

QuickTime 4 Help

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See the QuickTime Web site
for updates to this help at:

<http://www.apple.com/quicktime>



Getting started

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What is QuickTime Pro?

QuickTime 4 Pro is a suite of software that plays digitized video, audio, and "virtual reality" movies, and lets you edit movies. QuickTime files are called "movies."

QuickTime 4 Pro software includes these components:

- QuickTime extensions - system software that enables word processors, graphics programs, and other types of applications to play and edit QuickTime movies
- QuickTime Player - an application you use to play and edit QuickTime movies
- PictureViewer - an application you use to view images. You can drag images from PictureViewer to any QuickTime-compatible application
- QuickTime Plugin - software that enables your Web browser to play QuickTime movies

Basic and Pro versions of QuickTime

The Basic and Pro versions of QuickTime consist of the same components, but with the Pro version you get more features. When you register for the Pro version, you enter a serial number that unlocks Pro features in QuickTime Player. You'll see new items in the QuickTime Player menu that let you edit and manipulate tracks in QuickTime movies. You'll see new items in the PictureViewer menu that let you manipulate and export images.

Note: In most cases you'll only need to enter a serial number to unlock the Pro features. If you installed a minimal set of QuickTime software, you may also need to download additional software to see all the Pro features that are available.

System requirements (Windows)

- Intel or compatible processor or any MPC2-compliant PC (minimum 66 MHz 486 processor; also supports Pentium, Pentium Pro, Pentium II with MMX processors, and Pentium III)

- Pentium processor recommended when using effects, 3D, Sorenson Video, DV, RTP streaming, or QDesign music
- Windows 95, 98, or Windows NT 4.0 system software
- At least 16 MB of random-access memory (RAM)
- Sound Blaster or compatible card and speakers
- DirectX version 3.0 or later is recommended.

System requirements (Mac OS)

- 68020, 68030, or 68040 processor-based computer or Power Macintosh computer (Effects, 3D, Floating-Point Audio, DV, MPEG, RTP streaming, and QDesign Music features are not available on 68K computers.)
- Power Macintosh computer required when using 3D, audio compression that requires floating-point operations, DV, MPEG, streaming, or music
- At least 16 MB of random-access memory (RAM) recommended for Power Macintosh computers; at least 8 MB of RAM recommended for 68K computers
- Mac OS version 7.1 or later

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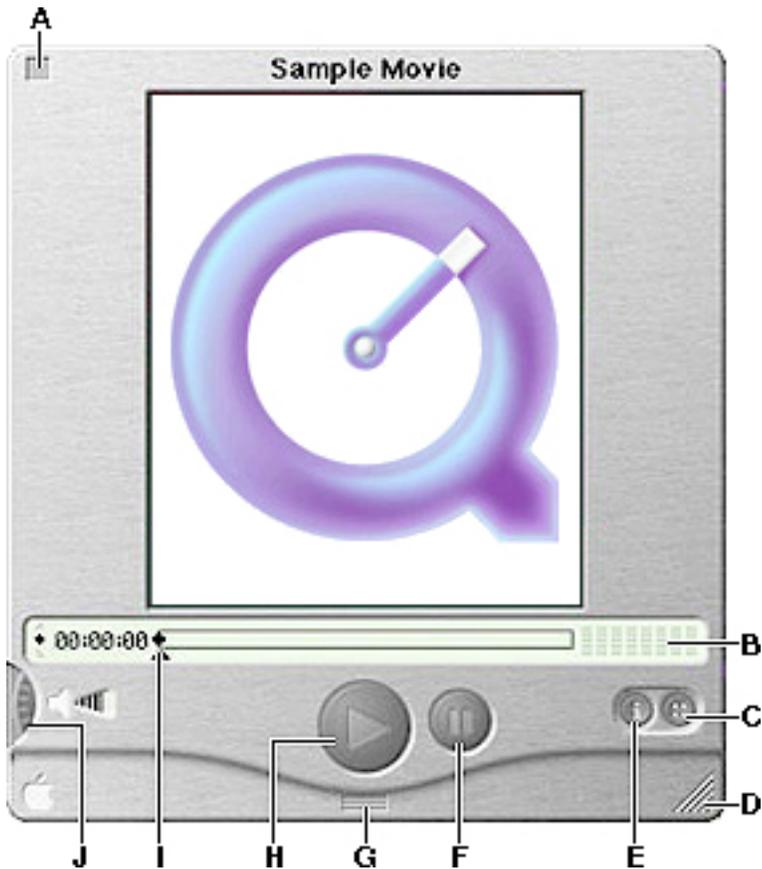
Using QuickTime Player

You can use QuickTime Player to play various types of media, including movies.

Basic controls

Playing movies:

- Double-click the movie's icon, then use the controls in the player window to play the movie.



- A** Click to close the player window.
- B** Audio output display (energy per bandwidth)
- C** Click to display or hide additional video and audio controls.
- D** Drag to change window size.
- E** Click to display or hide copyright information.
- F** Click to pause.
- G** Drag to display Favorites buttons.
- H** Click to play.
- I** Drag to go to a specific point in the movie.

- J** Drag to change the volume.

To have a movie play automatically when it opens:

- Choose Preferences from the Edit menu, then choose General from the submenu and select the Auto-Play option.

Note: By default, a movie begins playing from its [poster](#).

Playing several movies:

- 1 Open QuickTime Player.
- 2 Choose Preferences from the Edit menu, and General from the submenu.
- 3 If you want to play movies simultaneously but only play sound in the front (active) movie, select "Only front movie plays sound."
- 4 Select "Open movie in new player" and click OK.
- 5 For each movie, choose Open Movie in New Player and select the movie to open.

Use the QuickTime Player controls to play the movie, or to play all movies at once, choose Play All Movies from the Movie menu.

Playing streamed media:

You can use QuickTime Player to view real-time streaming movies and fast-start streaming movies. See [About QuickTime streaming](#) for a description of each type of streaming. Viewing streamed media is just like viewing a QuickTime movie. You can click a Favorites button that's set to a streaming channel, or you can choose Open URL from the File menu and type a location for the streamed media.

Playing more than one stream at the same time:

QuickTime plays one stream at a time by default. It's possible to play more than one stream at the same time, but performance may not be optimal if the multimedia files are large or your computer is slow.

To play more than one stream at the same time, check "Allow Multiple Simultaneous Streams" in the Connection Speed panel of the QuickTime Settings control panel. If you are using a LAN connection, the option to play

simultaneous streams is always on.

Displaying information about a movie:

If information for a movie is available, it is displayed in the area shown below, on up to three lines. This text might include the full name of a movie, copyright information, and other information about the movie.

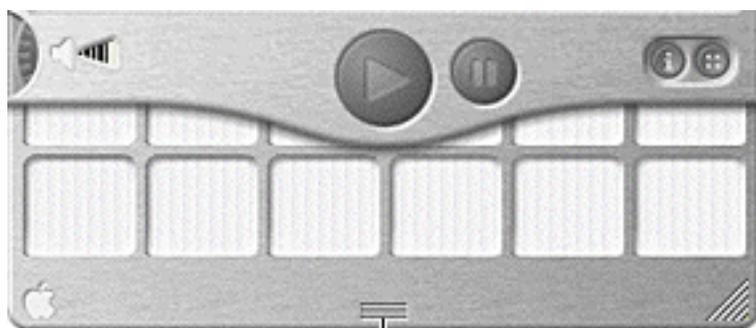
Click to display or hide movie information.



To learn how to add information to a movie you've created, see [Adding annotations](#).

Using Favorites buttons:

Favorites buttons can connect to streamed media, local files, or to any QuickTime media on the Internet. Double-click a button to view an item.



Drag to display or hide Favorite items.

Adding an item to the Favorites list:

Favorite items appear as buttons in the drawer and as items in the Favorites menu. You can add media regardless of where it's stored—even media on the Web.

You can add Favorites buttons by doing one of the following:

- Drag a QuickTime file from your hard disk onto a space in the button drawer.
- Choose Add Favorite from the Favorites menu.

Note: You can turn off the prompt that appears before replacing items in the drawer by choosing Preferences from the Edit menu, then choosing the General submenu and deselecting the Favorites Drawer option.

Removing or renaming a favorite item:

- Choose Organize Favorites from the Favorites Menu, then delete the items you want to remove, or click Rename to change the name.

Note: If you have multiple player windows open, favorites information is the same for each window. If you remove or add a favorite to one player window, it is removed or added from the other player windows.

Choosing a language:

A QuickTime movie can have a set of alternate tracks, for example, to provide text tracks or sound tracks for more than one language.

To choose a language in a movie with alternate language tracks:

- Choose the Choose Language command from the Movie menu.
If the movie does not have alternate language tracks, Choose Language is dimmed.

Playing movies with secure tracks:

When you open a movie with a secure track, a dialog box appears for you to enter an access key. Usually the movie supplier provides the key along with the movie.

You can play movies with secure tracks automatically if you enter access information into the Media Keys panel of the QuickTime Settings control panel.

Playing a movie backward:

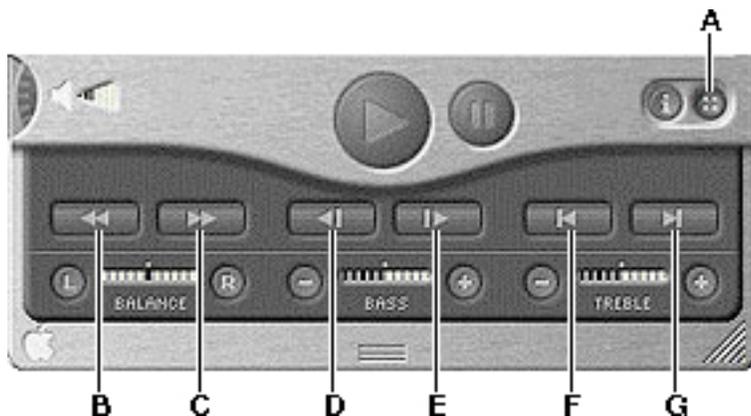
- Hold down the Shift key and double-click the movie image. (Or if you have QuickTime Pro, you can press the rewind control in the additional audio and video control section of the player window.)

Note: Some movies do not play smoothly backward.

Pro controls

Using additional video and audio playback controls:

You can display additional video and audio controls that let you navigate through a movie and control balance, bass, and treble.



- A** Click to display or hide additional video and audio controls.
- B** Fast Rewind
- C** Fast Forward
- D** Step Back
- E** Step Forward
- F** Go to Start
- G** Go to End

Bass and treble equalization is computed in real-time.

Playing a movie continuously:

To play a movie so it repeats until you pause it:

- Choose Loop from the Movie menu.

Viewing all the frames in a movie rather than playing the movie in time:

If a movie contains more frames per second than the computer on which it is being played can handle, QuickTime skips frames so the movie stays in time. If you

want to see every frame, regardless of how long it takes, you can do so.

To play a movie so that no frames are dropped:

- Choose Play All Frames from the Movie menu. A checkmark appears next to this option when it is in effect.
Note: When you choose to play all frames the audio track doesn't play.

Filling the screen with a QuickTime movie:

Movies normally open within a QuickTime Player window.

To fill the entire screen with the movie:

- Choose Present Movie from the File menu.

To return the movie to normal play:

- Press the Esc key.

Presenting a slide show:

To present a movie one frame at a time:

- Choose Present Movie from the File menu and select Slide Show mode. Click the mouse to advance from frame to frame. No audio plays.

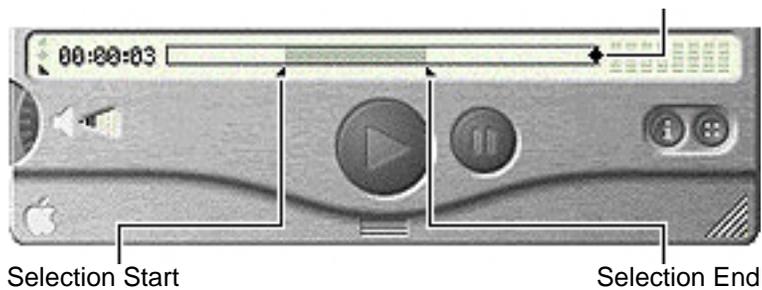
To return the movie to normal play:

- Press the Esc key.

Playing part of a movie:

When you edit a movie, you may want to view part of it so you can verify that precisely what you want to copy or delete has been selected.

Time Slider



- 1 To mark the frame where you want to begin playing, drag the Selection Start marker to that frame.
The Time Display indicates the time for that frame.
- 2 To mark the frame where you want to finish playing, drag the Selection End marker to that frame.
The Time Display indicates the time for that frame.
Tip: For more precise control over selecting the beginning or end of a selection, press the Shift key and the Left or Right Arrow key to move the Selection marker (closest to the Time Slider) to the left or right.
- 3 Choose Play Selection Only from the Movie menu.
- 4 Click the Play button.

Searching a text track:

- 1 Choose Find from the Edit menu.
- 2 Type the word you're looking for and click Find.
The movie jumps to the point where the text is located and highlights the text string you typed.

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Setting the poster

A poster is an image from the movie. By default, it is the first frame of the movie. The poster appears in the Favorites Drawer, which you open in QuickTime Player. For audio movies, setting the poster frame has no effect.

To change the poster:

- 1 Move to the location in the movie that has the image that you want to be the poster.
- 2 Choose Set Poster Frame from the Movie menu.

QuickTime Player uses the image that is visible when you choose Set Poster Frame.

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Getting information about a QuickTime movie

To get information about a QuickTime movie:

- 1 Open a movie.
- 2 Choose Get Info from the Movie menu.

You can see

- how many tracks are contained in the movie
- information about each track
- other useful information about the movie, such as the data rate, duration, file dependencies, and color information

The information you get depends on the movie and whether you have the Pro or Basic version of QuickTime.

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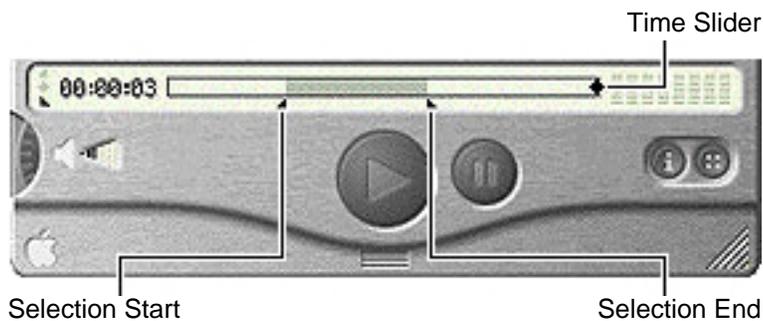
Copying movie frames

Copying a single frame (using QuickTime Basic)

To copy a single frame from a movie:

- 1 Be sure the frame you want to copy is displayed in the QuickTime Player window.
Note: If you have QuickTime Pro, you need to select the frame you want copied. (See "Copying part of a movie" below.)
- 2 Choose Copy from the Edit menu.

Copying part of a movie



To copy part of a movie:

- 1 To mark the frame where you want the selection to start, drag the Selection Start marker to that frame. The Time Display indicates the time for that frame.
- 2 To mark the frame where you want to finish playing, drag the Selection End marker to that frame. The Time Display indicates the time for that frame.
Tip: For more precise control over selecting the beginning or end of a selection, press the Shift key and the Left or Right Arrow key to move the Selection marker (closest to the Time Slider) to the left or right.
- 3 Choose Copy from the Edit menu.

Copying the entire movie

To copy the entire movie:

- Choose Select All from the Edit menu, then choose Copy.

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Creating a new movie

To create a new movie:

- Choose New from the File menu.

The QuickTime Player window opens without a video frame. When you paste images into the new movie, a video frame appears above the controls.

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Combining two movies

To combine two movies:

- 1 Position the marker so that you see the frame that you want to appear immediately after the pasted frames.
- 2 Copy from one movie and paste into the other.

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Deleting parts of a movie

You can select a section and delete it ("clearing") or you can delete everything but the selection ("trimming").

Clearing a section

To delete a section of a movie:

- 1 Select the section you want to remove.
See [Copying part of a movie](#) for information on how to select a section.
- 2 Choose Clear from the Edit menu.

Trimming a section

To delete everything but the selected area:

- 1 Select the section you want to keep.
See [Copying part of a movie](#) for information on how to select a section.
- 2 Hold down the Ctrl and Alt keys (Windows) or the Command and Option keys (Mac OS) and open the Edit menu.
- 3 Choose Trim.

Everything but the selection is deleted.

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Replacing parts of a movie

If you want to paste frames over a section of a movie, you use the Replace command. Pasting just adds frames to a movie, whereas replacing adds the new frames and deletes the frames you've selected.

To replace a section of a movie:

- 1** Copy the frames you want to use to replace a section of the movie.
- 2** Select the section of the movie you want to replace.
- 3** Hold down the Shift key and choose Replace from the Edit menu.

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Setting the preview

A preview area appears in the dialog box when you open a movie file from within a QuickTime-aware application such as QuickTime Player.

QuickTime movies that have a visual component display an image from the movie or a portion from the movie that can be played in the preview area. Movies that have only an audio track display a controller in the preview area. You use the controller to hear a preview of the audio.

The preview, by default, is the first ten seconds of the movie. You can define a different portion of the movie as the preview.

To specify a new preview:

- 1 Select the portion of the movie that you'd like to use as a preview.
- 2 Choose Get Info from the Movie menu.
- 3 In the movie info window, choose Preview from the right pop-up menu.
The Preview panel appears.
- 4 Click the button labeled "Set Preview to Selection."

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Adding annotations

Annotations let you save information about the movie, such as its author, director, and artist, comments, copyright information, sources, and playback requirements.

As you edit a movie and before you distribute it, it is useful to annotate your movie with this information.

The annotations for Copyright, Full Name, and Information appear in QuickTime Player's Info Tray, which you open by clicking the Info button in the player window.

To add new annotation data to a movie:

- 1 Choose Get Info from the Movie menu.
- 2 In the movie info window, choose Annotations from the right pop-up menu.
- 3 Click the Add button.
- 4 Select a property in the scrolling list at the top of the dialog box and type text for that property in the field at the bottom.
- 5 When you're done typing, click Add.

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Checking file dependencies

If a movie is "saved normally" (allowing file dependencies), it can't be played unless any external files (such as images and audio files) it depends on are available. If you aren't able to play a movie, you should check to see whether the movie has file dependencies.

To see which files a movie is dependent upon:

- 1 Choose Get Info from the Movie menu.
- 2 In the movie info window, choose Files from the right pop-up menu.

If only one file is listed, this means the movie is self-contained.

If the listed file doesn't match the name of the file that's open, or if more than one file is listed, the movie depends on other files to play. You can double-click a file's name to open any of these reference files.

To remove dependencies, choose Save As from the Edit menu and choose "Make movie self-contained."

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Saving files normally or as self-contained movies

When you choose the Save As command from the Edit menu, you can choose to save a movie file "normally" or as a "self-contained" movie.

In general, however, you should save the final version of a movie as self-contained. This means all the data in the movie (images, audio files, and so on) is saved with the movie file. You should save a movie this way if the movie will be played on another computer, or if you want the movie to be cross-platform.

When you save normally, your movie might not contain all the data (such as images and audio) you see played in the movie. The movie file contains information about where the original version of that data can be found. If you delete the original data, or move the movie file, you won't be able to play the movie.

You may want to save normally when you are in the process of editing a movie, because saving normally saves disk space. Also, if you are reusing parts of movies, it makes little sense to store them multiple times. If, for example, you have a set of movies all of which use the same opening, you can save space by including that common portion as a reference.

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Saving movies for the Web

When you save a movie file to be used on the Web with the current version of QuickTime and QuickTime Player, add the extension ".mov" to the end of its name. This allows a Web browser to recognize the movie file type and play the movie properly. Save the movie in a QuickTime format.

If you have a movie that was created with an older version of QuickTime, open it and save it again on a computer with the newest version of QuickTime. This formats it properly for playback on the Web. Be sure to save it as a self-contained movie.

It is always best to create relatively small files for the Web, or to use compression. Otherwise it may take a considerable amount of time to download your files from the Web. If you want to use compression, you need to export your movie rather than save it. See [Exporting media for playback over the Internet](#).

Saving movies for multiple data rates, processor speeds, and languages

You can create a QuickTime movie that references alternate versions of the movie stored with different variables. This lets the users view a movie that's optimized for his or her computer and connection to the Internet.

The data rate of a movie is the average amount of data per second that plays when you view a movie. When you are saving a movie for the Web, you should consider the data rate of the movie as well as the bandwidth of the computer on which the user plays the movie. The bandwidth is the amount of data per second that is possible to play on a particular computer. Computers that connect to the Internet through a modem don't have as much bandwidth as those with a direct connection. The slower the modem, the lower the bandwidth.

Saving movies for alternate processor speeds allows authors to send highly compressed media to more systems with higher processor speeds for decoding and higher quality playback.

You can also save a movie so that the appropriate language is automatically chosen when a movie is played, based on the language the computer's system software is in.

For more information on tools and techniques you can use to create movies for the Web, see the QuickTime Web site: <http://www.apple.com/quicktime>

Saving movies for streaming over the Internet

If you want to stream a movie over the Internet, you need to export it rather than save it. See [Exporting media for playback over the Internet](#).

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Exporting media

To export QuickTime media into another format:

- 1 Choose Export from the File menu and choose a format.
- 2 Click Options to set video and sound options that affect how the file is exported.

The Movie Settings panel opens. The sections below describe the options you can set in the Movie Settings panel.

Setting video compression options

To set video compression for exported media, click Settings. After you choose the appropriate settings, click Save.

Video compressors:

Choose a compression method from the pop-up menu. What you choose depends on how you plan to use the movie. See [Compressors](#) for a description of compression methods.

Setting color options for video compression:

The choices you see in the color pop-up menu depend on the compressor you've chosen. You can achieve greater compression by choosing fewer colors.

Setting image quality for video compression:

Not all compressors allow you to change the quality. The higher the quality, the lower the amount of compression and the larger your exported file will be.

Setting motion options:

Frame rate. If you choose a frame rate that's lower than the movie's current frame rate, compression will cause frames to be deleted. If you choose a number that's higher than the movie's current frame rate, existing frames will be duplicated.

Key frame. In most cases, QuickTime uses frame differences to compress moving images. Frame differencing is the process of figuring out what information has changed from a starting frame (called a key frame) to

subsequent frames. The key frame contains all of the information for an image. Subsequent frames contain the information that changed.

You can specify how often you want key frames to occur. If you don't have enough key frames, the quality of your movie will be very low because most frames are generated from others. On the other hand, more key frames means a movie that is larger and has a higher data rate.

How often you set key frames to occur depends on how your movie will be played, and how much of the movie changes from frame to frame. If the movie you're exporting will be played from a CD-ROM disc or over the Internet, you can choose fewer key frames. With some compressors, QuickTime automatically inserts a key frame if too much of the image has changed from one frame to the next.

Data rate. Data rate is the amount that is played per second, usually measured in kilobytes or megabytes per second. The data rate of a movie is affected by the other choices you can set in the Compression Settings dialog box. Since some computer configurations can handle higher data rates than others, you may need to set a data rate. You can set a data rate for only a few compressors, such as Cinepak and H.263. For example, if you want a movie to play from double-speed CD-ROM drives, you need to limit the data rate to a maximum of about 250 kilobytes per second.

Choosing a video filter for exported media

To choose a video filter to apply to the exported media, click Filter in the Movie Settings panel. The video filter you choose is applied to every frame of your movie when the movie is exported. See [Video filters](#) for information on how each filter affects the image.

Setting sound compression options

To set sound compression for exported media, click Settings in the Sound section of the Movie Settings panel.

Sound compressors:

Choose a compression method from the pop-up menu.

What you choose depends on how you plan to use the movie. See [Compressors](#) for a description of compression methods.

Setting up sampling rate for sound:

Digitized sound is made up of sound samples. The more sound samples per second, the higher the quality of the sound. Audio CDs use a 44.1 kHz sampling rate.

The sample rate you choose depends on the nature of the sound. Music requires a higher sampling rate to maintain quality because it uses a wide range of frequencies. In most cases, you should choose the highest sampling rate. Spoken voice has a more limited range of frequencies, so you can choose a low sampling rate and still maintain acceptable quality. Be sure to choose the sampling rate you want before you compress your media.

Setting sound sample size:

Sound sample size determines the dynamic range of the sound. 8-bit sound provides for 256 possible values, whereas 16-bit sound provides for 65,536 possible values.

Choose 16-bit for music that has very soft and very loud passages, such as orchestral music. For spoken voice, or music that has a more or less constant volume level, you can choose 8-bit and get good results. If you plan to compress a music track, check to see what sample size is best for the compressor. Some compressors work best with a 16-bit sample size.

Exporting media for playback over the Internet

To export QuickTime media for playback over the Internet:

- 1** Choose Export from the File menu and choose a format to export to.
- 2** Click Options, then check "Prepare for Internet Streaming."
- 3** Choose the appropriate option from the pop-up menu.

Fast-Start Movie. This is a good choice for movies available through hypertext transfer protocol (HTTP). It's adequate for movies that have a hint track.

Fast-Start Movie - Compressed Header. This is a better choice for movies available through HTTP, but don't choose this if the movie has a hint track. (The streaming server cannot read a compressed header.)

Hinted Streaming Movie. Choose this option if you are putting the exported file on a streaming server. The file will not stream without a hint track for each track in the movie.

Exporting a movie as a hinted movie

If you want to stream media from a streaming server, you may need to export your QuickTime movie as a hinted movie. See [Hinting a movie for streaming](#) for instructions on how to export a movie as a hinted movie.

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Compressors

Compression reduces the size of your media files and improves playback speed. Compression methods are referred to as "codecs" because a method specifies a compression scheme as well as a decompression scheme.

QuickTime comes with a number of built-in video and audio compressors. You can install additional software for other compressors.

Choosing a compression method

Each compression method has strengths and weaknesses. Some methods are more appropriate for storing certain types of media. Some compression methods introduce more distortion in the final product than others. Some compress slowly and decompress quickly, while others compress and decompress at the same rate. Some methods can compress a file to one one-hundredth of its original size, while others decrease the file size very little.

When you choose a compression method, consider the following:

- the source material
- the quality of the compressed media
- the file size of the compressed media
- the time it takes to compress and decompress the media
- whether you plan to stream the media

Video compressors included with QuickTime

Compressor	Comments
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Animation	Works best on computer-generated animations with broad areas of flat color. Doesn't work well when the scene has lots of color changes. You can use this for image or animation or video with an alpha channel. Lossless at 100%. Poor compression ratio.
Apple BMP	Used for still images when exporting in the BMP format. Does minimal compression. Inappropriate for video-based movie playback.
Apple Video	Very fast compressing and decompressing of video. Good compression ratios. Use for real-time capture of video, particularly when hard disk space is at a premium, or for testing clips. OK for hard disk playback. Image quality is poor when compressing enough for CD-ROM playback.
Cinepak	Commonly used for video movies that require CD-ROM playback. Very slow compressing, but decompresses fast on low-end processors. Good choice for streaming.
Component Video	A high-quality compressor. Good for capture on AV computers and as intermediate storage format. Low compression ratios. Larger files. Not good as a delivery format.
DV - NTSC	Used with Digital Video cameras manufactured in the U.S. and Japan.
DV - PAL	Used with Digital Video cameras manufactured in Europe.
Graphics	Good for 8-bit graphics files. Usually better than the Animation compressor in 8-bit. Slower to decompress than Animation.

H.261	Designed originally for video conferencing. Very high compression ratios. Good for low data rates and for streaming live data.
H.263	Very high compression ratios. Works optimally at window sizes of 352x288, 176x144, or 128x96. (Movie windows will be resized to one of these sizes.) Good for low data rates. Good for streaming live data.

Intel Indeo Video 3.2	Cross-platform compressor, primarily designed for Windows. Use to compress video on Windows that will be decompressed on a Macintosh.
Intel Indeo Video 4.4	Cross-platform, very high image quality.

Microsoft Video	Used to decompress video captured on Windows.
Microsoft RLE	Used to decompress video captured on Windows.
Motion JPEG A	Used to decompress files made with certain hardware Motion-JPEG cards when the card isn't available, or to compress in a format that can be played by certain hardware Motion-JPEG cards.
Motion JPEG B	
MPEG 1 (Mac OS)	Used to decompress MPEG video; Layer I and Layer II audio. Opens movies on CDI disks.

None	Good for capture only. Does almost no compression. Results in very large files. You can use this for image or animation or video with an alpha channel.
------	---

Photo JPEG	Ideal for high-quality compressed still images. Also useful as intermediate storage format for movies and for QuickTime VR panoramas. Too slow decompressing to use for video-based movie playback. No interframe compression.
Planar RGB (sometimes called Photoshop)	For importing photographic graphics with an alpha channel (for use when you have an image that you want to composite with video).

Sound compressors included with QuickTime

QuickTime comes with a number of built-in audio compressors. You can install additional software for other audio compressors.

Compressor	Comments
24-bit Integer	Increases the sample size to 24 or 32 bits. (The sample will be converted to 8 or 16 bits to play on current hardware.)
32-bit Integer	
32-bit Floating Point	Increases the sample size to 32 or 64 bits. This allows for more accurate conversion to other sample sizes, and the application of effects.
64-bit Floating Point	
ALaw 2:1	Internet standard for compressed audio in Europe and everywhere else except the United States and Japan. Low compression ratio and low quality. Generally not recommended.
DVI 4:1	Used for reception of MBone broadcasts.
IMA 4:1	Very good for music and other audio content. Must be 16-bit; relatively low compression ratio.

MACE 3:1	Older Macintosh compressors. Low quality. Not generally recommended.
MACE 6:1	
MS ADPCM	Used to listen to audio compressed on Windows.
QDesign Music 2	Excellent for music content. Extremely high compression ratio. Good choice for streaming.
QUALCOMM PureVoice	Excellent for voice content. Extremely high compression ratio. Good choice for streaming.
uLaw 2:1	Internet standard for compressed audio in the U.S. and Japan. Low compression ratio and low quality. You can use this for streaming. Generally not recommended.

Compressors for streamed data

These are the compressors you should use if you plan to stream movies from a QuickTime Streaming Server.

Video compressors:

- H.261
- H.263
- Motion JPEG
- Sorenson Video 2

Audio compressors:

- DVI 4:1
- QDesign Music 2
- QUALCOMM PureVoice
- uLaw 2:1

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QuickTime track types

QuickTime stores data separately in tracks. You can use QuickTime Player to edit tracks individually, even though they are synchronized during playback. You can move tracks from one movie to another, turn a track on or off, delete tracks, or modify the information contained in a track. The primary track types are listed below.

Video track

A video track contains sequential images, such as digitized video or computer-generated images. Each image in a video track is made up of pixels or individual squares of color.

Images in a video track are played at a specified frame rate. Frame rate is the number of individual images shown every second. The standard U.S. video has a frame rate of 29.97 frames per second (fps). QuickTime movies typically play at a slower frame rate because movies with a high frame rate can't be played back on many computers or through a modem connection to the Internet. QuickTime movies made for the Internet typically have frame rates of 10 to 20 frames per second.

Sound track

A sound track contains digitized audio. The properties that define a sound track are the sample rate (the number of sound samples per second), the sample size (the number of bits available to represent the dynamics of each sound sample), and the number of channels—two (stereo) or one (mono).

Music track

A music track contains Musical Instrument Digital Interface (MIDI) information. MIDI is a standard protocol in the electronic music industry for representing a sequence of commands. The commands are most often used to control a music synthesizer, but can be used to control any device that understands MIDI. A music track is very small because MIDI commands are similar to text in size.

Text track

A text track contains text. You can use a text track to caption or index a movie. Text tracks are searchable, so viewers can search for key words to find precise points in the movie.

QuickTime 3D track

A QuickTime 3D track contains geometric definitions of objects and descriptions of the object surfaces (such as texture and lighting). You use a 3D application to define 3D information, then convert it to a QuickTime 3D track. A 3D track works in conjunction with another track, the tween track, which defines the motion of the object (whether it spins, moves across a space, and so on). An object in a 3D track can respond to user input.

Sprite track

A sprite track contains graphic objects (called "sprites") that can be moved and resized independently. Like a video track, a sprite track has a sequence of frames and a frame rate. Unlike a video track, in which the information is entirely pixel-based, each sprite is stored only once in a movie file and its movement is specified separately. Sprite tracks are much smaller than video tracks.

Tracks associated with QuickTime VR

QuickTime VR movies contain at least one QuickTime video track. Additional video tracks are present when movies have multiple nodes, hot spots, or other special features. QuickTime VR panoramic movies also contain a VR Panorama track. Movies created with QuickTime VR version 2.0 and later contain a QuickTime VR track. QuickTime VR 2.0 object movies contain a VR Object track.

Timecode track

A timecode track is used by professional video editors to identify each frame of a movie. When a timecode track is visible, it typically appears in the bottom of the movie window as hours:minutes:seconds;frames (e.g. 00:06:19;11). As the movie plays, the numbers increase. The timecode track can be used for precise editing.

Tween track

A tween track modifies other tracks. It's often used in conjunction with 3D tracks and specifies the animation of the 3D object contained in the 3D track.

Base track

A base track is the default name given to an undefined or unnamed track. It is used to modify other tracks.

Hint track

A hint track contains information needed to stream a movie, such as how data is to be encoded and packaged, and how fast it will be transmitted. Movies that contain a hint track are sometimes called hinted movies.

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Importing media files

File formats that QuickTime cannot open directly, but that it can convert, include text, PICS, MIDI, Karaoke, and tracks from audio CDs. (See [File formats you can import](#) for a complete list.)

To import files that need to be converted:

- 1 Choose Import from the File menu.
- 2 Locate and select the file you want to import.
- 3 Click Convert.
- 4 Type a file name.
- 5 Click Save.

Importing audio CD tracks

If you're using Windows, you must first convert audio CD tracks to WAV or another QuickTime-compatible format using an audio-editing application before you can import them (following the steps above).

If you're using the Mac OS, follow these steps:

- 1 Insert the CD into the CD-ROM drive of your computer.
- 2 Open QuickTime Player.
- 3 Choose Open from the File menu.
- 4 Open the CD and click a track.
- 5 Click Convert.
- 6 Type a name for the movie and click Options.
- 7 Set rate, size, and whether to use mono or stereo.
 - Rate-CDs uses a sampling rate of 44.1. If you choose anything less, the movie file is smaller, but the quality is not as good as that on a CD.
 - Size-Most CDs use 16-bit. If you choose 8-bit, the quality is not as good as that on a CD. If you plan to compress the movie file, check to see if the compressor works best with 8-bit or 16-bit sample size. Many compressors work best with 16-bit.
 - Mono or stereo-A mono movie file is half the size of a stereo movie file.

- 8 If you don't want to import the entire track, use the sliders in the Audio Selection box to select a section.
- 9 Click OK, then click Save.
If you can't save the file, check the location you selected. You may be trying to save to a CD-ROM disc instead of to your hard disk.

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File formats you can import

QuickTime Player or PictureViewer can import the following formats.

Video

Video format	Comments
AVI	Creates a video track, an audio track, or both.
DV	Creates a video track, an audio track, or both. Can also export a video track in this format.
MPEG-1 (Mac OS)	Creates a video track, an audio track, or both.
OpenDML	Creates a video track, an audio track, or both.
QuickTime Movie	Creates a video track, an audio track, or both.

Audio

Audio format	Comments
AIFF/AIFC	Creates a sound track. Can also export sound tracks and music tracks into this format.
Audio CD	Can import audio tracks directly from a CD.
DV	Creates a sound track.
Sound Designer II	Creates a sound track. You can't export to this format.
System 7 Sound	Must be imported and saved. Creates a sound track.
uLaw (AU)	Creates a sound track. Can also export sound tracks into this format.

WAV	Creates a sound track. Can also export sound tracks into this format.
-----	---

Still image

Still image format	Comments
BMP	Creates a video track. Can also export in this format.
GIF	Creates a video track.
JPEG/JFIF	Creates a video track.
MacPaint	Creates a video track.
PICT	Must be imported and saved. Creates a video track. Can also export in this format.
PNG	Creates a video track.
QuickTime Image Format	Creates a video track.
RGB Planar	Creates a video track.
SGI	Creates a video track.
Targa	Creates a video track.
TIFF	Creates a video track.

Animation

Animation format	Comments
3DMF	Must be imported and saved. Creates a 3D track. Needs a tween track to animate.
Animated GIF	Creates a video track.

FLC/FLI	Creates a video track.
PICS	Must be imported and saved. Creates a video track.

Flash

Flash format	Comments
Flashpix, Macromedia Flash	Creates a video track or still image.

MIDI

MIDI format	Comments
Karaoke MIDI	Must be imported and saved. Creates a music track and a text track.
Standard MIDI, General MIDI	Must be imported and saved. Creates a music track. Can also export music tracks in this format.

Text

Text Format	Comments
Text	Must be imported and saved. Can import text files with text descriptors and time stamps. Creates a text track. Can also export text tracks as plain text or with text descriptors and time stamps.

Virtual Reality

Virtual Reality	Comments
QuickTime VR	Used for QuickTime VR objects and panoramas.

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Video filters

Video filters modify every frame in a movie. The table below describes how the image in a movie is changed when you apply a filter. You can choose one filter to apply to a video track when you export a movie.

Filter	Comments
None	Choose this to remove any of the other filters listed in this table.
Alpha Gain	Lets you manipulate the alpha channel of an image.
Blur	Blurs the image. You can adjust the amount of blur and the brightness.
Brightness and Contrast	You can adjust each separately.
Color Balance	Lets you specify characteristics of the system a movie will be played on, so that color is as true to the original as possible.
Color Style	Lets you add solarization and posterization effects.
Color Tint	Lets you change the image to black and white, tint it any color, and invert colors.
Edge Detection	Finds the edges in the image. You can set the width of the edge and you can also colorize the results.
Emboss	Gives the image a raised look by doing an offset. You can choose the amount of embossing.

Film Noise Adds noise to the image so it looks like movie film. You can set various parameters, including the Hair Density and Length, the Scratch Density, the Dust Density, and the Dust Size from 0 to 25. You can also set the look of the film with the File Fade pop-up menu.

General Convolution Lets you enter values in a grid to specify a pattern of brightness for the pixels in the image.

HSL Balance Lets you alter the look of the image by setting its hue, saturation, and lightness.

Lens Flare Lets you add a reflection to an image that simulates a lens flare.

RGB Balance Lets you alter the look of the image by setting its red, green, or blue values.

Sharpen Sharpens the image. You can set the degree of sharpening and brightness.

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File formats you can open with the QuickTime Internet plugin

Supported browsers

- America Online 4 or later
- Microsoft Internet Explorer 3.0 or later
- Netscape Navigator™ 3.0 or later

File formats

- QuickTime movie
- AIFF audio
- PNG
- AU audio
- AVI video
- SGI image
- FLC animation
- Targa image
- MacPaint image
- WAV audio
- MIDI audio
- Windows BMP
- Photoshop image
- Flashpix
- Macromedia Flash

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Mouse and keyboard shortcuts for Windows

The following table lists mouse and keyboard combinations for QuickTime Player.

Opening, closing, and exporting

Action	Key combination
Open movie	Ctrl + O (letter O)
Open URL	Ctrl + U
Close	Ctrl + W
Export	Ctrl + E

Playing

Action	Key combination
Play all frames (without audio)	Alt + Play buttons
Play	Double-click movie image or Ctrl + right arrow key
Play backward	Shift + double-click movie image or Ctrl + left arrow key
Stop play	Click movie image or Ctrl + . (period)
Start/Stop play toggle	Space bar
Play selection only	Ctrl + T
Loop	Ctrl + L
Play movie without the player window or present a slide show	Ctrl + M

Navigating

Action	Key combination
Jump to end of movie	Ctrl + Alt + right Step button
Jump to beginning of movie	Ctrl + Alt + left Step button
Step back or advance one frame	Left or Right Arrow keys

Scaling and zooming

Action	Key combination
Scale to half size	Ctrl + 0 (zero)
Scale to normal size	Ctrl + 1
Scale to double size	Ctrl + 2
Fill screen	Ctrl + 3
Scale size to half, normal, double, and so on	Ctrl + Alt + drag size box
Scale movie proportionately	Drag size box
Scale movie disproportionately	Shift + drag size box
Zoom in on thumbnail image (in the Compression Settings dialog box)	Ctrl + Alt + click image
Zoom out on the thumbnail image (in the Compression Settings dialog box)	Shift + Ctrl + Alt + click image
Zoom in (QuickTime VR)	Shift + pointer over image in VR movie

Zoom out (QuickTime VR)	Ctrl + pointer over image in VR movie
-------------------------	---------------------------------------

Adjusting audio

Action	Key combination
Raise or lower volume	Up or Down Arrow keys

Managing Favorites items

Action	Key combination
Add Favorite to drawer	Ctrl + D
Organize Favorites	Ctrl + =
Open or close Favorites drawer	Ctrl +]

Editing

Action	Key combination
Move the Selection Start marker forward or back	Shift + Right or Left arrow keys
Step forward to selection or end	Shift + Right arrow key
Step back to selection or beginning	Shift + Left arrow key
Trim or Add	Ctrl + Alt + open Edit menu
Replace	Shift + open Edit menu
Add Scaled or Trim	Shift + RCtrl + Alt + open Edit menu

Open Text Import
Settings dialog box

Alt + Paste (must have text
copied from editor)

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Mouse and keyboard shortcuts for the Mac OS

The following table lists mouse and keyboard combinations for QuickTime Player.

Opening, closing, and exporting

Action	Key combination
Open movie	Command + O (letter O)
Open URL	Command + U
Close	Command + W
Export	Command + E

Playing

Action	Key combination
Play all frames (without audio)	Control + Play buttons
Play	Double-click movie image or Command + right arrow key
Play backward	Shift + double-click movie image or Command + left arrow key
Stop play	Click movie image or Command + . (period)
Start/Stop play toggle	Space bar
Play selection only	Command + T
Loop	Command + L
Play movie without the player window or present a slide show	Command + M

Navigating

Action	Key combination
Jump to end of movie	Option + right Step button
Jump to beginning of movie	Option + left Step button
Step back or advance one frame	Left or Right Arrow keys

Scaling and zooming

Action	Key combination
Scale to half size	Command + 0 (zero)
Scale to normal size	Command + 1
Scale to double size	Command + 2
Fill screen	Command + 3
Scale size to half, normal, double, and so on	Option + drag size box
Scale movie proportionately	Drag size box
Scale movie disproportionately	Shift + drag size box
Zoom in on thumbnail image (in the Compression Settings dialog box)	Option + click image
Zoom out on the thumbnail image (in the Compression Settings dialog box)	Shift + Option + click image

Zoom in (QuickTime VR)	Shift + pointer over image in VR movie
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Zoom out (QuickTime VR)	Command + pointer over image in VR movie
-------------------------	--

Adjusting audio

Action	Key combination
Turn audio on or off	Option + Volume Control button
Raise or lower volume	Up or Down Arrow keys

Managing Favorites items

Action	Key combination
Add Favorite to drawer	Command + D
Organize Favorites	Command + =
Open or close Favorites drawer	Command +]

Editing

Action	Key combination
Move the Selection Start marker forward or back	Shift + Right or Left arrow keys
Step forward to selection or end	Shift + Right arrow key
Step back to selection or beginning	Shift + Left arrow key
Trim or Add	Option + pull down Edit menu
Replace	Shift + pull down Edit menu

Add Scaled or Trim	Shift + Option + pull down Edit menu
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Open Text Import Settings dialog box	Control + Paste (must have text copied from editor)
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Extracting tracks

Sometimes the media that you want is already contained in a QuickTime movie, but it's combined with other tracks that you don't need. For example, you may want only the audio from an existing movie.

When you extract a track—pull a single track out of a movie—you leave the original movie file intact and produce a new file.

To extract a track from a movie:

- 1 Choose Extract Tracks from the Edit menu.
- 2 Select the track you want to extract and click Extract.

A new, untitled movie opens with the track you extracted.

If a movie has more than one track, you can select more than one track by holding down the Ctrl key (Windows) or the Shift key (Mac OS) when you click.

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Adding tracks to a movie

When a track is added to a movie, it plays concurrently with existing tracks. When you add a track, its duration is unaltered. For example, if you add a 10-second sound track to a 1-minute movie, the sound track plays for 10 seconds. When you add a scaled track, the track is stretched or compressed to the duration you specify. For example, if you add a 1-minute sound track so it is scaled to a 10-second movie, the sound track plays fast. If you add a still image to a 1-minute sound track so the image is scaled to 30 seconds, you see the image while half the sound track plays.

Adding a track

To add a track to a movie:

- 1 Copy the track you want to add.
- 2 Open the movie to which you want to add the track and choose **Select All** from the **Edit** menu.
- 3 Hold the **Ctrl** and **Alt** keys (Windows) or **Option** and **Command** keys (Mac OS) and open the **Edit** menu.
The **Add** command appears in the menu instead of **Paste**.
- 4 Choose **Add**.

Adding a scaled track

You can add a track with data that has no specified duration, such as text or graphics. The added track is given a default duration, depending on the type of data.

To specify the duration of the added track:

- 1 Select a portion of the movie with the start time and duration that you'd like the added data to have.
- 2 Press the **Shift**, **Ctrl**, and **Alt** keys (Windows) or the **Shift**, **Option**, and **Command** keys (Mac OS) and open the **Edit** menu.
The **Add Scaled** command, rather than **Add** or **Paste**, appears in the **Edit** menu.
- 3 Choose **Add Scaled**.

Since time-based data is squeezed or stretched to fit into the duration of the selection, you can use the Add Scaled command to produce a fast- or slow-motion effect.

Adding tracks to a QuickTime VR movie

QuickTime Player has limited capabilities for editing QuickTime VR movies; you can only add text or a graphic image. Before you can make changes to a QuickTime VR movie, you must change the controller from a VR controller to a standard movie controller.

To add text or graphics to a QuickTime VR movie:

- 1** Choose Get Info from the Movie menu.
- 2** Choose Movie in the left pop-up menu and Controller in the right pop-up menu.
- 3** Choose Movie Controller.
- 4** Use the Add Scaled command to add text or graphics to the movie. (See "Adding a Scaled Track" in the previous section.)
 - Any text or graphics you add to a QuickTime VR object movie appears in the frame to which you add it. If you add text, a user can use the Find command to quickly move the object to a specific position. You can use a graphic or text to highlight a feature of an object when it's in a specific position.
 - Any text or graphics you add to a QuickTime VR panorama appear in the movie window where you place it. The text or graphics do not change position when you pan the image. Before you add text or graphics, be sure to select the entire movie.
- 5** Choose Get Info from the Movie menu and change the controller to a QuickTime VR controller.

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Disabling and enabling tracks

You can turn tracks on or off. For example, you can switch between two different audio tracks by disabling one or the other. You can also make text tracks invisible, yet still searchable.

To enable or disable a track:

- 1 Choose Enable Tracks from the Edit menu
- 2 Turn the track on or off.

Disabled tracks don't affect performance when played from a local hard disk, but they may slow down performance when the movie is played over the Internet.

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Increasing the quality of tracks

QuickTime default settings play movie tracks well in most circumstances. You may want to increase the quality if you plan to play your movie only on a fast computer. Enabling high quality decreases performance, so it is best to do so only if you are sure your movie will be played on very fast computers.

Enabling high quality affects tracks in different ways depending on the type of compression that's been used. In general, high quality does the following:

- For video tracks, it improves the color representation and image smoothness when the movie window is resized.
- For text tracks, it enables anti-aliasing (smoothing of the edges of the text).
- For sprite tracks, it improves scaling so the sprites still look good when the movie window is resized.
- For 16-bit sound tracks played back on computers that don't have the ability to play 16-bit audio, it makes the sound slightly cleaner.

To increase the quality of a track:

- 1** Choose Get Info from the Movie menu.
- 2** Choose the track from the left pop-up menu and choose High Quality from the right pop-up menu.
- 3** Click the High Quality Enabled checkbox to select it.
- 4** Save the movie to keep the settings.

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Preloading tracks into random-access memory (RAM)

Normally, QuickTime reads movie data from the disk on which it is stored, as it is needed. You can specify that the data from certain tracks be put into memory (RAM). In most cases, preloading improves playback performance.

To preload a track into memory:

- 1 Choose Get Info from the Movie menu.
- 2 Choose a track from the left pop-up menu and choose Preload from the right pop-up menu.
- 3 Select Preload, "Cache hint," or both:
 - Preload puts the entire movie into memory before it is played. This option is ideal for small movie files. The movie plays smoothly even if the system is doing other tasks. You need to have enough RAM to preload the movie; otherwise you won't see any benefit from this option.
 - "Cache hint" keeps movie data in memory after it has played. This option is useful for small files you want to loop. If the movie is too large to remain in memory, it will play back poorly.

IMPORTANT: You should use the Preload and "Cache hint" options only with tracks that contain very small amounts of data; asking QuickTime to put too much data into memory can cause poor performance, system errors, and unpredictable results.

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Adding a custom color table to a movie

QuickTime movies don't look their best when they're composed of millions or thousands of colors and the computer they're playing on shows only 256 colors. The 256 colors used may not be the right colors for any particular movie. Standard system colors, for example, don't have many flesh tones. Fortunately, you can designate a custom color table for a movie so that when it plays, the computer on which it is playing switches to a better set of 256 colors. A movie with a custom color table still doesn't look as good as it would if more colors were available, but it looks better than it would if using the standard system colors.

If you have an existing file with a custom color table, you can attach it to your movie. Files that may already include a custom color table include graphics files (such as GIF) and other QuickTime movies. To define a custom color table for your own movie, you need software that can analyze your movie and figure out which 256 colors to use. Debabelizer is a commercial product that can create a custom color table for a movie. It can also analyze a group of movies and pick the 256 colors that will work best for the whole set.

To add a custom color table to a movie:

- 1 Choose Get Info from the Movie menu.
- 2 Choose Movie from the left pop-up menu, and Colors from the right pop-up menu.
Click Set and locate the file that has the custom color table.

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Editing video tracks

Determining how fast a movie is playing

Sometimes a movie plays at a slower rate than the frame rate specified for the movie, or the bit rate specified for a streaming movie. This frequently happens on older computers with slow processors.

To find out the actual playback rate of a video track that is playing:

- 1 While the movie is playing, choose Get Info from the Movie menu.
- 2 Choose Video Track from the left pop-up menu and choose Frame Rate or Bit Rate from the right pop-up menu.

The Playing rate shows the actual rate of the movie as it plays on your computer.

Creating a video track with one or more still images

You can import a single image to create a one-frame video track. You can also import a set of images numbered in a sequence; each will be a frame in the resulting video track.

To create a movie from a series of images:

- 1 Name the still image files so that they have a common name with sequential numbers appended to this name (such as picture1, picture2, picture3, and so on).
- 2 Choose Open Image Sequence from the File menu.
- 3 Locate and select any one of the images you'd like to make into a movie and click Open.

Choose a frame rate from the pop-up menu and click OK.

Adjusting size, location, and orientation

All visual tracks can be moved, resized, flipped, skewed, and rotated within the movie window.

To adjust the size, location, and orientation of a track that

contains video or other visual information:

- 1 Choose Get Info from the Movie menu.
- 2 Choose the track you want to alter from the left pop-up menu, and choose Size from the right pop-up menu.
- 3 Click one of the arrows to rotate or flip the image.
- 4 Click Adjust to size the image or to fine-tune the rotation.

In the movie window, the track appears with red marks.

- 5 Click in the movie window and do any of the following:
 - Drag any of the red corners toward the center of the image to shrink it, or away from the center of the image to stretch it.
 - Press anywhere in the image (except on the red marks) and drag until the image is placed where you want it.
 - Press the circle in the center of the image and drag in any direction to rotate the image.
 - Press one of the circles in the midpoint of any edge of the bounding rectangle of the image and drag to skew the image.
- 6 Click Done.

Changing layers

When you add a visual track to a movie, the track is placed in front of the existing visual tracks in the movie. This may not be ideal if the track you're adding is supposed to appear as a backdrop, with other visual tracks playing in front of it.

To change the layer of a track:

- 1 Choose Get Info from the Movie menu and choose the track you want to reposition from the left pop-up menu.
- 2 Choose Layer from the right pop-up menu and adjust the layer number.

Using graphics modes

When you have more than one visual track, you may need to

use the Graphics Modes panel to specify how a track farther to the front appears.

To specify how the frontmost track appears:

- 1 In the Movie Info window, choose a track from the left pop-up menu, and choose Graphics Mode from the right pop-up menu.
- 2 Click any of the available choices in the list that appears.
 - Dither copy. The image is laid directly on the track below it. There is no interaction between tracks. Use this when you want to play a movie in 256-color mode.
 - Copy. The image is laid directly on the track below it. There is no interaction between tracks. Use this when you want to play a movie in 256-color mode. In some situations, copy mode provides a better image than dither copy. You may need to experiment to see which is best.
 - Composition (dither copy). The image is laid directly on the track below it. There is no interaction between tracks. Use this when you want to play a movie in 256-color mode. Use this for video tracks created from animated GIF files.
 - Blend. The video track is translucent so you can partially see through to any track below. You set the degree and color of translucency by clicking the Color button.
 - Transparent. You define a color in any visual track to be transparent. Tracks below show through the transparent sections. Use the Color Picker dialog box to specify the color that you want to be transparent.

Tip: Press the Alt key (Windows) or the Option key (Mac OS) to choose a color anywhere on the screen with an eyedropper tool.
 - Premul white alpha. This is best for images created on a white background with a premultiplied alpha channel.
 - Premul black alpha. This is best for images created on a black background with a premultiplied alpha channel.
 - Straight alpha. Masked areas are blocked out, or masked, to show another image through the masked area.

- **Straight alpha blend.** This is a combination of straight alpha and blend modes, so the masked areas are transparent, and non-transparent areas are translucent. As with blend, you can alter the degree of translucency by clicking the Color button.

An alpha channel defines what portions of the visible image should be blocked out, or masked, to show another image through the masked area.

Masking a video track

You can superimpose a non-rectangular shape, or mask, on a video track, so the image plays within or outside the shape. You can mask QuickTime VR movies or standard time-based movies.

To mask a video track:

- 1** Use a graphics editor to create a black graphic of the shape. Be sure the graphic has a white background. Save it in a QuickTime-compatible format such as BMP, GIF, JPEG, or PICT.
- 2** Open your QuickTime movie in QuickTime Player.
- 3** Choose Get Info from the Movie menu.
- 4** Choose Video Track from the left pop-up menu and Mask from the right pop-up menu.
- 5** Click Set.
- 6** Choose the file that you created in step 1.

Click the Invert button if you want the image to play outside the mask.

Adjusting gamma in video tracks

You can only adjust gamma for video tracks compressed with the Component Video compression method.

Adjusting gamma alters the middle tones of an image, but not the black or white tones. It is similar to adjusting the brightness and contrast of an image. Gamma adjustment is useful when switching movies between a Mac OS computer and a Windows computer, or vice versa.

To change the gamma of a video track:

- 1 Choose Get Info from the Movie menu.
- 2 Choose the video track from the left pop-up menu, and choose Gamma from the right pop-up menu.
- 3 Drag the thin green line left or right.

If you're going from the Mac OS to Windows, make the image lighter. If you're going from Windows to the Mac OS, make the image darker.

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Editing sound and music tracks

Adjusting volume and balance

You can change the volume and balance of audio and music tracks. You may need to do this if you have more than one audio track in a movie, and want to adjust the volume of the tracks relative to each other.

To adjust volume and balance:

- 1 Choose Get Info from the Movie menu.
- 2 Choose the sound track from the left pop-up menu, and choose Volume from the right pop-up menu.
- 3 Make changes to volume and balance.
Tip: Press and hold the Ctrl and Alt keys (Windows) or the Command and Option keys (Mac OS) as you click in the Volume area to make the indicator bar snap to numerical values that are increments of 25. Press and hold the Ctrl and Alt keys (Windows) or the Command and Option keys (Mac OS) as you click in the balance rectangle to make the balance indicator snap to Left, mid-way between Left and Center, Center, mid-way between Center and Right, and Right.

Changing instruments in music tracks

With QuickTime music tracks, you can change the way the music sounds by changing the instruments used in playing the musical parts in the piece of music.

To change an instrument used in a music track:

- 1 Choose Get Info from the Movie menu.
- 2 Choose the music track from the left pop-up menu, and Instruments from the right pop-up menu.
- 3 Double-click any instrument in the list.

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Editing a text track

Creating a text track

You can create a QuickTime text track by importing any text file saved as "text only." Each paragraph (delineated by a return character) is a separate frame of the movie, and lasts for two seconds.

To import text to create a movie with a text track:

- 1 Choose Import from the File menu.
- 2 Locate and select the text file you want to import, then click Convert.
- 3 Click Options and choose text settings.
- 4 Click Save.

Setting the duration of text frames

If you want to set the duration of each text frame to a value other than two seconds, you need to export the text track you created. The file will be formatted appropriately, and you can make changes or add descriptors in appropriate places, then import it again.

To set the duration of text frames to a value other than the default of two seconds:

- 1 Choose Export from the File menu.
- 2 Choose "Text to Text," and click Options.
- 3 Select "Show Text, Descriptors and Time."
Choose other settings if appropriate.
- 4 Click Save.
- 5 In a text editor or word processor, open the text file.
- 6 Edit the time stamp information.

The duration for each line of text appears on a separate line before the line of text. The time you type is the length of time after the movie has started at which this line of text will appear. Time stamps are specified as hours:minutes:seconds;1/600ths of a second. See the sample text file below.

- 7 Edit the time you want the text track to end.
The ending time appears after the last line of text.

- 8 Save the file as a text-only file.
- 9 Import the file into QuickTime Player.

Changing the text properties of the text track

To change the text properties of text in a movie:

- 1 Choose Export from the File menu.
- 2 Choose "Text to Text," and click Options.
- 3 Select "Show Text, Descriptors and Time."
Choose other settings if appropriate.
- 4 Click Save.
- 5 In a text editor or word processor, open the text file.
- 6 At the beginning of the file (after the {QTtext} tag) or before individual lines, add tags such as these:
 - {font:Geneva} (to specify the font)
 - {plain} or {bold} (to specify text style)
 - {size:24} (to specify text size)
 - {textColor: 65535, 0,0} (to specify text color—in this case, red)
 - {backColor: 0, 65535, 0} (to specify background color—in this case, green)
 - {justify:center} (to specify alignment)
- 7 Save the file as a text-only file.
- 8 Import the file into QuickTime Player.

Sample text file with frame duration information

{QTtext}

[00:00:00.000]

Gettysburg Address

[00:00:08.000]

Fourscore and seven years ago,

[00:00:10.000]

our fathers brought forth upon this continent a new Nation,

[00:00:14.000]

conceived in Liberty,

[00:00:17.000]

and dedicated to the proposition

[00:00:20.000]

that all men are created equal.

[00:00:25.000]

Alternatively, you can enter time stamps that indicate how long each line of text should remain on the screen. To do this put {QTtext} in the first line, {timestamps:relative} in the second line, [00:00:00.000] in the third line, and a timestamp after each line of text. The file will look like this:

{QTtext}

{timestamps:relative}

[00:00:00.000]

Gettysburg Address

[00:00:08.000]

Fourscore and seven years ago,

[00:00:02.000]

our fathers brought forth upon this continent a new Nation,

[00:00:04.000]

conceived in Liberty,

[00:00:03.000]

and dedicated to the proposition

[00:00:03.000]

that all men are created equal.

[00:00:05.000]

Also, if you want to alter the text properties of your movie or individual frames, you can insert font, size, color, and style tags.

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Editing 3D tracks

There are only a few instances when you can edit a 3D track in QuickTime Player. 3D objects are created in a 3D application. At that time, the content creator can choose to add elements.

Changing how 3D tracks are rendered

The surface appearance of 3D objects in a 3D track depends on the renderer you use. You can't change a renderer unless an alternate renderer was added to a 3D movie when it was created.

To change the renderer:

- 1 Choose Get Info from the Movie menu.
- 2 Choose the 3D track from the left pop-up menu, and choose Renderer from the right pop-up menu.
- 3 Choose a renderer from the list.
 - The default renderer shows solid surfaces for the 3D objects.
 - The wireframe renderer removes textures from the surface so that only a 3D outline of the object appears.

Changing the texture mapped onto a 3D object

You use 3D application software to create and map a texture onto a 3D object. You can change the texture mapped onto a 3D object in a 3D track only if a texture track is already mapped onto the object, and alternate texture tracks are available to be mapped onto the object.

To change the image mapped onto a 3D object in a 3D track:

- 1 Use the Add Scaled command to add the track you want to map onto a 3D object. Scale the track so it lasts for the duration of the 3D track.
See [Adding tracks to a movie](#) for information on using the Add Scaled command.
- 2 Choose Get Info from the Movie menu.

- 3** Choose the 3D track from the left pop-up menu, and choose Texture Overrides from the right pop-up menu.
- 4** Click to select an object.
- 5** Click the Select Texture Track button.
- 6** In the Select Texture Track dialog box, select the track you added in step 1 and click OK.
- 7** Delete the track that was previously defined as the texture.

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Editing sprite tracks

There are only a few instances when you can edit a sprite track in QuickTime Player. Sprites are created in an animation application, such as Macromedia Director. At that time, the content creator can choose to add elements that let you add video or a background color to a sprite.

Adding a video track to an individual sprite

You can assign a QuickTime track, such as a video track, to individual sprites in a sprite track to create a video sprite.

To assign a video track to a sprite:

- 1 Use the Add Scaled command to add the track you want to assign to a sprite. Scale it so it lasts for the duration of the track.
See [Adding tracks to a movie](#) for information on accessing and using the Add Scaled command.
- 2 Choose Get Info from the Movie menu.
- 3 Choose the sprite track from the left pop-up menu, and choose Image Override from the right pop-up menu.
- 4 Choose the sprite from the numbered list to which you want to assign a new image.
- 5 Click the Select Override Track button.
- 6 Click the added track, then click OK.

Changing the background color of a sprite track

To change the background color of a sprite track:

- 1 Choose Get Info from the Movie menu.
- 2 Choose the sprite track from the left pop-up menu, and choose Properties from the right pop-up menu.
- 3 Click the Set button and choose a new color. Then click OK.

A sprite can be composed of both pixels and vectors (mathematically defined curves). Be sure there is a check in the Media Scales Dynamically checkbox if the sprites are composed of vectors. This ensures the sprites look

smooth even when the movie is resized.

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Hinting a movie for streaming

Hint tracks are only needed for QuickTime's newest form of streaming—RTP streaming. Movies that are made available on a QuickTime Streaming Server use this type of streaming. See [About QuickTime streaming](#) for a description of the types of streaming QuickTime 4 supports.

A hint track contains information about the media file that's needed to stream the file properly. You must use an RTP hint track if you plan to stream media from a computer with QuickTime Streaming Server installed. You add hint tracks by exporting a QuickTime movie as a hinted movie.

Each track in a media file must have its own hint track. For example, a movie with one audio and one video track (two media streams) must have two hint tracks—one for the audio track and one for the video track. When you export a movie as a hinted movie, QuickTime adds the appropriate number of hint tracks automatically.

To export a QuickTime movie as a hinted movie:

- 1 Choose Export from the File menu.
- 2 Select "Movie to Hinted Movie" from the pop-up menu, then type a new file name.
Note: It's recommended that you use the default settings. Many of the options let you control how data packets are handled, and unless you are familiar with streaming data transmission, it's best to let QuickTime choose the settings for you.
- 3 Click Save.

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About QuickTime streaming

QuickTime 4 supports two types of streaming: real-time streaming and fast-start streaming. Previous versions of QuickTime supported only fast-start (HTTP-based) streaming. QuickTime 4 now supports RTP, RTSP, and FTP-based streaming.

Any application that can play QuickTime media can play real-time streaming or fast-start streaming movies, such as QuickTime Player, Web browsers, and Microsoft Powerpoint.

Real-time streaming

QuickTime movies that use real-time streaming must play from a server that supports QuickTime streaming.

Real-time streamed media is like a radio or television broadcast. You view streamed media as it arrives at your computer. The media is transmitted so it arrives in time to play at normal speed. In most cases a movie that is streamed in real-time should not slow down or stop. Also, it is not necessary for the movie to be downloaded to your computer. This means you can view a movie that is several hours long or listen to a streamed radio show without needing disk space to store the movie.

Some streamed media is "live." If you are not connected at the time the streaming starts, you'll miss some of it. Other streamed media, sometimes referred to as "stored media," or "video or audio on demand," starts when you choose for it to begin, similar to watching a video tape. Real-time streaming uses real-time transfer protocol (RTP) to transmit data.

Fast-start streaming

Fast-start movies can play from any Web server; the server does not need any special software.

A fast-start movie starts to play after some of the movie is downloaded, and continues to play while the rest of the movie is downloaded to your computer. The movie is transmitted so it arrives as fast as possible using a standard Web protocol. Fast-start movies either use hypertext transfer protocol (HTTP) or file transfer protocol

(FTP) to transmit data.

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Adding alternate tracks

A QuickTime movie can have a set of tracks that are alternates for each other. You can use alternate tracks to provide text or audio in different languages or to provide sound tracks of different styles of music, for example.

To designate an alternate track:

- 1 Choose Get Info from the Movie menu.
- 2 Choose a track from the left pop-up menu, and choose Alternate from the right pop-up menu.
- 3 Click the Set button located next to the word "Alternate."
- 4 Choose the track you want to designate as an alternate and click OK.
- 5 Follow steps 3 and 4 for each additional track you want to assign as an alternate for the track you choose in step 2.

Note: You will see only one alternate listed, even if you have more than one alternate for a track.

If you have tracks for alternate languages, you'll need to specify the language for each track in the group.

Setting the language for an alternate track

When you set the language for a track, you are choosing a label for the track. First you create a track that is in the language you choose. Once the language for a track is set, anyone who opens the movie in QuickTime Player can use the Choose Language command in the Movie menu to choose a language.

Note: You can have a movie play in the appropriate language for the user's system automatically when you [save movies for the Web](#).

To set the language for a track:

- 1 In the Alternate panel of the movie info window, click the top Set button.
- 2 Click the name of the language that is appropriate for the track, then click OK.

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Playing and viewing QuickTime media

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Adjusting audio playback

Controlling when a movie plays sound

If you play several movies at once, or if you play a movie while you are using another application, you can control whether a movie plays the audio track.

To control when a movie plays sound:

- Choose Preferences from the Edit menu, then choose General from the submenu.

If "Play sound in background" is checked, audio from a playing movie will play even when the movie window is in the background. If this option is selected, you can play several independent audio files at once. You can vary the volume of each to get a desired balance.

If you check "Only front movie plays sound," then the sound from movies other than the frontmost won't be audible.

Choosing a music synthesizer to play MIDI files

QuickTime uses its built-in software synthesizer to play MIDI files. If you prefer to have MIDI files played using your own MIDI synthesizer, you need to add your synthesizer to the list of synthesizers in the Music panel of the QuickTime Settings control panel.

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Viewing movies over the Internet

Tens of thousands of sites on the World Wide Web feature QuickTime movies, sound, or images. You can view QuickTime movies using a Web browser, the QuickTime Player application (if you enter the URL for a movie file), or any other application that can display QuickTime media.

You can also play streamed media over the Internet [using QuickTime Player](#).

Setting QuickTime connection speed

QuickTime can automatically play the movies at the highest quality setting possible for your computer and your Internet connection. To do this, QuickTime must know the speed of your Internet connection.

To set QuickTime connection speed:

- 1 Open the QuickTime Settings control panel.
- 2 Choose Connection Speed from the pop-up menu.
- 3 Select your connection speed.

Using a Web browser to play movies

Your Web browser can play QuickTime movies if you have the QuickTime extensions installed on your computer and the appropriate plug-in installed.

- Windows—Put npqtplugin.dll in the Plug-ins folder of your Web browser.
Note: If you don't see npqtplugin.dll in your Plug-ins folder, you may need to set your preferences so all files are shown. It may be a hidden file.
- Mac OS—Put the QuickTime Plugin file in the Plug-ins folder of your Web browser.

A QuickTime movie embedded in a Web page appears in a window within your Web browser. If the movie does not start to play automatically, click the Play button. There may be a delay before the movie begins to play because at least part of the movie must first be downloaded to your

computer.

Choosing settings for a movie

When you view a movie from a Web browser, you can open the QuickTime Plug-In Settings panel and set these options:

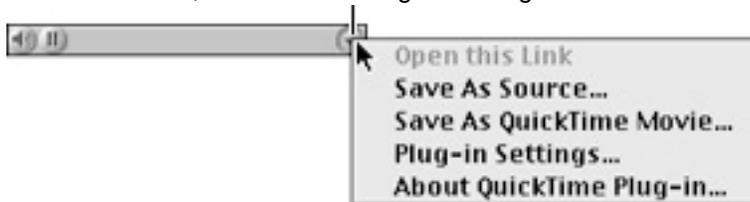
- **Connection Speed.** Optimize playing media over the Internet by choosing the speed at which your computer connects to the Internet. (This may be different from the maximum speed your modem can achieve.) If you've already set up the QuickTime Settings control panel, you won't need to set the connection speed again.
- **MIME Settings.** You can select the MIME types you want the QuickTime Plugin to play.
- **Language Settings.** If movies you view have alternate tracks for languages, you can choose the default language.
- **Disk Cache.** You can choose to save movies in a disk cache. This improves performance if you plan to play a movie more than once.
- **Automatic Play.** Some movies are set to start playing as soon as they are downloaded. You can choose to have all movies start playing automatically, regardless of how they were set up.

To access the QuickTime Plug-in Settings panel:

- Press the arrow located on the right side of the controller, then choose Plug-In Settings.

The arrow is available on the controller of any QuickTime movie that's displayed in a Web browser.

Press the arrow, then choose Plug-In Settings.



Playing streamed media

You can view real-time streaming movies and fast-start streaming movies in your Web browser. See [About QuickTime streaming](#) for a description of each type of

streaming. Viewing streamed media is just like viewing a QuickTime movie. You can click a Favorites button that's set to a streaming channel, or you can choose Open URL from the File menu and type a location for the streamed media.

Playing more than one stream at the same

time: QuickTime plays one stream at a time by default. It's possible to play more than one stream at the same time, but performance may not be optimal if the multimedia files are large or your computer is slow.

To play more than one stream at the same time, check "Allow Multiple Simultaneous Streams" in the Connection Speed panel of the QuickTime Settings control panel. If you are using a LAN connection, the option to play simultaneous streams is always on.

Status messages: The controller area shows messages that indicate the status of the streaming, such as Negotiating, Buffering, Server Busy or Connection Failed. Negotiating means the streaming server is being queried. Buffering means that data is arriving from the server and the movie will begin playing soon. If you see Server Busy or Connection Failed, try again later.

Using QuickTime to open files downloaded from the Internet

Media files that you download or receive over the Internet may be in formats your computer can't recognize and open automatically. You may be able to use QuickTime to open these files. QuickTime works with more than 50 formats, such as WAV, AIFF, AVI, and BMP files.

If you have a graphics, sound, or video file that you can't open, double-click QuickTime Player, then choose Open from the File menu. Then locate the file you want to open.

Tips:

- Windows—To have files translated automatically, check "Internet file types" in the File Type Associations panel of the QuickTime Settings control panel.

- Mac OS—To have files translated automatically, check Enable QuickTime Exchange in the QuickTime Exchange panel of the QuickTime Settings control panel.

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Viewing and interacting with QuickTime VR movies

QuickTime VR movies display "virtual reality" panoramas and objects. You can find QuickTime VR movies on many CD-ROM discs and on the World Wide Web. You can also create your own QuickTime VR panoramas and objects using tools such as QuickTime VR Authoring Studio.

Panoramic movies

You can use QuickTime VR to view panoramas created from photographs or computer graphics. You use your mouse and keyboard to rotate objects, zoom into or out of a panorama, look around, and navigate from one scene to another.

Object movies

You can use QuickTime VR to view and manipulate objects created from photographs or computer graphics. You use your mouse to move and manipulate the objects.

Playing a QuickTime VR movie

To play a QuickTime VR movie:

- Double-click the movie's icon.

The QuickTime VR movie window opens. You use the controls at the bottom of the window to zoom in on the image, locate hot spots, and drag a zoomed object.



To move around in a panorama movie:

- Drag within the picture.

To move a QuickTime VR object:

- Drag the object to "grab" and move it.

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Viewing still images

You can use the PictureViewer application that came with your QuickTime software to view any image that's in QuickTime-compatible format.

To view an image:

- Drag the image to the PictureViewer icon.

Use the items in the Image menu to rotate, flip, and change the viewing size of the image.

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Installing QuickTime

If you have a CD that contains QuickTime software, double-click the QuickTime Installer and follow the onscreen instructions.

If you need to obtain QuickTime software, you can download it from the QuickTime Web site located at

<http://www.apple.com/quicktime/resources/qt4/LL/download/>

You can view or download the latest version of the QuickTime 4 Help at:

<http://www.apple.com/quicktime/resources/qt4/LL/help/>

After you download QuickTime software to your computer, double-click the QuickTime Installer icon and follow the onscreen instructions. You must then [register QuickTime software](#) to unlock the Pro features.

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Registering for QuickTime Pro

You can register for the Pro version of QuickTime 4 through the QuickTime Web site:

<http://www.apple.com/quicktime/resources/qt4/LL/buynow/>

For more information on the benefits of QuickTime 4 Pro, see:

<http://www.apple.com/quicktime/resources/qt4/LL/benefit/>

After you arrange to pay the registration fee, you'll receive registration information via e-mail. To register, open the QuickTime Settings control panel and choose Registration from the pop-up menu. Be sure to enter the registration information exactly as it appears on the QuickTime Web site or in the e-mail notification. After you enter the registration information, you can see the additional menu items and features that are in the Pro version.

If you are not able to register:

- The user name and serial number must both be correct. Try cutting and pasting your user name and serial number from the QuickTime Web site or from the e-mail notification to the registration panel.
- Registration information is case-sensitive. Check to be sure the user name has the correct capitalization.
- Check to be sure there are no extra spaces in the user name or registration number.
- Check the registration number to be sure you entered zeros instead of the letter "O."

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Configuring QuickTime for Windows

When QuickTime is installed, you use the QuickTime Settings control panel to set these options:

- **Connection Speed.** To play media over the Internet, you must choose the speed at which you're connected to the Internet. If you want to allow [multiple simultaneous streaming media](#), select that option. (The option is selected by default for an Intranet/LAN connection.)
IMPORTANT: If you are using a modem, the actual speed at which your computer connects to the Internet via an Internet service provider may be less than the maximum speed your modem can achieve. Be sure to choose the speed at which your modem actually connects to the Internet.
Note: You can also change the connection speed by choosing Preferences from the Edit menu and then choosing the Connection Speed submenu.
- **File Type Associations.** Enable QuickTime applications to recognize multimedia file types such as AVI, BMP, and GIF. To have files translated automatically, select "Internet file types."
- **Media Keys.** Play secured tracks automatically if you enter appropriate media keys. You need a key if you've been given a movie with an secured track. Usually the movie supplier provides the key along with the movie.
- **Music.** Play MIDI files with the built-in QuickTime Music Synthesizer or a synthesizer you add to your computer.
- **Registration.** Enter registration information, or register online for the Pro version of QuickTime.
Note: You can also enter registration information by choosing Preferences from the Edit menu and then choosing the Registration submenu.
- **Sound In.** Choose a source for recording.
- **Sound Out.** If you want to change the sound playback quality, you can adjust the sample rate and sample size. If you have problems with sound playback, try the following:

- Open the QTInfo.exe application and view the Audio information under the System Info tab to find out what brand of sound card drivers your computer has. Then see the Web site for that brand to download and install the latest drivers.
- If you're working on Windows 95 or 98, make sure DirectSound is installed.
- Choose Sound Out from the pop-up menu in the QuickTime Settings control panel. If DirectSound is available, make sure DirectSound is selected.
- If the sound problem still persists, click the Options button and double the Fifo size in milliseconds. If this solves the sound problem, try lowering the Fifo size until it is as low as possible with adequate sound.
- If none of the suggestions above work, choose the WaveOut mode under Sound Out settings, then double the Buffer size in milliseconds. If this solves the sound problem, try lowering the Buffer size until it is as low as possible with adequate sound.
- Video. If you have problems viewing video, try the following:
 - Open the QTInfo.exe application and view the Video information under the Video Settings tab to find out what brand of video card drivers your computer has. Then see the Web site for that brand to download and install the latest drivers.
 - If you're working on Windows 95 or 98, make sure DirectX is installed. If you're working on Windows NT, make sure Service Pack 3 is installed.
 - If the video problem still persists, switch to Safe Mode (GDI only) under Video Settings in the QuickTime Settings control panel.
- Streaming Proxy. If your computer is not behind a firewall, select the No Proxy option. If your computer is behind a firewall, contact your network administrator for the correct option to select and information to enter. Your network administrator may have installed a proxy application and you need to configure QuickTime to work with this application. If you have problems viewing streaming media, click Auto Configure to select a TCP Port ID, or try a different proxy option.

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Configuring QuickTime for the Mac OS

When QuickTime is installed, you use the QuickTime Settings control panel to set these options:

- **AutoPlay.** Enable audio CDs or CD-ROMs to start playing automatically after a CD has been inserted and spins up to speed.
- **Connection Speed.** To play media over the Internet, you must choose the speed at which you're connected to the Internet. If you want to allow [multiple simultaneous streaming media](#), select that option. (The option is selected by default for an Intranet/LAN connection).

IMPORTANT: If you are using a modem, the actual speed at which your computer connects to the Internet via an Internet Service Provider may be less than the maximum speed your modem can achieve. Be sure to choose the speed at which your modem actually connects to the Internet.

Note: You can also change the connection speed by choosing Preferences from the Edit menu and then choosing the Connection Speed submenu.

- **Media Keys.** Play secured tracks automatically if you enter appropriate media keys. You need a key if you've been given a movie with an secured track. Usually the movie supplier provides the key along with the movie.
- **Music.** Play MIDI files with the built-in QuickTime Music Synthesizer or a synthesizer you add to your computer.
- **QuickTime Exchange.** Enable QuickTime to open media files created on other computing platforms.
- **Registration.** Enter registration information, or register online for the Pro version of QuickTime.

Note: You can also enter registration information by choosing Preferences from the Edit menu and then choosing the Registration submenu.

- **Streaming Proxy.** If your computer is not behind a firewall, select the No Proxy option. If your computer is behind a firewall, contact your network administrator for the correct option to select and information to enter. Your network administrator may have installed a proxy application and you need to configure QuickTime to work with this application.

If you have problems viewing streaming media, click Auto Configure to select a TCP Port ID, or try a different proxy option.

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