

Manual for Revitar^{2.0}_{TM}



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VST Plugin Interface Technology by
Steinberg Soft- und Hardware GmbH

1. Overview

Revitar 2.0 is a VST plug-in* for high-quality guitar synthesis. A wide variety of guitars can be simulated using a unique physical based modeling technique, consisting of three main components. The first component is a string modeler used to simulate up to 120 points along 6 strings. The pick model plucks the strings based on the type of pick or plectrum used. Finally, the body modeler consists of 20 separately tuned resonators based on the modes of real acoustic guitars.

When a note is played, the pick sets the strings in motion. The strings' vibration cause the body of the guitar to resonate. The motion of the guitar body then vibrates the strings in a feedback loop called sympathetic resonance. This entire process is recreated without the use of samples, so no two notes ever sound the same.

2. Installation

To install Revitar 2.0:

1. Close you VST Host (Cubase, Logic, Cakewalk, etc.)
2. Open the file Revitar2.0.zip. If your computer doesn't have a tool for unzipping files please visit <http://www.winzip.com/>
3. Copy the file Revitar 2.0.dll to your VST Plugins directory. This directory is usually found in C:\Program Files\<Host Name>\Vstplugins, where <Host Name> is Steinberg, Logic, Cakewalk, etc.
4. Start your VST Host. Revitar 2.0 should now be an option under VST Instruments.

To register your copy of Revitar 2.0, please visit <http://www.cuttermusic.com> and press the purchase link. After payment you will receive an e-mail containing a registration number. This registration number should then be entered into the Register window (above the Revitar 2.0 logo in the upper right) to remove all demo restrictions. Within the demo version, the sound will cut out for a second every 10 to 20 seconds and presets can't be saved.

Thanks for trying Revitar 2.0!

-Larry

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3. General Commands

In Revitar 2.0, any object in red can be manipulated. Details about individual features can be found in the section titled “Features.”

All knobs and sliders within Revitar 2.0 have the following controls:

Left Click and Drag	-----	Adjust the value of the knob or slider.
Right Click	-----	Reset the knob to a value of 0.5 .
Left Click + Control Key Down	-----	Set the current MIDI CC to control the knob or slider. The current MIDI CC is displayed in the upper right-hand corner. The current MIDI CC is the last MIDI CC received by Revitar.
Right Click + Control Key Down	-----	Remove MIDI CC control from the knob or slider.
Left Click + Shift Key Down	-----	Fine tune knob.

When assigning MIDI CCs, only MIDI CCs between 1 and 63 can be used. MIDI CC 10 is reserved for panning. Revitar accepts MIDI CCs from all channels. Some switches within Revitar are controlled by MIDI buttons. The MIDI buttons correspond to the lowest octave, i.e. MIDI button 1 corresponds to C in octave -2. In addition to the MIDI commands in the Features section, MIDI buttons 4 and 5 switch to the previous and next presets respectively.

3.1 Modes

Revitar can be used to play single strings or multiple strings (chords).

When playing single notes two modes are available. In the first mode, you allow Revitar to select which string each note is played on. In the second mode “mono” is selected, and Revitar is forced to play all notes on a single string. In Mono mode, transitions between notes can use slides or hammer on/pull off techniques. To create a slide effect hold down one key while pressing another. The type of transition effect is controlled by the slide knob.

When playing chords, two modes are available, relative and absolute. Relative mode is used to play the same chord at different positions, while absolute mode is used to play different chords with fixed positions. In each mode, up to 24 different chords can be programmed. In relative mode, the chord which is currently selected is played. The frequency of the notes is controlled by the note being played. In absolute mode, the note played controls which chord is used. The 24 different chords are mapped to the middle two octaves of the keyboard. Notes played two octaves up or down will shift the chord played one octave up or down. Transitions between chords can slide using the same techniques used in Mono mode for playing single strings.

3.2 Manipulating the Sound

The sound created by Revitar consists of two parts. The first part comes directly from the pick up, similar to how an electric guitar would work, or an acoustic guitar with a microphone placed near the strings. The position of the pick up can be changed by dragging the red pick up bar. Placing the pick up near the bridge generally creates a brighter sound, while placing the pick up near the neck creates a more hollow/bass sound.

The second part of Revitar's sound is created by the body resonance. The gain or volume of the body resonance is controlled by the body gain knob. As the gain of the body increases, a small amount of distortion can occur. The amount of interaction between the body and the strings is controlled by the sympathetic resonance knob. Since the motion of the guitar body vibrates all of the strings, a string may vibrate even though it was not plucked.

The total gain for Revitar is controlled by the master gain knob. If the VU meter flashed red, then clipping has occurred. To reduce clipping decrease the gain.

3.3 Presets

Revitar comes with 48 presets organized in four categories: clean (CLN), electric (ELCT), effects (FX), and bass (BAS). As additional presets become available we'll post them on www.cuttermusic.com.

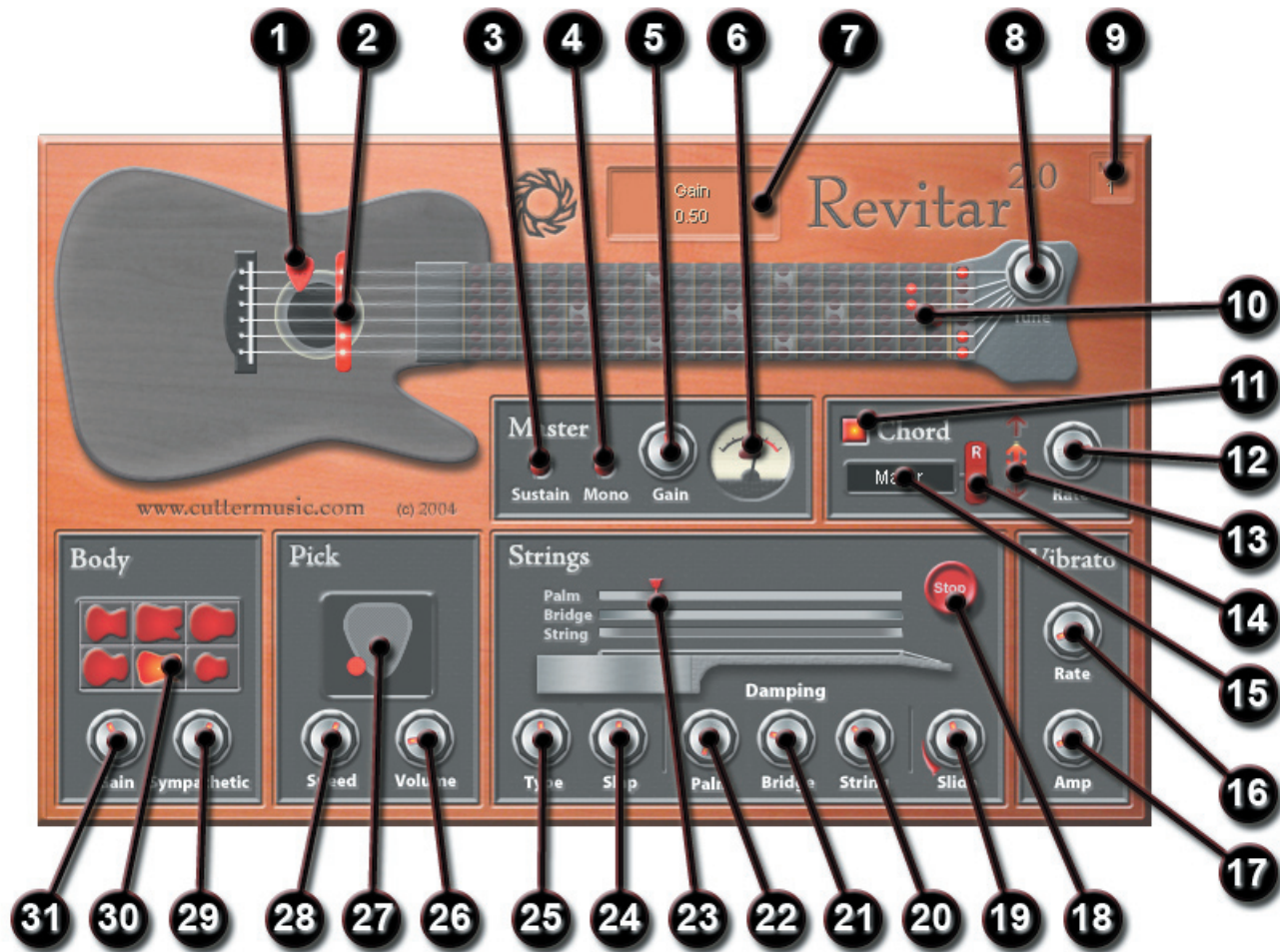
In addition to the presets for Revitar, six banks of presets are provided for various third-party amp and distortion effects for use with Revitar. These banks are located in the following directories:

Effect	Website	Company	Directory
AmpliTube	http://www.amplitude.com/	IK Multimedia	Effects\AmpliTube
Guitar Rig	http://www.nativeinstruments.de/	Native Instruments	Effects\GuitarRig
QuadraFuzz	http://www.steinberg.net/	Steinberg	Effects\QuadraFuzz
SimulAnalog	http://www.simulanalog.org/	SimulAnalog	Effects\SimulAnalog
TubeBaby	http://www.ndzeit.org/guitar/tubebaby.html	Niko Lange	Effects\TubeBaby
Warp VST	http://www.steinberg.net/	Steinberg	Effects\WarpVST

Please visit the above websites to download and purchase the effects. All presets are provided by ToTc Productions, www.totcproductions.com.

The inclusion of these presets does not imply the endorsement of Revitar by the third-party companies, and are only included for the convenience of Revitar users. Users of the third-party effects must respect any rules or limits on use, set forth by the respective companies.

4. Features



1. Pick Position

Controls the pick position when plucking the strings. Placing the pick closer to the bridge creates a brighter sound, while a position closer to the neck will result in a more hollow/bass sound.

Default MIDI CC: 5

2. Pick Up Position

Controls the position of the pick up, like those used in electric guitars. Similar to the pick position, placing the pick up closer to the bridge creates a brighter sound, while a position closer to the neck will result in a more hollow/bass sound.

Default MIDI CC: 6

3. Sustain

Turns off and on the note sustain. If turned off, damping will be applied to the strings after the note is completed. The position of the damping is controlled by the palm damping position (feature 23.)

Default MIDI Button: 2

4. Mono

This feature forces all notes to be played on the same string. This also allows sliding, hammer ons, and pull offs of notes. To slide a note hold down one key while pressing another. The rate of sliding as well as the amount of hammer on/pull off is controlled by the slide knob (feature 19.) Chord mode must be off.

Default MIDI Button: 3

5. Master Gain

Controls the master gain or volume for Revitar.

Default MIDI CC: 16

6. VU meter

The VU meter displays the amplitude of the output signal. If the center light flashes red clipping has occurred.

7. Parameter Display

Displays the name and value of the last parameter adjusted.

8. Tune

Controls the tuning of Revitar. A value of 0.0 tunes the guitar one note lower and a value of 1.0 tunes the guitar one note higher.

Default MIDI CC: 13

9. MIDI Display

Displays the ID of the last MIDI CC recieved by Revitar. Left click on a knob or slider while holding down the control key to assign it to the MIDI CC. Right click while holding down the control key to remove MIDI CC assignment.

10. Fret Board

This control allows you to change the notes within a chord, while in chord mode. A string can be turned off by clicking a second time on the selected note. The furthest right position is the same as playing an open chord on a regularly tuned guitar (E, A, D, G, B, E.)

11. Chord On / Off

Turns chord mode on and off. Chord mode allows you to play an entire chord by pressing a single key.

Default MIDI Button: 1

12. Chord Rate

Controls the rate at which a chord is played. The chord rate is synced to the BPM of the host. A chord rate of 0.0 will play the next note in the chord every beat. The rate of play is not linear with the knob's value (it's cubed in case you're curious:)

Default MIDI CC: 17

13. Strum Direction

Changes the direction in which the strings are plucked, either up, down, or alternating up and down.

Default MIDI Buttons: 6, 7 and 8

14. Chord Absolute / Relative Mode

This switches the chord mode from absolute to relative. Relative mode is used to play the same chord at different positions, while absolute mode is used to play different chords with fixed positions. In relative mode, the chord which is currently selected is played. The frequency of the notes is controlled by the note being played. In absolute mode, the note played controls which chord is used. The 24 different chords are mapped to the middle two octaves of the keyboard. Notes played two octaves up or down will shift the chord played one octave up or down.

Default MIDI Button: 10

15. Chord Selector

Selects which chord to play in chord relative mode. Selects which chord is displayed on the fret board for editing.

16. Vibrato Rate

Controls the rate of the vibrato. Vibrato is a modulating change in pitch. The rate and amplitude of the vibrato can be adjusted beyond that of a real guitar, so lower or more subtle values should be used when trying to mimic a real guitar.

Default MIDI CC: 3

17. Vibrato Amplitude

Controls the amplitude of the vibrato. Vibrato is a modulating change in pitch. The rate and amplitude of the vibrato can be adjusted beyond that of a real guitar, so lower or more subtle values should be used when trying to mimic a real guitar.

Default MIDI CC: 4

18. String Stop

Applies full fret choke damping to all strings. This uses the same amount of damping as when palm damping (feature 22) is set to 1.0. The position of the damping is controlled by the palm damping position (feature 23.)

Default MIDI Button: 11

19. Slide

Controls the type and rate of note transitions. Note transitions only occur in Mono and Chord modes. If the knob is greater than the 9 o'clock position notes are transitioned by sliding with decreasing rates. A knob position less than the 9 o'clock position turns on hammer on / pull off transitions. The amount of hammer on / pull off increases as the knob is turned counter clockwise. The amount of hammer on / pull off is also controlled by the note's

Default MIDI CC: 2

20. String Damping

Controls the amount of string damping. String damping is applied evenly across the entire string. Lower values create longer sustaining notes.

Default MIDI CC: 8

21. Bridge Damping

Controls the amount of bridge damping. Bridge damping is only applied at the end of the strings. Lower values produce more higher frequency harmonics, and reduce the amount of detuning of the higher frequencies. Real guitar strings have restricted movement at their endpoints, resulting in some damping and detuning.

Default MIDI CC: 7

22. Palm Damping

Controls the amount of palm damping. Palm damping is applied at the position on the strings controlled by the palm position slider (feature 23.) If the palm position is set to 1.0 all odd harmonics are damped. The damping on the string is kept narrow to increase the harmonic response.

Default MIDI CC: 1

23. Palm Position

Controls the position of the palm when damping. Palm damping is used with sustain off, the string stop button, as well as the palm damping knob.

Default MIDI CC: 18

24. Slap

Controls the height of the frets. Higher frets will hit the strings as they're played, causing a slapping effect.

Default MIDI CC: 9

25. String Type

Controls the density of the wound wire or ridges on the string. A lower value will have larger ridges similar to a bass guitar.

Default MIDI CC: 12

26. Pick Volume

Controls the volume of the pick sound. The pick sound varies dependent on the stiffness and width of the pick.

Default MIDI CC: 15

27. Pick Stiffness and Width

Controls the stiffness and width of the pick. The stiffness is related to the thickness of a standard pick. Horizontal movement control the stiffness, while vertical movement controls the width.

Default MIDI CC: 19 and 20

28. Pick Speed

Controls the speed at which the strings are plucked. The lower the value the slower the pick speed.

Default MIDI CC: 11

29. Sympathetic Resonance

Controls the amount of sympathetic resonance. Sympathetic resonance is the movement of the body, vibrating the strings. This may cause strings to vibrate even though they were not plucked.

Default MIDI CC: 21

30. Body Type

Selects the body model to use. In general, the upper left-hand models have a larger bass response, while the lower right-hand models are more mid-range.

Default MIDI CC: 22

31. Body Gain

Controls the amount of gain for the body. At higher values, slight distortion of the body occurs.

Default MIDI CC: 14