

G-Stomper Studio

G-Stomper Rhythm

G-Stomper VA-Beast

G-Stomper Producer

User Manual

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14 Live Recording

Live Recording basically means to tap your sequences in while the sequencer is running, or in other words, to record sequences into G-Stomper.

Note:

To capture/record the G-Stomper Audio Output in real-time, please see Chapter: Audio Export & Bouncing > Audio Session Recorder / Real-Time Audio Export

Note:

To capture/record new Samples from Microphone, please see Chapter: Audio Editor > Record Samples from Microphone

14.1 Live Recording and Latency

Latency is the time from the moment you press a button or a piano key until you hear the sound from the speakers.

The latency is a combination of two main factors:

- Control Input Latency (e.g. display reaction time)
- Audio Output Latency

14.1.1 Control Input Latency (e.g. display reaction time)

The Control Input latency is the time from the moment you touch the screen (or an external MIDI Keyboard) until the audio system gets notified by the Android OS to do something. It is influenced by various factors, which strongly depend on your device and Android version. It can vary from a few milliseconds up to 300ms or even more.

Since the Input Latency is not known by a particular application, there's no way for G-Stomper to automatically compensate it.

In most cases, especially on newer devices, you don't have to care about the Input Latency, since Touch Screens got much faster over the last few years.

But on older devices the Input Latency may be an issue. If this is the case, your recorded events are always placed a bit too late in the sequence (e.g. 1 Step delayed).

To get rid of this delay, G-Stomper provides a Latency Compensation setting in the Setup Dialog. (see Chapter: Latency Compensation)

14.1.2 Audio Output Latency

The Audio Output Latency is the time from the moment when an application starts to play a sound until you hear it from the speakers. The Audio Output Latency is hardware, operating system and app dependent. A good part of it can be optimized from inside the app (as long as the hardware and operating system allows it). The Audio Output Latency can vary from ~35ms up to over 250ms.

G-Stomper automatically compensates the known part of the Audio Output Latency during the live recording process. But since only one part of the Audio Output Latency is known by the application, it is not always possible to compensate the complete Latency. If this is the case, your recorded events might always be placed a bit too late in the sequence (e.g. 1 Step delayed).

To get rid of this delay, G-Stomper provides a Latency Compensation setting in the Setup Dialog. (see Chapter: Latency Compensation)

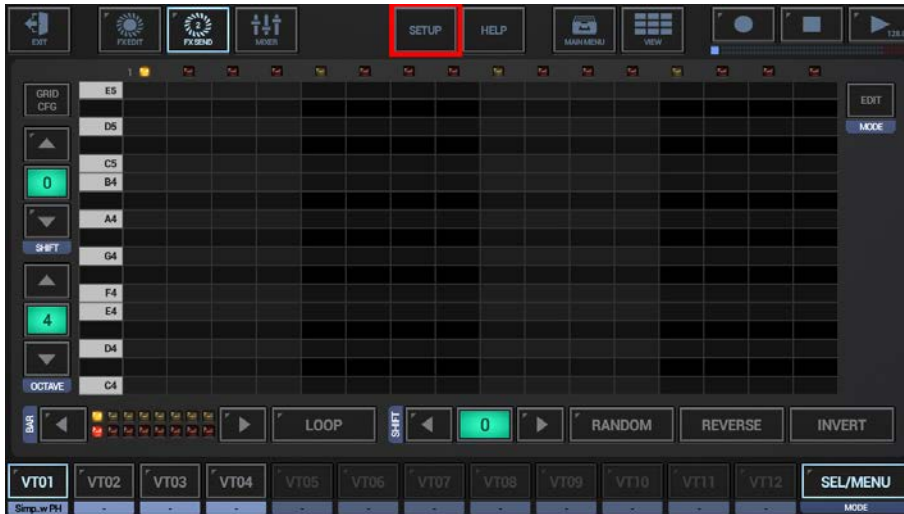
You can check your actual known Audio Latency (Internal Latency) in the audio section of the Setup Dialog.

Depending on the used App, the Setup Menu location and its content might be different.

G-Stomper Studio, G-Stomper Rhythm:



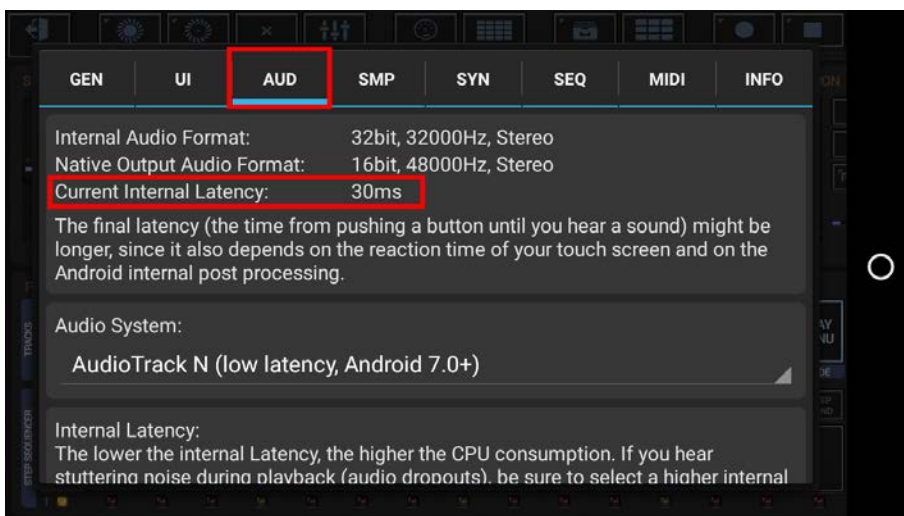
G-Stomper VA-Beast (standalone):



G-Stomper Producer:



The known Audio Latency (Internal Latency) is shown in the “Aud” tab.



14.1.3 Latency Compensation

Latency Compensation means in general, that if the known Audio Latency is 200ms, then the recorded Triggers or Notes get still placed at the right location. G-Stomper automatically transforms all tapped events to the latency aware timing.

Depending on your device, there is a more or less significant “unknown” Latency part. On some devices this is not even noticeable, but on others it can be up to twice as much as the known Latency part.

Note: To reduce the Latency to a minimum, use one of the supported Low Latency Audio Systems. (see Chapter: Low Latency Support (OpenGL, AudioTrack N, and AAudio))

A too big unknown Latency part results in the situation, that your recorded events are always placed a bit too late in the sequence (e.g. 1 Step delayed).

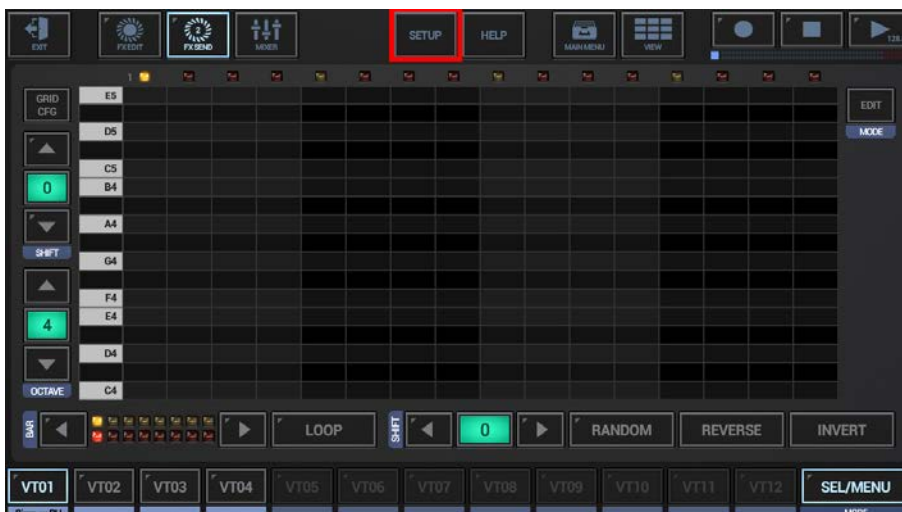
To get rid of this delay, G-Stomper provides a Latency Compensation setting in the Setup Dialog.

Depending on the used App, the Setup Menu location and its content might be different.

G-Stomper Studio, G-Stomper Rhythm:

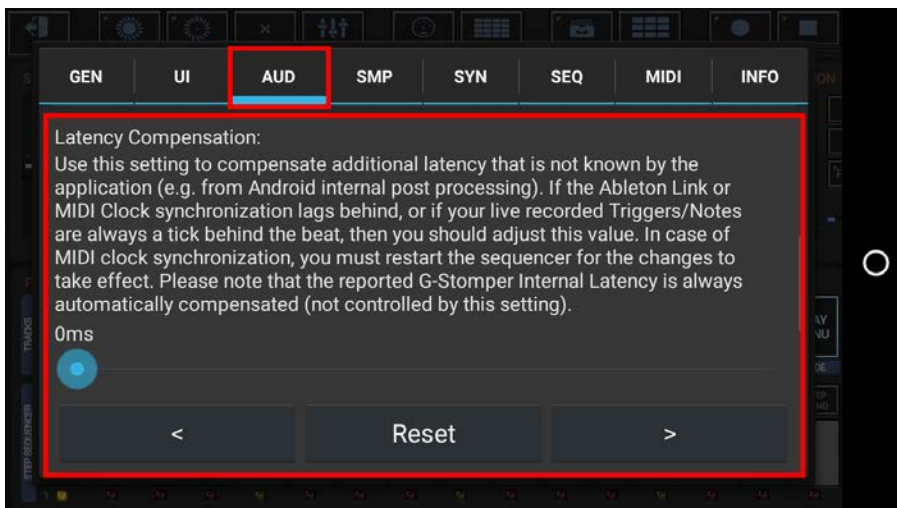


G-Stomper VA-Beast (standalone):



G-Stomper Producer:

The Latency Compensation is located in the “Aud” tab.

**Note:**

By default, this value is set to zero. Do not change it, if you don't have problems with the event placement while live recording. Only if the recorded Triggers/Notes are always behind the beat, then you should adjust this value. A good start is to set the value to the middle, then live record again, check the recorded Triggers/Notes, then adjust the value again, ... until you find the optimal setting for your device.

14.1.4 Audio Latency may cause Silent Recording

Silent Recording is automatically activated if your audio Latency is higher than 60ms. (to check your Audio Latency, see Chapter: Audio Latency)

Silent Recording means that you won't hear the played sounds when you tap sequences in while recording is enabled.

Let me give you an example to make this clearer:

If your device has an Audio Latency of 100ms (not regarding the Display Latency in this context), and you'd live record the sounds in real time, then you would hear the sounds 100ms delayed.

On the other hand the audible playback of the existing Sequence is also 100ms delayed. When you record in real-time, then you intuitively place notes to match with the current playback.

So when you push a pad at the same time you hear an existing kick drum, then the kick drum is at 100ms latency, your tap is at 100ms latency, and the final audible output of your tap is at 200ms (100+100ms).

Due to this delay, it would more confusing than helpful to real-time playback a sound while recording (if the audio Latency is higher than 60ms). Therefore the real-time playback of the entered sounds is disabled during the recording process.

Even if silent recording is active, you'll of course hear the recorded sounds, but only when the sequencer went through the loop cycle and comes to the already recorded steps.

Note: To reduce the Latency to a minimum, use one of the supported Low Latency Audio Systems. (see Chapter: Low Latency Support (OpenSL, AudioTrack N, and AAudio))

14.1.5 Low Latency Support (OpenSL, AudioTrack N, and AAudio)

Audio Latency less or equal 40ms is possible on 1.4ghz Quad-Core (or higher) devices running on Android 5.0 (or higher) in use of the one of the supported low latency Audio Systems

If your device runs on Android L (5.x) or higher (5.x, 6.x), then the OpenSL Audio System is your best option to get the lowest possible latency results.

If your device runs on Android N (7.x) or higher, then (in most cases) it's not required to switch to OpenSL. Android N devices use (by default) the new AudioTrack N+ Audio System, which provides low latency right out of the box.

If your device runs on Android O (8.1) or higher, then it's recommended to use the AAudio Audio System, which offers the best performance in combination with the lowest possible latency results.

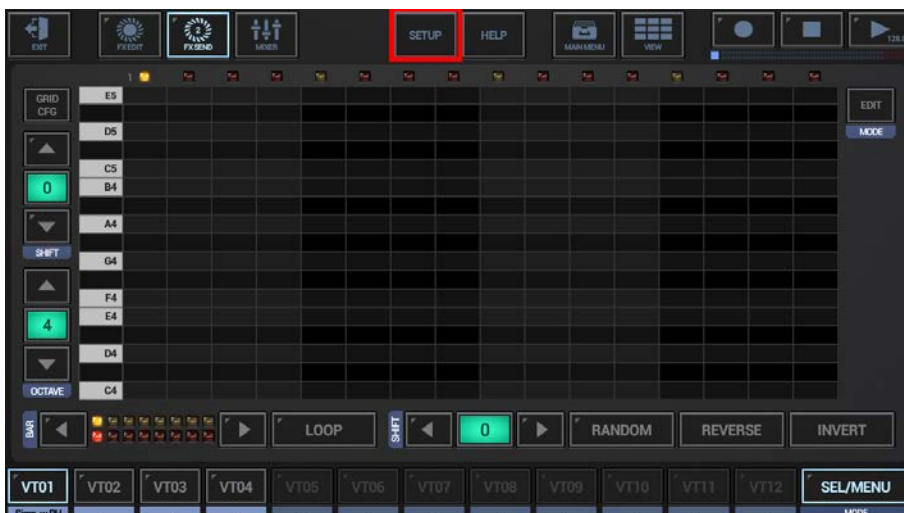
To switch to another Audio System, show up the Setup Menu.

Depending on the used App, the Setup Menu location and its content might be different.

G-Stomper Studio, G-Stomper Rhythm:

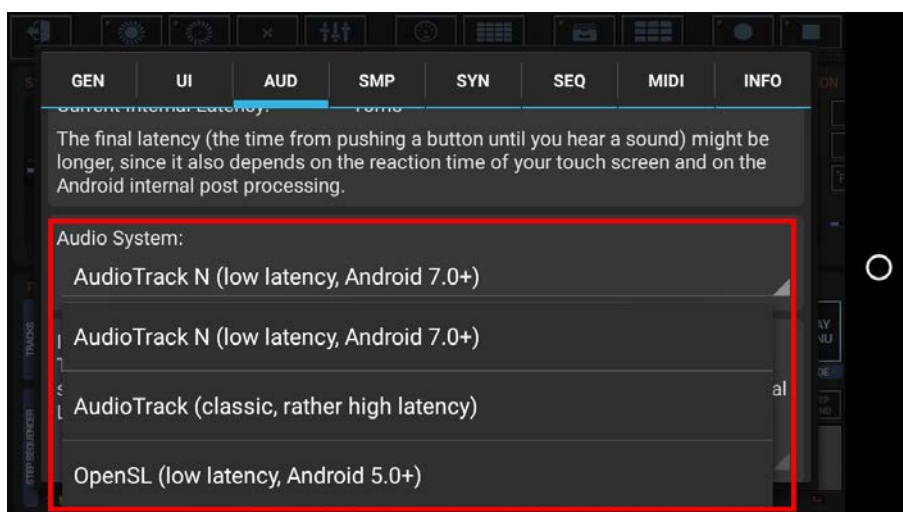


G-Stomper VA-Beast (standalone):



G-Stomper Producer:

Then select the "Aud" tab and choose one of the supported Audio Systems.



Note: How low the latency actually is strongly depends on your device.

14.2 Live Drum Trigger Recording (G-Stomper Studio, -Rhythm, -Producer)

Show up the Drum Machine and select the Track you want to record on (for beat recording the track selection is not mandatory, but if you select the track, you'll see the recorded Steps immediately).



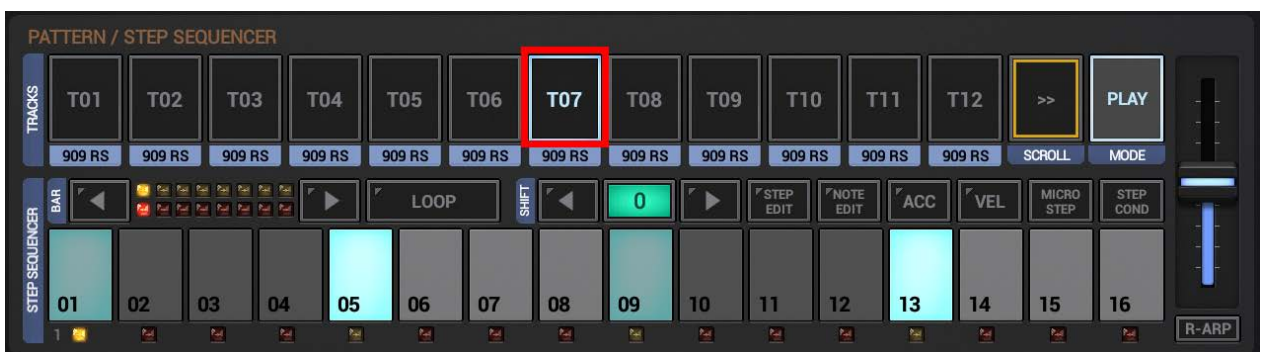
Set the Track Pad Mode to "Play" (see Chapter: Drum Sampler > Sampler Track Pad Mode).



Press Record and Play to start recording. Optionally long press Record to enable the Metronome Click.



Now, while the sequencer is running and recording, tap the beat in using the Track Button(s).



Note: In the same way, Live Drum Trigger Recording can be used on all Drum Sampler based Sequencer views.

14.3 Live Drum Rhythm ARP Recording (G-Stomper Studio, -Rhythm)

Show up the Drum Machine, select the Track you want to record on and make sure the R-Arp/Stutter switch is set to "R-Arp".



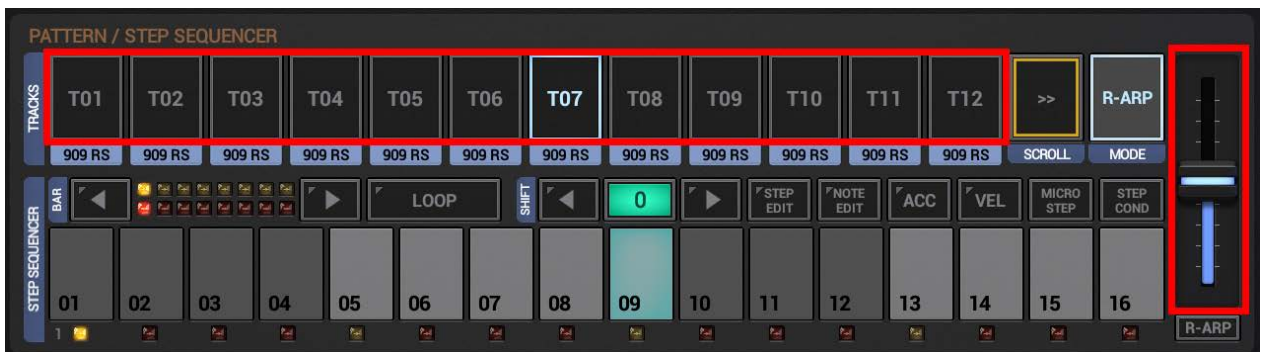
Optionally, if you want to record multiple Tracks at once, you can set the Track Pad Mode to "R-Arp" (see Chapter: Drum Sampler > Sampler Track Pad Mode).



Press Record and Play to start recording. Optionally long press Record to enable the Metronome Click.



Now, while the sequencer is running and recording, touch and/or move the R-Arp fader to record the Rhythm Arpeggio. Additionally, if you have set the Track Pad Mode to "R-Arp", you can use the Track Pads to play/record the Rhythm Arpeggio on multiple Tracks.



Note: In the same way, Live Drum Rhythm ARP Recording can be used on the Sampler Drum Pads.

14.4 Live Drum Note Recording (G-Stomper Studio, -Rhythm, -Producer)

Show up the Drum Machine and select the Track you want to record.



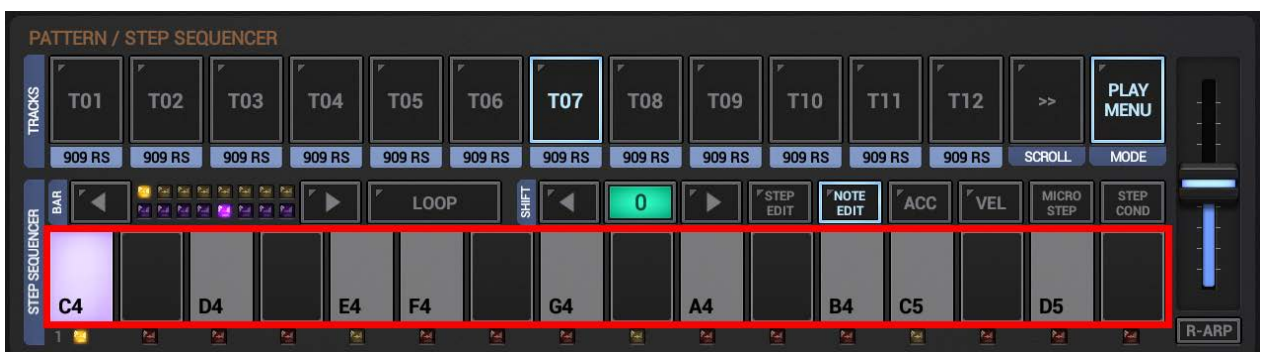
Enable the Note Edit Mode.



Press Record and Play to start recording. Optionally long press Record to enable the Metronome Click.



Now, while the sequencer is running and recording, tap the Notes in using the Piano Keys.



14.5 Live VA-Beast Synth Note Recording (G-Stomper Studio, -VA-Beast, -Producer)

Show up the VA-Beast Synthesizer and select the VA-Beast Track you want to record.



Press Record and Play to start recording. Optionally long press Record to enable the Metronome Click.



Now, while the sequencer is running and recording, tap the Notes in using the Piano Keys.

