

# SUPERRIFF Guitar

V.1.0

## Introduction

Thank you for trying *SuperRiff Guitar!*

*SuperRiff Guitar* (SRG for short) is a simple VST instrument that contains a limited set of custom electric guitar single note samples (with distortion) for use in computer music production.

At present (September 2007) SRG contains only one soundbank of samples but with time and public interest more will be added widening the scope and usability of the instrument.

Guitar modelling of any kind can be quite difficult to implement in a plug-in and SRG is not groundbreaking by any means. Instead it should be seen as simply a fun plug-in that may be of some use in certain circumstances.

Visit [www.superriff.com](http://www.superriff.com) to listen to some demos of SRG in action.



## Using SuperRiff Guitar

Each note on a keyboard from E1 to D5 can trigger three different guitar sample types depending on which one of three velocity values is triggered. (*47 samples per type, 141 samples in total*).

The 3 sample types are:

- 1: Palm-muted single notes.
- 2: Open string single notes
- 3: Vibrated single notes.

*(You can find a short description of palm-muting technique on page 5).*

Using exact velocity value editing according to the table below and pitch bend automation, a simple lead or rhythm guitar performance can be achieved. Mod wheel use is also possible, (*details on page 3*).

Keep in mind that velocity values as they are normally used do not apply to SRG. The different values are used as triggers for the appropriate samples and not as a means to affect dynamic velocity control values such as soft and hard.

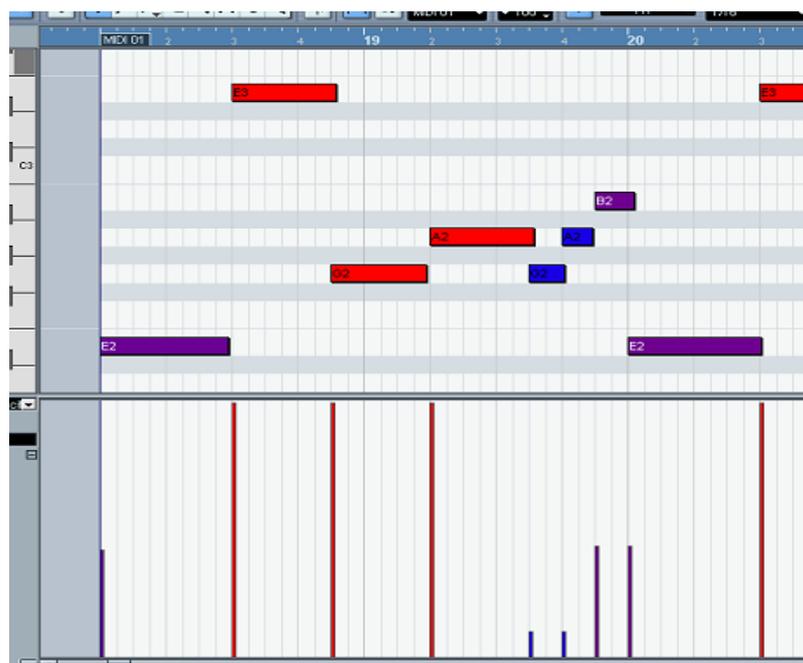
Low velocity values trigger the palm-muted samples, mid-range values trigger the open string samples and high-range velocity values trigger the vibrato samples.

Each sound type is accessible in your VST supported host by drawing velocity values directly into your sequencer's piano roll which trigger the appropriate sample.

The velocity range for each sample type are as follows:

- 0-20 – Palm muted samples.
- 21-80 – Open string samples.
- 81-127 – Vibrated note samples.

The image below shows velocity editing in Cubase. The blue values denote palm-muted sample triggers, purple values denote open string sample triggers and red values denote the vibrated note sample triggers. *Of course different hosts will have different colours and appearance but the editing technique will be the same regardless.*



Varying the length of note values in your host's piano roll is most useful on open-string samples as they are four seconds long in total. Shortening the note length of vibrato and palm-muted samples to play less than the full sample is of course possible, however, it is not recommended as a way of reproducing "accurate" guitar sounds but can be useful for experimental type sounds.

## **Listen Mode**

The different sample types can also be accessed as normal through keyboard velocities but this is not recommended as the best way to accurately utilise the samples in the instrument. (*Although this can vary depending on your keyboard type*).

Playing SRG properly in a performance manner with a keyboard may be difficult and even distracting as the different sample types will be triggered according to how hard you hit the keys creating a jumbled mess of the three guitar sample types.

For this reason a "listen mode" selector has been added to the interface to allow the user to choose which sample set is heard during composition/recording using a keyboard.



**Full** – SRG will respond to changes in keyboard velocity or velocity messages recorded in your host.

**Muted** – SRG will play palm-muted samples only regardless of keyboard/recorded velocity values.

**Open** – SRG will play open string samples only regardless of keyboard/recorded velocity values.

**Vibrato** – SRG will play vibrato samples only regardless of keyboard/recorded velocity values.

Note: Muted mode is also known as Mod wheel mode. (Details in next section).

It is important to remember that the listen mode selector should be in "Full" mode during playback to trigger the values entered in the velocity channel.

Equally important to remember is that setting the listen mode to anything other than "Full" while recording will not cause the corresponding velocity trigger to be recorded. Values on the velocity channel will always be recorded according to how hard the keys are hit.

So in this way recording while using the keyboard should be viewed as simply a way to set the overall rhythm and melody of a guitar part while dynamic editing is always carried out manually to reach the final desired guitar part. The exception is while using the mod wheel as described below.

## **Modulation Wheel**

It is also possible to control/record which sample types are triggered using a modulation wheel while playing your keyboard.

To activate mod wheel mode set the selector to "muted". Mod wheel values will now be recorded in your host on the mod wheel channel (CC1). Lower, mid and higher mod wheel settings activate the palm-muted, open string and vibrato samples respectively.

Keyboard velocity values will continue to be recorded in your host even when the mod wheel is activated. However, mod wheel mode will bypass the velocity channel and activate the mod wheel channel (CC1) only. For this reason it is important to remember to leave SRG in mod wheel mode for channels containing mod wheel messages on CC channel 1, otherwise the values on the velocity channel will be used which in this case will not be a rendition of the mod wheel performance but rather the keyboard velocity performance.

*Note: Although the majority of hosts will automatically route mod wheel messages to SRG, others may need to have mod wheel support manually activated.*

## **ADSR Envelope**

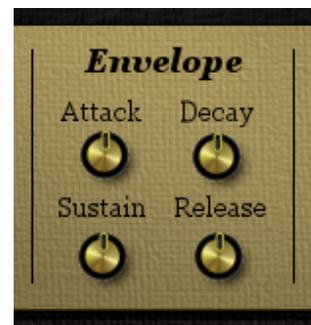
The Attack, Decay, Sustain and Release parameters of the ADSR envelope can allow a more varied level of expression to the instrument's performance if used with control automation in your host.

The Attack dial controls how quickly the sample reaches full volume after the sound is activated. Normally this would always be at the lowest setting causing the guitar sample to trigger instantly. However, for fast passages this could be backed off a little to soften notes.

The Decay dial controls how quickly the sound drops to the sustain level after the initial peak and are better left at mid-high settings.

The Sustain dial controls the sustained volume that the sound takes after decay until the note is released, again better left at mid-high settings.

The Release setting controls how quickly the sample fades after it is triggered. It is best to have the release at a low-mid setting to allow open notes to ring out but not too high as this will cause all triggered open-note samples to play over each other to an excessive degree.



## **Reverb**

The button beside the word "Reverb" activates/deactivates the reverb unit while the small LED on the right indicates On/Off.

The "Mix" dial controls how much of the signal is processed through the other parameters. Setting this at the lowest is the same as switching off the reverb entirely. Make sure this is always at lowest setting when the reverb is not in use.

The "Size" dial controls how much reverb is applied or in other words, how big the "room" is.

The "Damp" dial controls how much high frequency reverb content passes through to the outputs. At its lowest setting no frequencies are filtered out. Highest settings produce a dull reverb sound.

The "Width" dial controls the stereo width of the reverb signal.



### **Note on palm-muting guitar technique**

Palm muting is a standard technique used mostly by electric guitarists working in the genres of hard rock, punk and metal but can be found in many styles of music that feature electric guitars and even bass and acoustic guitars.

Palm mutes are executed by placing the side of the picking hand across all of the strings very close to the bridge while picking the strings. This produces a muted/damped sound. The name can be slightly misleading, as the damping is performed by the side of the hand rather than by the palm itself.

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### **Note on identical guitar parts**

In many rock guitar based songs it is standard to have a guitarist play two identical guitar parts with identical tone panned hard left and hard right. In this case the minor timing differences between the guitarist's two separate performances are what allow each performance to be heard clearly.

However, in computer based music creation using two identical sounds for identical parts with a synth or sampler instrument can be a problem, as playback of the two parts will always be 100% identical to each other in terms of timing. This causes the two identical parts to cancel each other out creating the impression that there is only one part playing even if extreme panning is used.

This cancelling effect will take place if two identical parts are programmed using SRG.

However, with some midi editing to offset note timing and effect/EQ use it should be possible to lessen or even bypass the cancelling effect.

Alternatively, it is possible to always have the second guitar playing a different set of notes to compliment the first part by playing octaves or a harmony melody. As long as all parts are playing differently, you can add as many instances of SRG as you like.

For now SRG contains only one guitar tone but in future versions as different tones are added, it will be much easier to create clearly defined identical twin guitar parts as it will then be possible to use a different tone for each identical part.

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The samples contained in *SuperRiff Guitar* were custom created for this project and truthfully could have been better. However, if there is enough interest, with time there could very well be updates and improvements to *SuperRiff Guitar* in the future.

This would include improved sample quality, expanded sound banks with different guitar tones, power chord samples and added notes lower than E1 on the keyboard and other changes/additions such as GUI updates etc. Keep an eye out for "SuperRiff Bass" which will be released before the end of the year.

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## Credit and thanks to:

Jeff McClintock's SynthEdit program was used to create SuperRiff Guitar.  
[www.synthedit.com](http://www.synthedit.com)



Dave Haupt is the creator of the reverb module used in SuperRiff Guitar.  
[www.dehaupt.com/SynthEdit](http://www.dehaupt.com/SynthEdit)

Vera Kinter created the golden knobs and switches used in SuperRiff Guitar and kindly allowed them to be used as such.  
[www.artvera-music.com](http://www.artvera-music.com)



Thanks to Nik Coley for use of his "Skratch Punk" font for the SuperRiff logo.  
With Nik's permission here is his contact address: [nik@punkscene.co.uk](mailto:nik@punkscene.co.uk)

SuperRiff Guitar was created primarily for the KVR Audio Developers Challenge 2007.  
Read about the developers challenge and more at KVR Audio:  
[www.kvraudio.com](http://www.kvraudio.com)



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