WAVES
BASS RIDER
USER GUIDE

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Chapter 1 – Introduction

1.1 Welcome

Thank you for choosing Waves! In order to get the most out of your Waves processor, please take the time to read through this manual.

In conjunction, we also suggest you become familiar with www.wavesupport.net. There you will find an extensive **Answer Base**, the latest **Tech Specs**, detailed **Installation** guides, new **Software Updates**, and current information on **Authorization** and **Registration**.

By signing up at www.wavesupport.net, you will receive personalized information on your registered products, reminders when updates are available, and information on your authorization status.

1.2 Product Overview

Bass Rider is an innovative, easy-to-use plugin that rides bass levels automatically. A companion to our popular Vocal Rider plugin, Bass Rider delivers perfect bass levels, without changing the natural sound of your bass. Optimized especially for the frequency range and envelope characteristics of bass instruments, Bass Rider covers all the basses: DI, amplified, acoustic, synth, upright—you name it.

A real timesaver with dedicated studio and live components, Bass Rider keeps bass levels in check and solid throughout your mix. Unlike a compressor, Bass Rider works note by note, without disturbing their inner dynamics, so they sustain and decay naturally. Best of all, since Bass Rider keeps your levels steady with automatic gain adjustment, now you can focus on the feel and flow of your bass—and use compression to add color and character.

With Bass Rider, you'll never mix bass the same way again.

1.3 Concepts and Terminology

In contemporary music, the bass usually helps form the foundation of a mix. However, bass is also regarded as one of the hardest parts of the mix to "get right." Taming bass levels can be tricky, as they are naturally very dynamic. Therefore, some sort of bass leveling is often required. Bass frequencies often vary in the power they produce, and behave in ways that may seem counter-intuitive. For example, a C1 note will generate much more energy than a C3, even though the C3 is perceived as louder. The most common way to compensate for different bass levels is to heavily compress the signal. However, heavy compression reduces the overall dynamic range of the bass, since louder notes are "squashed," while quieter notes are compressed less, and note attacks may "smear," while note sustains can "swell."

So, we studied how contemporary mixers keep their bass levels steady, and found that many first prepare their bass tracks by manually adjusting overly quiet or loud notes in order to avoid the artifacts of over-compression. However, this is a very time-consuming approach. Bass Rider offers a quicker way to deal with the dynamic range of bass instruments, by detecting notes and their envelopes, and automatically adjusting the gain of each note to a specified level.

Target

The Target Fader is used to set the desired bass level range. To achieve the most transparent results, we recommend setting it to around the average level of your bass input. Higher Target values will result in more added gain and higher overall loudness. It's also important to keep in mind that gain applied to quiet notes also boosts any noise accompanying the note. Use the Output Fader to adjust the overall output level for mix positioning.

Note Detection

Note Detection is the process by which Bass Rider detects note attack, sustain, and release in order to determine the appropriate gain leveling for each note. Bass Rider's

default settings are generally effective on a wide variety of material. In cases when fine-tuning is necessary, use the note detection Sensitivity and Response controls located under the Target fader.

Artifacts

In this plugin, Artifacts is the term we use to describe parts of the signal that trigger detection, but are not in part of the note we want to ride. Artifacts may include string buzz, amp crackles, transient noises, squeaks, and even modulation within individual notes.

Spill

When riding mic'd sources, some spill from other instruments may make its way into the bass signal. This spill may be detected as notes, and its gain increased. Use the Ignore Spill control to help avoid the detection of spill signal.

1.4 Components

WaveShell technology enables us to split Waves processors into smaller plugins, which we call **components**. Having a choice of components for a particular processor gives you the flexibility to choose the configuration best suited to your material.

Waves Bass Rider includes two components each in 2 channel configurations:
- Bass Rider, Mono and Stereo
- Bass Rider Live, Mono and Stereo

Mono and Stereo Components have a latency of 42ms and have a round, transparent sound; Live Mono and Stereo components have only a 5ms latency and add a little punch to note start events.

Chapter 2 – Quick Start Guide

Since Bass Rider delivers best results signals with minimal processing, we recommend using it prior to applying EQ or compression.

- Insert Bass Rider on your bass track.
- Begin playing your song and watch the energy meter shown on the Target Energy Meter.
- Set the Target Slider within the action area so that loud notes go a little outside it.
- Now, solo your bass track and check that all notes are detected.
- If notes are missed, increase the Sensitivity setting and set Response to Fast. If string noise, buzz, etc. are being unintentionally detected as notes, increase the Artifacts setting.
- The main Rider fader will move automatically, leveling your bass.
- Un-solo the bass track and set its overall level using the Output fader.
- Limit the amount of automatic gain change by setting the Min/Max Range faders.

Here are some solutions to common issues you may encounter:

Problem	Solution
Soft notes that follow loud notes are not detected.	Increase the Sensitivity level, set Response to Fast.
Artifacts are detected as new notes during the sustain portion of long notes.	Increase the Artifacts level.
Fret/string noise and/or ghost notes are detected and amplified.	Increase the Artifacts level.
Background noises are detected and amplified.	Increase the Spill level.

Chapter 3 – Interface and Controls

3.1 Interface

1) TARGET ENERGY METER

3) NOTE DETECT SENSITIVITY

4) NOTE DETECT RESPONSE

7) MAX RANGE

11) IDLE ARROW

8) MIN RANGE

12) EFFECTIVE RANGE

2) TARGET SLIDER

6) IGNORE ARTIFACTS

5) IGNORE SPILL

9) RIDER FADER

10) OUTPUT FADER

3.2 Controls

1) **TARGET ENERGY METER** shows the energy of the input signal.

   Range: 0 to -42 dBFS

2) **TARGET SLIDER** sets the desired bass level range and calibrates the Rider Fader "0" position. We recommend setting the target to around the average level of the input.

   Range: 0 to -42 dBFS
   Default: -14

3) **NOTE DETECT SENSITIVITY** controls the note detector sensitivity. Higher values detect more notes; lower values detect fewer individual notes.

   Range: 0 to 100
   Default: 50

4) **NOTE DETECT RESPONSE** controls the note detector response. Once a note is detected, this value determines when the detector resets for the next note. Slow response is calibrated for long note releases; fast response is calibrated for short note releases

   Range: Slow or Fast
   Default: Slow

5) **IGNORE SPILL** controls the amount of spill that the detector should ignore.

    Range: -50 to -3 dBFS

    Default: -40 dBFS

6) **IGNORE ARTIFACTS** controls the note detector's tolerance to artifacts. Lower values ignore fewer artifacts; higher values ignore more artifacts, which may require re-adjustment of Note Sensitivity.

    Range: 0 - 100

    Default: 50

7) **MAX RANGE** sets the upper boundary of the Rider Fader movement range.

    Range: -11 to +12 dB

    Default: +12

8) **MIN RANGE** sets the lower boundary of the Rider Fader movement range.

    Range: -12 to +11 dB

    Default: -12

9) **RIDER FADER** is Bass Rider's automatic control, which moves according to the internal detectors' algorithm to level-out the bass signal, similar to manual fader riding. The Rider Fader can be moved by the mouse for manual gain adjustment; when the mouse is released, automatic riding will resume.

    Range: -12 to +12 dB

    Default: Idle value

10) **OUTPUT** trims the bass output gain, post-auto riding; the Clip LED shows when output is clipping.

Range: -12 to +12 dB
Default: 0

11) **IDLE ARROW** sets the Rider Fader value when there is no bass activity. Typically, it is in the middle of the range, to avoid drastic gain changes between passages.

Range: -12 to +12 dB
Default: 0

12) **EFFECTIVE RANGE** displays the total gain range available for automatic riding.

Range: 1 to 24 dB
Default: 24

Chapter 4 – The WaveSystem

4.1 The WaveSystem Toolbar

All Waves plugins feature the WaveSystem toolbar which takes care of most administrative functions you will encounter while working with your Waves software. The features of the WaveSystem toolbar are the same on practically all Waves plugins, so familiarity with its features will be helpful whichever plugin you are using.

Toolbar Functions

ꙍ	Opens the plugin About box
Undo	Undoes the last 32 actions
Redo	Redoes the last 32 undone actions
Setup A/B	Toggles between two presets, useful for comparison of parameter settings
L/R Arrows	Move to the previous or next preset
Copy A→B	Copies the current settings to the second preset register
Load	Recalls presets from file
Save	Saves presets in the Waves file formats
?	Opens the PDF manual for the plugin you are using

4.2 Preset Handling

Preset Types

Factory Presets are permanent presets in the Load menu. Factory presets cannot be overwritten or deleted. When applicable, different component plugins may have different factory presets.

User Presets are your favorite settings of the plugin saved as a preset in the Load menu, under 'User Presets'. User Presets can be overwritten and deleted.

Setup Files may contain more than one preset. For example, a single file can contain all the presets for a session. When you open a Setup File, all its setups become part of your Load pop-up menu for fast access. This can be particularly useful with multiple instances of a plugin in a single session. By saving all the settings you create into a single Setup File, they can all be quickly available for every instance of that plugin.

Loading Presets and Setups

Load

Click on the Load button to see the Load pop-up menu. The menu is divided into four sections. If a section is not currently available it will not appear in the Load pop-up menu.

Open Preset File…	Select to open any setup or preset file, whether from the Library or your own creations.
'Filename.xps':	Displays any currently loaded Setup File and its presets.
Factory Presets:	Displays the default Factory Presets.
User Presets:	Displays any loaded User Presets.

Saving Presets and Setups

Save

Click on the Save button to see the Save pop-up menu. Four options are available. If an option is not currently available it will be grayed out and inaccessible.

Save to New File…	Select this to start a new Setup file. There are two prompts - first for the setup filename, then for the preset name. You must provide a name for both the setup file and the preset. Click OK (ENTER) to complete the save. It is a good idea to create a folder in which to save several setup files for a project.
Save 'File Name' – "Preset Name"	Overwrites the settings of the loaded preset (whether a User Preset or a preset from a Setup File) with the current settings. If a Setup File is

currently loaded, the name of the Setup File is displayed followed by the name of the preset itself. If a User Preset is loaded, its name is displayed.

Save to 'File Name' As…   Saves the current settings as a new preset into the Setup file that is open (if one is not open, the option is grayed out). You will be prompted to give the preset a name.

Put into Preset Menu As…   Save the current settings into a User Preset that will always be in your Load menu (until deleted). You will be prompted to give this preset a name. User Presets are stored in the plugin's preference file.

Deleting Presets

You may delete User Presets and presets within a Setup File. Factory Presets and Setup Library files cannot be deleted or overwritten.

1. Hold the Command (Mac)/Control (PC) key down.
2. Click-and-hold the Load button to see the pop-up menu.
3. While still holding the Command/Control key, select the preset or setup to delete.
4. A confirmation box will appear, allowing you to cancel or 'OK' the deletion.

A/B Comparison and Copying

The Setup A/Setup B button may be clicked to compare two settings. If you load a preset in the Setup B position, this will not affect the preset loaded into the Setup A position, and vice-versa.

If you want to slightly modify the settings in Setup A, you can copy them to Setup B by clicking on the Copy to B button, then alter Setup A and compare with the original Setup B.

The name of the current setup will be shown in the title bar (on platforms which support it), and will switch as you change from Setup A to Setup B.

Note: an asterisk will be added to the preset name when a change is made to the preset.

4.3 Interface Controls

Controls can be in one of three states:
1. **Not Selected** where the control is not the target of any user entry
2. **Selected** where the control is the target of mouse control entry only
3. **Selected and Active** where the control is the target for both mouse and keyboard entry

Toggle Buttons

Toggle buttons display the state of a control, and allow switching between two or more states. **Single-click** to change the control's state. Some toggle buttons have a text display which updates with the current setting, and others (bypass, solo, or monitoring toggles) illuminate when the control is active.

Some plugins have **link buttons** between a pair of toggle buttons, allowing click-and-drag adjustment while retaining the offset between the controls.

Value Window Buttons

Value windows display the value of a control and allow **click-and-drag** adjustment, or **direct control via the keyboard**.

❖ **Using the mouse**, click-and-drag on the value window to adjust. Some value windows support left/right, some up/down (as you hover over a button, arrows will appear to let you know which direction of movement that button supports). You may also use your mouse-wheel to adjust parameter values.

❖ **Using the arrow keys**, click once with mouse to select the button, and then use up/down – left/right (depending on the direction supported by that button) to move in the smallest incremental steps across the button's range (holding down

the arrow keys will move faster through the range).

❖ **Using key entry**, double click on the button to open the value window, and directly enter the value from your keyboard. If you enter an out of range number, the button stays selected but remains at the current setting. (System beeps if system sounds are on.)

Some plugins have **link buttons** between a pair of value windows, allowing click-and-drag adjustment while retaining the offset between the controls.

Sliders

Click or scroll the mouse-wheel on the slider itself or anywhere within the sliders track. The numerical value of the slider settings is displayed in a hover window above the slider path.

Hover Box

Hovering boxes will appear and display the control value when hovering with the mouse over the control.

Multiple Control Selection

One of the most powerful features of the WaveSystem is the ability to select and adjust multiple controls simultaneously. Using the mouse, drag-select the desired group of buttons or graphic controls by clicking and holding at a point outside the controls, and forming a rectangle that includes the controls you wish to adjust. Alternatively, press and hold Shift while clicking the mouse on any control you wish to link. This method is useful when you want to select two or more controls that are not adjacent to one another.

TAB Functions

TAB moves the 'selected' status to the next control, with shift-TAB moving in the reverse direction.

Additionally, the Mac has an option-TAB function for 'down' movement and shift-option-TAB for 'up' movement where applicable.

If you have several Value Window Buttons selected, TAB functions will take you through the selected controls only.

Hitting Esc or Return will return the 'focus' to the DAW application.

4.4 Waves Preferences (Pro Tools only)

When launching Pro Tools, hold Shift to view the Waves plugin Preferences window. The following options are available:

- Don't use AudioSuite plugins
- Don't use RTAS plugins
- Rescan all plugins
- HUI control surface support (low resolution)
- Enable single-click text entry