

# Peak Express™

Version 3.3

Software User's Guide



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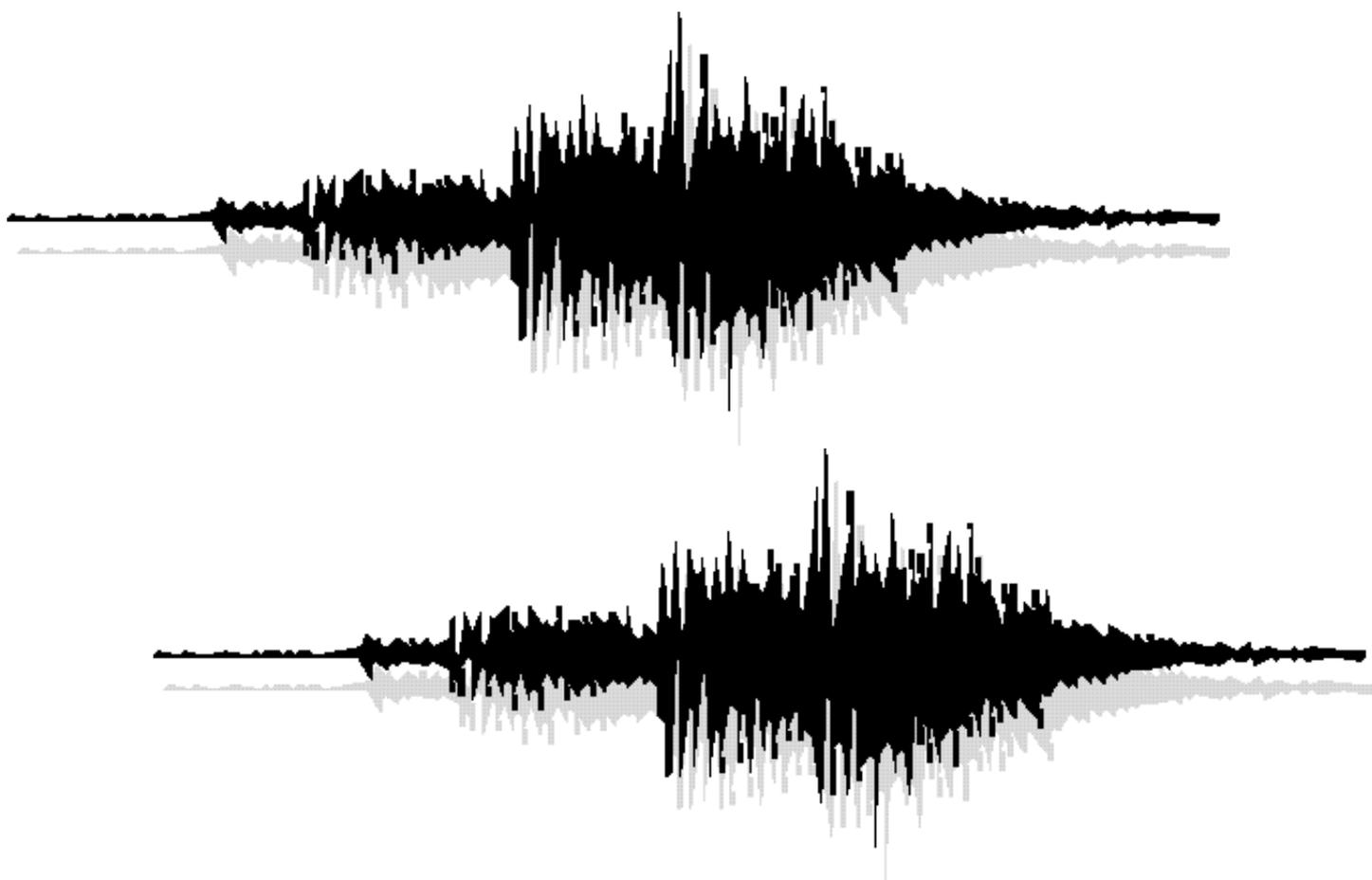
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# Chapter 1

## Introducing Peak™ Express



# Chapter 1:

## Introducing Peak Express

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### Welcome!

BIAS Peak Express is a streamlined edition of Peak – an advanced audio application that provides superior tools for editing and processing digital audio on the Macintosh computer. Peak Express was specifically designed to enhance the audio tools built-in to Apple’s Final Cut Pro 4. By combining high-quality direct-from-disk digital audio editing features with a lightning fast, completely non-destructive editing environment, Peak Express provides unique audio editing tools, and makes a superb addition to Final Cut Pro.

---

### Peak Express Features:

- Lightning-fast sample accurate audio editing
- Pencil tool for sample level click removal
- DV/QT clip import and playback w/ better-than-frame accuracy
- Supports DV standard 16 bit 48K playback
- Core Audio compatible
- Audio Unit & VST Plug-In Support\*
- AIFF and QT audio file support
- Zoom to Sample Level, Sample End, and Out All The Way
- Magnifying Glass Precision Zoom Tool
- Overview window
- QuickTime Movie Window
- Import CD Track(s)
- Floating Cursor Palette
- Fade In/Out
- Change Gain
- Convert Sample Rate
- Normalize
- Reverse
- Mix
- Gain Envelope
- Insertion point at Selection End/Start
- Time Unit display in SMPTE, Bars/beats, Min:Sec:ms
- Silence
- View in Clip Editor Support
- Set Selection
- Crop
- Undo/Redo
- Dual Mono Support
- Toolbar
- Integrated Growable Transport, Meter, Info Display, Progress bar
- Audio info window

- Play w/ Auditioning
  - Looping
  - \* The only VST format effects plug-ins supported by Peak Express are BIAS Freq2, BIAS Freq, BIAS SuperFreq & BIAS SoundSoap.
- 

## Minimum System Requirements

### To use Peak Express - you will need:

- G3 or G4 Apple Macintosh desktop, PowerBook, or iBook (≥ 200 MHz processor recommended)
- Macintosh OS 10.2 minimum
- 128 MB RAM minimum
- 20 MB available disk space

For most up-to-date info, see:

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

---

## Maximizing Peak Express Performance

- Turn File Sharing off, unless you need it.
- Disconnect your Macintosh from any networks and turn off AppleTalk, unless you need to be on a network.

- Optimize your hard drive.
- 

## Core Audio

Peak Express allows you to use CoreAudio for playback. Peak Express will play audio through the CoreAudio device selected in the CoreAudio dialog. CoreAudio has numerous advantages over previous audio systems, including low latency, shared drivers across applications, and support for high bit-depths and sample rates.

---

## About Your User's Guide

Peak Express is designed to be simple and intuitive. Your User's Guide is designed to help you set up and use Peak Express for digital editing as quickly and easily as possible. This User's Guide assumes that you are familiar with standard Macintosh operating techniques, including:

- Setting up, starting, and using your Macintosh
- Choosing commands from menus
- Double-clicking, selecting, Shift-selecting, and dragging with the mouse
- Opening, copying, saving and deleting files
- Opening, closing, scrolling, moving, re-sizing, and selecting Macintosh windows

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

The Chapters in your Peak Express 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 Express and explains some of the requirements for using Peak Express software
- Chapter 2 explains how to install Peak Express and configure your Macintosh for audio playback
- Chapter 3 introduces you to some basic concepts of digital audio and disk-based recording, as well as basic Peak Express operations
- Chapter 4 explains how to playback audio from hard disk in Peak Express using Apple Core Audio. It also explains how to import audio from compatible CD-ROM drives
- Chapter 5 introduces you to the concepts and techniques of non-destructive editing with Peak Express
- Chapter 6 is an overview of Peak Express' powerful native DSP (Digital Signal Processing) tools
- Chapter 7 explains how to use Audio Unit and VST real-time audio effects plug-ins
- Chapter 8 describes each command found in Peak Express menus
- Chapter 9 explains how to integrate Peak Express with Final Cut Pro as a dedicated external audio editor and gives examples of the workflow between the two applications
- Chapter 10 offers an overview of the wide array of other audio tools made by BIAS, should you choose to upgrade from Peak Express



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

---

## Help

Peak Express' Balloon Help will show you the functions of each toolbar item as you move the mouse across different toolbar icons. If you hold the mouse cursor over a Toolbar icon for 2 seconds, the Balloon Help for that icon's function will appear.

You can also use the Links menu to access BIAS documentation and technical support online.

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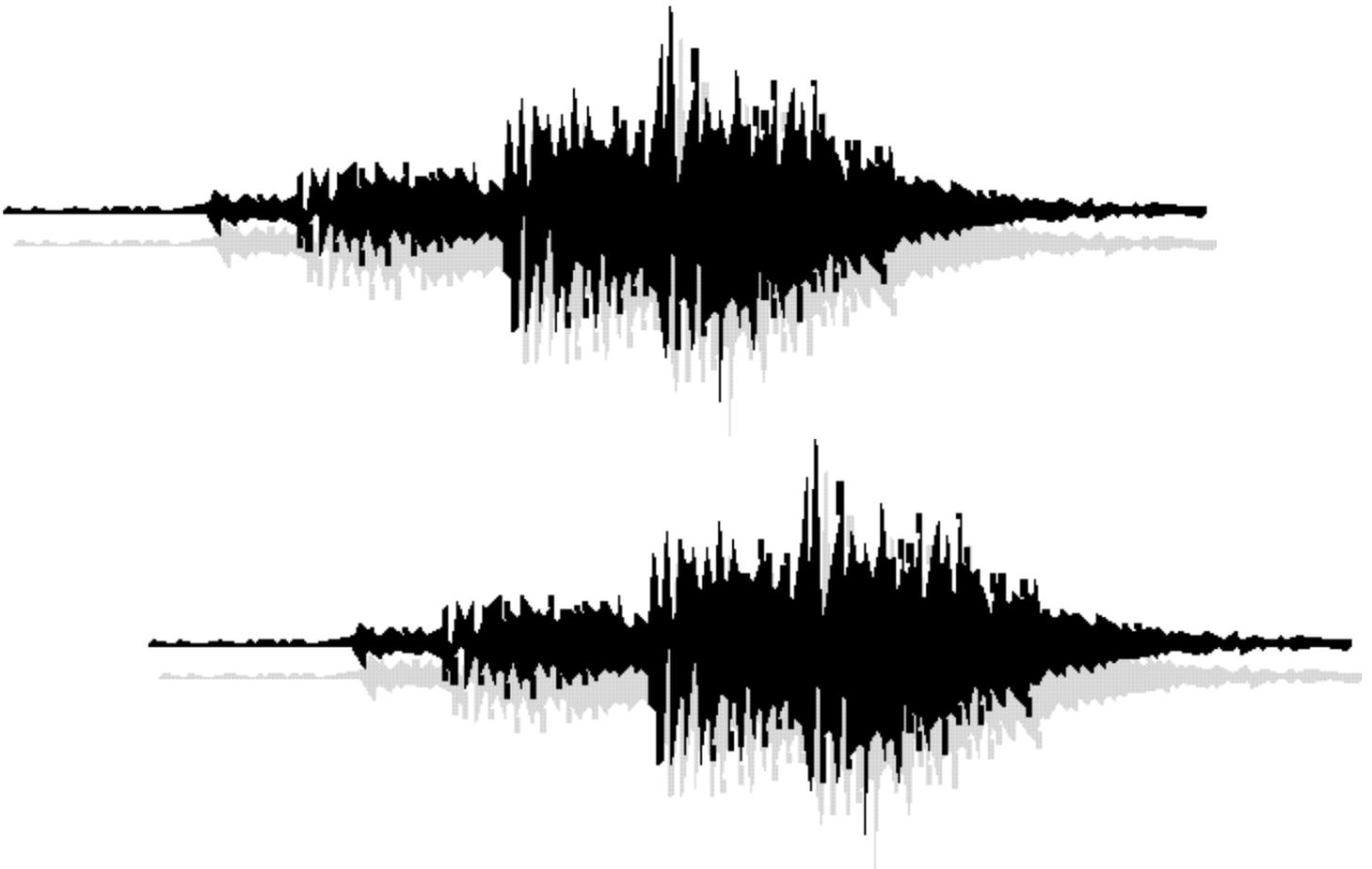
## Conclusion

Now that you know a little about Peak Express, proceed to the next chapter to learn how to install your software and get started using it.

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## **Chapter 2**

# **Installing & Configuring Peak Express**



# Chapter 2: Installing & Configuring Peak Express

## Installing Peak Express

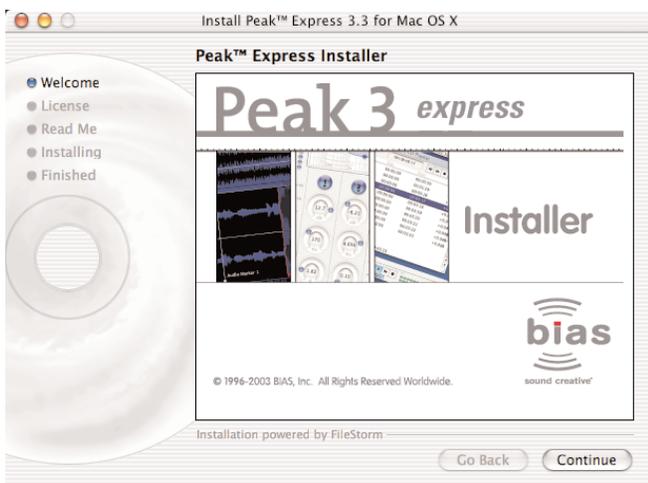
Peak Express' auto-installer software makes installation very easy.

Your complete Peak Express system consists of:

- CD-ROM Installer
- Peak Express serial number and Product Authorization Code (PAC)



*Before you install Peak Express, please check the Minimum System Requirements on Page 13 of this User's Guide.*



*The Installer dialog*

### To install Peak Express:

1. If you are using any virus-protection software, turn it off or temporarily remove it, and restart your Macintosh.
2. Insert the Peak Express Install CD-ROM in your CD-ROM drive, and double-click the Install icon.
3. When the installer dialog appears, click the Continue button.
4. Read the software license agreement
5. Click Install at the bottom right of this dialog, and then click the Agree button.
6. After you have clicked Install, follow the on-screen instructions.
7. When the installation is complete, a message will appear indicating that the installation was successful. Click Quit 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).



*At the end of installation, the installer will give you the option of registering via the BIAS web-site, which is the easiest way to register.*

### What Peak Express Installs:

- Peak Express automatically installs the Peak Express application into the following directory:  
`/Macintosh HD/Applications/`
- Peak Express automatically installs the BIAS SoundSoap demonstration version into the following directory:  
`/Macintosh HD/Users/<YourUserAccount>/Library/Audio/Plug-Ins/VST`



If you choose to store your Peak Express installer CD-ROM in storage binder, etc. – be sure to keep the serial number and Product Authorization Code that are located on the paper sleeve of the Peak Express installer CD-ROM, as you will need these if you ever need to re-install Peak Express. Registering with BIAS ensures that these numbers will always be accessible.

## Authorization

Peak Express must be authorized to work on your computer. To authorize Peak Express, you will need your Peak Express serial number and Product Authorization Code (PAC). These are located on the paper sleeve of the Peak Express installer CD-ROM, included inside the Final Cut Pro 4 package.

Welcome to Peak™ Express 3.3.1

Enter your serial number and Product Authorization Code (located on your Peak™ Express 3.3 Installer CD-ROM sleeve). For your convenience, some of these fields may be filled in automatically from your Address Book.

Peak 3 express

\*First Name: Peak      \*Last Name: User

Organization: My Studio

Address: 123 My Street

City: Petaluma      State/Province: CA

Zip/Postal Code: 94952      Country: United States

Email Address: me@myemail.com      Phone: 123-456-7890

\*Serial #: BPX-1234567890

\*Authorization Code: 1234 - ABCD - 567890 - EFGHIJ

The Peak Express Authorization dialog

When you first launch Peak Express, it will prompt you to authorize it by entering your Name, Organization, Serial number, and Product Authorization Code. (If you have filled out your contact information in the Mac OS X Address Book application, Peak Express will automatically fill out the contact information section of the authorization window).



Be sure to register! After you have installed Peak Express, you can easily access BIAS' online registration system by choosing "Register Peak Express" from the Links menu

## Making Audio Connections

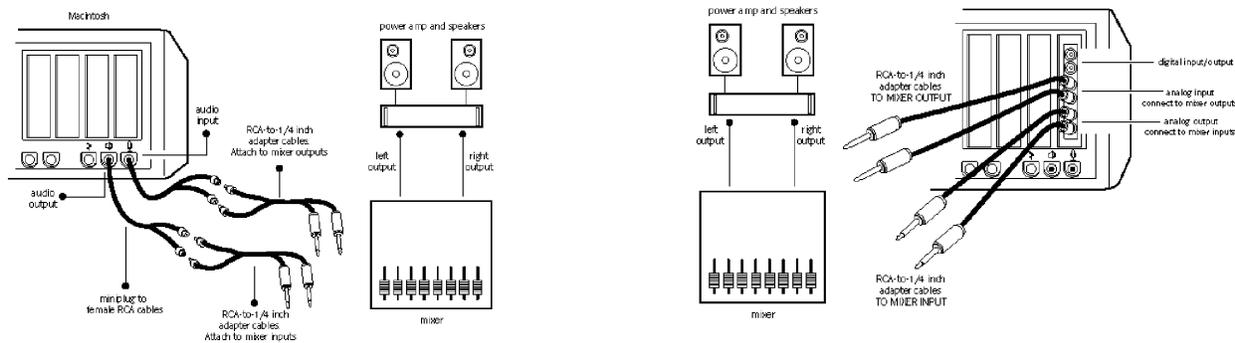
While it is possible to listen to Peak Express using a Macintosh's built-in speaker or headphones, most people will prefer to listen through a better quality external speaker system. It is very easy to set up audio connections between your Macintosh and a mixer or speaker system. Your exact setup will differ slightly depending on whether you are using the built-in sound output connectors on your Macintosh, or those of a third party audio interface.

## Using the Macintosh's Built-In Outputs

If you wish to use your Macintosh's built-in audio outputs for playback, do the following:

1. Turn down the volume on your playback system. Peak Express can be used with a variety of playback systems, including:
  - headphones
  - a stereo receiver or amplifier and speakers
  - a mixer, amplifier, and a pair of speakers
  - a mixer and a pair of amplified (self-powered) speakers
  - or simply a pair of amplified (self-powered) speakers, smaller versions of which are often called "multimedia" speakers.

The Mac's audio output jacks are standard stereo mini-plug (1/8-inch) connector. Most mixer, receiver, and amplified speaker inputs are equipped with XLR, 1/4-inch, RCA, or mini-plug jacks. To make the proper connection, you may need to use an adapter.



2. Connect your Mac's audio output to your playback system's input.
3. Raise the volume on your mixer or playback system. Your system should now be properly configured and ready for playback.

### Third-Party Audio Interfaces

If you have a CoreAudio-compatible PCI, PCMCIA (CardBus), USB, or FireWire audio interface installed in your computer and wish to use its outputs, do the following:

1. Turn down the volume on your mixer or playback system.
2. Make sure that you have installed the third-party audio interface according to the manufacturer's instructions.
3. Install the CoreAudio drivers for your audio interface according to the manufacturer's instructions.
4. Connect the outputs of your audio interface to the inputs of your mixer or playback system.
5. Raise the volume on your mixer or playback system. Your system should now be properly configured and ready for playback.



*A typical mixer/computer configuration is to have the computer outputs go to channel inputs on your mixer. The mixer's main outputs go to the amplifier/speakers.*

### CoreAudio

Peak Express can use CoreAudio – If you want to use a CoreAudio-compatible third-party audio interface with Peak Express, install the CoreAudio driver for the interface, and launch Peak Express. Be sure to consult the manufacturer's instructions when installing your audio interface. For more detail on using Peak Express with a CoreAudio-compatible audio interface, please read Chapter 4: Playing back Audio.

### USB and FireWire Audio Interfaces

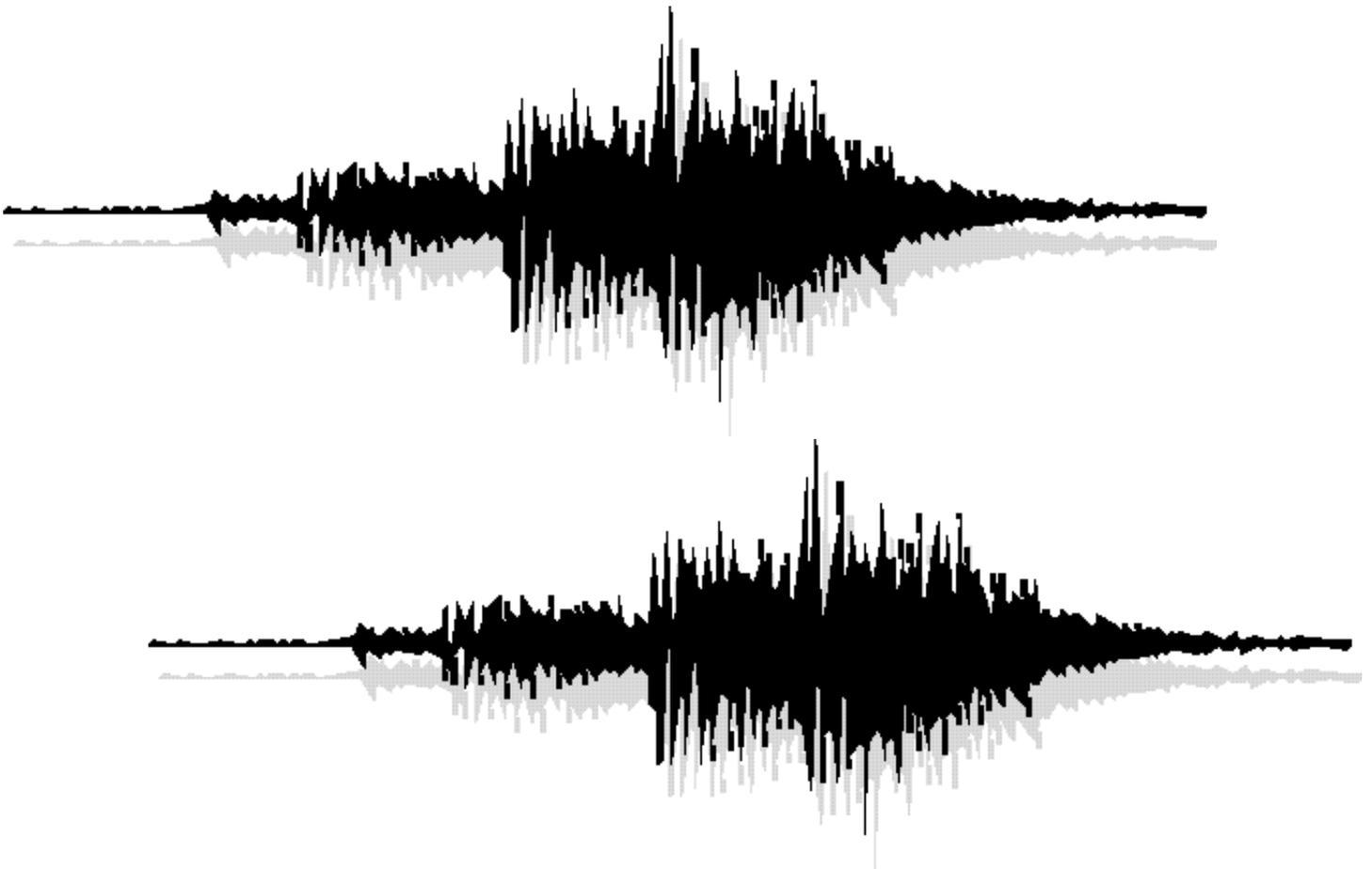
Mac OS X v.10.2.3 or later supports USB Audio on iMacs, iBooks, B/W G3s, and G4s. Peak Express supports USB audio with interfaces such as the Tascam US-428, and M-Audio Duo. Peak Express also supports compatible FireWire audio interfaces, such as the MOTU-828.

### Conclusion

Now that you have installed Peak Express, and installed and configured any third-party audio interface and its drivers, proceed to the next chapter to learn several basic concepts and functions essential to using Peak Express.

# Chapter 3

## Peak Express Basics



# Chapter 3:

## Peak Express Basics

---

### Introduction

This chapter explains several key Peak Express 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 Express software. This section explains a few key concepts that will give you a good general understanding of how Peak Express 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 Express software-equipped Macintosh 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 snap-

shot. 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<sup>8</sup>) 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<sup>16</sup>) 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 Editing

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

### Nonlinear Versus Linear Editing

Nondestructive audio manipulation is possible thanks to the nature of Peak Express' editing medium: a hard disk instead of a roll of analog tape. Unlike analog tape, which is a linear 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 Express 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 Express 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 Express 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

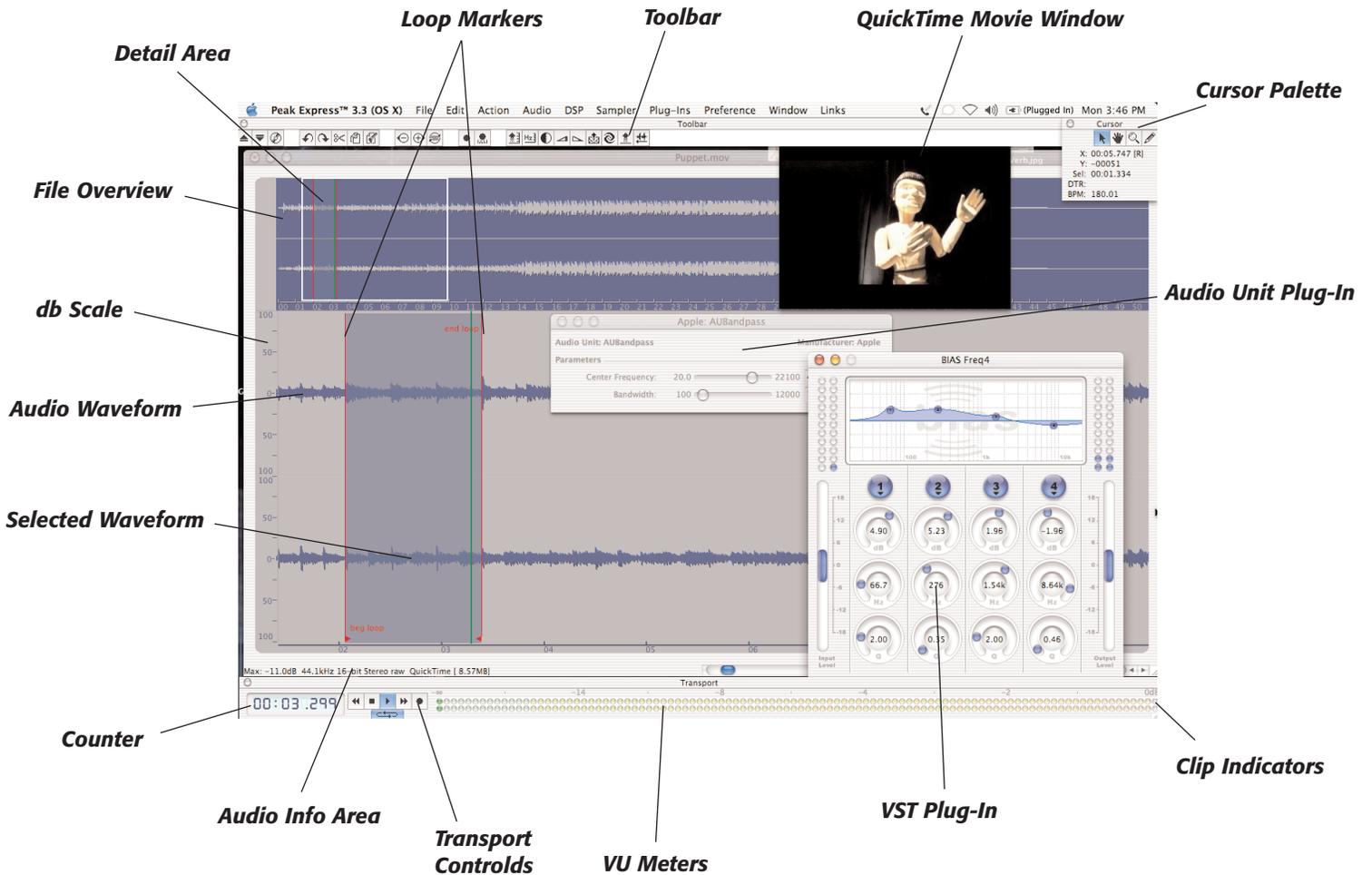
Because audio playback is a hard disk intensive task, it is important that your hard drive be in good operating condition. In the computer world, this means keeping it from becoming fragmented by using hard drive maintenance software. Fragmentation occurs as your hard drive begins to run out of contiguous (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 Macintosh and Peak Express software and keep your studio running smoothly.

Now that you understand some of the basic principles behind digital audio and disk-based editing, take a few moments to learn some of the basic operations of Peak Express. These are covered in the sections that follow.

First, we'll take a look at the Graphical User Interface, or "GUI", and then at some of Peak Express' basic functions.

## Peak Express Graphical User Interface (GUI)

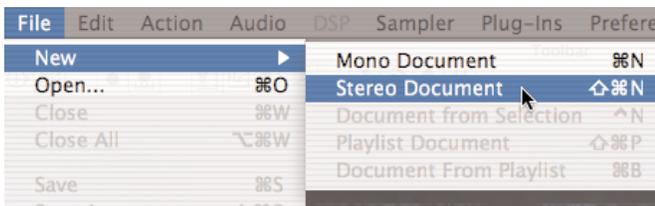


## Creating a New Peak Express Document

Peak Express will allow you to create an empty audio file of zero duration by choosing a new mono or stereo document. However, you would typically open an existing audio file into Peak Express for editing. Peak Express allows you to have up to two 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



## Opening Existing Audio Documents

Peak Express allows you to open audio files created in a variety of common audio formats including AIFF, WAVE, QuickTime.

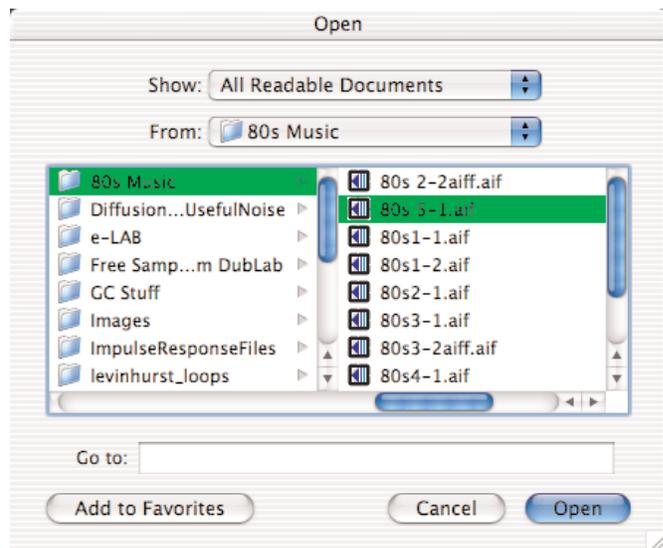
### Opening WAVE files

The Macintosh recognizes files using a “type” and “creator.” WAVE files are recognized by some audio applications with a type “.WAV,” while others recognize only “WAVE” as the type. Peak Express, along with Apple’s QuickTime software and most other Multimedia applications, recognize WAVE files of the type “WAVE,” but not of type “.WAV”. You can use ResEdit or other third-party applications to ensure your WAVE files

have the correct type prior to opening them with Peak Express.

### To open an audio file:

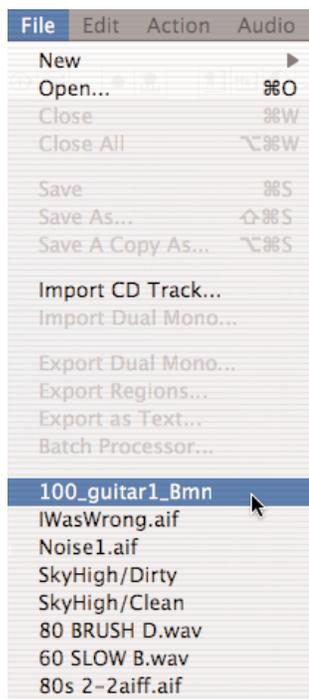
1. Choose Open (⌘-O) from the File menu.
2. In the dialog that appears, locate the file that you wish to open. From this dialog, you can open AIFF, WAVE, or QuickTime audio files.
3. When you find the file you wish to open, click the Open button and Peak Express will open the audio file into a new audio window, displaying an overview of the entire sound. Shift-click or ⌘-click to open multiple files.



Creating a new Peak document

## Recently Opened Documents

Peak Express 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 re-open it without having to search on your hard drive. Peak Express 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 Express, it will automatically update the name in its internal list.



Recently opened documents in the File menu

## Opening “Dual Mono” Files

Certain audio applications, such as BIAS Deck, use “dual mono” files, which comprise the right and left channels of stereo material. Peak Express allows you to open such dual mono files, and in the process creates a new interleaved stereo audio document. Because Peak Express actually writes a new stereo audio file to disk, this conversion process requires hard disk space equivalent to the two orig-

inal mono files.



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

### To open a dual mono file:

1. Make sure the “Auto Import Dual Mono” preference is checked under the Preferences menu.
2. From the File menu, choose Open, and locate the desired files.
3. Select either half of the dual mono file and click Open. Peak Express imports both halves of the dual mono file.
4. When Peak Express has finished creating the new stereo audio document you can begin editing.



*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 Express also allows you to export your stereo audio documents in Dual Mono format, which means that it's easy to import dual mono tracks from BIAS Deck into Peak Express, edit and process them within Peak Express, and then export them as Dual Mono files to be reincorporated into your Deck sessions.

## CD Audio Tracks

Peak Express allows you to drag a CD audio track directly onto the Peak Express 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 in Chapter 4).

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## 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 Express 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 Express 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 Express supports the following audio file formats:

- **AIFF:** This is Apple's Audio Interchange File Format. It is also Peak Express' default file format and is supported by many Macintosh software applications.
- **WAVE:** This is Microsoft's Windows Audio File Format. It is supported by many Windows software applications and some Macintosh 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 Macintosh 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™.

### **To save a Peak Express 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 Express' 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.

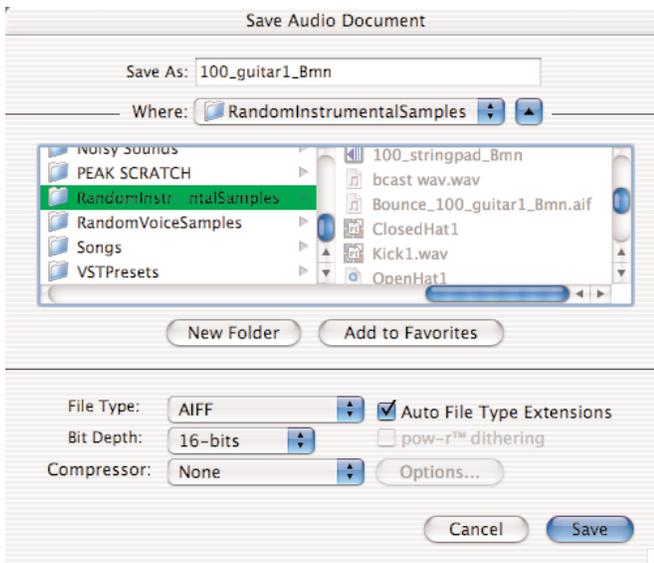
### **Using the Save As... and Save A Copy As... Commands**

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.

2. Select the desired file format from the File Type pop-up menu. AIFF is Peak Express' 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.
4. Enter a name for the new audio document, select where you want to save the new file, and click Save.



The Save dialog

## Closing Audio Documents

To close a file in Peak Express, choose Close from the File menu (⌘-W). If you have made any changes to your document since the last time you saved, Peak Express 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. To close all files currently open in Peak Express, choose Close All from the File menu (⌘-Option-W).

## Peak Express Windows and Palettes

There are several windows and palettes when you open Peak Express that either appear by default or are available to you under Peak Express' Windows menu. Windows that appear in Peak Express 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 Cursor Palette, and the Movie Window. This section will cover the basic function of these Peak Express Windows and Palettes.

## Peak Express Audio Document Window

Peak Express Audio Document windows contain a Waveform Display, an Audio File Info Bar and a Max Level Indicator in the lower left corner. 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. On top of the Audio Document window is the File Overview, if it is enabled

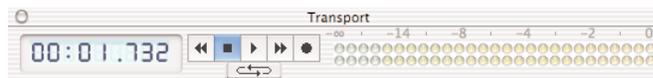


The Audio Document window

under the Peak Express Preference menu. The Audio Window is described in more detail in Chapter 5.

## Transport Window

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, and Loop during playback), and audio level meters with clip/peak indicators.



Transport window

## Time Display

The Time Display is like a counter. It shows elapsed time and tracks the “playback head” as audio plays. Clicking on the waveform when playback is stopped will cause the current cursor location to appear in the Time Display. This display will also show the time remaining while performing Open, Save or DSP processing actions.

## Meters

Peak Express’ 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.

## Progress Bar

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

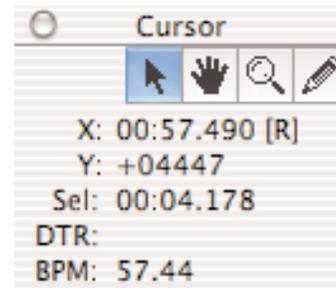


Progress bar

## Cursor Palette

Peak Express has a floating Cursor Palette that contains several useful functions. Along the top right side of the palette are four different 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 moving a waveform within its window, a Pencil Tool for drawing directly on the waveform at the sample level, and a Magnifying Glass 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 in the Cursor

Palette. To change the cursor tool, click on a new icon.



The Peak Express Cursor Palette

## Arrow Cursor Tool

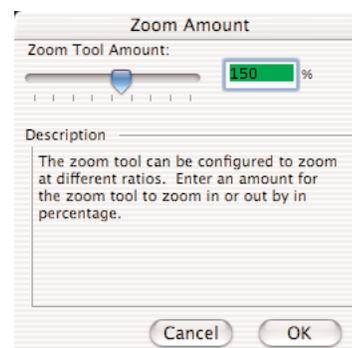
The Cursor Tool is the default tool. It is the standard “arrow” tool that lets you click and select on-screen items.

## Hand Tool

The Hand Tool lets you grab and move a waveform around in its window.

## Magnifying Glass (“Zoom Tool”)

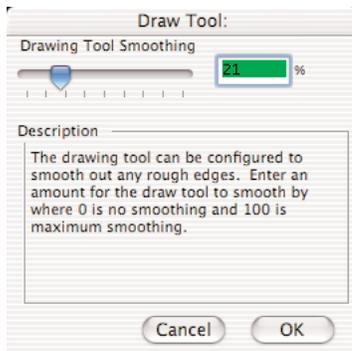
To use the Magnifying Glass tool, simply click on the tool in the Cursor Palette, then move the cursor over the waveform. A “plus” (+) sign will appear inside the Magnifying Glass. Click on the waveform to zoom in; each click of the mouse will zoom in farther. To zoom out, option-click on the waveform. A “minus” (-) sign will appear in the Magnifying Glass, and you can click on the waveform to zoom out. Double-clicking on the Magnifying Glass will open the Zoom Amount dialog where you can specify the Zoom Amount.



The Zoom Amount dialog

## 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 Draw Tool dialog*

the waveform. Double-click on the Pencil Tool icon in the Cursor Palette for the Drawing Tool Smoothing Settings.

## Cursor and Selection Information

The bottom half of the Cursor palette 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. 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 in the currently specified time units (Samples, Min:Sec:ms, SMPTE, or Bars | Beats)

[L] = the cursor is currently positioned over the left channel of the audio

[R] = the cursor is currently positioned over the right channel of the audio

DTR = distance in the currently specified time units (Samples, Min:Sec:ms, SMPTE, or Bars | Beats) to the nearest reference marker

Sel = the duration of the current selection in the currently specified time units (Samples, Min:Sec:ms, SMPTE, or Bars | Beats)

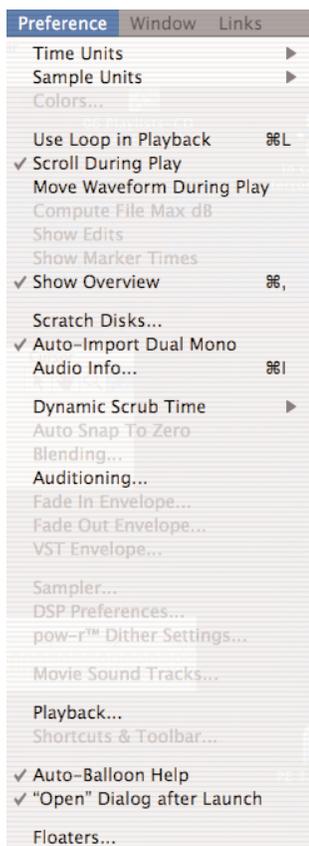
“+” or “-” indicates positive or negative phase

BPM = beats per minute

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

## Setting Preferences

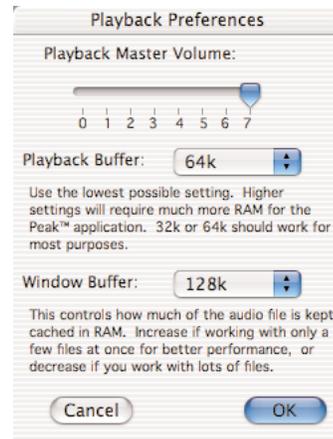
You can customize a number of Peak Express' parameters so you can work with the program in a way that best suits you. Most of these parameters are found in the Preference menu. These include the controls for playing back audio documents, the selection of the icons in the Toolbar, and the colors that 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 8: Peak Express Menus. There you will find explanations of each command in the Preference menu and other Peak Express menus. Items from the Preference menu are also covered throughout this manual where their discussion is relevant.



The Preference menu

## Setting Peak Express' Playback Parameters

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



Peak Express Playback Preferences dialog

### Playback Master Volume

Peak Express provides a master volume control for audio playback. In the Playback Preferences dialog, set Peak Express' output volume to the level that you desire by adjusting the slider or entering a number value from 0 (silent) to 7 (loudest). If you are controlling your playback volume with the volume control of your playback system, you'll probably want to leave the output level set to 7.

### Playback Buffer

Peak Express 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 Express 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 smaller files.

## Dynamic Scrub Time

Peak Express 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 Express 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 Express allows you to choose the length of this playback loop with the Dynamic Scrub Time command in the Preference menu. You can also select Tape-Style Scrubbing in this dialog. For a full description of scrubbing audio in Peak Express, please see Chapter 5.

### **To select a loop duration for dynamic scrubbing:**

1. Choose Dynamic Scrub Time from the Preference 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.



*To use Tape-Style scrubbing, you must select "Mac OS X Audio HAL" from Peak Express' Audio menu > Sound Out submenu.*

---

## Scroll During Playback

With the Scroll During Playback command enabled, Peak Express 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 Preference menu. A check next to this item indicates it is enabled.
2. To disable Scroll During Playback, simply re-select Scroll During Play from the Preference 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 Express will move the waveform under the cursor as playback progresses, so that the playbar 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 Preference menu. A check next to this item indicates it is enabled.
2. To disable Move Waveform During Playback, simply re-select Move Waveform During Play from the Preference menu. The absence of a check next to this item indicates it is disabled.

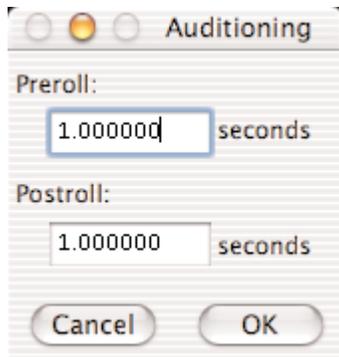
## Auditioning

Peak Express' 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.

### To configure Auditioning:

- Select Auditioning from the Preference menu. Enter the desired amount of Pre-roll and Post-roll into the dialog boxes. Click OK to exit the dialog.



The Auditioning dialog

### Auto-Import Dual Mono

Certain audio applications, such as BIAS Deck and 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 Express will automatically "grab" the other half of the file, and convert both files into a single stereo Peak Express 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 the must have the exact same name followed by the suffixes ".L" and ".R".*

### To enable Auto-Import Dual Mono:

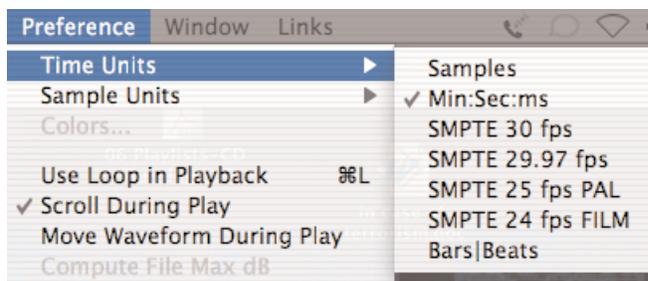
1. Select Auto-Import Dual Mono from the Preference menu. A check next to this item indicates it is enabled.
2. To disable Auto-Import Dual Mono, simply reselect Auto-Import Dual Mono from the Preference menu. The absence of a check next to this item indicates it is disabled.

### Choosing a Time Format

The Units command allows you to choose a time format for the audio timeline in Peak Express' audio document window. You can choose samples, seconds, SMPTE frames, and Bars|Beats. The format you choose will depend on the nature of the project that you are working on.

### To choose time format:

1. Choose Time Units from the Preference menu.
2. From the submenu, choose the time format that you desire: samples, Min:Sec:ms, SMPTE frames, or Bars|Beats. The timeline in Peak's audio document window and Transport switches to the format that you choose.

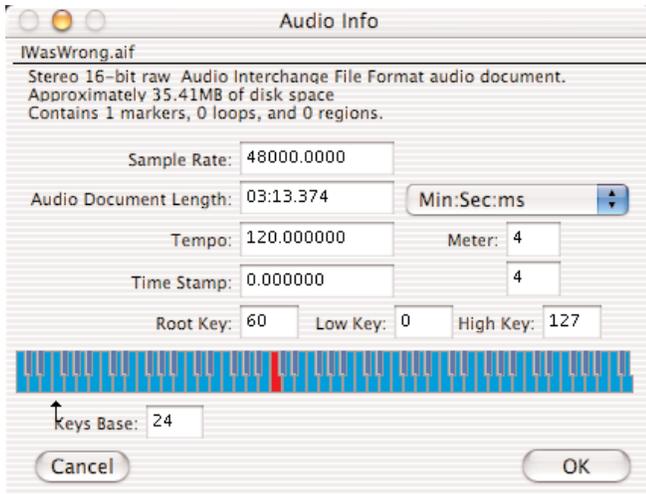


Choosing a time format with the Units command

### Audio File Meter, Tempo, and Timestamp Settings

If your audio document is using bars |beats as its units, you will want to tell Peak Express what the tempo of the

audio document is. Use the Audio Info command from the Preference menu — or enter the BPM in the Cursor palette — to set the tempo of the audio document. You can also enter the meter of an audio document using the Audio 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=eight note, 16=sixteenth note, and so forth.



Audio Document Info

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.

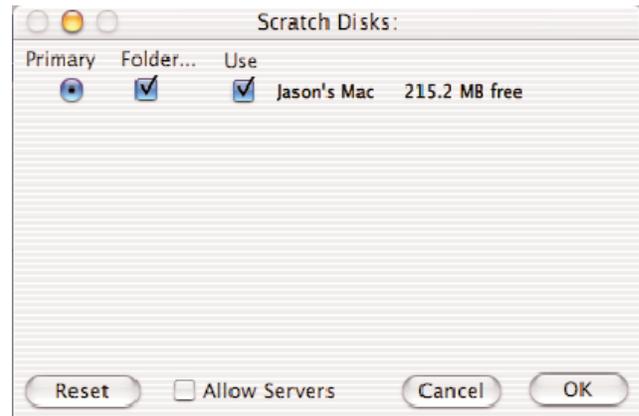
### Choosing a Scratch Disk

Because audio data can be very large, Peak Express 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 Macintosh, the Scratch Disks command in the Preference menu allows default, or "Primary" disk for this purpose — usually you 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, Media Net, or other fast server.

### To choose a scratch disk for temporary files:

1. Choose Scratch Disks from the Preference menu, The Scratch Disks dialog appears.



The Scratch Disks dialog

2. The Scratch Disks dialog will show all hard drives currently connected to your Macintosh. Choose the hard-drive(s) that you wish Peak Express 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 Express 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. Contact your System Administrator if you need assistance changing Directory or Disk permissions.*

---

## Conclusion

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

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## The Toolbar



Peak Express allows you to select many useful commands from the Toolbar. The Toolbar is an easy way to make your work in Peak faster and more efficient.

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## Quitting Peak Express

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

### **To quit Peak Express:**

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

If you have made any changes to your document since the last time you saved, Peak Express 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.

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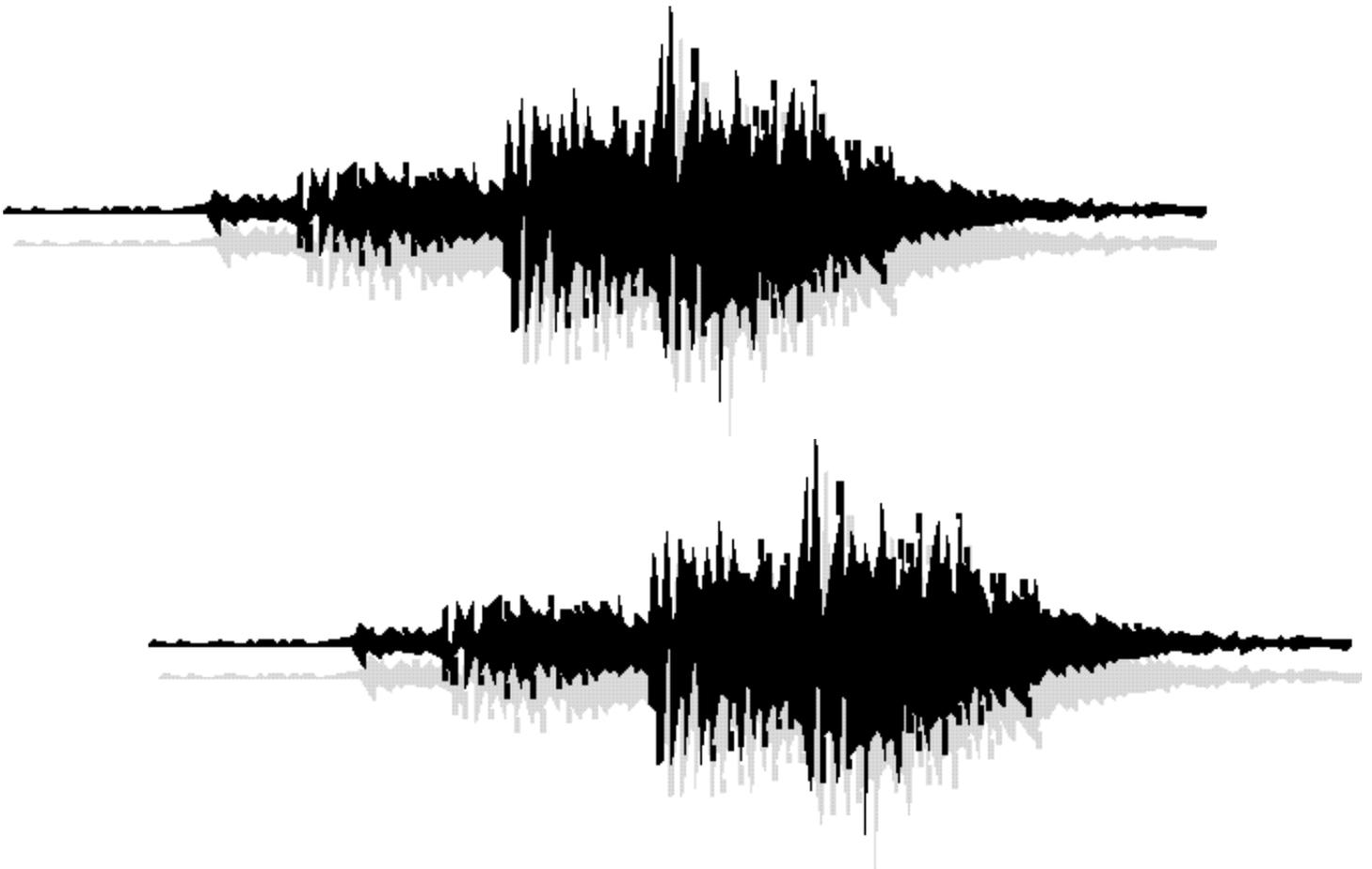


*If you wish to close all currently open windows without saving, hold down the Option key and click Don't Save.*

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# Chapter 4

## Playing Audio



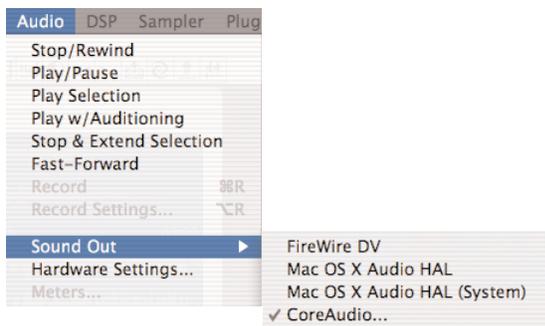
# Chapter 4: Playing Audio

In this chapter you'll learn how to play back audio with Peak Express. If your Macintosh is equipped with a CD-ROM drive, you can also import audio directly from an audio CD.

Mac OS X Audio HAL is the Apple Sound Manager on OS X. If you are running Peak Express on OS X, select FireWire DV to use any supported Digital Video (DV) device—such as a camcorder—connected to a FireWire port, Mac OS X Audio HAL (System) to use the Macintosh Built-In Sound, or Mac OS X Audio HAL to use the audio device which is selected for output in the Sound System Preferences.

## CoreAudio

Peak Express supports CoreAudio under OS X. CoreAudio can be used with the Built-In Sound on your Macintosh, or with any third-party audio interface that has support CoreAudio drivers. If you have a third party audio interface, install its CoreAudio driver according to the manufacturer's instructions (for example, the M-Audio Duo series). Be sure to reboot your computer after installing any new CoreAudio driver software. If the audio interface has its own utility or configuration software, be sure to configure it prior to launching Peak Express.

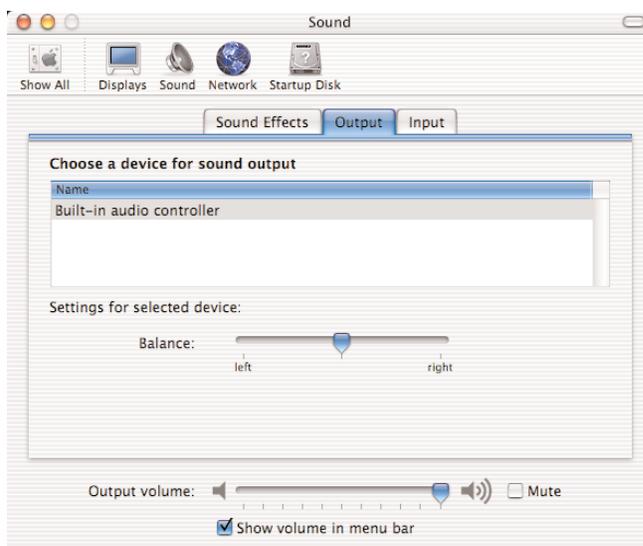


The Sound Out submenu under the Audio menu

## Playback with CoreAudio

### To use Peak Express with Core Audio:

1. If applicable, install your third-party audio interface and its software according to the manufacturer's instructions.
2. Reboot your Macintosh under OS X.
3. Launch the OS X System Preferences, and choose Sound.



System Preferences Sound Output

4. Select "Built-in audio controller" (or your third-party audio interface) for Output.
5. Configure the audio interface's own utility software or control panel (if applicable).



Hardware Settings: M-Audio Duo Control Panel

6. Launch Peak Express.
7. Choose CoreAudio from the Sound Out submenu under the Audio menu.
8. Select the Clock Source, Sample Rate, and Play Through outputs in the CoreAudio Playback dialog. Click OK, or for further options, click the More button.



CoreAudio Playback dialog

9. Select the Input Device, Output Device, and Buffer Size. Click OK to close the CoreAudio Settings dialog and click OK again to close the CoreAudio Playback dialog.



CoreAudio Settings

Peak Express is now configured for playback with CoreAudio.

## Playing Audio with Peak Express

Once you have configured Peak Express for Playback using CoreAudio, you can start to playback audio with Peak Express.

### The Transport Controls

The Transport Controls that appear in the Transport window are useful tools for initiating playback and controlling navigation within an audio document. They function much as the controls on a tape recorder would. As they appear below, from left to right, they are Return to Zero, Stop, Play, and Go to End.



The Transport Controls

#### To start playback from the beginning of a document:

1. Press the Spacebar, or click the Play button in the Transport. Playback begins from the beginning of the document.
2. To stop playback, press the Spacebar again or click the Stop button in the Transport.

#### To rewind playback to the beginning of a document:

- Click the Stop button twice, or click the Rewind button in the Transport. You can also press the Return key if playback has been stopped.

#### To start playback from a specific point in a document:

1. 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.

2. Alternatively, 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.
3. You can also click anywhere in the Audio Waveform Overview to begin playback from that point.
4. To stop playback, press the Spacebar.

### **Triggering Playback of Multiple Audio Documents**

Peak Express allows you to have two audio documents open at a time. Peak Express assigns each of these documents a number based on the order in which it was opened. Peak Express provides you with a convenient way of triggering playback of any open audio document by pressing a number key on your computer keyboard. This is an easy way to trigger playback of each audio document – pressing the “1” key on your keyboard will start playback of the first document that was opened, and pressing “2” will start playback of the second document opened.

#### ***To trigger sequential playback of multiple audio documents:***

1. Open two audio documents, taking note of the number that Peak Express assigns them in the Windows menu. (This is based on the order in which the documents were opened.)
2. Press the number which corresponds to the document(s) you wish to play. (Note: the numeric keypad will not work for this function, you must use the numbers at the top of the keyboard). 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 “cue up” both of the corresponding files. They will then play in the order you choose.
3. If you wish to stop playback and jump to the next

document in line, press the Return key. Peak Express initiates playback of the next document in sequence.

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### **Importing a Track From an Audio CD (CD Audio Extraction)**

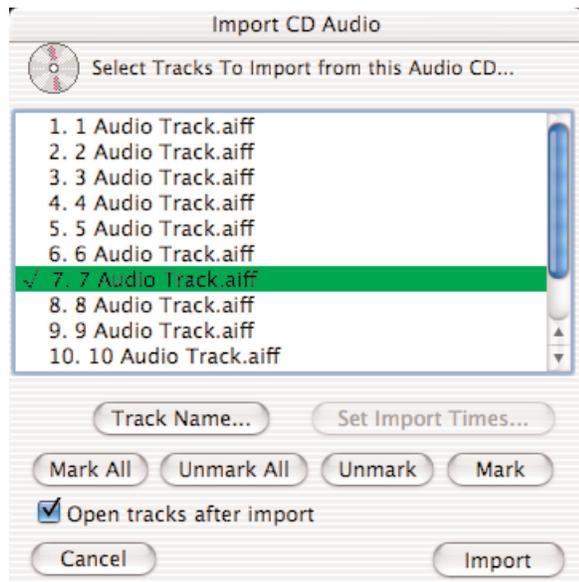
If you own a Macintosh computer that is equipped with a compatible CD-ROM drive, you can use Peak Express to import audio directly from an audio CD. This process is sometimes referred to among multimedia developers as audio extraction, or audio-across-SCSI. If you own an Apple or non-Apple external CD-ROM drive, you may also be able to take advantage of this feature.

Please note that not every CD-ROM drive supports audio extraction, and that even among drives of the same model, one drive's firmware (the internal operating software) may support audio extraction, while another's may not. If you are unsure as to whether or not your drive supports Apple-standard audio extraction, your best bet is to try the instructions that follow. If this doesn't work, please contact the CD-ROM drive's manufacturer to establish whether your drive (and your drive's firmware) will support Apple-standard audio extraction.

#### ***To import tracks from an audio CD:***

1. Insert an audio CD in your CD-ROM drive.
2. Choose Import CD Track from the File menu or click the CD button in the Toolbar.
3. 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.
4. To name a selected CD track, click the Track Name button. If you have iTunes installed and are connected to the internet, Peak Express will recognize the track

names by their ISRC codes as they are registered on the CDDB™ online CD database.



*Import CD Audio dialog*

5. Check the Open tracks after importing checkbox if you want the CD track(s) you are importing to open in Peak Express. If you prefer to import the CD track(s) straight to disk, be sure to deselect the Open tracks after import checkbox.
6. Click the Import button in 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 hard drive where you wish to save the audio file. Click Save to save the file to disk. Peak Express will save the file(s) in the AIFF audio format.

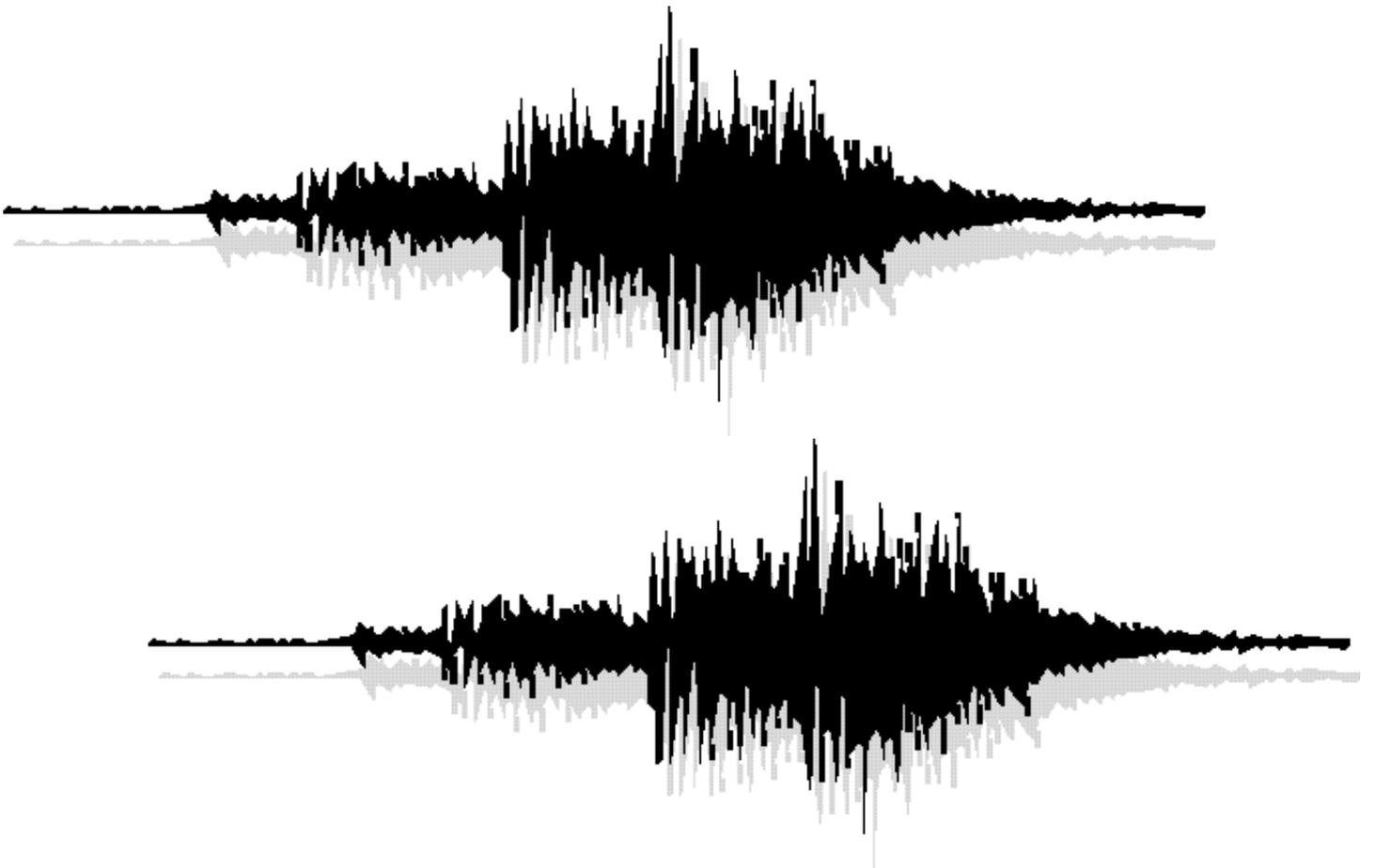
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## Conclusion

You have now learned how to playback audio from hard disk using the Apple CoreAudio system. You have also learned how to import audio tracks from CDs. In the next chapter, you will learn how to edit audio with Peak Express' powerful set of digital editing tools.

# Chapter 5

## Editing



# Chapter 5: Editing

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

## Editing Audio with Peak Express

Peak Express provides you with a powerful interactive, non-destructive 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 DSP functions and Plug-Ins 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 Express reaches the location of the inserted audio, it will play it as if it were there all along. This revolutionary capability makes Peak Express a supremely fast and flexible audio production tool that makes conventional recording and editing methods, such as analog tape and a razor blade or Sound Designer, seem primitive and archaic by comparison.

## Nondestructive Editing

Peak Express' 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.

## Undo and Redo

As an editing session progresses, Peak Express 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. Peak Express allows up to 5 levels of Undo and Redo. Through the use of the Macintosh's standard Undo and Redo commands, you can undo or redo your actions sequentially. 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 Express' 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



*An audio waveform*

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.

## Vertical Scaling

Peak Express 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 Express 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 the Audio Waveform Overview:**

- The Overview display appears along the top of the audio document window under the title bar. Check Show Overview in the Preference menu or Toolbar. A check next to this item indicates it is enabled.

### **To hide the Audio Waveform Overview:**

- To hide the Audio Waveform Overview, uncheck Show Overview in the Preference menu or Toolbar.



*A waveform with selected audio*

## 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). 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 the center point).

### To make sure a selection is at a zero crossing:

- Make a selection, and then choose Snap Selection to Zeros from the Action menu

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

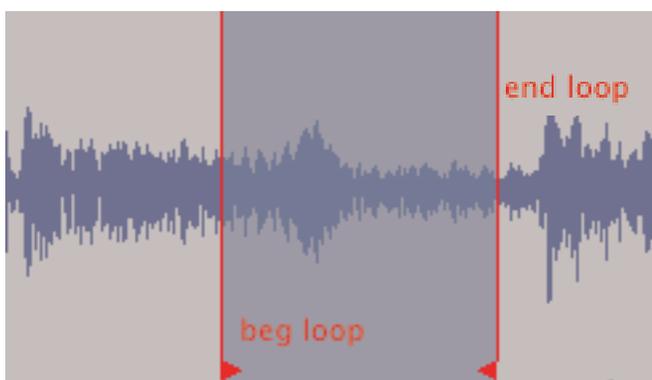
To select only the Left channel, move the cursor over it. The cursor will show a small “L” at the insertion point. To select only the Right channel, move the cursor over it. The cursor will show a small “R” at the insertion point. You can process one channel of an audio document using Peak Express’ native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



*Peak Express 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 Loop

A loop refers to a section of audio that is bounded on either side by loop markers. In the illustration below, the area that



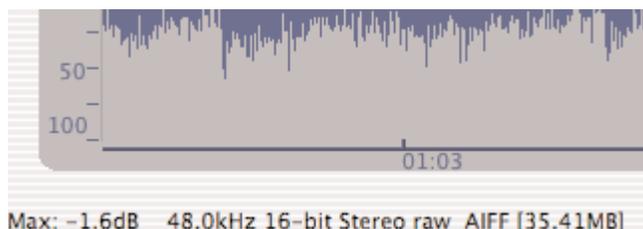
A waveform with loop markers

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 Express itself. Peak Express allows you to create one loop per audio file.

### Audio Info Area

In the lower left corner of each Peak Express 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.

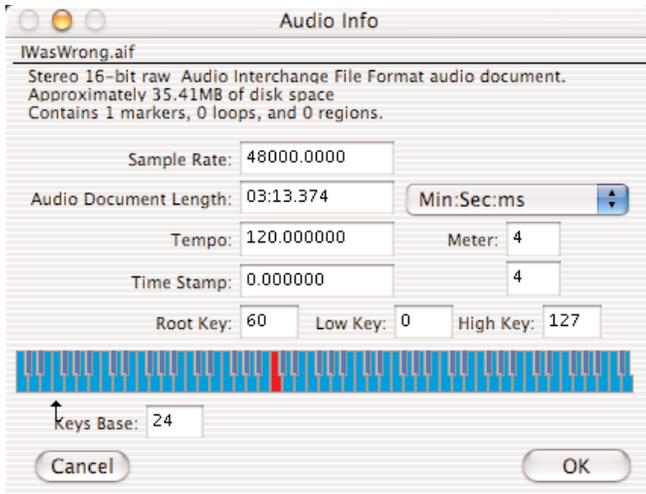


Audio Info Area

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 6, DSP. Clicking on any other portion of the Audio Info Area will open the Audio Info dialog.

### Audio Info dialog

Selecting Audio Info from the Preference menu (⌘-I), will open the Audio Info dialog. The Audio Info dialog allows you to change the sample rate, duration, root key (for use in a sample playback instrument), and high and low key range. Note that by changing the sample rate, the pitch and duration of the audio will be affected. (To change the sample rate of an audio document without changing the pitch, use the Sample Rate Conversion command from the DSP menu, or click on the appropriate Toolbar icon.)



## Selecting Audio

In order to perform any type of editing action on an audio document, first you must select the portion of the document that you wish to modify. Peak Express has several techniques for making and modifying selections.

### To make a selection with the mouse:

- Click the cursor at the desired 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 loop markers:

- Hold down the Command key ( $\text{⌘}$ ) and click anywhere in between two markers. Peak Express selects the audio between the loop markers.

### To select audio between loop markers with the Tab key:

1. Create a loop in an audio document.
2. Press the Tab key on your computer keyboard. Peak Express selects the portion of the waveform that lies between the beginning of the document and the first loop marker.
3. Press the Tab key again to select the portion of audio between the two loop markers. (If you hold down the Shift key while tabbing the selection through the audio file, you can add each successive area to the selection.)
4. Pressing the Tab key again selects the space between the second loop marker and the end of the audio document.

### To select all audio in a document:

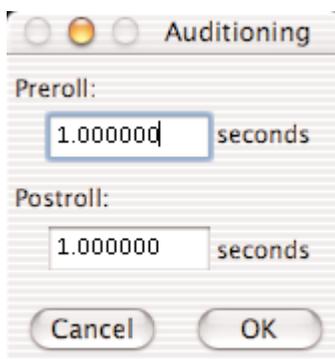
- Choose Select All from the Edit menu or press  $\text{⌘-A}$  on your Macintosh keyboard.

## 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 Express' 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 Preference menu. The Auditioning dialog appears.



The Auditioning 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 Express plays the selection, adding the amount of pre-roll and post-roll that you specified.

## Scrubbing

### Dynamic Scrubbing

Peak Express 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 Express 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 Express allows you to choose the length of this playback loop with the Dynamic Scrub Time command in the Preference menu. Peak Express provides two types of dynamic scrubbing:

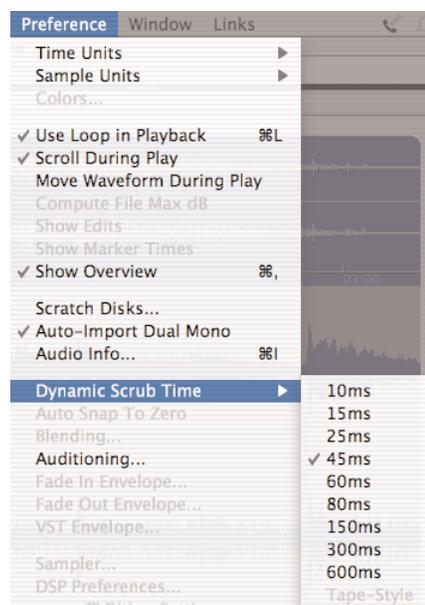
dynamic shuttle scrubbing and dynamic jog scrubbing. Both are described below.

### To select a loop duration for dynamic scrubbing:

- Choose Dynamic Scrub Time from the Preference menu, and choose a duration from the hierarchical submenu. Typically, a value of between 40 to 80 milliseconds works well.

### To use dynamic "Shuttle-type" scrubbing:

1. Hold down the Control key and click and drag the mouse across an area of the audio document in the audio document window. As you drag the mouse, Peak Express 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.



Setting the Dynamic Scrub feature's loop time

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 location.

## Jog Scrubbing

Peak Express 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 Express 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 an area of the audio document in the audio document window. As you drag the mouse, Peak Express 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 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 press-

ing or releasing the Option key.

## Tape-Style Scrubbing

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



*To use Tape-Style scrubbing, Peak Express must be configured to use Mac OS X Audio HAL – To configure this, click on the Audio menu > Sound Out, and choose “Mac OS X Audio HAL” from the submenu.*

---

### **To start tape-style scrubbing:**

- Hold down the Control key on your keyboard, and then click and drag the mouse at the location 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 playback bar will show the scrubbing speed at the top of the playbar. Playback speed can vary from minus four times (–4.0x) to four times (+4.0x) original playback speed.

## Using Undo and Redo

Peak Express maintains an internal list of the last five 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 Express multiple undo and redo capability. Through the use of the Macintosh's standard Undo and Redo commands, you can undo and redo your actions sequentially. 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 Express, 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 there are none left to redo. When there are no actions left to redo, the Redo menu item will appear grayed out.



*To return a file to its original, un-edited state, simply close the file without saving*

## Essential Editing Functions

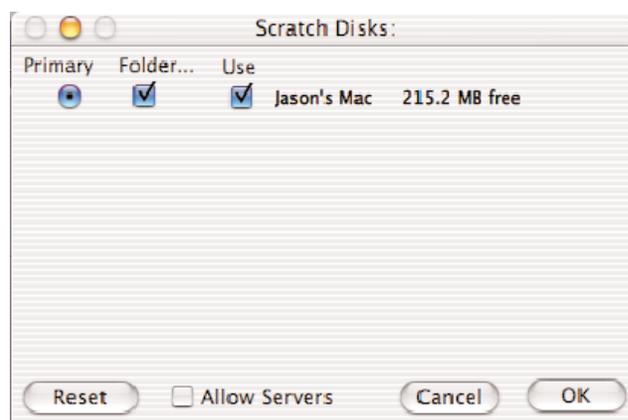
Peak Express supports all of the Macintosh's essential editing functions such as cut, copy, and paste and provides several more specifically designed for audio editing.

This section explains how to use each of these functions.

Because Peak Express 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 Express 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 Macintosh, 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 Express 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



The Scratch Disks dialog

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, Media Net, or other fast server.

### **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 a 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 Macintosh 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 Express 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 Macintosh’s Clipboard (or internal memory buffer) so that you can paste it, insert it, or use it with optional “Clipboard-based” processing such as the DSP menu’s Mix command. 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 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 either the Paste or Insert commands to place the copied audio into an audio document. Each of these commands are 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. 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 Express’ 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.

## Cropping a Selection

The Crop command (**⌘-`**) allows you to make a selection in an audio document and quickly and easily 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 (⌘ - `) or Toolbar. 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 audio in the audio document's selection 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) or Toolbar. The selected audio is replaced with silence.

#### **Creating Fade Ins and Fade Outs**

Peak Express 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.

#### **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. Peak Express applies the Fade In to the selection you have made in the audio document.
3. To hear the completed Fade In, press Option-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. Peak Express applies the Fade Out to the selection you have made in the audio document.

3. To hear the Fade Out, press Option-Spacebar. You will hear the selected audio complete with your Fade Out.

## Creating 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.

To play a loop in Peak Express, select Use Loop in Playback command (⌘-L) from the Preference menu or click the loop button on the Cursor Palette, begin playback, and when Peak Express reaches the loop, it will continue to repeat until you stop playback. If Use Loop in Playback is not enabled, Peak Express 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 Preference menu (a check next to this menu item indicates it is enabled), or click the Loop button on the Cursor Palette, 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 Express will adjust the playback loop to reflect the changes you make.

### **To move a loop marker:**

- Using the mouse cursor, click the triangular "flag" at the bottom of one of the loop markers, and drag to the desired location.

### **To listen to the loop only:**

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

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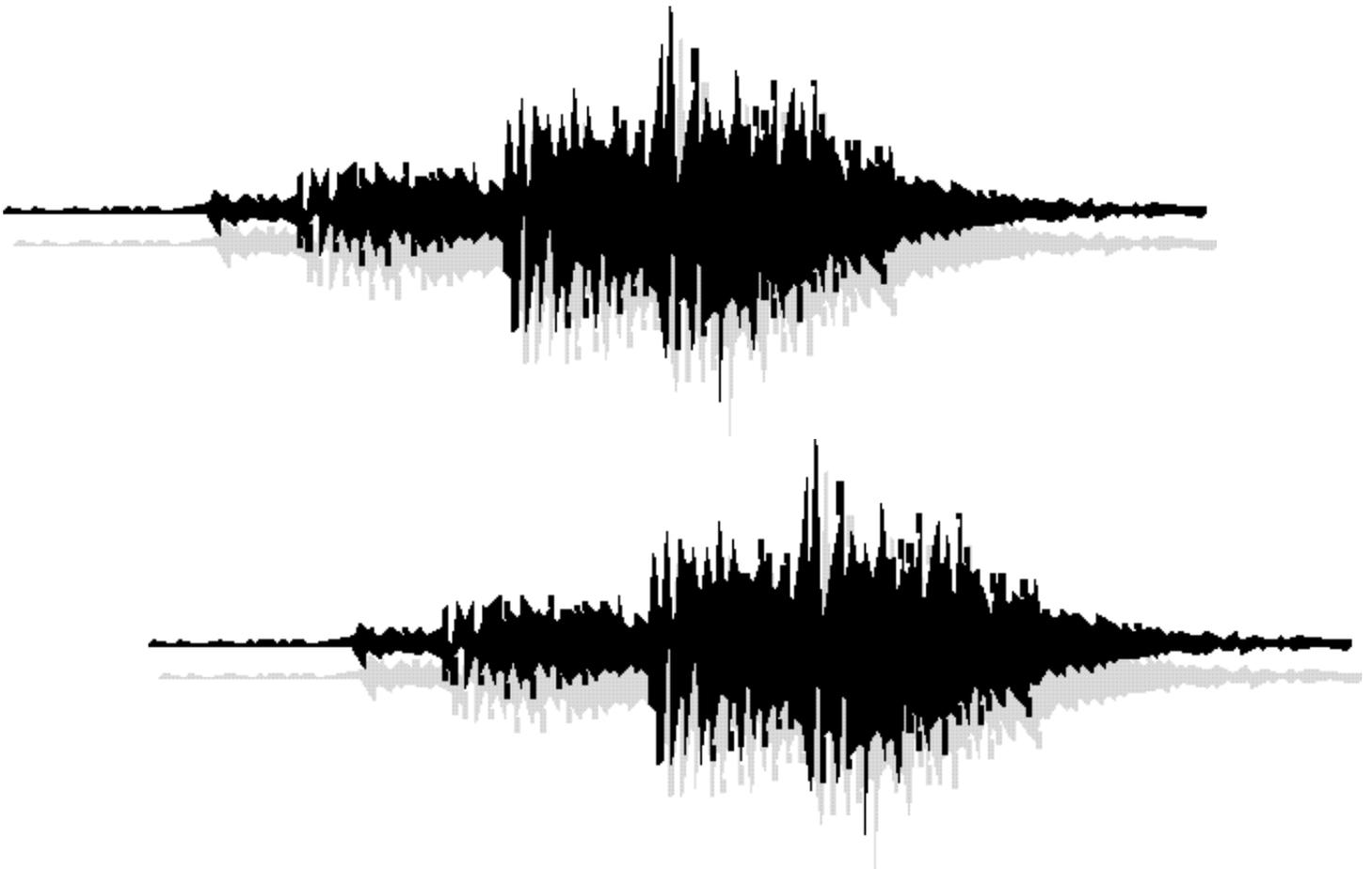
## Conclusion

You have now learned how to manipulate audio with Peak Express' various editing tools, including how to work with Loops. In the next chapter you will learn more about Peak Express' DSP (Digital Signal Processing) Tools.

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# Chapter 6

## DSP (Digital Signal Processing)



# Chapter 6:

## DSP

### (Digital Signal Processing)

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#### Introduction

Peak Express 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 Express' 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 Express processes the selection with the DSP function or plug-in.



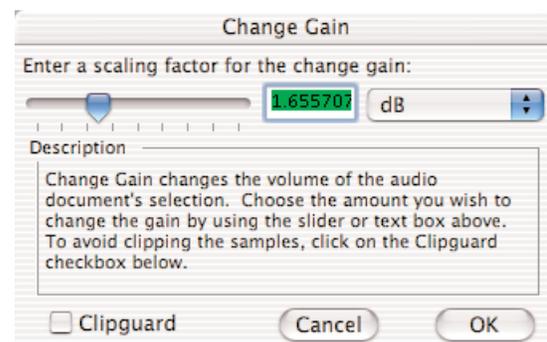
*that if no selection is made, Peak Express will apply processing to the entire audio document.*

#### Peak Express' Audio Processing Tools

Peak Express' DSP capabilities provide composers and professional sound designers with many interesting audio effects and processing tools. Peak Express' DSP functions include Change Gain, Convert Sample Rate, Invert, Fade In, Fade Out, Gain Envelope, Mix, Normalize, and Reverse. The following sections explain how to use each of these functions.

#### 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.

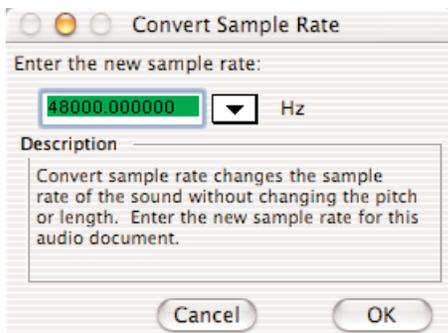
4. If you wish to protect against the possibility of clipping, enable Clipguard by checking the Clipguard checkbox.

5. Click OK when you have finished. Peak Express will change the gain of the signal by the amount you specified.

### 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.

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 Express converts the entire audio document to the selected sample rate.



The Convert Sample Rate dialog



Peak Express is limited to 44.1 & 48 kHz sampling rate conversions.

### 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 Express inverts the phase of the selected audio.

### Fade In & Fade Out

The Fade In and Fade Out commands allow you to apply an amplitude envelope to an audio selection.

#### To create a Fade In:

1. Click the cursor at the desired location in the audio document and drag to select the audio you want to fade. The Fade In will be applied to the audio within this selection.
2. Choose Fade In from the DSP menu. Peak Express applies the Fade In to the selection you have made in the audio document.
3. To hear the completed Fade In, press Option-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 audio you want to fade. The Fade Out will be applied to the selected

audio.

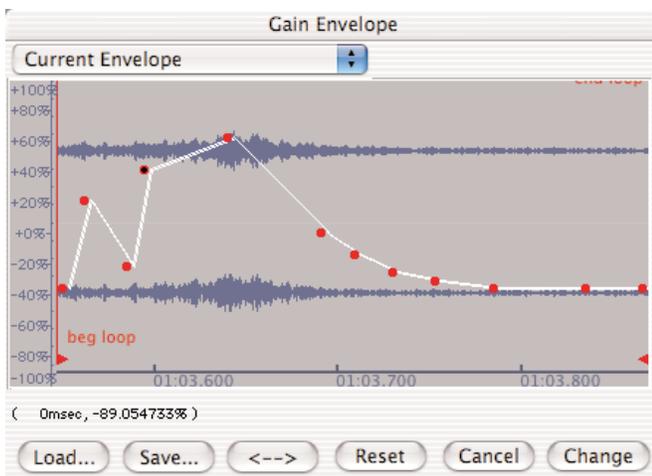
2. Choose Fade Out from the DSP menu. Peak Express applies the Fade Out to the selection you have made in the audio document.
3. To hear the Fade Out, press Option-Spacebar. You will hear the selected audio complete with your Fade Out.

## 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.



The Gain Envelope dialog

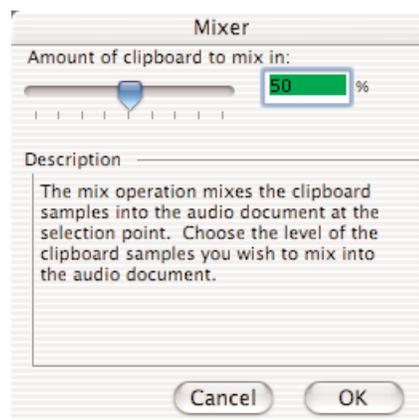
3. Draw the gain envelope you wish to apply to the audio selection in the envelope editor. Points above the 0% line will amplify the selected audio. Points below the 0% line will attenuate the selected audio. Note that the waveform display in the Gain Envelope editor will change according to the envelope you draw.
4. To process the audio selection using the gain envelope, press Change.

## 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. 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.

### **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  $\text{⌘-C}$ ).
2. Select the audio that you wish to mix the copied material into.
3. Choose Mix from the DSP menu.



The Mixer dialog

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.
5. Click OK. Peak Express mixes the two signals together.
6. To hear the results, press Option-Spacebar.

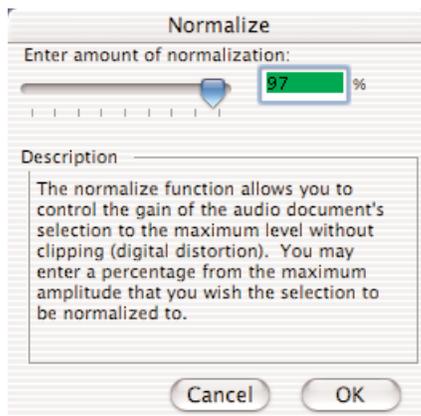
## Normalize

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).



The Normalize dialog

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.
4. Click OK. Peak Express normalizes the selected audio.

## 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 Express reverses the selected audio. To hear the results, start playback.

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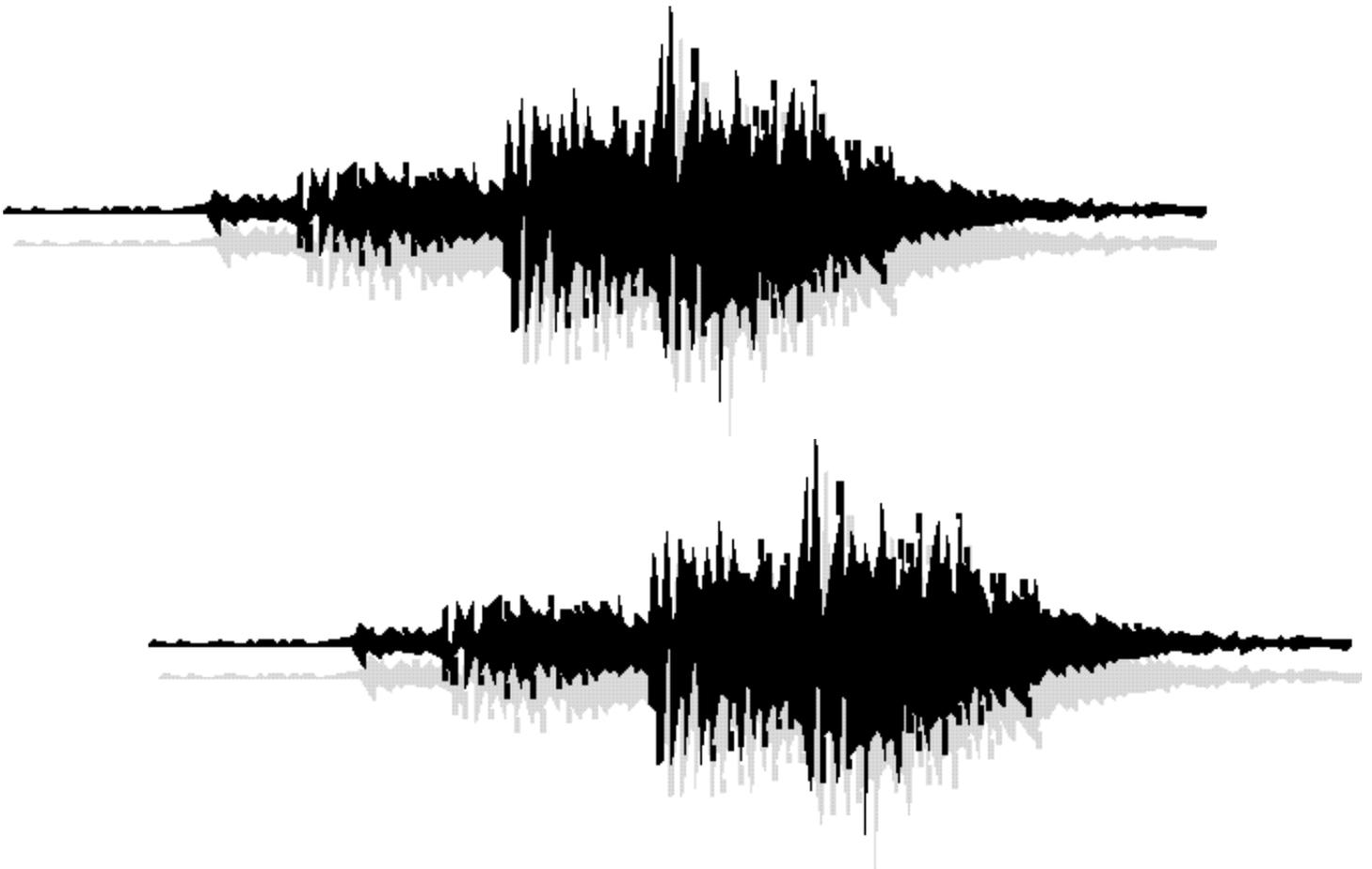
## Conclusion

You have now learned how to manipulate and process audio using Peak Express' native DSP capabilities. In the next chapter, you will learn how to use third-party audio effects plug-ins with Peak Express.

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# Chapter 7

## Plug-Ins



# Chapter 7:

## Plug-Ins

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### Introduction

Peak Express supports third party audio effects plug-ins in the Audio Unit & VST formats.

Audio Unit plug-ins are a new standard in “native”, or CPU based realtime audio effects plug-ins from Apple. Audio Unit plug-ins can be shared between any applications that support this standard.

VST (“Virtual Studio Technology”) is a standard audio plug-in technology developed by Steinberg Media Technologies, AG. VST plug-ins offer an exciting array of real-time effects by companies like BIAS, Cycling 74, Steinberg, Waves, and others.

Audio Unit & VST plug-ins are real-time, “host-based” audio plug-ins that run on your computer without any additional hardware.

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### Installing VST Plug-Ins

VST plug-ins are installed in one of the following directories, depending on whether you want system-wide access, or access only for selected user accounts.

- Users/<YourUserAccount>/Library/Audio/VST/
- MacintoshHD/Library/Audio/VST/

Be sure to consult the documentation that came with your VST plug-ins for the manufacturer’s installation instructions.

### Using VST Plug-Ins

To use a VST format plug-in, click on Peak Express’ Plug-Ins menu, and select VST>Insert 1>and choose the plug-in you wish to use from the submenu. VST plug-ins will vary in appearance depending on the manufacturer – some VST

plug-in interfaces will contain controls such as knobs, sliders, buttons, etc. Despite the differences in appearance, applying a VST effect to an audio document always follows the same procedure.

### To apply a VST plug-in:

1. Open an audio document
2. Select area of waveform to be processed (if no selection is made, the entire file will be processed).
3. From the Plug-Ins menu>VST choose the plug-in you wish to use.
4. Make desired settings in VST plug-in interface (consult plug-in documentation if necessary).
5. From the Plug-Ins menu, choose “Bounce” to apply the effect to the document or selection.
6. After each VST bounce, you will be prompted to either close the plug-in, or leave it active – if you have no further processing to do, close the plug-in – if you have additional files to process with the same effect, leave it active.



*If you leave VST plug-ins active after bouncing, click the “Bypass” button on the plug-in interface (indicated with the letter “B”) to hear a true representation of the audio document. Since the effect has already been applied and the plug-in is still active, you would hear a processed file being played in real time through the same effect plug-in, giving the impression of double the desired effect.*

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### To disable a VST plug-in:

- From the Plug-Ins menu, choose VST>Insert 1>None

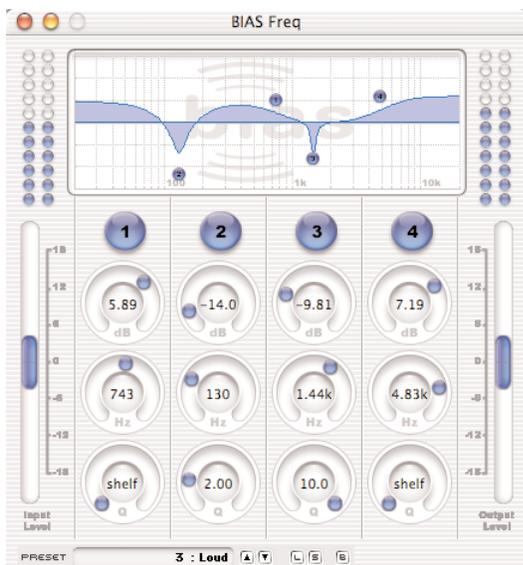
## VST Plug-In Compatibility

Peak Express supports only BIAS Freq2, Freq, and SuperFreq Equalizer plug-ins, and BIAS SoundSoap VST format effects plug-ins. More information about each is provided below.

### BIAS Freq

BIAS Freq is a professional-caliber 4-band EQ. Freq supports -18 dB to +18 dB Gain Values, 0.1 to 10 Q (bandwidth) values, and sweepable frequencies from 20 Hz to 20 kHz. Freq has Peak, Notch, High-Shelf, and Low-Shelf filters available for each band. Freq also includes individual band bypass buttons, and 24 dB stereo input and output meters. For more information on using BIAS Freq, please refer to the BIAS Freq User's Guide.

BIAS Freq is available to Peak Express owners at no charge, just by registering Peak Express via the BIAS website. Upon successful registration, you will be emailed a URL from which to download Freq. (SuperFreq is available as an upgrade from BIAS).



BIAS Freq

### BIAS SoundSoap

SoundSoap is a professional-quality, yet extremely easy to use broadband noise reduction plug-in (also available as a stand-alone application). With just a few simple controls to learn, SoundSoap is designed to reduce/eliminate background noise such as hum, hiss, buzz, air conditioner/fan noise, camera motor noise, and other kinds of annoying background noise that detracts from the quality of digital media files.

A demonstration copy of SoundSoap is installed with Peak Express, and will allow up to 14 days of fully functional usage. For more information about SoundSoap, please visit:

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



BIAS SoundSoap

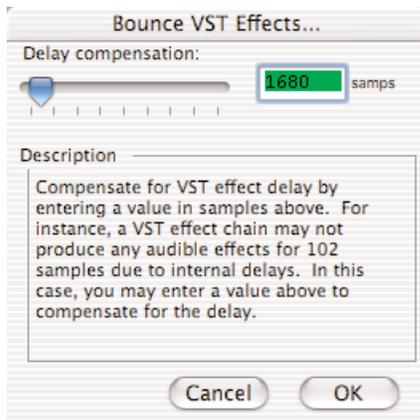
### VST Plug-In Delays

To compensate for VST plug-in delays when bouncing VST effects on a selection, hold down the Option key when choosing Bounce VST Effects and enter the delay compensation you want in samples.

#### To determine delay compensation:

1. Bounce VST effects.
2. Measure the silence inserted by the bounce by selecting the silence and viewing the duration of the selection in samples.

3. Undo the bounce.
4. Hold down the Option key while choosing Bounce VST Effects.
5. Enter the VST delay compensation amount from step 2.
6. Click OK or press Return.



The Bounce Effects dialog

### To apply an Audio Unit plug-in:

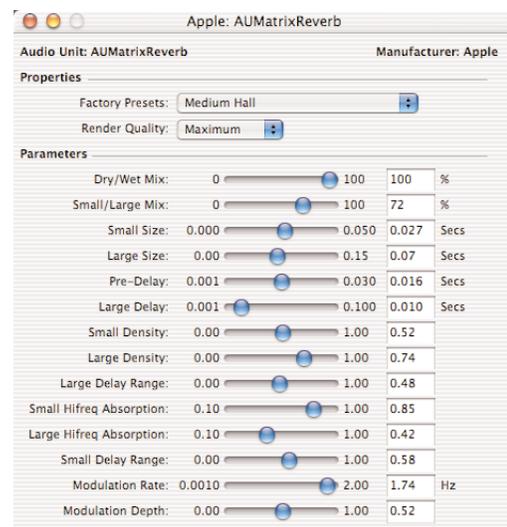
1. Open an audio document
2. Select area of waveform to be processed (if no selection is made, the entire file will be processed).
3. From the Plug-Ins menu > Audio Unit choose the plug-in you wish to use.
4. Make desired settings in Audio Unit plug-in interface (consult plug-in documentation if necessary).
5. From the Plug-Ins menu, choose “Bounce” to apply the effect to the document or selection.
6. After each Audio Unit bounce, you will be prompted to either close the plug-in, or leave it active – if you have no further processing to do, close the plug-in – if you have additional files to process with the same effect, leave it active.

### To disable an Audio Unit plug-in:

- Click the red close button in the upper left corner of the plug-in’s interface, or un-check the plug-in under the Audio Units plug-in submenu.

## Using Audio Unit Plug-Ins

To use an Audio Unit format plug-in, click on Peak Express’ Plug-Ins menu, and select Audio Unit, and choose the plug-in you wish to use from the submenu. Audio Unit plug-ins will vary in appearance depending on the manufacturer – some Audio Unit plug-in interfaces will contain controls such as knobs, sliders, buttons, etc. Despite the differences in appearance, applying a Audio Unit effect to an audio document always follows the same procedure.



Apple AUREverbMatrix is an example of an Audio Unit effect plug-in

Apple's ReverbMatrix is an example of an Audio Unit plug-in. Audio Unit plug-ins operate in real-time, and can be used in any applications that support Audio Units. Because of this functionality, you will notice that the same Audio Unit effects available within Final Cut Pro 4 are also available within Peak Express.

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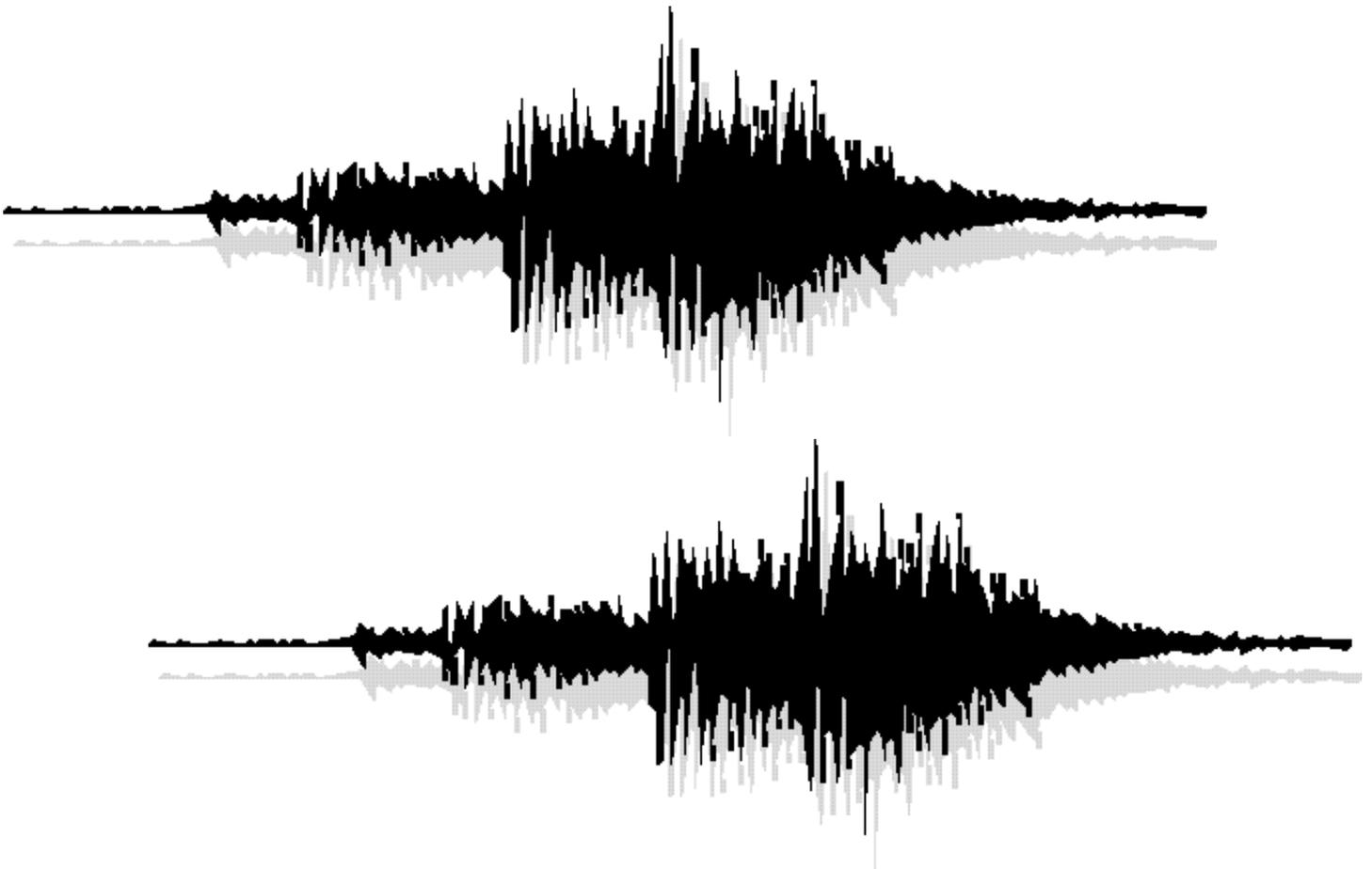
## **Conclusion**

You have now learned how to manipulate and process audio using VST and Audio Unit plug-ins. In the next chapter, you will find a summary of Peak Express' various menu items.

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# Chapter 8

## Peak Express Menu



## Chapter 8: Peak Express Menus

This chapter explains each of the commands found in Peak Express' menus. For step-by-step instructions on implementing these commands, refer to the table of contents, and go to the appropriate chapter where use of the command is covered.

### File Menu

This menu contains all of the standard Macintosh commands for opening, closing, and saving files, as well as several additional commands specific to the Peak Express application.

### New

This command allows you to create a new Peak Express audio document. When you choose this command, a submenu menu appears which allows you to choose either a mono or stereo format for the new audio document.

#### **Mono Document**

Choosing Mono Document ( $\text{⌘-N}$ ) creates a mono (one channel) audio document.

#### **Stereo Document**

Choosing Stereo Document ( $\text{Shift-⌘-N}$ ) creates a stereo (two channel) audio document.

#### **Document From Selection**

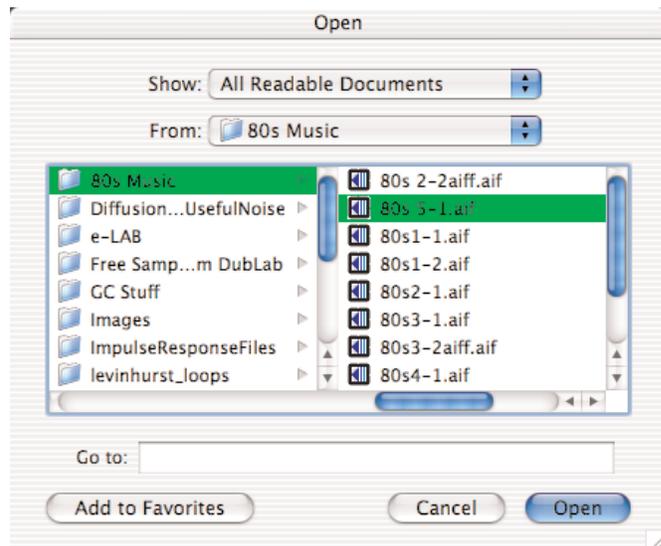
Choosing Document From Selection ( $\text{Option-N}$ ) creates a new audio document from any selected audio in an open audio document.

### Open

The Open command ( $\text{⌘-O}$ ) allows you to locate and open

audio documents in a variety of formats including AIFF, WAVE, and QuickTime.

Peak Express allows you to have two audio documents open simultaneously.



The Close command ( $\text{⌘-W}$ ) closes the currently active Peak Express audio document. If you haven't saved changes, Peak Express 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 ( $\text{Option-⌘-W}$ ) closes all open Peak Express audio documents. If you haven't saved changes, Peak Express 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 ( $\text{⌘-S}$ ) saves the current audio docu-

ment. Peak Express can save audio documents in a variety of file formats including:

- **AIFF:** This is Apple's Audio Interchange File Format. It is also Peak Express' default file format and is supported by many Macintosh software applications.
- **WAVE:** This is Microsoft's Windows Audio File Format. It is supported by many Windows software applications and some Macintosh 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 Macintosh 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 Adobe Premiere™ or Macromedia Director™.



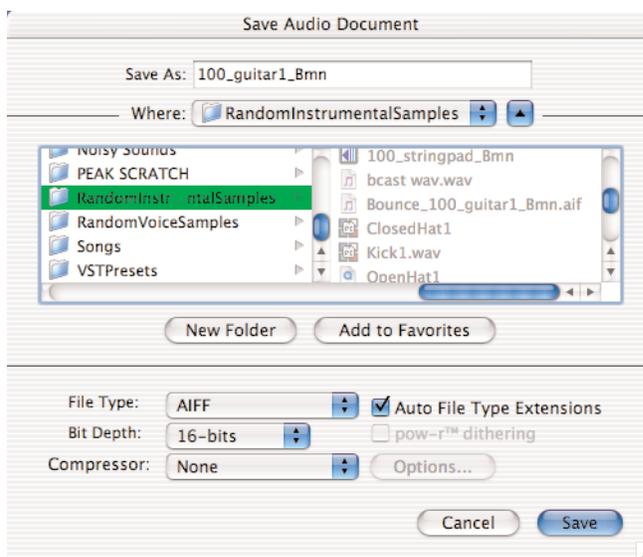
*Peak Express will only allow you to save edits to an existing QuickTime file – you cannot save an AIFF or WAVE file as QuickTime.*

Different formats allow different information to be stored with the file. If you open a file created in a format other than Peak Express' default AIFF format, Peak Express will preserve any format-specific information unless you save the file into a different file format. Saving a file in a different format than its original format, however, may cause some information stored in the file to be discarded.

## 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 dif-

ferent 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 Express Basics.



The Save As dialog

ferent 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 Express Basics.

Peak DV and the full edition of Peak allow saving in many more file formats, including Sound Designer II, Raw, System 7 Sound, Sonic AIFF, .paf, JAM Image, .au, and MP3.

In addition to saving in these additional formats, these more advanced editions of Peak also allow various types of file compression, such as Q-Design Music, Alaw 2:1, MACE 3:1, MACE 6:1, 32-bit floating point, IMA 4:1, 24-bit integer, 32-bit integer, 16-bit Little Endian, and 16-bit Big Endian.

The full edition of Peak also supports higher bit depths and sampling rates – up to 32-bit/10MHz, when using supported audio hardware. Higher bit depth files can be converted to lower bit depth files, using the advanced POW-r dithering algorithm that is only available in the full edition of Peak.

## 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 Express will be saved as AIFF files. For more detail on importing CD audio with Peak Express, see Chapter 4: Playing back Audio.



Import CD Audio dialog

## 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 BIAS Deck or Pro Tools, which does not directly support stereo audio files. When you choose this command Peak Express will prompt you to name both the left and right sides with a Save dialog.

## Recently Opened Documents

Peak Express 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 dialog. This allows you to easily select a document's name and reopen it without having to search for it on your hard drive. Peak Express can find and open a document even if you have changed its location on your hard drive, too. And if you change the name of the file, the next time you open Peak Express, Peak Express will automatically update the name in its internal list.

## Quit

The Quit command (⌘-Q) can be found under under the Peak Express menu. Choosing Quit closes the Peak Express application. If you haven't saved changes to a currently open audio document, Peak Express will prompt you to do so before quitting.

## Edit Menu

This menu contains all of the standard Macintosh commands for cutting, copying, and pasting, as well as several other commands specific to Peak Express.



The Edit menu

## Undo

The Undo command (⌘-Z) undoes the last action that you performed. Since Peak Express 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 ( $\text{⌘-Y}$ ) “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.



*Only 5 levels of undo/redo are available in Peak Express.*

---

## Cut

The Cut command ( $\text{⌘-X}$ ) cuts selected data from an audio document and a copy of it on Peak Express’ 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 ( $\text{⌘-C}$ ) copies selected audio in Peak Express’ 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 ( $\text{⌘-V}$ ) 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.

## Replace

The Replace command allows you to paste audio 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.

## Insert

The Insert command ( $\text{⌘-D}$ ) 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.

## Silence

The Silence command ( $\text{⌘-E}$ ) 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 Except Audio

The Delete Except Audio command (Option-Delete) allows you to easily remove all loop markers in the current audio document selection without removing the audio.

## Crop

The Crop command ( $\text{⌘-`}$ ) allows you to remove all other audio from the audio document except the selection.

## Clear Clipboard

Peak Express 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 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.

## Select Loop

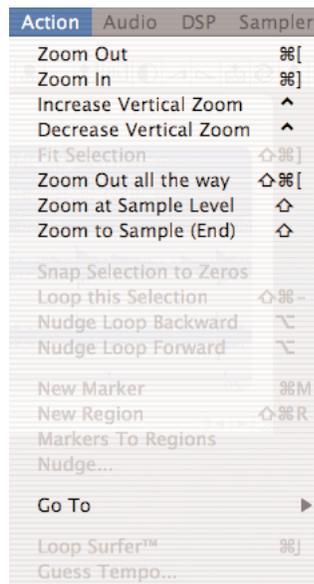
The Select Loop command (**⌘-L**) will automatically select the audio within the loop start and loop end markers, if you have defined a loop in a document.

## Previous Selection/Next Selection

If you have made a selection in an audio document, then made another selection, you can use Previous Selection (**⌘-Left Arrow**) to jump back to the previous selection. You can then use Next Selection (**⌘-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, and navigating to specific locations in an audio document.



The Action menu

## 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.

### 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.

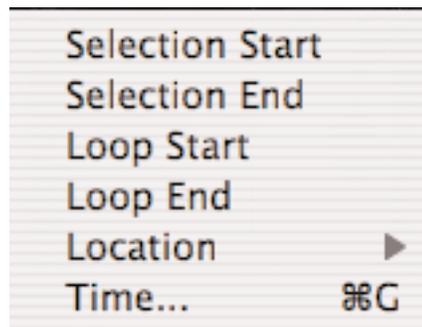
### Loop This Selection

The Loop This Selection command (Shift-⌘-“) automatically creates a loop from the current selection by placing

loop markers on either side of the selection. Since Peak Express 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.

### Go To

The Go To command (⌘-G) allows you to quickly and precisely navigate to a 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.



*The Go To Time dialog*

### Audio Menu

The Audio menu contains commands for playing back audio, as well as configuring Peak Express’ Audio Settings, your audio hardware.



*The Audio menu*

## Stop/Rewind

The Stop/Rewind 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 w/Auditioning

The Play w/Auditioning command (-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.

## Fast-Forward

The Fast-Forward command places the insertion point at the end of the audio document.

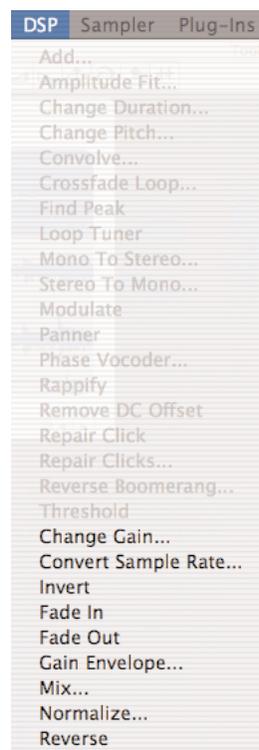
## Hardware Settings

The Hardware Settings command brings up a dialog for the audio hardware you selected in the Source 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 choose Hardware Settings. The actual third-party dialog will differ depending on the type of audio

card you have.

## DSP Menu

This menu contains Peak Express' DSP-based audio processing and advanced editing tools. A complete description of Peak Express' DSP functions and instructions on how to use them are given in



The DSP menu

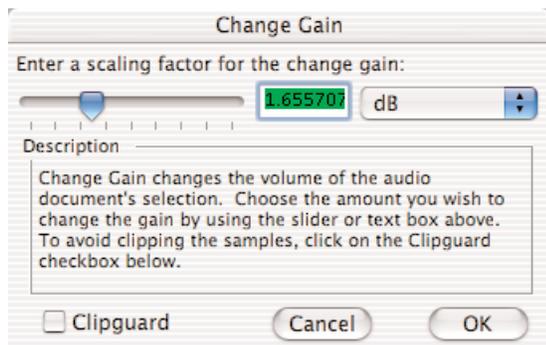


A number of DSP menu (and some other menus) items are "greyed-out" – this is normal, as Peak Express is a limited-feature edition of Peak. Access to greyed-out features is available by upgrading.

## 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

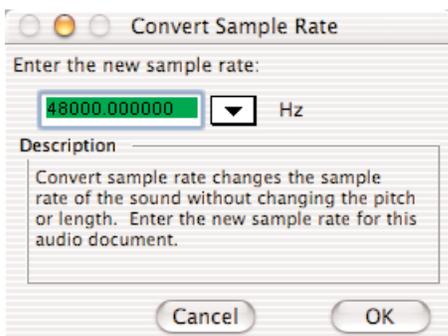
maximum peak in amplitude, and then limit the Change Gain slider's range based on the maximum peak it finds in the audio document or selection.



The Change Gain dialog

### 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.



The Convert Sample Rate dialog



Sample rate conversion in Peak Express is limited to 44.1 & 48kHz.

### Invert

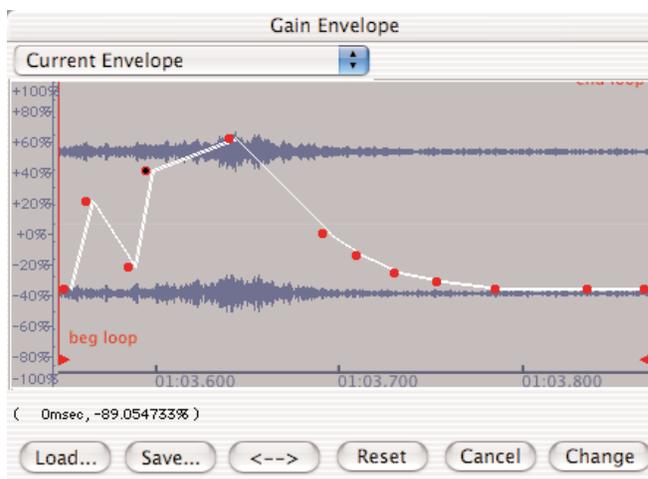
The Invert function allows you to invert the phase of a selection or an entire audio document.

### Fade In & Fade Out

The Fade In and Fade Out commands allow you to apply an amplitude envelope to an audio selection.

### Gain Envelope

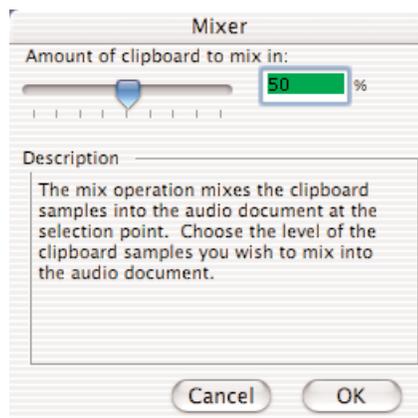
The Gain Envelope operation allows you to enter an amplitude envelope to be applied to an audio selection. The selected audio's amplitude will be boosted and/or attenuated according to the envelope you draw in the Gain Envelope editor.



The Gain Envelope dialog

### Mix

The Mix command allows you to mix material that you have copied to the clipboard with a target selection.

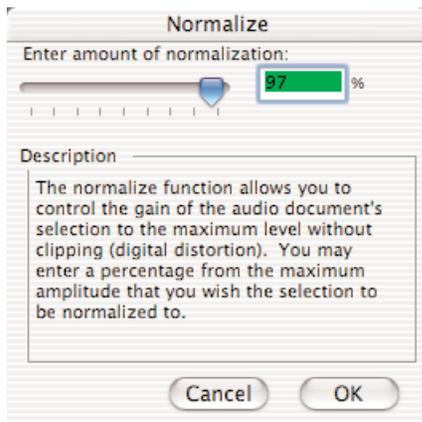


The Mixer dialog

This function can be used as a kind of “sound-on-sound” capability for mixing audio tracks together, or for blending sound elements. 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.

## 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.



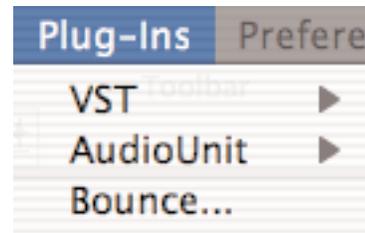
*The Normalize dialog*

## 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.

## Plug-Ins Menu

The Plug-Ins menu provides access to any installed plug-ins.



*The Plug-Ins menu*

## VST Plug-Ins

Selecting VST from the Plug-Ins menu will access any installed VST audio effects plug-ins.

## Audio Unit Plug-Ins

Selecting Audio Unit from the Plug-Ins menu will access any installed Audio Unit effects plug-ins.

## Bounce

Choose Bounce from the Plug-Ins menu to apply, or render, the effect to the audio document.

## Preference Menu

This menu contains a number of commands that allow you to customize aspects of your Peak Express software such as output volume, and other user preferences.



The Preference menu

### Time Units

The Time Units command allows you to choose a time format for the audio timeline in Peak Express' audio document window. You can choose samples, Min:Sec:ms, SMPTE frames, 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.

## 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. Once playback reaches the looped region of the audio document the loop 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 Express 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.

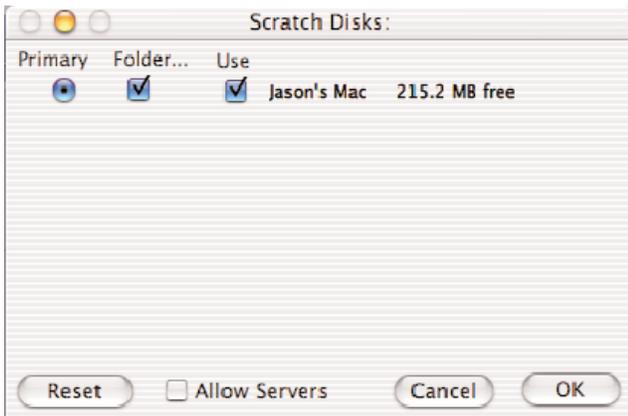
### Show Overview

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.

### Scratch Disks

Because audio data can be very large, Peak Express 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 Macintosh, 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 Express 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, Media Net, or other fast server.



The Scratch Disks dialog

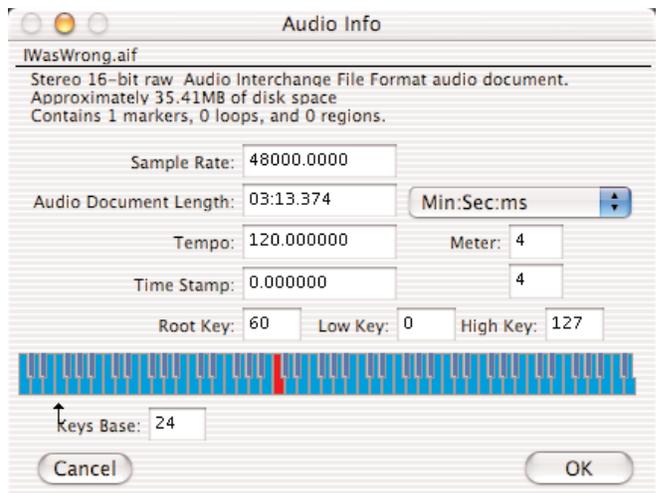
### Auto-Import Dual Mono

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 Express to automatically convert such documents into new stereo audio documents when you attempt to open these documents with the Open command. Because Peak Express 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 documents, have the same sample rate, and the files must have exactly the

same name with the separate suffixes of “.L” and “.R”.)

### Audio Info

The Audio Info command (**⌘-I**) allows you to change an audio document’s length, sample rate, root key, low key, or high key parameters. When you choose this command, a dialog indicating the total time of the sample, its sample rate, and its key mapping information will appear. The Audio Info dialog allows you to change the sample rate, duration, root key (for use in a sample playback instrument), and high and low key range. Note that by changing the sample rate, the pitch and duration of the sample will be affected. (To change the sample rate of an audio document without changing the pitch, use the Convert Sample Rate command from the DSP menu.)



The Audio Info dialog

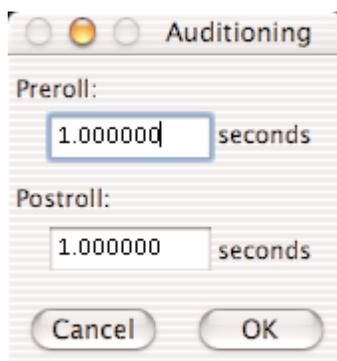
You can also adjust the key range (for use in a sample playback instrument) of a document by clicking on the miniature keyboard in this dialog. To set the lower limit of the key range, click on the keyboard at the desired key. To set the upper limit of the key range, hold down the Shift key and click on the keyboard. To set the root key of the audio document’s key range, hold down the Option key and click on the keyboard. You can also enter the desired numerical value in any of the appropriate fields to accomplish this.

## Dynamic Scrub Time

Peak Express 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 Express 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.

## Auditioning

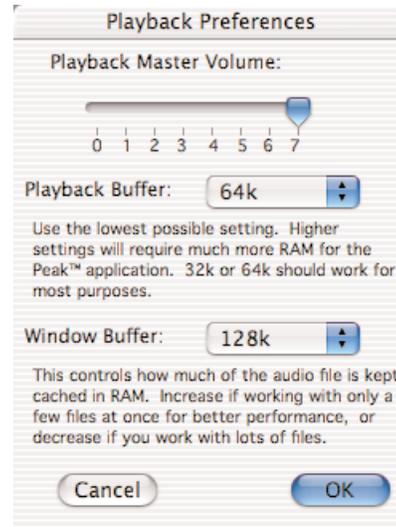
Peak Express' Auditioning command allows you to audition a selection along with a specific amount of audio preceding or following it. The Auditioning dialog allows you to select a desired amount of Pre-roll or Post-roll when you play the selection.



The Auditioning dialog

## Playback Preferences

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



The Playback Preferences dialog

### Playback Master Volume

Peak Express provides a master volume control for audio playback. In the Playback Preferences dialog, set Peak Express' output volume to the level that you desire by adjusting the slider or entering a number value from 0 (silent) to 7 (loudest). If you are controlling your playback volume with the volume control of your playback system, you will most likely want to leave the output level set to 7.

### Playback Buffer

Peak Express 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

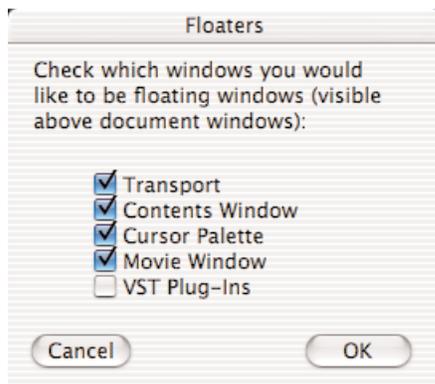
Peak Express also allows you to control the amount of RAM the program uses to keep audio documents buffered in RAM. Use larger values if you are working with a few large files, and smaller values if you are working with many smaller files. Experiment to find the best settings for your system and working style.

## Auto-Balloon Help

Auto-Balloon Help, when enabled, will automatically activate Balloon Help for items in the Toolbar if the cursor rests over an item for more than 2 seconds.

## Floater

Floater windows are windows which “float” above open documents. Use the Floater dialog to specify which windows (Transport, Contents, Cursor Palette, Movie, or VST plug-ins) float or not.



*The Floater dialog*

## Window Menu

The commands in this menu allow you to display and manage Peak Express’ windows—including the Transport, Toolbar, Cursor Palette, Movie Window, and any open audio documents or active VST plug-ins.

## 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, and Loop during playback), and audio level meters with clip/peak indicators.

## Toolbar

The toolbar contains buttons for common tasks, such as opening and closing files, DSP tools, etc.

## Cursor Palette

Peak Express has a floating Cursor palette that contains several useful functions. Along the top right of the palette are four different 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 moving a waveform within its window, a Pencil Tool for drawing directly on the waveform at the sample level, and a Magnifying Glass Tool for zooming the waveform view in and out. The ESC key on your computer keyboard will toggle through the four cursor modes. The bottom half of the Cursor palette 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.

## Movie

The Movie command toggles the Movie window on and off for any QuickTime movie you currently have open in Peak Express.

## **Tile Windows**

The Tile 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 and 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 -number key corresponding to the open document and the document will become the active window. (Click the Windows menu to see the -numbers that correspond to each open audio document.)

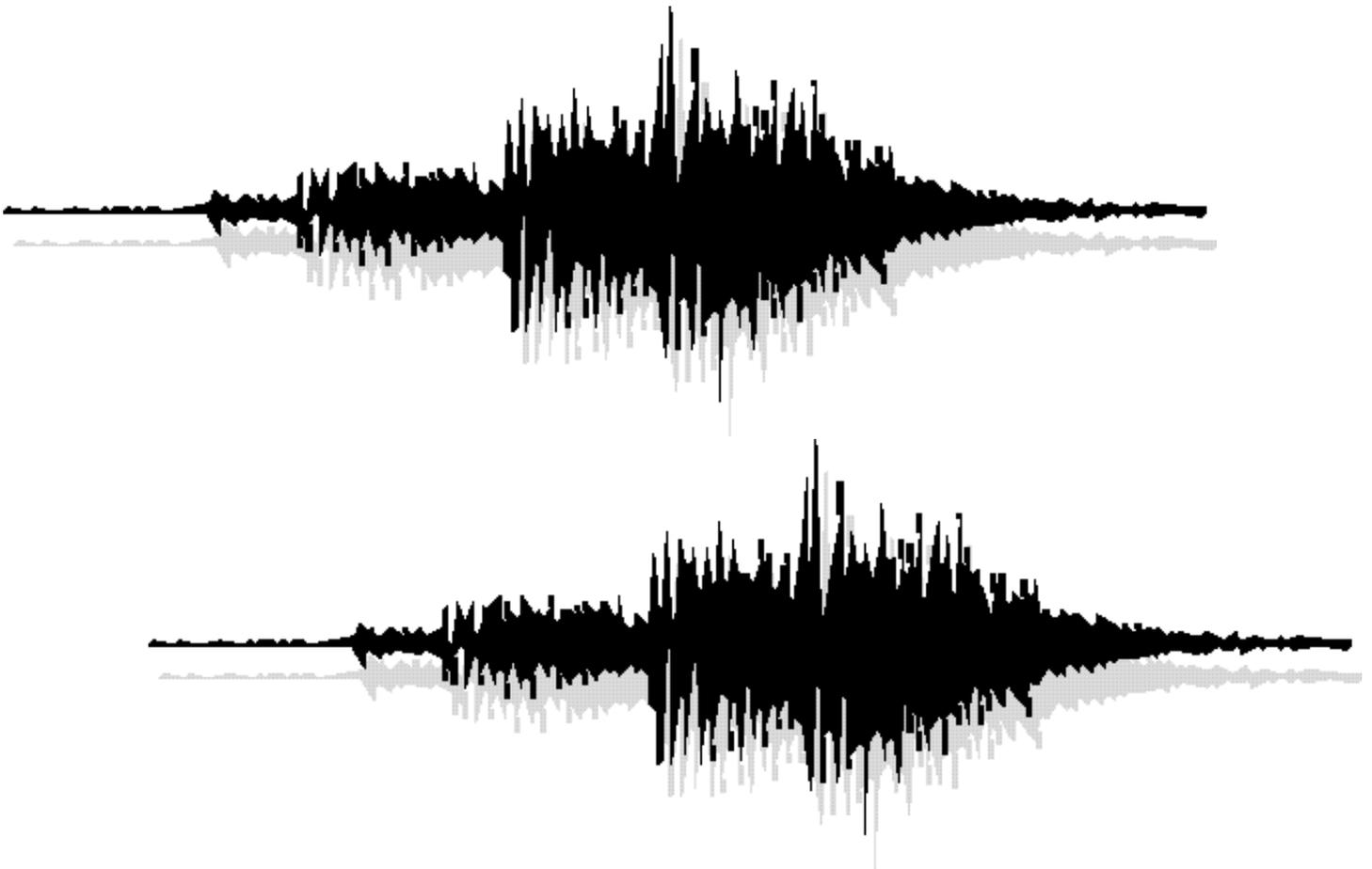
## **Links Menu**

The Links menu in Peak Express provides useful links to BIAS' Web site. Included are the Peak Express online registration page, the BIAS home page, the Peak Express updates page, technical support pages, online documentation, and current BIAS product information pages.

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# Chapter 9

## Using Peak Express with Final Cut Pro 4



# Chapter 9: Using Peak Express with Final Cut Pro 4

## Introduction

Peak Express can be used in two ways – as a stand-alone application, or as a dedicated external audio editor for Final Cut Pro. Peak Express is an advanced audio application that can edit the audio from QuickTime movies and DV clips with better-than-frame accuracy. When working with 48 kHz audio, Peak Express is accurate down to a 1/1600th of a frame.

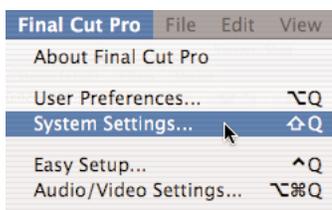
The following section will show you how to assign Peak Express as Final Cut Pro's audio editor, and a few tips to sweeten the audio in your projects.

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## Assigning Peak Express as an editor

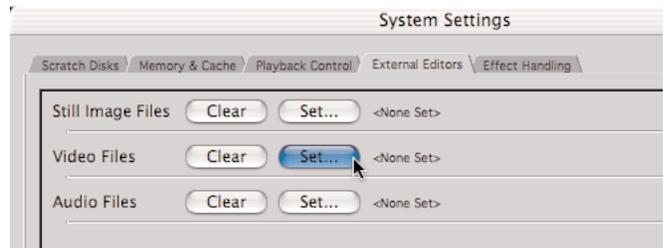
### To set Peak Express as an editor:

1. Launch Final Cut Pro.
2. From the Final Cut Pro menu, choose System Settings...



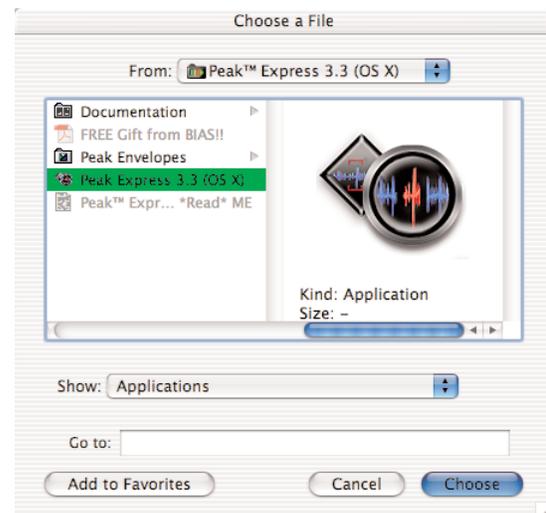
Opening FCP's System Settings

3. Click the External Editors tab



Setting Peak Express as an editor for video files that contain sound

4. Click the Set... button in the Video Files section.



Choosing Peak Express as an editor

5. Select the Peak Express application, and click Choose.
6. Click the Set... button in the Audio Files section.
7. Select the Peak Express application, and click Choose.

Peak Express is now set up as Final Cut Pro's audio editor. By selecting Peak Express in both the Audio and Video categories, any clips in a Final Cut Pro timeline that contain audio can be launched into Peak Express for editing. Audio only clips will appear in Peak Express as a standard audio document, and video clips with a soundtrack will open in

Peak Express as a standard audio document, with the addition of a movie window for reference. Clips launched into Peak Express can now be edited with any of the tools described in earlier chapters. When an edit is complete, simply save and close the document in Peak Express, and it will go right back into Final Cut Pro's timeline, with edits intact, and no further need for rendering.



*Be aware that this is a “destructive” process, that will alter the original media. If you do not wish to alter the original media, use Peak Express’ Save A Copy As... feature to save a copy. Then, close the original file in Peak Express without saving, save the copy, and import the copy into the Final Cut Project and drag to the appropriate track in the timeline.*

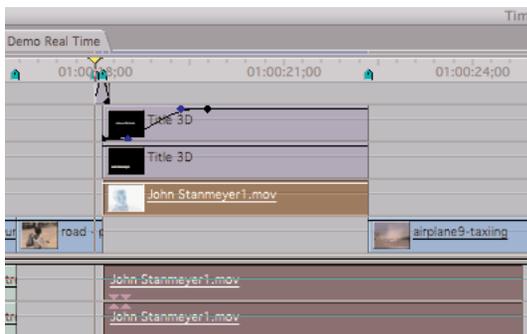
## Examples of Workflow

An example of when you might launch an audio clip into Peak Express for editing is the case of a pop or click. Pops and clicks can occur in several ways – but can be easily repaired with Peak Express’ Pencil Tool.

The following steps show how to use the Pencil Tool to repair a click.

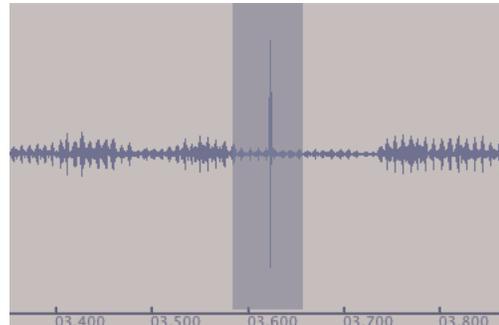
### To repair a click:

1. Select an audio clip in Final Cut Pro's timeline, that contains a click.



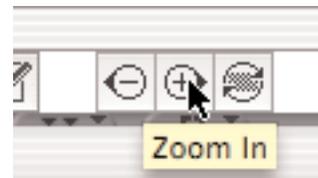
Selecting a clip with a click that needs repairing

2. From the View menu, choose Clip in Editor – Peak Express will open.
3. Audition the file in Peak Express to locate the click.
4. When you have located the click, place the mouse cursor directly over the click, and click into the waveform, so Peak Express’ playhead indicator is directly over the click.



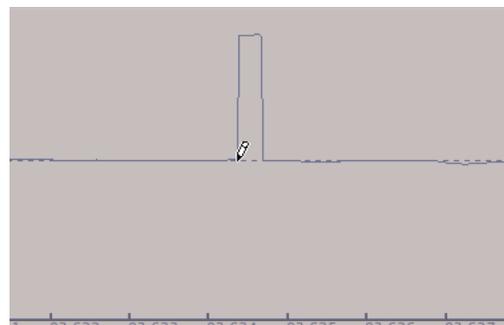
A click in an audio waveform

5. Using the Zoom In command, zoom in on the audio waveform until you can clearly see the click.



Using the toolbar zoom buttons to zoom in

6. From Peak Express’ Cursor Palette, select the Pencil Tool.
7. Draw across the the area in the waveform where the click occurs, trying to approximate the shape of the waveform on either side.



Drawing out a click

- Zoom Out, and audition the file, the click should now be gone.
- To return the repaired file to the Final Cut Pro project, simply save and close the file and it will go right back into Final Cut Pro.

In other situations, you may have clips with annoying background noise, such as an air conditioning system that was picked up by microphones at a shoot. In cases like this, you can take advantage of Peak Express' realtime VST format effects plug-in support, and use a noise reduction plug-in such as BIAS SoundSoap to reduce the noise.



*A demonstration version of BIAS SoundSoap is installed along with Peak Express. This demo version will allow you to process files for up to 14 days. For more information about SoundSoap, or to purchase a copy, please visit: <http://www.bias-inc.com>*



SoundSoap's easy to use interface

### **To clean a file with SoundSoap:**

- Launch a clip with background noise into Peak Express using the steps described above.
- From the Plug-Ins menu in Peak Express, choose VST>Insert 1>SoundSoap.
- When the SoundSoap interface appears, click the Learn

Noise button – if the file has an area of just the noise by itself, use this section to “Learn Noise”.

- Start playback by pressing the space bar, or by clicking the Play button in Peak Express' transport window.
- Listen to the results.
- To apply/render the current noise reduction settings, choose “Bounce...” from Peak Express' Plug-Ins menu.

Congratulations! You've just learned the basics of using SoundSoap. Now, we'll show some advanced techniques to fine tune the noise reduction.

- Turn the Noise Reduction knob all the way to the right for the maximum amount of noise reduction.
- While listening to your media, adjust the Noise Tuner knob to fine-tune if necessary (see tip below).



*A good technique for confirming your noise reduction settings is by switching SoundSoap into “Noise Only” listening mode. In Noise Only mode, you will hear just the noise that will be removed when you apply the current noise reduction settings. If you hear any of the audio that should be kept in the file, adjust the Noise Tuner knob until you hear just the undesired noise.*

- While still listening to your media, (in the “On” listening mode) slowly turn the Noise Reduction knob to the left to reduce the amount of noise being taken out. Continue to reduce the Noise Reduction setting until you reach an acceptable compromise between the amount of noise being reduced and any audible artifacts from the noise reduction process.
- Now, using the Mode Buttons, toggle between the “Off” and “On” listening modes. This allows you to compare the original noisy audio, with the results after being processed through SoundSoap.

11. To apply/render the noise reduction settings to the file, go to Peak Express' Plug-Ins menu, and choose "Bounce..."
12. To return a cleaned file to the Final Cut Pro project, simply save and close the file, and it will go back into Final Cut Pro's timeline, with no further rendering required.



*Be aware that this is a "destructive" process, that will alter the original media. If you do not wish to alter the original media, use Peak Express' Save A Copy As... feature to save a copy. Then, close the original file in Peak Express without saving, save the copy, and import the copy into the Final Cut Project and drag to the appropriate track in the timeline.*

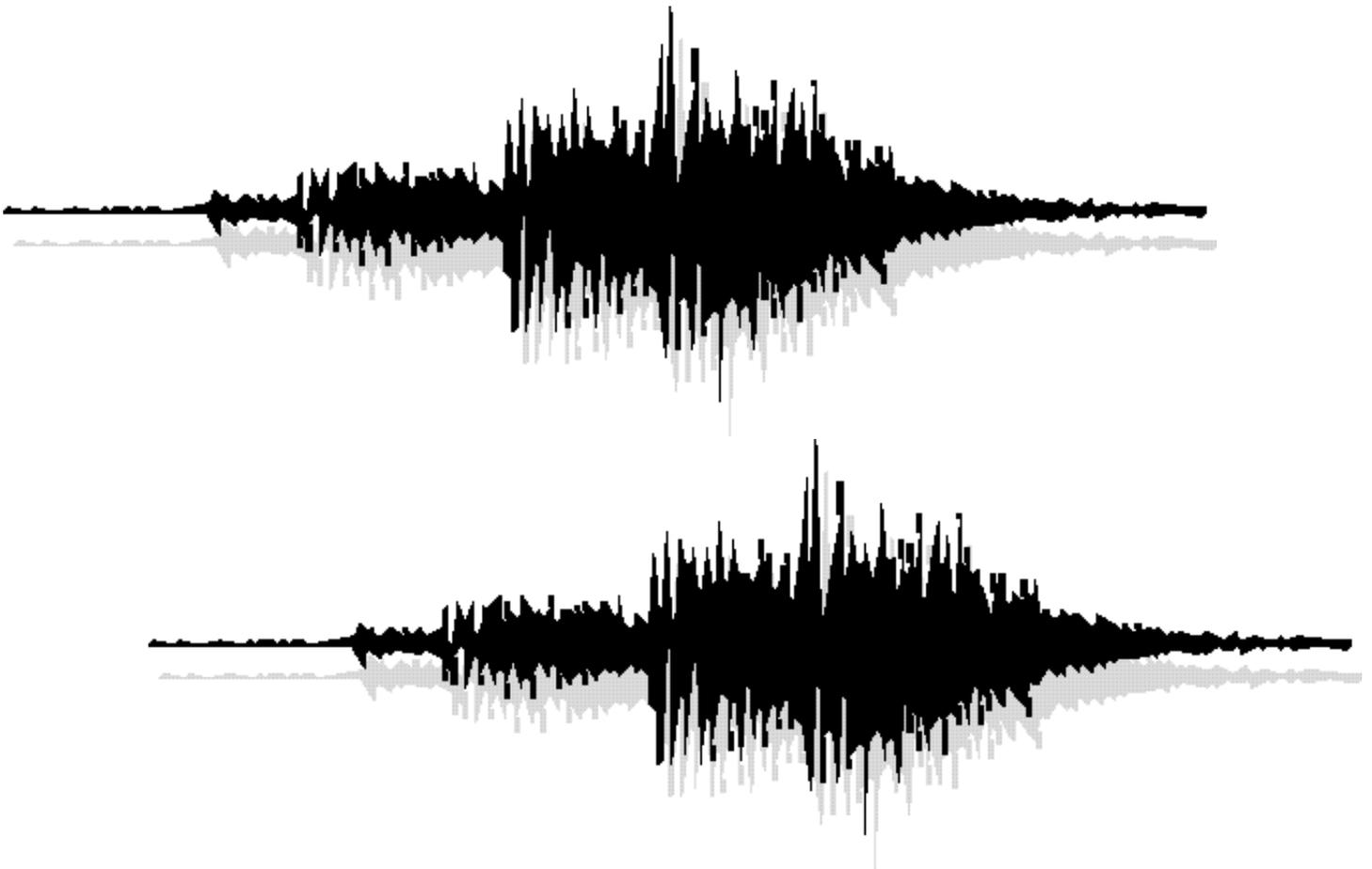
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## **Conclusion**

You've now successfully used some of Peak Express' unique editing features. The next chapter discusses some additional features available in other audio tools from BIAS.

# Chapter 10

## Other Audio Tools from BIAS



# Chapter 10:

## Other Audio Tools from BIAS

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### Introduction

While Peak Express is an excellent addition to the tools included in Final Cut Pro, it is a limited-feature edition of Peak – the industry standard in stereo audio editors. This chapter will cover additional features found in the full edition of Peak, as well as several other professional audio tools available from BIAS.

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### Peak (Professional Edition)

The professional edition of Peak is a full featured stereo audio editing, recording, processing, and mastering application. In addition to all the features contained in Peak Express, the full edition adds the following pro-level features:

- Support for higher bit depths and sample rates (up to 32-bit, 10 mHz)
- Support for an unlimited number of open audio documents (limited only by CPU/RAM)
- Support for an unlimited number of simultaneous VST effects plug-ins (limited only by CPU/RAM)
- QuickTime movie window scrubbing during audio selection
- Recording – including innovative Notepad feature, which allows reference markers to be named and dropped in place during recording
- Integrated Vbox multieffects routing environment for arranging VST effects plug-ins in series or parallel arrangements, or any combination of the two. Allows multiple plug-ins to be used simultaneously
- Full DSP toolset, including all greyed-out items in Peak Express' DSP menu. Additional tools include Change Pitch, Change Duration, Convolve, Mono to Stereo, Stereo to Mono, Panner, Repair Clicks, and many others
- Advanced looping tools, including Loop Surfer, Loop Tuner, and Crossfade Loop
- Support for adding reference markers and regions
- Advanced batch file processing – automates repetitive tasks
- Full-featured playlists – with crossfades and audio CD burning
- Unlimited levels of undo/redo, independent for each open audio document
- Graphical edit history
- Insert Silence
- Blending
- Nudge
- Zoom to Fit
- Support for Sound Designer II, Raw, Sonic AIFF, .paf, .au, MP3, JAM Image, and System 7 Sound file formats

- Customizable fade in/out envelopes
- Customizable audio document colors
- Contents Window for easy navigation of reference markers, regions, and loops
- Show Edits within audio waveform
- Move waveform during play
- Includes over 20 real-time VST effects plug-ins
- Many other features!
- Noise Reduction knob lets you vary amount of noise reduction being applied
- Preserve Voice function automatically preserves frequencies within the human vocal range – perfect for dialogue, narration, singing, etc.
- Remove Hum feature automatically takes out 50 or 60 Hz hum
- Remove Rumble function removes very low frequency noise
- Unique Wash Window display gives a visual representation of ratio between signal and noise, and shows just how much cleaning is taking place

## SoundSoap

SoundSoap is a professional quality, yet very easy-to-use broadband noise reduction application. With just one click, you can reduce/remove annoying background noise, such as hum, hiss, buzz, camera motor noise, air conditioning system noise and many other types of undesired noise. SoundSoap operates as a VST format plug-in or as a stand-alone application. Feature highlights include:

- One-step Learn Noise function automatically finds and removes noise
- Noise Tuner lets you manually “tune-in” and eliminate undesired noise
- On/Off/Noise Only listening modes allow you to determine the effectiveness of noise reduction settings, and compare “before” and “after” results, as well as listen to just the noise being removed

## Deck

Deck is a full-featured multitrack digital audio workstation, featuring up to 64 tracks of recording and playback. Deck allows Final Cut Projects to be imported as OMF files for quick and easy mixing in stereo or 5.1 surround sound. Deck is renowned for its ease of use and intuitive, audio-friendly controls, that operate in real time, with no need for mid-project rendering. Deck’s feature highlights include:

- Supports up to 64 tracks of recording/playback
- Sync QT movies and DV clips with better-than-frame accuracy
- Import OMF files
- Use real-time VST effects plug-ins – Includes over 20 effects
- Automate level and pan faders in mixer and surround panner

- Supports external MIDI controllers
- Easily spot audio to video
- “Rubber-Band” style breakpoint automation of levels, stereo panning, and surround panning
- Mix in 5.1 surround or stereo - output 6 channels of audio for AC3 encoding in A.Pack Encoder/DVD Studio Pro, or other optional encoders
- Surround panning algorithms include Radius 5.1, Variable-Width 5.1, & Room Ambiance 5.1
- SMPTE/EBU timecode fluent for editing, spotting, & external chase lock synchronization
- Slaves with subframe accuracy to external video tape recorders
- Import QuickTime movies and DV clips with better-than-frame accuracy
- Scrub movies with full audio chase
- Lightning-fast spotting of audio clips to picture
- ADR capable
- Monitor previously recorded tracks while recording new tracks (optionally in sync with movie)
- Discontiguous clip selection
- Non-destructive punch in/out
- Many other features!

## Vbox

Vbox is an advanced multi-effects control environment that operates as a stand-alone application, or as a VST format plug-in, within a compatible VST host application, such as BIAS Peak, BIAS Deck, Steinberg Cubase SX, and others. Within the Vbox effects matrix, you can combine, route, and mix up to hundreds of plug-ins per channel of audio. With its ability to work with any of the hundreds of VST format effects on the market, Vbox offers unrivaled creative potential for effects processing. Vbox feature highlights include:

- Create, manage, store, and recall a virtually unlimited number of VST plug-ins in an intuitive workspace
- Unique effects matrix lets you route plug-ins in series, parallel, and hybrid series/parallel arrangements
- Hot-swap plug-in instantly
- Easy muting, soloing, & bypassing of any individual plug-in
- Full control of input and output gain for each plug-in, and the entire Vbox matrix
- Master wet/dry balance
- A/B comparisons
- Works as a stand-alone application, or within your favorite compatible VST host

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## SuperFreq

BIAS SuperFreq is a set of four mastering quality paragrahpic equalizer plug-ins. This package includes 4, 6, 8, and 10 band versions, so you always have the right EQ for the job at

- Peak, High-Shelf, and Low-Shelf filters
  - Gain values  $\pm 18$  dB
  - Q (bandwidth) values from 0.1 - 10
  - Frequency values from 20 Hz - 20 kHz
  - Individual band bypass buttons
  - $\pm 18$  dB logarithmic input/output level controls
  - $\pm 24$  dB logarithmic meters with 1 second delay
  - Carbon Event Driven (for an ultra-fast graphical user interface)
- 

## Conclusion

We hope you enjoy using Peak Express with Final Cut Pro, and if you would like more information about any of the other audio tools mentioned above, please visit the BIAS website, at:

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

Here you will find detailed product information, as well as fully functional 14-day trial versions of many BIAS products.

Don't hesitate to contact BIAS with your questions on how our audio processing tools can make your video projects sound as good as they look.

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