



**sequencing instrument
owners manual**



Live Sequencing Instrument for Windows and Mac OS
Owner's Manual by Brian Tester, Gerhard Behles, Torsten Slama

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Product serial number:

Response key:

Please fill in the serial number and the response key in the fields above for later reference. You will need these keys in case you have to reinstall the program.



This version of the Live Owners Manual, containing only the introductory chapters, is electronically distributed with all demo versions of Live. The Live Package contains a printed and unabridged version of this Manual.

Welcome to Ableton Live

Welcome and thank you for purchasing Ableton Live!

Live is the result of musicians wanting a better way to perform live, improvisational music using a computer. A lot of effort has been put into making it intuitive and easy to use, yet still capable of helping you create music as complex as you want it to be. Live is meant to be an *instrument* – something that allows truly musical expression.

We hope you enjoy using Live in all of your music-making experiences. And we welcome your suggestions about how we can make Live better for you.

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Chapter One: Installing and Setting Up Live

1. Installing and Setting Up Live

Before you install Live, make sure your computer fulfills these minimum requirements:

Macintosh System Requirements

- G3 Macintosh or faster.
- 128 megabytes of RAM or more.
- CD-ROM drive.
- MacOS 8.6 or later.
- 256 color monitor or better, 800 x 600 pixels or larger.

PC System Requirements

- 300 MHz CPU or faster.
- 64 megabytes of RAM or more (128 MB recommended).
- CD-ROM drive.
- Windows 95, 98, NT 4.0 or 2000 or later.
- 256 color monitor or better, 800 x 600 pixels or larger.
- Windows-compatible sound card, preferably with a DirectX or ASIO driver.

To install the Live software, first insert the CD included within the Ableton Live package. Refer to the ReadMe file on the installation CD for specific instructions.

Copy Protection

Live uses what is called challenge-response copy protection. This ensures that each copy of Live runs on only one computer. When the Live software is installed it creates a challenge: a unique number that identifies the computer you are running Live on. When you first run Live, an Unlock dialog box will state the challenge. To unlock the software, you have to type a response to this challenge into

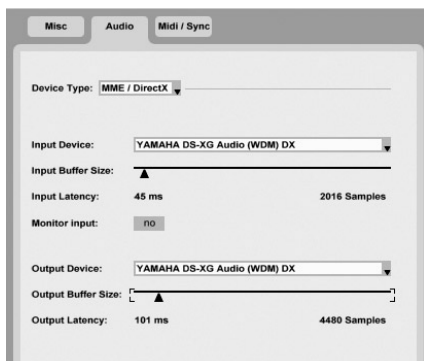
the response field that is also found on the Unlock dialog. To obtain the response from Ableton, you have to submit both the challenge and the product serial number, which is printed on a sticker that you will find in the Live package. This can be done using the Ableton website, or by sending an e-mail, or by phoning/faxing/mailing us. Please follow the instructions on the unlock dialog.

Live will run in “unlock period” for several days until the response can be provided. After this period, Live cannot be run without the response number.

When you receive the response number from Ableton, please write it down. In the manual’s first pages you will find a field for the response number. Under certain circumstances, for instance after a disk crash, Live will ask you for the response number again.

Setting up Live for Audio and MIDI

When you first install Live, the audio output setting will default to SoundManager if you are using a Macintosh, and MME/DirectX if you are using a Windows PC. This is a good thing because it ensures that Live will be making sound as soon as your computer is plugged into your listening equipment, but if you have a different sound card, you will have to set the Audio preferences.



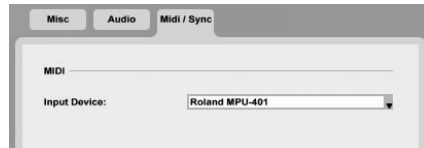
Audio Preferences tab. Open the Preferences dialog by selecting Preferences from the Options menu in Live.

Click the Audio tab. From the Device Type pop-up menu,

choose the type of driver you would like to use; then, choose among the available soundcards from the Output Device Pop-Up menu. To learn more about setting the Audio preferences, Chapter 5.

If you intend to use a MIDI keyboard or controller, you will need to set the MIDI/Sync preferences to tell Live which MIDI interface you are using. If you are using a Macintosh, you will also have to have OMS 2.3.8 installed and your MIDI device selected in your OMS Studio Setup.

The MIDI/Sync Preferences Tab.



Click on the MIDI/Sync tab in the Preferences dialog. Select your MIDI interface from the Input Device drop-down menu. To learn more about setting the MIDI/Sync preferences, see Chapter 5 of this manual.

Now you are ready to get sound out of and MIDI in to Live. ◁



Chapter Two: Getting Started

2. Getting Started

Live is the world's first audio sequencing instrument totally geared towards live performance. You can jam with your computer. Clips can be launched from the computer keyboard or via a MIDI note and can be processed with a practically unlimited chain of plug-in effects.

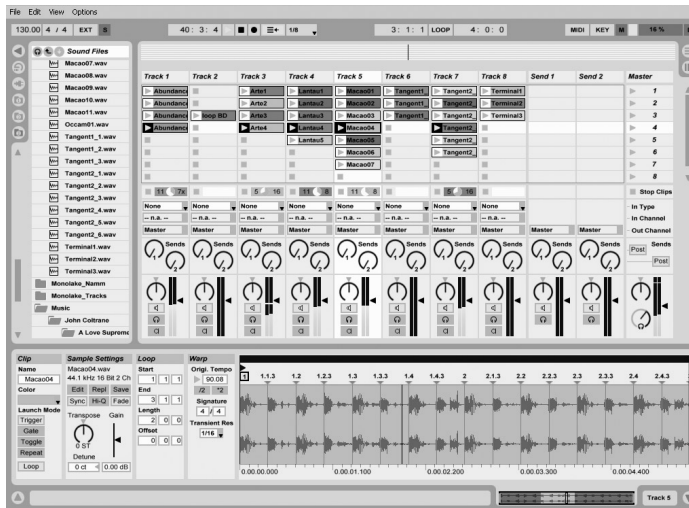
Live also happens to be a sophisticated recording and editing tool that allows you to capture your improvisations, view them as an arrangement, and to refine them to the smallest detail.

Live's time-warping engine automatically compresses or expands audio as it is being read from the hard drive. Loops, phrases, and entire works can play in sync with a master tempo or with external sync-sources. Because Live time-warps audio without changing the pitch, you can independently tune each audio clip, which allows you to use a selection of clips that differ not only in tempo but also in key.

For a performance, or Set, you can configure a pool of clips as you choose, with loops, one-shot sounds or entire pieces. Because Live reads audio directly from the hard drive, clips of any length can be used in a Live Set. By setting Warp Markers, you can ensure that even the sloppiest recording will play in sync.

Live comes with a selection of built-in, custom-designed effects. You also have access to any compatible VST plug-ins, giving you maximum flexibility when it comes to producing unheard-of sounds in your performance.

The Live Interface



The Live main window showing the Session View.

Live's interface is designed to be simple in appearance and intuitive in use. It is composed of a number of distinct areas, each of which can perform more than one function. The main Live window is composed of five areas:

The **Document Area**, the central area, shows the current Live Set. A Live Set is the performance document you create and edit with Live. A Set consists of the Session (Session View) and the Arrangement (Arrangement View).

- The **Session View** is accessed from the Session Chooser button.



The Session Chooser.

It contains a user-specified number of tracks. Each track functions not only as a pool of audio clips, but also like a standard mixer channel. Each track has full controls for volume, pan, effect send, and input/output routing.

- The **Arranger View** is accessed from the Arranger Chooser button.

The Arranger Chooser.



It allows you to edit the performance you record during a Live Set. The Arranger View gives you access to a host of non-linear editing tools. See Chapter 4 for a detailed description of all arrangement editing options.

The **Browser Area**, to the left of the Document area, is where you will find and organize the folders of clips and effects that will make up a Live Set. You can switch the browser view between the various browsers listed below:

- The **Live Effects browser** contains the built-in Live effects.

The Live Effects Chooser.



It is accessed by the Effects Button at the upper left of the Browser window.

- The **Plug-in Effect browser** contains the VST Plugins you can access from within Live.

The Plug-in Effect Chooser.



You open this browser by clicking the Plug-in Effects button at the upper left of the browser window.

- The last three file-shaped buttons in the browser view access the **Files 1**, **Files 2**, and **Files 3** browsers respectively. You can use these browsers to load and organize WAV and AIFF samples into a Live Set.

The **Detail Area**, at the bottom right portion of the screen, gives you additional information on aspects of the Live Set.

- The **Clip View** allows you to view the audio waveform of the clip in detail. You can also edit the pitch, loop length, loop offset, and you can change or refine the placement of the Warp Markers which match the tempo of each loop to the master clock. You can access the Clip View by clicking on the lower-right tab that displays the small image of a waveform, or simply by double-clicking a clip in the session or arranger view.



The Clip View Chooser.

- The **Track View** lets you view and manipulate the effects that are inserted on each track. You access this view by clicking on the Track View tab at the bottom right corner of the window. The tab always shows the name of the currently selected track.



The Track View Chooser.

The **Info Area**, a square window in the bottom left portion of the screen, gives you information about elements of the interface as your mouse rolls over it.

The **Control Bar** contains global controls for tempo and clock division, synchronization, tape deck-like transport, and system monitoring.

Since you will tend to focus on the Session View during a performance, we will talk mainly about this View in the quick start guide.

Playing a Live Set

Now that you have an idea of how Live's interface works you can start playing, editing, and processing a Live Set. The first step in creating a Live Set is to load the clips you intend to use into tracks in the Session View. You do this by using the Browser View to locate and load clips.

Tracks

When you first open Live, you will see that the Session View contains eleven tracks, which appear as vertical columns. The numbered tracks (Track 1, Track 2, etc.) are Clip Tracks, for storing and playing clips. The Clip Tracks are the only ones that generate audio.

Send Tracks receive signal from the Send controls on each Clip Track. They are used to process audio sent from the Clip and Send Tracks.

The Master Track is the default destination for all tracks. It controls Live's main output.

You can add additional tracks by selecting the Insert Tracks command from the Edit menu. Each track consists of the mixer portion and the clip column, which is divided horizontally into *scenes*. A track can have as many scenes as you want, each scene holding a clip, but only one clip can be triggered at a time for each track.

Essentially, scenes visually organize your clip pool and allow for multi-clip triggering options as well. By clicking each scene's play button in the Master Track, you can trigger every clip in that corresponding row (refer to Chapter 4 for more information on the Session View, Tracks, and Scenes).

The mixer component at the bottom of each track has familiar controls for volume, pan, and send level.



The Session View's mixer component.

Loading Clips

In the Browser Area, the Files 1, Files 2, and Files 3 buttons are used to open browsers to locate and organize audio clips. You can use the different Files browsers to set pathways to your audio material. In the top of the file browser area, you find three buttons:

- The leftmost button, shaped like a pair of headphones, is for pre-listening to clips. When this switch is turned on, clicking on a clip in the browser will play this clip. If your audio hardware allows for more than one stereo output, you can privately audition clips through headphones, without disturbing an ongoing performance. Please refer to Chapter 5 to learn about setting audio preferences.
- To make the browser go up one step in the directory hierarchy, click the middle button, which shows an arrow pointing up. Repeatedly clicking this button will bring the browser to the desktop.
- The right button, an arrow pointing down, makes the item that is currently selected in the view the new root of the browser, so you do not have to scroll through endless lists of unwanted subdirectories.

When you locate the file folder that contains the AIFF or WAV audio clips that you want to use, clicking on the folder opens it, displaying the contents as individually named clips in alphabetical order. You may want to make this folder a new root directory by clicking the set root directory button in the browser view.

To add a clip to the Session, just select a clip from the browser and drag it onto a scene slot in one of the tracks. Using the Edit menu's Insert Scene and Insert Track commands, you can add scenes and tracks to suit your needs.

Playing Clips

Each clip is identified by name once it is loaded into a Clip Track. You trigger a clip by clicking on its triangular play button, which changes to green to show that it is playing.

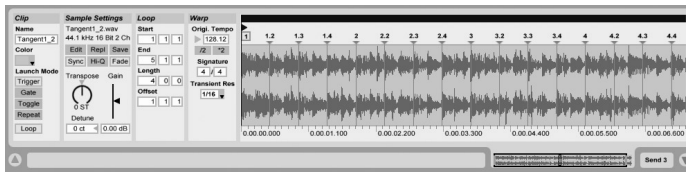
A running clip.



While the clip is playing, each track displays an animated pie chart that shows at which point the clip is playing as it loops. Turn the loop off by clicking the stop button on the track. Triggering a clip starts the clock running, but you can also click the Play and Stop buttons on the Control Bar transport area to start and stop Live.

By setting the global quantization rate, you can let Live automatically correct the timing of each clip trigger (i.e. 1/8, 1/16, 1/32, etc.). You can change the quantization level or turn it off altogether by using the Options menu or by the drop-down menu in the Control Bar. As you change the tempo at the Control Bar, clips will not only stretch and compress to match it, but trigger quantization will keep up as well.

Editing Clips

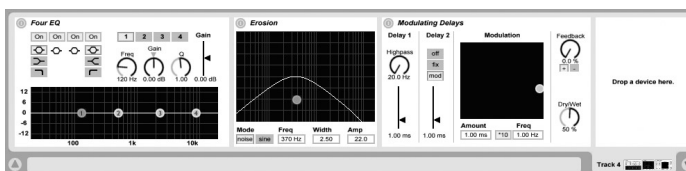


The Clip View.

You can edit a clip by selecting it and switching to the Clip View. In the Clip View you can transpose the clip by semitones and cents. You can also select clip color and set the Launch mode (see reference guide for more on Launch modes). By using the Loop start, end, length, and offset controls you can not only change the clip length, but also change where the clip starts and which section of the clip will loop.

You can also edit the position and number of Warp Markers, which allows Live to sync clips of different tempos to the master tempo. If you are using clips that have already been trimmed into perfect loops, you will not have to change the marker positions. See Chapter 4 for more on Warp Markers.

Using Effects to Process Clips



Live Effects in the Track View.

Clicking on the Live Effects button in the Browser View opens the list of Live Effects. Each track can have its own unrestrained chain of effects. You can edit a track's effects parameters by switching to the Track View. Effects can be dragged and dropped onto the Track View while audio is running with no drop-outs or pauses.

When a Live Effect is added, its panel opens in the Track View. As more effects are added you create a processing chain, with audio feeding left to right from one effect to the next. You can rearrange the order of a chain of effects simply by dragging and dropping them within the Track View. Clicking on an effect's title bar and pressing the delete or backspace key on your computer keyboard will remove that effect from the processing chain.

Feel free to experiment with the Live Effects to determine the subtleties (or not-so-subtleties) of each one's processing powers. You can read more about the individual Live Effects in Chapter 6.

You can use the Plug-in Effect browser to load any available VST plug-ins to the processing chain. The original VST plug-in panel graphics will be replaced with a Live panel; all parameters of the VST plug-in are represented in the Live panel and work in the same way. The Edit button in the upper left of the effect panel opens a floating window that shows the original VST plug-in panel. Changing parameters on the floater window has the same effect as changing them in the Live panel, and vice versa. You can access any presets the VST plug-in may have by using the drop-down menu to the right of the Edit button. You can assign any two plug-in parameters to the Live panel X-Y window by using the drop-down menus immediately beneath it.

Recording and Playing Back a Live Set

By now, you should be playing a Live Set: triggering and editing clips at will, using the different effects, and generally making some interesting noise. By using Live's session recording capability, you can also record your performance and play it back later, with all of your moves captured as part of the recording.

Start recording by clicking the Record button in the transport area of the Control Bar (the circular button). If Live

is stopped, clicking the Record button arms the recording capability so that recording begins when you start the Live master clock. You can also begin and end recording at any point while Live is playing.

When you have finished your recording session, pressing Play on the Control Bar will cause Live to play back everything that you just recorded, including any mixer, effect, or clip manipulation.



The Control Bar's Transport Section.

Switch to the Arrange window by clicking the Arranger Chooser just below the system monitors, or by selecting it from the View menu. You can now see a “classical” sequencer view of all the clips that make up your recording. Though the clips are in a linear arrangement in the arrange view, you can edit them in a nonlinear fashion by using the cut, copy, paste, and delete commands from the Edit menu. You can learn more about editing and the Arrange View in Chapter 4 of the manual. ◀

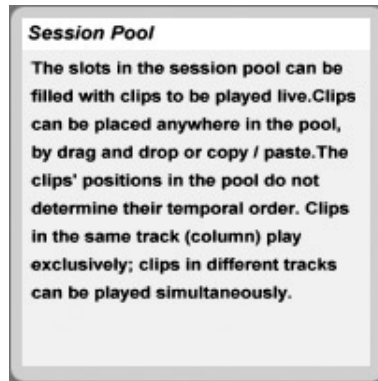


Chapter Three: Operating Live

3. Operating Live

In this Chapter you will learn about the common concepts and conventions you will use while running a Live Set. Basic commands like changing the values of controllers, selecting single or multiple items, and undo and redo will be covered in this Chapter.

The Info View



The Info View.

The Info View is an important and useful part of the Live interface. It makes sense to talk about it first because it can tell you many things about the interface while Live is running – without you having to open the manual (although we recommend that you do open it).

The Info View gives you information about whatever area of the interface the mouse is over. If you cannot remember the function of a particular button or view, the Info View can tell you what it is and what you can expect it to do.

Changing Views

Since Live is composed of a number of views, each giving you access to different sets of information, you may frequently need to switch between them in the course of a Live Set. There are three methods of doing this: Chooser

buttons on the screen; menu items, found on the main menu bar; hotkeys, or computer key commands.

Arranger and Session View Choosers



The Arranger and Session Choosers, found in the top right corner of the Live main screen.

One way you can switch between the Session and Arranger Views is by clicking one of the striped toggle buttons to the right of the Overview and the Master Track. The top-most, horizontally striped button opens the Arranger View. The vertically striped button below this opens the Session View.

Track View Chooser



The Track View Chooser tab, located in the bottom right corner of the Live main screen.

To open the Track View in order to edit the effects on a track, you can click on the Track View Chooser tab. Each track's Chooser tab is labeled to show at a glance which track is selected. The tab also shows a small graphic representation of the effects currently loaded in the track.

When several effects are present on a track, the Chooser tab expands horizontally to show them. You will also see a block rectangular outline that acts as a scroll bar. By grabbing it and dragging, you can scroll to see the entire chain of effects.

The Track View Chooser serves as a scroll bar when a track's effects do not fit on the screen.



Clip View Chooser

The Clip View Chooser tab, located immediately to the left of the Track View tab.



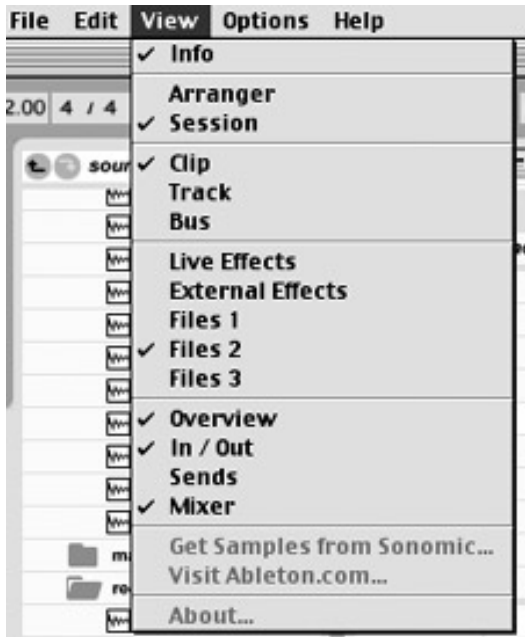
To quickly toggle to the Clip View, you can click the Clip View Chooser tab. The tab shows a picture of the sample being played by the currently selected clip. The picture shows not only the sample, but also which part of the sample loops. Below, you can see that only the first half of the clip is selected to loop.

The Clip View tab showing the looping portion of the clip.



The rectangular outline represents the part of the sample that is visible in the Clip View. As in the Track View tab, the rectangle acts as a scroller. By dragging the left and right end of the scroller, you can adjust the visible range, and also change the zoom level. Dragging the small gray box in the center of the rectangle, you can zoom in and out of the waveform View. Click and drag up to zoom out; click and drag down to zoom in. Please notice you can also zoom and scroll by clicking and dragging in the large Sample display. See Chapter 4 for more information about navigating in a sample.

Using the View Menu



The View Menu, accessed from the main menu bar.

Besides using the View Choosers to switch between the Views, you can also make selections from the View Menu. You will find this menu on Live's main menu bar. From this menu you can open and close Views and expand and collapse segments of Views. For example, you can expand the In/Out display of the Mixer and collapse the Sends display.

Hotkeys

Hotkeys, or commands accessed by pressing combinations of keys on the computer keyboard, are perhaps the quickest way to access many features in Live. Efficient use of hotkeys can allow you to operate Live with minimal use of the mouse, which is extremely helpful in a live performance situation.

Please see the electronic documentation for a complete list of the hotkeys available in Live.

Selecting Items

Any control on the interface can be selected by simply clicking on it. You can also navigate around the interface screen by using combinations of your computer's arrow keys and certain modifier keys. Please see the electronic documentation for details.

Holding down the Shift key while clicking the arrow keys allows you to outline a selection box around multiple Clip Slots in the Session View. Use this to conveniently select several clips at once without using the mouse.

In the Arranger View you can select multiple clips by clicking and dragging a box around items with the mouse, using what is often called a "rubber band" selection. While holding down the mouse, you can drag a flexible outline around any number of objects, like clips and/or time, to select them all. In the Session View, click in an empty slot next to the area you wish to grab to start your rubber band selection.

Changing Values

To change the value of a control, you can simply click on it, and while holding the mouse button, drag *up* to increase the value, and *down* to decrease it. All of Live's controls operate in a *vertical* direction.

You can also click on a control and use the up and down arrow keys on your computer keyboard to incrementally change values.

Clicking once at any position on a slider or effect x-y control will instantly set it to that point, thereby changing the value. This can be especially useful when you need to quickly set a value near the top or bottom of its range, such as turning a mixer channel all the way up or down. You should also note that any circular controls that show a small, upside down triangle at the top center of their range

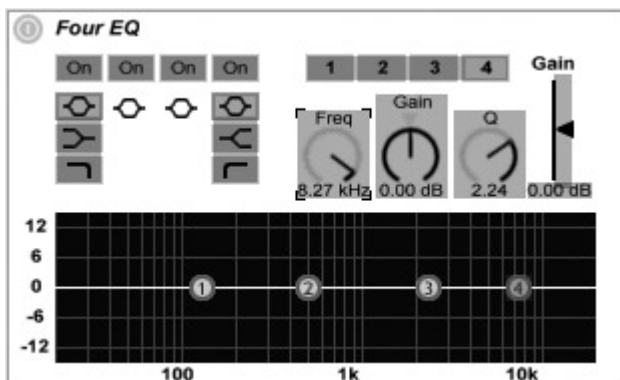
allow you to quickly set them to their zero point by clicking on the triangle. This works with pan controls (setting the pan to the center position) and some gain controls, among others. Pressing the Delete/Backspace key while the control is selected achieves the same result.

Assigning MIDI and Key Controllers

Since Live is meant to be played as an instrument, you will probably want to use external devices to control its many capabilities. You can very easily assign computer keys or MIDI controls to any of Live's parameters.

MIDI Map Mode

Live allows you to assign arbitrary MIDI notes to Session View slots and scenes, and arbitrary MIDI controllers to mixer and effect controls. Click the MIDI button on the control bar or select Edit MIDI Map from the Options menu to view and edit the assignments. Any item on the interface that can be controlled by MIDI will be colored in, and Live will display the MIDI channel and the note/controller number that has been assigned to each item. Select an item and play the MIDI key or move the MIDI controller that you want to use and it will automatically be assigned. Pressing the Delete/Backspace key will discard the assignment for the selected item.



A Live effect in MIDI Map mode. Selecting any control and sending a MIDI controller message will make an assignment.

Key Map Mode

If you want to assign Session View slots or scenes or mixer/effect switches to keys on the computer keyboard, click the Key button on the Control Bar or select Edit Key Map from the Options menu. Again, Live's interface will show all available items for key mapping colored in. Click on the item you wish to assign and press the corresponding key on your computer keyboard.

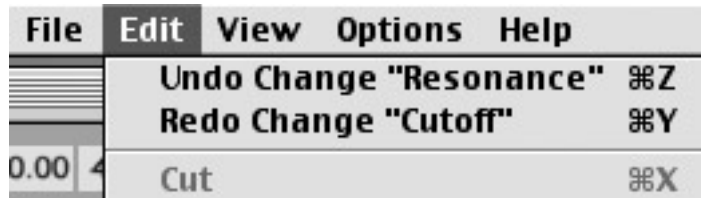
Session View slots in Key Map Mode. Selecting a slot and pressing a key on the computer keyboard will assign that key to the slot.



Any MIDI or Key assignments can be changed by selecting the assignment and either pressing the Delete/Backspace key on your computer keyboard or by simply assigning a new controller or key.

Using Undo/Redo

The Edit Menu's Undo and Redo commands.



Any action performed in Live can be *undone*. Live allows you to delete actions one-at-a-time from an unlimited history of edits, recordings, automations, etc., by simply selecting Undo from the Edit menu or by using the Undo hotkey (Command/Control Z).

If you decide that you liked the action you performed after all, selecting the Redo command will reinstate the last undone change. This is your Undo safety net, so to speak. The Redo command is located below Undo in the Edit menu or you can access it with the Redo Hotkey (Command/Control Y).

Note that every single action you perform on a Live Set is stored in the Undo history. The only distinction in using the Undo command is when you undo a recording. Even though you may have performed a number of parameter changes during a recording, the entire recording is treated by Live as one Undo step, and will therefore be deleted.

Recording Audio with Live

Audio recording with Live opens a whole new set of possibilities for composition and performance. You can not only use Live like any familiar hard disk recording software but you can also make your recordings immediately available for looping or triggering in a performance situation. It is a rather simple process to set Live up to monitor input signals, set a track and slot to record on, and to start and stop recording.

Selecting a Track for recording

Each track's Monitor switch can be used to hear signal being input to Live. If you have chosen an input from the Input/Output menu for the track you wish to record on, pressing the track's Monitor switch will let you hear any audio present on that input channel. The input signal will be routed through any effects present on the track.

If you want to record Live's own output, choose Master Out as the Input Type. In this case, monitoring would lead to feedback and will therefore be disabled. Monitoring is also disabled if you have chosen "Live In" as the input type and turned the "Monitor Input through Live" option off in the Preferences Audio tab.

Activating the Monitor switch on any track will arm that channel for recording. A Record button will appear in each empty slot in the armed track.

Starting recording

When a track's Record mode is engaged, you can begin recording in any empty slot by:

- Clicking the slot's Record button.
- Pressing the return key while the slot is selected.
- Pressing the MIDI key or computer key that is assigned to the slot.

Performing one of these actions causes the slot's Record button to flash red until the quantization delay has expired, at which point a new, empty clip will appear in the slot.

The new clip's play button lights red to indicate that recording is taking place. During recording, a bar and beat count in the track's status field displays the current length of the new clip. Any other active tracks will continue to play during the recording process. You can start and stop the recording process independently of your other operations in Live, allowing you to record new clips and immediately use them in your session.

Ending recording

Recording is stopped when:

- You trigger an empty slot in the record track
- You turn the track's monitor switch off
- You click the track's stop button
- Global playback is stopped (by pressing the space bar or clicking the stop button on the Control Bar)

- You click the Back-to-Arrangement button in the Control Bar
- The new clip starts playback

The new clip can be triggered for playback at any time during recording. The new sample will start looping when launched. When quantization is activated, incoming audio can be captured and immediately worked into a performance.

If recording of a new clip is ended by playback (of itself or another clip), the new clip will default to loop mode. If playback is ended in any other way, playback mode will set to one-shot mode. The playback setting can be changed for each new clip at any time – you can find the settings for this in the Clip View (see Chapter four).

Ending the recording process by starting a clip in the record track (including the newly recorded clip), or by clicking the Back-to-Arrangement button, will reset the Monitor switch to its off position. If recording is stopped by any other means the Monitor switch will remain on.

Handling recorded samples

Live creates 16-bit WAV (PC) and AIFF (Macintosh) samples. The sampling rate for recorded samples is the same as the audio output sampling rate that you set in the Audio Preferences tab.

You can specify the Audio Recording directory for all recorded samples in the Preferences dialog's Misc tab. Make sure that you select a directory on a hard drive with plenty of space.

To save time and make the recording process more fluid, Live automatically creates file names for all of your new recordings. A typical file name created by Live might read something like this: "Sundaysession Guitar Upbeat 12".

Each new file name is a compound name. In the case of “Sundaysession Guitar Upbeat 12”, *Sundaysession* is the name of the current Live Set, *Guitar* is the name of the track on which the file was recorded, *Upbeat* is the name of the scene into which the file was recorded, and *12* is a number appended to differentiate this sample from those recorded before it in the same Set, Track, and Scene.

It is a good idea to name your set, tracks and scenes so that new sample names make sense when you attempt to identify them later. You can rename or move samples at any time by accessing them from Windows Explorer (PC)/Finder (Macintosh). You can even do this while Live is up by minimizing Live and switching to the Audio Recording Directory. Upon returning to Live, a dialog will ask you to locate the files you’ve moved and/or renamed.

You can use the “Save as Self-Contained” command to copy all files referred to by a Live Set into one central location. This should be done when you have been recording, renaming, and moving a files. It is a good idea to think of the Audio Recording Directory as a temporary storage place for all of the new files captured into a Live Set. You can then move all pertinent files to their own directory associated with your set.

The “Monitor Input Through Live” switch

In order to set up Live to match your recording needs, you will have to access the “Monitor Input through Live” switch, located in the Preferences dialog Misc tab.

Set the “Monitor Input through Live” switch to the on position if you connect your audio sources directly to the audio interface you have selected to use with Live. This allows you to listen to audio coming into Live’s inputs. If you want to hear the output of your turntable or CD deck through Live, for example, set this switch on.

Set the “Monitor Input through Live” switch to the off position if you monitor your audio sources through an out-board mixing console, or if you have no need to monitor audio input. If you are singing, playing an instrument, or working with other musicians in a stage or studio environment, for example, set the switch off.

It is important to keep the factor of sound card latency in mind when monitoring signals through Live. Sound card hardware latencies can often cause delays significant enough to make overdubbing live parts on top of pre-recorded parts extremely difficult, if not impossible. However, using a sound card with ASIO drivers may allow you to reduce latency to acceptable amounts.

You can adjust the amount of latency generated within Live from the Preferences Audio tab. Your hardware and its drivers usually limit the minimum achievable latency, in milliseconds. It is a good idea to set Live’s latency preferences to their minimum level (before glitching and break-up), even if you are not planning on monitoring signals through Live’s inputs. The software will respond more quickly to your actions when latencies are at their minimum.

Recording Sessions

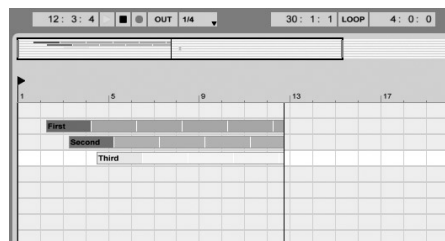
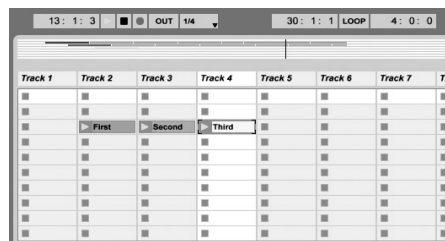
You can regard a live musical performance in two ways: one is the immediate, “on-the-spot” aspect; the other is the performance across time, as captured on tape. As you already know, Live allows you to play clips from the Session View and tweak mixer and effects parameters as part of a truly Live performance. You can also use Live’s Arrangement capabilities to turn your performances into complete compositions. An understanding of a few basic concepts will help you join Live’s two aspects into one inclusive studio tool.

Recording Clips into the Arrangement

When running, Live always plays along a time line. You can read (and change) the current position on the time line by using the Control Bar's Arrangement Position Fields. Live can record any actions that occur on this time line and play them back later. To do this, Live maintains a virtual multi-track tape called the Arrangement. The Arranger View allows you to view and graphically edit the arrangement of clips along the time line, just like many other hard drive-based audio sequencers.

Recording into the arrangement is as simple as recording audio on a tape deck: just click on the Record button in the Control Bar's transport area. As long as record mode is activated, all your actions are captured.

Try playing a couple of clips from the Session View with the Record button activated, and then flip to the Arranger View. You will see that new clips have appeared in the Arranger and, if record mode is still active, they grow as time passes. The new clips have the same names and colors as the clips you triggered from the Session View.

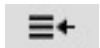


*Recording Clips from
the Session View into the
Arrangement*

Stop the recording by clicking the Record button on the Control Bar once more. You can now listen to what you have just recorded by clicking Stop and then Play. While playing back the newly recorded clips, flip back to the Session View. You will notice that the original Session Clips are not running. You can even delete them without affecting what you have just recorded.

In fact, the clips in the Session View are completely independent from the clips in the Arranger. The clips that appear in the Arranger as the result of a recording are copies of the original Session Clips. Therefore, the Session and the Arrangement can be developed independently.

Returning to the Arrangement



The Return-To-Arrangement button, found in the Control Bar.

Because each track can only play one clip at a time (each track is essentially monophonic), playback from an Arrangement Track is temporarily suspended in favor of any clips triggered from the Session View. When a clip from the Session View is triggered, the Return-to-Arrangement button on the Control Bar will light up. This is to remind you that what you hear is not what is “on tape”.

You may want to activate the Record button to capture the current state, thereby overwriting the last recorded Arrangement. Of course, you can undo the recording afterwards by calling Undo from the Edit menu. By clicking the Return-to-Arrangement button, you can return to Arrangement playback at any time. Live will not play any clips from the Arrangement until you click the Return-To-Arrangement button. You do not have to worry about the clips from the Session View occasionally being interrupted by clips from the Arrangement.

Copying from the Arrangement into the Session View

The path between the Session and Arrangement is a two-way street. Let us say you have a piece in the Arranger that you would like to use as a starting point for a new live session. You can simply copy the clips from the Arrangement to the Session View, by selecting them (the Select All command will select an entire arrangement), grabbing the clips, and dragging them to the Session View chooser button. The Session View will open and you can drop the copied clips anywhere into the Clip Pool. You can also cut and paste clips independently.

Live attempts to preserve the structure of the Arrangement Clips when copied into the Session View by representing changes with new scenes. Moving through the scenes from top down, you can reconstruct the original arrangement.

Automating Controls

With Live's Record mode activated you can record not only your clip playing, but also all of your parameter changes. Activate Record by clicking the round Record button in the transport area of the Control Bar. Clicking this button "arms" the Record mode – when you grab a control on the Live interface and begin moving it, this movement becomes automation data which is stored in the Arrangement. When recording is stopped, a red-cornered outline appears around the automated control to show at a glance that automation is present.

You can view and edit the automation in the Arranger View. Please see Chapter 4 for details.

If you change an automated control when recording is disabled, the red outline disappears and the Return-to-Arrangement button on the Control Bar will light. This indicates that the automation has been temporarily deacti-

vated for this control. Clicking the Return-to-Arrangement button will return the control to its recorded state. The control will jump back to whatever value its automation dictates for that point in the Arrangement.

Use the Delete Automation command from the Edit menu to get rid of unwanted automation on any selected control. The envelope for this control will be displayed as a flat line. ◀

