

BASIC AUDIO EDITING

8



Figure 8.1 The Project window showing two loops on audio tracks.

For most of the history of recorded audio, editing involved a razor blade, a cutting block, and some tape. Editing individual tracks was difficult or impossible, and one bad edit with that razor blade could mean redoing the entire song from scratch.

Editing digital audio is a completely different story. Cubase stores audio files on a hard drive, and the visible audio waveforms in the Project window that we call events and parts are actually just pointers to those audio files. This means that any part of any file can play back at any point in a project—there is complete freedom to rearrange and modify the parts of a project. Cubase SX 2 is a world-class audio editing platform.

The techniques that you'll learn in this chapter and in Chapter 9 are accomplished by using advanced editing tools right in the Project window (**Figure 8.1**).

Unlike some other audio applications, Cubase lets you do a huge percentage of the audio editing in the Project window. Its other editors, such as the Audio Part editor and the Sample editor, are available for more advanced tasks. You can often accomplish the same thing in many ways.

Contextual menus are a powerful part of Cubase. You open a contextual menu by right-clicking on the screen (**Figure 8.2**). If you have a two-button mouse, you'll use contextual menus extensively while you work.

In this chapter, you will learn how to edit audio events and parts, starting with how to move, copy, and mute them. You will also learn more about Snap and how to use it to move audio precisely in a project. You'll learn the different methods for changing the duration of events and parts. Finally, you'll learn how to fade events in and out, how to crossfade between two audio events, and how to use the Scissors tool.



Figure 8.2 The contextual menu with the Process option selected. You'll be using contextual menus often.

What's the Difference Between an Event and a Part?

The differences between audio events and parts can be confusing even for expert Cubase users. If you record an instrument in Cubase, you've created an audio event in the Project window—the thing with a waveform that you can click, move, edit, and modify. For some projects, you may use nothing but events for your audio. Some events may be as long as the full song, and other events may be loops or single, short snippets of sound.

Parts are used mainly for two purposes. First, you may want to create a part when you have a group of events that you want to use together as a single entity. For instance, if the vocal line in a song is great but the last note is wrong, you can find another place where the singer hit that note right, snip it out, and then align the two events so the good note replaces that bad note in the first event. This leaves you using two events to play back a single line. To make your work easier, you can combine these events into a single part, so you can move and process the events as a single entity.

The second main use of parts is in creating comps. Comps are explained later in this chapter, but in general, comping involves using bits of numerous events to achieve a better take.

One reason that parts and events may seem confusing is that different audio programs work with audio in quite different ways. For example, in previous versions of Cubase, all audio events had to be in an audio part. This is no longer true in SX; events can be played, edited, and processed directly in the Project window. If you are learning Cubase after using another audio application or an earlier version of Cubase, you may want to take some time to be sure you understand the differences between parts and events.

The final tricky part of distinguishing between parts and events is that in the Project window, audio parts and audio events look very similar. One easy way to tell the difference is to click something to select it. If you see the blue handles (which are used to change volume and fade), you've clicked an event. If you don't see them, then you have a part on your hands.

Don't fret if the distinction between parts and events seems a bit arcane at first. Parts and events both follow logical rules, and after you've tried a few of the examples in this chapter, you'll understand intuitively which is which and when to use one or the other.

Converting Events to Parts

When you start editing audio in Cubase, it might be hard at first to see the difference between events and parts. Both can be used in the Project window, and both can be edited directly in the Project window. However, some of what is described in this chapter relates only to audio events, some is useful only with audio parts, and some works with both events and parts.

Audio event: An audio event is a reference to an audio file that has been recorded or imported into Cubase. It is not the audio file itself, but an indication to Cubase to play an audio file (or a part of an audio file) at a particular time in a project.

Audio part: An audio part is a container that can hold one or more audio events. Audio parts are used to more easily manage one or more events in the Project window. If it is convenient to deal with a group of events as a single entity, it's usually best to create a single part that holds all of the events.

To convert audio events to an audio part:

1. Using the Arrow tool, drag over the events you want to convert to a part (**Figure 8.3**).
This selects the events in the Project window.
2. With the events selected (they will be outlined in red), open the contextual menu by right-clicking one of the selected audio parts.
3. From the contextual menu (or the main menu for people with one-button mice), select Audio > Events to Part (**Figure 8.4**).
In the Project window, a new part will be created that is large enough to hold all of the selected events (**Figure 8.5**).

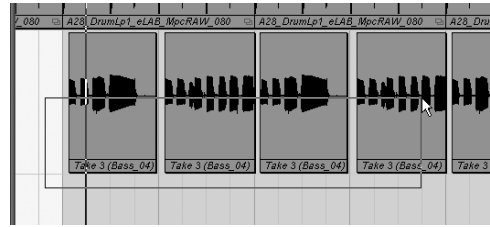


Figure 8.3 Selecting four events on the same audio track.



Figure 8.4 This menu command creates a new audio part.



Figure 8.5 The newly created part, with each of the events visible within the part.

✓ Tip

- You also can select multiple events in the Project window by holding down the Shift key and clicking each one.



Figure 8.6 Selecting the audio part in the Project window: You can't see this easily here, but the part is outlined in red to show that it is selected.

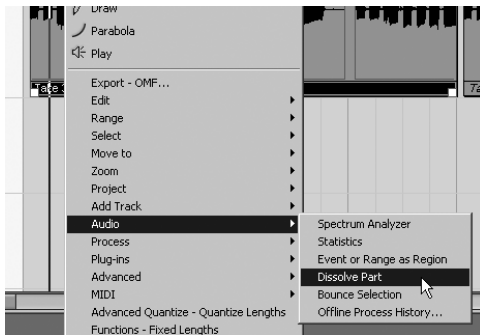


Figure 8.7 This command dissolves a part into events—the reverse of combining events into a part.

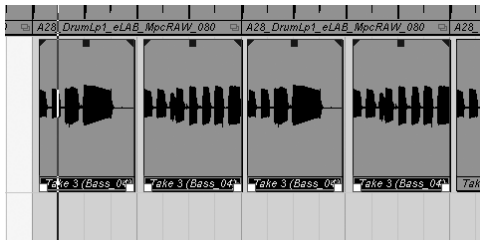


Figure 8.8 Each event in the part is now a discrete element again.

Breaking Parts into Events

Sometimes it's easier to work on smaller events instead of a whole part. If you want to work directly in the Project window on events that are within a part, you can break the part into its constituent events.

To convert an audio part to the audio events it contains:

1. Select the part by clicking it with the Arrow tool (**Figure 8.6**).
2. Open the contextual menu by right-clicking the part.
3. In the menu that opens, select Audio > Dissolve Part (**Figure 8.7**). If you don't have a two-button mouse, use the main menu.

The events that were in the part will now be displayed in the Project window (**Figure 8.8**).

Muting Events and Parts

One of the simplest editing operations in the Project window is muting, which simply tells Cubase not to play back the muted event or part during the playback of a project.

To mute parts or events:

1. Select the Mute tool by clicking the Mute button on the toolbar (**Figure 8.9**) or selecting Mute from the contextual menu in the Project window.
2. Using the pointer (it will turn into an X), click any parts or events that you want to mute.

They will be dimmed to show their muted status (**Figure 8.10**).

To unmute a muted part or event, simply click it again.

The part or event will now play back normally (**Figure 8.11**).



Figure 8.9 The Mute tool on the toolbar.

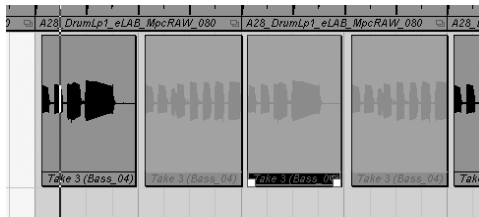


Figure 8.10 The second, third, and fourth events are muted; only the first event will play in the project.

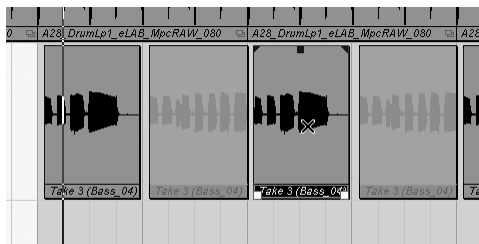


Figure 8.11 The third event is unmuted.



Figure 8.12 The Use Quantize setting enables more Snap options.



Figure 8.13 With these settings, Snap will constrain movements to quarter notes.

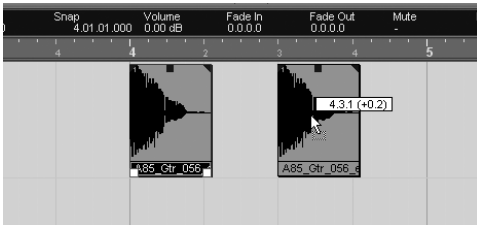


Figure 8.14 The beginning of this event moves along a quarter note grid.

Moving Parts and Events Using Snap

You can move any part or event in Cubase to another place in a project simply by dragging it to a new location. If Snap is turned off, parts and events can be moved anywhere, without relation to a beat or grid. When Snap is turned on, parts and events are moved according to the grid created by the Snap settings. In the following task, you will move an event a quarter note at a time to change its place in a beat, but keep in mind that parts are moved exactly the same way.

To move an event using snap:

1. Turn on Snap by clicking the Snap button on the toolbar.
2. From the Snap Settings menu, select Use Quantize (**Figure 8.12**).
3. From the Quantize menu, select 1/4 Note. The snap settings will look like those in **Figure 8.13**.
4. Drag the audio event, which is now constrained to movements of 1/4 note (**Figure 8.14**).

✓ Tips

- Many people turn Snap on and off constantly. If you are one of those people, you should know that the J key on your computer keyboard is the default shortcut key for Snap; using it will save you a lot of mouse trips to the toolbar and back.
- Notice the numerical display in Figure 8.14. It shows the current location of the event (4.3.1) and its song position relative to its position before it was moved (+0.2). You can use this information to keep track of the movement of parts and events.

Moving Events and Parts Using the Cursor

Snap provides a convenient method for moving parts and events along a grid. Sometimes, though, it's easier to use the cursor to move a part or event. Using the cursor, you can more easily line up an event or part at the beginning or end of another event or part. The cursor can also help you place events or parts when you are synching dialogue and effects to video material. In this example, you will use the cursor to place an audio event at bar 13, beat 1.

To move an audio event using the cursor:

1. Position the cursor where you want to move the audio event by clicking the ruler, or by using the Fast Forward and Rewind buttons, or by manually entering the location on the Transport bar.
2. Click the event that you want to move.
3. If you have a two-button mouse, right-click the event to open its contextual menu. Choose Move to > Cursor (**Figure 8.15**). One-button mouse users should choose Edit > Move to from the main menu. The audio part will move to wherever the cursor is located (**Figure 8.16**).

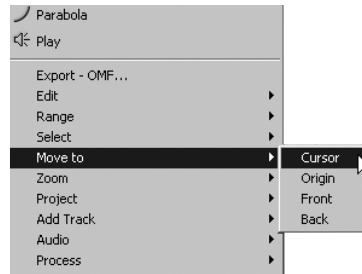


Figure 8.15 The menu option to send the currently selected event or part to the cursor location.

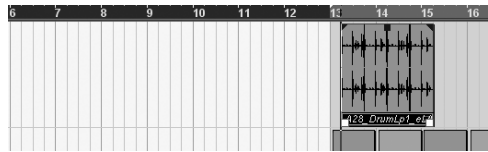


Figure 8.16 The audio event after it is moved to the cursor location.



Figure 8.17 This event is selected. It has a red outline around it (not visible in the illustration).

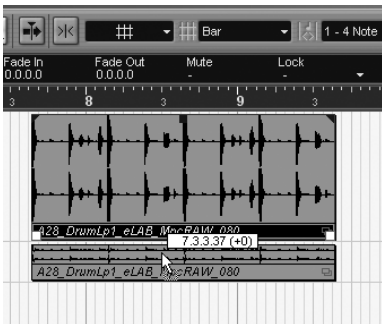


Figure 8.18 When the event is moved to a different track (it's in transit here), it keeps its position in the project.

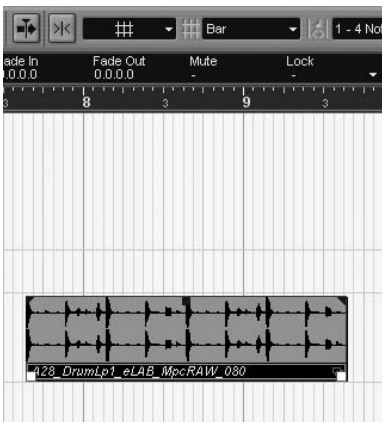


Figure 8.19 When released, the event is on a different track, but at the same point in time.

Constraining Vertical Movement

Moving an event or a part to a different track is a common operation in Cubase, but in many situations you need the part to play back at the same time in the project as before it was moved. You can constrain the movement of an event or part to a vertical axis when you relocate it. In the following task, you will move an audio event to a new track but won't change its meter position.

To move an event or part while retaining its playback position:

1. Press and hold the Ctrl key (Windows) or the Command key (Mac OS).
2. Click the event or part you want to move (**Figure 8.17**).
3. While still holding the Ctrl or Command key, drag the event or part down or up in the Project window (**Figure 8.18**).
4. When you reach the track to which you want to move the event or part, release the mouse.

The event or part will move to the new track at the same playback position in the project as before it was moved (**Figure 8.19**).

✓ Tip

- The use of the Ctrl or Command key is one of a small number of operations in Cubase where Snap does *not* matter. In Figures 8.17 through 8.19, you can see that Snap is on, with a beat-based grid, but the part does not snap to the nearest beat when moved.

Setting the Snap Point

By default, the snap point for a part or event is the starting point of the part or event. More often than not, this is the most sensible way for Snap to work. In fact, the only way to change the snap point for an audio part is to resize the part itself. The snap point for an audio event, however, does not have to be its starting point.

The snap point for an event determines where Cubase moves the event when Snap is on. Although by default, the snap point is at the beginning of the event, it can be set to any point. Often a different setting is useful for snapping events that do not begin at a musically significant point. An event may have an obvious place where it is rhythmically anchored, and this may be the best place to use as the snap point. In the next task, an event with the downbeat close to its end will be snapped to the beginning of the measure. You will set the snap point with the cursor.

To move an event using the snap point:

1. Turn off Snap while setting the snap point.
2. Determine where in the event the snap point should go.

It's usually easiest to snap events to quarter notes or, if possible, to the first beat of a measure. In **Figure 8.20**, the last note is the downbeat.

3. Click the Zoom tool on the toolbar to see clearly where the note starts and use the tool to drag over the part of the event where you want to set the snap point (**Figure 8.21**).
4. Move the cursor to the start of the note, where the snap point will be located.
5. If the event is not selected, choose the Arrow tool and click the event to select it.



Figure 8.20 In this event, the last note is the first beat of a new measure.

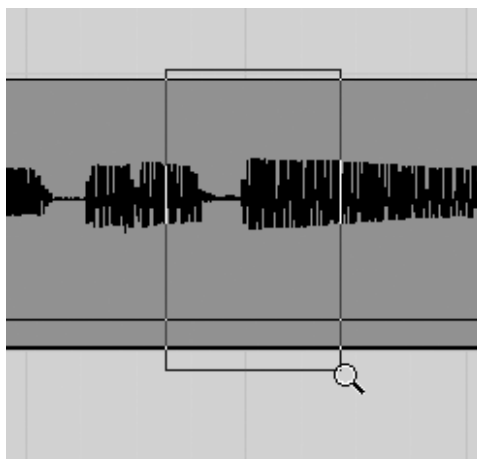


Figure 8.21 Using the Zoom tool to view a small part of the event.

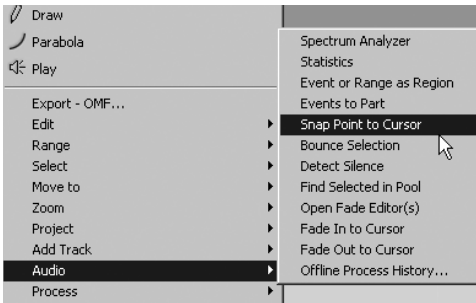


Figure 8.22 This command sets the snap point.

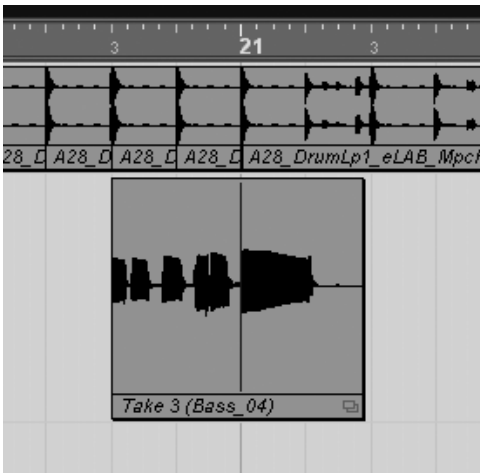


Figure 8.23 Using the newly set snap point, the event can be snapped so that the last note falls at the start of a measure.

6. Right-click to open the contextual menu for the event, or select Audio > Snap Point to Cursor from the main menu (**Figure 8.22**).
7. Zoom back out to see the whole event. The newly created snap point will appear as a thin blue line in the event.
8. Before moving the event, turn Snap back on so Cubase will use the snap point.
9. Click the event and drag it to its new location.

The event now plays from the snap point instead of the beginning. In **Figure 8.23**, the event has been moved so that the downbeat is at measure 21.

Copying Audio Parts or Events

Events and parts are copied in the Project window using the common system-level key commands for click-and-drag copying. Hold down the Alt key (Windows) or the Option key (Mac OS), click the object to be copied, and move the copy to its new location. Cubase does include, however, a few of its own shortcuts and additions that make copying events and parts easier in some situations.

Shortcuts and tricks for copying events and parts

- ◆ If you want to copy an event or part to a new track but keep its position in the project, press Shift+Alt+Ctrl (Windows) or Shift+Option+Command (Mac OS) to create a time-constrained copy (**Figure 8.24**).
- ◆ Select an event or part and choose Edit > Duplicate to copy the selected part or event and place the new copy exactly after the original. This is another of the rare operations that ignores Snap. The two events in **Figure 8.25** were created using the Duplicate command with Snap on and set to Beat. The new event did not snap to the nearest beat.

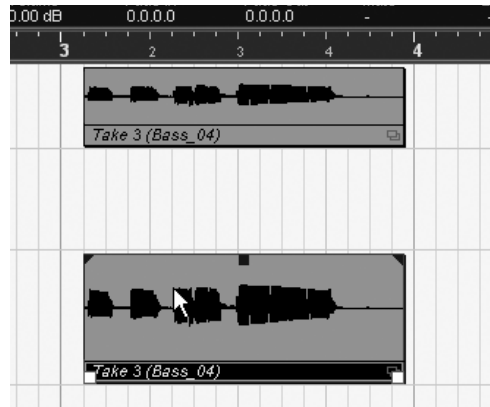


Figure 8.24 An event copied to a new track but constrained vertically.

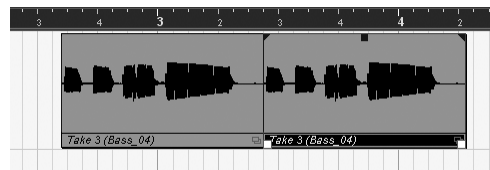


Figure 8.25 Snap was on and set to 1/4 Note, but Duplicate puts the copy directly after the original.



Figure 8.26 This event has been selected; the two triangles and small box at the top of the event will be moved to create a fade-in.



Figure 8.27 The pointer is at the place where the fade-in point can be moved.

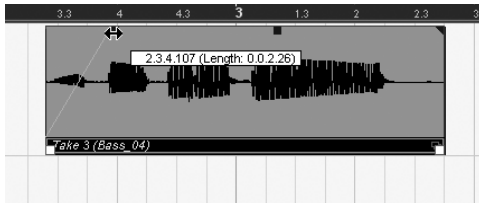


Figure 8.28 Dragging the fade-in point to where the fade-in should end.

Creating a Fade-In

All music and sound production uses effects called fades. A fade-in takes a sound from a lower level and raises it in volume so that it can be heard. A fade-out takes a sound that is playing and decreases its volume until it is not heard. Most people notice fades only when a full mix is faded out at the end of a song on, say, a CD, but parts are faded in and out of mixes constantly.

Cubase has many ways to create fades. One very graphical way to create fades is to use the mouse in the Project window to fade individual events in and out. Only events can be faded in this way. If you need to fade a part, you probably should do that when you are mixing the project.

To fade in an audio event:

1. With the Arrow tool, in the Project window, select the event that you want to fade in.

The event will have two blue triangles at both top corners and a blue square at the top middle (**Figure 8.26**).

2. Still using the Arrow tool, position the pointer over the top-left blue triangle. The pointer will change to a pair of arrows pointing in opposite directions (**Figure 8.27**).
3. Drag to the right to move the blue triangle ahead into the event (**Figure 8.28**).
4. When you reach the point where you want the fade-in to end, release the mouse. The triangle shows where the fade-in ends, and the audio waveform will update to show the change in the volume of the part.

Creating a Fade-Out

To create a fade-out, you reverse the procedure that you used to create a fade-in.

To fade out an audio event:

1. Click with the Arrow tool to select the event that you want to fade out.
2. Position the pointer over the blue triangle in the upper-right corner of the event. The pointer changes to a pair of opposing arrows (Figure 8.29). The blue triangle shows where the fade-out starts, and the waveform will update to show the change in volume (Figure 8.31).
3. Drag the triangle to the left (Figure 8.30).
4. Release the mouse at the point where you want the fade-out to begin.

✓ Tip

- The way that the waveform updates when you set a fade is more than just cool looking. The waveform provides excellent visual feedback for setting fade points.



Figure 8.29 The fade-out point is ready to be moved.

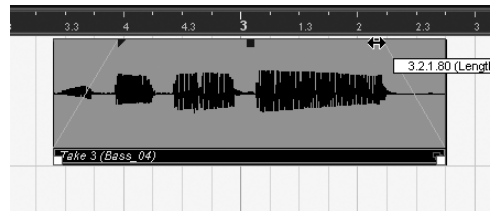


Figure 8.30 Dragging to the left to move the fade-out point.



Figure 8.31 The fade-out is set; note that both the fade-in and fade-out are reflected in the change in the waveform.

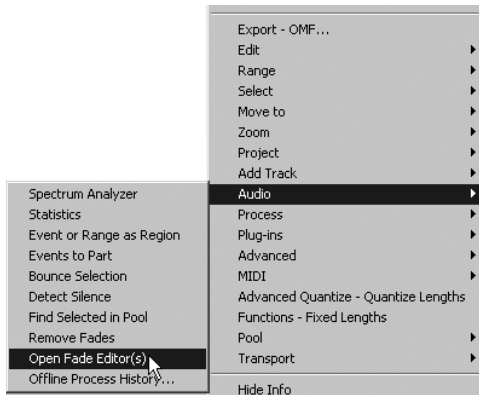


Figure 8.32 This menu item opens the window where fades can be edited.

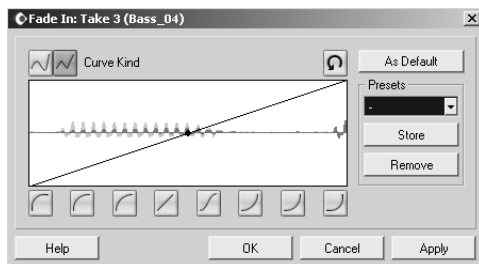


Figure 8.33 The default fade-in is a simple linear fade.

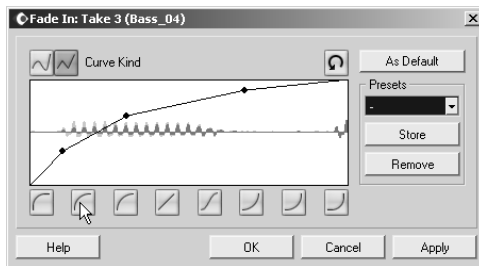


Figure 8.34 One of the fade curves that is available as a preset in Cubase.

Editing Fades

Cubase uses a simple linear fade by default. This default is the rough equivalent of turning a volume knob for the event at precisely the same speed throughout the fade. Although this default fade quite often does the job, Cubase does not restrict fades to this linear shape. Fades can be almost infinitely edited by using the Fade editors.

To edit the curve of a fade:

1. Using the Arrow tool, click an event in which a fade has been created.
2. Right-click (or single click) and select Audio > Open Fade Editor(s) (**Figure 8.32**). This opens the Fade In editor, the Fade Out editor, or both. Each editor opens only if the event has the type of fade it can edit. The fade editor shows the portion of the event that is faded in or out. **Figure 8.33** shows the Fade In editor with the default linear fade-in.
3. Click the buttons at the bottom of the editor pane to change the shape of the fade (**Figure 8.34**).
4. When the fade has the shape you want, click OK. The curve will be applied to the event in the Project window.

✓ Tips

- If the presets for a fade-in or fade-out are not what you want, you can drag the breakpoints in the fade editor to create your own shape. You can even create new breakpoints by clicking the line of the fade if you wish. Most situations, though, are well covered by the preset fades.
- You can also open the fade editors by double-clicking the overlapping section that is to be faded.

Changing the Volume Level for an Event

While you can use the two blue triangles in a selected event to create fade-ins and fade-outs, you can use the blue square to graphically edit the overall volume level for an event when it is played back. This option, in combination with the fade-in and fade-out options, gives you deep control of dynamics for any event in the Project window.

To set the overall volume level for an event:

1. Click an event with the Arrow tool to select it.
2. Position the pointer over the blue square in the middle of the event (**Figure 8.35**). The pointer becomes two opposing vertical arrows.
3. Drag up to increase the overall volume level of the event, or drag down to decrease the overall volume level (**Figure 8.36**).
4. When the volume level is set where you want it, release the mouse.

The blue square will show the relative volume level of the event, and the waveform will update to show the result of the change (**Figure 8.37**).

✓ Tip

- You can also raise the volume level of an event several decibels above its original level using this method.

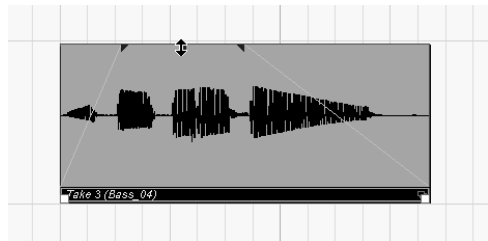


Figure 8.35 The pointer is over the blue box and can now set the overall volume level of the event.

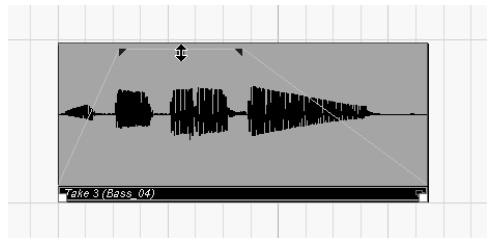


Figure 8.36 Dragging down decreases the volume level.

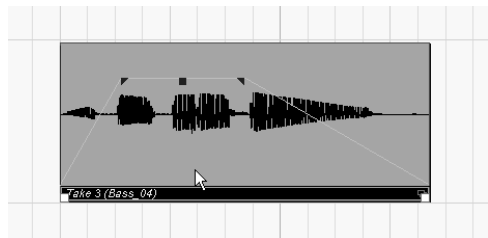


Figure 8.37 After the mouse is released, the waveform changes to reflect the new, lower volume level of the event.

Three Ways to Resize Audio Events

You might have heard the term *nonlinear editing* used when describing how a multi-track editor like Cubase works. Unlike a tape-based system, in which recorded audio plays back only at the time when it was recorded, a digital editor gives you complete freedom to choose which pieces of audio play when. You can take the second phrase of the great-sounding backing vocal you sang over the first chorus and easily copy it to every other chorus.

When you are making these type of edits, you'll nearly always need to take only certain sections of an event or events: a phrase here, two beats there, and so on. To do that, you'll often need to change the duration, or size, of an event. Cubase offers three ways to change the size of an event, all selected via a drop-down menu on the object selection tool. Each mode is fully described in the pages that follow, but here's a quick comparison to keep in mind as you use the different modes:

- ◆ **Normal Sizing** might also be called masking. Using this mode, you move the start or end point of the event to play only part of the audio. If you like only the second part of a phrase in a performance, for instance, you use this mode to move the starting point of the event so it plays only the second half of the phrase.
- ◆ **Sizing Moves Contents** allows you to keep the start or end of an event the same while you push around the audio content inside the event. This mode can be useful when you're trying to move a drum hit or sound to a particular beat, or when you want to correct a performance that's a little ahead of or behind the beat.

- ◆ **Sizing Applies Time Stretch** lets you drag the start or end point of an event to make the duration of the event longer or shorter. Used in conjunction with Snap, this mode is invaluable for forcing an audio event to match the project tempo.

The mode you will most commonly use is Normal Sizing. This mode lets you mask and unmask any part of the audio in an event. For instance, you can take a guitar part that spans an entire five-minute song and resize the event so that it plays only a single note. Like all editing in Cubase, this is purely non-destructive; you can always resize again and hear the entire event or a different part of it.

To resize an event using Normal Sizing:

1. Using the Arrow tool, click the event that you want to resize to select it.
2. Position the pointer on the bottom corner of the beginning or end of the event (**Figure 8.38**).

The pointer changes to a pair of opposing horizontal arrows.

3. Drag to the place where you want the event to begin or end (**Figure 8.39**).
4. Release the mouse when the file is resized as you want.

Compare Figures 8.38 and 8.39; after the resizing, only the first two of the four notes in the phrase will be played.

✓ Tips

- If Snap is on, the event will be resized according to the Snap setting.
- To temporarily override Snap without turning it off, hold down Ctrl (Windows) or Command (Mac OS) while resizing the event.

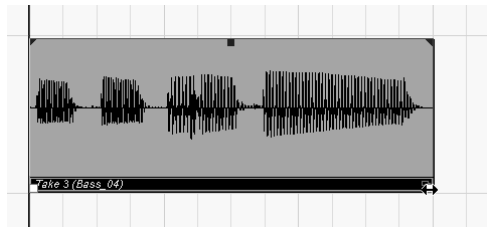


Figure 8.38 The pointer changes to two arrows to show that it is ready to resize an event.

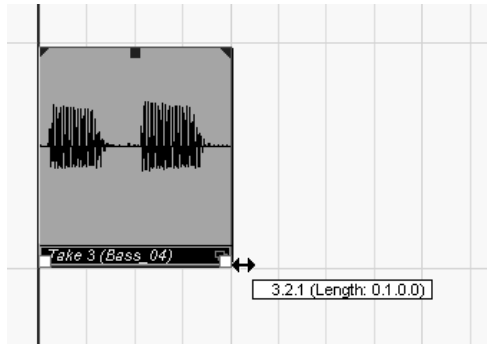


Figure 8.39 Dragging in this direction moves the beginning of the event forward, acting as a mask.

What About Resizing Parts?

Parts are resized in exactly the same way as events, using exactly the same tools. There is really no difference in the way the audio is handled, except when you use **Resize Applies Time Stretch**. If a part with more than one event is resized in this mode, Cubase has to time stretch each event in the part. Other than this minor difference, the tools for resizing events work in the same way for resizing parts and produce the same results.

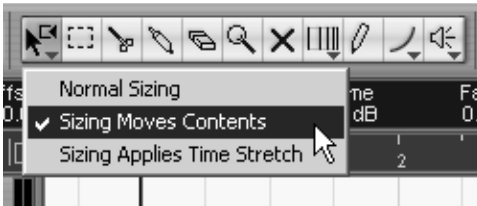


Figure 8.40 Choose a mode for the Arrow tool to change the way that resizing affects an event.

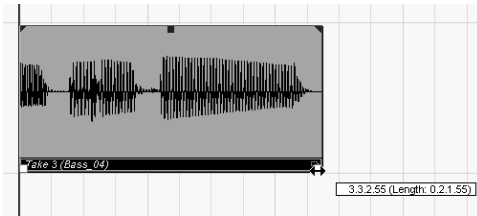


Figure 8.41 Note the different phrase in each bar. The pointer will now resize the event.

Using Sizing Moves Contents

You can also use the Arrow tool in the Sizing Moves Contents mode. When an event is resized using this mode, moving the start or end point pushes the audio itself back and forth inside the event. This allows the event to start or end at the same place in the project, but moves the audio inside the event forward or backward in time. In the following task, you will resize a two-measure section, using this mode to move the second bar ahead in time by one measure.

To move the contents of an event by resizing:

1. Click the Arrow tool on the toolbar to select this tool and then click it again to open the contextual menu. Select the Sizing Moves Contents option (**Figure 8.40**).
2. Turn Snap on or off, depending on your preference.
In the example shown here, Snap is on.
3. Move the pointer to the lower-right corner of the event to be changed.
The arrow changes to two opposing horizontal arrows (**Figure 8.41**).
4. Drag to the left to move the end of the event forward in time.
The event being resized in these figures is the same event that was used in Figures 8.38 and 8.39.

continues on next page

5. When the event is resized as you want, release the mouse.

The audio in the event is moved forward in time, with the end of the event as an anchor (**Figure 8.42**). Compare Figures 8.42 and 8.39. Instead of masking part of the event as in Figure 8.39, the last note in Figure 8.42 has been moved ahead in time; however, the event will start at the same point.

✓ Tips

- Resizing using Sizing Moves Contents is very useful, but the process isn't always easy to understand. Try resizing the same part in the exact same way using each resize mode. The techniques will become clear quickly.
- You can use either the event's starting point or ending point when resizing an event using the Sizing Moves Contents mode.
- Again, holding down Ctrl (Windows) or Command (Mac) defeats Snap temporarily.

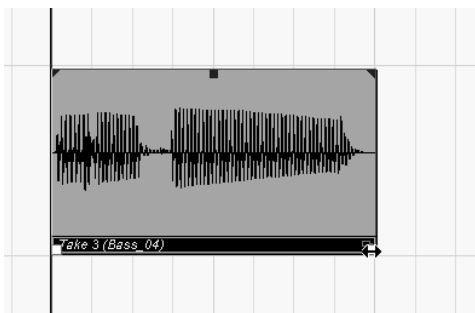


Figure 8.42 The second phrase has now been moved to where the first phrase was originally. The event is also half as long as it was before.

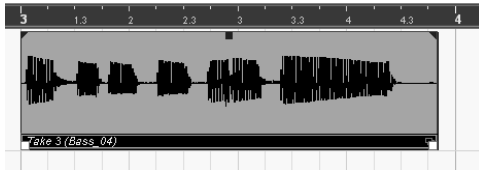


Figure 8.43 This phrase is one bar long, but it does not fit into a bar of the current project.

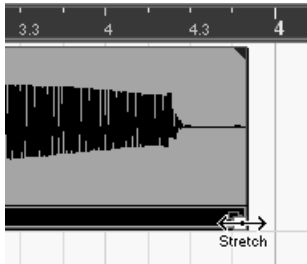


Figure 8.44 The change in the pointer indicates that the event will be time stretched.

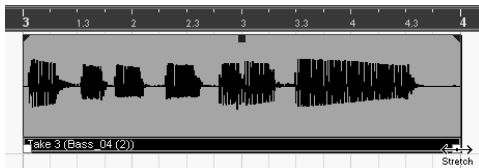


Figure 8.45 The event fits in one bar now; compare this figure to Figure 8.43.

Resizing an Event by Time Stretching

The third mode for resizing an event, Sizing Applies Time Stretch, doesn't change the amount of the audio that the event plays or the place where the event plays it. Instead, it alters the tempo or duration of the audio to fit the new size of the event. This approach was introduced in Chapter 3 in the context of fitting a drum loop to the tempo of a project. To see how this mode works, you will shorten a one-bar line that does not fit correctly in the project (**Figure 8.43**). You will commonly need to do this when you have samples taken from CDs or vinyl that do not match the tempo of the song in which they will be used.

To resize an event by time stretching:

1. Click the Arrow tool on the toolbar to select this tool and then click it again to open the contextual menu. Select Sizing Applies Time Stretch.
2. Turn Snap on or off, as you prefer.
3. Click the event to be resized, to select it.
4. Position the pointer at the bottom corner of the start or end of the event.
If you are using Windows, the pointer becomes a pair of opposing arrows with the word *Stretch* beneath them, indicating that the event will be time stretched if it is resized (**Figure 8.44**). If you are using Mac OS, the pointer will not change.
5. Drag the start or end of the event until it is the length you want it.
6. Release the mouse.

Cubase begins processing the event. A status bar will show the progress of the change operation. When the processing is finished, the duration of the event will be changed (**Figure 8.45**).

Creating a Crossfade

A crossfade is a special combination of a fade-in and a fade-out. Crossfades are used in many ways, but their primary use is to create a smooth transition between two different events on the same audio track. For instance, if two takes of a solo part were recorded, and the first half of one take sounds great while the second half of the other take sounds great, the two events can be edited together. In some situations, the transition between the two events will be audible and unpleasant. Crossfading the events together makes the transition nearly inaudible. In this task, you will crossfade two events for just such a transition.

To crossfade two events:

1. Resize both events so the section to be crossfaded is at the very end of the first event and at the very beginning of the second event (**Figure 8.46**).
2. Resize the events over each other so that the sections to be crossfaded overlap. The area where the events overlap is indicated by a darkened section (**Figure 8.47**).
3. Select both events by clicking them with the Shift key held down, or use the Arrow tool to draw a box over both events.
4. Select Audio > Crossfade. You can also press the X key on the keyboard as a shortcut.

The overlap of the events is outlined in blue, and the fade curves are displayed in blue (**Figure 8.48**).

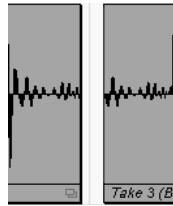


Figure 8.46 These two events need to be joined seamlessly with a crossfade.

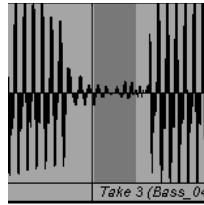


Figure 8.47 Position events so that they overlap in a place in the performance where a fade will not be too obvious.

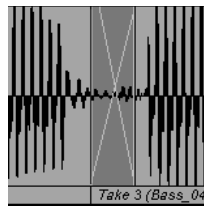


Figure 8.48 After you choose the Crossfade command from the Audio menu, the lines in the crossfade indicate the two fade curves.

✓ Tip

- Creating good crossfades is a craft, if not an art; it takes practice to find the best fade points. The general rule of thumb, however, is to find a place for the crossfade where not much is going on. The less action at the fade point, the more likely it is to be inaudible.

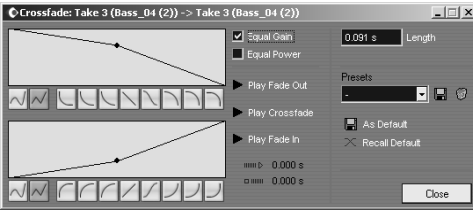


Figure 8.49 The Crossfade panel.

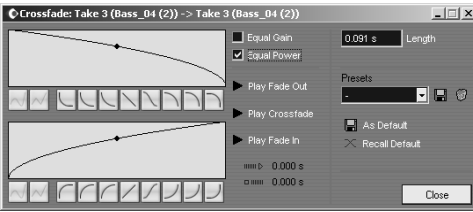


Figure 8.50 The Equal Power box is selected, creating a preset fade curve for both fade-in and fade-out.

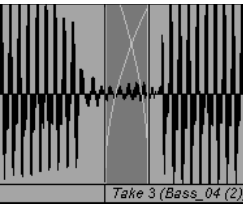


Figure 8.51 The fade curves have changed now that Equal Power is selected in the Crossfade panel.

Changing the Shape of a Crossfade

A crossfade, after all, is nothing but a fade-out of one event and the fade-in of another. Therefore, you can edit a crossfade much like any other fade. Crossfades have a few additional editing options as well.

To edit the shape of a crossfade:

1. After you create a crossfade, select either or both events that are part of the fade.
2. Select Audio > Crossfade, or double-click the events where they overlap.
3. When the Crossfade dialog box opens (Figure 8.49), select a curve to adjust the fade-in, fade-out, or both; or select either of the check boxes: Equal Gain and Equal Power.

In Figure 8.50, Equal Power is selected.

4. Click Close.

When you return to the Project window, the crossfade will reflect the changes made in the Crossfade panel (Figure 8.51).

✓ Tips

- An Equal Power crossfade maintains the energy, or power, of the sounds throughout the crossfade. An Equal Gain crossfade maintains the gain across the crossfade. A huge percentage of crossfades will sound perfect when using one of these two settings. When in doubt, give them a test-listen.
- In the Crossfade Audio window, you can preview the results of each individual fade and the crossfade by clicking the Play Fade Out, Play Crossfade, and Play Fade In buttons. Hearing all or part of the fade can really help you if a fade doesn't sound right and needs to be adjusted.

Splitting Events and Parts

Crossfading and resizing often are applied to snippets of larger takes, either to grab a loop to be repeated in the song or to create a single version of a line or solo with the best sections from multiple takes. For both looping and editing multiple takes together, the Splits tool can be invaluable. Using the Split tool, you can chop audio parts and events into smaller bits that are easier to work with. In the following task, you will see how to split a two-bar loop into smaller, one-bar sections.

To split events with the Split tool:

1. Click the Split tool on the toolbar.
2. Turn on Snap and select Bar.

Snap matters when using the Split tool, so it needs to be turned on or off depending on the job. In this case, two-bar loops are the goal, so you need snap to align them (**Figure 8.52**).
3. Position the pointer over the event to be snipped.

A thin line shows where a cut will be made if the mouse is clicked at the current location (**Figure 8.53**).
4. Move the pointer until the line is on the location where you want to snip the audio event; then click.

The event is split into two pieces (**Figure 8.54**), with the name of each event now displayed.

✓ Tips

- Parts can be snipped just like events. The only real difference is that when a part is split with the Split tool, the corresponding events are also split to create a new part.
- Remember that after a part is snipped with the Split tool, all of the audio from the original event is still there, and you can view or hear it by resizing the event.



Figure 8.52 Setup to use the Split tool: The tool is selected on the toolbar, and Snap is turned on and set to Bar.

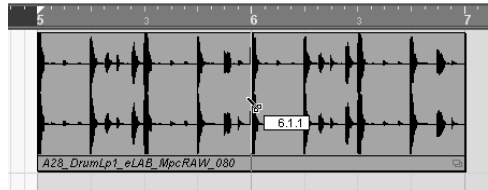


Figure 8.53 The thin, light line at measure 6 indicates the place where the Split tool will cut the event if the mouse is clicked.

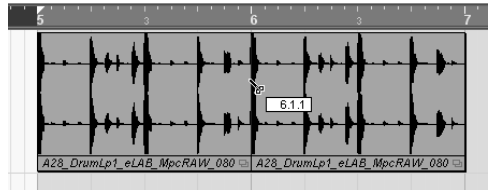


Figure 8.54 The darker line in this illustration shows where the event was cut. The line is actually blue in Cubase.



Figure 8.55 The Audio Part editor with two events shown.

The Audio Part Editor

Audio parts are useful for a number of reasons; in particular, after a group of events has been edited together into a part, you can move, copy, process, and otherwise treat them as a single entity. You use the Audio Part editor (**Figure 8.55**), as you might guess, to edit audio parts.

The Audio Part editor creates composite takes, or *comps*. A comp is a single musical phrase, line, or groove that is composed of pieces from more than one performance. Sometimes a comp is created to cover a mistake, such as a single flat note by a singer in an otherwise solid performance. Comps can also be heavily edited masterpieces of audio artifice. The following pages walk you through the basics of creating a comp in the Audio Part editor.

Keep in mind that an audio part is just a container in which audio events are kept, so much of what you do in the Audio Part editor you could also do in the Project window.

The Audio Part Editor vs. Stacked Mode

By far the most common task done in the Audio Part editor is comping tracks. Comping is also the most common reason for using Stacked mode to record a track, and then editing the track in the Project window. So it's reasonable to ask: which is the best choice?

If you've used the previous version of SX for a while, you may be more comfortable working in the familiar Audio Part editor than in Stacked mode. Also, I find the Audio Part editor to be a little more spacious for comping; with more room to move things around in lanes. Stacked mode is great, though, because there's never a reason to leave the Project window. Try a similar comp using both approaches to see which you find easier and more effective. Chapter 9, "Advanced Audio Editing," discusses how to edit tracks recorded in Stacked mode.

Preparing Events for a Comp

A comp can be created from many sources. For example, a single long take can be cut into pieces for comping. Events or regions created with cycle recording are also very common sources. Comps can also be created out of completely unrelated and distinct pieces of audio, although this is not a common practice. In the task here, a longer event was snipped into two-bar loops and will be comped from these pieces. You will get the events ready for comping.

To arrange events for comping in the Audio Part editor:

1. Set the start and end points for the loop so they correspond to the length of the section to be comped. In this case, set a two-bar loop (Figure 8.56).
2. On the Transport bar, click the Cycle button to turn on looping.
3. Drag all of the events that will be used into the range of the loop (Figure 8.57). This puts together all of the constituent events that will be used to create the comp.

✓ Tip

- When comping, and particularly when arranging elements for a comp, you may find it useful to set the lanes in the Audio Part editor so that they are quite narrow and allow the editor to show more events. To adjust the height of the lanes, you use the vertical slider at the lower right of the Audio Part editor (Figure 8.58).

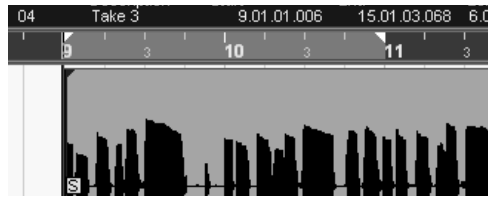


Figure 8.56 A two-bar loop, from measures 9 to 11, is set in the Audio Part editor.

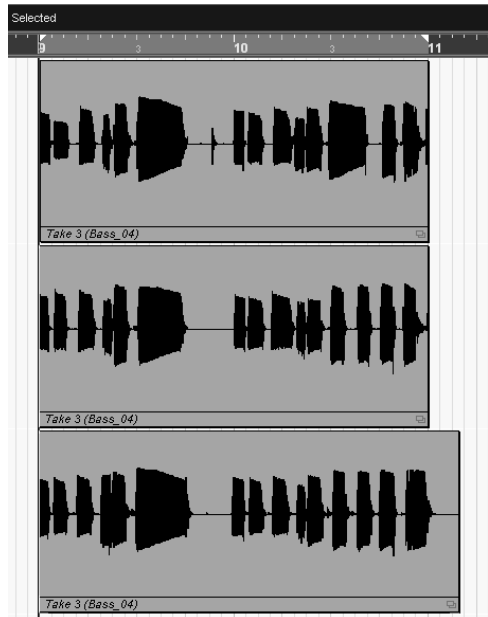


Figure 8.57 Each of these events has been created from a longer take by using the Split tool.

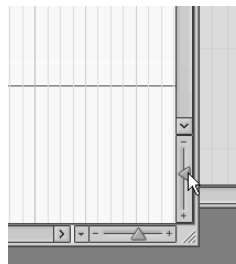


Figure 8.58 Use the vertical slider to adjust the lanes when you are managing a lot of events in the Audio Part editor.

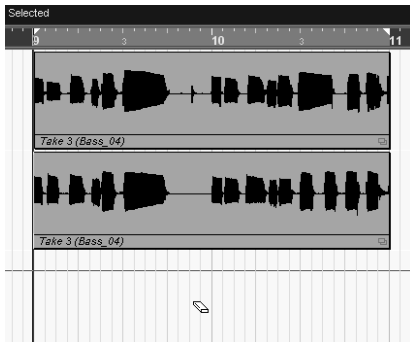


Figure 8.59 The Eraser tool just deleted the bottom event; the event newly on the bottom will now play.

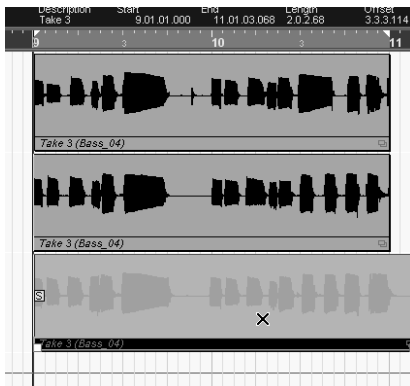


Figure 8.60 Muting an event has the same effect as deleting it, except that a muted event can be unmuted easily.

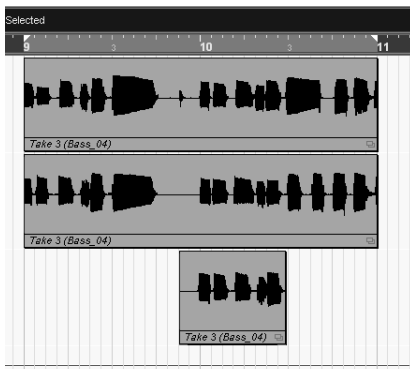


Figure 8.61 The resized event will not play until the cursor moves to the point where it is the bottom event in the editor.

Hearing the Events in a Comp

When you are creating a comp, you can hear each of the events in the Audio Part editor. The Audio Part editor plays back only one event at a time, and—if you have events stacked vertically—the event at the bottom of the Audio Part editor is the one that will play back. In Figure 8.57, for example, the bottommost part will play back throughout the loop. However, there are multiple ways to hear events that are not on the bottom:

- ◆ Use the Eraser tool to delete the event that's closest to the bottom (**Figure 8.59**).
- ◆ Apply the Mute tool to the bottom event to leave it in its current location and hear the event directly above it (**Figure 8.60**).
- ◆ Resize the bottom event so that a section of the event above it will be heard (**Figure 8.61**).

In Figures 8.59 through 8.61, at least a section of the middle event from the top will play instead of the bottom event. Of course, muting, deleting, or resizing any of the events can change which one gets priority in playback.

Finishing a Comp

In Cubase, probably the best way to create a comp is to start playing the loop and listen to each part play by alternately muting each of the other parts. The good parts will usually be pretty obvious, and the bad parts can be resized or muted out of the comp. **Figure 8.62** shows one possible comp that was created from the lines in Figures 8.59 through 8.61. The top event plays for the first measure, and then the bottom event plays part of a line, which is then finished by the middle event.

When the Audio Part editor is closed, the comped part looks like **Figure 8.63**. The thin lines displayed in the audio part show where the different events that make up the comp start and end.

✓ Tip

- Comping is another editing operation that is a blend of art, science, and craft. The Audio Part editor in Cubase is one of the better software comping tools currently available. Comping practice will pay off mightily over time.

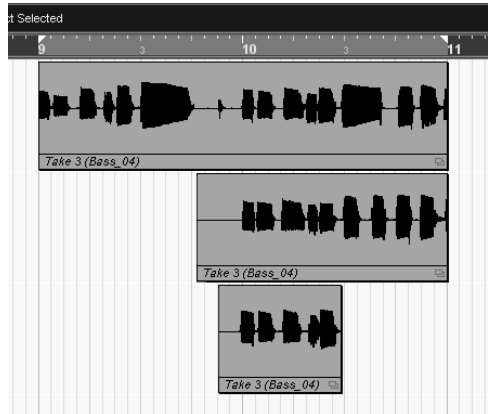


Figure 8.62 This is one of a nearly infinite number of possible comps.



Figure 8.63 In the Project window, the comp looks like this. It plays back just as shown in Figure 8.62.