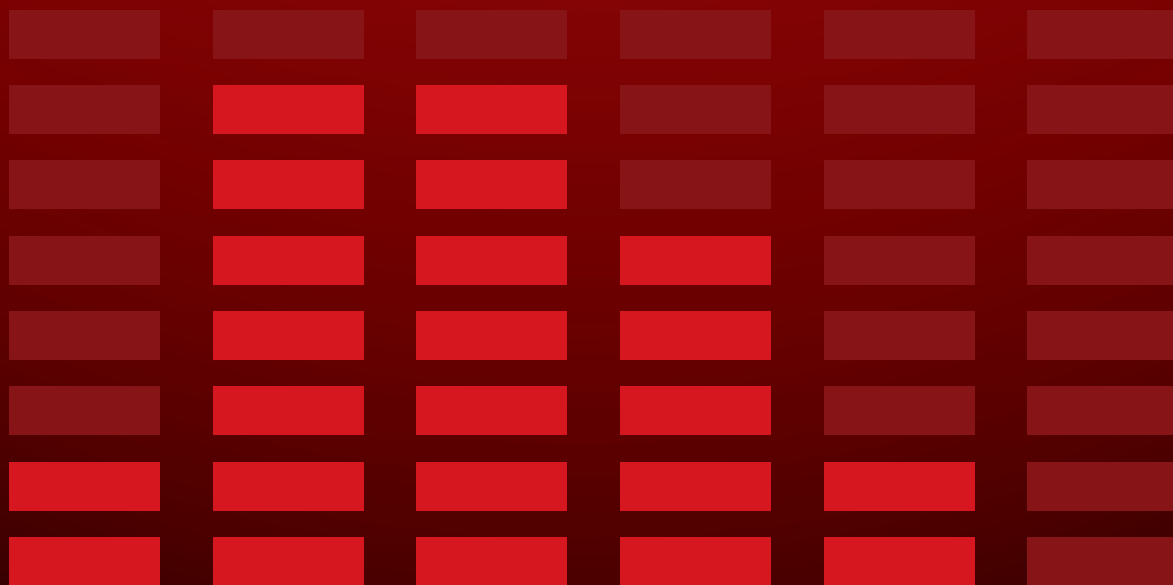


PEAKTM PRO 6

AUDIO EDITING, PROCESSING, AND MASTERING



SOFTWARE USER GUIDE
FOR LE/PRO/XT EDITIONS

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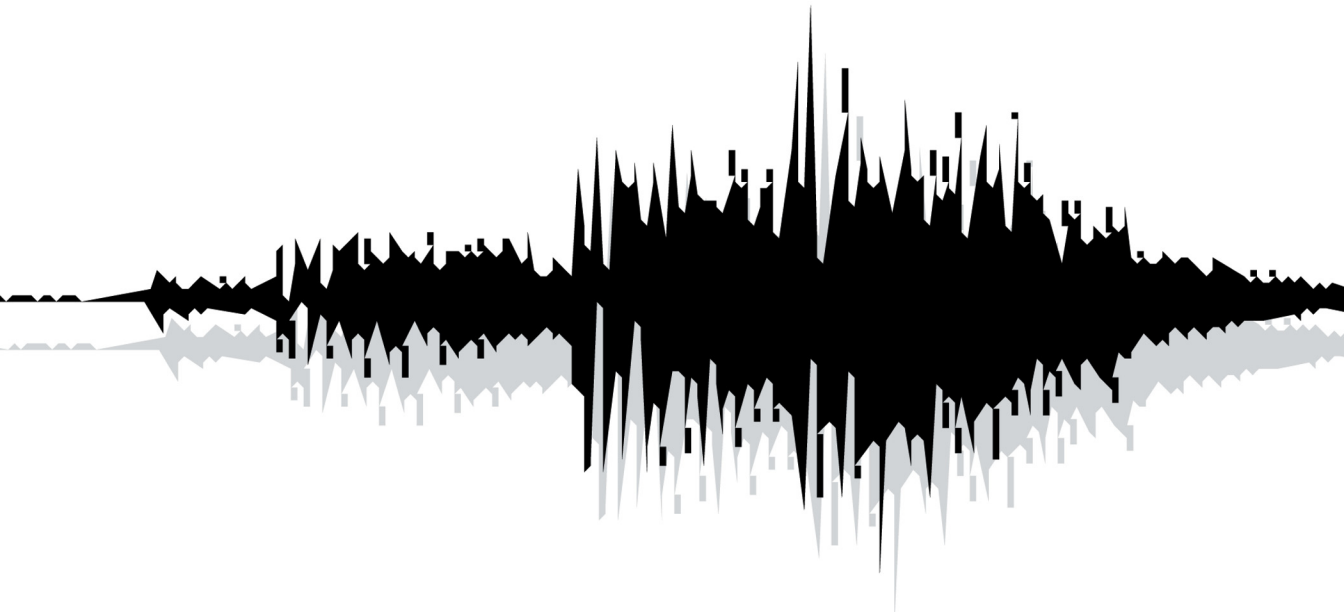
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Chapter 1

Introducing Peak



Chapter 1: Introducing Peak

Welcome!

BIAS Peak™ is an advanced audio application that provides superior tools for recording, editing, and processing digital audio on the Mac. Peak was specifically designed to meet the needs and demands of audio professionals. By combining high-quality direct-from-disk digital audio editing features with lightning fast destructive & non-destructive editing environments, Peak provides unsurpassed audio editing power, and makes a superb addition to audio applications such as Cubase™, Digital Performer™, GarageBand™, Live™, Logic™, Pro Tools™, and practically any other application that deals with digital audio. Peak offers advanced sampler support, and works directly with many popular MIDI sampling keyboards and rackmount samplers. Peak is also the perfect audio complement to digital video editing programs, such as Avid Express DV™, Final Cut Pro™, iMovie™, and Premiere™.

AIFF, Paris™, Jam Image, AU, MP2, MP3, MP4 (AAC), and FLAC formats

- Non-destructive file- or RAM-based editing with unlimited undo and redo
- Professional editing abilities, including user-definable fade curves, and complete support for cut/copy/paste with multiple undo and redo
- Support for third-party digital audio hardware, such as Apogee™, Digidesign™, M-Audio™, Mark of the Unicorn™, PreSonus™, or Universal Audio™ digital audio interfaces, through Core Audio
- Support for 8-, 16-, 24-, and 32-bit audio files
- Support for third-party VST™ & Audio Units effects and instrument plug-ins, allowing you to add advanced signal processing features to Peak. Plug-ins from companies such as BIAS, Cycling `74™, Steinberg™, Waves™, and Apple™ can be used with Peak for digital filtering, noise reduction, reverb, equalization, and other effects in real time
- The ability to create 100% Red Book compliant (with CD-TEXT, ISRC codes, and PQ subcodes) audio CDs directly from a Peak Playlist or audio document
- Sophisticated Tools for looping, including Loop Surfer™, Crossfade Loop, Perpetual Looper, Loop Tuner™, and Guess Tempo™
- Sampler Support

Peak Features:

- Direct-to-disk recording and playback at all sample rates supported by the sound hardware on your Mac, or through third-party audio hardware
- User-configurable waveform display
- Support for commonly used audio document formats, including AIFF, Sound Designer II™, WAVE, QuickTime™, Raw, System 7 Sound, Sonic

- Advanced Playlist editing, mastering, and delivery options
- Automated batch file processing
- Customizable Toolbar and Keyboard Shortcuts
- QuickTime Movie window with scrubbing
- Envelope for Convolve DSP
- Change Pitch (Variable)

Plug-ins

- VBox 3.0 plug-in effects routing matrix, with cross-synthesis linking, with improved presets and GUI
- Plug-in envelopes in Plug-ins menu
- Real-time bounce

Who Is Peak Designed For?

Peak is designed for a wide variety of users, ranging from composers and multimedia producers to sound designers, mastering engineers, and video & remix editors. Peak's comprehensive recording, editing, mastering, looping, and processing capabilities make it a powerhouse tool for virtually any aspect of digital audio production. If you are interested in sound and possess imagination and creativity, Peak is for you.

Playlist

- Enhanced user interface
- “Overlap/Gap” – Track assembly editing mode
- “Centered” – Classical/Take editing mode
- Customizable volume envelopes
- Merge Playlist events
- Split Playlist events
- Export/print custom formatted PQ sheets
- Export DDP Files with CD-TEXT
- Burns Red Book CDs with extended ASCII character set CD-TEXT
- New Playlist export option: Send to iTunes
- Normalize Playlist event
- Stereo track view
- Fast-forward & rewind transport controls
- A/B/C/D snapshots for crossfade shape/duration
- “Sticky” conform source Regions to Playlist Events mode
- Zoom to sample level
- Horizontal zoom buttons
- Zoom to fit transition

What's New in Version 6?

Peak 6 offers dozens of updates, enhancements, and new features, which are described below:

DSP Tools

- Perpetual Looper – automatically loops monophonic samples
- Voiceover Ducking – automatically lowers background audio when voiceover introduced
- DCAT™ Dither Cloning Audio Technology – noise shaping algorithm, with real-time previewing
- Automatic sample rate conversion matches impulses & target files in ImpulseVerb™

- Simplified VBox plug-ins menu
- Copy Previous Track Name to CD-TEXT dialog buttons
- Hierarchical Add Region Toolbar button pop-up menu
- Auto-scrolling
- Disclosable and resizable views
- Default crossfades

Podcasting

- Create new podcasts and/or episodes
- Publish locally, and to .Mac & FTP servers
- Submit podcasts to iTunes Podcast Directory

User Interface

- Multi-shade gradient skin
- Magnetic windows
- Export Regions now available in the Batch File Processor
- Rename/renumber multiple markers/regions
- Option to display DSP Menu items in category or alphabetical list
- Support for Frontier Tranzport wireless control surface
- Send to iTunes (audio documents & Playlists)
- Logarithmic Meters with more resolution options (-12, -24, -48, -96, -∞ dB), and pre/post options
- Command-Option-click scrolling and zooming
- Double-click on waveform to begin playback or select between markers preference
- Reset Windows command
- Key commands in toolbar help tips

- Autoplay option in Open dialog
- CD Frames time format: Hours:Min:Sec.CD Frames (audio documents & Playlists)
- New “Paste Except Audio” command

Editing

- Cache in RAM – holds temp files in RAM during editing for lightning-fast performance
- Improved Guess Tempo accuracy
- Improved Auto Tiling/Stacking window behavior

File I/O

- File format-specific metadata editing
- Metadata editing in MP3, FLAC, AIFF, WAVE/Broadcast WAVE files
- MP3 Export ID3 tag editing
- Support for nameless markers in WAV files created on portable recorders
- MP2 File Support
- FLAC File Support
- Default “Save As” templates

Operating System & Authorization

- “Keyless” BIAS Authorization Manager
- Keyserver Support for educational lab environments
- Optimized support for Mac OS X 10.5 “Leopard” and Intel processors

Minimum System Requirements

To use Peak you will need:

- G4, G5, or Intel-based Mac (>500MHz processor recommended)
- Mac OS X v. 10.4.3 or higher
- Minimum 1024 x 768 screen resolution
- 256 MB RAM (512 MB or more recommended)
- 330 MB available free disk space
- 18 ms hard drive (average seek time) or faster
- QuickTime 7.0 or later
- Support for third-party audio hardware may require compatible Core Audio drivers

For the most up-to-date information, please visit:

<http://www.bias-inc.com/peak/>



A compatible CD burner is required for burning CD-TEXT and subcode metadata from a Peak Playlist document. Burning CD-TEXT with extended ASCII characters (such as the accented characters è, é, ç, â, etc.) requires Mac OS X v. 10.5 "Leopard".

Maximizing Peak's Performance

The following tips are optional, and will help you get the best performance out of Peak and your Mac.

To maximize Peak's performance:

- Use a fast hard drive as a scratch disk/record disk – BIAS recommends at least a 7200 RPM rotational speed, 18ms access time or better, and a fast data transfer connection, such as SCSI, FireWire 400/800, ATA, etc.

About Your User's Guide

Peak is designed to be simple and intuitive. Your User's Guide is designed to help you set up and use Peak for digital recording and editing as quickly and easily as possible.

This User's Guide assumes that you are familiar with standard Mac operating techniques, including:

- Setting up, starting, and using your Mac
- Choosing commands from menus
- Clicking, double-clicking, selecting, Shift-selecting, dragging with the mouse, and other common operations
- Opening, copying, saving and deleting files
- Opening, closing, scrolling, moving, re-sizing, and selecting Mac windows

If you don't know how to perform these tasks, please spend a little time learning about your Mac before going any further. This will make using Peak much easier and more enjoyable.

The Chapters in your Peak User's Guide are arranged in the order in which you would typically perform tasks when embarking on an audio project:

- Chapter 1 introduces you to Peak and explains some of the requirements for using it
- Chapter 2 explains how to install and authorize Peak
- Chapter 3 introduces you to some basic concepts of digital audio and disk-based recording, as well as basic Peak operations
- Chapter 4 explains how to set Peak to for record and play back audio, and how to import audio from compatible CD-ROM drives
- Chapter 5 introduces you to the concepts and techniques of nondestructive editing with Peak
- Chapter 6 explains how to create regions and sequence their playback using Playlists, as well as

how to burn audio CDs, and export in a variety of common output formats

- Chapter 7 explains how to publish podcasts using Peak
- Chapter 8 explains how to use Peak's native DSP tools
- Chapter 9 explains how to use Audio Units & VST plug-ins, and how to use Vbox to enhance Peak's audio production capabilities
- Chapter 10 explains how to use Peak's Batch File Processor as well as how to use Apple Events for file management
- Chapter 11 explains how to import samples directly from compatible samplers, and send modified samples back to the sampler
- Chapter 12 describes each of the commands found in Peak's menus
- Appendix 1 lists the default Keyboard Shortcuts for Peak
- Appendix 2 provides a list of useful Peak Actions, not available in menus
- Appendix 3 provides a troubleshooting guide for commonly encountered problems
- Appendix 4 is a mini-manual for the included BIAS Sqweez-1 Compressor plug-in
- A Glossary completes your Peak User's Guide



Look for important tips and notes whenever you see this exclamation mark.

About Peak LE

Peak LE has a streamlined feature set and includes the essential tools required for music production, basic CD mastering, and editing the audio content in files commonly used in non-linear video editing systems.

If you are using the limited edition (LE edition) of Peak, the following features are not available:

- Add
- Advanced Playlist – Peak LE features a basic Playlist
- Amplitude Fit
- Batch File Processor
- Bit Depth and Sample rate limited to 24-bit/96kHz
- Bit Usage
- Cache in RAM
- Compute File Max dB
- Convolve
- Crossfade Loop
- Customizable Keyboard Shortcuts
- Customizable Toolbar
- Dither
- Duplicate
- Envelope from Audio
- Export Regions
- Find Peak
- Guess Tempo
- Harmonic Rotate
- ImpulseVerb
- Includes a 2-band edition of the Freq EQ plug-in
- Limited to three plug-in inserts
- Loop Surfer and Loop Tuner
- “Magic” Pencil Tool
- Markers from Tempo
- Meters Dialog
- Modulate
- Mono To Stereo
- New Region Split

- Panner
- Perpetual Looper
- Phase Vocoder
- Rappify
- Real-time bounce
- Recording Notepad
- Recover Audio File
- Remove DC Offset
- Rename/renumber multiple markers and regions
- Repair Click
- Repair Clicks
- RMS Normalize
- Sampler Support
- Show Marker Times
- Snap To Bars | Beats, PS2, Xbox, and Custom Units
- Stereo To Mono
- Strip Silence
- Swap Channels
- Tape-Style Scrubbing
- Threshold
- Vbox is not included



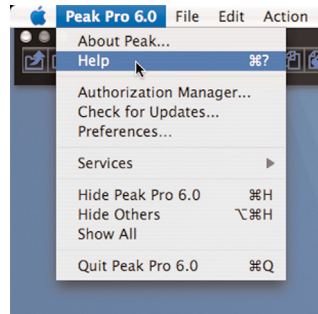
Features that are not supported in Peak LE will show this icon in the manual. Features unavailable in Peak LE will appear greyed out in their menus.

Getting Help with Peak

Peak provides a variety of helpful resources when you run into questions. The first type is Rollover Help Tips, which shows you the function of each icon in the

Toolbar, Transport, or Playlist. If you hold the mouse cursor over a Toolbar/Transport icon for 1 second, the Help Tip for that icon's function will appear.

The next type of help is available under the Peak menu. Choosing Help will open the Peak User's Guide, which was installed along with Peak.



You may also use the Links menu to access additional documentation, tutorials, and technical support online, via the BIAS website.

BIAS recommends using these resources before contacting Technical Support. The answers to most common technical questions can be found in this User's Guide, or online. Best of all, using these help resources is free, easy, and available 24 hours a day, 7 days a week, 365 days a year. If you do need to contact Technical Support, please see the BIAS Technical Support Policy on page 5 of this user's guide.

Conclusion

Now that you know a little about Peak, proceed to the next chapter to learn how to install and start using it.

Chapter 2

Installation, Registration, and Activation



Chapter 2: Installing, Registering, & Authorizing Peak

Installing Peak

Peak's auto-installer software makes installation very easy. The steps below will guide you through the process.

Your complete Peak system consists of:

- CD-ROM installer
- Serial number
- Authorization File



Before you install Peak, please check the Minimum System Requirements on Page 21.

To Install Peak:

1. If you are using any virus protection software, turn it off or temporarily remove it, and restart your Mac.
2. Insert the Peak installer CD-ROM into your CD-ROM drive – when its icon appears on your computer's desktop, double-click the Install Peak icon.
3. When prompted about the Installer package running a program to determine if it can be installed, click the Continue button.
4. When the Installer dialog appears, click the Continue button.
5. Read the Software License Agreement – then click the Continue button to proceed.
6. Click the Agree button if you agree to the terms of the Software License Agreement.

7. Select the hard drive/volume on which you wish to install Peak, and click the Continue button.
8. Click the Install/Upgrade button (depending on the configuration of your user account, you may need to enter your account password. If prompted for your password, enter it and click the OK button. If you do not know your account password, please contact your system administrator for assistance).
9. When the installation is complete, a message will appear indicating that the installation was successful. Click the Close button to quit the Installer. (Don't forget to turn back on any virus-protection software that you may be using the next time you restart the computer).

What Peak Installs:

- Peak Application
- Plug-ins
- Peak Impulses
- Peak Envelopes
- Documentation
- BIAS Authorization Manager

If you would like to register and authorize Peak at this point, launch the Peak application (which is installed into your Applications folder by default), and have your Owner's Certificate handy, and follow the directions in the next section.

- Authorizes your computer so it can run Peak. You may authorize up to two computers for use with Peak – for example, a studio or office computer, and a laptop for home or mobile use.

Registration & Authorization

Peak must be authorized to work on your computer. You must register Peak with BIAS in order to authorize it. The registration and authorization process is outlined below.

Serial Number-Based Authorization System

Peak's standard authorization system consists of the following components:

- **BIAS Authorization Manager** – A simple application for managing BIAS software licenses.
- **Serial Number** – Located on Owner's Certificate.
- **Registration Account** – Your registration and authorization information on the BIAS Server.
- **Authorization Request File** – A file transferred from your computer to the BIAS server, which adds the computer you are authorizing to your BIAS Registration Account.
- **Authorization File** – A file transferred from the BIAS server to your computer, which authorizes it to run Peak.



You must register with BIAS in order to authorize your computer – Peak will not launch unless your computer is authorized to run it.

The registration/authorization process provides the following services:

- Registers your software with BIAS – making you eligible for technical support and product updates.



Keep in mind that for each license of Peak – the software may only be used by one user, on one computer system at a time. If you have used both of your authorizations, and need to authorize a new computer, you will need to first de-authorize one of the authorized computers before you are issued a new authorization for the new computer.

About Registration, Authorization, and Trial Modes:

When Peak is first launched, you will be prompted to either authorize it or run it in trial mode. For full functionality, authorize it with the included serial number.

Requirements for Registration & Authorization:

1. Peak must be installed.
2. Your serial number must be available. Depending on how you obtained Peak, the serial number will be provided in various ways:
 - In New Retail or Upgrade Packages – On the Owner's Certificate
 - In Downloaded Purchases – In an email receipt from BIAS



Your serial number appears on the Owner's Certificate, included in the Peak Pro package, or on the electronic receipt from a downloadable purchase (not shown here).

- 3. A computer with internet access must be available.

To Register & Authorize Peak on a computer with internet access:

- 1. Launch Peak – when first launched on an unauthorized computer, you will be prompted to authorize it or run it in Trial mode. Click the “Authorize” button to continue to the BIAS Authorization Manager – you will need to enter an administrator password to proceed.
- 2. Select the product you wish to authorize, and enter your serial number and email address.



If you use more than one email address, be sure to make a note of which one you registered with – this will make managing your BIAS Registration Account faster and simpler in the future.

- 3. Click the “Authorize” button. Peak is now authorized – click the “Done” button to exit the BIAS Authorization Manager.



If the computer on which you plan to run Peak does not have internet access, you may use another computer to aid in the authorization process – see the following section for directions on how to do so.

To Register & Authorize Peak on a computer without internet access:

- 1. Launch Peak – when first launched on an unauthorized computer, you will be prompted to authorize it or run it in trial mode. Click the “Authorize” button to continue to the BIAS Authorization Manager – you will need to enter an administrator password to proceed.
- 2. Select the product you wish to authorize, and enter your serial number and email address.
- 3. Click the “Alternate Authorization” button.

- 4. In the Alternate Authorization dialog, click the “Generate Alternate Authorization” button to generate an Authorization Request File.

- 5. Transfer the Authorization Request File that is generated to a computer with internet access (via LAN, CD-ROM, flash drive, iPod, etc.).

- 6. After transferring the Authorization Request File to the internet-equipped computer, double-click the Authorization Request File – doing so will automatically open your web browser, transmit the Authorization Request File to the BIAS server, and download your Authorization File to the computer’s default download directory.

- 7. Locate the downloaded folder containing the Authorization File (called “X_BIAS Peak”), and transfer it back to the host computer on which it will be used.

- 8. In the BIAS Authorization Manager’s Alternate Authorization dialog, go directly to the “To Finalize the Alternate Authorization Process” section and click the “Open Authorization File” button.

- 9. Locate the Authorization File that was transferred back to the host computer in Step 7, and click the “Open” button. Peak is now authorized – click the “Done” button to exit the BIAS Authorization Manager.

If you do not have internet access on any computer, please contact BIAS for assistance at:

US Toll-Free: 1-800-775-2427
 International: +1-707-782-1866

The BIAS Authorization Manager can be found in the following location, should you later need to deauthorize or reauthorize Peak:



Mac Systems – Mac HD/Applications/BIAS Authorization Manager

Windows Systems – C:\Program Files\BIAS\BIAS Authorization Manager\BIAS Authorization Manager.exe

Deauthorizing a Computer

If you need to de-authorize a particular computer that will no longer be used to run Peak, you can do so by following the steps below.



The computer running Peak must be connected to the internet in order to deauthorize it.

To De-Authorize a Computer:

1. Launch the BIAS Authorization Manager from your hard drive (or launch the BIAS Authorization Manager program from your installer CD-ROM).
2. In the BIAS Authorization Manager, select Peak as the product you wish to de-authorize – the serial number and email address used to authorize that product will be automatically recalled and will appear in the Serial Number and Email Address fields.
3. Click the Deauthorize button.
4. Click the Deauthorize button to confirm the deauthorization process – the Deauthorization Successful dialog appears.
5. Click the OK button – then click the Done button in the BIAS Authorization Manager.

Conclusion

Now that you have installed, registered, and authorized Peak, please proceed to the next chapter to learn several basic concepts and functions essential to using Peak.

Chapter 3

Peak Basics



Chapter 3: Peak Basics

Introduction

This chapter explains several key Peak concepts and functions, including how to open, close, and save audio documents.

A Brief Explanation of Digital Audio

If you are new to digital hard-disk-based recording, you may wish to acquaint yourself with a few of the principles behind digital audio before you dive into using Peak software. This section explains a few key concepts that will give you a good general understanding of how Peak does what it does.

What we hear as sound is actually a pattern of pressure waves that move through the air. The frequency of these waves determines the pitch of the sound – how low or high it sounds. Sound frequency is measured in cycles per second, or Hertz (Hz). The range of human hearing is generally considered to be from about 20 Hz at the low end to 20 kHz at the high end. In practice, however, most adults hear only as high as 12 kHz to 18 kHz, especially those of us who may have spent more time than we should have with headphones or at loud rock concerts.

Sampling and Sample Rate

Your Peak software-equipped Mac computer stores audio digitally. This means that analog electrical signals from

microphones or other sources are converted into numbers by a circuit called an analog-to-digital converter and stored on hard disk. The analog-to-digital (A/D) converter uses a technique called digital sampling to convert analog electrical signals into numbers. Digital sampling is the sonic equivalent of taking a snapshot. By taking thousands of little digital samples per second and storing them to a hard drive, an A/D converter can capture an accurate sample-by-sample representation of a sound, much like a movie is a frame-by-frame representation of a moving image. The number of samples taken of the audio in a second is called the sample rate. The sample rate determines the recording's upper frequency response. A higher sample rate delivers higher frequency response. As a rule of thumb, a digital recording's upper frequency response is roughly half of its sample rate (known as the Nyquist frequency). The audio on compact discs, for example, is recorded at 44,100 samples each second, or 44.1 kHz. This sample rate is the standard for professional-quality digital audio, and provides an upper-end frequency response of approximately half the sample rate (known as the Nyquist frequency): 22.5 kHz, somewhat higher than most people's hearing range.

Bit Resolution

Another factor that affects the quality of the audio is the resolution of each sample. The greater the resolution, the better the quality. To use an analogy from the film world, just as image resolution and quality increase with film size (8 millimeter film is much lower in image quality

than 70 millimeter film) greater bit resolution (8-bit, 16-bit, 24-bit, and 32-bit) results in better fidelity digital audio. Audio CDs have a resolution of 16-bits.

In practice, the bit resolution determines the recording's dynamic range—that is, how many distinct steps you have to describe a sound's level, from quiet to loud. For instance, an 8-bit recording has 256 (2^8) levels available, which is the equivalent of 48 decibels (dB) of dynamic range. On the other hand, a 16-bit recording has 65,536 (2^{16}) levels available, equivalent to 96 dB dynamic range. (The rule of thumb for determining the dynamic range in decibels is to take the bit rate and multiply it by 6.)

About Disk-Based Recording and Editing

If you are new to hard-disk-based recording, you will be impressed by the power and control that Peak software provides for recording and editing digital audio. You will encounter several new concepts and techniques for using a disk-based system such as Peak. Perhaps the most important among these is the concept of nondestructive manipulation of audio.

Nonlinear Versus Linear Recording

Nondestructive audio manipulation is possible thanks to the nature of Peak's recording medium: a hard disk instead of a roll of analog tape. Unlike analog tape, which is a linear recording medium, hard disks provide a nonlinear, or random-access medium. This is because audio is stored on hard disk as digital information which the hard disk can access immediately or randomly (hence the term "random-access"), simply by moving its read/write head to the appropriate location and reading the appropriate data. This allows you to perform such miraculous feats as cutting and pasting "pieces of sound" and rearranging material long after it has been recorded.

Nondestructive Editing

Perhaps most impressive is the fact that with disk-based audio production you need not actually modify the original source material in any way to accomplish these feats. In most cases, by cutting and pasting you are in reality only asking the hard disk to access portions of the audio file in a slightly different order. Since Peak doesn't normally cut up, move around, or delete the actual recording on the hard drive, it's said to be a nondestructive editing system. Peak does not rewrite the file until you choose to save your edits. Other manipulations, such as playing audio material backwards, can be accomplished by reading the data in reverse order. The power and flexibility of disk-based audio production software such as Peak far surpasses the capabilities of traditional analog audio production tools.

Hard Disk Storage Requirements

The actual recording of audio to hard disk requires a significant amount of storage. This is directly affected by the sample rate and bit resolution at which you record: the higher the fidelity, the greater the requirements for storage. As a guideline, 16-bit, 44.1 kHz audio requires roughly 5 megabytes of storage per minute of mono recording. Stereo 16-bit, 44.1 kHz audio requires roughly 10 megabytes per minute. Stereo 24-bit, 44.1 kHz audio requires roughly 15 megabytes per minute.

Hard Disk Maintenance

Because audio recording and playback is a hard disk-intensive task, it is important that your hard drive be in good operating condition. In the computer world, this means keeping it from becoming fragmented by using hard drive maintenance software. Fragmentation occurs as your hard drive begins to run out of contiguous (uninterrupted) space where it can write files. If the data that makes up a file is stored at a single location on your drive, it is much easier and faster for your drive to find the data and read it. However, as contiguous space runs out, the drive may not be able to write the entire file in one location and instead must fragment the file by writing

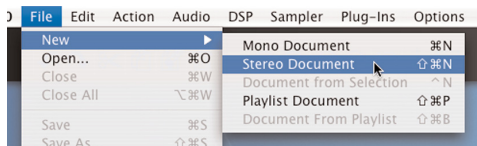
pieces of it at various locations in whatever smaller open areas it can find. This requires that the drive search near and far to read the pieces of the file. Too much fragmentation can lead to errors in recording and playback as the hard drive struggles to keep up with the demands of your audio application. In general, you should keep your hard disk below 10% fragmentation. Most hard drive maintenance software packages let you monitor the degree of fragmentation on your drive and defragment it by rewriting files into contiguous blocks of data. In addition to defragmenting your drive regularly, you should also back up your files and reformat your drive on a regular basis to keep your system in top operating condition. By doing this, you will ensure maximum performance from your Mac and Peak software, and keep your studio running smoothly. Now that you understand some of the basic principles behind digital audio and disk-based recording, take a few moments to learn some of the basic operations of Peak. These are covered in the sections that follow.

Creating a New Peak Document

Peak will allow you to create an empty audio file of zero duration by choosing a new mono or stereo document. However, you would typically record a new audio file in Peak or open an existing audio file into Peak for editing. Peak allows you to have multiple audio documents open at the same time.

To create a new audio document:

Choose New (⌘-N) from the File menu or Toolbar. This command provides a hierarchical menu, which allows you to choose either a mono or stereo format for the new document.



Creating a new mono audio document

Opening Existing Audio Documents

Peak allows you to open audio files created in a variety of common audio formats including AIFF, Sound Designer II, WAVE/Broadcast WAV, QuickTime, Raw, System 7 Sound, Sonic AIFF, Paris, Jam Image, AU, MP2, MP3, MP4/AAC, and FLAC.



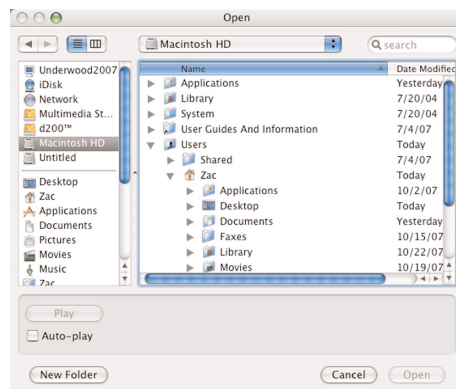
Peak will not allow you to open and edit protected AAC/MP4 files, such as music purchased from the iTunes Music Store.

Opening Compressed Audio Documents


AIFF/AIFC and QuickTime files with compression such as MACE 3:1, MACE 6:1, IMA 4:1, QDesign, or Alaw are compatible with Peak.

To open an audio file:

1. Choose Open (⌘-O) from the File menu.
2. In the dialog that appears, locate and select the file that you wish to open.

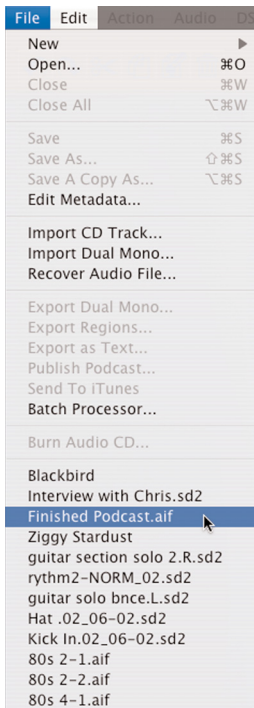


The Open dialog

- When you find the file you wish to open, click the Open button and Peak will open the audio file into a new audio window, displaying an overview of the entire sound. Shift-click or -click to open multiple files.

Recently Opened Documents

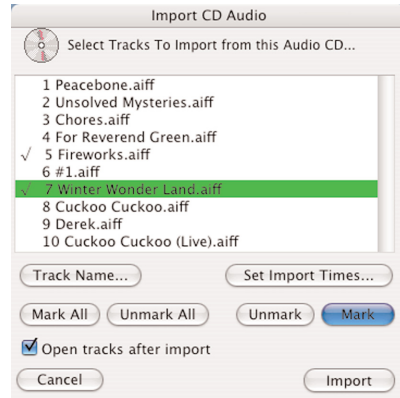
Peak automatically remembers up to the last eight audio documents that you have opened and keeps a list of these at the bottom of the File dialog. This allows you to easily select a document's name and reopen it without having to search on your hard drive. Peak can find and open a document even if you have changed its location on your hard drive. If you change the name of the file, the next time you open Peak, it will automatically update the name in its internal list.



Recently opened documents are displayed in the lower portion of the File menu

Importing a Track from an Audio CD

If your Mac computer is equipped with a compatible CD-ROM drive, you can use Peak to import audio directly from an audio CD.



The Import CD Audio Dialog

To import tracks from an audio CD:

- Insert an audio CD in your CD-ROM drive.
- Choose Import CD Track from the File menu or click the Import CD Track button in the Toolbar.
- In the dialog that appears, select the CD track that you wish to import and click Mark. You may mark multiple tracks for import. If you wish to import all of the tracks on the CD, click on the Mark All button.
- To name a selected CD track, click the Track Name button.

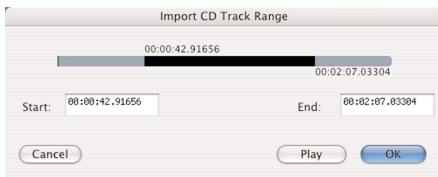


Name Track dialog

If you have iTunes™ installed, and your computer is connected to the internet – iTunes will automatically launch (unless it has been disabled in the Mac OS CD/DVD Preference pane) when an audio CD is inserted into the computer's CD-ROM drive. iTunes default behavior is to automatically get the track names from the CDDB™ online CD database. Once a CD's tracks are labeled, that information is available to any application that imports a track, including Peak. This is a convenient way to automatically name a CD's tracks.



5. To select only a portion of the track, click on Set Import Times button or double-click on the track in the list. The CD Import Track Range dialog will appear.



The Import CD Track Range dialog

6. By adjusting the Start and End time controls in this dialog you can import the entire CD track, or a just specific portion of the track. You may also click directly on the timeline to adjust start and end points. Click Play to audition the CD track (or selected portion of the CD track). Click OK when you are happy with the selection.
7. Check the Open tracks after importing checkbox if you want the CD track(s) you are importing to open in Peak.
8. Click the Import button in the The Import CD Audio dialog to import the selected tracks and the Save dialog appears. Use the pop-up menu at the top of the dialog to navigate to the volume where you wish to save the audio file. Click Save to save the file to disk. Peak will save the file(s) in the AIFF audio format.

Opening “Dual Mono” Files

Certain audio applications do not directly support stereo interleaved files, and instead use “dual mono” files, which comprise the right and left channels of stereo material. Peak allows you to open such dual mono files, and in the process creates a new interleaved stereo audio document. Because Peak actually writes a new stereo audio file to disk, this conversion process requires hard disk space equivalent to the two original mono files.



Please note that the Import Dual Mono command requires that both files be mono files and have the same bit depth & sample rate.

To open a dual mono file:

1. Choose Import Dual Mono from the File menu.
2. In the dialog that appears, locate the desired files.
3. Select either half of the dual mono file and click Open. Peak imports the first file and then prompts you for the second.
4. Select the second audio file and click Open. When Peak has finished creating the new stereo audio document you can begin editing.



For simpler importing of Dual Mono files, turn on the Auto Import Dual Mono feature in the Options menu. With this feature activated, you can automatically import dual mono files by choosing Open from the File menu and selecting one of the dual mono file's channels. Peak will then create a new stereo document containing both channels. Please note that these dual mono files must have exactly the same file name with the suffix “.L” for the left channel and “.R” for the right channel.

Peak also allows you to export your stereo audio documents in Dual Mono format.

Dragging and Dropping Folders, Disks, and Audio CD Tracks

In addition to opening individual documents by dragging and dropping them onto the Peak application's icon, you can drag and drop entire folders or disks onto the Peak application's icon. The contents of the disk or folder(s) will be scanned for audio documents in formats that Peak can open, such as AIFF, Sound Designer II, WAVE, QuickTime, MP3, and so on.

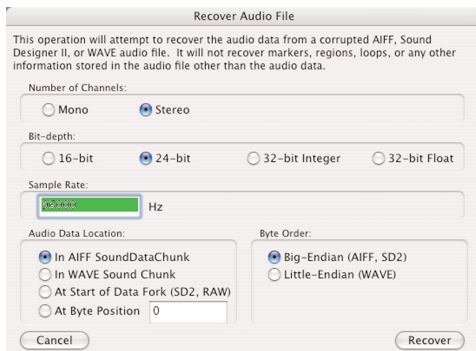


This feature is particularly useful when used with Peak's Batch File Processor.

Peak allows you to drag an audio CD track directly onto the Peak icon or open the track directly from the Open command under the File menu or Toolbar. When you import a CD track using one of these two methods, the entire track will be imported. If you do not want to import an entire audio track, you can still use the Import CD track command under the File menu (covered earlier in this chapter).

Recovering Damaged Audio Files

Peak includes a tool called Recover Audio File, which allows you to open a damaged file, and attempt to recover the audio data contained in it.



The Recover Audio File dialog

This tool extracts audio data only, and ignores all other information contained in the file's header, such as information about loop points, regular markers, region markers, etc. When audio data is successfully recovered, it is placed into a new audio document and must be saved.

There are a few pieces of information that Peak requires, in order to attempt file recovery – these include the number of channels, the file's bit depth and sample rate, the audio data location, and the byte order. With these few bits of information (and depending on the degree of damage), Peak may be able to recover many otherwise unusable audio files. To attempt to recover a file, you must supply correct information about the format the file was originally recorded in, otherwise, you may end up with white noise, or a file that plays at the wrong speed, etc.

When the Recover Audio File encounters corrupt sectors with media, file, or I/O errors, it will attempt to continue recovering whatever audio data is available, and will write the sections containing errors as silence in the new audio file that is created.

Saving and Closing Documents

It is good practice to save regularly throughout a project to avoid losing valuable work in the event of a power failure or other unfortunate occurrence. The Save command saves the changes you have made to your audio document by writing it to your hard disk.

The Save command cannot be undone. If you want to be able to continue to undo your edits, use the Save a Copy As command under the file menu. Peak allows you to save your audio documents in a variety of common audio file formats, each of which is described below. Be aware that different formats allow different information to be stored with the file. Peak preserves this information unless you save the file into a different file format. Saving

a file in a format different from its original format may, however, cause some information stored in the file to be discarded.

Peak supports the following audio file formats:

- **AIFF** – This is Apple’s Audio Interchange File Format. It is also Peak’s default file format and is supported by many Mac software applications.
- **Sound Designer II** – This is Digidesign’s audio file format for its digital audio products. Use this format if you wish to use an audio document in a Digidesign audio application.
- **WAVE/WAV/Broadcast WAV** – This is Microsoft’s Windows Audio File Format. It is supported by many Windows software applications and some Mac applications. The WAVE format is best if you plan to use an audio document in an application that supports or requires WAVE format files.
- **QuickTime** – This is Apple’s audio file format for QuickTime-based multimedia. It is supported by all Mac software applications that support QuickTime. The QuickTime format is best if you plan to use an audio document in multimedia applications that support QuickTime, such as Macromedia Director™. QuickTime includes formats such as AAC/MP4.
- **Raw** – This is the header-less raw file format that may be useful for some game platforms.
- **System 7 Sound** – This is the Apple audio file format used for Mac Operating System Sounds.
- **Jam Image** – This is the Jam audio image file format. Jam audio image files may be created in Peak and used in Roxio Jam for burning audio CDs.
- **Sonic AIFF** – The file format used by Sonic Solutions audio workstations.
- **.paf** – This is the file format used by E-mu’s Paris audio system. Note this file format favors mono and dual mono files.
- **.au** – This file format is commonly used on the

World Wide Web and in Java audio applets – it is supported by many platforms and programs.

- **FLAC** – Free Lossless Audio Codec – a popular “lossless” compressed audio format.
- **MP2** – MPEG-1 Audio Layer 2 format.
- **MP3** – MPEG-1 Audio Layer 3 format. This is a popular compressed, commonly used format used for downloadable music, portable media players, etc.
- **MP4** – MPEG-4 Part 14/AAC-Advanced Audio Coding format. MP4, or AAC is also commonly known, is similar to MP3, but affords greater audio fidelity and smaller file sizes. Content on many online music stores (such as the iTunes Music Store) is sold in this format.

To save a Peak document:

1. Choose Save from the File menu or press ⌘-S on your keyboard.
2. Select a file format from the pop-up File Type menu. AIFF is Peak’s default audio file format.
3. Enter a name for the new audio document, select where you want to save the new file, and then click Save.

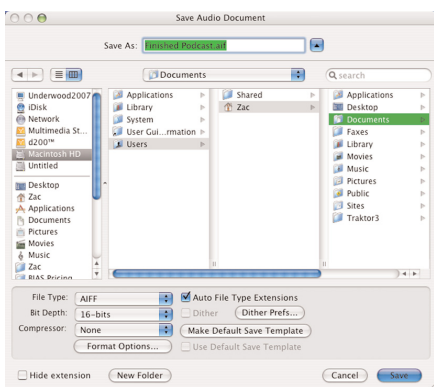
Using the Save As and Save A Copy As Commands

The Save As command allows you to save a copy of the current document under a different name, or in a different location on your hard disk. Since the Save As command closes the current document and lets you keep working on the renamed copy, it is useful for saving successive stages of a project. This allows you to save each major step under a different name. Later you can retrace your steps should you want to go back to an earlier version. The Save A Copy As command will save a copy of the file you are working on, but it will keep the copy you are working on

open. This allows you to continue working on your audio and still be able to undo any edits you executed prior to using the Save A Copy As command.

To save an audio document under another name:

1. Choose Save As (⌘-Shift-S) or Save A Copy As (⌘-Option-S) from the File menu. The Save dialog appears:



The Save dialog

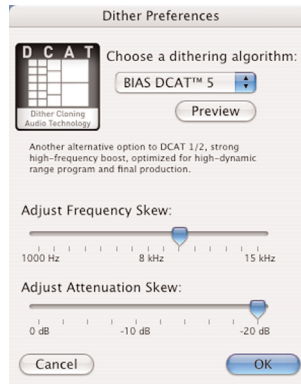
2. Select the desired file format from the File Type pop-up menu. AIFF is Peak's default audio file format.
3. If you wish to save the audio document to a different bit depth resolution, click the bit depth pop-up. It is strongly recommended that you enable dithering if you are saving to a lower bit depth (e.g., 24-bit to 16-bit).
4. Enter a name for the new audio document, select where you want to save the new file, and click Save.

Dithering is the process of minimizing quantization distortion when converting files from a higher bit depth format to a lower bit depth format. During dithering, specific patterns of noise are blended in with the original bit depth reduced audio material, to produce an end result that sounds much better than the anomalies that might result from bit depth truncation alone.



Ideally, dithering/noise shaping should be applied at the end of the processing chain, once all other processes such as DSP tools, plug-ins, and sample rate conversion have modified the high resolution audio signal.

You can choose the desired dithering type that is suitable for the type of audio material you are working with in the Save, Burn Audio CD, and Bounce Playlist dialogs. A default dither type preference may also be set in Peak's Dither Preferences dialog.



The Dither Preferences dialog

Using Dithering

If you are saving an audio document or bouncing a Playlist to a lower bit depth file (e.g., 24-bit to 16-bit), or burning an audio CD from material higher than 16-bit format, it is strongly recommended that you enable dithering.

Peak Pro features BIAS' advanced DCAT (Dither Cloning Audio Technology), with various algorithms modeled after other popular dithering technologies. The algorithm you choose will depend on the audio material you are working with. Basic dithering guidelines are:

- **DCAT 1** – Steep curve with great high-frequency boost, optimized for high-dynamic range program, ideal for final production stage.

- **DCAT 2** – An alternative option to DCAT 1, similar features but different dither noise color.
- **DCAT 3** – Less steep curve, moderate high-frequency boost, optimized for lower dynamic range than DCAT 1 and DCAT 2, more suitable if further processing will be applied to the audio material.
- **DCAT 4** – An alternative option to DCAT 3, similar features but different dither noise color.
- **DCAT 5** – Another alternative to DCAT 1 and 2, strong high-frequency boost, optimized for high-dynamic range program and final production.
- **DCAT 6** – Models high-pass dither.
- **DCAT 7** – Models second-order shaper with moderate high-frequency boost. Useful for material that might undergo further processing e.g. converted to MP3 format). Reduces perceived quantization noise loudness by 6.4 dB. Optimized to human hearing curve for stereo loudspeakers.
- **DCAT 8** – Models ninth-order shaper with strong high-frequency boost, appropriate for final production. Reduces perceived quantization noise loudness by 19 dB. Optimized to human hearing threshold curve for headphone playback.
- **DCAT 9** – Models ninth-order shaper with strong high-frequency boost, appropriate for final production. Reduces perceived quantization noise loudness by 15.1 dB. Optimized to human hearing threshold curve for stereo loudspeaker playback.
- **DCAT 10** – Models high-pass dither and ninth-order shaper with strong high-frequency boost, appropriate for final production. Reduces perceived quantization noise loudness by 15.3 dB. Optimized to human hearing threshold curve for stereo loudspeaker playback.
- **DCAT 11** – Pre-emphasis curve.
- **DCAT 12** – Dither noise shaping for 96 kHz material.
- **DCAT 13** – Near-Nyquist dither second-order curve. Optimized for simple program of average dynamic range, such as spoken word.
- **DCAT 14** – Slightly steeper fifth-order curve. Optimized for low dynamic range program, such as rock music.
- **DCAT 15** – Steepest curve. Optimized for complex, high dynamic range program, such as orchestral music.



Peak LE does not feature built in dithering. Dithering in Peak LE can be performed using the included MDA Dither plug-in.

Saving Compressed Audio Documents

AIFF/AIFC and QuickTime files with compression such as MACE 3:1, MACE 6:1, IMA 4:1, QDesign, or Alaw are compatible with Peak.



You can only Save with file compression using AIFF or QuickTime file formats.

The final processing stage for audio intended to be delivered in a compressed file format (i.e., mp3/mp4/AAC) should be file size compression/encoding.



Decompressing and re-compressing audio documents will degrade their sound quality each time they are re-compressed, so it is best not to save with compression until all editing and mastering has been completed.

In addition, if the files you plan on compressing require dithering to achieve the desired output bit depth, do not use dithering profiles intended for final stage processing. Applying further processing, including data compression, to files that have received 'final stage' dithering may produce undesirable artifacts.

To save an audio document with compression:

1. Choose Save As (⌘-Shift-S) from the File menu. The Save As dialog appears.
2. Choose the audio compressor you wish to use from the Compressor pop-up menu. Some

compression formats only work with 8-bit or 16-bit data, so the compression options may be grayed out, depending on your setting in the bit depth pop-up menu. Some of the types of available audio file compression include: MACE 3:1, MACE 6:1, QDesign Music, ALaw 2:1, 32-bit Floating Point, 64-bit Floating Point, IMA 4:1, 24-bit integer, 32-bit integer, 16-bit Little Endian, and 16-bit Big Endian.

3. Click the Options button to adjust the settings for the specified compression format, and then click OK.
4. Type the name of the new audio document, select the folder you wish to save the audio document, and click Save.

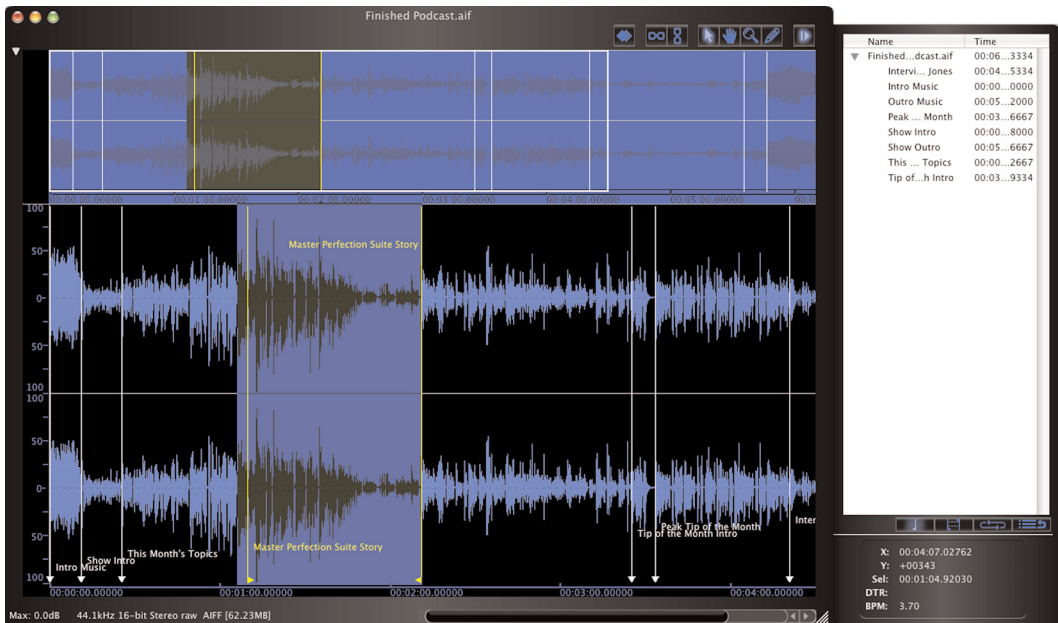
If you have made any changes to your document since the last time you saved, Peak will ask you if you want to save them. If you do, choose Yes; if you do not, choose No. If you change your mind and wish to continue your session, choose Cancel. If you wish to close all documents that have had changes made without saving them, attempt to close the first one, and hold down the Option key while clicking the Don't Save button.

Closing Audio Documents

To close a file in Peak, choose Close from the File menu (⌘-W). To close all files currently open in Peak, choose Close All from the File menu (⌘-Option-W) – or hold down the Option key as you click the red Close button in the upper left corner of the audio document window.

Peak Windows and Palettes

There are several windows and palettes when you open Peak that either appear by default or are available to you under Peak's Windows menu. Windows that appear in Peak by default include an audio document window for each audio file you have open. Windows and palettes that you can turn on or off include the Transport, the Toolbar, the Contents Window, and the Movie Window. This section will cover the basic function of these Peak Windows and Palettes.

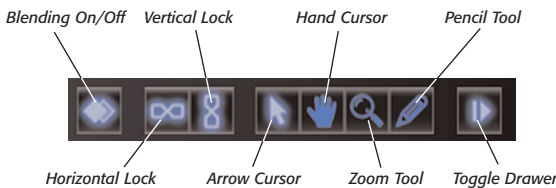


The Audio Document window, with the Contents Drawer open

Peak Audio Document Window

Peak Audio Document windows contain a Waveform Display, an Audio File Info Bar, a Max Level Indicator in the lower left corner, and an expandable Contents Drawer which contains information about markers, regions, and loops. The Waveform Display is a graphic representation of the audio file, the Audio File Info Bar shows the sample rate, bit resolution, file format and file size of the audio file, and the Max Level Indicator shows the highest amplitude level in the audio file. At the top of the Audio Document window is the File Overview, if it is enabled under the Peak Options menu. The Contents Drawer is similar to the Contents Window, but offers a convenient way to view regular, region, and loop markers on a document-by-document basis, as well as a complete edit history for that document. The Audio Window is described in more detail in Chapter 5.

Peak's audio document window also contains several different tool icons representing different cursor modes. The default cursor is a standard Arrow Cursor. You can also use the cursor palette to select a Hand Cursor for scrolling a Pencil Tool for drawing directly on the waveform at the sample level, and a Zoom Tool for zooming the waveform view in and out. The ESC key on your computer keyboard will toggle through the four cursor modes.



To access any of these cursors or functions, just click on the corresponding icon. To change the cursor tool, click on a new icon. The various cursors and editing modes are discussed briefly below, and in greater detail in Chapter 5: Editing.

Blending On/Off Button

When Blending is turned on, Peak creates very short crossfades between sections of audio that are cut, pasted,

copied, or inserted. Blending helps to avoid clicks and pops that can occur when cutting an audio waveform at a non-zero crossing, or when combining material with significantly different amplitude. The left-most button toggles Blending on and off, and the Caps Lock key on your keyboard may also be used to toggle it on and off. More information on using Blending is available in Chapter 5: Editing.

Horizontal Lock Button

The Horizontal Lock button allows both the Begin & End markers in a loop or region to be moved simultaneously. This feature is very useful in situations where the duration of a selection needs to be maintained, but the selection needs to be made in a different part of an audio document. The second-from-left button toggles Horizontal Lock on and off.

Vertical Lock Button

The Vertical Lock button allows back-to-back Region markers sharing the same space between samples to be moved simultaneously. This is very useful when cutting a long DJ mix or live recording into “tracks” – when you need to adjust where a track break will occur, without introducing any gaps between the two regions.

Arrow Cursor Tool

The Cursor Tool is the default tool. It is the standard “arrow” tool that lets you click and select on-screen items.

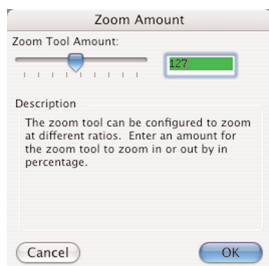
Hand Tool

The Hand Tool lets you scroll a waveform in its window.

Zoom Tool

To use the Zoom tool, simply click the tool's icon in the audio document window, then move the cursor over the waveform. A “plus” (+) sign will appear inside the magnifying glass icon. Click on the waveform to zoom in; each click of the mouse will zoom in farther. To zoom

out, option-click on the waveform. A “minus” (-) sign will appear in the magnifying glass icon, and you can click on the waveform to zoom out.



The Zoom Amount dialog

Option-clicking on the Zoom Tool icon opens the Zoom Amount dialog, where you can specify the amount of magnification per click.

Your keyboard's Option + Control keys, when held down together, act as a modifier for the Hand and Zoom tools.

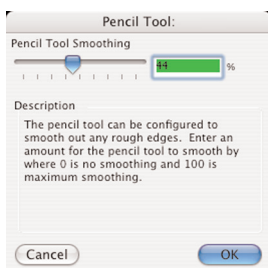


Option + Control + Drag Left or Right temporarily toggles the cursor into Hand tool mode.

Option + Control + Drag up or down temporarily toggles the cursor into Zoom tool mode.

Pencil Tool

The Pencil Tool lets you draw directly on the waveform at the sample level. This is very useful for drawing out clicks in the waveform. Option-click on the Pencil Tool icon for the Drawing Tool Smoothing Settings.



The Pencil Tool dialog

“Magic” Pencil Tool Mode

The Pencil Tool features a “Magic” mode, in which it can be used to automatically repair clicks in the audio waveform.

To use the Magic Pencil Tool:

- With the Pencil Tool selected, hold down the Option key and click the mouse button on a click/anomaly in the audio waveform – it is repaired.

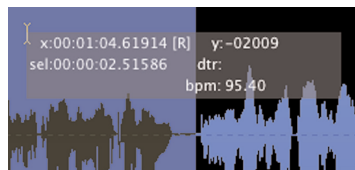


The Magic Pencil Tool is not available in Peak LE.

Cursor and Selection Information

The lower section of the audio document window's Contents Drawer displays the X (time) and Y (amplitude) coordinates of the cursor point, Sel: the duration of any currently selected audio), DTR (Distance to Reference Marker), and BPM: the tempo in beats per minute. You can type a value in for the X, Sel, and BPM parameters.

The same information can also be displayed by toggling the transparent cursor overlay to the “on” position, which appears next to the mouse cursor, and moves along with the mouse cursor. Transparent cursor information can be turned on and off under Peak's Options menu (⌘-Shift-T).



The cursor overlay follows the mouse cursor as it moves, and displays various types of information directly over the waveform

The time format displayed in these fields depends on which time format (Samples, Min:Sec:ms, SMPTE, or Bars|Beats) you have chosen with the Time Units command under the Options menu.

Here is how to read the cursor and selection information that appears in the Cursor Location display.

- Y** = the current cursor position along the vertical scale (amplitude), or start point of a selection
- X** = the current cursor position
- [L]** = the cursor is positioned over the left channel
- [R]** = the cursor is positioned over the right channel
- DTR** = distance to the nearest reference marker
- Sel** = the duration of the current selection
- +/-** = indicates positive or negative phase
- BPM** = beats per minute

Transport Window

The Transport window is a floating, re-sizable window. It contains four main components: a time display showing elapsed time, the Transport controls (Rewind/Return to Start, Stop, Play, Fast-forward/Go to End, Record, and Loop during playback), audio level meters with clip/peak indicators, and a master fader for playback volume control.

Time Display

Peak's Time Display serves a number of functions. While audio is playing, the Time Display shows the elapsed time in the selected time units format, and tracks the "playback head", or cursor. When audio playback is stopped the Time Display shows the current cursor location within the audio waveform. Clicking the Time Display opens Peak's Go To Time dialog, and allows you to enter a time value – the insertion point cursor jumps to this time location in the audio document.

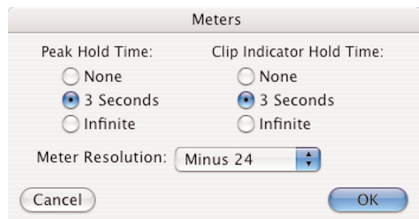
This display will also show the time remaining while performing Open, Save, DSP processing, or CD-burning actions.

Meters

Peak's meters are much like the VU or LED meters on a mixing board or tape recorder. They are bar graph meters that show the relative volume or loudness of the audio as it plays. They are also designed to show peak volume and whether the signal has "clipped," or distorted.

The Meters dialog

You can configure the Meters display by choosing Meters from the Audio menu, or by clicking the appropriate button in the Toolbar. In the Meters dialog, you can select the Peak and Clip Indicator Hold times as well as the meter resolution. The Peak Hold indicators appear as yellow bars at the far right of each of the bar graphs as audio plays, and selecting a hold time causes the indicator to pause for easy reading of the peak value during playback.

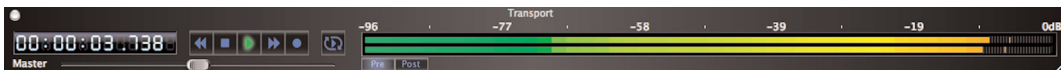


The Meters dialog

The Clip Indicators appear as red bars at the far right of each of the bar graphs as audio plays, and are triggered when audio distorts, or "clips", and selecting a hold time causes the indicator to pause for easy reading of any clipping or distortion that occurs during playback. Setting the Peak Hold and Clip Indicator Hold Times to None turns these features off.



The Meters dialog is not available in Peak LE.



The Transport contains the Time Display, Transport Controls, Meters, and Master Fader

Progress Bar

The Meters display changes to a progress bar during audio processing, and while saving or opening audio files.

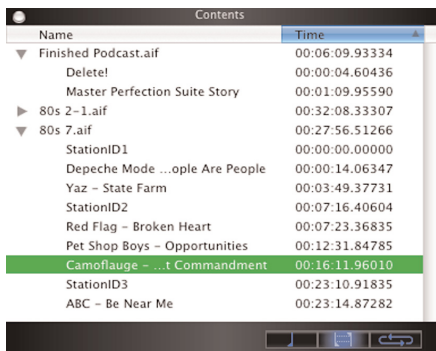


Master Fader

The Master Fader is located just below the counter display, and is used to control the level of audio documents being played back in Peak. The Pre/Post buttons control whether the meters show the gain change being applied by the Master Fader.

Contents Window

Peak has a floating Contents Window that will display all regular, Region, and Loop markers contained in any open audio documents. There are three buttons at the bottom of the palette that allow you to select which items to view-from left to right: the Region Button, the Marker Button and the Loop Button. Option-double-clicking on any item in the Contents window will bring up the Edit Region or Edit Marker dialog.



The Contents Window

To resize the Contents Window:

- Click and drag on the lower right hand corner of the Contents window to resize the Contents Window.

To resize columns in the Contents Window:

- Click and drag to the right of the column's title bar that you want to resize. For example, to make the Name column wider, click and drag the line between Name and Time to the right.

To sort columns in the Contents Window:

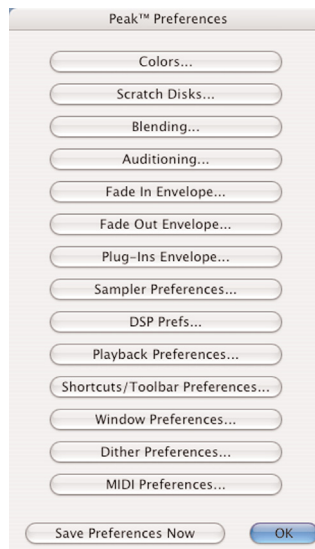
- Click the title of the column by which you want to sort. For example, to sort by Time, click on Time.

To change the sort order in the Contents Window:

- Click the sort order button in the column title to change the sort order.

Setting Preferences

You can customize a number of Peak's parameters so you can work with the program in a way that best suits you. Most of these parameters are found in the Preferences panel and Options menu.

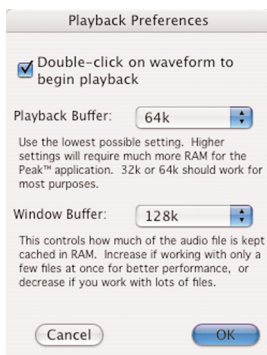


The Preferences dialog

These include the controls for playing back audio documents, the selection of the icons in the Toolbar, and the colors that you want for the audio document window. Once you have set these preferences as you like, they will stay that way until you decide to change them again. This section explains how to set several of these parameters. For any menu items not covered here, please refer to Chapter 12: Peak Menus. There you will find explanations of each command in the Preferences dialog and other Peak menus. Items from the Preferences dialog and Options menu are also covered throughout this manual where their discussion is relevant.

Setting Peak's Playback Parameters

Peak's Playback Preferences dialog allows you to control the master output volume, hard disk playback buffer size, window buffer size, and other playback related options.



The Playback Preferences dialog

Double-click on Waveform to Begin Playback

If this box is checked, double-clicking in an audio document's waveform display starts playback at that point. If this box is unchecked, double-clicking in the audio waveform selects the space between adjacent markers (or the beginning and/or end of a file and the closest adjacent marker).

Playback Buffer

Peak allows you to control the amount of RAM the program uses when playing back audio documents. In

general, lower is better. A playback buffer setting of 32 - 64k is a good place to start. If you are experiencing clicks in your playback, working with fragmented files, using processor-intensive real-time DSP, or are using a slow hard drive, you may need a larger playback buffer setting.

Window Buffer

Peak also allows you to control the amount of RAM the program uses to cache audio data and the size of each processing chunk. Use larger values if you are working with a few large files, and smaller values if you are working with many smaller files.

Dynamic Scrub Time

Peak provides a unique audio auditioning technique called dynamic scrubbing. This feature is very useful for precisely pinpointing and selecting a desired location in an audio document. Dynamic scrubbing allows you to drag the mouse forward or backward over a waveform while Peak plays a short loop (between 10 and 600 milliseconds) at the scrub location. When you have found the location you are looking for, let go of the mouse and the insertion point will be exactly where you want it to be. Peak allows you to choose the length of this playback loop with the Dynamic Scrub Time command in the Options menu. You can also select Tape-Style Scrubbing in this dialog. For a full description of scrubbing audio in Peak, please see Chapter 5.

To select a loop duration for dynamic scrubbing:

1. Choose Dynamic Scrub Time from the Options menu, and choose a duration from the hierarchical submenu. Typically, a value of between 40 to 80 milliseconds works well.
2. You can also select Tape-Style Scrubbing by selecting it in this submenu. To deselect Tape-Style Scrubbing, just click any duration value in the submenu.

Scroll During Playback

With the Scroll During Playback command enabled, Peak will "scroll" through the audio document as playback

progresses. This allows you to visually follow the progress of audio playback. A check next to this menu item indicates that it is enabled.

To enable Scroll During Playback:

1. Select Scroll During Play from the Options menu. A check next to this item indicates it is enabled.
2. To disable Scroll During Playback, re-select Scroll During Play from the Options menu. The absence of a check next to this item indicates it is disabled.

Move Waveform During Playback

With the Move Waveform During Play command enabled, Peak will move the waveform under the cursor as playback progresses, so that the playhead cursor is always in the middle of the waveform display. A check next to this menu item indicates that it is enabled.

To enable Move Waveform During Playback:

1. Select Move Waveform During Play from the Options menu. A check next to this item indicates it is enabled.
2. To disable Move Waveform During Playback, re-select Move Waveform During Play from the Options menu.

Show Marker Times

With the Show Marker Times command enabled, all Peak markers will show a time value as well as the marker name.

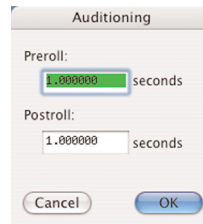
To enable Show Marker Times:

1. Select Show Marker Times from the Options menu. A check next to this item indicates it is enabled.
2. To disable Show Marker Times, deselect Show Marker Times from the Options menu. The absence of a check next to this item indicates it is disabled.

Auditioning

Peak's Auditioning command allows you to audition a selection along with a specific amount of audio preceding

or following it. The Auditioning dialog allows you to select a desired amount of pre-roll or post-roll when you play the selection. To play a selection with the selected amount of pre- and postroll, press Control-Spacebar.



The Auditioning dialog

To configure Auditioning:

1. Select Auditioning from the Preferences dialog – The Auditioning Preferences dialog appears.
2. Enter the desired amount of Pre-roll and Post-roll, and click OK.

Blending

Blending is an automatic crossfade function with a user-editable envelope. Peak can apply blending to areas of an audio document when they are modified by cutting, deleting, or other editing processes in order to smooth abrupt transitions between waveform amplitudes. It can be very useful for creating a smooth transition between edits that would otherwise sound too abrupt. If you have cut, pasted, or inserted audio into a document, you may wish to enable blending to smooth things out a bit. It can be toggled on or off by clicking the Blending button in the Audio Document Window, or by using the caps lock key on your keyboard.

To configure Blending:

1. Select Blending from the Preferences dialog. Enter the Duration over which you wish Blending to occur into the dialog box.
2. To edit the Blending Envelope, click on the Edit Blending Envelope button. Click OK to exit the dialog and click Save Preferences Now to save the change.

For detailed instructions on how to use blending or how to edit the blending crossfade envelope, see Chapter 5: Editing.

Auto-Import Dual Mono

Certain audio applications, such as Digidesign’s Pro Tools, do not directly support interleaved stereo files, and instead use “dual mono” files—a pair of files, one for the left channel and one for the right channel. These files have typically been exported with the suffix “.L” for the left channel, and the suffix “.R” for the right channel. Auto-Import Dual Mono, when selected, will allow you to select just one channel of the dual mono file in the Open dialog. Peak will automatically “grab” the other half of the file, and convert both files into a single stereo Peak document.

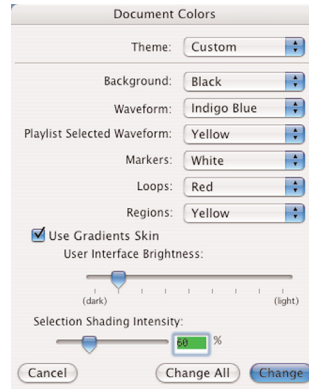
! *Please note that the Import Dual Mono command requires that both files be mono files, have the same sample rate and bit depth, and they must have the exact same name followed by the suffixes “.L” and “.R”. If you are using file type extensions (.aif, .wav, etc) the format must be “Filename.Side.Extension”. For example – “Song1.L.aif” and “Song1.R.aif”.*

To enable Auto-Import Dual Mono:

1. Select Auto-Import Dual Mono from the Options menu. A check next to this item indicates it is enabled.
2. To disable Auto-Import Dual Mono, simply reselect Auto-Import Dual Mono from the Options menu.

Choosing Colors

Peak allows you to customize the colors used to display various elements in audio documents and Playlists. You can use this dialog to set the background color, waveform color, and colors for markers, regions, loops, and the selected event(s) in Playlists. You can select either a preset color combination, or individual colors for each element in the audio document window, as well as picking your own custom colors from a color palette. Changes made using the Colors dialog affect both the current audio document’s colors, and any subsequent new audio document’s colors.



The Colors dialog

To customize the colors of the waveform display:

1. Choose Colors from the Preferences panel.
2. To select a preset color combination, click the Theme pop-up menu and choose the preset that you desire.
3. Alternatively, to select individual colors for each element in the audio document window, choose Custom from the Theme pop-up menu and then select the desired colors from the Background, Waveform, Markers, Loops, and Regions pop-up menus.
4. If you wish, you can use this dialog to further customize any element in the audio document window. Pick an element to customize, choose Custom from the Theme pop-up menu, and select User Color. A standard Mac color palette will appear. Use this wheel to select any color you wish. Click OK to return to the Colors dialog.
5. To close this dialog, click Change (to change one color) or Change All (to change the colors for all open audio documents). The audio document window is now set to the colors and look you’ve selected.

Choosing a Time Format

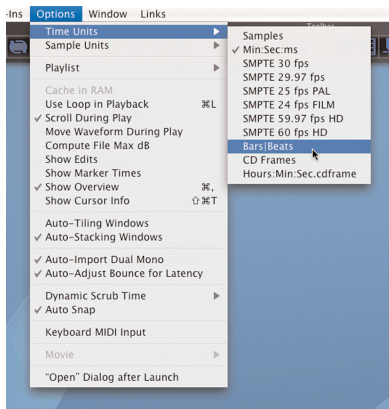
The Time Units command allows you to choose a time format for the audio timeline in Peak’s audio document window and Playlist. You can choose Samples, Min:Sec:ms, Hours:Min:Sec:cdframes,

Bars | Beats, CD Frames, and various SMPTE timecode formats.

The format you choose will depend on the nature of the project that you are working on.

To choose Peak's time format:

1. Bring the desired window to the foreground (i.e., audio document or Playlist).
2. Choose Time Units from the Options menu.
3. From the submenu, choose the time format that suits the nature of our project. The timeline in audio document windows and counter display in the Transport switches to the format that you choose.



Choosing a time format with the Time Units command

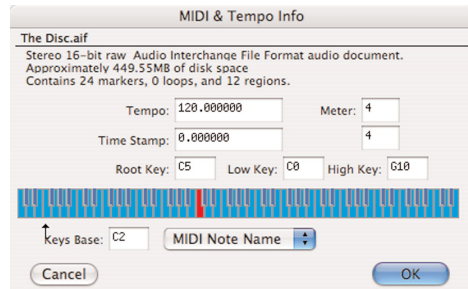


Playlists and audio documents may use Time Unit formats independent from each other; all audio documents share the same format.

Audio File Meter, Tempo, Timestamp, and MIDI Note Name Settings

The Edit MIDI & Tempo Info dialog allows you to specify the tempo, meter, and timestamp for an audio document, as well as the root, low, and high key parameters, and the MIDI Note Name (for use in sample playback instruments).

If your audio document is using Bars | Beats as its Time Unit, you will want to tell Peak what the tempo of the audio document is, so the document's timeline can be set appropriately. Use the Edit MIDI & Tempo Info command from the Action menu to set the tempo of the audio document.



The MIDI & Tempo dialog

You can enter the meter of an audio document using the Edit MIDI & Tempo Info dialog. The numerator represents the number of beats per measure, and the denominator represents the value of a beat, where 4=quarter note, 8=eighth note, 16=sixteenth note, and so forth.

You may also enter a timestamp for the audio document in seconds. If the audio document has a timestamp, then the displayed time in an audio document will be offset from this time rather than starting at zero. For example, if the timestamp for an audio document is four seconds, then the first sample in the audio document will appear in the audio document with a time of 4 seconds instead of zero seconds.

Cache in RAM

On Mac systems with 2 GB or more of RAM, the Cache in RAM option can be used to dramatically speed up audio processing. When Cache in RAM is active, audio documents' current edit state contains the audio for that state in RAM. When a file has been edited as desired and saved, files that have been stored in RAM are written back to the hard drive.

Choosing a Scratch Disk

Because audio data can be very large, Peak utilizes a portion of your hard disk's free space to hold audio data that has been cut or copied, as well as for temporary or scratch files for undo purposes. If your hard disk is short on space, you may not be able to cut, copy, or modify large selections. If you have more than one hard drive attached to your Mac, the Scratch Disks section in the Preferences dialog allows you to choose the hard drives (or "scratch disks") that you wish to use for these temporary files. Peak allows you to select which disk you want to have as your default, or "Primary" disk for this purpose—usually you would select the disk that has the most free space. If you are connected to a file server, you can utilize available storage on the server by clicking the Allow Servers checkbox. Any available servers will then appear in the Scratch Disks pop-up menu. This feature is recommended only if you have access to a high-speed Ethernet, or other fast server.

To choose a scratch disk for temporary files:

1. Choose Scratch Disks from the Preferences dialog. The Scratch Disks dialog appears.



The Scratch Disks dialog

2. The Scratch Disks dialog will show all hard drives currently connected to your Mac. Choose the hard drive(s) that you wish Peak to use when it creates temporary files by clicking the checkboxes next to the drives in the list. To choose the Primary Disk, or the default disk for temporary files, click on the Primary button next to that disk. If you are connected to a file server and would like to use storage available there as well, enable the Allow Servers checkbox.

3. Click OK to close this dialog. Peak will use the disk you have selected as your Primary scratch disk, and, if it becomes full, will then use the other disks you've chosen.



The hard drive with the original audio file must have the equivalent amount of free space (i.e., a 60MB file would require that there be an additional 60MB of free space on the hard drive on which the file resides).



You must have write permissions for the selected Scratch Folders and Disks or else Peak will report an error. Consult your System Administrator if you need assistance changing Directory or Disk permissions.

Keyboard Shortcuts

Peak allows you to customize any Peak menu item with a keyboard shortcut. To change your keyboard shortcuts, go to the Preferences dialog and select the Shortcuts and Toolbar item. Preferences are stored in a file called Peak 6.0 Shortcuts, located in:

Users/<YourUserAccount>/Library/Preferences/

Peak's default Keyboard Shortcuts are listed in Appendix 1 at the end of this manual.

To add a new Keyboard Shortcut:

1. Choose Shortcuts & Toolbar in the Preferences dialog.
2. Scroll through the list of menu items, or, with the list box selected, simply type in the first few letters of the menu item you wish to assign. Then click on the name of the Peak menu item you wish to assign a new keyboard shortcut.
3. Use the Shortcut Key box to enter the letter you wish to use for a shortcut. You may select the Command, Option, Shift or Control keys as

additional modifiers by clicking on the checkboxes in this dialog.

4. Close the Shortcuts/Toolbar Preferences dialog.

To remove a Keyboard Shortcut:

1. Choose Keyboard Shortcuts in the Preferences dialog.
2. Scroll through the list of menu items, and click on the name of the Peak menu item for which you wish to remove a keyboard shortcut.
3. Click on the Clear button.
4. Close the Shortcuts/Toolbar Preferences dialog.



User-defined Keyboard Shortcuts and Toolbar customization are not supported in Peak LE.

Making a Keyboard Shortcuts “Cue Card”

It’s easy to make a “cue card” that you can keep on your desk with all the Peak shortcuts you’ve assigned. Using the supplied FileMaker Pro template, you can import all of your shortcuts from a text file describing each keyboard shortcut generated from Peak.

To Create A Custom “Cue Card” of your Keyboard Shortcuts:

1. Choose Shortcuts/Toolbar Preferences in the Preferences dialog.
2. Click on the Save As Text button.
3. Enter the name of the keyboard shortcuts text file you wish to save, and choose the disk and folder you wish to save into. Click Save.
4. Switch to the Finder and Launch FileMaker Pro.
5. Choose Open from the File menu in FileMaker Pro.
6. Open the supplied “Peak Shortcuts Template” FileMaker Pro template.
7. Choose Import Records from the File menu in FileMaker Pro.

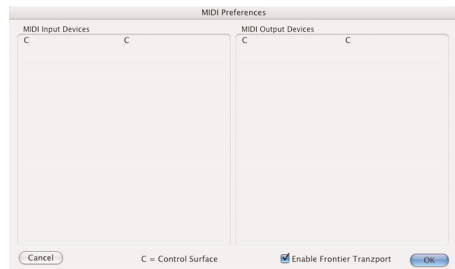
8. In the pop-up menu at the bottom of the Open dialog in FileMaker Pro, choose Tab-Delimited.
9. Find the shortcuts text document you saved in step 3 and click Open.
10. FileMaker Pro will add the records to the database.
11. Use the Print option in FileMaker Pro’s File menu to print out your keyboard shortcuts. You can also sort the imported keyboard shortcut commands by description or shortcut. Consult your FileMaker Pro User’s Guide for more information on importing records, sorting records, and printing.



FileMaker Pro is not included with Peak.

MIDI Preferences

Peak’s MIDI preferences dialog allows MIDI devices in the Mac OS X Audio MIDI Setup utility to be selected as MIDI input or output devices.



The MIDI Preferences dialog

The left pane displays all devices capable of supplying MIDI input to Peak, while the right pane displays devices capable of receiving MIDI from Peak.

To enable Peak to receive MIDI data from a device:

- Check the box in the column immediately to the left of the device’s name in the MIDI Input Devices pane.

To enable Peak to provide MIDI thru functionality for an enabled MIDI input device:

- Check the box in the column immediately to the left of the device's name in the MIDI Output Devices pane.

Many control surfaces use MIDI messages to carry meanings different from those applied by software instruments to those same messages. As a consequence, when software instruments receive MIDI data from control surfaces, unpredictable results can occur.

To avoid this problem, marking the “C” checkbox next to the name of a device identifies it as a control surface and blocks MIDI messages from that device from being sent to any software instruments being used with Peak.

To block MIDI messages from a control surface from being sent to software instruments:

- Mark the checkbox in the “C” column to the left of the device name in the MIDI Input Devices pane.

Using Peak with the Frontier Design Tranzport

Peak has been designed to work with the Frontier Design Transport controller.

To enable Peak to work with the Frontier Design Tranzport:

1. Be sure that the Tranzport is properly connected to your MIDI interface and shows up in the Mac OS X Audio MIDI Setup utility.
2. In Peak's MIDI Preferences dialog, mark the “Enable Frontier Tranzport” checkbox at the bottom of the dialog and the “C” checkbox next to the Tranzport's name in MIDI Input Devices pane.

DO NOT mark the checkbox to the immediate left of the Tranzport's name.

3. Click “OK.” A dialog will appear telling you to restart Peak. After restarting, the Frontier Tranzport will be active.

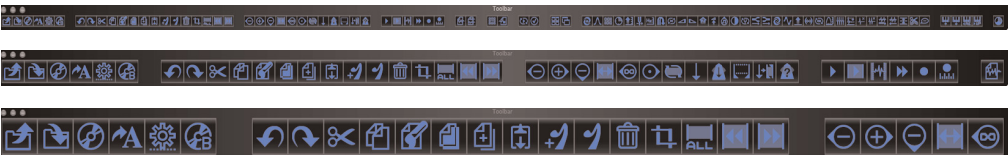
The Toolbar

Peak allows you to select almost any Peak command for the Toolbar. The Shortcuts & Toolbar menu allows you to group together the functions you use most often, so that you can simply click a button instead of going to the menus. For example, if you frequently use Normalize and Pitch Change, you can choose to have the icons for these functions in the Toolbar, so that all you have to do to use one of them is to make an audio selection and click a button. The Toolbar is an easy way to make your work in Peak faster and more efficient, allowing you to customize the program to suit the way you work.

To add or subtract items from the Toolbar, use the Shortcuts & Toolbar item in the Preferences dialog. Toolbar selections are stored in a preference file called “Peak 6.0 Shortcuts” located in:

Macintosh HD/Users/UserName/Library/Preferences/

You can reshape and resize the Toolbar by clicking on the lower right corner of the Toolbar window and dragging to the desired shape and size. The Toolbar can be arranged horizontally, vertically, or as a “cluster” of buttons. Icons in the Toolbar can be sized anywhere between 16 x 16 pixels to 64 x 64 pixels.



The Toolbar's button size, configuration, and horizontal/vertical orientation are all user-configurable – three different button sizes shown here

To add a new icon to the Toolbar:

1. Choose Shortcuts/Toolbar Preferences from the Preferences dialog.
2. Scroll through the list of menu items, and click on the name of the Peak menu item you wish to have appear in the Toolbar.
3. Click on the “Place In Toolbar” checkbox to select the icon to add to the Toolbar. If there is no icon, the menu item cannot be placed in the Toolbar.
4. Close the Shortcuts/Toolbar Preferences dialog.

To remove an icon from the Toolbar:

1. Choose Shortcuts/Toolbar Preferences from the Preferences dialog.
2. Scroll through the list of menu items, and click on the name of the Peak menu item you wish to remove from the Toolbar.
3. Click on the checkbox to uncheck the item you wish to remove.
4. Close the Shortcuts/Toolbar Preferences dialog.



Customizable Toolbar is not supported in Peak LE

To resize icons in the Toolbar:

1. Choose Shortcuts/Toolbar Preferences from the Preferences dialog.
 2. Move the Toolbar Icon Size slider to the left for smaller icons, or to the right for larger icons.
 3. Close the Shortcuts/Toolbar Preferences dialog.
-

Quitting Peak

When you have finished a project or wish to end an editing session, the Quit command allows you to quit Peak and return to the Finder. If you haven't saved changes, Peak will warn you before allowing you to quit.

To quit Peak:

- Choose Quit from the Peak menu (⌘-Q).

If you have made any changes to your document since the last time you saved, Peak will ask you if you want to save them. If you do, choose Yes; if you don't, choose No. If you change your mind and wish to continue your session, choose Cancel.



If you wish to close all currently open windows without saving, hold down the Option key and click Don't Save.

Conclusion

You now know how to create, open, import audio files, export, close, and save Peak documents. You also know how to set the preferences for operating Peak. The next chapter explains how to use your Peak software to record and play back audio.

Chapter 4

Playback & Recording



Chapter 4: Playback and Recording

Introduction

Peak allows playback of many digital audio file formats, and can record any audio source that's connected to your Mac.

Playback and recording may be performed using either the built-in audio hardware in your Mac, or with a wide variety of third-party audio hardware interfaces (USB, FireWire, PCI, etc).

In this chapter you'll learn how configure and use Peak for recording and playing back audio.

Peak defaults to using the Mac's Core Audio built-in audio hardware. If you plan to use third-party audio hardware, such as a PCI, USB, or FireWire audio card/interface, you may need to first install that hardware's Core Audio driver, if applicable.

The Mac OS features built-in support for many audio hardware interfaces, while others require a driver to be installed. Please check the documentation included with your audio hardware for details, or contact the hardware manufacturer.

Configuration of Peak's Playback & Record Settings

Whether you are using the built-in audio hardware in your Mac, or a third-party interface, there are some basic configuration steps you must perform before playing back and recording audio. This section will help you get started quickly with basic settings. Later in this chapter you will find detailed information on Peak's various recording and playback options.



When launching Peak for the first time, a dialog appears asking whether you would like to configure your Audio/MIDI preferences. To quickly set up your audio hardware for the first time, click Yes.



Be sure to configure the audio interface's own utility software or control panel (if one is included with your interface).

Core Audio

Peak supports Apple's Core Audio when using the Mac's built-in audio hardware, as well as with third-party interfaces, such as those made by Apogee™, Digidesign™, Edirol™, M-Audio™, MOTU™, PreSonus™, Tascam™, and many others.

For Peak to work properly with third-party audio hardware devices, they must be compatible with Core Audio. Be sure to consult the audio hardware manufacturer's instructions when installing & configuring your audio interface.

The general rule for hardware compatibility is: If a compatible Core Audio driver is provided by the

hardware's manufacturer, or Mac OS X natively supports the hardware device – Peak is compatible with it.

Audio MIDI Setup Utility

Some audio interfaces may require additional configuration. In this case the Apple Audio MIDI Setup Utility may be used to configure your audio hardware. The Audio MIDI Setup Utility is installed in the Utilities folder.



Audio MIDI Setup



To ensure proper recording, make sure that the recording format (i.e., bit-depth, sample rate, etc.) set in Peak matches the recording format in the Apple Audio MIDI Setup utility's Input Device Settings section.

Basic Audio Hardware Configuration (For Stereo I/O Devices)

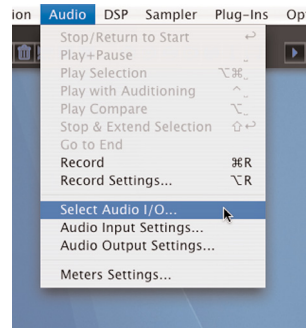
The steps in this section will teach you how to configure the Mac's built-in audio hardware, as well as third-party audio interfaces that have only stereo input and output (two channels in/two channels out).



Using the same audio hardware device for both input and output is highly recommended!

To select the desired audio hardware for playback and recording:

1. From the Audio menu, choose Select Audio I/O.



2. In the Select Audio I/O dialog, choose the audio hardware device you would like to use for audio input and output from the Input and Output Device menus.



3. In the Buffer Size menu, choose 512 – this default value works well on most systems.



If working with sample rates higher than 44.1kHz, and/or an older or slower Mac system, you may need to raise the Buffer Size. The general rule for setting the Buffer Size is to use the lowest possible value that allows trouble-free recording and playback. If you encounter skipping, short dropouts, or other similar anomalies while recording or playing back audio, raise the Buffer Size until you find the setting that works best for your particular system configuration.

4. Adjust the Input Level slider to the desired level – note that not all hardware devices allow control of the input level from within the Select Audio I/O dialog.



Setting the Input Level slider about 3/4 of the way up is a good starting point. Once you exit the Select Audio I/O dialog and click Peak's record button, you will see the actual recording level in Peak's VU meters in the Transport. The loudest material you're recording should register around -6dB. If your levels are significantly above or below this, you should return to the Select Audio I/O dialog.

Advanced Audio Hardware Configuration (For Multi-channel I/O Devices)

When using a third-party, multi-channel audio interface for playback and recording, you may also need to specify which input and output connections on your audio interface should be used.

Peak defaults to using a multi-channel hardware device's outputs 1 & 2 for playback, and inputs 1 & 2 for recording. If you are using a multi-channel hardware device, and wish to use inputs/outputs other than 1 & 2, please follow the advanced setup steps below.



Using the same audio hardware device for both input and output is highly recommended!

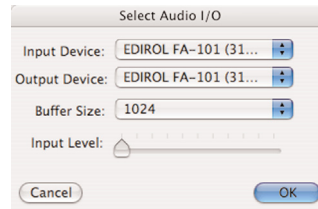
To configure Peak to play back through specific outputs of a multi-channel hardware device:

1. From the Audio menu, choose Select Audio I/O.
2. Choose desired multi-channel device from Output Device menu.
3. From the Audio menu, choose Audio Output Settings.
4. In the Audio Output Settings dialog, select the desired outputs to play audio through, from the Play Through menu – Click OK when finished.

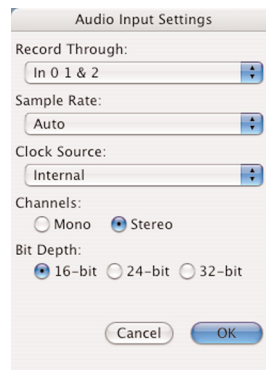
To configure Peak to record through specific inputs of a multi-channel hardware device:

1. From the Audio menu, choose Select Audio I/O.

2. Choose desired multi-channel device to use for input, from the Input Device menu.



3. From the Audio menu, choose Audio Input Settings – the Audio Input Settings dialog appears.



4. From the Record Through menu, choose the input channels you wish to record through.
5. Click OK in the Audio Input Settings dialog.



Please note that due to variations in naming/numbering conventions of inputs/outputs on hardware devices, that the channels you select in Peak's Play Through and Record Through menus may not always match the actual input/output numbering on the device itself. You may need to consult the documentation that was included with your audio interface to correctly select the desired inputs/outputs.

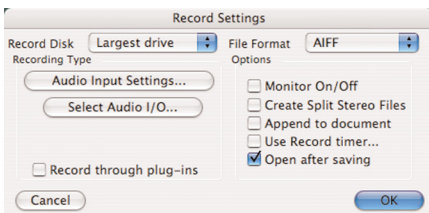
Setting the Record Disk & Format

By default, Peak is set up to record in AIFF, mono, 16-bit, 44.1kHz format, and is set up to do so on the largest drive connected to your Mac system. Peak can be set up to record in either AIFF or Sound Designer II formats (which can later be converted to any other supported format), in mono or stereo, and at any bit-depth and sample rate supported by the audio hardware configured in the previous section – and to any hard drive on your system.

It's a good idea to specify a particular record disk and location, as the "largest drive" may change. Today your internal Mac hard drive might have the most space available on it, and thus be considered the "largest drive", but tomorrow your external FireWire drive might have more space. By specifying a particular drive/location, your recordings will be easy to find later, since Peak will then always record to the same place.

To set Peak's Record Disk:

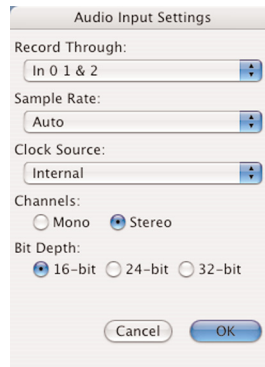
1. From the Audio menu, choose Record Settings – the Record Settings dialog appears.



2. From the Record Disk menu, choose the hard drive you wish to record to – click OK when you are finished.

To Set Peak's Recording Format:

1. From the Audio menu, choose Audio Input Settings – the Audio Input Settings dialog appears.
2. Using the Sample Rate menu, and Channels & Bit Depth radio buttons, choose the desired recording format options – click OK when you are finished.



Recording Format & Settings Options

Once you've become familiar with the recording process in Peak, you may need to customize certain settings to suit the type of recording you will be doing.

Various recording configurations are available within the Audio I/O Settings, Audio Input/Audio Output Settings, and Record Settings dialogs. This section describes the options available for recording.

Audio Output Settings Dialog

The Audio Output Settings dialog allows you to configure various parameters related to audio playback.



Clock Source Menu

This menu lets you choose the clock source for digital sync.

Sample Rate Menu

This menu allows you to choose the sample rate for playback. The default sample rate setting is “Auto”. Unless you need a specific setting, this is best left set to “Auto”.

Play Through Menu

This menu lets you choose which output channels on your audio interface will be used for audio playback. For example, if you are using a hardware interface with multiple outputs, you can select the appropriate outputs to route audio output through to your monitors/headphones.

Sample Rate Converter Quality Menu

Peak features on-the-fly sample rate conversion, used when playing back audio documents with a sample rate not natively supported by the audio hardware being used. A setting of 1 gives the lowest quality sample rate conversion, and uses the least amount of CPU resources. A setting of 5 gives the highest quality, and uses more CPU power. Depending on your Mac system’s speed, you may need to experiment with this setting for the best performance. 3 is the default setting.



Be aware that the setting used for Sample Rate Converter quality also affects the quality of Tape-Style Scrubbing. BIAS recommends using the highest setting possible that your system is capable of.

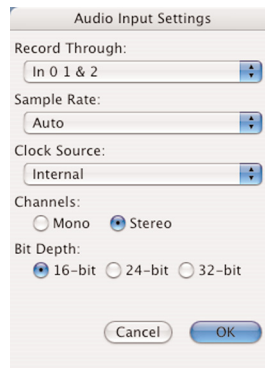
Select Audio I/O Button

Clicking the Select Audio I/O button in the Audio Output Settings dialog brings up the Select Audio I/O dialog,

where you can specify which hardware device to use (when multiple devices are connected to your computer), the buffer size, and the input level (if the device supports adjustable input level).

Audio Input Settings Dialog

The Audio Input Settings dialog allows you to configure various parameters related to audio recording.



Record Through Menu

This menu allows you to choose which inputs on your audio interface will be used to record through. For example, if you are using an audio interface with multiple inputs, you can designate the appropriate inputs to record the desired source.

Sample Rate Menu

The Sample Rate menu allows you to select the sample rate at which you wish to record. Some sample rates may not be available depending on the limitations of the audio card and its Core Audio driver. Please note that if you are recording from a digital source you will want to record at the same sample rate as your digital source. For more information on sample rates, see the Glossary. The “Auto” setting in the Sample Rate menu will record at whatever sample rate the device is

currently set to. To record at a specific sample rate, be sure to specify it here.

Clock Source Menu

This menu is used to select the desired internal or external clock source to be used.



Be sure to set the Clock Source to digital in the Audio Input Settings dialog if you plan to record from a digital source.

Channels Radio Buttons

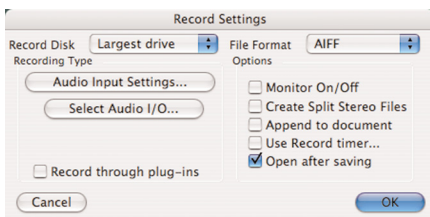
These radio buttons allow you to specify whether to record in mono or stereo format.

Bit Depth Radio Buttons

These radio buttons allow you to specify the desired bit depth for a recording. Please note that the actual maximum bit-rate is determined by your audio input device. For more information on bit depths, see the Glossary.

Record Settings Dialog

When you select Record Settings from the Audio menu (Option-R) or Toolbar, the Record Settings dialog appears. This dialog is used to configure settings for recording with Peak.



Record Settings dialog



Please note that the settings you choose here are independent of any previously set within the Mac OS Sound Preference pane.

You will notice several pop-up menus, buttons, and checkboxes in the Record Settings dialog. These allow you to select which hard drive to record to, what file format you'd like to record as, and a number of other options (described below). You may also wish to record through plug-ins. The next few paragraphs describe how to set all of these parameters using the Record Settings dialog.

Record Disk Menu

The Record Disk menu allows you to choose which hard drive you would like to record to. If you have more than one hard drive connected to your Mac, use this pop-up to select your record drive. (This option will default to the largest drive currently available.)

File Format Menu

The File Format menu allows you to select the file format for the audio being recorded. You may choose from AIFF or Sound Designer II. If you need the newly recorded audio document to be in a different format, you can always use the Save As function to save it as another format once recording is complete. If you do not select a file format for recording, Peak will default to AIFF.

Monitor Checkbox

The Monitor checkbox allows you to monitor audio throughput while you are recording.



Be very careful to avoid feedback loops (the audio signal feeds back into itself) when recording. Feedback can damage both your equipment and your hearing. The Monitor option in the Record Settings dialog should be disabled if monitoring a recording will cause feedback.

Create Split Stereo Files Checkbox

The Create Split Stereo Files checkbox allows you to record the incoming stereo audio in dual mono format rather than stereo. Dual mono format is used in applications like Pro Tools, so this option is useful if you need to record in dual mono format (i.e., split stereo).

Append to Document Checkbox

The Append to Document checkbox allows you to record into an existing audio document. To record new audio into an existing document, place the insertion point in the existing audio document at the point where you want to insert the new audio. If the insertion point is at the beginning of the document, the newly recorded audio will be inserted at the beginning of the document. If the insertion point is at the end of the document, the newly recorded audio will be appended to the end of the existing document. If the insertion point is somewhere in the middle of the document, the newly recorded audio will be inserted at that point. If you make a selection of audio, the Append to Document feature will allow you to replace the selected audio with newly recorded audio.

Use Record Timer Checkbox

The Use Record Timer checkbox allows you to designate a specific duration for recording. Peak will stop recording after this set time and then open the Save dialog in order for you to save your recording. Checking the Record timer checkbox will bring up the Recording Time dialog.



The Recording Time dialog

In the Recording Time dialog, designate the duration for recording in seconds and click OK. For example, to record for ten minutes, enter “600” in the Seconds field.

Open After Saving Checkbox

The Open after saving checkbox determines whether the audio document is opened in Peak after it is recorded.

Audio Input Settings Button

Clicking the Audio Input Settings button will open the Audio Input Settings dialog, where you can specify various recording options.

Select Audio I/O Button

Clicking the Select Audio I/O button in the Record Settings dialog brings up the Select Audio I/O dialog, where you can specify which hardware device to use (when multiple devices are connected to your computer), the buffer size, and the input level (if the device supports it).

Record Through Plug-Ins Checkbox

This checkbox allow you to configure Peak to record through installed Audio Units and/or VST plug-ins in real time, rendering the effect of the plug in directly to the document as you record. This setting also allows recording the audio output of virtual instrument plug-ins as Peak audio documents. More information on recording through plug-ins appears later in this chapter.

Select Audio I/O Dialog

Various input/output options are available in the Select Audio I/O dialog, which may be accessed by choosing Select Audio I/O from the Audio menu, or by clicking the Select Audio I/O button in the Audio Output Settings dialog.



Select Audio I/O Dialog

Input Device Menu

This menu allows you to choose the desired audio hardware device to use for input, when more than one is available.

Output Device Menu

This menu allows you to choose the desired audio hardware device to use for output, when more than one is available.

Buffer Size Menu

This menu controls the buffer size used, and is directly related to the amount of latency that is encountered. It is recommended that you use the lowest possible setting that your computer is capable of. The easiest way to determine the lowest setting your computer is capable of is by doing test recordings – if you notice distortion, or dropouts in the recorded audio, you will need to use a higher setting. If you do need to raise this setting, it's best to do it by one setting at a time, for example, if your system cannot handle using a 512 buffer size, raise it to 1024 and try again.

If your computer requires a relatively high buffer size for smooth recording, and you need to monitor your audio source, it is recommended that you set up your equipment to allow direct monitoring from a mixer, or from an audio interface that features direct monitoring. Direct monitoring will eliminate the problem of latency, in which you hear what is being recorded after a slight delay, which is directly proportional to the buffer size setting being used.

If you are playing virtual instruments and notice a significant delay from the time you play a note, and the time you hear it, you may want to experiment with lower buffer sizes, to reduce latency to the lowest possible level.

Input Level Slider

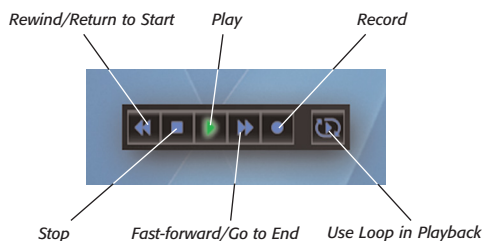
The Input Level slider allows you to configure the input level prior to making a recording. This slider, and the input level slider in the System's Sound Preference pane serve the same purpose – adjusting it in Peak will affect the setting in the Sound Preference pane, and vice-versa. Not all devices support adjustable input level. If you are using an audio hardware device that does not support adjustable input level, it is normal for this slider to appear greyed out.

Playing Audio

Once you have finished the configuration steps in the previous section, you're ready to start playing back audio documents. The next section will familiarize you with the various controls and methods used to control audio playback.

The Transport Controls

The Transport Controls that appear in the Transport window are used for initiating both playback and recording. They function much like the controls on a tape recorder. As they appear below, from left to right, they are Rewind/Return to Start, Stop, Play, Fast-forward/Go to End, and Record.



To start/stop playback:

- Press the Spacebar, or click the Play button in the Transport. Playback begins from the beginning of the document (or wherever Peak's insertion point/cursor is located).
- To stop playback, press the Spacebar again or click the Stop button in the Transport.

To stop playback and have the cursor return to its original location:

- Press the Return key.

To "rewind" playback:

- While audio is playing, click the Rewind/Return to Start button in the Transport.

To return to the beginning of a document:

- With playback stopped, click the Rewind/Return to Start button – or press Return key.
- With audio playing back, press the Return key twice.

To "fast-forward" playback:

- While audio is playing, click the Fast-forward/Go to End button in the Transport.

To go to the end of a document:

- With playback stopped, click the Fast-forward/Go to End button.

To start playback from a specific point in a document:

- Click the cursor at the desired location in the audio document and press the Spacebar on your computer keyboard. Playback begins from the cursor location and continues to the end of the document.
- Double-click the mouse at the desired location in the audio document. Playback begins from the location that you double-clicked and continues to the end of the document.



Note that double-clicking the audio waveform to begin playback is a preference, which can be enabled/disabled in Peak's Playback preferences dialog.

- Click any in the Audio Waveform Overview to begin playback from that point.



In order to double-click to initiate playback, be sure you have this preference enabled! Peak gives the option of double-clicking to start playback, or to select the space between adjacent markers. To set this preference, open the Playback Preferences from Peak's Preference Panel, and check the Double-click on Waveform to Begin Playback checkbox.



Peak supports the Frontier Design Group's wireless Transport control surface. For more information on configuring and using this device to control Peak, please Chapter 3.

Triggering Playback of Multiple Audio Documents

Peak allows you to have multiple audio documents open at the same time. Peak assigns each of these documents a number based on the order in which it was opened. Peak provides you with a convenient way of triggering playback of any open audio document by pressing a number key on your computer keyboard. This can be a very useful feature for applications such as live sound effects playback, since you can open multiple audio documents and play them from your Mac keyboard.

To trigger sequential playback of multiple audio documents:

1. Open several audio documents, taking note of the number that Peak assigns them in the Window menu. (This is based on the order in which the documents were opened.)

2. Press the number that corresponds to the document(s) you wish to play. You don't need to wait until a document has finished playing to press the next number: typing a numerical sequence on your keyboard will "queue up" all of the corresponding documents. They will then play in the order you choose.



The numeric keypad on an extended keyboard will not work for this function, you must use the numbers at the top of the keyboard).

3. If you wish to stop playback and jump to the next document in queue, press the Return key. Peak initiates playback of the next document in sequence.

Recording Audio

Once you have finished the configuration steps in the previous section, you're ready to start recording audio. This section will first familiarize you with various controls and methods to get started recording quickly, and then offers more advanced techniques such as recording into QuickTime movies, multi-document recording, and recording through effects plug-ins.

Before you start recording, it's a good idea to turn down the volume of your instrument or audio source, so as to first set your recording level. When Peak's Record dialog first appears, Peak is not actually recording audio yet, but the meters are active, and will show the current recording level. This is especially useful for gauging and fine-tuning recording levels. Slowly bring up the audio source's level until it peaks around -6db, which is a good recording level for most material. This allows a bit of "headroom" so that if the loudest sections of the audio being recorded occasionally exceed -6dB, they do not result in "clipping", or digital distortion. As you become more familiar with

Peak, and using it to record, you can fine-tune this value.



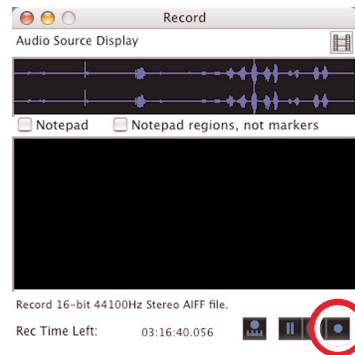
Be sure to read up on Change Gain, Gain Envelope, Normalization, and RMS Normalization in Chapter 8: DSP – for ways to maximize audio levels after recording.

Basic Recording

Once you have selected the desired hardware, recording, and format options outlined in the previous sections, it's easy to quickly get started recording.

To record audio:

1. Select Record from the Audio menu (⌘-R) – or click the Record button in the Transport or Toolbar – the Record dialog appears.



2. Play the audio source you wish to record.
3. Click the Record button in the Record dialog – recording starts.

To stop recording:

1. Click the Stop button in the Record dialog – recording stops, and a Save dialog is presented.
2. Enter the desired name for the recording.
3. Click the Save button.

To pause/resume recording:

1. While recording, click the Pause button.
2. While recording is paused, click the Pause button again to resume recording.

Timed Recording

Peak allows timed recording for a particular duration. This is especially useful for recording cassettes, LPs, etc. By setting the record timer, you can make a recording of the desired material, and rest assured that once the desired material is captured, that recording will stop, and your hard drive is not being filled unnecessarily.

To make a timed recording:

1. From the Audio menu, choose Record Settings (Option-R).
2. Check the Use Record Timer checkbox – the Recording Time dialog appears.



3. In the Recording Time dialog, designate the duration for recording in seconds and click OK. For example, to record for ten minutes, enter “600” in the Seconds field.
4. Close the Record Settings dialog by clicking the OK button.
5. Select Record from the Audio menu (⌘-R) to open the Record dialog.
6. Play your audio source.

7. Click the Record button in the Record dialog – recording starts.
8. Peak will stop recording after the set amount of time and then open the Save dialog in order for you to save your recording – enter the desired name, and click the Save button.



Don't forget to turn off the Record Timer when finished recording, so as not to affect subsequent recordings.

Recording through Effects Plug-ins

Peak offers the ability to record through Audio Units and VST format plug-ins. Recording through plug-ins can be very useful and can save time, as you do not have to later process audio documents and save them. Be aware that you cannot undo the effect – if your recording does not come out as intended, you would have to re-record using different plug-in settings.

Some examples of why you might want to record through plug-ins include:

- You are recording material with a wide dynamic range (volume changes often and quickly), and it's difficult to set the recording level. You can record through the BIAS Sqweez Compressor/Limiter plug-in, to help control levels in real time, while the recording is in progress.
- You are recording from cassettes, and they all contain more or less the same kind of broadband noise (e.g., tape hiss). You can record through a noise reduction plug-in, such as BIAS SoundSoap 2 or SoundSoap Pro, configured to eliminate this noise in real time during the recording.

While you can adjust plug-ins during recording, it's a good idea to first experiment and fine-tune your settings before starting to record through plug-ins.



Recording and using plug-ins are CPU intensive activities. If you notice unusual artifacts, audio dropouts, etc. in recordings made this way, you may need to raise your hardware buffer size. If your system is not fast enough to support recording through plug-ins in real time, you can always apply plug-ins after recording.

Multi-Document Recordings (Long Recordings)

If you plan to make long recordings with Peak, be aware that each individual audio document that Peak creates has a maximum size of just under 2 gigabytes (1.99 to be precise). If a recording exceeds this size, Peak automatically creates a new document and continues recording seamlessly. When a multi-document recording is finished, Peak will present multiple Save dialogs (one for each 2 GB document, or fraction thereof), so each document may be saved separately. The maximum recording length will vary depending on the number of channels used, as well as bit depth and sample rate. The maximum amount of disk space that can be used in multi-document recording is 10 GB, spread across five individual audio documents. This amounts to approximately 16.5 hours of continuous recording at CD quality settings (Stereo/16-Bit/44.1kHz). The recording settings you choose will affect how long a recording you can make.

For example, if you were to record 10 hours of audio at 16-Bit/44.1kHz, you would be using approximately 600 MB of disk space per hour. At this rate, after about 3.3 hours of recording, you would have used about 2 GB of disk space. When this 2 GB limit is reached, Peak would continue recording, but now into a new document – the first document is stored as a temporary file on the hard disk. After another 3.3 hours, another 2 GB document is created, and Peak continues recording into a third document. When we reach 9.9 hours, Peak begins recording into a fourth document – this one being the remainder, or .1 hours (6 minutes). When we stop Peak at the 10 hour mark, four consecutive Save

dialogs would be presented, allowing the four pieces of this long recording to be saved. It's a good idea to develop a naming convention to address multi-document recordings, such as naming your documents "Part 1/4", "Part 2/4", "Part 3/4", "Part 4/4", or something similar, that identifies each file as part of the whole recording.

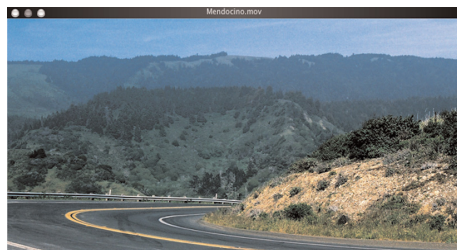
When editing documents created during multi-document recording, each one appears in Peak as a separate audio document.

Recording into a QuickTime movie

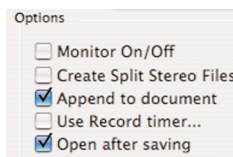
Peak can record audio into a silent QuickTime movie. This is a useful feature for adding a soundtrack or voiceover to a QuickTime movie.

To Record into a QuickTime Movie:

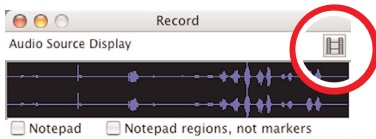
1. Create a new stereo or mono document (from the File menu > New).
2. Open the movie.



3. Open the Record Settings dialog, and check the Append to Document checkbox.



4. Choose Record from the Audio menu (⌘-R), or click the Record button in the Toolbar.



Clicking the Movie icon in the Record dialog causes a QuickTime movie to play along while recording.

5. Click the Movie icon in the Record dialog.



6. Play the audio source you wish to record from, or prepare to speak into a microphone, etc.
7. Click the Record button in the Record dialog.
8. When finished recording, click the Stop button in the Record dialog.
9. Save the recording.
10. Choose Save As... and select QuickTime as the file format

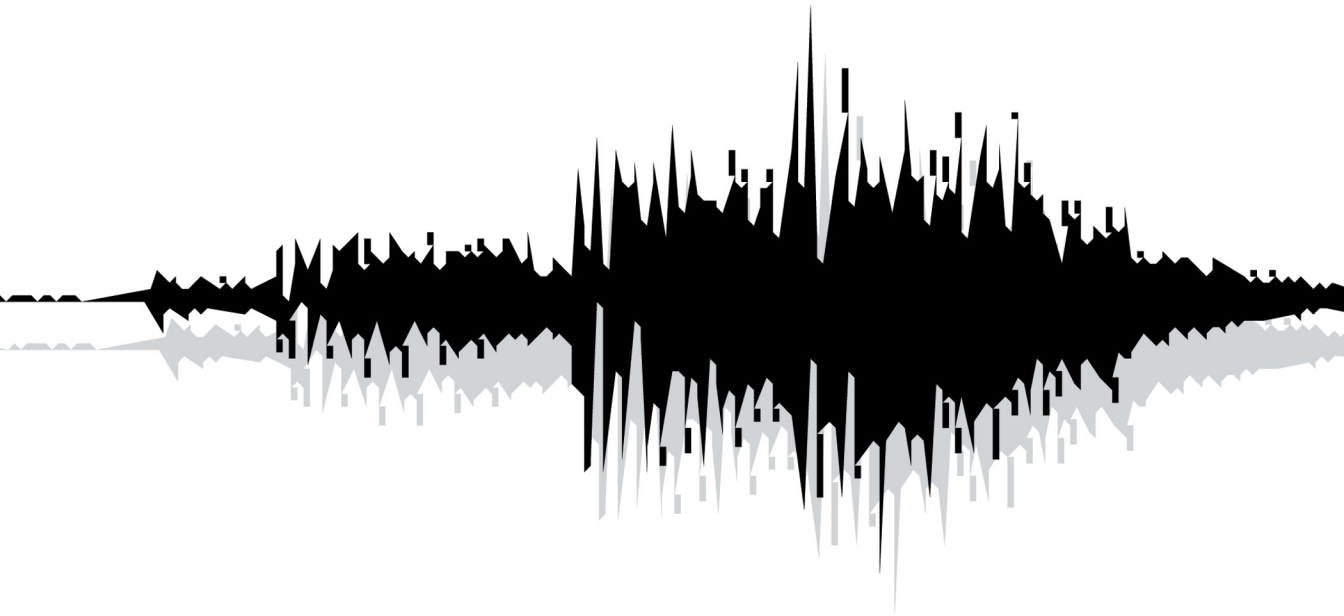
Conclusion

You have now learned how to configure Peak for recording and playback, and how to record and play back audio.

Now, continue along to the next chapter, where you will learn how to edit audio with Peak's powerful set of editing tools.

Chapter 5

Editing



Chapter 5: Editing

Introduction

This chapter introduces you to the concept of digital audio editing. You will learn how to edit digital audio with Peak's many powerful editing tools.

Editing Audio with Peak

Peak provides you with a powerful interactive, nondestructive environment for editing and manipulating audio. In this environment, not only are virtually all editing actions completely “undo-able” and “redo-able,” but they can be performed interactively while audio playback is engaged.

Interactive Editing

Interactive editing means that you can cut, paste, loop, and process audio with many of Peak's DSP functions and plugins, even while playing back the very audio that you are editing. For example, you can start playback, cut a selection of audio and paste or insert it later in the document, and when Peak reaches the location of the inserted audio, it will play it as if it were there all along. This revolutionary capability makes Peak a supremely fast and flexible audio production tool that makes conventional recording and editing methods, such as analog tape and a razor blade, seem primitive and archaic by comparison.

Nondestructive Editing

Peak's nondestructive editing capabilities mean that the edits you perform to an audio document do not

permanently change the original source recording until you finally save the document. Thus, you can cut, copy, paste, fade in and out of, and otherwise completely change a recording, and still be able to return back to square one – the original untouched state of the recording – up until the time that you save the document to disk. At that time, all edits are permanently written into the document.

5

Unlimited Undo and Redo

As an editing session progresses, Peak maintains an internal list of the edits that you perform. Changes that you make to an audio document are not permanently applied to the file until you ultimately save it. This is what gives Peak its unprecedented unlimited undo and redo capability. Through the use of the Mac's standard Undo and Redo commands, you can undo or redo your actions sequentially, or by using the Edits command, using a “playlist-style” editing event list. This is a very exciting technology that allows you to maintain complete creative freedom of choice – right up until the last moment before you save your project to disk.

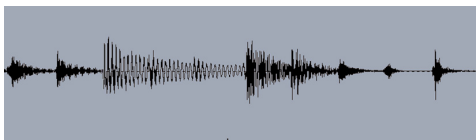
The Audio Document Window

The heart of Peak's powerful editing capabilities is the audio document window. The audio document window provides you with a “window into sound,” allowing you to make good use of both your eyes and ears to perform

extremely precise editing tasks. The audio document window gives you a time-domain representation of sound, that is, you see the amplitude of the sound over time.

An Audio Waveform

If you have never seen sound displayed in a visual format before, it may not be immediately obvious how to “read” an audio waveform. It is actually quite easy to navigate through a recording with a waveform as your road map. The peaks in the waveform are areas of high amplitude (loud spots). The valleys in the waveform are areas of low amplitude (quiet spots). If the audio material is music with a pronounced, regular beat, it is generally very easy to pick out where the beats are simply by looking for peaks. Using this information, and the guidelines given shortly in the “A Selection” section, you will be able to successfully locate and select a desired portion of the audio document and perform the edits that you wish. The cursor marks the current location, and also serves as an insertion point.



An audio waveform

Vertical Scaling

Peak allows you to control the vertical magnification of audio waveforms. This feature is useful if you are editing and viewing a document with very quiet audio material.

To increase the vertical scaling magnification:

- Hold the Control key down and press the Up Arrow key.

To decrease the vertical scaling magnification:

- Hold the Control key down and press the Down Arrow key.

Audio Waveform Overview

Peak provides an Overview display of the entire audio waveform along the top of the screen under the menu bar. This provides you with a convenient visual reference of the overall document when you are editing only a portion in the audio document window. The highlighted area in the Overview display shows the area of the audio waveform currently visible in the audio document window. If desired, you can hide the Overview display to allow the audio document window to occupy more of the computer screen.

To show/hide the Audio Waveform Overview:

- Select Show Overview in the Options menu (⌘-.)
 - a check next to this item indicates it is enabled, and the absence of a check means it is disabled. (Show/Hide Overview may also be toggle using the disclosure triangle in the upper left corner of the audio document window).

A Selection

A selection is just what it sounds like: a portion of audio that you have selected by clicking and dragging with the mouse. You must select audio in order to perform an editing action on it. To make good selections for editing, the best rule of thumb is to begin a selection just before a peak in the waveform and end it just after a peak in the waveform. In other words, try to make selections start and end in areas of low amplitude (“valleys” in the waveform).



A waveform with selected audio

It is also important, when possible, to begin and end a selection at a point where the waveform meets the zero crossing line (the center line through the waveform). This helps you avoid creating pops and clicks if you later

cut or paste the audio, because the point at which the waveform meets the zero crossing is a point of no amplitude in the sound wave. Pops and clicks generally only occur if you make a careless selection and begin or end on a portion of the sound wave where the amplitude is high (where the waveform is high above, or far below the center point). Enable Auto-Snap in the Options menu, and select Snap To > Zero Crossings from the Action menu to have Peak nudge your selection to the nearest zero crossings automatically.

In addition to snapping to zero crossings in the audio waveform, Peak features a number of other Snap To options. These options allow a selection to be “snapped” to a preset number of samples, or to a custom selection length. Other Snap To boundaries include:

- Bars/Beats
- CD Frames (588 samples or multiple thereof)
- Sony PS2 Loop Boundaries (28 samples or multiple thereof)
- Microsoft Xbox Loop Boundaries (64 samples or multiple thereof)
- Custom Units (user-definable number of samples)

The Snap To units you choose will depend on the type of editing work you will be doing. Most users will probably use Zero Crossings or Bars/Beats for most musical applications. Multimedia and video game sound designers will especially appreciate these new options when producing audio for a particular delivery platform. For example, when creating audio loops and sound effects for a Playstation 2 video game, audio edits need to be made at increments of 28 samples in order to loop/play back smoothly in the PS2’s audio engine. By choosing the Snap To PS2 loop boundary setting, any edits that are made will automatically be made in units that will translate smoothly to the PS2’s playback system.

Once markers are placed in the waveform, they may need to be moved. By holding down the Shift key while dragging the markers the selected Snap To behavior will be applied, and the markers may be shifted slightly so as to conform to the selected Snap To format.

The Zoom In function helps you make very precise selections by letting you zoom in to a higher magnification and select exactly the portion of the waveform you desire. Also, once you have made a selection, you can adjust the beginning or the end of the current selection by holding down the Shift key and clicking with the mouse. Your selection will be shortened or lengthened accordingly.

Channel Independent Processing

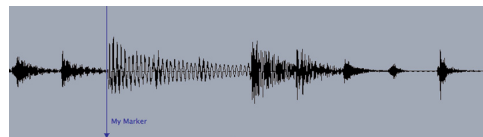
To select only the Left channel, move the cursor over it and above the left channel’s waveform. The cursor will show a small “L” at the insertion point. To select only the Right channel, move the cursor over it and below the left channel’s waveform. The cursor will show a small “R” at the insertion point. You can process one channel of an audio document using most of Peak’s native DSP or third-party plug-ins.



Peak allows you to select and process the left and right channels of a stereo file independently, but you cannot edit (i.e., Cut, Paste, Delete, etc.) the left and right channels of a stereo file independently.

A Marker

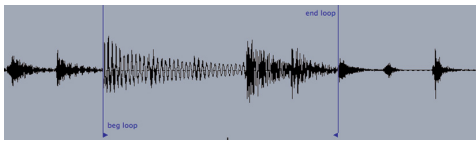
A marker can be placed in a document to identify a point of importance. A marker appears as a line with a solid triangular base. Peak allows you to place markers into a document in order to mark a given location or Region in a document for later selection, navigation, or editing. Markers can be moved, named and renamed, “anchored” to a particular location on a waveform, and given other attributes. The use of markers is covered in greater detail later in this chapter.



A waveform with a Marker

A Loop

A loop refers to a section of audio that is bounded on either side by loop markers. In the illustration above, the area that falls between the loop markers “beg loop” and “end loop” is looped. Loops are used to sustain or repeat a section of audio. They can be used for material that you intend to transfer to a sampler, or simply for playback within Peak itself. Peak allows you to create one loop per audio file.



A waveform with a Loop

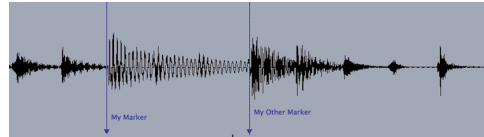
*Although Peak allows only one loop per audio document, there is a quick and easy way to mark multiple desired sections for looping. With the loop markers in the desired location, choose **Select Loop** from the **Edit** menu, then, choose **New Region** from the **Action** menu – a Region is created that is the same length as the loop. Using this technique allows you to create as many Regions as desired within a single audio document. To loop any of these Regions, simply **⌘**-click between a Region's markers to select the Region (or press the **Tab** key until the desired Region is selected), and then choose **Loop this Selection** (**⌘**-Shift-“L”) from the **Action** menu.*



Audio Between Adjacent Markers

Audio between adjacent markers refers to a section of audio that is bounded by markers. Understanding the concept of audio between adjacent markers is important, as many editing techniques in Peak are based on it. For example, the audio between adjacent markers can be quickly and discretely selected for cut/copy/paste edits, or DSP/effects processing, simply by **⌘**-clicking between adjacent markers. (Note: A selection of audio between

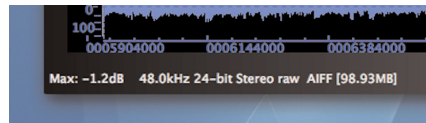
markers is different than an audio Region. Regions are described later in this chapter, as well as in Chapter 6, Playlists and Audio CD Burning.) In the following illustration, the area that falls between “My Marker” and “My Other Marker” is audio between markers.



A waveform with 2 adjacent markers (named “My Marker” and “My Other Marker”)

Audio Info Area

In the lower left corner of each Peak Audio Document is the Audio Info Area. The Info Area shows the maximum amplitude, sample rate, bit resolution, file format, and file size of the audio file.



Audio Info Area

Clicking on the Max dB section of the Audio Info Area will open the Change Gain dialog, so that you can change the gain for the entire audio file, or the current selection. For more information on the Change Gain DSP function, please refer to Chapter 8: DSP. Clicking on any other portion of the Audio Info Area will open the Edit Metadata dialog.

Selecting Audio

In order to perform most types of editing actions, you must first select the portion of the document that you

wish to modify. Peak has several techniques for making and modifying selections.

To make a selection with the mouse:

- Click the cursor at the desired start location in the audio document and drag to select the desired range.

To extend or shorten a selection:

1. Make a selection with the mouse as explained above.
2. Hold down the Shift key and click on the end of the selection that you wish to modify.
3. Drag the mouse to extend or shorten the selection. When you are satisfied with the length of the selection, release the mouse.

To select audio between two markers:

1. Hold down the Command key (z) and click anywhere in between two markers. (Markers are explained in detail in the next section.) Peak selects the audio between the markers.
2. If there are additional markers in the document and you wish to extend the selection to encompass other portions of audio that fall between the markers, hold down the Shift key and the Command key, and click between another two markers. The selection will extend from the originally selected audio to the audio that you just added.
3. Repeat as desired to navigate to and select additional audio between markers.



Peak offers a preference for selecting the audio between markers by double-clicking. To enable this preference, open Peak's Preference Panel, click the Playback Preferences button, and then uncheck the Double-click on Waveform to Begin Playback checkbox. Once this preference has been set, you may select audio between two adjacent markers by double-clicking between them.

To select audio between two markers with the Tab key:

1. Create markers at several locations in the document (various techniques for creating markers are explained in the next section).
2. Press the Tab key on your computer keyboard. Peak selects the portion of the waveform that lies between the first two markers in the document.
3. Press the Tab key again to select the portion of audio between the next two markers. (If you hold down the Shift key while tabbing the selection through the audio file, you can append each successive space between markers to the current selection.)
4. Repeat as desired to navigate to and select additional audio.

To select all audio in a document:

- Choose Select All from the Edit menu or press ⌘-A on your keyboard.

Markers & Selections as Navigational Aids

The presence of Regions, loops, or markers – and selected portions of the waveform can be very helpful in navigating through an audio document.

When markers are present, the Tab key on your keyboard may be used to select the audio between markers. Pressing the Tab key again selects the next space between markers – when Peak reaches the end of the document, it will “wrap” back to the beginning. Using the Option & Tab keys together will select the spaces between markers in the opposite direction.

This keyboard shortcut makes it very easy to navigate to specific areas, for example: Imagine you are working with a recording of an LP, and have placed a marker in the space between each song (the silent area). To quickly navigate to the beginning of song 5, simply press the Tab key five times, and then press the up arrow key on your keyboard – this would select the space between markers that bound the fifth song, and the up arrow key

would locate Peak's cursor to the beginning of the selection.



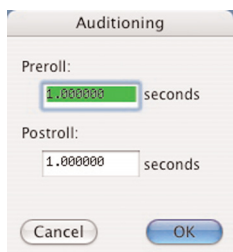
Many other useful tips can be found in Appendix 2: Peak Actions.

Auditioning Audio

It is often useful to audition a selection along with just a bit of audio preceding or following it – without actually including this material in the selection itself. Peak's Auditioning command allows you to do this by specifying a desired amount of pre-roll or post-roll when you play the selection.

To audition audio with pre-roll or post-roll:

1. Choose Auditioning from the Preferences panel – the Auditioning Preferences dialog appears.



The Auditioning Preferences Dialog

2. Enter the desired amount of pre-roll and post-roll and click OK.
3. Click the cursor in the audio document and drag to select the desired range.
4. Press Control-Spacebar – Peak plays the selection, adding the specified amount of pre- and post-roll.

Scrubbing

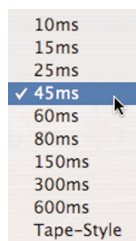
Peak offers a number of ways to scrub audio, described below.

Dynamic Scrubbing

Peak provides a unique audio auditioning technique called dynamic scrubbing. This feature is very useful for precisely pinpointing and selecting a desired location in an audio document. Dynamic scrubbing allows you to drag the mouse forward or backward over a waveform while Peak plays a short loop (between 10 and 600 milliseconds) at the scrub location. When you have found the location you are looking for, you can commence editing. Peak allows you to choose the length of this playback loop with the Dynamic Scrub Time command in the Options menu. Peak provides two types of dynamic scrubbing: dynamic shuttle scrubbing and dynamic jog scrubbing. Both are described below.

To select a loop duration for dynamic scrubbing:

- Choose Dynamic Scrub Time from the Options menu, and choose a duration from the hierarchical submenu. Typically, values between 40 and 80 milliseconds work well.



Setting the Dynamic Scrub feature's loop time

To use dynamic "Shuttle-type" scrubbing:

1. Hold down the Control key and click and drag the mouse across a portion of the waveform in an audio document window. As you drag the mouse, Peak plays a short loop of the audio at the

insertion point. You can control the tempo and direction (forward or backward) of playback by dragging the mouse slower or faster, forwards, or backwards.

2. Release the mouse button to stop scrubbing. The insertion point will be exactly where you left off scrubbing.
3. To make a selection starting at the current scrub point, stop scrubbing, hold down the Shift key, and click the mouse to extend the selection from the insertion point to the desired end location.

Jog Scrubbing

Peak provides a variation of the dynamic scrubbing feature, which is similar to a technique known in recording studios as jog scrubbing. With this technique, Peak actually engages playback and moves through the file at its normal pace, but allows you to control the playback point by dragging the mouse. You can control the direction (forward or backward) of playback by dragging the mouse forwards or backwards. This scrubbing mode affords a greater degree of control when you are “zoomed out” in the audio document window.

To use dynamic “jog” scrubbing:

1. Hold down the Control key and Option key and drag the mouse across a portion of the waveform in an audio document window. As you drag the mouse, Peak engages playback while it loops a short portion of the audio at the insertion point. Dragging the cursor farther away from the current insertion point increases the velocity of scrubbing.
2. Release the mouse button to stop scrubbing. The insertion point will be exactly where you left off scrubbing.
3. To make a selection starting at the current scrub point, stop scrubbing, hold down the Shift key, and click the mouse to extend the selection from the insertion point to the desired end location.

Since jog scrubbing mode is engaged by pressing the Option key in combination with the Control key, it is possible to toggle back and forth between jog and shuttle modes simply by pressing or releasing the Option key.

Tape-Style Scrubbing

In addition to dynamic scrubbing feature, Peak provides high resolution tape-style scrubbing. To enable tape-style scrubbing, set the Dynamic Scrub Time under the Options menu to Tape-Style.

To start tape-style scrubbing:

- Hold down the Control key on your keyboard, and then click and drag the mouse at the location in the waveform where you wish to begin scrubbing.

To deactivate tape-style scrubbing:

- Release the mouse and Control key.

To control “tape” speed in tape-style scrubbing:

1. As you drag the mouse towards the right, scrubbing speed will increase.
2. As you drag the mouse toward the left, scrubbing will slow down.
3. If you drag the mouse to the left of the point where you started scrubbing, the scrub direction will change from forward playback to backwards playback.

The top of the playhead cursor will display the scrubbing speed, which can vary from +/- 2.25 times the original speed.

Using Unlimited Undo and Redo

Peak maintains an internal list of the edits that you perform during the course of an editing session. These changes are not permanently applied to the file until you save it. This gives Peak unlimited undo and redo capability. Through the use of the Mac's standard Undo (⌘-Z) and Redo (⌘-Y) commands, you can undo and redo your actions sequentially; or by using the Edits command, using a “playlist-style” editing event list. This powerful capability allows you to maintain complete creative freedom of choice – right up until the last moment before you save your project to disk. The only limitation in using Redo is that if you insert a new action when a redo action is available, you will no longer be able to redo. Remember, as soon as you perform an editing action other than Undo in Peak, Redo is no longer available.

To undo an action:

1. Perform an edit (such as cutting audio or moving a marker).
2. Choose Undo from the Edit menu (⌘-Z) or Toolbar. The action is undone.
3. You can continue undoing actions until you return to the original state of the audio document (the state at which it was last saved). When there are no actions left to undo, the Undo menu item will appear grayed out.

To redo an action:

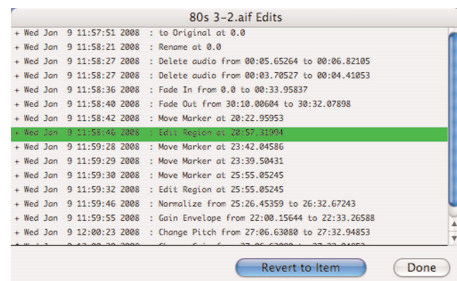
1. If you wish to redo the action that was undone, choose Redo from the Edit menu (⌘-Y) or Toolbar. The action is redone.
2. You can continue redoing actions until none are left to redo. When there are no actions left to redo, the Redo menu item will appear grayed out.

Using the Edits Command to Undo a Series of Actions

Peak's Edits command provides you with a second unique and powerful method of undoing virtually any

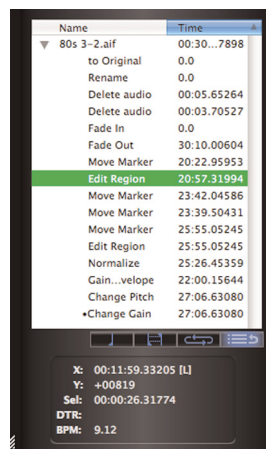
number of editing actions performed on an audio document since you last saved it. You can think of the Edits command as an “event-based” listing of all your editing actions since you last saved. Using this list, you can navigate back in time to the point at which you performed a particular edit, and if you wish, undo it. Once you have returned to an earlier state in the project, you are free to start editing from that point on.

The Edit history list is available in two locations – one is in the Edits dialog, located under the Edit menu.



The Edits dialog

The other location where the Edit history may be accessed is in the Audio Document Window's Contents Drawer.



The Edits history in the Contents Drawer



Be aware that if you do go back to a past action and perform a different action at that state in the project, any edits that originally occurred after will be gone, and you won't be able to redo them.

To use the Edits dialog to return to or undo an action:

1. Perform several edits. (Don't use the Save command or you won't be able to undo any edits that occurred before you saved.)
2. Choose Edits from the Edit menu. A dialog appears listing the edits you have performed since you last saved the document.
3. In the list, double-click on the description of the action you wish to return to (or select an action and click the Revert to Item button). Peak returns the document to the state it was in at the time of that edit.
4. When you have finished, click Done.

To use the Edits list in the Contents Drawer to return to or undo an action:

1. Perform several edits. (Don't use the Save command or you won't be able to undo any edits that occurred before you saved.)
2. From the Window menu, choose Toggle Contents Drawer (**⌘-F**), and click the Show History button in the lower right portion of the drawer – a list of edits you have performed since you last saved the document appears.
3. In the list, double-click on the description of the action you wish to return to. Peak returns the document to the state it was in at the time of that edit.
4. When you have finished, click Done.

Essential Editing Functions

Peak supports all of the Mac's essential editing functions such as cut, copy, and paste and provides several more specifically designed for audio editing. This section explains how to use each of these functions.

Because Peak allows you to have multiple audio documents open at the same time, it is possible to conveniently cut, copy, paste, and insert audio between documents. This makes combining material from several audio documents very fast and easy.

Scratch Disks

Because audio data can be very large, Peak utilizes a portion of your hard disk's free space to hold audio data that has been cut or copied, as well as for temporary or "scratch" files for undo purposes. If you have more than one hard drive attached to your Mac, the Scratch Disks section of the Preferences panel allows you to choose the hard drives (or "scratch disks") that you wish to use for these temporary files. Peak allows you to select which disk you want to have as your default, or "Primary" disk for this purpose – ideally you would select the disk that has the most free space. If you are connected to a file server, you can utilize available storage on the server by clicking the Allow Servers checkbox (that is if you have a very fast server connection). Any available servers will then appear in the Scratch Disks pop-up menu. This is recommended only if you have access to a high-speed ethernet, or other fast server.



The Scratch Disks dialog

Clearing the Clipboard to Reclaim Disk Space

If you no longer need the clipboard contents, you can free up the disk space occupied by the clipboard by choosing the Clear Clipboard command from the Edit menu.

Cutting Audio

The Cut command (**⌘-X**) allows you to cut a selected range out of an audio document. Audio that occurs after the cut slides over to fill in the gap. By cutting and pasting “pieces” of audio, you can freely rearrange material in an audio document. This can be a powerful tool for creating audio remixes for music-oriented applications, as well as an indispensable tool for general sound design tasks. When you cut a selection, the Mac holds the cut audio data in its internal memory (the Clipboard) in case you wish to paste it elsewhere. Because all real-time editing you do with Peak is nondestructive, the audio isn’t actually removed from the original audio document until you finally save the file to disk with the Save command. At that time, all edits are saved and any changes that you have made are permanently saved to the audio document.

To cut a selection:

1. Click the cursor at the desired location in the audio document and drag to select the desired range.
2. Choose Cut from the Edit menu (**⌘-X**) or Toolbar.
3. The selected range is removed from the audio document(s) and held on the Clipboard. Audio occurring after the cut slides over to fill in the gap.

Deleting Audio

If you wish to remove a section of audio from an audio document without using the Cut command, you can use the Delete key, or the Delete button on the Toolbar. As with the Cut command and other editing functions, the audio isn’t actually removed from the original audio document until you save the file to disk.

To delete a selection:

1. Click the cursor at the desired location in the audio document and drag to select the desired range.
2. Press the Delete key, or click the Delete button on the Toolbar.
3. The selection is removed from the audio document. Audio occurring after the deleted section slides over to fill in the gap.

Copying Audio

The Copy command (**⌘-C**) copies the current selection to the Mac’s Clipboard (or internal memory buffer) so that you can paste it, insert it, or use it with optional “Clipboard-based” processing such as Add, Convolv, Mix, Modulate, and ImpulseVerb. As with the Cut command, copying and pasting “pieces” of audio, allows you to freely rearrange material in a document. This can be a powerful tool for creating audio remixes for music-oriented applications, and is an indispensable tool for sound design.

To copy a selection:

1. Click the cursor at the desired location in the audio document and drag to select the desired range.
2. Choose Copy from the Edit menu (**⌘-C**) or Toolbar.
3. The selection is copied to the Clipboard.

At this point, you can use the Paste, Insert, or Duplicate commands to place the copied audio into an audio document. Each of these commands is explained below.

Pasting Audio

The Paste command (**⌘-V**) allows you to paste the contents of the Clipboard into a location that you choose by placing an insertion point. Pasting audio deletes any selected audio and inserts the clipboard audio at the insertion point. Blending can be used with the Paste command if you have made a selection – the pasted

audio will be crossfaded with the audio on either side of the selection according to the Blending Envelope and Blending Envelope Duration settings.

By cutting and pasting pieces of audio, you can freely rearrange material in an audio document. In musical applications, this gives you the freedom to entirely “rewrite” compositions by changing the order of things, repeating desired sections, and so on. In sound design applications, this gives you the power to “compose” with sound by creating audio collages.

To paste audio into an audio document:

1. Click the cursor at the point where you wish to paste the audio data in an audio document or make a selection of audio you want to delete and replace with the contents of the clipboard.
2. Choose Paste from the Edit menu (**⌘-V**) or Toolbar.

The Clipboard contents are pasted into the audio document(s), beginning immediately after the insertion point. Any selected audio at the location of the paste is overwritten when the pasted data is inserted into the audio document.

Replacing Audio

The Replace command allows you to paste audio data over existing audio – to paste audio into an audio document without pushing all data to the right of the insertion point farther to the right (later in time) to accommodate the newly pasted audio. The Replace command is useful for “laying over” a portion of audio while maintaining the timing of the original document.

To replace audio into an audio document:

1. Click the cursor at the point where you wish to replace the audio data in an audio document.
2. Choose Replace from the Edit menu or Toolbar. All data to the right of the replaced audio maintains their time position.

Inserting Audio

The Insert command (**⌘-D**) allows you to paste audio data into an audio document without overwriting any existing data at the insertion point. When you paste data with the Insert command, all data to the right of the insertion point or selection start is pushed farther to the right (later in time) to accommodate the newly pasted audio. The Insert command is one of Peak’s most useful tools for restructuring the contents of an audio document. It is particularly good for “composing on the fly” since it allows you to cut and insert pieces of audio – musical phrases, riffs, or simply textural sounds – to create a composition or soundscape.

To insert audio into an audio document:

1. Click the cursor at the point where you wish to insert the audio data in an audio document.
2. Choose Insert from the Edit menu (**⌘-D**) or Toolbar. All data to the right of the insertion point is pushed farther to the right (later in time) to accommodate the newly pasted range.

Duplicating Audio

The Duplicate command has a number of different behaviors, depending on whether you are working in an audio document or in a Playlist. The behavior in Playlists is covered in Chapter 6: Playlists – this section covers the behaviors of the Duplicate command in audio documents.

If no selection is made when this command is invoked, the Duplicate command allows you to paste multiple copies of audio data into an audio document without overwriting any existing data at the insertion point. When you paste data with the Duplicate command, all data to the right of the insertion point or selection start is pushed farther to the right (later in time) to accommodate the newly pasted audio. The Duplicate command allows you to specify how many times you would like to Duplicate the audio data contained in the clipboard. The Duplicate command is very useful for

creating longer audio documents that need to repeat a certain piece of audio, such as creating a 4 bar drum loop out of a 1 bar drum loop.

To Duplicate audio:

1. Select a range of audio, and choose Copy from the Edit Menu (**⌘-C**).
2. Click the cursor at the point you wish to insert duplicate copies of the audio selected in step 1.
3. Choose Duplicate from the Edit menu.
4. Use the Duplicate slider to indicate how many copies should be inserted, or type in the number of desired copies.
5. Click the OK button. All data to the right of the insertion point is pushed farther to the right (later in time) to accommodate the newly pasted range.

If there is a selection in the waveform when the Duplicate command is invoked, then Peak automatically fills the selection with the Clipboard contents. Peak determines how many times the Clipboard contents must be duplicated in order to fill the selection. If the selection is not evenly divisible by the duration of the Clipboard contents, Peak includes a fraction of the Clipboard contents to make the duplication completely sample accurate to the original selection.

To Duplicate audio to fit a Selection:

1. Select a range of audio, and choose Copy from the Edit Menu (**⌘-C**).
2. Select a range of audio that will be the “target”, and will be filled with the Clipboard contents.
3. Choose Duplicate from the Edit menu – Peak fills the selection with as many copies of the Clipboard contents as possible, and fraction of Clipboard contents if there is not enough space left in the selection for another duplicate of the full Clipboard contents.

Cropping a Selection

The Crop command (**⌘-`**) allows you to make a selection in an audio document and quickly remove all other audio from the audio document except the selection. The Crop command is a particularly useful tool for editing material to be used as samples or sound effects, since it allows you to isolate and save just the desired portion of a recording.

To crop a selection:

1. Click the cursor at the desired location in the audio document and drag to select the desired range.
2. Choose Crop from the Edit menu (**⌘-`**). All audio but the selection is removed from the audio document.

New Document from Selection

The New Document from Selection command will automatically create a new Audio Document containing the selected audio from the source document.

To create a new document from a selection:

1. Make a selection in any open audio document that you want to have as its own document.
2. Choose Document from Selection from the New submenu under the File menu (Control-N).
3. A new audio document will be created with the selected audio.

Silencing a Selection

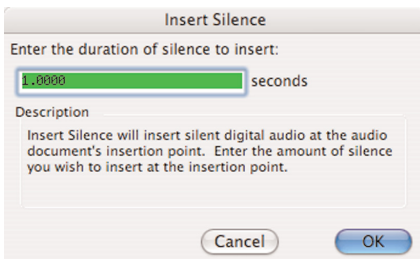
The Silence command (**⌘-E**) replaces the selected portion of an audio document’s waveform with silence. This feature is very useful for silencing nonessential portions of a recording that contain an unusual amount of noise. This can be used very successfully with spoken material such as dialog or narration to remove noise between words or during pauses in speech. It can also be used to remove pops or clicks that occur in such material.

To silence a selection:

1. Click the cursor at the desired location in the audio document and drag to select the desired range.
2. Choose Silence from the Edit menu (⌘-E) – the selected audio is replaced with silence.

Inserting Silence into a Document

The Insert Silence command allows you to insert a specific amount of silence into an audio document at the current insertion point. This feature is very useful for inserting pauses of a desired duration into a recording, and can be particularly useful in adjusting the timing or rhythm of spoken material such as dialog or narration. When you choose this command, Peak will prompt you to enter the amount of silence you wish to insert. You can enter this value in samples, milliseconds, or seconds. All audio occurring after the insertion point is moved later in time by the amount of the silence that you insert.



The Insert Silence dialog

To insert silence of a specific duration into a document:

1. Click the cursor at the desired location in the audio document.
2. Choose Insert Silence from the Edit menu.
3. In the dialog that appears, enter the amount of silence that you wish to insert into the audio document – Peak inserts the specified amount of silence into the document.

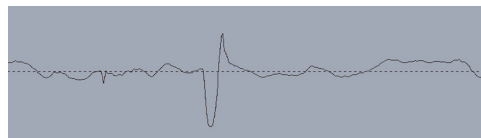
Repairing Clicks & Pops

Clicks & pops are common artifacts in digital audio – they occur in various ways, such as: performing cut/copy/paste-type edits at non-zero crossings in the audio waveform, editing without Blending enabled, recording vinyl records, faulty recording equipment or cables, digital sync problems, etc. There are two main categories of clicks that Peak's tools can repair:



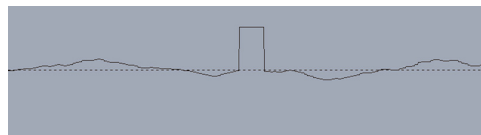
When editing audio with Peak, it is unlikely that you will introduce new clicks and pops because of its Auto Snap (to Zero) option. When Auto Snap (to Zero) is turned on (which it is by default), any selections made are automatically snapped to the closest zero crossing in the waveform, where the audio is at zero amplitude. This ensures that you do not inadvertently introduce a click or pop when performing cut/copy/paste type edits.

Analog clicks such as those found in digital recordings of vinyl records – are caused by scratches or other surface imperfections on a record. This type of click usually appears in the audio waveform as an abrupt, jagged anomaly.



Example of a digitized scratch on a vinyl record

Digital clicks are generally caused by digital sync problems with audio hardware interfaces, bad digital cables, or recording with improper buffer settings. This type of click generally has a square shape to it.



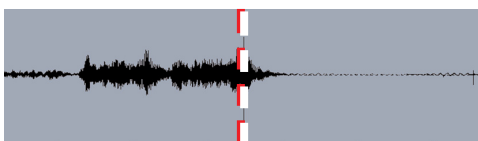
Example of a digital click

Peak's Pencil Tool can repair either type, though in the case of digital clicks you may want to use the Repair Click and Repair Clicks DSP tools, which are specifically designed for this purpose (more information on Repair Click and Repair Clicks is available in Chapter 8: DSP).

In either case, to use the Pencil Tool, you must be zoomed in to sample level (sample level being the first zoom level at which you can see individual audio samples) or beyond. Additional information on settings for the Pencil Tool is available in Chapter 3: Peak Basics.

To repair a click with the Pencil Tool:

1. Locate a click in the audio waveform – it will appear as an abrupt “spike”.
2. Using your mouse, place Peak’s insertion point/cursor directly over the “spike”.

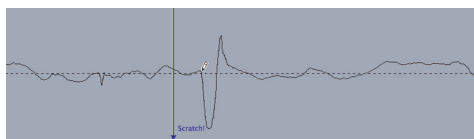


Place the insertion point cursor as close to the click as possible, so you can easily locate it when zoomed in.

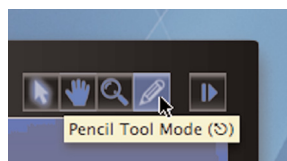
! It is useful to place a marker over a click, and then zoom in to repair it using the Pencil Tool. Markers are covered in detail later in this chapter. When you are zoomed in to allow viewing the waveform in detail, it is very easy to scroll past a click – having a marker in place makes it easy to locate the click, should you lose your place.

! When placing the cursor over a click, you may notice that it jumps to one side or the other. This is due to the Auto Snap option being enabled, and Peak trying to move the cursor to the closest zero crossing in the waveform. You may want to disable the Auto Snap option for this type of work – it can be disabled by selecting it from the Options menu.

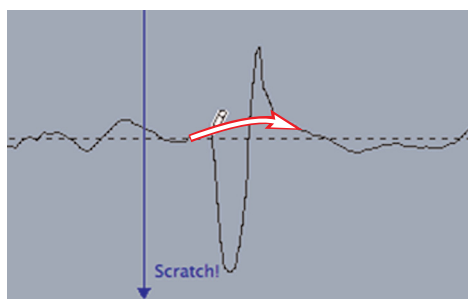
3. From the Action menu, select Zoom at Sample Level – you should now be able to see the individual samples that make up the click.



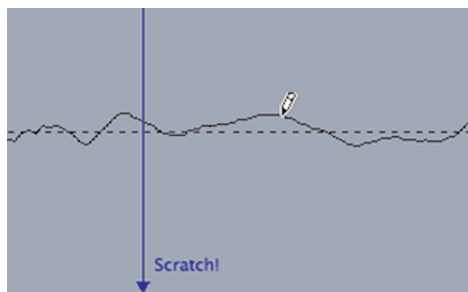
4. In the tool area of the audio document window, select the Pencil Tool.



5. Click into the waveform, and “draw” across the anomaly, trying to approximate the shape of the waveform on either side of the click. When you have repaired the click, don't forget to switch back to the Arrow Cursor.



Draw across the click, trying to approximate the shape of the surrounding waveform.



This picture shows the repaired click, which now blends smoothly into the surrounding audio.

Show Edits

When you enable the Show Edits command, Peak indicates areas of an audio document that you have edited by enclosing these areas with hatched lines. This provides you with a convenient visual reference to portions of the document that have been affected by your editing actions. Once you save a document, the edits are saved, and these indicators will no longer appear.

To Enable Show Edits:

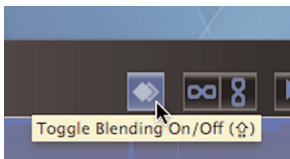
- Choose Show Edits from the Options menu. A check next to this item indicates it is enabled.

To Disable Show Edits:

- Choose Show Edits again from the Options menu. The absence of a check next to this item indicates it disabled.

Using Crossfades and Blending to Smooth Edits

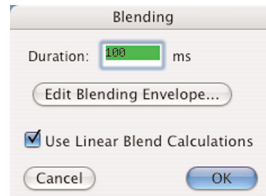
Blending is an automatic crossfade function with a user-editable envelope. Peak can apply blending to areas of an audio document where they are modified by cutting, deleting, pasting, or other editing processes in order to smooth abrupt transitions between waveform amplitudes.



The Blending Enable/Disable button in the audio document window

It can be very useful for creating a smooth transition between edits that would otherwise sound too abrupt. If you are going to edit (i.e., Cut, Copy, Paste, Delete, etc.)

a document, you may wish to enable blending to smooth things out a bit. You can toggle blending on or off by clicking the Blend enable/disable button in the audio document window, or by pressing the Caps Lock key on your keyboard.



The Blending dialog



Be aware that Blending can interfere with certain DSP processes available under Peak's DSP menu, such as Fade In/Out and Normalize. You will typically only want to enable Blending only when you intend to make an edit in which Blending may be desirable.

To enable blending:

- Click the blending button in the audio document window, or press the Caps Lock key on your keyboard. The blending button will light up in blue when blending is turned on.

To disable blending:

- Click the blending button in the audio document window, or press the Caps Lock key on your keyboard. The blending button will not be illuminated when blending is turned off.

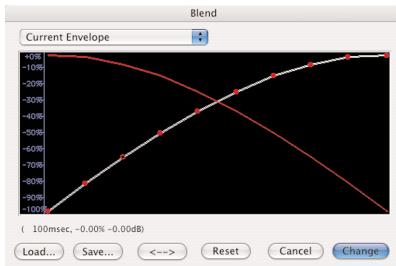
To set blending parameters:

1. Choose Blending in Peak's Preferences panel.
2. Enter a value in milliseconds in the Duration field. Peak will apply a crossfade of this duration across the edit.
3. If you wish to edit the shape of the crossfade that the blending function applies, click the Edit Blending Envelope.

- Peak's Crossfades are calculated logarithmically to preserve volume levels for crossfaded material. If you want Peak to calculate the Blending Crossfade linearly, check the Linear Blend Calculations checkbox.
- Click OK when you have finished.



To quickly access the Blending Envelope editor, press the Option key while clicking the Blending button in the tool area at the upper right of an audio document window.



The Blending Envelope Editor

To select and edit the blending envelope:

- Choose Blending in Peak's Preference panel and click the Edit Blending Envelope button. The Blending Envelope Editor appears. The envelope shape shown here represents the shape of the crossfade. Peak also comes with several commonly used preset envelopes that appear in the pop-up at the top of all of Peak's Envelope Editing windows (see also Editing a Fade In/Out Envelope). These are stored in the Peak Envelopes folder in the Preferences folder of your home directory.
- Click anywhere in the envelope area and a new moveable "breakpoint" will appear.
- Drag the breakpoint to the desired location.
- Continue creating and dragging breakpoints until you have created the envelope that you desire. If you wish to delete a breakpoint, click on it with the

cursor and press the Delete key on your computer keyboard.

- If you wish to reverse the shape of the envelope you have created, click the "<->" button. This creates a mirror image of the envelope.
- If you would like to save your custom envelope for later use, click on the Save button before exiting the envelope editor.

If you save your custom blending envelope into:



/MacHD/Users/<YourUserAccount>/Library/Preferences/Peak Envelopes/

It will automatically appear in the Envelope pop-up menu in the Blending Envelope editor.

- When you are satisfied with your new envelope shape, click Change to confirm your edits and close the envelope editor. Peak will use this envelope until you change it again.



Note that the Blending Envelope will only be applied to an edit if it is configured prior to making the edit.



If Linear Blend Calculations is checked in the Blending dialog, the Equal Power X-fade envelope is very effective for a smooth crossfade that will not result in a dip in the energy of the audio data.

Creating Fade Ins and Fade Outs

Peak allows you to create fade-ins or fade-outs at any point in an audio document. Fade ins/outs can be very useful for smoothly fading in or out of an audio document, or for fading out of one type of audio material into another. Very short fade ins can also be useful for

smoothing or removing clicks and pops in a recording. Peak allows you to control the exact “shape” of the fade in/out by providing you with preset envelope shapes as well as very precise user-definable envelope controls for the fade. Peak also comes with several commonly used preset envelopes that appear in the pop-up at the top of the Envelope Editing windows. These are stored in the Peak Envelopes folder in your Peak folder.

To create a Fade In:

1. Click the cursor at the desired location in the audio document and drag to select the range you desire. The Fade In will be applied to the audio within this selection.
2. Choose Fade In from the DSP menu, or click the Fade In button in the Toolbar. Peak applies the Fade In to the selection you have made in the audio document.
3. To hear the completed Fade In, press Control-Spacebar. You will hear the selected audio complete with your Fade In.

To create a Fade Out:

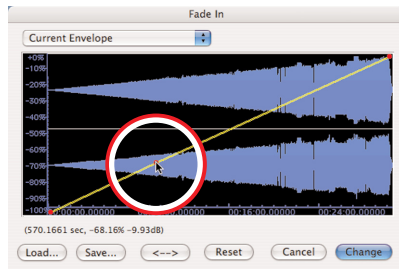
1. Click the cursor at the desired location in the audio document and drag to select the range you desire. The Fade Out will be applied to the selected audio.
2. Choose Fade Out from the DSP menu, or click the Fade Out button in the Toolbar. Peak applies the Fade Out to the selection you have made in the audio document.
3. To hear the Fade Out, press Control-Spacebar. You will hear the selected audio complete with your Fade Out.

Editing a Fade In/Fade Out Envelope

Peak allows you to control the exact shape of Fade Ins/Outs by providing you with controls for editing the Fade In/Out envelope. These are found in the Fade In Envelope and Fade Out Envelope sections in the Preferences panel.

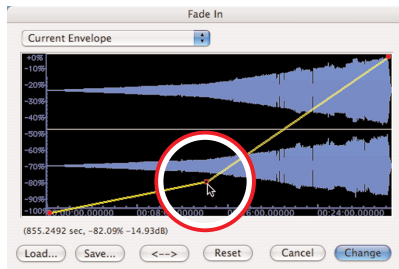
To edit and save a Fade In/Fade Out envelope:

1. Choose Fade In Envelope (or Fade Out Envelope) from the Preferences panel. The Fade Envelope Editor appears. The envelope shape shown here represents the shape of the fade, and overlays the selected audio to show where the curve is graphically applied to the waveform representation of the audio.
2. Click anywhere in the envelope area and a new moveable “breakpoint” will appear.



The Fade Envelope Editor (a Fade In is shown)

3. Drag the breakpoint to the desired location on the envelope’s curve.



4. Continue creating and dragging breakpoints until you have created the fade envelope that you desire. If you wish to delete a breakpoint, click on it with the cursor and press the Delete key on your computer keyboard.
5. If you wish to reverse the shape of the envelope you have created, click the “<->” button. This creates a mirror image of the envelope.

6. If you would like to save your custom envelope for later use, click on the Save button before exiting the envelope editor.

If you save your custom Fade In/Out envelope into:



*/MacHD/Users/<YourAccount>/Library/
Preferences/Peak Envelopes/*

It will automatically appear in the Envelope pop-up menu in the Fade In/Out Envelope editor.

7. When you are satisfied with your new envelope shape, click Change to confirm your edits and close the envelope editor. Peak will use this envelope every time you apply a Fade In (or Fade Out) until you change it again.



To quickly access the Fade Envelope editor, press the Option key while clicking the Fade In/Out buttons in the toolbar, or while picking these commands from the DSP menu.



Note that the Fade In/Fade Out Envelope will only be applied to a selection if it is configured prior to applying the Fade In/Fade Out DSP function.

To load a Fade In/Fade Out envelope:

1. Choose Fade In Envelope (or Fade Out Envelope) from the Preferences panel. The envelope editor appears.
2. Click the Load button.
3. In the dialog that appears, locate and select the fade envelope that you desire, and click Open.
4. Click Change to confirm this new envelope and close the envelope editor. Peak will use this envelope until you change it again.

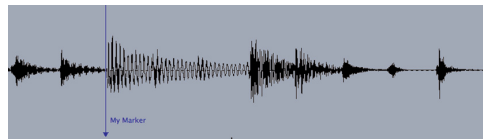
The steps above for loading a custom envelope apply only if you have saved a custom envelope outside of the Peak Envelopes folder, for example, if you have saved custom envelopes with a project that will be transferred to another Peak user. Otherwise, you may simply choose the desired envelope from the Envelope pop-up menu in the Fade In/Out Envelope editor dialog.



Working with Markers

Peak has a very powerful set of features to control the placement and modification of markers. Markers are locations in an audio document that you define as important. By marking specific locations in a recording, you can navigate easily to a location for selection, editing or playback purposes.

Markers can also be made into loops. Loops are used to sustain or repeat a section of audio. They can be used for material that you intend to transfer to a sampler, or simply for playback within Peak itself. Peak allows you to create one loop per audio file. Loops are covered in detail later in this chapter.



A waveform with a Marker

Creating Markers

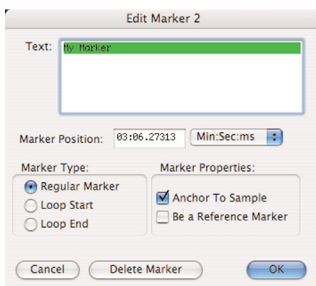
The next few pages describe in detail the various ways to create markers – by dropping them “on the fly” during playback, inserting them during recording with Notepad Cues, defining them with the mouse when playback is stopped, creating markers using the Threshold DSP command, or using the Markers from Tempo command to insert multiple markers at

regular intervals. Of the various ways to create markers, the mouse method is perhaps the more precise. However, since it is possible to fine tune the location of a marker at any time by dragging it, (or by using the Edit Marker dialog, explained later) all methods work equally well – the method you choose to insert markers will depend largely on the task at hand.



Remember that if Auto Snap is enabled the insertion point will snap to the nearest selected Snap To unit. This will cause your marker to be placed at the nearest Snap To unit when you use the mouse to create or place a marker.

Once you have created a marker, you can assign or edit the marker's attributes in the Edit Marker dialog. Double-click the triangular base of the marker to open the Edit Marker dialog.



The Edit Marker dialog

Text

You may wish to give markers meaningful names (up to 256 characters long) based on their locations in an audio document. Peak gives markers default numeric names based on the name of the audio document and the order in which the marker was defined. To name or rename a marker, simply type the new name in to the Text field of the Edit Marker dialog.



You can easily find any marker, Region, or loop that you have named by simply typing the first few letters of its name. For example, if you want to locate a marker called “Solo,” just type the letters “s”-“o”-“l”, and Peak will automatically scroll to the marker called “Solo.” If you hit Enter or Return after typing the characters, Peak will also automatically place the insertion point at that marker. If more than one marker matches the letters you type in, Peak will locate the first marker with that name. (Note that numerical marker name entries will only work from the keypad, not the numbers keys along the top of your keyboard.)



If you re-name the first marker in a document to “1” – then all subsequent markers will be automatically named “2”, “3”, “4”, and so on. You can then quickly locate to the desired marker by typing its number on the numeric keypad (the numbers at the top of the keyboard serve another purpose) and pressing Enter.

Marker Position

The Marker Position field allows you to move a marker to a specific time location in an audio document by entering the desired value. The pop-up menu to the right of this field allows you to choose a time format (samples, Minutes:Seconds:Milliseconds, etc.) for the value that you enter in the Marker Position field.

Marker, Loop Start, and Loop End

These three radio-style buttons allow you to define whether the marker is a regular marker or a loop marker. If you choose to designate the marker as loop marker, you can define it as either the loop start or the loop end by clicking on the corresponding radio button.

Anchor To Sample Checkbox

When you insert or delete audio that is near a marker, you may want the marker to move with that particular location on the waveform. This will compensate for the insertion or deletion, so that the marker remains with the particular portion of audio you want it to be associated with. By enabling the Anchor feature for a marker, you can assure that Peak will “tie” the marker to a location on a waveform, causing it to stay with that location even when audio is inserted or deleted into the document. By default, Peak enables this feature for markers, loops and Regions.

Be a Reference Marker Checkbox

By defining a marker as a reference marker, you can use the marker as a reference when you make selections or move other markers. Selecting or dragging the marker will then automatically display the distance to the closest reference marker in whatever time format (Samples or Seconds) is currently selected in the Peak application. This may be useful, for instance, if you know that you want a particular sound event (such as a car door slam) to happen a certain number of seconds before or after another sound event (such as a tire squeal).

Delete Marker button

The Delete Marker button allows you to remove the currently selected marker from an audio document.

The following section explains how to create markers and define their attributes.

To create a marker when playback is stopped:

1. Click the mouse at the desired location in the audio document – a dotted vertical line appears, indicating the insertion point.
2. Press **⌘-M** on your computer keyboard or choose New Marker from the Action menu or Toolbar – Peak places a marker at that location.

To create a marker during playback:

1. Begin playback of an audio document.
2. At the desired point during playback, press **⌘-M** on your computer keyboard. Peak will drop a marker at that location.
3. Repeat as desired as playback continues. Each marker will appear at the appropriate location in the audio document window.

To create a marker during recording:

1. Open the Record dialog.
2. Check the Notepad checkbox.
3. Begin recording.
4. Press the Return key to place a marker – then type a name for the marker. To place another marker, press the Return key and type a name for the second marker, and so on.



Pressing the Return key first, and then typing the marker's name ensures that markers are placed accurately – for instance, if an error was made when typing in the marker's name, it might take longer than anticipated to enter the corrected name, and the marker would be placed later in time. By pressing the Return key first, and then typing the name, you can be sure that the marker is placed in the correct location.

To create a marker using dynamic scrubbing:

1. Hold down the Control key (or Control-Option for jog-type scrubbing) and drag the mouse across the desired location to scrub playback.
2. At the desired point during playback, release the mouse to stop scrubbing.
3. Press **⌘-M** on your computer keyboard. Peak will drop a marker at that location.

To name a marker or set other marker attributes:

1. Double-click on the triangular base of the marker that you wish to edit. The Edit Marker dialog appears.
2. Enter a name for the marker.
3. Change other attributes of the marker as desired. For an explanation of each of these attributes, refer to the beginning of this section.
4. When you have finished, click OK to close the Edit Marker dialog – the marker now has the attributes you selected.

or:

- You may also open the audio document’s Contents Drawer and click the desired marker’s name – it will become editable text and can be re-named. When you press the Return key, the marker’s name is updated.

To move a marker to a new location:

1. Click on the triangular base of the marker and drag it to the desired location.
2. To make a marker’s position snap to a zero-crossing (the point at which a waveform crosses the center phase line) as you drag it, hold down the Shift key while you drag.

To move a marker to a new location numerically:

1. Double-click on the triangular base of the marker. The Edit Marker dialog appears.
2. Choose the desired time units (Samples, Seconds, or Milliseconds) from the time format pop-up menu.
3. In the Position field, enter the precise time location that you wish to move the marker to.
4. Click OK to close this dialog – Peak moves the marker to the location you entered in the dialog.

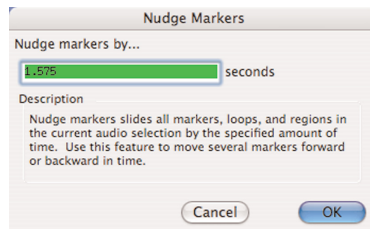
or:

- You may also open the audio document’s Contents Drawer and click the desired marker’s duration – it will become editable text and a new value can be entered.

Once the duration is altered and the Return key is pressed, the marker will snap to the new location.

To nudge a marker or a selection of markers to a new location:

1. Make a selection that includes the marker (or markers) that you wish to nudge.
2. Choose Nudge Markers from the Action menu or Toolbar – the Nudge Markers dialog appears.



The Nudge Markers dialog

3. In the “Nudge Markers By” field, enter the number of seconds (positive or negative) by which you wish to nudge the marker.
4. Click OK to close this dialog – Peak nudges the marker by the value you entered in the dialog.

Deleting Markers

There are a number of ways to delete markers, described below.

To delete a marker:

1. Double-click the triangular base of the marker – the Edit Marker dialog appears.
2. Click the Delete button – the marker is deleted from the audio document.
3. Click OK to close the Edit Marker dialog.

To delete markers in a Selection:

1. Make a selection in the audio document that contains the markers you want to delete.

2. Choose Delete Markers Only (Option-Delete) from the Action menu and all markers, Regions, and loops in the selection will be deleted.
3. Type the name of the Region and click OK. The new Region will appear in the audio document.

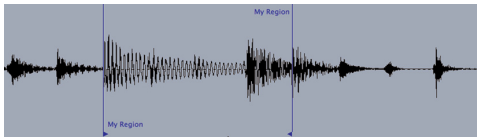
To Copy/Paste only Markers:

1. Select the desired range of audio, which contains the markers you wish to copy.
2. From the Edit menu, choose Copy (⌘-C).
3. Select a different range of audio (in the same document or in a different document).
4. Hold down the Option key, and choose Paste Markers Only from the Edit menu – just the markers are pasted into the current selection.

Working with Regions

Regions are portions of an audio document defined by Region Markers using the New Region command from the Action menu (⌘-Shift-R) or Toolbar. Regions present in currently open audio documents will be listed in the Contents window.

Regions can be saved only into AIFF, Sound Designer II, and WAVE files. However, Peak will also read Regions stored from other programs in Sound Designer II files. The method Peak uses to store Regions in AIFF files is specific to Peak and is not necessarily supported by other software applications. If you are using Regions with other programs, you will want to store your files as Sound Designer II or WAVE files.



An audio Region (named "My Region")

To define a new Region:

1. Make a selection in an opened audio document.
2. Choose New Region from the Action menu (⌘-Shift-R) or Toolbar.

About Regions and CD Frame Boundaries

If you are creating Regions that will be used in a Peak Playlist – and will eventually be burned as individual tracks on a Red Book CD, be sure to set Peak's Snap to format to CD Frames (Action Menu>Snap To). In addition, make sure that Auto Snap is active prior to creating these Regions (Auto Snap can be turned on/off in the Options Menu).

Creating Regions on CD frame boundaries is most important when working with continuous play audio material, such as a DJ mix or live concert recording, where one track plays into the next with no gaps. By creating Regions on CD frame boundaries, you can be assured that the audio CD you create will not have short gaps or clicks between tracks.

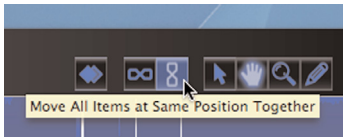
If you have already created Regions, and had the Snap To format set to a different value, or did not have Auto Snap turned on, you can easily edit the Region marker position.

To conform Regions to CD frame boundaries:

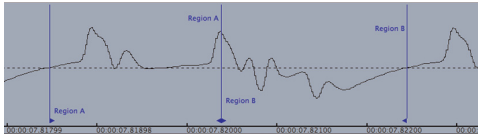
1. From the Options menu, check that Auto Snap is enabled (a check appears next to the menu item when active).
2. From the Action menu, choose Snap To, and CD Frames from the submenu.
3. Shift-drag a Region marker, and it will snap to the closest CD Frame boundary.



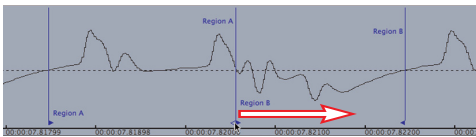
If you created multiple back-to-back Regions (for example, with the Markers to Regions command), but were not in Snap To CD Frames mode, you can quickly adjust the end of one Region and the beginning of the next simultaneously by clicking the Vertical Lock button in the audio document's Tool Area, and then following the steps above.



By using Vertical lock mode, you can snap the end of one Region and the beginning of the next simultaneously.



Note the position of the end of "Region A" and the beginning of "Region B" – located at a peak in the waveform.



The end of "Region A" and beginning of "Region B" have been "snapped" to the closest CD frame boundary.

To modify the length of the Region by changing the start or end:

- Drag the start or end marker of the Region in the audio document window.

To move a Region without changing its length:

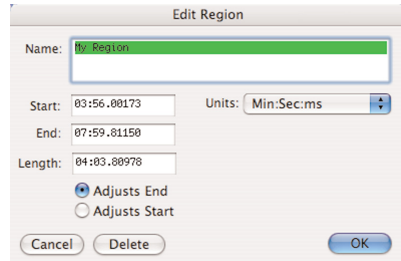
- Hold down the Option key and drag either the start or end marker of the Region.

or:

- Click the Horizontal Lock button in the tool area of the audio document window, and then drag either the start or end marker of the Region.

To edit a Region's start, end, or length manually:

1. Double-click on either the start or end marker of the Region in the audio document window. The Edit Region dialog will appear.
2. Enter new values for Start, End, or Length times, then click OK.



The Edit Region Dialog

To change the name of a Region:

1. Double-click on either the start or end marker of the Region in the audio document window. The Edit Region dialog will appear.
2. Type the new name of the Region into the dialog and click OK.

or:

- You may also open the audio document's drawer and click the desired marker's name – it will become editable text and can be re-named. When you press the Return key, the marker's name is updated.

To locate a Region:

- Double-click the Region's name in the Contents Window or in the audio document window's Contents Drawer. The Region will automatically snap into view, with the Region selected.

or:

- Type the first few letters of the Region's name, and the Region will snap into view automatically.

Please note that if multiple Regions share similar names, such as "TheIntro" and "TheEnd", you would need to type at least one character beyond "t-h-e." for Peak to be able to distinguish between these similar names. If you plan on using this technique to locate to Regions, it is recommended that you not use spaces in the Regions' names, as when you attempt to locate to them, pressing the Space Bar on your keyboard will initiate playback.

To split a Region:

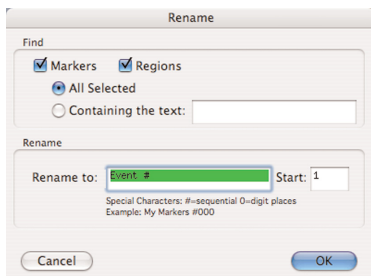
1. Place insertion point cursor at the the desired location.
2. Choose New Region Split (Ctrl-Shift-⌘-R) from the Action menu. The cursor's position determines the split point. Any part of the document before the split point becomes one Region, and any part after the split point becomes another Region.

To Copy/Paste only Regions:

1. Select the desired range of audio, which contains the Region markers you wish to copy.
2. From the Edit menu, choose Copy (⌘-C).
3. Select a different range of audio (in the same document or in a different document).
4. Hold down the Option key, and choose Paste Markers Only from the Edit menu – just the Region markers are pasted into the current selection.

Renaming Markers & Regions

The Rename dialog allows you to rename multiple markers and/or region markers. This dialog is broken up into two sections, the “Find” section and the “Rename” section.



The Rename Dialog

Find Section

This section allows you to specify whether you are affecting markers, regions, or both, as well as whether

you are affecting all markers/regions, or just those containing a particular string of text.



Markers and regions are found and renamed chronologically, as they appear along the audio document's timeline. If you have created markers and then changed their positions, they will renamed according to their new positions.

Rename Section

This section allows you to specify how markers and regions will be renamed and/or renumbered.

- **Rename Field** – Adding a text string here changes the names of all found markers to this text string. For example, adding “PeakPro” here would result in all found markers being renamed “PeakPro”.
- **“#” Character** – Adding the # character in the Rename field, and a letter or number in the Start field adds letters or numbers sequentially to the renamed marker or region names. For example, if “PeakPro” was added in the Rename field, with a “#” directly following it, and the number “1” was added in the Start field, the resulting markers/regions would be named “PeakPro1”, “PeakPro2”, “PeakPro3”, “PeakPro4” and so on.
- **“0” Character** – Adding the “0” character (zero) after the # character allows you to control leading zeros. For example, rename to “Event #000” start with “10” produces markers/regions named “Event 010”, “Event 011”, “Event 012”, etc.



The “0” character only works with the numbers, not letters, and only up to 9 leading zeros may be used.

To Rename a Series of Markers/Regions:

1. Make a selection in the audio document containing the markers/regions you wish to rename (or Select All for the entire document).
2. From the Action menu, choose Rename.
3. Use the Markers and Regions checkboxes to specify which type of markers should be renamed.
4. Use the radio button that best suits how you wish to rename – the All Selected radio button will apply renaming to all markers/regions that lie in the selected portion of the audio document, while the Containing the Text radio button will apply changes only to markers/regions that contain a specific text string.
5. In the “Rename to” field, enter a new name.
6. If you wish to have this new name appended with a letter or number, also enter the “#” character in the Rename field, and then enter the desired starting number or letter in the Start field.
7. Click OK – the selected range of markers is renamed.

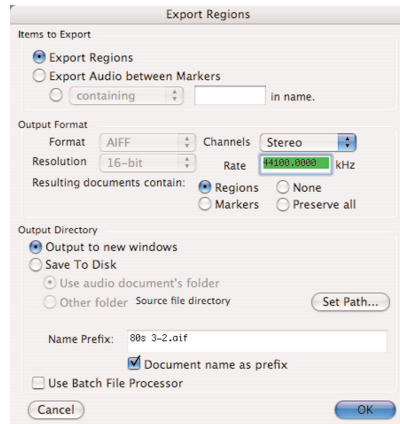
Exporting Regions

Regions may be exported from an audio document using the Export Regions dialog, or by manually dragging them from the Contents palette or drawer to the Finder, or to other applications, such as iTunes.

Exporting with the Export Regions Dialog

If you have placed markers or Regions in an audio document, Peak’s Export Regions command allows you to export those Regions from the source document and save each of these Regions as a separate audio document. This feature is very convenient if you wish to divide a larger file into Regions and transfer them as samples into a sample playback instrument, or divide a live concert record into Regions and export those Regions as separate files. Furthermore, you can use

Peak’s Batch File Processor to process a file’s Regions with any of Peak’s DSP functions and third party plug-ins during the automatic exporting of Regions into new files.



The Export Regions dialog

To export Regions from an audio document:

1. Select the Regions that you wish to export. (To make selections, you can use the Tab key, Shift-Tab, or if you wish to select the entire document, press ⌘-A.)
2. Choose Export Regions from the File menu.
3. In the Export Regions dialog, choose the parameters that you wish to use for selecting the Regions to export.
4. Using the Region Detection options, choose which Regions are to be exported.
5. Using the Output Format options, choose the format and resolution you wish for the exported Regions.
6. Using the Output Directory options, choose the destination for the exported Regions.
7. If you wish the newly exported Regions to appear as new open Peak documents, choose Output to new windows.

8. To save the exported Regions to disk, select Save To Disk and choose whether you would like to save the Regions into the same folder as the source files, or to a different folder. If you prefer to save to a new folder, use the Set Path button.
9. To export the Regions, click Begin. Peak exports each of the Regions into its own audio document.

Region Detection area – To export all Regions in an audio document, click the Export Regions button. To export audio between adjacent markers, click the Export Audio between Markers button. To export only Regions that are bounded by specific marker names, click the Only Regions button and enter the parameters that you wish to use to select the desired Regions. For instance, if you wish to export only Regions bounded by markers with the word “hit” in them, click the pop-up menu, choose containing, and type the word “hit” in the field next to the pop-up. Conversely, if you wish export all Regions except those with the word “hit” in them, click the pop-up menu, choose not containing, and type the word “hit” in the field next to the pop-up menu.

Output Format area – Choose the file format, bit depth resolution, and Stereo or Mono from these pop-up menus for the resulting exported audio documents. You can set the Sample rate in kHz for the resulting files in the Rate field. You can also designate whether the resulting audio documents contain Regions or Markers or not.

Output Directory area – Resulting audio documents can either be output to new open audio document windows or saved to the hard drive. Choose Output to New Windows if you want to have the resulting audio documents open in Peak or choose Save To Disk if you just want to write the new audio files to disk without opening them in Peak. If you Save To Disk, you can simply choose to use the original audio document’s folder or you can specify another folder on your hard drive(s) to save the resulting audio documents by choosing Set Path. The Name Prefix field allows you to include a specified prefix to all the resulting audio documents. The default prefix is the name of the file. Each and every one of the resulting audio documents will be named with the prefix plus the name of the individual Region.

Another exciting feature of the Export Regions function is that you can Export Regions through Peak’s Batch File Processor. First configure the Batch File Processor and turn it on, then, go to Export Regions and check the Use Batch File Processor checkbox. When you begin exporting Regions, each one will be affected by the processes you choose in the Batch File Processor dialog (see Chapter 8: DSP & Chapter 9: Plug-Ins).



Do not save the output of the Batch File Processor to the input directory (i.e., the same directory that contains the files being batch processed).



Export Regions is not available in Peak LE.

Send to iTunes

Entire audio documents and/or the Regions they contain may be exported directly to your iTunes library. This is a useful command if you plan to export Regions and then add them to your iTunes library, as Peak can do this automatically.

To send an audio document to iTunes:

1. Open and/or bring the desired audio document to the foreground.
2. From the File menu, choose Send to iTunes.
3. To send the entire audio document as a single file, click the Single Song button – or, if the audio document contains Regions, and you wish for each Region to be sent to iTunes as a separate song, click the iTunes Playlist button.



Working with Loops

If you're editing music or other rhythmically-based material, it is generally a good idea to test a selection to make sure it contains an even number of beats before you cut, copy, or paste it. A good way to do this is to loop the selection and listen to the loop as it plays. As described in the next section, Peak includes Loop Surfer, which can automate the process of finding a rhythmically "correct" length of audio to loop, assuming you know the tempo and the number of beats you wish to loop. You can also use the Loop Tuner, found in the DSP menu, to adjust the loop start and end points. The Loop Tuner is also described in the next section.

Loops are useful in material that you plan to transfer to a sampler. Loop markers created with Peak are recognized by samplers as sustain loops. Peak allows you to create one loop per audio document.



When using a single loop per audio document, there is a quick and easy way to mark multiple desired sections for looping. With the loop markers in the desired location, choose Select Loop from the Edit menu, then, choose New Region from the Action menu – a Region is created that is the same length as the loop. Using this technique allows you to create as many Regions as desired within a single audio document. To loop any of these Regions, simply ⌘-click between a Region's markers to select the Region (or press the Tab key until the desired Region is selected), and then choose Loop this Selection from the Action menu.

To play a loop in Peak, select Use Loop in Playback command (⌘-L) from the Options menu or click the loop button in the Transport window, begin playback, and when Peak reaches the loop, it will continue to repeat until you stop playback. If Use Loop in Playback is not enabled, Peak will simply play right through the loop to the end of the audio document or selection.

To create a loop from a selection:

1. Click the cursor at the desired location in the audio document and drag to select the range you want.
2. Choose Loop This Selection from the Action menu (⌘-Shift-") or Toolbar. Your selection is now looped. Loop markers appear at the beginning and end of the loop.
3. To listen to the loop, choose the Use Loop in Playback command (⌘-L) from the Options menu (a check next to this menu item indicates it is enabled), or click the Loop button in the Transport window, and start playback by pressing the Spacebar on your keyboard.
4. You can interactively fine-tune a loop by dragging the loop start or end markers while loop playback is engaged. As you drag a loop marker to a new location, Peak will adjust the playback loop to reflect the changes you make. You can also use the Loop Tuner to call up a dialog that allows you to visually fine tune the loop, and even play the loop while adjusting it to listen to the changes.

To change regular markers into loop markers:

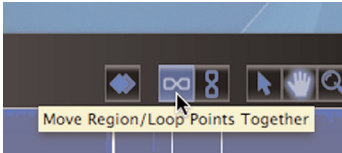
1. Create markers in an audio document.
2. Double-click on the triangular base of the marker that you wish to define as the loop start point. The Edit Marker dialog appears.
3. Click the Loop Start button and click OK. The marker becomes a Loop Start marker.
4. Double-click on the triangular base of the marker that you wish to define as the loop end point. The Edit Marker dialog appears.
5. Click the Loop End button and click OK. The marker becomes a Loop End marker. You have now defined a loop in your audio document.

To move a pair of loop markers together:

- Hold down the Option key and drag one of the loop markers to the desired location.

or:

- Click the Horizontal Lock button in the audio document window, and drag the begin loop or end loop marker – both markers move in tandem. Be sure to turn off Horizontal Lock to move the loop markers independently.



The Horizontal Lock button

To listen to the loop only:

- Choose Select Loop (⌘-") from the Edit menu.
- Make sure loop playback is enabled using the Use Loop in Playback command (⌘-L) from the Options menu (a check next to this menu item indicates it is enabled), or by pressing the Loop button on the Transport.
- Press the Spacebar to begin playing back the loop.

Turn Loop Flag On/Off on Save

This feature allows the loop flag in AIFF files to be turned on or off when saving a file. The state of this loop flag when a file is saved determines the file's playback behavior when loaded into Peak again, or into another application capable of reading embedded loop flags.

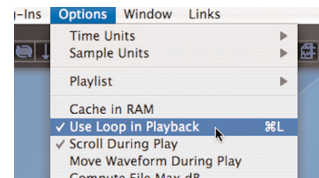
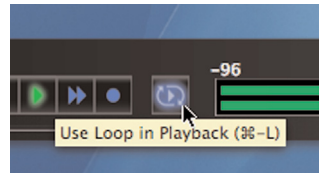
The loop flag is now toggled on or off when saving, depending on the state of the Loop Playback setting in Peak.

To Save an AIFF File with the Loop Flag On:

- From the Options menu, choose Use Loop in Playback (⌘-L), or click the Use Loop in Playback button in the Transport. A check next to the menu item, or an illuminated button in the Transport indicates the loop flag is turned on.
- Save the AIFF file – the loop flag is saved in the on position.

To Save an AIFF File with the Loop Flag Off:

- From the Options menu, choose Use Loop in Playback (⌘-L), or click the Use Loop in Playback button in the Transport. The absence of a check next to the menu item, or a non-illuminated button in the Transport indicates the loop flag is turned on.



There are two ways to turn Use Loop in Playback on or off – the Use Loop in Playback button in the Transport, and the Use Loop in Playback command in the Options menu.

- Save the AIFF file – the loop flag is saved in the off position.

Crossfading Loops

Peak allows you to crossfade the start and end points of a loop. Crossfading a loop can be very useful for smoothing the transition between the end of the loop and its beginning as it repeats. Peak allows you to control the envelope of the crossfade, the duration, and other parameters in the Crossfade Loop dialog.

The Crossfade Loop dialog

The four checkboxes at the top of the Crossfade Loop dialog allow you to customize how the end of the loop is faded into the beginning of the loop. These boxes indicate where in the loop the crossfade is applied. For most loops, you should be

able to leave the default checkbox checked and get good results.

Crossfade Variations

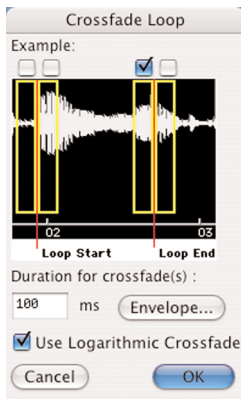
If you consider the crossfades “A”, “B”, “C”, and “D” from left to right, then:

“A” = Crossfade between A and C

“B” = Crossfade between B and D

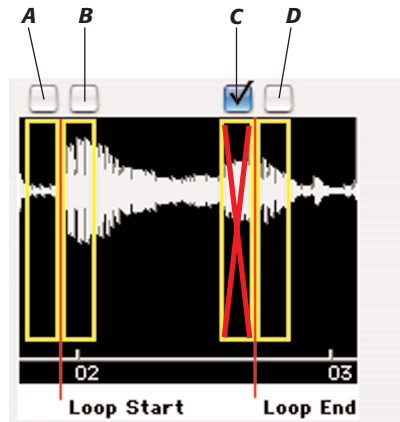
“C” = Crossfade between C and A

“D” = Crossfade between D and B



The Crossfade Loop dialog

The way these crossfade variations are configured depends on where the loop is destined to be used – for most purposes the default crossfade position (Position “C”) works well – if however, you plan on transferring these loops to a sample playback instrument such as a SMDI sampler, then you may want to experiment with different crossfade positions/combinations. Some hardware based samplers offer advanced playback controls, allowing loops to be played forward, backward, and in various other ways. By changing where in the loop crossfades are applied, you can customize your audio content for a particular sampler and for the desired effect.



Crossfade positioning options – different uses for loops may call for different loop crossfade settings – With crossfade position “C” checked a crossfade is applied as indicated by the red “X”

Another application that may require using loop crossfade position(s) other than the default position “C”, are when creating audio loops intended to be used in a proprietary video game audio engine. Depending on the requirements of a particular video game’s audio engine, users may need to adjust the position of the crossfades used in their loops, to achieve the desired effect. Depending on the application requiring crossfades, users may need “loop with release” (plays the tail of the audio document – the section of audio that lies outside the loop markers – after the loop stops playing/sampler’s key is released) or “loop hold” (doesn’t play the audio after the loop when the key is released). Because of these different modes, users may need to turn some crossfades on or off

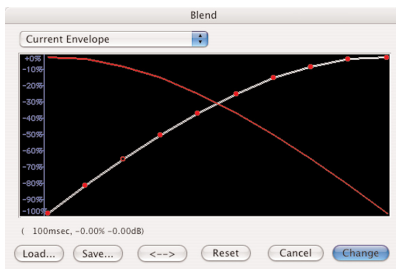
To crossfade a loop:

1. Create a loop using one of the techniques explained earlier in this chapter.
2. Choose Crossfade Loop from the DSP menu or Toolbar.
3. In the Crossfade Loop dialog that appears, enter a duration for the crossfade-in milliseconds and click OK.
4. To hear the completed crossfade, choose Select

Loop from the Edit menu, select Use Loop in Playback from the Options menu (⌘-L) or click the Loop button on the Transport, and press the Spacebar. You will hear the loop, complete with your crossfade.

To edit a Crossfade Loop Envelope:

1. Click on the Envelope button in the Crossfade Loop dialog and the Blending Envelope Editor appears.



The Blending Envelope Editor



Note that this is the same Blending Envelope Editor that is accessed from the Blending dialog.

2. Click anywhere on the line and a new moveable “breakpoint” will appear.
3. Drag the breakpoint to the desired location.
4. Continue creating and dragging breakpoints until you have created the envelope that you desire. If you wish to delete a breakpoint, click on it with the cursor and press the Delete key on your computer keyboard.
5. If you wish to reverse the shape of the envelope you have created, click the “<->” button. This creates a mirror image of the envelope.
6. If you would like to save your custom envelope for later use, click on the Save button before exiting the envelope editor.
7. When you are satisfied with your new envelope shape, click Change to confirm your edits and close

the envelope editor. Peak will use this envelope until you change it again.

To hear the completed crossfade, choose Select Loop from the Edit menu, select Use Loop in Playback from the Options menu or click the Loop button on the Toolbar, and press the Spacebar. You will hear the loop, complete with your crossfade.

If you save your custom Blending envelope into:



/MacHD/Users/<YourAccount>/Library/
Preferences/Peak Envelopes/

It will automatically appear in the Envelope pop-up menu in the Fade In/Out Envelope editor.



The Crossfade Loop dialog is not available in Peak LE.

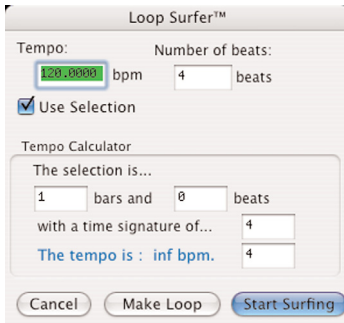
Using Loop Surfer

Peak’s Loop Surfer feature automates some of the steps for setting up loop points. Loop Surfer allows you to “Loop Surf” (adjust your loops during playback) quickly, easily and in a musically intuitive manner.

If you’re working with music, and know the music’s tempo in beats per minute, you can use Loop Surfer to create a loop which lasts for a rhythmically “correct” length of time.

To use Loop Surfer based on a musical tempo:

1. Place the cursor where you wish to begin the loop (it’s okay to place it approximately, rather than exactly, where you wish to start).
2. Choose Loop Surfer from the Action menu (⌘-J). The Loop Surfer dialog appears.



The Loop Surfer dialog

3. Type in the music's tempo. If you are not sure of the tempo, you can use the Tempo Calculator to determine the tempo. Simply select a portion of audio, and type in the number of bars and beats in the selection. The calculator will determine the tempo based on your selection. If you are unsure, and have used a drum machine or sequencer to create the music, you might wish to refer back to its settings determine the time signature and tempo. Additionally, you can use the Threshold command from the DSP menu to select a portion of audio that should correspond to the beat; see "To use Loop Surfer based on a selection" below.
4. Type in the number of beats that you wish the loop to last. The beats are based upon quarter-notes, in terms of musical time. For instance, if your song was in a 4/4 time signature, typing "4" beats would mean the loop would be one measure in length; if the song were in 7/4 time, typing "14" would mean the loop would be two measures in length. (If you are interested in exploring syncopations, however, there's no reason why you can't type a beat value that doesn't correspond to the time signature, such as "5" if the music is actually in "3/4" time.)
5. If you then select the Start Surfing button (the default), Peak will automatically:
 - a) close the Loop Surfer dialog box;
 - b) extend the selection from the cursor insertion point to a calculated length, based upon the tempo

and number of beats;


- c) change the cursor insertion point to a Loop Start marker;
 - d) drop a Loop End marker at the end of the newly calculated selection;
 - e) turn on (if it hasn't already been turned on) the Use Loop In Playback option under the Options menu.
 - f) begin looped playback of the audio selection, stopping only once you hit your keyboard's Spacebar or press Stop on the Toolbar.
6. If you select the Make Loop button, Peak will automatically:
 - a) close the Loop Surfer dialog box;
 - b) extend the selection from the cursor insertion point to a calculated length, based upon the tempo and number of beats;
 - c) change the cursor insertion point to a Loop Start marker;
 - d) drop a Loop End marker at the end of the newly calculated selection;
 - e) turn on (if it hasn't already been turned on) the Use Loop In Playback option under the Options menu.
 - f) At this point, you must start playback manually using the Spacebar or the Toolbar if you wish to begin Loop Surfing.

While you're Loop Surfing (adjusting your loop during playback), you're free to perform all standard looping functions as described in the previous section, including adjusting the Loop Start and End points during playback. Most importantly, you'll now have a selection that lasts for a rhythmically correct period of time (that matches the beat). If you move the markers in tandem, by holding down the Option key and clicking and dragging one of the loop markers to the desired location with the mouse, you'll find it's a great way to set up interesting rhythms and syncopations! Peak's interactive editing

capabilities also allow you to use the Loop Surfer dialog while a loop plays to adjust the tempo, beats and so on.

If you're not working with music (or if you simply don't know the tempo of the music you're working with), you might choose to Loop Surf based upon a selection (or use the Threshold feature), rather than starting at a cursor insertion point.

To use Loop Surfer based on a selection:

1. Place the cursor where you wish to begin the loop, and using the mouse, select the portion of audio you wish to loop. (You can make your selection in a variety of other ways, also, as described earlier, including selecting between markers by -clicking with the mouse).
2. Select Loop Surfer from the Action menu. The Loop Surfer dialog appears.
3. If you check the Use Selection box and select either the Start Surfing or Make Loop button, Peak will automatically:
 - a) close the Loop Surfer dialog box;
 - b) extend the selection from the cursor insertion point to a calculated length, based upon the tempo and number of beats;
 - c) change the cursor insertion point to a Loop Start marker;
 - d) drop a Loop End marker at the end of the newly calculated selection;
 - e) turn on (if it hasn't already been turned on) the Use Loop In Playback option under the Options menu;
 - f) begin looping and playing. The selection will begin looped playback (if you have selected Start Surfing);

or:





- a) wait for you to start playback manually using the Spacebar or the Toolbar if you wish to begin Loop Surfing (if you have selected Make Loop).

Making Loops into Regions

As you “Loop Surf”, that is, as you move the loop points simultaneously through an audio document while audio plays, you may find sections that you would like to set aside for later. These sections can be saved as Regions, which can be used to create a remix within a Peak Playlist, may be exported as new audio documents, or used in a loop-based sequencing application, such as Ableton Live or Apple SoundTrack or GarageBand.

Since Peak allows only one loop per audio document, you can turn the loops that you like into Regions.

To create Regions from Loops:

1. As a loop plays, choose Select Loop (-") from the Edit menu.
2. With the loop selected, choose New Region (-R) from the Action menu. Name the Region and click OK.
3. Hold down the Option key (or click the Horizontal Lock button in the Toolbar) and drag the begin loop or end loop marker to a new position in the audio document – both loop points will move simultaneously.
4. When you locate another section of the audio document that you would like to set aside for later use, choose Select Loop (-") from the Edit menu.
5. With the loop selected, choose New Region (-R) from the Action menu. Name the Region and click OK. Continue Loop Surfing and creating Regions as desired.

You may continue placing as many Regions as desired using this technique. To later loop any of the Regions you have created, just select the desired Region, and choose Loop this Selection from the Action menu.

To create a remix in a Peak Playlist, simply create a new Playlist, and add the desired Regions to it. For more information on using Playlists, please see Chapter 6: Playlists & CD Burning.

To export these Regions as new audio documents, or to use within another application, please see the section on Exporting Regions, later in this chapter.



Loop Surfer is not available in Peak LE.

Using the Guess Tempo and Threshold commands to find tempo

If you are working with music and don't know the tempo – and your music has a relatively pronounced or obvious beat – you can use the Guess Tempo command to have Peak automatically guess the tempo of a selection. Make a selection and choose Guess Tempo from the Action menu. There will be a pause while Peak scans your selection and calculates the tempo for you. A dialog will then appear showing you the estimated tempo in BPM, or beats per minute. You can then enter the estimated tempo in BPM in the Loop Surfer dialog's Tempo field, or click Loop-It to automatically place the guessed tempo value into the Loop Surfer dialog.

As you Loop Surf, you may automatically change the number of beats in a loop by selecting the loop (⌘-Shift-"), opening the Loop Surfer dialog (⌘-J), and entering a new value for beats.

You can also use the Threshold command (described in greater detail in Chapter 8: DSP) to define a number of markers or Regions based on amplitude peaks. If you then select audio with start and end points that correspond to these sections, you should have a selection that precisely matches the musical beat. Using Loop Surfer, you could then automate the process of looping the selection by following the steps described directly above.

Guess Tempo works best with audio selections that contain one full measure of audio with pronounced attacks on the beats, which appear visually on the waveform as taller sections of the audio. Using the Normalize feature on the selection prior to Guess Tempo can improve the accuracy of its deduction.

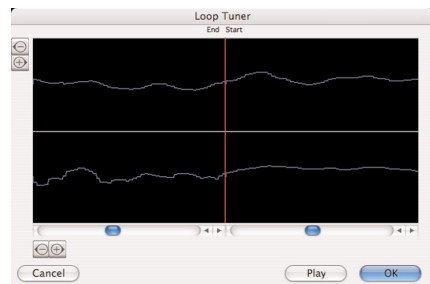


Guess Tempo is not available in Peak LE.

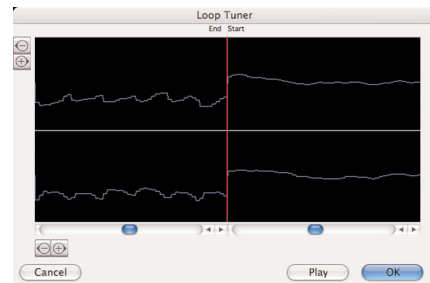
Using Loop Tuner

Loop Tuner provides a way to visually line up the start and end points of your loop to get a smooth transition at the loop points. Loop Tuner also allows you listen to the effects of these adjustments as you make them.

5



The Loop Tuner showing a smooth transition between the end and beginning of the loop – this would produce a seamless loop.



The Loop Tuner showing an abrupt transition between the end and beginning of the loop – this would create a click each time the loop repeats.

If you wish to “tune” a loop you've made, simply select Loop Tuner from the DSP menu or Toolbar, and a dialog will appear. The waveform display in the Loop Tuner dialog shows the Start and End points of the loop, which you can visually adjust with the scroll bars at the bottom of the window. The two zoom buttons – magnifying glass icons – in the upper left of the Loop Tuner dialog allow you to adjust the vertical zoom up of the waveform. The two zoom buttons in the lower left hand corner of

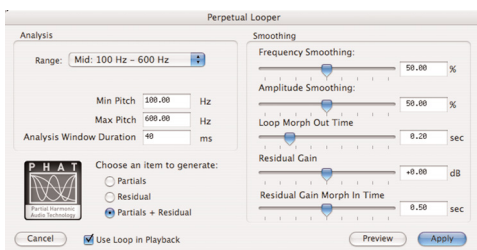
the Loop Tuner dialog allow you to adjust the zoom view in and out all the way down to the sample level. You can listen to the effects of the adjustments as you make them by clicking on the Play button. To exit this dialog, click on OK to accept the changes, or Cancel to leave the original loop unaffected.



Loop Tuner is not available in Peak LE.

Perpetual Looper

The Perpetual Looper is based on BIAS' powerful Partial Harmonic Audio Technology (PHAT). The Perpetual Looper makes it easy to create smooth, seamless loops of monophonic, tonal sounds by performing its work in the frequency domain, instead of in the time domain as looping has traditionally been done.



The Perpetual Looper dialog.

The Perpetual Looper is intended for creating “sustain loops” of single notes or sounds, not phrases or sections of audio, and generally will not produce useful results from phrases.

Working with the Perpetual Looper is explained in detail in Chapter 8: DSP.



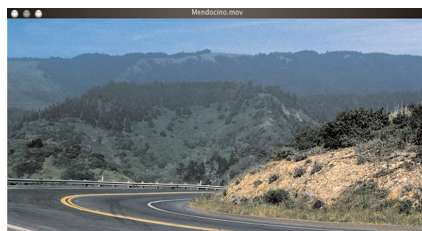
Perpetual Looper is not available in Peak LE.

Editing QuickTime Soundtracks

Peak allows you to edit QuickTime movie soundtracks. While you cannot edit QuickTime video in Peak, you can use Peak as a full-featured audio post-production tool for QuickTime movies. This makes Peak an ideal tool for editing and cleaning up soundtracks, as well as adding sound effects or music to QuickTime movies.

How to open and edit QuickTime sound tracks in Peak:

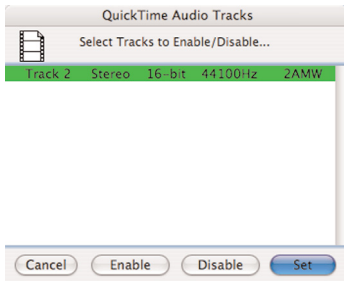
1. Select Open from the Edit menu (\mathbb{O} -O) or Toolbar.
2. In the dialog that appears, locate the QuickTime movie that you wish to open.



The Peak Movie Window

3. Click the Open button, and Peak will open the QuickTime movie in a movie window, and open the movie's audio track in an audio document window. Select Movie>Movie Sound Tracks from the Options menu to Enable or Disable the movie's other audio tracks. You can also use this dialog to toggle multiple soundtracks contained in a movie on and off to check balances or “solo” certain tracks. Click on the Set button to accept the changes, or Cancel to leave the movie unaffected. To toggle the Movie Window on or off, choose Movie from the Window menu. A check next to this item indicates it is enabled.
4. You may now edit the movie's audio track as you would any other audio document. The movie will “scrub” along with the audio, and the placement of the insertion point in the audio document window will also scroll the movie to that point.

- When you are finished editing the QuickTime sound track, use Peak's "Save As" command to save the movie with its new sound track.



The Movie Sound Tracks dialog



Be careful not to change the duration of the audio using cut, delete, or insert, as this will cause the audio and video to fall out of sync.

Editing Metadata

Metadata is commonly described as “data about data”, but it is easier just to say that it is descriptive information about a computer file. Artist, album, and song are three typical pieces of metadata that might describe a music file purchased from an online music retailer, while metadata for a file from a sound effects library might include file name, duration, sample rate, bit depth, and sound effects category. [Metadata is most useful when it is stored as part of the file that it describes, and an increasing number of file types include metadata capabilities].

Many people are familiar with the ID3 tags stored in MP3-format files. The first metadata format for MP3 files was called ID3v1. However, that format had some severe limitations, leading to the creation of ID3v2. While not an official standard, ID3v2 is currently the most common metadata format for MP3 files. Peak supports both formats.

Unfortunately, there is no standardization between file formats on what metadata is stored or how. In fact,

sometimes two applications creating the same file type will store metadata in them differently.

Peak offers extensive metadata capabilities, including a “master” metadata chunk (Peak Metadata) that can contain all of the fields used in every file format for which Peak supports metadata. Currently, Peak supports metadata in MP3, FLAC, AIFF, WAVE, and Broadcast WAVE files.

The Edit Metadata Dialog

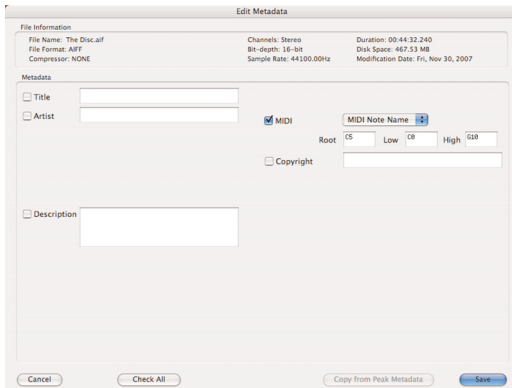
Metadata for a specific file format is edited in the Edit Metadata dialog.

The Edit Metadata dialog can be reached in one of five ways:

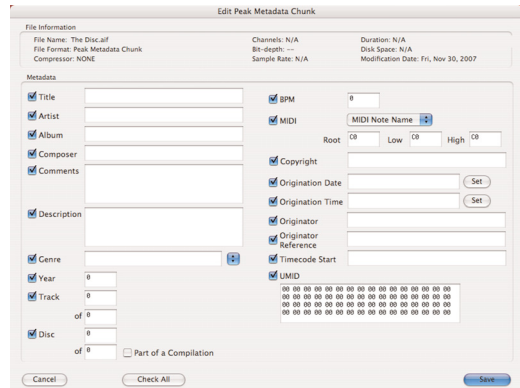
- Clicking at the bottom of a document window will open the Edit Metadata dialog.
- The Edit Metadata command in the File menu allows reading and editing of metadata without it being open in Peak.
- The Edit Audio Info command in the Action menu allows reading and editing of metadata in files that are open in Peak
- When saving a file in the MP3 format, choose the Save As menu item from the File dialog, and then click the “Format Options” > “Edit ID3v2 Tags” button to open the Edit Metadata dialog.
- When publishing a podcast, choosing the Publish Podcast item from the File menu, then select the MP3 format and clicking the “Settings...” > “Edit ID3v2 Tags” button to open the Edit Metadata dialog.

To read and edit file metadata without opening the file in Peak:

- Choose Edit Metadata from the File menu.
- Browse to the file for which you wish to edit metadata.
- Click the “Open” button – the Edit Metadata dialog appears, showing any existing metadata.



The Edit Metadata dialog allows editing metadata for specific file formats, and only fields supported by the current file type being edited are available.



The Edit Peak Metadata chunk dialog contains all of the metadata fields used in every file format for which Peak supports metadata. Once entered here, metadata can be applied to any supported file

4. Edit the metadata as desired. Be sure to mark the checkboxes for all metadata fields you want saved.
5. Click the “Save” button to save your metadata changes back to the file.

To read and edit metadata in a file that is open in Peak:

1. Choose the Edit Audio Info item from the Action menu or click at the bottom of the audio document window. The Edit Metadata dialog will appear, showing any existing metadata.
2. Edit the metadata as desired. Be sure to mark the checkboxes for all metadata fields you want saved.
3. Click the “Save” button.



Note that metadata edits are not actually saved until the audio document is saved.

To read and edit metadata when saving a file into the MP3 format:

1. Choose the Save As item from the File menu.
2. Select MP3 from the File Type menu.
3. Click the “Format Options” button – the MP3 Encoder dialog opens.

4. Click the “Edit ID3v2 Tags” button – the Edit Metadata dialog opens.
5. Edit the metadata as desired. Be sure to mark the checkboxes for all metadata fields you want saved.
6. Click the “Save” button.
7. Click “Save” in the Save As dialog.

To read and edit metadata for a podcast being published in MP3 format:

1. In the Publish Podcast dialog, select “MP3” from the Format drop-down menu.
2. Click the “Settings...” button – the MP3 Encoder dialog opens.
3. Click the “Edit ID3v2 Tags” button – the Edit Metadata dialog opens.
4. Edit the metadata as desired. Be sure to mark the checkboxes for all metadata fields you want saved.
5. Click the “Save” button.
6. Finish entering podcast and/or episode information, and click the “Publish” button.

The Peak Metadata Chunk

The Peak Metadata chunk provides a central location that contains all of the metadata fields for all supported file formats. This means that you can enter all of your metadata in the Peak Metadata dialog and then copy it to the metadata for each individual file format through the use of the “Copy from Peak Metadata” button that appears at the bottom of the Edit Metadata dialog. Of course, it is only possible to copy fields that are supported in the target file format.

Unlike the data that is entered/copied into the Edit Metadata dialog, the Peak Metadata chunk is stored in a file in a proprietary form that is read only by Peak.

In addition to the metadata fields, the Edit Peak Metadata Chunk dialog includes the following controls:

To read and edit Peak metadata chunk:

1. Choose the Edit Peak Metadata Chunk item from the Action menu. The Edit Peak Metadata Chunk dialog will open.
2. Edit the metadata as desired. Be sure to mark the checkboxes for all metadata fields you want saved.
3. Click the “Save” button.



Note that metadata edits are not actually saved until the audio document is saved.

To copy metadata from the Peak Metadata Chunk to the metadata for a file:

1. Be sure that all desired metadata has been entered in the Edit Peak Metadata Chunk dialog.
2. Open an Edit Metadata dialog for the file being edited.
3. Mark the checkboxes for every field in the dialog for which you want to copy data from the Peak Metadata Chunk.
4. Click the “Copy from Peak Metadata Chunk” button at the bottom of the dialog.



Note that field data in the Edit Metadata will only be overwritten if there is data for that field existing in the Peak Metadata Chunk, and the checkbox for the field in the Edit Metadata dialog is marked.

Conclusion

You have now learned how to manipulate audio with Peak’s various editing tools, including how to work with Markers, Loops, and Regions. In the next chapter you will learn more about the use of Regions in Playlists, and outputting in a variety of formats, including Red Book audio CD, DDP, and more.

Chapter 6

Playlists & CD Burning



Chapter 6: Playlists & CD Burning

Introduction

This chapter explains how to arrange Regions in a Playlist, and how to output “masters” in various formats, from which all subsequent copies are produced. Peak’s Playlist allows non-destructive editing, crossfading, setting custom gaps and pauses between tracks, applying effects plug-ins, setting custom track start offsets, embedding various types of metadata, such as International Standard Recording Codes (ISRC), CD-TEXT data, and more.

In the simplest terms, a Playlist is used to string Regions together in a specific order. Once Regions have been added to a Playlist, they are referred to as Playlist Events. The Peak Playlist is a set of instructions that tell the hard disk which Regions to “read”, and in what order. Playlist editing does not permanently alter the original audio data on your hard disk. No matter how many changes you make, your original recordings remain intact. This type of nondestructive editing is one of Peak’s most significant and powerful features.

When editing in Peak’s Playlist window you are not permanently deleting, moving, replacing, and adding actual audio as you would if you were cutting and splicing analog tape. Instead, Peak is creating a “map” of your audio file. This map, or “Playlist,” simply describes the order in which you want portions of the recording to be played. If you’d like to hear the middle of a song first, the end next and the beginning last, you may arrange your Playlist Events in this order. Peak will read (e.g., play) from the hard disk (where the audio data is stored) from any number of possible points originally designated by Region markers, and these Regions can be auditioned in the Playlist in any number of possible arrangements.

Playlist editing allows you to adjust and re-sequence Playlist Events (e.g., Regions) with ease. Edits can be heard as soon as you perform them. In addition, Peak allows you to apply unique effects settings to individual playlist events. Peak’s Playlist offers a fast, flexible, and powerful approach to editing and processing digital audio.

Peak’s Playlist allows you to output in many ways, from burning audio CDs directly, to creating various file formats used in the CD manufacturing process. Peak burns fully Red Book compliant audio CDs from Playlists, that will play in any CD-R compatible player. If you are using Peak for commercial mastering, you will be pleased to know that the master CD you create with Peak can easily be used in mass duplication, and with an optional extension, Peak can also export a Playlist in DDP (Disc Description Protocol), a format preferred over CD by many duplication companies. You can also use Peak Playlists to create a Jam Image file for burning audio CDs using Roxio’s JAM™. You can also bounce (i.e., write to disk) your Peak Playlist as a Sound Designer II file and then import the Playlist Events as Regions into other applications capable of reading Regions from SDII file.



Roxio JAM is no longer manufactured. Its features are now supported in Roxio Toast™ 8 and later. JAM Image files created with Peak are simply SDII files containing Regions, and are compatible with older versions of JAM, and with Toast 8 or later.

Overview of Playlist Interface

Playlist Function Buttons

The Playlist Function controls are used for adding and deleting Regions, burning CDs, and a number of other common tasks.

Control Area

This part of the interface contains the CD Options, Crossfade, Nudge, and Audition, controls.

CD Options

This part of the interface contains controls for assigning Red Book and Enforce CD Frames options.

Waveform View Area

The Waveform View Area contains the Waveform Display, as well as the controls for working in the Waveform View.

Playhead Cursor

The Playhead cursor shows the position of audio playback within the Waveform View area.

List View Area

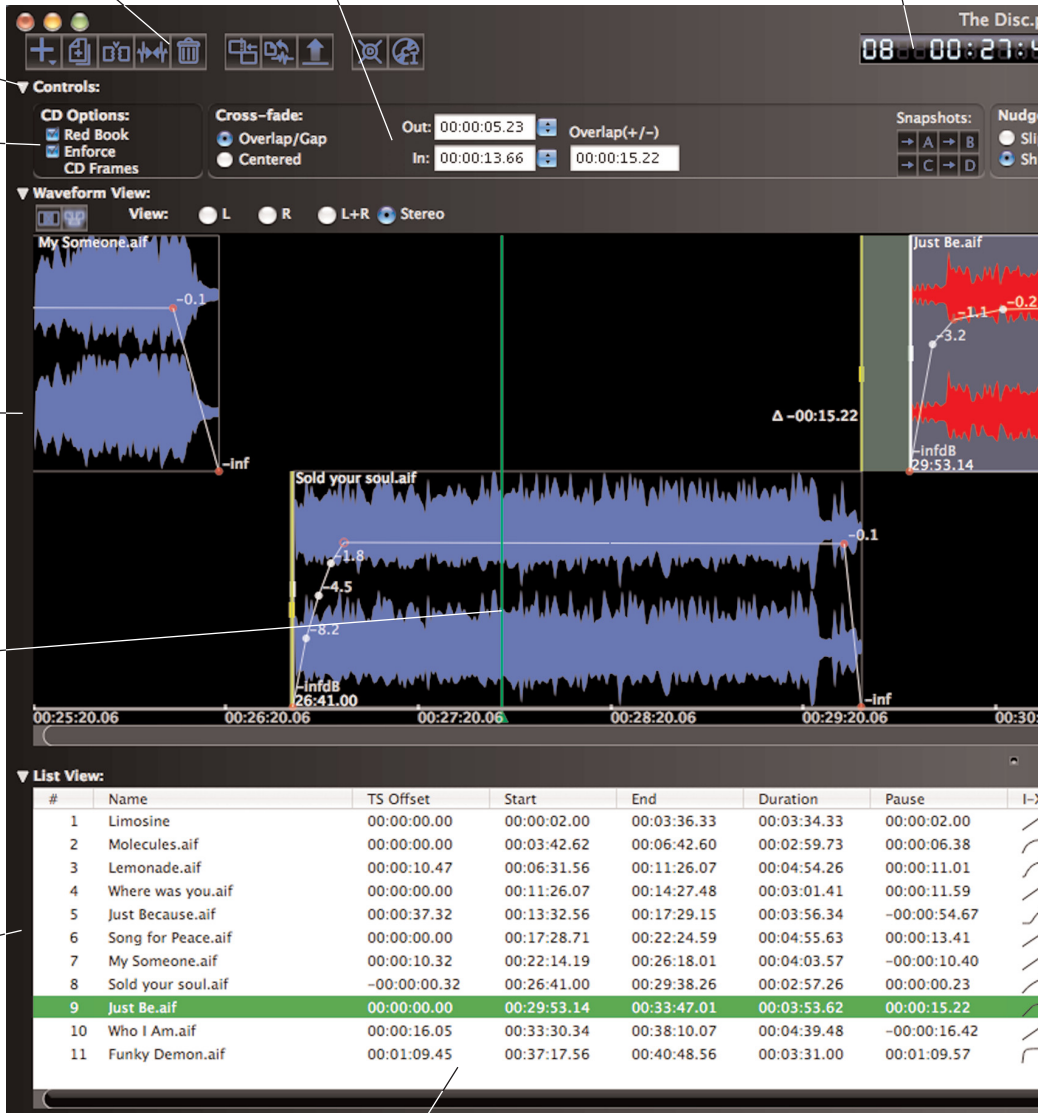
The List View Area contains the columnar List Display, tools for working with CD-TEXT and subcode metadata, Vbox effects, as well as any controls for working in the Waveform View.

Crossfade Controls

This part of the interface contains the controls for selecting centered or overlap crossfade modes, fade in/out duration and envelope shape, overlap or gap duration, and transition "snapshots".

Counter Display

This part of the interface displays the current track number (as it will appear on an audio CD), as well as the current position in the timeline.



List View Columns/Data Fields

The Playlist's List View can also be used to make precise edits – to within one sample. Most of the same kinds of edits may be made within the List View and Waveform View.

Nudge Controls

These controls allow choosing between Slip and Shuffle editing modes, as well as the Preserve Timing and Scroll Regions modifiers, and nudging Playlist Events.

Nudging Buttons

These controls allow Playlist Events to be nudged by a custom amount, in any of Peak's Time Units.

Transport Controls

These buttons allow you to play, stop, rewind, fast forward and navigate between Playlist Events in the same way that a CD player's controls work.

The screenshot shows a software interface with several key components:

- Top Panel:** Includes a time display (27:45:53), transport controls (play, stop, rewind, fast forward), and a 'Nudge' section with 'Slip' and 'Shuffle' radio buttons, and 'Preserve Timing' and 'Scroll Regions' checkboxes. It also features 'In:' and 'Out:' nudging buttons with a 'by 00:01.00' field.
- Audition Section:** Contains 'Preroll' and 'Postroll' controls, both set to 3.0.
- Waveform Display Area:** Shows two waveforms. The top one is red with a red envelope line and values like -0.2, -0.1, -0.2, -0.7, -1.0, -1.2, -0.5, -0.2, -1.8, -4.3, -6.6. The bottom one is blue with a blue envelope line and values like 0.0, 2.1, 1.2. A vertical line is at 33:47.01.
- Track List Table:**

I-XF	O-XF	I-XF-T	O-XF-T	Gain	ISRC	Emp	CP	CDTXT	Vbox Insert
✓	✓	00:00:21.50	00:00:11.69	+0.0dB	US-123-89-12345	✓	✓		Bypass
✓	✓	00:00:06.67	00:00:32.42	+0.0dB	US-123-89-12346	✓	✓		Bypass
✓	✓	00:00:27.46	00:00:09.12	+0.0dB	US-123-89-12347	✓	✓		Bypass
✓	✓	00:00:03.14	00:00:54.67	+0.0dB	US-123-89-12348	✓	✓		Bypass
✓	✓	00:00:54.67	00:00:12.22	+0.0dB	US-123-89-12349	✓	✓		Bypass
✓	✓	00:00:10.24	00:00:10.40	+0.0dB	US-123-89-12350	✓	✓		Bypass
✓	✓	00:00:10.40	00:00:14.24	+0.0dB	US-123-89-12351	✓	✓		Bypass
✓	✓	00:00:15.72	00:00:05.23	+0.0dB	US-123-89-12352	✓	✓		Bypass
✓	✓	00:00:13.66	00:00:20.14	+0.0dB	US-123-89-12353	✓	✓		Bypass
✓	✓	00:00:16.42	00:00:52.26	+0.0dB	US-123-89-12354	✓	✓		Bypass
✓	✓	00:00:52.26	00:00:12.49	+0.0dB	US-123-89-12355	✓	✓		Bypass

Audition Controls

The Audition Controls allow you to preview individual parts of a crossfade, or the entire crossfade, with or without pre- & post-roll.

6

Waveform Display Area

The Waveform Display shows Playlist Events graphically, as well as displaying crossfades, volume envelopes, and the timeline.

Vbox Column

This column controls unique effects settings for each Playlist Event.

ISRC, Emphasis, Copy Protection, and CDTXT Columns

These columns allow adding/editing CD-TEXT and subcode channel metadata.

Working with Regions is covered in Chapter 5: Editing. Please familiarize yourself with the use of Regions before attempting to work with Playlist. As Regions are the only items that may be added to a Playlist, it is important to understand how to create and edit them, before working with Playlists.

The Playlist window is split into four main areas: Basic Playlist functions, Controls, the Waveform View, and the List View. This chapter will teach you how to quickly assemble a Playlist and burn an audio CD, and then goes over each of the Playlist's three main sections in detail, explaining each control, function, and mode.



The Peak LE Playlist features List View Editing only!

Basic Playlist Concepts – Getting Started

This section describes the basic aspects of working with Peak Playlist document. You will learn how to create a Playlist, add Regions, perform edits, and output a finished Playlist as an audio CD. Once you have familiarized yourself with the basic processes involved with Playlists and would like to learn more, please see the Advanced Playlist Concepts section later in this chapter, for detailed descriptions of all Playlist functions.


Creating a Playlist

Before any Playlist operations can be performed, you will need to open the audio documents containing the Regions you wish to sequence, and a new Playlist document must be created. This section goes over the most basic elements of working with Playlist. It is recommended that you read this section before creating any Playlist-based project.



Unopened documents may also be opened by dragging them from the Finder into a Peak Playlist.

To Create a new Playlist:

1. From Peak's File menu, choose New>Playlist Document (-Shift-P) – an empty Playlist document appear.

If your intended output format is audio CD, be sure that the Red Book and Enforce CD Frames checkboxes in the CD Options well are checked. These options ensure that the Playlist handles audio material properly by snapping to CD Frame boundaries, and enforcing certain limitations of the Red Book audio CD specification, such as having a maximum of 99 tracks, a maximum duration of 78 minutes, etc. These CD options are provided because the Playlist is commonly used for not just CD mastering, but also for compiling dialogue and musical takes, assembling radio and podcast programs, and other projects in which it is not suitable to apply these CD-related restrictions. More information is available in the Advanced Playlist Concepts section, later in this chapter.

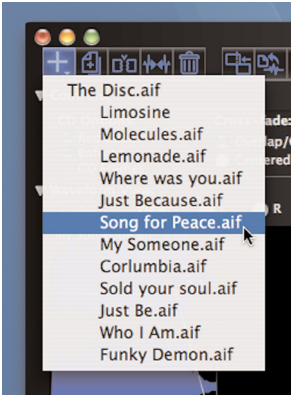


Adding Regions to a Playlist

There are several ways to add Regions to a Playlist – for now, we'll use the Add Regions button. Information on the other methods appears later in this chapter.

To Add a Region to a Playlist using the Add Region Button:

1. In the upper left portion of the Playlist interface, click the Add Region Button – a pop-up menu appears, containing the names of all open audio documents, as well as the Regions contained in each. The main headings are audio document names, and the indented items are Region names contained in an audio document.



2. Select the Region you wish to add to the Playlist – it is added to the end of the Playlist. If no other items are in the Playlist, it becomes the first item.

Selecting Playlist Events

Once Regions have been added to a Playlist, they are referred to as Playlist Events. Playlist Events will usually need to be edited in some way. This editing may include trimming the ends, nudging forward or backward along the timeline, adjusting the level, entering metadata, etc. Regardless of the type of edit to be performed, it is important to know how to make selections, as this is how Playlist Events are targeted for many editing processes. Playlist Events may be selected in the Waveform or List views.

To Select a Playlist Event in the Waveform View:

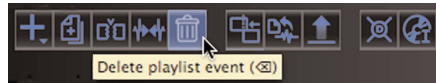
- Click the desired Playlist Event – you will know it is selected because it will appear in a different color than other, unselected Playlist Events. (Colors will vary depending on your color preference settings).

To Select a Playlist Event in the List View:

- Click the desired Playlist Event's row – you will know it is selected because the entire row will be highlighted in the color you have selected as the Highlight Color in the Mac OS Appearance preference pane.

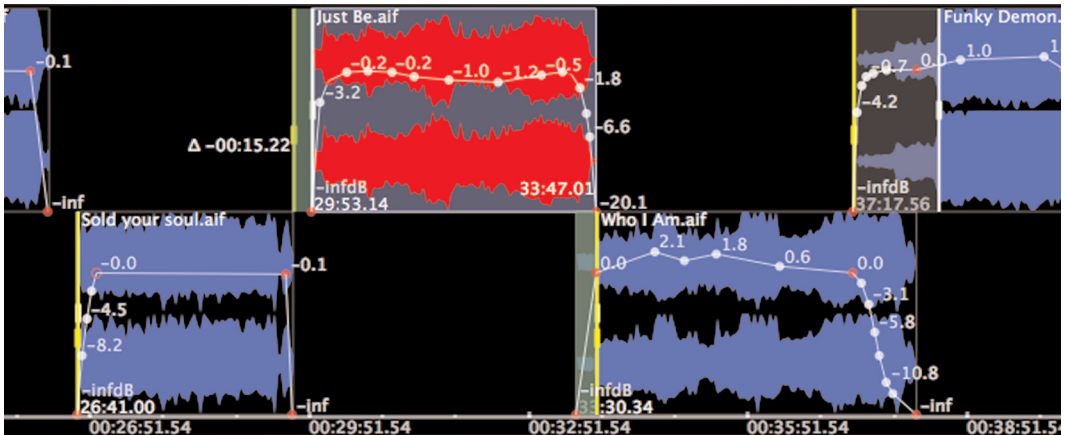
Deleting Playlist Events

Selected Playlist Events may be deleted in Waveform View or in List View.



To Delete a Playlist Event:

- Select the Playlist Event(s) you wish to delete in the Waveform or List View areas, and click the Delete Playlist Event Button in the upper left of the Playlist interface, or press the Delete key on your keyboard.



Selected Playlist Events appear in a different color than unselected Events

Using the Undo and Redo Commands

Peak's Playlist features unlimited levels of undo/redo. If any mistakes are made along the way, they can easily be undone. These steps show how to undo and redo edits one at a time. More information about using the graphical Edit History list appears later in this chapter.

To Undo Edits one at a time:

- From the Edit menu, choose Undo, or press **⌘-Z** on your keyboard.

To Redo Edits one at a time:

- From the Edit menu, choose Redo, or press **⌘-Y** on your keyboard.

About Crossfade Modes

Peak features two different styles of crossfades, each designed for a specific type of workflow. While the end result of each type of crossfade may sound the same, the process of working and editing with each is unique.

Overlap/Gap

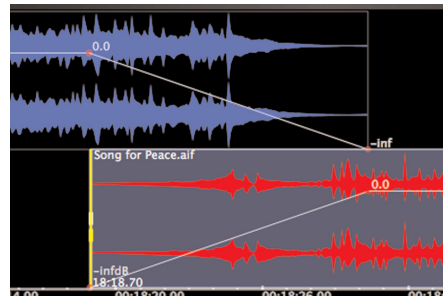
The Overlap/Gap style of working with crossfades is designed for assembling finished songs (or other audio Regions) in the desired order, with short overlaps (crossfades), gaps, or pauses between them, as is common when mastering a CD.

Creating crossfades in this mode involves dragging and/or trimming Playlist Events so that they either overlap in time, or are spaced out with silent gaps or pauses between them.



Gaps and Pauses are similar but different, they are covered in detail later in this chapter.

As an Event is moved along the timeline, it overlaps more or less with neighboring Playlist Events, and creates a longer or shorter crossfade or gap between the Events.



An Overlap Crossfade

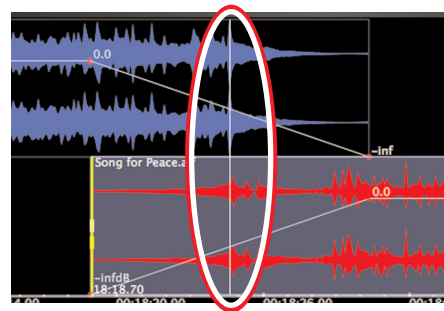
Centered

The Centered style of working with crossfades is designed for assembling takes (i.e., music, voiceovers, etc.). Typically, when assembling material this way, an editor has multiple takes of the same piece of music or dialogue, and is attempting to string together the best takes of each, to create the best sounding whole piece of music or dialogue.



Multiple finished songs/pieces of audio are then commonly placed into another Playlist, in Overlap/Gap mode, to create an "album".

In Centered mode, it is common to use a Playlist to assemble various takes into a single song (or other "finished" pieces of audio), which would be bounced from the Playlist as a single audio document.



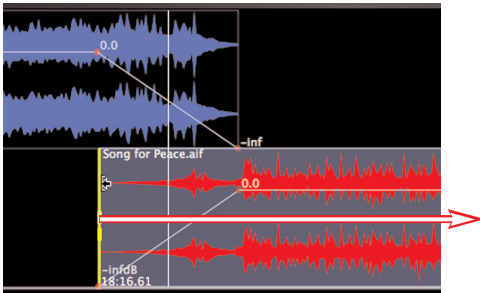
A Centered Crossfade – with its Edit Point highlighted



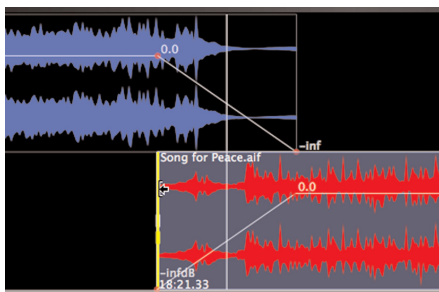
Centered crossfades are not available in Peak LE!

In this type of editing, an important concept is the “edit point”. The edit point is the location in the audio content that defines where the end of one take meets the beginning of the next. In Centered mode, the edit point is fixed and the duration of the crossfade is adjusted around it. This allows a variable length crossfade to be quickly and easily created, blending the takes together smoothly.

Once a crossfade of the desired length has been created, the edit point itself can be moved, while the duration of the crossfade remains constant. This “rolling edit” allows the edit point to be fine-tuned, while retaining the crossfade duration, creating a smooth and natural sounding edit.



In a rolling edit, only the Edit Point and the fade envelopes move...



...while audio stays locked to the timeline.

About the Playlist's Tools

The Playlist features three unique tools, each of which is used for particular types of edits. Most of the edits you will make in a Playlist will be done using the Move Event, Trim Event, and Centered Centered Crossfade tools.

The cursor switches between these tool modes automatically, depending on where it is relative to a Playlist Event's Waveform representation. These tools are described below.

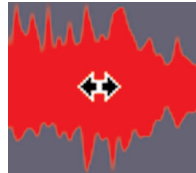


Tool functionality varies depending on whether you are working in Overlap/Gap or Centered mode, and whether any modifiers are active – these modes and modifiers are covered later in this section.

Move Event Tool

When the mouse cursor is placed over a Playlist Event's waveform, it is in Move Event mode.

Clicking on a Playlist Event and dragging left or right will move the entire Event (and other selected Playlist Events) earlier or later in the timeline.



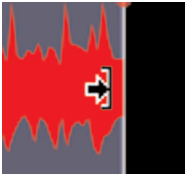
To use the Move Event tool:

1. In the Waveform Display Area, place the mouse cursor over the middle portion (i.e., not near the edges).
2. Click and hold the mouse button down, and drag the Event left or right, to the desired position – the Event moves to an earlier or later position in the timeline.

Trim Event Tool

The Trim Event tool is available in both Overlap/Gap and Centered modes, and its functionality differs slightly between these two modes.

In either mode, when the mouse cursor is placed within a few pixels of the edge of a Playlist Event's waveform display, it switches to Trim Event mode and can be used to trim or extend the Playlist Event.



To use the Trim Event tool in Overlap/Gap mode:

1. In the Waveform Display Area, place the mouse cursor near the Begin or End Boundary of a Playlist Event – the cursor switches to Trim Event mode.
2. Click and hold the mouse button down, and drag left or right – depending on whether you are trimming left or right, the Event beginning or end is either trimmed (shortened) or extended (lengthened).



By default, a new Playlist that is in Overlap/Gap mode will have the Preserve Timing modifier turned off, so that when the Trim Event tool is used, it trims only the Event that the cursor is placed over.

To use the Trim Event tool in Centered mode:

1. In the Waveform Display Area, place the mouse cursor near the Begin or End Boundary of a Playlist Event – the cursor switches to Trim Event mode.
2. Click and hold the mouse button down, and drag left or right to perform a rolling edit.



By default, a new Playlist that is in Centered mode will have the Preserve Timing modifier turned on, so that when the Trim Event tool is used, a “rolling edit” is performed. In a rolling edit, the actual edit point between two Events moves, the duration of the transition remains constant, and audio does not move along the timeline. Trimming one component Event of a transition “untrims” the other component by an equal amount. More information on the Preserve Timing modifier appears later in this chapter.

Using the Trim tool in Centered mode, when the Preserve Timing modifier is off results in moving the beginning or end fade breakpoint, and changing the duration of the Event’s fade envelope, rather than performing a rolling edit. This behavior is covered later in this chapter, in the section on the Preserve Timing modifier.

Centered Crossfade Tool

The Centered Crossfade tool is available only when working in Centered mode (see next section for details on Centered mode). In Centered mode, when the mouse cursor is placed over a Playlist Event’s waveform, it is in Centered Crossfade Tool mode. The Centered Crossfade tool is used to create crossfades around a centered edit point.



To use the Centered Crossfade tool:

1. In the Waveform Display Area, place the mouse cursor over the middle portion (i.e., not near the edges).
2. Click and hold the mouse button down, and drag to the left to create a centered crossfade – once a crossfade has been created, its duration can be lengthened or shortened by dragging left or right.

Selecting Transitions

When working with transitions, there are many cases where you will need to select the transition that you wish to edit. For example, you may wish to modify the type or duration of fade envelope being used, or perhaps audition the transition. In all cases, a selected “In” Event, that is, a Playlist Event that is being faded into, defines the currently selected transition. When multiple Playlist Events are selected, the earliest selected “In” Event defines which transition is selected.

Creating Transitions between Playlist Events

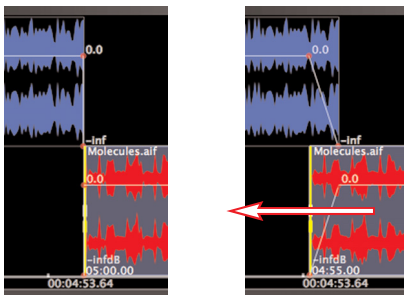
A variety of different types of transitions may be created in the Playlist, including gaps, pauses, butt edits, and two types of crossfades.

In the example below, we'll be working with an Overlap crossfade, which is commonly used when assembling songs in a Playlist, where the songs need to blend together. As the earlier Event fades out, the later Event fades in.

Crossfades may be performed in either Waveform View or List View. More information about other types of transitions is available later in this chapter, in the section on Advanced Playlist Concepts.

To Create an Overlap Crossfade between Playlist Events in Waveform View:

1. Locate two adjacent Events you wish to crossfade.
2. Click on the later of the two Events (or the “In”), and drag it to the left (earlier in time), so an overlap in time is created between the two Events.



To Create an Overlap Crossfade between Playlist Events in List View:

1. Locate two adjacent events you wish to crossfade together in List View.
2. In the row for Playlist Event you will be fading into, single click directly over the time value shown in the Start column – the time value becomes editable.

#	Name	Start	End
1	Limosine	00:00:02.00	00:05:00.00
2	Molecules.aif	00:05:00.00	00:07:59.73

3. Enter a time value earlier than the current value (i.e., if the current start time value is 00:05:00.00, and this is changed to “4:55”, a five second crossfade would be created between this Event and the one that precedes it in the timeline).

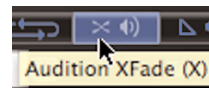
#	Name	Start	End
1	Limosine	00:00:02.00	00:05:00.00
2	Molecules.aif	00:04:55.00	00:07:54.73

Auditioning Transitions

When working with crossfades or other transitions, you may want to audition them to ensure that they are the right length, and that the Playlist Events blend together or are spaced apart correctly. This step shows a simple crossfade audition, though there are a number of variations on how auditioning can be used.

To Preview a crossfade:

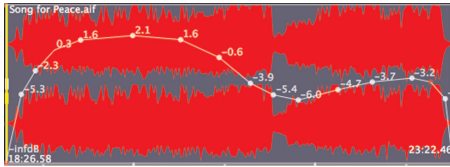
- Select the “In” Event, of the crossfade you wish to audition, and click the Audition Crossfade button (or press the X key on your keyboard).



For more information, please see the detailed overview of the Crossfade Audition Controls, later in this chapter.

Creating Volume Envelopes

Each Playlist Event features a volume envelope, which allows dynamic level changes. This envelope can be modified by adding and moving breakpoints.



A volume envelope provides dynamic level control to Playlist Events

To Modify a Volume Envelope:

- Click on either the red End Fade In Breakpoint or the red Begin Fade Out Breakpoint, and drag up, down, left, or right – the envelope changes, creating a dynamic level change.



More detailed information about volume envelopes appears later in this chapter, in the section on Advanced Playlist Concepts.

Burning an Audio CD

Burning audio CDs is one of the most common ways to output the contents of a Playlist. Provided that your Playlist was made in Red Book CD mode (i.e., with the Red Book checkbox checked), the resulting CD will conform to the Red Book standard, and will be playable in any CD player. Burning a CD not made in Red Book CD mode may play on a standard CD player, but this will depend largely on the CD player's capabilities. For maximum compatibility, it is recommended to burn in Red Book CD mode. For more information, please review the section on Red Book CD mode which appears later in this chapter.



If you plan on burning a Red Book audio CD, be sure to check the Red Book checkbox in the CD Options control group. More information about the CD Options controls appears later in this chapter, in the Output Options section.

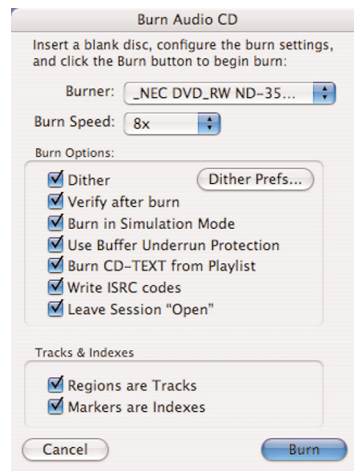
To Burn an Audio CD from a Playlist:

- With the Playlist window in the foreground, choose Select All (⌘-A) from the Edit menu.

- In the upper right portion of the Playlist interface, click the Burn Playlist to Audio CD button.



- Insert a blank CD – the Burn button becomes available.
- In the Burn Audio CD dialog, choose the desired burning options.



CD Burning Options are covered in detail later in this chapter.

- Click the Burn button – the Playlist is burned to CD.

Saving a Playlist

Playlist documents may be saved and recalled later. These steps will teach you how to save a Playlist you are working on. More information about opening, closing, and saving Playlists appears later in this chapter.

To Save a Playlist:

1. With the Playlist window in the foreground, choose Save from the File menu.
2. You will be presented with the Save dialog – enter a name, choose a directory, and click the Save button.

Advanced Playlist Concepts – Detailed Overview of Controls, Modes, and Tools

The Playlist's sophisticated editing controls allow you to choose from a variety of editing tools, modes, and behaviors. The various editing controls are described in detail below.

Miscellaneous Controls

Some of the items and techniques discussed in this section involve other elements of the Peak interface besides the Playlist, but are directly related to working with Playlists.

Opening, Saving, and Closing Playlists

Playlist documents may be saved and recalled later. When working with Playlist-based projects, it's a good idea to save the Playlist and all source audio documents in a single folder on your hard drive. This can help to avoid inadvertently deleting an audio document your Playlist refers to. These steps will teach you how to close and save a Playlist you are working on, as well as how to re-open saved Playlists.

To Open a Playlist:

1. From Peak's File menu, choose Open.
2. Use the Open dialog that appears to locate the Playlist on your computer's hard drive.

3. When you locate the Playlist, select it and click the Open button.

To Close a Playlist:

- With the Playlist window in the foreground, choose Close from the File menu – if the Playlist has not had its latest edit saved, it will present you with a Save dialog, giving you an opportunity to save your work. To save the Playlist, click the Save button – if you do not wish to save the Playlist, choose the Don't Save button.

Adding Regions to a Playlist

There are several ways to add Regions to a Playlist. Regions may be added from within the Playlist, using the Add Region button, as well as by being dragged in from Peak's Contents window, from an audio document's contents drawer, from the Finder, or from iTunes.



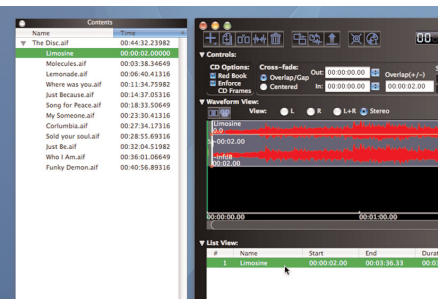
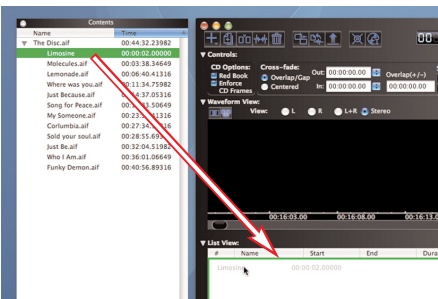
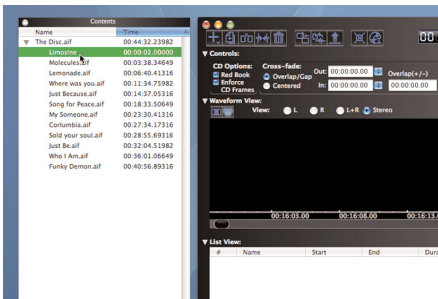
When dragging Regions into a Playlist from the Contents Window or an audio document's Contents Drawer, be sure the Contents Window or Drawer is displaying Regions. The buttons at the bottom of the Contents Window or Drawer determine whether Loops, Markers, Regions, or a graphical edit history are being displayed.

To Add a Region to a Playlist using the Add Region Button:

1. In the upper left portion of the Playlist interface, click the Add Region Button – a pop-up menu appears, containing the names of all open audio documents, as well as the Regions contained in each. The main headings are audio document names, and the indented items are Region names contained in an audio document.
2. Select the Region you wish to add to the Playlist – it is added to the end of the Playlist. If no other items are in the Playlist, it becomes the first item.

To Add a Region to a Playlist from Peak's Contents Window:

1. If the Contents window is not already open, choose Contents from the Window menu – the Contents Window appears.
2. In the Contents Window, locate the name of the audio document containing the Region you wish to add to the Playlist.
3. Click the disclosure triangle to the left of the Region's name – a list of all Regions contained in that audio document appears.
4. Click on the name of the Region you wish to add, and drag it into the Playlist's Waveform or List Area.



To Add multiple Regions to a Playlist from Peak's Contents Window:

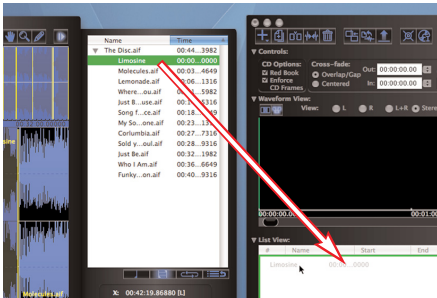
1. If the Contents window is not already open, choose Contents from the Window menu – the Contents Window appears.
2. In the Contents Window, locate the name of the audio document(s) containing the Region you wish to add to the Playlist.
3. Click the disclosure triangle to the left of the audio document's name – a list of all Regions contained in that audio document appears.
4. ⌘-click (for discontinuous selections), or Shift-click (for contiguous selections) on the names of the Regions you wish to add to the Playlist, and drag them into the Playlist's Waveform or List Area.



To add all the Regions contained in a document to a Playlist, in the same order they appear in the document, click on the Region name in the Contents window and drag it into the Playlist. All the Regions it contains are added to the Playlist in sequential order.

To Add a Region to a Playlist from an audio document's Contents Drawer:

1. In the audio document containing the Region you wish to add to the Playlist, click the Toggle Contents Drawer button (⌘-F) to open the Drawer (if it is not already open) – the document's Contents Drawer opens from the right side of the document window.
2. Click the disclosure triangle to the left of the audio document's name – a list of all Regions contained in that audio document appears.
3. Click on the name of the Region you wish to add to the Playlist, and drag it into the Playlist.



Dragging a Region from an audio document's drawer to the Playlist.

To Add multiple Regions to a Playlist from an audio document's Contents Drawer:

1. In the audio document containing the Region you wish to add to the Playlist, click the Toggle Contents Drawer button (⌘-F) to open the Drawer (if it is not already open) – the document's Contents Drawer opens from the right side of the document window.
2. Click the disclosure triangle to the left of the audio document's name – a list of all Regions contained in that audio document appears.
3. ⌘-click (for discontinuous selections), or Shift-click (for contiguous selections) on the names of the Regions you wish to add to the Playlist, and drag them into the Playlist's Waveform or List Area.



To drag all the Regions in an audio document into a Playlist, click on the name of the document, rather than the names of Regions – and drag it to the Playlist. All Regions in the document will be added to the Playlist.

Adding Regions to Specific Location in a Playlist

Single or multiple Regions may be added either to the end of the Playlist, or to a specific location. This section outlines the various behaviors available when adding Regions to a Playlist.

- A Region added to an empty Playlist becomes the first Event.

- Additional Regions are added to the end of the Playlist.
- To place a new Region in a specific location (i.e., between two other Playlist Events), drag the new Region over the Playlist Event (selecting it) that you wish it to precede, and release the mouse button. The selected Playlist Event is pushed further down the List (and later in time) to accommodate the new Region.

Undoing/Redoing

Peak's Playlist features unlimited levels of undo/redo. Before diving into the various editing tools, modes, and options, it's probably a good idea to learn how to use Undo/Redo. This way, if any mistakes are made along the way, they can easily be undone.

Undo or redo actions may be performed one at a time, or by using Peak's graphical edit history window.

To Undo Edits one at a time:

- From the Edit menu, choose Undo, or press ⌘-Z on your keyboard.

To Redo Edits one at a time:

- From the Edit menu, choose Redo, or press ⌘-Y on your keyboard.

To Undo a Series of Edits:

- From the Edit menu, choose Undo repeatedly, or press ⌘-Z on your keyboard repeatedly – until you have undone the desired number of edits.

Or:

1. From the Edit menu, choose Edits – Peak's graphical edit history window appears.
2. Select the Edit/point in the project you wish to return to.
3. Click the Revert to Item button.
4. Click the Done button.



Be aware that if you undo a series of edits, and then perform new edits, you will not be able to return to the series of edits that were performed after the undone edits – these edits will be replaced by the new edits in the edit history list.

Indexes

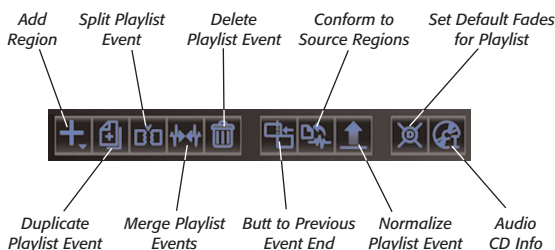
In addition to track indexes, which designate the start or end of a CD track, you may also burn standard indexes to audio CDs using Peak. Indexes are created by placing Markers in the desired location within a source audio document/Region that is used in a Playlist.

Index markers are not visible when working in the Playlist, but are burned to CD. Indexes are commonly used on classical music CDs, where a track may be relatively long (i.e., 20 minutes or more), and indexes appear at various intervals or points of interest, within a single CD track.

With CD indexes in place, a listener can navigate to the index location using the indexing controls on a compatible CD player. Most commercial CD players do not support navigation using indexes

Basic Playlist Controls

Basic Playlist functions are controlled by a series of buttons which appear on either side of the Counter Display, near the top of the Playlist interface. These buttons are used for adding, and deleting Playlist Events, burning audio CDs, setting crossfade preferences and a number of other important functions.



Add Region Button

This control allows you to add any Regions from any open audio documents to the Playlist. When clicked, a pop-up menu appears with a list of all available Regions. The main headings are audio document names, and the indented items are Region names contained in an audio document. When a Region name is chosen from this menu, it is added to the Playlist. When an audio document name is chosen, all of the Regions it contains are added to the Playlist in the same order they appear in the audio document. If the selected audio document contains no Regions, one is created automatically that contains the entire audio document.

Duplicate Playlist Event Button

This control duplicates the selected Playlist Event(s). Duplicated events are added directly after the selected Playlist Events.

Split Selected Playlist Event Button

This control allows a single selected Playlist Event to be split into two separate events. The position of the Playhead cursor determines the location of the split. When a Playlist Event is split, the newly created event is placed directly after the original Playlist Event, spliced with a butt edit, so there is no change in timing. The newly created events may be custom named using the List View if desired.

Merge Selected Playlist Events Button

This control allows two adjacent Playlist Events to be merged into one. When using this command, the Playlist is essentially taking the two selected events, and bouncing them to disk as a new file, deleting the adjacent selected events, and then automatically importing the bounced file, and placing it into the timeline in the position where the adjacent selected events were originally located. The newly created event may be custom named using the List View if desired.



Be sure to save the merged file somewhere where you will not lose it! For example, if your project is stored in a specific folder, be sure to save the merged file there as well, to keep it with the project it belongs to.

Delete Playlist Event Button

This control deletes the selected Playlist event(s). It is the equivalent of pressing the Delete key on your keyboard.

Butt to Previous Event End Button

This control “snaps” a selected Playlist Event’s Begin Boundary to the End Boundary of the preceding Playlist Event, creating a “butt” edit.



When multiple Playlist Events are selected, each one is butted with the Event that appears before it in the timeline. Be aware that The Butt to Previous Event End control overrides current event placement, and can alter the relationships between Playlist Events. More information on this and other types of transitions is available in both the Waveform and List View sections, later in this chapter.

Conform Playlist Event to Source Region Button

This control conforms the positions of Region markers in a source audio document to the positions of the selected Playlist Events’ Begin and End Boundaries. By default, Peak does not conform the position of Region markers in source audio documents when edits are performed in the Playlist.



The Conform Playlist Event to Source Region command can be turned on or off to enable/disable this behavior. For one time conforming of Playlist Events to their source Regions, the button can be clicked on and then off again immediately. The selected Source Regions will be conformed, and then subsequent edits will not be automatically conformed.

This functionality is useful for users who perform edits in the Playlist, and need to have the original Regions in the source audio documents updated to reflect these edits.

Using the Conform Playlist Event to Source Region command allows additional Playlists to be created, based on edits made in a prior Playlist, and also allows exporting Regions from original source documents that are identical in content to the events used in a Playlist.

To Conform Source Regions to Playlist Event edits:

1. Select the Playlist Events you wish to conform with their source Regions.
2. In the upper left portion of the Playlist, click the Conform Playlist Event to Source Region button – the Region markers in the source audio document(s) are repositioned to reflect any edits that have been made to the Events.

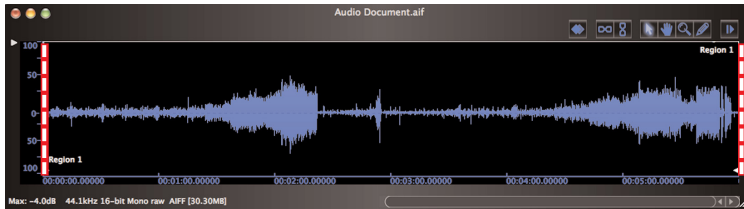


If you use the Conform Playlist Event to Source Region command, be sure to save the source audio documents containing the Regions that were conformed before quitting Peak. If you do not do this, Region markers may not be in the positions you expect when you open the audio document at a later time. Source Regions that were not located and conformed will show a tilde (~) character before the Playlist Event’s name in the List View.

To Conform Playlist Event to Source Region edits:

1. In the upper left portion of the Playlist, click the Conform Playlist Event to Source Region button.
2. Edit the desired Region(s) length and/or position in the audio document as desired – the corresponding Playlist Events are updated to reflect any edits that have been made to the Source Regions.

Overview of Conforming Playlist Events to Source Regions



Initially, a Region is created in an Audio Document (Dashed lines indicate Region markers).



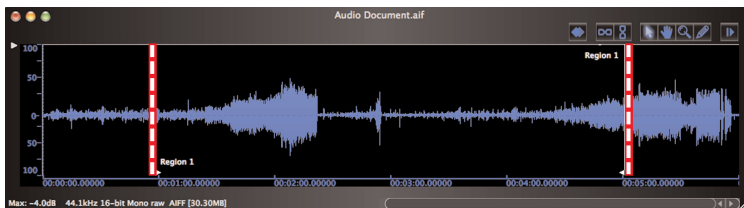
Here is the Region in a Playlist – now a "Playlist Event" (Note that Conform Playlist Events to Source Regions is ON!)



If we trim the left edge...



...and also trim the right edge...



...the Region markers in the source audio document conform to these edits (note position of Region markers).



Unlike conforming Source Regions to Playlist Event edits, you cannot click the Conform Playlist Event to Source Region for one-time, or intermittent conforming. To have Playlist Events update and reflect Region edits, the Conform Playlist Event to Source Regions mode must be turned on at all times.

Normalize Selected Playlist Event Button

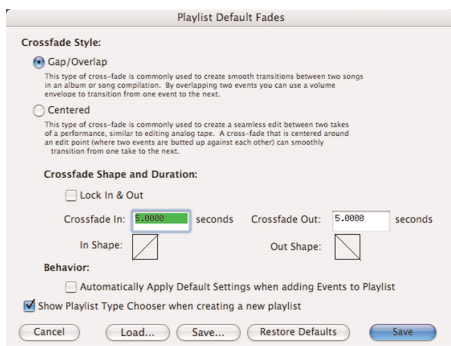
This control normalizes the level of the selected Playlist Event(s). The Playlist's Normalize function applies normalization non-destructively, using the Event's Volume envelope.

To Normalize an Event's Level:

1. Select desired Playlist Event to normalize.
2. Click the Normalize Selected Playlist Event button.
3. In the Normalize dialog that appears, enter the desired normalization value, and click the OK button – the Event's volume envelope is modified to create the desired level of normalization.

Set Default Fades for Playlist Button

This control opens the Playlist Default Fades dialog, in which you can set various options for how Overlap and Centered crossfades behave by default.



Playlist Default Fades dialog

Crossfade Style Radio Buttons

These radio buttons determine which style of crossfade the rest of this dialog's options affect.

- To set default behavior for Gap/Overlap crossfades, click the Gap/Overlap Button.
- To set default behavior for Centered crossfades, click the Centered radio button.

Crossfade Shape and Duration Controls

These controls determine the shape and duration of the Fade In and Fade Out envelopes.

Lock In & Out Checkbox – When checked, this checkbox locks the relationship between the Fade In and Fade Out durations.



Note that while the Lock In & Out checkbox is unchecked, the Fade In and Out shapes may be edited separately. When this checkbox is checked, only the "Crossfade In" field may be edited.

Crossfade In & Crossfade Out Duration Fields – The values in these fields define the duration of the Crossfade In and Crossfade Out Envelopes.

Fade In & Fade Out Shapes – The thumbnail graphics that appear below the Fade In & Fade Out duration fields show the default fade envelope shapes that will be applied to Playlist Events when they are crossfaded together. When working in the Playlist, these shapes can be applied by choosing "default" from the Fade In or Fade Out Envelope menus in the Crossfade controls, or in the List View's I-XF/O-XF columns. Clicking the thumbnail opens the Fade In Or Fade Out editor dialog, respectively, where the fade envelope can be modified.

To choose a Fade Envelope:

1. Open the Playlist Default Fades dialog by clicking the Set Default Fades for Playlist Button in the upper left section of the Playlist.

- Click the thumbnail graphic for either the Fade In or Fade Out – the Fade editor dialog appears.
- Choose the desired envelope shape from the Current Envelope pop-up menu – or click on the envelope in the graph display area to add additional breakpoints to create a custom fade envelope. Existing breakpoints may be moved by clicking and dragging. Breakpoints may be deleted by selecting with the mouse, and clicking the delete key on your keyboard.
- Click the Change button when you are finished.

Note that if you save a custom envelope shape into:



*/MacHD/Users/<YourAccount>/Library/
Preferences/Peak Envelopes/*

It will be available in the Current Envelope pop-up menu in all of Peak's envelope editor dialogs.

Behavior Controls

Automatically Apply Default Settings when Adding Events to Playlist Checkbox – When checked, all Events added to a Playlist will have use the default settings from the Playlist Default Fades dialog (i.e., the settings in this dialog, which are mentioned above) applied.



Default fades will only be applied to Playlist Events that are longer than the duration of the default fade. If a Playlist Event is shorter than the fade you are attempting to apply (automatically, via the Default Fades dialog's settings) no default fade will be applied.

Show Playlist Type Chooser When Creating a New Playlist Checkbox

This checkbox determines whether or not the New Playlist dialog is displayed when creating a new Playlist.

The New Playlist dialog allows you to designate whether a new Playlist is opened in Overlap/Gap or Centered editing mode.

Audio Compact Disc Info Button

The Compact Disc Info Info button opens the CD-TEXT for Audio CD dialog, which allows entering CD-TEXT data that is applicable to the entire disc, including Disc Title, Performer, Songwriter, Composer, Arranger, Message, Genre, Disc Identifier, Product Code (for EAN or UPC barcodes), etc.

Any text entered in the Message field of the CD-TEXT for Audio CD dialog also appears in an exported DDPID file, one of several files created as part of a DDP Fileset export.

Counter Display

The Playlist's Counter display appears at the center of the Control Area, and provides a number of useful functions. In addition to the functions described below, the Counter Display may also be used for scrubbing.



Track Number

Elapsed/Current Time

Track Number Display

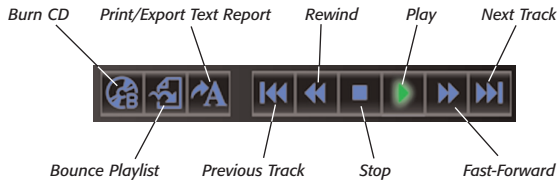
The current Track Number appears on the left side of this display. This shows either the Track Number of the Playlist Event currently being played, or the Playlist Event that is selected (when Playback is stopped).

Time Display

When the Playlist is being played back, the display shows the elapsed time from the beginning of the Playlist. When playback is stopped, it shows the current position of the playhead cursor within the Playlist's timeline.

To scrub audio using the Counter:

1. Click into the Display area, and hold the mouse button down.
2. Drag the mouse cursor to the left or right – dragging to the left scrubs backwards through the Playlist, and dragging to the right scrubs forward.



Burn CD Button

The Burn CD button opens the Burn Audio CD dialog, where you can select various options prior to burning a Playlist as a Red Book format audio CD. More information appears in the “Output Options” section, later in this chapter.

Bounce Playlist Button

The Bounce Playlist control is used to export the contents of the Playlist as a file, rather than as an audio CD. File format options include AIFF, Sound Designer II, Jam Image, iTunes Playlist, or DDP (Disc Description Protocol) 2.0 file set. More information on burning audio CDs and file export options appears in the Output Options sections, later in this chapter.

Print/Export Text Report Button

This button opens the Export as Text dialog, which allows printing or exporting a customizable formatted text report, or exporting a tab-delimited text report, that can be imported into applications such as FileMaker Pro or Excel.



Burning Audio CDs, Bouncing a Playlist as a new audio document, exporting text reports, and exporting DDP files are covered in detail later in this chapter, in the section on Output Options.

Previous Track Button

Clicking this button locates the playhead to the beginning of the previous track. If you are located at the beginning of the Playlist and this button is clicked, the playhead will “wrap around” to the beginning of the last event in the Playlist. Using the Previous track button also changes the selected Playlist Event. The keyboard equivalent for this control is the Up Arrow key.

Rewind Button

Clicking the Rewind button while audio is playing will play audio backwards rapidly until the button is released. Clicking this button while playback is stopped has the same effect as using the Previous Track button – the playhead cursor will locate to the beginning of the previous Playlist Event, and the selected Playlist Event changes.

Stop Button

Clicking the Stop button stops playback. The keyboard equivalent for this control is the Space Bar.

Play Button

Clicking the Play button initiates playback. The keyboard equivalent for this control is the Space Bar.

Fast-Forward Button

Clicking the Fast-Forward button while audio is playing will play audio forward rapidly until the button is released. Clicking this button while playback is stopped has the same effect as using the Next Track button – the playhead will locate to the beginning of the next Playlist Event, and the selected Playlist Event changes.

Next Track Button

Clicking this button locates the playhead to the beginning of the next track. If you are located at the end of the Playlist and this button is clicked, the playhead will “wrap around” to the beginning of the first event in the Playlist. Using the Next track button also changes the selected Playlist Event. The keyboard equivalent for this control is the Down Arrow key.

Controls Area

The Controls Area, located in the upper portion of the Playlist window, contains a number of global editing controls (those that affect both the Waveform and List Views). This section covers the function of all controls in this part of the interface.

Show/Hide Controls Area Disclosure Triangle

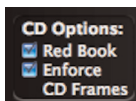
The Controls Area may be collapsed for a larger view of other Playlist elements, by clicking the disclosure triangle that appears to the left of the “Controls” interface label.

CD Options Controls Group

The CD Options group is a section of the Controls Area, which contains two important controls – the Red Book and Enforce CD Frames checkboxes. These are described below.

Red Book Checkbox

When the Red Book checkbox is checked, the Playlist enforces a number of behaviors, which ensure that CDs burned from it



will be Red Book compliant as well, and be playable in any CD player. In Red Book mode, the Playlist enforces the following:

- A two second pause must exist prior to the first track.
- Each track must be at least four seconds long.
- The Playlist may contain a maximum of 99 tracks.
- The Playlist may contain a maximum of 99 indexes.
- Maximum duration of Playlist is 78 minutes, including pauses.

Enforce CD Frames Checkbox

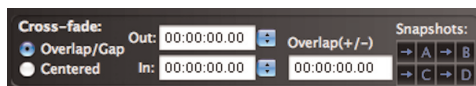
When checked, Playlist Events are automatically conformed to the closest CD frame boundary, and all edits are automatically “snapped” to CD frame boundaries.

If working with a Playlist destined to become a Red Book CD, it is highly recommended that you have the Red Book checkbox checked. Use of the Enforce CD Frames checkbox will depend on the type of material you are working with. For continuous mix CDs, it's best to use Enforce CD Frames. For CDs that will have their tracks separated by gaps or pauses, it's best to leave this option off



Crossfade Controls Group

The area of the Playlist interface contains various controls for working with crossfade and gap transitions, and for defining the shape and duration of fade envelopes. These are described in detail below.



Crossfade Mode Radio Buttons

These buttons allow toggling between Overlap/Gap and Centered modes. Details for using each is found later in this chapter, in the section on the Waveform View Area.

Fade Out Duration Field

This field controls the length of the selected transition's Out Event fade out envelope, which is defined in the waveform display by the two red Default Fade Out Breakpoints, or List View Column information.

Fade Out Envelope Menu

This menu controls the shape of the selected transition's Out Event fade out envelope, which is defined in the waveform display by the two red Default Fade Out Breakpoints, or List View Column information.

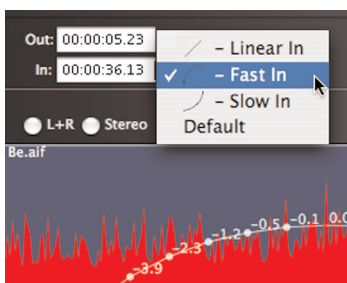
Fade In Duration Field

This field controls the length of the selected transition's In Event fade in envelope, which is defined in the

waveform display by the two red Default Fade In Breakpoints, or List View Column information.

Fade In Envelope Menu

This menu controls the shape of the selected transition's In Event fade in envelope, which is defined in the waveform display by the two red Default Fade In Breakpoints, or List View Column information.



Overlap Duration Field

This field allows creation of specific-length overlap or gap transitions between Playlist Events. Entering a negative value creates an overlap, while a positive value creates a gap.

Transition Snapshot Controls

These buttons are used to store and recall up to four temporary “snapshots”, or presets, between two Playlist Events. Snapshots store envelope shapes and durations, and overlap or gap duration between two Playlist Events.

To store a snapshot:

1. Create desired transition.
2. Click the arrow to the left of the snapshot button you wish to assign the snapshot to (i.e., to assign the current transition state to snapshot A, click the arrow that appears to the left of the snapshot A button).

To recall a snapshot:

- Click the snapshot button you wish to recall (i.e., to recall the transition state stored in snapshot A, click the snapshot A button).

Nudge Controls Group

This part of the Playlist interface contains various controls for nudging Playlist Events and crossfades.



Slip/Shuffle Mode Radio Buttons

The Playlist's Slip and Shuffle modes offer two different ways to move Playlist Events when working in Overlap/Gap mode. Both are useful in the editing process, as there are situations where different behaviors are required.



Please note that Slip and Shuffle modes do not apply when working in Centered crossfade mode.

Slip Mode – In Slip editing mode, a selected Event(s) moves independently of all other Playlist Events. When multiple Events are selected the relationship between selected Events remains fixed, and the selected group moves independently of all other Events. Slip mode editing is used when it is important to move only the selected Event(s), and not disturb the placement of other Events relative to the Playlist's timeline.



The S key on your keyboard will toggle between Slip and Shuffle editing modes.

- Moving a selected Event or Events with the mouse while in Slip Mode does not affect the position of unselected Events relative to the timeline.
- Moving a selected Event or Events in Slip Mode affects the duration of the crossfades for the unselected Playlist Events that appear before and after the selected Events.
- The behaviors above hold true for all Playlist Event movements made using the mouse. A number of variations are available when moving Events using the Nudge controls – for more information on

these variations, please see the section on Nudge Controls later in this chapter.

To choose Slip Mode:

- Click the Slip Mode radio button.



When the Red Book checkbox is checked, the first Playlist Event (or a selection of multiple Playlist Events that includes the first) cannot be moved from the two-second mark on the timeline. Red Book specifications require a two second Pause before the first Playlist Event.

Shuffle Mode – In Shuffle mode, a selected Event(s) moves independently of all other Events that precede it, and all Events that follow it move in sync keeping the relationships between the selected Event and following Events fixed.

- Shuffle mode is used when it is important to edit a transition between two Events that appear mid-Playlist (after the beginning of the Playlist, but before the end).
- In Shuffle mode, any transitions following the current transitions being edited are not disturbed.
- Whether a single Event or multiple Events are selected produces the same effect in Shuffle editing mode – all Events after the first selected Events are moved as a group.
- Moving a selected Playlist Event or Events with the mouse while in Shuffle Mode does not affect the position of preceding Events relative to the timeline, and all subsequent Events are moved by an equal amount, preserving the relationships between them.
- Moving a selected Event or Events in Shuffle Mode affects the duration of the transition from the preceding Out Event into the first selected In Event.

To Choose Shuffle Mode:

- Click the Shuffle Mode button.

Preserve Timing Checkbox

Preserve Timing is a multi-function modifier that is available when working in Overlap/Gap or Centered mode. When active, it allows the following behaviors:

Rolling Edits – Trimming one component of a transition will trim the other component by an equal and opposite amount, this maintains the duration of the transition, the relationship of both components' audio content relative to each other, and to the timeline (audio does not move along timeline).

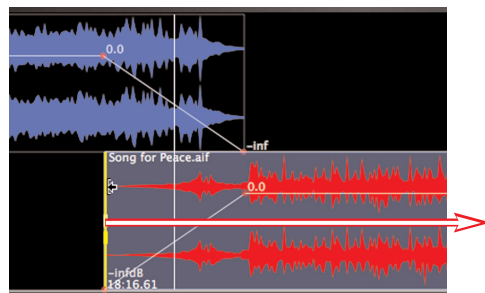


In List View, (and Peak LE, which features List View only) rolling edits can be performed by modifying a Playlist Event's End time, while Preserve Timing is active.

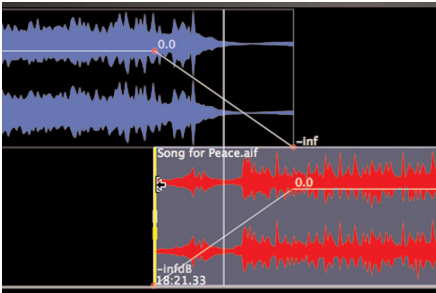
Crossfade Creation – Entering a value into either an “Out” Event's O-XF-T column, or into the corresponding “In” Event's I-XF-T column creates a crossfade of the specified duration between the two component Events, by moving the “In” component earlier in time.

Fade Locking – When a fade envelope/shape is chosen from either the O-XF or I-XF columns, the corresponding component's fade is modified to conform to the selected fade type and duration. For example, choosing a “Fast” fade in of five seconds, will automatically set the “Out” component's fade type to “Slow Out”, also with a duration of five seconds.

In the case of the “Customize Fade” item, both components will be modified to conform to the shape defined in the Fade Envelope Editor.



In a rolling edit, only the Edit Point and the fade envelopes move...



...while audio stays locked to the timeline.

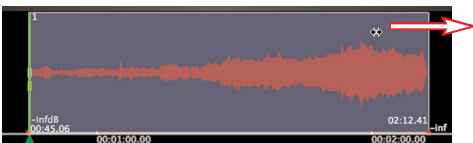
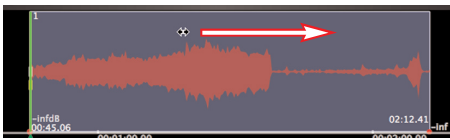


Engaging Preserve Timing does not immediately cause any changes to fade shapes or durations. Changes are not made until one of the component shapes or durations is modified.

Trim Tool Modifier – Pressing the Option key while clicking the Nudge In or Out buttons will nudge using the Trim tool.

Scroll Regions Checkbox

Scroll Regions is a modifier that is available when working in both Overlap/Gap and Centered editing modes. When Scroll Regions is active, using the Move tool on a Playlist Event moves the audio content of a Playlist Event within fixed Begin and End Event boundaries – while audio does move along the timeline, the start and end times of the Event do not change.



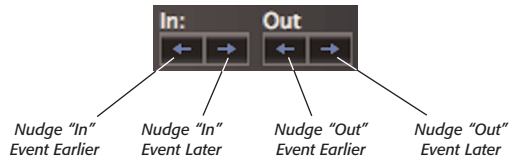
- When the Scroll Regions checkbox is checked, any use of the Move tool will exhibit this behavior.
- Since Scroll Regions is a Move tool modifier, the Nudge In and Out buttons can be used to Scroll the Audio content in the In and Out components that make up a transition.



Scrolling Regions requires audio to exist before or after the Region's start/end to scroll earlier/later, respectively.

Nudge In and Out Buttons

These controls perform different functions, depending on whether you are working in Overlap/Gap or Centered modes, and depending on modifiers being used. The various functions are described in detail below.



Using the Nudge Buttons in Overlap/Gap Mode

When using these buttons in Overlap/Gap mode, their functionality is the same as using the Move tool. If the Option modifier key is used in conjunction with the Nudge buttons, their function is the same as using the Trim tool.

Nudge In Event Earlier in Timeline Button – Clicking this button moves the “In” component of a transition earlier in the timeline. This is equivalent to clicking and dragging the In component to the left using the Move tool with the mouse. The keyboard shortcut for this button is the Comma key.

Nudge In Event Later in Timeline Button – Clicking this button moves the “In” component of a transition later in the timeline. This is equivalent to clicking and dragging the In component to the right using the Move tool with

the mouse. The keyboard shortcut for this button is the Period key.

Nudge Out Event Earlier in Timeline Button – Clicking this button moves the “Out” component of a transition earlier in the timeline. This is equivalent to clicking and dragging the Out component to the left using the Move tool with the mouse. The keyboard shortcut for this button is Shift-Comma.

Nudge Out Event Later in Timeline Button – Clicking this button moves the “Out” component of a transition later in the timeline. This is equivalent to clicking and dragging the Out component to the right using the Move tool with the mouse. The keyboard shortcut for this button is Shift-Period.

Using the Nudge Buttons in Centered Mode

This section describes using the Nudge Buttons in Centered crossfade mode.

Nudge In Event Earlier in Timeline Button – Clicking this button lengthens the crossfade symmetrically around the edit point, by trimming the In and Out components equally in opposite directions. The keyboard shortcut for this button is the Comma key.

Nudge In Event Later in Timeline Button – Clicking this button shortens the crossfade symmetrically around the edit point, by trimming the In and Out components equally in opposite directions. The keyboard shortcut for this button is the Period key.

Option Key + Nudge Out Event Earlier in Timeline Button – Clicking this button while holding the Option key moves the crossfade earlier in time, while preserving its duration (a “rolling edit”). The keyboard shortcut for this button is the Option + Comma keys.

Option Key + Nudge Out Event Later in Timeline Button – Clicking this button while holding the Option key moves the crossfade later in time, while preserving its duration (a “rolling edit”). The keyboard shortcut for this button is the Option + Period keys.

Nudge Amount Field

The Nudge Amount field lets you specify the amount of time the selected Playlist Event is nudged by for each click of a nudge button. For example, if you had the Playlist’s Nudge Format set to Seconds, and you wanted to nudge Events by one second with each click of a nudge button, you would enter “1” in the Nudge Amount field.

To Set a nudge amount:

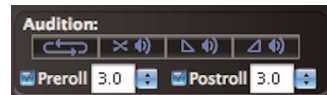
- Click into the Nudge Amount field, and edit the existing value.

To Set a nudge Time Unit:

- Select Time Units from the Options menu, and choose the desired format.

Audition Transition Controls Group

The Audition Transition Controls group allows auditioning crossfades, gaps, or soloing of the individual “In” and “Out” elements of a crossfade. Use these controls to fine-tune crossfades.



Audition Transition Button

Clicking the Audition Transition buttons plays both components of a transition (i.e., a crossfade, butt edit, or gap) from Fade Out start to Fade In end. The keyboard equivalent for this control is the X key.

To Audition a transition:

- Click the Audition Transition button (or press the X key) – both components of the transition play.

Audition Fade Out Button

Clicking the Audition Fade Out button plays only the Playlist Event that is being faded out of. The keyboard equivalent for this control is the [letter] O key.

To Audition the Fade Out portion of a transition:

- Click the Audition Fade Out button (or press the [letter] O key on your keyboard) – the Fade Out is soloed.

Audition Fade In Button

Clicking the Audition Fade In button plays only the Playlist Event that is being faded into – also referred to as the “In Event”. The keyboard equivalent for this control is the [letter] I key.

To Audition the Fade In portion of a transition:

- Click the Audition Fade In button (or press the [letter] I key on your keyboard) – the Fade In is soloed.

Use Pre-roll in Audition Checkbox

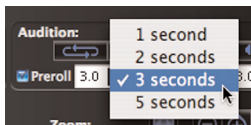
Checking this box applies the specified amount of pre-roll when auditioning.

Use Post-roll in Audition Checkbox

Checking this box applies the specified amount of post-roll when auditioning.

Pre-roll Amount Field

This field specifies how much pre-roll to apply, when active. Custom values may be entered. Common values in seconds may be chosen from the Pre-roll Presets pop-up menu, to the right of this field.

**Post-roll Amount Field**

This field specifies how much post-roll to apply, when active. Custom values may be entered. Common values in seconds may be chosen from the Post-roll Presets pop-up menu, to the right of this field.

Pre-roll Presets Pop-up Menu

This menu contains presets for common pre-roll values. A value chosen from this menu is entered into the Pre-roll Amount field, to the left of this menu.

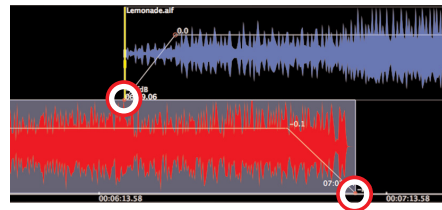
Post-roll Presets Pop-up Menu

This menu contains presets for common post-roll values. A value chosen from this menu is entered into the Post-roll Amount field, to the left of this menu.

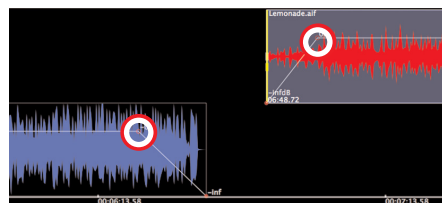
Auditioning Transitions with Pre- and Post-roll

Transitions may be auditioned with a user-defined amount of pre- and/or post-roll. Having a bit of audio play before and after the transition can be useful to put the transition into context with the audio material the occurs before and after it.

The position of the earliest and latest default red fade breakpoints in the timeline determines how auditioning works. Depending on the type of transition being used, this can vary. The pictures below illustrate this concept.



In this overlap crossfade transition, the earliest fade breakpoint is the beginning of the fade in on the “In” Event, and the latest breakpoint is the end of the fade out on the “Out” Event – so pre-/post-roll are measured from these points.



In this gap transition, the earliest fade breakpoint is the beginning of the fade out on the “Out” Event, and the latest breakpoint is the end of the fade in on the “In” Event – so pre-/post-roll are measured from these points.

To Preview a Transition with Pre- & Post-roll:

1. Check the Pre- and Post-roll checkboxes.
2. Enter the desired amount of pre- and post-roll time in the Pre- and Post-roll fields (or choose from common values in the Pre-/Post-roll Amount Pop-up menus).
3. Click the desired Audition button to hear that part of the transition, with pre- and/or post-roll.
 - To hear just the In Event's Fade In, click the Audition Fade In button (or press the [letter] I key).
 - To hear just the Out Event's Fade Out, click the Audition Fade Out button (or press the [letter] O key).
 - To hear both components of the transition, click the Audition Transition button (or press the [letter] X key).

Loop Audition Button

Clicking the Loop Audition Button will repeat whichever type of crossfade auditioning you choose. For example, engaging Loop Audition, and then clicking the Audition Crossfade button will play both components of the crossfade (the In & Out Events) in loop mode. If pre- and post-roll values have been specified, the loop's length will increase to reflect these. The keyboard equivalent for this control is the [letter] L key.

To activate Audition Looping:

- Click the Loop Audition button (or press the [letter] L key on your keyboard). When looping is active, the Loop button is highlighted.

To de-activate Audition Looping:

- Click the Loop Audition button again (or press the [letter] L key again on your keyboard).



When auditioning a fade in, pre-roll is ignored, as there is no audio material prior to the first breakpoint that defines the beginning of the fade in. Likewise, when auditioning a fade out, post-roll is ignored, as there is no audio material after the last breakpoint that defines the end of the fade out.

Waveform View Area

The Waveform View Area appears just below the Controls Area, and contains a graphical representation of the Events used in a Playlist, as well as various controls for configuring view options. The Waveform View Area is particularly useful for creating and editing crossfade transitions between Playlist Events, as its graphical display is highly intuitive. The various controls and options available in the Waveform View Area are discussed in detail in this section.



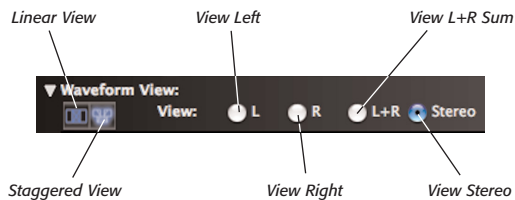
Peak LE users may wish to skip ahead to the List View section, as Peak LE does not offer Waveform View.

Show/Hide Waveform View Area Disclosure Triangle

This small triangle appears to the left of the "Waveform View" label in the interface. When the Waveform View disclosure triangle is pointing to the right (closed position), it is hiding the entire Waveform View portion of the Playlist's interface. When the disclosure triangle is pointing downward (open position) it is showing, or "disclosing", the Waveform View portion of the interface.

View Controls

The Playlist's View Controls allow you to configure various options to suit the work that you are doing. These controls affect only the Waveform View Area and have no impact on settings in the List View or Controls Area.



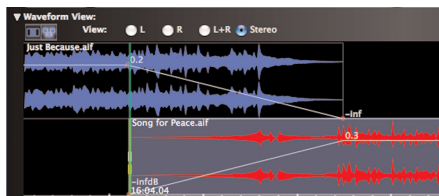
Linear View Button

When the Linear View button is selected, the audio waveform display appears much like a single mono track. Playlist Events overlapping in time are displayed overlapping visually on the same horizontal axis.



Staggered View Button

When the Staggered View button is selected, Playlist Events are displayed successively on separate horizontal axes.

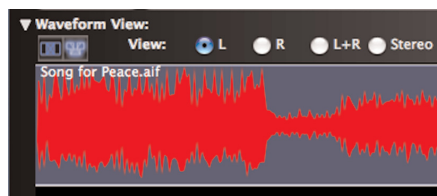


Being able to vary your view of Events along the Playlist's timeline is very important. There may be times when you need the perspective of being zoomed out all the way, so as to get an overview of how imported Regions are arranged. Some kinds of edits may require the precision of a high zoom level, for example, to align the beats in the waveforms of two Events you are trying to beat-match. The following few

steps, along with the section on Playlist Navigation will teach you how to get around quickly in the Playlist interface.

View Left Channel Waveform Radio Button

When this radio button is selected, only the left audio channel of a stereo Event's audio is displayed.



6

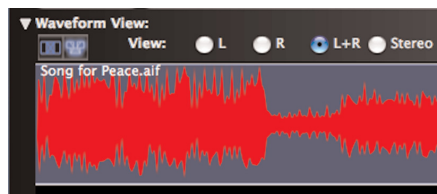
View Right Channel Waveform Radio Button

When this radio button is selected, only the right audio channel of a stereo Event's audio is displayed.



View L+R Sum Waveform Radio Button

When this radio button is selected, the sum of both the left and right audio channels of a stereo Event's audio are displayed.

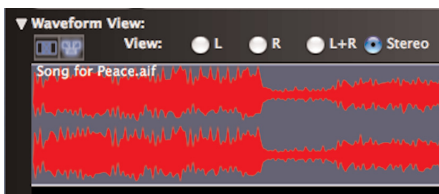




Despite the waveform display appearing to be composed of a single audio channel/waveform when in L + R Channel mode, this single waveform is actually a sum of the Left and Right channels, being displayed simultaneously. When working in a mono Playlist, only the View Left Channel Waveform Radio button is available.

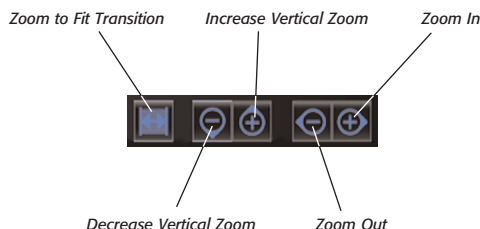
View Stereo Waveform Radio Button

When this radio button is selected, both the left and right audio channels of a stereo Event's audio are displayed.



Zoom Controls

The Zoom Controls are located in the upper right portion of the Waveform View area, and control various zoom-related functions.



Zoom to Fit Transition Button

This button zooms the currently selected transition to fit the width of the Playlist window. The keyboard equivalent is **⌘-Shift-]**.

Decrease Vertical Zoom Button

This button decreases the vertical zoom level. The keyboard equivalent is **⌘-Down Arrow**.

Increase Vertical Zoom Button

This button increases the vertical zoom level. The keyboard equivalent is **⌘-Up Arrow**.

Zoom Out Button

This button decreases the horizontal zoom level. The keyboard equivalent is **⌘-[**.

Zoom In Button

This button increases the horizontal zoom level. The keyboard equivalent is **⌘-]**.



A scroll wheel mouse whose wheel doubles as a button may be used for horizontal zooming. To zoom using this type of mouse, click the wheel/button, then rotate the wheel to zoom in or out. Mice with non-button wheels may not operate as described above.

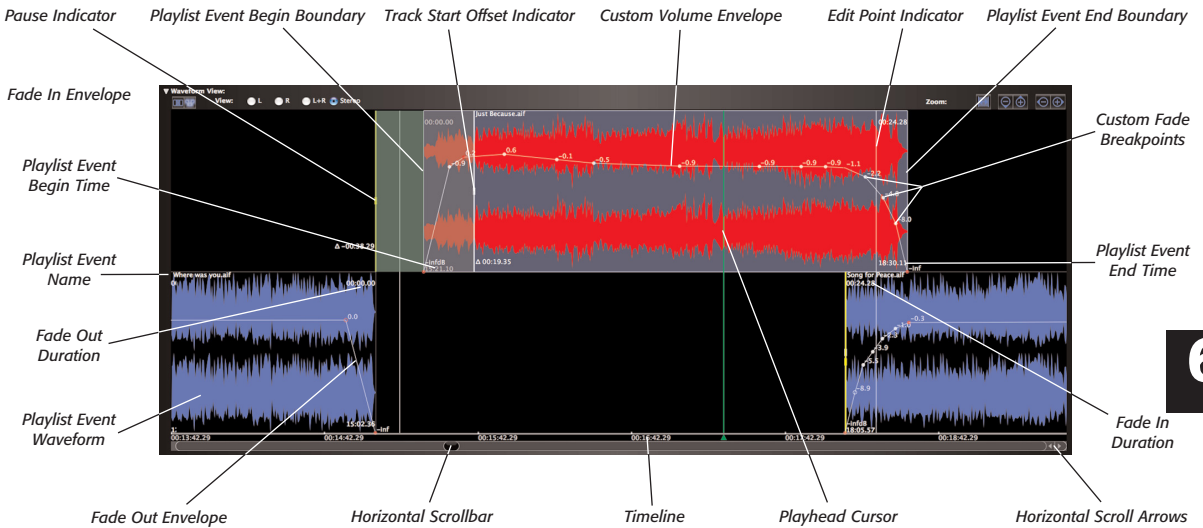
Waveform Display Area

The Playlist's Waveform Display area contains quite a number of visual elements which are important to understand. This section will familiarize you with these elements, the majority of which will be used in every Playlist project you undertake.

Playlist Event Waveform Display

The Playlist Event Display shows audio that is contained between Region markers in the original source audio document. By default, a Playlist Event appears in blue, and when selected, in light grey. These colors may vary, depending on whether you have assigned custom themes or colors in Peak's Preference dialog.

Overview of Waveform View Area



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Playlist Event Name Display

The Playlist Event Name display appears in the upper left corner of the Playlist Event Display. If a Playlist Event's Display is moved partially off-screen because of window scrolling activity, the Event's name will remain in view as long as any portion of the actual Region Display is visible. When a Track Offset is set, the Region Name Display position defaults to the Offset's position. If the Offset's position is moved partially off-screen due to window scrolling, the Event Name Display remains visible, even when the Offset itself is no longer visible.

Playlist Event Begin Boundary

The Playlist Event Begin Boundary is the beginning of a Playlist Event, and the Playlist Event's start along the timeline. A Playlist Event's Begin Boundary also serves as the default position of a CD track index, when working with a Playlist destined to be burned as an audio CD.

When a custom Track Start Offset is set for a particular Event, it becomes the CD track index for that Event.

Playlist Event Begin Time Display

A Playlist Event's Begin Time appears in the lower left corner of a Playlist Event when the Event is selected. The Playlist Event's Begin Time display is live, and updates as a Playlist Event is moved along the timeline.

Playlist Event End Boundary

The Playlist Event End Boundary defines the end of a Playlist Event.

Playlist Event End Time Display

A Playlist Event's End Time appears in the lower right corner of a Playlist Event when the Event is selected. The Playlist Event's End Time display is live, and updates as a Playlist Event is moved along the timeline.

Edit Point Indicator

The Edit Point indicator appears only in Centered Crossfade mode, and by default, shows the centerpoint of the crossfade between two Playlist Events.



If custom fades are used, the Edit Point may not be centered.

Fade In Envelope

A Fade In Envelope shape dictates audio amplitude level increasing over time. A steeper slope creates a more rapid change in amplitude (a fast fade in), and a more gradual slope creates a fade in with a slower change in amplitude (slow fade in).

A Fade In Envelope can be used as a component of a crossfade, or for simply creating a fade in on a Playlist Event that does not overlap the previous Playlist Event.

When used as a component of a crossfade, a Playlist Event's Fade In Envelope appears automatically when an overlap in time is created between two Playlist Events. The corresponding Out Event is given a Fade Out Envelope that scales to match the duration of the In Event's Fade In envelope.

When created automatically by an overlap between two Events, the duration of the Fade In Envelope is defined by the two red breakpoints, which mark the beginning and end of the envelope.

Various envelope shape presets are available in the Fade In Envelope pop-up menu, some of which are composed of just the red Begin and End Envelope Breakpoints, while others feature additional white breakpoints. Envelope presets automatically scale to fit the length of a crossfade transition.

Begin/End Fade In Envelope Breakpoints

These default breakpoints appear in red, and mark the beginning and end of the Fade In envelope.

If the End Fade In Envelope breakpoint is moved, then the envelope is considered to be a custom envelope, and no longer scales automatically, but instead is locked to an audio time in the Playlist Event, and moves with it as the Event is moved along the timeline.

Fade In Duration

When working with an overlap crossfade, in which the Fade In envelope scales automatically, the Fade In Duration field simply reflects the duration of the automatically created Fade In envelope.

Fade Out Envelope

A Fade Out Envelope shape dictates audio amplitude level decreasing over time. A steeper slope creates a more rapid change in amplitude (a fast fade out), and a more gradual slope creates a fade in with a slower change in amplitude (slow fade out).

A Fade Out Envelope can be used as a component of a crossfade, or for simply creating a fade out on a Playlist Event that does not overlap the following Playlist Event.

When used as a component of a crossfade, a Playlist Event's Fade Out Envelope appears automatically when an overlap in time is created between two Playlist Events. The corresponding In Event is given a Fade In Envelope that scales to match the duration of the Out Event's Fade Out envelope.

When created automatically by an overlap between two Events, the duration of the Fade Out Envelope is defined by the two red breakpoints, which mark the beginning and end of the envelope.

Various envelope shape presets are available in the Fade Out Envelope pop-up menu, some of which are composed of just the red Begin and End Envelope Breakpoints, while others feature additional white breakpoints. Envelope presets automatically scale to fit the length of a crossfade transition.

Begin/End Fade Out Envelope Breakpoints

These default breakpoints appear in red, and mark the beginning and end of the Fade Out envelope.

If the Begin Fade Out Envelope breakpoint is moved, then the envelope is considered to be a custom envelope, and no longer scales automatically, but instead is locked to an audio time in the Playlist Event, and moves with it as the Event is moved along the timeline.

Fade Out Duration

The Fade Out Duration field simply reflects the duration of the automatically created Fade Out envelopes.

Volume Envelope

Playlist Events feature a Volume envelope, which can be used to dynamically and non-destructively alter volume. Volume envelopes can boost gain by up to 6 dB and attenuate to $-\infty$ dB.

Custom Volume Envelope Breakpoints

Custom Volume breakpoints appear in white, and are added by double-clicking on the Volume envelope. Each breakpoint displays its gain in dB.

Custom Fade Breakpoints

Custom Fade breakpoints appear in white, and are added by double-clicking the Fade envelope. Custom Fade breakpoints appear in white. Each breakpoint displays its gain in decibels (dB).

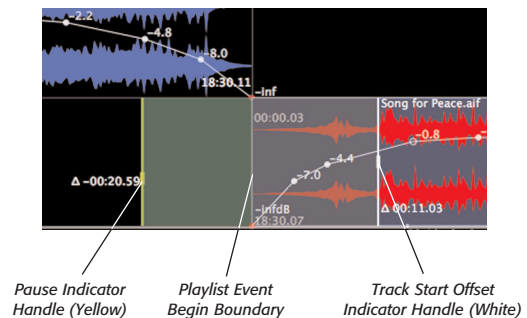
Fade breakpoints are part of the Playlist Event's Volume Envelope.

Track Start Offset Indicator

Track Start Offsets are used when a different time than an Event's Begin Time needs to be used as a CD track index.

By default, the Track Start Offset appears in the exact same position as an Event's Begin Boundary, and is represented by a bold white line that overlaps the Event's Begin Boundary. When a Track Start Offset is used, it becomes the CD Track index on the Event it is set for. A custom Track Offset may be created by dragging this indicator to a position earlier or later than the Event's Begin Boundary. The offset created is represented by a shaded area that appears directly before or after the Event's Begin Boundary.

Offset duration is displayed just to the right of the Offset indicator, and is indicated with a delta symbol (Δ) and a positive or negative time value, depending on whether the Offset is created before or after the Event's actual Begin Boundary.



When setting a track start offset or pause, be sure to choose the proper indicator – by default, both are tied to a Playlist Event's Begin Boundary. The Track Start Offset Indicator is white, and its handle appears above the yellow Pause Indicator's handle.

Pause Indicator

Pauses are spaces of a specific duration between CD tracks that contain audio. By default, the Pause indicator appears in the same position as a Playlist Event's Begin Boundary and Track Start Offset. A custom Pause may be created by dragging this indicator to a position earlier or later than the Event's Begin Boundary. The Pause is represented by a green shaded area that appears directly before or after the Event's Begin Boundary.

Timeline

The Timeline provides a reference as to where Playlist Events exist in time, in relation to the beginning of the Playlist, or time zero. The Timeline appears horizontally along the bottom of the Waveform View Area, and is regularly marked at major time intervals. These marked intervals will vary depending on the Time Units you have chosen to use, and the zoom level you are using to view the Waveform View Area. For example, if you have chosen to use Minutes:Seconds:milliseconds as your Time Unit format, and you have zoomed all the way out, you will see the Timeline marked at one minute intervals. As you zoom in, you will see the Timeline marked at intervals of several seconds, and when zoomed in all the way, the intervals appear every second.

Playhead Cursor

The Playhead Cursor indicates which portion of the Playlist is currently being played back. Its position corresponds to the numerical position indicated by the Counter Display.

- Clicking anywhere along the Timeline moves the Playhead Cursor to that location.
- Double-clicking anywhere along the timeline initiates playback from that point.
- If audio is already playing, clicking anywhere in the timeline continues playback from that point.
- Selecting a Playlist Event moves the Playhead Cursor to the beginning of the selected Event.

Horizontal Scrollbar

The Horizontal Scrollbar is the bottom-most graphical element of the Waveform View Area, and appears only when there is more graphical content than can be displayed on-screen at the current zoom level. This control is used for changing the view only, and does not actually move Events or other Playlist elements relative to the timeline or to each other. Horizontal scrolling can be accomplished by clicking on the scrollbar, and dragging left

or right. The keyboard equivalents for horizontal scrolling are Control + Left Arrow to scroll to the left, and Control + Right Arrow to scroll to the right, or later in the timeline.

Horizontal Scroll Arrow Buttons

The Horizontal Scroll Arrows appear on the Horizontal Scrollbar, and like the Scrollbar, are used solely for changing the view of the Waveform View Area. Whereas the Scrollbar allows moving as much or as little as desired, the Scroll Arrows move by a fixed increment with each click. The amount the Waveform is scrolled with each click depends on the zoom level. At lower zoom levels, one click scrolls by a larger amount than at a higher zoom level. The keyboard equivalents for horizontal scrolling are Control + Left Arrow to scroll to the left, and Control + Right Arrow to scroll to the right, or later in the timeline.



A scroll wheel mouse's wheel may also be used for Horizontal Scrolling in the Playlist's Waveform View. Note that scroll wheel mice whose wheel doubles as a button offer another option – with this type of mouse, you may also click the wheel/button and rotate it to zoom in and out horizontally.

Cursor Tools

The Playlist features three unique tools, each of which is used for particular types of edits. Most of the edits you will make in a Playlist will be done using the Move Event, Trim Event, and Centered Crossfade tools.



The tools and their functionality vary depending on whether you are working in Overlap/Gap or Centered mode – these modes are covered later in this section.

The cursor switches between these tools automatically, depending on whether you are working in Overlap/Gap or Centered mode and where the cursor is located relative to a Playlist Event's boundaries. These tools are described below.

Move Event Tool

In Overlap/Gap mode, when the mouse cursor is placed over a Playlist Event's waveform, it is in Move Event mode.



Clicking on a Playlist Event and dragging left or right will move the entire Event (and other selected Playlist Events) earlier or later in the timeline.

To use the Move Event tool:

1. In the Waveform Display Area, place the mouse cursor over the middle portion (i.e., not near the edges).
2. Click and hold the mouse button down, and drag the Event left or right, to the desired position – the Event moves to an earlier or later position in the timeline.

Trim Event Tool

The Trim Event tool is available in both Overlap/Gap and Centered modes, and its functionality differs slightly between these two modes.



When the mouse cursor is placed within a few pixels of the edge of a Playlist Event's waveform display, it switches to the Trim tool and can be used to trim or extend the Playlist Event.

To use the Trim Event tool in Overlap/Gap mode:

1. In the Waveform Display Area, place the mouse cursor near the Begin or End Boundary of a Playlist Event – the cursor switches to the Trim Event tool.

2. Click and hold the mouse button down, and drag left or right – depending on whether you are trimming the Begin or End Boundary, the Event is either trimmed (shortened) or extended (lengthened).



By default, a new Playlist that is in Overlap/Gap mode will have the Preserve Timing modifier turned off, so that when the Trim Event tool is used, it trims only the Event that the cursor is placed over. When Preserve Timing is enabled, the Trim Event tool allows “rolling edits” to be performed. In a rolling edit, the actual edit point between two Events moves, the duration of the transition remains constant, and audio does not move along the timeline. Trimming one component Event of a transition trims the other component by an equal and opposite amount. More information on the Preserve Timing modifier appears later in this chapter.

To use the Trim Event tool in Centered mode:

1. In the Waveform Display Area, place the mouse cursor near the Begin or End Boundary of a Playlist Event – the cursor switches to the Trim Event tool.
2. Click and hold the mouse button down, and drag left or right to perform a rolling edit.



By default, a new Playlist that is in Centered mode will have the Preserve Timing modifier turned on, so that when the Trim Event tool is used, a rolling edit is performed. When Preserve Timing is enabled, the Trim Event tool allows “rolling edits” to be performed. In a rolling edit, the actual edit point between two Events moves, the duration of the transition remains constant, and audio does not move along the timeline. Trimming one component Event of a transition “untrims” the other component by an equal amount. More information on the Preserve Timing modifier appears later in this chapter.

Using the Trim tool in Centered mode, when the Preserve Timing modifier is off, moves the beginning or end fade breakpoint and changes the duration of the Event's fade envelope, rather than performing a rolling edit.

Centered Crossfade Tool

The Centered Crossfade tool is available only when working in Centered mode (see next section for details on Centered mode). In Centered mode, when the mouse cursor is placed over a Playlist Event's waveform, it is in Centered Crossfade Tool mode. The Centered Crossfade tool is used to create crossfades around a centered edit point.



To use the Centered Crossfade tool:

1. In the Waveform Display Area, place the mouse cursor over the middle portion (i.e., not near the edges) of an “In” component of a transition.
2. Click and hold the mouse button down, and drag to the left to create a centered crossfade – once a crossfade has been created, its duration can be modified by dragging left or right.

High Precision Editing Mode

When using the Cursor Tools, you can use a modifier key to temporarily toggle into High-Precision Editing Mode. The modifier key is the Control (Ctrl) key on your keyboard. Whenever this key is held down while using one of the aforementioned tools or modes, the tool/mode will make edits in one unit increments.

For example, holding the Ctrl key while trimming a Playlist Event boundary will trim by one increment of the current Time Units (i.e., if you are using Min:Sec.ms for Time Units, this would trim by one millisecond at a time).

Selecting Playlist Events

Playlist Events will usually need to be edited in some way. This editing may include trimming the ends, nudging forward or backward along the timeline, adjusting the level, entering metadata, etc. Regardless of the type of edit to be performed, it is important to know how to make selections, as this is how Playlist Events are targeted for many editing processes.

To Select a Playlist Event in the Waveform View:

- Click the desired Playlist Event – you will know it is selected because it will appear in a different color than other, unselected Playlist Events. (Colors will vary depending on your color preference settings).

Deleting Playlist Events

Selected Playlist Events may be deleted in Waveform View.

To Delete a Playlist Event:

- Select the Playlist Event(s) you wish to delete in the Waveform or List View areas, and click the Delete Playlist Event Button in the upper left of the Playlist interface, or press the Delete key on your keyboard.

Creating Transitions between Playlist Events

A variety of different types of transitions may be created in the Playlist, including gaps, pauses, butt edits, and centered or overlap crossfades.

In the example below, we'll be working with an Overlap crossfade, which is commonly used when assembling songs in a Playlist, where the songs need to blend together. As the earlier Event fades out, the later Event fades in.

Butt Edits

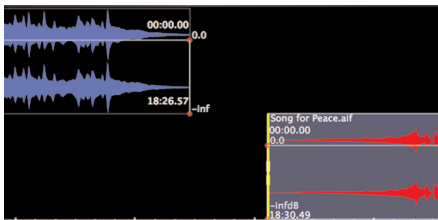
Butt edits are the default type of transition created as multiple Events are added to a Playlist, unless default

fade preferences specify otherwise. In a butt edit, two Events are positioned back-to-back, with no space between them.

In the case that an Event is no longer butted against its preceding Event, it is easy to put it back into this position.

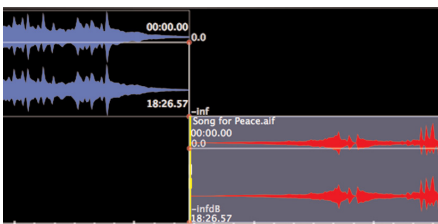
To Butt an Event to the preceding Event in Waveform View:

1. Select the Event you wish to butt against the preceding Event.



Before Butting

2. In the upper left portion of the Playlist interface, click the Butt to Previous Event End button – the selected Event is butted to the preceding Event.



After Butting

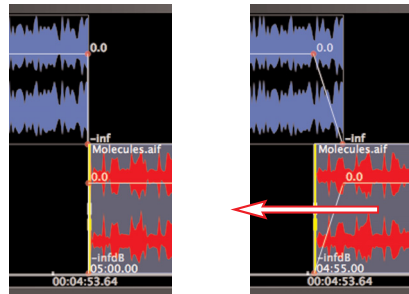
Overlap Crossfades

Overlap crossfades are commonly used when assembling songs in a Playlist, where the songs need to overlap in time.

To Create an Overlap Crossfade between Playlist Events in Waveform View:

1. Locate two adjacent Events you wish to crossfade together.

2. Click on the later of the two Events (or the “In”), and drag it (using the Move Event tool) to the left (earlier in time), so an overlap in time is created between the two Events.



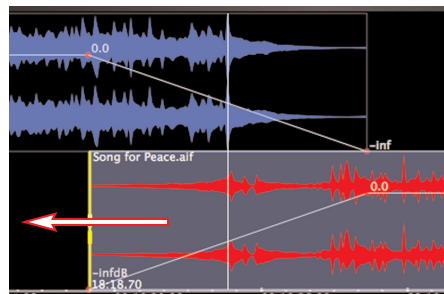
Dragging the In Event to the left creates a crossfade.

Centered Crossfades

Centered crossfades are commonly used when assembling short takes in a Playlist, where the takes need to overlap in time so as to blend together seamlessly.

To Create a Centered Crossfade between Playlist Events in Waveform View:

1. Click the Centered mode button in the Crossfade group.
2. In the Waveform Display Area, place the mouse cursor over the middle portion (i.e., not near the edges) of an “In” component of a transition.
3. Click and hold the mouse button down, and drag to the left to create a centered crossfade – once a crossfade has been created, its duration can be modified by dragging left or right.



Clicking on the “In” Event and dragging to the left with the Centered Crossfade tool creates a centered crossfade.

To Change the Fade Type:

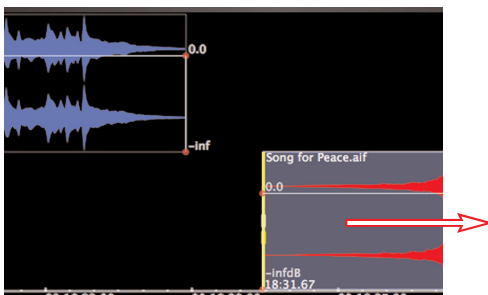
1. Select the In Event for the transition you are working on.
2. From the Fade In & Out Envelope pop-up menus, choose the desired fade types (i.e., Fast In, Slow Out, Linear, etc.)

Gaps

Gaps are silent spaces that are commonly used when assembling songs in a Playlist, where the songs need to be spaced apart.

To Create a Gap between Playlist Events in Waveform View:

1. Locate two adjacent Events you wish to space apart with a gap.
2. Click on the later (or “In”) Event, and drag it (using the Move Event tool) to the right (later in time), so space (the gap) is created between the two Events.



Clicking on the “In” Event and dragging to the right with the Move tool creates a gap.

Pauses

Pauses are sometimes used between CD tracks instead of gaps, and can be very similar or quite different from gaps, depending on how they are used. The most common use of a pause is to create a silent space between two CD tracks. A two second silent pause, and a two second gap – when burned to CD – sound identical to the listener if they sit back and listen to CD tracks 1 and 2 and the gap or pause between them.

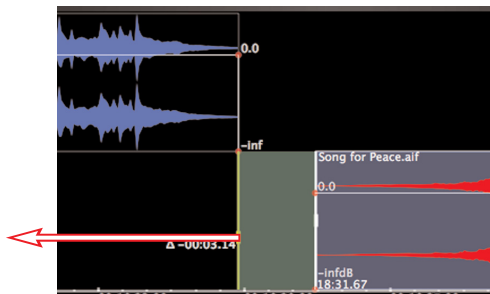
The difference between gaps and pauses is that pauses may also contain audio. Pauses containing audio are often used when creating an audio CD of a live recording, where the audience applause between songs is placed in the pause. In this scenario, if a listener advances to this CD track, they can skip over the applause and go right to the song, but if they listen to the CD from beginning to end, they would hear the applause between songs.



Note that Gaps and Pauses are different. When a CD created with gaps is played on a CD player, that the CD player’s counter display will add the silence contained in a gap to the earlier of the two tracks surrounding the gap, while the counter still displays that the earlier track is playing. On a CD with a pause, the CD player’s counter will count down backwards for the duration of the pause, and when finished, the track indicator will show that the next track is playing. Different CD players will display Pause times differently – for example, in some cases the letter “P” (for Pause) may also appear.

To create a silent pause:

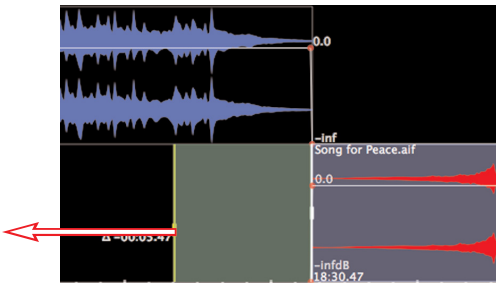
1. Locate two adjacent Events you wish to space apart with a silent pause.
2. Drag the later Event to the right, or later in time, creating a gap between the two Events.
3. On the later of the two Events, drag the yellow pause indicator to the left, until it is flush with the End Boundary of the previous Playlist Event.



Extend Pause Marker to span gap, so it is flush with the previous Event’s End Boundary.

To create a pause containing audio:

1. Locate two adjacent Events you wish to space apart with a silent pause.
2. On the later of the two Events, drag the yellow pause indicator to the left (earlier in time), until the indicator's time display shows the desired number of seconds, and/or until it spans the desired amount of the audio waveform in the earlier track.

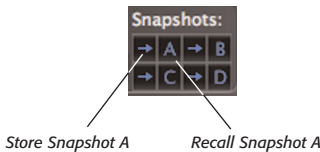


Extending the Pause marker past the previous Event's End Boundary creates an "Audio-in-Pause" transition.

! Pauses and gaps can also be created by entering times into the List View, covered later in this chapter.

Transition Snapshots

These buttons are used to store and recall up to four temporary snapshots, which reflect the state of a transition between two Playlist Events. Snapshots store Fade In and Out envelope shapes and durations, and overlap or gap duration between two Playlist Events.



Snapshots let you quickly try different transitions until you find the right one. The arrow button to the left of each letter button stores a snapshot, while the letter buttons recall snapshots.

Snapshots are temporary, and are not saved with a Playlist. If you would like to save a snapshot, restore the desired snapshot to move Playlist Events and envelopes into the desired configuration, and save the Playlist.

To Set a Snapshot (in "A"):

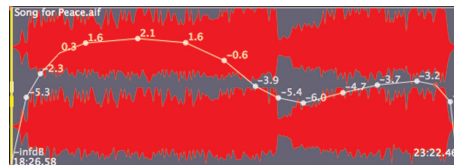
1. Create desired transition and fade envelopes.
2. Click the Set Transition Snapshot A button – the current transition is stored as snapshot A.

To Recall a Snapshot (from "A"):

- Click the Recall Transition Snapshot A – the stored transition state is recalled.

Editing Volume Envelopes & What It Does

Breakpoints on a Playlist Event's Volume Envelope may be added, deleted, or moved.



A volume envelope provides dynamic level control to Playlist Events

To Add a Volume Envelope Breakpoint:

- Double-click on the Volume Envelope where you want the breakpoint to appear – a custom Volume Envelope breakpoint appears.

To Delete a Volume Envelope Breakpoint:

- Option-click on the Volume Envelope breakpoint you wish to delete.

! Default breakpoints (which appear in red) cannot be deleted.

To Reset a Default Breakpoint:

- Option-clicking default breakpoints (these appear in red) restores their default behavior, in which

they interact and scale when overlapped with neighboring Playlist Events.

To Change the Gain of a Volume Envelope Breakpoint:

- Click and drag the desired Volume Envelope Breakpoint up to boost gain, or down to attenuate.

or:

1. Double-click on the desired Volume Envelope Breakpoint – the Set Breakpoint Gain dialog appears.
2. Enter the desired gain using the Enter volume for Breakpoint slider, or field.
3. Click the OK button – the breakpoint is moved to reflect the new gain value.

To Change the Gain of Adjacent Volume Envelope Breakpoints:

1. Click on the envelope itself, between any two breakpoints.
2. Drag up or down – the gain and position of the breakpoints on both ends of the selected segment is raised or lowered.

To Change the Position of a Volume Envelope Breakpoint along the timeline:

- Click and drag the desired Volume Envelope Breakpoint left to move it earlier in time, or right to move it later in time.



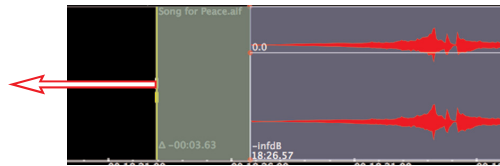
Holding the Shift key while moving a breakpoint constrains its vertical position/dB value, and restricts movement of the breakpoint horizontally/in time.

with Track Start Offsets is played in a CD player, these offsets determine the point where the CD player's counter advances to the next track. They also determine the point within a track's content that audio playback starts, when the next track or previous track controls are used.

Track Start Offsets are useful when you need to precisely position a track's start time somewhere other than the default position at the beginning of a Playlist Event.

To Set a Track Start Offset earlier than an Event's begin boundary:

- Click and drag the white Track Start Offset indicator left to the desired position.



To Set a Track Start Offset later than an Event's begin boundary:

- Click and drag the white Track Start Offset indicator right, to the desired position.



An Event's Track Start Offset cannot occur earlier in the timeline than the preceding Event's Track Start Offset, or later than the Event's end boundary.

Track Start Offsets

Track Start Offsets are used to create “virtual” start times – that is, their positions trigger the counter display to advance to subsequent tracks, and dictate where each CD track index is placed. When an audio CD burned from a Playlist

List View Area

The various controls and fields found in the List View portion of the Playlist are described in this section. Keep in mind that the columns and fields are described in the order they appear by default.

Overview of List View Area

The screenshot shows a 'List View' window with a table of tracks. The table has columns for Track Number, Name, % Offset, Start, End, Duration, Pause, I-XF, O-XF, I-XF-T, O-XF-T, Gain, ISRC, Emph, CD-TEXT, and Program Duration. The tracks listed include 'Limosine', 'Molecules.aif', 'Limomada.aif', 'Where was you.aif', 'Just Because.aif', 'Song for Peace.aif', 'My Sanyoga.aif', 'Sold you soul.aif', 'Just Be.aif', 'Who Am I.aif', and 'Frankie Demon.aif'. The 'Program Duration' is shown as 00:40:48:56. On the right side, there are 'Vbox Effects' controls for each track, including 'Bypass' checkboxes and dropdown menus.

List View Columns, Controls, and Fields

This section describes each of the controls found in the List View Area.

Show/Hide List View Disclosure Triangle

This small triangle appears to the left of the “List View” label in the interface. In this case, when the List View disclosure triangle is pointing to the right (closed position), it is hiding the entire List View portion of the Playlist’s interface. When the disclosure triangle is pointing downward (open position) it is showing, or “disclosing”, the List View portion of the interface.

Program Duration Time Display

Directly opposite from the Show/Hide List View disclosure triangle, you will find the Program Duration display. This display shows the duration of all the contents in the Playlist, from beginning to end, and includes non-audio transitions such as gaps or pauses. By default, this display appears in the interface frame which separates the Waveform View from the List View. When the Waveform View is hidden, the Program Duration appears above the List View, below the Nudge Controls, and when the List View is hidden, it appears in the window frame, just below the Waveform View Area.

If the material contained in a Playlist exceeds 78 minutes, and the Red Book checkbox in the CD Options controls group is checked, the Program Duration display turns red to alert you of a Red Book standard violation.



Track Number Column

The Track Number column displays the track number of each Playlist Event. The number displayed in this column will become the CD track number if the Playlist is burned as an audio CD, and also represents the Playlist Event position when the Playlist is bounced to a new audio document containing Region markers. This number is not editable – the only way to change a Track Number is by changing the order of Events in a Playlist.

The Track Number column also displays a speaker icon next to the currently playing track.

Track Name Column

The Track Name column displays the names of Events used in a Playlist. By default, a Track Name appears exactly as the Region’s original name appears in its source audio document, though it can be edited in the Playlist. A single click on a selected item under the Track

Name column makes the name editable, and a new name may be entered. Changing the name in the Playlist does not affect the name of the original source Region in its audio document, unless Conform Playlist Events to Source Regions is turned on.

To Edit a Track's Name:

1. Click the name of the track you wish to edit – the name field becomes editable.
2. Enter the desired name, and press the Return key.

Track Start Offset Column

The Track Start Offset column displays a Track Start Offset Time value, if one is used – and corresponds to the position of the Track Start Offset in the Waveform View display area. By default, a track's start time is set to an Event's Begin Boundary, and displays a value of zero seconds (or equivalent in the chosen Time Units). A Track Start Offset allows the actual track start time to be adjusted, so that a track's actual start time can be set before or after an Event's Begin Boundary. To edit a Track Start Offset in List View, click in a selected Event's TS Offset data field under the TS Offset column – and a new TS Offset may be entered.

To Edit a Track's TS Offset:

1. Click the track's TS Offset field – the field becomes editable.
2. Enter the desired TS Offset, and press the Return key.

or:

1. Double-click the TS Offset field for the track you wish to edit – the Edit Track Start Offset dialog appears.
2. Enter the desired TS Offset, and click the OK button.

Track Start Time Column

This column shows the Start Time for a Playlist Event. This value corresponds with the position of the Playlist Event Begin Boundary, as well as the default position of an Event's Track Start Offset and Pause indicators.

To Edit a Track's Start Time:

1. Click the Track's Start Time field – the field becomes editable.
2. Enter the desired Start Time, and press the Return key.

Track End Time Column

This column shows the End Time for a Playlist Event. This value corresponds with the position of the Event End Boundary.

To Edit a Track's End Time:

1. Click the Track's End Time field – the field becomes editable.
2. Enter the desired End Time, and press the Return key.

Track Duration Column

This column shows the overall duration between a Playlist Event's Begin and End Boundaries.

To Edit a Track's Duration:

1. Click the Track's Duration field – it becomes editable.
2. Enter the desired Duration, and press the Return key.

Pause Duration Column

The Pause Duration Column displays a Pause Duration value, if one is used – and corresponds to the position of the Pause indicator in the Waveform View display area. By default, the Pause between tracks is zero seconds (or equivalent in other Time Units) – this is displayed in the Pause column, and the Pause indicator (in Waveform View) is locked to an Event's Begin Boundary. (See the section on Pauses on page 162 for more information about entering positive and negative values).

To Create a Pause:

1. Click the track's Pause field – it becomes editable.
2. Enter the desired Pause duration, and press the Return key.

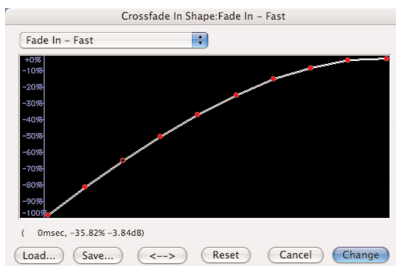
or:

1. Double-click the Pause field for the track you wish to edit – the Playlist Event Pause Time dialog appears.
2. Enter desired Pause duration, and click the OK button.

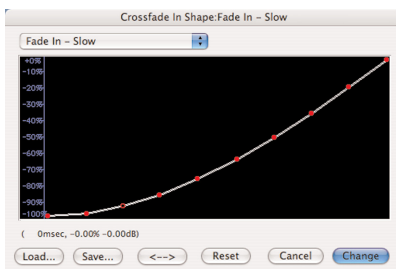
Fade In Shape Column

Fields in this column display a thumbnail representation of the Fade In envelope shape being used for the Playlist Event. Clicking on the dropdown menu shows a number of available preset fade in envelope shapes – these include:

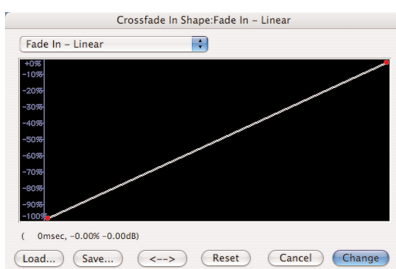
Fast – This fade envelope creates a fast fade in.



Slow – This fade envelope creates a slow fade in.



Linear – This fade envelope creates a linear fade in.



Fade Out Shape Column

Fields in this column display a thumbnail representation of the Fade Out envelope shape being used for the Playlist Event. Clicking the dropdown menu shows a number of available preset fade in envelope shapes – these include:

Fast – This fade envelope creates a fast fade out.

Slow – This fade envelope creates a slow fade out.

Linear – This fade envelope creates a linear fade out.

Fade In Duration Column

The values in fields under this column control the duration of a fade in.

To Edit Fade In Duration:

1. Click the track's I-XF-T ("In" Crossfade Time) field – the field becomes editable.
2. Enter the desired fade in duration, and press the Return key.

Fade Out Duration Column

The values in fields under this column control the duration of a fade out.

To Edit Fade Out Duration:

1. Click the track's O-XF-T ("Out" Crossfade Time) field – the field becomes editable.
2. Enter the desired fade out duration, and press the Return key.

Gain Change Amount Column

Fields displayed under this column show the amount of non-destructive gain change – from the original level in the source audio document. Changes applied here affect only the Playlist Event, not the source Region in the source audio document. A Playlist event's gain setting

can be used to control the balance of the event in a Playlist. You may need to raise the volume or lower the volume of some Playlist events to maintain a proper balance of volume levels.



Note that gain changes applied via the Gain column affect audio level in addition to the gain value set via a Playlist Event's Volume Envelope.



Be careful not to set a Playlist event's gain too high as you may overload the signal and cause clipping to occur. You may also introduce clicks between Playlist events if the difference in gain between two adjacent or crossfaded Playlist Events is too large. If you encounter such clicks, try using volume envelopes to adjust gain instead of entering a gain adjustment in the Gain column, and/or, use crossfades to smooth such transitions.

Emphasis Subcode Column

This column's checkboxes indicate whether a Playlist Event is flagged for emphasis. The emphasis flag is a CD data PQ-subcode control bit. Depending on the CD player, this flag may cause an internal high pass filter to be engaged, boosting the high frequency content of the track. Emphasis is not commonly used.

Copy Protection Subcode Column

This column's checkboxes indicate whether a Playlist Event is flagged for serial (SCMS) copy protection. The copy protection flag is a CD data PQ-subcode control bit.

When this flag is turned on for a track, it prevents digital copies from being made on some equipment.

ISRC Display Column

Fields in this column show the ISRC code for each Playlist Event.

To Add an ISRC Code to a Track:

1. Click the Track's ISRC field – the field becomes editable.
2. Enter the desired ISRC code, and press the Return key. The ISRC field entered will be automatically formatted to accommodate the code entered with the default dashes.



ISRC codes may also be entered in the CD-TEXT for track dialog – described below.

Track CD-TEXT Column

This dialog contains a number of fields in which various track-specific CD-TEXT data may be entered. This data is burned to CD only when both the CDTXT checkbox in the Playlist's List View, and the Burn CD-TEXT from Playlist checkbox in the Burn Audio CD Dialog are checked.

The CD-TEXT for Track dialog allows track/song-specific CD-TEXT to be entered.



Detailed information about ISRC codes and CD-TEXT appears later in this chapter, in the section on Working with CD-TEXT & Subcodes.

Vbox Inserts Column

Peak's Playlist allows Audio Units and VST effects plug-ins to be used (via the Vbox routing interface) on Playlist Events. Each Playlist Event can have unique effects "snapshots" assigned to it. These effects are applied as the Playlist is auditioned, bounced as a new document, or when burned to audio CD.

Vertical Scrollbar

The vertical scrollbar is one of the bottom-most graphical elements of the List View Area, and appears along the right side of the List View area, only when there is more graphical content than can be displayed on-screen at the current Playlist window height.

Vertical Scroll Arrows

The vertical scroll arrows appear on the vertical scrollbar, and like the scrollbar, are used for scrolling through columns vertically, when the Playlist window's height cannot fit all the rows.

Horizontal Scrollbar

The horizontal scrollbar is one of the bottom-most graphical elements of the List View Area, and appears only when there is more graphical content than can be displayed on-screen at the current Playlist window width.

Horizontal Scroll Arrows

The horizontal scroll arrows appear on the horizontal scrollbar, and like the scrollbar, are used for scrolling through columns horizontally, when the Playlist window's width cannot fit all the columns.

Changing the Order of Columns

When working in List View, you can organize the columns in any order you like. This can be especially useful if you are working on a narrow monitor, or not using all the columns.

To customize the order of columns in List View:

- Click the column header you wish to move, and drag to the left or right, into the desired position.

Selecting Playlist Events

Once a number of Regions have been added to a Playlist, chances are, they will need to be edited in some way. This editing may include trimming, nudging, entering metadata, etc. Regardless of the type of edit to be performed, it is important to know how to make selections, as this is how particular Playlist Events are targeted for editing processes.

To Select a Playlist Event in the List View Area:

- Click the desired Playlist Event – you will know it is highlighted because it will appear highlighted. (Highlight color will vary depending on your Mac OS Appearance preference settings).

To Select multiple Playlist Events in the List View Area:

1. Click the desired Playlist Event – you will know it is highlighted because it will appear highlighted. (Highlight color will vary depending on your Mac OS Appearance preference settings).
2. With the initial selection still active, hold down the Command (⌘) key and click another Playlist Event – two Playlist Events are now selected.
3. To add additional Playlist Events to the selection, click on other Playlist Events while continuing to hold down the Command (⌘) key.



Holding down the Command (⌘) key while making selections allows you to select nonadjacent Playlist Events. Holding down the Shift key while making selections automatically selects the entire range of Playlist Events that appears between two non-adjacent Playlist Events.

Deleting Playlist Events

Unwanted Playlist Events may be deleted from the List View in a number of ways.

To Delete a Playlist Event in List View:

- Select the Playlist Event(s) you wish to delete in the List View area, and click the Delete Playlist Event Button in the upper left of the Playlist interface.



- Select the Playlist Event(s) you wish to delete in the List View area, and press the Delete key on your keyboard.

Renaming Playlist Events

There may be times when you wish to change the names of Playlist Events. This can be done only in the List View, but be aware that this does not change the name of the Region in the original source document, unless Conform Playlist Event to Source Region is turned on. To change the name of a source Region, please refer to Chapter 5: Editing.

To Rename a Playlist Event:

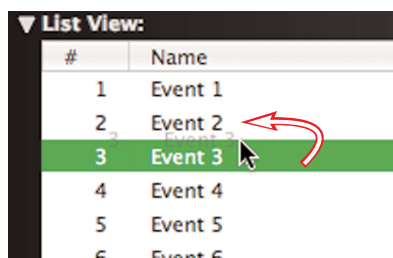
1. In the List View portion of the Playlist, click on the name of the Playlist Event you wish to rename – the name becomes editable.
2. Enter a new name for the Playlist Event and press the Return key on your keyboard.

Reordering Playlist Events

Changing the order of Playlist Events is something that is only possible using the List View.

To change the order of a single Playlist Event:

1. Select the Event you wish to move to a new position.
2. Drag the selected Event up or down, to desired position in the List of Playlist Events, highlighting the name of the Event you wish the selected Event to appear before.



Here, we're moving "Event 3" over "Event 2", so as to make "Event 3" the second item in the Playlist.

For example, to move the third Event into the second position in the List of Events, you would select and drag the third Event, moving it over the second event (second event will become highlighted), and release the mouse button. In this scenario, Events 2 and 3 will change place, and no other Events are affected.

Creating Transitions between Playlist Events

There are four distinct types of transitions available between adjacent playlist Events. These include butt edits, crossfades, gaps, and pauses.

The List View does not offer a graphical representation of the various transitions. You may wish to review the section about Creating Transitions in the Waveform View area, to get a better understanding of the different types of transitions. The Creating Transitions in the Waveform View section contains pictures of each type of transition.

Butt Edits

Butt edits are the default type of transition created as multiple Events are added to a Playlist. In a butt edit, two Events are positioned back-to-back, with no space between them.

In the case that an Event is no longer butted against its preceding Event, it is easy to put it back into this position.

To Butt an Event to the preceding Event in List View:

1. Locate two adjacent events that are spaced apart by a gap.
2. Select the later of the two Events.
3. Click the Butt to Previous Event End Button – the later Event is butted up against the earlier Event, with no gap between them.

Overlap Crossfades

Overlap crossfades are commonly used when assembling songs in a Playlist, where the songs need to overlap in time. As the earlier Event fades out, the later Event fades in.

To Create an Overlap Crossfade between Playlist Events in List View:

1. Locate two adjacent Events that you wish to crossfade together.
2. Select the later Event's row.
3. Click the Start time field to make it editable.
4. Enter a value earlier in time than the current value (i.e., if the current value is 00:05:00.00, and you enter "4:55", you would be creating a five second crossfade).



Note that if the two Events are not initially butted against each other, you may wish to look at the earlier Event's End Time, and use that as a basis for when the later Event should start. When the Start time of the Event you wish to fade into is earlier than the End time of the Event you wish to fade out of, a crossfade results.

Centered Crossfades

Centered crossfades are commonly used when assembling takes in a Playlist, where the takes need to overlap in time so as to blend together seamlessly.

To Create a Centered Crossfade between Playlist Events in List View:

1. Click the Centered mode button in the Crossfade well.
2. Select the later Event's row.
3. Click the Start time field to make it editable.
4. Enter a value earlier in time than the current value (i.e., if the current value is 00:05:00.00, and you enter "4:55", you would be creating a five second centered crossfade, with half of the five second total duration on each side of the edit point).

Gaps

Gaps are silent spaces that are commonly used when assembling songs in a Playlist, where the songs need to be spaced apart.

To Create a Gap between Playlist Events in List View:

1. Locate two adjacent Events that you wish to space apart with a gap.
2. Select the later Event's row.
3. Click the Start time field to make it editable.
4. Enter a value later in time than the current value (i.e., if the current value is 00:05:00.00, and you enter "5:05", you would be creating a five second gap).



Note that if the two Events are not initially butted against each other, you may wish to look at the earlier Event's End Time, and use that as a basis for when the later Event should start. When the End time of the earlier Event is earlier than the Start time of the later Event, a gap results.

Pauses

Pauses can be used between CD tracks instead of gaps, and can be very similar or quite different from gaps, depending on how they are used. The most common use of a pause is to create a silent space between two CD tracks. A two second silent pause, and a two second gap – when burned to CD – sound identical to the listener if they sit back and listen to CD tracks 1 and 2 and the gap or pause between them.

Pauses are not always silent – they may also contain audio. Pauses containing audio are often used when creating an audio CD of a live recording, where the audience applause between songs is placed in the pause. In this scenario, if a listener advances to this CD track, they can skip over the applause and go right to the song, but if they listen to the CD from beginning to end, they would hear the applause between songs.

A positive Pause value creates a gap of the specified duration, and then extends the Event's Pause indicator by an equal amount, placing it at the beginning of the gap, and flush with the end of the previous Event.

A negative value causes an Event to be butted to the preceding Event's end boundary, and extends the Pause indicator by the specified duration earlier in time, into the audio content of the preceding Event, creating a Pause containing audio.



If the Pause indicator on an "In" Event occurs earlier in time than the corresponding "Out" Event's end boundary, the Pause column displays a negative value.



Note that Gaps and Pauses are different. When a CD created with gaps is played on a CD player, the counter display will add the silence contained in a gap to the earlier of the two tracks surrounding the gap, while the counter still displays that the earlier track is playing. On a CD with a pause, the CD player's counter will count down backwards for the duration of the pause, and when finished, the track indicator will show that the next track is playing. CD players will display Pause times differently – in some cases the letter "P" (for Pause) may also appear.

To create a silent pause:

1. Locate two adjacent Events you wish to space apart with a silent pause.
2. Select the later Event's row and click the Pause field – it becomes editable (or double-click in the Pause column – the Playlist Event Pause Time dialog appears).
3. Enter the desired pause time (for example, 5 seconds) and press the Return key (or click the OK button in the Playlist Event Pause Time dialog) – the later Event is moved five seconds later in the timeline, and the pause indicator is moved 5 seconds earlier in the timeline, so it is flush against the end boundary of the earlier Event.

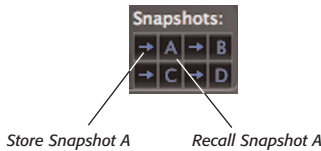
To create a pause containing audio:

1. Locate two adjacent Events you wish to space apart with a silent pause.
2. Select the later Event's row and click the Pause field – it becomes editable (or double-click in the Pause column – the Playlist Event Pause Time dialog appears).
3. Enter a negative value for the pause time (for example, -5 seconds) and press the Return key (or click the OK button in the Playlist Event Pause Time dialog) – the later Event is butted to the end of the previous Event, and the pause now contains the last five seconds of audio from the earlier Event.

Transition Snapshots

These buttons are used to store and recall up to four temporary snapshots, which reflect the state of a transition between two Playlist Events. Snapshots store Fade In and Out envelope shapes and durations, and overlap or gap duration between two Playlist Events.

Snapshots are temporary, and are not saved with a Playlist. If you would like to save a snapshot, restore the desired snapshot to move Playlist Events and envelopes into the desired configuration, and then save the Playlist.



Snapshots let you quickly try different transitions until you find the right one. The arrow button to the left of each letter button stores a snapshot, while the letter buttons recall snapshots.

To Set a Snapshot (in “A”):

1. Create desired transition and fade envelopes.
2. Click the Set Transition Snapshot A button – the current transition is stored as snapshot A.

To Recall a Snapshot (from “A”):

- Click the Recall Transition Snapshot A – the stored transition state is recalled.

Track Start Offsets

Track Start Offsets are used to adjust where the counter display advances to the next track and dictate where a CD track index is placed. When an audio CD burned from a Playlist featuring Track Start Offsets is played back in a CD player, these offsets determine the point where the CD player’s counter would advance to the next track. They also determine the point within a track’s content that audio playback starts, when the next track or previous track controls are used.

Track Start Offsets are particularly useful when you need to precisely position a track’s start time within a crossfade between two Playlist Events. By default, an Event’s/Track’s start time is located at the same position as the Event’s own begin boundary. In a transition between two Events, the use of a custom Track Start Offset allows the actual start time to occur at any point within, before, or after the transition.

To Set a Track Start Offset in List View:

1. Click once over a selected Playlist Event’s Track

Start Offset (TS Offset) data field – after a short delay, the field contents become editable. You may also double-click to open the Track Start Offset dialog, where a new time value can be entered.

2. Enter the desired Track Start Offset value, and press the Return key on your keyboard – the Event now has a Track Start Offset.



A Track Start Offset cannot occur earlier in the timeline than the preceding Event’s Track Start Offset, or later than the Event’s end boundary.

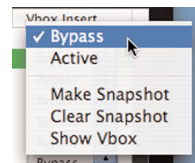
Applying Effects Plug-ins to Playlist Events

Unique effects “snapshots” may be assigned to each Playlist Event. These effects are applied to each Event during Playlist preview, as well as when bouncing/exporting the Playlist, and burning audio CDs. Effects snapshots contain information about the arrangement of effects within the Vbox matrix, as well as the settings of each individual plug-in.

There are a number of controls used to configure Vbox’s effects settings for each Playlist Event.

Bypass

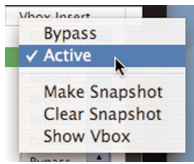
The Bypass control turns off/bypasses Vbox effects for the selected Playlist Event.



Active

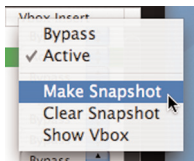
The Active control turns on/activates Vbox effects for the selected Playlist Event. If Vbox is not already open and

active, the Active control opens and activates Vbox for the Playlist Event.



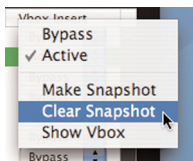
Make Snapshot

The Make Snapshot control takes a snapshot of the current Vbox state for the selected Playlist Event.



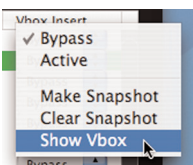
Clear Snapshot

The Clear Snapshot control clears the snapshot assigned to the selected Playlist Event.



Show Vbox

The Show Vbox control brings the Vbox window to the foreground.



This section shows how to configure effects snapshots only. More general information about using Vbox and other plug-ins is available in Chapter 9: Plug-Ins.

To enable Vbox state automation for a Playlist Event:

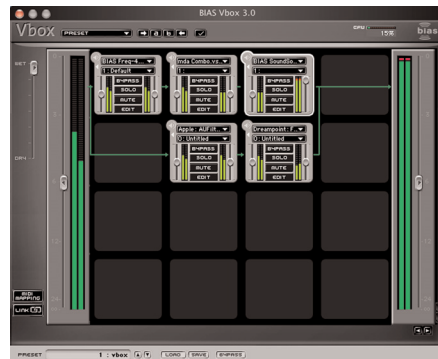
- From the Vbox pop-up menu, choose Active – If Vbox is inactive, this command opens it. If Vbox is already open, this command has no additional effect.

To disable Vbox state automation for a Playlist Event:

- From the Vbox pop-up menu, choose Bypass – Vbox is disabled for this Playlist Event.

To take effects “snapshot” for a series of Playlist Events:

- From the Vbox pop-up menu, select Active – If Vbox is inactive, this command opens it. If Vbox is already open, this command has no additional effect.
- Configure Vbox with the desired effects plug-ins, and configure individual plug-ins as desired.
- From the Vbox pop-up menu, select Make Snapshot – a “snapshot” of the current state is saved.



- Select the next Playlist Event (and repeat for all subsequent Events on which you wish to use “snapshot” automation).



You may also shift-click to select multiple Playlist Events and choose Make Snapshot to assign the same effects snapshot to all selected Playlist Events in one easy step.

- From the Vbox pop-up menu, select Active.

- From the Vbox pop-up menu, select Make Snapshot – a “snapshot” of the current state is saved for this Playlist Event.

When the Playlist is played, Vbox will “snap” to each set of effects that have been set using the steps above. When the Playlist is burned to disc, or bounced as a new file, the effects will be applied to each track.

To clear a Playlist Event’s “snapshot”:

- Select the Playlist Event which contains the “snapshot” you wish to clear.
- From the Vbox pop-up menu, select Clear Snapshot – the selected Playlist Event no longer contains a saved “snapshot”.



Clicks or pops may occur if your effects snapshots include any settings that instantiate and de-instantiate plug-ins. When a Playlist is going from one Event to another very rapidly (especially on slower computers) clicks and pops may occur. Therefore, it is recommended that if you want to use different plug-in configurations for each Playlist Event, configure Vbox with all the plug-ins you want to use for all Playlist Events, and then create snapshots for each Playlist Event with the plug-ins that you don't want to use on that Playlist Event muted or bypassed. (For more information on Vbox, please see Chapter 9: Plug-Ins)



If you plan on creating crossfades and using effects snapshots in a Playlist, it is recommended that you apply effects plug-ins to Regions in their source documents (or in copies of the source documents), before adding them to the Playlist. The Playlist uses state automation, and “snaps” from one effects setting to the next instantly. If the effects used from one Playlist Event to another differ greatly, the result can be an abrupt transition. By applying the effects in source documents, the transition from one Playlist Event to another will occur smoothly, and effects differences between Events will be smoothed out by the crossfade between them.

Working with CD-TEXT & Subcodes

A variety of CD-TEXT and/or subcode data may be added either to entire discs, to individual CD tracks, and in some cases, to both. This data is added in two formats – CD-TEXT, and embedded subcode data. CD-TEXT appears in the display of compatible CD players, and subcode data stores information and triggers certain behaviors (such as emphasis or copy protection) on compatible CD players.

Subcode data is also used for storing product barcode information and ISRC codes (for tracking copyright info). Some software-based CD players look up a CD's info via online services such as Gracenote's CDDDB™ using ISRC or track durations to find matches.



Comparing the embedded ISRC codes on an audio CD with those stored in an online database is one way for a software-based music player to automatically get and display CD track names. More commonly, a software-based music player, such as Apple's iTunes, compares the number of tracks and track durations with an online database. When a match is found, track information is retrieved and displayed. Occasionally, multiple exact matches are found, and the user is prompted to choose the appropriate set of information.

While Peak's Playlist supports writing CD-TEXT on both a per-disc and per-track basis, be aware that most CD players do not support reading/displaying this data. In addition, compatible CD players will vary in the types of CD-TEXT they read or display.



Note that some fields are duplicated as both disc- and track-specific CD-TEXT. For example, the Performer field can appear in either category. Which you use depends on the nature of the disc you are mastering. A disc featuring a single performer would use the Performer field in disc-specific CD-TEXT, while a compilation featuring many performers would use the Performer field in track-specific CD-TEXT.

Disc-specific CD-TEXT

Disc-specific CD-TEXT is added in the Playlist's CD-TEXT for Audio CD dialog, which is accessed by clicking the Audio Compact Disc Info in the upper left section of the Playlist, and includes the fields described below.

The CD-TEXT for Audio CD dialog allows disc-specific CD-TEXT to be entered.

Title

This field is used for the Title of the disc (album name).

Performer

This field is used when the same performer is responsible for all tracks on the disc.

Songwriter

This field is used when the same songwriter is responsible for all tracks on the disc.

Composer

This field is used when the same composer is responsible for all tracks on the disc.

Arranger

This field is used when the same arranger is responsible for all tracks on the disc.

Message

This field is used for optional custom text messages, and also appears in DDP output from the playlist, allowing instructions to be passed along to a disc replicator.

Genre

This field is used to describe the genre of the material on the entire disc.

Disc Identifier

This field is used by record labels as an internal cataloging number.

Product Code

The Product Code (also known as MCN, or Media Catalog Number) field can contain either EAN or UPC barcode information.

EAN (European Article Number)

EAN is a barcode standard in which barcodes are 13 digits long.

UPC (Universal Product Code)

UPC is an older barcode standard in which barcodes are twelve digits long. UPC codes are now considered a subset of the EAN variety of barcodes, which contain thirteen digits.



When a UPC code consisting of twelve digits is used in this field, Peak automatically adds a leading zero to the code, to give the UPC code the required thirteen digit length. See <http://www.ean-int.org> and <http://www.uc-council.org> for more information.

Track-specific CD-TEXT

Track-specific CD-TEXT is added in the Playlist's CD-TEXT for Track dialog, which is accessed by clicking a track's CDTEXT checkbox in the List View area, and includes the fields described below.

Title

This field is used for the Title of the track.

Performer

This field is used for the Performer of the track.

Songwriter

This field is used for the Songwriter of the track.

Composer

This field is used for the Composer of the track.

Arranger

This field is used for the Arranger of the track.

ISRC Codes

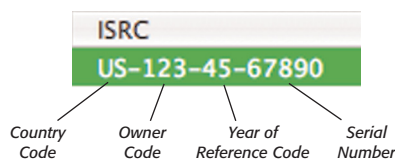
This field is used for the ISRC code for the track.

About ISRC Codes

ISRC, or International Standard Recording Codes, are similar to serial numbers, and identify unique recordings.

Fields displayed in the List View's ISRC column show the ISRC code for each Playlist Event.

ISRC codes may be entered in this field, or by clicking a Playlist Event's CD-TEXT checkbox, which opens the Track CD-TEXT dialog. This dialog contains an ISRC code field – as well as fields for other per-track CD-TEXT data, such as Track Title, Performer, etc.



ISRC-formatted codes are composed of four sections – a Country Code, Owner Code, Year of Reference Code, and Serial Number.

Country Code – An ISO (International Standards Organization) member country's designation. This portion of the code consists of two capital letters.

Owner Code – The owner's (sound recording copyright owner) country. This portion of the code consists of three alphanumeric characters.

Year of Reference Code – The year in which the ISRC is allocated to the recording – represented by the last two digits of the year. This portion of the code consists of two digits.

Serial Number – The code assigned to the track by the owner. This code may not be repeated within the same calendar year. This portion of the code consists of five digits.

To find out more about ISRC codes, please visit the International Federation of Phonographic Industry website, at:

<http://www.ifpi.org/isrc/>

Be aware that there is a difference between the CD-TEXT for Track dialog that appears when double-clicking a

Playlist Event's/Region's ISRC data field, and the CD-TEXT for Audio CD dialog that appears when clicking the Playlist's CD Info button. The CD-TEXT for Track dialog allows entry of ISRC codes, and other information that may be unique to a track, and the CD-TEXT for Audio CD dialog allows entry of information that applies to the entire audio CD. More information about ISRC codes appears in the previous section.

To enter an ISRC code:

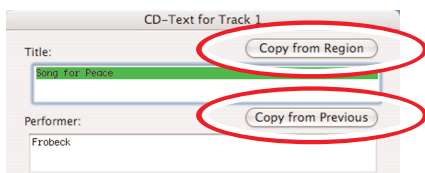
1. Click a Playlist Event's ISRC field – it becomes editable.
2. Enter desired ISRC code, and press Return.

or:

1. Check a Playlist Event's CD-TEXT checkbox – the Track CD-TEXT dialog appears.
2. Enter desired ISRC code in the ISRC field.

Copying CD-TEXT

When entering Track-specific CD-TEXT, you can copy much of the information, which you may have already entered, either in a source Region, or a previous track.



If the CD-TEXT for a track title is the same as that used for a source Region's name, or used in a previous track, it may be copied to the current track's CD-TEXT.

The Title field features a Copy from Region button above it – clicking this button will copy the name used on the source Region, and apply it to the Playlist Event.

The Performer, Songwriter, Composer, and Arranger fields each feature a "Copy from Previous" button above them. This button will copy the field information from the previous track. Typically, when working with a CD where all songs are by the same artist, these fields will

contain identical information for all tracks. In this case, the ability to copy the information can be a real time saver.

Editing Subcode Data

Peak's Playlist is capable of editing Emphasis and Copy Protection PQ subcode data bits. While these subcodes are rarely used, there may be times when you wish to enable these subcodes. More information about using these subcodes is available earlier in this chapter.

To add an Emphasis (Emp/PE) Flag to a Track:

- Check the Emphasis (Emp) checkbox for the desired Playlist Event – when burned to audio CD, this track will trigger compatible CD players to turn on a high pass filter to boost high frequencies.



To add a Copy Protection flag to a Track:

- Check the Copy Protection (CP) checkbox for the desired Playlist Event – when burned to audio CD, this track will feature digital copy protection.



When this flag is turned on for a track, it prevents digital copies from being made on some equipment.

Indexes

In addition to track indexes, which designate the start or end of a CD track, you may also burn standard indexes to audio CDs using Peak. Indexes

are created by placing Markers in the desired location within a source audio document that is referred to by a Playlist. Indexes are not visible when working in the Playlist, but are burned to CD. Indexes are commonly used on classical music CDs, where a track may be relatively long (i.e., 20 minutes or more), and indexes appear at various intervals or points of interest, within a single CD track. With CD indexes in place, a listener can navigate to the index location using the indexing controls on a compatible CD player. Most commercial CD players do not support navigation using indexes.

To Create an Index within a CD track:

1. Create a Marker in a source Region destined to be used in the current Playlist.



Markers may be added to Source Regions at any point prior to burning. If adding Markers mid-project, be sure to save these changes.

2. Add the Region containing the marker to the current Playlist.
3. Click the Burn Audio CD button – the Burn Audio CD dialog appears.
4. Check the Markers are Indexes button in the Burn Audio CD dialog.
5. Insert a blank CD, and click the Burn button – the disc is burned with an index in the location of the Marker in the source Region.

Using the Mac OS Terminal

The Terminal utility included with Mac OS X is useful for checking the capabilities of CD burners that you may use with Peak, as well as for verifying data on burned discs, and a variety of other disc-burning related tasks.

The Terminal utility is located in:

/Mac HD/Applications/Utilities/

The commands below, provide a wealth of useful information about the type of data that can be burned by particular burners, verifying the data on burned discs, etc.

To Use the UNIX Commands below:

1. Type the bold text into the Terminal application exactly as it appears below.
2. Press the Return key – the requested data is displayed in the Terminal window.

drutil cdtext – Displays CD-Text present on an audio CD in XML format.

```
Terminal — bash — 117x71
Last login: Thu Feb 14 11:02:49 on console
Welcome to Darwin!
Underwood-2007:~ dock drutil cdtext
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE public PUBLIC "-//Apple Computer/DTD PLIST 1.0/EN" "http://www.apple.com/DTDs/PropertyList-1.0.dtd">
<plist version="1.0">
<array>
<dict>
<key>Properties</key>
<dict>
<key>DRCDTextCFStringEncodingKey</key>
<integer>513</integer>
<key>DRCDTextCharacterCodeKey</key>
<integer>0</integer>
<key>DRCDTextCopyrightAssertedForNameKey</key>
<integer>0</integer>
<key>DRCDTextCopyrightAssertedForSpecialMessageKey</key>
<integer>0</integer>
<key>DRCDTextCopyrightAssertedForTitleKey</key>
<integer>0</integer>
<key>DRCDTextLanguageKey</key>
<string>en</string>
<key>DRCDTextNSStringEncodingKey</key>
<integer>5</integer>
</dict>
<key>Tracks</key>
<array>
<dict>
<key>DRCDTextDiscIdentKey</key>
<string>02/2007</string>
<key>DRCDTextGenreCodeKey</key>
<integer>0</integer>
<key>DRCDTextPerformerKey</key>
<string>Frbeck</string>
<key>DRCDTextSizeKey</key>
<data>
AENhA03EAIChgEBAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAA
</data>
<key>DRCDTextSongTitleKey</key>
<string>I (back) Burrows' Stack</string>
<key>DRCDTextTitleKey</key>
<string>over and beyond</string>
</dict>
<dict>
<key>DRCDTextPerformerKey</key>
<string>Frbeck</string>
<key>DRCDTextSongTitleKey</key>
<string>I (back) Burrows' Stack</string>
<key>DRCDTextTitleKey</key>
<string>I (back) Burrows' Stack</string>
</dict>
<dict>
<key>DRCDTextPerformerKey</key>
<string>Frbeck</string>
<key>DRCDTextSongTitleKey</key>
<string>I (back) Burrows' Stack</string>
<key>DRCDTextTitleKey</key>
<string>I (back) Burrows' Stack</string>
</dict>
<dict>
<key>DRCDTextPerformerKey</key>
<string>Frbeck</string>
<key>DRCDTextSongTitleKey</key>
<string>I (back) Burrows' Stack</string>
<key>DRCDTextTitleKey</key>
<string>I (back) Burrows' Stack</string>
</dict>
</array>
<key>DRCDTextPerformerKey</key>
<string>Frbeck</string>

```

The "drutil cdtext" UNIX command reveals embedded CD-TEXT data that has been burned to disc.

drutil info – Displays detailed information about connected drives.

```

Terminal — bash — 105x38
Last login: Mon Feb 18 16:15:45 on ttys1
Welcome to Darwin!
Underwood-2007:~ Zac$ drutil info
Vendor Product Rev
MATSUITA DVD-R U3-8570 KCVB

Interconnect: ATAPI
SupportLevel: Apple Shipping
Cache: 2048k
CD-Writes: -R, -RW, BUFE, CDText, Test, IndexPts, ISRC
DVD-Writes: -R, -RW, +R, +R DL, +RW, BUFE, Test
Strategies: CD-TAO, CD-SAO, DVD-DAO

Vendor Product Rev
_NEC DVD_RW ND-3540A 1.01

Interconnect: FireWire
SupportLevel: Unsupported
Profile Path: None
Cache: 2048k
CD-Writes: -R, -RW, BUFE, CDText, Test, IndexPts, ISRC
DVD-Writes: -R, -R DL, -RW, +R, +R DL, +RW, BUFE, Test
Strategies: CD-TAO, CD-SAO, CD-Raw, DVD-DAO

```

The “*drutil cdinfo*” UNIX command reveals information about a CD burner’s features and media compatibility.

drutil discinfo – Displays disc related info when media is present.

drutil list – Lists all connected burning devices.

drutil status – Displays detailed information about inserted media.

drutil subchannel – Displays subchannel (MCN, ISRC) info when CD media is present.

drutil trackinfo – Displays track related info when media is present.

Output Options

Peak’s Playlist offers a wide variety of output options, including burning Red Book audio CDs, as a single AIFF or Sound Designer II file, as a DDP (Disc Description Protocol) file set, as an iTunes Playlist, as a Jam Image file, or as a tab-delimited or formatted text report.

Burning Red Book Audio CDs

Burning Red Book format audio CDs is one of the most common ways to output digital audio projects edited in

Peak. CDs may be burned directly from an audio document, or from a Playlist document. When burning from a Playlist made in Red Book mode (i.e., with the Red Book checkbox in the Playlist checked), the resulting CD actually contains Red Book formatted audio data in Orange Book format (all computer-burned CD-Rs are in Orange Book format).

Such a master can then be replicated into true Red Book format. The discs burned with Peak are playable in any CD player (except for those that are not compatible with CD-R media). Burning a CD not made in Red Book mode may play on a standard CD player, but this will depend largely on the CD player’s capabilities. For maximum compatibility, it is recommended to burn in Red Book mode. For more information, please review the section on Red Book mode which appears earlier in this chapter.



A wealth of useful information about CD data formats such as Red Book and Orange Book is available at: <http://www.cdrfaq.org/>

Burning an Audio CD from a Playlist

Peak can burn audio CDs either from a Playlist, or from an audio document. This section covers burning from a Playlist – burning from a document is covered later in this section.

To Burn an Audio CD from a Playlist:

1. With the Playlist edited and saved as desired, bring the Playlist window to the foreground, and choose Select All (⌘-A) from the Edit menu (or select only the desired Events).
2. In the upper right portion of the Playlist interface, click the Burn Playlist to Audio CD button – the Burn Audio CD dialog appears.
3. Insert a blank CD – the Burn button becomes available.
4. In the Burn Audio CD dialog – choose the desired options.

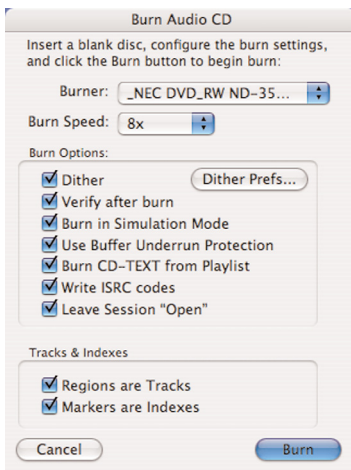
- Click the Burn button – the Playlist is burned to CD.

Burning an Audio CD from an Audio Document

In addition to the advanced options available in the Playlist, Peak can also burn audio CDs directly from an audio document. When burning from a document, the same Burn Audio CD dialog is presented, so you may choose from the same burning options.

To burn an audio CD from a Peak Audio Document:

- Open the desired audio document.
- From the File menu, choose Burn Audio CD – the Burn Audio CD dialog appears.



- Insert a blank CD – the Burn button becomes available.



When burning a CD from an audio document, it is especially important to be aware of the “Regions are Tracks” burning option. The Regions are Tracks checkbox in the Burn Audio CD dialog controls whether Regions in the audio document are burned as separate tracks or not. For more information see the next section on CD Burning Options.

- In the Burn Audio CD dialog – choose the desired options.
- Click the Burn button – the document is burned to CD.

CD Burning Options

The Burn Audio CD dialog contains a number of CD burning options, which are described below.

Burner Pop-up Menu

This menu allows you to choose which CD burner you wish to use (when more than one burner is connected to your computer).

Burn Speed Pop-up Menu

This menu allows you to choose the desired burn speed. Generally, lower speeds will produce the most reliable CDs. It is a good idea to check the burn speed rating of the blank CD media you are using to find its maximum recommended burn speed.

Use Dither Checkbox

The state of this checkbox determines whether dithering should be applied during the burning process. If you are working with 24-bit content, it is recommended that you check this box, so as to reduce the bit depth to 16-bit, while maintaining the highest possible audio quality through dithering. If this box is not checked, 24-bit files are simply truncated. More information on the various dither profiles is available in Chapter 3: Peak Basics.



Note that dithering preferences are available only if you are working with 24-bit material. 32-bit material must be converted/dithered to 24-bit format, prior to being used in a Playlist.

Verify After Burn Checkbox

The state of this checkbox determines whether a burned CD is compared to the audio data contained in the Playlist and source audio documents, to verify its accuracy. To verify a CD after burning, be sure this box is checked.



Note that not all CD burners support verification. Note that if a burned CD fails verification, it does not necessarily mean there is a problem with the CD – it can also indicate simple verification failure on burners that don't support it.

Burn in Simulation Mode Checkbox

This checkbox determines whether Peak burns in simulation mode. In simulation mode, a CD is not actually burned – instead, Peak goes through all the motions of burning, and will uncover any problems with a Playlist before committing to a burned CD. This option is useful as “burning” in simulation mode can help save blank media. To use simulation mode, be sure this box is checked, and be sure to uncheck it when you are ready to burn a CD.

Use Buffer Underrun Protection Checkbox

This checkbox determines whether Buffer Underrun Protection is used while burning a CD. Buffer underrun errors result from a hard drive not being able to transmit audio data to a CD burner fast enough while burning a CD. It is recommended that this box be checked during the burning process, though most drives support this automatically.

Burn CD-TEXT from Playlist Checkbox

This checkbox determines whether CD-TEXT entered in the Playlist is burned to CD. To burn CD-TEXT to disc, be sure this box is checked. If the drive being used does not support burning CD-TEXT, this checkbox will be greyed out (unavailable).



Burning CD-TEXT that contains accented characters, such as é, á, and ç – requires use of Mac OS X v.10.5 or later. A CD burner capable of burning CD-TEXT is also required. You can use the Terminal to check what your burner is capable of. See the previous section on Working with CD-TEXT and ISRC Codes for more information.

Write ISRC Codes Checkbox

This checkbox determines whether ISRC codes entered in the Playlist are burned to CD as embedded subcode data. To burn ISRC codes to disc, be sure this box is checked. If the drive being used does not support burning ISRC codes, this checkbox will be greyed out (unavailable).

Regions are Tracks Checkbox

This checkbox determines whether each Event should become a separate CD track. If this box is not checked, one long track will be burned.



This checkbox also affects burning CDs from audio documents. When burning from an audio document, any Regions it contains will be made into separate CD tracks, if this box is checked. Otherwise, the audio document will be burned as one long track.

Markers are Indexes

This checkbox determines whether Markers placed in a Region's source audio document are burned to CD as indexes within tracks.

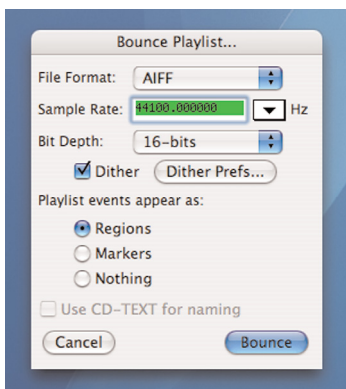
Creating a New Document from a Playlist

In addition to burning audio CDs, Peak's Playlist is the perfect environment for compositing multiple Regions together to create a single audio document. A Playlist might be used in this way to create a custom remix, or to string together a number of vocal takes to create a

podcast. To learn how to turn multiple Regions into a single audio document, just follow the steps below.

To create a new Audio Document from the Playlist:

1. With the Playlist window in the foreground, choose Select All (⌘-A) from the Edit menu (or select only the desired Events).
2. In the upper right portion of the Playlist interface, click the Bounce Playlist button – the Bounce Playlist dialog appears.



3. In the Bounce Playlist dialog, select the desired options for the file to be output, and click the Bounce button.

Alternatively, choose New>Document from Playlist from the File menu) – a new file is generated, taking in to account all edits and effects applied in the Playlist, as well as all settings made in the Bounce Playlist dialog.

File Format

When creating a new document from a Playlist (also known as “bouncing” a Playlist), you can choose from several file formats for the resulting file. These are described below.

AIFF

Choosing this option creates a standard AIFF file, a standard Mac audio file format.

SDII (Sound Designer II)

Choosing this option creates a standard Sound Designer II (SDII) file, a standard file format for Pro Tools, Peak, and many other Mac-based audio applications.

JAM Image File

Choosing this option creates a JAM image file, which can be opened, edited, and burned using Roxio JAM. JAM Image files are essentially the same as SDII files.

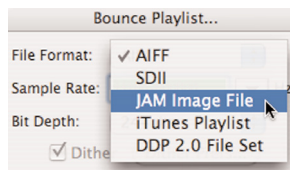


Roxio no longer manufactures the JAM software, but Toast 8 includes some of JAM's functionality, including the ability to open, edit, and burn JAM image files created with Peak.

6

To Export a Jam Image file from a Playlist:

1. With the Playlist in the foreground, choose Select All (⌘-A) from the Edit menu (or select only the desired Events).
2. In the upper right portion of the Playlist interface, click the Bounce Playlist button.
3. In the Bounce Playlist dialog, choose Jam Image File from the File Format menu, and click the Bounce button – a Save dialog appears.



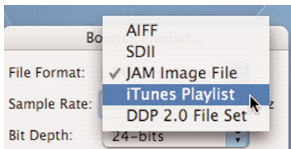
4. Choose the desired save location, and click the Save button – the Playlist is exported as a Jam Image File.

iTunes Playlist

Choosing this option creates an iTunes playlist identical to the Peak Playlist from which it was burned.

To Export an iTunes Playlist file from a Peak Playlist:

1. With the Playlist in the foreground, choose Select All (⌘-A) from the Edit menu (or select only the desired Events).
2. In the upper right portion of the Playlist interface, click the Bounce Playlist button.
3. In the Bounce Playlist dialog, choose iTunes Playlist from the File Format menu, and click the Bounce button – the name iTunes Playlist dialog appears.



4. Enter a name for the iTunes Playlist and click the OK button – the Playlist is exported as an iTunes Playlist.

Applying CD-TEXT to Tracks in an iTunes playlist.

If you are working with a Peak Playlist that contains CD-TEXT (assuming you will be burning a Red Book format audio CD containing CD-TEXT), and you are also planning to bounce it as an iTunes playlist, you can automatically apply the CD-TEXT data (which iTunes cannot read) in a format that iTunes can read. To do so, be sure to check the Use CD-TEXT for naming checkbox in the Bounce Playlist dialog.

DDP Fileset

With the optional DDP extension installed and active, Peak is capable of exporting a Playlist in DDP (Disc Description Protocol) 2.0 format, which is commonly used when delivering a finalized pre-master for CD manufacturing. DDP files ensures that audio files, crossfades, edits, and all other data used in a Playlist remains exactly in the state it was in when exported from Peak.



This highly secure format ensures that the audio data being burned to CD in the manufacturing process is identical to the mastering engineer's intentions when creating the Playlist in Peak. Exporting as a DDP File Set results in a folder being created with the following five files:

DDPID – This file contains the DDP level identifier, Master ID and UPC/EAN number. It also locates the DDPMS map stream for physically addressed direct access input media. The DDP level identifier specifies the level of DDP implemented and the interpretation of the other DDP streams.

DDPMS – This file contains information to locate and process each stream of TS (Text), DS (Subcode) or DM (Main channel) input data. It contains enough information to automatically develop PQ subcode data.

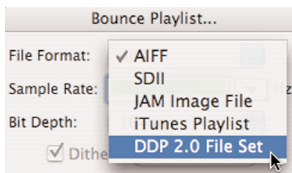
SUBCODES.DAT – This file contains the subcode information referred to by the DDPMS file.

AUDIO.DAT – This file contains the audio data referred to by the previous files in little endian format.

CDTEXT.BIN – This file contains the CD-TEXT information entered into the Peak Playlist, that is to be included on the final CD, created from a bounced DDP fileset.

To Export a DDP Fileset from a Playlist:

1. With the Playlist in the foreground, choose Select All (⌘-A) from the Edit menu.
2. In the upper left portion of the Playlist interface, click the Bounce Playlist button.
3. In the Bounce Playlist dialog, choose DDP 2.0 Fileset from the File Format menu, and click the Bounce button – the Export Playlist to DDP File Set dialog appears.



4. Choose the desired save location, click the Save DDP Fileset button, which will prompt you to name and create a folder to which the DDP Fileset will be saved – the Playlist is exported as a DDP file set.

Exporting in DDP format requires the optional Peak DDP Extension. If you do not have the DDP Extension, and need to deliver files in this format, please contact BIAS for purchase information, at:



US: 1-800-775-2427
 International: +1-707-782-1866
 Email: sales@bias-inc.com
 Web: <http://www.bias-inc.com>

Sample Rate

When creating a new document from a Playlist, you can specify the desired sample rate for the output file.



If you plan to burn the resulting file as an audio CD, leave the sample rate at the default value of 44.1 kHz. It is recommended to change the sample rate setting only if you have a specific sample rate requirement for the project you are working on.

Bit Depth

When creating a new document from a Playlist, you can specify the desired bit depth for the output file.



If you plan to burn the resulting file as an audio CD, leave the bit depth at the default value of 16-bit. It is recommended to change the bit depth setting only if you have a specific bit-depth requirement for the project you are working on.

Dither/Dither Prefs

This checkbox determines whether dithering should be applied during the burning process. If you are working with 24-bit content, it is recommended that you check this box, so as to reduce the bit depth to 16-bit, while maintaining the highest possible audio quality through dithering. If this box is not checked, 24-bit files are simply truncated. More information on the various dither profiles is available in Chapter 3: Peak Basics.



Note that dithering preferences are available only if you are working with 24-bit material.

BIAS DCAT

Choosing one of the BIAS DCAT (Dither Cloning Audio Technology) algorithms in the Dither Preferences dialog applies professional dithering and noise shaping during the Playlist bouncing process. In addition to the many algorithm presets that are provided for working with different types of material, you can also adjust and preview Frequency and Attenuation Skew, to further customize the noise shaping to best suit the audio material you are working with.

Bounced Playlist Events with Markers or Regions

The 'Playlist Events Appear as' radio buttons determine whether or not bounced files will contain markers, Regions, or no markers of any kind.

Use CD-TEXT for Naming

This checkbox allows using CD-TEXT that was entered in the Playlist to be applied to individual tracks when bouncing a Peak Playlist as an iTunes playlist. This is especially useful, as it allows entering track names only once, and having the exported iTunes playlist's tracks metadata entered automatically into iTunes.

Exporting/Printing a Playlist Text Report

In addition to exporting various audio file formats, Peak can also export customized reports in both formatted and tab-delimited text formats.

Formatted Playlist Text Report

In the Print/Export Text Report dialog, you can specify which fields you wish to include in the formatted text report, and then either export the report as text, in PDF format, and/or print the formatted report.

To Export a Formatted Text Report in PDF Format:

1. In a completed Playlist project, select all (or just the desired Events) and click the Export/Print Text Report button – located in the upper right portion of the Playlist interface – the Print/Export Text Report dialog appears.
2. Check the boxes for the information you wish to include in your report.
3. Click the Print/Export PDF button.
4. In the Print dialog, click the PDF button, and from the menu, choose Save as PDF.
5. In the Save dialog, name your PDF Text Report, and click the Save button.
6. Click the Cancel button to exit the Print/Export Text Report dialog.

To Print a Formatted Text Report in PDF Format:

1. In a completed Playlist project, select all (or just the desired Events) and click the Export/Print Text

Report button – located in the upper right portion of the Playlist interface – the Print/Export Text Report dialog appears.

2. Check the boxes for the information you wish to include in your report.
3. Click the Print/Export PDF button.
4. In the Print dialog, choose the desired Printer, Presets, etc. and click the Print button.
5. Click the Cancel button to exit the Print/Export Text Report dialog.

Tab-delimited Playlist Text Report

In the Print/Export Text Report dialog, you can specify which fields you wish to include in the tab-delimited text report, and then export it. Tab-delimited text reports are meant to be imported into another program for formatting – they are not intended to be used without additional formatting. Typically, these are imported into another application, such as FileMaker Pro or Microsoft Excel, which can deal with tab-delimited text properly.

To Export a Tab-delimited Text Report:

1. In a completed Playlist project, select all (or just the desired Events) and click the Export/Print Text Report button – located in the upper right portion of the Playlist interface – the Print/Export Text Report dialog appears.
2. Check the boxes for the information you wish to include in your report.
3. Click the Export Text button – a Save dialog appears.
4. Name your report, choose a save location, and click the Save button – your report is exported.

To View the Tab-delimited Text Report (Example):

- Drag it from the Finder onto the Microsoft Excel application icon. Excel will open the tab-delimited file.

of the Playlist interface – the Print/Export Text Report dialog appears.

2. Check the boxes for the information you wish to include in your report.
3. Click the Export Text button – a Save dialog appears.
4. Name your report, choose a save location, and click the Save button – your report is exported.

To View the Tab-delimited Text Report (Example):

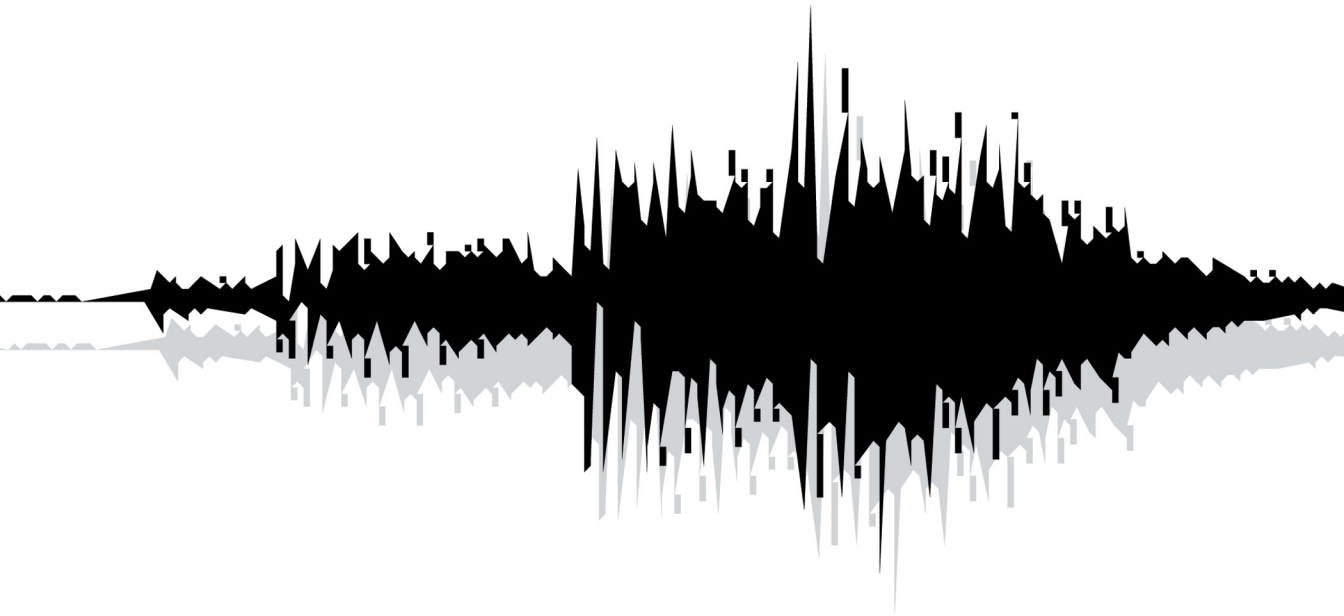
- Drag it from the Finder onto the Microsoft Excel application icon. Excel will open the tab-delimited file.

Conclusion

You have now learned all about creating and editing Playlist documents, and outputting them to a wide variety of formats. Please continue along to the next chapter, where you will learn all about Peak's podcast publishing tools.

Chapter 7

Podcasting



Chapter 7: Podcasting

Introduction

In addition to extensive recording and editing tools, Peak now also allows you to publish podcasts to .Mac, FTP, and local servers. To publish a podcast, the first thing you will want to do is assemble the audio program material that will be your podcast content.

A podcast can be composed of any kind of content you want. A typical podcast might include voice, music, and sound effects, but there are no limitations on what it can be composed of (except for copyrighted material).

Peak can aid in preparing your program material by recording voice, musical instruments, (or any other audio) and importing digital audio files and editing them together as desired. Once the program is finished, and has been edited together as a single audio document, Peak can publish it and help you publicize it in just a few simple steps.

What is Podcasting?

Podcasting is the process of publishing an audio (or video) program to a server, and then having listeners subscribe, and automatically download episodes as they become available. A podcast is similar to a television series or radio program, in that it features multiple episodes. When referring to a podcast, you are

generally referring to a collection of individual episodes.



While Peak can only record, edit, and directly publish audio podcasts, it can be used to edit and master the audio content in a video podcast, though another utility would be required for publishing it.

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How Podcasting Works

Podcasters first create program material by recording and editing the content. Podcast program material could include music, dialogue, interviews – or any other material desired. Peak offers the perfect environment for podcast preparation, as it features many tools for recording and editing, and then mastering and delivering a final product that sounds as good as possible. Once the podcast content is finished various delivery options are available, such as file format, sample rate, bitrate, etc.

The next step in publishing a podcast is creating an RSS (which stands for “Really Simple Syndication”) feed, which will be uploaded to a server along with the actual podcast, which contains the audio content. Peak’s Publish Podcast dialog automatically generates an RSS feed for new podcasts, based on the information entered into it.



RSS feeds are only generated for new podcasts. If you are adding an episode to an existing podcast, the existing RSS feed is simply modified, by adding another set of XML tags to it, which describe the new episode, and provide a link to its location on the server.

An RSS feed is a text file that contains XML code, and is used in the syndication process. RSS feeds are broken down into two main parts – general information about the podcast, and specific information about each episode.

The first part of the RSS feed contains general information about the podcast, such as the name, topic, keywords to help listeners search for it, a link to the podcast creator’s website, etc. The second part of an RSS feed contains information about episodes, or individual “shows”. Each episode that is published is appended to the RSS feed, within a set of “<item>” tags, much like tags used in HTML code. The most

important part contained within an episode’s tags is a link to the audio content for the episode.

Once the content and RSS feed have been created, the next step is to publish (upload) both to a server. Peak supports publishing to .Mac, FTP, and local servers.

Once published, you will want to publicize your podcast. There are many websites where you can submit your podcast details for potential subscribers to find. Some of these include:

- <http://www.podcastalley.com/>
- <http://www.podcastingnews.com/forum/links.php>
- iTunes Music Store’s Podcast Directory (via iTunes)

Peak’s Publish Podcast dialog offers an option to automatically submit your podcast to the iTunes Music Store’s Podcast directory as a final step in the publishing process. This is done from within the iTunes application, rather than on a website.

“Channel” Level XML Tags
(includes closing </channel> and </RSS> tags)

“Item” Level XML Tags
(for Episode 1)

“Item” Level XML Tags
(for Episode 2)

“Item” Level XML Tags
(for Episode 3)

```
<?xml version="1.0" encoding="utf-8"?>
<rss xmlns:itunes="http://www.itunes.com/DTDs/Podcast-1.0.dtd" version="2.0">
  <channel>
    <title>BIAS News</title>
    <link>http://www.bias-inc.com</link>
    <description>Tips and Tricks about BIAS Audio Software!</description>
    <language>en</language>
    <itunes:owner>
      <itunes:name>BIAS Staff</itunes:name>
      <itunes:email>info@bias-inc.com</itunes:email>
    </itunes:owner>
    <itunes:author>BIAS Staff</itunes:author>
    <itunes:keywords>Peak, SoundScoop, Audio, Editing</itunes:keywords>
    <itunes:explicit>clean</itunes:explicit>
  </channel>
  <item>
    <title>Learning the Basics about Peak</title>
    <description>In this episode, we go over the basics...</description>
    <enclosure url="http://www.bias-inc.com/podcasts/audio1.mp3" length="166451" type="audio/mpeg"/>
    <itunes:author>BIAS Staff</itunes:author>
    <itunes:subtitle>In this episode, we go over the basics...</itunes:subtitle>
    <itunes:summary>In this episode, we go over the basics...</itunes:summary>
    <itunes:explicit>clean</itunes:explicit>
    <itunes:duration>00:00:01</itunes:duration>
  </item>
  <item>
    <title>Intermediate Techniques for editing with Peak</title>
    <description>In this episode, we learn intermediate techniques...</description>
    <enclosure url="http://www.bias-inc.com/podcasts/audio2.mp3" length="166451" type="audio/mpeg"/>
    <itunes:author>BIAS Staff</itunes:author>
    <itunes:subtitle>In this episode, we learn intermediate techniques...</itunes:subtitle>
    <itunes:summary>In this episode, we learn intermediate techniques...</itunes:summary>
    <itunes:explicit>clean</itunes:explicit>
    <itunes:duration>00:00:01</itunes:duration>
  </item>
  <item>
    <title>Advanced Techniques for working with Peak</title>
    <description>In this episode, we learn some fancy tricks...</description>
    <enclosure url="http://www.bias-inc.com/podcasts/audio3.mp3" length="166451" type="audio/mpeg"/>
    <itunes:author>BIAS Staff</itunes:author>
    <itunes:subtitle>In this episode, we learn some fancy tricks...</itunes:subtitle>
    <itunes:summary>In this episode, we learn some fancy tricks...</itunes:summary>
    <itunes:explicit>clean</itunes:explicit>
    <itunes:duration>00:00:01</itunes:duration>
  </item>
</rss>
```

Anatomy of an RSS feed – showing the “Channel” level tags that describe a podcast as a whole, and the “Item” level tags that describe a single episode.



The iTunes Music Store's Podcast Directory is an excellent resource for publicizing and discovering podcasts.

In addition to making your podcast known via the iTunes Music Store, you can also place a link to your RSS feed on your own website. It's very common these days to see "RSS" icons on websites. You can Control-click (or right-click) on such links to copy them, and then paste them into the application you use to subscribe and listen to podcasts with.



The RSS feed icon is very common on websites – it indicates that there is an RSS feed that may be subscribed to.

Once subscribed to a podcast, the aggregator application is scheduled to check the RSS feed at certain intervals. If the RSS feed has been updated to include a new episode, it is downloaded. At that point, the episode may be listened to on the computer to which it was downloaded, or may be transferred to a portable media player, such as an iPod (which is where the "podcasting" term originated).



Not all RSS feeds link to audio, as they do in the case of a podcast. RSS feeds may also be linked to video ("video podcasts"), or to text ("blogs"), or pictures ("photocasts").

Producing your podcast

This section briefly covers the workflow of getting your podcast ready to publish. It's a good idea to familiarize yourself with Peak's extensive recording, editing, processing, and mastering tools before attempting to also use Peak for podcast publishing.

Chapters 3, 4, 5, 6, 8, and 9 in your Peak User's Guide will contain the most useful information for those who are new to using Peak.

Record & Gather Content

Once you have a podcast in mind, the first step in producing it is gathering content, which could mean recording voice, music, or ambient sounds – as well as importing CD tracks, or opening existing digital audio files from your hard drive.

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It's common to record interviews via the web with Skype, iChat AV, etc. Peak 6 is designed to record through professional, Core Audio compatible audio hardware, and does not record the audio output of other applications (such as Skype, iChat AV). However, Peak includes Wire Tap Pro from Ambrosia Software, which can be used to record such interviews as digital audio files, which can be used when assembling your podcast content.



Peak also includes Soundflower, from Cycling '74, which converts the audio output of applications like Skype, iChat AV, Safari, Firefox, etc. into a virtual hardware input, which can be recorded by Peak directly.

To learn more about using these included applications, please see the documentation included with them on the Peak Pro Production Pack disc, included with some Peak 6 packages.

Edit & Master

When you have gathered the various pieces of content that will make up your podcast, it's time to edit them together.

You'll find Peak's extensive editing and digital signal processing tools will come in handy for arranging your background music, interview clips, and other material.

Once your final edits have been made, you'll want to master the final podcast content, using Peak's DSP tools and plugins. Mastering processes you may wish to apply will likely include normalization, equalization, and compression.

Publishing your Podcast

Once your podcast is edited as desired, and has been condensed down to a single Peak audio document, you can then publish it. If you are already familiar with podcasting, you should be able to follow the few simple steps below to get started.

There are two forms of publishing a podcast:

- Posting a new podcast, which means you are creating a brand new RSS feed, and publishing it, and (uploading) an audio file (a first, single episode).
- Adding an episode to an existing podcast, by appending an existing RSS feed with a new set of XML tags, which describe the new episode – and uploading a new audio file, which contains the audio content for the new episode.

To Publish a New Podcast:

1. Create, edit, process content as desired, save as a single audio document.
2. Choose Publish Podcast from File menu.
3. Enter podcast, episode, iTunes extensions, audio encoding and server details.
4. Click the Publish button – your podcast is published.
5. Peak automatically copies the URL to your podcast's RSS feed to the clipboard – open your aggregator application (i.e., iTunes, Juice, NewsFire), then use its "Subscribe" function, and paste in the URL to subscribe and test out your new podcast.

To Add an Episode to an Existing Podcast:

When adding a new episode to an existing podcast, Peak requires a local copy of the RSS feed, as it must append this file with tags describing the new episode, then publish it to the server, replacing the original RSS file. There are two ways to do this:



- Prior to publishing to a server on the internet, publish a local copy, using the Save to Disk option in the Publish well. Publishing to disk is described later in this chapter.
- Use the Finder's "Connect to Server" command, the Mac "Terminal" utility, or a third-party file transfer utility (such as Transmit or Fetch), to connect to your server, and download a copy of the RSS feed.

-
1. Create, edit, process content as desired, save as a single audio document.
 2. Choose Publish Podcast from File menu.
 3. When the Publish Podcast dialog appears, uncheck the "New Podcast RSS" checkbox – this will grey out the Podcast Information and iTunes Extensions wells, as the channel-level information initially entered in the original RSS feed will be re-used.
 4. Enter new information about the new episode in the Episode Information fields, paying close attention to the Audio File Name on Server, and Link fields.



Be sure the Audio File Name on Server and Link fields are filled out appropriately, so that you do not overwrite an earlier episode, and that the updated RSS feed points to the new episode being added.

-
5. Click the Publish button – Peak will prompt you to locate a local copy of the podcast's RSS feed.
 6. In the Open dialog that is presented, locate a local copy of the podcast's RSS feed, and click the Open button.

7. Peak will prompt you that you are about to replace/overwrite the original copy of the RSS feed on your server – click the Replace button to continue the publishing process.
8. Open your aggregator application (i.e., iTunes, Juice, NewsFire), and navigate to Podcasts in your Library – locate your podcast, and click the Refresh button to download the new episode.



If you are new to podcasting, you may wish to first review the rest of this chapter, to become more familiar with the information that is required in Peak's Publish Podcast dialog.

If you have not already subscribed, be aware that Peak automatically copies the URL to your podcast's RSS feed to the clipboard. To subscribe, open your aggregator application (i.e., iTunes, Juice, NewsFire) and use its "Subscribe to Podcast" function, and paste in the URL to subscribe and all of the podcast's episodes will be downloaded.

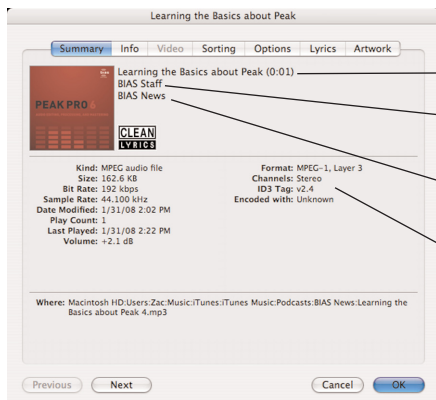
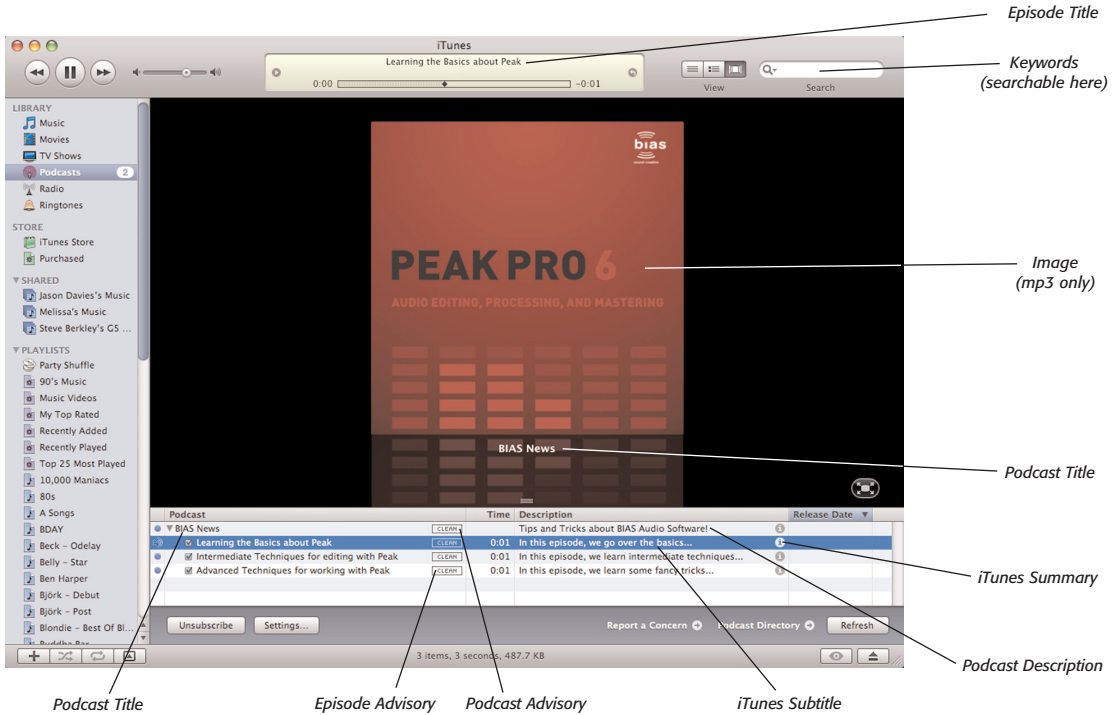
The Publish Podcast Dialog

Publishing a podcast using Peak is as simple as choosing the Publish Podcast command from the File menu, and entering a few important pieces of information about your podcast. When this command is chosen, Peak attempts to publish the foreground audio document. The following section describes the various fields in the Publish Podcast dialog in detail.

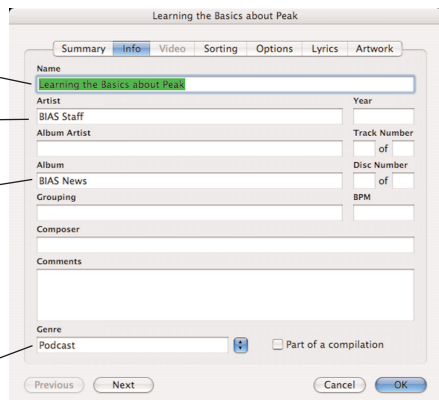
Peak's Publish Podcast dialog – showing the settings used to create the example podcast used in this chapter.

Where Information from Peak Appears in iTunes

The diagrams below illustrate where the information entered in Peak appears in iTunes. Each callout represents a field in Peak's Publish Podcast dialog, and shows where in the iTunes interface that field's data appears. Some of the information appears in multiple locations in iTunes.



The iTunes "Get Info" dialog – showing "Summary" Tab



The iTunes "Get Info" dialog – showing "Info" Tab

Podcast Information

Fields in the beveled Podcast Information well create XML tags at both the “channel” and “item” level. Channel-level tags are general and contain information about the podcast, but not about individual episodes. Item-level tags contain information specific to a particular episode.

New Podcast RSS Checkbox

The state of the New Podcast RSS Checkbox determines whether an entirely new podcast is created (with at least one episode), or whether an episode is being added to an existing podcast. If you are creating an entirely new podcast, this box should be checked. If you are adding an episode, it should be unchecked.

Podcast Title

The Podcast Title field contains the name of the overall podcast, or collection of episodes. For example, a podcast about learning how to edit digital audio with Peak might be called “Learning Peak”, while a specific episode might be called “Using the Hand, Zoom, and Pencil Tools”.



In the example above, the episode title would not be entered in the Podcast Title field, but instead would be entered in the “Episode Title” field, which is located in the Episode Information well.

The text entered in the Podcast Title field in Peak’s Publish Podcast dialog appears in the main iTunes window in the “Podcast” column (this column is sometimes also referred to as the “Name” column). The Podcast Title field’s contents also appear in iTunes “Get Info” window under the Summary tab, as the third line, to the right of the podcast artwork area, and under the Info tab, in the “Album” field.

The Podcast Title field contents are added into an RSS feed at both the channel and item level.

Author

The Author field is used for the name of the author of the overall podcast, as well as for each individual episode.

The text entered in the Author field in Peak’s Publish Podcast dialog appear in iTunes “Get Info” window under the Summary tab, as the second line, to the right of the podcast artwork area, and under the Info tab, in the “Artist” field.

The Author field contents are added into an RSS feed at both the channel and item level.

Website Link

The Website Link field contents do not appear directly within the iTunes Podcast Directory, but the publisher’s website can be accessed by clicking the Website button, when browsing a listing in the Podcast Directory.



A podcast publisher’s website can be accessed by clicking the “Website” button the iTunes Podcast Directory.

The Website Link field contents are added into an RSS feed at the channel level.

Podcast Description

The contents of the Podcast Description field appear in the iTunes “Description” column, and describe an entire podcast.



The iTunes “Description” column can display two different types of information, depending on whether the row being viewed is that of an entire podcast, or an individual episode.

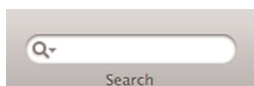
In a row containing an entire podcast description, (these rows have a disclosure triangle to the left of the name) the “Description” field shows the contents of the Podcast

Information well's "Description" field, in Peak's Publish Podcast dialog.

The Podcast Description field contents are added into an RSS feed at the channel level.

Keywords

The contents of the Keywords field can be used to search for a podcast within iTunes, but they do not actually appear anywhere in iTunes. For example, if you added the keyword "Peak", it would not appear anywhere in iTunes, but you could search for a podcast about Peak by typing "Peak" in the iTunes search field.



Up to twelve keywords (separated with commas) may be used.

The Keywords field contents are added into an RSS feed at the channel level only, and can only be used to locate a podcast, not an individual episode.

Filename on Server (xml)

The Filename on Server field is used to designate the name of the XML file (the RSS feed to your podcast) that Peak generates and uploads during the publishing process.

This field's contents do not appear within the XML code that makes up the RSS feed, they just name the file itself.

Episode Information

Fields in the Episode Information well create XML tags at the item level. These tags contain information specific to a particular episode.

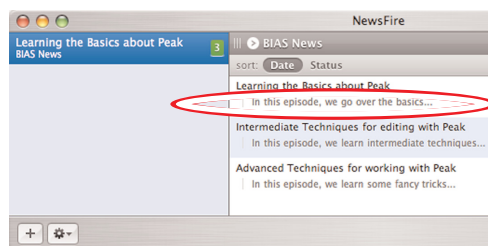
Episode Title

The contents of the Episode Title field appear in the iTunes "Name" (the Name column appears as "Podcast"

when browsing podcasts in your iTunes library) column, but only for an individual episode.

Episode Description

The Episode Description field contents do not appear in iTunes, but are used to describe an episode in other podcast aggregators, such as Juice, NewsFire, etc. Essentially, this is the non-iTunes equivalent to the iTunes Subtitle field (described below).



Peak's Episode Description field contents work like the iTunes Subtitle field, but for other aggregators besides iTunes – NewsFire shown here.

iTunes Subtitle

The contents of the iTunes Subtitle field appear in the iTunes "Description" column, and describe individual episodes.



The iTunes "Description" column can display two different types of information, depending on whether the row being viewed is that of an entire podcast, or an individual episode.

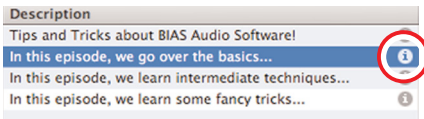
In an iTunes library row containing individual episode information, the "Description" field shows the contents of the Episode Information well's "iTunes Subtitle" field, in Peak's Publish Podcast dialog.

The iTunes Subtitle field contents are added into an RSS feed at the item level.

iTunes Summary

The iTunes Summary field contents appear in iTunes in a secondary window, when you click the "i" icon in the Description column in an episode's row. This information

also appears in the iTunes Podcast Directory in the iTunes Music Store, under the Podcast Description section.



in iTunes, clicking the “i” icon in an episode’s row opens a secondary window, which displays the contents of the iTunes Summary field in Peak’s Publish Podcast dialog.

Episode Advisory

The Episode Advisory pop-up menu’s setting affects the rating of an episode only. In iTunes, the rating will appear in an episode’s row, under the “Podcast” column, as well as under the “Summary” tab in the “Get Info” window.



It is possible to have differing ratings for the entire podcast and individual episodes.

Format

The Format pop-up menu allows choosing the encoding format for a podcast’s audio content to be uploaded. Options include AAC and mp3. Clicking the Settings button to the right of the Format menu gives various options related to each file format.

Settings

The options available in the Settings dialog will depend on whether you have set your desired file format to AAC or mp3. The available options are described below:

AAC

- **Compressor** – This menu sets the type of AAC file compression to be used.
- **Target Output** – This menu sets whether a specified bit rate is to be strictly adhered to, or whether variable bit rate encoding from the setting chosen in the Bit Rate menu is permissible.

- **Bit Rate** – This menu sets the desired bit rate.



Note that when used in conjunction with the Target Output menu that you can specify a target bit rate, and apply variable bit rate encoding. This uses the Bit Rate menu’s setting as a baseline, and when possible (depending on the audio content) will reduce the bit rate.

- **Output Sample Rate** – This menu sets the desired sample rate.
- **Encoder Quality** – This menu controls the quality of encoding, and has an effect on the file size. Better quality equals larger files.

MP3

- **Mono** – When checked, this option will automatically create a mono file by mixing the left and right channels together.
- **Bit Rate** – The bit rate can be set between 8 and 320 kbps.
- **Quality** – This slider sets the quality of encoding, and has an effect on the file size.
- **Edit ID3 Tags** – Clicking this button opens Peak’s Metadata editor window, where various file attributes can be set, including Title, Artist, Album, Comments, Genre, Year, and image. Keep in mind this is file metadata, and is not referenced in an RSS feed.



When adding an image to a podcast that will be submitted to the iTunes Podcast Directory, it’s recommended to use a square, 600 x 600 pixel (or larger), 72 dpi .jpg or .png file. Peak adds images as embedded metadata when publishing in mp3 format only – they are not referenced by the RSS feed.

Audio Filename on Server

The contents of this field are used to name the audio file (podcast content) that is published to a server.

Link

The contents of this field are used to specify a direct link to the audio file (the podcast's actual content) on the server that you publish to. This link is written into the RSS feed that Peak creates. For each episode (within each set of “<item>” tags), there will be a unique link that points an aggregator application to each episode.

It is important to format the link properly. It needs to be composed of three main parts:

- Server/Path + File Name + File Format Extension

For example:

- <http://www.myserver.com/podcasts/> + Audio + .mp3

or:

- <http://www.myserver.com/podcasts/Audio.mp3>



Be aware that the link you provide in this field is usually significantly different than the path used for uploading. While the link to the file itself is not what a subscriber uses to direct their aggregator application to the RSS feed, it is contained in the RSS feed, and it's important that the link to the file be accurate. You can test the link to your file by posting a file to the directory on your server using a file transfer client (such as Transmit or Fetch), and then pasting the link to the file into your browser. If the link you paste into your browser is accurate, then the audio file will play directly in the browser. If you are not sure how to determine the appropriate URL to use in the “Link” field, you may wish to contact your Internet Service Provider for assistance.

Real world examples

Below are some real world examples for the links to the audio content of a podcast, for two well-known Internet Service Providers – Earthlink and .Mac. In each case, you would need to substitute your actual account name for

<YourAccount>! These examples assume your audio file is named “*audio.mp3*”, and that you are publishing to the root level of your server, rather than to a sub-directory.

Earthlink:

- <http://home.earthlink.net/~<YourAccount>/audio.mp3>

.Mac:

- <http://homepage.mac.com/<YourAccount>/audio.mp3>

iTunes Extensions

Using iTunes extensions is optional – they are not required to successfully publish a podcast, but they are required if you wish to have your podcast appear in the iTunes Podcast Directory, and to be eligible to be a “featured podcast” in the iTunes Music Store’s Podcast directory.



The iTunes Music Store staff chooses interesting podcasts to feature based on program and technical content.

Name

The name field specifies the name of the podcast owner.

Email Address

The email address field specifies the the podcast owner’s email address.

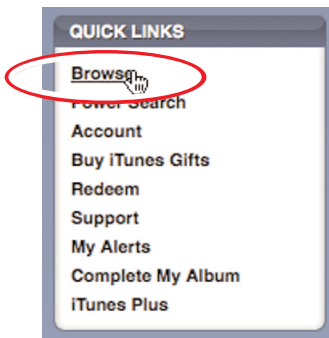


The Name and Email address fields are used solely by Apple, should they need to communicate with you regarding your podcast. While these are not publicly displayed in the iTunes Music Store’s Podcast directory, be aware that they are present in an RSS feed generated by Peak, and thus easily accessible to anyone who subscribes to your podcast.

Categories

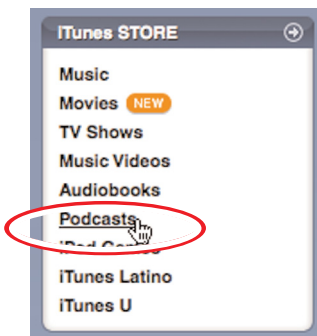
The categories that can be chosen here are used for placing your podcast into a suitable section of the iTunes Podcast directory.

In the original browsing system used by the iTunes Podcast Directory, the first three categories were used for browsing – this older system of browsing is accessible in the Quick Links section of the iTunes Store interface, near the upper right corner, and is primarily text-based.



Entering iTunes Extensions “Categories” in Peak, makes your podcast appear when browsing within the iTunes Podcast Directory, in the older text-based “Quick Links” section...

iTunes’ newer system of browsing uses just the first category assigned in this section of Peak’s Publish Podcast dialog. This browsing system is accessible from the “iTunes STORE” section of the iTunes Store interface. This modernized browsing section includes artwork, subscriber reviews, and other “richer media” content.



...or in the newer “Podcasts” section of the iTunes Store.

Podcast Advisory

The Podcast Advisory pop-up menu’s setting affects the rating of an episode only. In iTunes, the rating will appear in an episode’s row, under the “Podcast” column, as well as under the “Summary” tab in the “Get Info” window.



It is possible to have differing ratings for the entire podcast and individual episodes.

Publish Settings

The Publish well in the Publish Podcast dialog is used to specify details for connecting and uploading audio and RSS feeds to a server.

Preset

The Preset pop-up menu allows saving and recalling the details for connecting to servers, and is particularly handy when your server name is long! Server presets are stored in:

/MacHD/Users/<YourAccount>Library/Preferences/Peak Server Presets/



As a security precaution, passwords are not stored in server presets.

Server Type

The Server Type pop-up menu is used to specify what type of server you will be publishing your podcast to. Options include publishing to FTP and .Mac servers, and locally, to the “Sites” folder in your home directory.

FTP

- **Host Name** – This field is used to specify the name of your FTP server.



If you are not sure about your FTP connection information, you may want to check with your Internet Service Provider. This is typically the same information that would be used to connect using a standard FTP client application.

- **Username** – This field is used to specify the username of your FTP account.
- **Password** – This field is used to specify the password of your FTP account.
- **Path** – This field is used to specify the path to a particular directory, where you wish to publish your podcast. To publish to the root level of your server, this field can be left empty.

If you wish to publish to another directory on your FTP server, you will need to specify a path to that directory. For example, if your FTP server name is “ftp.myserver.com” and you have created a directory called “Podcasts” at the root level, then you would enter “/Podcasts/” in the Path field.



If you are publishing to your own domain, which is hosted by another company, it is particularly important to enter the Host name and Path correctly. Again, if you are unsure of what information to enter, please contact your Internet Service Provider, who should be able to assist you in determining the correct Host and Path information to allow successful podcast publishing.

.Mac

- **Use Default .Mac Account checkbox** – When publishing to a .Mac account, Peak defaults to using .Mac account information that is entered into the currently logged in user’s System Preferences. To set or change this default

information, open the System Preferences from the Apple menu, and then open the .Mac preference pane, where you can add or edit account information.

- **Username** – The Username field is used to specify the name of the .Mac account you are publishing to (if publishing to your own account, you may wish to enter your .Mac account information in the Mac OS System Preferences (as described above) to save time in the publishing process.
- **Password** – This field is used for the password of your .Mac account.



The Username and Password fields described above appear only when the Use Default .Mac Account checkbox is unchecked.

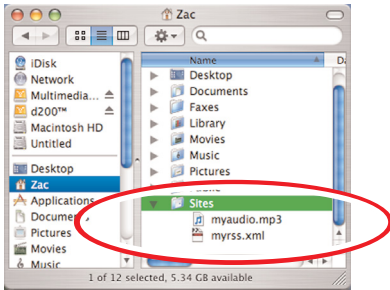
- **Path** – This field is used to specify the path to a particular directory, where you wish to publish your podcast. Because of the way file permissions are set up in a .Mac account, you must publish either to the Sites directory, or to another directory within the Sites directory.

If you wish to publish to another directory within the Sites directory, you will need to specify a path to that directory. For example, if you have created a directory called “Podcasts” within the “Sites” directory, then you would enter “/Sites/Podcasts/” in the Path field.

Save to Disk

You may wish to publish your podcast locally before you publish to a server, so as to learn more about the process of podcasting, or simply to test how things will work. Publishing locally is similar to publishing web pages locally – to work properly within iTunes and many other aggregators, your RSS feed and the audio content must be published to:

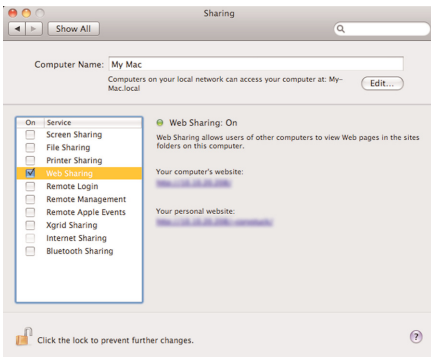
/MacHD/Users/<YourAccount>/Documents/Sites/



In order to subscribe to a locally published podcast, it must be published to the “Sites” folder in your home directory

If you wish to publish to another directory within the Sites directory, you will need to specify a path to that directory. For example, if you have created a directory called “Podcasts” within the “Sites” directory, then you would enter “/Sites/Podcasts/” in the Path field.

In addition, you must enable Personal Web Sharing in the Mac OS System Preferences.



The Mac OS Sharing Preference Pane allows you to configure Web Sharing preferences.

When saving to the Sites folder in your home directory, the URL for the RSS feed (assuming RSS feed name is “rssfeed.xml”) will be:



`http://localhost/~<YourAccount>/rssfeed.xml`

The link to the audio file (assuming the file name is “audio.mp3”) will be:

`http://localhost/~<YourAccount>/audio.mp3`

Submit to iTunes Music Store after Publishing checkbox

This checkbox determines whether your podcast is submitted to the podcast directory located in the iTunes Music Store. This is an excellent way to publicize your podcast, as it becomes searchable within the iTunes Music Store’s Podcast Directory, based on the keywords you enter in the iTunes Extensions section of the Publish Podcast dialog.

To Submit your Podcast to the iTunes Music Store’s Podcast directory:

1. Prepare your podcast using Peak’s various recording, editing, and processing tools.
2. From the File Menu, choose Publish Podcast.
3. Fill out the required fields that are suitable for your podcast, making sure to check the Submit to iTunes Music Store after Publishing checkbox.
4. Click the Publish button – once published, Peak copies the URL of your podcast’s RSS feed to the clipboard, and automatically directs iTunes to the Submit Podcasts to the iTunes Directory page in the iTunes Music Store – once there, you simply paste in your podcast feed URL, and click the Continue button.



Submitting your podcast to the iTunes Directory is as simple as pasting in the URL to your RSS feed.



Be aware that you cannot submit a URL for a locally published RSS feed to the iTunes Podcast Directory.

Conclusion

You have now learned how to publish audio podcasts with Peak. Peak provides a wealth of tools for creating and editing the actual audio content that makes up a podcast – to learn more about Peak’s tools, please see Chapters 3, 4, 5, 6, 8, and 9 in your User’s Guide. These contain the most relevant discussions of tools and techniques for podcast production.

Many excellent resources are available for those who wish to learn more about podcasting. Michael Geoghagan’s “Podcast Solutions” book is an excellent all-around resource, while Apple’s website offers a wealth of technical information, and is a great source to learn more about the technical side of podcasting:

<http://www.apple.com/itunes/store/podcasttechspecs.html>

To learn about Peak’s Digital Signal Processing tools, please continue to the next chapter.

Chapter 8

DSP



Chapter 8: DSP

Introduction

Peak allows you to transform your audio with a variety of powerful Digital Signal Processing (DSP) tools. You can apply these tools at any time by first making a selection in an audio document and then choosing the desired menu command from the DSP menu.

Processing Audio with Peak's DSP Tools

The following general procedure describes how to process a selection in an audio document, or the entire document, with a particular DSP function. The specific capabilities and parameters of the DSP function will vary.

To process audio with a DSP function:

1. Select the portion of the audio that you wish to process with the DSP function. If no selection is made, the entire document will be processed.
2. Select the type of process you wish to use from the DSP menu.
3. A dialog appears allowing you to set the parameters for the DSP function.
4. Set the parameters for the DSP function as desired and click OK. Peak processes the selection with the DSP function or plug-in.



Note that if no selection is made, Peak will apply processing to the entire audio document.

Peak's Audio Processing Tools

Peak's DSP capabilities provide composers and professional sound designers with many interesting and useful audio effects and processing tools. Peak's many DSP functions include Add, Amplitude Fit, Auto Define Tracks, Bit Usage, Change Duration, Change Duration (Variable), Change Gain, Change Pitch, Change Pitch (Variable), Convert Sample Rate, Convolve, Crossfade Loop, Envelope From Audio, Fade In, Fade Out, Find Peak, Gain Envelope, Harmonic Rotate, ImpulseVerb, Invert, Loop Tuner, Mono to Stereo, Stereo To Mono, Mix, Modify Sample Rate, Modulate, Normalize, Normalize (RMS), Panner, Perpetual Looper, Phase Vocoder, Rappify, Remove DC Offset, Repair Click, Repair Clicks, Reverse Boomerang, Reverse, Strip Silence, Swap Channels, Threshold, and Voiceover Ducking.

The following sections explain how to use each of these functions.

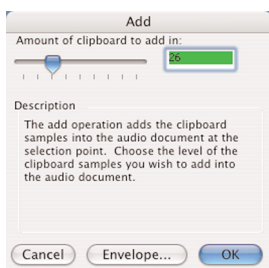


By default, Peak's DSP tools appear in the DSP menu in alphabetical order. A user-selectable "Use Subcategories in DSP Menu" preference is also available, which allows DSP tools to be grouped by type of function (i.e., Analysis, Conversion, Gain, etc.). For more information, please see Chapter 12: Peak Menus.

Add

The Add command adds any selection of audio copied to the clipboard into the audio document at the selection point. To

use the Add command, you must first copy a selection of audio. The copied material can then be mixed into the target audio material. The Add command can also be customized using an envelope. If you wish to Add material with a variable level, click the envelope button in the Add dialog. The Add function differs from the Mix function slightly, in that the Add function never alters the amplitude level of the target audio material you are adding to – you can only specify the level of the material you are adding.



The Add Dialog

To use the Add command:

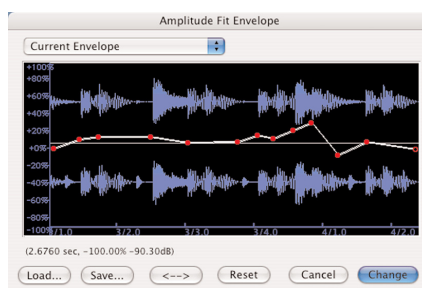
1. Select the audio that you wish to Add to another audio document and choose Copy from the Edit menu (⌘-C) or Toolbar.
2. Select the audio that you wish to add the copied material into.
3. Choose Add from the DSP menu or Toolbar.
4. In the dialog that appears, use the slider to adjust the amount of the copied signal that you wish to add into the target audio document. To add copied material with a variable level, click the envelope button, create the desired envelope, click the Change button, and then click the Add button. Be careful not to add too high an amount, which can potentially clip the signal.
5. Click OK. Peak adds the two signals together.
6. To hear the results, press the Spacebar.



Add is not available in Peak LE.

Amplitude Fit

Amplitude Fit provides granular normalization of an audio selection on a grain-by-grain basis. Grains are small groups of samples, often around 30ms. As each grain is read in, it is normalized according to the Amplitude Fit Envelope – each normalized grain crossfaded with the previous grain and written out as the result. Amplitude Fit can be used to maximize the level of an audio selection, or to make quiet passages as loud as louder passages.



The Amplitude Fit Dialog

To apply the Amplitude Envelope to an audio selection:

1. Select the audio material you wish to process.
2. Choose Amplitude Envelope from the DSP menu.
3. Draw the amplitude envelope you wish to apply to the audio selection in the envelope editor. Points above and below the 0% line will normalize the selected audio using the grain-by-grain normalization technique.

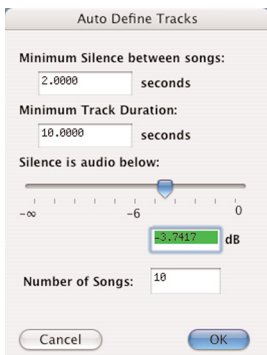


Amplitude Fit is not available in Peak LE.

Auto Define Tracks

The Auto Define Tracks tool allows you to automatically split audio recordings into separate Regions, each of which will become an individual CD track when an audio CD is

burned. This tool is useful for quickly editing LP and cassette recordings, in preparation for burning them to CD, or exporting them for use with a portable music player.



The Auto Define Tracks dialog

This DSP tool works by automatically placing Region markers into an audio document based on audio level, minimum period of silence between songs, and minimum song duration. Peak analyzes the audio levels throughout a document, and places Region markers around each song. The louder parts are considered to be songs, and the quieter parts are the gaps between them.

Since some songs may contain very quiet parts that could mistakenly be interpreted as gaps between tracks, a few

parameters are available to help Peak correctly distinguish between songs and the gaps between them.

Minimum Silence Between Tracks

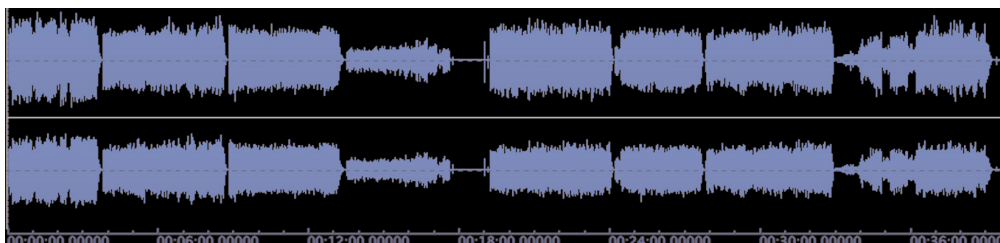
This field is used to enter the minimum gap time between songs in the audio document you are working with. If a recording you are working with contains two second gaps between each song, start with the default value of “2.00” in this field. If the gaps between songs vary in length, enter the value of the shortest gap in the entire recording.

To measure the gap time between songs, activate the Cursor Info overlay by selecting Show Cursor Info (⌘-Shift-T) from the Options menu, and then select the gap between songs in the audio waveform – the Cursor Info overlay will tell you the length of the selected area. You may also need to set your preferred Time Units to Min:Sec.ms – this can be done in the Options Menu > Time Units.

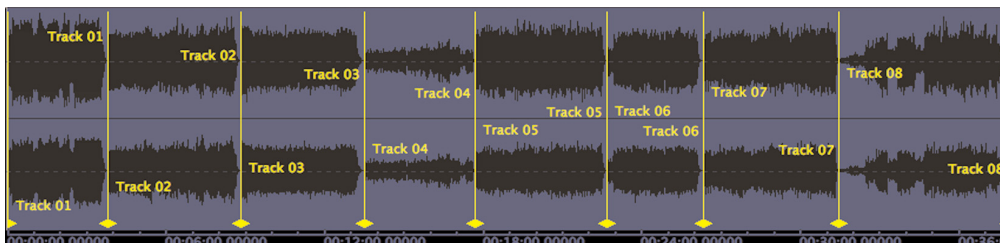


Minimum Track Duration

Peak needs to have some information about the length of each song, in order to accurately divide a long recording



Before using the Auto Define Tracks tool on an LP recording – note the area of silence near the middle of the recording has not yet been edited out...



After deleting silence from middle of the recording (where the LP was flipped over and Peak was left recording), and using Auto Define Tracks...

into individual songs. The Minimum Track Duration parameter tells Peak how long the shortest song in a recording is, and helps ensure that Region markers are placed in the correct location in the audio waveform – that is, a begin Region marker just before a song starts, and an end Region marker just after a song ends – even if the audio level falls below the threshold value set with the Silence is Audio Below slider (see next section). If a recording you are working with contains songs that are all approximately 4-5 minutes long, a good value to enter in this field would be 240 seconds (4 minutes).

Silence is Audio Below slider

This slider controls the threshold level between audio material you wish to define as a Region and the gaps between it. As this slider is moved, you will notice Region markers appearing in the audio waveform in the background, and you will also notice the value in the Number of Songs field changing. (More information on the Number of Songs field is in the next section). For example, if you are working with a recording from a cassette, the gaps will typically contain hiss or other noise that is not completely silent, but has a significantly lower amplitude level than the program material that you are trying to isolate into tracks. By adjusting the Silence is Audio Below slider, you can make the judgment as to what should be silence, even if it does contain some low level audio such as tape hiss, or other background noise.

Number of Songs field

This numerical field is tied to the Silence is Audio Below slider, and displays the number of songs that Peak automatically detects in a recording, based on the settings used for Minimum Silence Between Songs, Minimum Track Duration, and Silence is Audio Below. Depending on the settings you choose, Peak will detect a different number of songs, and this field will display different numbers. When the Silence is Audio Below slider is moved, the number of songs detected will update, and typing in a new value in the Number of Songs field will update the Silence is Audio Below slider. Typically, the automatic number of songs detected is very accurate,

provided you have entered accurate settings for the other parameters that define tracks. There may be times however, where Peak detects more or fewer songs than the recording actually contains. You may choose to define the number of tracks using the Silence is Audio Below slider, or by typing in a known number of songs in the recording, and then fine tuning with the Silence is Audio Below slider. Be aware that the values you enter in the Number of Songs field, and the values you set with the Silence is Audio Below slider may override each other.

To Auto Define Tracks:

1. Open a recording from a cassette or LP.
2. Select All (⌘-A).
3. From the DSP menu, choose Auto Define Tracks.
4. In the Minimum Silence Between Songs field, enter the shortest amount of time (gap time) between any two songs in the entire recording.
5. In the Minimum Track Duration field, enter the length of the shortest song in the recording.
6. Adjust the Silence is Audio Below slider until the Number of Songs field reflects the actual number of songs in the recording – Peak inserts Region markers for each song detected (you can visually scan the waveform of the entire recording and count the number of individual songs).
7. Click OK.

Tips for using Auto Define Tracks

While Auto Define Tracks can greatly speed up the process of dividing audio documents into track, there are a few tips for getting the best results – these are outlined below.

Before Auto Defining Tracks

When recording cassettes and LPs, you will be working with fairly long audio documents, and there are a few things you can do to get the most accurate results with the Auto Define Tracks tool.

- Zoom out all the way, so that you can see the entire audio document from beginning to end. This way, when setting parameters in the Auto Define Tracks dialog, Region markers being placed into the audio waveform will be visible throughout the document.
- Delete excess silence – if you have recorded excess silence at the beginning or end of the audio document, or recorded a long pause when “flipping” a cassette or LP, it’s a good idea to edit this out before attempting to use the Auto Define Tracks tool.
- You may want to apply noise reduction for clicks, crackles, pops, broadband noise, and hum before auto-defining tracks. These types of noise are reflected in the audio waveform and may interfere with accurate placement of markers. Some of Peak’s built-in tools can help reduce/remove certain kinds of unwanted noise, but for the best results, BIAS recommends using SoundSoap or SoundSoap Pro. More information is available at:

<http://www.bias-inc.com/products/soundsoap/>

<http://www.bias-inc.com/products/soundsoappro/>

- Get an idea of the length of songs and gap times between songs – this will give the most accurate results in placing Region markers/creating tracks. From the Options menu, choose Show Cursor Info (⌘-Shift-T), this will show you the duration of the selected portion of the waveform.
- Visually scan the audio waveform, while looking for:

The number of songs in the recording – you should be able to see how many individual songs there are by counting the number of high amplitude areas.

The shortest song – select the shortest song from beginning to end, and then turn on Cursor Info, which will show the length of the selected part of the waveform. You may need to zoom in to make a more accurate selection.

The shortest gap time between songs – select the gap between songs and measure using the Cursor Info overlay.

After Auto Defining Tracks

There may be times when an anomaly in the audio waveform, or a less than ideal setting causes a track/Region marker to be placed in the wrong location. In some cases, when most of the tracks have been identified correctly, but one or two have not, it may be easiest to simply adjust the markers that are in the wrong position.

Region markers may be moved by clicking and dragging the triangular base to the left or right. Also, by engaging Peak’s Vertical Lock mode, you may move the end of one song/Region and the beginning of the next at the same time.

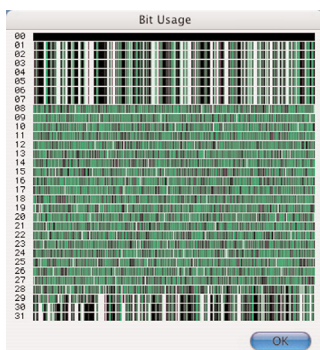
This technique is especially useful when working with live recordings or DJ mixes, where it’s important to preserve the overall duration and timing – but a track index needs to be adjusted into the correct position.

Nudging Markers

If all the Region markers placed into an audio document are incorrectly placed, but are off by a small amount, you may wish to use the Nudge feature to adjust them all simultaneously. To nudge a group of markers, select the portion of the audio waveform that contains the markers you wish to nudge, and then choose Nudge from the Action menu. Now that you know a bit about Peak’s Auto Define Tracks tool, give it a try! This feature can save a great deal of time, and the more you use it, and get a feel for how the various parameters need to be set, the faster it will work.

Bit Usage

The Bit Usage meter allows you to monitor bit saturation, degradation, and the “true” bit depth of a file. The graph display area in the Bit Usage dialog plots the bits in the current selection on the vertical axis, and the duration of the selection on the horizontal axis.



The Bit Usage Meter

The small rectangles that make up the graph appear in different shades of black, white, and green. These represent the level of bit usage over the selected amount of time. Darker shades equate to more bit usage, while lighter shades indicate less bit usage. Each rectangle represents many samples, and the shading corresponds to the audio waveform. The primary purpose of this display is to show whether the audio content has been degraded by processing that has been applied to the file.

For example, the screenshot above shows a 32-bit file, which has fairly severe bit usage degradation in bits 01 - 07 (in the upper part of the display), and also in bits 29 - 31 (in the lower part) – these are represented as vertical white streaks.

The Bit Usage meter also shows the “true” bit depth of a file. For example, a file recorded at 16-bit resolution, and then saved as a 24-bit file will be a larger file, but will contain empty bits. It would appear in the Bit Usage meter with bits 00 - 15 in use (shaded with black and green rectangles), while bits 16 - 31 would be empty, and appear all white.

To use the Bit Usage meter:

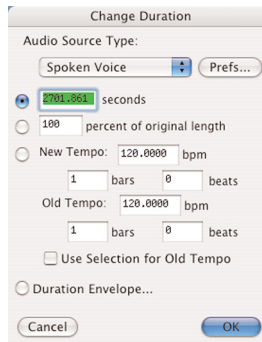
1. Select the desired range of audio you wish to examine.
2. Choose Bit Usage from the DSP menu – The bit usage meter will appear, and plot a graph showing the status of bit usage in the selected area of audio.



Bit Usage is not available in Peak LE.

Change Duration

You can specify the change in duration by a value in seconds, a percentage of the original, or, for rhythmically-oriented material, beats per minute. In addition, when working with rhythmically-oriented material, a special Transient mode may be used for optimal results.



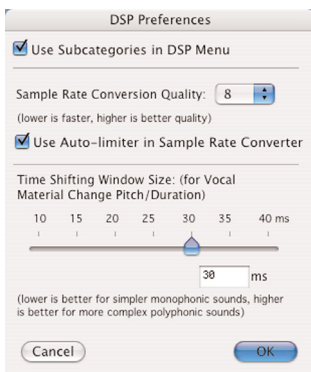
The Change Duration dialog

A change in duration by a reasonable amount, about 85% to 115%, can be very convincing. Exaggerated time stretching, 200% or more, can result in some very interesting granular textures. Try experimenting with the Change Duration function on drums, rhythm loops, speech, sampled instruments or sound effects to achieve a wide variety of useful effects.

To change the duration of a selection:

1. Select the portion of audio that you wish to process.
2. Choose Change Duration from DSP menu. The Change Duration dialog appears.
3. Click the radio button for one of the following fields, and enter a new duration value:
 - In the Seconds field, enter a new duration in seconds.
 - In the Percentage field, type the percentage you wish to slow down or speed up the selected audio. For example, typing “50%” will speed up the selection to half its original duration, typing “200%” will slow down the selection to twice its original duration.

- In the Beats per minute field, type the old tempo for the selected audio and then the desired new tempo, and Peak will compute the correct new duration. Use this field to change the duration of rhythmically-oriented material.
 - Click the Tempo Envelope radio button to Create a custom Tempo Envelope that will vary the tempo/duration dynamically.
4. If you wish to adjust the quality of the duration change, click on the Prefs button. The DSP Preferences dialog will appear, allowing you to choose the size of the Time Shifting Window and Sample Rate Conversion quality that will be used in processing. For the Time Shifting Window, a lower value is best for simpler, monophonic sounds, while a higher value yields the best results for more complex, polyrhythmic sounds. For the Sample Rate Conversion quality, 1 is lowest quality (and uses the least amount of CPU power) and 10 is the highest quality (using the most CPU power). Once you have set these preferences to your liking, click OK.



The DSP Preferences dialog

5. Click OK when you have finished. Peak changes the duration of the selection according to the settings that you chose.



A Sample Rate Conversion setting of 8 is the recommended starting point.



Peak LE features a more basic Change Duration algorithm. It features the same controls with the exception of the Tempo Envelope, and is limited in quality compared to the algorithm used in Peak Pro.

Change Duration (Variable)

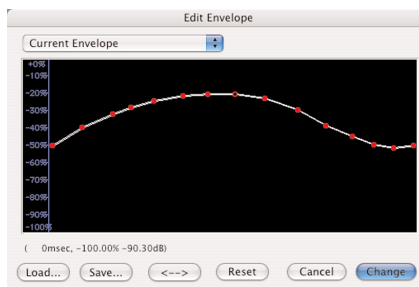
The Variable Change Duration feature allows the selected portion of an audio document to have its duration modified dynamically over time, using Peak's familiar envelope editor dialog.



This DSP menu item offers quick access to Peak's Duration Envelope editor dialog – it opens the same editor window as when using the Duration Envelope mode of the standard Change Duration DSP command.

To apply variable duration change to an audio selection:

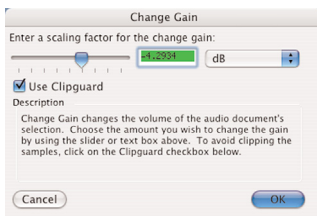
1. Select the audio material you wish to process.
2. Choose Change Duration (Variable) from the DSP menu.
3. Create the tempo envelope you wish to apply to the audio selection in the envelope editor, by clicking to create breakpoints. Points above the 0% line will lengthen the selected audio's duration (i.e., slow down playback). Points below the 0% line will shorten the duration (i.e., speed up playback).
4. To process the audio selection using the envelope, press Change.



The Duration Envelope dialog

Change Gain

The Change Gain function changes the gain (i.e., amplitude) of a selection. You can specify the amount of gain change either in decibels (dB) or as a percentage. If you wish to double the volume of a sound, you must apply approximately 6 dB of gain change, or add 200%. Enable the Clipguard checkbox in the Change Gain dialog to protect against the possibility of clipping. Clipguard will search through the audio document or selection for the maximum peak in amplitude, and then limit the Change Gain slider's range based on the maximum peak it finds in the audio document or selection.



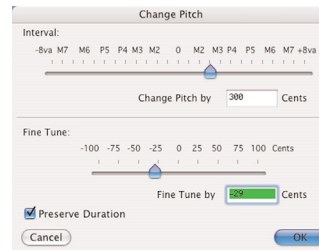
The Change Gain dialog

To change the gain of a selection:

1. Select the portion of the audio that you wish to process.
2. Choose the Change Gain command from the DSP menu or from the Toolbar. The Change Gain dialog appears.
3. Enter the number of decibels or percentage by which you wish to change the amplitude of the selection by.
4. If you wish to protect against the possibility of clipping, enable Clipguard by checking the Clipguard checkbox.
5. Click OK when you have finished. Peak will change the gain of the signal by the amount you specified.

Change Pitch

The Change Pitch function allows you to alter the pitch of an audio selection by as much as an octave, with excellent sounding results.



The Change Pitch dialog

The Change Pitch dialog uses a pitch slider that allows you to choose a new pitch by musical interval, and “fine tune” the pitch change by smaller increments called “cents.” (Cents are divisions of a musical octave—one octave is equivalent to 1200 cents – thus, 100 cents is a semi-tone, 50 cents a quarter-tone, etc.)

You can also choose to alter the length, or duration, of the selection just as you would by slowing down or speeding up analog tape, or you can choose to preserve the duration of the selection (something not possible with analog tape!).

To change the pitch of an audio selection:

1. Select the portion of the audio that you wish to process.
2. Choose Change Pitch from the DSP menu or from the Toolbar. The Change Pitch dialog appears.
3. Select the interval of transposition up or down by entering a positive or negative value in cents in the “Change Pitch by” field or by using the pitch slider. Fine-tune the interval of transposition by entering a positive or negative value in cents in the “Fine Tune by” field or by using the Fine Tune slider. Check the Preserve Duration checkbox to retain the original duration of the selected audio.
4. If you wish to adjust the quality of the pitch change,

click on the Prefs button. The DSP Preferences dialog will appear, allowing you to choose the size of the Time Shifting Window and Sample Rate Conversion quality that will be used in processing. For the Time Shifting Window, a lower value is best for simpler, monophonic sounds, while a higher value yields the best results for more complex, polyrhythmic sounds. For the Sample Rate Conversion quality, 1 is lowest quality (and uses the least amount of CPU power) and 10 is the highest quality (using the most CPU power). Once you have set these preferences to your liking, click OK to exit the DSP Preferences dialog.

- Click OK when you have finished. Peak transposes the pitch of the selected audio up or down by the amount you specified.



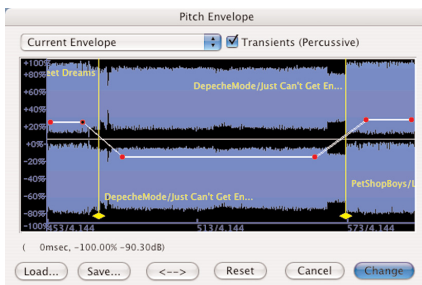
A Sample Rate Conversion setting of 8 is the recommended starting point.



Peak LE features a more basic Change Pitch algorithm. It features the same controls, but is limited in quality compared to the algorithm used in Peak Pro.

Change Pitch (Variable)

The Variable Change Pitch function feature allows the selected portion of an audio document to have its pitch modified dynamically over time, using Peak's familiar envelope editor dialog.



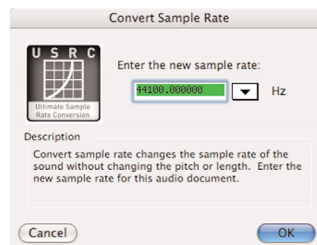
Pitch Envelope Dialog

To apply variable pitch change to an audio selection:

- Select the audio material you wish to process.
- Choose Change Pitch (Variable) from the DSP menu.
- Create the pitch envelope you wish to apply to the audio selection in the envelope editor, by clicking to create breakpoints. Points above the 0% line will raise pitch, and points below the 0% line will lower pitch.
- To process the audio selection using the pitch envelope, press Change.

Convert Sample Rate

The Convert Sample Rate command allows you to change the sample rate of an audio document without changing its pitch. This feature is very useful for converting audio material into lower or higher sample rates as required by other applications. Please note that sample rate conversion is applied to an entire document. It cannot be applied to just a selection within a document.



The Convert Sample Rate dialog

Sample rate conversion quality may be set in the DSP Preferences section of the Preferences dialog. A setting of 1 is lowest quality (and uses the least amount of CPU power and takes the least amount of processing time) and 10 is the highest quality (using the most CPU power and taking the longest to process).

The default setting for sample rate conversion is 8, and this should work well in most cases. In a practical sense, use the highest setting possible for your particular computer system's CPU.

To change the sample rate of a document:

1. Choose Convert Sample Rate from the DSP menu or Toolbar. The Convert Sample Rate dialog appears.
2. Type in the sample rate that you wish to convert the audio document to, or click the down arrow to select from a pop-up of commonly used sample rates.
3. Click OK. Peak converts the entire audio document to the selected sample rate.



A Mac's built-in audio hardware is typically limited to sample rates from 11 kHz to 96 kHz, and support will vary depending on the model of Mac. Higher sample rates are possible with Core Audio depending on the particular audio hardware device and its Core Audio drivers.



Peak LE contains a basic sample rate conversion algorithm.

Convolve

The Convolve command is a unique and powerful sound design tool that allows you to apply the sonic (i.e., spectral) characteristics of one sound onto another. Convolution works by multiplying the frequency spectrum of the impulse contained in the clipboard and that of the target audio document, reinforcing the frequencies that are in common between the two. The results are always interesting and often quite unlike anything you've heard before. This is especially true when the character of the two sounds are very different, and when the clipboard impulse is harmonically rich (imagine, for example, convolving a rainfall sample with

piano tinkling!). To use the Convolve DSP command, you must first copy a selection of audio. The copied material will provide the spectral "character" that you will apply to the target audio material. Convolution can be very useful not only for creating new and unusual sound, but also for giving an audio selection a sense of space. Try copying a small amount of room noise to the clipboard and then Convolve it with a selection of audio – the convolved audio will sound like it is being played in that room environment.

Users of the Convolve feature will also enjoy the additional parameters of the ImpulseVerb DSP tool, when set up to use the Clipboard contents as a convolution source (See the section on ImpulseVerb later in this chapter for more information).



Because the clipboard contents that provide the spectrum for this process must be held in RAM, small clipboard impulses should be used, unless a large amount of RAM is available. This process can use a lot of RAM!

To use Convolve:

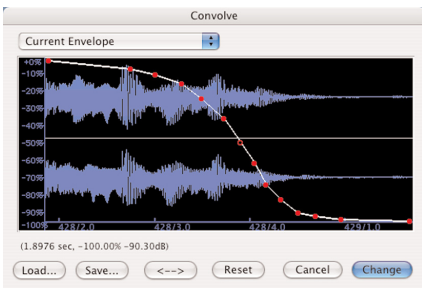
1. Select the audio with the characteristics you wish to apply and choose Copy (⌘-C) from the Edit menu or Toolbar.
2. Select the audio that you wish to modify with the copied audio impulse.
3. Choose Convolve from the DSP menu. Peak applies the spectral character of the copied material to the selection.
4. To hear the results, press the Spacebar.



If the Option key is held down when the Convolve DSP is selected, an envelope editor window appears, and allows variable convolution between the two audio sources being used.

To apply variable convolution to an audio selection:

1. Copy the audio material you wish to convolve with to the Clipboard.
2. Hold down the Option key while choosing Convolve from the DSP menu.
3. Create the convolution envelope you wish to apply to the audio selection in the envelope editor, by clicking to create breakpoints. By default, the convolution envelope is set to apply 100% convolution across the entire audio selection. Breakpoints created below this default envelope will convolve by a lesser percentage – use the Y-axis scale along the left side of the window as a guide.



The Convolve Envelope Dialog

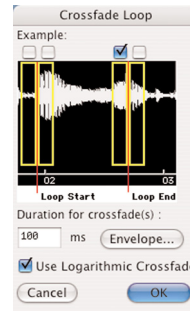
4. To process the audio selection using the convolution envelope, press Change.



Convolve is not available in Peak LE.

Crossfade Loop

Peak allows you to crossfade the start and end points of a loop. Crossfading a loop can be very useful for smoothing the transition between the end of the loop and its beginning as it repeats. Peak allows you to control the envelope of the crossfade, the duration, and other parameters in the Crossfade Loop dialog.



The Crossfade Loop dialog

The four checkboxes at the top of the Crossfade Loop dialog allow you to customize how the end of the loop is faded into the beginning of the loop. These boxes indicate where in the loop the crossfade is applied. For most loops, you should be able to leave the default checkbox checked and get good results.

Crossfade Variations

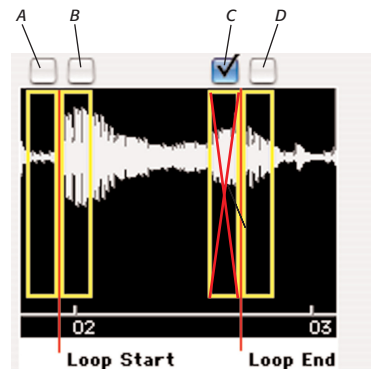
If you consider the crossfades “A”, “B”, “C”, and “D” from left to right, then:

“A” = Crossfade between A and C

“B” = Crossfade between B and D

“C” = Crossfade between C and A

“D” = Crossfade between D and B



Crossfade positioning options – different uses for loops may call for different loop crossfade settings – With crossfade position “C” checked a crossfade is applied as indicated by the red “X”.

The way these crossfade variations are configured depends on where the loop is destined to be used – for most purposes the default crossfade position (Position “C”) works well – if however, you plan on transferring these loops to a sample playback instrument such as a SMDI sampler, then you may want to experiment with different crossfade positions/combinations. Some hardware based samplers offer advanced playback controls, allowing loops to be played forward, backward, and in various other ways. By changing where in the loop crossfades are applied, you can customize your audio content for a particular sampler and for the desired effect.

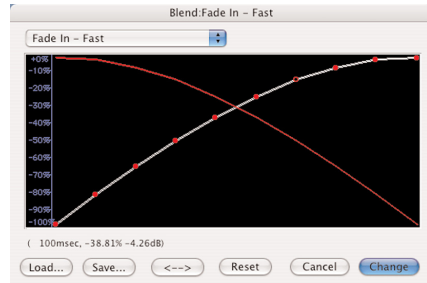
Another application that may require using loop crossfade position(s) other than the default position “C”, are when creating audio loops intended to be used in a proprietary video game audio engine. Depending on the requirements of a particular video game’s audio engine, users may need to adjust the position of the crossfades used in their loops to achieve the desired effect. Depending on the application requiring crossfades, users may need “loop with release” (plays the tail of the audio document – the section of audio that lies outside the loop markers – after the loop stops playing/sampler’s key is released) or “loop hold” (doesn’t play the audio after the loop when the key is released). Because of these different modes, users may need to turn some crossfades on or off.

To crossfade a loop:

1. Create a loop using one of the techniques explained earlier in this chapter.
2. Choose Crossfade Loop from the DSP menu or Toolbar.
3. In the Crossfade Loop dialog that appears, enter a duration for the crossfade-in milliseconds and click OK.
4. To hear the completed crossfade, choose Select Loop from the Edit menu, select Use Loop in Playback from the Options menu (**⌘-L**) or click the Loop button on the Transport, and press the Spacebar. You will hear the loop, complete with your crossfade.

To edit a Crossfade Loop Envelope:

- Click on the Envelope button in the Crossfade Loop dialog and the Blending Envelope Editor appears.



The Blending Envelope Editor



Note that this is the same Blending Envelope Editor that is accessed from the Blending dialog.

2. Click anywhere on the line and a new moveable “breakpoint” will appear.
3. Drag the breakpoint to the desired location.
4. Continue creating and dragging breakpoints until you have created the envelope that you desire. If you wish to delete a breakpoint, click on it with the cursor and press the Delete key on your computer keyboard.
5. If you wish to reverse the shape of the envelope you have created, click the “<->” button. This creates a mirror image of the envelope.
6. If you would like to save your custom envelope for later use, click on the Save button before exiting the envelope editor.
7. When you are satisfied with your new envelope shape, click Change to confirm your edits and close the envelope editor. Peak will use this envelope until you change it again.

To hear the completed crossfade, choose Select Loop from the Edit menu, select Use Loop in Playback from

the Options menu or click the Loop button on the Toolbar, and press the Spacebar. You will hear the loop, complete with your crossfade.

If you save your custom Blending envelope into:

*/MacintoshHD/Users/<YourAccount>/Library/
Preferences/Peak Envelopes/*



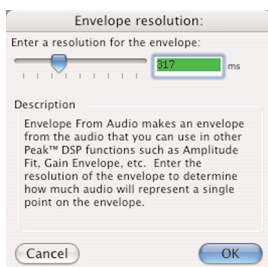
it will automatically appear in the Envelope pop-up menu if the Fade In/Out Envelope editor. Please note that you must apply the custom fade in/out for it to later appear in the pop-up menu.



Crossfade Loop is not available in Peak LE.

Envelope from Audio

The Envelope from Audio tool allows you to create an envelope from a selected portion of audio. For example, imagine a piece of music that has a specific type of fade out, and you would like to be able to apply that fade out “envelope” to other pieces of audio. By selecting the entire fade out, and then using the Envelope from Audio command, Peak is able to “reverse engineer” the fade out characteristics, and save them as an envelope that can later be recalled in any of Peak’s envelope based tools, such as Fade In/Out, Gain Envelope, etc.



The Envelope from Audio’s Envelope Resolution dialog

Once an envelope is saved, it is available for use in any of Peak’s DSP tools that are able to access the Peak Envelopes folder, stored in your Home directory’s Preferences folder. Other DSP tools that can access these envelopes include Fade In/Out, Blending, Panner, Gain Envelope, Amplitude Fit, and Plug-In Envelope.

Envelopes of varying precision may be created with this tool. For a more precise envelope, where more points define the shape, enter a smaller value in milliseconds in the “ms” field (or use the slider). For a less precise (or “smoother”) envelope, where fewer points define the shape of the envelope – use a larger value.

Fade In & Fade Out

The Fade In and Fade Out commands allow you to apply an amplitude envelope to an audio selection. The Fade In and Fade Out DSP functions, and the Fade Envelope Editor dialog are described at length in Chapter 5.

To create a Fade In:

1. Click the cursor at the desired location in the audio document and drag to select the range you desire. The Fade In will be applied to the audio within this selection.
2. Choose Fade In from the DSP menu, or click the Fade In button in the Toolbar. Peak applies the Fade In to the selection you have made in the audio document.
3. To hear the completed Fade In, press Control-Spacebar. You will hear the selected audio complete with your Fade In.

To create a Fade Out:

1. Click the cursor at the desired location in the audio document and drag to select the range you desire. The Fade Out will be applied to the selected audio.

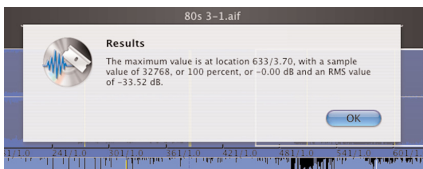
2. Choose Fade Out from the DSP menu, or click the Fade Out button in the Toolbar. Peak applies the Fade Out to the selection you have made in the audio document.
3. To hear the Fade Out, press Control-Spacebar. You will hear the selected audio complete with your Fade Out.



More detailed information regarding the Fade In and Fade Out DSP tools is available in Chapter 5: Editing.

Find Peak

The Find Peak operation will place the insertion point at the sample with the maximum amplitude value that it locates in the audio selection.



The results of a Find Peak operation

To find the maximum amplitude point in an audio selection:

1. Select the audio in which you wish to locate the maximum amplitude.
2. Choose Find Peak from the DSP menu.
3. A dialog will appear telling you what the peak value is, and where it is located. The insertion point will be placed at the sample where the greatest amplitude was located.
4. Press the left arrow to bring the insertion point into view or the Shift key to the view of the insertion point at the sample level



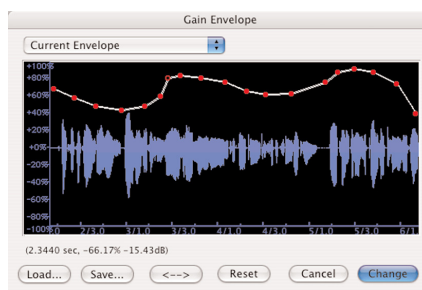
Find Peak is not available in Peak LE.

Gain Envelope

The Gain Envelope operation allows you to enter an amplitude envelope to be applied to an audio selection. The selected audio's amplitude will be boosted and/or attenuated according to the envelope you draw in the Gain Envelope editor. It is easy to cause samples to clip when using this feature, so use it carefully.

To apply variable gain and attenuation to an audio selection:

1. Select the audio material you wish to process.
2. Choose Gain Envelope from the DSP menu.
3. Draw the gain envelope you wish to apply to the audio selection in the envelope editor. Points above the 0% line will amplify the selected audio. Points below the 0% line will attenuate the selected audio. Note that the waveform display in the Gain Envelope editor will change according the envelope you draw.



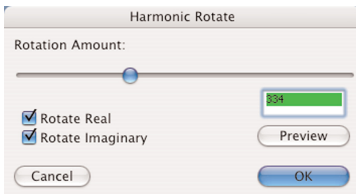
The Gain Envelope dialog

4. To process the audio selection using the gain envelope, press Change.

Harmonic Rotate

The Harmonic Rotate tool is excellent for sound design experimentation. This command allows the frequency spectrum in a selected range of audio to be rotated

around a horizontal axis, which has the effect of taking frequencies that were previously associated with one section of the frequency spectrum, and assigning them to different areas of the frequency spectrum. The Harmonic Rotate command can be previewed in real time, so that desired setting can be found before spending time processing. Options for processing include checkboxes for using Real & Imaginary calculations, and a slider & text field to set amount of rotation.



The Harmonic Rotate dialog

To apply Harmonic Rotate to an audio selection:

1. Select the audio material you wish to process.
2. Choose Harmonic Rotate from the DSP menu.
3. Click the Preview button, and select the desired settings for Real or Imaginary frequency spectrum calculation, and move the slider, or type in the desired value.
4. When you've made the desired settings, click OK.

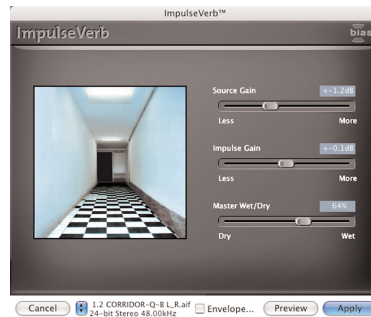


Harmonic Rotate is not available in Peak LE!

ImpulseVerb

ImpulseVerb is an extremely high-quality reverb processing tool, that utilizes actual reverb impulses recorded in real spaces, such as performance halls, cathedrals, caves, and other spaces that have various reverberation qualities. The same convolution technology that is used in Peak's

Convolve DSP tool allows these natural reverb impulses to be applied to dry audio signals, giving the impression that a file was actually recorded in a particular environment.



The ImpulseVerb dialog

ImpulseVerb offers real time preview, so that the ideal settings can be found before processing. In addition, ImpulseVerb offers an editable Space envelope, which controls reverb length and decay characteristics, and a Wet/Dry slider to control the amount of reverb being applied.

Enhancements to ImpulseVerb include a new user interface, as well as new Source Gain and Impulse Gain sliders, for even more control over reverb characteristics.



The ImpulseVerb dialog can also be used as a real time convolution tool, and is not limited to using impulse response files to create reverb effects. Any selection that is copied to the clipboard can be convolved with the selected range of audio. To add audio files to the Space pop-up menu within the ImpulseVerb dialog, simply save the desired file as a 24-bit Sound Designer II format file, and place into the Peak Impulses folder within:

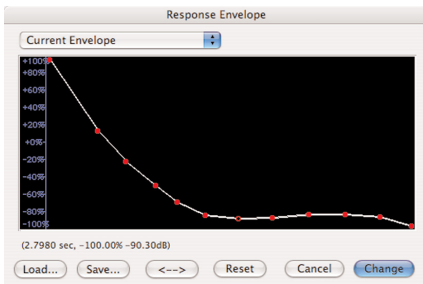
/MacintoshHD/Library/ApplicationSupport/BIAS/
Peak/Peak Impulses/

To apply reverb using ImpulseVerb:

1. Select the audio material you wish to process.
2. Choose ImpulseVerb from the DSP menu.
3. Select a Space using the Space pop-up menu, or choose clipboard to use the contents of the clipboard.
4. Click the Preview button, and adjust the Wet/Dry slider to the desired position.
5. To apply the current reverb characteristics, click the Apply button.

To modify reverb characteristics:

- Click the Space Envelope checkbox – a standard Peak envelope editor appears. The example below shows an envelope for a reverb that fades over time.



While the settings above describe how to simply modify the reverb effect, other types of settings may be useful for creative sound design. When using the ImpulseVerb interface for real time convolution, experiment with the type of Space Envelope used – especially when the content used is a non-impulse response file.



ImpulseVerb is not available in Peak LE!

Invert

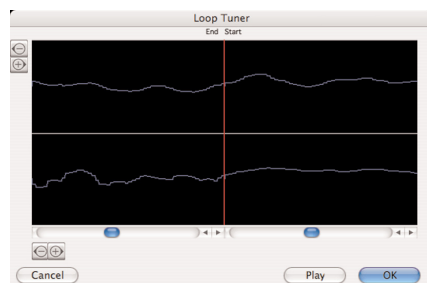
The Invert function allows you to invert the phase of a selection or an entire audio document.

To invert the phase of a selection:

1. Select the portion of the audio that you wish to invert.
2. Choose Invert from the DSP menu. Peak inverts the phase of the selected audio.

Loop Tuner

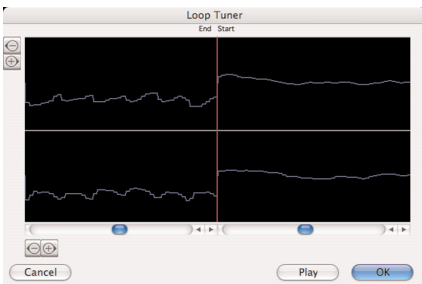
Peak's Loop Tuner provides a way to visually line up the start and end points of your loop and listen to the effects of these adjustments as you make them. If you wish to “tune” a loop you’ve made, simply select Loop Tuner from the DSP menu or Toolbar, and a dialog will appear. The waveform display in the Loop Tuner dialog shows the Start and End points of the loop, which you can visually adjust with the scroll bars at the bottom of the window to achieve a natural transition at the loop point by carefully adjusting the slope alignment.



The Loop Tuner showing a smooth transition between the end and beginning of the loop – this would create a seamless loop.

The arrows of the slider will move the loop markers sample by sample and clicking in the body of the slider will move the loop markers to the next zero crossing. The two zoom buttons (magnifying glass

icons) in the upper left of the Loop Tuner dialog allow you to adjust the vertical zoom up of the waveform. The two zoom buttons in the lower left hand corner of the Loop Tuner dialog allow you to adjust the zoom view in and out all the way down to the sample level. You can listen to the effects of the adjustments as you make them by clicking on the Play button. To exit this dialog, click on OK to accept the changes, or Cancel to leave the original loop unaffected.



The Loop Tuner showing an abrupt transition between the end and beginning of the loop – this would create a click each time the loop



Loop Tuner is not available in Peak LE.

Mono To Stereo/Stereo To Mono

These two DSP commands may be used to easily convert an audio document between one and two channel formats.

To change an audio document from mono to stereo

1. Select the entire audio document with the Select All command from the Edit menu (⌘-A).
2. Choose Mono To Stereo from the DSP menu or Toolbar.
3. In the dialog that appears, adjust the slider to adjust the left and right-channel balance in the mix.



Mono to Stereo Conversion dialog

4. Click OK. Peak converts the mono document to a stereo document.

To change an audio document from stereo to mono:

1. Select the entire audio document with the Select All command from the Edit menu (⌘-A).
2. Choose Stereo To Mono from the DSP menu or Toolbar.



Stereo to Mono Conversion dialog

3. In the dialog that appears, adjust the slider to adjust the left and right-channel balance in the mix.
4. Click OK. Peak converts the stereo document to a mono document.



Mono To Stereo/Stereo To Mono is not available in Peak LE.



While automatic Mono To Stereo/Stereo To Mono conversion is not available in Peak LE, you can achieve the same end result manually, by selecting all in an open mono or stereo document, and then opening a new, empty document. If you copy an entire document, open a new empty document, and attempt to paste in the contents of the clipboard, Peak will detect if there is a different number of channels, and will prompt you to enter a Left/Right panning value, and will then allow you to paste in the clipboard contents.

Mix

The Mix command allows you to mix material that you have copied to the clipboard with a target selection. This function can be used as a kind of “sound-on-sound” capability for mixing audio tracks together, or for blending sound elements. The Mix command is similar to the Add command, but it does not have the potential to clip because the target and clipboard contents are attenuated before mixing. To use the Mix command, you must first copy a selection of audio. The copied material can then be mixed into the target audio material. The Mix command also allows an envelope to be applied to the copied material. This can be useful when the content being mixed needs to have variable levels in it. The Mix function differs slightly from the Add function, in that the percentage slider affects both the material being mixed, as well as the original target material. For example, a 50/50 mix will lower the amplitude level of the target material.



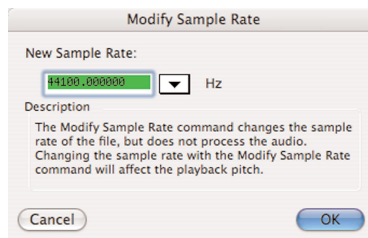
The Mixer dialog

To use the Mix command:

1. Select the audio you wish to mix into another audio document and choose Copy from the Edit menu or Toolbar (or press **⌘-C**).
2. Select the audio that you wish to mix the copied material into.
3. Choose Mix from the DSP menu.
4. In the dialog that appears, use the slider to adjust the amount of the copied signal that you wish to mix into the target audio document. To mix copied material with a variable level, click the envelope button, create the desired envelope, and then click the Change button.
5. Click OK – Peak mixes the two signals together.
6. To hear the results, press the Spacebar.

Modify Sample Rate

The Modify Sample Rate command simply changes the sample rate value store in a file’s header metadata. By changing this value, you can force a file to play back faster or slower.



The Modify Sample Rate dialog



This command does not actually change a file’s sample rate. To change sample rate, use Peak’s Convert Sample Rate command.

Modulate

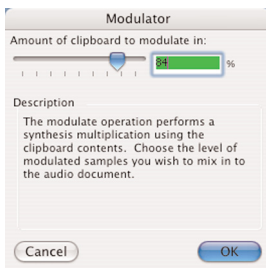
This Modulate command functions as a “ring modulator” which multiplies two audio signals together (e.g., the material copied to the clipboard and the currently selected audio). The resulting audio includes the sum and difference tones of the frequency components of the modulated audio and the modulating audio. These are generally very complex timbres that often have a “metallic” (i.e., inharmonic) character to them.



Try using generated tones, like sine, swept sine, square, or saw-tooth waves with the Modulate command.

To use the Modulate command:

1. Select the desired source audio and choose Copy from the Edit menu or Toolbar (or press **⌘-C**).
2. Select the destination audio.
3. Choose Modulate from the DSP menu.
4. In the dialog that appears, use the slider to adjust the amount of the copied signal that you wish to use to modulate the destination audio document.



The Modulator dialog

5. Click OK – Peak processes the two signals.
6. To hear the results, press the Spacebar.



Modulate is not available in Peak LE.

Normalize

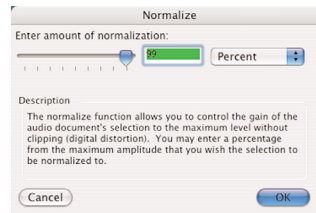
This command allows you to optimize the volume of a selection or an entire audio document so that it is at its maximum possible amplitude without clipping. The normalize function is very useful for boosting the volume of material that was recorded at too low a level, or if used on multiple audio documents, for making sure that the amplitude of each of the documents is uniform.



Note that because normalization uniformly changes the amplitude of a selection (i.e., the proportions between loud and soft stay the same), it does not have the same effect as compression/limiting (which makes the soft parts louder and does not allow the loud part to exceed a specified amplitude).

To normalize a selection:

1. Select the audio that you wish to normalize. If you wish to normalize the entire audio document, choose Select All from the Edit menu (**⌘-A**).
2. Choose Normalize from the DSP menu.
3. In the dialog that appears, use the slider to adjust the percentage of normalization from the maximum level.



The Normalize dialog

4. Click OK – Peak normalizes the selected audio.

Normalize (RMS)

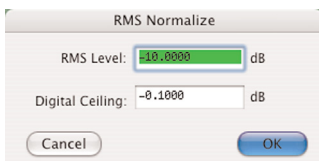
This command allows you to optimize the volume of a selection or an entire audio document so that it is at its maximum possible amplitude without clipping. RMS Normalization is based on the RMS (Root Mean Square), or “average” signal level of the selected portion of audio. The RMS value of a file cannot be increased to an arbitrarily high value. If the desired RMS specified by the user is so high that will produce clipping in the signal, the Soft Clip feature will automatically activate and the resulting RMS level will be lower than the one specified by the user. The processed file will be as loud as possible while guaranteeing that the signal will be limited to the ceiling specified by the user.

The RMS Normalize dialog offers two parameters – RMS Level and Digital Ceiling. RMS Level allows you to enter the desired RMS Level (or average level), and the Digital Ceiling allows you to limit the maximum audio level, which is also the level at which Soft Clipping will activate, if the RMS Level exceeds it.

The RMS Normalize function is very useful for boosting the volume of material that was recorded at too low a level, or if used on multiple audio documents, for making sure that the amplitude of each of the documents is uniform.

To RMS Normalize a selection:

1. Select the audio that you wish to RMS normalize. If you wish to normalize the entire audio document, choose Select All from the Edit menu (⌘-A).
2. Choose Normalize (RMS) from the DSP menu.
3. In the dialog that appears, enter the desired RMS and Digital Ceiling levels, and click the OK button.



The Normalize (RMS) dialog

4. Click OK – Peak normalizes the selected audio.



RMS Normalize is not available in Peak LE.

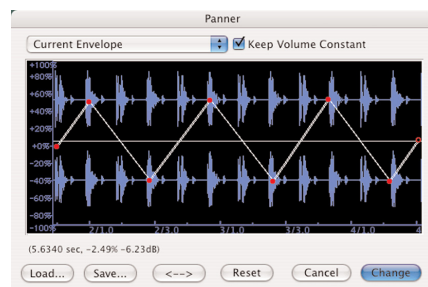
Panner

The Panner allows you to adjust the panning, or left-to-right movement, of a stereo document by drawing an envelope in the Panner dialog. Left is at the top of the graph, and right is at the bottom.

The Panner also offers an option to keep volume constant as audio pans from side to side. When the Keep Volume Constant checkbox is enabled, Peak uses Logarithmic calculation to determine volume levels while panning between the left and right channels – resulting in overall volume levels being preserved. When this option is not enabled, Peak uses linear calculations and does not preserve volume levels. When disabled, it is common to have dips in the overall audio level when panning from one channel to the other.

To adjust the panning of a selection:

1. Select the stereo document that you wish to adjust. If you wish to select the entire document, choose Select All from the Edit menu (⌘-A).
2. Choose Panner from the DSP menu.
3. In the Panner editor dialog that appears, use the envelope to “draw in” the panning you desire.



The Panner editor dialog

4. Click OK. Peak will change the panning of the document to reflect the changes you’ve made.



Phat is not available in Peak LE.

Perpetual Looper

The Perpetual Looper is based on BIAS' powerful Partial Harmonic Audio Technology (PHAT). The Perpetual Looper makes it easy to create smooth, seamless loops of monophonic, tonal sounds by performing its work in the frequency domain, instead of in the time domain as looping has traditionally been done. PHAT is, at its heart, an analysis/additive resynthesis engine, which gives Perpetual Looper potent sound design capabilities beyond smooth looping. The Perpetual Looper is intended for looping single notes or sounds, not phrases or sections of audio, and generally will not produce useful results from phrases.

PHAT uses a Fast Fourier Transform to convert the signal from the time domain into the frequency domain, then extracts the harmonic structure of the signal. The Perpetual Looper's ability to treat each harmonic component in the sound individually enables it to eliminate looping discontinuities in the waveform of

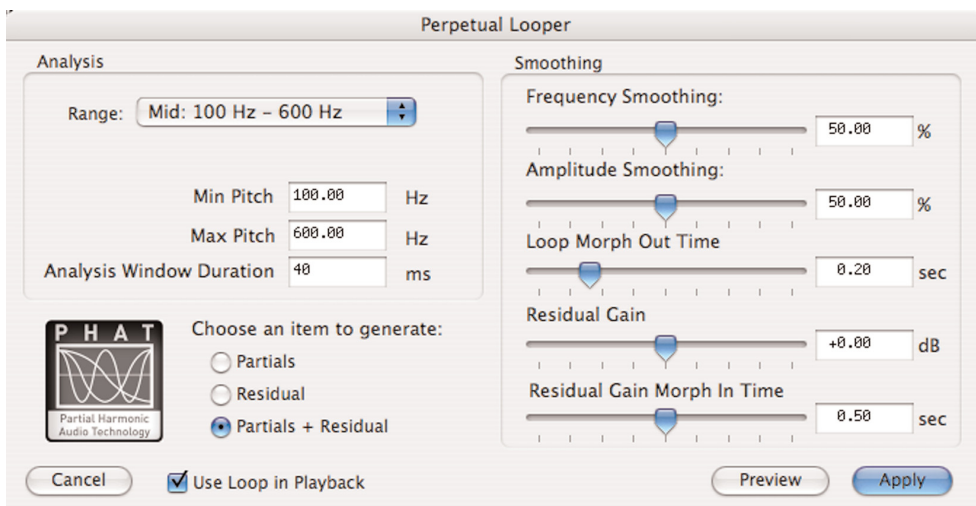
each partial (often the cause of clicking in otherwise well-executed time-domain loops), smooth spectral differences between the start and end of the loop (high frequencies of a sound generally decay quickly), or smooth differences in pitch modulation between the beginning and end of the loop. It even allows the pitch and amplitude modulations in vibrato to be manipulated independently of each other.

The Perpetual Looper separates the sound being looped into two components: Partials, which are the harmonic content, and the Residual signal, which is everything that is not in the Partials (noise components, non-harmonic partials, etc.). The user can employ both components, or choose to use only one or the other. These options present excellent sound design possibilities.

The Perpetual Looper's parameters are explained below.

Preset

The Perpetual Looper begins its extraction of a sound's harmonic structure by determining its fundamental frequency. The Preset chooses the range of fundamental frequencies that will be examined as the basis for analysis. Select a range of fundamental frequencies that contains the pitch of the material you are trying to loop.



The Perpetual Looper dialog

For most applications, the default value of 100 to 600 Hz will produce excellent results, however, for some applications, best results are achieved by setting the range to be narrower. This can be accomplished by selecting a narrower range from the Preset menu, if one containing the fundamental frequency of the sound is available, or by using the Min and Max Pitch parameters to narrow the range.

Minimum (Min) Pitch

This is the lowest value in the range of fundamental frequencies being analyzed. Choosing a Preset will set this parameter, but it can be further adjusted to optimize loop operation by narrowing the range.

Maximum (Max) Pitch

This is the highest value in the range of fundamental frequencies being analyzed. Choosing a Preset will set this parameter, but it can be further adjusted to optimize the loop operation by narrowing the range.

Analysis Window Duration

The Analysis Window Duration specifies the time window used for FFT analysis. For most uses, the default value of 40 ms will produce excellent results, but a good rule of thumb is that the duration should be long enough to contain three to four periods of the waveform. (The period, in seconds, is $1/\text{frequency}$.) When trying to loop low-pitched sounds, increasing the Analysis Window Duration may produce the best results.

Choose an item to generate

The Perpetual Looper separates sound into Partial and Residual components. When the “Partial + Residual” radio button is selected, both components will be generated by the PHAT resynthesis engine, producing the most natural results. Click the “Partial” button to generate only the harmonic partials and discard the Residual component, or click the “Residual” button to

discard the harmonic component and keep only the Residual.

Use Loop in Playback

When checked, this allows auditioning the loop. However, the Perpetual Looper also affects the audio just after the loop. Unchecking “Use Loop in Playback” allows playback to continue past the loop to the end, enabling auditioning of the audio just after the loop.

Frequency Smoothing

Frequency Smoothing modifies frequency variations, such as in vibrato, that occur within the loop. With the slider set to the left (0%), no smoothing is applied. With the slider set to the right (100%), all frequency variations are removed, resulting in an unnaturally perfect sound. For example, this can turn vibrato (frequency and amplitude variations) into tremolo (amplitude variation only).

Amplitude Smoothing

Amplitude Smoothing modifies level variations, such as in tremolo or vibrato, that occur within the loop. With the slider set to the left (0%), no smoothing is applied. With the slider set to the right (100%), all amplitude variations are removed. When applied to vibrato, this produces an effect not found in nature, where frequency variations are nearly always accompanied by amplitude variations.

Loop Morph Out Time

The Perpetual Looper modifies both the partials and the residual within the loop. Loop Morph Out Time sets the period of time following the loop over which the harmonic and residual components are crossfaded, both in amplitude and frequency, back to the levels in the unmodified material after the loop.

Residual Gain

Gain of the residual signal component within the loop can be set with this control independently of the gain of the partials.

Residual Gain Morph In Time

If Residual Gain has been adjusted, Loop Morph Out Time will correct for the timbral discontinuity that occurs at the loop end. Residual Gain Morph In Time serves a similar function for the Residual signal component only at the loop start. This control sets the time over which the gain of the residual signal component is faded from its level before the loop to the level set by Residual Gain for inside the loop.

To create a loop with the Perpetual Looper:

1. Open a file and use the “Loop This Selection” command from the Action menu to loop a section. You do not need to be precise in placing the loop markers, but you should choose a sustain section appropriate for looping.
2. Choose “Perpetual Looper” from the DSP menu.
3. Click the “Preview” button to see if the default settings will work – if necessary, select a narrower range of fundamental frequencies, or adjust the min and/or max frequency parameters to create a narrower range. If attempting to loop a signal with a low fundamental frequency, try a longer Analysis Duration Window.
4. Adjust the parameters on the right side of the dialog to taste.
5. When all settings are satisfactory, click the “Apply” button to make the changes in the file.



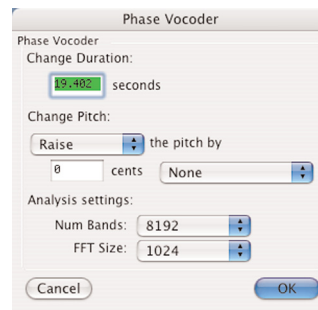
Perpetual Looper is not available in Peak LE.

Phase Vocoder

The Phase Vocoder is a type of audio spectrum analysis/resynthesis tool that allows you to modify the duration and/or pitch of an audio selection.

To use the Phase Vocoder:

1. Select the audio that you wish to process. If you wish to select the entire document, press ⌘-A.
2. Choose Phase Vocoder from the DSP menu. The Phase Vocoder dialog appears.



The Phase Vocoder dialog

3. In the Change Duration field, you may enter a new duration for the selection by typing the time in seconds.
4. In the Change Pitch field, you can change the pitch of the selection by entering a new value in cents. (Cents are divisions of a musical octave – one octave is equivalent to 1200 cents.) Common musical intervals are stored in the interval pop-up menu, allowing you to enter a major third, octave, or other intervals. Use the direction pop-up menu to control whether the pitch is shifted upward or downward.
5. In the Analysis Settings field, select the number of bands and FFT (Fast Fourier Transform) size to determine the quality of the output. The Phase Vocoder works by analyzing the frequency content of the audio selection and placing the found frequencies into tracks. These tracks are then used to control an oscillator-based resynthesis that uses the pitch and duration modifications you enter. In

general, using a smaller FFT size brings less smearing of the audio output than higher FFT sizes. Using a larger number of bands setting used increases the accuracy while tracking of harmonic content of the source sound. In general, setting the FFT size larger than the number of bands will give undesirable results. Due to the nature of the Phase Vocoder's algorithm, optimum results are achieved when it is used with solo instruments and steady state sounds (such as a voice or solo flute line) rather than complex tones (such as an orchestra playing).

6. Click OK. Peak processes the audio. To hear the results, initiate playback.



Phase Vocoder is not available in Peak LE.

Rappify

The Rappify command applies extreme dynamic filtering to a selection. As one Peak user described it, “Rappify can turn your hi-fi into lo-fi!” If the target material has a pronounced beat, this has the effect of reducing the material to its most essential rhythmic components. Try using this function with a variety of different music material for some surprising and exciting results.

To Rappify a selection:

1. Select the audio that you wish to process. If you wish to select the entire document, press **⌘-A**.
2. Choose Rappify from the DSP menu.



The Rappify dialog

3. In the dialog that appears, select the amount of “rappification” you wish to mix back into the original, with 100% being entirely rappified and 0% being unchanged.
4. Click OK. Peak processes the audio. To hear the results, initiate playback.



Rappify is not available in Peak LE.

Repair Click

The Repair Click command will eliminate a selected click or “spike” in the waveform using the setting designated in the Repair Clicks dialog (explained next).

To repair a single click:

1. Place the Insertion Point over the click you wish to repair.
2. Choose Zoom To Sample Level from the action menu (Shift-Left arrow).
3. Select the click in the waveform. Please be sure that your selection is no more than 100 samples.
4. Choose Repair Click from the DSP menu.



Repair Click is not available in Peak LE.

Repair Clicks

The Repair Clicks command allows you to find and repair pops or clicks in an audio document. The Repair Clicks dialog automates the process of finding and removing clicks (usually indicated by a sharp “spike” in a waveform), much like a search and replace dialog in a word processor.

The Repair Clicks operation works by looking for any significant discontinuity from sample to sample. For example, a sample value of -100 followed by a sample value of 10,000 is likely to be a click. Once the area of the click is identified, a smoothing technique is used to maintain the original shape of the area being repaired.



The Repair Clicks dialog

If you are working with mostly digitally induced clicks, the Repair Clicks dialog will become an indispensable tool. Extremely damaged signals such as those of a scratching and popping vinyl record will require more careful repair in addition to using the Repair Clicks dialog, such as Change Gain, Delete, and the Pencil Tool. Clicks such as those of a scratching and popping vinyl record lose their detectability once they are sampled using Analog to Digital converters.



Using BIAS SoundSoap or SoundSoap Pro will provide ideal click & crackle reduction for repairing audio recorded from vinyl. For more information, please visit the SoundSoap and SoundSoap Pro web pages, using the links in Peak's Links menu.

Smoothing Factor

Smoothing Factor determines how much smoothing is applied to the click. Material with high frequency information may require lower smoothing factors to preserve the high frequencies. In general, a setting of 40-60 percent will repair most clicks.

Detection Setting

The Detection Setting value determines how the clicks are located. Higher values locate only the most severe

clicks, while lower values will detect less severe clicks. Note that lower values such as 10% also have a greater chance of misjudging audio for a click. In general, a setting of 40-80% works well.

Repair Size

The Repair Size setting affects how many samples around the click are used in determining the new shape of the repair. Repair size can vary from 5 to 100 samples, with a repair size of 50 samples working well in most circumstances. Peak will then interpolate what the correct waveform should be, and repair the click.

Buttons along the bottom of the Repair Clicks dialog allow you to control repairing, auditioning, and undoing click repairs:

- Click the Repair button when you wish to repair a click found by the Next Click button.
- Use the Next Click button to search for the next potential click in the audio selection.
- Once a click is located, you may listen to the click using the Audition button. The Audition button plays the click using the Pre-roll and Post-roll settings from the Auditioning dialog in the Preferences dialog.
- If you repair a click and are unsatisfied with the results, simply click on the Undo button.
- If you would like to repair all of the clicks in the audio document's selection without having to repair each one individually, click the Repair All button.



Be sure not to confuse repair size with the size of the selection containing the audio you want to scan and repair. The repair size refers to the size of each individual repaired click.

To repair multiple clicks in an audio document:

1. Select the entire audio document or the area in the audio document you wish to repair click.
2. Choose Repair Clicks from the DSP menu.
3. Click the Next Click button. Peak will search for any clicks. If none are found, you can try again with a lower detection setting.
4. Audition the click using the Audition button. The click should sound in the middle of the auditioned area.
5. Once the click is found, click the Repair button. Click the Audition button to make sure the click was adequately repaired. If it was not adequately repaired, use the Undo button, modify the smoothing factor or repair size and click the Repair button again.
6. Proceed from step 3 until all clicks are removed, or simply click the Repair All button. If you wish to stop the Repair All process, press ⌘-period.

To repair a single click from an audio document:

1. Select the area around the click, centering the click in the selection.
2. Choose Repair Clicks from the DSP menu or use Repair Click and skip step 3.
3. Click the Repair button. Then click the Audition button to make sure the click was adequately repaired. If it was not adequately repaired, use the Undo button, modify the smoothing factor or repair size and click the Repair button again.

You may need to lower the detection setting in the Repair Clicks dialog to find some clicks, depending upon their severity. Be careful not to lower the detection setting dramatically – lower it gradually for the best results.



Repair Click is not available in Peak LE.

Remove DC Offset

This function allows you to remove any DC Offset in your audio file. Peak scans the audio for DC offset and then removes it. Peak will scan the left and right channels of a stereo file independently. DC Offset is usually caused by problems in the analog to digital conversion process. The result is that the waveform is not centered on the base line – it is offset either higher or lower than the center line.

To use Remove DC Offset:

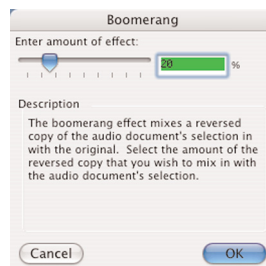
1. Select the audio that you wish to process. If you wish to select the entire document, choose Select All from the Edit menu (⌘-A).
2. Choose Remove DC Offset from the DSP menu. Peak will scan the audio, and automatically remove any DC offset that might be present.



Remove DC Offset is not available in Peak LE.

Reverse Boomerang

The Reverse Boomerang command mixes a reversed copy of the selected audio with the original. This creates a variety of interesting and useful results. Try using Reverse Boomerang on drum loops, voice, and sound effects.



The Reverse Boomerang dialog

To use Reverse Boomerang:

1. Select the audio that you wish to process. If you wish to select the entire document, choose Select All from the Edit menu (⌘-A).

2. Choose Reverse Boomerang from the DSP menu.
3. In the dialog that appears, select the amount of reversed sound you wish to mix back into the original, with 100% being entirely reversed, and 0% being unchanged.
4. Click OK. Peak processes the audio. To hear the results, press the Spacebar to initiate playback.

Reverse

The Reverse command reverses the current selection. In a reversed selection, the last sample becomes the first sample, the second-to-last sample becomes the second sample, and so forth. The effect is similar to playing a record or cassette tape backwards.

To reverse a selection:

1. Select the audio that you wish to reverse. If you wish to select the entire document, choose Select All from the Edit menu (**⌘-A**).
2. Choose Reverse from the DSP menu. Peak reverses the selected audio. To hear the results, start playback.

Strip Silence

Peak includes a Strip Silence tool, which allows areas of silence, or very low amplitude, to be automatically silenced, minimized, or completely removed from an audio document. This tool is useful for removing silence from recordings that predominantly contain silence (or very low level audio content), interspersed with some desired audio content. By adjusting the various Strip Silence parameters, you can control what content is preserved, and what is silenced completely or deleted from an audio document.

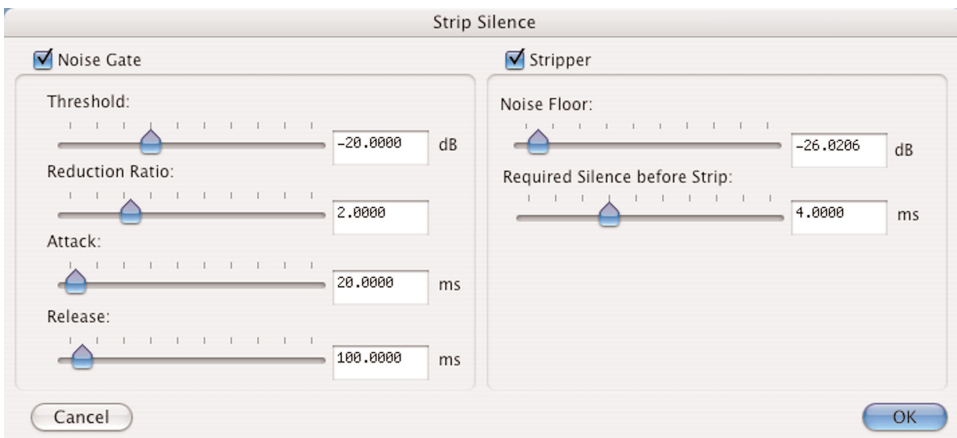
The Strip Silence tool is composed of two sections, the Noise Gate and the Stripper.

Noise Gate

The Noise Gate's controls include:

Threshold Slider

The Threshold slider determines the level at which all audio with a higher signal level is preserved, and at a lower level is either silenced/reduced in level. By default, the Threshold slider is set to a value of -20dB, and has a range of 0dB to -60dB.



Setting the Threshold slider is fairly straightforward – for example, if working with a dialogue recording in which the voice has a nice strong level, but the ambient room tone is still audible (around -30dB), you would set the Threshold slider right around -30dB. This control allows you designate a level above which audio will be preserved – and a level below which audio will be silenced, or removed.



A good technique for determining the Threshold slider setting is by first selecting a portion of audio containing just the background noise/room tone (what should be silence, and should be removed), and using Peak's Find Peak DSP tool to determine the exact level. This level can then be used as a Threshold slider setting in the Strip Silence tool.

Reduction Ratio Slider

This slider provides a proportional amount of reduction, based on the setting of the Threshold Slider. Whether audio below the threshold is completely silenced or simply reduced in level depends largely on the setting used for the Reduction Ratio slider. The Reduction Ratio slider provides a proportional amount of reduction for any audio with a signal level that falls below the threshold level.

A high setting on the Reduction Ratio slider will reduce low amplitude sections of the audio waveform (what is considered “low amplitude” depends on the level set with the Threshold slider) to complete silence. A lower setting on the Reduction Ratio slider will reduce low amplitude sections of the audio waveform slightly (again, what is considered “low amplitude” depends largely on what setting is made to the Threshold slider). By default, the Reduction Ratio slider is set to a value of 2.00, and has a range of 1.00 to 5.00.

Using the same example of working with a dialogue recording, which has an ambient room tone around –30dB, which we would like to minimize. If the Threshold

slider is set to about -30dB, that targets the audio below that level only to be reduced – by how much depends on how the Reduction Ratio slider is set. To silence these sub -30dB sections completely, a high setting, such as 4 or 5 might be used for the Reduction Ratio slider. However, to maintain some amount of room tone, use a milder setting between 1 and 3.

Attack Slider

The Attack slider determines how quickly level reduction happens, once audio falls below the threshold level (which is set with the Threshold slider). By default, the Attack value is set to 20 milliseconds, and has a range of 10 milliseconds to 500 milliseconds.

Release Slider

The Release slider determines how quickly level reduction turns off, once audio exceeds the threshold level (which is set with the Threshold slider). By default, the Release value is set to 100 milliseconds, and has a range of 50 milliseconds to 1000 milliseconds.

A good rule of thumb for making settings to the Attack and Release sliders is to take into account the type of audio material that you're with. For example, if working with dialogue, it takes a relatively long time for a spoken word to go from zero amplitude to full amplitude, (long attack time) so it's best to use a higher attack setting. This will cause the reduction to be applied more gradually. Likewise, with this type of material, it's best to use a longer release time setting as well, as spoken words tend to gradually diminish in amplitude, rather than end very abruptly.

On the other hand, consider a drum recording. Drums have a much faster attack time – that is, it takes much less time to hit a drum and have it go from zero amplitude to full amplitude. Once it's been hit, it also takes a very short time to diminish to silence. This type of audio material would require much shorter attack and release times.

Stripper

The Stripper is the section of the Strip Silence tool that will delete sections of audio that fall below a certain level and stay below that level for a certain length of time. The Stripper's behavior depends on the settings made with the following parameters:

Noise Floor

This slider functions much like the Threshold slider in the Noise Gate section of the Strip Silence tool. Setting this slider more to the left has the effect of using a lower threshold setting in the Noise Gate section – that is, only audio material with the lowest signal level would be deleted. On the other hand, when this slider is set to a more “aggressive” setting, audio with a higher amplitude level would also be deleted. Audio is only deleted when it stays below a certain level for a certain length of time. The Noise Floor Slider has a range of 0.0000 – 1.0000%.

Required Silence Before Strip Slider

This parameter controls how many milliseconds of consecutive silence (silence being any audio with a level below the level set with the Noise Floor slider) are required before silent areas can be eliminated.



Strip Silence is not available in Peak LE!

Swap Channels

The Swap Channels command reverses the left and right channels in a stereo selection.

To swap channels for a stereo selection:

1. Select the audio that you wish to swap. If you wish to select the entire document, choose Select All from the Edit menu (⌘-A).

2. Choose Swap Channels from the DSP menu. Peak swaps the left channel for the right channel and the right channel for the left channel. To hear the results, start playback.



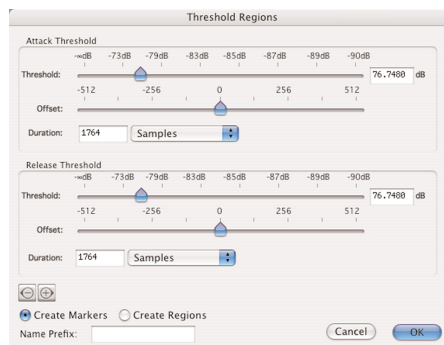
Swap Channels is not available in Peak LE.

Threshold

The Threshold command allows you to split up an audio document into its component parts by analyzing the amplitude levels in the audio document and setting a cutoff or threshold amplitude. For instance, you might use the Threshold command on an audio document that contains successive notes from a musical instrument to split them up, or on a drum loop to break it up into its component parts. You can save the segments with Markers, or as Regions.

To use the Threshold command:

1. Select the audio you wish to process and choose Threshold from the DSP menu. After Peak analyzes the amplitudes in the selection, the Threshold dialog will appear, allowing you to select a threshold amplitude for both attack and release values.



The Threshold Regions dialog

2. Drag the threshold indicator left or right to set the threshold amplitude. As you drag the indicator, new markers will appear in the audio document

forming markers or regions, depending on your settings. The Offset sliders allow you to “nudge” the onsets of markers or regions by plus or minus 0 to 512 samples.

3. Select Create Regions to create regions instead of markers. The separate Release Threshold, attack and sludge settings affect the region end points, allowing you to eliminate silence from the region end points.
4. Adjust the Attack value. This parameter sets the amount of time that audio must stay above the given threshold to qualify as a new marker or region.
5. When you have finished, click OK.
6. After the audio document has been “thresholded” to your satisfaction, you can use the Export Regions command in the File menu to export the separated regions into new windows or files.
7. To select and play regions in order from left to right, press the Page Up key on your computer keyboard. To select and play regions in order from right to left, press the Page Down key.

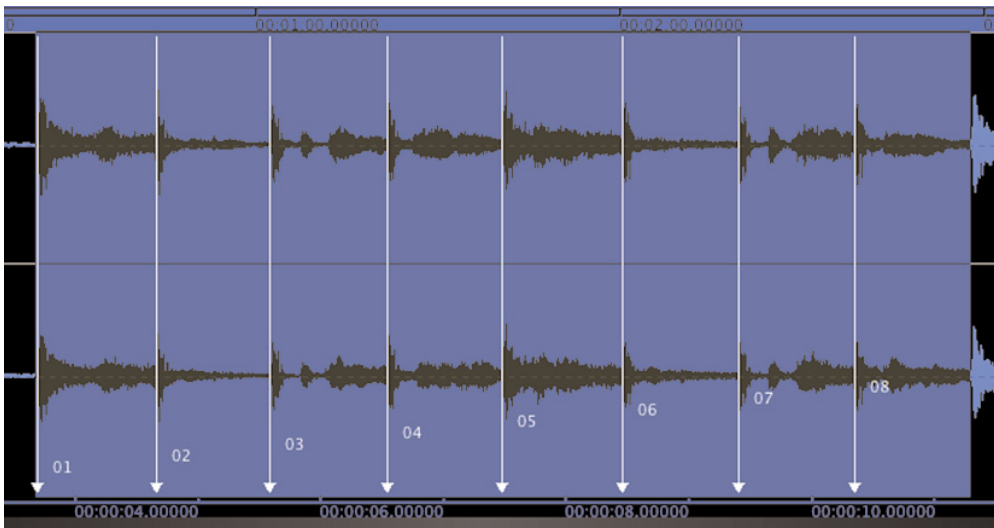
Use the Threshold command to create several looping points. To convert a marker to a Loop Start or Loop End point, double-click on the marker and change it to “Loop Start” or “Loop End” in the Edit Marker dialog. Also, try rearranging the regions generated by the Threshold function in the Playlist or by using Cut and Paste to create new interesting compositional and rhythmic ideas!



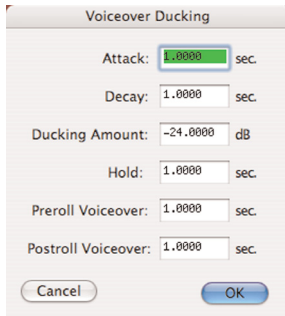
Threshold is not available in Peak LE.

Voiceover Ducking

The Voiceover Ducking tool is useful for adding vocal material, such as a radio or podcast show intro, public service announcement, commercial, etc. to a piece of background audio. Voiceover Ducking functions much like a standard “Paste” command, but has the added benefits of controlling several aspects of the background material.



The Threshold DSP tool allows inserting markers or Regions based on the amplitude of the audio signal



The Voiceover Ducking Dialog

Attack

Controls how quickly the background audio fades out (until it reaches the level set in the Ducking Amount field).

Decay

Controls how quickly the background audio fades back in to full volume (from the level set in the Ducking Amount field).

Ducking Amount

Sets the level of audio ducking (volume reduction) for the background audio material.

Hold

The Hold field forces ducking to be maintained. For example, if you have a voiceover that has a 3 second pause in between two passages of dialogue, but you don't want the background audio level to fade back in during the 3 second pause, you would enter a value of 3 in the Hold field. This would force the background material to remain ducked, until after the second passage of dialogue.

Preroll Voiceover

Controls how quickly the voiceover content (audio on Clipboard that's being pasted in) fades in.

Postroll Voiceover

Controls how quickly the voiceover content fades out.

To use Voiceover Ducking:

1. Open the audio document that you wish to add a voiceover to (a podcast, for example).
2. Open the audio document that contains the voiceover content (or record a voiceover).



The background and voiceover material must be in the same audio format (i.e., the same bit depth, sample rate, and number of channels).

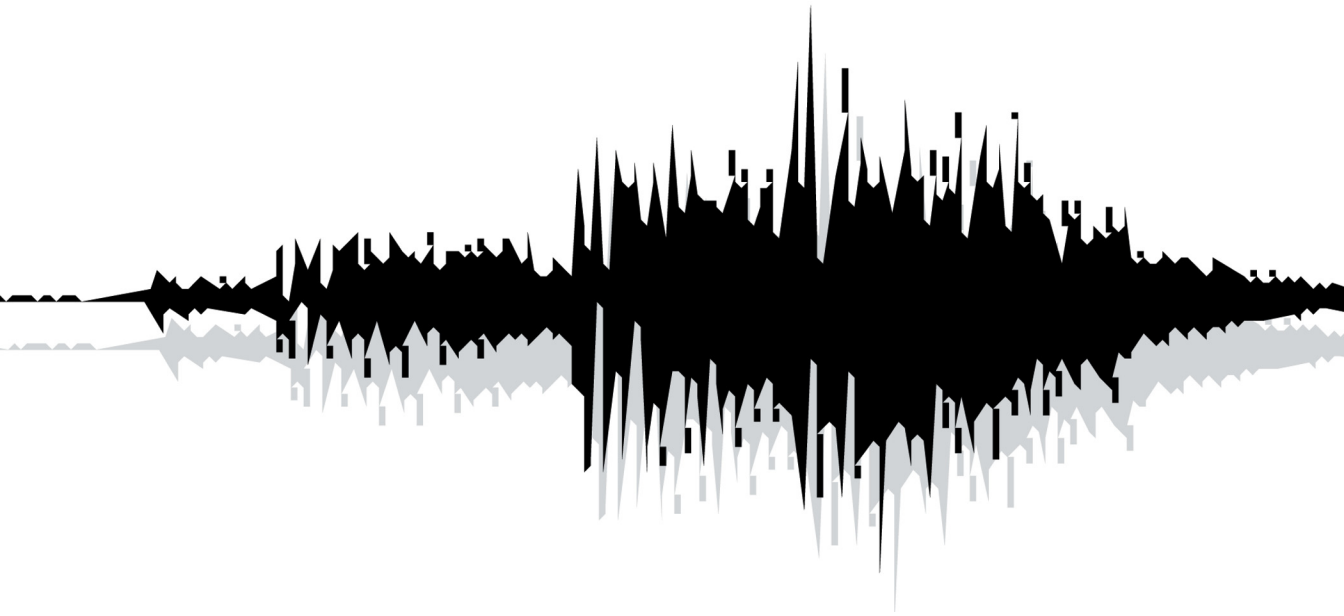
3. In the document that contains the voiceover, select and copy the desired portion to the clipboard.
4. In the document that contains the background material, place the playhead cursor where you wish to have the voiceover start.
5. From the DSP menu, choose Voiceover Ducking – the Voiceover Ducking dialog appears.
6. Set parameters as desired, and click OK to add the voiceover from the Clipboard to the background audio.

Conclusion

You have now learned how to manipulate and process audio using Peak's native DSP capabilities. In the next chapter, you will learn how to use VST & Audio Units effect and instrument plug-ins with Peak.

Chapter 9

Plug-Ins



Chapter 9: Plug-Ins

Introduction

Peak supports Audio Units, and VST format effects plug-ins and virtual instruments. Audio Units is a plug-in standard, or format, created by Apple Computer, Inc. VST (“Virtual Studio Technology”) is a standard audio plug-in technology developed by Steinberg Media Technologies, AG.

Both Audio Units & VST plug-ins formats offer an exciting array of real-time effects and instruments from companies like BIAS, Cycling ‘74, Korg, Maxim Digital Audio, Native Instruments, Steinberg, Waves, and many others. Audio Units & VST plug-ins operate in real-time, and are “native”, or “host-based”. This type of plug-in is powered by your computer’s CPU, and does not require any additional processing hardware. They work in real-time, meaning that any parameter changes are heard instantaneously, and no processing time is required until the desired settings are found. This avoids having to experiment with settings, process, and then undo if the settings are not correct.

Plug-ins Included with Peak

Peak comes with a wide variety of plug-ins – some made by BIAS and others made by third party manufacturers. The list below shows plug-ins included in each edition of Peak.

Documentation for BIAS plug-ins is available in separate

user’s guides, and is automatically installed into the following directory:

/Mac HD/Library/Documentation/BIAS/

BIAS user’s guides may also be downloaded from the BIAS website, at:

<http://www.bias-inc.com/downloads/documentation/>

For more information on the third-party plug-ins bundled with Peak, please visit the manufacturer’s website, listed below with each bundled plug-in.

Plug-ins Included with Peak LE

- BIAS Freq-2 – 2 Band Paragraphic EQ
- Dreampoint Freeverb-C – (Reverb)
<http://www.dreampoint.co.uk/>
- MDA Ambiance – Ambiance/Reverb Processing
- MDA Bandisto – Multi-band distortion
- MDA BeatBox – Drum replacer
- MDA Combo – Amp & speaker simulator
- MDA De-ess – High frequency dynamics processor
- MDA Degrade – Low-quality sampling
- MDA Delay – Simple stereo delay with feedback tone control

- MDA Detune – A low-quality stereo pitch shifter
- MDA Dither – Range of dither types including noise shaping for reduction to 8- and 16-bit
- MDA DubDelay – Delay with feedback saturation and delay time modulation
- MDA Dynamics – Compressor / Limiter / Gate
- MDA ePiano – Virtual Piano instrument
- MDA Image – Stereo image adjustment and M-S matrix
- MDA Leslie – Rotary speaker simulator
- MDA Limiter – Opto-electronic style limiter
- MDA Looplex – Interesting Loop Processing effect
- MDA Loudness – Equal loudness contours
- MDA Re-Psycho! – Drum loop pitch changer
- MDA RezFilter – Resonant filter with LFO and envelope follower
- MDA RingMod – Ring Modulator
- MDA Round Panner – 3D panner
- MDA Shepard – Continuously rising/falling tone generator
- MDA Splitter – 2 way signal splitter
- MDA Stereo Simulator – Haas delay and comb filtering
- MDA Sub-Synth – Several low frequency enhancement methods
- MDA Talkbox – A simple talkbox plug-in
- MDA TestTone – Signal generator with pink and white noise, impulses and frequency sweeps
- MDA Thru-Zero Flanger – Flange / Chorus / ADT
- MDA Tracker – Pitch tracking oscillator / EQ
- MDA VocInput – Pitch tracking oscillator for vocoder carrier input

- MDA Vocoder – 16-band vocoder switchable to 8-band for low processor usage
<http://mda-vst.com/>

Plug-ins Included with Peak Pro

Includes all of the effects plug-ins listed above, as well as:

- BIAS Freq4 – 4 Band Paragraphic EQ
- BIAS Sqweez – Compressor/Limiter
- BIAS Vbox 3.0 – Effects routing matrix



Peak Pro includes a 4-band version of Freq.

Plug-ins Included with Peak Pro XT

Includes all of the effects plug-ins listed above, as well as:

- BIAS SoundSoap Pro – Professional Audio Restoration/Noise Reduction
- BIAS Master Perfection Suite, which consists of:

GateEx – gate/expander

PitchCraft – pitch correction/transposition

RepliQ – EQ matching

Reveal – advanced analysis tool

SuperFreq-4-, 6-, 8-, & 10 – paragraphic equalizers

Sqweez-3 & -5 – multiband compressors



Documentation for BIAS GateEx, PitchCraft, RepliQ, Reveal, SoundSoap 2, SoundSoap Pro, SuperFreq, and Sqweez-3 & -5 is available in separate user's guides, included with Peak Pro XT. Appendix 4 of this User's Guide contains a mini-manual for the included BIAS Sqweez-1 Compressor plug-in.

All documentation is available in electronic form to registered users, at:

<http://www.bias-inc.com/documentation/>

Installing Plug-ins

While Peak includes a wide variety of plug-ins, there are hundreds of other Audio Units or VST plug-ins that are available separately, and that are compatible with Peak.

Many third-party plug-in packages will include a custom installer program that automatically installs plug-ins in the correct directory, so that Peak and other Audio Units/VST hosts can access them. Be sure to consult the documentation that came with your plug-ins for the manufacturer's installation instructions.

There are two locations that Audio Units or VST plug-ins may be installed so that Peak can access them – for more information, please see the next section.

Audio Units Plug-ins

Plug-ins installed into the “global” Components directory at the root level allows any user account that is logged in to access them.

`/MacHD/Library/Audio/Plug-Ins/Components/`

Installing plug-ins into the Components directory in a particular user's Home directory allows only that user to access them.

`/MacHD/Users/<YourUserAccount>/Library/Audio/Plug-Ins/Components/`

BIAS Plug-ins

The BIAS plug-ins included with Peak are VST plug-ins, but they are grouped separately from other VST plug-ins.

BIAS VST plug-ins are automatically installed into:

`/MacHD/Library/Audio/Plug-Ins/VST/`

VST Plug-ins

Plug-ins installed into the “global” VST directory at the root level allow any user account that is logged in to access them.

`/MacHD/Library/Audio/Plug-Ins/VST/`

Installing plug-ins into the VST directory in a user's Home directory allows only that user to access them.

`/MacHD/Users/<YourUserAccount>/Library/Audio/Plug-Ins/VST/`



While it does not matter whether you choose to install into the global plug-ins directory, or the plug-in directory in your Home directory, it is easier to maintain a single plug-ins directory. If you have plug-ins installed in both locations, and wish to consolidate into a single directory, it's easy to move the plug-ins from one directory to the other. The simplest way to do this is to open two Finder windows next to each other, and drag the plug-ins from one directory to the other. For more information on organizing files in the Mac Finder, please consult the documentation that was included with your Mac.

Organizing Plug-ins with Folders

When using many types of plug-ins from various manufacturers, it is useful to be able to sort the plug-ins in a particular way. For example, you may want to group all of your EQ or reverb plug-ins together.

Audio Units plug-ins are automatically sorted into groups based on the manufacturer.

BIAS plug-ins are automatically sorted into their own plug-in category.

VST plug-ins may be organized in practically any way desired – you might choose to organize by the type of effect, or by manufacturer, etc. Peak allows you to organize your VST plug-ins into folders inside the “global” VST plug-ins folder (or the VST plug-ins folder within your Home directory). Each folder you create inside the VST plug-ins folder can store groups of plug-ins that will appear as submenus when assigning a VST plug-in on a channel insert or within Vbox.

Using Effects Plug-ins

Peak can access Audio Units and VST format effects plug-ins in two different ways – using “Inserts”, or through the Vbox effects routing matrix. The method you choose will depend on how many plug-ins are being used simultaneously, and the functionality required for the task at hand.

Inserts

Peak features five individual channel inserts and each insert may contain a single plug-in. When using inserts, signal flows through the effect in each insert in the order of the insert number. For example, if an equalizer plug-in is used on Insert 1, and a reverb plug-in is used on

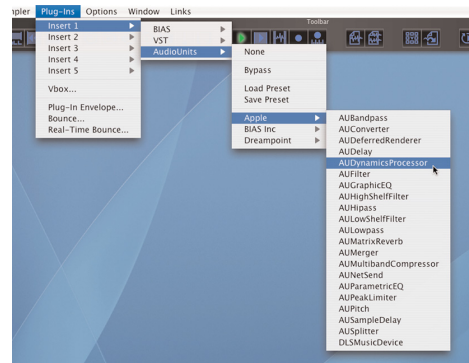
Insert 2, the output of the equalizer plug-in will flow into the input of the reverb plug-in. Inserts are typically more convenient when using a small number of plug-ins.

Vbox

Peak includes BIAS Vbox for managing and mixing effects plug-ins. Think of Vbox as a virtual effects box, in which you can combine, repatch, and mix your effects plug-ins in real-time. Using its unique effects matrix, Vbox lets you combine multiple individual plug-ins. Vbox can patch plug-ins in series, in parallel, or in series and parallel, and you can hot-swap plug-ins. Vbox has controls for each plug-in to mute, solo, and edit parameters. Vbox also provides input and output gain controls both globally and for each individual plug-in, and a control for the global Wet/Dry mix. Use Vbox’s A/B comparison feature to get just the right settings, and use Vbox’s presets to store configurations and settings for later use.

To open an Audio Units plug-in on an insert:

1. Select Insert 1 from the Plug-Ins menu.
2. Select Audio Units from the submenu.
3. Select the manufacturer from the next submenu.
4. Select the plug-in you wish to use from the next submenu.



Opening an Audio Units plug-in

To open a BIAS or VST plug-in on an insert:

1. Select Insert 1 from the Plug-Ins menu.
2. Select BIAS or VST from the submenu.
3. Select the plug-in you wish to use from the next submenu.



If you have customized the organization of your VST plug-ins, you may have additional submenus to navigate through.

To apply a plug-in:

1. With an audio document open, open the desired effect plug-in as described above.
2. Configure the plug-in's settings as desired (plug-ins from different manufacturers may have knobs, buttons, sliders and other types of controls).
3. Start playback to audition the audio document, and make any adjustments to the plug-in's controls, if necessary. Effects plug-ins operate in real time, so any adjustments to controls are heard instantly.

To bounce/render a plug-in:

1. Follow the steps described above, for previewing effects plug-ins.
2. Select Bounce from the Plug-Ins menu. Peak will apply the current plug-in settings to the audio document in the foreground.
3. When processing ("Bouncing") is finished, Peak will display a dialog asking if the plug-in should be disabled.
 - Clicking Bypass will leave the plug-in active, but will put it into Bypass mode, so that no audio is being processed by the plug-in. This option is best if you plan to process additional files with the same plug-in, but you wish to temporarily disable the effect.
 - Clicking Keep Active will leave the plug-in active, and will allow audio to be processed

through the plug-in in real-time. This option is best if you plan to process additional files with the same plug-in, and do not need to temporarily disable the effect.

- Clicking Remove will deactivate/close all open effects plug-ins. To use these plug-ins again, you would need to select them from the Plug-Ins menu(s).

Plug-ins may also be bounced in real time, by choosing Real Time Bounce from the Plug-Ins menu.

The Real Time Bounce option is useful when working with the included Jack plug-in. This method allows a raw audio signal to be routed out of the computer that Peak is running on, to be processed with external hardware, and then returned into the computer to be saved to disk.

Note that using Real Time Bounce with external hardware requires using an audio hardware interface with at least 4 mono inputs/4 mono outputs (or 2 stereo inputs/2 stereo outputs).



To close a plug-in:

1. Select Insert 1 from the Plug-Ins menu.
2. Select VST from the submenu.
3. Select None from the second submenu.



Closing a plug-in's editor window does not deactivate the plug-in! You must follow the steps outlined above to deactivate a plug-in.



Peak LE features two inserts and can host two plug-ins at a time.

The Vbox Matrix

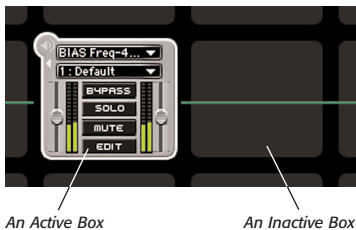
Vbox is a plug-in routing environment, in which you can assign, route, and modify the flow of audio signals through Audio Units and VST plug-ins contained in the matrix.

The Vbox matrix occupies the center portion of the Vbox interface. It appears as a grid, with 4 rows and 4 columns of smaller boxes, each of which can hold a plug-in.

The actual size of the Vbox matrix may be larger than the 4x4 grid shown in the Vbox window. You can scroll through the Vbox matrix using the arrow buttons located at the lower-right hand corner of the Vbox window.



The Vbox matrix is made up of individual boxes. Each box can be assigned an effect plug-in. When a box has an effect plug-in assigned to it, it is active. If there is no plug-in assigned to a box, it is inactive.



To open Vbox in Peak:

- Select Vbox from the Plug-Ins menu – The Vbox matrix appears.



Peak LE does not include Vbox. Peak LE users wishing to use more simultaneous plug-ins should contact BIAS for upgrade information

Box Controls

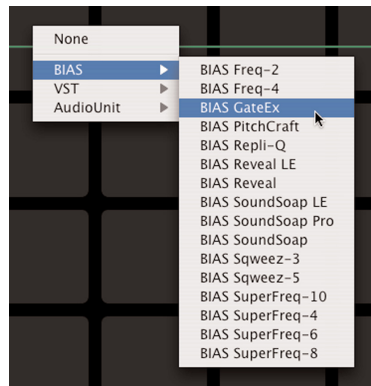
An active box has several features including the name of the assigned plug-in, input level control, output level control, solo button, bypass button, mute button, edit button, input meters, output meters, and input source.

Plug-In Assignment Pop-up

To assign an effect plug-in in an inactive box, click on the box. A pop-up menu displaying all the Audio Units, BIAS, and VST plug-ins installed in your system will appear, allowing you to assign a particular effect plug-in to the box.

To assign a plug-in:

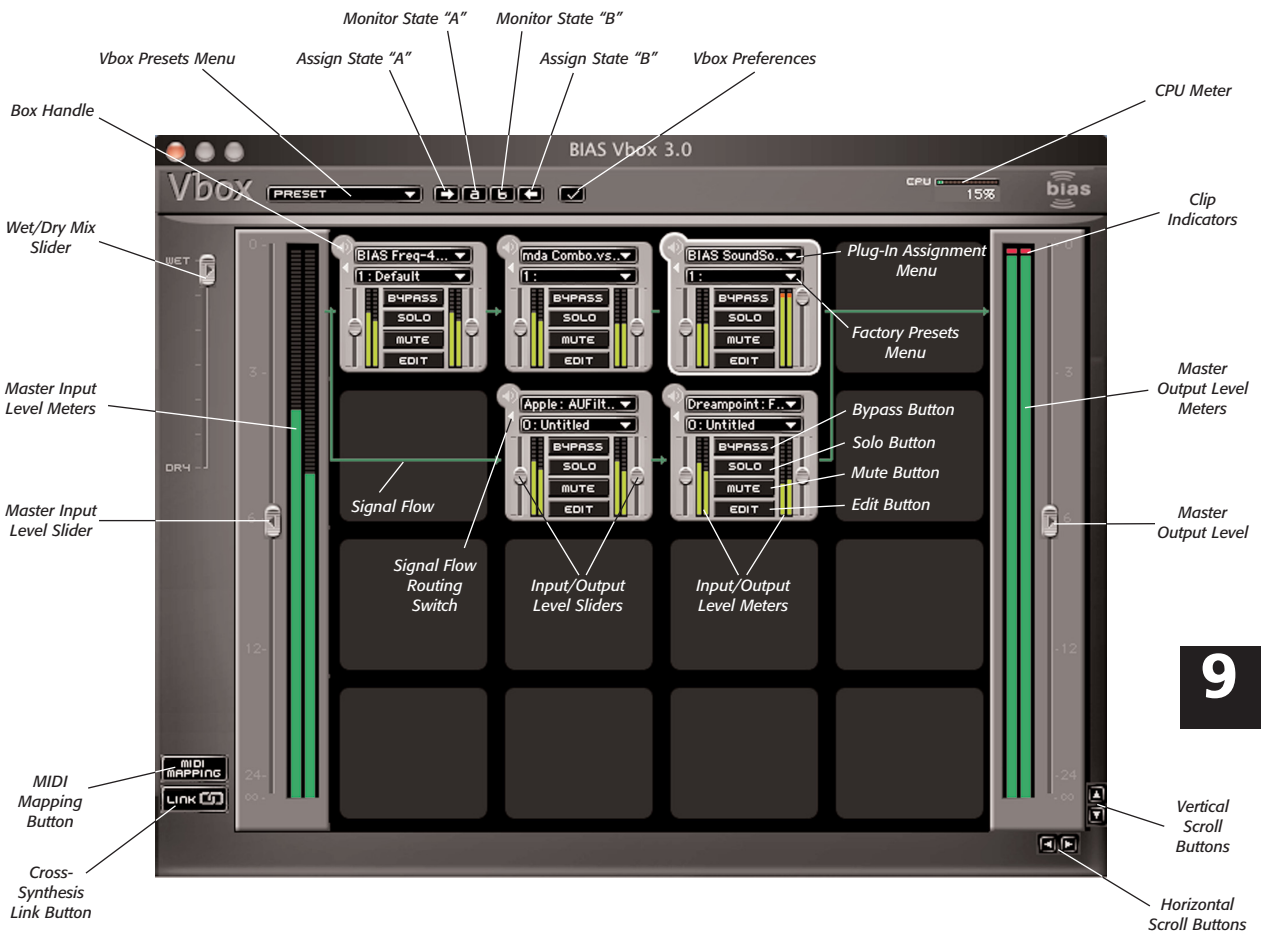
1. Click in an inactive box for the Plug-In Assignment pop-up menu.
2. Select the desired plug-in from the pop-up menu.



If you play back with more plug-ins than your CPU can handle, audio may begin to play back erratically. The CPU meter at the top right of the Vbox window allows you to monitor CPU usage.



Overview of the Vbox Interface



Factory Preset Assignment Menu

This menu allows you to select factory presets in Audio Units and VST plug-ins used in the Vbox matrix.

To select a plug-in preset:

1. Click the Factory Preset Assignment pop-up menu.
2. Select the desired preset – the preset settings are loaded.

To deactivate a plug-in:

1. Click on the name of the currently assigned plug-in.
2. Choose None from the Plug-In Assignment pop-up menu.

To "hot swap" a plug-in:

1. Click on the Plug-In Assignment pop-up menu.
2. Select a different effect plug-in.

Box Level Controls & Meters

Each active box within the Vbox matrix features its own set of input and output meters and sliders, which allow you to cut or boost the input or output of the box.

Click and drag the slider up or down to cut or boost the audio +/-6 dB (+/-100%). The center position of the indicator is 0 dB cut/boost. Hold down the Option key on your keyboard and click the indicator to return it to the center position.

On the left and right side of the box are input and output meters. These meters show the audio levels input to the plug-in and output from the plug-in. The lights at the tops of the meters are clipping indicators. If the audio clips (reaches maximum level for more than 2 consecutive samples), the clip indicators will come on and stay lit for a few moments. To reset clip indicators, click with the mouse.

Virtual instrument plug-ins differ from effects plug-ins in that they do not have the capability to have audio routed into them – they do not have audio inputs. The only input a virtual instrument can receive is via MIDI. Due to this limitation, it is normal for the input level sliders to have no effect over the audio playback level for that instrument. In addition, it is normal for there to be no activity in the input level meters.

Mute



The Mute button mutes all audio output from the box. You can toggle the mute button on or off by pressing this button. Muting a box in a serial arrangement may mute all audio in that series, depending on how signal is routed.

Bypass



The Bypass button prevents the plug-in from processing the audio input to the box. The audio will flow through the box directly to the outputs, or to other boxes in the same series.

Solo



The Solo button bypasses all the other plug-ins on the same row. This allows you to audition just one box without processing the audio through the other boxes on the row.

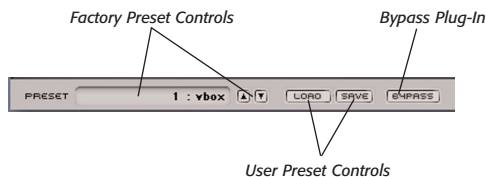
Edit



The Edit button brings up the plug-in editor for the plug-in assigned to that box. The plug-in editor will appear in a new window, and contains the plug-in's own user interface, with all of its various controls available.

Editing Effect Plug-In Parameters

Clicking the Edit button on an active box opens its editor, which is the plug-in's own user interface. Here, you will be able to access and adjust the parameters of the specific plug-in. You can modify the parameters and save your presets into a preset file using the Load and Save buttons at the bottom of the plug-in's editor window. The arrow buttons allow you to move through any existing factory presets for the plug-in, or click on the name of the preset for the Presets pop-up menu.



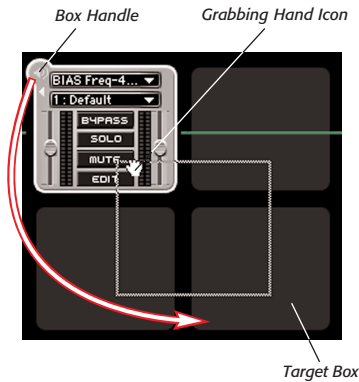
Please note that the Presets field and Up/Down arrows are used exclusively for factory presets. User presets are not stored here.

Moving Plug-Ins

Vbox lets you move plug-ins from any active box to any other box, active or inactive, in the Vbox matrix.

To move a plug-in from one box to another:

- Click on the box handle of the active box, the cursor will change to a grabbing hand – drag and drop it on any other box. There is no need to precisely align the plug-in within the borders of the target box – if the hand icon is placed over the target box, the selected plug-in will automatically snap into place.

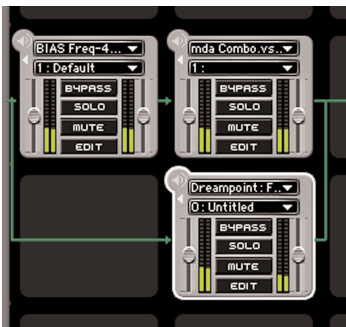


Moving a plug-in from one box to another

Moving a plug-in to an inactive box will simply move the plug-in from one box to the other. Moving a plug-in to an active box will replace the plug-in in the target box.

Changing Input Routing

Vbox allows you to change the signal flow into parallel box configurations. To move an input from the left-box to the upper-left box, click on the green input indicator on the left center of the box.



Left-box input



Upper-left box input

Creating Serial Chains

Vbox will automatically assume you want to create serial chains of boxes. Simply activate boxes in rows, making sure there are no inactive boxes between the first and last active plug-ins in the row.

Creating Parallel Chains

Use the input indicator on the left center of a box to create parallel chains.

Master Wet/Dry Controls

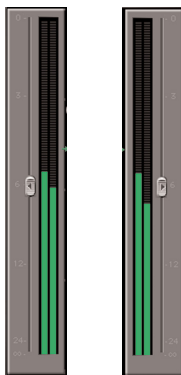
The slider in the Vbox window labeled Wet/Dry allows you to control the combination of dry signal with signal passed through the Vbox matrix. Drag the slider indicator upward to hear more of the effected signal from the Vbox matrix (wet), or downward for more of the original source signal (dry). Move the slider all the way to the Dry position to hear the original audio source only, without any processing through the Vbox matrix.



Master Wet/Dry Controls

Master Level Controls & Meters

The master input and output level sliders control input and output levels. Click and drag the sliders up or down to cut or boost the audio ± 6 dB ($\pm 100\%$). The center position of the indicator is 0 dB cut/boost. Hold down the Option key on your keyboard and click the indicator to return it to the center position.



Master Input/Output Levels

Corresponding input and output meters are located next to each slider. These meters show the audio levels input and output from the entire Vbox matrix. The lights at the tops of the meters are clipping indicators. If the audio clips (reaches maximum level for more than 2 consecutive samples), the clip indicators will come on and stay lit for a few moments. To reset clip indicators, click with the mouse.



Virtual instrument plug-ins differ from effects plug-ins in that they do not have the capability to have audio routed into them – they do not have audio inputs. The only input a virtual instrument can receive is via MIDI. Due to this limitation, it is normal for Vbox's Master Input level slider to have no effect over the audio playback level for an instrument in the matrix. In addition, it is normal for there to be no activity in Vbox's Master Input level meters.

Loading and Restoring Vbox Presets

You can save your Vbox matrix as a preset or restore a

Vbox matrix by clicking on the Presets pop-up menu at the top of the Vbox matrix.



Any presets you save into the Vbox Presets folder will appear in the Presets pop-up menu. The Vbox Presets folder resides in the following directory on OS X:

`/MacHD/Users/<YourAccount>/Library/Preferences/`



In order to save Vbox presets, use only the Vbox presets menu, located at the top of the Vbox interface. Do not use the presets strip at the bottom of the interface – this is intended to be used for factory and user presets on individual plug-ins, not those in use within the Vbox matrix!

A/B Comparisons

Vbox allows you to create and compare “snapshots” of different matrix configurations.



Press the left arrow button to store the current Vbox matrix into storage location A. Press the right arrow button to store the current Vbox matrix into storage location B. Press the A or B button to restore a saved matrix.

Vbox Preferences

You can control the size of the Vbox matrix by clicking the Preferences button at the top of the Vbox matrix.



Enter the height and width of the matrix you wish to build. Note the new matrix size will not take effect until the next time you launch Vbox. The Vbox matrix can grow as large as 99x99!

Recording Through Effect Plug-ins

In addition to processing existing audio files, Peak also allows recording through effect plug-ins. This can be a very useful and timesaving step, especially when recording in a known environment, or when the exact same set of effects needs to be applied. While recording through plug-ins, you are free to adjust plug-in parameters – however, be aware that you will be making permanent changes to the material that is recorded, and will not be able to undo these adjustments.



While recording through plug-ins can be a timesaver, be aware that if you are not happy with the results, you cannot undo them. If you are not sure about the settings to use, record a dry signal, and apply effects later. This way, you can freely experiment with effects settings and not have to commit to them.

Regardless of whether you're using effects plug-ins on channel inserts or within the Vbox matrix, the process for recording through them is the same.

To configure Peak to record through Plug-Ins:

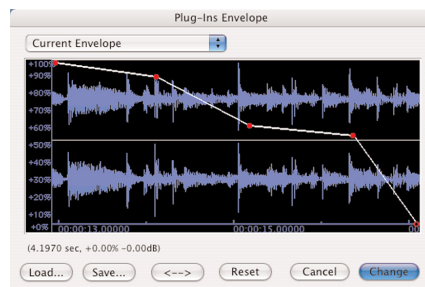
1. From the Plug-Ins menu, open and configure the plug-in(s) you wish to record through.
2. Select Record Settings from the Audio menu. The Record Settings dialog will appear.
3. Check the Record Through Plug-Ins checkbox and click OK.
4. Select Record from the Audio menu (**⌘-R**) or Transport. You are now ready to record audio through the plug-in(s).
5. Be sure to disable the active plug-in(s) after you have made the recording. If you do not disable/bypass the plug-in(s), when you play back the recording, you will hear a processed file being played through the active plug-in in real time and it will sound as if the recording has twice the desired effect.

Plug-ins Envelope

Peak features an editable plug-ins envelope, which allows applying a variable wet/dry mix over a selected portion of an audio waveform. For example, if you have a dialogue clip that you would like to apply reverb to, but would like the amount of reverb to vary dynamically, you can create a custom envelope that automatically varies the amount of reverb applied to different portions of the clip.

To apply effects plug-ins dynamically:

1. Make a selection of the audio document you want to process.
2. Choose Plug-Ins Envelope from the Plug-Ins menu (or from Peak's Preferences panel).
3. A dialog appears allowing you to draw a breakpoint envelope to control how much of the effect is applied over time. Points at the top of the graph represent 100% wet, while points at the bottom of the graph represent 0% wet (dry).



Plug-Ins Envelope dialog

4. When you are finished drawing an envelope, click Change.
5. Configure the plug-ins you wish to apply.
6. Choose Bounce from the Plug-ins menu.

Plug-in Latency Compensation

Plug-ins may introduce a short delay, known as latency, into the audio they are being used to process. Depending on the type of processing the plug-in performs, the amount of latency can vary – so it is common for different plug-ins to produce varying amounts of latency.

Latency typically appears in audio documents after bouncing, by a shift in samples later in time relative to the document's own timeline.

Peak features an automatic plug-in latency compensation feature called Auto Adjust Bounce for Latency – which automatically compensates for the latency introduced into a processed signal.

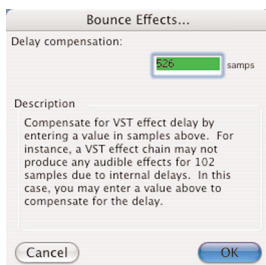
Automatic latency compensation may be toggled on and off from Peak's Options menu.

To Toggle Latency Compensation On/Off:

- From Peak's Options menu, select Auto Adjust Bounce for Latency.

A check next to the Auto Adjust Bounce for Latency item indicates that this feature is active. The absence of a check next to this item means it is inactive.

Plug-in latency compensation may also be used manually. To compensate for plug-in latency when bouncing effects on a selection, hold down the Option key when choosing Bounce, and enter the delay compensation you want in samples in the Bounce Effects dialog.



The Bounce Effects dialog



You may only use manual delay compensation when the Auto Adjust Bounce for Latency option is disabled. When it is active, you will not be able to access the Bounce Effects dialog by holding down the Option key and choosing Bounce from the Plug-Ins menu.

To determine delay compensation:

1. Bounce effect(s).
2. Measure the silence inserted by the bounce by selecting the silence and viewing the duration of the selection in samples. (You can use either the time display counter in the Transport, or turn on the Cursor Info overlay from the Options menu – either way will show the length of the selected piece of audio in the chosen Time Units. Time Units should be set to Samples for this process).
3. Undo the bounce.
4. Hold down the Option key while choosing Bounce from the Plug-Ins menu.
5. Enter the delay compensation amount from step 2.
6. Click OK or press Return.

Using Effect Plug-ins with the Batch File Processor

Peak allows you to use your Audio Units and VST effect plug-ins with the Batch File Processor (see Chapter 10: Batch File Processor & Apple Events for a detailed description of the Batch File Processor). This can be a very powerful and timesaving processing option if you need to apply the same plug-in(s) to many audio files.

To use plug-ins with the Batch File Processor:

1. Open an Audio Document.
2. Open and configure the desired Audio Units or VST

plug-in(s) that you wish to use in the batch process. (See the section on Using Effects Plug-Ins earlier in this chapter for detailed directions on opening plug-ins).

3. Choose Batch File Processor from the File menu.
4. Choose any other processes you want to use for the Batch File Processor and Set the Batch File Processor's Output directory folder.
5. Add "Bounce" from the list of Available Processes to the list of Selected Processes for Batch.
6. Turn the Batch File Processor On and click OK.
7. In the Finder, locate the files/folders you wish to batch process – and drag and drop them over the Peak application icon in the Dock.
8. Peak will batch process these files and save them to the designated directory folder.



Peak LE does not support Batch File Processing.

Using Virtual Instrument Plug-ins

Peak supports Audio Units and VST format virtual instruments. Virtual instrument support in Peak offers a quick and easy way to record performances, and greatly expands the scope of Peak's sound design possibilities.

Virtual instruments may be used in Peak in a variety of ways. A single virtual instrument may be loaded on a channel insert, or multiple virtual instruments may be loaded into Vbox and be played simultaneously. Instruments may be loaded for playback as well as for recording directly to a Peak audio document.

Virtual instruments may also have effects plug-ins chained in a series after them, so the effects plug-ins are used to modify the instrument's output.

Before playing virtual instrument plug-ins, an input method must first be configured.

Configuring Peak for Virtual Instrument Playback

In order to play virtual instruments, you must enable a keyboard input. Virtual instruments may be played by clicking keys in Peak's MIDI keyboard window, or by enabling keyboard MIDI control (uses your computer's keyboard as a MIDI input), or by using an external MIDI keyboard.

With Peak's MIDI Keyboard Window:

- From the Window menu, select MIDI – Peak's MIDI keyboard window appears.



Active virtual instruments now receive input when keys in Peak's MIDI keyboard window are clicked.

With your Computer keyboard:

- From the Options menu, select Keyboard MIDI Input.

Active virtual instruments now receive input when keys on your computer's keyboard are pressed.

With an External MIDI Controller:

1. Connect a MIDI interface to your Mac and follow its installation/setup instructions. After you have configured your MIDI interface, launch Peak.
2. Open Peak's Preference Panel > MIDI Preferences.
3. Select the desired MIDI device and click OK – then click the Save button to exit Peak's Preference panel.



Active virtual instruments now receive input when keys on your MIDI controller are pressed.



Depending on the MIDI interface you are using, you may need to install a driver (provided by the interface manufacturer). You may also need to restart Peak and/or your computer before the computer recognizes that a keyboard is connected – your computer needs to recognize that an interface is connected before Peak can use it for MIDI input.

Now that an input method has been configured, you may open and play any Audio Units or VST format virtual instrument plug-ins that are installed in your system.

Just as when using effects plug-ins, virtual instruments may be used on channel inserts or within the Vbox matrix. The steps below describe how to use virtual instruments in a variety of ways.

Loading Virtual Instruments on Inserts

Loading virtual instrument plug-ins is done the same way for both Audio Unit and VST formats.

To Load a virtual instrument on a Channel Insert:

- From the Plug-Ins menu, select Insert 1>Audio Units (or VST)>desired instrument

Playing Virtual Instruments

Once a MIDI input method has been configured, it's very easy to play a virtual instrument in Peak.

To Play an Instrument:

1. Load the desired instrument plug-in.
2. Click a note in Peak's MIDI keyboard window,

using the keyboard on your computer, or using a MIDI controller.

Recording Virtual Instruments

At some point, you will probably want to record your virtual instrument performances. This is a very simple process.

Peak can record the audio output of virtual instruments directly into a Peak audio document. The configuration for recording virtual instruments is similar to recording through effects plug-ins.

To Configure Peak to Record Virtual Instruments:

1. From the Plug-Ins menu, open and configure the virtual instrument plug-in(s) you wish to record.
2. Select Record Settings from the Audio menu. The Record Settings dialog will appear.



You may want to monitor your recording. To do this, open the Record Settings dialog and check the Monitor On/Off checkbox. If you are using direct monitoring through an audio interface, you may not need to enable software monitoring in Peak.

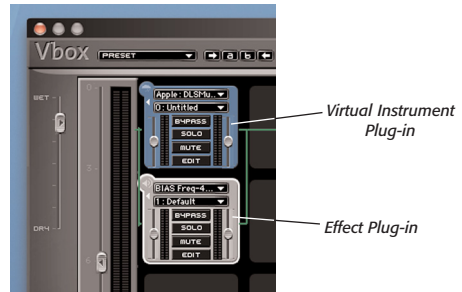
3. Check the Record Through Plug-Ins checkbox and click OK.
4. Select Record from the Audio menu (⌘-R) or Toolbar – Peak is now ready to record audio output from the virtual instrument plug-in(s).
5. Click the Record button in the Record dialog – Peak is now recording.
6. Be sure to disable the active plug-in(s) after you have made the recording, before playing it back. If you do not disable the plug-ins, no signal will be heard.

Deactivating Virtual Instrument Plug-ins

Deactivating virtual instrument plug-ins is done the same way for both Audio Unit and VST formats.

To Deactivate a virtual instrument from a Channel Insert:

- From the Plug-Ins menu, select Insert 1>Audio Units (or VST)>None



4. Bypass the effect plug-in by clicking the “Bypass” button in the plug-in’s thumbnail.

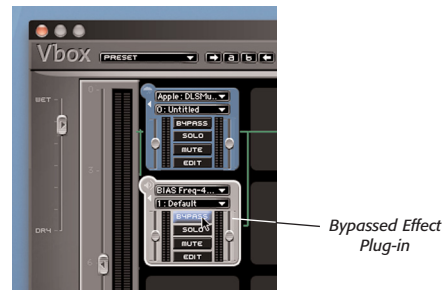
Playing Virtual Instruments with Audio Documents

There may be times when you wish to play a virtual instrument at the same time as an audio document, for example, if you are trying to learn a part of a song.

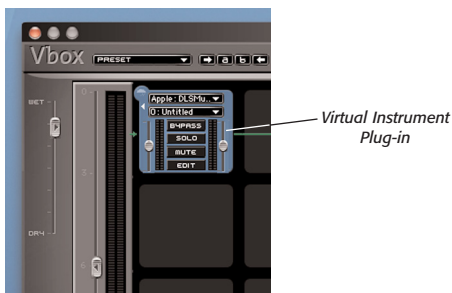
To do this, you will need to run the instrument within Vbox, and you will need to use the following setup.

To Configure and Play virtual instruments alongside audio documents:

1. With running, and the desired audio document already open, choose Vbox from the Plug-Ins menu.
2. In the Vbox interface, select the desired virtual instrument to be played.



5. Start playback of the audio document.
6. Send MIDI input to the instrument (via Peak’s MIDI keyboard window, your computer keyboard, or using a MIDI controller).

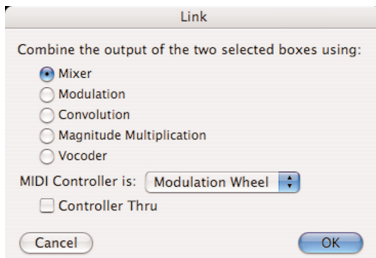


3. In a parallel row, choose any effect plug-in – it does not matter which you use.

Cross-synthesis

Cross-synthesis is a potent sound modification tool in which a sound source called the “program” or “modulator” signal modifies another, which is called the “carrier”. One of the most familiar forms of cross-synthesis is vocoding, where the spectral makeup of one sound is imposed on the other. The classic example of this uses a voice to modify a sustained sound like an organ chord, resulting in a “talking organ”.

In Peak, four different kinds of cross-synthesis are available, as well as simple mixing of the two sources. Vbox 3 serves as the host for cross-synthesis, which can be performed using an audio file and a software instrument (synthesizer or sampler) as the sources, or using two instruments. The degree of modulation in the cross-synthesis (or, in the case of mixing, the balance between the two signals) can be manipulated using a MIDI modulation wheel (continuous controller 1).



Vbox's Link dialog allows choosing the desired type of cross-synthesis

In order to use cross-synthesis, Vbox must be instantiated and two modules used within it, one below the other. The top module will be the carrier and the bottom the program/modulator. In order to play the audio file through Vbox, you will need to instantiate a processor, such as an EQ, for it to play through. You may bypass the processor if you don't wish to use it.

To use cross-synthesis:

1. With an audio file open, invoke Vbox by choosing it from the Plug-Ins menu or assigning it to one of the inserts in the Plug-Ins menu.
2. Instantiate the carrier signal in a module. For a first experience, you may want to try instantiating a software synthesizer into the top module in Vbox. Select a pad program or other sustained sound having a rich frequency spectrum.
3. Instantiate the program source in the module below the carrier. If you are, for example, using a voice file for the carrier, you might instantiate Freq-4.
4. Select both modules by clicking on one and then shift-clicking on the other.

5. Click the "Link" button in the lower left of the Vbox window. The Link dialog will appear.



6. Choose the type of cross-synthesis you want to use.
7. If you are using a modulation wheel to control the cross-synthesis, click the "Controller Thru" checkbox if you want the mod wheel messages to be passed through from Peak to other applications.
8. Click OK. Cross-synthesis is now in effect.

Tips for using Vbox Cross-Synthesis

1. For selections other than Mixer, you will hear only the carrier when modulation depth is at 0.



2. The Vbox wet/dry slider must be set to "Wet" in order to hear the cross-synthesis. As you move it away from "Wet," you introduce more of the dry Program signal. In some applications, such as when the Program signal is voice, adding a little dry signal can be useful in maintaining intelligibility.

Using a Modulation Wheel to Control Cross-synthesis

Using the mod wheel is easy: it is only necessary to be sure the controller housing the mod wheel is set up in Peak.

When the controller is activated, the mod wheel serves as a control for modulation depth, where a value of 0 (the wheel all the way down) is no modulation and 127 (the wheel all the way up) is full modulation depth. At a modulation depth of 0, you will hear only the carrier signal. As the wheel is moved up, you will hear the selected type of cross-synthesis being applied. When using the cross-synthesis Mixer function, the wheel ranges from full Dry signal at 0 to full Wet signal at 127.

When the Controller Thru checkbox is marked, mod wheel messages are passed through Peak to other applications.



It is not necessary to have a mod wheel to use cross-synthesis, however, without one, cross-synthesis will always use full modulation depth and the balance in the Mixer function cannot be varied.

About Cross-synthesis Types in Peak

Each type of cross-synthesis creates a different type of effect, these are described in details below.

Mixer

The mixer does the obvious: it simply mixes the two signals. The difference between using this Mixer and simply letting VBox mix the outputs of two modules is that a MIDI controller can be used to crossfade between the two sources.

Modulation

Peak's Modulation is actually ring modulation, a form of amplitude modulation that uses four-quadrant multiplication. Ring modulation produces sidebands that are rarely harmonically related, leading to its popularity for mechanical or robotic voice and other sounds.

Convolution

Convolution is a form of spectrum multiplication, in which one signal is considered the source and the other acts effectively as a filter. The process is performed in the frequency domain, where the magnitude (level) of each frequency component in the source is multiplied by the magnitude of the same frequency component in the filter, and the phase at that frequency in the source is

added to the phase of the frequency in the filter. Thus, if the source has lots of energy at a given frequency and the filter has none, the resulting signal will have none (anything times zero is zero), while if they both have significant energy at that frequency, the output will have LOTS of energy there.

Magnitude Multiplication

Magnitude Multiplication is the same as convolution, except that the phase of the output signal at any given frequency is the same as that of the source; the phase response of the filter does not affect the output phase response.

Vocoder

In the original, analog vocoders, the program signal went through a bank of bandpass filters and the output level of each band was analyzed, then that spectral profile was used to control the levels of a second filter bank through which the carrier was passed, thus imposing the spectral characteristics of the program onto the carrier. In the digital domain, vocoding is similar to magnitude multiplication, except that instead of multiplying the magnitude of the source (carrier) at each frequency by that of the filter (program), the spectral response of the filter is smoothed to create a spectral envelope, which is used for the multiplication. This can produce better results than magnitude multiplication or convolution when the signals are complex. Like magnitude multiplication, the phase of the output signal is the same as that of the source.

Conclusion

You have now learned how to use Peak to manipulate and process audio using Audio Units and VST effects plug-ins. You've also learned how to open, play, and

record virtual instrument plug-ins. In the next chapter, you will learn how to use Peak's powerful Batch File Processor as well as how to use Apple Events with Peak for file management.

Chapter 10

Batch File Processor & Apple Events



Chapter 10: Batch File Processor and Apple Events

Introduction

Peak allows you to process any number of audio files at once with any number of possible processes using the Batch File Processor. Peak also supports Apple Events, which allows you to manage whole libraries of audio files quickly and easily with database applications such as FileMaker Pro.

Batch File Processor

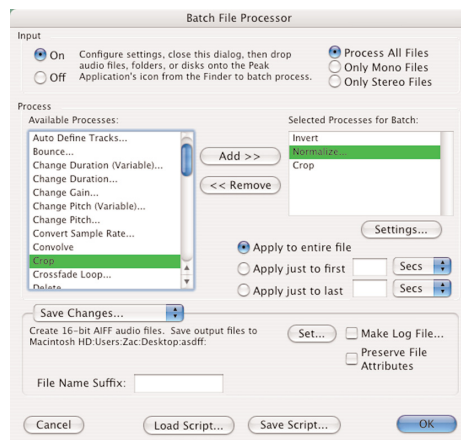
Peak's Batch File Processor is one of the most powerful, versatile, and useful features in Peak. Using the Batch File Processor, you can integrate any series of Peak processes (called a batch script), and apply these scripts to any number of audio files.



The currently open audio document and selection you make will be used for previewing processes sequenced into your batch script.

To use Batch File Processing, go to the File menu and select Batch Processing. The Batch File Processor dialog appears.

Peak's Batch File Processor is split into three areas: Input, Process, and Output. Sequence a series of steps for Peak to execute in the Process section, then set your output



file settings in the Output area. Once Peak's Batch File Processor is configured, you may turn on the Batch File Processor in the Input area.

Once the Batch File Processor is configured and turned on, any files you drop onto the Peak application's icon (or an alias) will be batch processed according to your settings. You can even drop folders or disks onto Peak's icon and all of the supported audio contents will be batch processed. You can continue dropping files, folders, or disks, onto the Peak icon for batch processing while the Batch File Processor is turned on. All subfolders within folders or disks you drag onto the Peak application icon for Batch File Processing will be recreated in the Batch File Processor's output directory, preserving all organization of your files. Audio

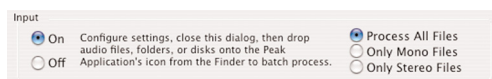
documents opened using the Open command from the File menu will not be batch processed.

You can also have the Batch File Processor run in the background while you work in another application.

Supported contents include all file formats that Peak can read, including AAC, AIFF, Sound Designer II, WAVE, QuickTime, Raw, JAM image files, System 7 Sound, AU, MP2, MP3, and MP4.

New audio documents created with the Batch File Processor will have the same file name as the original input audio document and may also include an optional suffix.

Input Area



Input Area

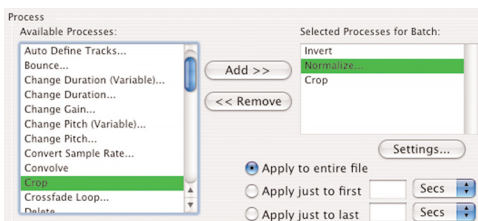
The Input Area allows you to enable or disable batch file processing. Once the Batch File Processor is configured, you may turn it on with the On button. If you have finished batch processing and no longer need to batch process files, you can use the Off button to disable batch file processing.

You can include/exclude mono or stereo files from the batch process by using the Process All Files, Only Mono Files, and Only Stereo Files buttons. Process All Files is the default setting. To have Peak's batch processor only work with mono files, click the Only Mono Files button. Similarly, to only process stereo files (excluding mono files), engage Only Stereo Files.



If you are going to process both stereo and mono audio documents, open a stereo audio document and make a selection before configuring the batch processor. This will allow most processes to make the correct decisions on how to process both mono and stereo input files using the Batch File Processor.

Process Area



Process Area

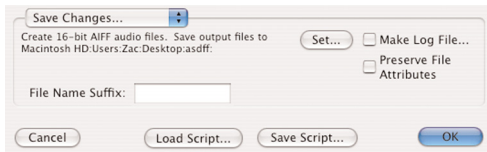
The Process Area shows two lists; the list on the left, labeled Available Processes, allows you to select processes that will be used in your batch script. Almost every process that Peak is capable of will appear in this list. The list on the right is labeled Selected Processes For Batch and contains the Peak processes in the current batch script.

Double-click on a process in the Available Processes list to add it to the Selected Processes for Batch list. Alternatively, click on a process in the Available Processes list and then click the 'Add >>' button. To remove items from the Selected Processes for Batch list, click on the items and then click on the '<< Remove' button.

When you add a process to the Available Processes list, you may be required to supply settings for the process. The front-most audio document and selection will be used for any previewing the process may support. Peak's batch processor allows you to use multiple instances, or occurrences, of a single process – each with its own settings.

You may also specify which part of the file to apply the process to. Once a process has been added to the Selected Processes for Batch list, you may use one of the buttons 'Entire File', 'Apply Just To First x Seconds', or 'Apply Just To Last x Seconds'. Use these buttons to configure how to apply the selected process to an audio document. For instance, if you are using a Fade In process and only wish to apply it to just the first three seconds of the audio document, click the Fade In process from the Selected Processes for Batch list and then type a "3" into the 'Apply Just to First x Seconds' edit text field. All processes are applied by default to Entire File unless you configure the process otherwise.

Output Area



Output Area

Use the Output Area to configure how your audio documents will be stored after they have been processed using your batch script. There are three options regarding how output files should be handled after processing has taken place, these are described below:

Save Changes...

Choosing Save Changes in the Output pop-up menu results in processed files being saved to disk.

Export Regions...

Choosing Export Regions in the Output pop-up menu results in processed files having any Regions they contain be exported as individual files.



For more information on using Peak Export Regions tool, please see Chapter 5: Editing

Leave Open

Choosing Leave Open in the Output pop-up menu results in processed files being opened in new audio document windows.



If you choose the Leave Open option the Set button is unavailable, and you will have to save each open file you intend to keep.

Once you have chosen how to output files from the Batch Processor, click the Set button to specify the output document format, settings, and location.

After clicking Set you will be asked to provide the output file format, bit depth, and compression options using the Save As dialog described in Chapter 3. Choose which folder to save the processed audio files into with the Save As dialog.

Log File

You can create a text Log File during batch processing to keep track of which files have been processed. This is useful for lengthy batch processing sessions where the possibility of a power failure or other circumstance could prevent the batch process from completing. Click on the Log File checkbox to specify that a log file should be created for the batch process. After turning the Log File feature on, Peak will ask you to provide a destination for the log file. The log file can be viewed using a text editor. The Batch File Processor will divert any error messages to the log file if it is enabled. This is useful because any errors Peak encounters during batch file processing will not require user attention during processing. However, Peak will issue a System Beep sound if an error occurs during Batch File Processing. If this happens, check the log file for errors.

Preserve File Attributes

If you wish to process a group of files with a variety of attributes, such as file formats, bit depths, etc. and have the processed files retain their original attributes, click this box to enable file attribute preservation. This option allows the Batch File Processor to focus on all the available DSP processes, rather than on file format (and other attributes) conversion. If you wish to process a group of files and also change them all to the same output format, leave this box unchecked, and select the desired output format by clicking the Set button in the Output area of the Batch File Processor.

File Name Suffix

If you want the output audio files of your Batch Process to be appended with a suffix, such as .WAV, simply enter

the suffix you want appended in the File Name Suffix field. All resulting audio file names will be appended with the suffix you specify.



Make sure that the output directory (folder) is not set to the input directory or Peak's Batch File Processor may get caught in a loop. Peak's Batch File Processor does not support overwriting input files.

Save Script

Peak allows you to save your batch script into a settings file that can be recalled later. This feature is useful if you frequently process files using a specific sequence of processes. After configuring the Batch File Processor, click Save Script to save your batch sequence into a Batch Script file. You will be prompted to choose a save location and name for the batch script. The settings file holding your batch script will store the processes, each process' settings, and the output file format.

Load Script

To recall a batch script settings file that was stored using the Save Script button (as described above), click Load Script button. For example:

To convert a folder of files into AIFF IMA 4:1 files Normalized to 95% with a Log:

1. Choose the Batch Processor command from the File menu.
2. Double-click the Normalize item in the Available Processes list. Enter "95" in the following normalization settings dialog.
3. Click Set in the Output Area of the Batch File Processor. Choose AIFF from the File Format pop-up menu. Choose IMA 4:1 from the Compression pop-up menu.
4. Choose the folder to save the output files into. Click Save.

5. You will be back in the Batch File Processing dialog. Click Log and choose the output folder to save the log file into.
6. Click the On button in the Input Area of the Batch File Processor. The Batch File Processor is now turned on.
7. Click OK to close the Batch File Processor dialog.
8. Switch to the Finder, and drag and drop a folder full of audio documents onto the Peak application's icon.
9. Peak will process all audio files in the folder that was dropped onto the Peak application icon.
10. Once the files have been processed, open an audio document, choose the Batch Processor command from the File menu. You may then turn off the Batch File Processor by clicking Off in the Batch Processing dialog.

Errors and Cancelling Batch Processes

Any errors during Batch File Processing will produce a System Beep to notify you of the trouble. If an error occurs during Batch File Processing, Peak will not place an error dialog on the screen. This happens so that processing can continue. If you have specified that you wish to create a log file, error messages that would appear in an error dialog will appear in the log file, indicating where in the batch file process the error occurred.

Once the batch file processor has started, it will continue to process files as quickly as possible. If you find it necessary to halt the batch process, press ⌘-Period. A dialog will appear allowing you to cancel the batch process. If you choose to cancel the batch process, Peak will finish processing the current file and then ignore any

other files to be processed. Once batch processing has been cancelled, Peak will turn the batch file processor Off.



Batch File Processing is not available in Peak LE.

Peak's Audio Librarian Tools

Peak's Audio Librarian Tools are ideal for anyone who maintains a large number of sound effects or other types of samples. Through Apple Events, Peak allows users to catalog and audition sounds from ordinary database applications, such as FileMaker Pro (several ready-made templates are included). Peak also includes Batch Region Processing (via the Export Regions command in the File menu).

Apple Events™ Support

Peak understands a vocabulary of Apple Events. Apple Events can automate procedures for you, such as triggering the playback of an audio document.

The standard suite of Apple Events that “savvy” applications must understand includes the “odoc” (open document) event. For example, when you double-click on a Microsoft Word document, the Mac Finder sends an “odoc” Apple Event to the application Microsoft Word. Unfortunately, “odoc” requires the complete document path of the document you wish to open. You can use “odoc” with Peak, but Peak has another feature that makes opening and playing your documents much easier: simplified document descriptions instead of entire document paths. To illustrate this difference, compare the following:

Full Document Path:

John's HD:Sounds:Brass:Trombones:With Mutes:C5-A6.aiff

Simplified Document Path:

Volume Name: John's HD:Document Name: C5-A6.aiff

Using the simplified document path, Peak searches the indicated volume for the first occurrence of a document matching the name described (called a Find File operation). Once it is found, it is opened up and ready for playback.

“Savvy” Core Suite of Apple Events (event class = ‘aevt’)

odoc (Open Document)

The “odoc” event instructs Peak to open an audio document with the document path provided in the data following the event.

quit (Quit Peak)

The “quit” event Quits Peak.

Peak events (event class = ‘FURP’)

Peak has its own class of events that it understands, all of which have the ID “furp.” This class descriptor must be present for Peak to understand the events you send to it.

sff (Set FindFile Volume)

The “sffv” event tells Peak to use the data following the event (a string of text) as the Volume name to search when providing a simplified document path. When specifying volumes, don't use colons in the name of the volume.

sfff (Set FindFile File)

The “sfff” event tells Peak to use the data following the event as the name of the document to find when specifying a simplified document path.

off (Open the FindFile File)

The “off” event tells Peak to find the document on a volume specified by the most recent “sfff” and “sffv” events. If the document is found, it is opened in a window. If the document is not found, Peak will beep once.

stop (Stop any currently playing audio)

The “stop” event takes no additional data and instructs Peak to stop playing any audio that is currently playing.

clos (Close the front-most window)

The “clos” event takes no additional data and instructs Peak to close the front-most window, if one exists.

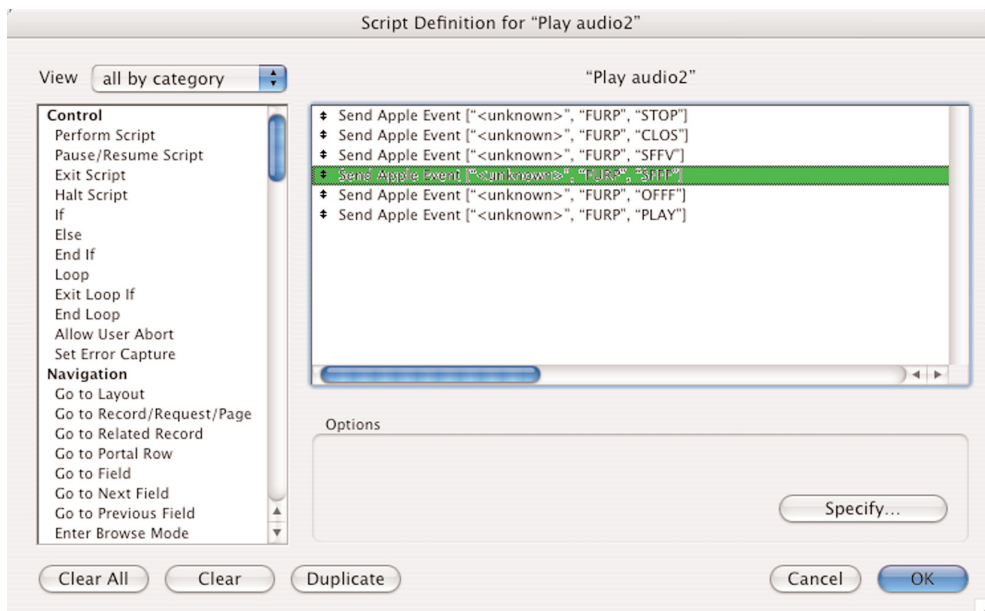
play (Play the front most window)

The “play” event initiates playback of the front most opened audio document. Use the “stop” event to stop playback, or wait until the document completes its playback.

Example Scripts

The FileMaker Pro documents included in the Peak Extras folder are intended to illustrate Peak’s functionality in an audio document database environment. To try out the scripts, open one of the FileMaker Pro documents, type in the Volume Name (the exact name of the hard disk the audio document resides on) and Document Name for an audio document on one of your hard drives, hit Enter and press the graphic play button. If the document is found, Peak will play the audio document. You can create new records with the \mathbb{N} -N keystroke from FileMaker Pro to get a new empty record.

Below is an example Script Definition from FileMaker Pro that might be used to create a Play Button. There are six steps to this Script Definition:



Example of a FileMaker script included with Peak, that can locate, open, and play an audio file from your Mac’s hard drive.

1. Stop any currently playing audio documents (STOP).
2. Close any open digital audio windows (CLOS).
3. Pass the FindFile Volume name to Peak from some FileMaker Pro field (SFFV).
4. Pass the FindFile File name to Peak from some FileMaker Pro field (SFFF).
5. Tell Peak to find and open the document described by steps 3 and 4, above (OFFF).
6. Tell Peak to Play the front-most audio document (PLAY) (opened in step 5).



FileMaker Pro is not included with Peak.



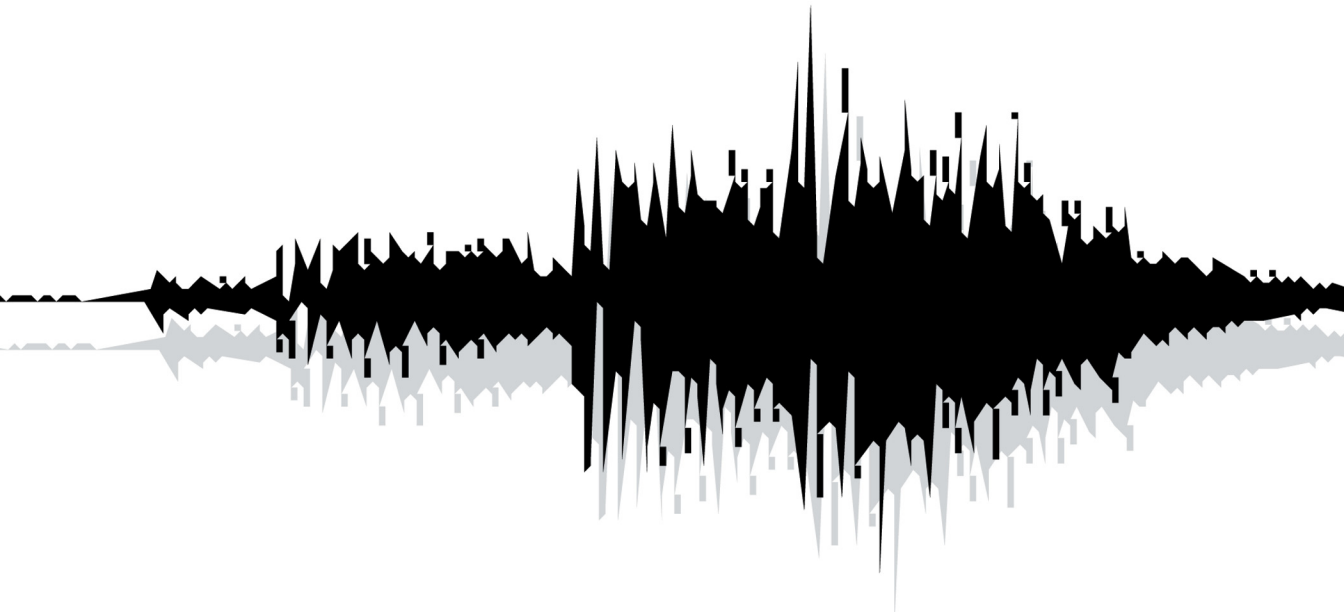
Apple Events are not supported in Peak LE.

Conclusion

You have now learned how to batch process audio using Peak's Batch File Processor as well as how to use Apple Events to manage whole libraries of audio files with database software such as FileMaker Pro. In the next chapter, you will learn how to use Peak to edit and transfer samples to and from hardware (SMDI) Samplers.

Chapter 11

Samplers



Chapter 11: Samplers

Introduction

Peak allows you to import samples directly from compatible samplers, edit or process the audio using all of Peak's powerful editing and processing functions, and then send the modified sample back to the sampler, all in the digital domain. This capability allows you to use Peak as a powerful sample editing and sound design tool, giving you access to audio processing capabilities far more advanced than those typically found on sample playback instruments.



Peak LE does not support hardware samplers.

The following sections explain how to transfer audio documents between your sampler and your Mac.



Some samplers have a different interpretation of loop points than Peak does. To compensate, you may need to use the Sampler preference dialog to adjust loop points forward or backward by plus or minus one sample. You may enter independent settings for sending and receiving loop points, as well as loop start and loop end offsets for each. To adjust loop point offsets, select Sampler from the Preferences dialog.

Working with SMDI Samplers

Peak's SMDI Sampler Support makes it possible to transfer several audio documents at once to or from your SMDI sampler.

SMDI Samplers supported in Peak (at time of printing):

- E-mu – E-IV, ESI-32, ESI-4000, E-64, E5000
- KURZWEIL – K2000, K2500, K2600
- PEAVEY – SP/SX
- YAMAHA – A3000, A4000, A5000

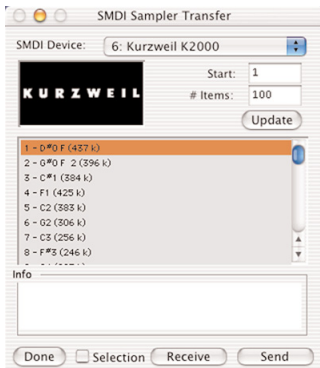
SMDI Samplers

SMDI Samplers, such as the Kurzweil K2500 or the E-mu E-IV, use SCSI to transfer samples between devices. In order to transfer samples between the Mac and your sampler using SMDI, you must connect a SCSI cable between your Mac and the sampler. Consult your sampler's owner's manual for instructions on how to connect the cable to your Mac with proper termination. Always use high-quality SCSI cables to avoid data transmission errors.

Peak allows the user to turn fast Asynchronous SCSI transfers On or Off in the Sampler dialog. Turn Asynchronous transfers OFF if you are having trouble transmitting samples to a SMDI device, or if your Mac does not support Asynchronous SCSI transfer.

To use the SMDI Sampler dialog:

1. Choose SMDI Sampler or the name of your sampler from the Sampler menu. The SMDI Sampler Transfer dialog appears.



The SMDI Sampler Transfer dialog

List of Samples

This dialog features a list of samples stored in the SMDI device. Since there are hundreds of sample locations in a SMDI device, an exact range of samples to display is used. You may click on items in the list to view detailed information about the sample in the Info portion of the SMDI Sampler Transfer dialog. You may also Shift-click or Command-shift-click to select multiple items in the list of samples.

Update

The Update button rebuilds the list of samples shown in the SMDI Sampler Transfer dialog. Peak will scan the SMDI device starting at the sample number indicated in the Start edit text field until the number of samples entered in # Items edit text field have been scanned.

SMDI Device

Any SMDI devices Peak detects attached to your Mac will show up in this pop-up menu. Choose the device you would like to use from the pop-up menu. Peak will scan the device for sample information starting at the sample number indicated in the Start edit text field.

Start

Enter the first sample number stored in your sampler that you wish to view in the list of samples. If you change this value, you must click on the Update button for the list of samples to be updated. Some SMDI samplers start their samples at sample number zero, others start at 200. Refer to your SMDI Sampler's manual for information on how samples are stored in your particular device.

Items

The # Items edit text field controls how many samples are displayed in the list of samples. If you change this value, you must click on the Update button for the list of samples to be updated.

Send

To send the front-most Peak audio document to the SMDI Sampler, click on the sample in the list of samples that you wish to send the sample to and press the Send button. If a sample already exists at the chosen location in the SMDI Sampler, it will be replaced.



To send multiple opened Peak audio documents to the SMDI Sampler, shift-click or ⌘-click to select multiple destinations in the list of samples and click the Send button. Peak audio documents will be sent to the selected destinations in the order that they appear under Peak's Windows menu.

Receive

To receive a sample from the SMDI sampler, click on the sample in the list of samples that you wish to receive and press the Receive button.



To receive multiple samples from your SMDI Sampler, shift-click or ⌘-click multiple destinations in the list of samples and click the Receive button.

To send an audio document to your SMDI sampler:

1. Choose Open from the File menu to locate and open the audio document you wish to send to your SMDI sampler, or open the audio document by double-clicking it in the Finder.
2. Choose the SMDI Sampler command from the Sampler menu. If Peak finds a SMDI sampler connected to your Mac, the SMDI Sampler Transfer dialog appears.
3. Make sure the correct SMDI device is selected in the SMDI Device pop-up menu.
4. Click on the sample in the List of Samples that you wish to replace.
5. Click Send. Peak will send the sample to your SMDI sampler.
6. When you are finished using the SMDI Transfer dialog, click the close box of the dialog or click the Cancel button.

To send a SMDI sample to Peak:

1. Choose the SMDI Sampler command from the Sampler menu. If your SMDI sampler is properly connected to the Mac SCSI chain, you will see the SMDI Sampler Transfer dialog appear.
2. Make sure the correct SMDI device is selected in the SMDI Sampler pop-up menu.
3. Click on a sample in the List of Samples that you wish to receive.
4. Click the Receive button. Peak will transfer the sample you identified to the Mac and place it into a new audio document window. Audio documents created by bringing samples over from a SMDI device are not saved until you use the Save command from the File menu.
5. When you are finished, click the SMDI Sampler Transfer dialog's close box or click the Cancel button.

To browse through samples stored in your SMDI device:

- Click on a sample in the List of Samples. If your SMDI device has a sample stored at this sample number

location, Peak will retrieve the information about the sample including its sample rate, size, bit depth, stereo/mono format, and loop points and display the information in the Info area of the SMDI Transfer dialog. If there is not a sample stored in the SMDI device with the sample number, "(Empty)" will appear in the sample Info area of the SMDI Transfer dialog.

SMDI Sampler Error Messages & Troubleshooting

If a SMDI device cannot be found connected to your Mac, Peak will display the message "No SMDI devices could be found connected to this Mac." If this happens, and your SMDI device is connected to your Mac with a SCSI cable, try the following:

- Make sure your SCSI cables are properly connected. SCSI cables can come loose if they are not tightened down using the cable's connector screws. Make sure you connect the SCSI cables to your Mac only when it is turned off.
- Make sure there is not another SCSI device connected to your Mac using the same SCSI ID as your SMDI device. Consult your SMDI device's owner manual for information on how to change the SCSI ID of your SMDI device.
- You may need to turn on your SCSI devices in the correct order. Turn all of the SCSI devices connected to your Mac on first, then turn on the Mac and launch the Peak application.

A note about the Yamaha A3000

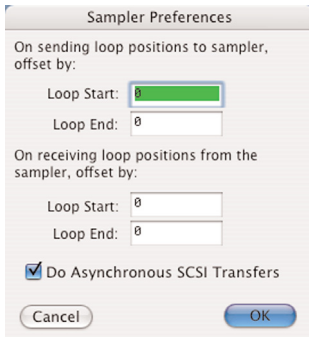
Peak supports the Yamaha A3000 digital sampler. You can access the A3000 sampler using either the Yamaha A3000 or SMDI menu selection under Peak's Sampler menu. Please note the A3000 cannot replace existing samples, and any transfers to the A3000 will be placed in

the next available empty sample in RAM, regardless of where you instruct Peak to place the sample. When “BulkProtect” is turned on, the A3000 does not respond to SMDI messages.

“BulkProtect” is at UTILITY mode > MIDI function > Bulk page. BulkProtect is always ON after you turn on the A3000, so you will need to turn it off before you can do SMDI transfers.

The Sampler Preferences dialog

You can access the Sampler Preferences from Peak’s Preferences dialog to set Loop Offsets and Asynchronous SCSI transfer.

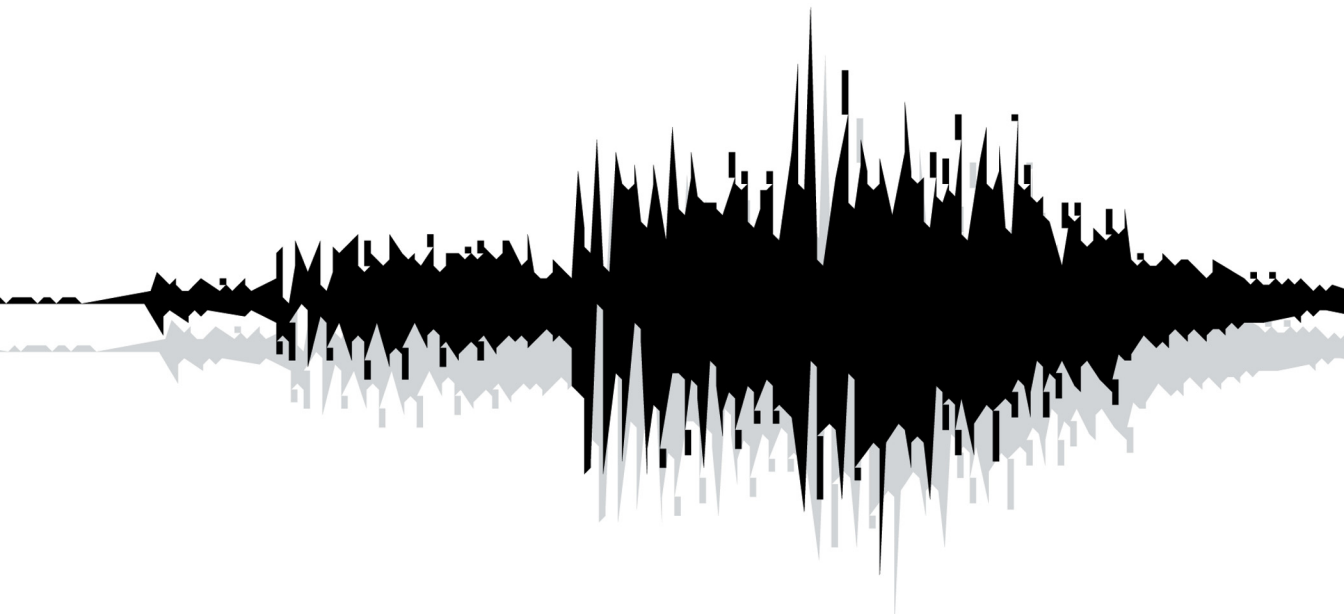


Conclusion

You have now learned how to import samples directly from compatible samplers (to edit or process the audio using all of Peak’s functions) and send the modified samples back to the sampler. In the next and final chapter, you will find detailed descriptions of each Peak command and function, menu by menu.

Chapter 12

Peak Menus



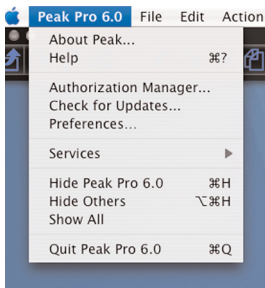
Chapter 12: Peak Menus

Introduction

This chapter explains each of the commands found in Peak's menus. For step-by-step instructions on implementing these commands, refer to the index, and go to the appropriate chapter where use of the command is covered.

Peak Pro Menu

The following items and commands appear under the Peak Pro menu.



About Peak...

This menu shows information about the particular version of Peak you are using, including the exact version number and your serial number.

Help

This command will open the Peak User's Guide, which is installed along with the Peak application.

Authorization Manager

This command launches the BIAS Authorization Manager, which allows you to manage your BIAS software licenses.

Check for Updates

This command checks to see if a newer version of Peak is available.

Preferences...

The Preferences command opens Peak's Preferences dialog, which contains many of the customizable elements of the application. Preferences details are listed below, for each category of Preferences found in Peak's Preferences dialog.

Colors

Peak allows you to customize the colors used to display the elements in audio documents. You can use this dialog to set the background color, waveform color, and

colors for markers and loops. You can select either a preset color combination, individual colors for each element in the audio document window, as well as picking your own custom colors from a color palette. Changes made using the Colors dialog affect both the current audio document's colors, and any subsequent new audio document's colors. See Chapter 3 for more information on this feature.



The Document Colors dialog

Scratch Disks

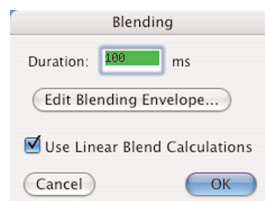
Because audio data can be very large, Peak utilizes a portion of your hard disk's free space to hold audio documents that have been cut or copied, as well as for temporary or "scratch" files for undo purposes. If your hard disk is short on space, you may not be able to cut, copy, or modify large selections. If you have more than one hard drive attached to your Mac, the Scratch Disks command in the Preference menu allows you to choose the hard drives (or "scratch disks") that you wish to use for these temporary files. Peak allows you to select which disk you want to have as your default, or "Primary" disk for this purpose—usually you would select the disk that has the most free space. If you are connected to a file server, you can utilize available storage on the server by clicking the Allow Servers checkbox. Any available servers will then appear in the Scratch Disks pop-up menu. This feature is recommended only if you have access to a high speed Ethernet, or other fast server.



The Scratch Disks dialog

Blending

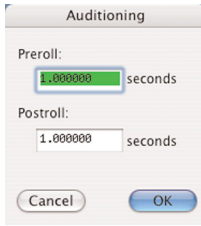
Blending is an automatic crossfade function with a user-editable envelope. Peak can apply blending to areas of an audio document when they are modified by cutting, pasting or other editing processes in order to smooth abrupt transitions between waveform amplitudes. It can be very useful for creating a smooth transition between edits that would otherwise sound too abrupt. If are going to cut, paste, or insert audio into a document, you may wish to enable blending to smooth things out a bit. It can be toggled on or off by clicking the Blending button in the Audio Document Window, or pressing the Caps Lock key on your keyboard. For detailed instructions on how to use blending or how to edit the blending crossfade envelope, see Chapter 5: Editing.



The Blending dialog

Auditioning

Peak's Auditioning command allows you to audition a selection along with a specific amount of audio preceding or following it. The Auditioning dialog allows you to select a desired amount of Pre-roll or Post-roll when you play the selection.



The Auditioning Dialog.tif

Fade In Envelope

The Fade In Envelope command allows you to edit Peak's fade-in envelope. Fade-ins can be very useful for smoothly fading into an audio document, or for fading into one type of audio material from another. Very short fade ins can also be useful for smoothing or removing clicks and pops in a recording. The Fade In Envelope dialog allows you to control the exact shape of a fade in by providing you with user definable envelope controls. For detailed instructions on how to create fade ins and edit their envelopes, see Chapter 5: Editing.

Fade Out Envelope

The Fade Out Envelope command allows you to edit Peak's fade-out envelope. Fade-outs can be very useful for smoothly fading out of an audio document, or for fading out of one type of audio material into another. The Fade Out Envelope dialog allows you to control the exact shape of a fade out by providing you with user-definable envelope controls. For detailed instructions on how to create fade out and edit their envelopes, see Chapter 5: Editing.



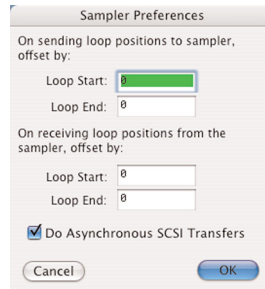
Preferences...>Fade Out Envelope

Plug-Ins Envelope

This command allows you to apply plug-in effects gradually according to the envelope you create in the Envelope Editor dialog. This is very useful for varying the intensity of effects over time.

Sampler Preferences

The Sampler command allows you to set an offset of one sample, for those samplers that require it, as well as choose SCSI preferences. See Chapter 11: Samplers, for more on the Sampler Preferences dialog.

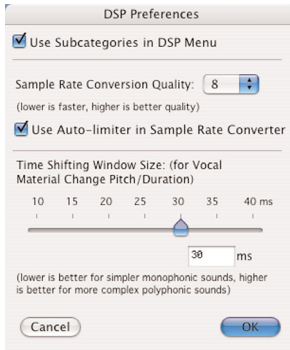


The Sampler Preferences dialog

DSP Preferences

Peak's DSP tools appear in the DSP menu in alphabetical order by default. A user selectable "Use Subcategories in DSP Menu" preference is also available, which allows DSP tools to be grouped by type of function: Analysis, Conversion, Effects, Gain, Loops & Regions, Repair, and Time & Pitch. To enable DSP categorization, simply check the "Use Subcategories in DSP Menu" checkbox in the DSP Preferences window.

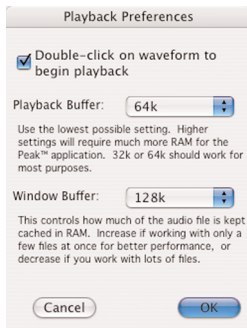
Peak DSP Preferences allow you to set the size of the "window" used in time shifting, and the quality of sample rate conversion. A setting of 8 is recommended for Sample Rate Conversion Quality, (with 1 being lowest and 10 being the highest). A setting of 30ms is recommended for the time shifting window size – a lower setting is better for simpler, monophonic sounds, and a higher setting is better for more complex polyphonic.



The DSP Preferences dialog

Playback Preferences

The Playback Preferences dialog contains the following controls:



The Playback Preferences Dialog

Double-click on Waveform to Begin Playback

If this box is checked, double-clicking in an audio document's waveform display starts playback at that point. If this box is unchecked, double-clicking in the audio waveform selects the space between adjacent markers (or the beginning and/or end of a file and the closest adjacent marker).

Playback Buffer

Peak allows you to control the amount of RAM the program uses when playing back audio documents. In general, lower is better. A playback buffer of 32k is a good place to start. If you are experiencing clicks in your

playback, working with fragmented files, using processor-intensive real-time DSP, or are using a slow hard drive, you may need a larger playback buffer setting.

Window Buffer

Peak allows you to control the amount of RAM the program uses to keep audio documents buffered in RAM. Use larger values if you are working with a few large files, and smaller values if you are working with many smaller files. Experiment to find the best settings for your system and working style.

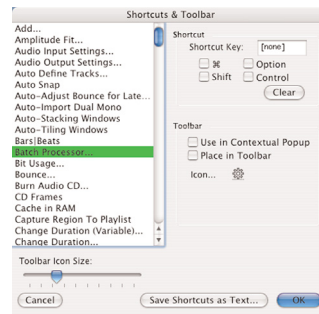
Shortcuts/Toolbar Preferences

Peak allows you to customize any Peak menu item with a keyboard shortcut. To change your keyboard shortcuts, go to the Preference menu and select the Shortcuts and Toolbar item. Keyboard shortcuts are stored in a preference file in the directory:

`/Users/<YourUserAccount>/Library/Preferences/`

Peak's default Keyboard Shortcuts are listed in Appendix 1.

You may also customize the Peak Toolbar using the Shortcuts & Toolbar dialog. Just scroll to a function in the dialog list, and use the checkbox to toggle the icon on and off. This allows you to group only the items you use most frequently on the Toolbar for easy access.



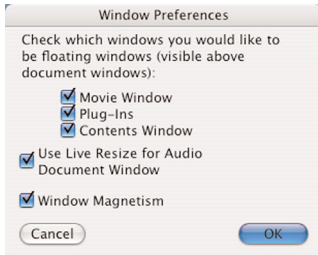
The Shortcuts & Toolbar dialog



Customized Shortcuts & Toolbar are not available in Peak LE

Window Preferences

Peak's Window Preferences allow you to set several window styles and behaviors.



The Window Preferences dialog

“Floating” windows always appear above other windows. It is particularly useful to set plug-ins, movies, and the Contents window as floaters, so they are always quickly accessible.

Live Document Resizing scales an audio document's contents when the window is resized, allowing you to see the audio waveform's size change as you change the size of the window.

Window Magnetism makes windows snap together when they are positioned close to each other. This feature is useful for creating tight window arrangements and maximizing available screen real estate.

Dither Preferences

The dither preferences dialog allows you to choose which dithering algorithm is applied when saving files or bouncing Playlists. For more detailed on the various dithering algorithms included in Peak, please see the section on Dithering in Chapter 3: Peak Basics.



Peak LE does not feature built in dithering. Dithering in Peak LE is performed using the included MDA Dither plug-in.

Hide Peak

Temporarily puts Peak into the background, and hides all windows. Peak can be brought back into the foreground by choosing its icon from the Dock.

Hide Others

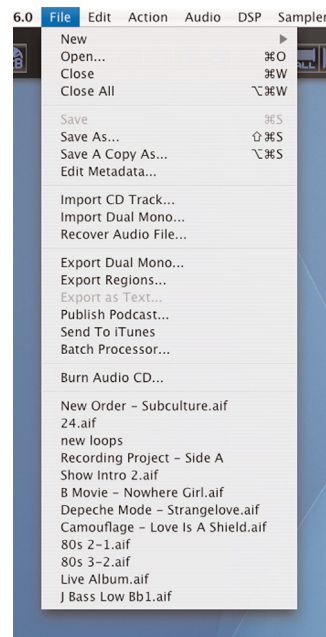
Temporarily puts any other open applications into the background. This is a useful command if you have several applications open, and want to focus on working in Peak. Other applications can be brought back into the foreground by clicking on their icon in the Dock.

Quit Peak

Choosing Quit Peak closes the Peak application. If you haven't saved changes to a currently open audio document, Peak will prompt you to do so before quitting.

File Menu

This menu contains all of the standard Mac commands for opening, closing, and saving files, as well as several additional commands specific to the Peak application.



New

This command allows you to create a new Peak audio document. When you choose this command, a submenu appears which allows you to choose either a mono or stereo format for the new audio document, or to create a Playlist document or a new audio document from an open Playlist document.

Mono Document

Choosing Mono Document (⌘-N) creates a mono (one channel) audio document.

Stereo Document

Choosing Stereo Document (Shift-⌘-N) creates a stereo (two channel) audio document.

Document From Selection

Choosing Document From Selection (Ctrl-N) creates a new audio document from any selected audio in an open audio document.

Playlist Document

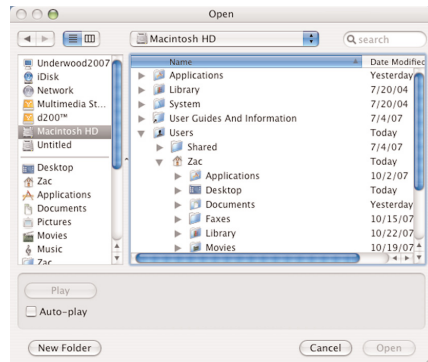
Choosing Playlist Document (Shift-⌘-P) creates a new Playlist document.

Document From Playlist

Choosing Document From Playlist (Shift-⌘-B) creates a new audio document from an open Playlist document.

Open

The Open command (⌘-O) allows you to locate and open an audio document. Peak can open audio documents in a variety of formats including AIFF, Sound Designer II, WAVE, QuickTime, Raw, System 7 Sound, Sonic AIFF, Paris, Jam Image, AU, MP2, MP3, MP4, and FLAC.



The Open Dialog

Close

The Close command (⌘-W) closes the currently active Peak audio document. If you haven't saved changes, Peak will prompt you to do so before it closes the document. If you have many documents open and don't wish to save any of the changes you've made, Option-click on the prompt dialog's Don't Save button.

Close All

The Close All command (Option-⌘-W) closes all open Peak audio documents. If you haven't saved changes, Peak will prompt you to do so before it closes the documents. If you don't wish to save any of the changes you've made, Option-click on the prompt dialog's Don't Save button.

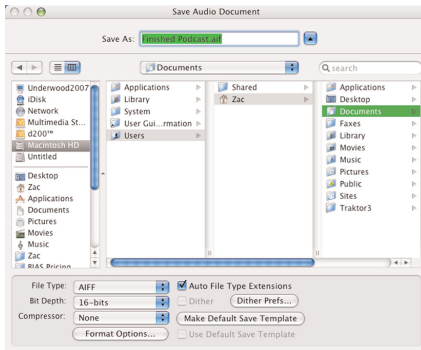
Save

The Save command (⌘-S) saves the current audio document. Peak can save audio documents in a wide variety of audio file formats. For more information on supported file formats, please see Chapter 3: Peak Basics.

Save As

The Save As (Shift-⌘-S) command allows you to save a copy of the current audio document under a different name, in a different location on your hard drive, or in a different audio

file format. The saved copy will become the active open audio document. You can save the document with a variety of audio compression schemes. For detailed instructions on using this feature, see Chapter 3: Peak Basics.



The Save As dialog

Save A Copy As

The Save A Copy As command (Option-⌘-S) allows you to save a copy of the currently active open audio document under a different name without replacing the active open audio document.

Import CD Track

The Import CD Track command allows you to import tracks from an audio CD. CD tracks imported to Peak will be saved as AIFF files. For more detail on importing CD audio with Peak, see Chapter 4: Playback & Recording.



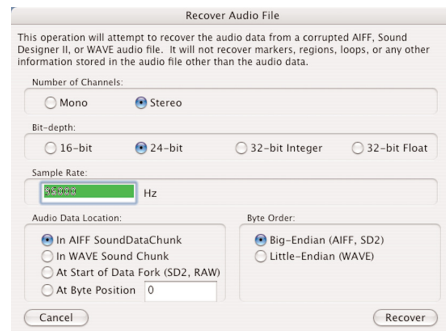
Import CD Audio dialog

Import Dual Mono

The Import Dual Mono command lets you import two mono files and create an interleaved stereo file. Certain audio applications, such as Pro Tools, use “dual mono”, rather than stereo interleaved files. Peak allows you to open such dual mono files, and in the process creates a new stereo audio document. Because Peak actually writes a new stereo audio file to disk, this conversion process requires hard disk space equivalent to the two original mono files. For more information on opening dual mono files, see Chapter 3: Peak Basics.

Recover Audio File

The Recover Audio File command allows you to open a damaged audio file, and attempt to recover the audio data contained in it. This tool extracts audio data only, and ignores all other information contained in the file’s header, such as information about loop points, regular markers, Region markers, etc.



Recover Audio File dialog

When audio data is successfully recovered, it is placed into a new audio document and must be saved. For more information on working with the Recover Audio File command, please see Chapter 3: Peak Basics.



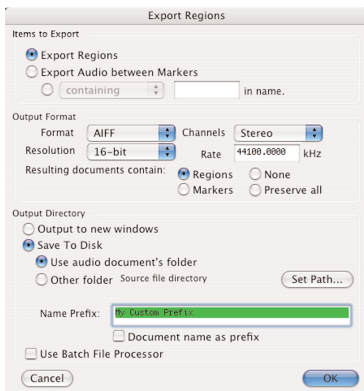
Recover Audio File is not available in Peak LE.

Export Dual Mono

The Export Dual Mono command allows you to save a stereo audio document as separate mono digital audio documents. This feature is convenient if you intend to use the audio document in a multitrack audio application, such as Pro Tools, which does not directly support stereo audio files. When you choose this command Peak will prompt you to name both the left and right sides with a Save dialog.

Export Regions

If you have placed markers or Regions in an audio document, Peak's Export Regions command allows you to save each of these Regions as a separate audio document.



The Export Regions dialog

This feature is very convenient if you wish to divide a larger file into Regions and transfer them as samples into a sample playback instrument, or divide a live concert record into Regions and export those Regions as separate files. Furthermore, you can use Peak's Batch File Processor to process a file's Regions with any of

Peak's DSP functions and third party plug-ins during the automatic exporting of Regions into new files. For more information on exporting Regions, see Chapter 5: Editing.



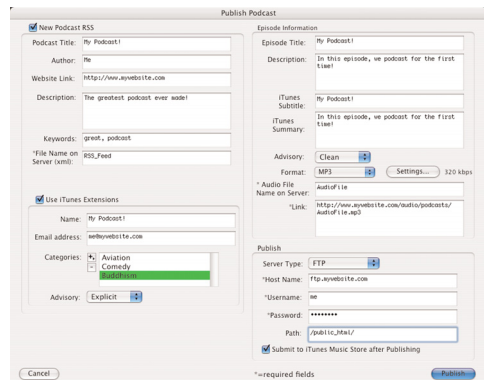
Export Regions is not available in Peak LE. However, Regions may be dragged from the Contents Window to the Finder as discrete files.

Export as Text

If you wish to keep a text record of your Playlist, you may export the Playlist into a new text document. The text document will show names, times, crossfade times, and gain levels of each Playlist Event.

Publish Podcast

Choosing the Publish Podcast command publishes the foreground audio document locally, or to a .Mac or FTP server. The Publish Podcast dialog provides fields for entering information used to create an RSS syndication file, options for encoding an MP3 or AAC audio file, as well as information for submitting and publicizing your podcast via the iTunes Music Store's Podcast directory. For detailed information about publishing podcasts with Peak, please see Chapter 7: Podcasting.



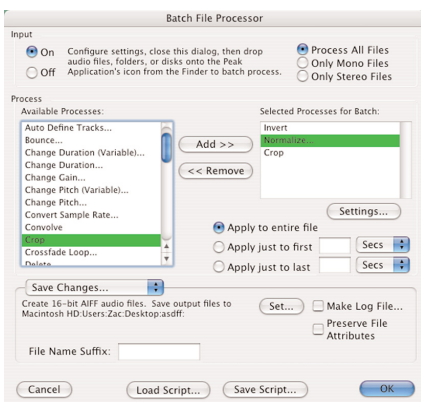
The Publish Podcast dialog

Send to iTunes

Choosing the Send to iTunes command sends the foreground audio document directly to your iTunes library. If the document you're working with in Peak contains regions, Peak gives you the option to create an iTunes playlist, with each region listed as a track within that playlist. For more information on using the Send to iTunes feature, please see Chapter 5: Editing.

Batch Processor

Peak's Batch File Processor is one of the most powerful, versatile, and useful features in Peak. Using the Batch File Processor, you can integrate any series of Peak processes (called a batch script), and apply these scripts to any number of audio files.



Batch File Processor

To use Batch File Processing, go to the File menu and select Batch Processing. The Batch File Processor dialog appears.

Peak's Batch File Processor is split into three areas: Input, Process, and Output. Sequence a series of steps for Peak to execute in the Process section, then set your output file settings in the Output area. Once Peak's Batch File Processor is configured, you may turn on the Batch File Processor in the Input area.

Once the Batch File Processor is configured and turned on, any files you drop onto the Peak application's icon (or an alias) will be batch processed according to your settings. You can even drop folders or disks onto Peak's icon and all of the supported audio contents will be batch processed. You can continue dropping files, folder, or disks, onto the Peak icon for batch processing while the Batch File Processor is turned on. All subfolders or disks you drag onto the Peak application for Batch File Processing will be recreated in the Batch File Processor's output directory, preserving all organization of your files. Audio documents opened using the Open command from the File menu will not be batch processed. More information on batch processing with Peak appears in Chapter 10: Batch File Processor and Apple Events.



Batch File Processor is not available in Peak LE.

Burn Audio CD

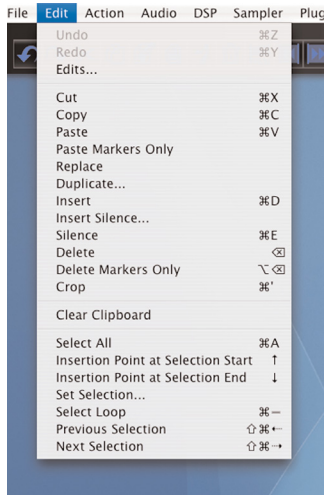
Choosing the Burn Audio CD will burn the foreground audio document as an audio CD. If Regions are contained in the document, Peak will prompt you as to whether these should be used to designate different tracks on the finished audio CD.

Recently Opened Documents

Peak automatically remembers the last several audio documents or Playlists that you have opened and keeps a list of these at the bottom of the File menu. This allows you to easily select a document's name and reopen it without having to search for it on your hard drive. Peak can also find and open a document even if you have changed its location on your hard drive. And if you change the name of the file, the next time you open Peak, Peak will automatically update the name in its internal list.

Edit Menu

This menu contains all of the standard Mac commands for cutting, copying, and pasting, as well as several other commands specific to Peak.



Undo

The Undo command (⌘-Z) undoes the last action that you performed. Since Peak features unlimited undo and redo capability, repeatedly choosing this command will undo each action that you have performed on your audio document. If you wish, you can continue undoing actions until you return to the original state of the audio document. When there are no actions left to undo, the Undo command will be unavailable and appear grayed out.

Redo

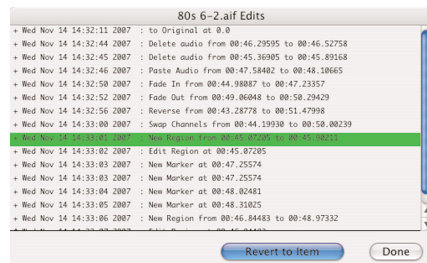
The Redo command (⌘-Y) “undoes” the undo command. If you wish, you can continue redoing actions until there are no items left to redo. In this case, the Redo command will be unavailable and appear grayed out. The only limitation in using the Redo command is that if you insert a new action when a redo action is

available, you will no longer be able to redo. In other words, as soon as you perform an editing action other than Undo, Redo is no longer available.

Edits

The Edits command provides you with a second unique and powerful “unlimited undo” feature. You can think of the Edits command as a kind of “random access” undo with a list of all your editing actions since you last saved. Using this list, you can navigate back in time to the point at which you performed a particular edit, and if you wish, undo it. Once you have returned to an earlier state in the project, you are free to start editing from that point on, if you wish.

Be aware that if you do go back to a past action and perform a different action at that state in the project, any edits that originally followed will be gone and you won't be able to redo them.



The Edits dialog

Cut

The Cut command (⌘-X) cuts selected data from an audio document and copies it to Peak's Clipboard. Once you have cut a portion of an audio document, you can paste it or insert it at another location in the same document or a different document.

Copy

The Copy command (⌘-C) copies selected audio into Peak's Clipboard. Once you have copied a portion of an

audio document, you can paste it or insert it at another location in the same document or a different document.

Paste

The Paste command (⌘-V) allows you to paste the contents of the Clipboard into a location that you choose by placing an insertion point. Pasting audio deletes any selected audio and inserts the clipboard audio at the insertion point.

Paste Markers Only

The Paste Markers Only command allows you to paste the markers contained in a copied selection into a location that you choose by placing an insertion point. This feature is particularly useful for pasting markers set at specific times into another audio document, much like using a template.

Replace

The Replace command allows you to paste audio from Peak's Clipboard over existing audio, without pushing all data to the right of the insertion point farther to the right (later in time) to accommodate the newly pasted audio.

Duplicate

The Duplicate command has a number of different behaviors, depending on whether you are working in an audio document or in a Playlist. More information about this command is available in Chapters 5 & 6.

If no selection is made when this command is invoked, the Duplicate command allows you to paste multiple copies of audio data into an audio document without overwriting any existing data at the insertion point. When you paste data with the Duplicate command, all data to the right of the insertion point or selection start is pushed farther to the right (later in time) to accommodate the newly pasted audio. The Duplicate command allows you to specify how many times you

would like to Duplicate the audio data contained in the clipboard. The Duplicate command is very useful for creating longer audio documents that need to repeat a certain piece of audio, such as creating a 4 bar drum loop out of a 1 bar drum loop.

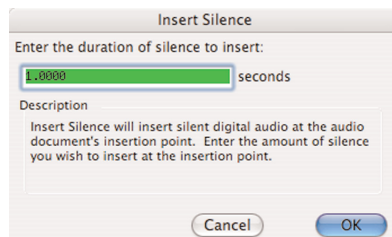
If there is a selection in the waveform when the Duplicate command is invoked, then Peak automatically fills the selection with the Clipboard contents. Peak determines how many times the Clipboard contents must be duplicated in order to fill the selection. If the selection is not evenly divisible by the duration of the Clipboard contents, Peak includes a fraction of the Clipboard contents to make the duplication completely sample accurate to the original selection.

Insert

The Insert command (⌘-D) allows you to paste audio into an audio document without overwriting any existing data at the insertion point. When you paste data with the Insert command, all audio to the right of the insertion point or selection start is pushed farther to the right (later in time) to accommodate the newly pasted audio.

Insert Silence

The Insert Silence command allows you to insert a specific amount of silence into an audio document at the current insertion point. When you choose this command, Peak will prompt you to enter the amount of silence you wish to insert. You can enter this value in Samples, Milliseconds, or Seconds. All audio occurring after the insertion point is moved later in time by the amount of the silence that you insert.



The Insertion dialog

Silence

The Silence command (**⌘-E**) replaces the selected audio in the audio document's selection with silence.

Delete

The Delete command (the Delete key) allows you to cut an audio selection without transferring it to the Clipboard.

Delete Markers Only

The Delete Markers Only command (Option-Delete) allows you to easily remove all markers, Region markers and loops in the current audio document selection without removing the audio.

Crop

The Crop command (**⌘-`**) allows you to remove all other audio from the audio document except the selection.

Clear Clipboard

Peak utilizes a portion of your hard disk's free space to hold audio that has been cut or copied. The Clear Clipboard command allows you to free up disk space occupied by the contents of the clipboard if you no longer need the audio contained there.

Select All

The Select All command (**⌘-A**) selects all audio in the audio document.

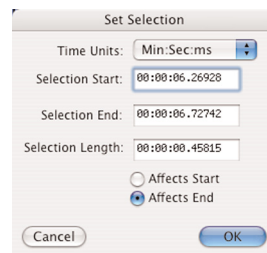
Insertion Point at Selection Start/End

The Insertion Point at Selection Start command (Up Arrow) places the insertion point at the beginning of a selection. The Insertion Point at Selection End

command (Down Arrow) places the insertion point at the end of a selection.

Set Selection

The Set Selection command allows you to precisely edit the length, start and end times of an audio selection by entering numerical values in the Set Selection dialog. Use the Time Units pop-up menu at the top of the dialog to select the time units you want, and use the radio buttons to select whether you want to affect the Start or End of the selection.



The Set Selection dialog

Select Loop

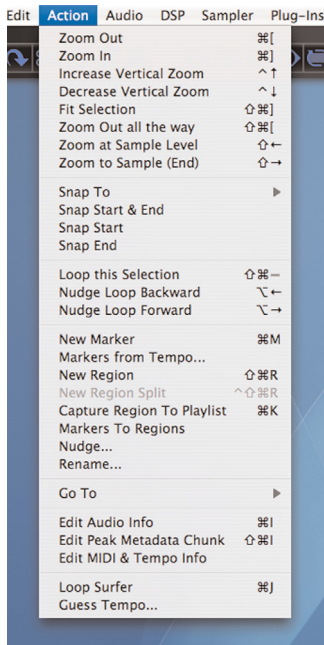
The Select Loop command (**⌘-L**) will automatically select the audio within the loop start and loop end markers, if you have defined a loop in a document.

Previous Selection/Next Selection

If you have made a selection in an audio document, then made another selection, you can use Previous Selection (**⌘-Shift-Left Arrow**) to jump back to the previous selection. You can then use Next Selection (**⌘-Shift-Right Arrow**) to jump ahead again. This works for multiple selections.

Action Menu

This menu provides several commands for zooming in and out of the audio document window, creating loops, markers and Regions, and navigating to specific locations in an audio document.



Zoom Out

The Zoom Out command (⌘-) zooms the waveform view out allowing you to see more of the entire waveform, but in less detail. The Zoom Out command is useful for obtaining a better “big picture” view of audio material. To zoom progressively out from a waveform, select this command repeatedly or press ⌘- repeatedly on your computer keyboard.

Zoom In

The Zoom In command (⌘=) zooms the waveform view in so that you can view audio data in greater detail. The Zoom In command is essential when you

wish to select and edit audio with great precision. To view a waveform in progressively greater detail, select this command repeatedly or press ⌘= repeatedly on your computer keyboard. Holding down the Option key while you make a selection will zoom the waveform view in so that your selection fills the audio document window after you release the mouse button.

Increase Vertical Zoom

The Increase Vertical Zoom command (Control-Up Arrow) makes the waveform “taller,” or increases the vertical zoom. The Increase Vertical Zoom command is useful for obtaining a better “big picture” view of quieter audio material.

Decrease Vertical Zoom

The Decrease Vertical Zoom command (Control-Down Arrow) makes the waveform “shorter,” or decreases the vertical zoom.

Fit Selection

The Fit Selection command (Shift- ⌘-) will zoom the view so that your selection fills the audio document window.

Zoom Out All the Way

The Zoom Out all the way command (Shift- ⌘-) zooms the audio document window to show an overview of the entire audio document.

Zoom at Sample Level

The Zoom at Sample Level command (Shift-Left Arrow) zooms the audio document window to the single-cycle level, allowing you to view the waveform a single sample at a time. This is useful for drawing on the sample with a pencil tool, or fine-tuning loops and markers.

Zoom at Sample Level (End)

The Zoom at Sample Level (End) command (Shift-Right Arrow) zooms the audio document window to the single-cycle level and places the insertion point at the end of the audio selection.

Snap To

This command will cause new selections in the audio waveform to move, or “snap” to the nearest selected Snap To unit. The Snap To units available are listed below:

- Zero Crossings
- Bars/Beats
- CD Frames (588 samples or multiple thereof)
- Sony PS2 Loop Boundaries (28 samples or multiple thereof)
- Microsoft Xbox Loop Boundaries (64 samples or multiple thereof)
- Custom Units (allow entry of a user-definable number of samples)

The Snap To units you choose will depend on the type of editing work you will be doing. Most users will probably use Zero Crossings or Bars/Beats for most musical applications. Multimedia and video game sound designers will especially appreciate these new options when producing audio for a particular delivery platform. For example, when creating audio loops and sound effects for a Playstation 2 video game, audio edits need to be made at increments of 28 samples in order to loop/play back smoothly in the PS2's audio engine. By choosing the Snap To PS2 loop boundary setting, any edits that are made will automatically be made in units that will translate smoothly to the PS2's playback system.

Snap Start & End

This command adjusts the beginning and end of the current selection to the nearest selected Snap To unit.

Snap Start

This command will cause the beginning of the current selection to move to the nearest selected Snap To unit.

Snap End

This command will cause the end of the current selection to move to the nearest selected Snap To unit.

Loop This Selection

The Loop This Selection command (Shift-⌘-L) automatically creates a loop from the current selection by placing loop markers on either side of the selection. Since Peak supports a single loop per audio document, choosing this command in a document with a loop already defined will cause the loop markers to move to the current selection.

Nudge Loop Backward

The Nudge Loop Backward command (Option-Left Arrow) pushes, or “nudges,” the loop point backward. This allows you to fine-tune the loop.

Nudge Loop Forward

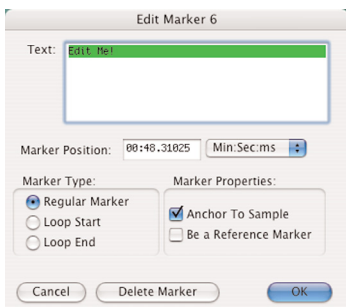
The Nudge Loop Forward command (Option-Right Arrow) pushes, or “nudges,” the loop point forward. This allows you to fine-tune the loop.

New Marker

The New Marker command (⌘-M) creates a new marker at the current insertion point in an audio document. Markers are locations in an audio document that you define as important. By marking specific locations in a recording, you can navigate easily to a location for selection, editing or playback purposes.

Once you have defined a marker, you can assign or edit a number of its attributes with the Edit Marker dialog that

appears when you double-click the marker. This dialog and the attributes contained within are explained in Chapter 5: Editing.



The Edit Marker dialog

Markers from Tempo

The Markers from Tempo command will automatically create markers at regular intervals based on the tempo that is entered. To use Markers from Tempo, you will either need to know the tempo of the audio material you are working with, or you can use Peak's Guess Tempo feature to figure it out. Place Peak's insertion point in the waveform at the point you wish to have the first marker placed. Designate whether you prefer to have markers placed every Beat or Bar, and then indicate the duration for which you wish to have markers placed. Peak will place markers either for the duration of a selected range of audio, or you can enter a specific value. Click OK to create markers. Markers from Tempo is described in more detail in Chapter 5: Editing.



When working with audio material with a pronounced beat, it's best to place the insertion point just before a downbeat. This ensures that all following markers will also be placed just before beats for the duration you choose.

New Region

The New Region command (Shift-⌘-R) defines a selection as a new Region and adds it to the Regions menu. Locate a Region by double-clicking the name of a Region in the Contents Window. The audio document will automatically scroll to display the selected Region, and the Region will become the current selection in the audio document. For more detail on Regions in Peak, see Chapter 5: Editing, and Chapter 6: Playlists & CD Burning.

New Region Split

The New Region Split command will subdivide an existing Region or audio document into two separate, back-to-back sections, one on either side of the insertion point. To use this feature, simply place the insertion point cursor within an existing Region or audio document, and choose the New Region Split command from the Action menu – the existing Region or document is split into two sections at the point where the insertion point was placed.

Capture Region to Playlist

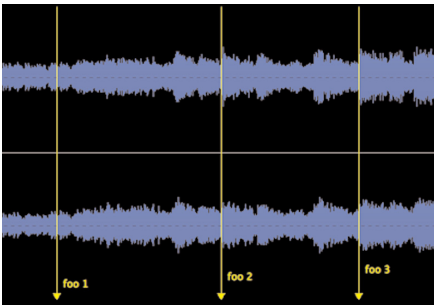
The Capture Region to Playlist command (⌘-K) will create a Region based on a selection made in an audio document and automatically enter it into a Playlist. This feature is very useful when you need to quickly create Regions that will also be used immediately in a Playlist.

Markers to Regions

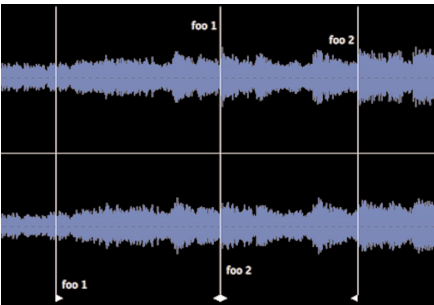
The Markers to Regions command will convert any markers in a selection to Regions. If you make a selection containing two markers, they will be converted to one Region with the name of the first marker. If you make a selection containing three or more markers, the markers will be converted to contiguous, butt-spliced Regions. For example, if you have three markers named "Foo 1", "Foo 2", and "Foo 3"

and select them and apply Markers to Regions, the resulting two Regions will be named “Foo 1” and “Foo 2”-wherein the first marker has become the begin Region marker of Region “Foo 1”, the second marker has become the end Region marker of Region “Foo 1” and the begin Region marker of “Foo 2”, and the third marker has become the end Region marker of Region “Foo 2”.

Alternatively, hold the Option key down when selecting the Markers To Regions command to make each marker a Region that ends at the next marker.



Three Markers named “Foo”

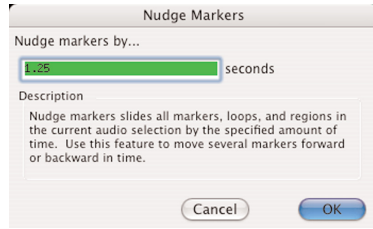


Two Regions named “Foo”

Nudge

The Nudge command allows you to nudge all marker, loops and Regions in the current audio document selection by the number of seconds entered in the Nudge Markers dialog. Type either positive or

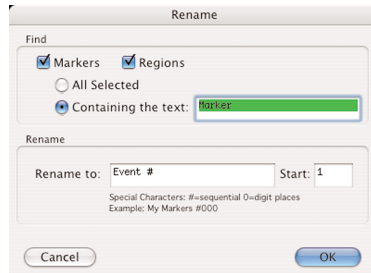
negative numbers, and Peak nudges the marker by the value you entered in the dialog.



The Nudge dialog

Rename

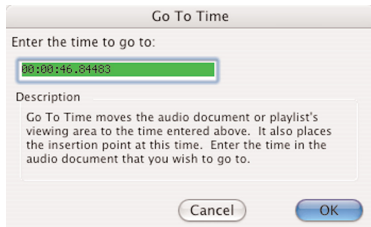
The Rename dialog allows you to rename multiple markers and/or region markers using a custom naming conventions. More information about renaming markers and regions appears in Chapter 5: Editing.



The Rename dialog

Go To

The Go To command (⌘-G) allows you to quickly and precisely navigate to the start or end of a selection, the start or end of a loop, a specific marker, or a specific time location in an audio document. This command is essential for speedily locating any of these important locations in an audio document. Choosing the Go To Time command allows you to enter the exact time location that you wish to navigate to. In addition, the Location submenu lists all markers, Regions and loops.



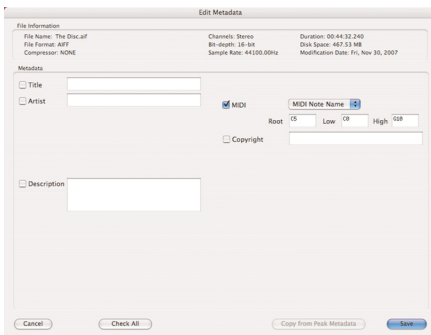
The Go To Time dialog

Edit Audio Info

The Edit Audio Info command opens the Edit Metadata dialog.

The Edit Metadata dialog allows editing metadata specific to the file format you are working with.

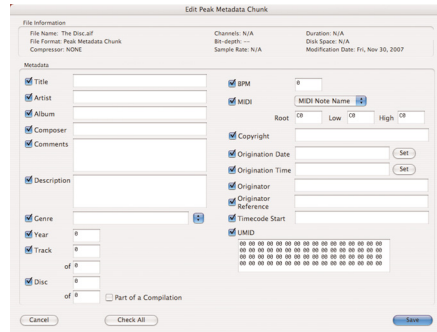
As different file types support different types of metadata, you may see different fields, for example, the available fields for an MP3 file will be different than the available fields for a WAVE file.




The Edit Metadata Dialog

Edit Peak Metadata Chunk

The Edit Peak Metadata Chunk dialog contains all of the supported metadata fields for all of the file formats in which Peak supports metadata. These formats include MP3, FLAC, AIFF, and WAVE. This dialog acts as a bridge between file formats, and once metadata is entered into the Peak Metadata Chunk dialog, it may be easily applied to any of the aforementioned file formats.

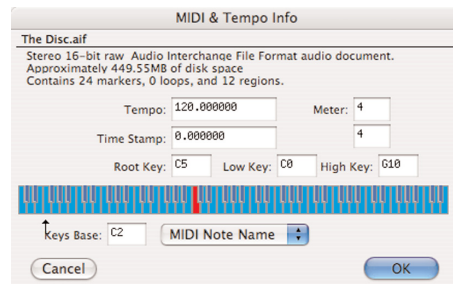


The Edit Peak Metadata Chunk dialog

 *More information about editing metadata is available in Chapter 5: Editing.*

Edit MIDI & Tempo Info

The Edit MIDI & Tempo Info dialog allows you to specify the tempo, meter, and timestamp for an audio document, as well as the root, low, and high key parameters, and the MIDI Note Name (for use in sample playback instruments).



12


If your audio document is using Bars | Beats as its Time Unit, you will want to tell Peak what the tempo of the audio document is, so the document's timeline can be set appropriately. Use the Edit MIDI & Tempo Info command from the Action menu to set the tempo of the audio document.

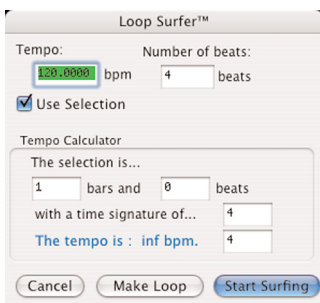
You can enter the meter of an audio document using the Edit MIDI & Tempo Info dialog. The numerator represents

the number of beats per measure, and the denominator represents the value of a beat, where 4=quarter note, 8=eighth note, 16=sixteenth note, and so forth.

You may also enter a timestamp for the audio document in seconds. If the audio document has a timestamp, then the displayed time in an audio document will be offset from this time rather than starting at zero. For example, if the timestamp for an audio document is four seconds, then the first sample in the audio document will appear in the audio document with a time of 4 seconds instead of zero seconds.

Loop Surfer

Peak's Loop Surfer feature () automates some of the steps for setting up loop points. Loop Surfer allows you to “Loop Surf” (adjust your loops during playback) quickly, easily and in a musically intuitive manner.



The Loop Surfer dialog

If you're working with music, and know the music's tempo in beats per minute, you can use Loop Surfer to create a loop which lasts for a rhythmically “correct” length of time. For more detail regarding Loop Surfer, see Chapter 5: Editing.



Loop Surfer is not available in Peak LE.

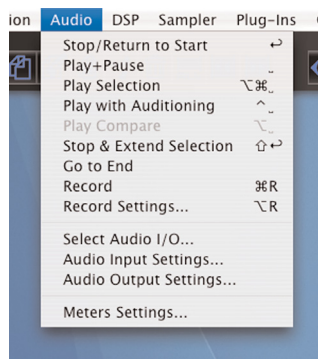
Guess Tempo

If you are working with music and don't know the tempo and your music has a relatively pronounced or obvious beat you

can use the Guess Tempo command to have Peak automatically guess the tempo of a selection. Make a selection and choose Guess Tempo from the Action menu. There will be a pause while Peak scans your selection and calculates the tempo for you. A dialog will then appear showing you the estimated tempo in BPM, or beats per minute. You can then enter the estimated tempo in BPM in the Loop Surfer dialog's Tempo field or in the Audio Information dialog's Tempo field or press the Loop It button to create a loop at the current insertion point with the detected BPM.

Audio Menu

The Audio menu contains commands for playing back and recording audio, as well as configuring Peak's Recording Settings, your audio hardware, and Peak's Meters.



Stop/Return to Start

The Stop/Return to Start command (Return) stops playback and places the insertion point at the beginning of the audio document.

Play+Pause

The Play+Pause command (Spacebar) starts playback of the audio file from the insertion point or pauses playback.

Play Selection

The Play Selection command plays only the selected portion of an audio document.

Play with Auditioning

The Play with Auditioning command (Control-Spacebar) plays the selected portion of an audio document with pre-roll and post-roll. The pre-roll and post-roll times are designated in the Auditioning dialog under the Preference menu.

Stop & Extend Selection

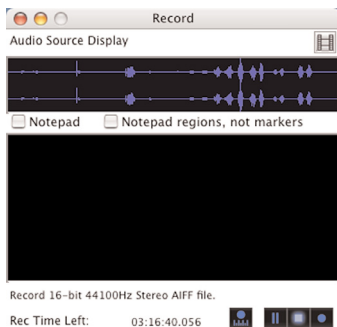
The Stop & Extend Selection command stops playback and extends any selection from the point at which playback was initiated. The Stop & Extend Selection command can also be used to start playback from the insertion point or selection start.

Go to End

The Go to End command places the insertion point at the end of the audio document.

Record

The Record command (⌘-R) opens the Record window. This window allows you to start and monitor recording.



The Record dialog

When you select Record from the Audio menu (⌘-R), Transport, or Toolbar, the Record dialog appears. There are transport buttons-Record Settings, Pause, Stop, and Record-along the bottom, an Audio Source display that shows you the waveform as it is being recorded, and a Notepad window. The sample rate, bit depth, and number of channels you selected in the Record Settings dialog are also displayed, along with the amount of time you have available to record on the selected Record Disk with the recording settings you have chosen.

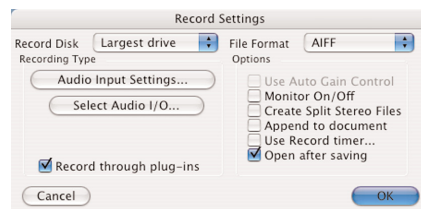
The Notepad feature in the Record Dialog allows you to type in text descriptions, transcribe a recording, or type in comments called Notepad Cues at specific points during the recording of an audio document. The Notepad feature is available from the Record dialog and may be used once a recording starts.



Notepad Cues are not available in Peak LE.

Record Settings

When you select Record Settings (Option-R) from the Audio menu or Toolbar, the Record Settings dialog appears. This dialog is used to configure your settings for recording with Peak.



The Record Settings dialog

You will notice several pop-up menus, buttons, and checkboxes in the Record Settings dialog. These allow you to select which hard drive to record to, what file format you'd like to record in, sampling rate, source input, and so on. The next few paragraphs describe how to set all of these parameters using the Record Settings dialog. More information about recording is available in Chapter 4.

Record Disk

The Record Disk pop-up menu allows you to choose which hard drive you would like to record to. If you have more than one hard drive connected to your Mac, use this pop-up to select your record drive. (This option will default to the largest drive currently available to your Mac unless you select otherwise.)

File Format

The File Format pop-up menu allows you to select the file format for the incoming audio. You can choose from AIFF or Sound Designer II. (If you need the newly recorded audio file to be in a different format, use the Save As function to save it as a another format once recording is complete.) If you do not select a file format for recording, Peak will default to AIFF.

Monitor checkbox

The Monitor checkbox allows you to monitor the audio source while you are recording.

Split Stereo Files checkbox

The Split Stereo Files checkbox allows you to record the incoming stereo audio as dual mono files rather than a single stereo file. Dual mono files are used in programs like Digital Performer or Pro Tools so this option is useful if you need to record dual mono files (i.e., split stereo).

Append to document checkbox

The Append to document checkbox allows you to record into an existing audio document. To record into an existing audio document, place the insertion point in the existing audio document at the point where you want to insert the new audio. If the insertion point is at the beginning of the file, the

newly recorded audio will be inserted at the beginning of the file. If the insertion point is at the end of the file, the newly recorded audio will be appended to the end of the existing file. If the insertion point is somewhere in the middle of the file, the newly recorded audio will be inserted at that point. If you make a selection, the Append to document feature will allow you to replace the selection with newly recorded audio from the beginning of the selection through the end of the selection or wherever you stop the recording.

Record timer checkbox

The Record timer checkbox allows you to designate a specific duration for recording. Peak will stop recording after this set time and bring up the Save dialog for your audio recording. Checking the Record timer checkbox will bring up the Recording Time dialog. In the Recording Time dialog, designate the duration for recording in seconds and click OK.



The Recording Time dialog

Open after saving checkbox

The Open after saving checkbox determines whether the audio document is opened in Peak after it is recorded.

Audio Input Settings Button

Clicking on the Audio Input Settings button will opens the Audio Input Settings dialog, where you can specify the recording format to be used.

Select Audio I/O Button

Clicking the Select Audio I/O button in the Record Settings dialog brings up the Select Audio I/O dialog. Note that in many instances there may be no settings for a given device (including the Apple Built-In Sound!). Some sound card's drivers have control panels or utility applications that will launch when you click on the Select Audio I/O button. The actual third-party dialog will differ depending on the type of audio hardware you have.

Record Through Plug-Ins checkbox

If you have plug-ins installed, you can record through them in real-time. This is useful if you want to use a noise reduction, equalizing, or dynamics plug-in during recording.

For complete instructions on recording audio in Peak, please see Chapter 4.

Select Audio I/O

The Select Audio I/O command brings up the Select Audio I/O dialog. The Select Audio I/O dialog is used to select the audio hardware you would like to use for audio input and output.

Audio Input Settings

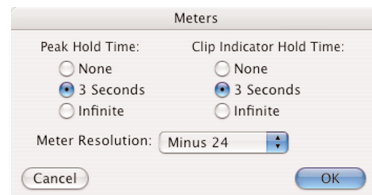
The Audio Input Settings dialog is used to specify which channels of a multichannel audio interface should be used for recording. In addition, you can select a specific sample rate and recording format (i.e., number of channels and bit depth).

Audio Output Settings

The Audio Output Settings dialog allows you to specify output related settings, such as Clock Source, Sample Rate, which channels of a multichannel audio interface to play audio through, as well as Sample Rate Converter quality (for use with Tape-Style Scrubbing).

Meters Settings

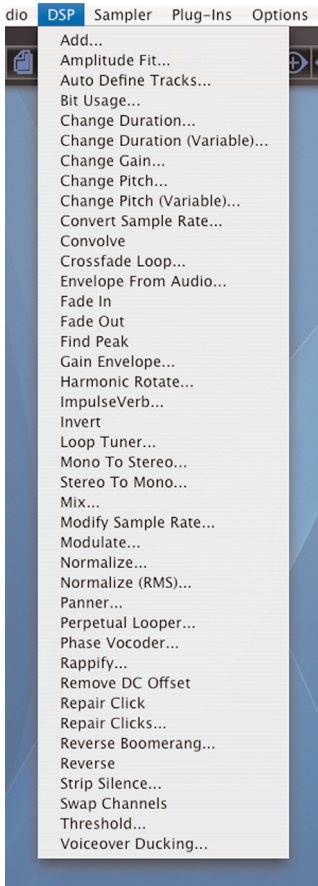
The Meters Settings command opens the Meters dialog, which allows you to configure the Meters display. Using the Meters dialog, you can select the Peak Hold time, Clip Indicator Hold Time, and meter resolution. The Peak Hold indicators appear as yellow bars at the far right of each of the bar graphs, and selecting a hold time causes the indicator to pause for easy reading of the peak value during playback. The Clip Indicators appear as red bars at the far right of each of the bar graphs, and are triggered when audio distorts, or “clips”, and selecting a hold time causes the indicator to pause for easy reading of any clipping or distortion that occurs during playback. Setting the Peak Hold and Clip Indicator Hold Times to None turns these features off.



The Meters dialog

DSP Menu

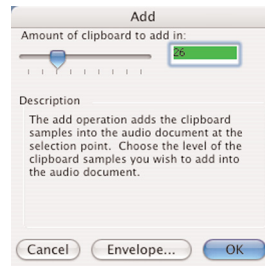
This menu contains Peak's DSP-based audio processing and advanced editing tools. A complete description of Peak's DSP functions and instructions on how to use them are given in Chapter 8: DSP.



Add

The Add command adds any selection of audio copied to the clipboard into the audio document at the selection point. To use the Add command, you must first copy a selection of audio. The copied material can then be mixed into the target audio material. To add copied material with a variable level, click the envelope button, create the desired envelope, and then click the Change button, and

then click the Add button. Be careful not to adjust too high an amount which can potentially clip the signal.



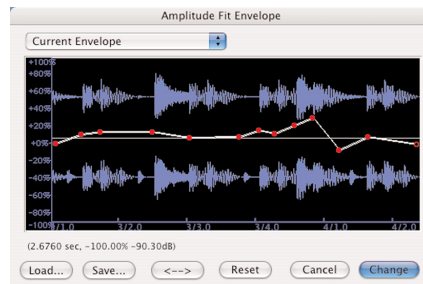
The Add dialog



Add is not available in Peak LE.

Amplitude Fit

Amplitude Fit provides granular normalization of an audio selection on a grain-by-grain basis. Grains are small groups of samples, often around 30ms. As each grain is read in, it is normalized according to the Amplitude Fit Envelope—each normalized grain crossfaded with the previous grain and written out as the result. Amplitude Fit can be used to maximize the volume level of an audio selection, or to make quiet passages as loud as louder passages.



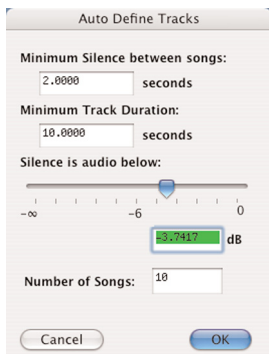
The Amplitude Fit Envelope editor



Amplitude Fit is not available in Peak LE.

Auto Define Tracks

The Auto Define Tracks tool allows you to automatically split audio recordings into separate Regions, each of which will become an individual CD track when an audio CD is burned. This tool is useful for quickly editing LP and cassette recordings, in preparation for burning them to CD.



Auto Define Tracks

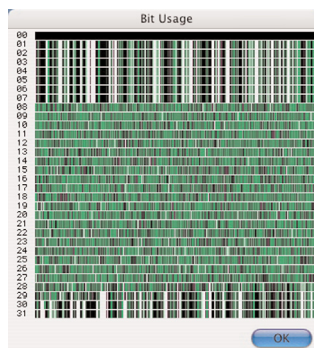
This DSP tool works by automatically placing Region markers into an audio document based on audio level, minimum period of silence between songs, and minimum song duration. Peak analyzes the audio levels throughout a document, and places Region markers around each song. The louder parts are considered to be songs, and the quieter parts are the gaps between them.

Since some songs may contain very quiet parts that could mistakenly be interpreted as gaps between tracks, a few parameters are available to help Peak correctly distinguish between songs and the gaps between them. More information about Auto Define Tracks is available in Chapter 8: DSP.

Bit Usage

The small rectangles that make up the graph appear in different shades of black, white, and green. These represent the level of bit usage over the selected amount of time. Darker shades equate to more bit usage, while lighter shades indicate less bit usage. Each rectangle represents many samples, and the shading corresponds to the audio waveform. The primary purpose of this

display is to show whether the audio content has been degraded by processing that has been applied to the file.



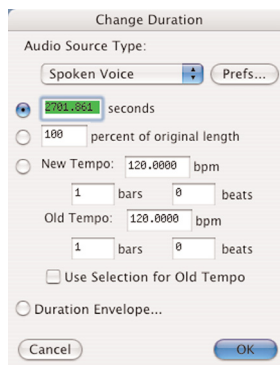
The Bit Usage Meter



Bit Usage is not available in Peak LE.

Change Duration

The Change Duration command allows you to slow down or speed up the selected material by a specified amount without changing its pitch.



The Change Duration dialog

You can specify the change in duration by a value in seconds, a percentage of the original, or, for rhythmically-

oriented material, beats per minute. A change in duration by a reasonable amount, about 85% to 115%, can be very convincing. Exaggerated time stretching, 200% or more, can result in some very interesting granular textures.

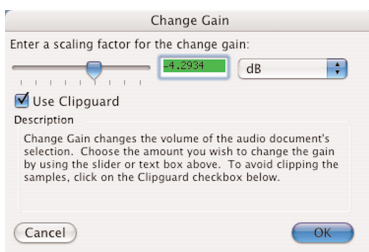
Try experimenting with the Change Duration function on drums, rhythm loops, speech, sampled instruments or sound effects to achieve a wide variety of useful effects.

Change Duration (Variable)

Variable Change Duration allows the selected portion of an audio document to have its duration modified dynamically over time, using Peak's familiar envelope editor dialog.

Change Gain

The Change Gain function changes the gain (i.e., amplitude) of a selection. You can specify the amount of gain change either in decibels (dB) or as a percentage. If you wish to double the volume of a sound, you must apply approximately 6 dB of gain change, or add 200%. Enable the Clippingguard checkbox in the Change Gain dialog to protect against the possibility of clipping. Clippingguard will search through the audio document or selection for the maximum peak in amplitude, and then limit the Change Gain slider's range based on the maximum peak it finds in the audio document or selection.

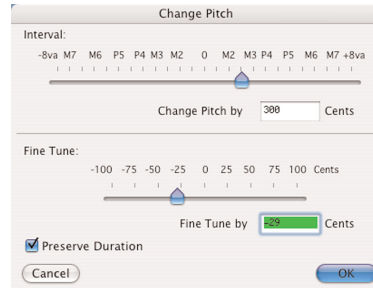


The Change Gain dialog

Change Pitch

The Change Pitch function allows you to alter the pitch of an audio selection by as much as an octave. The Change Pitch dialog uses a slider that allows you to choose a new pitch by musical interval, and “fine tune” the pitch change

by smaller increments called “cents.” (Cents are divisions of a musical octave—one octave is equivalent to 1200 cents—thus, 100 cents is a semi-tone, 50 cents a quarter-tone, etc.) You can also choose to alter the length, or duration, of the selection just as you would by slowing down or speeding up analog tape, or you can choose to preserve the duration of the selection (something not possible with analog tape!).



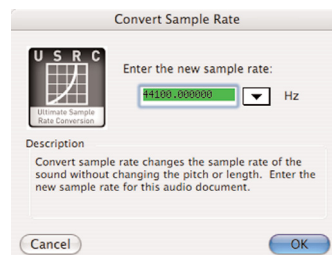
The Change Pitch dialog

Change Pitch (Variable)

The Variable Change Pitch function feature allows the selected portion of an audio document to have its pitch modified dynamically over time, using Peak's familiar envelope editor dialog.

Convert Sample Rate

The Convert Sample Rate command allows you to change the sample rate of a sound without changing its pitch. This feature is very useful for converting audio material into lower or higher sample rates as required by other applications. Please note that sample rate conversion is applied to an entire document. It cannot be applied to just a selection within a document. Refer to Chapters 3 and 4 for an explanation of commonly used sample rates.



The Convert Sample Rate dialog



Peak LE is limited to a maximum sample rate of 96kHz



Crossfade Loop is not available in Peak LE.

Convolve

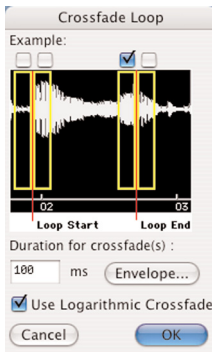
The Convolve command is a unique and powerful sound design tool that allows you to apply the sonic (e.g., spectral) characteristics of one sound onto another. Convolution works by multiplying the frequency spectrum of the impulse contained in the clipboard and that of the target audio document, reinforcing the frequencies that are in common between the two. To use the Convolve DSP command, you must first copy a selection of audio. The copied material will provide the spectral “character” that you will apply to the target audio material.



Convolve is not available in Peak LE.

Crossfade Loop

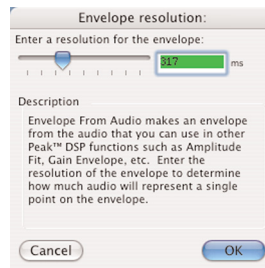
The Crossfade Loop function applies a “smoothing” effect to loops made in Peak audio documents. Crossfade Loop fades the end of the loop into the beginning of the loop to make the loop sound smoother. (It uses the Blending envelope you’ve set in Peak’s Preference menu’s Blending dialog.) Use the Crossfade Loop dialog to select the length of the crossfade in milliseconds.



The Crossfade Loop dialog

Envelope from Audio

The Envelope from Audio tool allows you to create an envelope from a selected portion of audio. For example, imagine a piece of music that has a specific type of fade out, and you would like to be able to apply that fade out “envelope” to other pieces of audio. By selecting the entire fade out, and then using the Envelope from Audio command, Peak is able to “reverse engineer” the fade out characteristics, and save them as an envelope that can later be recalled in any of Peak’s envelope based tools, such as Fade In/Out, Gain Envelope, etc. Once an envelope is saved, it is available for use in any of Peak’s DSP tools that are able to access the Peak Envelopes folder, stored in your Home directory’s Preferences folder. Other DSP tools that can access these envelopes include Fade In/Out, Blending, Panner, Gain Envelope, Amplitude Fit, and Plug-In Envelope.



Envelope from Audio

Envelopes of varying precision may be created with this tool. For a more precise envelope, where more points define the shape, enter a smaller value in milliseconds in the “ms” field (or use the slider). For a less precise (smoother) envelope – use a larger value.

Fade In & Fade Out

The Fade In and Fade Out commands allow you to apply an amplitude envelope to an audio selection. The Fade In and Fade Out DSP commands, and the Fade Envelope Editor dialog are described in detail in Chapter 5: Editing.

Find Peak

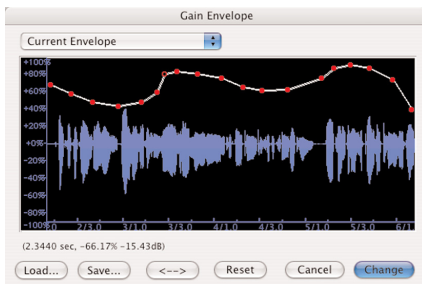
The Find Peak operation will place the insertion point at the sample with the maximum amplitude value that it locates in the audio selection.



Find Peak is not available in Peak LE.

Gain Envelope

The Gain Envelope operation allows you to enter an amplitude envelope to be applied to an audio selection. The selected audio's amplitude will be boosted and/or attenuated according to the envelope you draw in the Gain Envelope editor.

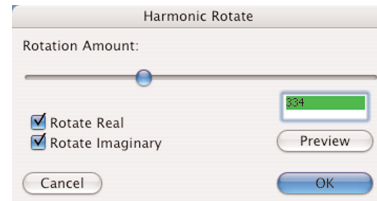


The Gain Envelope dialog

Harmonic Rotate

The Harmonic Rotate tool is excellent for sound design experimentation. This command allows the frequency spectrum in a selected range of audio to be rotated around a horizontal axis, which has the effect of taking frequencies that were previously associated with one

section of a file with a particular amplitude, and assigning them to different areas of audio with different amplitudes. The Harmonic Rotate command can be previewed in real time, so that desired setting can be found before spending time processing. Options for processing include checkboxes for using Real & Imaginary calculations, and a slider & text field to set amount of rotation.



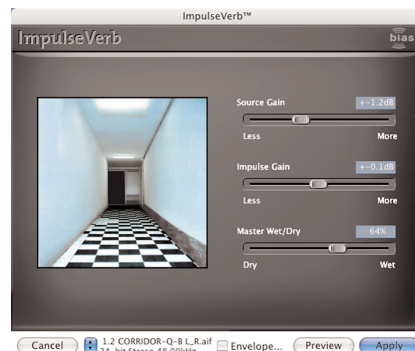
The Harmonic Rotate dialog



Harmonic Rotate is not available in Peak LE.

ImpulseVerb

ImpulseVerb™ is an extremely high-quality reverb processing tool, that utilizes actual reverb impulses recorded in real spaces, such as performance halls, cathedrals, caves, and other spaces that have various reverberation qualities.



The ImpulseVerb dialog

The same convolution technology that is used in Peak's Convolve DSP tool allows these natural reverb impulses to be applied to dry audio signals, giving the impression

that a file was actually recorded in a particular environment. ImpulseVerb offers real time preview, so that the ideal settings can be found before processing. In addition, ImpulseVerb offers an editable Space envelope, which controls reverb length and decay characteristics, and a Wet/Dry slider to control the amount of reverb being applied.



The ImpulseVerb dialog can also be used as a real time convolution tool, and is not limited to using impulse response files to create reverb effects. Any selection that is copied to the clipboard can be convolved with the selected range of audio. To add audio files to the Space pop-up menu within the ImpulseVerb dialog, simply save the desired file as a 24-bit Sound Designer II format file, and place into the Peak Impulses folder within:

/Mac HD/Users/Library/Preferences/



ImpulseVerb is not available in Peak LE!

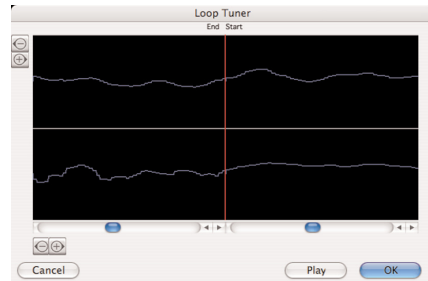
Invert

The Invert function allows you to invert the phase of a selection or an entire audio document.

Loop Tuner

Peak's Loop Tuner provides a way to visually line up the start and end points of your loop and listen to the effects of these adjustments as you make them. The waveform display in the Loop Tuner dialog shows the Start and End points of the loop, which you can visually adjust with the scroll bars at the bottom of the window to achieve a natural transition at the loop point by carefully adjusting the slope alignment. The arrows of the slider will move the loop markers sample by sample and clicking in the body of the slider will move the loop markers to the next zero crossing. The two zoom buttons (magnifying glass

icons) in the upper left of the Loop Tuner dialog allow you to adjust the vertical zoom up of the waveform. The two zoom buttons in the lower left hand corner of the Loop Tuner dialog allow you to adjust the zoom view in and out all the way down to the sample level. You can listen to the effects of the adjustments as you make them by clicking on the Play button.



The Loop Tuner dialog – showing a smooth transition between the loop's end and beginning.



Loop Tuner is not available in Peak LE.

Mono To Stereo/Stereo To Mono

These two DSP commands may be used to easily convert an audio document between one and two channel formats.



Mono to Stereo Conversion dialog



Mono To Stereo/Stereo To Mono is not available in Peak LE.



While automatic Mono To Stereo/Stereo To Mono conversion is not available in Peak LE, you can achieve the same end result manually, by selecting all in an open mono or stereo document, and then opening a new, empty document. If you copy an entire document, open a new empty document, and attempt to paste in the contents of the clipboard, Peak will detect if there is a different number of channels, and will prompt you to enter a Left/Right panning value, and will then allow you to paste in the clipboard contents.

Mix

The Mix command allows you to mix material that you have copied to the clipboard with a target selection. This function can be used as a kind of “sound-on-sound” capability for mixing audio tracks together, or for blending sound elements. The Mix command is similar to the Add command, but it does not have the potential to clip because the target and clipboard contents are attenuated before mixing. To use the Mix command, you must first copy a selection of audio. The copied material can then be mixed into the target audio material.

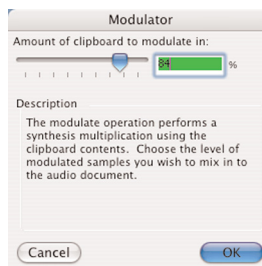


The Mix dialog

Modulate

This Modulate command functions as a “ring modulator” which multiplies two audio signals together (e.g., the material copied to the clipboard and the currently selected audio). The resulting audio includes the sum

and difference tones of the frequency components of the modulated audio and the modulating audio. These are generally very complex timbres that often have a “metallic” (i.e., inharmonic) character to them.



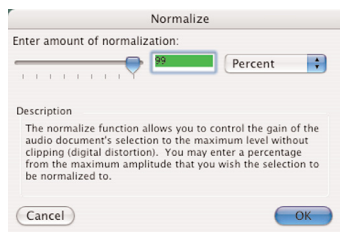
The Modulator dialog



Modulate is not available in Peak LE.

Normalize

This command allows you to optimize the volume of a selection or an entire audio document so that it is at its maximum possible amplitude without clipping. The normalize function is very useful for boosting the volume of material that was recorded at too low a level, or if used on multiple audio documents, for ensuring that the amplitude of each of the documents is uniform.

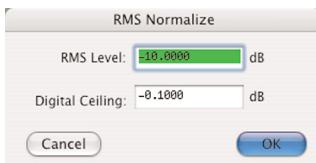


The Normalize dialog

Normalize (RMS)

This command allows volume optimization of a selection or an entire audio document, so that it is at its

maximum possible amplitude without clipping. RMS Normalization is based on the RMS (Root Mean Square), or “average” signal level of the selected portion of audio. The RMS value of a file cannot be increased to an arbitrarily high value, that is, if the desired RMS value specified is so high that will produce clipping, the Soft Clip feature will automatically activate and the resulting level will be lower than specified by the user. The processed file will be as loud as possible while guaranteeing that the signal will be limited to the ceiling specified by the user.



The Normalize (RMS) dialog

The RMS Normalize dialog offers two parameters – RMS Level and Digital Ceiling. RMS Level allows you to enter the desired RMS Level (or average level), and the Digital Ceiling allows you to limit the maximum audio level, which is also the level at which Soft Clipping will activate, if the RMS Level exceeds it.

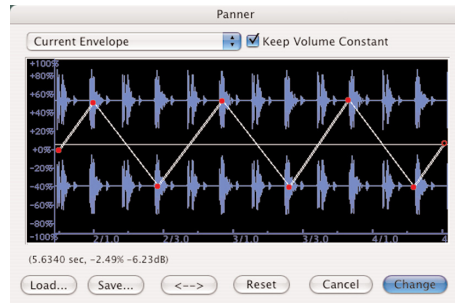
The RMS Normalize function is very useful for boosting the volume of material that was recorded at too low a level, or if used on multiple audio documents, for making sure that the amplitude of each of the documents is uniform.



RMS Normalize is not available in Peak LE.

Panner

The Panner allows you to adjust the panning, or left-to-right movement, of a stereo document by drawing an envelope in the Panner dialog. Left is at the top of the graph, and right is at the bottom.



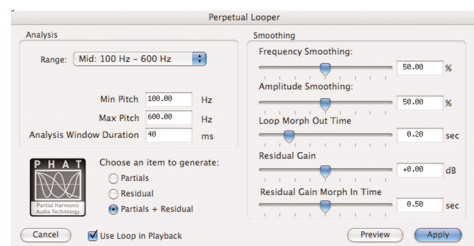
The Panner dialog



Panner is not available in Peak LE.

Perpetual Looper

The Perpetual Looper is a new tool based on BIAS' powerful Partial Harmonic Audio Technology (PHAT). The Perpetual Looper makes it easy to create smooth, seamless loops of monophonic, tonal sounds by performing its work in the frequency domain, instead of in the time domain as looping has traditionally been done. PHAT is, at its heart, an analysis/additive resynthesis engine, which gives Perpetual Looper potent sound design capabilities beyond smooth looping. The Perpetual Looper is intended for looping single notes or sounds, not phrases or sections of audio, and generally will not produce useful results from phrases.



The Perpetual Looper Dialog

PHAT uses a Fast Fourier Transform to convert the signal from the time domain into the frequency domain, then extracts the harmonic structure of the signal. The

Perpetual Looper's ability to treat each harmonic component in the sound individually enables it to eliminate looping discontinuities in the waveform of each partial (often the cause of clicking in otherwise well-executed time-domain loops), smooth spectral differences between the start and end of the loop (high frequencies of a sound generally decay quickly), or smooth differences in pitch modulation between the beginning and end of the loop. It even allows the pitch and amplitude modulations in vibrato to be manipulated independently of each other.

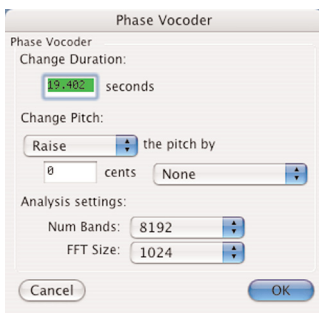
The Perpetual Looper separates the sound being looped into two components: Partials, which are the harmonic content, and the Residual signal, which is everything that is not in the Partials (noise components, non-harmonic partials, etc.). The user can employ both components, or choose to use only one or the other. These options present excellent sound design possibilities. For more information on the Perpetual Looper, please see Chapter 8: DSP.



Perpetual Looper is not available in Peak LE.

Phase Vocoder

The Phase Vocoder is a type of audio spectrum analysis/resynthesis that allows you to modify the duration and/or pitch of an audio selection.



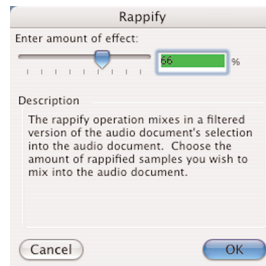
The Phase Vocoder dialog



Phase Vocoder is not available in Peak LE.

Rappify

The Rappify command applies extreme dynamic filtering to a selection. As one Peak user described it, "Rappify can turn your hi-fi into lo-fi!" If the target material has a pronounced beat, this has the effect of reducing the material to its most essential rhythmic components. Try using this function with a variety of different music material for some surprising and exciting results.



The Rappify dialog



Rappify is not available in Peak LE.

Repair Click

The Repair Click command will eliminate a selected click or "spike" in the waveform using the setting designated in the Repair Clicks dialog (explained next).



Repair Click is not available in Peak LE.

Repair Clicks

The Repair Clicks command allows you to find and repair pops or clicks in an audio document. The Repair Clicks dialog automates the process of finding and removing clicks (usually indicated by a sharp "spike" in a waveform), much like a search and replace dialog in a word processor. Repair Clicks works by looking for discontinuity from sample to sample. For example, a sample value of -100 followed by a sample value of 10,000 is likely to be a click. Once the area

of the click is identified, a smoothing technique is used to maintain the original shape of the area being repaired.



The Repair Clicks dialog

If you are working with mostly digitally induced clicks, the Repair Clicks dialog will become an indispensable tool. Extremely damaged signals such as those of a scratching and popping vinyl record will require more careful repair in addition to using the Repair Clicks dialog, such as Change Gain, Delete, and the Pencil Tool. Clicks such as those of a scratching and popping vinyl record lose their detectability once they are sampled using Analog to Digital converters. For more information on using Repair Clicks, please see Chapter 8: DSP.



Repair Clicks is not available in Peak LE.

Remove DC Offset

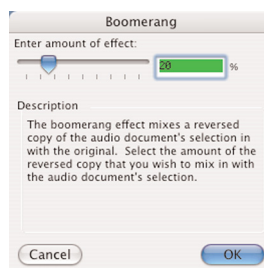
This function allows you to remove any DC Offset in your audio file. Peak scans the audio for DC offset and then removes it. Peak will scan the left and right channels of a stereo file independently. DC Offset is usually caused by problems in the analog to digital conversion process. The result is that the waveform is not centered on the base line – it is offset either higher or lower than the center line.



Remove DC Offset is not available in Peak LE.

Reverse Boomerang

The Reverse Boomerang command mixes a reversed copy of the selected audio with the original. This creates a variety of interesting and useful results. Try using Boomerang on drum loops, voice, and sound effects.



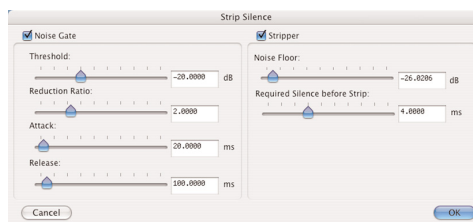
The Reverse Boomerang dialog

Reverse

The Reverse command reverses the current selection. In a reversed selection, the last sample becomes the first sample, the second-to-last sample becomes the second sample, and so forth. The effect is similar to playing a record or cassette tape backwards.

Strip Silence

The Strip Silence tool allows areas of silence, or very low amplitude, to be automatically silenced, minimized, or completely removed from an audio document. This tool is useful for removing silence from recordings that predominantly contain silence (or very low level audio content), interspersed with some desired audio content.



The Strip Silence dialog

By adjusting the various Strip Silence parameters, you can control what content is preserved, and what is silenced completely or deleted from an audio document. The Strip Silence tool is composed of two sections, the Noise Gate and the Stripper. Additional information about Strip Silence is available in Chapter 8: DSP.



Strip Silence is not available in Peak LE.

Swap Channels

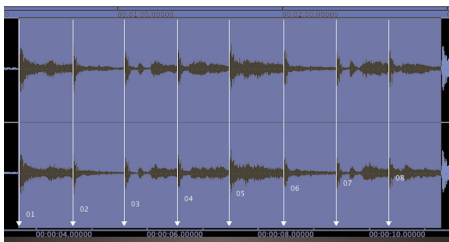
The Swap Channels command reverses the left and right channels in a stereo selection.



Swap Channels is not available in Peak LE.

Threshold

The Threshold command allows you to split up an audio document into its component parts by analyzing the amplitude levels in the audio document and setting a cutoff or threshold amplitude. For instance, you might use the Threshold command on an audio document that contains successive notes from a musical instrument to split them up, or on a drum loop to break it up into its component parts. You can save the segments with Markers, or as Regions. See Chapter 8: DSP for more info on using the Threshold command.



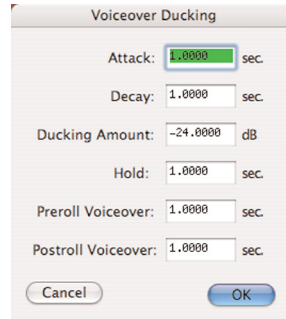
Audio waveform divided into sections (using markers) based on amplitude using the Threshold tool.



Threshold is not available in Peak LE.

Voiceover Ducking

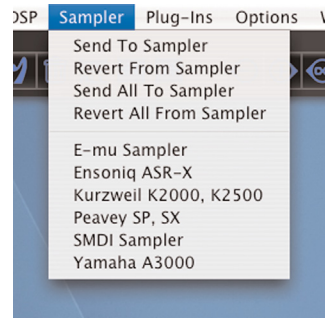
Voiceover Ducking is useful for adding vocal material, such as a radio or podcast show intro, commercial, etc. to a piece of background audio. Voiceover Ducking functions much like a standard “Paste” command, but had the added benefit of controlling several aspects of the background material.



The Voiceover Ducking dialog

Sampler Menu

This menu allows you to import samples directly from compatible samplers, edit or process the audio using all of Peak’s functions, and send the modified sample back to the sampler. Peak supports SMDI samplers. For detailed information on using Peak with SMDI samplers, see Chapter 11: Samplers.



Send to Sampler

The Send to Sampler command will send the selected sample from Peak to your sampler using the Sampler dialog.

Revert from Sampler

The Revert from Sampler command will revert to the previously received sample from Peak to your sampler using the Sampler dialog.

Send All to Sampler

The Send All to Sampler command will send all selected samples from Peak to your sampler using the Sampler dialog.

Revert All from Sampler

The Revert All from Sampler command will revert all previously received samples from Peak to your sampler using the Sampler dialog.

E-mu, Ensoniq ASR-X, Kurzweil, Peavey, Yamaha Sampler

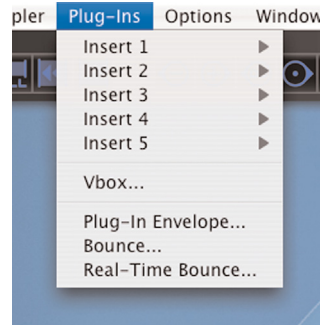
A large number of samplers support SMDI sample transfer. Choosing the name of your sampler from the Sampler menu will open the Sampler dialog. SMDI Samplers, such as the Kurzweil K2500 or the E-mu E-IV, use SCSI to transfer samples between devices. In order to transfer samples between the Mac and your sampler using SMDI, you must connect a SCSI cable between your Mac and the sampler. Consult your sampler's owner's manual for instructions on how to connect the cable to your Mac with proper termination. For detailed information on using Peak with Samplers, see Chapter 11: Samplers.



Sampler Support is not available in Peak LE

Plug-Ins Menu

The Plug-Ins menu provides access to any Audio Units, BIAS, or VST effects or virtual instrument plug-ins installed in your system.



Peak can access plug-ins in two different ways – using “Inserts” or through Vbox. An insert can contain a single plug-in, and up to 5 inserts are available. When using inserts, signal flows through the plug-in in each insert in the order of the insert number. For example, if an equalizer plug-in is used on Insert 1, and a reverb plug-in is used on Insert 2, the output of the equalizer plug-in will flow into the input of the reverb plug-in. Inserts are typically more convenient when using a small number of plug-ins is required.

Inserts (1-5)

Any installed VST or Audio Units plug-in may be assigned to any insert. Each insert can contain a single plug-in. VST & Audio Units plug-ins may be mixed and matched. When more than one plug-in/insert is active, the output of Insert 1 flows into the input of Insert 2, the output of Insert 2 flows into the input of Insert 3, and so on.



Peak LE supports up to two plug-ins at a time.

BIAS

Choosing BIAS from the Insert “X” submenu brings up another submenu, displaying all currently available BIAS

plug-ins. Select the desired plug-in from this menu, and its editor window (interface) will appear.

VST

Choosing VST from the Insert “X” submenu brings up another submenu, displaying all currently available VST format plug-ins. Select the desired plug-in from this menu, and its editor window (interface) will appear.

Audio Units

Choosing Audio Units from the Insert “X” submenu brings up another submenu, displaying all currently available Audio Units format plug-ins. Select the desired plug-in from this menu, and its editor window (interface) will appear. For more information on third-party plug-ins, please refer to the manufacturer’s documentation. For detailed information on using plug-ins and Vbox, see Chapter 9: Plug-Ins.

Vbox

Peak includes BIAS Vbox for managing and mixing plug-ins. Think of Vbox as a virtual effects box, in which you can combine, repatch, and mix your plug-ins in real-time. Using its unique effects matrix, Vbox lets you combine multiple individual plug-ins. Vbox can patch plug-ins in series, in parallel, or in series and parallel, and you can hot-swap plug-ins. Vbox has controls for each plug-in to mute, solo, and edit parameters. Vbox also provides input and output gain controls both globally and for each individual plug-in, and a control for the global Wet/Dry mix. Use Vbox’s A/B comparison feature to get just the right settings, and use Vbox’s presets to store configurations and settings for later use.



To use multiple plug-ins within Vbox, you must select Vbox from an available insert. While Vbox can be used on one insert, and other VST plug-ins can be used on other inserts, it is recommended to use multiple plug-in within the Vbox matrix, as it offers much more control and flexibility.

Plug-In Envelope

Choosing Plug-In Envelope brings up Peak’s Plug-In Envelope editor, which allows applying a variable wet/dry mix over a selected portion of an audio waveform. For example, if you have a dialogue clip that you would like to apply reverb to, but would like the amount of reverb to vary dynamically, you can create a custom envelope that automatically varies the amount of reverb applied to different portions of the clip.

Bounce

Once you have the right settings for your plug-ins, you will probably want to apply the effects to the audio document. This process is called “bouncing.” Bounce the audio file to process the audio document with any active plug-ins. Bouncing changes the audio data stored on disk, allowing you to use the Save command to permanently apply the plug-in effects to your audio document (this action is undo-able before saving).

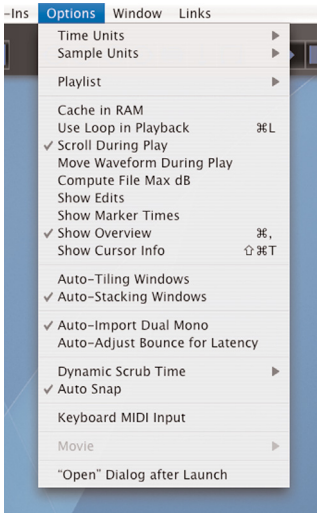
Real-Time Bounce

The Real-Time Bounce command applies plug-ins to audio documents in real time. That is, if you are applying an effect to an hour long audio document, it will take an hour to bounce. While this technique is significantly slower than the standard Bounce command, it has the added benefit of allowing plug-in parameters to be adjusted during the bounce, and these changes will be applied to the bounced file.

Another additional benefit of using the Real-Time Bounce command is routing an audio signal out of Peak, to a piece of outboard processing gear, and then back in to Peak. This technique allows processing files with outboard gear, and requires using the included Jack VST plug-in, and a multichannel audio interface.

Options Menu

This menu contains a number of commands that allow you to customize aspects of your Peak software such as waveform display colors, output volume, and other user preferences.



Time Units

The Time Units command allows you to choose a time format for the audio timeline in Peak's audio document window. You can choose Samples, Hours:Min:Sec:cdframes, Min:Sec:ms, various SMPTE formats, and Bars|Beats. The format you choose will depend on the nature of the project that you are working on.

Sample Units

The Sample Units command allows you to select whether sample units will be displayed in decimal, percentage, or dB.

Playlist

The Playlist menu item features a submenu with options to view the Playlist's List, Waveform, or both views simultaneously.

Cache in RAM

On Mac systems with 2 GB or more of RAM, Cache in RAM can be used to speed up the editing process by up to 500%. When Cache in RAM is active, any audio files that are opened are loaded completely into RAM, and all temp files created during the editing process are also stored in RAM. When a file has been edited as desired and saved, all relevant temp files that have been stored in RAM are written back to the hard drive.

Use Loop in Playback

If an audio document contains a loop (defined by loop markers), the Use Loop in Playback command (⌘L) allows you to listen just to the Loop. If playback is initiated before the Loop, once the Loop is reached, it will begin repeating. A check mark next to this menu item indicates that it is enabled. To turn off loop playback, disable this command by selecting it a second time.

Scroll During Play

When the Scroll During Play command is enabled, Peak will "scroll" through the audio document as playback progresses. This conveniently allows you to visually follow the progress of audio playback. A check next to this menu item indicates that it is enabled. To disable this command, deselect it.

Move Waveform During Playback

The Move Waveform During Play command will move the waveform under the cursor as playback progresses, so that the insertion point is always in the middle of the waveform display. A check next to this menu item indicates that it is enabled.

Compute File Max dB

The Compute File Max dB command scans the audio document for its maximum amplitude, and gives you a readout of the maximum value and its precise location.

This feature requires extra time, and is best used with smaller audio documents when needing to monitor overall volume during editing. Otherwise, keep this option off and option-click the “Max” text left of the overview to update the current audio document’s maximum volume indicator at the left of the overview.


Show Edits

The Show Edits command indicates areas of an audio document that you have edited by enclosing these areas with hatched lines. This provides you with a convenient visual reference to portions of the document that have been affected by your editing actions. Once you save a document, the edits are saved, and these indicators will no longer appear.


Show Marker Times

The Show Marker Times command will show a time value as well as a marker name for all Peak markers, loops, and Regions.

Show Overview

The Show Overview command (,) provides an Overview display of the entire audio waveform along the top of the Audio Document window under the title bar. This provides you with a convenient visual reference of the overall document when you are editing only a portion in the audio document window.

Show Cursor Info

The Show Cursor Info command (-Shift-T) brings up a floating, translucent cursor information window, which follows along with the mouse cursor as it is moved. Choosing this command again turns the window off.

Auto-Tiling Windows

When this option is active, all audio documents that are opened are tiled on the screen automatically.

Auto-Stacking Windows

When this option is active, all audio documents that are opened are stacked on the screen automatically.

Auto-Import Dual Mono

Certain audio applications such as Digidesign’s Pro Tools do not directly support stereo interleaved documents, and instead use “dual mono” documents which comprise the right and left channels of stereo material. Enabling the Auto-Import Dual Mono command tells Peak to automatically convert such documents into new stereo audio documents when you attempt to open these documents with the Open command. Because Peak actually writes a new stereo audio file to disk, this conversion process requires hard disk space equivalent to the two original mono documents.



Please note that the Import Dual Mono command requires that both files be mono files, have the same sample rate and bit depth, and they must have the exact same name followed by the suffixes “.L” and “.R”. If you are using file type extensions (.aif, .wav, etc) the format must be “Filename.Side.Extension”. For example – “Song1.L.aif” and “Song1.R.aif”.

Auto-Adjust Bounce for Latency

Plug-ins may introduce a short delay, known as latency, into the audio they are being used to process. Depending on the type of processing the plug-in performs, the amount of latency can vary – so it is common for different plug-ins to produce varying amounts of latency. Latency typically appears in audio documents after bouncing, by a shift in samples later in time relative to the document’s own timeline.

Peak features an automatic plug-in latency compensation feature called Auto Adjust Bounce for Latency – which automatically compensates for the latency introduced into a processed signal. Automatic latency compensation

may be toggled on and off from Peak's Options menu. A check next to the Auto Adjust Bounce for Latency item indicates that this feature is active. The absence of a check next to this item means it is inactive.

Plug-in latency compensation may also be used manually. To compensate for plug-in latency when bouncing effects on a selection, hold down the Option key when choosing Bounce, and enter the delay compensation you want in samples in the Bounce Effects dialog. More information about Plug-In latency is available in Chapter 9: Plug-Ins.

Dynamic Scrub Time

Peak provides a unique audio auditioning technique called dynamic scrubbing. This feature is very useful for precisely pinpointing a desired location in an audio document. Dynamic scrubbing allows you to drag the mouse forward or backward over a waveform while Peak plays a short loop (between 10 and 600 milliseconds) at the scrub location. You can control the tempo and direction (forward or backward) of playback by dragging the mouse slower or faster, forwards or backwards. When you have found the location you are looking for, you can commence editing or playback. The Dynamic Scrub Time command allows you to choose the length of this playback loop. Depending on the audio document's content, a value of between 40 to 80 milliseconds typically works well. See Chapter 5: Editing, for step-by-step instructions on how to use the Dynamic Scrubbing feature.

Auto Snap

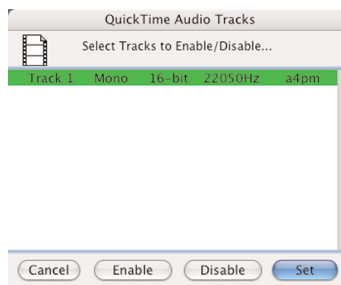
The Auto Snap command will automatically “snap” any selection to the specified Snap To units.

Keyboard MIDI Input

Choosing the Keyboard MIDI Input command makes your computer's keyboard function as a MIDI input device, able to send MIDI signals to virtual instrument plug-ins being hosted in Peak. Additional information about virtual instruments is available in Chapter 9: Plug-Ins.

Movie Sound Tracks

The Movie Sound Tracks command brings up a dialog that allows you to Enable or Disable the movie's existing soundtracks. You can use this dialog to toggle multiple soundtracks contained in a movie on and off to check balances or “solo” certain tracks. Click on the Set button to accept the changes, or Cancel to leave the movie unaffected.



The QuickTime Audio Tracks dialog

Half Size

Selecting this menu command displays the open QuickTime movie at half of its original size.

Original Size

Selecting this menu command displays the open QuickTime movie at its original size.

Double Size

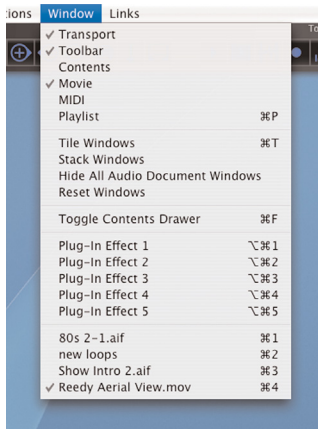
Selecting this menu command displays the open QuickTime movie at double its original size.

“Open” Dialog after Launch

The “Open” Dialog after Launch option allows you to choose whether an open dialog is automatically displayed when Peak is launched. A check next to this menu items indicates that it is active. The absence of a check indicates that it is inactive.

Window Menu

The commands in this menu allow you to display and manage Peak's windows – including the Transport, Toolbar, Contents, Movie, MIDI, Playlist, audio document, or active plug-in windows.



Transport

The Transport window is a floating, re-sizable window. It contains three areas: a time display showing elapsed time, the Transport controls (Return to Zero, Stop, Play, Go to End, Record, and Loop during playback), audio level meters with clip/peak indicators, and a master volume fader.

Toolbar

You may assign almost any Peak command as an icon in the Toolbar. The Toolbar menu allows you to group together the functions you use most often, so that you can simply click a button instead of going to the menus. For example, if you frequently use Normalize and Pitch Change, you can choose to have the icons for these functions in the Toolbar, so that all you have to do to use one of them is to make an audio selection and click a button. The Toolbar is an easy way to make your work in Peak faster and more efficient, allowing you to customize the program to suit the way you work.

To add or subtract items from the Toolbar, use the Shortcuts & Toolbar command in the Preferences dialog.

Contents

Peak has a floating Contents Window that will display all Regions, Markers, and Loops contained in any open audio documents. There are three buttons at the bottom of the palette that allow you to select which items to view—from left to right: the Markers button, the Region button and the Loop button. Option-double-clicking on any item in the Contents window will bring up the Edit Region or Edit Marker dialog.

Movie

The Movie command toggles the Movie window on and off for any QuickTime movie you currently have open in Peak.

MIDI

The MIDI command opens Peak's MIDI keyboard window, which can be used to send MIDI signals to virtual instruments being hosted in Peak. More information about the MIDI keyboard window is available in Chapter 9: Plug-Ins.

Playlist

The Playlist command (⌘-P) allows you to open up the current Playlist window. For more information on using Playlists, see Chapter 6: Playlists & CD Burning.

Tile Windows

The Tiling Windows command (⌘-T) arranges all open audio documents in a tile formation on your computer screen. This type of arrangement allows you to view multiple open audio documents at once, and is particularly convenient if you are cutting and pasting between several documents or jumping back and forth between them for editing purposes. You can press a ⌘-number key corresponding to an open audio document and the document will become the active window. (Click the Windows menu to see the numbers that correspond to each open audio document.)

Stack Windows

The Stack Windows command arranges all open audio documents into a stack, with each document overlapping the previous document, in the order that they were opened. This type of arrangement allows you to have the maximum number of documents open and use the minimum amount of screen real estate. You can then conveniently use the Windows menu to select any open document and make it the active window. Alternatively, you can press the \mathbb{W} -number key corresponding to the open document and the document will become the active window. (Click the Windows menu to see the \mathbb{W} -numbers that correspond to each open audio document.)



These are active commands that will change the state of document windows that are already open. In addition, you can specify how windows are opened by default, by using the Option menu's Auto-Stacking and Auto-Tiling Windows commands.

Hide All Audio Document Windows

This command temporarily hides all open audio document windows. This command is particularly useful when working with Playlists, when the Playlist window is expanded to a large size. In this mode, Regions may still be pulled from hidden documents into Playlists. More information is available in Chapter 6: Playlists & CD Burning.

Reset Windows

This command relocates and resizes the Toolbar and Transport windows to their default size and position on the screen. This is especially useful if you frequently work on different size displays (for example, if you use a MacBook Pro and occasionally use an external display as a main display).

Toggle Contents Drawer

The Toggle Contents Drawer command opens and closes the Contents Drawer that is located on each audio

document. Choosing this command will open the Contents Drawer on the right side of an audio document. Choosing this command when the Contents Drawer is open will close the drawer. Toggling the Contents Drawer can also be done with a button in the top right corner of each audio document window.



The Contents Drawer is not available in Peak LE!

Plug-In Effect (1-5)

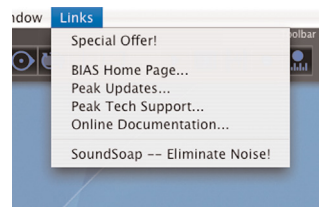
These menu items correspond to open plug-in editor windows. If you have plug-ins active, choosing the corresponding insert number in the Window menu will bring that plug-in's editor window to the foreground.

Document Windows

All currently open documents appear at the bottom of the Window menu. Choosing a filename here brings that document window to the foreground.

Links Menu

The Links menu in Peak provides useful links to the BIAS website. Included are the BIAS home page, the Peak updates page, technical support pages, online documentation, special offers, and current BIAS product information pages.



Conclusion

You should now be familiar with using Peak. For additional information about using Peak, tutorials, frequently asked questions, etc. please visit the BIAS website:

<http://www.bias-inc.com>

Appendix 1: Keyboard Shortcuts

Keyboard Shortcuts

This section lists the default keyboard shortcuts for Peak. As you learned in Chapter 3: Peak Basics, these keyboard shortcuts may be reassigned to any desired key or combination of keys, as well as to icons in the Toolbar.

<u>Keyboard Shortcut</u>	<u>Equivalent Menu Command</u>	<u>Command Comments</u>
File Menu		
⌘-N	New Mono Document	Creates a blank mono document
⌘-Shift-N	New Stereo Document	Creates a blank stereo document
Ctrl-N	New Document from selection	Creates new document from selection
⌘-Shift-P	New Playlist Document	Creates a blank playlist
⌘-Shift-B	New Document From Playlist	Creates a document from a playlist
⌘-O	Open...	Opens a file from disk
⌘-W	Close	Closes the front-most document
⌘-Option-W	Close All	Closes all documents
⌘-S	Save	Saves the front-most document
⌘-Shift-S	Save As...	Saves the front-most document with a new name and/or new location
⌘-Option-S	Save a Copy As	Saves a copy of the front-most document with a new name and/or new location
⌘-Q	Quit	Quit Peak
Edit Menu		
⌘-Z	Undo	Undo edits one by one (as long as you haven't Saved)
⌘-Y	Redo	Redo edits one by one (as long as you haven't Saved)
⌘-X	Cut	Cut selected audio
⌘-C	Copy	Copy selected audio to clipboard (useful for Clipboard based DSP effects like Mix and Convolve)
⌘-V	Paste	Pastes Copied or Cut audio at insertion point

Keyboard Shortcut Equivalent Menu Command Command Comments

Edit Menu(Cont.)

⌘-D	Insert	Pastes, pushing audio at insertion point further to the right.
⌘-E	Silence	Replaces audio selection with silence
Delete Key	Delete	Deletes selection, does not put in Clipboard
Option-Delete	Delete Markers Only	Deletes Markers, Loops & Regions
⌘-`	Crop	Crops selected audio
⌘-A	Select All	Selects all audio and events
Up Arrow	Insertion Point at Selection Start	Places Insertion Point at beginning of selection
Down Arrow	Insertion Point at Selection End	Places Insertion Point at end of selection
⌘-“-”	Select Loop	Selects loop
⌘-Shift-Left Arrow	Previous Selection	Selects previous view or selection
⌘-Shift-Right Arrow	Next Selection	Selects next view or selection

Action Menu

⌘-] or +	Zoom In	
⌘-[or -	Zoom Out	
Control-Up Arrow	Increase Vertical Zoom	
Control-Down Arrow	Decrease Vertical Zoom	
⌘-Shift-]	Fit Selection	
⌘-Shift-[Zoom Out all the way	
Shift-Left Arrow	Zoom To Sample Level	Zoom in to start of selection at sample level
Shift-Right Arrow	Zoom To Sample Level (End)	Zoom in to end of selection at sample level
⌘-Shift-“-”	Loop this Selection	
Option-Left Arrow	Nudge Loop Backward	
Option-Right Arrow	Nudge Loop Forward	
⌘-“-”	Select Loop	
⌘-M	New Marker	
⌘-Shift-R	New Region	
⌘-G	Go to Time...	
⌘-J	Loop Surfer	
⌘-K	Capture Region to Playlist	

Keyboard Shortcut Equivalent Menu Command Command Comments

Action Menu (Cont.)

⌘-I	Edit Audio Info/Metadata	
Shift-⌘-I	Edit Peak Metadata Chunk	

Audio Menu

Spacebar	Play/Pause	
⌘-Spacebar	Play with Auditioning	Plays audio with pre-roll amount designated in Auditioning Preferences
Return	Stop/Rewind	
Shift-Return	Stop & Extend Selection	
⌘-R	Record	
Option-R	Record Settings	

Option Menu

⌘-L	Use Loop in Playback	
⌘-,	Show Overview	Toggles waveform overview on and off
⌘-Shift-T	Show Cursor Info	

Window Menu

⌘-P	Playlist	Opens document's Playlist.
⌘-T	Tile Windows	Arranges open documents in a tile formation.
⌘-1, -2, -3....	Document Windows	Brings document windows to front by number, in the order they were opened.
⌘-Option-1, -2, -3....	Plug-In Windows	Brings Plug-In windows to front by number, in the order they were opened.

<u>Keyboard Shortcut</u>	<u>Equivalent Menu Command</u>	<u>Command Comments</u>
Commands not in a Menu		
<	n/a	Moves playhead cursor to left by coarse increments
>	n/a	Moves playhead cursor to right by coarse increments
Option + <	n/a	Moves playhead cursor to left by fine increments
Option + >	n/a	Moves playhead cursor to right by fine increments

Playlist

The Playlist features a number of keyboard commands and modifier keys, which can speed up the editing process. These are described below.

<u>Keyboard Shortcut</u>	<u>Equivalent Menu Command</u>
Cmd-Shift-P	New Playlist Document
Spacebar	Play/Stop
Cmd-S	Save Playlist
Cmd-W	Close Playlist
Cmd-Z	Undo
Cmd-Y	Redo
Cmd -]	Zoom In
Cmd -[Zoom Out
Cmd -Shift-]	Zoom to Fit Transition
Up Arrow	Select Previous Track
Down Arrow	Select Next Track
Left Arrow	Go To Selection Start
Right Arrow	Go To Selection End
Ctrl Left Arrow	Scroll Earlier in Timeline
Ctrl Right Arrow	Scroll Later in Timeline

Keyboard Shortcut

Equivalent Menu Command

Playlist (Cont.)

Cmd-A	Select All
Delete	Delete Selection
Tilde (~) or S	Toggle Between Slip/Shuffle Modes
I	Audition Crossfade In
O	Audition Crossfade Out
X	Audition Crossfade
L	Loop Crossfade
Tab	Move to Next Field (when fields are editable)
Return/Enter	Exit Editable field
Comma (<)	Nudge “In” Event Earlier in Timeline
Period (>)	Nudge “In” Event Later in Timeline
Shift-Comma (<)	Nudge “Out” Event Earlier in Timeline
Shift-Period (>)	Nudge “In” Event Later in Timeline
Ctrl + Move Event Tool	Toggle to High Precision Move Event Mode
Ctrl + Trim Event Tool	Toggle to High Precision Trim Event Mode
Ctrl + Crossfade Tool	Toggle to High Precision Crossfade Editing Mode

Appendix 2: Peak Actions

This section lists common Peak Actions not found in Peak's menus. It is organized by Peak windows and functions.

Useful Peak Actions, General

To stop lengthy processes, Saves and recalculations:

- Press ⌘-Period

Audio Document Window, General

To find the Max Level in an audio document:

- Option-click on Max Level Indicator (at bottom left of audio document window).

To bring up the Audio Info Dialog:

- Click on the Audio Info Area at the bottom left of the audio document window.

To navigate the Overview without playing audio:

- Option-drag in the Overview

Playback

To play from beginning of a document, or from the location of the insertion point:

- Press the Space bar, or click the Play button on the Toolbar

To stop playback:

- Press the Spacebar again, or click Stop on the Transport.

To play from a desired location in the audio document:

- Click cursor at desired location in track and press the Space bar, click the Play button on the Toolbar, or double-click mouse at desired location in the track.

Scrubbing

To begin dynamic "shuttle" scrubbing:

- Hold down the Control key and drag the mouse across the desired area.

To begin dynamic "jog" scrubbing:

- Hold down the Control and Option keys, and drag the mouse.

Selections

To make a selection:

- Click and drag the mouse.

To select all:

- ⌘-A

To extend or shorten a selection:

- Shift-click on the end of the selection that you wish to modify, then drag the mouse to extend or shorten the selection.

To toggle selection start/end:

- Use the shift key.

To snap selection to the nearest selected Snap To unit:

- Hold ⌘-Option while making a selection.

Views

To zoom out by increments:

- Press ⌘- [

To zoom in by increments:

- Press ⌘-]

To scroll audio display left or right:

- Press control-arrow key left or right

Markers, Loops, and Regions

To find a Marker by name:

- Type in the first few letters of the marker name

To edit a Marker:

- Double-click on the triangular base of the Marker to open the Edit dialog

To name a Marker:

- Double-click the triangular base of the marker, and enter a name.

To select the audio between two markers:

- ⌘-click anywhere between the markers, or press the Tab key.

To select additional audio between markers:

- ⌘-Shift-click between another two markers, or press Shift-Tab.

To move a marker:

- Click on the triangular base of the marker and drag it.
- Or, double-click on the triangular base and enter a time.

To change regular markers into loop markers:

- Double-click the triangular base, and click the Loop Start or Loop End radio button.

To move a pair of loop markers together:

- Hold down the Option key and drag one of the loop markers, or select area containing loop markers and turn on Horizontal Lock – markers move together until Horizontal Lock is turned off.

To move a marker to a zero-crossing:

- Click on the triangular base of the marker, and hold down the Shift key while you drag the marker.

To move both ends of a loop or region marker simultaneously:

- Hold down the Option key while moving the marker, or select area containing loop markers and turn on Horizontal Lock - markers move together until Horizontal Lock is turned off.

To delete a marker:

- Double-click the triangular base. Click the Delete button. A range of markers can be selected and deleted by clicking Option-Delete.

To delete all markers, loops and regions, leaving audio intact:

- Select all, then press Option-Delete.

To paste just markers, loops and/or regions, leaving audio intact:

- hold down option while selecting paste from the edit menu (⌘-Option-V).

Playlist

To scrub Playlist audio during playback:

- Click and hold the mouse on the time display. The cursor changes to a scrub cursor (<->). Drag to the left to scrub backwards, drag to the right to scrub forwards. The farther to the left or right you drag, the faster the scrub will progress.

Loops

To create a loop from a selection:

- Select desired range, and choose Loop This Selection from the Action menu (⌘-Shift-“”).

To listen to a loop:

- Choose Use Loop in Playback from the Preference menu or Toolbar, and start playback before the loop end marker.

Plug-Ins

To set the delay compensation offset:

- Hold down the Option key while choosing Bounce from the Plug-Ins menu.



Note that the Auto Adjust Bounce for Latency option must be disabled to manually compensate for plug-in latency.

Tools – Audio Document Window

To toggle between tools:

- Press the esc (Escape) key.

To toggle Blending on and off:

- Press the Caps Lock key.

To set the zoom factor amount:

- Option-click on the Zoom tool in the Cursor Palette.

To use the Magic Pencil tool:

- With the Pencil Tool selected, Option-click on a click/anomaly in the audio waveform – it is repaired.

To bring up the Smoothing dialog for the Pencil tool:

- Option-click on the Pencil tool in the Cursor Palette.

To bring up the Contextual Menu:

- Control-shift-click in the audio waveform.

The Contents Palette

To edit a region, marker or loop in the Contents Palette:

- Option-double-click on its name in the Contents Palette or Contents Drawer.

The Movie Window

To change the size of the Movie Window:

- Click on the QuickTime movie’s “grow button” (at the upper left corner of the Movie window) to double the size of the movie window.
- Control-Option-click on the QuickTime movie’s “grow button” (at the upper left corner of the Movie window) to halve the size of the movie window.
- Select the desired size (original, half, or double) under the Options menu > Movie...

Appendix 3: Troubleshooting - Before Calling For Help

Before you call BIAS Technical Support for help, please take a moment to examine the Read Me file installed with Peak. This document contains late-breaking information not included in your User's Guide.

Use the Apple System Profiler utility to gather information about the configuration of your computer. The information the Apple System Profiler reports is very helpful when reporting a problem to BIAS Tech Support.

Visit the BIAS web site for the latest technical support information, an extensive self-help technical FAQ library, downloads, updates, and more at:

<http://www.bias-inc.com>

Please verify the following:

- Double check that you have entered your serial number properly! If you are copying/pasting your serial number from an email, be sure that you have not copied any extra leading or trailing spaces.
- Make sure the version of the product you have installed on your computer matches the version listed on the registration card.

If you continue to have trouble, please contact the BIAS Technical Support Department at:

Email: support@bias-inc.com

Phone: +1-707-782-1865

Fixing Most Common Problems

If you are experiencing strange behavior when using Peak, it is possible that some of its preferences have been corrupted.



Resetting Peak to its default settings will resolve most issues, and is the first step that a BIAS technical support agent will walk you through if you contact BIAS for support. It is strongly recommended that you try the following steps before contacting BIAS for help. This is the fastest way to resolve most problems.

1. Delete the “ACA P6 Preferences” and “Peak 6.0 Preferences” files from:
`/MacHD/Users/<YourAccount>/Library/Preferences/`
2. Using Apple Disk Utility, Repair Disk Permissions. Disk Utility is located in:
`/Mac HD/Applications/Utilities/`
3. Restart your Mac.
4. Launch Peak by clicking on the Peak application icon in your Applications folder (or from an alias in the Dock) – DO NOT launch by double-clicking on an audio file.
5. Reset your Scratch Disk – see Chapter 3: Peak Basics (pg. 53) for more information on setting Scratch Disk preferences.

Peak is now reset, and should operate normally. Keep in mind that you may need to reset other preferences, such as waveform colors, audio input/output settings, etc.



Resetting Peak as described above will not delete custom keyboard shortcuts, fade envelopes, or podcast server presets, as these items are each stored in separate preference files.



At this point you should see activity in the VU meters in the Transport window.

Common Technical Questions about Peak

How do I set up my USB or FireWire audio hardware device?

1. Please download the latest USB or FireWire driver from your hardware manufacturer's website.
2. Boot your computer system with your USB or FireWire device already plugged into an available USB or FireWire port directly on your computer and NOT into a USB or FireWire hub.
3. Once your system has started up, launch Peak.
4. Then, from the Peak's Audio menu, choose "Select Audio I/O". Confirm that the desired device is selected for input and output (Fig. A).



Fig. A



It is highly recommended that you use/select the same audio device for both input and output.

5. After you have connected your audio recording sources to your USB or FireWire device, and that the recording source is playing, press the Record button located on the Transport (Fig. B circled in red).



Fig. B

6. The Record Dialog will pop up (Fig. C) – Press the Record button (circled in red) in this window and you will see a preview waveform of your recording in the Audio Source Display, as well as metering in the Transport's VU meters.

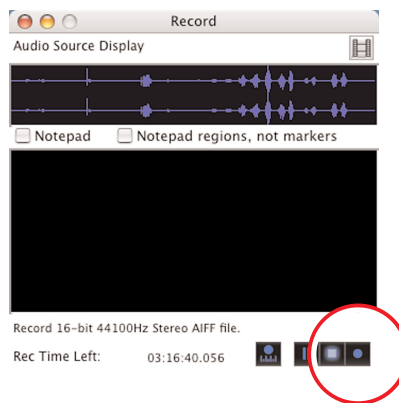


Fig. C



If your audio device is not available for selection within the Select Audio I/O dialog, verify that the operating system recognizes it by launching the Audio MIDI Setup Application located in:

/Mac HD/Applications/Utilities/

7. Ensure that your audio hardware device is an option within the AudioMIDI Setup window. If it is not an option please contact your hardware manufacturer for support, as your operating system must recognize the device for Peak to be able to use it for recording or playback (Fig. D).

Why am I getting clicks and pops with my USB device?

1. Update to the most recent version of the Mac OS.
2. If your USB audio device manufacturer provides drivers make sure you are using the most recent version.



Fig. D



Fig. E

3. Delete the “ACA P6 Preference” file. This file is located in:

`/MacHD/Users/<YourUserAccount>/Library/Preferences/`

After you delete this file, you will need to reset your hardware and recording settings in Audio MIDI Setup and in your audio applications.

4. Open the Audio MIDI Setup utility (shown in Fig. E). The Audio MIDI Setup utility is located in:

`/Mac HD/Applications/Utilities/`

5. Make sure the sample rate you have selected is supported by your device

6. Open the Select Audio I/O dialog. Make sure you have the USB device selected as your input AND output device. Also try experimenting with recording at different buffer sizes (increasing this buffer size normally helps). The Select Audio I/O dialog is located in `Audio>Select Audio I/O`. (See Fig. F)



Fig. F

- If you are experiencing pops and clicks during recording, go to Audio > Record Settings > Device and Sample Format, and specify a bit depth and sample rate that is supported by your device. (See Fig. G)

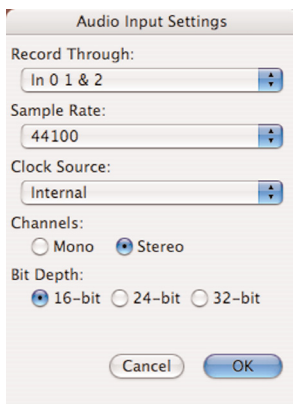


Fig. G

- Go to System Preferences > Energy Saver. Make sure you turn off any energy saving preferences, especially the option to spin down the hard drive.

Peak will not launch:

- Does your Mac have enough RAM to run Peak? You must have at least 256MB of RAM — 512MB of RAM is recommended. To find out how much memory your Mac has, choose “About This Mac” in the Finder’s Apple Menu. A window will appear telling you how much memory is currently installed in your computer. If you have less than the amount required to run Peak, you will have to install additional RAM in your computer.

When I place the cursor on the waveform, it jumps to the right or the left. Why?

- This is the result of Peak’s “Auto Snap To Zero” preference, that automatically places the cursor at a zero crossing in the waveform. You can turn it off by going to the Options menu and unchecking the option.

I notice files on my hard drive with Peak file icons, called “AFM.temp”

- These are temporary files that Peak created as you edited audio. If you change Scratch Disk preferences at the end of a session, or force-quit or crash in Peak, sometimes these temporary files won’t be deleted. You can either manually drag them into the Trash, or launch and then quit Peak.

I know that I can process separate channels in Peak, but not edit them separately. Is there a workaround?

- The workaround is to export dual mono files, open the Left and Right channels in Peak as two separate mono files, edit them, save them, and then Import as Dual Mono. You will then have a stereo file with your changes in it.

Peak stops or stutters during recording or playback:

- Is your hard disk too slow? For direct-from-disk recording and playback, your hard drive must have an average seek time of 18ms or faster. If you are not sure of the speed of your drive, check with the manufacturer or the dealer where you purchased the drive.
- Is the data on your hard disk fragmented? If the files on your hard drive have become fragmented (see Chapter 3 for an explanation of fragmentation) you may have to use a hard disk maintenance program such as TechTool Pro™ to defragment your drive.
- Is Peak’s playback buffer in the Playback Preferences (found in Peak’s Preference menu) set too low? Try increasing the playback buffer to 128K or higher.
- Try turning off Interrupt-based metering in Peak’s Meters dialog.
- Try increasing the playback buffer size in Peak’s Playback Preferences dialog. (Always use the smallest working setting, because this setting also affects how much memory is used per audio document window.)

I can’t access Tape Style Scrubbing:

- Make sure you have selected “Tape Style” from the Dynamic Scrub Time submenu, under the Options menu.

There are items in the DSP menu that are grayed out:

- You need to open an audio document before the DSP effects will be available.
- Some DSP tools require a selection to be made in the audio waveform before they can be used.
- Not all DSP processes are available in Peak LE.

Problems using Peak with a SMDI sampler (via SCSI):

- Use high-quality, tested SCSI cables that are as short as possible.
- Check for SCSI ID conflicts. Make sure every SCSI device in the SCSI chain has a unique ID.
- Check for problems with SCSI termination. For more information, consult the manuals of your SCSI devices. SCSI termination should exist on each end of the SCSI chain: one termination inside the Mac (usually this is the case), and one termination on the last SCSI device in the chain.
- Try turning off Asynchronous transfers in Peak's Samplers Preferences dialog.
- Reduce the number of components in your SCSI chain. If you have more than one device connected between the sampler and your Mac, try removing devices to determine if this affects the errors.
- Change the power-up order of your devices. Try turning all SCSI devices on first, including the sampler. Once the devices have powered up, turn on the Mac. If this does not help, try turning on your other SCSI devices, then the Mac, and finally the sampler.

When I try to move a Region marker that's in the same position as a marker, the marker moves instead:

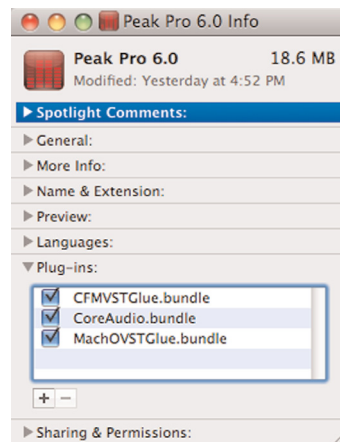
- When editing markers that exist in the same space/sample, markers take priority. To get to a Region marker, move or delete the marker first.

How do I export MP3 and MP2 files from Peak 6?

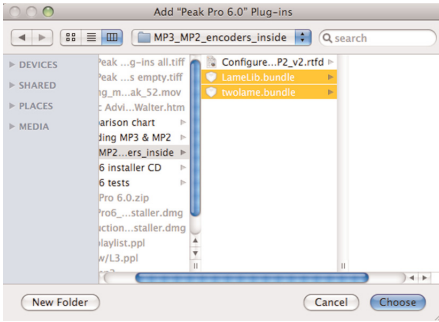
To enable MP3 and MP2 export from Peak, you will need to install the "LameLib" MP3 encoder and the "twolame" MP2 encoder.

Please follow these steps to install the downloadable MP3 and MP2 encoders:

1. Download from this URL:
http://www.bias-inc.com/downloads/updates/archive/MP3_MP2_encoders_inside.zip
2. When this file is done downloading, it should un-zip itself and create a folder called "MP3_MP2_encoders_inside". This folder contains both encoders and a copy of these instructions.
3. Use the Finder to locate the Peak application. Click on the Peak application icon once to highlight it.
4. In the Finder, go to File > Get Info (⌘-I). A window will open information about the application.

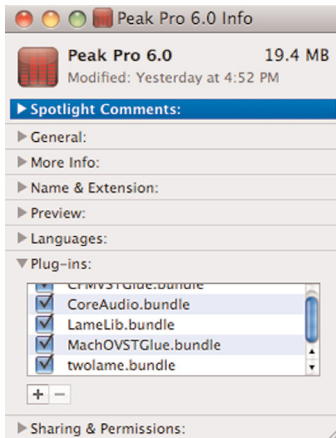


5. Click on the disclosure triangle next to "Plug-ins". This will display plug-ins that are used by the application.
6. Click the "Add..." button. The "Add Peak Pro 6.0 Plug-ins" dialog will appear. Navigate into the folder "MP3_MP2_encoders_inside" and select LameLib.bundle and twolame.bundle, then click "Choose".



Please note you have to close the “Plug-ins” viewer and reopen for the twolame.Bundle to appear in the list.

8. MP3 and MP2 now will show up as an available file format under the Save As dialog.



I try to instantiate a plug-in on an insert, but there is already a plug-in called VBox running on that insert:

- Choosing the VBox menu item automatically opens VBox on the first available insert – perhaps this menu item was chosen and automatically assigned VBox to the insert you are trying to use. To turn off VBox, simply select the insert it is running on, and then choose None from the submenu.

How to I choose a Scratch Disk?

1. Create a folder called “Peak Scratch Disk” on a drive/volume you prefer. We recommend partitioning your hard drive or using an external drive for the scratch disk, however creating a scratch disk on the same drive as your operating system will work as well.
2. Open Peak’s Preferences dialog.
3. Click on “Scratch Disk”.
4. Be sure that only the “Primary” radio button and “Use” checkbox are selected for the drive you created your scratch disk folder on as mentioned in step 1. No other drive should have “Primary” or “Use” selected if you are using multiple hard drives or partitions.
5. Click the “Folder” checkbox, then navigate to the scratch disk folder you created in step 1 – “Choose” that folder.
6. Click “OK” to exit the scratch disks dialog.
7. Locate the “Audio” menu (located next to the DSP menu) within Peak.
8. Click on “Record Settings”.
9. From the “Record Disk” pop-up menu, choose the hard drive on which you created the scratch disk, and click “OK”.



After setting up the scratch disk and record disk settings be advised that you will have to save all your recorded files on the scratch disk drive. Saving on any other drive or volume will result in the following error “You must save the new audio recording to the volume that you recorded onto”.

Burning to CD-RW media:

Peak supports burning to CD-RW media, however the CD-RW media must be blank. Peak will not erase a CD-RW that already contains data.

To erase CD-RW media:

- Use the Mac OS X Disk Utility to erase a CD-RW before attempting to burn audio data to it. The Disk Utility is located in the Utilities folder, within the Applications folder.
-

Appendix 4: Sqweez-1 Wideband Dynamics Processor

About Sqweez-1

Sqweez-1 is a flexible, high-quality compressor/expander that is an invaluable tool for controlling the dynamics of your audio. In addition to standard dynamics processor controls, Sqweez-1 offers useful features, including peak and RMS Metering, a soft clip function, and automatic gain compensation. From adding punch to your drums to final mastering before delivery, Sqweez-1 can give your audio the professional sheen that marks high-end productions.

In addition to all of the familiar controls found on most compressors, Sqweez-1 includes helpful tools not commonly found on hardware compressors such as automatic gain compensation, and a soft clip option. These controls enable you to maximize your audio signal while eliminating the need to worry about digital clipping.



Sqweez-1 is available exclusively as a plug-in included with BIAS Peak Pro 6, and does not work with other host applications.

Installation Notes

Sqweez-1 is installed into the following directory as part of the Peak Pro 6 installation process:

/MacHD/Library/Audio/Plug-Ins/VST/

Sqweez-1 Controls

Sqweez-1 offers three types of controls: Sliders, buttons, and numerical fields. The numerical fields always accompany a slider and serve two purposes: First, to display the exact value of the parameter, and, second, to allow settings to be made to precise values by entering the desired value directly into the field. Thus, Sqweez-1 enables you to work quickly with the slider or precisely using the numerical fields. Option-clicking on any slider resets it to its default value.

Input Level Meters

The stereo meter on the left side of the Sqweez-1 window shows the input level of your audio. This is a peak-reading meter.

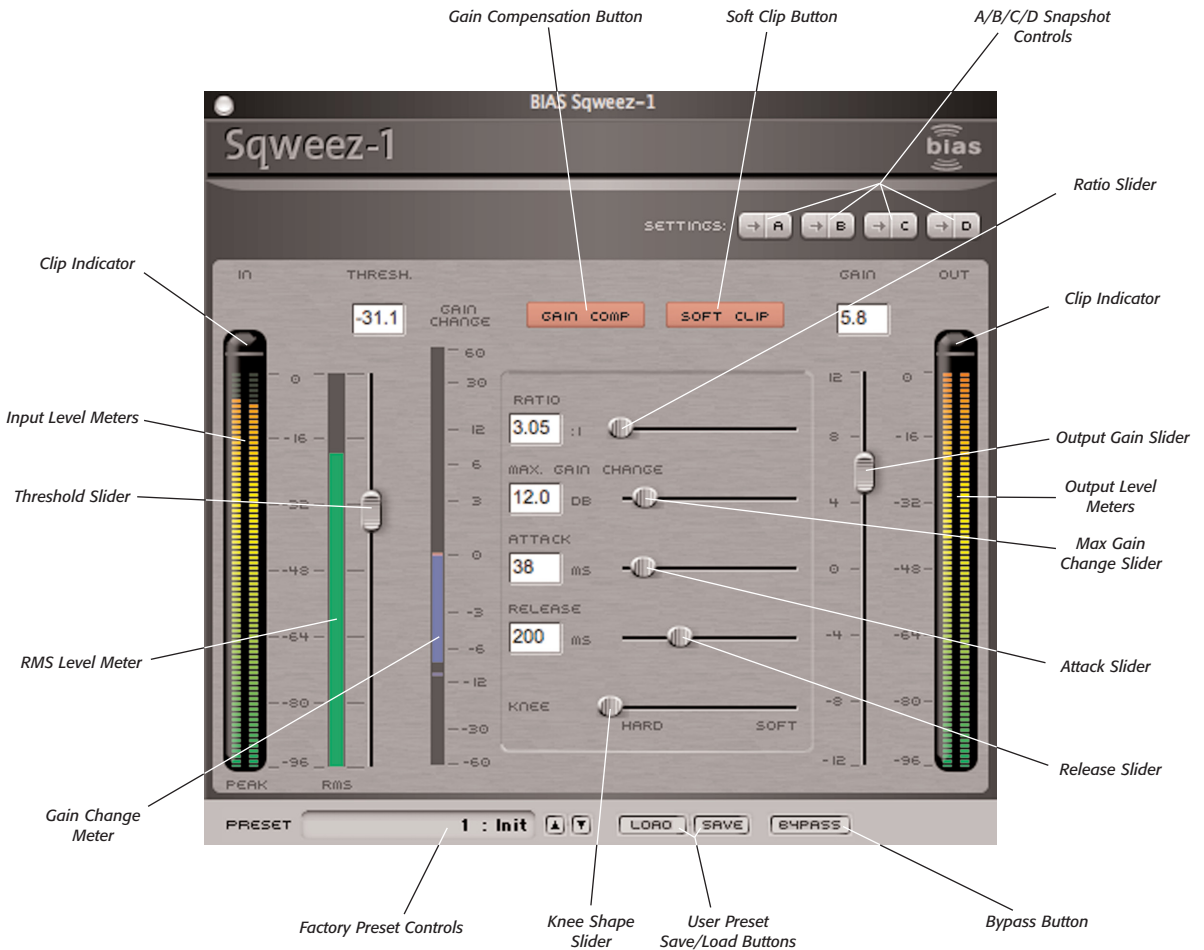
Input Clip Indicator

This indicator lights red if more than two consecutive samples exceed the maximum value. The indicator can be reset by clicking on it.

RMS Level Meter

This meter shows the RMS level of the signal. Since Sqweez-1 uses RMS level for threshold control, this meter shows you the same level that is being used to

Overview of Sqweez-1 Interface



control the processing. Consequently, you will find that the RMS level meter generally provides the best guide to setting the threshold.

Threshold Slider

The threshold slider determines the RMS level at which Sqweez-1 begins affecting the signal. Below the threshold, the signal passes through unaltered. Once it exceeds the threshold, Sqweez-1 will begin processing as configured with the other settings.

Gain Change Meter

The Gain Change meter displays the level of gain processing being applied. When used as a compressor, Sqweez-1 will reduce the gain above the threshold; when used as an expander, it causes gain increase above threshold. The Gain Change meter is RMS-reading.

Ratio Slider

The ratio slider determines the degree of gain change to be applied. For example, if Sqweez-1 is set to compress using a 3:1 ratio, once the signal exceeds the threshold, every increase of 3dB in the level of the signal coming in will result in only 1dB of increase in the output signal. This is described as being 2 dB of gain reduction.

The Ratio field indicates the first number of the ratio, with the second number always being “1,” so entering “4” in the field yields a 4:1 ratio, while entering “.5” yields a .5:1 ratio.

The higher the ratio, the more the dynamics of the audio will be reduced once the signal level is over the threshold. Ratios greater than about 10:1 severely limit the audio from getting much louder, an effect known as “limiting”.

While ratios greater than 1 (e.g., 2:1, 6:1) result in compression, Sqweez-1 can also be set to ratios less than 1, which results in expansion. With expansion, when the signal exceeds the threshold, gain is added according to

the ratio. That is, a .5:1 ratio means that for every .5 dB increase in input signal over the threshold, there is a 1 dB increase in output signal. This is useful for adding more punch to signals that might have been previously over-compressed, but it also presents the potential of overloading Sqweez-1 and introducing clipping. Low ratios are typically used for expansion applications.

The majority of the Ratio slider’s resolution is devoted to compression, but precise expansion ratios are easily achieved by entering a value less than one into the field.

Max Gain Change Slider

The Max Gain Change slider limits the degree of processing applied by Sqweez-1. When set for compression, the Gain Change slider indicates the maximum amount of gain reduction that will be imposed. For expansion, it indicates the most gain that will be added to the signal. Setting this parameter carefully is important to avoid clipping when expanding.

Attack Slider

The attack slider controls the rate at which Sqweez-1 begins affecting the signal once it has exceeded the threshold. Slower attack times are less obvious when compressing and allow more peaks through; faster times are better for catching sudden changes, but have a more audible effect. When expanding, however, fast attack and release times can be useful for restoring peaks.

Release Slider

The release slider controls the rate at which the compressor stops processing after the signal falls below the threshold. The range of release times used can be quite wide, depending on the application. For example, taming peaks or compressing percussion is often best achieved using faster release times, while leveling (an overall smoothing of dynamics) usually requires a slow release time. Similarly, expansion release times can be quite variable according to the desired effect.

Knee Shape Slider

The “knee” is the transition point at the threshold where the onset of gain change occurs. If the gain change action happens immediately upon the signal exceeding the threshold, it is referred to as a “hard” knee, but if the onset of the gain change is more gradual once the threshold is exceeded, the processor is said to have a “soft” knee. A soft knee gives a more transparent sound, while a harder knee is more audible, but can be a pleasing effect on some sources. Sqweez-1’s knee slider enables you to choose a hard or soft knee, or something in between, giving you flexibility for the task at hand.

Gain Compensation Button

Since compression reduces gain, it is often necessary to boost the output level to compensate. When the Gain Compensation button is engaged, Sqweez-1 automatically adds “make-up gain”. The amount of gain added is based on the threshold setting and is typically effective. However, it is sometimes necessary to make additional adjustments to the Output Gain slider, or to engage Soft Clip.

Soft Clip Button

The Soft Clip feature is useful with signals that have lots of peaks or are at a generally high level. Soft Clip keeps Sqweez-1 from producing undesirable digital clipping when it is overloaded. Try switching Soft Clip in and out to compare the sound with and without it before making up your mind.

Output Gain Slider

The Output Gain slider can be used to manually make up for the gain lost from compression. After making your settings to compress the peaks, you can use the output gain to raise the overall level of your audio. Conversely, when expanding, you may wish to lower the Output Gain to avoid clipping.

Output Level Meters

The stereo meter on the right side of the Sqweez-1 plug-in shows the peak output level. Dynamics processing can have a dramatic effect on levels, so it is good to keep a close eye on the output level, especially while setting up Sqweez-1’s parameters.

Output Clip Indicator

This indicator lights red if more than two consecutive samples exceed the maximum value. The indicator can be reset by clicking on it.

A/B/C/D Compare Buttons

The A/B/C/D comparison feature gives the ability to preview different settings before committing to them. Essentially, various tool settings are made and stored as snapshot “A” – another group of settings can then be assigned as snapshot “B” – and then clicking the A or B buttons in the interface instantly toggles between the two. As Sqweez-1 offers many fine-tuning options, it features not just two comparison modes – but instead includes A/B/C/D comparisons, for four unique snapshots to compare between, before committing to any file processing. These snapshots are similar to saving and loading presets, but are instantaneous, and do not require selecting presets from a menu to load them. To permanently save one of these snapshots, simply select the desired snapshot, and save it as a custom User Preset.

Factory Preset Pop-Up Menu

This menu displays the current factory preset, if one has been selected. Clicking this menu shows a list of all available factory presets. A factory preset may be selected by choosing it from this pop-up menu.

Factory Preset Selection Arrows

These arrows are used to navigate through factory presets. Clicking the down arrow moves to the next available factory preset, and clicking the up arrow moves to the previous factory preset.

User Preset Save Button

Saves a user preset, which includes the state of all Sqweez-1 parameters.

User Preset Load Button

Recalls a user preset, includes the state of all Sqweez-1 parameters.



User presets do not appear in the Factory Preset pop-up menu, so be sure you are aware of the directory where you are saving them into, so they may be recalled easily later.

Bypass Button

The Bypass button is used to temporarily disable the plug-in. When the plug-in is bypassed, audio playback is not affected by the plug-in.

Glossary

AAC

Advanced Audio Coding – (Also known as AAC, MP4, or mpeg 1, layer 4) – A compressed audio file format that uses psychoacoustic modeling to reduce file size significantly, while audio quality rivals that of uncompressed CD audio. MP4 is a fairly new standard and rising in popularity for use on the Internet and in personal music players. Peak supports reading/writing AAC files.

AIFF/AIF

Apple's Audio Interchange File Format used for recording and storing digital audio. It is also Peak's default file format and is supported by many Mac software applications.

AU

AU, or .au, is the audio file format common to most Sun Unix workstations. It is one of the most commonly used audio file formats on the World Wide Web.

Audio Units

Audio Units is a real-time, native plug-in standard developed by Apple, Inc. Audio Units plug-ins are accessed by compatible host applications from a central directory. Mac OS X includes several Audio Units plug-ins, which can be accessed in Peak. (Audio Units are sometimes referred to as "AU" plug-ins, not to be confused with the "AU", or ".au" file format used on Sun Unix workstations)

Audio hardware (audio interface, audio card)

An Audio hardware interface connects to a Mac via a PCI, PCMCIA, USB, or Firewire connection – and may include an additional break-out box. Third-party audio hardware enhances a computer's audio recording and playback capabilities. Using Apple Core Audio, Peak works with a variety of audio interfaces from Alesis, Apogee, Digidesign, Digigram, Echo, Edirol, ESI, Korg, M-Audio, Mark of the Unicorn, PreSonus, and others. Core Audio Driver software from the manufacturer of the audio hardware may be required to work properly with Peak.

Audio document

An audio document is a Mac audio data file created by Peak. Peak can create and open audio documents in many common audio file formats. AIFF is Peak's default file format.

Bit resolution (bit rate or bit depth)

Describes how many bits – as in "0s" and "1s" – are available to describe a digital recording. In practice, the bit resolution defines the dynamic range of a sound, whereas the sample rate defines the frequency range. 24-bit is a high-resolution bit depth used for professional audio recording, editing, and processing; 16-bit audio is the professional Compact Disc and DV (Digital Video) standard; 8-bit audio is suitable for less demanding applications, such as multimedia presentations. More bits result in better quality, but also require more hard drive storage space. Also refer to dynamic range, frequency, and sample rate.

Blending

Blending is an automatic crossfade function that Peak applies to areas during cutting, pasting and other editing processes in order to smooth abrupt transitions between waveform amplitudes. Blending can be toggled on or off by choosing the Blending command from the Preference dialog, or by clicking the Blending enable/disable button in the Cursor Palette.

Broadcast WAVE

Broadcast WAVE (also known as BWF) is a variation of the Microsoft WAVE audio file format and is a common recording format for non-linear audio and video recording and editing equipment. This format adds extensive metadata support.

Centered crossfade

Centered crossfades are crossfades that are based around a centered “edit point” – which by default marks the exact center point of the crossfade. Typically, this edit point marks a specific part of the audio material where two takes of music, dialogue, etc. are joined together. When this type of crossfade is lengthened or shortened, the edit point does not move, but instead controls how smoothly the two takes of audio blend together. This type of crossfade is popular with editors of classical music, who commonly work with many short takes of the same piece of music, as they piece together the best takes into a single optimized performance.

Clipping

A type of audio distortion that occurs when a source signal (such as from an audio CD player) is recorded at such a high level that the recording device (such as a Mac running Peak) runs out of “headroom.” It can also occur when a signal is played back from an audio source into an audio destination at an excessive level, such as when a mixing console feeds a signal to a power amplifier at an extremely high level. In either case, clipping represents a

mismatch in level between an audio source and an audio destination. When digital clipping occurs, such as during digital recording, the results can be a harsh “crackling” or “raspy” sound. When you use Peak, you can avoid digital clipping by ensuring that the record levels are set so that the loudest incoming audio passages stay below the maximum input level, as indicated on the record or playback meters. Peak’s Clip indicator will easily show any clipping that occurs. Also refer to headroom.

CD Frame

A CD frame is a sector of data on a Red Book audio CD that contains 588 samples of audio. CD frames are one of available Peak’s time units options.

dB (decibel)

This is the most common unit used for measuring the level of audio. The greater the number of decibels, the higher the audio signal. Within Peak, the record and playback meters show a signal’s relative level in terms of dB. There are many different kinds of decibel scales, but for the purposes of using Peak, “dB” can be used to describe the relative gain of different passages of audio, or to describe the available headroom during recording. Also refer to gain and headroom.

DSP

DSP stands for digital signal processing. In the world of audio, DSP refers to manipulating a digital audio signal by processes such as level changes, reverberation, delay, or other such effects. Peak uses DSP to perform many of its audio processing tasks – including those found in the DSP menu or Toolbar.

Dynamic range

In audio recording terminology, dynamic range refers to the range in level between the quietest and loudest passages of a selection of audio. It is usually expressed in

decibels. Bit resolution determines a recording's dynamic range. An 8-bit recording has 256 available levels, which translates into a dynamic range of 48 dB. This may be suitable for some applications, but it may also sound noisy, since the difference in gain between the loudest passages and the quietest passages (which may contain hiss and other potential noise) is not that great. A 16-bit recording has 65,536 available levels, which translates into a high-quality dynamic range of 96 dB. As a rule of thumb, you can calculate dynamic range in decibels by multiplying the bit rate by "6." Also refer to bit resolution, decibel, and gain.

Fade-in/fade-out

A fade-in is a process that increases the gain of an audio signal from zero (silence) to its full volume. A fade-out is a process that decreases the gain of an audio signal from its full volume to zero (silence). Peak allows you to create fade-ins/fade-outs by making a selection and choosing the Fade In or Fade Out command from the DSP menu, from the Toolbar, or with a custom key command. Envelope shapes can be editing with the Fade In Envelope or Fade Out Envelope commands in the Preference dialog.

FLAC

FLAC (Free Lossless Audio Codec) is an audio format similar to MP3, but lossless, meaning that audio is compressed without any loss in quality.

Frequency

Sound consists of waves, which occur in cycles. Frequency refers to how frequently these wave cycles occur in a given period of time (generally, one second). The higher the frequency of a sound, the higher its "pitch" as perceived by human ears. Frequency is measured in Hertz (Hz), or cycles per second. Roughly speaking, humans are able to hear sounds in the frequency range between 20 Hz and 20,000 Hz (20 kHz).

Gain

1) The process of amplifying a signal. 2) A way to express relative signal levels for audio. For instance, by adding 6 decibels of level to a signal, we double the perceived loudness of the signal. Also refer to decibel and headroom.

Headroom

Describes how much gain is left before a signal induces clipping or distortion. When recording with Peak, the record meters indicate how much headroom is left before clipping. When playing back audio in Peak, the meter strip at the bottom of the screen will indicate this as well. Most professional audio engineers leave between 3 dB and 12 dB of headroom while recording, to minimize the possibility of clipping. If you leave too much headroom, however, your signal may be recorded at too low a level, and you may end up with excessive noise or hiss. Also refer to clipping, decibel, and gain.

Hz (Hertz)

This is the unit of measurement for frequency, and refers to the number how many "cycles per second" a sound wave generates. In the world of sound, the higher the number of Hertz, the higher the frequency of a sound and hence the higher its "pitch" as perceived by human ears. A thousand Hertz can be expressed as 1 kHz (one kilohertz), so that 20,000 Hertz may also be referred to as 20 kHz.

Loop

Loops are used to sustain or repeat a section of audio. They can be used for material that you intend to transfer to a sampler, or simply for playback within Peak itself. Peak allows you to create one loop per audio file. You can do this either by making a selection and choosing the Loop this Selection command (**⌘-Shift-"**) from the Action menu or Toolbar, or by placing markers at the desired start and end point of a region, and defining the markers as loop markers.

Loop Tuner

A feature of Peak that allows you to “fine-tune” the start and end points of a loop.

Loop Surfing

Peak’s term for adjusting loops during playback.

Loop Surfer™

A proprietary feature of Peak, which automates many of the steps required to “loop surf.”

Marker

A marker is a location in an audio document that you define as important; you can also think of a marker as a “memory location.” By marking a specific location in a recording, you can easily navigate to it for selection, editing or playback purposes. Peak allows you to define a marker by pressing ⌘-M or clicking a Toolbar button, either when playback is stopped or while it is engaged.

Metadata

Metadata is commonly described as “data about data,” but it is easier just to say that it is descriptive information about an audio file. Artist, album, and song are three typical pieces of metadata that might describe a music file purchased from an online music retailer, while metadata for a file from a sound effects library might include file name, genre, description, copyright, and other information.

MP2

(Also known as mpeg 1, layer 2) – A compressed audio file format that is widely used in digital broadcasting.

MP3

(Also known as mpeg 1, layer 3) – A compressed audio file format that uses psychoacoustic modeling to reduce file size significantly, while retaining good audio quality. Popular for use on the Internet and with personal music players.

MP4

(Also known as AAC, or mpeg 1, layer 4) – A compressed audio file format that uses psychoacoustic modeling to reduce file size significantly, while audio quality rivals that of uncompressed CD audio. MP4 is a fairly new standard and rising in popularity for use on the Internet and in personal music players. Peak supports reading/writing MP4 files.

Playlist

A playlist is a list of audio events, or “regions,” strung together in a specific order. See also region.

Overlap crossfade

This type of crossfade is used when assembling completed tracks (songs) together in a Playlist. It is used to smoothly transition from one song to the next, and differs from a centered crossfade in that there is no static edit point.

Plug-ins

Plug-Ins are optional software enhancements for Peak that are available from BIAS and other third-party manufacturers. By installing plug-ins, you can enhance Peak’s audio processing capabilities with tools such as reverberation, chorusing and flanging, noise reduction, spatialization, multi-band dynamics, pitch correction, spectral matching, equalization, and more.

QuickTime

This is an audio format developed by Apple, Inc. for QuickTime-based multimedia. It is supported by all Mac

software applications that support QuickTime. The QuickTime format is best if you plan to use an audio document in multimedia applications.

Region

A region is a portion of an audio document bounded by region markers. Regions are portions of an audio document defined using the New Region command (⌘-Shift-R) from the Actions menu or Toolbar. Regions can be saved into only AIFF and Sound Designer II files created by Peak. See also playlist.

Rolling edit

A rolling edit occurs when the usually static “edit point” (or exact mid-point of a centered crossfade) is moved along the timeline, without changing the duration of the crossfade, or altering the shape of the crossfade’s component fade in and out envelopes. Rolling edits are useful when two pieces of audio occur at the correct position on the timeline, and relative to each other, but the location where the two meet needs to be adjusted with no changes in timing between the two.

Sample

(verb) Sampling refers to the act of recording audio material digitally by a sampling instrument or other digital recording device. See sampler and sample rate.

Sample

(noun) A sample refers to audio material which was recorded digitally or “sampled” by a sampling instrument, recording software such as Peak, or other digital recording device. Sample also refers to a single wave-cycle” snapshot” of sound. See also sampler and sample rate.

Sampler

A sampler is an electronic instrument capable of digitally recording or “sampling” a sound and playing it back from

a keyboard or other controller. Samplers are used extensively in all areas of audio production, ranging from recording and performance, to film production and sound design. See sample rate.

Sample rate

Sample rate describes how frequently an analog audio signal is been “sampled” or analyzed as it is recorded and converted to a digital medium. Sample rate directly affects audio fidelity in terms of upper frequency response: the higher the sample rate, the higher the available frequency response. A fundamental principle of sampling (known as the Nyquist Theorem) states that to accurately capture a sound, the sample rate must be at least twice the highest frequency in the sound. The standard sample rate for Compact Discs is 44.1 kHz. The following are common sample rates which are supported by many Mac computers and Peak software.

192.000 kHz

This is the upper standard for HD (High-Definition) audio hardware/production. This rate results in an upper frequency response of 96 kHz – well above the range of human hearing.

96.000 kHz

This is a standard sample rate for HD (High-Definition) DVD audio, and is often used by sound editors working in audio post-production for DVD. This rate results in an upper frequency response of 48 kHz – well above the range of human hearing.

48.000 kHz

This is a standard sample rate for digital audio tape (DAT) recorders, and Digital Video (DV) equipment, and is often used by sound editors working in audio post-production for video or film. This rate results in an upper frequency response of 24 kHz – above most people’s hearing range.

44.100 kHz

This is the standard sample rate for Compact Discs, digital audio tape (DAT) recorders, and high-fidelity audio applications on Mac and PC-compatible computers with 16-bit playback capability. It is colloquially called “forty-four one” (as in 44.1 kHz). Most sound engineers working in music production – or anything that may be distributed on a CD – work at this rate. This rate results in an upper frequency response of 22,000 Hz – above most people’s hearing range.

22.050 kHz & 11.025 kHz

These sample rates are sometimes used for lower-fidelity audio playback on Mac and PC-compatible computers. Many games, websites and other multimedia productions utilize 22.050 kHz (or lower) 8-bit audio, since it uses half the disc space of CD-quality audio. The 22.050 kHz sample rate results in an upper frequency response of 12.025 kHz; this may sound “muffled,” since most people can hear considerably higher frequencies than 12.025 kHz.

Also refer to bit resolution, frequency, and Hertz.

SCSI

Stands for Small Computer System Interface. It is a standard developed to allow a variety of computers and peripheral devices such as samplers, hard disks, CD recorders, scanners, and other storage media, to connect and transfer data. The SCSI specification allows up to seven SCSI-equipped devices to be connected or “daisy-chained” together.

SMDI

SMDI stands for SCSI Musical Data Interchange Protocol. SMDI Samplers use SCSI to send samples between devices several times more quickly than over MIDI. In order to transfer samples between the Mac and your sampler using SMDI, you must connect a SCSI cable between your Mac and the sampler.

Sound Designer II

This is an audio file format developed by Digidesign for use with its digital audio products. The format can also be read by a wide variety of Mac-based audio editing and multimedia development programs, including Peak.

VST

“Virtual Studio Technology” – VST is a real-time, native plug-in standard created by Steinberg Media Technologies, AG. Plug-ins conforming to the VST standard can be used in any compatible host application. VST plug-ins are accessed from a central directory in the Mac OS, making it very easy to maintain large collections of plug-ins.

WAVE

This is Microsoft’s Windows Audio File Format. It is supported by many Windows software applications and some Mac applications. The WAVE format is best if you plan to use an audio document in an application that supports or requires WAVE format files. See also Broadcast WAVE.

Zero-crossing

The zero-crossing is the point where the waveform meets the zero crossing line or the center line through the waveform. It is the point of zero amplitude in the waveform.

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