

Rough Rider Pro User's Guide

Audio Damage, Inc.

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Introduction

Thank you for purchasing Rough Rider Pro, Audio Damage's multi-band compressor plug-in. Rough Rider Pro is a three-band compressor built from three of our successful (and free) compressor, Rough Rider. Although Rough Rider Pro has precise controls that permit subtle control of signals, it excels at extreme effects. Its three-band crossover can be used like a DJ's 3-band EQ for drastic tonal control. Each compressor offers attack times down to near-instant and compression ratios up to 1000:1 for complete obliteration of dynamics. If one compressor isn't enough, Rough Rider Pro's "series" mode strings together the three compressors, allowing each to stomp on your signal in its own way.

Compressors can be difficult audio tools to use effectively, particularly for beginners. This manual will not attempt to explain the finer points of how to use (or misuse) compressors in general, and will focus only on Rough Rider Pro's details. You might wish to consult the following online articles if you're unfamiliar with compressors:

http://www.soundonsound.com/sos/1996_articles/apr96/compression.html

http://en.wikipedia.org/wiki/Dynamic_range_compression

[Both available as of October 2009.]

System Requirements

Rough Rider Pro is provided as both a VST and an AudioUnit plug-in for Windows and MacOS X. The MacOS X versions are Universal Binary, compatible with both Intel- and Motorola-based Macs. To use Rough Rider Pro, you'll need a Steinberg VST-compatible host application which conforms to the VST 2.0 specifications, and a computer capable of running it. For the AudioUnit version of Rough Rider Pro, you'll need an application capable of hosting AudioUnit plug-ins, and a computer capable of running it.

Installation

Double-click the Rough Rider Pro Installer icon and follow the instructions. During the installation process the installer will ask you to enter your registration code. Your registration code uniquely identifies your purchase, and you will need it if you need to reinstall your plug-in (for example, after upgrading to a new computer). Keep a copy of the code in a safe location and please don't share it with your friends. We're delighted if you like our products so much that you want to share them, but please ask your friends to buy their own copy so that we can keep making new products.

To un-install from OS X, simply delete the plug-in from your VST folder, which is usually located at `/Library/Audio/Plug-Ins/VST/`, and your AudioUnits folder, which is located at `/Library/Audio/Plug-Ins/Components/`. To un-install from Windows, simply delete the plug-in from your VST folder, which is usually located at `C:\Program Files\Steinberg\VstPlugins`.

Operation

Rough Rider Pro can be used in either a stereo or mono context in your host DAW software. If you use a stereo input, the left and right channel separation of the input signal is preserved in the output signal. Rough Rider Pro is meant to be used as an insert effect but there's no reason you can't use it as a send/return effect if doing so suits you.

Rough Rider Pro's knobs respond to vertical mouse-pointer movements; that is, click on a knob and drag upwards and downwards to rotate the knob. If you're using the VST version of Rough Rider Pro, your host software may override this behavior.

Here is a screenshot of Rough Rider Pro, followed by detailed descriptions of its controls. We'll describe the controls roughly in order of moving from left to right across the screen.



Isolator

The Isolator section of Rough Rider Pro is a DJ-style 3-band equalizer. It splits the incoming signal into three frequency ranges: high (treble), middle, and low (bass). The frequency sliders control the operating frequencies of the filters in the crossover network which divide the incoming signal into separate frequency ranges. The **HIGH FREQ** slider sets the dividing point between the high and middle frequencies. Moving the slider upwards increases the frequency, narrowing the high range of frequencies and widening the mid range. The **LOW FREQ** slider sets the dividing point between the middle and low frequencies. Moving the slider upwards increases the frequency, narrowing the mid range and increasing the low range.

The **GAIN** knobs control the level (loudness) of each frequency band. The **HIGH GAIN**, **MID GAIN**, and **LOW GAIN** knobs, as you can probably figure out for yourself, control the levels of the high, middle, and low frequency bands respectively. Turning the knob clockwise boosts the signal, turning it anti-clockwise makes it quieter.

The arrow-shaped **ON** buttons to the right of the level knobs act as “kill” switches for each frequency band. If the band’s switch is off the band is completely silenced. Click the switches with your mouse to turn them on and off.

Compressors

Rough Rider Pro has three separate compressors with independent controls and operation. The routing of signals through the compressors depends on the **ROUTING** switch in the lower right of Rough Rider Pro’s window. In **MULTI** mode, each compressor operates on its corresponding band of frequencies, and the compressors operate in parallel. The top compressor processes the high frequencies, the bottom compressor processes the low frequencies, and the middle compressor processes the mid-range frequencies. The outputs of the three compressors are added together to form the plug-in’s output. In **SERIES** mode, the compressors are connected in series, with the output of the top compressor connected to the input of the middle compressor and the output of the middle compressor connected to the input of the bottom compressor. In **SERIES** mode, the three outputs of the Isolator are added together; the isolator operates more or less like a three-band parametric equalizer. The signal filtered by the Isolator enters the top compressor, passes through the middle compressor, leaves from the bottom compressor, and then makes its way out of the plug-in. Click the **ROUTING** buttons to switch back and forth between the two modes.

Each compressor has three level meters, labeled IN, OUT, and GR. The IN and OUT meters reflect the level of the signals entering and leaving the compressor. This means that the meters will display different levels depending on the setting of the **ROUTING** switch. In **MULTI** mode the meters reflect the levels of the signals

for the three separate frequency bands, since the three outputs of the isolator are sent individually to the three engines. If you kill a band altogether with its switch, you'll see the corresponding engine's meter stay at zero. In **SERIES** mode, generally speaking, all three meters will be active since the signal passes through all three compressors. The GR meter shows how much the signal is being compressed, i.e. how much the compressor is affecting the signal. This meter moves downward because the compressor *lowers* the level of the signal when it works.

The IN and OUT meters, as well as the master output meters (described below), blink red if the signal level exceeds the normal full-scale level for digital audio. This will not cause audible distortion within Rough Rider Pro itself, and is not necessarily cause for alarm. If the output level meters blink red, consider yourself warned that the signal is loud enough to cause distortion further along in your host DAW's signal path unless you attenuate it somehow (e.g. with the mixer channel's level slider).

The controls for each compressor are the same. In order from left to right, the controls are:

RATIO: The **RATIO** knob determines how much the compressor reduces the level of signals that exceed the compression threshold (which is set by the **SENSITIVITY** knob, which we'll get to shortly). The value shown below the knob expresses the ratio of the loudness of the signal before and after it is compressed. The higher the ratio, the more the output signal is reduced relative to the input signal. For example, a ratio of 3:1 means that for every 3dB that the input signal changes, the output signal changes 1dB. If the ratio is set to its lowest value of 1:1, the compressor will have no effect on the signal.

The **RATIO** knob has a non-linear response. For the first half of its rotation, the ratio changes from 1:1 to 10:1. For the second half of rotation, the ratio changes from 10:1 to 1000:1. Any setting above 10:1 reduces the signal's dynamic range dramatically and is usually referred to as *limiting* rather than compression.

ATTACK: The **ATTACK** knob sets how quickly the compressor responds when a signal exceeds the compression threshold. As you turn the knob up, the compressor responds more slowly. A longer attack time allows the initial portion of the sound to pass through the compressor without alteration. This is useful for retaining some of the sharpness of sounds with strong initial transients, like those of drums, percussion, and plucked strings. When the **ATTACK** knob is set to its lowest setting, the compressor responds nearly instantaneously. When used with a high compression ratio, this can effectively obliterate the dynamics of the signal.

RELEASE: Somewhat similar to the **ATTACK** knob, the **RELEASE** knob determines how quickly the compressor stops altering the signal when the signal's level falls below the compression threshold. The release time should be adjusted by ear to suit the material. If the release time is too short, you'll hear audible "pumping" as the signal level is brought up and down by the compressor. On the other hand, audible pumping is exactly why compressors are used in certain musical styles.

SENSITIVITY: The **SENSITIVITY** knob knob sets the signal level or threshold at which the compressor begins affecting the signal. Rotating the knob to the right lowers the threshold, causing the compressor to have a greater effect on the signal (assuming that the ratio is set to something higher than 1:1). If the **SENSITIVITY** knob is set to its lowest value, the compressor will affect only the loudest signals.¹

MAKEUP: The **MAKEUP** knob is a gain control that comes after the compressor itself. Since the compressor reduces the overall level of the signal by lowering its loudest parts, the **MAKEUP** knob can be used to raise the overall level of the signal. This is how a compressor increases the apparent loudness of a signal: the dynamic range (i.e. the different between the loud parts and the quiet parts) is first reduced by compression, making the quiet parts louder relative to the loud parts, and then the entire signal is made louder by the amount set by the makeup gain

Master Controls

The area at the right side of Rough Rider Pro's window contains controls which affect the plug-in's overall operation. The **INPUT** and **OUTPUT** level knobs provide overall gain control of the signals entering and leaving the plug-in. Turning the knobs clockwise increases the amplitude of the signals. The **INPUT** knob has a range of -40 to +6dB; the **OUTPUT** knob has a range of -60 to +6dB. The **INPUT** knob affects the signal before it passes through the isolator, and is mostly useful for increasing the level of quiet material. The output knob controls the level of the signal after it passes through the compressors. Use the output knob to adjust the overall level of the plug-in.

¹ Traditionally, compressors have a knob labeled "Threshold" which operates in the opposite direction, i.e. turning the knob anti-clockwise lowers the threshold. We named Rough Rider Pro's knob "Sensitivity" and configured it so that rotating it clockwise increases the effect of the compressor since virtually every other knob you'll find increases something when you rotate it clockwise.

The **INPUT** and **OUTPUT** meters show the level of the input and output signals after they are affected by the corresponding knobs. If the **OUTPUT** meters blink red, you probably want to turn down the plug-in's output level with the **OUTPUT** knob.

The **ACTIVE** switch is a "soft" bypass control. When the **ACTIVE** switch is set to **OFF**, the isolator, compressors, and level controls are bypassed altogether. Use the active switch to compare Rough Rider Pro's effect with the unaltered signal. You will find that the active switch does not cause clicks and pops in the signal, possibly unlike the plug-in bypass control provided by your host program.

MIDI Controllers

The VST version of Rough Rider Pro responds to MIDI continuous controller messages. You can use hardware MIDI controllers, such as MIDI slider boxes or the knobs found on some MIDI keyboards, to adjust Rough Rider Pro's parameters.

Rough Rider Pro has a simple "MIDI Learn" mode for assigning its controls to MIDI controllers. To assign a control to a MIDI controller:

- First, hold down the SHIFT and CTRL keys on your PC's keyboard, or SHIFT and CMD keys if you're using a Mac, and click once on the control. An orange box will be drawn around the control to indicate that it is ready to learn which MIDI controller it will be assigned to.
- Next, move the MIDI controller to send a continuous controller message—turn the knob, press the button, move the slider, whatever is appropriate.
- The orange square will disappear. Now the control will move when you manipulate the MIDI controller.

Rough Rider Pro waits until it has received two consecutive continuous controller messages with the same controller number before it makes an assignment. This filters out extraneous data sent by some MIDI controllers. If you are assigning a button or switch on a MIDI controller, you may have to press or move the switch twice before Rough Rider Pro recognizes the controller and assigns it to the desired control.

To assign a different MIDI controller to a control, repeat the same procedure using a different controller.

To cancel MIDI Learn mode without assigning a controller, hold down the SHIFT and CTRL keys (SHIFT and CMD keys on a Mac) and click in any empty area in Rough Rider Pro's window (i.e., don't click on another control). The white box will disappear.

To remove a MIDI controller assignment from a control, SHIFT and CTRL keys, (SHIFT and CMD keys on a Mac) click on the control once so that the white box appears, then click again on the same control.

Rough Rider Pro's MIDI controller assignments apply to all presets and instances of Rough Rider Pro, in all host applications that you use. The MIDI assignments are stored in a special file on your hard drive. The contents of this file are read when Rough Rider Pro is loaded by your host. If you have two or more instances of Rough Rider Pro in use at once, any MIDI assignments you make will not be propagated to the other instances until the next time that your host loads the plug-ins.

The AudioUnit version does not provide the same MIDI assignment features as the VST version. Almost all AudioUnit hosts provide their own mechanism for assigning MIDI controllers to parameters, so it would be redundant for us to implement MIDI controller assignments in the plug-in itself. Consult the documentation for your AudioUnit host to learn how to use its MIDI features.

Automation

All of Rough Rider Pro's parameters can be automated using your host's automation features. Consult your host's documentation for information on how to use these features.

And Finally...

Thanks again for purchasing Rough Rider Pro. We make every effort to ensure your satisfaction with our products, and want you to be happy with your purchase. Please write support@audiodamage.com if you have any questions or comments.