

3

Making Music Tracks

In This Chapter

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Adding a song or song sample as a track

In the '60s, the state-of-the-art recording equipment consisted of four separate tracks. The Beatles had to put their vocals, guitars, bass, and drums on three of the four tracks, reserving the fourth for tape loops. Recording and then playing back the tape loops on different tape machines and feeding the result into that fourth track was even more complicated. Today, studios have an unlimited number of tracks, with at least one track for each instrument.

With GarageBand, you can use as many tracks as you need (up to the limit of what your computer can handle) for both recordings and loops. When you're finished with your song, you can then mix all the separate tracks into two stereo tracks without any loss in sound quality.

An *arrangement* is a description in writing of how to play a song, much like a recipe. Because it describes notes played in a sequence over time, an arrangement has to show information about the song over time. Arrangers put together charts, sometimes with meticulous musical scores, to produce an arrangement. GarageBand offers a visual depiction of the song using a timeline, with instruments separated into tracks that extend from the beginning to the end of the song, with each track containing a separate musical instrument or voice.

This chapter shows how to create new tracks and add loops and recorded performances to them. It provides a brief overview of the timeline view of the tracks, and shows how to copy and move regions of music within the tracks and to other tracks.

ADDING TRACKS AND REGIONS

The main part of the GarageBand window shows a timeline of horizontal tracks with different regions representing music. Each track has a header that shows the instrument icon and name. To the right of the header you find the Mixer section of the track, and after that, the timeline area of the window. The timeline area offers a beat ruler with a playhead you can drag to different locations within the song; you can also use the ruler to align regions to beats and measures.

The track's audio information appears as a region within a track, with its duration measured by the timeline beat

ruler. A *region* is the colored rectangle that indicates the duration of a particular track in the timeline. The region shows a waveform representing a Real Instrument sound, or a set of notes representing a Software Instrument sound. Tracks are where you record performances and drag loops; each performance or loop is a region. You can drag the regions within the track to arrange the music.

Creating and deleting a track

To create a track, follow these steps:

1. **Click the + button under the track headers to create a new track.**

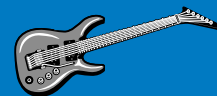
You can also choose **Track** → **New Track**. The New Track dialog appears, as shown in Figure 3-1, with two tabs: Real Instrument and Software Instrument.

2. **Click the Real Instrument or Software Instrument tab.**

LININ' TRACK TO TRACKS OF MY TEARS

There are a lot of train songs in rock music, but that has nothing to do with the origins of the word *track* in music. A phonograph needle tracked its way around a groove in the vinyl record disc that became the first popular medium for music. Songs on a record were referred to as tracks way back in 1941 when Muddy Waters was first recorded on his back porch in Mississippi by John Work and Alan Lomax from the Library of Congress, using the first portable recording machine ("portable" indeed at 500 pounds) that engraved a sound on big acetate discs. "By making it possible to record and play back music in remote areas, away from electrical sources, [the portable recording machine] gave a voice to the voiceless," wrote folklorist Alan Lomax in *The Land Where Blues Began* (Delta/Dell Publishing, New York, NY; 1993). "[It] put neglected cultures and silenced people into the communication chain."

As soon as it became possible to record separate performances and join them together in a single recording, the idea of a *recording track* was born. The reason was simple: The sound engineer wanted to isolate the sound of one instrument (such as drums) from the sounds of others (such as vocals and guitars), so that one could be made louder or softer than the others. By using multiple tracks, an orchestra or band could record all the instrumental parts, and the singer could add a vocal track afterwards.



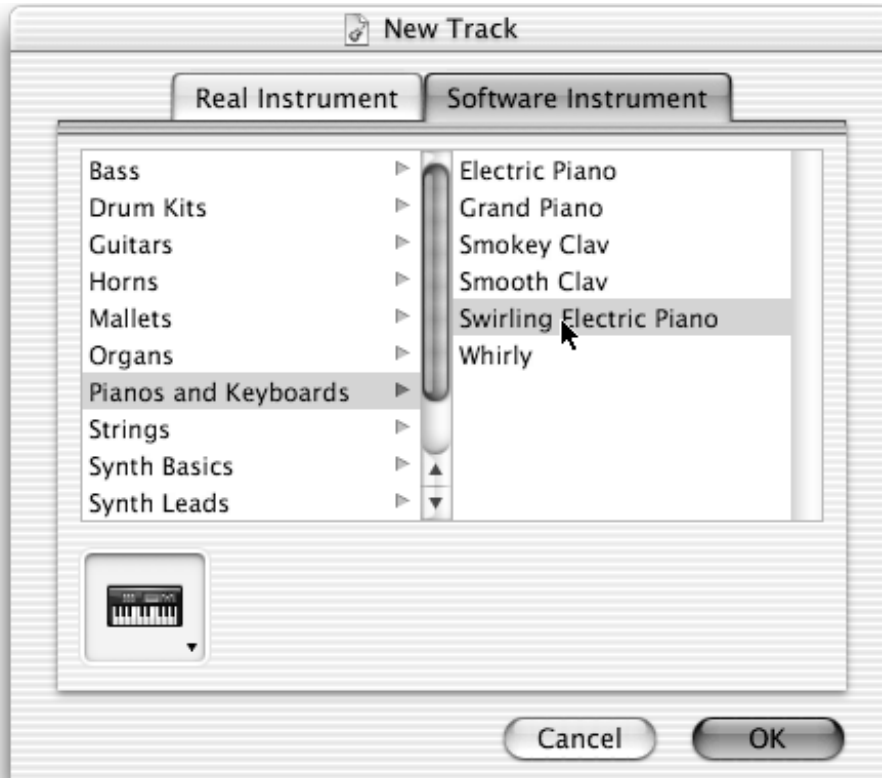


Figure 3-1
Creating a track with a Software Instrument

You can use either a Real or Software Instrument to define a track. Apple Loops come in both flavors. To record a performance with the onscreen keyboard or a USB MIDI keyboard, choose a Software Instrument. To record vocals (or anything else) through the Mac's built-in microphone, choose a Real Instrument such as a one from the Vocals category. Chapter 6 provides more detail about recording with Software Instruments; Chapter 7 describes how to record with Real Instruments such as guitars, and how to use the Mac line-in and microphone options.

3. Select the type of instrument.

Select a category from the list on the left, and then select an instrument sound from the list on the right.

4. Click OK.

A new track with the name of the instrument you selected appears in the timeline.

After creating a new track, you can drag a loop from the Loop Browser and drop it into the track: a Real Instrument loop into a Real Instrument track, or a Software Instrument loop into a Software Instrument track. The loop takes on the audio characteristics of the instrument you choose for the track.

To delete a track, select the track by clicking the track header, and choose **Track → Delete Track**. Poof, it's gone.

▼ Tip

You can undo just about any action in GarageBand by choosing **Edit → Undo**.

The next section describes the basics on how to record into a track, but to learn more about recording a performance with a Real Instrument, see Chapter 8.

Recording a region of music

To record a performance with a Software Instrument using your onscreen music keyboard, the MidiKeys onscreen keyboard, or a USB MIDI keyboard, or to record your vocals using the Mac's built-in microphone, follow these steps:

1. **Click the track header for the track you want to record into.**

You can record into a new track or an existing track. To record using the onscreen keyboard or a USB MIDI keyboard, use a Software Instrument track; for vocals, use a Real Instrument track.

2. **(Optional) To have the metronome and the Count In option play one measure before starting to**

record, choose **Control → Metronome and **Control → Count In**, respectively.**

3. **(Optional) Vocalists should check their microphone input before singing into your computer.**

Choose System Preferences from the Apple menu and click the Sound icon to open the Sound pane. Click the Input tab, and in the list of sound input devices, select the internal microphone (see Figure 3-2). As you sing or speak, you should see purple highlighted indicators that show the input level. Make sure you have highlighted indicators extending to the right but not so far as to reach the right edge. If the indicators reach the edge, the sound is clipped.

▼ Cross-Reference

For more details on recording with your internal microphone, see Chapter 8.

IT'S ABOUT TIME

GarageBand includes a metronome that plays a short blip (not recorded with the music) for each beat of the measure to help you keep time while playing an instrument. You only hear it when you are recording. You can turn it on or off by choosing **Control → Metronome** (a check mark means it is on). If you use the metronome, you might also want to turn on the **Count In** option by choosing **Control → Count In**. Just like a bandleader counting in, "1-2-3-4," to prepare the band for a song, GarageBand plays the metronome one full measure before starting to record so that you can get ready to perform along with the beat.

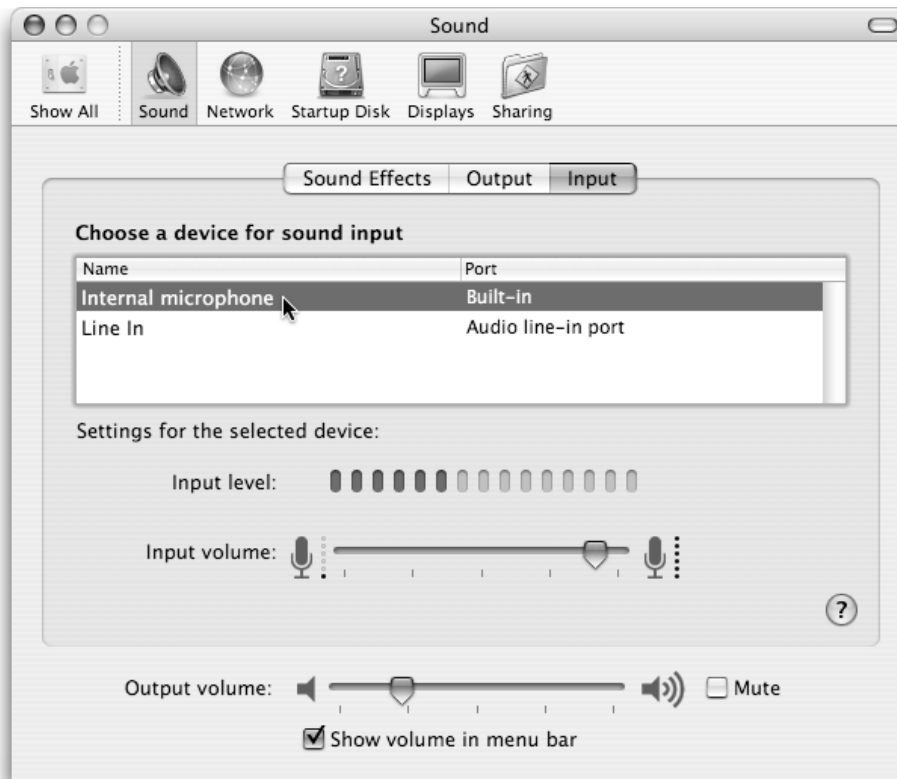


Figure 3-2
Checking the internal microphone input level

4. Click the red Record button to start recording, and then start performing using your onscreen keyboard, USB MIDI keyboard, or Mac's internal microphone.

GarageBand starts recording in the track while playing any other tracks, and it lays down a new region in the track's timeline, as shown in Figure 3-3.

5. When you're done performing the new music, click the red Record button *again* to stop recording, and click the Play button to stop playback.

You can press the spacebar to stop recording and playback simultaneously.

To hear your recording, drag the playhead in the timeline back to the beginning, or to where the new recorded region starts, and then click the Play button or press the spacebar. (The timeline area of the GarageBand window offers a playhead you can drag to different locations within the song.)

GarageBand represents the music with a region in the timeline showing graphically what the sound looks like:



Figure 3-3

Recording a performance with the onscreen keyboard into a Software Instrument track for a Grand Piano

- **Real Instrument regions:** Loops are blue regions showing waveforms, and recordings are purple regions showing waveforms.
- **Software Instrument regions:** Both recordings and loops are green regions showing dashes in a musical scale, with dashes in the upper part of the region signifying higher pitches.

Tip

As building blocks for your song, regions help you define pieces of music that may change, depending on the arrangement. For example, you may record a part into a separate Software Instrument track, and then copy the region of that one performance to several places in the timeline, so that you only need to perform the part once.

Changing the beat ruler and timeline

The timeline beat ruler indicates how musical time is broken up into beats and measures. You can use the beat ruler to align musical regions precisely. The timeline offers a grid to snap these segments into place: to turn it on, choose Control → Snap to Grid.

You can set the grid to different note values in the time measure, such as quarter notes, eighth notes, sixteenth notes, thirty-second notes, quarter-note triplets, eighth-note triplets, and so on. To set the grid to a different note value, click the grid button in the upper-right corner of the timeline, as shown in Figure 3-4, and then choose a grid value from the menu. In addition to the note values, you can set the grid to Automatic so that the grid becomes more precise as you zoom in or out with the timeline zoom slider (located under the track names).



Figure 3-4
Setting the timeline grid to a different note value

WISDOM OF IHNATKO: DON'T BE EYEBALLIN' THAT UKE, BOY!

This isn't so much a tip as a piece of advice. One of the reasons I wanted to learn the Uke was because it seemed to be ideally suited as a computer accessory. Every now and then you have to restart your Mac, or wait for something to download, or you're sitting there reading a long Web page or piles of email. That's time you could be *doing* something, so why not strum a Uke? It's small and handy and it fits nicely in the crook of your arm, in the dead space between your chest and the desk.



So I intentionally determined *not to look at the uke* while I played. I tried to make my fingers "feel" their way on the strings. The idea was to be able to play without taking my eyes off my Mac's screen so I could strum while working my way through a couple of thousand emails. But it was actually a brilliant idea. If you break yourself of the habit of watching yourself play, you get the only feedback that matters: *it sounds right*. You're also not intellectualizing what you're doing. ("OK, I strum this three more times but then I have to get ready to move my fingers *here*.") More to the point, you can look at your music while you play, which means that you don't get whiplash by glancing at the music then your hands and then the music and then...

WORKING WITH REGIONS

The reason why you may want to record pieces of performances into separate regions, rather than performing a part for an entire song, is that you can move and copy the regions as well as edit them in the Track Editor (described in Chapter 9).

You can move regions easily within tracks, make copies of regions, and place copies anywhere you want. You could perform a piece of music once and use it thousands of times. You can even copy multiple regions in different tracks at once; for example, if a set of regions for bass and drum tracks are perfect for a few measures, and you want to use them throughout the song, select the regions and then copy and paste them to another place in the song.

Moving, copying, and pasting regions

Click a single region to select it. To move a region within a track, changing its starting point in the song, simply drag it to the left or right. You can even drag a region up or down from one track to another if you want the region to take on the characteristics (sounds and effects) of the destination track.

▼ Note

Real Instrument regions can be moved only to other Real Instrument tracks, and Software Instrument regions can be moved only to other Software Instrument tracks.

When you drag a region over another region in the same time slot, as shown in Figure 3-5, the region underneath is shortened to the edge of the region you are dragging over

it. If you completely cover a region with another region, the region underneath is deleted.

Shift+click each region to select multiple regions. Select multiple regions at once by dragging a selection rectangle around all the regions you want to select; as you drag from a point in the timeline, any regions intersecting your rectangle are highlighted to show that they are selected, as shown in Figure 3-6.

To copy or cut a region, select the region by clicking it, and then choose Edit → Copy (or press Command+C) to copy, or Edit → Cut (or press Command+X) to cut. To paste the copy at a different location in the timeline, move the playhead to the point where you want the copied region to start, as shown in Figure 3-7, and then choose Edit → Paste (or press Command+V).

▼ Tip

To automatically make a copy of the region, drag it while holding down the Option key; dropping the copy is just like pasting it into the new location. Delete a region by selecting it and then pressing Delete on your keyboard or by choosing Edit → Delete.

After pasting one or more regions, the playhead moves to the end of the first pasted region. This is convenient because you can choose Edit → Paste again (or press Command+V again) to paste another copy right next to the first one.

To delete regions from one location and paste them into another, choose Edit → Cut instead of Edit → Copy. However, it may be faster to just drag the selected regions to the new location in the timeline.



Figure 3-5
Moving a region over the end of another region



Figure 3-6
Dragging around multiple regions in the timeline to select them



Figure 3-7
Setting a new position to paste the copied regions

Looping, shortening, and extending regions

Although pasting over and over quickly repeats a region over time, GarageBand makes looping a region a lot easier with the loop pointer. When you loop a region, it repeats without any seams in between. You can loop anything: Real Instrument recordings, Software Instrument recordings, and loops of both types.

To loop a region within a track, follow these steps:

1. **Move your pointer to the upper-right edge of the region.**

The pointer changes to the loop pointer (a circular arrow), as shown in Figure 3-8.

2. **Drag the loop pointer to extend the region.**

Drag the region to the point where you want it to stop looping, as shown in Figure 3-9. The notches at

the top and bottom show the beginning and end of the piece of music. You can drag to extend the entire looping region, so that the entire region repeats, by extending to an end notch. You can also extend to the middle of a looping region, stopping the loop anywhere you want.

You can shorten a region so that only the visible part of the region plays. You can also lengthen a Software Instrument region, adding silence — but only to Software Instrument regions; Real Instrument regions can only be shortened or returned to their original lengths.

To resize a region, follow these steps:

1. **Move your pointer over the lower half of the region's right or left edge.**

The pointer changes to the resize pointer, as shown in Figure 3-10.

2. **Drag the edge of the region to shorten or lengthen it.**



Figure 3-8

Display the loop pointer by moving the mouse pointer to the upper-right edge of a region



Figure 3-9

Dragging with the loop pointer to loop the region



Figure 3-10

Dragging with the resize pointer to shorten or lengthen a region (not looping)

THE SOUNDS OF SILENCE



Adding silence to a Software Instrument region can be useful for looping the region properly in different parts of a song. First, extend a Software Instrument region to add silence to a musical phrase, and then loop the region so that the fully extended region, including silence, is repeated. That way the region can loop through the rest of the song and play accurately with the same amount of silence between the repeated musical phrases.

Splitting and joining regions

Splitting and joining regions may seem like a bit too much, but what if you recorded a great performance at the beginning and end of a region, but stunk up the place in the middle? You can split the region into three parts — the good one, the stinky one, and the final good one — and then join the first and last parts into one region. Nice.

You can join regions together as long as they are already adjacent to one another on the same track, and have no space between them. Software Instrument regions (green) can be joined only to other Software Instrument regions, and Real Instrument recordings (purple) can only be joined to other Real Instrument recordings. Real Instrument loops (blue regions) can't be joined to other regions.

To split a musical region into two or more parts, follow these steps:

1. **Select the region.**
2. **Move the playhead to the point in the region where you want the split to occur, and choose Edit → Split.**

The selected region is split into two regions at the playhead; any notes at the split point in a Software Instrument region are shortened so that they don't extend past the split point.

To join two or more regions, follow these steps:

1. **Select the regions to be joined.**
2. **Choose Edit → Join Selected.**

When you join Real Instrument regions, a dialog box appears, asking if you want to create a new audio file. Click Create to do this, so that the regions are joined into one. Otherwise the joining is cancelled.

ADDING A SONG AS A TRACK

Jamming with a prerecorded song is so easy with GarageBand that you can experiment all you want, and then lay down a track along with the real song and merge the two

into your own creation. We've done this many times, such as adding a harmonica solo to a song that never had one, or adding vocals to an instrumental song. You can even mix several songs or song samples together to make a sound collage.

GarageBand can take an AIFF, WAV, or MP3 audio file and give it its own Real Instrument track in the timeline. For example, you can drag a song converted to AIFF or MP3 directly from iTunes to your desktop to make a copy of the song as an audio file, and then drag the file from the desktop into the GarageBand timeline, as shown in Figure 3-11. Drag the song into an existing Real Instrument track, or create a new track by dragging into an empty space in the timeline.



Figure 3-11
Dragging a song from the Finder desktop into the timeline

As you drag the audio file into GarageBand, a vertical line appears, lining up the beginning of the audio file with the beat. If you have the Snap to Grid option turned on (choose Control → Snap to Grid), the beginning of the audio file snaps to the beat in the timeline just like a loop. To move the audio file within the timeline, just drag the region for the audio file left or right within the track. You can control the volume and apply Real Instrument sounds and effects to the song like you can with any other Real Instrument track.

When you bring an MP3 audio file into GarageBand, the audio is converted to the AIFF format and stored with the song project, just like a recording of a Real Instrument performance. In fact, that's what it is: a waveform, just like any other Real Instrument performance or loop. You now have the makings of a great song. But remember, don't steal music: do not use copyrighted songs or parts of songs in your own compositions. With so many free loops you can use, why bother with the older material?

IMPORTING A MIDI SEQUENCE

You are not limited to the loops in GarageBand, songs from iTunes, and performances you record yourself (although that's quite a bit of choice already). You can also

import any MIDI file, such as a drum loop, a bass track, or an entire song in MIDI format.

All you need is a handy free program called Dent du Midi that you can download from <http://homepage.mac.com/beryrinaldo/ddm/>. Pronounced “don do midi” and named after a 10,600-foot-high mountain in the Swiss Alps, Dent du Midi takes standard MIDI files and generates separate files for each track containing MIDI note data. These files are suitable for dragging and dropping into Software Instrument tracks.

To add a MIDI file to GarageBand, follow these steps:

1. Download a MIDI file from the Web.


To find MIDI files on the Web, try Google (search for something like “MIDI loops”), or better yet, use MIDI Explorer (www.musicrobot.com/), a MIDI-specific search engine.

2. Launch Dent du Midi and drag the file you downloaded into the upper portion of the window.

The program extracts the various MIDI tracks that make up the song and stores them in a folder.

WISDOM OF IHNATKO: RECORDING A UKE

Well, making my first GarageBand uke recording gave me fits. I had two different kinds of microphones and neither kind seemed to work very well. I finally turned to a friend of mine (a professional audio engineer) for advice and he told me the awful truth: he doesn't know where to put the microphones, either. Not just for a uke, but for *any* instrument. With experience, an engineer will have learned the best place to mike a guitar, or an acoustic piano, or a saxophone, or that thingamabob that looks like a bent coat hanger with a tennis ball on it and when you twang the tennis ball it goes *chkkhkhkhkrrrrrrrrrrrrrrrrrrr!* I'm not sure the thing actually has a name, but even so, it takes lots of trial and error.



So if you're having no luck, just keep moving your microphone around until you've accidentally placed it smack-dab in the middle of the instrument's invisible and elusive sweet spot.

3. Open the tracks folder and double-click Report.txt.

The Report.txt file tells you the tempo of the track. Knowing the tempo helps a lot, because if you import into a song with a different tempo, the beats may not line up.

▼ Cross-Reference

You synchronize songs using the Track Editor, as described in Chapter 9.

4. Quit Dent du Midi, and then launch GarageBand.
5. Create a new song, and set the tempo for the song to the tempo reported in Report.txt.

Set the tempo in the New Project dialog box. If you are importing a MIDI sequence into an existing song, see Chapter 2.

6. Drag each file created by Dent du Midi over to the GarageBand window and into a Software Instrument track.

Drag the song into an existing Software Instrument track, or create a new track by dragging into an empty space in the timeline.

As you drag the MIDI file into GarageBand, a vertical line appears, lining up the beginning of the MIDI file with the beat. If you have the Snap to Grid option turned on (choose Control → Snap to Grid), the file's beginning snaps to the beat in the timeline just like a loop. To move the MIDI file within the timeline, just drag the region for the file left or right within the track. You can control the volume and apply Software Instrument sounds and effects to the MIDI sequence you imported, just like you can with any other Software Instrument track.

