IMPACT SOUNDWORKS

PEAK RIDER 2

USER MANUAL

Manual Version 2.2

⚑ TABLE OF CONTENTS:

PRODUCT DESCRIPTION:

Peak Rider 2 is a unique, flexible, and powerful sidechain dynamic processor. It can be used to match the volume envelope of one signal to another, subtract the volume envelope of one signal from another, expand a signal by combining the envelope of another audio signal with its own, or equalize a signal while retaining the exact dynamic characteristics. It can also be used for powerful transient designing, tight drum gating, dynamic retention across distortion or other effects, reshaping stereo imaging, and much, much more.

WHAT'S NEW IN PEAK RIDER 2:

- Pro Tools compatible AAX and RTAS plugin formats
- EQ mode
- Smoother parameter automation
- Informative GUI metering
- SC Input Processor (EQ, Volume, Gain)
- SC Signal Generator
- RMS Algorithm Overhaul
- New presets
- Undo/Redo Buttons
- Preset Next/Previous Buttons
- Updated registration hardware encoding

CONCEPTS:

The descriptions in this manual often refer to the main and sidechain signal. The main signal is whatever signal is sent on the plugin's main input and output channels. The sidechain refers to the signal routed (via your DAW) to the plugin's auxiliary input channels. The sidechain can be either a copy of the main input signal, or an entirely different signal routed into the plugin's sidechain inputs via the routing system in your DAW.

An envelope is a volume-over-time analysis of a signal which is generated by an envelope algorithm. Envelopes are the fundamental component behind how Peak Rider works. As the general volume of an input signal rises and falls, so will its generated envelope. How quickly an envelope reacts to rising and falling is determined by the envelope generator's timing controls.

Peak Rider 2 matches, combines, or subtracts these generated envelopes to generate a new envelope. The main input signal is changed using this new product envelope. How Peak Rider uses the envelopes is selected via the Mode knob.

QUICK-START GUIDE:

This section is a short tutorial section intended to get new users quickly using Peak Rider 2 effectively.

SETUP

- Load Peak Rider 2 onto the audio track you want to affect.
- Begin playing your audio looped.
- Select a processing mode.

ROUTING (external sidechain)

- Bus a separate sidechain signal into the plugin's auxiliary inputs inside of your Digital Audio Workstation. How this is done is dependant on which DAW you are using. Refer to the documentation of your DAW if you are unsure how to do this.
- Switch the **SC MODE** control to '**Ext**' at the bottom to engage this external sidechain.
- Confirm your sidechain signal is properly routed by observing a blue spectrum in the Filter View.

EXACT/NOBOOST MODE

- Your main audio track will now have its envelope replaced by the sidechain signal's volume envelope. If you are using an internal sidechain with the default settings, there will be no effect.
- Change the timing controls at the bottom to start affecting the dynamic character of the signal.
- Adjust the **RANGE** control to control the maximum amount of gain change.

DUCK MODE

- Adjust the **GAIN** control in the Filter View to '-30 dB'.
- Open the SC Input Screen by clicking **SC EQ** at the bottom of the screen.
- Use the **SC GAIN** knob to boost the SC signal until the ducking effect becomes apparent.
- Close the SC Input Screen and adjust the **GAIN** control in the Filter View again to either a positive or negative value depending on the desired effect.
- Change the timing controls at the bottom to start affecting the dynamic character of the signal.

EXPAND MODE

- Adjust the **SENSITIVITY** control at the top until the meter behind the knob touches the top center bar on the loudest parts.

- Change the timing controls at the bottom to start affecting the dynamic character of the signal.

EQ MODE

- Begin adjusting the default EQ bands by dragging around their circular handles.
- Adjust the **RANGE** control to control the maximum amount of gain change.
- Change the timing controls at the bottom to start affecting the dynamic character of the signal by clicking the lower timing panel.

REGISTRATION:

This section will cover the steps required to register Peak Rider 2 with your purchased 'User ID' and 'Key' combination from Impact Soundworks.

Peak Rider 2 may be registered with the same credentials used for Peak Rider version 1.

If Peak Rider 2 is unregistered, the output of the plugin will be replaced with momentary noise, after which it will return to to normal behavior. If Peak Rider 2 does not detect a valid registration, it will display inside the center of the 'Info Box' a large red button with the text 'Register Here':

REGISTER HERE

Click the button to open the 'Peak Rider 2 Registration Tool'.

REGISTRATION STEPS

- Have your 'User ID' and 'Key' written down or readily available.
- Open the 'Peak Rider 2 Registration Tool'

   - **Mac:** Open your Application folder, and search inside the 'Impact Soundworks' sub folder. The default installation path is as follows:
     `/Applications/Impact Soundworks/Peak Rider 2 Registration Tool.app`

   - **Windows:** Open the start menu and search under 'All Programs' or 'All Apps'. The default installation path is as follows:
     `C:\Program Files\Impact Soundworks\Peak Rider 2\Peak Rider 2 Registration Tool.exe`

- Carefully enter your credentials into the textboxes.
- Click the 'Register' button at the bottom of the window.
- Click 'Finish' to close the Window.

Restart any DAW you have open to apply the registration. If the registration information was entered properly, Peak Rider 2 will display inside the 'Info Box' your registered 'User ID'. If the registration information was not correct or was incompatible, the 'Register Here' button will still be displayed. If this happens, try reopening the registration tool and carefully re-enter your registration credentials. If the issue persists, and you are confident that you have correctly entered your registration credentials, visit the Impact Soundworks website at:
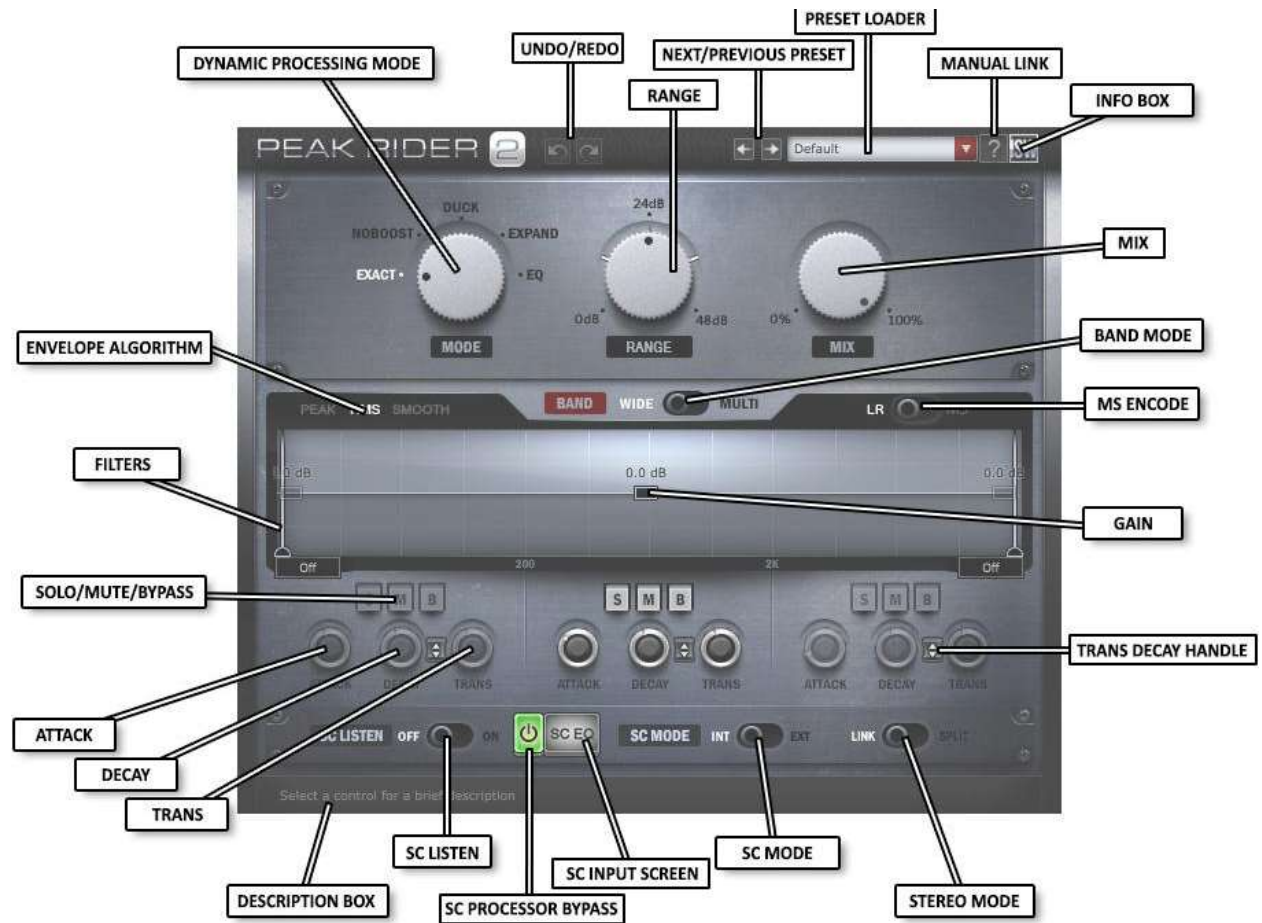
   https://impactsoundworks.com/contact/

Submit your problem here, and Impact Soundworks will begin working on resolving your issue shortly.

GUI OVERVIEW:

MAIN INTERFACE:

CONTROL DESCRIPTION:

This section breaks down the function of every control on the GUI. It is broken down into sections starting visually from top to bottom. Some footnotes are attached to certain controls, stating additional information and how the state of one control may affect the state of other controls.

TOP PANEL CONTROLS:

These controls are macro and informative controls. They include a preset menu, a link to this manual, and a link to a window with information about the registration and current version of the plugin.
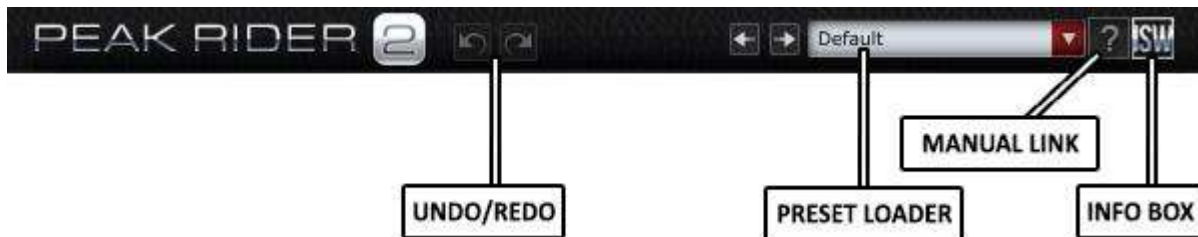
UNDO/REDO Peak Rider 2 will remember each control you change while it's open. Click the 'Undo' button to revert your latest change. Click the 'Redo' button to cancel an undo.

NEXT/PREVIOUS PRESET allows you to step forwards and backwards through available presets.

PRESET LOADER[2] menu allows you to load, save, and manage Peak Rider 2 presets.

OPEN MANUAL opens this manual externally.

INFO BOX[1] displays the installed version number of Peak Rider 2, registration information, and a web-link to https://www.impactsoundworks.com. A link to check for newer versions of Peak Rider 2 is also displayed.

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[1] If the plugin is not registered, or it does not recognize the registration of the current system, a red button labeled 'Register Here' will be displayed, which when clicked will provide information on how to register the plugin.

If the plugin is registered, the name of the registration will be displayed in the center of the display box.

To show the INFO BOX, click once on the ISW icon. To hide it, click anywhere outside of the display box.
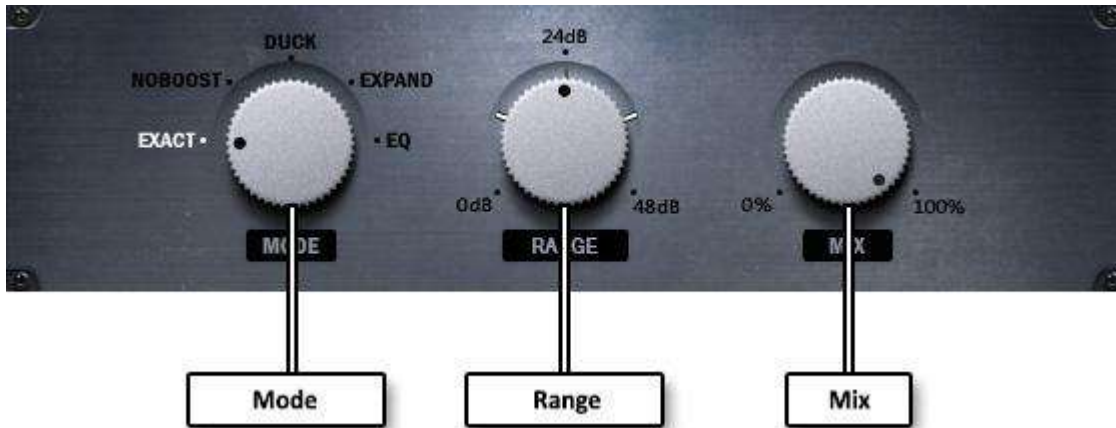
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[2] In the preset menu, presets which utilize an external sidechain signal will be displayed with a small icon.

MASTER CONTROLS:

These controls affect the main properties of the plugin's operation, including the dynamic processing mode, the range of effect, and the dynamic processing mix ratio.

MODE knob changes the envelope matching mode of Peak Rider.
- Range: Exact, Noboost, Duck, Expand, EQ
- Default: Exact

- **Exact** mode matches the main envelope to the sidechain envelope.

- **Noboost** mode matches the main envelope to the sidechain envelope (attenuation only).

- **Duck**[1] mode subtracts or adds the sidechain envelope from the main envelope.

- **Expand**[2][3] mode expands the dynamics of the main envelope with the sidechain envelope.

- **EQ**[3] mode matches an equalized version of the main envelope to an unprocessed main envelope.

[1] In **Duck** mode, the **Gain** handles control the amount of ducking. Negative values subtract the sidechain envelope from the main envelope. Positive values add the sidechain envelope to the main envelope. A value of '0dB' will result in zero volume effect.

[2] In **Expand** mode, sensitivity LEDs are shown. The LEDs show the amount of drive on the respective band. As the main input signal and sidechain signal change over time, the LEDs will change color depending on the amount of drive. The color **green** means a low amount of drive, **yellow** a moderate amount of drive, and **red** a high amount of drive.

Sensitivity LED's in various gain stages.

[3] In **EQ** mode, up to 12 separate bands can be simultaneously enabled.

The interface of Peak Rider 2 will change slightly when this mode becomes active.

RANGE[1] limits the amount of gain change.
- Range: 0 dB to 48 dB
- Default: 24 dB

SENSITIVITY[2] sets the input sensitivity of the expander.
- Range: 0 dB to 48 dB
- Default: 24 dB

MIX knob blends the amount of dynamic processing.

- Range: 0% to 100%

- Default: 100%

[1] The **Range** control has a background meter which shows information about the current processing of Peak Rider 2:

In **Exact**, **Noboost**, and **EQ** modes, animated graphics show recent gain changes overall with lines delineating the allowed range.
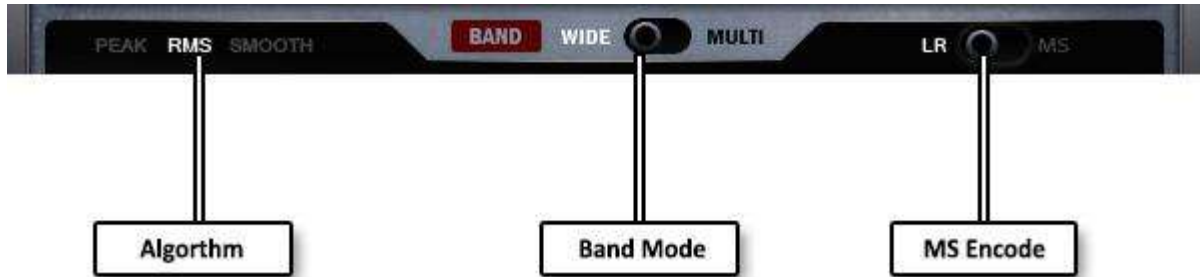
In **Expand** mode, animated graphics show the overall input signal strength with a line delineating maximum sensitivity.

In **Duck** mode, the range control is disabled.

When Peak Rider 2 is in **Expand** mode, this control is renamed **SENSITIVITY**.

[2] When Peak Rider 2 is not in **Expand** mode, this control is renamed **RANGE**.

SIGNAL SETTINGS CONTROLS:

ALGORITHM selects the envelope generation algorithm.
- Range: Peak, RMS, Smooth
- Default: RMS

- **Peak** generates real-time, fast peak-meter style envelopes.

- **RMS** generates real-time, smooth envelopes.

- **Smooth**[1] generates smooth, look-ahead, windowed-average envelopes.

BAND MODE[2] sets the plugin to use one envelope for all frequencies, or multiple envelopes for sections of frequencies.
- Range: Wide, Multi
- Default: Wide

[1] This algorithm introduces latency on the output signal. This latency may be automatically compensated for by your Digital Audio Workstation.

[2] This state of this control affects the function of the **FILTER** controls.

While in **Wide** mode, the **FILTER** controls determine the frequencies that the sidechain signal will be filtered. In **Multi** mode, the FILTER controls determine which crossover frequencies the input signals will be split at.

MS ENCODE switch determines if the plugin processes the left and right channels normally or while encoded in a mid/side configuration.
- Range: LR, MS
- Default: LR

EQ MODE CONTROLS[1]:

EQ mode is a brand new processing system available in Peak Rider 2. In this mode, the main input signal is initially copied to the sidechain input. The custom equalization processing is then applied to the main signal path, while the sidechain copy is unaffected. The equalized main input envelope is then matched to the dry sidechain envelope, undoing any envelope changes the equalization has made.

Up to 12 discrete EQ bands can be added at once. Bands can be added by double-clicking on an empty space inside the EQ window.
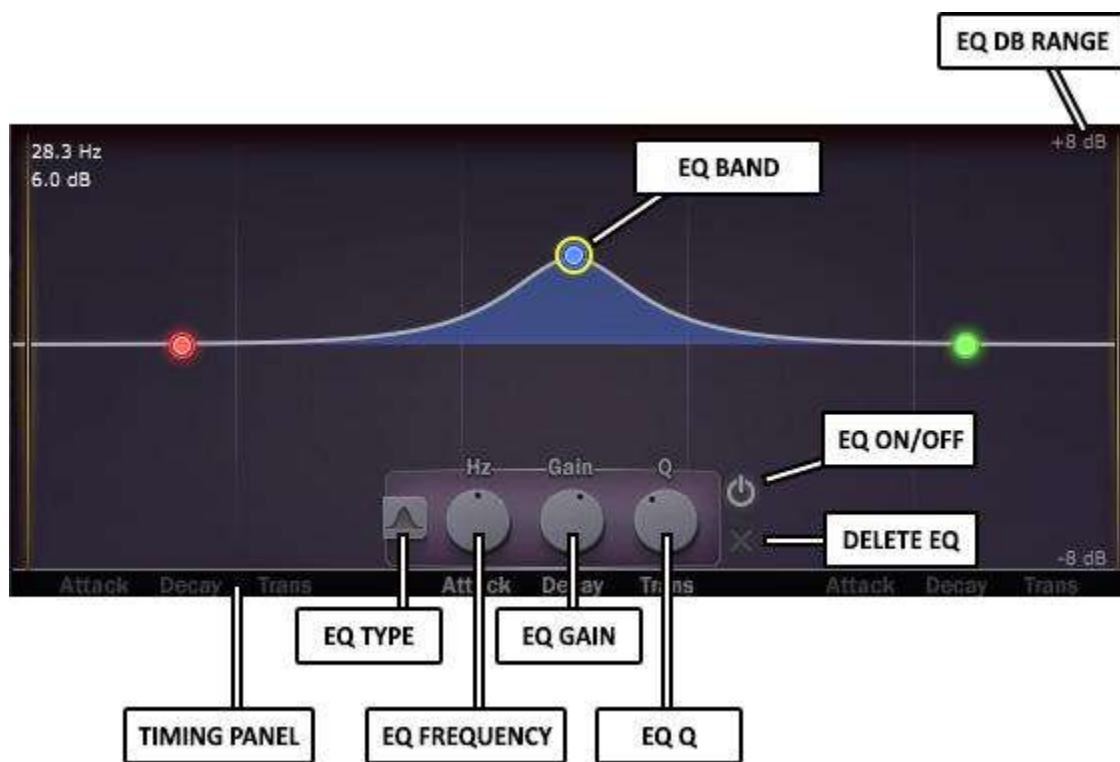
EQ BAND[2] is a mouse draggable component that adjusts the frequency and gain of an EQ band. Each band represents a single audio adjustment. The currently selected EQ band is highlighted with a yellow circle.
- Range (X-Axis): 20 Hz to 20,000 Hz
- Range (Y-Axis): -24 dB to 24 dB
- Default (Y-Axis): 0 dB

EQ TYPE sets what type of adjustment the selected band will make.
- Range: Band, Notch, Lo Shelf, Hi Shelf, Lo Cut, Hi Cut
- Default: Band

EQ FREQUENCY sets the currently selected band's target frequency.

- Range: 20 Hz to 20,000 Hz

EQ GAIN sets the currently selected band's volume adjustment.
- Range: -24 dB to 24 dB
- Default: 0 dB

EQ Q sets the currently selected band's bandwidth/quality.
- Range: 0.5 Q to 10 Q
- Default: 5.3 Q

EQ ON/OFF enables or disables the currently selected band.
- Range: Off, On
- Default: On (for new bands)

DELETE EQ removes the currently selected band entirely.

TIMING PANEL shows the hidden timing controls when clicked. When shown the standard timing controls are shown. To hide the panel, click anywhere on the background EQ window.

EQ DB RANGE shows a menu with an option to increase or decrease the EQ view's decibel range.

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[1] In **EQ Mode**, the view mode is locked to 'Spectrum' mode. The Filter Settings Window is also unavailable. To change the crossover slopes in EQ mode, a menu is available via right-clicking on the filter handles.

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[2] New bands can be added by double-clicking the background of the EQ window. Up to 12 bands can be added simultaneously.

EQ band handles can also be altered in via a combination of the mouse and keyboard.

While targeting a band with the mouse cursor, its **Q** value can be changed by scrolling the mouse wheel up and down to increase and decrease it respectively.

While targeting a band with the mouse cursor, its **TYPE** can be changed by holding the 'alt' or 'option' key on the keyboard, then scrolling the mouse wheel up and down.

The up, down, left, and right arrow keys on the keyboard will alter the currently selected EQ band's **Gain** and **Frequency** values respectively. Holding the 'ctrl' or 'command' keys while pressing the arrow keys will reduce the amount of change.

Pressing the 'delete' or 'backspace' keys on the keyboard will delete the currently selected band.

FILTER VIEW[1]:
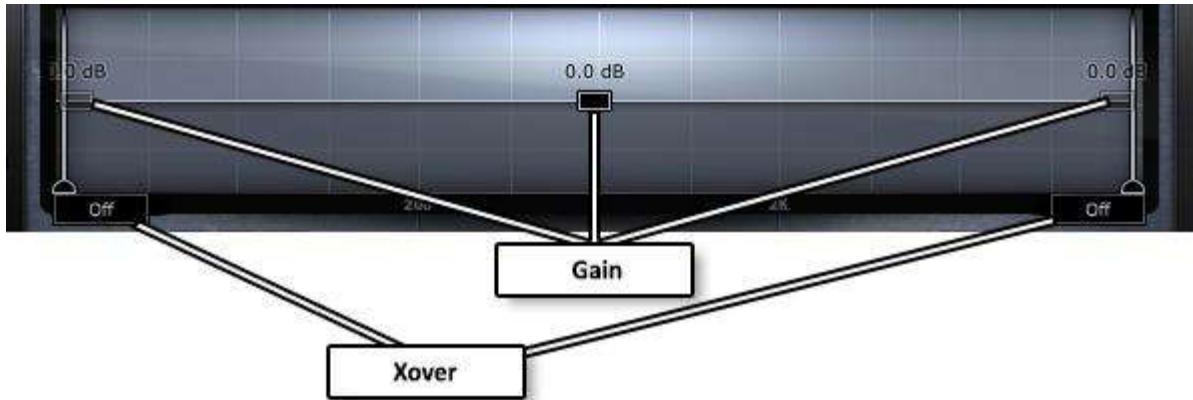
GAIN[2] controls the amount of output gain applied to the respective band.
- Range: -30 dB to 30 dB
- Default: 0 dB

XOVER[3] (*crossover*) sets the frequencies the sidechain input signal is filtered at.
- Range: 20Hz to 20,000Hz
- Default: Off

[1] Right-clicking the background of the Filter View will display the Filter Settings Window.

[2] While **MODE** is set to **Duck**, this control instead sets the range of boost/attenuation. See the **MODE** description for details.

[3] While in a **Wideband** configuration, these respectively control a low pass and high pass filter on the sidechain signal input. While in a **Multiband** configuration, these controls determine the frequency of the crossovers.

Editing a text value that contains a the letter 'k' will change the interpretation of the entered value from 'Hz' to 'kHz'.
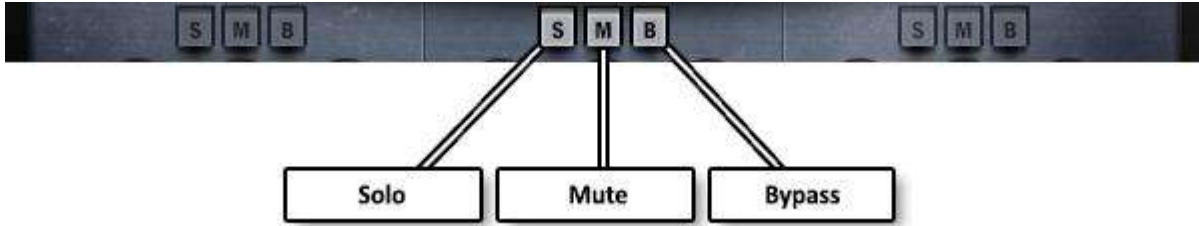
If the frequency specified is too low or high, the filter will be set to 'Off' and deactivated. A deactivated filter will not affect audio.

The filters may exert a phase shift at the filter frequencies (except in LINEAR PHASE mode).

BAND CONTROLS:
These controls allows the discrete soloing, muting, and bypassing of bands in a **Multiband** configuration.

SOLO mutes the output of other, non-soloed bands.
- Range: Off, On
- Default: Off

MUTE silences the output of the band.
- Range: Off, On
- Default: Off

BYPASS skips match-processing of the band.
- Range: Off, On
- Default: Off

TIMING CONTROLS:

These knobs give you control of how Peak Rider 2 converts your audio into envelopes during the main mode processing section.

ATTACK[1] sets the rise time (smoothness) of the envelope generators.

- **Peak Algorithm**
    - Range: 0 ms to 300ms
    - Default: 0 ms
- **RMS Algorithm**
    - Range: 0 ms to 300ms
    - Default: 5 ms
- **Smooth Algorithm**
    - Range: 0.2 ms to 15ms
    - Default: 7.5 ms

DECAY sets the fall time of the sidechain envelope.
- Range: 15 ms to 500ms
- Default: 136.3 ms

TRANS DECAY HANDLE modifies the value of the adjacent Trans and Decay handles equally.

TRANS sets the fall time of the main envelope.
- Range: 15 ms to 500ms
- Default: 136.3 ms

[1] This control is affected by **ALGORITHM**. See **ALGORITHM** description for details.

The three sets of timing controls are used respectively for the three separate bands in **Multiband** mode. In **Wideband** mode, only the center controls are used.

While using the **Smooth** algorithm, this control is renamed 'Look', and it will instead control the smooth envelope look-ahead window time.
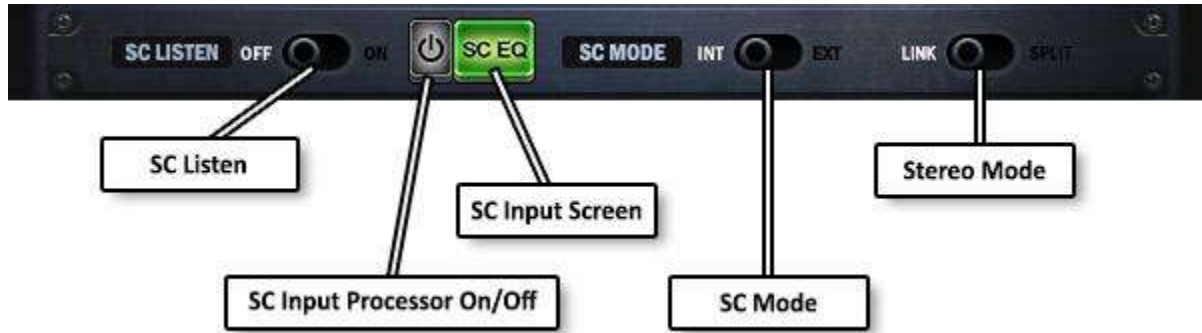
Smooth mode look label

BOTTOM STRIP CONTROLS:

These controls give access to further utility functions the plugin offers, including the ability to replace the output with the sidechain signal directly, accessing and bypassing the sidechain input processor, selecting your sidechain source, and setting the stereo channel processing mode.

SC LISTEN sets the output of the plugin to the sidechain signal.

- Range: Off, On
- Default: Off

SC INPUT PROCESSOR ON/OFF enables or bypasses the sidechain input processor.

- Range: Off, On
- Default: On

SC INPUT SCREEN shows or hides the sidechain processor window.

- Range: Hidden, Shown
- Default: Hidden

SC MODE[1] sets the plugin to read the sidechain signal from either the external auxiliary inputs or a copy of the main input signal.

- Range: Int, Ext
- Default: Ext

STEREO MODE sets multi-channel processing mode to either linked channel processing (retaining stereo image) or split discrete channel processing (multi-mono processing).

- Range: Link, Split
- Default: Link

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[1] Some DAW's treat the sidechain channels differently than others. As a fix for potential problems, Peak Rider 2 has a per-DAW option to clear the sidechain channels. If you experience issues when using an external sidechain, such as odd sounds coming from the plugin, you can try right-clicking the **SC MODE** switch and enabling sidechain channel clearing.

SIDECHAIN INPUT SCREEN CONTROLS:

The sidechain input screen enables processing directly on the input sidechain signal before it is processed by any dynamic modes. It allows you to change the panning and volume of the sidechain signal, apply filtering and equalization, and replace the signal with signal generators.

SC PAN pans the sidechain signal.
- Range: -100 to 100
- Default: 50

SC GAIN changes the volume of the sidechain signal.
- Range: -24dB to 24dB
- Default: 0dB

SC L/R POLARITY FLIP inverts the polarity (phase) of one or both sidechain signal channels.
- Range: Off, On
- Default: Off

SC SIGNAL GENERATORS generates a signal on the '**Int**' sidechain inputs.
- Range: Off, Tone, Pink
- Default: Off

TONE GENERATOR FREQUENCY sets the frequency of the sidechain tone generator.
- Range: 20Hz to 20,000Hz
- Default: 632.5 Hz

SCEQ RESPONSE HANDLES are mouse draggable components that adjusts the frequency and gain of a SCEQ band. Each SCEQ band represents a single audio adjustment on the sidechain input signal.
- Range (X-Axis): 20 Hz to 20,000 Hz
- Range (Y-Axis): -24 dB to 24 dB
- Default (Y-Axis): 0 dB

SCEQ FREQUENCY sets the respective SCEQ band's target frequency.
- Range: 20 Hz to 20,000 Hz

SCEQ GAIN sets the respective SCEQ band's volume adjustment.
- Range: -24 dB to 24 dB
- Default: 0 dB

SCEQ BAND Q sets the respective SCEQ band's bandwidth/quality.
- Range: 0.5 Q to 10 Q
- Default: 5.3 Q

SC INPUT PROCESSOR ON/OFF enables or bypasses the sidechain input processor.
- Range: Off, On
- Default: On

CLOSE SC INPUT SCREEN closes the sidechain input screen.

FILTER SETTINGS WINDOW:

SPECTRUM GAIN[1] controls the visual magnification of the Spectrum and Envelope views.
- Range: 0 to 100
- Default: 50

SPECTRUM/ENVELOPE[1] controls whether the Spectrum view or Envelope view is displayed in the Filter View.
- Range: Spectrum, Envelope
- Default: Spectrum (Changeable via right-click menu)

LINEAR PHASE[1] determines whether the crossovers in Multiband mode are real-time minimum phase filters or delayed linear-phase filters.
- Range: Minimum Phase, Linear Phase
- Default: Minimum Phase

FILTER SLOPE[1][3][4] specifies the slope of all minimum-phase filters.
- Range: 6 dB, 12 dB, 24 dB
- Default: 6 dB

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[1] This control is located in the Filter Settings window which can be opened by right-clicking the filter view.

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[2] Linear phase filters introduce latency on the output signal. This latency may be automatically compensated for by your Digital Audio Workstation.

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[3] Linear-phase filters have a fixed slope. This control has no effect on the linear-phase filters.

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[4] While using the 'Minimum Phase' filters in a **Multiband** configuration, '6dB' crossovers will exert a phase shift only while dynamic processing is present. '12dB' and '24dB' crossovers will always exert a phase shift. Linear-phase filters will not exert a phase shift, but will induce a latency on the plugins outputs.

▌ EULA:

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