Chapter 11

To Master Mastering . . .

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▶ What is mastering?

▶ Understanding the Master Track

▶ Adding the final touches

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*T*here's no mystery about mastering — you already know how to do it; you just don't know that you know yet. You see, mastering is nothing more than applying familiar effects, such as echo, reverb, and compression, to your whole song rather than to individual tracks.

Mastering is the final step in the multitrack recording process; it's the last thing that you do before you distribute your work and other people hear it. In big-time major-label music production, mastering is a highly specialized art that's performed by a handful of mastering engineers who get paid the big bucks to master songs in their state-of-the-art mastering studios using the highest-of-high-quality audio-processing hardware and software.

Fortunately, you don't have to go to that trouble or expense: GarageBand has built-in mastering that harnesses the knowledge of a roomful of mastering engineers.

I'm only half-kidding. While the GarageBand mastering presets are excellent and can give most people the results that they want and expect most of the time, if you plan to have your song professionally duplicated in quantity, you should probably enlist a good mastering engineer. This ensures that what ends up on the discs that you're about to pay for sounds exactly the way you want it to — or, perhaps more importantly, the way that radio programmers expect it to.

Mastering your masterpiece in GarageBand can be as easy as choosing a preset. If you're not sure what your song needs, let that roomful of experi-enced mastering engineers do the mastering for you, and don't touch those dials. Or, if you prefer the hands-on-the-knobs approach, you can tweak indi-vidual settings until your fingers bleed. Either way, you're going to end up with a song that sounds darned good to most people.

So now it's time to master mastering!

What, Exactly, Is Mastering?

In the simplest of terms, *mastering* is adjusting the overall tone and level of the final stereo mix. When you master in GarageBand, you are merely using effects that you've used before on individual tracks — echo, reverb, equalization, and compression — on the whole song instead of on a single track.

Mastering is adding effects *judiciously* to improve overall tonal balance and dynamic range. A song with too much low-frequency sound is boomy, boxy, and muddy; a song with too much high-frequency sound is screechy, shrill, and brittle. Your goal in mastering is balance — refining the overall sound to make the song smooth and relaxed and professional sounding.

In addition to judiciously adding effects, you can also adjust a song's dynamic range — the difference between the loudest and softest parts. Adding compression and other effects can make your song punchy and radio friendly, but too much can make it sound artificial and icky.

If you're making an entire CD, mastering accomplishes the following things:

- ✔ Determines the order of the songs on the CD
- ✔ "Levels" the songs so that all of them play at roughly the same loudness and so that no song is louder or softer than the others.

Before You Master

Mixing and mastering are different sides of the same coin, so GarageBand makes it easy to switch back and forth between the mixing and mastering chores. This is a good thing, because everything you do to the Master Track affects the mix.

REMEMBER

You can always go back and change anything you like in the mix, but it's best to have your mixing as close to complete as possible before you master. If not, you may end up spending more time than necessary.

Before you begin mastering, double-check the following items to ensure that you're happy with them:

- ✔ The relative loudness (level) of each track
- ✔ The tonal characteristics (equalization) of each track
- ✔ The spatial positioning (pan) of each track

You do all these things when you mix, which I cover in detail in Chapter 10.

TIP

You should also trim noise or extraneous sound at the head or tail of any or all tracks (if you haven't done so already); your final product will sound better for it. The easiest way to get rid of dead space is to create a split where you want the song to actually begin and then delete the dead space after it's split off from the song. Check out Chapter 9 for details.

Having checked and double-checked your mix, as soon as you're sure that it's as good as it is going to get, it's time to master it — and (hopefully) make it sound even better.

The Master Track Is for Mastering Tracks

When you master, you use the same effects and controls that you've been using on tracks, which makes mastering familiar and easy. GarageBand has a special track, called the *Master Track,* which is used for mastering. Any settings and effects that you apply to this track affect your whole song.

Here's an overview of what you can do on the Master Track, where the mastering magic takes place:

✔ **To show or hide the Master Track, choose Track⇨Show/Hide Master Track or press ⌘-B.**

The Master Track appears at the bottom of the window (and glows purple when it's selected).

✔ **To adjust the tonal characteristics and add effects to the whole song, open the Track Info window for the Master Track by first selecting the Master Track and then choosing Track⇨Show/Hide Track Info. (Alternatively, you can press ⌘-I or double-click the words "Master Track" in the Tracks column.)**

Here you can simply apply a preset and move on, or you can apply and customize effects. See the next section for more details.

✔ **To change the song's level or make part of the song louder or softer, or if you want to add a fade-in or fade-out, use the Master Volume control rubber band.**

This rubber band works just like the ones that you used for individual tracks.

TIP

If you're going to use the Master Volume rubber band, you should apply it last.

You find out more about this control in the section, "Setting the Master Volume," later in this chapter.

Applying the final presets and effects

Your goal here is to improve the overall sound of the song by adding effects.

All of GarageBand's presets and effects are in the Master Track info window, which you can open by selecting the Master Track and then pressing ⌘-I or by double-clicking the words "Master Volume" in the Tracks column.

Using presets

The Master Track has eight preset categories, which appear in the left column of the Master Track window. Each of these categories has a handful of preset options in the right column, as shown in Figure 11-1.
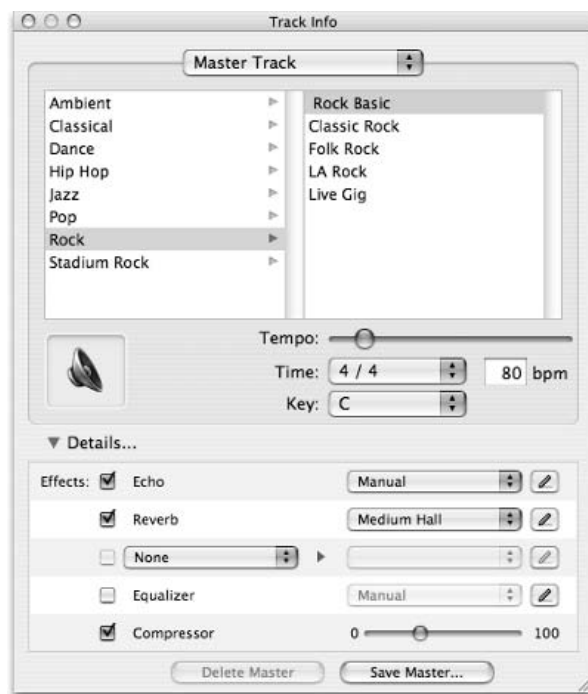
Figure 11-1: The Master Track has eight categories, each with its own presets.

Click the different categories and presets in the Master Track window to hear how they affect your song. (Click the Play button first, of course.) Listen critically for the perfect blend of instruments and voices that pleases your ear.

TIP

Ignore the names of the categories and presets — try them anyway. Just 'cause it's called "Classical Chamber" doesn't mean that it won't sound fabulous when applied to your pop ballad. Try it — you never know what's going to sound awesome to your ears.

TIP

If you are in a hurry or don't have the patience for the "listen, adjust, listen, adjust, repeat until satisfied" cycles that it usually takes to master a song, browse through the presets until you find one that you like, and don't worry about tweaking the effects. You can add a fade-in or fade-out if you like (see the section "Setting the Master Volume," later in this chapter); other than that, you're done with your mastering.

Tweaking a preset's effects

Sometimes you'll find a preset that sounds almost perfect, but you think to yourself, "if only it had. . . ." Well, you can probably add whatever is missing by adjusting any or all of the five Master Track effects: Echo, Reverb, Equalizer, Compressor, and your choice of a fifth effect. You find these effects in the Details area of the Master Track window.

If you decide to tweak the effects, here are a few points to keep in mind:

WARNING!

✔ The echo and reverb effects for individual tracks are relative to the echo and reverb effects in the Master Track. If you turn off the echo or reverb effects in the Master Track, they are not available to individual tracks.

✔ If you have a track that's panned all the way to the left or the right and apply effects — such as echo, reverb, or compressor — in the Master Track, some sound from that panned track may still be heard in the other speaker, because Master Track effects are applied in stereo.

TIP

Most instruments and vocals sound better with a little echo, reverb, and compression. So even if you added some of these effects to individual tracks during mixing, try adding a bit more to the whole song here in the Master Track window.

You can tweak each of the five effects in the Master Track two different ways:

✔ Choose a different preset from the preset menu to the right of each effect.

✔ Click the Edit button (the little pencil) to the right of each effect's preset menu, and create custom settings for the effect.

I recommend changing the effect's preset first. Apple put a lot of time and effort into providing presets that sound pretty darned good under most conditions. Unless you're really confident in your ears, stick to the presets and you'll never go wrong.

However, if you can't resist the urge to tweak the sound of your tune even further, you can edit any of the five effects by clicking its Edit button (the little pencil). The controls for Master Track effects are the same as the controls for other tracks, as shown in Figure 11-2. See Chapters 6, 7, and 8 for details on using these controls.

Figure 11-2:
The settings for Master Track effects should look familiar to you by now.

Finally, if you've tweaked all four built-in effects and still aren't getting the sound that you're looking for, you can try one more thing: adding an extra effect.

Adding an extra effect to a preset

Notice that an extra effect is available for mastering; it's in the menu that says "None" in Figure 11-2. Click the pop-up menu, and you can choose one additional effect, as shown in Figure 11-3.

REMEMBER

Some of these effects, such as Overdrive and Distortion, are totally inappropriate for mastering. Be careful if you use the extra effect, because an effect that sounded great on a guitar track may sound absolutely awful when applied to the Master Track.

Setting the Master Volume

Last but not least, remember that check box for Master Volume that I mention earlier in the chapter? If you select this check box, a rubber band volume controller appears beneath the Timeline that lets you adjust the level of the song over time. It works the same way as the rubber band volume controllers for individual tracks.

Figure 11-3:
Choose
from these
effects if
you're still
not satisfied
with the
sound.
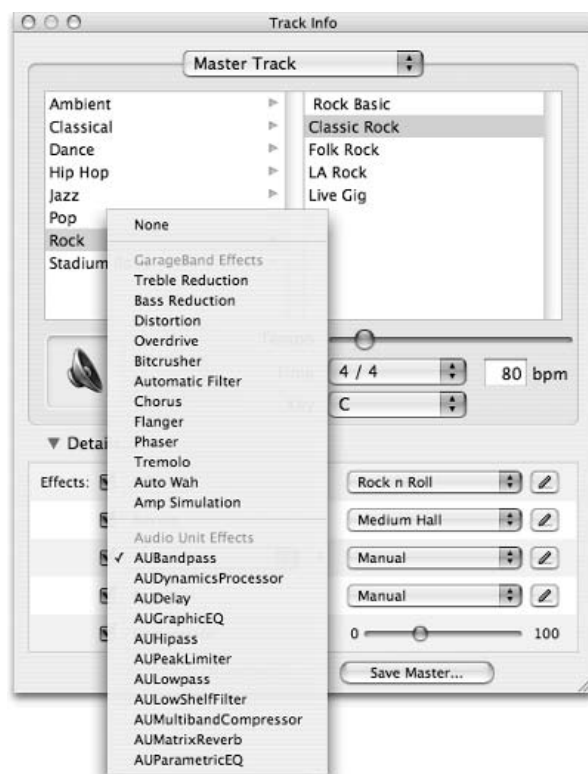
If your song plays at the same level from start to finish, you don't have to use the rubber bands — just use the master level control slider in the lower-right corner of the Timeline window to set the output level.

The final level of your track should be as high as possible without showing much (or any) red in either level meter. If that's the case already, you can leave the track volume rubber bands alone, unless you want to make a song fade in or out, or both; a fade-in is shown in Figure 11-4.

The song starts out silent; then you faintly hear crowd noise. Then the crowd noise gets louder, and when the drumbeat starts, everything is up to full volume, where it stays until the end of the song.

Changing the volume with the Track Volume rubber band works the same way in mastering as in mixing, so for details on using the Track Volume rubber band control, see Chapter 10.

Figure 11-4:
I used the
rubber band
controller to
create a
fade-in
effect.

Before You Call It "Done"

After you've set the effects and volume for the Master Track, you should have a project that's nearly done, but before you can call it done, you need to listen one or two more times. This is because the effects that you apply to the Master Track can change the dynamics of the mix in ways that you can't predict.

So now that you've applied Master Track effects, give the song another listen and pay particular attention to instruments or vocals that are too prominent or too quiet, drums that aren't crispy or are too crunchy, guitars that sound muffled or artificial, or anything else that *could* sound better.

Fix what needs fixing, and then export the final song to iTunes and burn a CD. This may be the most important part of mastering: Listen to the song in your car, at your home, in your office, on a boom box, in the shower, and anywhere else you can. Chapter 12 walks you through the process of creating a CD of your song.

Take some notes about your song. For example, "Lead vocal louder during second verse and chorus," "Drums too loud in break between chorus and third verse," or "Overall mix muddy; can't hear brass."

After you have a feel for what's right and what's wrong, go back into GarageBand, remix, remaster, export, and do it again.

When you no longer hear anything that you want to change, your song is *really* done.

As soon as you export a song to iTunes, change its name immediately to something that allows you to discern between versions. Each time I remix and remaster, I give the song name a suffix (for example, GM-01, GM-02, GM-mayBfinal). Then, when I'm absolutely, positively, without any question done with my remixing and remastering, I delete all but the final version of the song from my iTunes library.
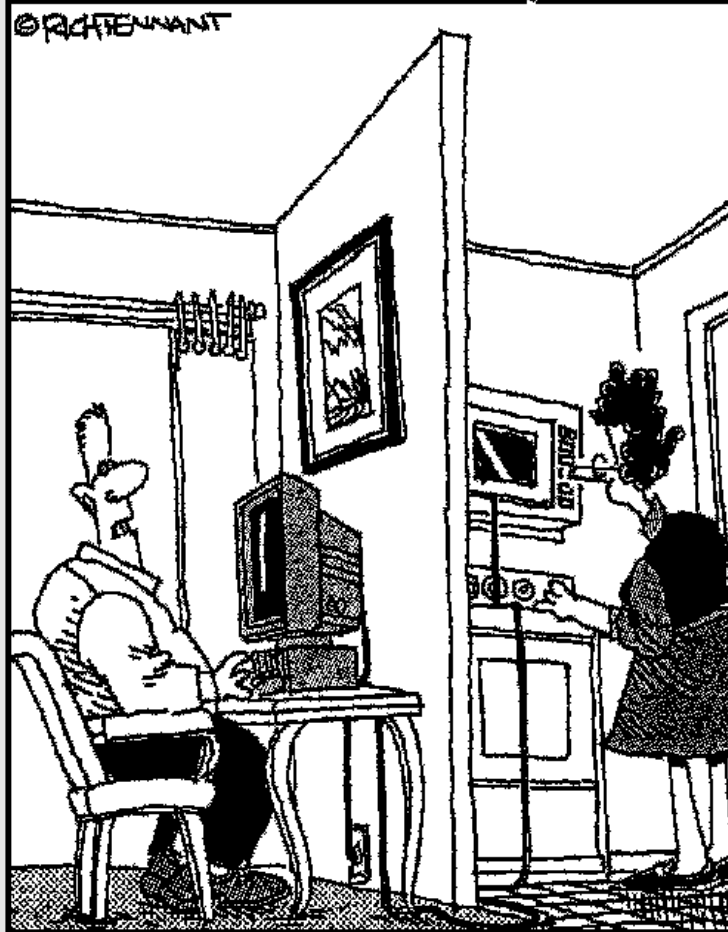
Part IV
Sharing Your Creations with Others

The 5th Wave   By Rich Tennant

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"No, I don't want my CDs browned or toasted – I want them burned."

In this part . . .

*W*hen your song is finished, you can still do more with it. In Chapter 12, you find out how to burn a few CDs for your friends and radio station programmers or burn thousands of CDs that you can sell at a huge profit. Then, Chapter 13 takes you off into cyberspace, with information about putting your song files on the Web as downloadable files or as streaming QuickTime audio. Finally, in Chapter 14, I go Hollywood and look at using your song compositions in your iMovie and iDVD projects.