Waves Renaissance Channel

Software Audio Processor

Users Guide.

Chapter 1: Introduction and Overview.

Introducing Waves **Renaissance Channel**, a complete audio mixing chain including an EQ, Gate, Compressor, and output section all in a single plug-in. All processing is based on the acclaimed Renaissance EQ, Renaissance Compressor and Renaissance VOX. **Renaissance Channel** features double precision internal audio path and processing trough all the chain. Further enhancements include separate side-chains for the Gate and Comp with independent filters and source selectors, a flexible signal path, and In/Out selectors for each processor. These features make **Renaissance Channel** go far beyond what Renaissance EQ and Renaissance Comp or VOX can offer on their own.

In the **Renaissance Channel** one of our goals was to make a long lasting professional tool with no compromises on features or sound quality what so ever. The whole internal audio path is in double precision 64bit FP or 48bit Fixed, allowing for a convenient 18dB internal headroom, and eliminating the possibility of internal clipping in the EQ or Compressor without loosing a single bit of resolution in the 24bit audio output. Ready to complement your most critical tracks, offering complete audio channel processing all the way to the channels' "Rotation" and Fader, that also benefit from the internal double precision path, and serve as an alternative to the host's track Panner and Fader.

Renaissance Channel joins the Renaissance Line of the Waves Digital Audio Processors. It presents the integration of our work so far and offers a multi-tool package. The research that lead to these technologies involved studies of existing equipment and collaboration with the pros to understand what's essential and practical. The Renaissance Channel comes to answer the call of many appreciated users and to follow with our commitment to provide the best audio processing we possibly can.

RENAISSANCE CHANNEL OVERVIEW

The Waves **Renaissance Channel** Plug-In consists of:
- EQ section with 4 band paragraphic EQ
- SideChain section with independent side chain filters and source selectors for the Compressor and Gate.
- Dynamics section including a Gate, compressor/expander, and a clip-guard limiter.
- Router for switch the order of the EQ and Dynamics sections.
- Output section including Phase-Inversion, Rotation (Pan), Fader and VUs.

Each of the processors has a dedicated In/Out switch.

A single Frequency-Response graph is used for graphic display of the EQ and both side chains.

Color code:

The **Renaissance Channel** GUI uses a color code to help associate controls with their respective processors:

EQ – Yellow
Compressor – Orange
Gate – Light Blue

EQ section:

The 4 band paragraphic EQ offers fully parametric and graphic controls.
Available filter types are:
Bell - ±18dB Boost/Cut with variable Q.
Lo/Hi Shelf –two flavors available 'analog' and 'resonant', with variable slope.
Lo/Hi Cut – 3'rd order 18dB/Oct filters with variable slope.

SideChain section:

The Compressor and Gate each has a dedicated Side Chain section allowing for independent side chain control. The SideChain controls include:
Source – Side Chain Source may be independently selected from 'Internal', 'PreEQ', and 'External'
Filter - may be independently selected from 'Hi-Pass', Band-Pass, 'Low-Pass' and 'Band-Reject', with variable frequency and bandwidth
Listen – Monitoring the Side Chain is possible by engaging the related 'Listen' button.

Gate:

The Gate in the *RenChannel* is in the footsteps of the Renaissance VOX's Gate. It has threshold and floor controls. Attack and release are automatic and the gate is not a brickwall gate but more like a hard downward expander so its sound is fairly smooth in any settings and is best set by adjusting the threshold. The gate has a dedicated side chain with a dedicated filter so the gain adjustment can be triggered by a filtered portion of the audio or by an external source where available.

Compressor:

The compressor in the *RenChannel* offers the choice of the Renaissance Compressor or Renaissance VOX gain curves and the 4 classic controls Threshold, Ratio, Attack and Release. The sidechains' dedicated filter may be used for frequency dependant compression such as De-Essing or De-Popping.

Clip Guard Limiter:

The Renaissance Channel Dynamics section has an output clip guard limiter to perform limiting of the output stage in the case it exceeds 0dBfs. This eliminates clipping as long as the Dynamics section is routed Post EQ. When the Dynamics section is routed Pre EQ the output clip indicator will indicate how many dB's of clipping occurred at the output, and clicking it will automatically adjust the output Gain fader to prevent this clipping.

Output Section:

To complete the basic channel needs, the output section includes a Rotation pan pot (stereo and mono-to-stereo versions), phase inversion toggle, Fader (-40 to +40dB), and output VUs.. For Stereo inputs the rotation pan pot will work different then most balance pan pots as it will rotate the complete stereo image 45° left or right.

Chapter 2: Using Renaissance Channel.

QUICK START

This Quick Start section describes a recommended workflow for working with Renaissance Channel. The easiest way to start is usually by selecting a preset and then adjusting it to the actual context. Remember that the WaveSystem offers the user the option to create a set of "User Presets" which will be shown in the Load menu of the plug-in under any host application. The settings can also be saved into a setup file for exchange with the plug-in on other computers through other host applications. For more information read the WaveSystem guide.

Step 1 – Set the EQ to focus the desired frequency ranges that complement and emphasize the track's important audio signal. The high band is set to a high shelf by default. On the EQ graph Grab its blue "Grab marker" with the mouse and drag it upwards to brighten the sound or downwards to dull the sound. Grab Left to sweep down the frequency scale or right to sweep up to the super highs. You will hear the EQ change in real time as you drag the band marker around. When you hear something you like. Stop and fine adjust your setting using the text box controls with the Arrow keys to move 1 step at a time. Do the same with the other bands until you feel good about the track's EQ.

Step 2 –Raise the GATE threshold to shut out insignificant low level audio in the track. To find a good point look at the gates blue energy meter for a point where the track has the lowest significant signal that needs to pass through the gate and set the gate threshold arrow just below that point. You may also look for a section that's generally low and mostly reveals the noise floor, set the Gate threshold just slightly above that point. Judge your settings by ear.

Step 3 - Set the compressor threshold to just below the average peak. Adjust the Ratio to 2:1.Here gain attenuation should be introduced whenever the energy approaches the threshold or passes it, as result taking the threshold downwards causes a decrease in loudness which is compensated by makeup gain in the output gain control. Set the attack time shorter for better peak control or longer for more punch as desired. Set reference Release time shorter for more loudness or longer for more smoothness.

Step 4 - Use the Gain to make-up for the lost level. As a rule of thumb you should adjust the gain by the reversed threshold value and then moderate it to whatever sounds good and not distorted.

In a Multi Track project it is recommended to redo these steps in order to further fine tune the settings in relation to the other tracks until you feel satisfied with the results.

A note on Renaissance Channel Headroom structure:

One of the design goals of the Renaissance Channel was to prevent any internal clipping, so that clipping may only occur at the final output, where it is visible on the VUs, and can be eliminated by lowering a single control – the Renaissance Channel fader. To achieve this, the Renaissance Channel was designed with 18dB of internal headroom, allowing for extreme EQ and compressor settings without internal clipping. The double precision audio path made it possible to achieve this without any reduction of signal quality at the final 24-bits output. What all this means is that at the output of the EQ, and at the input of the Dynamics section, internal signal level can reach +18dB. This is why the range of the Energy meters and Thresholds in the Renaissance Channel Dynamics section range up to +18dB.
Of course any signal above 0dBFS should be reduced before going out to the host mixer bus (otherwise it will be clipped), this is done in one of two ways:

If the Dynamics section is PostEQ, and feeds the output, the built in Clip Guard Limiter will limit the output back to 0dBFS. In such a case the limiting light will indicate the amount of limiting Taking place –
Black means no limiting is Taking place.
Yellow means a small amount of limiting is Taking place, which is OK and probably inaudible.
Red means too much limiting is Taking place, which is probably audible, and the Fader should be reduced.

If the Dynamics section is PreEQ, and the EQ is feeding the output, the output clip indicator will show how many dBs of clipping are Taking place, clicking it will automatically reduce the Fader by exactly this amount.

For a better understanding of each component and what it can do for your sound read this chapter through.

RENAISSANCE CHANNEL EQ

The Renaissance Channel EQ is a 4 band Paragraphic Equalizer. Each band has 4 controls and an On/Off switch. The controls allow you to specify Type, Gain, Frequency, Q and each band. When a band is turned on its properties will filter the audio Input and its spectral Gain adjustment will register on the EQ Graph.

The EQ can be used to "Focus" the sound's spectral properties by bringing out or tucking in certain frequency ranges.

Using the EQ graph drag markers:

The 4 band controls can be operated from the graph by dragging the respective band drag marker. Color code is used to help associate between the markers and their respective band (the marker and band On/Off button share the same color).

When an on graph band marker is clicked it becomes selected. Once selected any movement will turn the band On.

Double clicking a band marker will toggle it off and on.

Click and drag a marker to set the desired Frequency (on the X-Axis) and the desired boost/cut Gain (on the Y-Axis).

The keyboard arrow keys can also be used for the same purpose, and are handy when you wish to fine tune parameters.

Alt. (Option) Dragging a band marker will change the band's Q.

Ctrl click will toggle the filter type.

Sometimes, when you know the designated setting, it's convenient to dial it in to the parameters control using the numbers on the keyboard according to the

WaveSystem conventions. When a parameter control is selected, it is possible to type in the desired value using the numeric keys at the top of the keyboard and hitting Enter will engage the dialed setting.

Filter Types

CUT/PASS FILTERS

Bands 1 and 4 of the EQ can be set as Hi/Low Pass filters respectively. The filters implemented are 3'rd order, 18dB/Oct filters with variable slope.
To eliminate any unwanted Low Frequency audio use the Hi-Pass (=Low-Cut) filter. To eliminate unwanted Hi Frequency disturbance such as hissing or screeching, use the Low-Pass (=Hi-Cut) filter. In the following picture Band1 demonstrates a Hi-Pass and Band 4 demonstrates a Low-Pass filter. This picture also demonstrates the variable Q for the Cut/Pass filters. Q=1.0 results in a perfect 18dB/Oct Butterworth filter is achieved.


The cutoff frequency represents the point where the roll off is at -3dB. Only band 1 has the choice for Hi-Pass and only band 4 has the choice for Low-Pass.

SHELF FILTERS

The Shelf filters as the Pass/Cut filters can boost or cut above or below a specified frequency, but rather then rolling off to infinity the shelf will roll off or up to the designated gain indicated in the shelf band. Renaissance Channel offers 2 shelf filters. The "Analog Shelf" is equivalent to the Renaissance EQ shelves and has a resonance overshoot before the shelf reaches its designated boost or cut. This overshoot is asymmetric, and to the opposite direction of the boost/cut. The "Resonant Shelf" is slightly different in that for lower Q (bellow 0.8) it has no overshoot and for higher Q (above 0.81) it has a symmetric overshoot resonance.
The following pictures illustrate the response of the RenChannel EQ Hi-Resonant and Analog Shelves cut with different Q settings –
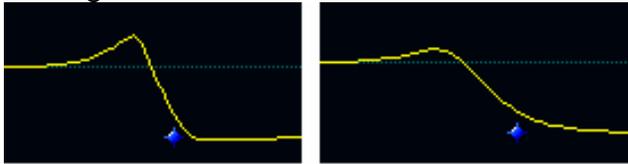
Resonant Shelf -
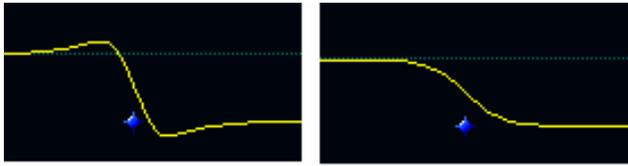
Q = 1.41   Q = 0.71

Analog Shelf -

Q = 1.41   Q = 0.71

BELL FILTERS

Bell filters boost or cut a certain frequency range. The indicated frequency is the center of the bell. Bell filters can be wider or narrower according to the defined Q value.

The behavior of the Gain and Q in this filter is optimized for best psychoacoustic results. Thus for a constant Q, the filter shape for positive and negative gains is a-symmetric, reflecting our ear's a-symmetric reaction to boost and cut. In general the filter shape for negative gain is about twice as narrow from that of a positive gain.

RENAISSANCE CHANNEL DYNAMICS

The Renaissance Channel Dynamics section consists of a Compressor, Gate and a "hidden" Clip Guard Limiter. Compressor related controls are Orange colored and the Gates' are Blue.

Attenuation meter:
The Attenuation meter in the Renaissance Channel is common for the entire Dynamics section. It shows the overall attenuation at any instance accumulated from the Compressor, Gate and Clip Guard Limiter all combined.

Compressor
Renaissance Channel Compressor offers a choice of two Curves. You can select either the RComp or the RVox curves by clicking on the compressor selection button to the left of the compressors on/off.

When the RComp is the selected curve then the compressor uses all the traditional controls – Threshold, Ratio, Attack & Release. Using these controls the user can define a set of conditions by which the track's gain will be adjusted dynamically. When the ratio is 1:1 no gain adjustment will take place and this is just like having the compressor turned off. When we increase the ratio the gain will be attenuated whenever the energy approaches or goes over the threshold and actually "compress" the dynamic range. If we decrease the ratio i.e. 0.50:1 then the gain will boost whenever the energy approaches or goes over the threshold and actually "expand" the dynamic range.

When the selected Comp Curve is RVox, the Ratio control is disabled, however the Attack and Release controls are working. This allows to reach sounds impossible with Renaissance VOX as its Attack and Release are automatic and optimized for vocals. Here you can set a longer attack time to get punchy sound that's great for rhythmic instruments and full mixes. The minimal attack of 0 is the best way to control the peaks and perform limiting but remember that the output stage is actually a limiter too, so unless you want the sound of a 0-attack, you do not need to set it to 0.

The Threshold sets the energy reference so that as long as the audio energy is significantly lower then the threshold, no gain adjustment will be introduced. When the energy approaches the threshold the track gain will be adjusted according to the ratio specified. The Attack and release time constants determine how quickly the gain adjustment will be applied. This is set in Milliseconds.

Note that due to the internal headroom in the Renaissance Channel, the Threshold range is up to +18dB. For more details please refer to '**A note on Renaissance Channel Headroom structure**' in the Quick Start section earlier in this manual.

The gain adjustment will reach its peak by the time specified in the attack constant. And when the energy falls below threshold the attenuation will release according to the time specified in the release control value.

The Release reference time is helpful in setting the smoothness of the gain adjustments so that fast release times will sound grainier or distorted while longer release times will sound smoother or "pumping" in extreme settings.

Renaissance Channel also offers Waves ARC – Auto Release Control. ARC offsets the release reference time indicated in the release control to achieve the highest possible transparency.

The attack time is helpful in defining the compression's application. Short attack times will allow better peak control while longer attacks will create a more "Punchy" sound. Long values for both Attack and Release can work as a leveling process keeping the overall loudness bound to the threshold area.

Gate
The RenChannel Gate will simply attenuate the signal whenever its energy falls beneath the gate threshold. The gate is selectable between Gate or Expander by clicking next to the gate On/Off. The expander is smoother in slope and great for vocals while the Gate is the tool for shutting out any unnecessary sound right down to the floor with a simple brick wall slope so whenever the energy falls beneath threshold the full attenuation will kick in. The Floor control defines the maximum attenuation that can be achieved.

Clip Guard Limiter
A Clip Guard Limiter is built in to the Dynamics section. It uses the internal headroom of the Renaissance Channel to limit any peak above 0dBFS before it will be clipped at the final output.

Limiting Light: When limiting occurs, beside being registered on the overall Attenuation meter, the limiting light will change it's color from black (no limiting) to Yellow (moderate limiting) to orange and Red (too much limiting).
Yellow (moderate limiting) is OK, and will probably not be audible, and does not require lowering the Renaissance Channel Fader.
Red indicates too much limiting, which will probably be audible, and will require lowering the Renaissance Channel Fader.

You can easily familiarize yourself with the behavior of the Clip Guard Limiter by increasing the gain with the Renaissance Channel Fader until Limiting occurs, and back down.

Side-Chains and filters
The RenChannel Dynamics section has independent energy detectors for the Gate and for the Comp. Each detector is fed with a Mono sidechain which is either a mono signal or the sum of 2 channels in a stereo plug-in. Consequently the same attenuation will be applied to all channels preserving stereo image and phantom directions.

The Sidechains controls offer a router to switch between Sidechain sources which can be either 'Internal' 'PreEQ' or 'External'.
Internal - will use the audio input of the Dynamics section as the Side Chain source, this is the default setting in any Dynamics processor.
PreEQ – when the Dynamics section is PostEQ, this allows for the side chain to come from audio signal before the EQ.
External – this will select the external 'Key Input' as the side chain source (when Key Input is available). This can be useful to perform Ducking keyed by another tracks' audio. Consult the readme file for more information on the availability of external sidechain.

The sidechains can be filtered for Hi-Pass, Low-Pass, Band Pass or Band Reject so that the compression or gating can be triggered just by the energy in a certain frequency range. For example, using a short attack and a Band-Pass filter around 5500 – 7800Hz can be useful as a wideband DeEsser (Though you have the RenDeEsser for that). A low-Pass sidechain can work to attenuate microphone pops. Filtering the Gate sidechain can also work well. In example in outdoor recordings, finding the range where the speaker's voice is more significant then the noise may help set the gate work correctly as otherwise the high frequency noise would keep the gate open.

When a sidechain filter in engaged, its filter shape will register on the Frequency Response graph, with the corresponding color code.

To listen to the filtered (or external) sidechain click the "Listen" control. This will pass the sidechain signal to the output for you to audition. This way you can better "zero in" or find the frequency range that you wish to drive the compression by.

WORKING WITH PRESETS.

The Renaissance Channel has a set of factory presets. These can be found listed under the Load menu of the WaveSystem Top Toolbar.
The renaissance channel has a root stem preset menu and separate sub menus for compression or EQ separately. When loading presets from these menus only the related section will be updated so when loading an EQ preset the Dynamics section will maintain its current settings. Some of the root stem presets also leave the threshold as is so setting the threshold is required for the compression to work.

Presets can be useful starting points and can help get things started. Remember you can save presets of your own that will later be accessible from the top bar Load menu.

Chapter 3: Controls and displays

CONTROLS

EQ section

EQ SECTION ON/OFF: Default On.

This controls turns the whole EQ in or out, so that you can hear your compression with or without EQ. Turning on any band will turn on the EQ section as well.

BAND ON/OFF: Default – b1 Off, b2-4 On.

Turns the filter on or off.

TYPE: HP, LP, Bell, HS-A,HS-B, LS-A, LS-B. Defaults: b1 HP, b2,3 Bell, b4HS-B.

Determines the filter type for the related band. Clicking on the type display will toggle between the available types for each band. Clicking on the little arrow will display a pop-up menu with the available types to immediately select the type you need without toggling through the rest.

GAIN: +/- 18dB Default – 0.
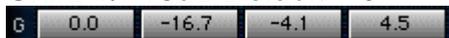
This control sets the mount of boost or cut introduced to a band bell or shelf filter.

For Bells the gain will correspond with the frequency, so that a bell at 1kHz with a +6 dB boost means that 1kHz is boosted by 6dB. In shelf filters the gain will define the overall boost and the gain at the shelf's cutoff frequency is about half as the cutoff is in the middle of the shelf slope.

When the selected type is Pass/Cut filter the gain has no significance.

FREQUENCY: 16 – 21357Hz Default 1-63, 2-250, 3-933, 4-4000 Hz.

This control determines the frequency reference for the band. When the type is a bell the frequency is the center of the bell. When the type is shelf the frequency is the middle of the shelf slope. When the type is Pass/Cut filter, the frequency is the -3dB point of the roll off.

Q: 0.26 – 6.50 Default 1.

In AudioTrack Q is set for bell filters only and it defines their bandwidth or how wide or narrow a filter will be. The lower the value, the wider the filter and vice versa. For Pass/Cut filter Q=1.0 results in a 18dB/Oct Butterworth filter.

Sidechains section

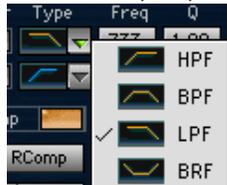**SIDECHAIN**: Int, PreEQ or Ext(where available).

This controls the sidechain's source whether is the normal internal input from the EQ or directly from the input. In certain hosts an external key signal can be routed to the Channel.

FILTER: On/Off. Default Off.

This turns the Comp's or Gate's sidechain EQ filter on or off.

TYPE: HP,LP,BP,BR. Default Comp-Low-Pass, Gate-Hi-Pass.

This selects the type of filter for the sidechain. Hi-Pass will pass the cutoff frequency and up. Low-Pass will pass the low frequency and filter out the range

above the indicated cutoff frequency. Band Pass will pass a certain range of frequencies and Band Reject will pass the sound above and below a certain frequency range.

FREQUENCY:

This control determines the cutoff frequency of the sidechain filter.

BW:

The BW controls the bandwidth of the Band-Pass or Band-Reject filters, in octaves between the -3dB points.

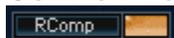**LISTEN**: In/Out. Default Out.

When the Listen button is turned on the plug-ins output will monitor the sidechain's signal path. Only 1 Listen button can be engaged at once so clicking on the gate sidechain listen while the Comp Listen is "In" will switch it "out" as it switches in.

Dynamics section.

COMP SELECT AND ON/OFF: Default On.

Clicking on the left side will toggle between RComp and RVOX curves and the button will turn the compressor on or off. Use this control to select the desired compressor curve and to hear what the compressor is doing to the channel's sound.

THRESHOLD: -60.0 – +18.0dBfs. Default 0.0

The threshold is a point of energy reference, so that when the energy is way below the threshold no compression is introduced, but as the energy approaches or passes the threshold attenuation will take place according to the settings of the other controls. The compressor threshold is indicated with an Orange triangle and also has a corresponding Orange marker running at the left side of the Energy meter.

RATIO: 0.5/1 – 40:00/1. Default 1:1

The ratio defines how the attenuation changes with signal level. 0.5 – 1 are the expansion ratios and 1-40 are the compression ratios. For example, setting a ratio of 2:1 will mean that when the input energy exceeds the threshold by a certain amount of dB's it will be attenuated so that the output energy will exceed the threshold by half that amount.

ATTACK: 0 – 500ms. Default 16ms

The Attack time determines how long it will take for the gain adjustment to reach it target. For example for 16ms attack, when the energy goes over threshold by 4dB and the ratio is 2:1 it will take 16ms for the attenuation to reach -2dB. Setting short attack times provides better peak control but longer attack times can provide better "Punch".

RELEASE: 1 -10000ms. Default 240.

The release value set the time it will take for the attenuation to reset to 0dB when the energy falls below threshold.

ARC: Manual – Auto. Default Auto.
This control selects either manual Release control or Automatic Release Control.

**GATE SELECT AND ON/OFF**: Default Exp / On.

If you want to hear your Channel without the Gating, you can simply turn the Gate on and off by clicking the blue button. Clicking to its left will select between Expander and Gate which will determine the slope response of the gate section.

GATE THRESHOLD: -Inf - +18.0. Default –Inf.

The threshold is a point of energy reference, so that when the energy drops beneath the threshold the gate will start attenuating according the settings of the other controls. The Gate threshold is indicated with a blue triangle and also has a corresponding Blue marker running at the left side of the Energy meter.

FLOOR: -Inf. - 0. Default –Inf.

`Floor  -60.0`
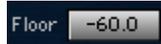
The floor defines the maximal amount of attenuation that the gate will apply when closing. You can define a floor so that the gate attenuates by no more than -12dB rather then shutting out to total digital silence which might sound less natural.

GATE RELEASE: 10 – 5000ms. Default 240ms.

`Release  796.0`

This control will set the time that it will take to attenuate the gain once the energy falls beneath threshold.

GAIN: -30 - +30dB. Default 0dB.

`Gain`

`11.0`

This is the Renaissance Channel Fader, it adjusts the overall gain and can serve as your channel fader. The range goes up more then normal channel faders in order to serve as compression makeup gain.

Special Controls

SIGNAL PATH ROUTER: Default EQ>Dynamics.

`EQ ➡ Comp`

This control sets the signal path between the EQ and Dynamics. By default the EQ will be before the Dynamics section and the output of the plug-in will be that of the dynamics with its clip guard limiter. If you switch the direction then the Plug-In output will become the EQ output.

Please note that in this case clipping at the final output is possible. The Clip counter will indicate the amount of clipping, and clicking it will serve to Automatically Trim the RennaisanceChannel Fader to lower the gain by the amount of clipping overshoot.

ROTATION: -45° - +45°. Default 0.

`>0<`
`Rotation`

This control is here to allow you to do all your channel processing including panning within the internal Double precision path. For the Mono-to-Stereo version this will behave like a traditional panner. For the Stereo-to-Stereo inputs it will Rotate the whole stereo image while preserving it's integrity.
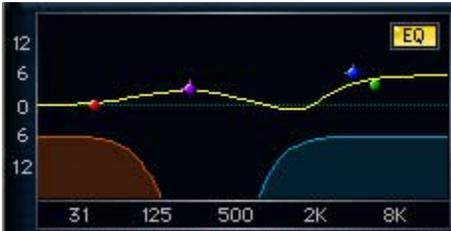
PHASE INVERT: In/Out. Default Out.

The Phase inverter simply reverses the phase of the audio going through the channel.

DISPLAYS

FREQUENCY RESPONSE DISPLAY –

Three frequency response graphs are shown on this graph, the EQ graph (Yellow), the Comp side chain filter (Orange) and the Gate side chain filter (Blue).

The EQ graph shows the total EQ gain curve designed from the 4 bands. It shows 18dB at the Y axis and 16 – 16000 Hz in a logarithmic frequency scale. The graph shows colored band markers that can also serve as controls on the graph.

ENERGY METERS

The Energy meter is divided to Gate sidechain energy on the left side and comp sidechain energy to the right. The 2 threshold markers are located to its sides and allow setting the threshold according to the visual feedback provided in the Energy meter. The energy is related to the routing and filtering of the separate sidechain paths. The Gate and Comp energy detectors has different ballistics so their meters look different even when measuring the same source.

OVERALL ATTENUATION METER

The Overall Attenuation Meter shows how much attenuation is applied by the RenChannel dynamics. The peak indicator under the meter will show the peak attenuation value until reset by clicking on the meter or in the indicator's area.

OUTPUT METERS, LIMITING INDICATOR AND CLIP COUNTER

The output meters show 0 - -30dB. Above the meters is the Renaissance Channel Clip Guard Limiting indicator. It will show whether limiting takes place and change it's color from Dark-Yellow to Bright-Red according to the amount of limiting. When in the Yellow range, the amount of limiting is small and probably inaudible. The Red colors indicate too much limiting, which are probably audible, and reducing the gain is required.

When the EQ is routed after the Dynamics the Clip protection indicator will behave similarly to Renaissance EQ Auto Trim. The level over full scale will show on the indicator at the top of the Meters and when clicked will Trim the Gain fader to create headroom. Any adjustment to a control will reset the clip counter. Clicking on the Meters rather then on the Counter will reset the clip counter without adjusting anything else.