Getting Started with Peak 4

Introduction

This guide provides a general overview of Peak to new users. You will be introduced to Peak's user interface, as well as many of its basic controls. Over the course of this tutorial, you'll learn how to configure Peak for recording, how to perform basic cut/copy/paste edits, use reference markers and regions, and to produce a Red Book format audio CD that can be played in any CD player.

This guide is written with the beginner in mind, and is geared toward users who have little or no experience with editing audio on their computer. For more detailed explanations of particular features, consult the Peak User's Guide in:

Macintosh HD/Library/Documentation/BIAS/Peak 4 Documentation

When learning to use Peak, it's a good idea to have a specific project in mind. By focusing on a particular task, rather than learning every feature at once, you're less likely to be overwhelmed. The concepts, tools, and techniques you will learn in this tutorial will apply to many other audio projects. The goal of this tutorial is based on a very common question from Peak users – "how can I record cassettes from a stereo system into Peak, and then burn a CD?"

Additional tutorials on using BIAS software products for various types of projects are available for download from the BIAS website, at:

http://www.bias-inc.com/downloads/documentation

This tutorial 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 further. This will make using Peak much easier and more enjoyable.

This guide also assumes you have completed the required registration and authorization process.

If you need help registering or authorizing your software, please visit:

http://www.bias-inc.com/support/register

or email: register@bias-inc.com

What is Peak?

Peak is a digital audio recording, editing, processing and CD mastering application. In many ways you can think of Peak as comparable to a word processor. Both allow you to edit content, and move things around. A word processor lets you do these things with text, whereas Peak lets you do these things with audio. In Peak you can cut, copy, and paste just as you can in a word processor. In Peak, as in a word processor, you work with individual document files, and can quickly open a file, edit the content, and save it. The word processor analogy will be helpful in your understanding of the basic editing features of Peak, and provide a reference point as you learn the basics of audio editing with Peak.

What is Peak Used For?

Peak can be used for a wide variety of audio projects. For example, Peak's current user base consists of professional mastering engineers, sound designers, sample library creators, post-production editors, archivists – as well as hobbyists using Peak to "sweeten" the audio in their home digital video projects, to make custom mix CDs, or record their LPs and convert them to mp3 or mp4 format for use in their iPods. However, Peak is a powerful and versatile application that can be used in practically any project that involves audio.

Some of the most common types of projects Peak is designed for are:

- Recording LPs and tapes, and archiving them to CDs and mp3/mp4 files

- Making stereo recordings of lectures or live performances

- Recording and editing voiceovers

- Sample editing, loop editing, and sound design for creating sound effects

- Creating audio files with reference markers as cue points for use in web design and multimedia applications

This guide focuses on recording an audio source, performing basic edits, and burning an audio CD. The techniques you learn can also be applied to many other audio projects.

Launching Peak for the First Time

When Peak is launched, you will see the Toolbar and Transport windows, as well as an Open dialog – as shown in Fig. 1 one on the opposite page.

Open Dialog

When you launch Peak, the Open dialog box appears automatically – at this point, Peak is ready to begin editing, and is prompting you to open a digital audio file. All other menus and commands remain "greyed out"

(unavailable) until you respond to this dialog box. Options in the Open dialog include selecting a file to open from your hard drive, auditioning a file from your hard drive, or canceling. Since we are learning about the interface, click "Cancel" to close this dialog box. At any time, you may access the Open dialog by choosing the Open command from the File menu.

Fig. 2 – The Open dialog allows you to audition and open digital files from your hard drive

⚠️ *Peak defaults to having this Open dialog pop up each time you launch the program. If you would like to turn this option off, you can uncheck "Open Dialog after Launch" in the Options menu.*
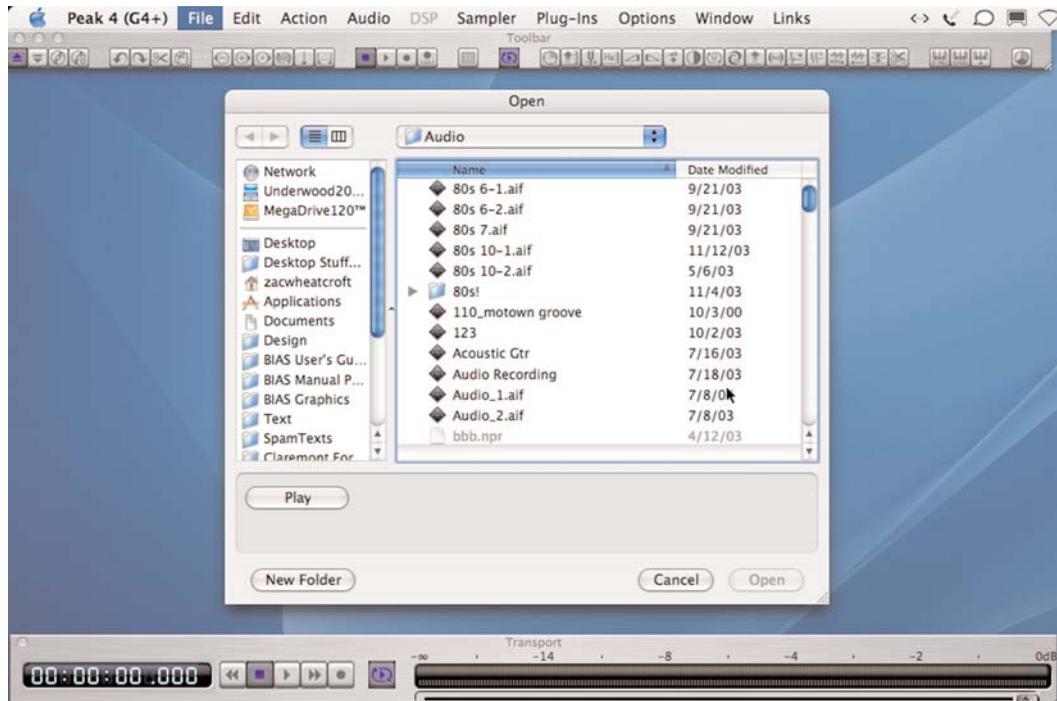
Fig. 1 – When Peak is first launched, you'll be prompted to open an audio document

Toolbar

Peak's Toolbar (Fig. 3) appears across the top of your screen by default, and may be moved to any desired position. In addition to its horizontal orientation, the Toolbar may also be used in a vertical orientation, or as a cluster of buttons. Adjustments to the shape of the Toolbar are made by clicking and dragging the window resize box, located at the lower right corner of the Toolbar window. Toolbar button sizes may also be customized – to change the size of the buttons, choose Preferences from the Peak menu, and then click the Shortcuts/Toolbar Preferences button. In the Shortcut/Toolbar Preferences dialog, use the Toolbar Button Size slider to make adjustments.

⚠ *Toolbar button sizes can only be customized in the full edition of Peak.*

The Toolbar contains easy-to-access shortcuts to many of the most frequently used tools in Peak. For example, you will find buttons in the Toolbar for opening and closing files, for cutting, copying, and pasting, as well as common DSP tools, such as Normalize and Change Gain.

To find out what a particular button does, simply move your mouse over the button, and Peak's automatic "balloon help" will display its function. If you're unsure about what a button is used for after reading its text description, check your Peak User's Guide for more details.

Transport

The Transport window (Fig. 4) appears across the bottom of your screen by default, and can be moved to any desired horizontal position. Although the Transport may only be used in a horizontal orientation, its length is customizable.

This window contains Peak's Transport controls (Play, Stop, Record, etc.) as well as a digital counter, a dB scale, precision VU (level) meters, and a master fader (volume control).

Main Menu Set

Much like other Macintosh applications, Peak contains a number of menus along the top of the screen (Fig. 5). Virtually all of Peak's commands may be accessed via these menus (many of the same commands appear in the Toolbar) – including most of Peak's configuration settings.

Fig. 3 – Peak's Toolbar allows easy access to commonly used tools and commands

Fig. 4 – Peak's Transport window controls playback, as well as master volume — and displays the playhead cursor's position and audio level
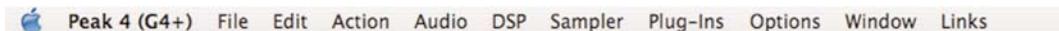
Fig. 5 – All of Peak's commands and tools may be accessed from the main set of menus that appear across the top of your screen

We will go into more detail about these menus in other sections of this guide, but take some time to familiarize yourself with the different menus and their contents.

> Most of the menu contents in Peak have keyboard shortcuts associated with them. When a keyboard shortcut is available for a particular menu command, you will see the keyboard equivalent displayed next to it in the menu. The full edition of Peak allows you to create custom keyboard shortcuts for most of Peak's menu commands.
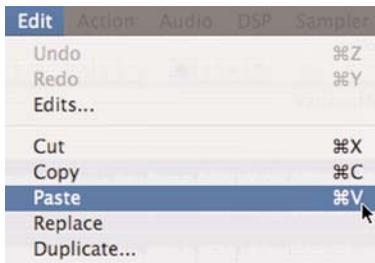
Fig. 6 – Keyboard shortcuts appear in each of Peak's menus

Learning the keyboard shortcuts can make editing in Peak much faster and more efficient. Learning them all may seem daunting, but if you try to learn one or two during each editing session, soon you'll be editing like a pro!

These are the basic elements of the Peak interface. In the next section, we will navigate through the user interface and set Peak up to record audio.

Configuring Peak to Record

In this tutorial, we'll be recording through the Macintosh's built-in audio inputs. If you are using audio hardware other than the built-in sound input on your Macintosh, you can visit our hardware setup page on the BIAS website for directions on how to configure your particular device. Directions for configuring many popular audio hardware devices can be found at:

http://www.bias-inc.com/support/hardware

Let's assume we're going to record audio from a portable cassette player into Peak – perhaps to digitize old cassettes... Before we dive into Peak, we must first connect the two devices together, so that the audio output from the cassette player is fed into the Mac's Sound In port. The cassette player used in this example has a 1/8" stereo headphone output – we'll use a 1/8" to 1/8" stereo cable to connect the two devices together.

Fig. 7 – As this cassette player has only a 1/8" headphone output, we'll use this to connect to the Mac's built-in audio input.

Other common ways to connect stereo equipment to a Macintosh include using an RCA to 1/8" stereo cable (sometimes called a "Y" cable), or an RCA to RCA cable. Some newer Mac models even feature optical input, which is a digital connection – though this would require a compatible digital output source (not commonly found in portable cassette players.

Fig. 8 – Other stereo systems may use different type of cables, such as an RCA cable (shown above).

At the end of this tutorial, you will find diagrams and pictures that show the various cables and ways of connecting equipment together. Based on the examples provided, you should be able to use one of the configurations with your own stereo equipment.

To Connect Your Audio Devices Together:

1. Plug one end of the 1/8" stereo cable into the headphone output on the cassette player (shown in Fig. 9). (If you're not sure which connection to use, look for one labeled "Phones", "Headphones", or an icon of a pair of headphones or a speaker.)

Fig. 9 – Example of a 1/8" stereo headphone output on a cassette player

Fig. 10 – The cable used to connect these two devices has a 1/8" stereo connector at both ends

2. Plug the other end of this cable into your Macintosh's Sound In port (shown in Fig. 11).

3. Set the output level of the boox-box to about halfway between zero volume and full volume.

Fig. 11 – The built-in audio input on an 800mHz Titanium Powerbook

Not all Macs have an audio input! If your Mac does not have an audio input, you will need an audio hardware interface with audio input. To help decide on what kind of audio interface best suits your needs and budget, BIAS recommends visiting the technical support web page to see which devices are compatible:

http://www.bias-inc.com/support/hardware

When you find a device that has the features you need, visit the hardware manufacturer's website for details on pricing and purchasing.

At the end of this tutorial, several examples of audio hardware interfaces are shown, along with information on how to set these up with your stereo equipment and Macintosh.

Since we'll be using the Mac's built-in audio input for recording, the next step is to configure the Mac's Sound Preferences, so the Mac "knows" to expect audio input via the Sound In port, rather than the built-in mic for example.

1. From the Apple menu, choose System Preferences.

Fig. 12

2. In the Hardware section of the System Preferences window, click the Sound icon.

Fig. 13

3. Click the tab labeled Input.

Fig. 14

4. In the section labeled Choose a Device for Sound Input, choose Line In.

Fig. 15

5. Move the Input Volume slider to halfway between the lowest input level and the highest input level.

Fig. 16

6. Insert the cassette you wish to record in the cassette player, and start playback.

Fig. 17

7. In the Sound Preferences Pane, you should now see activity in the VU (level) meters – ideally, the signal level should be higher than halfway up the VU meters, but not all the way to the top.

Fig. 18

> *When recording digitally, you want to have a nice strong signal to record, but this should never exceed 0 dB, as this will result in "clipping", or digital distortion. It's always better to record with a lower level, as Peak contains tools to bring these levels up after recording, but once a digital recording is "clipped" it is very difficult (if not impossible) to salvage!*

8. When you have found the ideal recording level, close the System Preferences.

Now that your Macintosh is getting an audio input signal, we must also configure Peak to use the Mac's built-in audio input hardware to actually record the signal.

Core Audio

Peak is able to access the Mac's built-in audio hardware using a part of the Mac OS called Core Audio. Core Audio is an advanced audio driver system that allows audio software such as Peak to communicate with the audio hardware. In addition to allowing audio software to "talk" to audio hardware, it also offers a number of options for recording, such as bit depth, sample rate, how many channels are being recorded (stereo – two channels, mono – 1 channel, or multi-channel – x-channels). The Mac's built-in audio hardware is only capable of recording one (mono) or two (stereo) channels of audio at a time. As we're recording from cassette, we only need one or two channels, depending on whether the audio material on the cassette was originally recorded in mono or stereo (stereo is the most common for commercially produced cassettes). Core Audio supports recording at various bit depths and sample rates. If you are not familiar with these concepts, here's a little background information about digital recording that may be of use.

A Brief Explanation of Digital Audio

If you are new to digital hard-disk-based recording, you may wish to acquaint yourself with a few of the principles behind digital audio before you dive into using Peak software. This section explains a few key concepts that will give you a good general understanding of how Peak does what it does. What we hear as sound is actually a pattern of pressure waves that move through the air. The frequency of these waves determines the pitch of the sound – how low or high it sounds. Sound frequency is measured in cycles per second, or Hertz (Hz). The range of human hearing is generally considered to be from about 20 Hz at the low end to 20 kHz at the high end. In practice, however, most adults hear only as high as 12 kHz to 18 kHz, especially those of us who may have spent more time than we

should have with headphones at high volume or at loud rock concerts.

Sampling and Sample Rate

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

Bit Resolution

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

film size (8 millimeter film is much lower in image quality than 70 millimeter film) greater bit resolution (8-bit, 16-bit, 24-bit, and 32-bit) results in better fidelity digital audio. Audio CDs have a resolution of 16-bits. In practice, the bit resolution determines the recording's dynamic range – that is, how many distinct steps you have to describe a sound's level, from quiet to loud. For instance, an 8-bit recording has 256 (2^8) levels available, which is the equivalent of 48 decibels (dB) of dynamic range. On the other hand, a 16-bit recording has 65,536 (2^{16}) levels available, equivalent to 96 dB dynamic range. (The rule of thumb for determining the dynamic range in decibels is to take the bit rate and multiply it by 6.)

To set Peak up for recording through the Mac's built-in audio input using Core Audio, follow the steps below.

To Configure Peak for Recording Through the Mac's Built-In Sound Input:

1. Launch Peak.

2. Click the Cancel button when prompted to open an audio document, as we will be recording a new document into Peak.

3. From the Audio menu, select Sound Out (Fig. 19), and make sure that Core Audio is selected in the sub-menu – a dialog box called Core Audio Playback appears (Fig. 20).

Fig. 19

Fig. 20

Peak can record using the other types of drivers listed, such as Mac OS X Audio HAL, or Firewire DV, but those are beyond the scope of this tutorial.

4. Click OK in the Core Audio Playback dialog.

5. From Peak's Audio menu, select Record Settings – this dialog (shown in Fig 21) gives you access to many of Peak's recording options.

Fig. 21 – Peak's Record Settings dialog

6. In the upper left portion of the Record Settings dialog, click on the Record Disk pop-up menu, and choose the drive you wish to record to.

By default, this menu is set to Largest Drive — which may not necessarily be the drive you wish to record to. Since the amount of data on different hard drives can change, this default setting does not guarantee that you will always record to the same hard drive. By selecting a particular drive in the Record Disk pop-up menu (shown in Fig. 22), you can be sure that your audio is always recorded to the same drive, provided that drive is always connected to your computer system. If you have multiple drives connected to your Macintosh, it's best to record to the fastest drive. For example, if you use a Powerbook with an external FireWire drive, it's best to record to the external FireWire drive, as this will typically have a faster data transfer rate. In addition, the Powerbook's internal drive is running the Macintosh operating system, so it's constantly busy accessing data to run the computer itself. By recording to a different drive, the internal (or boot drive) drive can be used just for accessing parts of the Mac OS, while the second drive only records audio.

Fig. 22 – The record disk pop-up menu lets you specify which drive you would like to record to (when multiple hard drives are connected to your Mac).

Recording to a separate drive is the ideal situation, but for our purposes here, of recording a mono or stereo signal from a cassette, any OS X compatible Mac in good condition should be able to record to the same drive that runs the operating system – that is, on a Mac with a single internal hard drive.

7. In the right side of the Record Settings dialog, make sure the Monitor checkbox is checked.

Fig. 23 – The monitor option lets you hear what's being recorded through your computer's speakers

On the right hand side of the Record Settings dialog box, you'll see a column of checkboxes. These are various recording options that can be enabled or disabled. For beginners, the most important checkbox here is the "Monitor" option. The Monitor option allows you to hear the audio that you're recording, as it's being recorded. Since we're recording from a cassette player, using the headphone output, we won't be hearing any audio from the cassette player's speakers, so we'll want to have record monitoring enabled.

The next items to configure are audio hardware settings.

8. In the Record Settings dialog, click the Hardware Settings button – the Core Audio Settings dialog appears.

Fig. 24

9. In the Core Audio Settings dialog, select Built-In Audio from the Input Device & Output Device pop-up menus.

10. Click OK to return to the Record Settings dialog.

11. In the Record Settings dialog, click the Device and Sample Format button – the Core Audio Record Settings dialog appears.
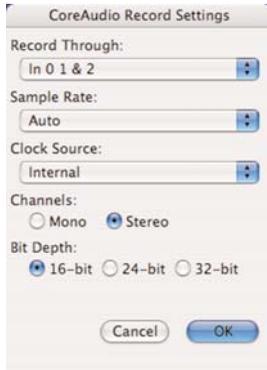
Fig. 25 – These are very common settings to use when recording with the Mac's built-in audio inputs.

12. From the Record Through pop-up menu, choose "In 0 1 & 2".

13. From the Sample Rate pop-up menu, choose "Auto".

14. From the Clock Source pop-up menu, choose "Internal".

15. In the section labeled "Channels:", click the radio button that suits the audio material you are recording – either stereo or mono.

16. In the section labeled "Bit Depth:", click the 16-bit radio button.

17. Click the OK button to exit the Core Audio Record Settings dialog.

At this point you are ready to record audio with Peak.

Recording Audio with Peak

Now that you have connected your source (the cassette player) to your Mac, and have configured your Mac's audio input settings, and Peak's record settings, you're all set to record. Follow the next few steps to make your first recording.

To Record Audio in Peak:

1. Click the Record button in Peak's Transport window – the Record dialog appears.

Fig. 26   Record Settings   Pause   Stop   Record

The Record dialog box has its own set of control buttons in it, similar to the buttons in the Transport window. Please note that while the Record dialog is open, all other menus and buttons are inaccessible. Click the Stop button (with the black square icon on it) to close the Record window.

At this point, Peak is armed for recording, but is not yet recording audio. In this state, you can check that Peak is receiving input signal and check your recording levels. Play the cassette for approximately 30 – 60 seconds, and keep an eye on the levels. Assuming that you are recording a song (rather than spoken word), gauge the recording level by the loudest part of the song. For example, if you are recording rock music, with a loud guitar or drum solo, this is the best part to use for setting the recording level. The loudest part of the song should register around –6dB on Peak's VU meters. If the loudest part of the song peaks the VU meters around –6dB, then all other parts of the song will register lower, and no part of the song will ever "clip", or become distorted. If you notice that the level is too high or too low, there are a couple of ways to adjust it. One method would be to simply turn up the volume level on the cassette player until the meters in Peak are getting the appropriate signal level – another method is to exit the Record Dialog in Peak, return to the System Preferences/Sound, and increase the Input Level Slider's setting. When recording from a device such as a cassette player, with a variable output volume, you'll often find that there is an ideal setting for its output volume, as well as an ideal setting for the Input Level Slider in the System Preferences/Sound. Beginning with both settings at about halfway is a good starting point – you can fine-tune as necessary.

2. Rewind your cassette to the point from which you wish to start recording, and start playback.

Fig. 27

3. In Peak's Record dialog, click the Record button – note that the countdown timer in the Record dialog is now counting. The amount of recording time remaining depends on how much space is available on the hard drive you are recording to (Fig. 28).

Record 16-bit 44100Hz Stereo AIFF file.

Rec Time Left: 75:44:53.476

Fig. 28

4. When one complete side of the cassette has been recorded, let Peak "keep rolling" and turn over the cassette and start playback of the second side. Since Peak is an editor after all, it's easier to let it keep recording, and edit out the unwanted recorded silence later.

Fig. 29

5. When you've recorded both sides of the cassette, click the Stop button in the Record dialog. Peak will prompt you to name the recorded file, and to choose a location on your hard drive to save it – Peak will only allow you to save the recording to the hard drive you selected as your Record Drive (please refer to step 6 in the previous section "To Configure Peak for Recording Through the Mac's Built-In Sound Input:")

When you have successfully saved your recording, it will open up in an audio document window. Now that you have your file open, let's look at the different components that make up an audio document window in Peak.

The main portion of the audio document window is the waveform. The waveform is a visual representation of your audio file. The waveform is made up of a series of peaks and troughs – the higher the peak, the louder the audio.

The Audio Document Window

Peak's Audio Document windows (Fig. 30) contain a Waveform Display, an Audio File Info Bar, a Max Level Indicator in the lower left corner, and an expandable contents drawer containing information about reference, region, and loop markers.

Notice that the waveform portion of the window is divided into two sections. The upper section (smaller waveform display) is the File Overview (Fig 32 on next page). The File Overview allows you to see the entire file, whether it's ten seconds long, or two hours long. The File Overview is primarily used as a navigational aid – anywhere you click in the Overview will start playback at

Peak's Audio Document Window

Blending On/Off
Vertical Lock
Hand Tool
Show/Hide Overview
Horizontal Lock
Arrow Tool
Magnifying Glass (Zoom) Tool
Pencil Tool
Toggle File Drawer
File Overview
Audio Waveform (Left Channel)
Level Scale (%)
Audio Waveform (Right Channel)
Maximum File Level
Fig. 30
Audio Info Area
Time Scale (Displays User-Selected Time Units)
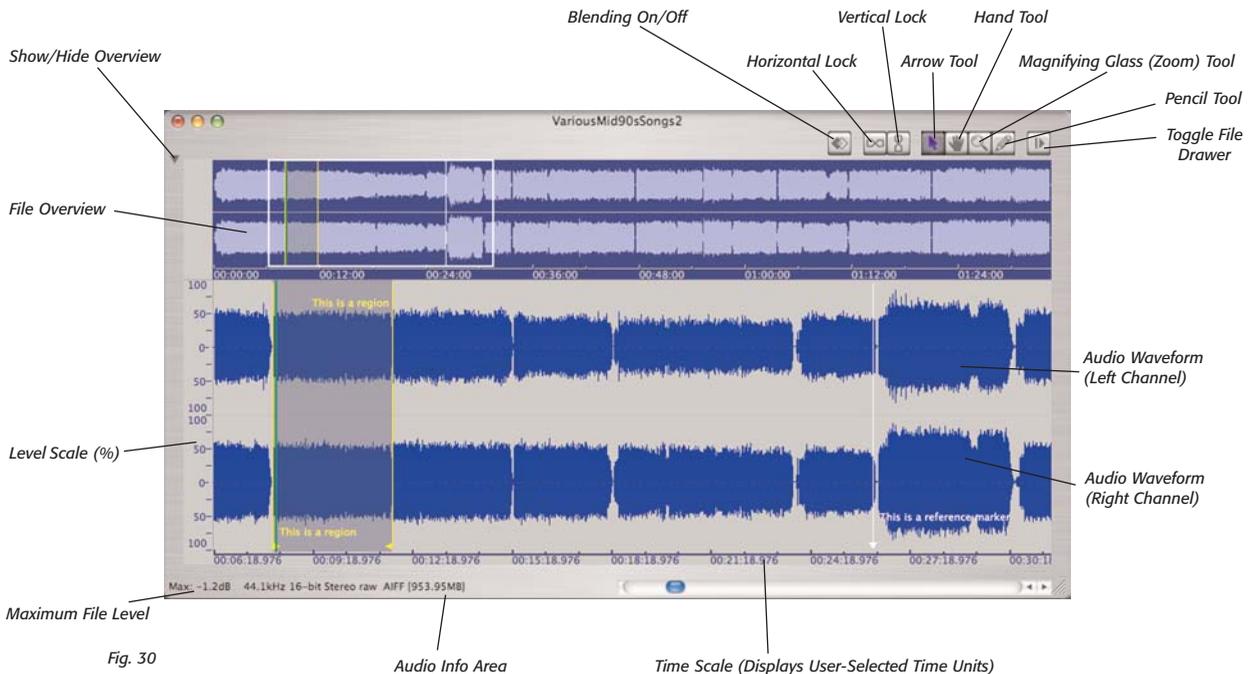
Peak's Waveform Displays

File Overview
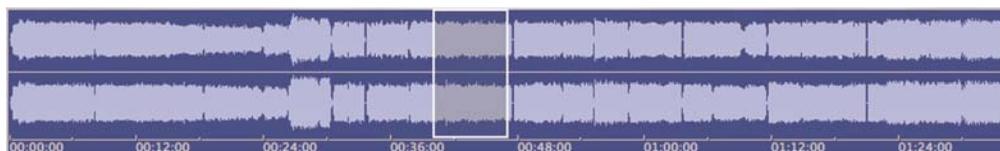
Fig. 32 – The File Overview is a navigational aid – it always shows the entire length of an audio document, regardless of length... Notice the shaded detail area, showing what portion of the waveform is currently being viewed in the main waveform display (below).

Main Waveform Display
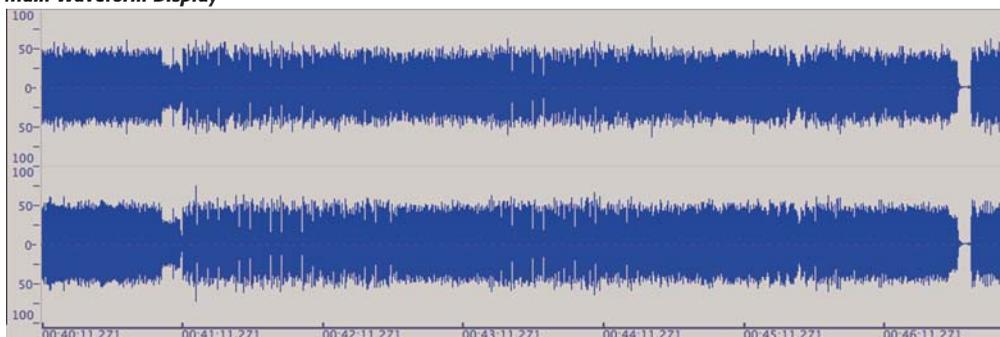
Fig. 33 – This is the part of the audio waveform where you can make selections, cut, copy, paste, delete, etc. What you see in this waveform display is represented by the shaded area in the File Overview (above).

that point in the audio document. The white box the appearing in the File Overview is the Detail Area. Depending on the Zoom Level, this box represents the audio waveform that appears in the larger waveform display in the lower half of the audio document window.

The lower section of an audio document window contains a larger waveform display, where edits can be made. In this part of the audio document, you can "target" certain sections the waveform to be cut, copied, pasted , or duplicated. These selected portions of audio also become the targets for DSP tools, effects plug-ins, and for inserting various types of markers.

In an audio document window, you may navigate to different parts of the file using the File Overview, the scroll bars/arrows (shown in Fig. 31) at the bottom of the window, or by selecting the Hand Tool (more on this feature later).
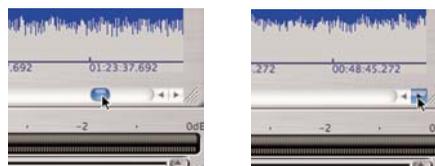
Fig. 31 – The scroll bar or scroll arrows in the audio document window allow you to move through the audio waveform from left to right

In order to get a better view of the audio waveform, you can use the "Zoom In" & "Zoom Out" buttons in the toolbar (shown in Fig. 34 on the next page).

Peak's audio document window also contains a tool icon for each cursor mode. The default cursor is a standard Arrow Cursor. You can also select a Hand Cursor for

The two tools we will be focusing on for now are the Arrow tool and the Hand tool.

- **Arrow tool –** The Arrow tool is the default cursor – it is the standard "arrow" tool that lets you click and select on-screen items.

- **Hand tool** – The hand tool lets you "grab" the waveform and scroll the waveform display to the left or right.
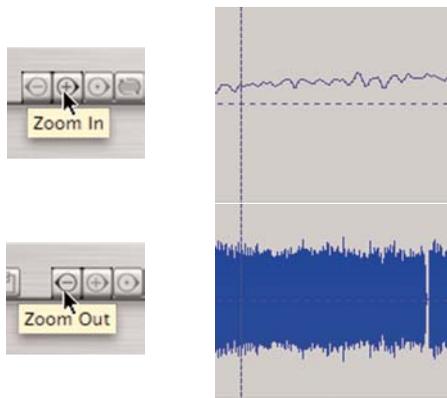
Fig. 34 – Zooming in gives more detail of a smaller area of the waveform, and zooming out gives more of a "big picture" view of the wave-

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 (Fig. 35).

To access any of these cursors, just click on the corresponding icon – or press the ESC key. To change the cursor tool, click on a new button. How the cursor behaves in Peak depends on which of these tools you have selected.

Try switching between these two cursor modes and clicking and dragging in the main editing section and observe how they work. For descriptions of the other tool buttons and their functions, please consult Chapter 3 of the Peak User's Guide.

⚠️ *You can use the escape (ESC) key on your keyboard to toggle between cursor modes.*

You should now be familiar with the main window elements of Peak's audio document window. In the next section, we will discuss how to use Peak's editing tools along with the audio document window to enhance your audio and give it a more professional sound.

Blending On/Off   Arrow Tool   Magnifying Glass (Zoom) Tool

Toggle Contents Drawer

Horizontal Lock   Vertical Lock   Hand Tool   Pencil Tool

Fig. 35

Editing Basics

Cutting, Copying, and Pasting in Peak

The most basic editing features of Peak are the cut, copy, and paste functions. In this respect, Peak acts much like a word processor. To perform a cut or copy type of edit, you simply highlight the portion of the waveform you wish to cut or copy, and select the Cut or Copy command from Peak's Edit menu – or use the standard Mac keyboard shortcuts:

- **Cut –** ⌘-X

- **Copy –** ⌘-C

To paste a piece of audio that's been cut or copied, you simply place Peak's cursor in the desired location in the audio waveform, select Paste from the Edit menu, or use the standard Mac keyboard shortcut:

- **Paste –** ⌘-V

⚠️ *Placing the cursor in a specific location and then using the Paste command will insert the contents of the Clipboard in the position of the cursor, and move any audio to the right of the cursor further to the right (later in time). Making a selection in the audio waveform and then using the Paste command will replace the audio in the selected portion of the waveform with the Clipboard contents. This may result in the audio to the right of the initial selection being into a new position either earlier or later in time, depending on the length of the audio cut/copied to the Clipboard.*

While we will not be using the Cut/Copy/Paste commands in this tutorial, they are some of the most basic and important editing commands. The Cut/Copy/Paste commands are featured in practically every Macintosh application, and operate in much the same way in Peak as they do in a word processing application.

Undoing Changes

As you get into the editing process, keep in mind that Peak features an independent and unlimited edit history list – meaning that you can "undo" as many edits as you like, all the way back to the original state of a file. This unlimited edit history list is independent for each file, so if you've made fifteen edits in one file, and ten in another, you can switch back and forth between the files and access each file's edit history list.

Keep in mind that this list is available until you save the file – once you save, the list disappears! If you wish to save your files at various stages of a project, and maintain the ability to have unlimited "undos", simply use the Save a Copy As feature to save out a copy of your file in its current state. When you use the Save a Copy As feature, you're able to save copies at various stages, and keep working on the original file, and maintain its unlimited edit history.

There are a number of ways to undo/redo edits in Peak – one way is to use the Edit menu's Undo and Redo commands (the keyboard shortcuts for these are ⌘-Z and ⌘-Y), or, you may open the Edits dialog, which presents a list of all edits that have been made in a file and allows you to jump backward or forward as many edits as you like.

Fig. 36 – You can undo/redo one edit at a time by using the File Menu's Undo/Redo commands.

Fig. 37 – In addition, you can open Peak's edit history list to move backward or forward as many edits as you like (you must have made edits in a document for this list to appear!)

To Undo Edits One at a Time:

1. From the Edit menu, select Undo – one edit is undone.

To Redo Edits One at a Time:

1. From the Edit menu, select Redo – one edit is redone.

To Undo Multiple Edits:

1. From the Edit menu, select Edits... – Peak's graphical edit history list appears.

2. Select the point in the file's edit history to which you would like to return.

3. Click the Revert to Item button.
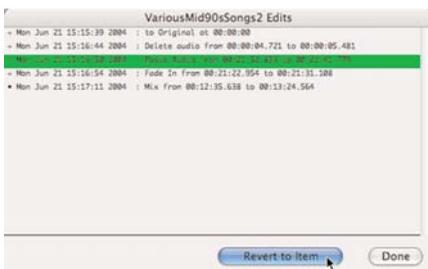
Fig. 38 – The Edits window allows you to jump backward or forward as many edits as you like.

4. Click the Done button – Peak returns to whatever point in the file's edit history you have chosen.

To Redo Multiple Edits:

1. From the Edit menu, select Edits... – Peak's graphical edit history list appears.

2. Select the point in the file's edit history to which you would like to return.

3. Click the Revert to Item button.

4. Click the Done button – Peak returns to whatever point in the file's edit history you have chosen.

⚠️ *The unlimited edit history is available until a file is saved – once it is saved, the edit history disappears! If you wish to save copies of your audio document at various stages of the editing process, use the Save a Copy As command from the File menu. Using this command saves a copy to your hard drive, and allows you to continue working in the current audio document.*

Markers

When working with a large file (a long recording, such as two sides of a cassette), it can be difficult to locate a particular section just by looking at the audio waveform. In these cases, it is handy to use Reference Markers. Reference Markers make it easy to locate a particular event in an audio recording. You might place Markers at the beginning or end of a song, or you might mark the silent area that was recorded while we changed the cassette from Side 1 to Side 2.

Reference Markers may be dropped into place during audio playback or when audio playback is stopped. Either method simply requires selecting the New Marker command from the Action menu, or clicking the New Marker button in the

toolbar, or using the keyboard shortcut (⌘-M). Whether audio is playing or not, Markers are always placed exactly where the play cursor is placed in the audio waveform.
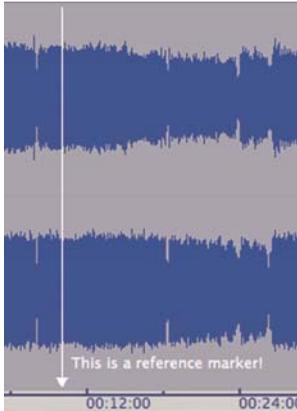
Fig. 39 – Markers are very useful for designating areas of interest in an audio waveform.

Markers may also be dropped into place during a recording, which makes locating events in the recording much faster. For example, while recording a cassette, you could mark the beginning of each song during the recording process, making the CD mastering process faster and easier. We won't get into inserting markers during recording in this tutorial, but you can find more information in the Peak User's Guide in Chapter 4: Recording.

Each audio document can contain hundreds of Markers, and Markers may also be custom named to make file navigation and editing much easier.

By default, the first marker created is named "Marker 1", the second "Marker 2" and so on. To change the name of a Marker to something more useful for reference, double-click the triangular flag at the base of a marker. The Edit Marker dialog will appear and let you change the name, adjust the position in time, and provide addition-al options. Marker positions may also be changed by clicking on the small triangular flag at the base of a marker and dragging it to a new location.

Regions

In addition to standard reference markers, which simply define a particular point in the audio waveform, Peak also offers another type of marker. Region markers define a range of audio – so there is always a beginning and an end marker. Region markers are most commonly used to define what will become a single CD track, but they can also be used in any other situation where you need to define a range of audio.
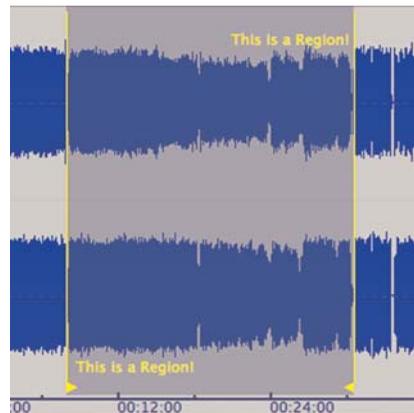
Fig. 40 – Region markers in the waveform define a range of audio

In the context of our cassette recording project, we'll be using Regions to define each song/section of the cassette that should eventually become a single CD track. Make sure the audio document we recorded from cassette is open in Peak, and follow the steps below to mark each song/section as a separate Region.

To Define CD Tracks Using Regions:

1. Look in the File Overview for gaps in the audio

wavefom – this is a fast and easy way to locate the pauses between songs (or the silent areas between passages of dialogue).

Fig. 41   Gaps between songs
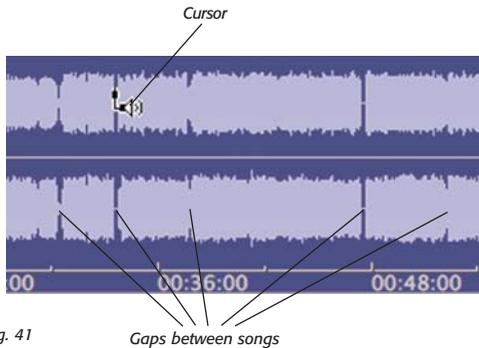
2. Click in the File Overview, (see Fig. 42 on the next page) just before the first of these gaps – audio playback should begin slightly ahead of the gap, so you should hear the end of first song.

3. When audio playback reaches the gap between the first and second songs, press the Spacebar on your keyboard to stop playback.

4. Now that you're in the area where the break should be between the first and second songs, click into the lower waveform display exactly where you would like this break to be – notice the dotted ver-

tical line that appears wherever you click.

5. From the Action menu, select New Marker.

6. In the File Overview, look for the next gap (between songs 2 and 3), and click into the Overview just before this gap.

7. As audio playback reaches the silent gap between the second and third songs, get ready to add the next Marker using a keyboard shortcut (⌘-M). When Peak's cursor reaches this silent area, just hold down the Command (Apple) Key on your keyboard, and press the M key to drop a marker in place.

⚠️ *If you don't place the marker in exactly the right spot, you can always move it later by clicking on the small triangular base, and dragging it to the left or right.*

8. Now, repeat this process until you have placed a marker in each gap between each of the songs.

9. Once you have placed all the markers, save your work!

You've spent a good amount of time editing so far, so this
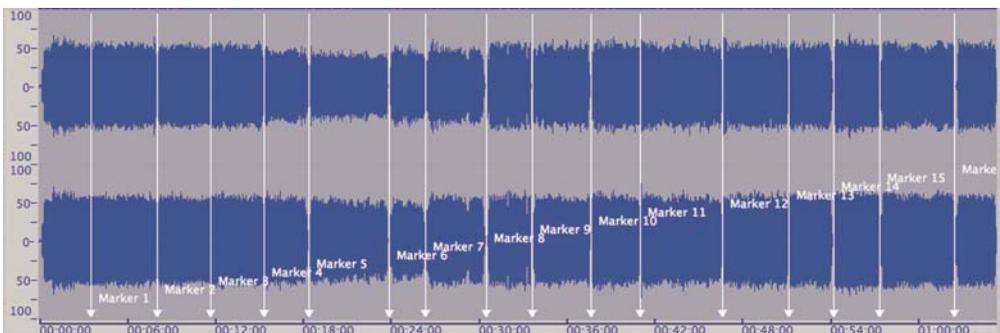
Fig. 43 – Markers now divide each song

Positioning Markers Between Songs
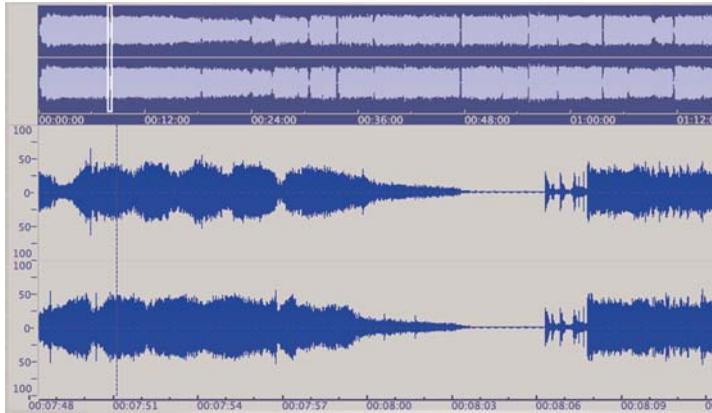
Fig. 42a – Clicking in a gap in the File Overview will start playback very close to a gap between songs...
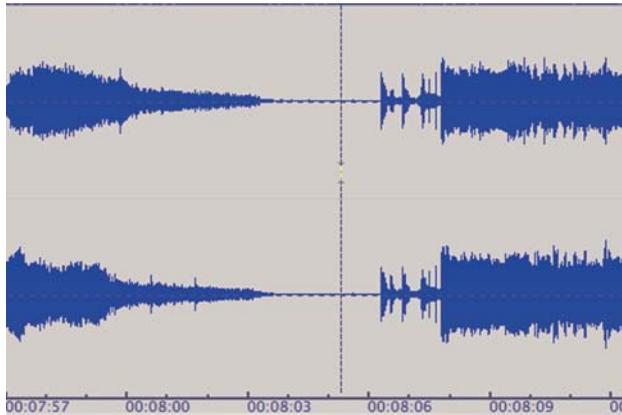
Fig. 42b – Then you can position your cursor in exactly the right position...
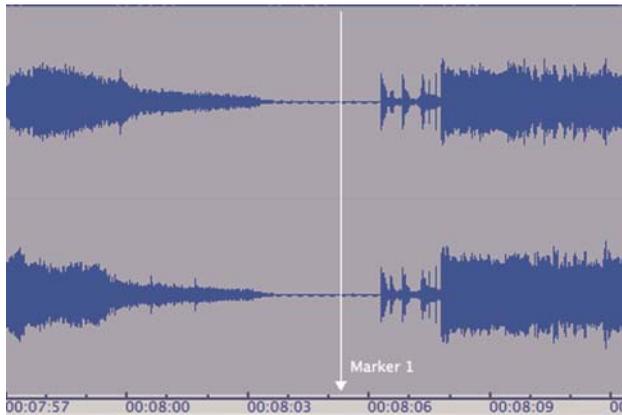
Fig. 42c – And a reference marker can be dropped in place to designate a track break for our finished CD.

is a good point to save your work. Now that you've placed regular reference markers into the recording, it's time to create Regions – each of which will become a separate CD track.

10. From the Action menu, select Zoom Out all the Way – now, in the lower waveform display, you will be able to see the entire recording from beginning to end.

11. Press the Tab key on your keyboard a number of times, and notice that each time you press it, Peak highlights one of the songs.
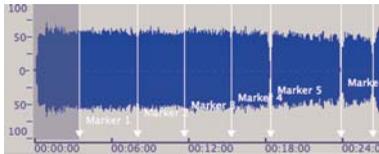
Fig. 44 – Pressing the Tab key once selects the space between the first two
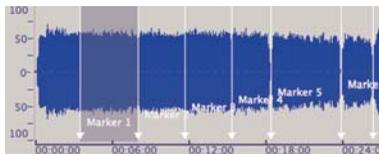
Fig. 45 – Pressing it again selects the next space between markers
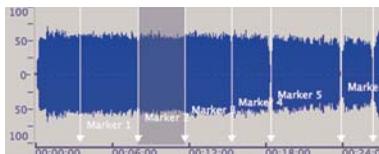
Fig. 46 – And so on... When you reach the end of the document, Peak will "wrap" back to the beginning and select the space between the first two mark-

What Peak is actually doing is automatically selecting the spaces between the markers that you've created. Since regions must be created around a selected portion of the audio waveform, this is an easy way to ensure the entire song is selected, while any audio beyond the beginning or end of the song is not.

12. Now, hold down the Command (Apple) key and click between any two markers – notice that only the space between the two markers is selected (so just a single song is selected).

These two methods will be very helpful in creating accurate region markers, and will also make the process much faster. If you use these tips and also learn some of the key commands for creating markers and regions, you'll be amazed at how much editing you can get done in a short amount of time!

13. Press the Tab key until the very first song is selected (Peak's automatic selection will "wrap" to the beginning of the file when it reaches the end).
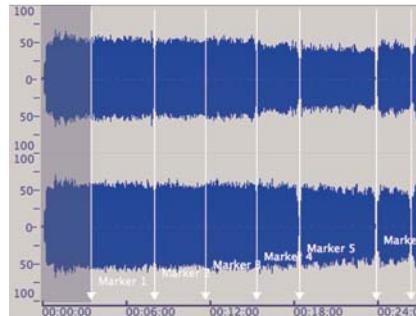
Fig. 47 – Regions are always based on a selected portion of the waveform – so here, we've selected just the first song.

14. From the Action menu, select New Region (or click the New Region button in the Toolbar, or use the keyboard shortcut ⌘-Shift-R) – the Edit Region dialog appears.

Fig. 48 – The Toolbar's New Region button is an easy way to place Region markers around a selection

15. In the Edit Region dialog, enter a name for this region and click OK. In the audio waveform, notice that the first song is now bounded by two region markers, and each one has the name you entered in the Edit Region dialog.

Fig. 49 – Naming Regions makes them easier to locate later if necessary.

Fig. 50 – Notice that the first song now has Region markers bounding it.

16. Press the Tab key on your keyboard to select the next space between the next set of markers – this will select just the second song.

Fig. 51 – Pressing the Tab key selects the next space between markers, in this case, it's the second song.

17. From the Action menu, select New Region (or click the New Region button in the Toolbar, or use the keyboard shortcut ⌘-Shift-R) – then enter a name for the second region.

Fig. 52 – This picture shows the second song selected, with region markers called "Song 2" added.
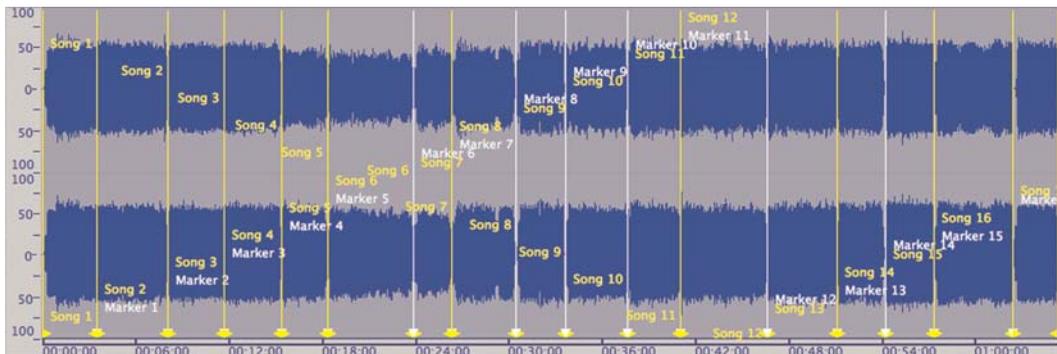
Fig. 53 – In this view, we've zoomed out all the way, so we can see all the Regions in the entire document – notice that each song now is contained within a pair of region markers.

18. Repeat this process until you have created a region for each song in the entire recording (shown in Fig. 53).

19. Once you have placed all the regions, save your work!

You've now completed the basic steps for creating regions – with each one ready to become an individual CD track. However, there can be occasions when you would like to adjust the length of a region for one reason or another. For example, when we recorded from the cassette into Peak, we left Peak recording while switching the cassette from Side 1 to Side 2. This left a long silent gap in the middle of the audio document. By adjusting the regions in the area, we can exclude this long gap, and the CD we create will go directly from the last song on Side 1 into the first song on Side 2. The next few steps will show you how to trim/adjust regions.

To Trim/Adjust Regions:

1. Find the spot in the middle of your audio document where silence was recorded while the cassette was changed from Side 1 to Side 2 (Fig. 55). You may use the File Overview to quickly find this by looking for a long section with a very low ampli-

tude audio waveform that appears like a flat line.

2. When you locate this part of the recording, click directly over the single reference marker and the two region markers in this area – they should all be located in the exact same position.

3. Use the Zoom In button on the Toolbar to zoom in for more detail(Fig. 56).
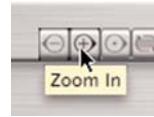
Fig. 54 – You can use the Zoom buttons for greater detail

4. Move the End Region Marker for the last song on Side 1 closer to the end of the song, using the waveform for reference (Fig. 57).

⚠ *On the cassette recorded by the author, there were seven songs on Side 1 of the cassette – your cassette may have a different number of songs. The last song on Side 1 of your cassette may not be labeled "Song 7".*
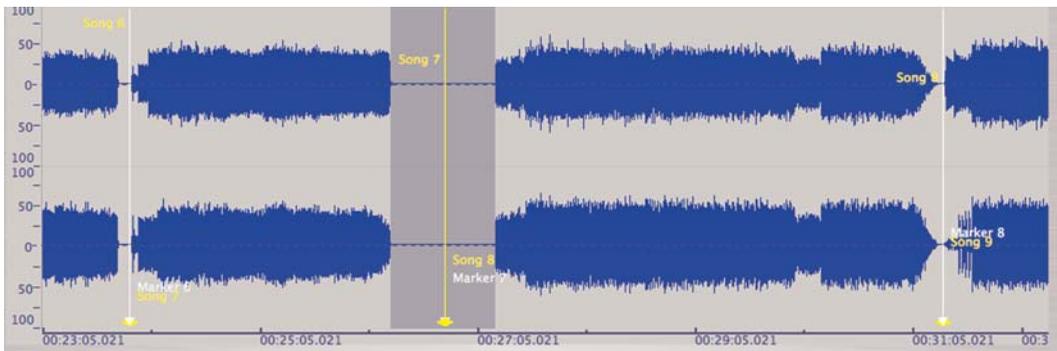
Fig. 55 – The highlighted section between songs 7 & 8 is the long pause that was recorded when we switched the cassette from Side 1 to Side 2. By trimming the regions that bound this silent area, we can exclude it from our final CD.

Fig. 56 – First, we'll want to zoom in on this area so as to get a more detailed view...
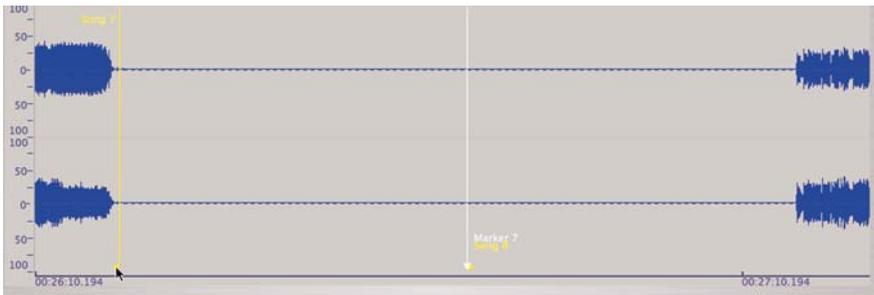
Fig. 57 – Then, we can adjust the end region marker for Song 7 to the left...

Fig. 58 – And we can adjust the begin region marker for Song 8 to the right...

Fig. 59 – Since the highlighted area does not fall within any region markers, it will be excluded from our audio CD

5. Move the Begin Region Marker for the first song on Side 2 closer to the beginning of the song, using the waveform for reference(Fig. 58).

> ⚠️ *When multiple markers occupy the same space in the waveform, you may have to move one out of the way to be able to move another. Now that regions have been created, the standard reference markers are not important any more, so if you move a reference marker out of place to access a region marker, don't worry about putting the reference markers back into their original position.*

Now that we've moved the region markers in closer to the actual audio data intended for the CD, the long silent gap now lies outside of the region markers (shown in Fig. 59). Only audio that lies within a pair of region markers will become a CD track when we build a Playlist (in the next section).

From time to time, there will be other sections of a recording that you will want to exclude from the CD that's being created. For example, sometimes when recording on a cassette, the tape will run out before a song finishes. When you listen to the cassette, the last song will sometimes be cut off. As anyone who likes listening to "mix" tapes can tell you, there's nothing worse than hearing the first half of a favorite song and then having it cut off because the tape ended during the recording. With digital editing, it's easy to remove a partial song, or any other section of a recording.

You may use the same techniques as those above to trim a region's length to include only the desired audio. Another option is to simply not use certain regions. For example, if while browsing through the File Overview you created a region for a song that was cut off before it was completely recorded on the original cassette, you can simply not use that region when assembling your Playlist.

Note that as we've been isolating one song from another, we have not deleted a single part of the recording. By using Peak's reference markers and region markers, we're able to separate various pieces of audio without cutting, copying, or pasting!

Before we get to the last step of assembling our Playlist and burning a CD, we'll use a few of Peak's DSP tools to enhance the overall quality of the recording.

DSP Tools

The menu in Peak titled "DSP" stands for Digital Signal Processing. This references features that are built into Peak that process your audio in some way. If you click on the DSP menu you will see a list of DSP items available.

> ⚠️ *Some of these may be grayed out. If some of your DSP items are grayed out, it means that you are using either Peak Express, Peak LE, or Peak DV and those features are not included in your version of Peak.*

The DSP tool that we're going to work with is "Normalize". Normalizing is one of the most common processes used in digital audio editing and is used to raise audio levels. Normalizing a file is a safe way to raise the level of a digital audio file without danger of raising the level too high, and introducing digital distortion (clipping). This feature works by first analyzing a selected portion of audio, finding the highest waveform peak, and raising that to the level that you specify, while bringing up all other peaks proportionally. By normalizing each of the songs in the cassette recording, we'll end up with a CD that has more or less constant levels from one

song to the next – this allows the listener to enjoy the music without having to adjust the volume on their CD player for each song.

We can quickly and easily normalize each song using some of the things we've already learned, and adding one new tool. Follow the steps below…

To Normalize Each Song's Level:

1. Hold down the Command (Apple) key, and click between the first song's region markers – this will select just the first song.
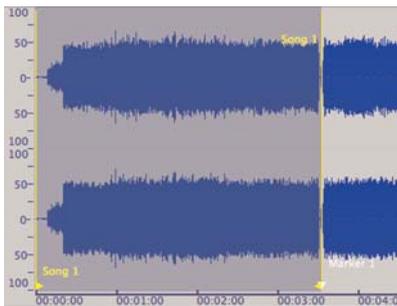
Fig. 60 – Notice the low amplitude of the waveform before we normalize

2. From the DSP menu, select Normalize.

3. In the Normalize dialog, move the slider to the 100% position (all the way to the right).

Fig. 61 – Normalizing raises the audio level according to what you specify.

4. Click the OK button – Peak normalizes the selected portion of the waveform. You should notice an increase in the amplitude of the waveform (the waveform will look larger, as the level has been raised).
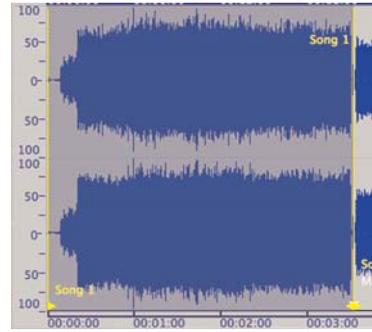
Fig. 62 – …And the higher amplitude level after normalizing.

5. Press the Tab key on your keyboard to select the next space between markers – this should select only the second song.

6. From the DSP menu, select Normalize.

7. In the Normalize dialog, move the slider to the 100% position (all the way to the right).

8. Click the OK button – Peak normalizes the selected portion of the waveform.

9. Repeat this process until you have normalized all the songs (Fig. 64).

⚠ *Remember the long gap in the middle of the recording? Since using the Tab key selects the spaces between markers, and we've adjusted some of the markers in this part of the file, you may need to press the Tab key a number of times to go from having the last song from Side 1 selected, to having the first song on Side 2 selected.*

10. Save your work!
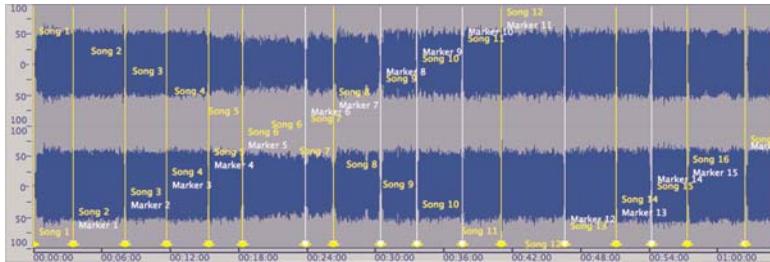
Fig. 63 – Note low amplitude before normalizing entire recording
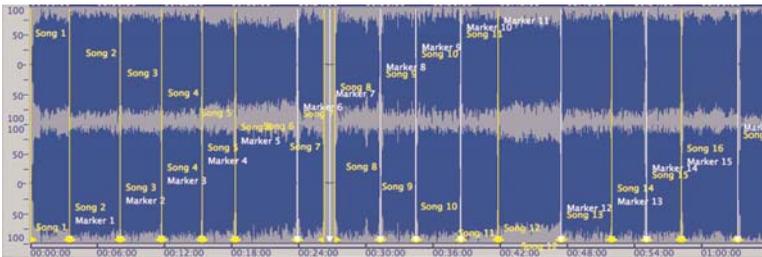
Fig. 64 – ...And high amplitude after normalizing each song.

There are other DSP tools for applying different kinds of processes to your audio. For a detailed description of each tool, please refer to the Chapter 7 in your Peak User's Guide.

When shopping for new plug-ins to use with Peak, READ THE PLUG-INS' SYSTEM REQUIREMENTS! Make sure that VST plug-ins are compatible, (some VST effects only work on Windows or Mac OS 9.x!). In addition, make sure that what you are considering is a VST or Audio Units "Effect Plug-In" and not an "Instrument Plug-in" — Peak currently supports only effects plug-ins, not instrument plug-ins!

Plug-ins

In addition to the built-in DSP tools, Peak also supports VST and Audio Units plug-ins. Think of plug-ins as "mini-applications" that "plug-into" a host application. Plug-ins add a specific type of processing to the host application.

Peak is compatible with VST (these must be Mac OS X compatible VST effects!) and Audio Units plug-ins. Many manufacturers create plug-ins that conform to the these two standards. If a plug-in conforms to these standards, it will work in Peak.

We're not going to use any effects plug-ins in this project, as this is a very basic Peak tutorial. Once you have mastered the techniques introduced in this tutorial, you can learn about how plug-ins work in several other BIAS tutorials, such as "Cleaning Up Audio Files", and "Mastering a CD in Peak" – both available for download from the BIAS website.

Now that we've created regions, we're ready to build a Playlist, and burn an audio CD!

Playlists

Playlists are another kind of document that can be created in Peak, used for arranging regions in a particular order for playback. Some common uses for Playlists are CD mastering/CD burning and remixing. In this project, we'll be using the Playlist for CD mastering/burning. The Playlist we create in Peak will become the "blueprint" for the finished audio CD. To learn more about using Peak's Playlist for creating remixes, please download the "Peak Looping Tools" tutorial from the BIAS website.

To Create a Peak Playlist Document:

1. From the File menu, select New>Playlist Document – an empty Playlist appears.

Fig. 65

2. From the Window menu, select Contents – the Contents window appears.

Fig. 66

3. Arrange Peak's windows so that you can easily see the audio document window, the Playlist, and Contents window. (See Fig. 70 on following page)

4. Click the disclosure triangle in the Contents palette, just to the left of the audio document's name – a list of regions contained in that file appears.

Fig. 67 – Clicking the disclosure triangle next to an audio document's name reveals a list of all the regions in that document.

5. Select the first region that appears under the audio document's name, and drag this into the Playlist window.

Fig. 68 – Just drag and drop the region into your Playlist

Fig. 69 – The Playlist now contains one item — an audio CD burned at this point would contain just one track

6. Select the second region that appears under the audio document's name and drag it into the Playlist.

You should now have two items in your Playlist. If you were to burn a CD at this point, each of these items would be a separate track, resulting in a two song CD. If you wish to burn a CD that has all the songs from the cassette on it in the same order they appear on the cassette, there's an easier way to do it, rather than dragging and dropping each region.

Fig. 71 – The Playlist now contains two items — an audio CD burned at this point would contain just two tracks

You can drag regions into the Playlist in any order you like – if you wish to automatically place *all* the regions contained in a file into the Playlist, in the order they appear in the audio document, simply click on the audio document's name in the Contents palette and drag it into the Playlist window – all the regions contained in that document will be added to the Playlist.

7. With the Playlist window in the foreground, choose the Select All command from the Edit menu (or use ⌘-A).

8. Press the Delete key on your keyboard – the Playlist's contents are cleared.

9. In the Contents window, click on the audio document's name, and drag it into the Playlist (shown in Fig. 72 on next page) – all the regions contained in
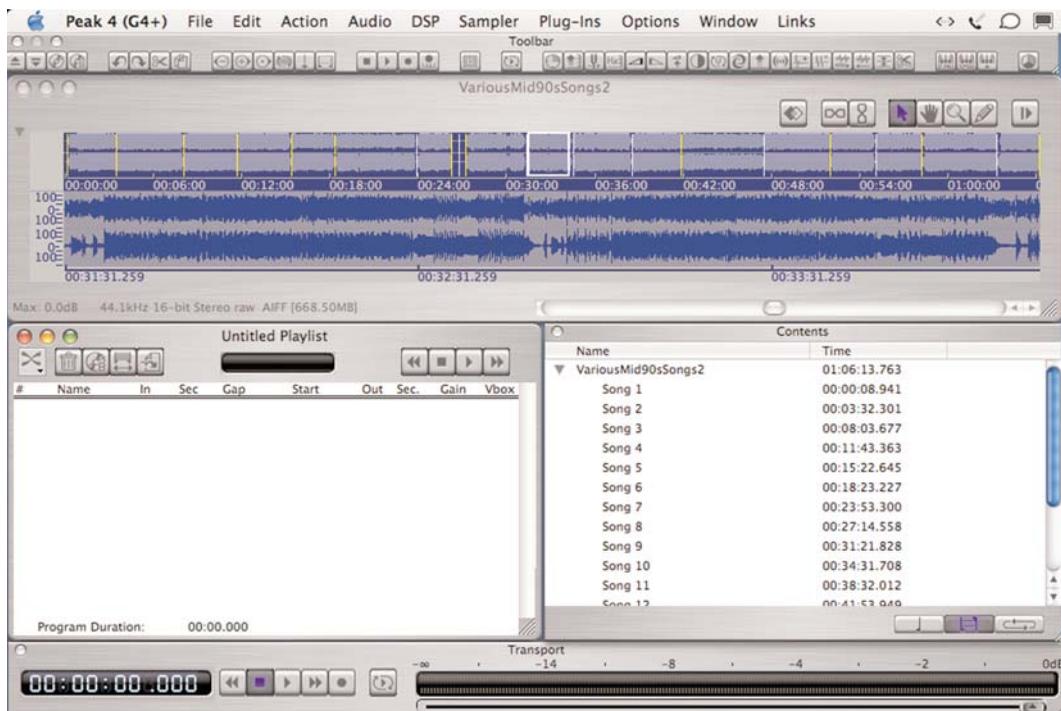
Fig. 70 – Arranging Peak's windows as shown will allow easy access to everything you need to build a Playlist.

the document are automatically added to the Playlist.
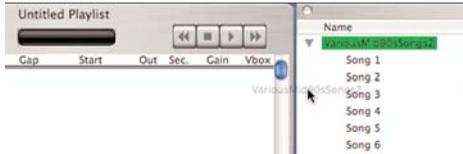
Fig. 72 – Dragging an audio document's name from the Contents palette to the Playlist automatically places all the regions from that document sequentially into the Playlist.

Fig. 73 – A complete Playlist, with all 17 songs from the cassette...

10. Save the Playlist!

If desired, you may add a standard two second gap between songs...

11. In the Playlist window, double-click on the second song's row, under the "Gap" column – The Gap Time dialog appears.

Fig. 74 – Double-clicking in the Gap Time column brings up the Gap Time dialog, allowing a custom gap time to be entered.

⚠ *You cannot add a two second gap to the first item in a Playlist, as there is no audio data preceding the first item/song/region!*

12. Enter in 2 seconds as the value you would like to add as a gap time, and click the OK button (Fig. 75).

Fig. 75

13. Repeat this process for the rest of the gaps between songs, and add the desired gap time.

14. Save the Playlist!

⚠ *Playlists are very small documents (in file size), and they do not contain any audio data at all! Playlists simply refer to the audio contained in various regions, which are contained in audio documents. If you wish to move your Playlist to another computer system, or back it up, you will need to include all the audio documents used in creating the Playlist!*

Now that the Playlist contains all the regions we want, let's burn a CD! To create a Red Book format audio CD that will play in any CD player, just follow the steps below.

To Burn an Audio CD from a Peak Playlist:

1. With your Playlist assembled as desired, choose Select All from the Edit menu – this indicates that you wish to include every item in the Playlist on your CD (only selected items will be included on the CD!).

Fig. 76 – Be sure to Select All in your Playlist, as only selected items will be burned to CD!

Fig. 77 – A Playlist with all items (regions) selected

2. In the upper left portion of the Playlist window, click the Burn Audio CD button – the Burn Audio CD dialog appears.

Fig. 78 – To burn your Playlist to CD, just click the Burn button in the upper left corner of the Playlist window...

3. In the Burn Audio CD dialog, select speed at which you wish to burn the CD (1x, 4x, 8x, etc.).

Fig. 79

In general, lower burn speeds are less likely to produce errors and data loss. For higher quality CD burning use lower burn speeds. In most cases the fastest speed supported by your CD burner is typically fine, though depending on the blank CD media you're using, you may need to adjust this if you notice anomalies such as clicks or pops, or dropouts of audio on the CD.

4. Click the Burn button – Peak will prompt you to insert a blank CD into your CD-ROM drive.

Fig. 80 – Peak will prompt you for a blank CD

5. Insert a blank CD, and click the OK button – Peak begins to burn your audio CD. You may monitor this progress in the Transport window (Peak's meters change to a progress bar which indicates CD burning status).

Fig. 81 – The transport window's VU meters change to a progress bar during CD burning, giving you information about the status of the burning process.

6. When the CD is finished burning, Peak will alert you – click the OK button.

Fig. 82 – Your CD in now ready to play in a CD player!

Congratulations! You've now successfully recorded a cassette, added reference and region markers, performed some basic edits, assembled a Playlist, and burned a CD that will play in any standard CD player, as well as in software audio players such as iTunes, and Quicktime Player. If you own an iPod, you can also import the audio CD into iTunes and transfer the songs to it. Now, go listen to your creation!

For more detailed information about Peak's features, please consult the Peak User's Guide, which was installed on your hard drive when you installed Peak.

> *Peak is also capable of creating mp3 and AAC (mp4) files, which can be imported directly into iTunes (and other software-based audio players), and transfered into an iPod. If your goal is to transfer your cassette or LP collection to an iPod, this eliminates the step of having to burn an audio CD to import into iTunes. Look for a tutorial on transferring your cassette or LP collection to an iPod, coming soon!*

Methods of Connecting Stereo/Audio Equipment to a Macintosh Computer

Some users may not have the same type of Macintosh, or the same type of stereo equipment used in this tutorial. Several examples are included below for other common stereo equipement, as well as other common methods of connecting stereo equipment to a Macintosh computer. By reviewing the examples below, you should be able to connect your own stereo equipment to your Mac and use the other steps in this tutorial to record cassettes into Peak.

If you need to purchase any of the cables mentioned below, visit your local electronics or electronic music store.

Micro-Cassette Recorder (1/8" Stereo/Mono Output) to Mac (1/8" Stereo Input)

If you are using a micro-cassette recorder, and wish to record these cassettes into Peak, you will most likely be using a 1/8" mono to 1/8" mono cable or a 1/8" stereo to 1/8" stereo cable. You may follow along with all other steps in the section of this tutorial called "To Connect Your Audio Devices Together".
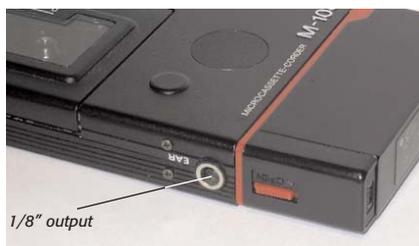
1/8" output

Fig. 83 – Most micro-cassette recorders have a 1/8" output. – some are mono, some are stereo

Fig. 84 – The cable you need to use in this configuration has this type of connection (1/8" mini-plug) at both ends.

Cassette Player (1/8" Stereo Output) to Mac with Griffin iMic, Edirol UA1A, or Similar USB Audio Device

If you are using a Macintosh model with no built-in audio input, you will need to use some type of audio hardware interface. At the most basic level you will want a device such as the Griffin Technologies' iMic, or the Edirol UA1A. These are simple USB devices that plug into an available USB port on your Macintosh and feature basic audio inputs and outputs. The iMic features a 1/8" stereo input and the UA1A features stereo RCA inputs.

Fig. 85 – The Griffin Technologies iMic features 1/8" stereo input and output

To connect a cassette player with an 1/8" stereo head-phone output to an iMic-equipped Macintosh, you will need a 1/8" stereo to 1/8" stereo cable (shown in Fig. 89 on following page). Connect one end of the cable to the cassette player's headphone output and the other end to the iMic's audio input.

Fig. 86 – The cable used to connect these two devices together has a 1/8" stereo connector at both ends

To connect a cassette player with an 1/8" stereo head-phone output to an Edirol UA1A-equipped Macintosh, you will need a 1/8" stereo to RCA cable. Connect one end of the cable to the cassette player's headphone output and the other end to the UA1A's RCA inputs.

Fig. 87 – The Edirol UA1A features RCA input and output

Fig. 88 – The cable used to connect a cassette player to an Edirol UA1A has a 1/8" stereo connector on one end and RCA connectors on the other end.

Once the connection is made, you will need to configure your Macintosh to use this additional hardware device for audio input.

Fig. 89 – Macintosh computers that do not feature built-in sound input will need to use some type of audio interface – the Griffin iMic is shown above, plugged into a USB port. The audio output from the stereo equipment feeds into the audio input of the iMic, then into the com-

When you have configured your Macintosh to use the iMic or UA1A for audio input, you may continue with this tutorial – just be sure to skip the section called "To Configure System Preferences for Sound", as you will be configuring your system according to the directions in the Hardware Setup Appendix of this tutorial.

put to the Mac's 1/8" stereo input. Then, follow the steps starting in the section of this tutorial entitled "To Configure System Preferences for Sound".
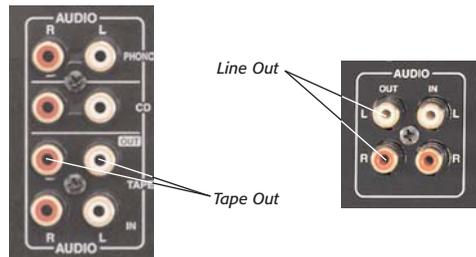
Fig. 90 – Two common examples of RCA outputs on an amplifier

Stereo Amplifier (RCA Output) to Mac (1/8" Stereo Input)

If you are using a stereo amplifier, rather than a cassette player, you can connect the RCA outputs from your amplifier to your Macintosh in a similar way as you would if using a cassette player.

To connect to a Mac this way, you'll need an RCA to 1/8" stereo cable. Connect this from the amplifier's RCA out-

If you are using other types of stereo equipment

If you are using other types of stereo equipment not covered in the examples above, you will want to look for some kind of audio output connection on the device you wish to record from (your recording "source"). Typical connections include 1/8" mono, 1/8" stereo, RCA, 1/4" mono, and 1/4" stereo. If you are using a connection method not mentioned above, you may need to purchase the correct type of cable. Usually you can find special cables with the proper connection type on either end at your local electronics or electronic music store. Once your equipment is connected together, you may configure your Mac's Sound Preferences, using the examples above for reference.

For help with connecting unusual types of stereo equipment to a Macintosh, you may wish to visit the BIAS Forums, where BIAS software users ask and answer questions, about BIAS software. You can visit the BIAS Forums at:

http://www.bias-inc.com/support/userForums/

You may also contact BIAS directly at:

Email: support@bias-inc.com

Phone: +1-707-782-1865

Hardware Setup Appendix

To Configure Peak for Recording with a Griffin iMic:

1. Without Peak launched, connect the iMic.

2. Go to your System Preferences>Sound, and set the iMic as the input and output device.

3. Go to the Audio Menu>Hardware Settings and select the iMic as your input and output device.

4. Go to Audio>Record Settings>Device and Sample Format. Here you can use the menu to select your bit depth, sample rate and other input settings.

⚠️ *If you have the iMic set up correctly and cannot get any levels to show up in Peak, try switching the small black switch on the iMic. This switch will alternate between adding +4dB or cutting –10dB, which will boost or lower your signal accordingly.*

To Configure Peak for Recording with the Edirol UA1A:

1. If your Edirol device requires drivers, download the latest version from Edirol's website.

2. Without Peak launched, connect the Edirol device and turn it on.

3. Launch Peak and go to the Audio Menu>Sound Out and verify that you have CoreAudio selected.

4. Go to the Audio Menu>Hardware Settings and select the Edirol as your input and output device.

5. Go to the Audio Menu>Record Settings>Device and Sample Format. Here you can use the menu to select your bit depth, sample rate and other input settings.

If the Edirol does not show up as an option under hardware settings, run your Audio MIDI Setup utility to verify that your OS is recognizing the Edirol.

Due to the limited bandwidth of USB, if you are going to do 24 bit recording, you should go to your Audio MIDI Setup utility, choose the Edirol under "Selected Device" and set the output option for 16 bit.

Please visit our FAQ page for more information on USB recording tips – this can be found online at:

http://www.bias-inc.com/support/faq/