

# CUBASE *Score*

**VST**  
Native Audio

for Macintosh

## Audio Recording Tutorial

DEMO version

**Steinberg**

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# Introduction

Welcome to the Cubase Demo Audio on-line documentation! Please use one of the methods described below to quickly find the desired information:

- **Use the Table of Contents provided by the Adobe Acrobat Reader program.**
- **Use the Adobe Acrobat Reader Search function.**
- **Click on a cross-reference (green text) to jump to the respective topic.**

It is of course possible to print out this document or parts of it. Additional Information on how to use the Adobe Acrobat Reader can be found in its on-line Help.

## What this document contains

This chapter is an excerpt from the Cubase “Audio Recording” book . It contains a tutorial introducing you to Cubase’s audio capabilities. You will learn:

- How to make an audio recording.
  - How to play back audio.
  - How to check your audio recordings in the Pool
  - How to open an Audio Track in the Audio Editor.
  - How to open the Monitor, EQ and Effects windows.
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- Since this is an excerpt from a bigger book, some references to other texts and chapters will not be accurate.
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# Preparations

This text assumes you are reasonably familiar with Cubase as a MIDI recorder. If not, check out the “Basic MIDI Recording” chapter in the beginning of the main Cubase manual. The text also assumes you have the Startup Song provided with the program loaded. Here goes:

## 1. **If you like, record a couple of MIDI Tracks to which you could overdub some “real” instrument or vocals.**

Make sure you have all your equipment connected correctly. Since the Macintosh only has stereo inputs, audio sources connected to the Left input are recorded on audio channels with odd numbers, and vice versa. Below, you will start recording audio channel 1, so your audio source should be connected to the Left input channel.

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- The concept of audio channels is explained in more detail in the real manual.

2. **To record audio, you first have to create an Audio Track or select an existing one (Audio Tracks have a small sine wave symbol in the “C” column).**

If you want to create an Audio Track, double click below the existing Tracks in the list, press the mouse button in the “C” column for the new Track that appears, and select “Audio Track” from the Track Class pop-up menu that appears.



3. **Set the Track to Channel 1 by changing the value in the Track’s “Chn” column to “1”.**

It will now record and play back on audio channel 1.

#### 4. Open the Inspector (if not already open).



#### 5. Click on the Record Enable button.

The button lights up to indicate that the Track is ready for recording.

- **If this is the first time you “Record Enable” an audio channel in the Song, you have to specify a folder for your recorded audio files.**

A file dialog will appear, allowing you to select a folder where all your recorded files will end up. You can switch folder at any time during the session, using the Select Audio File Folder item on the Audio menu.

When you Record Enable the Track, monitoring is automatically activated for the selected audio channel. This means that you will hear the audio source connected to the channel input, when in Stop mode and when actually recording.

- **You can also turn monitoring on and off manually by clicking on the Monitor button in the Inspector.**

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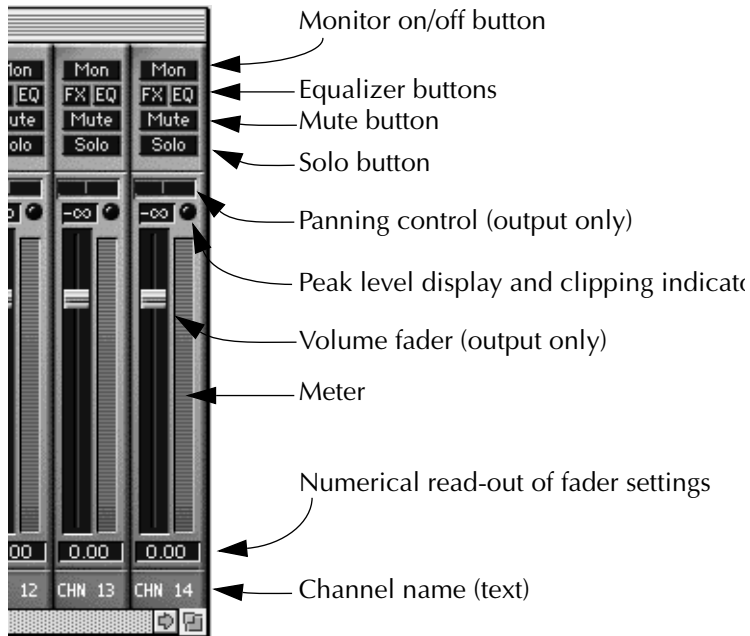
- If you cannot get monitoring to work at all, pull down the Audio menu, select System, and check if the Global Disable monitor option is selected (if this function is enabled, Cubase will not provide monitoring at all). Select Tape Type monitoring, exit the System dialog and try turning monitor on in the Inspector again.

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- There will be a certain unavoidable delay in the Monitor signal (the monitored sound will appear to be a little late), due to the way the audio hardware is designed. If this delay is a problem, activate the Global Disable monitor option and use an external mixer for monitoring.

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## 6. Bring up the Monitors window, by selecting Monitors from the Audio menu.



As you see, there is a duplicate of the Inspector's Monitor button for each channel in the Monitor mixer. The button for the audio channel you are recording on is already "pressed" (inverted). You can turn monitoring on and off for each channel in the Monitor mixer (just as in the Inspector), regardless of their Record Enable status.



## 7. Adjust the level of the audio source, if needed.

The meters in the Monitor window indicate the *output* level, that is, the level of the signal after having passed through Cubase's monitoring. If the monitor mixer fader is set to 0dB (and there is not much eq applied to the channel) the level meter gives you a rough idea of the input level.

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- You cannot adjust the actual input level with the Monitor mixer faders.
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The headroom indicator shows the level of the loudest signal since the indicator was last reset. If the signal level exceeds 0.0 dB, a clipping indicator is lit. To reset these indicators, click on them.

## 8. Play back the MIDI Tracks to rehearse the audio part, if you like.

## 9. When you are ready, set the Left Locator to the position where you want to commence recording.

## 10. As usual, Cubase will punch out at the Right Locator if Punch Out is activated on the Transport Bar.

You may want to turn this function off, by clicking on the button.



Punch Out deactivated.

# Record!

- 1. Activate recording, by clicking on the Record button or by pressing [\*] on the computer keyboard.**

- 2. Record as much as you like, and then press Stop.**

An image of the audio file gets calculated. When this is done you should have a Part with a waveform in it. If not, select “Show Events” from the Part Appearance menu on the Options menu.



A recorded Part.

- 3. Play back the Arrangement to listen to what you did.**
- 4. If you want to redo the recording completely, simply select Undo, or delete the Part (select it and press [Backspace]).**

If you hold down [Command] while pressing [Backspace], the audio file you recorded will also be permanently deleted from the hard disk.
- 5. If you want to punch in on this recording, do so, just as with MIDI Tracks.**
- 6. When you are happy with the first Track, create a new Audio Track and set it to channel number 2.**

- 7. Swap your input source to the right input.**
- 8. Activate the Record Enable button in the Inspector. Record on this Track as with the first.**

You will hear the first Track playing back while recording. If you want to pan it or adjust its playback level, use the controls in the Monitor Window.
- 9. If you have more audio channels, feel free to record more Tracks.**

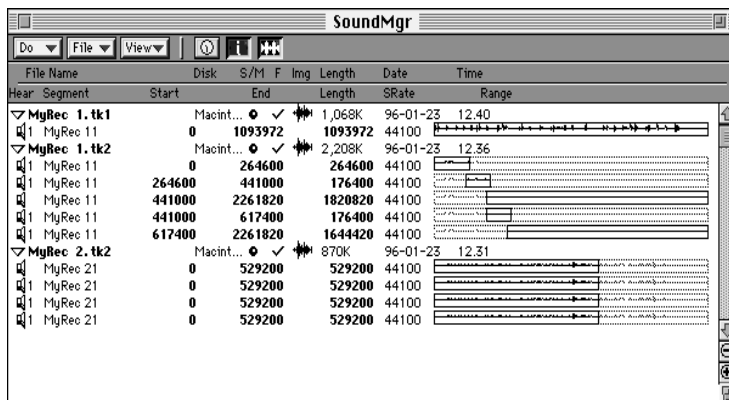
In fact, you can have many Tracks set to the same audio channel, for playback. But if two sounds “collide”, only one of them will play back. Each audio channel can only play back one sound file at a time.
- 10. If you wish, you can use all of the regular Tools in the Toolbox on your audio Parts, just as with MIDI Parts.**

Move them, duplicate, split them up, join them etc.

# The Pool

Now it is time to examine what you actually did when you recorded.

1. Select Pool from the Audio menu.
2. Use the View pop-up menu in the Pool window to select “Expand”.



What you see is a list of *files* and their *segments*. The audio files are in bold text and the segments are in plain.

A *file* is an actual recording on disk. A *segment* is a “cutout” from a file, a specification for a section of it. As you will note, if you have duplicated Parts or otherwise performed some editing in the Arrange window, one file can have a number of segments, all playing back different sections of the file.

For each file there is at least one segment, maybe more, depending on how much editing you have done.

### **3. You can display or hide headings for the file/segment columns.**

This is done by selecting Hide/Show Headings from the View pop-up menu at the top of the window. You can also turn waveform display on and off by clicking the Waveform icon at the top of the window.

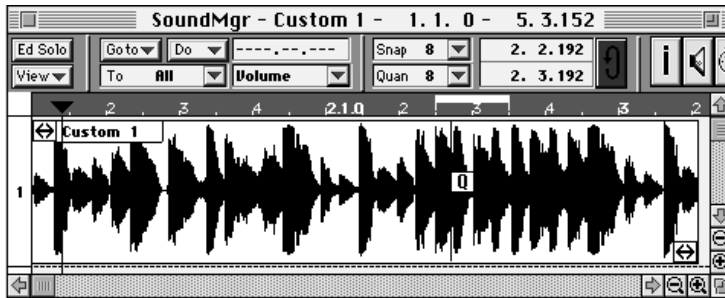
### **4. If you press the mouse over the speaker icon for a segment it will be played back.**

There are a lot of other interesting things you can do with the Pool, like import audio files from other applications and perform editing on them, but we'll save that for later. Let's go into the editor.

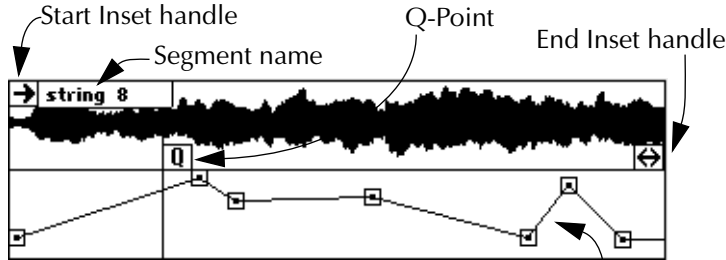
# The Audio Editor

This is where you edit the individual Audio Events.

1. Click somewhere in the Arrange window so that it gets activated.
2. Find an Audio Part you'd like to examine closer, and double click on it. The Audio editor opens.



In this window you can see a number of *Events*. Each Event plays back one segment, and you can see the name of that segment in the Event. This editor has a Toolbox as all others. You can pretty much do with an audio Event what you can do with a MIDI note, and more. You can also customize the display by using the View pop-up menu on the Status bar. This is what can be shown in an Event:



The lower part of the waveform display can be used to display a Pan curve, Match Points or, as in this picture, a Volume curve. These are created and edited individually for *each Audio segment*.

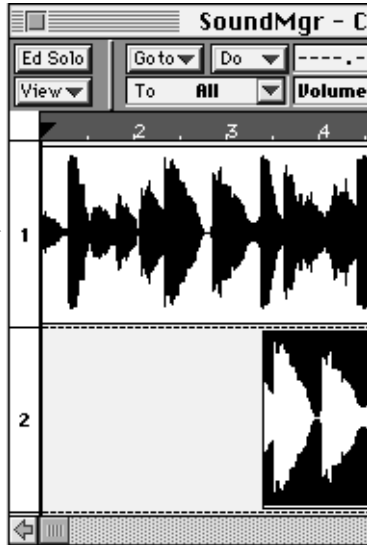
- **The Start and End Inset handles can be dragged to mask out portions of the file.**
- **The Q-point can be dragged, and when you move or Quantize, it is to this point that the Event snaps.**  
If you have the speaker symbol on the Functions bar activated when you drag any of the handles, you will hear where you put it when you release the mouse.

- 3. When you move Events you may find that you can drag them vertically as well as horizontally (make the window bigger first).**  
We call the horizontal strips separated by dotted lines, *lanes*. When you edit *one* Part, as now, it doesn't matter which lane you put an Event on.
- 4. If you have the item “Volume” activated on the View pop-up, the bottom half of the Event will show a volume curve for the Event (if you put one in, otherwise this area contains a “flat” volume curve).**  
You can create and edit volume curves using the Pencil tool. To add new points, hold down [Option] when clicking with the Pencil.
- 5. When you have tried the functions above, and maybe even gone on your own excursions on the menus and using the Toolbox, you can Keep or Discard any changes (Press [Return] or [Esc]), as in all editors.**
- 6. Next, in the Arrange window, select several Parts that play back on *different* audio channels.**
- 7. Open the editor by double clicking on any of the selected Parts.**



- 8. Check that Lane Info is activated on the View pop-up menu.**  
You will now see that each lane plays back on one audio channel.

The number in the Lane Info field to the left of the waveform display, shows which audio channel the Events on the lane play back on.



- 9. By moving an Event to another lane, you move it to another audio channel, and in this case also to another Part.**
- 10. When you are finished, close the editor.**

# Mixing and adding Equalization and Effects

Steinberg's VST technology lets you use the computer as a virtual studio, complete with automated mixing, equalization and effects:

## Making Pan and Volume settings

### 1. Pull down the Audio menu and select Monitors.

The Monitor mixer window opens.



The Monitor mixer window for an eight-channel system.

**2. Check that Monitoring is not activated for the audio channels you have recorded.**

If Monitoring is activated for a channel (the Monitor button is “lit”), click on the button to turn it off. Otherwise, you will not hear what is played back on the channel.

**3. Check that the Read and Write buttons in the top left corner are not pressed.**

These buttons are used for automated mixing.

**4. Activate playback.**

If you want to try out different level settings, it may be a good idea to activate the Cycle function on the Transport Bar, and repeat a suitable section of the music until you are satisfied with the volume balance.

**5. Use the faders to set volume levels for each audio channel.**

Check the level meters and peak level indicators to avoid clipping (digital distortion).



This red indicator should never flash during playback.

- 6. Use the Pan controls to position each audio channel in the stereo image.**
- 7. Pull down the Audio menu again and select Master.**

The Master window opens. This is a smaller window, containing a two level faders (left and right) that govern the final output level.
- 8. If you need to adjust the total output level or make fade ins or fade outs, use the Master faders.**

To create fades that affect both sides of the stereo output equally, hold down [Option] on the computer keyboard and drag one of the faders. The other fader will move simultaneously.

## Adding Equalization

You can use up to four independent bands of Eq for each audio channel (depending on your computer's processor speed). Here is how to make equalizer settings for an audio channel:

9. Click the “FX” button for the channel you want to apply EQ to. The EQ window opens. This contains a duplicate of the Monitor mixer channel strip, a row of effect send knobs (see \$) and 1–4 EQ modules.



An EQ window with two modules visible and active.

**10. Activate as many EQ modules as you need (up to four) by clicking on their “Enable” buttons.**

As soon as any of the EQs are activated, the “EQ” button indicator in the channel strip is lit. To avoid displaying unused EQ modules, you can hide or show modules by clicking on the arrow buttons in the top right corner of the windows.

**11. Set the parameters for the activated EQ module.**

Each EQ module contains a fully parametric one band equalizer, with gain, frequency and Q (bandwidth) settings.

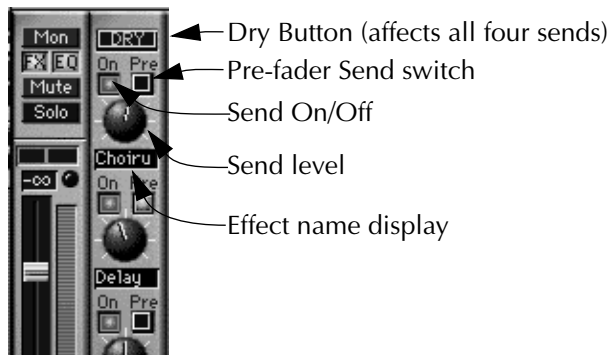
- **In the Monitor window, the “EQ” button indicator for the audio channel will now be lit, which means EQ is applied to that channel.**

You can click on this button to turn equalization on and off for the channel, even if the EQ parameter window is closed. However, keep the window open for the next step in the tutorial:

## Adding Effects

Finally, you can add digital effects such as reverb or chorus to your recording. You can have up to four different effects, with separate effect sends for each audio channel. Below, we will add some reverb to the recorded audio on one audio channel:

**12. In the EQ parameter window (see [page 30](#)), the section between the channel fader and the EQ modules contains the effect sends.**



**13. Make sure the “DRY” button is not pressed.**

**14. Click on the “On” button for the first effect send and turn the Send level knob to a moderate value.**

The next step is to select an effect program. Since you will probably need to adjust the send levels while doing this, leave the EQ window open.

## 15. Pull down the Audio menu and select Effects.

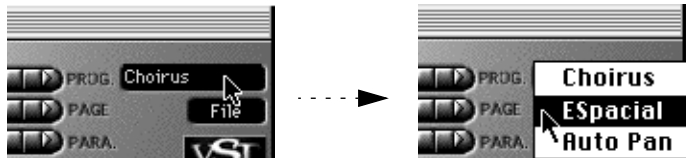
The Effects window opens. This window resembles an effect rack, with separate “processors” arranged on top of each other.



## 16. Activate the first effect processor by clicking on its “Power” button.

## 17. Pull down the pop-up menu in the processor’s upper right corner and select an effect type.

Since we wanted a reverb, select “Espacial” (the name of the reverb plug-in).





**18. Step between the effect programs, by clicking on the left or right part of the Prog. button.**

**19. When you have found a suitable reverb effect, use the Effects Master knob to the left on the processor panel to set the amount of input level to the effect processor.**

Now you have added some reverb to the sound on the selected audio channel. If you want to, make equalizer and effect settings for the other audio channels as well, by repeating steps 9 to 19.

Save the Song if you wish to keep it. Make it a habit to put the Song in the same folder as your Audio or in its vicinity. And when you back up, don't forget to include the audio files...

This completes the guided tour of the audio part of Cubase. Hopefully you will have gained some understanding about the structure of the program, and realised that with this program, recording audio doesn't differ much from recording MIDI. Please refer to the rest of the text for details on each function.

