

The Slayer2 Manual

Physically-modelled electric guitar VSTi
with amp/cab emulation and effects rack.



a reFX software synthesizer

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1 Introduction

Thanks for trying or buying reFX's Slayer2.

Slayer2 is a virtual electric guitar with amp and cab simulations and a large rack of effects. Built-in, and ready to rock, is every stomp-box you might ever need to turn a clean guitar sound into a gnarling, twisting, thrashing, throbbing delight. Or not, since Slayer2 can do clean just as effortlessly as it can do dirty. The choice is yours.

In addition, the effects and amp/cab emulation are available as a separate VST effect plug-in that can be used with any audio track in your sequencer.

Based on the original *Slayer* VSTi, which introduced its own original physical-modelling technology to simulate guitar strings, Slayer2 provides a wide variety of realistic guitar tones; whether for solos, strums or power-chords, simple or complex.

But there's lots more. For example, Slayer2 emulates single and twin pick-up set-ups. Furthermore, the position of the pick-ups can be adjusted, offering a wide variety of additional tonal options compared with static pick-ups. You can even bypass the coil emulations for a clean sound. By adjusting the guitar body size and material options you can tweak the tone to closer emulate, say, an acoustic guitar.

In addition to freely adjustable pick-ups and plectrum, Slayer2 gives you nine different string choices.

Slayer2 would not be a true guitar simulator without amp and cab simulations. At your finger-tips lay five of each to choose from, as well as options to leave the signal dry. So whether you want to funk it up, get down, or thrash the living daylights out of it, there will be something to do the job. The amp also provides



a bank of familiar guitar amp-type knobs to tweak your sound just the way you need it.

No guitarist can sleep at night without an array of effects to fiddle with. So, it's no surprise to find that Slayer2 has masses of them; sixteen in all. All the essentials are here, of course: wah, trem, phaser, chorus, etc. But, best of all, you can rack 'em up, feeding one into the other, with eight effect slots before the amp stage and eight after. And, when you want to rearrange the order, just drag and drop. There are no cables to fiddle with in Slayer2

Playing guitar-style chords and solos on a keyboard is not always easy. To help the creative process, Slayer2 provides a number of modes that help take the strain. Power-chords? Easy. *Smoke on the water* is only four key-strokes away. However, with a little more work, you can strum-away in a variety of different styles.

Flexibility, ease of use, variety of sounds, creative, fun. That's Slayer2. Enjoy. And try not to wake the neighbours... too often.



Main features:

- Advanced physical-modelling guitar synthesizer that simulates electric guitar, e-bass and clean guitar
- Playing-aids for instant gratification (e.g. arepeggiator, strum, pitchbend)
- Built-in amp/cab simulation
- 16 built-in pre/post amp effects (eight pre-amp, eight post-amp)
- All 16 effects can be used at the same time
- Temporal effect parameters are tempo-sync'd to the VSTi host
- Effects can be moved around to change the signal-processing order
- Effects and amp/cab modelling available for use in a separate VST effect plug-in
- Guitars material and size can be changed (great for acoustic sounds)
- Nine string-types
- Seven pluck model simulations
- Five amplifier emulations (with separate negative feedback control)
- Five cabinet emulations
- Up and down strumming is supported (up, down, alternate, random and order) with speed control
- Five mode arpeggiator (up, down, alternate, random, order) with speed control and tempo-syncing
- 64 ready-to-go presets included
- Easy to use

Slayer2 demo version

For those of you using the Slayer2 demo version, please note the following:

- The demo version works for fifteen minutes. After this you'll have to restart your VSTi host to be able to use Slayer2 again.
- The demo version plays a reminder sample every 30 seconds after 5 minutes.

The full version of Slayer can be ordered from: www.reFX.net

2 Installation

Minimum PC system requirements

- Pentium III @ 600MHz or better (and equivalents)
- Minimum 128Mb RAM
- Hard disk requirement: 6Mb
- Operating System: Windows 98/98SE/ME/2000/XP
- Graphics (minimum): 16-bit 800x600
- Host:
 - Any that supports the VSTi interface (e.g. Cubase SX, Chainer, etc.)

Installing Slayer2 on a PC

To install Slayer2 on your PC, do the following:

1. Extract the contents of the supplied zip file
2. Copy the files *Slayer2.dll* and *Slayer2.FX.dll* to your *vstplugins* folder
3. Load your host software and load the Slayer2 VSTi
4. Make some noise. Enjoy.

Minimum Mac system requirements

- Mac G3 600 or better
- Minimum 128Mb RAM
- Hard disk requirement: 6Mb
- Operating System:
 - Mac OS9.x, Mac OS X version 10.2 or later
- Graphics (minimum): 16-bit 800x600
- Host: must support the VSTi interface (e.g. Cubase SX)



Installing Slayer2 on a Mac

To install Slayer2 on your Mac, do the following:

1. Extract the contents of the supplied sit file
2. Mac OS9: copy the plug-ins into the hosts vstplugins folder
3. Mac OSX: copy the plug-ins (.VST extension) into
::library:audio:plugins:vst
4. Load your host software and load the Slayer2 VSTi
5. Make some noise. Enjoy.

3 Quick-start

Basic operation

The easiest way to get started with Slayer2 is to load it in your VSTi host, assign it to a MIDI track, attach a MIDI input port and play. There are a selection of 64 patches in the default bank, which provide examples of various guitar and effects' set-ups. For the first steps in the basic operation of Slayer2, read on.

Slayer2 has three main sections:

1. *top-left*: the guitar (which creates the initial sound)
2. *top-right*: the amp and cab simulators
3. *bottom*: effects' rack

The effects' rack is further divided into two, with eight effects' slots on the left that sit between the guitar and the amplifier, and the eight on the right that come after the cab.



The function of each of these three sections is fairly obvious, but it's worth pointing out that the guitar is the sound source, while the effects and amp and cab simulations manipulate or mould the guitar from the sound. That said, the amp can easily be driven into a feedback loop, which is a sound source, in effect. Nevertheless, the basic timbre of Slayer2's output will be determined by the guitar set-up.



To start exploring Slayer2 load the *Clean - WahWah* patch. Make sure you can hear the patch before continuing. Notice that there are two pre effects and one post effect. There are no hard and fast rules whether an effect should be pre or post, it is entirely determined by the sound that you wish to create.



The patch has a lot off effects on it and doesn't sound too much like a guitar, although it sounds interesting with minor triads. Switch off the *WahWah* effect. Now it sounds more like a guitar. Let's try it as a simulated picked guitar.

First, select *Strumming down* from the green coloured dropdown that says *None*. Play your favourite triad. You will hear a gentle strum effect. Now grab the *Speed* knob and experiment while playing chords. The speed of the strum (the rate at which the held notes are played back) will vary.

You can try the same thing with the other *Strum* and *Arpeggio* options. Don't miss trying the *Autochords* and *Powerchords* options. Again, vary the *Speed* setting for a variety off effects.



When you are done. Load the *Dist - 60s* patch. This patch is set to *Powerchords*, so you only need to hit a single key to hear the effect.

Switch off the *Rotary* pre effect, then click on the cables between the guitar and amp. This removes the amp and cab simulation, and its EQ from the signal chain. So you are hearing only the guitar and any effects (both pre and post).

With the effects off, and the amp and cab sim bypassed, grab the plectrum and move it left and right to obtain the various tonal characteristics that occur when playing a real guitar by striking the strings at various distances from the bridge.

The *Dist - 60s* patch simulates a guitar with a single pick-up. You can grab the pick-up itself and move it around in a similar way to the plectrum. Why not switch to a two pick-up guitar?

Okay, I should think that you can work-out how to use the rest of the obvious guitar and amp/cab controls from here.



But before I end this section on basic operations, here's a few more things to note. To add an effect, right-click where you want to place the effect, select the effect, and Slayer2 will hook it up. If the audio level drops too low, try adjusting the *Gain* slider (found below the *reFX* logo on the far right of the Slayer2 interface). Don't forget to try pitchbend. You can alter the effect of using the pb wheel to both bend strings, and slide up and down frets (glis) via the switch to the left of the *Mode* dropdown. The available pb range is set with the knob next to the *Speed* knob. And finally, you can damp strings by using the Mod Wheel. You'll work it out.

Have fun.

Saving presets and banks

Presets are loaded and saved using the mechanism provided by your host software. If you are unfamiliar with this procedure, then you will have to consult the documentation provided with your host software. Banks of 64 patches can be saved and loaded, as well as individual patches (or instruments as VST refers to them). Slayer2 always loads with its internal default bank of patches.

To create a new bank, simply edit the patches in Slayer2 then save the bank. Individual patches are saved from and loading into the active patch slot.

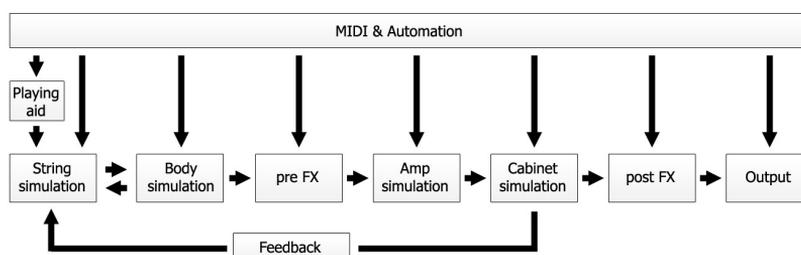
Special features

Make sure that you look at the [MIDI Controllers](#) that are available for real-time control and automation with your sequencer. Also worthy of immediate attention are the [Pitchbend](#), [Mod Wheel](#) (see *Decay*) and, for controlling feedback, [Channel Aftertouch](#).

4 How Slayer2 works

Routing

Let's take a quick drive-thru Slayer2's internal signal routing. Here's a diagram.



Slayer2 is triggered by MIDI Note On messages. The Note On messages are passed through the MIDI processor, which will add notes in the case of *Auto-chord* and *Powerchord* settings, and delay and/or reorganise simultaneously played notes in the case of the arpeggio and strum settings.

Each note is passed to the string simulator, which gathers the current parameters and produces a waveform. If the guitar body parameters (*Size* and *Material*) are active, then their feedback effect is added. Also, if the amp simulation feedback is active, then its effect will also be taken into account.

The waveform is then passed through the guitar body, if active, and on to the rack of eight pre effect stomp boxes which perform their magic.

Providing the amp/cab simulation is active, then the waveform passes through the amp, the EQ and cab, after which the feedback tap is taken and returned to the string simulation.

Finally, the waveform passes through the eight post effects, followed by a gain stage, to exit to your VST host.

All the while, various [MIDI Controllers](#) can be modulated to change the nature of the sound.

Signal Generation

Slayer2 is a hybrid synthesizer that works in a similar way to physical modelling. In other words, it shapes the sound as it happens in real-time. This results in

a more lifelike electric guitar sound, and gives you the ability to simultaneously modulate, control and otherwise change the sound. Just like the real thing.

Guitar String Simulation

When you pluck the string on your electric guitar with your finger (or plectrum, coin, etc.), you make it vibrate. Depending on how you make the string vibrate (i.e. how, and with what, you pluck it) the resulting sound will vary. Harder plucks will result in a harder sound, due to a stronger attack, amongst other things.

A distinguishing characteristic of electric guitars is that the pluck sound that made the string vibrate is kept over time. This means that the plucking style is key to achieving different guitar characteristics.

The guitar simulation in Slayer2 is controlled by the following parameters:

Playing-aid parameters

- Mode
- Speed
- MIDI Note On velocity
- Glissando/Pitchbend
- Damping (via ModWheel)
- Hold (via MIDI control)

Guitar parameters

- String type
- Coil type
- Pickup position
- Plectrum position
- Tone
- Dynamic and Slap
- Decay and Release
- Velocity
- Body size and material

Amplifier Simulation

When a signal is passed to the output jack of your guitar, it either passes into a stompbox or two (more likely an effects' rack nowadays) then into an amplifier. (We look at effects next). The amplifier shapes the signal. By which we mean a combination of things. It attenuates or de-attenuates sonic information, passes it through a non-linear shaper (the overdrive), reaches the EQ and then a speaker-simulation.

The typical distorted guitar sound you know from the rock or heavy metal is known as *inter-modulation distortion*. The mathematical theory behind this is

complex, but, put simply, you can say that distortion on strictly harmonic content sounds static, and that distortion on inharmonic content sounds *awesome*. Distortion on slightly inharmonic content sounds fat. There is a special algorithm integrated into Slayer2 that slightly detunes chords. It always finds the optimal detune setting no matter what you play, so don't worry about string tuning when you hear something modulate.

When speakers are placed near a guitar and the gain is high, it is possible for the moving air molecules to start moving the strings of the guitar. This is called *feedback* - a high-pitched screech with which you will undoubtedly be familiar. Feedback in Slayer2 is, as in reality, always harmonic. The pitch depends on which strings you plucked and which you didn't.

Below are listed the parameters that affect Slayer2's amp/cab simulation

Amp Simulation Parameters

- Amp type
- Cabinet type
- Drive
- Presence
- Feedback
- Bass EQ
- Middle EQ
- Treble EQ

Effects

The two effect sections are designed to give you fast access to a wide range of effects that have very low CPU cost. There are lots of different effect types on offer covering the most common effects used on guitar sounds. Descriptions of effects can be found in the [Effects](#) section of the Reference chapter.



5 Reference

All of the Slayer2 controls are described in the following four sections:

- [String Simulation Controls](#)
 - [String](#)
 - [Coils](#)
 - [Size and Material](#)
 - [Scratch plate](#)
- [Playing Aid Controls](#)
 - [Mode](#)
 - [Speed](#)
 - [Pitchbend range and Glissando](#)
- [Amp and cab](#)
 - [Amps](#)
 - [Cabinets](#)
- [Effects](#)

String Simulation Controls

String

Selects the string simulation type.

- *Pink*: Acoustic guitar-like when dry. It has a wide, random spectrum.
- *6String1,2 and 3*: Three different electric guitar string simulations. The first two are lively and natural sounding, while the third is a typical electric guitar (good for distortion).
- *Slap*: Slap-style electric bass with good dynamics.
- *EBass*: Electric bass guitar with good dynamics.
- *Fretless*: Fretless bass guitar, dull-sounding.
- *Band*: A tight, random spectrum
- *Formant*: A wide random spectrum, plus attenuation on a tight random spectrum.

Coils

Selects the pickup's coil simulation type. Note that the pick-up's position can be adjusted by dragging it with the mouse. The plectrum can also be similarly

moved. Both of these actions affect the resulting tone.

None

No pick-up simulation is used. The sound is taken directly from the string simulation.

Single

Simulates the sound of a single coil pick-up. You can adjust the pick-up's position with the mouse to further modify the sound.

Double

Simulates the sound of a double coil pick-up. As with *Single*, you can adjust the pick-up's position with the mouse to modify the sound.

Size and Material

These knobs can be used to adjust the virtual size and material of the guitar body.

Size

Size allows you to adjust the the volume of the simulated body of the guitar. At its lowest setting, it is switched off. The size can then be adjusted from that of a matchbox to the size of a contrabass.

Material

Material defines the frequency-range of the body. The material moves from wooden (at the lowest setting) to metal, via various virtual materials. When *Size* is off, then *Material* has no effect.



Scratch Plate

The guitar's scratch plate contains a number of controls that allow you to fine-tune the characteristics of each note.

Tone

Sets the pitch of the formant filters, which changes the overall tone of the instrument.

Slap

Controls how much *Slap* is applied to the strings when plucked. This setting work in conjunction with the *Dynamics* setting. Thus, *Slap* is modulated by the note velocity only when *Dyn* is not at zero.

Dynamics (Dyn)

Controls how the MIDI Note On velocity affects the pluck strength. When turned fully anti-clockwise, Note On velocity is ignored, and all notes will have the same pluck strength. When turned fully clockwise, you obtain the greatest range of pluck strength controlled by velocity; from very gentle to maximum pluck.

Decay

Varies the amount of damping applied to each note, allowing you to simulate muting strings with the palm of the hand. You can also control damping with the Mod Wheel.

Release

At its minimum setting, each note will cease as soon as a MIDI Note ends. The release time increases as the knob is turned clockwise. The length of release will also be affected by the *Decay* setting, so if you need to adjust one, you may find you need to alter the other.

Velocity (Vel)

Alters the way that *Delay* and *Release* respond to MIDI Note On velocity. At its lowest setting, note velocity has no effect on *Delay* and *Release*. As the setting is increased, *Delay* and *Release* have their values increased in proportion to the velocity of each note.

Playing Aid Controls

Mode

The *Mode* setting provides you with a number of tools that help make MIDI notes resemble typical guitar playing styles.

None

Plays the notes as if you were playing a regular synthesiser.

Arpeggio (various)

A simple arpeggiator is provided with the following modes:

- *Up*: Held notes are arpeggiated from lowest to highest
- *Down*: Held notes are arpeggiated from highest to lowest
- *Alternate*: A combination of *Up* and *Down*
- *Random*: Notes are randomly arpeggiated
- *Order*: Notes are arpeggiated in the order that they are played.

The speed of the arpeggiator can be adjusted with the *Speed* knob.

Strumming

Strumming is designed for playing guitar chords in real-time. Each note is played as a single plucked string. But when a chord is played the notes are separated, producing the effect of a chord being strummed.

The speed of the strum, and hence the time between the notes, can be adjusted with the *Speed* knob. The first note is played immediately, but all notes that follow are delayed according to the strumming speed.

There are five different strum modes:

- *Up*: The chord is played with the *highest* pitched note last
- *Down*: The chord is played with the *lowest* pitched note last
- *Alternate*: A combination of *Up* and *Down*. The mode toggles each time a chord is played.
- *Random*: The notes of the chord are played in a random sequence
- *Order*: The notes are strummed in the order that they are played.

Auto Chords

Slayer2 creates guitar style chords automatically. The root of the chord is determined by the note played. Each octave on the keyboard provides a different chord-type; there are five different types in all. You can control the strum speed with the *Speed* knob. *Auto Chords* is designed for auditioning patches, rather than for composition. But don't let that stop you.

Power Chords

Power Chords are automatically generated from a single note. The pitch is determined by the last note played. The keyboard is split into two sections. The upper keyboard range is reserved for C1-G1-C2 style chords; the lower range is for C1-F1-C2 style chords. You can control the strum speed with the *Speed* knob.

Solo Dynamic

Switches on monophonic glide mode. When you hit a key and hold it down, then press a second one, you will hear the note *slide* smoothly to the next note. When you release the second note, Slayer2 slides back to the initial note. You can control the glide speed with the *Speed* knob

In *Solo Dynamic* mode the glide speed depends on the difference between the note values. A glide from C3 to E6 will take longer than a glide from D6 to E6.

Solo Fixed

Like *Solo Dynamic*, this switches on monophonic glide mode. When you hit a key and hold it down, then press a second one, you will hear the note *slide* smoothly to the next note. When you release the second note, Slayer2 slides back to the initial note. You can control the glide speed with the *Speed*

In *Solo Fixed* mode the glide speed is always constant, irrespective of the notes played.

Speed

The *Speed* setting affects the speed of operation of other controls. For example, the strumming speed of the strum modes, the speed of the arpeggiator, and glide-speed in the solo modes. See the appropriate section above for the effect of *Speed* in each case.

Speed is automatically sync'd with the *Tempo* (BPM) of your VST host.

Pitchbend Range and Glissando

The *Pitchbend Range* knob adjusts the range of the pitchbend wheel. It is fixed at one octave when lowering pitch, allowing you to create divebomb effects. When bending up, the *Pitchbend Range* knob can be adjusted to the range you require, up to a maximum of one octave. The lowest *Pitchbend Range* knob setting disables the pitchbend wheel.

The pitchbend wheel has two modes:

- *Pitch bend*: Bending results in a continuous change of pitch.
- *Glissando*: Bending results in pitch changes in one semitone steps.

Amp and cab

Amps

This parameter selects the type of amplifier that is simulated. The signal from the amp feeds into the cab simulator. The amp and cab simulations can be bypassed by removing the cables found between the guitar and the amp. There are six amp types available:

Dry

The signal is passed through the *EQ*, but *Presence* is unavailable. The *Drive* knob is for gain. This setting is useful for *unplugged* sounds.

Tube

This amp model simulates a three-stage valve amplifier with soft saturation.

IQ

iq stands for *Intelligent EQ*. *iq* is new technology that uses asymmetric filtering

to distort the signal. The amount of distortion is not dependent on the input signal level. The signal is passed through *iq* before being passed to a 3-stage distortion process. On particular effects, such as the *Talkbox*, this amplifier setting can provide the best results.

Bandpass (b-pass)

This is a 3-stage bandpass tube amp. The signal is passed through band-pass filters and soft saturators in three stages. *Presence* controls the band-pass frequency. Finally the signal goes through the *EQ*. Try boosting the EQ bass and treble settings for a fatter sound.

Surf

Surf is an old fashioned 1-stage tube amp. *Presence* controls the saturation characteristic from soft to hard clipping.

Warp

Warp is an aggressive, modern-sounding, 3-stage amp with a negative-shaped presence characteristic.

Amp Control

The amplifier section has six controls. Not all controls are available for every amp model.

- *Drive*: Controls the level of gain and distortion.
- *Presence*: A simple highshelf filter that adds or removes brightness to the sound.
- *Feedback*: Amount of feedback that is returned from the output of the amp back to the string simulation. *Feedback* can be modulated with Channel Aftertouch.



- *Bass, Middle, Treble*: Control the bass, middle and treble frequencies. The controls act like a parametric EQ. The frequencies that each knob affects is determined by the cab selected.

Cabinets

This parameter selects the cabinet type that is simulated. There are six models:

Dry

This is the sound you would get if you connected your guitar to a hi-fi system. It is absolutely linear. Try this setting for *unplugged* sounds.

British (brit)

A simulation of a British Cabinet. Try this for aggressive sounds.

Combo

A combo box simulation. It's old-fashioned and dull sounding. Ideal for softer sounds.

Stax

A fuzzy heavy metal-type cabinet, very aggressive with a big boost on high frequencies. Ideal for heavy metal style sounds.

Pocket

Cheap, tinny pocket cabinet.

Dust

Old-fashioned speaker that lacks treble.

Note that there is a *Gain* slider available that adjust the overall level of the patch.

Effects

There are sixteen effects slots. Eight slots are available between the guitar and amp, and eight slots are placed after the cab (and are therefore not part of the feedback loop). All temporal parameters are tempo-sync'd with the VST host.

To load an effect, right-click on an effect slot and select the required effect from list. Effects can be moved around using drag and drop. The value of each effect parameter can be viewed as a tool-tip by hovering the mouse over each knob. Each effect can be bypassed individually, and each effect bank can be switched on and off by using the *fx* toggle, top-left of each bank.

There are sixteen different effects:

CH-2 Chorus

Stereo chorus. Parameters: time; modulation depth; LFO speed

Komp

Compressor. Parameters: release; threshold; ratio

DIStorsion

Distortion. Parameters: drive; frequency; gain

dubDelay

A simple left-right delay for adding some space to the sound. Parameters: time; cross

angel flanger

Flanger with feedback. Parameters: feedback; depth; speed

Harmonizer

This effect adds harmonics one, two or three octaves below, and one octave above, the note currently playing. This effect only works well on single notes. Parameters: mix; octave; damping

Multitap

A stereo-tap-delay with filter. Parameters: delay time; feedback; damping

Phaser PH1

The signal is passed through an all-pass filter and mixed with the dry signal. Parameters: feedback; depth; lfo speed

Ringmod

Ring-modulation that automatically tunes the harmonic with the last note played. Parameters: pitch; lfo depth; lfo speed

Rotary

Rotating speaker simulation. Parameters: slow speed; fast speed; switch (between fast and slow speeds)

Superfuzz

Fuzz Box. A signal-shaper for adding some grunge to the signal. Use with care, as it adds a lot of harmonics to the signal, which can destroy your equipment. Parameters: rate; bits; drive

Talkbox

Simulates human-voice formants. You might want to use the *none* coil for best results. Parameters: mix; formant tone; modulation speed

Tremolo

Tremolo that retriggers on new notes and syncs with host tempo. Parameters: shape; depth; speed

WahWah

A low-pass filter with resonance, envelope follower and LFO. Parameters: envelope; lfo depth; lfo speed

Silver verb

Reverb. Parameters: delay; size; damping

Gold chorus

Wide chorus. Parameters: width; depth; speed

Appendix A

MIDI Control

MIDI Implementation Chart

| Function | | Transmit | Receive | Remarks |
|------------------|-----------------|----------|---------|---|
| Basic | Default: | x | 1–16 | Messages are always received on all channels. |
| Channel | Change: | x | 1–16 | |
| Mode | Default | x | Mode 1 | OMNI mode is always on. |
| | Messages | x | x | |
| Note Number | Sound range | x | 0–127 | |
| Velocity | Note On: | x | o | |
| | Note Off | x | x | |
| After Touch | Keys: | x | x | |
| | Channels: | x | o | |
| Pitch Bend | | x | o | |
| Control Change | 7 (volume) | x | o | |
| Program Change | | x | o 0–63 | Numbers >63 ignored. |
| | Actual No. | x | 0–63 | |
| System Exclusive | | x | x | |
| System Common | Song Pos: | x | x | |
| | Song Sel: | x | x | |
| | Tune: | x | x | |
| System Real Time | Clock | x | x | |
| | Commands: | x | x | |
| Aux Message | Local On/Off | x | x | |
| | All Notes Off | x | o | |
| | Active Sensing: | x | x | |
| | Reset: | x | x | |

o = Yes, x = No

Continuous Controller Messages

In addition to the messages specified in the *MIDI Implementation Chart*, the following MIDI Continuous Controller (MIDI CC) messages are recognised and affect their associated parameters. By sending MIDI CC messages you can change these parameters at any time from your VSTi host.

| CC | Parameter | Notes |
|-----|----------------------------------|--|
| 1 | Additional damping (palm muting) | Mod wheel |
| 5 | Speed | Arpeggio, strumming and solo |
| 7 | Volume | |
| 11 | Expression | |
| 12 | Body size | |
| 13 | Body material | |
| 14 | Dynamics | |
| 15 | Gain | |
| 16 | FX1 parameter1 | |
| 17 | FX1 parameter2 | |
| 18 | FX1 parameter3 | |
| 19 | FX2 parameter1 | |
| 20 | FX2 parameter2 | |
| 21 | FX2 parameter3 | |
| ... | | |
| 61 | FX16 parameter1 | |
| 62 | FX16 parameter2 | |
| 63 | FX16 parameter3 | |
| 64 | Hold pedal | Not arpeggiator |
| 65 | pitchbend/glissando toggle | |
| 70 | plectrum position | |
| 71 | Pickup pos | |
| 72 | Release | |
| 74 | Tone | |
| 75 | Slap level | |
| 76 | Decay | |
| 77 | Velocity control | For decay and release |
| 78 | Glissando override | Always sets glissando, even when it's set via the pitchbend in glissando-mode. |
| 84 | Pitchbend range | |
| 85 | Amp drive | |
| 86 | Amp presence | |
| 87 | Amp feedback | |
| 88 | EQ bass | |
| 89 | EQ middle | |
| 90 | EQ treble | |

Appendix B

Support info

We have tried to keep Slayer2 as bug-free as possible, but you never can be 100% certain things work as they should in the world of software. So, if you encounter any problems, or you have suggestions for future revisions, don't hesitate to contact our technical support at:

[email:support@refx.net](mailto:support@refx.net)

Or come and visit us at:

www.refx.net

Thank you.

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