Lesson 2, Part 1

Welcome to Lesson Two in the Home Brew audio tutorial series, where I'll show you what to do with recording you made in Lesson One. In Lesson One, you learned to record audio and hopefully, you also learned how easy it is and how inexpensive. But you're probably asking yourself, "Now what?" So, in this lesson your going to learn how to do basic edits to audio files, including adjusting the volume of the signal, noise removal, and the difference between deleting audio and silencing it. Most of you should be able to complete both Lesson One and Lesson Two with no expense, a budget of zero dollars, as long as you had a computer with a sound card, the microphone that came with the computer, and an internet connection.

I also wanna point out that no expensive or high end equipment was used in these tutorials. I'm using the same zero budget stuff I expect you to be using at this point. I want everyone to see what's possible with the tools you already have, to drive home the fact that good audio does not require expensive gear, just a little bit of know-how. Ready to get to it?

Let's start this lesson by making a new recording using the skills you learned in Lesson One. So go to your desktop. We're going to open Audacity. You remember that the icon on the desktop should look like a pair of headphones, and go ahead and open the program. If you recall from Lesson One, the red circle up here means Record. So, let's go ahead and press that and record our audio one more time. "Hi, and welcome to the first Home Brew audio podcast." There she is, now let's do some editing.

Look at this big blue blobby thing right here. That is a visual representation of the sound you just recorded. If you think about the fact that you're seeing sound, it might make your brain hurt, but it sure does make editing easier. And what I mean by editing is changing. Changing this blue blob, which by the way is called the waveform for those of you who insist on using proper terminology, changing this blob is editing this blob. There are, literally, hundreds, probably thousands, of different changes or edits I can make. It's a whole lesson in and of itself. But since this is the basic class, we're gonna start out talking just about one edit and that is volume. Since we're now talking about sound in terms of visual cues or blue blobs, we're gonna have to learn a few new things about sound.

So warning! Coming up is a slight technical discussion. Hopefully, it won't scare you off, but it is something you need to know. All sound is just air molecules moving back and forth in space. If you were to be able to zoom in on them, they would look like hundreds and thousands of waves, one after the other. Hence, the name waveform. When they're recorded with a microphone, they come out looking like these blue blobs right here. Now the thing you need to know is that the middle of this rectangle, which we called the Track earlier, the middle right here where it says 0.0, represents silence, zero sound. The one and negative one represent the loudest possible volume. So, this vertical scale is not using decibels to show amplitude because, technically, zero decibels is the loudest possible audio. As these blue blobs go up and down, as they approach the edges of the track, they get louder.

The only problem is if they go too far toward the edges and they extend the beyond the edges, you have clipping. And that is a horrible, ugly, messy sound called distortion. It means your audio is

ruined. We'll talk about all that stuff later, but for now what you need to know is that your blobs should look something like this, between the two lines but not too quiet. You don't want your blobs to be too small, too close to the center line either because that'll mean you didn't record enough signal. And in order to compensate, you'd have to turn up the volume on everything, which means you'd also be turning up the volume on the noise, which is a very common problem that we'll talk about very soon.

But, for now, let's talk about how to adjust volume in Audacity. Using the selector tool, if you drag over any part of the recording, you can select that part. If you wanna select all, I use a short cut by coming over here to this grey rectangle and anywhere in the blank space, double click. See how it selected everything. Now go to the drop down menu called Effect. Click on Amplify, and as you recall, sound volume is measured by something called decibels, that's what "db" stands for. This means we're gonna turn it up by five decibels.

So if I just hit Okay, you see how the blue blobs got bigger? That means the signal got louder. So, let's take a listen. Click on the play button. "Hi, and welcome to the first Home Brew audio podcast." Now, that doesn't sound too bad, although it's still a little noisy, and we will deal with that in a minute. One thing I want to point out here is you see how close this came to the edge. I might've worried about that clipping, although Audacity has a very cool feature that prevents that. Let's take a look at what that feature is.

Let's go back to the Effect dropdown menu and click on Amplify. This box here says "peak amplitude of zero decibels." In digital audio, zero is the loudest possible signal. I know it's strange to have zero be the loudest and not the lowest, but you'll just have to trust me on this. So, what Audacity does is it prevents you from clipping by establishing a peak amplitude which means it can't get any louder than that of zero db, which means it can't clip as long as you do not check this box. So, we're just always gonna leave that box unchecked for now. Let's see what happens if I try to amplify it any further. It prevents me, the Okay button gets grayed out. Pretty neat, huh?

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