GainRider 2

Manual

by TBProAudio 2020

1   Introduction

Vocal (and generally) gain riding is a widely used technique to control loudness of audio tracks with the volume slider instead of compression. Doing this by hand during a critical phase of the mixing session could be very painful. Automatic gain riding within a DAW by using an audio plugin could be very comfortable. And if this plugin gives enough flexibility and control over the riding process it could be useful for a broad range of applications starting from simple vocal/bass riding up to tricky voice over recordings for commercials.

So, **GainRider 2** gives you this flexibility and the full control over the riding process.

Features:
- 3 ride modes: loudness leveling, ducking, loudness leveling to side-chain.
- Detailed control of gain change (speed, pre-delay, min, max, idle).
- Flexible pre-delay including zero delay mode.
- Loudness measurement based on EBUR128-2014 ML
- Large display to monitor impact of plugin parameters.
- Flexible pre filter.
- DAW side chaining (VST3/RTAS/AAX/AU) or channel 3+4 (VST2).
- Read/Write automation data.
- A/B control.
- **Free update for GainRider users**

2   How GainRider 2 works

The gain adjustment is based on "true loudness" measurement (EBUR128 ML). GainRider 2 compares constantly the loudness of the control signal with the target level and adjusts gain of the main signal (mode INT). The gain riding starts as soon as the measured loudness is above the NoiseLevel value and stops if it is below.
The maximum gain adjustment is limited by the RangeMin and RangeMax values just to avoid overemphasis of certain parts of the signal or even "pumping" effects.
The look ahead of the algorithm is controlled by the pre-delay control, starting from 0ms (zero delay) up to 3000ms.

The picture below shows a typical ride process:
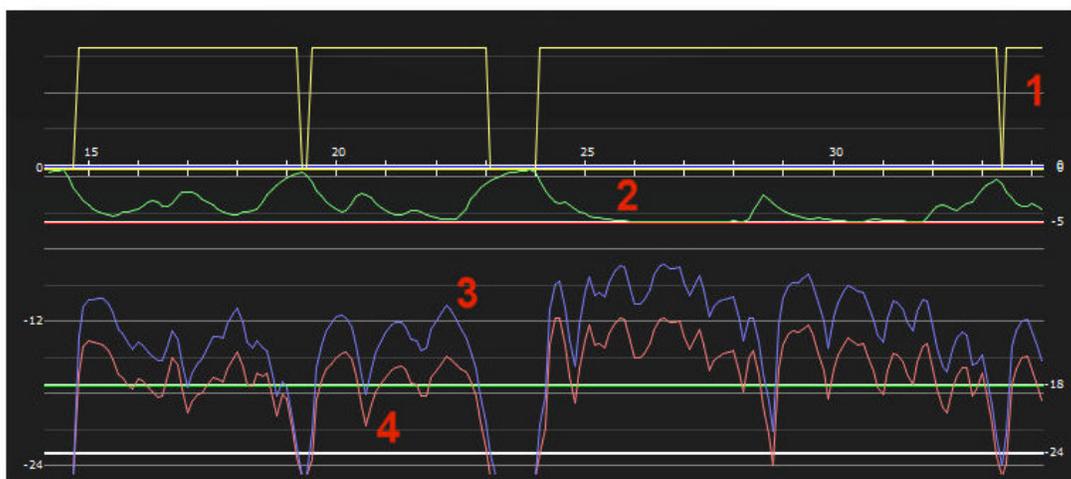
1) Ride indicator (yellow), shows when gain riding starts and ends. Ride starts when loudness of control signal is higher then the noise level and stops if it is below
2) Current gain (green), shows current gain curve, moves between RangeMin and RangeMax values
3) Loudness of control signal (blue); could be either the main signal (mode INT) or the side chain signal (mode SC1 or SC2)
4) Loudness of outgoing signal (red)

3 Minimum System Requirements

- Windows XP SP3 or newer
- Mac OS X 10.9 or newer
- Win: 32/64 Bit VST, 32/64 Bit VST3, 32 Bit RTAS, 32/64 Bit AAX
- OS X: 32/64 Bit VST, 32/64 Bit VST3, 32/64 Bit AU, 32 Bit RTAS, 32/64 Bit AAX
- Tested with: Cockos Reaper, Steinberg Cubase/Nuendo/Wavelab 6/7/8/9/10, FL Studio 12.x/20.x, PT10/12/2018, Reason 9.5/10, Studio One, Ableton Live

4 How to use

Simple gain riding of a (vocal) track:
Load GainRider 2 plugin into the insert-slot of your (vocal) track. Load "default" program, make sure that automation is set to "Idle" and mode is set to "INT". Let the DAW play and watch the display.

Adjust the target level so it is between the local minimum and maximum of the control signal (e.g. -18dBFS). Finally set the RangeMax to 0dB and the RangeMin to -9dB. Please note that the source signal is now only reduced, no more gain increase at the beginning or end of a ride:
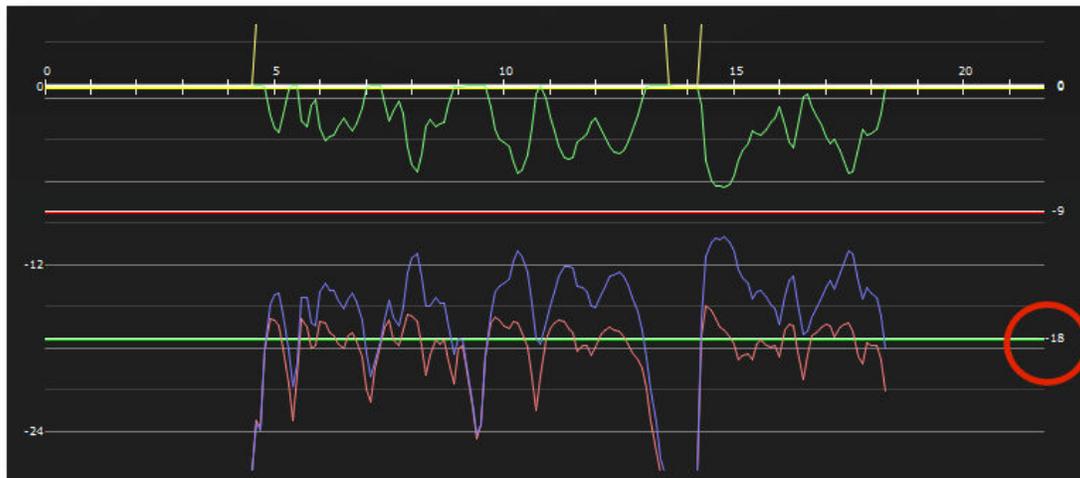
Advanced gain riding with side channel signal (mode SC2):

In this case the loudness of the main signal follows the loudness of control (side chain) signal.
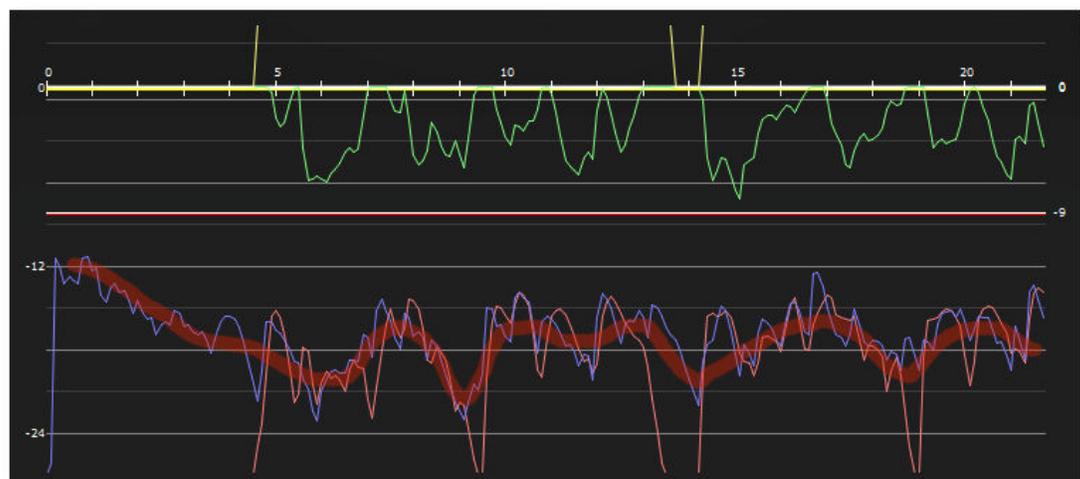
Adjust the final loudness with the volume knob (e.g. +3dB), so the main signal "sits" above control signal.

5 Plugin Controls

Mouse usage:

Click and drag horizontally changes parameter value
Ctrl click and drag changes parameter value faster
Shift click and drag changes parameter value slower
Alt click rests to default value
Double click or right click open value edit box, finish with enter.

5.1 Pre-Filter

Filters the signal for loudness measurement. This let the loudness measurement focus on the specific frequency range e.g. vocals or bass.

Low/High-Cut Filter:
1 - 22k Hz

5.2 Input Control

Side chain
GainRider 2 can use side-chain (VST3/RTAS/AAX/AU) or channel 3+4 (VST2) as control channel for the ride process.

Input Mode:
- INT (Internal): main signal is leveled towards target level. The blue curve shows the incoming signal, the red curve the outgoing signal.
- SC1 (Side Chain 1): The main signal is leveled to target level as soon control signal is above noise level. This process is called ducking. The blue curve shows the control signal, the red curve the outgoing signal.
- SC2 (Side Chain 2): The main signal is leveled towards control signal as soon main signal is above noise level. The blue curve shows the control signal, the red curve the outgoing signal.

Target Level (dBFS):
Sets the target loudness for the main signal (mode INT) or the control signal (mode SC1)

5.3 Gain Riding Control

Sensitivity (ms):
Sets the speed of the gain changes, lower values let the gain change faster.

PreDelay (ms):
Pre-delay aligns the timing of gain changes with main signal. Higher values delay the outgoing signal more.

NoiseLevel (dBFS):
Gain riding starts above loudness level, and stops below.

RangeMin (dB):
Minimum gain change.

RangeMax (dB):
Maximum gain change.

IdleGain (dB):
Gain during idle (no ride)

5.4 A/B, Sync, Automation

A/B:
Switch between processed and unprocessed signal

Sync:
Enables synchronization with DAW start/stop, display is reset before play.

Automation:
Idle: no read or write of automation data.
Write: writes automation data to DAW. Record parameter "Current Gain"
Read: reads automation data from DAW.

5.5 Display
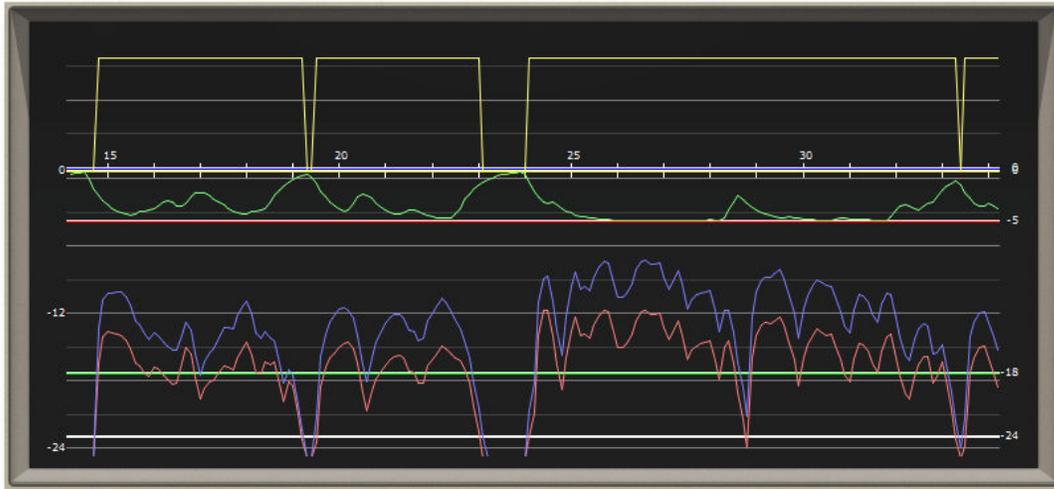
The display provides a detailed view of all measurements and shows the Target/NoiseLevel, RangeMin, RangeMax and IdleGain values on the right side.

5.5.1 View Control

XScale/XOffset:
Zoom and move view, time axis, in seconds

YScale/YOffset:
Zoom and move view, loudness axis, in dBFS/dB mixed

5.5.2 Curve Display

CntrlSig:
On/Off (pre filtered) control signal

SrcSig:
On/Off (processed) source signal (= output signal)

Gain:
On/Off gain curve

Ride:
On/Off ride curve

Screen:
On/Off screen

Reset:
Reset content of display

Pause:
Freeze display

5.5.3 Plugin info menu

Click on the "GainRider2" logo to get more information about the plugin, access the online manual or changelog.

6 Demo mode versus Registered mode

In demo mode (without registering) the plug-in mutes audio every 90 seconds for a short period. This could be circumvented by clicking on the "TBProAudio" logo within 90 seconds.

7 Registration/Activation

This plugin must be registered and activated in order to be fully functional. You can purchase the license key here: http://www.tb-software.com\tbproaudio.
After purchase, you will receive the license key packed in a zip file by email. Unzip the license file to a suitable location on your PC (e.g. desktop). The license file is called "product name.license". Add the plug-in to any track in your DAW, click on the text "Demo: Click here to activate it" and select the license file. Remove the plug-in in your DAW and add it again. The GUI now says "Registered to your name".

8 Notes

VST2 "side-chaining"

VST2 does not support implicitly side chaining. VST3 introduced it for the first time to VST plugin architecture. So in order to use GainRider 2 VST2 plugin a DAW with highly flexible channel routing is required.

9 Conclusion

So finally if you have any questions or suggestions just let us know. And have fun with our tools and visit us here: http://www.tb-software.com/TBProAudio/index.html

Your team from TBProAudio :-)