



What is Audio Looping?

Audio looping is the process of recording an audio passage and then automatically playing it back in a repeating loop. You can then add audio layers to the original loop to create complex musical compositions. Looping can also be used to create a one-man band. For example, a guitarist can record a rhythm pattern and then play a solo or other patterns by adding layers on top. RiffBox™ uses a patented technique to record loops that are timed to your notes or chords, making it easy to create flawless loops.

Getting Started

You can use the built-in microphone or use an external microphone or instrument through the headset input jack. If connected to an instrument, make sure the signal is not too strong, which is indicated by a red meter bar display at the top of the screen.

Set both 4-way push buttons to the left-most setting ('Events' and 'Full'). Now, adjust the event threshold slider so that you get a consistent counting of the musical notes you are playing. Next, set the Events per Loop to a value that you like. This will start loop playback after you play or sing that many notes.

Now you are ready to record. Press the 'Arm' button. The very next note you produce will start the loop recording. Once you have played the additional number of notes as specified above, loop playback will begin automatically. To stop loop playback, press the 'Stop Playback' button.

Another method is to use the click track. Set both 4-way push buttons to the left-most setting ('Events' and 'Full'). Now, lower the Events per Loop value until it reads 'CT'. Click the arm button twice to set the tempo and a new main loop click track will be created and will start playing. Next, go to the Mix Layers page and record whatever you like on top of the click track. Later, you can mute the main loop click track during playback.

OK, that was a simple overview. Many more advanced features are described below.

The Audio Meter

You can use the audio meter at the top of the main loop page to see the strength of your input signal. When the signal is too strong, the meter turns red. A display below the meter shows the number of events played or the note pitch played depending on your settings.

The Audio Flow Through Switch

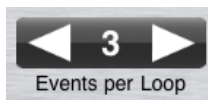
If an instrument, microphone or headset is plugged into RiffBox, the input signal will flow through directly to the output, where it will be mixed with the loop

playback signal. In some cases, you may want to listen to loops without this enabled. In that case, you can turn off the Audio Flowthrough switch that is shown below.



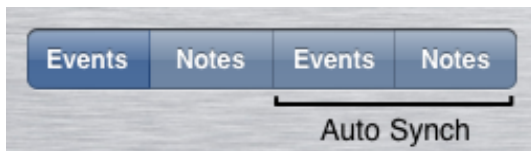
Setting the Event Count

The button at the top right of the main screen can be used to set the event count and is shown below. This count is used to determine the loop length as described in the next section. Press the arrows to increase or decrease the setting. You can also swipe your finger left or right across the button to increase or decrease values more quickly. Depending on the setting described in the next section, this button will also control the “Min Notes per Loop” or the “Min Events per Loop”.



The Events/Notes Push Buttons

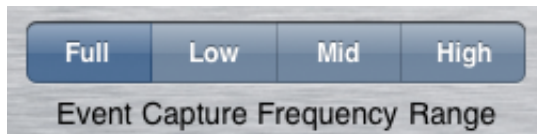
There are four ways to record what you are playing using the buttons shown in the figure below.



- *Events*: The recording will stop and playback will begin when the number of notes (after the first note) in the “Events per Loop” setting are played.
- *Notes*: RiffBox remembers the pitch of the first note that you play. Later, when you play that same note again, loop playback will start. RiffBox will not look for the second note until the number of notes in the “Min Notes per Loop” setting are played. This mode does not work with chords, only single notes.
- *Auto Sync Events*: RiffBox looks for a repeated rhythm sequence, which it uses to identify the loop. The sequence must contain the number of notes or chords in the “Min Events per Loop” setting. You must play the sequence at least twice before RiffBox can recognize it. Depending on your playing, it may take several times to recognize your rhythm pattern.
- *Auto Sync Notes*: RiffBox looks for a repeated note (pitch) sequence, which it uses to identify the loop. The sequence must contain the number of notes in the “Min Notes per Loop” setting. You must play the sequence at least twice before RiffBox can recognize it. Depending on your playing, it may take several times to recognize your note pattern. This mode does not work with chords, only single notes.

Event Capture Frequency Range Push Buttons

These push buttons set the input frequency range that RiffBox listens to as described below:



- *Full*: RiffBox listens to the full-frequency range.
- *Low*: RiffBox only listens to the low-frequency range. Use this setting if you want to create loops based on a low-frequency beat such as a bass drum or bass guitar.
- *Mid*: RiffBox only listens to the middle-frequency range. This can be useful for recording instruments like acoustic guitar as it filters out both low-frequency body noise and also high-frequency string noise. This is also a good setting for vocals.
- *High*: RiffBox only listens to the high-frequency range. Use this setting if you want to create loops based on a high-frequency beat such as a snare drum or hi-hat.

Keep in mind that these settings do not affect the frequencies that RiffBox records.

Event Threshold Slider

Use this slider to adjust for different input signal levels. Use lower settings for soft notes or chords and higher settings for loud notes or chords. You can test the setting by looking at how fast the numbers change below the audio meter as you play.

Arm Button

Press the Arm button to start the loop recording process. The button will turn yellow while waiting for your first note or chord. It will then turn green to indicate that RiffBox is recording, and it will turn red when loop playback has started. Press this button a second time to stop loop recording or playback.

Pause and Play Buttons



This button switches between pause and play and can be used to pause or resume playback of the recorded loop.

Manual Looping

In some cases, instead of automatically creating loops, you may want to time the end of the loop to when you press a button. When the 4-way push button is in the left-most 'Events' position, you can control the recorded loop length by lowering "Events per Loop" setting down to the 'Man' value. In this mode, after loop

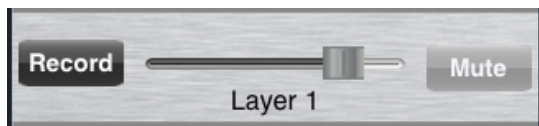
recording has started, you can press the 'Next Event' button at any time to begin loop playback on the very next note played.

Creating a Click Track

Instead of recording a main loop, you can create a click track from 2 to 32 events long, which you can then record layers on top of. When the 4-way push button is in the left-most 'Events' position, you can create the click track by lowering "Events per Loop" setting down to the 'CT' value. This will bring up a 'Clicks per Loop' control that you can set from 2 to 32. You now set the timing between events by tapping the 'Arm' button twice. After the main loop is generated, it will automatically start playing as a click track. Later, you can use the mix down feature (see below) to remove the click track from your recording.

Mix Layers Screen

On this screen, you can add up to 4 additional layers to the main loop. To do this, press one of the record buttons next to the volume slider as shown below.



Recording will start at the beginning of the main loop, and recording will continue until the end of the main loop. If you don't like a layer recording, press delete and start over. Each layer along with the main loop contains a volume slider and a mute button. When using the built-in microphone, loop playback will mute during recording to avoid audio feedback.

Changing the Loop Length on the Fly

Since RiffBox remembers each event in the main loop, you can shorten or lengthen the loop playback timed to these events. At the top of the main screen, you will see a loop progress bar along with the event positions. During loop playback, there will be two sets of plus/minus buttons. The left one changes the first event of the loop and right one changes the last event of the loop. Keep in mind that the loop cannot be set shorter than two events in length. You can slide your finger across this button to quickly change the loop length.

After you change the loop length you can set the main loop to equal this new reduced loop by pressing the button shown below.

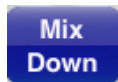


This button will only work if the main loop is the only layer currently playing. This cannot be undone, so you may want to save a copy of the original loop first.

You can use this feature to adjust loop timing. For example, set the event count higher than needed for recording. Once the loop is recorded, adjust it back down to the correct length before adding new layers.

Mix Down Layers

You can combine multiple layers into a single main loop using the Mix Down button shown below.



Layers 1-4 that are muted will not be combined into the base layer, and will continue to play separately. If the base layer is muted, it will not be part of the final mix. For example, you can create a click track, record new layers on top, then mute the base (click track) layer and mix down. Now your new recording will become the base layer minus the click track. The mix down cannot be undone, so you may want to save a copy of the original loop first.

Saving, Loading, Deleting Loops

The Audio Files screen allows you to maintain a loop library. To perform any of these actions, you must enter a file name by typing or clicking on an existing file name. All layers are saved as separate .WAV files. All current control settings are also saved along with the .WAV files in a .DAT file.

Loading Loops From the Web

Backline Engineering maintains a web site with a large number of drum loops and other loops that you can use as a starting point for your own creations. Press the Web button to access this web site. Select a loop for download by pressing the “Download” link next to the name of the file. You can stop this process at any time by pressing the Stop button. After the loop has been downloaded, it will show up in your loop library.

E-Mailing Files

You can e-mail loop files by pressing the E-Mail button in the Audio File page. You have a choice of sending the base layer .WAV file only, or all the layer .WAV files along with the setting (.DAT) file.

MIDI Mobilizer Support

If you purchase the MIDI Mobilizer adapter from Line 6, you can use MIDI outputs from various multi-effects units, MIDI controllers or other gear to control the operation of RiffBox.

To start, go to the settings app on your Apple product and press the RiffBox button. First, set the MIDI channel to match the MIDI channel of the device sending data to RiffBox (typically this is set to MIDI channel 1). If you want to control the recording process with MIDI Program Change (PC) messages, turn this switch on.

MIDI PC messages are usually output from an effects unit (like the POD series from Line 6) when the user presses a footswitch to change to a new preset. RiffBox has two modes of operation. With the “Use two PCs” switch set to off, any change in presets will control the arm/stop button on RiffBox (remember to

match the MIDI channel). In some cases, you may wish to change presets on your effects unit before arming RiffBox for recording or after loop playback has begun. In that case, set the “Use two PCs” button to the on position. In this mode, you must press the same preset twice to control the arm/stop button on RiffBox. In both modes, if recording has started but playback has not begun, a single preset change will abort recording.

You can also control recording and playback parameters in RiffBox using MIDI Continuous Controller (CC) messages. There are many MIDI controllers on the market that can be used for this including a variety of pedals. The following MIDI CC messages can be used to set up the loop recording process:

MIDI CC #16 value=0-127 Sets the events/loop
MIDI CC #17 value=0-3 Sets the events/notes mode
MIDI CC #18 value=0-3 Sets the frequency mode
MIDI CC #19 value=0-127 Sets the event thresh
MIDI CC #20 value=1 Controls arm/stop button

The following MIDI CC messages can be used to control the loop playback process:

MIDI CC #21 value=1 Record/delete layer 1
MIDI CC #22 value=1 Record/delete layer 2
MIDI CC #23 value=1 Record/delete layer 3
MIDI CC #24 value=1 Record/delete layer 4
MIDI CC #25 value=0-127 Sets main loop volume
MIDI CC #26 value=0-127 Sets layer 1 volume
MIDI CC #27 value=0-127 Sets layer 2 volume
MIDI CC #28 value=0-127 Sets layer 3 volume
MIDI CC #29 value=0-127 Sets layer 4 volume
MIDI CC #30 value=0-127 Sets high event value
MIDI CC #31 value=0-127 Sets low event value
MIDI CC #32 value=1 Mix down button control
MIDI CC #33 value=1 Reduce loop length button

Instead of the internal click track, you can also create a percussion click track using an external device that supports General MIDI key-based percussion (on MIDI channel 10). To do this, select a percussion instrument for RiffBox in the settings app (select ‘Off’ if you don’t want any MIDI output). Now, when a loop is playing, a MIDI percussion note will be output for each timing event in the current loop.

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