QuickTime 7
User's Guide

Includes instructions for
using QuickTime Pro

For Mac OS X version 10.3.9 and later,
Windows XP and Windows 2000

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Welcome to QuickTime

Want to play movies from your hard disk or the Internet? QuickTime Player makes it easy.

What Is QuickTime?

QuickTime Player is a free multimedia player. You can use it to view many kinds of files, including video, audio, still images, graphics, and virtual reality (VR) movies. QuickTime supports the most popular formats on the Internet for news, sports, education, movie trailers, and other entertainment.

QuickTime is also a multimedia architecture that other applications can leverage. Some of the most popular software—such as iTunes, iMovie, and Final Cut Pro from Apple, as well as many third-party programs—uses the QuickTime architecture for important multimedia functions. These applications require QuickTime to be installed in order to function properly.

What Is QuickTime Pro?

You can easily add a host of useful features to your QuickTime software by purchasing QuickTime Pro. With QuickTime Pro, you can:

- Play movies at full screen
- Save files from the Internet
- Edit audio and video
- Record audio and video (Macintosh only)
- Add special effects
- Create slideshows
- Convert and save video, audio, and images to more than a hundred standard formats

For information about how to start using QuickTime Pro, see “Getting QuickTime Pro” on page 25.

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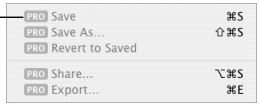
What's New in QuickTime 7?

Both the free QuickTime Player and QuickTime Pro provide a host of new features.

New in QuickTime Player

- **H.264 video support.** This state-of-the-art, standards-based codec delivers exceptional-quality video at the lowest data rate possible, across data rates ranging from 3G to HD and beyond.
- **Live resize.** Playback continues smoothly as you change the size of the QuickTime Player window. (Some hardware requirements may apply.)
- **Zero-configuration streaming.** You no longer need to set your Internet connection speed in QuickTime Preferences. QuickTime automatically determines the best connection speed for your computer. If a connection is lost during streaming, QuickTime automatically reconnects to the server.
- **Surround sound.** QuickTime Player can now play up to 24 channels of audio. With QuickTime 7, your Mac, and surround speakers, you can enjoy the full effect of your surround sound movie or game.
- **New and improved playback controls.** Use the new A/V Controls window to adjust settings for the best viewing experience. Easily change settings including jog shuttle, playback speed, bass, treble, and balance.
- **All-new content guide.** The all-new QuickTime Content Guide provides the latest in entertainment on the Internet.
- **Spotlight-friendly media.** With Mac OS X v10.4, you can use Spotlight to easily find your QuickTime content. Spotlight can search for movie attributes such as artist, copyright, codec, and so on.
- **Screen reader compatibility.** Using VoiceOver, included with Mac OS X v10.4, visually impaired users can enjoy QuickTime Player features.
- **Easy access to QuickTime Pro.** When you use the free QuickTime Player, features available only in QuickTime Pro display a "Pro" by their names. If you choose one of these items, you'll see a definition of the feature and learn how to purchase QuickTime Pro. (To purchase QuickTime Pro, you must be connected to the Internet using the computer on which you want to install the software.)

Menu items with "Pro" are available after you upgrade to QuickTime Pro.



New in QuickTime Pro

QuickTime 7 Pro users enjoy not only all the great features in QuickTime Player, but also the following new QuickTime Pro capabilities:

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- **Floating controls.** Full-screen mode now provides floating DVD-like controls for easy access to functions like pause, play, fast-forward, and rewind. Move your mouse and the full-screen controller appears on the screen for several seconds.
- **Create H.264 video.** Use this codec for all your video encoding needs. Create content ranging in size from HD (high definition) to 3G (for mobile devices), and everything in between.
- **Create surround audio.** Create a rich multimedia experience for your customers by adding multi-channel audio to your movie. If some of your customers don't have surround speakers, don't worry; QuickTime automatically mixes the audio to work with the speaker setup of each user.
- **Concurrent exports.** Export multiple files at once—and continue with your next playback or editing task.
- **Improved movie authoring.** Editing tasks are much easier with new hot keys for in and out points. In addition, the Movie Properties interface has been completely redesigned to facilitate simple and efficient movie authoring.
- **New AAC constant-quality mode.** Create AAC audio files optimized for constant quality rather than a constant bit rate for a consistently high-quality listening experience.
- **3G streaming.** Create 3G files for RTSP streaming that are fully interoperable with other 3G streaming handsets and delivery architectures.

New for Macintosh

In addition to the those above, QuickTime Pro for Mac OS X provides these capabilities:

- **Record audio and video.** With a digital video camera connected to your Mac, you can quickly create video postcards to share with family and friends.
- **Share movies.** Easily create a movie file for sending via email or posting to a website.
- **Automator-compliant.** With Mac OS X v10.4 "Tiger," employ the easy-to-use interface of Automator for streamlining your QuickTime workflow. QuickTime 7 Pro users have exclusive access to a set of QuickTime-based Automator actions for easily automating such tasks as starting and stopping captures, hinting movies, enabling tracks, and more. With Automator and QuickTime 7 Pro you can also create your own set of personalized QuickTime-based Automator actions.

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System Requirements

For Mac OS computers:

- A 400 MHz or faster G3 PowerPC processor–based Macintosh computer
- At least 128 MB of RAM
- Mac OS X version 10.3.9 or later

For Windows computers:

- A Pentium processor–based PC or compatible computer
- At least 128 MB of RAM
- Windows 98/Me/2000/XP

Types of Files QuickTime Supports

You can open (import) dozens of types of media with QuickTime. Some of the formats you can open in QuickTime include the following:

- **Video formats:** MOV, MPEG-1, MPEG-2,[1] MPEG-4, 3GPP, 3GPP2, JPEG, DV, Motion JPEG, AVI, MQV, H.264
- **Audio formats:** AIFF/AIFC, Audio CD, CAF, MOV, MP3, MPEG-4, AU, WAV, iTunes audio
- **Still-image formats:** BMP, GIF, JPEG/JFIF, JPEG 2000, PDF, MacPaint, PICT, PNG, Photoshop (including layers), SGI, Targa, FlashPix (including layers), TIFF (including layers)
- **Animation formats:** Animated GIF, FLC, Flash, PICS
- **Other formats:** KAR (Karaoke), MIDI, QuickDraw GX, QuickTime Image File, QuickTime VR, Text

For a complete list of supported formats, see the Products area of the QuickTime website.

To determine if QuickTime Player can open a file, choose File > Open File and select the file you want to open. You will be able to select only files that can be imported.

1. MPEG-2 playback is available via the QuickTime MPEG-2 Playback Component, sold separately at the Apple Store online. Because some file formats can contain many different kinds of audio and video, QuickTime may not be able to play all audio and video formats within a particular file format.

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Checking for New Versions of QuickTime

From time to time, Apple releases new versions of QuickTime. If you're connected to the Internet while using QuickTime Player, you'll be notified when there's a newer version of QuickTime available. It's a good idea to have the latest version of the software installed on your computer.

To check for a new version of QuickTime (if you are using Mac OS X), choose QuickTime Player > Update Existing Software. In Windows, choose Edit > Preferences > QuickTime Preferences, and then choose Update Check.

Using Onscreen Help

While QuickTime is open, you can see instructions for performing tasks by choosing Help > QuickTime Player Help.

Where to Go for Additional Information

Consult the resources listed below for more information about QuickTime:

- **Latest QuickTime content listings.** QuickTime Player includes an up-to-the-minute guide to the best in QuickTime content. You can view the latest news, entertainment, educational features, and more. You can also listen to audio programs. To view the content guide, open QuickTime Player and choose Window > Content Guide. You can also visit http://www.apple.com/quicktime/.
- **QuickTime News.** For the latest news on QuickTime content and products, sign up for the QuickTime newsletter at http://applenews.lists.apple.com/subscribe/.
- **Tutorials and tips.** For step-by-step tutorials and a collection of instructional books and CDs, visit http://www.apple.com/quicktime/tools_tips/.
- **Discussion lists.** Sign up with one of the many QuickTime-specific discussion lists to post messages, exchange ideas and information, and keep current with the latest QuickTime developments at http://www.apple.com/quicktime/resources/mailing_list.html.
- **Developer support.** If you're interested in developing products using QuickTime, go to developer.apple.com/quicktime.
- **Technical support.** To view all the support resources available, visit http://www.apple.com/support.

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Using QuickTime Player

1

This chapter explains the basics of using QuickTime Player.

Opening and Playing Files

You can open and play QuickTime movies in QuickTime Player or in your web browser.

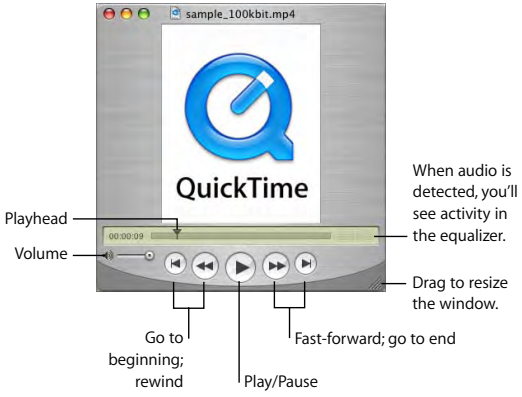
Opening and Playing Movies in QuickTime Player

You can use QuickTime Player to play media stored on your computer's hard disk, a CD, a DVD, or the Internet.

To open a movie on your hard disk, a CD, or a DVD, do one of the following:

- In the Finder (or Windows Explorer), double-click the file or drag it to the QuickTime Player application icon.
- Choose File > Open and select the file.
- Drag the file to the QuickTime Player icon in the Dock (Mac OS X only).

To open a movie on the Internet, open QuickTime Player, choose File > Open URL, and enter the URL (the Internet address) for the movie file.



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QuickTime Player has onscreen controls similar to those found on CD players and DVD players. Use the controls to play, pause, rewind, fast-forward, jump to the beginning or end, and adjust the volume of a QuickTime movie. You can also use the controls to move forward or backward in a movie.

To go to a specific point in the movie, drag the playhead (the small black triangle) in the timeline. To step through frame-by-frame, first click the small black triangle and then press the Right or Left Arrow keys on your keyboard.

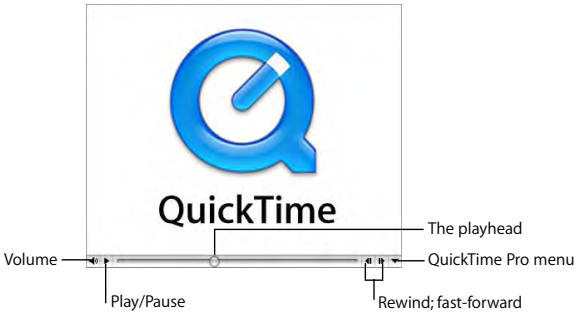
Some movies have chapter lists you can use to jump to a specific point in a movie. If a movie has a chapter list, a pop-up menu appears between the timeline and the equalizer.

You can drag the handle in the lower-right corner of the window to resize the viewing space.

Opening and Playing Files in a Web Browser

With the QuickTime plug-in (part of the free QuickTime software), you can play most multimedia you encounter on the Internet within your web browser. On some websites, movies play automatically. On other sites, you need to click an image of the movie or a play button.

When a movie plays on a webpage, you typically see controls you can use to play, pause, fast-forward, rewind, and adjust the volume of the movie.



To play a movie in a web browser, go to the website and follow the site's instructions to watch the movie.

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With QuickTime Pro, you also have the option of saving the movie to your hard disk (if the author of the movie allows it). To save a movie from the web, click the downward-pointing arrow on the right and choose "Save as QuickTime Movie" or "Save as Source" from the QuickTime Pro menu. If the movie is a Real-Time Streaming Protocol (RTSP) movie, it is saved as a small "reference movie" that points to the actual movie on the Internet.

The QuickTime website has a number of QuickTime movies (including the latest movie trailers) that you can view in your web browser. Go to **www.apple.com/quicktime/**.

Adjusting Playback Preferences for Internet Movies

When you watch movies on the Internet, they start playing automatically. You can, however, download entire movies to your hard disk before they start playing so that you can watch the movies at your convenience.

To download movies before they start playing (in Mac OS X):

1. Choose QuickTime Player > QuickTime Preferences and click Browser.
2. Deselect "Play movies automatically."

To download movies before they start playing (in Windows):

1. Choose Edit > Preferences > QuickTime Preferences.
2. Choose Browser Plug-in.
3. Deselect "Play movies automatically."

So that you don't have to download movies and images each time you view them on a website, QuickTime can save these files in a storage area called a cache. If you view a movie or image more than once, having the item cached improves performance. To have QuickTime cache movies and images you view on the Internet, select "Save movies in disk cache." You might not want to select this option if you don't have sufficient free space on your hard disk to allocate a cache, or if, for security reasons, you don't want movie data stored in a cache file.

You can specify how big to make the cache by changing the Movie Cache Size setting. How big you make the cache depends on how much free space your hard disk has. A larger cache can hold more files (or larger files), but it takes up more space on your hard disk.

After the QuickTime cache fills all the space reserved for it, older items are automatically deleted from the cache when new items are added. To clear the cache, click Empty Download Cache (in Windows, choose Download Cache in QuickTime Settings and then click Empty Cache Now). You might want to clear the cache for security or privacy reasons, or to recover free space on your hard disk.

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QuickTime automatically detects your Internet connection speed so that you get the highest-quality QuickTime content that your Internet connection can support. If movies you're watching on the Internet don't play properly, however, it may help to change the connection speed setting.

To change the connection speed setting in Mac OS X, open QuickTime Preferences and click Streaming. In Windows, open QuickTime Preferences and choose Connection Speed.

QuickTime tries to play versions of the movie authored to match the connection speed you choose. If you choose a speed slower than your actual connection speed, the resulting movie may be smaller in size and lower in quality than your connection can actually support.

If you choose a speed faster than your actual connection, QuickTime playback may stutter or appear jerky because it is sending more data than your connection can support.

If you're unsure of your connection speed, check with your Internet service provider (ISP).

If you change your connection speed setting and later want to make QuickTime automatically detect your speed again, choose Automatic from the Streaming Speed pop-up menu (in Mac OS X).

To set the Internet connection speed in Windows, choose Edit > Preferences > QuickTime Preferences, and then choose Connection Speed.

Instant-On

QuickTime includes Instant-On, a technology that dramatically reduces buffer (wait) time when you view streamed video. Instant-On provides an instantaneous viewing experience; you can navigate quickly through video as if it were on your hard disk.

To experience Instant-On, you must have a broadband connection. The responsiveness of Instant-On is affected by available bandwidth and the size, or data rate, of the content. It can also be affected by the codec used to compress the streaming video.

Instant-On is on by default. If you experience problems with streamed video, you can change the wait time (drag the Play slider) or turn off Instant-On (open QuickTime Preferences and click Streaming).

Viewing Streamed Files Behind a Firewall

QuickTime streaming chooses the best protocol (a method of communicating via the Internet) for your needs. Typically, QuickTime streaming uses Real-Time Streaming Protocol (RTSP) to ensure the best performance. If your network connection is protected by a firewall, you may want to use the HTTP protocol instead.

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To use HTTP streaming (in Mac OS X):

1. In QuickTime Player, choose QuickTime Player > QuickTime Preferences (or open System Preferences and click QuickTime).
2. Click Advanced.
3. Choose Custom from the Transport Setup pop-up menu.
4. Choose HTTP from the Transport Protocol pop-up menu.

To use HTTP streaming (in Windows):

1. In QuickTime Player, choose Edit > Preferences > QuickTime Preferences.
2. Choose Streaming Transport.
3. Select "Use this protocol and port ID," and choose "Use HTTP Port ID."

If QuickTime can configure itself for your firewall, you can now watch streaming QuickTime movies. If you still experience problems, contact your network administrator or see the information on the Apple QuickTime website (**www.apple.com/quicktime/**).

Setting QuickTime to Handle More or Fewer File Types (MIME Settings)

When files are downloaded over the Internet, each file is assigned a MIME type to indicate what kind of file it is. Your browser keeps track of which plug-in should be used to display each kind of file.

QuickTime can display a wide variety of file types. To make QuickTime handle more or fewer file types, you can edit the MIME type settings. If you edit the list, you can return to the default list by clicking Use Defaults.

To edit MIME settings in the Mac OS, open QuickTime Preferences and click Advanced. In Windows, choose Edit > Preferences > QuickTime Preferences, choose Browser Plug-in, and click MIME Settings.

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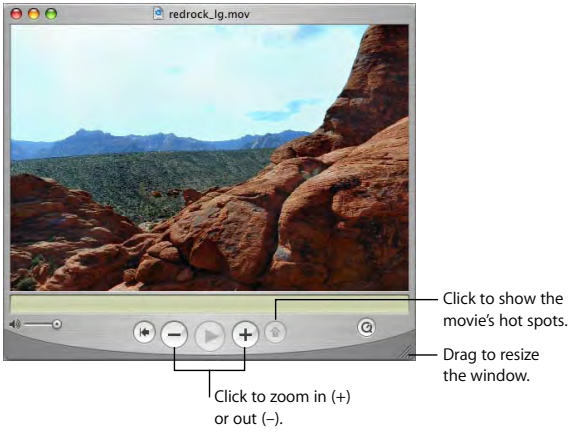
Viewing QuickTime Virtual Reality (QTVR) Movies

QTVR movies display three-dimensional places (panoramas) and objects with which the user can interact. With a QTVR panorama, it's as if you're standing in the scene and you can look around you up to 360 degrees in any direction. In a QTVR movie of an object, you can rotate the object in any direction.



To pan through a QTVR movie, drag the cursor through the scene. To zoom in or out, click the + or – button. (If the buttons are not showing, zoom in by pressing Shift; zoom out by pressing Control.)

Some QTVR movies have hot spots that take you from one scene (or node) to another. As you move the mouse over a hot spot, the cursor changes to an arrow. To see all the places where you can jump from one node in a scene to another, click the Show Hot Spot button (an arrow with a question mark in it). A translucent blue outline of any hot spots within the currently visible VR scene appears. (If there are no hot spots, clicking this button has no effect.) Click a hot spot to jump to a new scene.

To step backward scene by scene, click the Back button. (The Back button appears only on QTVR movie windows, not in all QuickTime movie windows.)

Viewing Still Images

You can view still images in QuickTime Player. Choose File > Open File and select the file, or drag the file to the QuickTime Player icon in the Dock (Mac OS X only).

Mac OS X: You can use Preview to convert a still image to other formats (Preview is in the Applications folder on your hard disk). You can also convert many kinds of files using QuickTime Pro. For more information, see "Converting Files Into QuickTime Movies" on page 28.

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Windows: If you have QuickTime Pro, you can use PictureViewer to import and export various types of still image file formats and to rotate images. PictureViewer is in the QuickTime folder on your hard disk.

Playing MIDI Files

QuickTime Player can import MIDI (Karaoke MIDI, Standard MIDI, and General MIDI) formats. To open a MIDI file, choose File > Open File and select the file.

QuickTime uses its built-in synthesizer to play MIDI files. You can also set QuickTime to use an external synthesizer instead of the built-in one.

To specify a different synthesizer (in Mac OS X):

1. Open System Preferences, click QuickTime, and then click Advanced.
2. Choose the synthesizer you want from the Default Synthesizer pop-up menu.

To specify a different synthesizer (in Windows):

1. Choose Edit > Preferences > QuickTime Preferences.
2. Choose Music from the pop-up menu.
3. Select the synthesizer you want.

Opening Recently Used Files

You can easily open recently used files.

To open recently used files:

- Choose File > Open Recent > [*option*]

To change the number of items that appear in the Open Recent submenu (in Mac OS X), choose QuickTime Player > Preferences, click General, and choose an option from the pop-up menu. In Windows, choose Edit > Preferences > Player Preferences.

Finding Movies Quickly Using QuickTime Favorites

You can easily find and open movies by putting pointers to them in your QuickTime Favorites window. To view your list of favorites, choose Window > Favorites > Show Favorites.

To add a movie to the Favorites list:

1. Open the movie in QuickTime Player.
2. Choose Window > Favorites > Add Movie As Favorite.

You can also drag a file from the Finder to the Favorites list window.

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To rearrange movies in the list, drag them. To delete an item from the list, drag the item to the Trash or select the item and press the Delete key. (In Windows, drag the item to the Recycle Bin or select the item and press the Backspace key.) Deleting an item from the Favorites list does not delete the file from your hard disk (or wherever the file is saved).

Playing Copy-Protected Movies

QuickTime movies can be encrypted so that only authorized viewers can watch them. Such movies are known as "secured media files." To use such a file, you must enter a "media key," which is usually available from the media file provider.

To enter a media key (in Mac OS X):

1. Open System Preferences, click QuickTime, and click Advanced.
2. Click Media Keys.
3. Click the plus sign (+) and then enter the key provided by the author or vendor.

To enter a media key (in Windows):

1. Choose Edit > Preferences > QuickTime Preferences.
2. Choose Media Keys from the pop-up menu.
3. Click Add and then enter the key provided by the author or vendor.

Viewing Information About a File

QuickTime Player can display information about a QuickTime file, such as its compression format, size, and frame rate while playing.

To view information about a file:

1. Open the file.
2. Choose Window > Show Movie Info.

With QuickTime Pro, you can see additional information about a movie by choosing Window > Show Movie Properties. For more information about movie properties, see "Changing Movie Properties" on page 36.

Controlling Playback

You can change playback options such as balance, playback speed, the size at which a movie plays, and whether the QuickTime Player window shows. You can also optimize movies for playback on certain computers.

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Adjusting Audio and Video Settings

For any QuickTime movie with an audio track, you can adjust the right/left balance, as well as the volume, bass, and treble levels. For any movie, you can also set playback options such as speed and playback rate (the jog shuttle).

To set audio and video controls:

1. Choose Window > Show A/V Controls.
2. Drag a slider to adjust the setting.

Other playback options (for playing several movies at once or for playing a movie while using another application, for example) are available in QuickTime Player Preferences. To open QuickTime Player Preferences (in Mac OS X), choose QuickTime Player > Preferences. In Windows, choose Edit > Preferences > Player Preferences. For more information, see "Changing Playback Preferences."

Changing Playback Preferences

You can change playback preferences by choosing QuickTime Player > Preferences. The available options include:

- **Open movies in new players:** Select to open movies in a new player window; deselect to replace the movie in the current player window with the new movie.
- **Automatically play movies when opened:** Select to make all movies start playing when they're opened; deselect to have the movie start when you click the Play button.
- **Use high-quality video settings when available:** When this option is selected, video looks sharper and smoother, but more processor capacity is used.
- **Play sound in frontmost player only:** Select to play the audio for only one QuickTime Player window (the active window); deselect to play the sound of all playing movies simultaneously.
- **Play sound when application is in background:** Select to play audio even if QuickTime is not the frontmost application; deselect to mute the audio when QuickTime is not the active application.
- **Show equalizer:** Select or deselect to show or hide the equalizer (which shows the presence of audio) in the QuickTime Player window.
- **Show Content Guide automatically:** Select to see the latest content listings when QuickTime Player first opens (unless you open a specific movie file).
- **Pause movie before switching users:** Select to automatically pause a movie when you use fast user switching to let another person use your computer.

With QuickTime Pro, more options are available. For information about them, see "Viewing Movies at Full Screen" on page 22 and "Setting Recording Options" on page 25.

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Changing Movie Size for Playback

QuickTime Player includes several options for changing movie playback size. QuickTime Pro provides additional playback options, such as setting the screen so that only the movie, and not the QuickTime Player window or any other windows, or the desktop, is visible. This is called "full-screen mode."

To change a movie's playback size, choose View > [*a size*], or drag the resize control in the lower-right corner of the window. To stretch the movie in any direction, hold down the Shift key when you drag (holding down the Shift key while dragging doesn't preserve the aspect ratio).

To return the movie to its default size and aspect ratio, press Command-1 (in Windows, press Alt-1).

With QuickTime Pro, you can also view movies at full screen. For more information, see "Viewing Movies at Full Screen" on page 22.

Looping a Movie

You can play a movie repeatedly. When the movie finishes, it automatically starts playing again.

To loop a movie:

- Choose View > Loop.

With QuickTime Pro, you can also play the movie forward and then backward repeatedly by choosing View > Loop Back and Forth.

Simultaneously Playing Multiple Movies

You can have more than one QuickTime Player window open at a time.

To open more than one QuickTime Player window, do one of the following:

- Double-click another movie file.
- Choose View > Play All Movies.

By default, when you have more than one QuickTime Player window open, the audio plays only on the active (frontmost) QuickTime Player window. For information about changing this setting, see "Changing Playback Preferences" on page 19.

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Finding Text in a Text Track

Some movies contain text such as titles, credits, subtitles, or section headings. You can search for text in a movie so that, for example, you can find specific frames in the movie.

To search for text in a QuickTime movie:

1. Choose Edit > Find > Find.

   If this command is unavailable, the movie does not have a text track.

2. In the Find dialog, type the text you are looking for and click Next.

Preventing Users From Changing QuickTime Settings

If you're using a computer in a public setting (at a kiosk, for example), you can prevent users from changing QuickTime settings and saving movies from the Internet.

To set up QuickTime for use on a public computer (in Mac OS X):

1. Open System Preferences, click QuickTime, and click Advanced.
2. Select "Enable kiosk mode."

To set up QuickTime for use on a public computer (in Windows):

1. Choose Edit > Preferences > QuickTime Preferences.
2. Choose Browser Plug-in.
3. Select "Enable kiosk mode."

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Getting Started With QuickTime Pro

2

Learn how to use the advanced playback options in QuickTime Pro, create movie postcards, and share them via email or the web.

Getting QuickTime Pro

To get QuickTime Pro, choose a QuickTime Pro menu item and click Buy Now, or choose QuickTime Player > Buy QuickTime Pro.

You must be connected to the Internet using the computer on which you want QuickTime Pro installed.You may need to restart QuickTime Player to make the new options available.

Using Advanced Playback Options

With QuickTime Pro, you have many options for playing movies, such as presenting movies at full screen, playing a movie on a second display, and more.

Viewing Movies at Full Screen

With QuickTime Pro, you can set the screen so that only the movie is visible, not the QuickTime Player window, desktop, or other windows. This presentation setting is called "full-screen mode." (You can also set a movie to play at half size, double size, or other sizes.)

To play a movie at full screen, do one of the following:

- Choose View > Full Screen.
- Choose View > Present Movie, choose Full Screen, and click Play.

To quit full-screen mode, press Esc.

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You can also set options for all movies playing at full screen. For example, you can hide the movie controls, or change the amount of time they display before they hide. To set these options in Mac OS X, choose QuickTime Player > Preferences and click Full Screen. To set these options in Windows, choose Edit > Preferences > Player Preferences, and then click Full Screen.

Note: As long as "Display full-screen controls" is selected in QuickTime Player Preferences, you can make hidden controls appear by moving the pointer.

If you are authoring a movie, you can save it so that it always opens at full screen. For information, see "Saving a Movie With Specific Playback Settings" on page 40.

Playing a Movie on a Second Display

With QuickTime Pro and a two-display setup with dual display support, you can play a movie on one display while working in another application on the other display. This arrangement is useful for presentations.

Mac OS X: Make sure Mirror Displays is not selected. (Open System Preferences, click Displays, and click Arrangement. If you don't see an Arrangement button, your computer does not support this feature.)

Windows: Whether you can play a movie on a second display depends on your computer and monitor. Open the Display control panel, click Settings, and make sure that the second display is enabled. If it is not enabled, click it and make sure "Extend my Windows desktop onto this monitor" is selected.

To play a movie on a second display:

1. Open a movie in QuickTime Player.
2. Choose View > Present Movie.

   The two displays are shown side by side; one contains the menu bar. A "Q" appears on the display on which the movie will play. To play the movie on the other display, click it.
3. Choose an option from the pop-up menu.

   To play the movie without displaying the QuickTime Player controls, choose Full Screen.
4. Select Movie or Slideshow mode.

   In slideshow mode, you can advance frames by clicking the mouse or pressing the Right Arrow or Left Arrow key.
5. Click Play.

   You can open other applications while the movie is playing. To make another application active, press Command-Tab (in Windows, Alt-Tab). You can now use the mouse and keyboard in other applications while the movie continues to play.

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To stop the movie before it ends, press Command-Tab (in Windows, Alt-Tab) to make QuickTime Player active, and then click the mouse.

All QuickTime movie playback keyboard shortcuts are available in full-screen mode.

Presenting a Movie as a Slideshow

In a slideshow, the viewer clicks to advance to the next frame. With QuickTime Pro, you can set a movie to play as a slideshow.

To play a movie as a slideshow:

1. Choose View > Present Movie.
2. Click Slideshow, then click Play.
3. To advance the slideshow, click the mouse or press the Left or Right Arrow keys.

Changing the Color Around a Movie

By default, the onscreen area around the edge of a movie playing in full-screen mode is black, but you can change it to another color.

To change a movie's border color:

1. Choose View > Present Movie.
2. Click the color well to the right of the pop-up menu, then choose a color from the Colors window.

If you have more than one display, you can have this color appear on all displays (not just the one playing the movie), by selecting "Display background color on all screens."

Loading Movies Into RAM for Better Playback

QuickTime has two memory (RAM) options you can use to improve playback performance. Preload puts the entire movie into memory before it is played; Cache keeps movie data in memory after it has played. This option is useful for small files you want to loop.

With QuickTime Pro, you can adjust memory options for a QuickTime movie track.

To adjust memory options for a track:

1. Choose Window > Show Movie Properties.
2. Select the track you want to adjust and click Other Settings.
3. To put the track into memory, select "Preload this track."
4. To keep track data in memory, select Cache.

Use these options only with tracks that contain very small amounts of data; too much data in memory may cause poor performance, system errors, or unpredictable results.

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Creating Movies and Other Media

With QuickTime Pro, you can create movies in various ways.

Recording Video and Audio

With a video camera and a Macintosh computer you can use QuickTime Pro to record a movie.. QuickTime Pro can capture video from most FireWire-equipped sources, including the Apple iSight, DV cameras, and some webcams. With a Mac OS X or Windows computer, you can also record audio using a built-in or external microphone

To record audio or video with QuickTime Pro:

1. Connect the camera or microphone to the computer (unless you are using a built-in microphone).
2. In QuickTime Pro, choose File > New Movie Recording (or File > New Audio Recording).

   A preview window appears, which you can use to adjust settings such as camera position, lighting, and audio level before you start recording.
3. To start recording, click the Record button at the bottom of the window.
4. To stop recording, click the button again.

   You can also Option-click the Record button to pause and resume recording, and press Option to stop recording.

   The movie you just recorded appears in a QuickTime movie window. By default, the movie is saved on the desktop, but you can choose another default location in the Recording pane of QuickTime Player Preferences. To see where the movie has been saved, Command-click the icon at the top of the window.

Setting Recording Options

When you first use QuickTime Pro to record video or audio, settings are automatically chosen for you. If you want, you can change settings such as which recording device and format to use, and where recorded movies are stored.

To change recording options:

1. Choose QuickTime Player > Preferences.
2. Click Recording.
3. Choose the desired options for your video source, microphone, and quality, and then choose a default location to store recorded files.

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About Saving Movies

With QuickTime Pro, you can create and edit movies, and then save them. When you choose File > Save As, you can save the movie as one of the following:

- A **self-contained movie** includes all the data (video, audio, and so on) you used to create the movie within a single file.
- A **reference movie** contains pointers to other movies (or parts of movies) stored elsewhere, such as in different folders on your hard disk or even on a web server. Pointers to other movies are created when, for example, you copy and paste part of a movie from one movie into another.

  If you are concerned about free space on your hard disk and can be sure your source movies won't change location, you can save your movie as a reference movie; the media you copy and paste is stored as a space-saving pointer to that media, rather than being stored entirely inside your new movie file.

  When you play a reference movie, QuickTime follows the pointers to access and play the other movies (or parts of movies). To determine whether a movie contains pointers to other data, choose Window > Show Movie Properties, select the movie at the top of the window, and click Resources. If the file containing the movie does not appear in the list, then the movie has pointers and is not self-contained. If a small document icon appears to the left of the filename in the title bar of a player window, you can Command-click the icon to see the name and location of the file that contains the movie.

  The term "reference movie" is also used for the files you can create to intelligently deliver different-sized streams to different users depending on their connection speeds. For more information, see "Creating Reference Movies to Optimize Web Playback" on page 47.

Saving Movies From the Internet

With QuickTime Pro, you can save (download) a movie viewed in your web browser to your hard disk. (The movie must be authored to allow for saving.) If it's a streaming movie, QuickTime Pro saves a small "reference movie" that points to the stream.

To save an Internet movie on your hard disk:

1. When the movie finishes loading (when the entire progress bar is filled with gray), click the down arrow in the playback controls.
2. Choose "Save as QuickTime Movie."

   If this command is not available, the movie is authored so that it cannot be saved.

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Creating a Slideshow or Animation From Still Images

With QuickTime Pro, you can combine a series of still images to create a movie that plays like a slideshow. This process is an easy way to share the pictures from your digital camera or mobile phone.

Note: Slideshows look best when all the images are the same size.

To create a slideshow from still images:

1. Put all the graphic files you want to include in a folder.
2. Name each file with the same name followed by an increasing number; for example, "picture1," "picture2."

   Most digital cameras number files automatically. The numbers must be increasing but don't have to be precisely sequential (for example, you could name the files "picture1," "picture5," "picture10," and so on).
3. In QuickTime Player, choose File > Open Image Sequence, then select the first file.
4. Choose a frame rate (how long each frame will be displayed) from the Image Sequence Settings pop-up menu.

   Slideshows usually work best when slides are shown at 2 to 3 seconds per frame.

   QuickTime Pro creates the movie, which shows each picture in sequence.
5. Choose File > Save to name and save the movie.

You can add music to your slideshow by adding an audio track to your movie before saving it. Open an audio file, select the portion you want to add to the slideshow, and choose Edit > Copy. Select the slideshow (or a portion of it) and choose Edit > Select All, then choose Edit > "Add to Selection and Scale." The audio is sped up or slowed down to fit the length of the paste destination (the pitch remains the same). For best results, make the slideshow length match that of the audio as closely as possible. You can also lengthen a soundtrack by adding multiple audio files to the movie, each beginning at a different point.

Alternatively, you can keep the original audio speed and alter the image speed by opening a new player window, copying and pasting the audio into the new window, and then copying the slideshow and pasting it into the new window by choosing Edit > "Add to Selection and Scale."

If you're using Mac OS X: You can also use the recording feature in QuickTime Pro to narrate your slideshow. See "Recording Video and Audio" on page 25.

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Creating a Still Image From a Movie

With QuickTime Pro, you can export a single frame from a movie as an image file.

To save a still image from a movie:

1. Move the playhead to the frame you want to export.
2. Choose File > Export.
3. Choose "Movie to Picture" from the Export pop-up menu.
4. Click Options and choose a format from the "Compression type" pop-up menu.

To export every frame from the movie as a series of images, choose "Movie to Image Sequence." Exporting every frame can generate a very large number of files; you may want to export to a folder rather than to the desktop.

Converting Files Into QuickTime Movies

If you have QuickTime Pro, you can use QuickTime Player to convert many types of video, audio, graphics, and animation files (including Flash files) into QuickTime movies. To convert a file into a QuickTime movie, open it in QuickTime Player and then choose File > Save.

Sharing Movies by Email or the Web

With QuickTime Pro and Mac OS X it's easy to create movies that are just right for sharing with others by email or on your .Mac HomePage. Simply select how you want to share your movie, and QuickTime Pro automatically creates a file suitable for that delivery method. (To use the Share feature to put your movie on the web, you need a .Mac account.)

To share a movie:

1. Choose File > Share.
2. Click Email or HomePage.
3. Choose a name and size for the movie.
4. If you are going to publish your movie on the web, you can type a name for the movie (the name you type will appear on the webpage).
5. Click Share.

While the movie is being exported, you can click the "x" to cancel the export if necessary.

If you click Email, a new message window opens in Mail, with your movie attached. If you click HomePage, your browser opens to the specified webpage, with the movie embedded. Send the URL to friends so that they can view the movie.

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Editing and Authoring With QuickTime Pro

3

Learn how to use QuickTime Pro to edit movies, manipulate movie tracks, and much more.

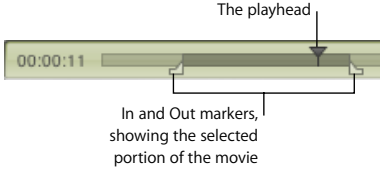
Simple Editing

With QuickTime Pro, you can perform movie-editing tasks.

Selecting and Playing Part of a Movie

To perform editing functions such as Copy and Delete, in most cases you need to first select the desired portion of a movie. (If you don't select anything, the edit commands work on the current frame.)

To select a portion of a movie, move the In and Out selection markers. The darkened area between the two markers indicates the selected portion. To fine-tune the selection, select a marker and move it with the arrow keys. You can also move the playhead and press I (for In) or O (for Out) to set the start or end point of the selection, even while the movie is playing.



Tip: To move the In or Out marker to a different position, drag the playhead to the desired position (or use the arrow keys), then press I or O.

The length of a selection appears to the left of the timeline (hours:minutes:seconds).

To play the selection, choose View > Play Selection Only (so that the checkmark appears), then click Play. To play the whole movie, choose View > Play Selection again (to remove the checkmark).

With QuickTime Pro, you can save the movie (choose File > Save) so that the next time it is opened, only the part you selected plays.

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Note: By default, the selection markers hide when nothing is selected, making it easy to determine whether or not a frame is selected. To turn off this option so that the selection markers appear even when nothing is selected, choose QuickTime Player > Preferences, click General, and deselect "Hide selection indicators for empty selection."

Cutting, Copying, or Deleting a Section of a Movie

Selecting and moving, copying, or deleting (trimming) part of a movie is easy in QuickTime Pro.

To cut, copy, or delete part of a movie:

1. Move the playhead until the desired frame appears, or select the part of the movie you want to modify (use the In and Out selection markers and the arrow keys).
2. Choose Edit > Copy, Cut, or Delete.

   If you choose Copy or Cut, you can paste the selection elsewhere.
3. Position the playhead where you want to paste the selection and choose Edit > Paste.

   QuickTime Pro inserts the selection you pasted at the position of the playhead.

   You can also delete all parts of a movie that are not selected by choosing Edit > "Trim to Selection."

   Note: After you delete parts of a movie, the file size stays the same until you choose File > Save As and select "Save as a self-contained movie."

Combining Two QuickTime Movies Into One

With QuickTime Pro, you can easily add one movie to another to make one longer movie.

To combine two movies:

1. In QuickTime Player, choose Edit > Select All to select the entire contents of the first movie.
2. Choose Edit > Copy, then open the second movie.
3. Move the playhead to the point at which you want to insert the movie (usually the very beginning or end of the original movie), and choose Edit > Paste.
4. Choose File > Save As to name and save the new movie.

Working With Tracks

A QuickTime movie is made up of one or more "tracks." Each track stores a particular kind of data. For example, a QuickTime movie could have a video track, music tracks, and sound effects tracks.

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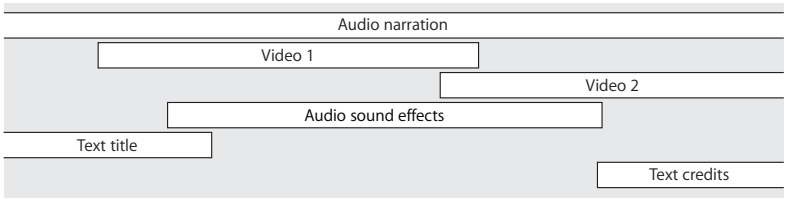
With QuickTime Pro, you can edit tracks individually. You can move tracks from one movie to another, turn a track on or off, delete tracks, or modify the information contained in a track.



Turning Tracks On or Off

With QuickTime Pro, you can choose one or more tracks to enable or disable. For example, you might want to turn off tracks to simplify editing, or to hide a track in a final movie. When you export a movie, only enabled tracks are exported.

To turn movie tracks on or off:

1. In QuickTime Player, choose Window > Show Movie Properties.

   The movie's tracks appear in the list at the top of the Properties window.

2. Use the Enable checkboxes to turn tracks on (selected) or off (deselected).

To delete a track, drag it to the Trash, or select it and click Delete, .You can also choose Edit > Cut, or press the Delete key.

Note: For audio tracks, other options are available by clicking Audio Settings. To play only the audio in the selected track, select Solo. To play the movie without audio, select Mute.

Extracting, Adding, and Moving Tracks

With QuickTime Pro, you can create a new movie from one or more tracks of an existing movie, while leaving the original movie file intact. For example, you could create a movie that uses only the audio from an existing movie. To do so, you extract the desired tracks.

You can also add the extracted track to an existing movie.

To extract a track (and add it to another movie):

1. Choose Window > Show Movie Properties.
2. Select the desired track or tracks and click Extract.

   You can select more than one track by holding down the Shift key when you click.

   QuickTime creates a new movie containing the extracted tracks.

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3 To add the extracted track to another movie, select the movie (or the portion of it you want your pasted media to fit into) and choose Edit > "Add to Movie."

When you add a track to a movie, the track's 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, starting at the position in the movie where you added the track.

To "scale" a track so that it stretches or compresses to a particular length, drag the In and Out markers of the target movie to select the duration you want the new track to cover and then choose Edit > "Add to Selection and Scale" in step 3. Scaling audio may change the speed of the audio (although the pitch remains the same when you play the movie in QuickTime Player). You could add video to sound instead, and speed up or slow down the video to match the audio. You might have better results if you compare the timelines of the two tracks and cut from one or the other until they have the same duration.

Working With Audio Tracks

QuickTime audio includes *music tracks,* which contain MIDI or other data, and *sound tracks,* which contain digitized audio.

Adding an Audio Track to a QuickTime Movie

You can easily add audio and other tracks to a QuickTime movie.

To add an audio track to a movie:

1 In QuickTime Player, choose File > Open File and select the audio file you want to import.

2 In the QuickTime Player window that opens, choose Edit > Select All to select the entire audio file, then choose Edit > Copy.

3 Open the movie to which you want to add the audio.

4 To add the audio to the whole movie, choose Edit > Add. To add the audio to a part of the movie, select a part and choose Edit > "Add to Selection and Scale".

"Add to Selection and Scale" slows down or speeds up the audio track to fit the length of the selected part of the movie; the pitch remains the same (when you play the movie in QuickTime Player). You could add video to sound instead, and speed up or slow down the video to match the audio. You might have better results if you compare the timelines of the two tracks and cut from one or the other until they have the same duration.

Note: If your audio and video are created by the same device, such as a DV camera, and are created at the same time, the audio and video will be synchronized.

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Changing Sound Track Volume Levels and Other Audio Settings

With QuickTime Pro, you can change the volume and balance of audio and music tracks. For example, if a movie has more than one audio track, you can adjust the volume of the tracks relative to one another. You can also change the bass and treble levels.

To change settings for an audio track:

1. In QuickTime Player, choose Window > Show Movie Properties.
2. In the Properties window, select the audio track and click Audio Settings.
3. Drag the sliders to adjust the settings.
4. Use the pop-up menu to the right of each audio channel to specify where the channel's sound should be directed.

   To direct a channel's sound to the subwoofer, choose LFE Screen. To specify a particular output for the audio device, choose one of the Discrete options. To silence a channel, choose Unused.
5. To turn off the audio (without having to delete the track), select Mute. To play only the selected audio track, select Solo.
6. To save the balance and channel settings with your movie, choose File > Save or Save As.

Presenting Multiple Movies in the Same Frame

With QuickTime Pro, you can place multiple video tracks in the same window to play movies side by side or to create a picture-within-a-picture effect.

To present multiple movies in the same frame:

1. In QuickTime Player, choose Edit > Select All to select the entire contents of the first movie.
2. Choose Edit > Copy, then open the second movie.
3. Move the playhead to the point at which you want the first movie to begin playing (usually the beginning or end of the original movie), and choose Edit > "Add to Movie."
4. Choose Window > Show Movie Properties, select the new video track, and click Visual Settings.
5. Use the Current Size and Layer controls to set the new video to a desired size and layer (layers with lower numbers are farther forward, or more "on top").

   For example, for a picture-within-a-picture effect, with the added movie inside the original movie, make the new movie smaller and assign it a lower layer number.

Pasting Graphics and Text Into a Movie

With QuickTime Pro, you can paste graphics and text into a QuickTime movie.

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If a pasted graphic is larger than the movie's dimensions, QuickTime Pro resizes the movie to fit the dimensions of the graphic. For best results, size graphics (using a graphics program) to match the movie size before you insert them. You can export a single frame from the movie to use as a guide for text placement. (See "Creating a Still Image From a Movie" on page 28.)

To find a movie's dimensions, choose Window > Show Movie Properties, select the video track, and click Visual Settings.

To add graphics or text:

1. Copy the text or graphic to the Clipboard.
2. In QuickTime Player, move the playhead to the point at which you want the copied item to appear.
3. Choose Edit > Paste.

This procedure inserts the graphic into the movie at the Paste location, in its own frame. To paste the graphic onto the frame at the Paste location, choose Edit >"Add to Movie."

To make a graphic show up in more than one frame, select the portion of the movie you want to add it to and choose Edit > "Add to Selection." To add the graphic to the entire movie, choose Edit > "Add to Selection and Scale." You can use this technique to add a company logo throughout a movie. (Also see "Changing a Track's Transparency" on page 38.)

Working With Text Tracks

You can add text to a QuickTime movie to create titles, credits, and subtitles. With QuickTime Pro, text tracks are searchable, so you can use keywords to find precise frames in the movie. The following topics provide details about adding text tracks.

Adding a Text Track to a QuickTime Movie

With QuickTime Pro, you can import a text file into a QuickTime movie.

To add a text track:

1. Create a text file containing the text you want in the movie, and save the file as text only (.txt).

   Separate each paragraph with a Carriage Return character. Each paragraph appears in a separate frame of the movie. By default, each text frame is displayed for 2 seconds.
2. In QuickTime Player, choose File > Open File and select the text file.
3. Click Open.

Overlaying a Movie With Text

With QuickTime Pro, you can use QuickTime Player to overlay (superimpose) text on a specific part of an existing movie.

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To overlay text:

1. In QuickTime Player, choose File > Open File and then select the text file.
2. Choose Edit > Select All and then choose Edit > Copy. (In Windows, click Options, select the Keyed Text checkbox, and copy the track).
3. Select the part of the movie on which you want to overlay the text.
4. Choose Edit > "Add to Selection and Scale."
5. Save as a self-contained movie.

The text appears throughout the part of the movie you selected. For information about adjusting how long each line of text displays, see "Setting the Frame Duration of a Text Track" on page 35.

Specifying Font Styles for Text Tracks

With QuickTime Pro you can change the font attributes of a text track already in a movie. To do so, you export the track, make changes, then reimport the track.

To change font styles for the text track:

1. In QuickTime Player, choose File > Export.
2. Choose "Text to Text" from the Export pop-up menu.
3. Click Options and select "Show Text, Descriptors, and Time."
4. Use a text editor to alter the values after the {QTtext} tag.
5. Import the text track back into your movie.

In Windows, click Convert. To import the text with the default settings, click Save. To select different settings (such as font attributes), click Options.

You can also insert tags throughout the text to change values while the movie plays.

Setting the Frame Duration of a Text Track

With QuickTime Pro, you can set the duration of each frame in an existing text track to a value other than 2 seconds. To do so, you export the track, make changes, then reimport the track.

To change the current text frame information:

1. In QuickTime Player, choose File > Export and choose "Text to Text" from the Export pop-up menu.
2. Click Options and select "Show Text, Descriptors, and Time."
3. Edit the information in the text file and then import the track back into the movie.

The duration for each line of text in the text file 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.

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Timestamps are specified as hours:minutes:seconds:fractions of a second (the default Text to Text export setting is 1/600th of a second). For example, if you enter the time 00:02:11:00, the text on the following line appears at 2 minutes and 11 seconds into the movie.

For information about the other text track descriptors, see the developer section of the QuickTime website at **www.apple.com/quicktime/**.

Specifying Languages for Individual Tracks

With QuickTime Pro, you can create a movie with support for multiple languages by specifying a language for an individual track. For example, you can create a movie that contains a separate audio track for each language. QuickTime automatically plays the correct track, based on the language setting of the user's computer.

To specify languages:

1. Create or assemble the alternate tracks.

   Record voiceovers in each desired language or create text tracks to use as subtitles. Save each alternate track as a self-contained movie, and put all the alternates together in a single folder.
2. Put a copy of your original movie, self-contained and minus any tracks that are now stored as alternates, in the folder with the alternates.
3. Open the movie and choose Window > Show Movie Properties.
4. In the Properties window, select a sound or text track and click Other Settings.
5. Choose the language of this track from the Language pop-up menu.
6. Choose a track to use when a different language is selected from the Alternate pop-up menu.
7. Save as a self-contained movie (choose Edit > Save As and make sure "Make movie self-contained" is selected).
8. Repeat these steps for additional language tracks; each time, choose the previously selected language from the Alternate pop-up menu.

Changing Movie Properties

The following sections describe how to resize or rotate a movie, set a movie's poster frame, and more.

Adding Annotations to a Movie

With QuickTime Pro, you can add annotations to document information about the movie, such as its author, director, and copyright information. You can annotate the entire movie and any of its individual tracks.

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To annotate a movie:

1 In QuickTime Player, choose Window > Show Movie Properties.

2 Select an item from the list and click Annotations.

3 Choose an annotation to add from the Add Annotation pop-up menu.

4 Double-click the annotation (where it says "Empty") to edit it.

Users who don't have QuickTime Pro see only three of the annotations the movie contains. (Which three appear depends on which annotations the movie contains.)

Resizing, Flipping, or Rotating a Movie

With QuickTime Pro, you can change the size and orientation of a video track of a movie.

To resize or rotate a QuickTime movie:

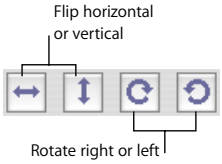
1 In QuickTime Player, choose Window > Show Movie Properties.

2 In the Properties window, select a video track and click Visual Settings.

3 To resize the movie, type new numbers in the Current Size fields.

To keep the same height-to-width proportions, select Preserve Aspect Ratio.

4 To rotate the movie, click one of the rotate buttons.



To restore the movie to its original appearance, click Reset.

Changing a Movie's Shape With a Video Mask

With QuickTime Pro, you can change the shape of a movie from rectangular to other shapes using a video mask. In combination with a media skin; you can "skin" a movie so that it plays in a non-rectangular region (for example, a movie could play from within a ship porthole), and then use a mask to restrict the movie's shape to the desired playback region.

Use a graphics program to create the mask and save it as a QuickTime-compatible file (for example, BMP, GIF, JPEG, or PICT). The mask should be a black shape on a white background. The movie appears through the black shape.

To add a video mask:

1 In QuickTime Player, choose Window > Show Movie Properties.

2 Select the video track you want to assign the mask to, then click Visual Settings.

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3 Drag the mask file from the Finder to the Mask well in the Properties window, or click Choose to select the file.

Changing a Track's Transparency

With QuickTime Pro, you can create a track that is partly transparent. This technique is useful, for example, for overlaying a movie with a logo.

To change a track's transparency:

1 Add the track to the movie. (See "Extracting, Adding, and Moving Tracks" on page 31.)

2 Choose Window > Show Movie Properties.

3 Select the track and click Visual Settings.

4 Choose Blend from the Transparency pop-up menu and drag the Transparency Level slider.

Creating a Chapter List for a Movie

With QuickTime Pro, you can create a pop-up chapter list to navigate to specific points in a movie. First you create a list of topics (or entry points), and then you import the list into the movie as a text track. When you play the movie in QuickTime Player, the current chapter displays in the movie controller. (See "Opening and Playing Movies in QuickTime Player" on page 11.)

To create a chapter list:

1 In a text editor or word processor, type your list of chapters and save the document as plain text.

Make each item very short (preferably one word but no more than two or three words) and separate each item with a carriage return.

2 In QuickTime Player, choose File > Open File, select the text file, and click Open.

3 Choose File > Export. In the Export pop-up menu, choose "Text to Text." In the Use pop-up menu, choose "Text with Descriptors."

4 Click Options. In the Text Export Settings dialog, select "Show Text, Descriptors, and Time"; select "Show time relative to start of Movie"; and set fractions of seconds to 1/30 (the default is 1/1000).

5 Click OK, then click Save to create a text file with descriptors.

6 Open the exported list in your text editor or word processor, and open the target movie in QuickTime Player.

7 Choose Window > Show Movie Info.

8 In QuickTime Player, drag the playhead on the timeline to find the first point in the movie where you want to begin a new chapter.

Use the Right and Left Arrow keys to step forward or backward a frame at a time as needed. Note the current time in the Properties window.

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9 In the text file, find the first chapter title and change the timestamp just before that chapter title to the time you noted in the Properties window.

The timestamp might now read, for example, [00:01:30.15], meaning that selecting the first chapter title will jump the viewer 1 minute, 30 seconds, and 15 frames into the movie.

10 Repeat steps 9 through 11 until you've identified all the places in the movie that correspond to the chapter divisions and you've entered the proper timestamps in the text file.

11 Change the last timestamp (the one after the last chapter title in the text file) to match the duration of the movie.

12 Save the text file and import it into QuickTime Player.

QuickTime creates a new movie with just a text track.

13 Choose Edit > Select All, choose Edit > Copy, and close the movie.

14 Click in the main movie, choose Edit > Select All, then choose Edit > "Add to Selection and Scale."

QuickTime adds the text track to the movie.

15 Choose Window > Show Movie Properties.

16 In the Properties window, select the video or audio track you want to associate with the chapter track, and click Other Settings.

17 Choose the main video or audio track from the Chapters pop-up menu.

If you have a movie with alternate subtitle or sound tracks, you can create multiple chapter lists in different languages and set the appropriate subtitle or sound track as the owner of each chapter list. The chapter list will change to match the selected language.

18 Select the text track, then select "Preload this track" (to make the chapter track load first).

19 Deselect the new text track so that it doesn't display on top of the video.

The new track will still function as a chapter track.

20 Save the movie as a self-contained movie.

You can now choose a chapter title from the pop-up menu to the right of the timeline.

Setting a Movie's Poster Frame

A "poster frame" is a still image of a movie that represents the movie in places like the QuickTime Player Favorites window and the Finder. The default poster frame is the first frame in the movie. With QuickTime Pro, you can change the poster frame.

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To change a movie's poster frame:

1. In QuickTime Player, drag the playhead (or use the arrow keys to move the playhead) to the desired frame.
2. Choose View > Set Poster Frame.

To view a movie's poster frame, choose View > "Go to Poster Frame."

Saving a Movie With Specific Playback Settings

With QuickTime Pro, you can specify how a movie should open and play, and what happens when the movie finishes.

To specify playback options:

1. Choose Window > Show Movie Properties.
2. Select Movie and click Presentation.
3. Select desired options.
4. Save the movie.

Changing the Movie Controller Type

With QuickTime Pro, you can specify the kind of playback controls available on the QuickTime Player window. For a QTVR movie, for example, you can save the movie with one of the QTVR movie controllers.

To specify a movie controller type:

1. Choose Window > Show Movie Properties.
2. Select Movie and click Presentation.
3. Choose an option from the Movie Controller Type pop-up menu.
4. Save the movie.

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Exporting Files With QuickTime Pro

4

If you want more control over how QuickTime creates a file, use the Export feature of QuickTime Pro.

With QuickTime Pro, you can export a movie to a number of different file formats, such as QuickTime movie (MOV), MPEG-4, 3GPP, 3GPP2, AVI, and DV. In addition, you can export an audio track to several different audio formats, export the individual frames of a movie as separate image files, or export a text track to a text file.

To see the list of file formats available for a movie open in QuickTime Player, choose File > Export and browse the list of file format choices in the Export pop-up menu.

About Video and Audio Compression

Because uncompressed video and audio require a lot of disk space to store and a lot of bandwidth (the rate at which data can be transferred) to deliver, you'll want to compress (encode) your movie before sending it to another computer or on the web. Movies are usually compressed (encoded) as part of the export process.

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Exporting Files Using Presets

QuickTime Pro offers a myriad of settings and options for compressing video and audio during export. To help simplify the process of compressing and exporting, QuickTime Pro also offers export presets. Different presets are available for each file format.

To export a movie using presets:

1. In QuickTime Player, open the movie you wish to export.
2. Choose File > Export.
3. Choose a file format from the Export pop-up menu.
4. Choose the preset that best meets your needs from the Use pop-up menu.
5. Choose a filename and location, and click Save.

Note: To use the same settings you used during the last export, choose Most Recent Settings from the Use pop-up menu.

Customizing Export Settings

For the greatest possible control when compressing and exporting media files, use the export options available in QuickTime Pro.

For video compression and export, QuickTime Pro offers customizable settings in three categories: video settings, filters (also known as special effects), and image size. QuickTime Pro also offers many options for customizing compression settings for sound.

The following topics provide information about which options to choose when exporting and compressing movies.

Customizing Video Export Settings

To customize video settings for export:

1. Choose File > Export.
2. Choose a file format from the Export pop-up menu.
3. Click Options.

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4 In the Video area of the Movie Settings dialog, click Settings, and choose your settings.

- **Compression type:** Choose the video compressor (codec) you want to use to compress your video. For the highest quality at the lowest data rate (or the smallest file), H.264 is recommended.
- **Data rate (bit rate):** In general, the higher the data rate, the better the quality, but the bigger the file. In most cases, you'll want to set a data rate based on the way your movie will be viewed. For example, for streaming to [1] Internet dialup connections, limit the data rate to around 45 kilobits per second to leave room for network traffic. If the file will be downloaded for playback, the data rate can be higher (a 56K modem user, however, has longer to wait before playback begins). The data rate of a movie is also affected by other compression options you set, such as the frame rate. To let the compressor choose an appropriate data rate, select Automatic.
- **Optimized for:** Choose your intended delivery method from the "Optimized for" pop-up menu. This setting informs the codec how much the data rate can vary above and below the data rate you choose. This option is available only for compressors that can apply limits, such as H.264.
- **Key frame options:** Many compressors use "frame differencing" to compress moving images. Frame differencing is the process of determining 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 only the information that has changed.

  Depending on the compressor you use, you can specify how often you want key frames to occur. If you don't have enough key frames, the quality of your movie might be lower because most frames are generated from others. However, more key frames result in a larger movie with a higher data rate. With some compressors, an additional key frame is inserted automatically if too much of the image has changed from one frame to the next. A good rule of thumb for general use is to have one key frame every 5 seconds (multiply the frames per second by 5). If you are creating a file for RTSP streaming and have concerns about the reliability of the delivery network (as with the public Internet), you may want to increase key frame frequency to one key frame every 1 or 2 seconds. To let the compressor choose the key frame interval, select Automatic.
- **Frame rate:** Frame rate is the number of individual images shown every second. Standard (NTSC) video has a frame rate of 29.97 frames per second (fps), and the standard for film is 24 fps. The European standard (PAL) is 25 fps. QuickTime movies are sometimes created with a slower frame rate to reduce bandwidth and CPU requirements.

1.

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Movies with higher frame rates show motion better but have larger file sizes. If you choose a frame rate that's lower than the movie's current frame rate, frames will be deleted. If you choose a number that's higher than the movie's current frame rate, existing frames will be duplicated (not recommended, since it increases file size without improving quality). When choosing a frame rate, use a simple fraction of your current frame rate, such as 1/2, 1/3, and so on. For example, if your current frame rate is 30 (29.97), use 15 or 10.

- **Other options:** Some compressors or codecs offer options specific to the codec. After you select a compressor (codec), any special options appear.

Adding Special Effects and Filters to a QuickTime Movie

With QuickTime Pro, you can add special effects such as blur, emboss, and film noise to a movie before you export it. You add special effects by using filters.

To set a filter for a movie:

1. In QuickTime Player, choose File > Export.
2. Choose "Movie to QuickTime Movie" from the Export pop-up menu.
3. Click Options, click Filter, and select the filter and settings you want to use.

The selected filter is applied to the entire movie.

Changing Image (Frame) Size

With QuickTime Pro, you can change the size of a movie's video frame. For example, if your movie will be viewed on a small screen (such as a mobile device), you can change the movie's dimensions to match the target device. You can experiment with making the frame size smaller for a given data rate to get better encoding results.

To change the size of a movie's video frame:

1. Choose File > Export.
2. Choose a file format from the Export pop-up menu.
3. Click Options.
4. In the Video area of the Movie Settings dialog, click Size and then choose an option:
   - **Use current size:** This option (the default) keeps the exported movie's image size the same as your original source movie.
   - **Use custom size:** When you choose this option, you can specify (in pixels) a height and width for the exported movie's image size. For best results, choose dimensions smaller than your source movie, and keep the height-to-width ratio the same as the source (so that objects don't appear distorted).

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Customizing Sound Export Settings

To customize sound settings for export:

1. Choose File > Export.
2. Choose "Movie to QuickTime Movie" from the Export pop-up menu.
3. Click Options.
4. In the Sound area of the Movie Settings dialog, click Settings and then choose your options:
   - **Format:** Choose the compressor (codec) you want to use for compressing sound. For general use and Internet delivery of music, MPEG-4 Audio (AAC) is recommended.
   - **Channels:** Choose between mono (1 channel) or stereo (2 channels).
   - **Rate:** Digitized sound is made up of sound samples. The more samples per second, the higher the sound quality. To maintain quality, music requires a higher sampling rate than spoken voice because music uses a wider range of frequencies. Audio CDs use a sampling rate of 44.1 kHz.
   - **Other options:** To see additional options specific to your chosen codec, if any, click the Advanced Settings button.

Preparing Movies for Internet Delivery

With QuickTime Pro, you can create movies so that they can be delivered over the Internet. You can deliver a movie over the Internet in two ways:

- With **HTTP download,** the movie is downloaded to the client's hard disk. *Fast Start* is a QuickTime feature that enables users to watch or listen to media as it is being downloaded (long before the whole movie has been downloaded) from a standard web server to their hard disks. Fast Start works well for short-form movies where file size is limited. It ensures high-quality playback regardless of users' Internet connection speeds, although those with slower connections will wait longer before media starts to play.
- **Real-time streaming** provided by QuickTime Streaming Server (QTSS) delivers media in real time over the Internet, from modem rates to broadband. No file is ever downloaded to a viewer's hard disk. Media is played, but not stored, by the client software as it is delivered. You would choose real-time streaming rather than Fast Start for webcasts of live events in real time, delivery of long-form video, 24/7 Internet radio and TV channels, and other cases in which you don't files stored on a user's hard disk. QTSS uses the RTSP protocol.

Preparing a Movie for Fast Start

With QuickTime Pro, you can set up a movie to start playing from a web server before the movie has completely downloaded to the user's hard disk. This is called a "Fast Start" movie.

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Set the Fast Start setting just before you distribute your movie; making other changes and resaving may undo the Fast Start setting.

If the movie is in the format you want, you can set it up for Fast Start by choosing File > Save As and then selecting "Save as a self-contained movie." If the movie is not in the format you want, you need to encode it first by following the steps below.

To convert a movie and set it up for Fast Start:

1. In QuickTime Player, choose File > Export.
2. Choose "Movie to QuickTime Movie" from the Export pop-up menu.
3. Click Options and select video and sound compression options appropriate for web delivery.

   For more information, see "Customizing Video Export Settings" on page 42, "Customizing Sound Export Settings" on page 45, and the tutorials at **http://www.apple.com/quicktime/tools_tips/tutorials/.**
4. Make sure the "Prepare for Internet Streaming" checkbox is selected and Fast Start appears in the pop-up menu.

Preparing a Movie for Real-Time Streaming

With QuickTime Pro, you can set up a movie to be streamed over the Internet. To do so, you should compress the movie so that its data rate is appropriate for the bandwidth at which your users will connect.

Hinted streaming format is for use with QuickTime Streaming Server or Darwin Streaming Server. When you choose hinted streaming, "hint tracks" (information needed to stream the movie) are added to the movie. If the movie is already in the desired format, you can prepare a movie for streaming by choosing File > Export and then choosing "Movie to Hinted Movie." If you want to change the movie's format, follow the steps below.

To set up a movie for Internet streaming:

1. In QuickTime Player, choose File > Export.
2. Choose "Movie to QuickTime Movie" from the Export pop-up menu.
3. Choose a streaming option from the Use pop-up menu.
4. Click Options and select the "Prepare for Internet Streaming" checkbox.
5. Choose Hinted Streaming from the pop-up menu.

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If you want to stream a QuickTime movie using QuickTime Streaming Server, you should use a web-optimized video or audio compressor to compress the movie file. All QuickTime compressors are compatible with QuickTime Streaming Server, but the compressors listed here are optimized to give the best results for delivery over the Internet. For a complete list of compressors that QuickTime supports, see the Products area of the QuickTime website (**http://www.apple.com/quicktime/products/**).

- **Video compressors:** H.264, MPEG-4, Sorenson Video (any version), H.263, H.261
- **Audio compressors:** AAC, QUALCOMM PureVoice, AMR, QDesign

For more information about preparing a movie for streaming, go to **www.apple.com/quicktime/tools_tips/tutorials/**.

Creating Reference Movies to Optimize Web Playback

You can use reference movies to provide the appropriate movie for different users' connection speeds. For example, you can have a smaller movie streamed to users connected over a standard modem, and a larger version of the movie streamed to users connected over a broadband connection.

Apple provides a free tool, MakeRefMovie X, that greatly simplifies the process of creating reference movies. You can download this software at: **http://developer.apple.com/quicktime/quicktimeintro/tools/**

Exporting MPEG-4 Files

MPEG-4 is the latest worldwide industry standard for delivering professional-quality audio and video over a wide range of bandwidths, from mobile multimedia to high definition. When you want to create a file that will work with another MPEG-4 device, use QuickTime Pro to create MPEG-4 content by exporting a movie.

To export a file to the MPEG-4 format:

1. Open the movie you want to export in QuickTime Player, then choose File > Export.
2. Choose "Movie to MPEG-4" from the Export pop-up menu.

   To adjust settings such as file format, compression, and distribution restrictions, click Options. The options you choose depend on the network over which you'll deliver the file and the viewers' connection. The following sections describe the options in detail.

MPEG-4 Video Export Options

When you export a movie to MPEG-4 format (by choosing File > Export and then choosing "Movie to MPEG-4"), you access the following options by clicking Options and then clicking Video.

- **File Format:** To ensure operability with devices made by ISMA members, choose "MP4 (ISMA)." For more information, go to **http://www.isma.tv/**.

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- **Video Format:** Choose the video compressor (codec) you want to use to compress your video. For the highest quality at the lowest data rate (or the smallest file), H.264 is recommended. If you need the file to play on a device that supports MPEG-4 video, choose MPEG-4 Basic or MPEG-4 Improved, depending on the target device. If your source movie's video track is already compressed, you can choose "Pass through" so that the video doesn't get compressed again.
- **Data Rate:** The more kilobits per second (kbps), the better the movie quality. For best playback, however, don't choose a data rate higher than the available bandwidth.
- **Optimized for:** If you choose H.264 from the Video Format pop-up menu, choose your intended delivery method from the "Optimized for" pop-up menu. This setting tells the codec how much the data rate can vary above and below the data rate you choose.
- **Image Size:** *Current* maintains the source material size. To choose a size not listed in the pop-up menu, choose *Custom*.
- **Frame Rate:** In most cases, your video will look better if you choose a number that is exactly divisible by the FPS (frames per second) of your source. For example, if your source is captured at 30 FPS, choose a frame rate of 10 or 15. Don't choose a rate larger than that of your source material.
- **Key Frame:** The more often you specify a key frame (the lower the number), the better the video quality, but the bigger the file.

If you choose MP4 from the File Format pop-up menu and H.264 from the Video Format pop-up menu, and then click Video Options, you get the following additional options:

- **Restrict Profile(s) to:** If you need the file to play on a device that conforms to one or more of the standard's profiles, check those profiles here.
- **Encoding Mode:** Choose whether you want the best quality or faster encoding.

MPEG-4 Audio Export Options

When you export a movie to MPEG-4 format (by choosing File > Export and then choosing "Movie to MPEG-4"), you access the following options by clicking Options and then clicking Audio.

- **Audio Format:** Choose your audio compressor (codec) here. If your source movie has only one audio track and it is already compressed, you can choose "Pass through" so that the audio doesn't get compressed again.
- **Data Rate:** As with video, the more kilobits per second, the better the audio quality.
- **Channels:** Choose between mono (1 channel) or stereo (2 channels).
- **Output Sample Rate:** Available only with AAC audio. It's best to match the sample rate to that of the target device.

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- **Encoding Quality:** Available only with AAC audio. The Good setting is optimized for the highest-speed encoding, for higher-quality, choose Best for 16-bit audio, or Better if your audio source is 24-bit.

MPEG-4 Streaming Export Options

When you export a movie to MPEG-4 format (by choosing File > Export and then choosing "Movie to MPEG-4"), you access the following options by clicking Options and then clicking Streaming.

If you're going to deliver the exported file using RTSP streaming, select "Enable streaming."

Streamed data must be sent in smaller-size packets. Some networks have limitations on packet size and packet duration. If your network provider gives you information about size limitations, you can change the packet size and the maximum packet duration to comply with your delivery network. Otherwise, use the default values.

Exporting 3G Files

QuickTime Player can import and play back files for use on 3G networks—high-speed mobile networks that enable multimedia to be sent between mobile devices. QuickTime supports standards for nearly any kind of 3G mobile network.

To import a 3G file, choose File > Open File and then select the file. You can also open a 3G file in QuickTime by dragging it to the QuickTime icon in the Dock or double-clicking the file (Mac OS X only).

With QuickTime Pro, you can export video, audio, and text to one of the many 3G formats that QuickTime supports.

To export a file to the 3G format:

1. Open the movie you want to export in QuickTime Player, then choose File > Export.
2. Choose "Movie to 3G" from the Export pop-up menu.

   To adjust settings such as file format, compression, and distribution restrictions, click Options. The options you choose depend on the mobile network over which you'll deliver the file and the capabilities of the viewer's phone. The following sections describe the options in detail.

3G File Format Export Options

After you choose File > Export and click Options, the first two items in the File Format pop-up menu are the standard formats.

- **3GPP** is for GSM networks. With this format, you can use:
- MPEG-4, H.263, or H.264 video
- AAC or AMR audio

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- 3G timed text
- **3GPP2** is for CDMA 2000 networks. With this format, you can use:
- MPEG-4, H.263, or H.264 video
- AAC, AMR, or QCELP audio
- 3G timed text
- Movie fragments (enables playback to start sooner for longer movies, since only the fragment, not the whole movie, must fit on the handset)

The remaining formats are provided for specific networks. With these formats, you can restrict distribution so that a file can't be shared from the recipient's phone (set this option in the Advanced pane). These formats may limit the acceptable file size or data rate; check with the service provider for more information.

- **3GPP (Mobile MP4)** is for NTT DoCoMo's "i-motion" 3G service. With this format, you can use the 3GPP options described above.
- **3GPP2 (EZmovie)** is for KDDI's 3G network service. This format provides the same options as 3GPP2 (described above), except for AMR audio support.
- **AMC (EZmovie)** is for KDDI subscribers with AMC-capable phones. With this format, you can use:
- MPEG-4 video
- QCELP audio
- KDDI's text format

3G Video Export Options

- **Video Format:** If your source movie has only one video track and it is already compressed, you can choose "Pass through" (so that the video doesn't get compressed again).
- **Data Rate:** The more kilobits per second (kbps), the better the movie quality. For best playback, however, don't choose a data rate higher than the available bandwidth.
- **Optimized for:** If you choose H.264 from the Video Format pop-up menu, choose your intended delivery method from the "Optimized for" pop-up menu. This setting tells the codec how much the data rate can vary above and below the data rate you choose.
- **Image Size:** If you're sending the file to a mobile phone, choose one of the standards. *Current* maintains the source material size; the resulting file may not play on a mobile phone. To choose a size not listed in the pop-up menu, choose *Custom*.
- **Frame Rate:** In most cases, your video will look better if you choose a number that is exactly divisible by the FPS (frames per second) of your source. For example, if your source is captured at 30 FPS, choose a frame rate of 10 or 15. Don't choose a rate larger than that of your source material.

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- **Key Frame:** The more often you specify a key frame (the lower the number), the better the video quality, but the bigger the file.

These additional options are available when you click Video Options:

- **Re-sync markers:** Adds re-sync markers inside the video frames to help with packet loss recovery when streaming.
- **Encoding Mode:** With H.264 video, you can speed up the compression process (for preview purposes, for example) by choosing "Faster encode (Single-pass)." With the default option, "Best quality (Multi-pass)," the codec determines how many passes are needed to compress the data for the best quality.

3G Audio Export Options

When you export a movie to 3G format (by choosing File > Export and then choosing "Movie to 3G"), you access the following options by clicking Options and then clicking Audio.

- **Audio Format:** If your source movie has only one audio track and it is already compressed, you can choose "Pass through" (so that the audio doesn't get compressed again).
- **Data Rate:** As with video, the more kilobits per second, the better the audio quality.
- **Channels:** Choose between mono (1 channel) or stereo (2 channels).
- **Frames per sample:** Available only with AMR audio, this option enables exported audio data to be packed more efficiently.
- **Silence detection:** Available only with AMR audio, this option detects audio portions with low signal levels and adjusts the data rate of the output accordingly.
- **Output Sample Rate:** Available only with AAC audio. It's best to match the sample rate to that of the target device.
- **Encoding Quality:** Available only with AAC audio. By choosing Best, you can get higher-quality audio but it takes longer to encode.

3G Text Options

When you export a movie to 3G format (by choosing File > Export and then choosing "Movie to 3G"), you access the following options by clicking Options and then clicking Text.

These options are available if your movie has a text track (credits, titles, subtitles, and so on).

Some mobile devices can't play text in a movie. To allow the movie to play only if the text can be displayed on the receiving device, select "Require text capability on handset." Deselect this checkbox to allow the audio and video to play even if the text can't be displayed on the device.

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3G Streaming Options

When you export a movie to 3G format (by choosing File > Export and then choosing "Movie to 3G"), you access the following options by clicking Options and then clicking Streaming.

To create a file for RTSP streaming to QuickTime Player, select "Enable streaming." This option creates a hint track (instructions necessary for streaming a file).

"Optimize for server" helps the server to process the file faster, but increases the file size.

3G Advanced Options

When you export a movie to 3G format (by choosing File > Export and then choosing "Movie to 3G"), you access the following options by clicking Options and then clicking Advanced.

If your file is in Mobile MP4 or EZmovie format, you can restrict distribution so that once the file is on a handset it can't be sent or copied anywhere else. You can specify how many times the file can play back on the handset once downloaded, or make the file expire after a certain number of days or on a certain date.

"Fragment movie" enables the file to download via HTTP in small pieces so that playback can start faster and so that larger files can be played on the handset (only the fragment, not the entire movie, must fit on the handset at one time).

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Shortcuts and Tips

Learn keyboard shortcuts and other tips for using QuickTime efficiently.

QuickTime Player Keyboard Shortcuts

QuickTime Player and QuickTime Pro provide keyboard shortcuts for most playback options. When available, each of these shortcuts appears to the right of its associated menu item. A few keyboard shortcuts have no menu equivalents.

For this control	Press (Mac OS X)	Press (Windows)
Play/pause	Space bar	Space bar
Play or pause all movies	Command-Return	Alt-Return
Play movie backward	Shift–double-click Command–Left Arrow	Shift–double-click
Stop playback and go back one frame	Left Arrow	Left Arrow
Stop playback and go forward one frame	Right Arrow	Right Arrow
Go to beginning of selection or movie	Option–Left Arrow	Control–Left Arrow
Go to end of selection or movie	Option–Right Arrow	Control–Right Arrow
Turn volume up	Up Arrow	Up Arrow
Turn volume down	Down Arrow	Down Arrow
Turn volume up to maximum level	Option–Up Arrow	Control–Up Arrow
Turn volume down to minimum level	Option–Down Arrow	Control–Down Arrow

QuickTime Pro Keyboard Shortcuts

To do this...	Press (Mac OS X)	Press (Windows)
Enter full-screen mode	Command-F	Alt-F
Exit full-screen mode	Command-period or Esc	Alt-period or Esc
Play movie at half size	Command-0	Alt-0
Play movie at normal size	Command-1	Alt-1

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To do this...	Press (Mac OS X)	Press (Windows)
Play movie at double size	Command-2	Alt-2
Play movie at full size	Command-3	Alt-3
Move In marker to playhead location	I	I
Move Out marker to playhead location	O	O
Extend selection to the left	Option–Shift–Left Arrow	
Extend selection to the right	Option–Shift–Right Arrow	
Extend selection to point clicked in LCD	Shift-click	

Automating QuickTime Player With AppleScript

In Mac OS X, you can use AppleScript to automate QuickTime Player functions. For example, you can open a movie and tell it to play for a specific duration; automate the conversion of movies from one format to another; adjust track playback properties such as start time, volume, and layer; or adjust movie properties such as copyright and author.

To determine all of the AppleScript commands you can use to control QuickTime Player, install AppleScript and look at the QuickTime Player AppleScript dictionary.

1. Open Script Editor.
2. Choose File > Open Dictionary.
3. Select QuickTime Player.

Sample QuickTime Player scripts can be found on the AppleScript website (www.apple.com/applescript/quicktime/).

Automating QuickTime Player on Windows

In Windows, you can use JavaScript, Visual Basic, or other Active Scripting languages to automate QuickTime Player functions. As with AppleScript on Mac OS X, you can control movie playback, convert movies from one format to another, adjust movie and track properties, and more.

There are three QuickTime Player objects available for use:

- QuickTimePlayerApp
- The application object. This object has a *Players* property which returns a collection of the QuickTime Player windows. The *Quit* method exits the program.
- QuickTimePlayers
- Use this object to enumerate player windows; the *Remove* and *Add* methods permit the removal and creation of new QuickTime Player windows.

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- QuickTimePlayer
- This object has properties and methods to open movies, control the window's position and appearance, and to interact with its menus. The *QTControl* property returns the ActiveX control hosting the window's movie:

To examine the QuickTime Player or QuickTime Control interfaces in detail, look at the *Apple QuickTime Player Library 1.0* or *Apple QuickTime Control 2.0* interfaces in a COM object browser.

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Glossary

AIFF (Audio Interchange File Format) An audio file format used widely on the web.

aspect ratio The relationship between the height and width of an image.

audio channel Audio tracks can contain one or more channels of audio data. Each channel represents the sound directed to a particular speaker. For instance, stereo tracks contain two audio channels.

audio channel label Each audio channel may be labeled to specify where its sound should be directed. In a stereo track, the channels are typically labeled Left and Right. In a 5.1 surround sound track, there are labels for Left, Right, Center, Left Surround, Right Surround, and LFE Screen (the sub-woofer).

bandwidth The capacity of a network connection, measured in bits or bytes per second (bps or Bps), for carrying data.

BMP A bitmapped graphics format used for still images in the Windows environment.

bitmapped Represented by pixels.

chapter list A list of "locations" in a movie. A user can choose an item from the chapter list to go to that point in the movie.

codec From "compressor/decompressor." A codec is technology for compressing and decompressing data. Codecs can be implemented in software, hardware, or a combination of the two. Codecs can by "lossy" or "lossless," depending on whether data is lost during compression.

compression The process of reducing the data size of a file.

Darwin Streaming Server A technology for delivering media over the Internet in real time. Based on the same code as Apple's QuickTime Streaming Server (QTSS), Darwin Streaming Server is an open-source streaming server.

Fast Start A method of delivering a movie so that it can start playing before it is fully downloaded.

frame A single image in a movie.

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frame rate The number of frames displayed per second.

GIF (Graphics Interchange Format) A file format for images.

hint track In a streamed movie, a hint track specifies for the server how the movie's content is to be transmitted.

hot spot A place in a virtual reality movie where the user can interact with the movie using the mouse.

Instant-On A technology that dramatically improves access to streaming content for broadband users.

JPEG (Joint Photographic Experts Group) A standard for compressing still images.

layer In QuickTime movies, how an image is displayed depends on its layer; images with lower layer numbers are displayed on top.

MIDI (Musical Instrument Digital Interface) A software and hardware standard set by the music industry that enables electronic instruments to communicate with one another and with computers.

MP3 (MPEG-1 layer 3) A format for compressing music.

MPEG-4 An ISO standard based on the QuickTime file format that defines multimedia file and compression formats.

node In QuickTime VR, a point from which an object or panorama can be viewed.

NTSC (National Television System Committee) The organization that defines North American broadcast standards. The term *NTSC video* also refers to the video standard defined by the committee, which is 29.97 fps, 525 lines per frame, and interlaced.

PAL (Phase Alternation by Line) A video format used by many European countries and other countries outside North America. The PAL standard is 25 fps, 625 lines per frame, and interlaced.

PICT A Macintosh picture file format that does not apply compression to an image and therefore maintains the same quality level from copy to copy.

pixel The onscreen dots that form text and graphics. A contraction of the words *picture* and *element*.

plug-in Software that helps a web browser interpret certain types of media files.

PNG (Portable Network Graphics) A file format for images.

poster In QuickTime, a still image, usually a single frame from a movie, used to represent the movie to users.

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protocol A set of standards for sending and receiving information on a network.

QTSS (QuickTime Streaming Server) A technology used to deliver media over the Internet in real time.

QuickTime Player An application that opens and plays QuickTime movies, as well as many other kinds of files.

QuickTime Pro A version of QuickTime Player with advanced features, primarily the addition of editing capabilities.

QuickTime VR A QuickTime media type with which users can interact with three-dimensional places and objects.

reference movie A file that contains the location of one or more media files. A reference file linked from a webpage, for example, can direct a QuickTime Player to the version encoded for a particular connection speed.

RGB Red, green, blue; a way of representing colors onscreen.

RTSP (Real-Time Streaming Protocol) A protocol for controlling a stream of real-time multimedia content. Sources of data can include both live feeds and stored digital video.

sprite An image that is defined once and is then animated by commands that change its position or appearance.

streaming Delivery of video or audio data over a network in real time, in packets instead of in a single file download.

TIFF (Tagged Image File Format) A format for graphics, commonly used to transfer bitmapped images between applications.

track A single data type in a QuickTime movie. A movie may contain one or more tracks.

tween track A track that modifies the display of other tracks.

virtual reality (VR) The effect achieved by QuickTime VR, where users can manipulate objects or environments.

wav A Windows format for sound files.

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