

CHAPTER 6



The Isolation of Digital Audio: Trimming Tools

Now that you have removed the noise from the background of your voice-over, it is time to look at how to trim it up so that the unneeded audio—such as the intro and exit unused dead space—can be eliminated. Doing this reduces the data footprint and makes the audio trigger with more surgical precision.

You'll also look at how to extract individual words, in case you want to make a game where your character talks using individual words. And you'll learn about “scrubbing” audio and how to play waveforms backward, among other fun endeavors.

Audio Sample Editing: Basic Techniques

In this chapter, I'll show you some of the basic ways to extract the sound waves that you need to isolate and utilize in your multimedia production, whether that be creating podcast content, web sites, audio eBooks, Android applications, iTV shows, digital videos, or similar digital new media that incorporates digital audio in one way or another.

The primary reason to trim away any unused “dead space” in your samples is to increase your “response time” once you load your data samples into a sampler, sample playback software, or your own custom C, Java, JavaScript, or HTML5 code that triggers (play) your samples.

If you kept the dead space in the sample that you cleaned up in Chapter 5 (even though this dead space is now quiet and more professional), it will cause a **delay** if your data sample is triggered by the user interface in your web site, application, iTV program, or sample playback engine. This will seem less than professional to end users. Therefore, you need to isolate the usable parts of a sample and let the application using the sample control the timing (the dead space) among your different audio samples.

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Trimming Digital Audio: Removing Unused Data

There are five digital audio editing icons on the right side of the Audacity window, located underneath the audio playback level meter that controls the **cut**, **copy**, **paste**, **trim**, and **silence** editing functions. Since the first logical step is to remove the dead space before and after your voice-over, let's look at the trim tool first. Select the portion of the data sample that contains vocal data (see Figure 6-1) and click the **Trim Audio** icon (circled in red, with the tool tip pop-up shown on mouse-over).

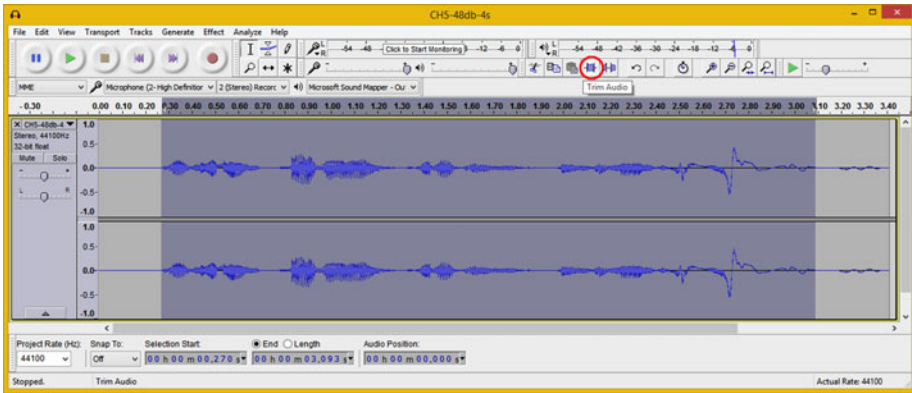


Figure 6-1. Select the voice-over part of the vocal sample data

This removes the dead space; however, it still leaves the delay coming into your data sample, as you can see on the left of Figure 6-1 in light gray. To move your samples back to 0, go to **Tracks ► Align Tracks ► Start to Zero**, as shown in Figure 6-2. This eliminates the dead space coming into the data sample, so that when your application triggers the sample, audio playback response is immediate.

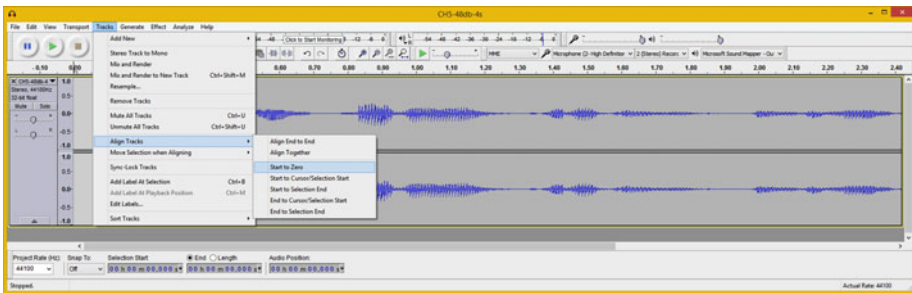


Figure 6-2. Use **Tracks ► Align Tracks ► Start to Zero** function

Besides Noise Removal, which needs the noise data in the dead space (and why you did that process pre-trim), trimming your data sample is one of those things you do “up front” during your sample recording and editing work process. Now the voice-over of the book title can be triggered in a project and it will immediately say the book title when triggered.

Next, let's drill down a level deeper to see how you can extract the individual words in the voice-over, in case you need finer control over each of the words spoken.

Extracting Audio: Selecting Sample Components

As you can see on the left side of Figure 6-3, you can select a portion of the waveform (in this case, the word **audio**) and click the **play** button in the transport (shown depressed) and play only the selected portion of the sample. You can tell that the data sample portion is playing by looking at the vertical bar (a **playback head**) in the middle of the selected area and the output level meters.

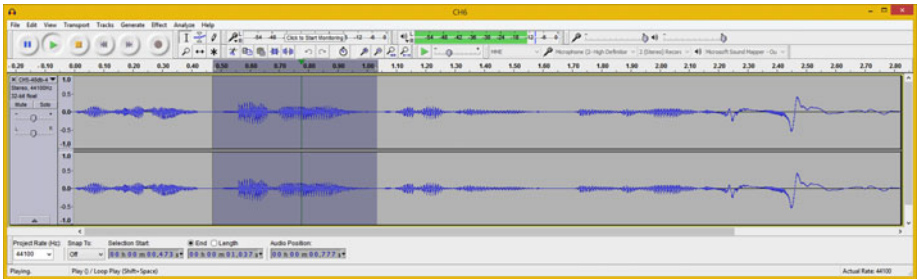


Figure 6-3. Select the portion of the sample you want to play

Once you have fine-tuned your selection until it reaches the subsample result that you wanted to achieve, you can use another useful feature with this selection, which allows you to save this subsample as its own separate data sample.

You can record vocabulary for the application and apply noise reduction in one pass, and later simply use this select-and-export work process to create an audio data sample in any of a dozen data formats supported by Audacity 2.1.1 by using the LAME and FFmpeg libraries.

The menu sequence that you will use to achieve this result is the **File ► Export ► Selected Audio** work process, seen on the left side of Figure 6-4 and selected in light blue.

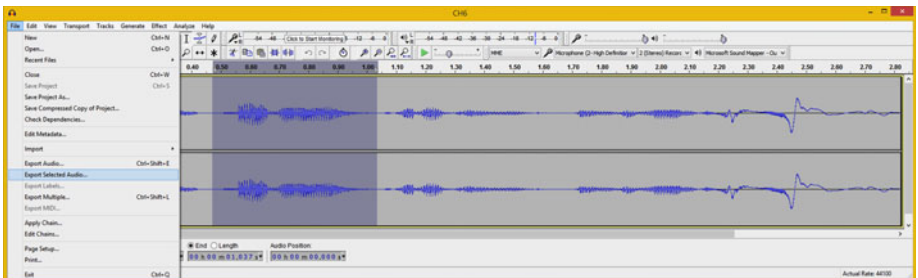


Figure 6-4. Use File ► Save Selected Audio to create sub-sample