 15.

13. In the Format menu, select Windows Media and verify that NTSC Source To Download 512kbps is the selected preset.

14. Click the Video tab and view the basic video settings (**Figure 7**).

Note: Windows Media offers several encoding options: one or two passes, constant or variable bit rates, frame size, frame rate, and pixel aspect ratio. You can use these options to fine-tune the output.

15. In the Format menu, select MPEG2-DVD and change the Preset to NTSC High Quality.

16. In the Video panel, note the Quality slider (**Figure 8**).

Note: A high quality setting means the MPEG encoder will take longer to analyze the video before converting it to an MPEG-2 file. It does not affect the file size.

17. Use the Video tab scroll bar to view the Bitrate Settings area. Increase the Target Bitrate setting and note that the estimated file size increases (**Figure 9**).

Note: Doubling the bit rate generally increases the MPEG-2 file size by about 50%.

18. Click the Audio tab.

19. In the Audio Format menu, select MPEG.

Note: PCM (Pulse Code Modulation) is the standard audio format for the Adobe Media Encoder MPEG2-DVD format. It is a *lossless* format—it retains full audio quality. Dolby Digital compresses the audio but very little quality is lost in the process. After three trial uses, you need to pay to use the Dolby Digital encoder. MPEG also compresses the audio and yields high-quality results.

20. Scroll down to the Bitrate Settings area and select 128 Kbps from the Bitrate menu (**Figure 10**).

The estimated file size drops considerably. Using MPEG audio encoding can lead to a slight audio quality loss, but you can increase the video bit-rate setting without exceeding the storage capacity of a DVD or the 9 Mbps DVD playback limit.

21. To save a customized preset, click the Save Preset button located next to the Preset menu (**Figure 11**).

22. Click Cancel to close the dialog box without saving the custom preset.

23. Click the Output Name link to set a name and location for the output file **(Figure 12)**.

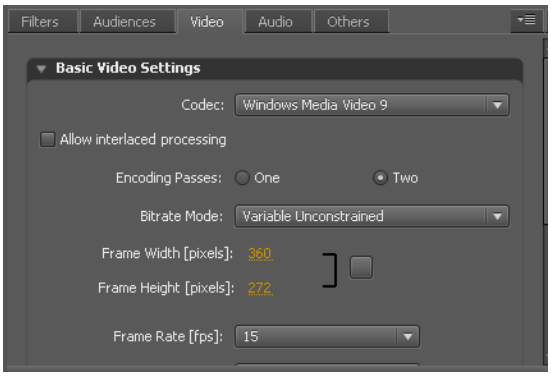

Figure 7 Windows Media Basic Video Settings

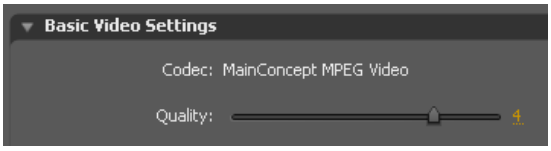

Figure 8 MPEG2-DVD Quality setting

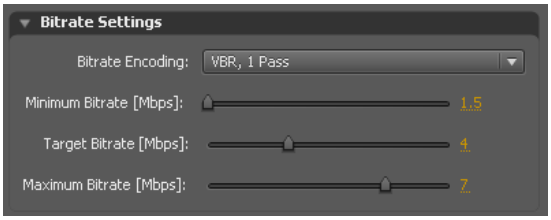

Figure 9 MPEG2-DVD Bitrate Settings

Figure 10 MPEG2 Audio Bitrate Settings area

Figure 11 Save Preset button

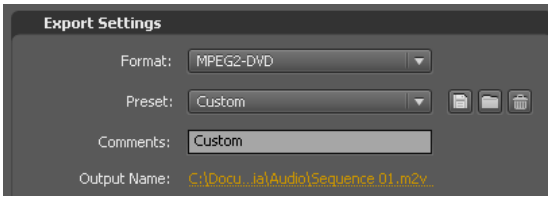

Figure 12 Output Name link

The Save As dialog box appears **(Figure 13)**.

24. Navigate to a file folder, name the file, and click Save.

25. Click OK in the Export Settings dialog box.

26. Bring the Adobe Media Encoder window to the foreground.

Notice, the encoding process **(Figure 14)**. When you first export the file, it begins in the waiting mode. It then moves on to the encoding step, and a green check mark indicates when the encoding process is complete.

27. When the encoding is complete, close the Adobe Media Encoder.

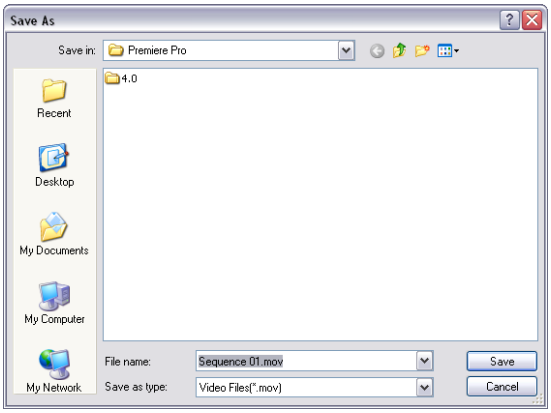

Figure 13 Save As dialog box

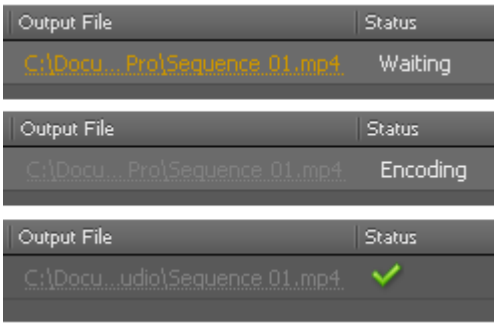

Figure 14 Adobe Media Encoder progress

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How to use the Adobe Media Encoder to export a sequence or clip

You can use the Adobe Media Encoder to export a sequence, a sequence segment, a clip, or a portion of a clip. Refer to the "How to create standard image, movie, and audio files" guide for an explanation of how to prepare a portion of a clip or a sequence segment for export.

1. Start Adobe Premiere Pro and open a project with a sequence or clip you want to export.
2. Select the clip, clip segment, sequence, or sequence segment you want to export.
3. Select File > Export > Media.
4. In the Export Settings dialog box, specify the following options:
   - *Format*: Specify the media file format to be used by your intended audience.
   - *Preset*: Choose the option that most closely matches the specifications for the media to be viewed by your intended audience. As explained in the previous task, you can customize the settings by clicking on one of the tabs below the Export Settings area and changing the parameters there.
   - *Export Video*: Select this option to include video in the exported file; deselect this option to exclude video from the exported file.
   - *Export Audio*: Select this option to include audio in the exported file; deselect this option to exclude audio from the exported file.
5. Click the Output Name link.

   The Save File dialog box appears.
6. Navigate to a file folder, name the file, and click Save.
7. Click OK in the Export Settings dialog box.
8. Bring the Adobe Media Encoder window to the foreground.

   Notice, the file encoding progress. When you first export the file, it begins in the waiting mode. It then moves on to the encoding step, and a green check mark indicates when the encoding process is complete.
9. When the encoding is complete, close the Adobe Media Encoder.

How to use the Adobe Media Encoder to batch process media

You can use the Adobe Media Encoder to encode multiple files at the same time. For example, you may be producing a series of short video or audio clips for use in a multimedia program. Instead of processing each file separately, you can add several files to the Adobe Media Encoder, select your settings once, and then process the entire batch of files.

1. Start Adobe Media Encoder.

The Adobe Media Encoder window opens **(Figure 15)**.

2. Click the Add button

The Open dialog box appears.

3. Navigate to the files you want to process. Select them, and click Open **(Figure 16)**.

To select more than one file, hold down Ctrl (Windows) or Command (Mac OS) as you select the files.

Note: You can also drag files from an open window directly into the Adobe Media Encoder window.

Notice that the files you added are shown in the Adobe Media Encoder window **(Figure 17)**.

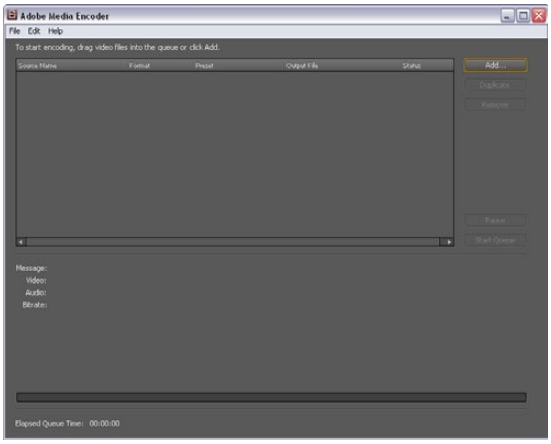

Figure 15 Adobe Media Encoder window

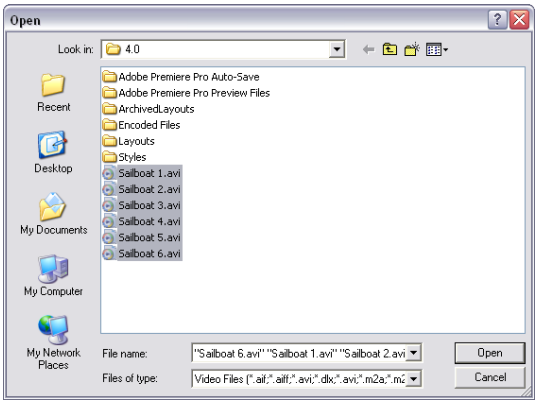

Figure 16 Open dialog box

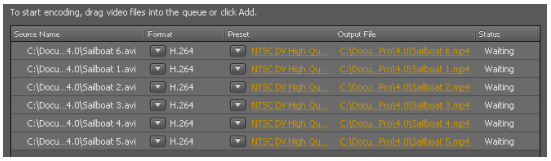

Figure 17 A batch of files ready to process

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4. Open the Format menu for the first file in the list and select a format to use for encoding **(Figure 18).**

   The format you select is applied to the entire batch of files.

5. Open the Preset menu for the first file and select a preset.

   The same preset is applied to the entire batch of files **(Figure 19)**.

   Note: You can customize the settings by selecting Edit Export Settings on the Preset menu.

   By default, the exported files will be placed in the same folders as the source file. You can change this location or rename the output files by clicking the links in the Output File column.

6. Click Start Queue in the Adobe Media Encoder window.

   The encoding process begins. The status column informs you when the encoding is complete by placing a green check mark beside each file. As the encoding occurs, the Media Encoder displays a progress indicator and shows a preview of the encoded file **(Figure 20)**.

7. When the files are encoded, close the Adobe Media Encoder.

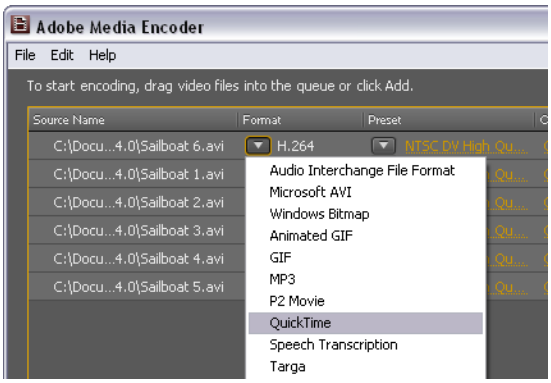

Figure 18 Format menu

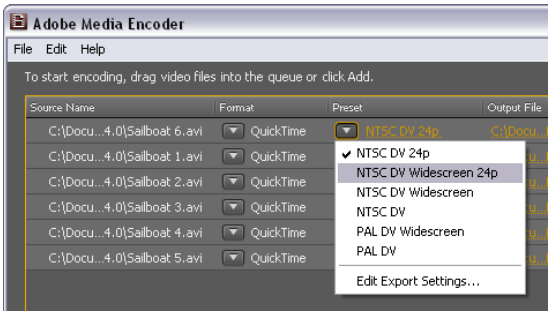

Figure 19 Format and preset applied to the batch

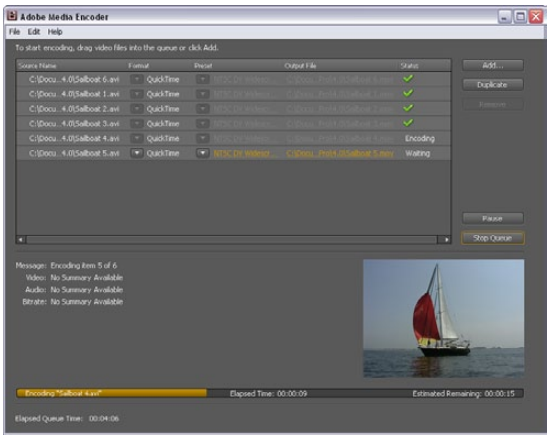

Figure 20 Batch Encoding progress