



# *Gituitar Rig 5*



Components Reference



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Document authored by: Jeffrey Fisher

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## Germany

Native Instruments GmbH  
Schlesische Str. 29-30  
D-10997 Berlin  
Germany  
[www.native-instruments.de](http://www.native-instruments.de)

## USA

Native Instruments North America, Inc.  
6725 Sunset Boulevard  
5th Floor  
Los Angeles, CA 90028  
USA  
[www.native-instruments.com](http://www.native-instruments.com)



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# 1 Introduction

This manual provides an in-depth description of each of the GUITAR RIG 5 components. Its goal is both to give an overview of the sound-shaping possibilities they offer, and to serve as a reference for all the knobs and controls you will encounter. In the following chapters, all amps, effects and tools of GUITAR RIG 5 are discussed, ordered by the category in which they appear in the Component Pool.

To learn the basics of GUITAR RIG 5, we recommend working through the “Getting Started” manual first. The “Application Reference” allows exploiting the software’s full potential, and you can also find useful tips regarding certain components and how to build your rack. Like all the documentation files, they can be accessed through the program menu by selecting *Help > Open Manual*.

## 2 Amplifiers

The starting point for sonic explorations of guitar and bass tone, after the instrument itself, is the amplifier. GUITAR RIG 5 offers a varied selection of meticulously modeled classic amplifiers spanning the eras of the 1950's to the present.

As in real life, many of the amplifier controls heavily interact with each other, so playing around with them is essential to explore all the variations of sound they can produce. Moreover, expert controls are included that extend the flexibility of each amp far beyond their real-life counterpart. As they are the same for many of the amplifiers, expert controls are dealt with in a preliminary chapter.

### 2.1 Expert Controls

Click on the small arrow symbol on the right side of a component's rack frame to display its expert panel. It features the following controls for most of the amps (see an amp's description to learn about its individual expert controls):

- **POWER SUPPLY** switches between 50 and 60Hz for the frequency of the mains AC voltage of the amp's power supply. The rectified DC voltage inside the modeled amp has a ripple at double this frequency, which imparts a subtle modulation to the sound.
- **VARIAC** emulates the effect of inserting a variable transformer in the AC line, thus reducing the supply voltage (for the famous "brown sound") or increasing it above normal (making the sound bolder).
- **SAG** simulates what happens to a tube amplifier when given a large signal-- the power supply voltage cannot deliver the necessary power for a fraction of a second. Increasing **SAG** adds a compressed feel to the amplifier as would occur with a tube-based rectifier circuit, while turning it down reduces the amount of compression, similar to a silicon diode-based rectifier circuit.
- **RESPONSE** changes the power storing capacity of the power supply capacitors. Turning down **RESPONSE** increases their capacity, so that the supply voltage reacts more slowly to playing dynamics. Turning it up will result in the amp's power supply reacting more rapidly for a looser feel.

- **BIAS** adjusts the virtual output tubes' grid bias. This influences crossover distortion and determines in which „class“ the amplifier is running. Turning the control clockwise biases hotter, giving a more raw type of character.
- **STEREO** activates true stereo processing for this component. As this consumes considerably more CPU power, it should only be activated when you need it!

## 2.2 AC Box



The AC Box

### About

The AC Box models the sound that powered the British Invasion of pop music. There were many versions of this highly original amp made-- each having a different character. We chose a model that stands out with a unique flavor and includes the famous „Top Boost“ channel! The Normal channel has a treble cut tone control while the Brilliant channel offers Treble and Bass controls.

### Controls

- **NORMAL VOLUME** sets the level for the Normal channel. The Treble and Bass controls have no effect in this channel.
- **BRILLIANT VOLUME** sets the level for the Brilliant channel.
- Both channels can be mixed for a great variety of sounds.
- The **TREBLE** knob adjusts the high frequency response for the Brilliant channel.



- The **BASS** knob adjusts the low frequency response for the Brilliant channel.
- **TONE-CUT** employs a low-pass filter. By turning the knob clockwise treble in the output of the Normal channel is reduced.
- **TREMOLO SPEED** sets the rate of the tremolo.
- **TREMOLO DEPTH** controls the amount of tremolo applied. The effect is off when fully turned down.

## 2.3 Bass Pro



The Bass Pro

### About

This bass amp can deliver that gritty, growling sound that really makes a bass stand out in a mix. There is also a graphic equalizer included to tailor the sound more precisely.

### Controls

- **VOLUME** sets the amp's volume.
- The **GAIN** controls the preamplifier volume. This increases the amount of distortion as you turn it clockwise.
- **DRIVE** controls gain specifically in the midrange frequencies, simultaneously affecting the sound's character.

- The **BASS** knob adjusts the low frequency response.
- The **MID** knob adjusts the response of a band of frequencies as set by the **MID-FREQ** control.
- The **MID-FREQ** control adjusts the center of the frequency band boosted or cut by the **MID** control. It is adjustable from 200Hz to 3200Hz.
- The **TREBLE** knob adjusts the high frequency response.
- The **ULTRA HI** switch boosts treble, but over a much wider frequency range than the **BRIGHT** switch. It therefore has a more obvious effect.
- When activated, the **ULTRA LO** switch cuts out some of the midrange while increasing the low frequency response.
- The **GRAPH EQ** switch enables or disables the graphic EQ processor, which is visible in the expert panel. Click on the arrow button in the upper right corner to reveal it.
- Turning the **BRIGHT** switch on accentuates the very high frequencies.
- **GRAPH EQ VOLUME** adjusts the overall impact of the graphic EQ processor. Moving the slider up increases gain, while moving the slider downward decreases gain. You will probably need to decrease the volume if you boost several frequency bands.
- The **GRAPH EQ** Band Level controls boost or cut response at nine specific frequency bands: 40Hz, 90Hz, 180Hz, 300Hz, 500Hz, 1kHz, 2kHz, 4kHz, and 10kHz. When a slider is centered, there is neither a boost nor cut at that frequency. A frequency band's gain can be increased up to +12dB, or decreased down to -12dB.

## 2.4 Citrus



The Citrus

### About

If you're yearning for that 70's British sound with a bunch of flavor, the Citrus amp is for you! Its tones range from the edge of clean to gritty distortion when master and gain controls are cranked.

### Controls

- The **MASTER** knob sets the amp's master volume.
- The **GAIN** knob controls gain for the preamp section. Turn clockwise to add distortion.
- The **LO CUT** knob adjusts a high-pass filter. The lower it is set, the more bass will pass through. Turning the knob clockwise will cut off the bass, bringing the higher frequencies to the front.
- The **BASS** knob adjusts the low frequency response.
- The **TREBLE** knob adjusts the high frequency response.
- The **PRESENCE** control boosts the frequency response in the upper midrange.

## 2.5 Cool Plex



The Cool Plex

### About

When you want that heart-warming vintage clean sound-- sparkling and with a dash of saturation-- look no further. The Cool Plex adds soul to any retro tone: transparent, yet thick and charismatic!

### Controls

- **Volume I** sets the preamp gain for the bright channel.
- **Volume II** sets the preamp gain for the warm channel.
- Both channels can be used simultaneously and blended via these volume controls.
- The **Bass** knob adjusts the low frequency response.
- The **Mid** knob adjusts the midrange frequency response.
- The **Treble** knob adjusts the high frequency response.
- The **Presence** control boosts the frequency response in the upper midrange.

## 2.6 Gratifier



The Gratifier

### About

The Gratifier emulates a famous American multi-channel solo head. A fourth channel has been added to span the tonal range from clean to over-the-top distortion. To switch between its four channels, click on the Clean, Raw, Vintage and Modern LEDs.

### Controls

- **MASTER** sets the master level of the amp. Higher levels cause the power amp to over-drive.
- **GAIN** determines the amount of preamp gain. Use this to dial in the desired crunch and timbre.
- The **BASS** knob adjusts the low frequency response.
- The **MID** knob adjusts the midrange frequency response.
- The **TREBLE** knob adjusts the high frequency response.
- The **PRESENCE** control boosts the frequency response in the upper midrange.

## 2.7 High White



The High White

### About

Are you seeking the signature British sound of David Gilmour and Pete Townsend? Then you should spend some time with the High White! This amp features a normal input and a brilliant input, which you can blend using the respective volume controls.

### Controls

- The **MASTER** knob sets the amp's master volume.
- The **NORMAL** knob sets the volume for the normal channel. It has a smoother clean sound.
- The **BRILLIANCE** knob sets the volume for the brilliant channel. It has a slightly more edgy and aggressive tone.
- The **BASS** knob adjusts the low frequency response.
- The **MIDDLE** knob adjusts the mid frequency response.
- The **TREBLE** knob adjusts the high frequency response.
- The **PRESENCE** control boosts the frequency response in the upper midrange.



## 2.8 Hot Plex



The Hot Plex

### About

We all love the classic Plex sound, but wait until you hear this gain-spiced version of it! A generous amount of distortion will boost your vintage tones into the future.

### Controls

- **VOLUME I** sets the preamp gain for the bright channel.
- **VOLUME II** sets the preamp gain for the warm channel.
- Both channels can be used simultaneously and blended via these volume controls.
- The **BASS** knob adjusts the low frequency response.
- The **MID** knob adjusts the midrange frequency response.
- The **TREBLE** knob adjusts the high frequency response.
- The **PRESENCE** control boosts the frequency response in the upper midrange.

## 2.9 Hot Solo+



The Hot Solo+

### About

A true Modern Classic! Hot Solo+ employs two separate preamplifier channels and heaps of gain for a distinctly contemporary rock sound.

### Controls

- **NORMAL** sets the preamp gain for the low gain channel.
- **OVERDRIVE** sets the preamp gain for the high gain channel.
- The switch between these controls selects between the **NORMAL** and **OVERDRIVE** channels. A lamp indicates the **OVERDRIVE** channel is on.
- The **BASS** knob adjusts the low frequency response.
- The **MID** knob adjusts the midrange frequency response.
- The **TREBLE** knob adjusts the high frequency response.
- The **MASTER** controls the overall output level.
- The **PRESENCE** control boosts the frequency response in the upper midrange.
- **DEPTH** controls the low range frequency response in the power amp.

## 2.10 Jazz Amp



The Jazz Amp

### About

Modeled after an amp produced by a highly respected synthesizer manufacturer, the Jazz Amp produces a warm, clean tone. An essential part of its sound is the Ensemble effect, which adds chorusing or vibrato. If you want to hear the Vibrato/Chorus effect in true stereo, then it's best to turn off the effect built into the Jazz Amp and insert the Ensemble effect (in the Modulation components category) after the Cabinet Component.

### Controls

- The **BRIGHT** switch accentuates the high frequencies.
- **VOLUME** sets the amp's master volume.
- The **BASS** knob adjusts the low frequency response.
- The **MID** knob adjusts the midrange frequency response.
- The **TREBLE** knob adjusts the high frequency response.
- The **VIB/OFF/CHORUS** switch activates Vibrato or Chorus. In the middle position both effects are turned off.
- **RATE** controls the speed of the Vibrato effect.
- **DEPTH** controls the intensity of the Vibrato and Chorus effects.

## 2.11 Jump



The Jump

### About

The Jump is like a grown-up Lead 800, but in a good way--sporting a bit less gain, but at the same time perfecting the smooth, singing lead sounds we love to hear from British amps.

### Controls

- **BOOST** significantly increases the pre-amp's gain potential.
- **MASTER** adjusts the amp's master volume.
- **PRE-AMP** sets the preamp gain. Turning it more clockwise adds drive, distortion and edge to the sound.
- The **BASS** knob adjusts the low frequency response.
- The **MID** knob adjusts the midrange frequency response.
- The **TREBLE** knob adjusts the high frequency response.
- The **PRESENCE** control boosts the frequency response in the upper midrange.

## 2.12 Lead 800



The Lead 800

### About

This smooth, intense lead sound cuts like a knife and offers plenty of flexibility. While the Plex works very well for both chunky rhythm sounds and leads, the Lead 800 gives a brighter, more edgy sound.

### Controls

- **BOOST** significantly increases the pre-amp's gain potential.
- **MASTER** adjusts the amp's master volume.
- **PRE-AMP** sets the preamp gain. Turning it more clockwise adds drive, distortion, and edge to the sound.
- The **BASS** knob adjusts the low frequency response.
- The **MID** knob adjusts the midrange frequency response.
- The **TREBLE** knob adjusts the high frequency response.
- The **PRESENCE** control boosts the frequency response in the upper midrange.

## 2.13 Plex



The Plex

### About

The classic Plex sound probably needs no introduction- it is the vintage amp sound that has powered too many hit records to mention.

### Controls

- **VOLUME I** sets the preamp gain for the bright channel.
- **VOLUME II** sets the preamp gain for the warm channel.
- Both channels can be used simultaneously and blended via these volume controls.
- The **BASS** knob adjusts the low frequency response.
- The **MID** knob adjusts the midrange frequency response.
- The **TREBLE** knob adjusts the high frequency response.
- The **PRESENCE** control boosts the frequency response in the upper midrange.



## 2.14 Twang Reverb



The Twang Reverb

### About

The Twang Reverb simulates the rich tube sound of a classic amp from the 1960's. It is ideal for crunchy rhythm guitar and for clean sounds rich in personality. To overdrive this amp, it is best to precede it with a component that amplifies the signal, e.g. the volume pedal.

### Controls

- **VOLUME** sets the amp's master volume.
- The **TREBLE** knob adjusts the high frequency response.
- The **MID** knob adjusts the midrange frequency response.
- The **BASS** knob adjusts the low frequency response.
- The **BRIGHT** switch accentuates the high frequencies.
- **REVERB** adds a spring reverb effect.
- The **REVERB ON** switch mutes the reverb.
- **SPEED** controls the tremolo speed (called Vibrato on this amp).
- **INTENSITY** controls the extent to which the tremolo modulates the sound--from mild pulsing to deep throbbing.
- **VIBRATO ON** switches the tremolo effect on and off.

## Expert Controls

- **REV TIME** allows you to set the duration of the reverb decay tail.
- **REV SIZE** changes the size of the room emulated by the reverb. While this interacts with Reverb Time, as a larger size leads to a longer decay, size is more about the sound's character.

## 2.15 Tweed Delight



The Tweed Delight

### About

There is nothing like the oomph of an amp covered in tweed! This amp, based on an American legend, is designed to go from thick and clean to bluesy roaring with only three knobs! Both channels can be used together to achieve more power amp overdrive.

### Controls

- The **VOL BRIGHT** knob controls the gain of the bright channel of the amp. It produces edgy distorted sounds when the gain is raised.
- The **VOL NORMAL** knob controls the gain for the normal channel on the amp. It is designed for smoother sounds that will distort when cranked up.
- The **TONE** knob is your only tone control for this amp. With the knob fully turned down, the high frequencies will be attenuated leaving you with a warm, but muddy sound. As you raise the control, the high end will blend in, adding boost and definition.

## 2.16 Tweedman



The Tweedman

### About

Back in the 1950s the Tweedman was designed as a bass amp. Since then, it has made its way as a guitar amp, and a highly coveted one. Of course, it still works equally well in its originally intended role. When compared to the Bass Pro amp, the sound of the Tweedman is more raw and vintage sounding.

### Controls

- **VOL BRIGHT** sets the level for the bright channel.
- **VOL NORMAL** sets the level for the normal channel, creating a warmer sound.
- Both channels can be used simultaneously and blended via these volume controls.
- The **BASS** knob adjusts the low frequency response.
- The **MIDDLE** knob adjusts the midrange frequency response.
- The **TREBLE** knob adjusts the high frequency response.
- The **PRESENCE** control boosts the frequency response in the upper midrange.

## 2.17 Ultrasonic



The Ultrasonic

### About

Über-modern, über-high-gain, über-cool--that's the Ultrasonic. This boutique amp covers all the modern tones you could ask for.

### Controls

- The **OVERDRIVE/CLEAN** toggle switches between the amp's clean and overdrive channel.
- **MASTER** controls the master volume for both channels.
- **VOLUME** sets the level of the currently selected channel.
- **GAIN** controls the amount of preamp overdrive. Use this to dial in the desired crunch and timbre, but use Master to regulate the overall output.
- The **BASS** knob adjusts the low frequency response.
- The **MIDDLE** knob adjusts the mid frequency response.
- The **TREBLE** knob adjusts the high frequency response.
- The **PRESENCE** control boosts the frequency response in the upper midrange.

## 2.18 Van 51



The Van 51

### About

One of the benchmarks in high gain amplifiers. The VAN 51 delivers a wide range of raw and edgy in your face guitar tones.

### Controls

- **CHANNEL** button switches between RHYTHM and LEAD channels.
- **HI GAIN** toogles between normal and high gain amplification.
- **PRE GAIN** controls the amount of preamp overdrive of the RHYTHM CHANNEL.
- **BRIGHT** adds high frequency boost in the RHYTHM CHANNEL.
- **CRUNCH** adds a large amount of distortion in the RHYTHM CHANNEL.
- **LEAD PRE GAIN** controls the amount of preamp overdrive of the LEAD CHANNEL.
- **BASS** knob adjusts the low frequency response.
- **MIDDLE** knob adjusts the mid frequency response.
- **TREBLE** knob adjusts the high frequency response.
- **POST GAIN** controls the master volume of both channels and the poweramp saturation.
- **RESONANCE** controls the low range frequency response in the poweramp.

- PRESENCE control boosts the frequency response in the upper midrange.



## 3 Cabinets

No amp setup is complete without a cabinet—it plays an essential role in the final tone of the amplifier. With GUITAR RIG 5, you have the choice between many different levels of complexity. The sound can be straightforward as in the Matched Cabinet, or involved as in the all-new Control Room Pro.

- When adding any amp to your rack, it will automatically be provided with a Matched Cabinet. This can then be replaced by another Cabinets component at any time.

### 3.1 Cabinets & Mics



Cabinets and Mics

#### About

The Cabinets & Mics component gives you full control over all the (post-amp) stages of recording a guitar tone: type of cabinet, position and type of microphone and room response. Moreover, it allows you to set up parallel recording chains: Click on the small Add button to add as many independent signal paths as you like, with the same set of options and controls.

#### List of Available Cabinets

No.	Cabinet	No.	Cabinet
1	1 x 12 Tweed Alnico	15	4 x 12 High White
2	1 x 12 Custom	16	4x12 Gratifier

No.	Cabinet	No.	Cabinet
3	2 x 12 Tweed Blue	17	4x12 Ultrasonic
4	2 x 12 Tweed Green	18	1 x 15 Bass-PRO
5	2 x 12 Tweed Ceram	19	1 x 15 Bass-WR
6	2 x 12 Brit 60s	20	4 x 10 Bass-PRO
7	2 x 12 Chief V-30	21	4 x 10 Bass-WR
8	2 x 12 Custom	22	8 x 10 Bass-PRO
9	2 x 12 Jazz	23	8 x 10 Bass-WR
10	4 x 10 Tweed Alnico	24	Rotator Horn Closed
11	4 x 12 UK 60s Tall	25	Rotator Horn Open
12	4 x 12 UK 60s	26	Rotator Bass Close
13	4x12 UK 80's	27	Rotator Bass Open
14	4 x 12 UK 70s	28	DI Box

## About the Microphones

### Microphone positions

- 1/5 On Axis
- 2/5 Off Axis
- 3/5 Edge
- 4/5 Far
- 5/5 Back (Open back cabinets only, always Condenser 87)
- 5/5 Horn (Where available, always Condenser 460)

### Microphones for cabinets 1-17 (Guitar)

- 1/5 Dynamic 57
- 2/5 Dynamic 421
- 3/5 Dynamic 609
- 4/5 Condenser 87

- 5/5 Tube Condenser

### **Microphones for cabinets 18-23 (Bass)**

- 1/5 Dynamic 7
- 2/5 Dynamic 421
- 3/5 Dynamic 609
- 4/5 Dynamic 20
- 5/5 Condenser 47

### **Microphones for cabinets 24-27 (Rotator)**

- Horn (24,25) Condenser 460
- Bass (26,27) Condenser 87

### **Controls**

- **MASTER VOL** sets the component's overall level. This is helpful if you have used the **Add** button to create multiple recording chains. The **MASTER VOL** control allows you to bring all their levels up or down as a group, for example to avoid clipping.
- **MASTER VOL LEARN**: Automatically learn the best output volume by activating this button and playing as loud as you can. **GUITAR RIG 5** will automatically select the maximum volume while avoiding clipping. Once the volume has been adjusted, the learn function will automatically turn off.
- **VOLUME** sets the microphone's output level.
- **PAN** determines the position of the signal in the stereo panorama.
- **BASS** boosts or cuts the level of the lower frequencies.
- **TREBLE** boosts or cuts the level of the higher frequencies.
- **AIR** controls the level of early reflections picked up by the mic, simulating the response of the room.
- **SIZE** (the slider below the cabinet graphic) virtually grows or shrinks the size of the selected cabinet. For example, a 1x10 cabinet set to +20% becomes something like a 1x12. This allows for interesting experiments, just try it out.

- **DISTANCE** is relevant when more than one recording chain is active. It sets the each one's delay caused by the distance between the microphone and the cabinet. Mixing together the signals from multiple microphones can result in cancellation and emphasis of certain frequencies, depending on their relative distances.
- **PHASE +/-** flips the microphone polarity. This can help to solve phase problems.

## 3.2 Control Room



The Control Room

### About

Choose among five outstanding guitar cabinets and up to 8 classic microphones to create a unique blend of tonal characteristics. The modeled setup is the outcome of decades of guitar recording experience: each cabinet is paired with perfectly chosen and positioned microphones which are all in phase, so you can mix them as you please. Be sure to check out the Component Presets, as they offer some classic tones that can be used as a starting point.

### Controls

The Cabinet Model Selector on the right side of the component shows a small picture of the current cabinet model. Click on the arrows below to switch between them.

The mixing console offers 6-8 channel strips, each consisting of the same set of controls:

- The **Headline** gives an indication of the type of microphone used.
- The **L/R** knob controls the panning of this microphone's signal, i.e. the position in the stereo panorama.
- The **fader** controls the volume of this channel; all faders together determine the mix.
- **M(ute)** and **S(olo)** are standard controls of a mixing desk. **M** mutes the channel, **S** solos the channel.
- The **CONTROL ROOM** offers some master controls to shape the sum of all the signals:
- **AIR** controls the level of early reflections picked up by the mic, simulating the response of the room.
- **BASS** boosts or cuts the level of the lower frequencies.
- **TREBLE** boosts or cuts the level of the higher frequencies.
- **VOLUME** controls the master volume for all microphones.
- **L(earn)**: After pressing the small button right of the **VOLUME** knob, the output volume is “learned” automatically: play as loud as you can for a few seconds. Once the volume has been adjusted to the maximum while avoiding clipping, the learn function will automatically turn off.
- **STEREO** activates true stereo processing for this component.

### 3.3 Matched Cabinet



The Matched Cabinet

#### About

When adding any amplifier to the rack, a Matched Cabinet is automatically included below it. It provides a cabinet fitting the amp you chose, as well as two mic settings that can be blended at any ratio. The Dry/Air control allows for a larger room sound.

#### Controls

- The Cabinet selector switches between the different models of the Matched Cabinets, allowing them to be combined with any of the amps.
- The [A/B](#) Mix slider blends between the two microphones fixed on the cabinet. The general characteristics of both are opposed, giving an edgy and a mellow option. You can mix between the two to achieve your desired blend.
- [VOLUME](#) sets the volume of the matched cabinets output.

- **VOLUME LEARN:** Automatically set the best output volume by activating this button and playing as loud as you can. GUITAR RIG 5 will select the maximum volume while avoiding clipping. Once the volume has been adjusted, the learn function will automatically turn off.
- **DRY/AIR** controls the amount of early reflections picked up by the microphone, simulating the response of the room.
- **STEREO** activates true stereo processing for this component.

## 3.4 Control Room Pro



The Control Room Pro

### About

The next step in the Control Room concept is here! With 29 cabinets and a Direct Injection (DI) box, Control Room Pro offers an unlimited set of sounds in control of the recording process. A multitude of microphones are also on offer from the old school to high tech modern, while placement, phase, and room can be manipulated.

## Controls

The initial screen shows Channel One and includes three selector areas: selector area one is the cabinet; selector area two is the microphone; selector area three is the mic placement on the speaker.

- Control Room Pro presets are available from the top pull-down menu. The procedure to save user presets is explained further in the Application Reference.
- **L(earn)**: After pressing the small button right of the **VOLUME** knob, the output volume is “learned” automatically: Just play as loud as you can for a few seconds. Once the volume has been adjusted to the maximum while avoiding clipping, the learn function will automatically turn off.
- The cabinet, microphone, and placement can all be selected by using the arrows to the right of their photo. The upper arrow shows a list of available options, while the up/down arrows allow you to toggle between the assorted elements.
- As well, there are two sliders above the selector areas. The left most slider controls an adjustable phase delay. In this case, phase means that all frequencies are delayed the exact same amount. Use this parameter to correct phase issues when using multiple microphones. The button when depressed inverts the phase.
- The second slider is Room. This function controls the mix between a room mic and the selected close mic in this channel — the M button mutes the Room signal.
- At the right side of the screen is a mixing fader to determine the output level as well as a pan pot for placement in the stereo field and mute and solo buttons.

This scenario is repeated 8 times. Press any of the 8 buttons on top of the windows to add an entirely new cabinet and microphone to the mix.

The final button labeled mixer does just that: similar to the mixer in the original Control Room, it allows the user to manipulate all the levels of the chosen microphones for a master mix.





The Control Room Pro controls

## Controls

This is essentially similar to the mixer window in Control Room. All the familiar console controls are present including Mute, Solo and Left/Right pan. As well, a simple EQ is included with Bass and Treble, while Air controls the amount of early reflections picked up by the mic, simulating the response of the room. The button below Bass with two connected circles enables true stereo input for the Control Room Pro.

- **M** mutes the selected channel.
- **S** solos the selected channel.
- **BASS** adds or decreases low frequency content from the signal.
- **TREBLE** adds or decreases high frequency content from the signal.
- **AIR** adds high-mid frequency presence to the signal.
- **L/R** controls the position in the stereo field.
- **STEREO** allows for the mix to be in true stereo.

## 4 Delay / Echo

Delays and Echo are time-based effects that repeat the input signal, recreating natural acoustic reflections or otherworldly types of echoes. If you need complex tempo-synced delays, you'll find them here in the Delay and Echo category!

### 4.1 Delay Man



The Delay Man

#### About

The Delay Man is an extremely warm and flexible delay unit with built-in chorus and vibrato. It faithfully recreates the sound of esteemed classic hardware modules that are a standard in any advanced effects rig.

#### Controls

- The **INPUT** knob sets the amplification of the incoming signal. Set this so that the loudest peaks do not engage the overload LED next to it if you want to avoid overdrive.
- **DRY/WET** sets the amount of the signal being fed into the delay section, controlling the intensity of the effect.
- **TIME** sets the amount of delay time, i.e. the time interval between the straight sound and the appearance of the echo. When the component is synchronized (see below), the scale turns from milliseconds into note values.

- **FEEDBACK** determines how much of the output feeds back into the input. Minimum feedback gives a single echo; increasing this parameter produces repeating echoes. Turning the knob fully clockwise will overload the delay and produce a distorted, oscillating sound.
- The **CHOR/VIB** switch sets the modulation section of this component to chorus or vibrato mode.
- **DEPTH** controls the intensity of the modulation section.
- **TAP** allows tapping in the delay time. When you click on the Tap button repeatedly, the average time between the clicks is measured to derive the tempo. When in Sync mode, the tempo will be quantized to the nearest setting.
- **MUTE** only allows the dry input signal through. Nonetheless, delay trails will continue even after the button is pressed. If the **DRY/WET** control is turned up fully and the Mute is activated, you will hear no more sound, because no signal is being allowed into the dry section.

### Expert Controls

- **SYNC DELAY** synchronizes the Time control to the metronome or host, depending on the Sync setting.
- **SYNC MOD** synchronizes the modulation speed to the metronome or host, depending on the Sync setting.
- **CHORUS RATE** sets the frequency of modulation of the chorus module. When modulation is synchronized, the scale turns from milliseconds into note values.
- **VIBRATO RATE** sets the frequency of modulation of the vibrato module. When modulation is synchronized, the scale turns from milliseconds into note values.
- **ACCELERATION** controls how fast the delay algorithm adapts to changes of the Time setting.
- **BASS** controls a filter affecting the bass frequencies. Turning it up will boost bass, turning it down will attenuate it.
- **TREBLE** controls a filter affecting the treble frequencies. Turning it up will boost treble, turning it down will attenuate it.

## 4.2 Psychedelay



The Psychedelay

### About

This stereo delay creates sounds that range from standard echo/ambient sounds, to reversed effects that recall the “backwards tape” sounds of the 1960s.

### Controls

- **DRY/WET** sets the amount of the signal being fed into the delay section, controlling the intensity of the effect.
- **TIME** sets the amount of delay time, i.e. the time interval between the straight sound and the appearance of the echo. When the component is synchronized (see below), the scale turns from milliseconds into note values.
- **REVERSE** plays back subsequent echoes in reverse.
- **DETUNE** detunes echoes up to  $\pm 50$  cents. Combining this with feedback causes successive echoes to have ever-increasing amounts of detuning.
- **FEEDBACK** determines how much of the output feeds back into the input. Minimum feedback gives a single echo; increasing this parameter produces repeating echoes.
- **TAP** allows tapping in the delay time. When you click on the Tap button repeatedly, the average time between the clicks is measured to derive the tempo. When synchronized, the tempo will be quantized to the nearest setting.

- **MUTE** only allows the dry input signal through. Nonetheless, delay trails will continue even after the button is pressed. If the **DRY/WET** control is turned up fully and the Mute is activated, you will hear no more sound, because no signal is being allowed into the dry section.

### Expert Controls

- **PITCH** adds a more extreme amount of detuning by transposing the echo in semitones, from -12 to +12. It interacts with the feedback control in the same way as Detune as each successive echo will be transposed an upward or downward.
- **STEREO TIME** controls the time shift between the stereo channels for stereo echo effects. When turned down, the delay time for both channels is equally set by the Time control. Turning it up places echoes in the stereo field by bringing forward the delay for one of the channel: A setting of 0.50 means that the extra echoes will happen at half the time of the main delay setting.
- **REVERSE** causes these additional delays to play back in reverse relative to the setting of the Main Reverse Button. If the latter is turned on, this button will reverse the second delay again, restoring the original signal.
- **DETUNE** allows the main Detune parameter to affect the added stereo echoes as well.
- **CROSS** creates feedback paths that cross between the two channels- right feeds back into the left channel, and left feeds back into the right channel. This creates a more complex, polyrhythmic type of echo effect.
- **TEMPO SYNC** synchronizes the time controls of this module to the metronome or host, depending on the Sync setting.

## 4.3 Quad Delay



The Quad Delay

### About

The Delay module takes the input signal and plays it back through four delayed stages distributed to the stereo channels, allowing for impressive modulation possibilities. The output can be fed back to the input, producing a series of echoes,

### Controls

- **DRY/WET** sets the amount of the signal being fed into the delay section, controlling the intensity of the effect.
- **TIME** sets the amount of delay time, i.e. the time interval between the straight sound and the appearance of the echo. When the component is synchronized (see below), the scale turns from milliseconds into note values.
- **FEEDBACK** determines how much of the output feeds back into the input. Minimum feedback gives a single echo; increasing this parameter produces repeating echoes.
- **RATE** sets the frequency of the four LFOs with which the delay times are modulated. The modulation works much like a chorus or flanger effect: A slower rate produces a slow, gradual detuning while faster rates produce a pulsating effect. When the component is synchronized (see below), the scale turns from milliseconds into note values.
- **DEPTH** determines how much the modulation section varies the delay time. Turning this up will increase the detuning effect of the modulation.

- **TAP** allows tapping in the delay time. When you click on the Tap button repeatedly, the average time between the clicks is measured and used this to derive the tempo. When synchronized, the tempo will be quantized to the nearest setting.
- **MUTE** only allows the dry input signal through. Nonetheless, delay trails will continue even after the button is pressed. If the **DRY/WET** control is turned up fully and the Mute is activated, you will hear no more sound, because no signal is being allowed into the dry section.

### Expert Controls

- **TEMPO SYNC** synchronizes the time controls of this module to the metronome or host, depending on the Sync setting.
- **INVERT** changes the phase of the delayed signal, affecting the elimination of frequencies in the mix of dry and processed signal. The result is particularly noticeable with short delays.
- **SYNC DELAY** synchronizes the four LFOs modulating the delays as controlled by the Rate and Depth parameters. When turned off, they are out of phase, causing a shifted modulation of each of the delay times. The result is a more complex effect spread out to both stereo channels.
- **DIFFUSION** controls how much the delay time is spread out between the four stages. Turning it up creates a stereo effect with four distinct delay signals.
- **BASS** adjusts a high-pass filter; turn down to reduce low frequencies in the delay section.
- **TREBLE** adjusts a low-pass filter; turn down to reduce high frequencies in the delay section.

## 4.4 Tape Echo



The Tape Echo

### About

The Tape Echo recreates the sound of tape-based delays. This component has two tape heads and also includes a spring reverb module.

### Controls

- The peak LED in the upper-left corner indicates input overload that can be caused by feeding it with a too strong input signal, or by feedback.
- **INPUT MUTE** shuts off the signal going through the Tape Delay, letting only the dry signal pass through. Nonetheless, delay trails will continue even after the button is pressed. If the **DRY/WET** control is turned up fully and the Mute is activated, you will hear no more sound, because no signal is being allowed into the dry section.
- **DRY MUTE** will mute the dry sound, leaving only the processed sound. If the **Dry/Wet** control is turned fully down, you will hear no more sound, because no signal is allowed into the delay section.
- **TAP** allows tapping in the delay time. When you click on the **TAP** button repeatedly, the average time between the clicks is measured to derive the correct position for the **SPEED** knob and the **HEAD** knobs. When synchronized, these will be quantized to the nearest setting.



- The **HEAD A** and **HEAD B** knobs have five positions for varying delay times for each virtual tape head. They set the relation between both delay stages while the **Speed** setting sets the overall tempo of the virtual tape. Position 0 has no delay while the subsequent head positions will increase delay time by a constant amount, depending on the current Speed setting.
- **BASS** adjusts the low frequency response of the delayed signal.
- **TREBLE** adjusts the high frequency response of the delayed signal.
- **REV VOL** controls the amount of reverb added to dry signal by the component's spring reverb module.
- **SPEED** sets the speed of the virtual tape loop, influencing the delay times of Head A and Head B.
- **FEEDBACK** determines how much of the output feeds back into the input. Minimum feedback gives a single echo; increasing this parameter produces repeating echoes. It will also impart some modulation and eventually distortion to the signal.
- **ECHO VOL** controls the volume of the delayed output added to the dry signal. When turned down completely, the delay will have no audible effect.

### Expert Controls

- **Sync** synchronizes the Speed control to the metronome or host, depending on the Sync setting.
- **Tape Bass** controls the amount of bass response on the virtual tape.
- **Tape Treble** controls the amount of treble response on the virtual tape.
- **Dropouts** controls the simulation of dropouts occurring on a real tape after long periods of use.
- **Noise** controls the amount of tape noise that is added by the virtual tape.
- **Warble** controls the simulation of mechanical problems causing tapes to slip and modulate the signal. This effect is also known as “flutter and wow”.
- **Headroom** controls the amount of saturation the tape can take before distorting.
- **Motor Accel** controls how fast the tape speed adapts to changes of the Speed setting.
- **Head Mix** controls the mix between the outputs of head A and B.

- **STEREO** controls the stereo width of the delayed signal.
- **Reverb** sets the decay time of the reverb added to the dry signal.
- **Spring Length** adjusts the length of the virtual spring.

## 4.5 Twin Delay



The Twin Delay

### About

The Twin Delay combines two parallel delay modules to provide advanced stereo effects. Each of the delayed signal chains is assigned to one of the stereo channels and features a full set of controls. It works like a charm for bouncing the sound from left to right in any imaginable way.

### Controls

- **DRY/WET** sets the amount of the signal being fed into the delay sections, controlling the intensity of the effect.
- **TIME (L/R)** sets the amount of delay time for each channel, i.e. the time interval between the straight sound and the appearance of the echo. When synchronized (see below), the scale turns from milliseconds into note values.
- **FEEDBACK (L/R)** determines how much of the output feeds back into the input for each channel. Minimum feedback gives a single echo; increasing this parameter produces repeating echoes.

- **LEVEL (L/R)** sets the volume for each channel, controlling both the mix and the overall volume of this component.
- **TAP** allows tapping in the delay time for both channels. When you click on the Tap button repeatedly, the average time between the clicks is measured and used this to derive the correct position for the Time knobs.
- **MUTE** only allows the dry input signal through. Nonetheless, delay trails will continue even after the button is pressed. If the **DRY/WET** control is turned up fully and the Mute is activated, you will hear no more sound, because no signal is being allowed into the dry section.

### Expert Controls

- **X-Feedback** controls the amount of cross feedback, i.e. how much the output of the left channel feeds back into the input of the right channel and vice versa.
- **Stereo Width** controls the stereo panorama: When turned fully clockwise, the channels are completely separated. When centered, the processing is mono. When turned fully down, the channels are inverted, meaning that the left channel of the Dual Delay is routed to the right output channel and vice versa.
- **Pre-Delay (LEFT/RIGHT)** determines an initial delay for each channel, which is independent of the Time setting. This means you can have a quickly repeating delay that starts up to two seconds after the original signal. To achieve the typical ping-pong effect, set both channels to the same delay time and create an offset by increasing one of the channels' Pre-Delays.
- **Sync** synchronizes the Time controls to the metronome or host, depending on the Sync setting.
- **Pre-Sync** synchronizes the Pre-Delay controls to the metronome or host, depending on the Sync setting.

## 5 Distortion

Distortion, historically one of the first guitar effects, is still the essential element of many popular guitar sounds today. Generally inserted between guitar and amp, distortion effects offer a wide variety of flavors from simple overdrive to square wave fuzz.

The distortion and overdrive components of GUITAR RIG 5 are accurate reproductions of classic hardware devices. Therefore, just like the originals, these effects can sound somewhat thin and artificial by themselves. Use them with an amp/cabinet combination to create a stronger sound.

### 5.1 Big Fuzz



The Big Fuzz

#### About

Sustain to the max like a 1970s guitar hero or add some serious grunge to your tone. This is the distortion of choice for some serious rock and roll sounds.

#### Controls

- **VOLUME** is the master volume control for this component.
- **SUSTAIN** controls the amount of gain.
- Turn **TONE** clockwise to emphasize low frequencies and reduce higher frequencies, or counter-clockwise to attenuate the bass range and enhance the high frequencies.

### Expert Controls

- The **BASS** knob adjusts the low frequency response.
- The **TREBLE** knob adjusts the high frequency response.
- **STEREO** activates true stereo processing for this component.

## 5.2 Cat



The Cat

### About

If you want a responsive distortion for blues and rock (rhythm or lead), the Cat is your component of choice.

### Controls

- **VOLUME** is the master volume control for this component.
- **FILTER** affects the sound's color. For a darker sound, turn clockwise to enhance the low frequency range; turn counter-clockwise for a brighter, sharper sound.
- **DISTORTION** controls the amount of distortion applied.

### Expert Controls

- Turn the **BALLS** control clockwise to add low-end punch. Turning it counter-clockwise creates a flatter, more biting sound.
- The **BASS** knob adjusts the low frequency response.

- The **TREBLE** knob adjusts the high frequency response. In the low end of the range (from 0.00 to 3.00) can add a wah-wah like effect.
- **TONE** adjusts the frequency range influenced by the built-in pre-distortion midrange booster.
- **STEREO** activates true stereo processing for this component.

## 5.3 Demon Distortion



The Demon Distortion

### About

Definitely a piece of hard rocker's gear, the Demon Distortion provides you with razor-sharp, long-sustaining leads and speaker-blasting rhythm sounds.

### Controls

- **VOLUME** is the master volume control for this component.
- The **BASS** knob adjusts the low frequency response.
- The **MID** knob adjusts the midrange frequency response.
- The **TREBLE** knob adjusts the high frequency response.
- **GAIN** controls the amount of distortion.
- The **SCOOP** switch drastically attenuates the midrange frequencies, which produces a typical modern metal sound. With **Scoop** on, the **Mid** control has no effect.
- A red LED will light when a signal has been detected.

## Expert Controls

- The **BOTTOM** knob controls how much bass passes through to the distortion section. If the distortion lacks definition, lower this knob to tighten the sound.
- **BOOST** sets the center frequency of the built-in pre-distortion midrange booster.
- **BASS** determines the center frequency of the equalizer's Bass control.
- **MID** determines the center frequency of the equalizer's Mid control.
- **TREBLE** determines the center frequency of the equalizer's treble control.
- **BRIGHT** fine-tunes the signal's presence by attenuating or enhancing the upper midrange frequencies.
- **STEREO** activates true stereo processing for this component.

## 5.4 Distortion



The classic Distortion

### About

This one is a classic, instantly recognizable distortion that has featured in countless live shows and recordings.

### Controls

- **VOLUME** is the master volume control for this component.
- Turning **TONE** clockwise accents the midrange while dropping the bass. Counterclockwise takes off the highs and boosts the bass for a warmer sound.
- **DISTORTION** adds dirt to the sound.

### Expert Controls

- The **BASS** knob adjusts the low frequency response.
- The **MID** knob adjusts the midrange frequency response.
- The **TREBLE** knob adjusts the high frequency response.
- **STEREO** activates true stereo processing for this component.

## 5.5 Fuzz



The Fuzz

### About

Looking for that special 60's fuzz sound? The Fuzz's thick and harmonically rich tones will make your leads cut through a mix. As a bonus, you can create buzzing vintage rhythm guitar sounds, too.

### Controls

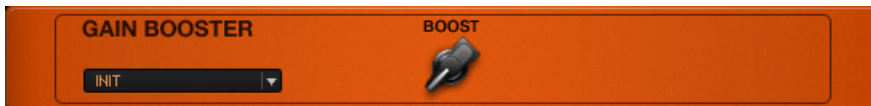
- **VOLUME** is the master volume control for this component.
- A red LED lights when a signal has been detected.
- The **FUZZ** controls the amount of gain into the circuit.

### Expert Controls

- The **BASS** knob adjusts the low frequency response.
- The **TREBLE** knob adjusts the high frequency response.
- **STEREO** activates true stereo processing for this component.



## 5.6 Gain Booster



The Gain Booster

### About

This component can add gain where you need it- for insane amounts of overdrive, or to compensate for settings that reduce level.

### Controls

- **BOOST** sets the degree of gain boosting.

## 5.7 Mezone



The Mezone

### About

This component delivers pure Metal. Pre- and post-distortion tone controls let you tailor the sound.

### Controls

- **VOLUME** is the master volume control for this component.

- The **BASS** knob adjusts the low frequency response. It is especially powerful in this component.
- **MID** controls the amount of the Mezone's midrange frequency boost.
- **MIDFREQ** sets the center frequency for the Mid boost.
- The **TREBLE** knob adjusts the high frequency response.
- **DISTORTION** controls the amount of gain.

### Expert Controls

The Expert controls provide filters applied before the distortion stage, greatly influencing the distortion's character.

- **BASS** controls how much bass is passed through to the distortion.
- **MID-Q** controls the amount of the midrange boost.
- **MIDFREQ** sets the center frequency for the Mid boost.
- Turning **TREBLE** counter-clockwise reduces high frequencies sent to the distortion section.
- **STEREO** activates true stereo processing for this component.

## 5.8 Skreamer



The Skreamer

### About

This warm mid-range enhancing overdrive works great for rhythm guitar and smooth leads.

### Controls

- **VOLUME** is the master volume control for this component.
- Turning **TONE** clockwise gives bright, screaming leads and biting rhythm tones. Counter-clockwise gives a mellower, darker sound.
- **DRIVE** controls the “crunch factor”. Turn clockwise for more distortion.
- A red LED lights when a signal has been detected.

### Expert Controls

- The **BASS** knob adjusts the low frequency response.
- The **BRIGHT** knob adjusts the high frequency response.
- **CLEAN** mixes the unprocessed sound with the distortion.
- **STEREO** activates true stereo processing for this component.

## 5.9 Sledgehammer



The Sledgehammer

### About

If you want your guitar to clear its way through a mix, try the Sledgehammer. This effect is not subtle and will give you as much presence as you need.

### Controls

- **VOL** (volume) is the master volume control for this component.
- The **BASS** knob adjusts the low frequency response.

- The **TREBLE** knob adjusts the high frequency response.
- **CONTOUR** attenuates, or scoops, a frequency band determined by the **FREQ** control. When it is completely turned down, the **FREQ** knob has no effect.
- The **FREQ** (frequency) knob sets the center of the frequency range attenuated by the **CONTOUR** knob, from midrange to treble.
- **GAIN** controls the amount of distortion.
- The **DIST** (distortion) / **DRIVE** switch changes the distortion characteristics from softer overdrive to harder, more edgy tones.

### Expert Control

- **STEREO** activates true stereo processing for this component.

## 5.10 TransAmp



The TransAmp

### About

This versatile distortion set the stage for the emulation of different amplifiers in a stomp box. TransAmp delivers a wide variety of tones- from cool sounds on the verge of distortion to biting, raging heat.

### Controls

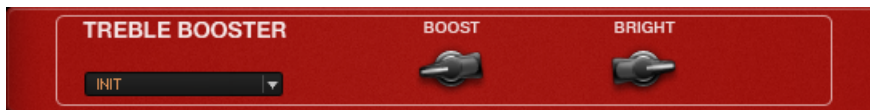
- **VOLUME** is the master volume control for this component.
- The **BASS** knob adjusts the low frequency response.
- The **TREBLE** knob adjusts the high frequency response.

- **DRIVE** controls the amount of overdrive, from slight crunch to hardcore distortion.
- The **AMP** control blends between three classic amp characters: **TWEED**, **BRIT** (British), and **CALIF** (California).

### Expert Controls

- The **CLEAN** switch reduces overall gain, producing interesting variations of the amp types.
- **CAB&MIC** activates speaker cabinet and micing simulation.
- **MICPOS** has an effect only if the **CAB&MIC** function is enabled. It places the mic at an off-axis position of a variable degree when turned counter-clockwise, and at a variable distance from the speaker when turned clockwise.
- **HOT** has an effect only if the **CAB&MIC** function is enabled. Turning the control more clockwise produces a brighter, hotter sound.
- **STEREO** activates true stereo processing for this component.

## 5.11 Treble Booster



The Treble Booster

### About

Treble Boosters were used by Brian May from Queen, as well as Eric Clapton to push their tube amps into creamy distortion. This effect cuts low-end frequencies then amplifies the signal, creating a focused sound with more midrange emphasis.

### Controls

- **BOOST** controls the amount of gain.
- The **BRIGHT** control acts as a low-pass filter to attenuate the highest frequency range.

## 6 Dynamics

Dynamic effects are capable of much more than just simple loudness control! In GUITAR RIG 5, you'll find a range of tools to dynamically or interactively adjust levels. Create an incredible range of sounds with practical and even psychoacoustic properties.

### 6.1 Fast Comp



The Fast Comp

#### About

The Fast Comp has been developed to allow an even greater control over the dynamics of a performance. As its name suggests, the fast compressor is useful to capture transients that other compressors might miss.

#### Controls

- **INPUT**, or threshold, determines the amount of signal fed to the compressor.
- **ATTACK** is how quickly the circuit reacts to a signal's peaks.
- **MAKEUP** is the amount of output gain. Use this to compensate for changes in volume caused by input gain and signal compression.

#### Expert Controls

In the expert panel of the FAST COMPRESSOR is the on/off switch for the SideChain function. When lit, SideChain is enabled. In stand-alone mode, you can trigger the compressor with an external signal via the Audio and MIDI Settings' routing panel. See the Guitar Rig 5 Applica-

tion Reference for further instructions. When run as a plug-in, set up the triggering of the compressor via the channel routing function of your DAW / host software. See the relevant documentation for further instructions.

## 6.2 Limiter



The Limiter

### About

A limiter works like a compressor with a high compression ratio and a short attack time. Its main use is to prevent subsequent stages from overloading, but it can also be used for tone shaping.

### Controls

- **VOLUME** controls the master volume of this component.
- **LIMIT** sets the level at which the limiter is triggered, i.e. the level input signals cannot exceed.
- **HOLD** sets a minimum time that limiting will be applied when the signal exceeds the Limit threshold.
- **RELEASE** sets the time it takes to return to normal state after limiting. Longer release times will sound smoother, but they can cause unwanted volume fluctuations.

## 6.3 Noise Gate



The Noise Gate

### About

A noise gate helps remove noise and hiss, but can also be used as a special effect. Although there is a simple gate at the input stage of GUITAR RIG 5, the Noise Gate component can be useful for more sophisticated applications.

To kill hum and buzz, a noise gate mutes all signals below a certain level (threshold). While you're playing, the musical part of your signal is much stronger than the noise and practically renders it inaudible. When you pause, however, the noise will still be there and get all the attention. At that point, a noise gate turns down the volume to create silence.

### Controls

- **THRESHOLD** determines the reference level above which the gate opens, and below which it closes. Setting it very low accommodates signals with little noise; higher threshold levels are useful for special effects, such as removing substantial amounts of a string's decay to create a more percussive or gated sound.
- **HOLD** sets a minimum amount of time the gate stays open. With a high threshold, this prevents the gating effect from stuttering.
- **ATTACK** controls the time the gate takes to open up after it has been triggered. The higher it is set, the softer the attack will be.
- **RELEASE** sets the time the noise gate takes to close when triggered.
- **LEARN** automatically sets the threshold. While not playing anything, click on Learn. Your signal is analyzed, the threshold is set just above the residual noise, and the button pops out again.



## 6.4 Noise Reduction



The Noise Reduction component

### About

The Noise Reduction component works similarly as the Noise Gate, but with a softer effect. One function is that of an expander, attenuating signals below the threshold without cutting them out completely. At the same time, a low-pass filter is triggered, attenuating the higher frequencies, where noise usually occurs. It is very easy to adjust.

### Controls

- **THRESHOLD** determines the level above which the gate opens, and below which it closes.
- **LEARN** automatically sets the threshold. While not playing anything, click on Learn. Your signal is analyzed, the threshold is set just above the residual noise and the button pops out again.

### Expert Controls

- **RELEASE** determines how long it takes for the filter to close down after the input signal falls below the threshold.
- **DE-HISS** controls the strength of the filter reducing high frequencies.

## 6.5 Stomp Compressor



The Stomp Compressor

### About

The Stomp Compressor provides a different type of compression compared to the Tube Compressor; the effect can be characterized as tighter and cleaner.

### Controls

- **VOLUME** is the master volume control of this component.
- **SUSTAIN** is simultaneously affecting the threshold and the gain of the compressor. Turning it up will increase compression and boost the compressed signal. Note that other low-level signals like noise and hum will also be boosted.
- The meter shows how much the signal is currently being attenuated.

### Expert Controls

- **ATTACK** sets the time it takes for the compressor to come to full effect. A longer attack time retains more of a signal's original dynamics, for example picking.
- **RELEASE** sets the time it takes for the compressor to return to its normal state after the signal falls below the threshold. With very short release times, the compressor tracks even slight level changes, possibly producing a choppy sound.
- **THRESHOLD** sets the level above which signals will be compressed. A lower threshold increases compression leading to greater sustain.

- **SIDECHAIN** allows the compressor to be triggered by an external signal. When lit, Side-Chain is enabled. In stand-alone mode, you can trigger the compressor with an external signal via the Audio and MIDI Settings' routing panel. See the Guitar Rig 5 Application Reference for further instructions. When run as a plug-in, set up the triggering of the compressor via the channel routing function of your DAW / host software. See the relevant documentation for further instructions.

## 6.6 Tube Compressor



The Tube Compressor

### About

Tubes are always known to give the most harmonically pleasing sound; in a compressor their character is brought to the forefront.

### Controls

- **INPUT** sets the level of the signal at the input of the compressor. Turning this control up too much can lead to distortion.
- **THRESHOLD** sets the level above which signals will be compressed.
- **RATIO** controls how much signal is attenuated when the compressor is triggered. The higher the ratio, the greater the amount of compression, and the more dynamics get evened out.
- **ATTACK** sets the time it takes for the compressor to engage. A longer attack time retains more of a signal's original dynamics.

- **RELEASE** sets the time it takes for the compressor to return to its normal state after the signal falls below the threshold. With very short release times, the compressor tracks even slight level changes, possibly producing a choppy sound.
- **GAIN** controls the amount of amplification of the compressed signal.

### Expert Controls

- **SATURATION** adds some distortion to the tube characteristics.
- **KNEE** adjusts the compressor response from soft knee (gentler compression effect) to hard knee (more squeezed, harder-sounding compression)
- **DYNAMIC** controls the dynamic response of the virtual tube used in this component. Turning it up flattens dynamics a bit.
- **SIDCHAIN** allows the compressor to be triggered by an external signal. When lit, Side-Chain is enabled. In stand-alone mode, you can trigger the compressor with an external signal via the Audio and MIDI Settings' routing panel. See the Guitar Rig 5 Application Reference for further instructions. When run as a plug-in, set up the triggering of the compressor via the channel routing function of your DAW / host software. See the relevant documentation for further instructions.

## 6.7 Volume Pedal



The Volume Pedal

### About

This simple volume control can attenuate or boost the level at any point in the signal chain.

## **Controls**

The slider controls volume from the minimum (when fully left) to the maximum level (when fully right). This is perfectly suited to be controlled by the RIG KONTROL or any MIDI foot pedal.

- **VOL** is the master volume control of this component. Use it to adjust the level when the slider is set to the extreme right.

## **Expert Controls**

- **MIN VOLUME** sets the volume when the slider is fully left.
- **HALF VOLUME** sets the volume when the slider is in the middle position. You can give pedals a more comfortable feel by adjusting the overall curve of the volume change with this knob.

## 7 Equalizer

An Equalizer is a way of boosting or attenuating parts of the frequency spectrum. It is one of the most basic ways to shape your sound, and GUITAR RIG 5 offers several great tools to do it.

### 7.1 Custom EQ



The Custom EQ

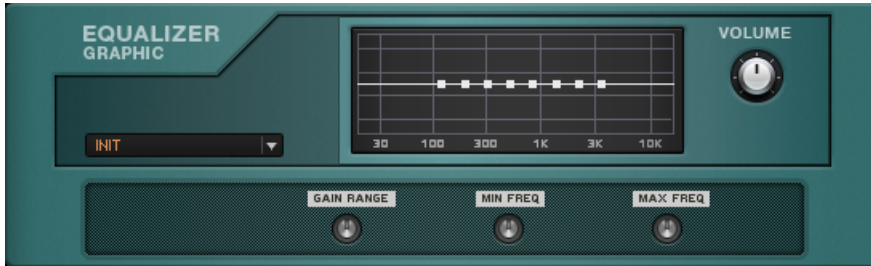
#### About

The Custom EQ is the emulation of a “boutique” EQ that is very popular in the studio these days. It has a particularly colorful and warm EQ sound.

#### Controls

- The **TONE** knob controls the balance between the treble and bass. When turned down, the low frequencies are boosted and the high frequencies are suppressed, when turned up it is the other way round.
- **FREQ** sets the center frequency for the midrange attenuation of this EQ, as controlled by the Scoop knob.
- **SCOOP** controls the amount of midrange attenuation.
- **VOLUME** sets the master volume of this component.

## 7.2 EQ Graphic



The EQ Graphic

### About

This module uses band-pass filters to split the audio spectrum into eight bands providing an individual gain control for each band.

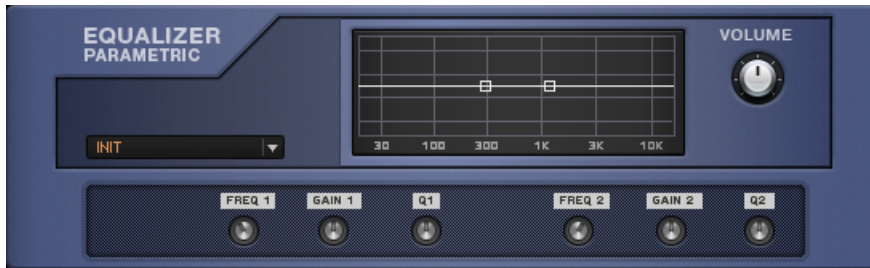
### Controls

- The squares set the gain applied to each frequency band. Drag a square up to increase gain, down to decrease it. Double-clicking on a square restores it to zero gain.
- The **VOLUME** is the master level control.

### Expert controls

- **GAIN RANGE** sets the maximum amount of boost and cut, influencing the effect of the gain settings. It ranges from  $\pm 1\text{dB}$  (very fine adjustment) to  $\pm 30\text{dB}$  (very intense).
- **MIN FREQ / MAX FREQ** set the lowest and highest band's frequencies, thereby defining the position of the affected frequency bands.

## 7.3 EQ Parametric



The EQ Parametric

### About

A parametric equalizer is a highly sophisticated form of tone control, as it not only allows boosting or attenuating frequencies but as well the Q or width of the boost. The graph illustrates the response created by the controls, while the tool tips for each dot show the exact frequency in Hz and amount of boost/cut in dB.

EQ Parametric includes two complete parametric EQ stages.

### Controls

There are two ways to adjust this component:

- ▶ Click on one of the boxes in the graph and drag them: up to increase gain, down to decrease gain, sideways to change the center frequency.
- ▶ Adjust these same parameters using the knobs in expert mode.
  - [VOLUME](#) controls the output level for the device.

### Expert Controls

- [FREQ 1](#) and [FREQ 2](#) set the center frequencies for each EQ stage.
- [GAIN 1](#) and [GAIN 2](#) set the amount of boost or attenuation.
- [Q1](#) and [Q2](#) control the width of the affected frequencies.



## 7.4 EQ Shelving



The EQ Shelving

### About

A shelving equalizer combines a high-pass and a low-pass filter. A high-pass filter “passes” or allows through high frequencies meaning it attenuates bass. Conversely, a low-pass filter attenuates high frequencies.

This EQ easily corrects issues like a lack of high frequency “sparkle” or a boomy bass. The graph illustrates the response, while the tool tips for each dot show the exact frequency in Hz and amount of boost/cut in dB.

### Controls

There are two ways to adjust this component:

- ▶ Click on one of the boxes in the graph and drag them: up to increase gain, down to decrease gain, sideways to change the frequency limit.
- ▶ Adjust these same parameters using the knobs in expert mode.
  - The **VOLUME** control sets the output level for the effect.

### Expert Controls

- **LO FREQ** sets the upper frequency limit for Gain1 (low shelf).
- **LO GAIN** controls the amount of gain for the low-pass filter.

- **HI FREQ** sets the lower frequency limit for **Gain2** (high shelf).
- **HI GAIN** controls the amount of gain for the high-pass filter.

## 8 Filters

Filters are essentially Equalizers that are tailored for a specific purpose. This collection of filters and wah-wah pedals will allow you to create sweeps and resonance for great effect.

### 8.1 AutoFilter



The Auto Filter

#### About

The AutoFilter is a multi-band filter that responds to the dynamics of your playing. This effect is very popular in funk and disco music and is used to add a synth dimension to instruments.

#### Controls

- **SENS** controls the sensitivity of the AutoFilter and should be tuned to match your guitar's level. If the filter isn't triggered or doesn't sweep sufficiently, increase the sensitivity. If the filter is triggered too easily, turn the sensitivity down.
- With the **UP/DOWN** switch set to "down," the filter sweeps down to a lower frequency; as the string decays, the filter returns to a higher frequency. When set to "up", the filter sweeps up to a higher frequency; as the string decays, the filter returns to a lower frequency.
- **RANGE** sets the width of the filter sweep. Turn it clockwise to sweep over a wider range.
- **RESO** controls the sharpness or resonance of the filter response. Turning it clockwise makes the effect more pronounced.
- **LFP/BPF/HPF** blends continuously between three different filter modes:

- Low-pass (LFP)- the filter passes low frequencies and attenuates high frequencies.
- Band-pass (BPF)- the filter passes a band of frequencies and attenuates frequencies above or below that band.
- High-pass (HPF)- the filter passes high frequencies and attenuates low frequencies.

### Expert Controls

- **ATTACK** sets the time the filter takes to complete the sweep, from 5ms to 80ms.
- **RELEASE** sets the time the filter takes to return to its initial setting after the sweep, from 50ms to 800ms. With short release times, the AutoFilter tracks even slight level changes. This can produce a choppy sound; turn up the release time for a smoother decay.
- **OFFSET** adjusts the filter's center frequency, i.e. the starting point for the filter sweep.
- **WET** controls the blend between dry and filtered signal. This is particularly useful with a bass guitar as the filter might thin out the sound. By turning this knob down, you can add some of the dry signal to prevent this from happening.

## 8.2 Cry Wah



The Cry Wah

### About

The Cry Wah is based on the most popular wah-wah of all time. While its use with a foot controller such as that found in the Rig Kontrol is obvious, many famous guitarists have used the wah-wah in “fixed” mode creating a unique resonant peak.

## Controls

- The slider is used to control the wah-wah frequency. Moving the slider towards the left lowers the frequency, moving it towards the right raises the frequency.

## Expert Controls

- **STEREO** allows for true stereo operation.

## 8.3 Filterbank



The Filterbank

## About

The latest Filter effect in Guitar Rig 5 is FILTERBANK-- a multi-mode resonant filter. While the controls may look like a graphic equalizer, the FILTERBANK can do so much more.

## Controls

- **DRY/WET** determines the amount of affected signal heard.
- Each of the 8 sliders represents two band-pass filters. Each filter is able to fully cut its frequency range enabling for drastic filtering and great sound design potential.
- The **STRETCH** control to the right of the sliders increases the frequency spread of the filters. At the leftmost point, the stretch is in a very narrow frequency band, while at the right it is spread out greater.

- The **SHIFT** control sets the midpoint of the frequency range: to the left goes lower, to the right goes higher.

### Expert Controls

- **STEREO** switches for stereo operation. A small light will turn on when activated.
- **RESONANCE** makes the filters sharper and more prominent to give the familiar sound from wah-wahs and synthesizers.
- As each slider represents two band-pass filters, the **BAND SPLIT** parameter shifts the frequencies of the filters further apart.
- **LR SPLIT** shifts the frequency range of the left and right filters represented in each slider in opposite directions. For example, moving the knob to the right shifts the filters of the right channel up and the left channel down.

## 8.4 Pro-Filter



The Pro Filter

### About

The Pro-Filter is based on a filter included in Native Instruments' popular software synthesizer Pro-53. It has a fat, rich sound that works very well as a tone control, but tying the Cutoff to a controller pedal also allows for great wah-wah sounds.

For advanced effects, try modulating the cutoff using the various Modifier components. For example, you can produce filtered effects that sync to the beat using the Step Sequencer.

### Controls

- **CUTOFF** sets the operation frequency of the filter. Filtering occurs above and/or below it as defined by the **LFP/BPF/HPF** knob.

- **RESO** sets the filter bandwidth- turning it up narrows the frequency range thus accentuating the center frequency. When fully clockwise, the **RESO** control will push the filter into self-oscillation. The resultant frequency can be played by the **CUTOFF** control.
- **SLOPE** controls the rate at which frequencies are attenuated past the cutoff frequency. When turned down, frequencies are attenuated softly, at a rate of 12dB per octave. When turned up, frequencies are attenuated at a rate of 24dB per octave, producing a more intense filter sound.
- **LFP/BPF/HPF** blends continuously between three different filter modes:
  - Low-pass (**LFP**)- the filter passes low frequencies and attenuates high frequencies.
  - Band-pass (**BPF**)- the filter passes a band of frequencies and attenuates frequencies above or below that band.
  - High-pass (**HPF**)- the filter passes high frequencies and attenuates low frequencies.

## 8.5 Real Wah



The Real Wah

### About

The Real Wah is based on a custom wah-wah pedal that became an instant success when it appeared in the late 90's.

### Controls

- The slider is used to control the wah-wah frequency. Moving the slider towards the left lowers the frequency, moving it towards the right raises the frequency.

### Expert Controls

- **STEREO** activates true stereo processing for this module.

## 8.6 Talk Wah



The Talk Wah

### About

This is similar to a wah-wah, but utilizes a different filter type emulating the way vowels are shaped by the human mouth. The result is similar to the “talk box” effect that was very popular in the 70s.

### Controls

- The slider controls the filter’s frequency. Moving the slider toward the left produces a sound like the vowel “o”; moving it toward center morphs into more of an “a”; going further to the right creates an “e” sound. Control this with the RIG KONTROL’s foot pedal and you’ll be amazed at the sounds you are able to coax out of your guitar.

### Expert Controls

- **STEREO** activates true stereo processing for this module.
- The **BRIGHT** switch accentuates the high frequencies.
- **VOLUME** controls the overall level of this component.
- **SIZE** adjusts the size of the “virtual mouth”, influencing the overall sound of the filter.



## 8.7 Wah-Wah Pedal



The Wah-Wah Pedal

### About

The classic wah-wah pedal is a filter that sweeps a resonant peak over a certain frequency range; the wah-wah in GUITAR RIG 5 is perhaps the most versatile execution of this idea! Independent settings for filter frequency, resonance, and level at the high, mid, and low positions of the pedal allow for meticulous customization of the response and feel of the pedal.

### Controls

- The slider controls the peak frequency. Moving the slider toward the left lowers the frequency, and moving it toward the right raises the frequency. The RIG KONTROL expression pedal is ideal for controlling this.

### Expert Controls

- **STEREO** activates true stereo processing for this module.
- **LP-BP-HP** controls the filter's characteristics (low-pass, band-pass, and high-pass) and continuously blends between them. LP has the response of a typical low-pass filter, BP works more like a traditional wah-wah, and HP attenuates low frequencies as you move the slider to the right.
- **DRY** controls the blend between dry and filtered signal. By turning this knob up, you add more of the dry signal to the mix.
- **FREQ MIN** sets the filter frequency with the slider set all to the left.
- **FREQ MID** sets the filter frequency with the slider at its middle position.

- **FREQ MAX** sets the filter frequency with the slider set all to the right.
- **RES MIN** sets the amount of filter resonance with the slider set all to the left.
- **RES MID** sets the amount of filter resonance with the slider at its middle position.
- **RES MAX** sets the amount of filter resonance with the slider set all to the right.
- **VOLUME MIN** sets the filter level with the slider set all to the left.
- **VOLUME MID** sets the filter level with the slider at its middle position.
- **VOLUME MAX** sets the filter level with the slider set all to the left.

## 9 Modifiers

If you have ever programmed a synthesizer, you have perhaps used modifiers like an LFO or a step sequencer. In the hands of a guitarist, modifiers can open up a world of possibilities to discover.

### 9.1 Modifier Basics

The concept of a Modifier can be best understood by first acknowledging what it isn't: the Modifier doesn't generate tones nor does it affect tone. Rather, a Modifier is a logic controller that determines when a signal should be turned off or on.

Many effects include modifiers within their circuitry. For instance, compressors use envelope controllers to determine the attack and decay. Vibratos use an LFO or, low frequency oscillator, to set the rate. Auto-wahs detect the amount of input signal that triggers the filter. Having these basic building blocks at your disposal allows the user to create wholly new, unusual effects or even to develop more realistic, "living" amplifiers.

To activate a Modifier, simply drag the name box, e.g., ANALOG SEQ, over the parameter you wish to control.

### 9.2 Expert Controls

Each Modifier contains the following Expert controls:

- Each of the 4 entries in the Expert Panel represents one parameter targeted by the Modifier. You can assign each of the 4 entries to almost any component parameter within the rack.
- The Checkmark preceding the parameter's name means it is set to active. To temporarily deactivate this destination, click on it.
- To permanently remove a destination, click on the X (cross) right of the Slider.
- The Slider adjusts the direction and intensity of the effect on the target parameter relative to the control value.

## 9.3 Analog Sequencer



The Analog Sequencer

### About

The Analog Sequencer generates 16 sequential control signals that have rhythmic values of quarter notes to 1/32nd notes. Each control signal's value can be varied to create a complex rhythmic control signal.

### Creating a sequence of steps

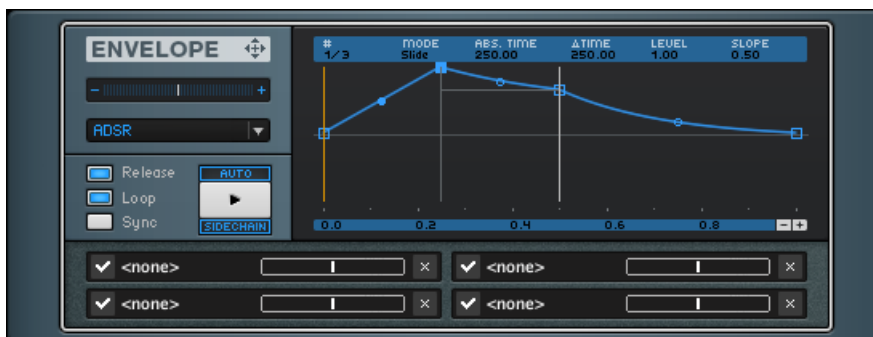
The 16 numbered columns with vertical faders represent steps, or events. These cycle through in sync to the beat of the Metronome. The current position of the sequence is shown by an orange dot moving below the faders. Each step changes the value of the control signal according to its fader's position whereby the midpoint of the fader is neutral, or no control signal is sent. Double-click the fader to return to this position.

### Controls

- **Resolution** sets the rhythmic value of each of the 16 steps. Available options are 1/4, 1/8, 1/16, and 1/32 notes.
- **Seq Length** adjusts the number of steps.

- **Slide** controls the amount of glissando, i.e. the time the control signal takes to reach the next value.
- For an explanation of the Expert controls for this Modifier, see Section [↑9.2, Expert Controls](#).

## 9.4 Envelope



The Envelope

### About

The envelope generates a very flexible control signal, whose shape you can edit accurately using a graphical editor. In most cases (if Auto is activated), the envelope will be triggered with each note you play. Of course, you can also use the Play button to trigger it manually or with a controller.

### Presets

The Envelope component's presets include:

ADSR or attack, decay, sustain, release. This is the default setting and is also commonly seen in synthesizers.

Decay sets the length of decay.

Hold determines the amount of time a control is held.

Rhythm an envelope with many nodes for a feeling of movement.

Stairs is the graphical interpretation of a staircase.

Zig Zag represents up and down movement.

### **Controls**

- [Release](#)
- [Loop](#) loops the current event
- [Sync](#) synchronizes the Envelope with the built-in Metronome or external clock.
- [Auto](#) automatically starts the envelope at the beginning when the input signal is received, this can be manually overridden with the Play button.
- [Sidechain](#) allows the user to trigger the Envelope with an external source signal. [Auto](#) must be activated to use [Sidechain](#).

### **Editing the Envelope Graph**

In the central graph, you see a blue line representing the development of the control signal (vertical axis) over time (horizontal axis). An orange vertical line indicates the position of the current control signal.

The default envelope consists of four small squares (called breakpoints or nodes) setting the vertices of the control signal at a certain time after the envelope has been triggered. You can move them up or down to increase or decrease the control signal, and left or right to change their point in time.

- The first and last nodes are tied together, because the envelope always starts from where it ended.
- If [Sync](#) is activated, the nodes will snap to a grid representing the beat.
- To add a node: Right-click (Mac: ctrl-click) anywhere on the envelope curve. To remove a breakpoint: Right-click (Mac: ctrl-click) on it. By dragging the small dot between nodes, you can bend the segment's shape into concave and convex form.
- The left-most node is where the envelope starts when triggered.
- If [Loop](#) is inactive, the control signal will follow the Envelope once and then reside on the final/initial value until a new trigger signal is received.

- If **Loop** is active, the sustain/loop segment of the envelope is repeated as long as a triggering signal is present. Vertical lines crossing two of the central nodes define this segment. When repeated, the node on the left is ignored, as the loop starts again from the value of its ending node (shown by a phantom node being the origin of a second blue line). If there are only two nodes in the sustain/loop segment, the left of those lines is grey. Consequently, the control signal then resides on the level reached at the second line for the length of the loop.
- If there are three or more central nodes (other than the start and end), the sustain/loop segment can be shifted by clicking on one of its defining lines and dragging it to another node. When dragged, so that the sustain/loop segment consists of only two nodes, the control signal resides on the level reached at the second line for the length of the loop.
- As soon as the envelope is not triggered anymore, the envelope continues from the second vertical line, if release is active. The control signal then resides on the final/initial value until triggered again. If release is inactive, the envelope will be followed until the right vertical line, no matter how long a triggering signal is present. The part right of the second vertical line is ignored and the control signal resides on the sustain level until the envelope is triggered again.

### The Parameter Strip

The Parameter Strip above the envelope provides a variety of data and additional parameters to edit.

- At the left of the strip, the value below **#** shows which of the nodes is being edited.
- Mode offers two options: **Slide** and **Fixed**. If you move a node left or right in Slide mode, the envelope right of it moves as well to maintain the same times and levels. In Fixed mode, the total envelope time doesn't change.
- **Abs. Time** shows the amount of time in seconds from the start of the envelope to the breakpoint being edited.
- **Delta Time** shows the duration in seconds from the node currently edited to the one left of it.
- Level shows the level of the node currently edited in reference to the centerline.

- **Slope** shows the state of the line arriving at the currently edited node. 0.5 indicates a straight line. 0.999 indicates a maximally convex curve. 0.001 indicates a maximally concave curve.
- For an explanation of the Expert controls for this Modifier, see Section [↑9.2, Expert Controls](#).

### Envelope Ruler and Zoom

The ruler below the envelope is scaled in seconds if **Sync** is deactivated, in note values if **Sync** is activated. If the envelope extends past the envelope’s visible range, click on the ruler and drag to the left or right to scroll. Double-click on the ruler to fit the envelope exactly within the visible window.

To change the range of the ruler by zooming in or out, click on the (+) and (-) symbols in the lower right. This also sets the quantization time for nodes if **Sync** is activated.

## 9.5 Input Level



The Input Level

### About

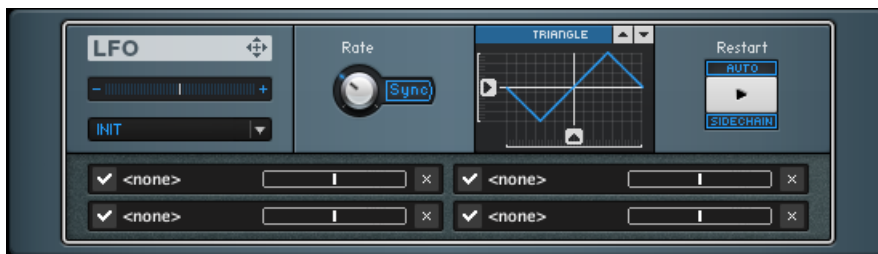
The Input Level Modifier generates a control signal based on the incoming input level. This is commonly called an “envelope follower” as the signal tracks changes in amplitude. The most common application for this is to control filters; this is already built in to the AutoFilter component. However, a subtle use of this Modifier can be used to make components like the amplifiers sound much more realistic.



## Controls

- **Volume** sets the overall strength of the control signal.
- **Offset** sets the control signal's minimum value. By default, the control signal covers a range from  $-1$  to  $+1$ , with  $0$  as the midpoint. When Offset is at maximum, the baseline is  $0$ .
- **Attack** sets how long the control signal takes to reach its target value (from  $1$  to  $978\text{ms}$ ). Setting the attack time too short can create pops when the signal first kicks in; increasing Attack can soften this effect.
- **Decay** sets how long the control signal takes to fall back to its initial setting in the absence of an input signal (from  $10$  to  $9863\text{ms}$ ).
- **Sidechain** allows the user to trigger the Envelope with an external source signal. **Auto** must be activated to use **Sidechain**.
- For an explanation of the Expert controls for this Modifier, see Section [↑9.2, Expert Controls](#).

## 9.6 LFO



The LFO

### About

The term LFO (Low Frequency Oscillator) refers to a periodic waveform at a subsonic rate. As a Modifier, this is useful to create constantly changing parameter values.

## Controls

- **Rate** sets the LFOs frequency, from 0.01Hz (oscillations per second) to 10.24Hz. When the component is synchronized (see below), the scale turns from Hz into note values.
- **Tempo Sync** synchronizes the Loop Machine to the metronome or host, depending on the Sync setting.
- **WAVEFORM** provides a graphic display of the control signal. By clicking on the arrows on the right side of the graph you can choose among sine, triangle, square, saw tooth, and random waveforms.
- **Polarity** inverts the waveform's polarity and thereby all its value changes with one click.
- **Start Phase** sets the point within the waveform hitting the Play button jumps to. The actual value depends on the waveform. With a sine wave at 0 degree (Start Phase at center), the value of the control signal starts at 0 (neutral) and increases first. At 180 degrees (Start Phase turned fully clockwise), the value of the control signal starts at 0 and decreases first.
- The Play button retriggers the LFO, which otherwise keeps on running without interrupting. To automatically trigger this button by hitting a note, activate the small **Auto** button above the Play button.
- **Sidechain** allows the user to restart the Envelope with an external source signal. **Auto** must be activated to use **Sidechain**.
- For an explanation of the Expert controls for this Modifier, see Section [↑9.2, Expert Controls](#).

## 9.7 Step Sequencer



The Step Sequencer

### About

The Step Sequencer generates up to 16 sequential control signals, which can have rhythmic values of quarter notes to 1/32nd notes. Note that you cannot set the level of these steps; they are on/off triggers intended to create rhythmic effects.

### Creating a Sequence of Steps

The horizontal bar consisting of 16 numbered buttons is the core of the Step Sequencer. The buttons are addressed from 1 to 16 as shown by an orange outline, moving synchronously to the beat of the Metronome. Active buttons are blue and trigger the control signal for the assigned controls as defined in the Targets list. Clicking on the buttons turns them on and off.

### Parameters

- **Resolution** sets the rhythmic value, effectively changing the speed at which the buttons are triggered. Available options are 1/4, 1/8, 1/16, and 1/32 notes.
- **Seq Length** adjusts the length of the sequence by reducing the number of steps.
- **Legato** ties adjacent steps to each other, thus creating longer steps.
- **Attack** controls how long the control signal takes to reach its maximum value after having been triggered (from 4 to 1233ms).

- **Decay** controls how long the control signal takes to reach its minimum value after having been triggered (from 4 to 2197ms)
- **Width** sets the length of the control signal, when triggered. When fully clockwise, the width equals the note-value set as Resolution.
- **Offset** increases all control signal values as the control when turned up.
- For an explanation of the Expert controls for this Modifier, see Section [↑9.2, Expert Controls](#).

## 10 Modulation

A modulator introduces motion into formerly static sounds. Common modulation devices in hardware rigs are chorus, vibrato and flanger. GUITAR RIG 5 provides you with a vast array of modulators than can be inserted anywhere in your rig. The majority of modulation components have the ability to sync either to the host clock or the metronome clock.

### 10.1 Electric Lady



The Electric Lady

#### About

The Electric Lady adds a very versatile stereo flanger to your effects rack. Modeled after an all-time classic, the Electric Lady produces sounds that range from subtle flanging and chorusing to weird metallic timbres and extreme flanger swooshes. In static mode, the unit acts as a filter allowing for chime-like tones.

#### Controls

- **RATE** controls the speed of the LFO causing the flanger modulation.
- **STATIC** disables the modulating LFO and thus puts the unit in static mode. The unit becomes a static filter with the characteristics of the extreme position of the flanger, set by the Depth knob.
- **DEPTH** controls the intensity of the modulation. With higher values a broader frequency range is affected.
- **COLOR** controls the frequency of the filters, varying the general timbre of the effect.

## Expert Controls

- **SYNC** synchronizes the LFO speed to the metronome or host, depending on the Sync setting.
- **INVERT** shifts the phase of the effect signal, creating a different timbre.
- **ROTATE** alters the phase difference between the LFOs feeding the left and right channels for a stereo effect.
- **DRY/WET** adjusts the mix of the dry and processed sound.

## 10.2 Ensemble



The Ensemble

### About

This unique effect is based on a popular vintage processor. It adds slightly detuned voices to the signal and thus creates a polyphonic sound. Also, it provides a vibrato effect.

### Controls

- **VOLUME** sets the master level of this component.
- **CHORUS** Intensity sets the effect depth and is only active in Chorus mode
- **MODE** switches between chorus and vibrato mode.
- **DEPTH** sets the amount of pitch deviation and is only active in Vibrato mode.
- **RATE** sets the vibrato speed and is active only in Vibrato mode.

### Expert Controls

- **TEMP SYNC** synchronizes the Rate setting to the metronome or host tempo, depending on the Sync setting.
- **DRY/WET** sets the ratio of dry to processed sound.
- **BASS** controls the level of the lower frequencies.
- **MID** controls the level of the midrange frequencies.
- **TREBLE** controls the level of the high frequencies.
- **DELAY** sets the chorus circuit's delay time, i.e. the time until the effect affects the signal.
- **STEREO** adjusts the panning of the chorus voices from mono to full stereo.

## 10.3 Flanger



The Flanger

### About

This delay-based unit can create chorusing, flanging, and pitch modulation effects, depending on the Mode switch:

- Chorusing adds slightly detuned voices to the signal and thus creates a polyphonic sound.
- Flanging produces a spacey whooshing sound due to a mix of the original signal with one processed with a modulated delay time.
- Pitch modulation is better known as vibrato and causes a cyclic pitch change.

## Controls

- **SPEED** varies the modulation rate of the chosen effect mode.
- **INTENSITY** controls the ratio of unprocessed to processed signal and creates a different effect depending on the chosen mode- it's best to try it out!
- **WIDTH** determines the range of each effect, i.e. the difference between both extremes of modulation.
- **MODE** switches between the Chorus, Flanger, and Pitch Modulation mode.

## Expert Controls

- **SYNC** synchronizes the Rate setting to the metronome or host tempo, depending on the sync setting.
- **STEREO** creates an extra-wide stereo effect.

## 10.4 Phaser Nine



The Phaser Nine

## About

This phaser is based on another well-known effect design, adding all kinds of animated shimmering to your guitar sounds.

## Controls

- **RATE** controls the speed of the LFO causing the phaser modulation.
- **DEPTH** determines the intensity of the phasing.



- **COLOR** controls the timbre of the phasing as caused by the feedback of the effect. Higher settings put more emphasis on the harmonics.

### Expert Controls

- **SYNC** synchronizes the LFO speed to the metronome or host, depending on the Sync setting.
- **INVERT** shifts the phase of the effect signal, creating a different timbre.
- **FREQUENCY** controls the base frequency around which the LFO modulation will take place.
- **NOTCHES** sets the number of notches the effect applies to the frequency range.
- **ROTATE** alters the phase difference between the LFOs feeding the left and right channels for a stereo effect.
- **DRY/WET** adjusts the mix of the dry and processed sound.

## 10.5 Rotator



The Rotator

### About

This effect simulates a rotating speaker. A true rotating speaker has two elements- the lower rotor and upper rotor. This module faithfully emulates both, providing separate controls for each one.

### Controls

- **ROTATOR** allows switching the speed of the rotating speaker from slow to fast.

- **BALANCE** sets the ratio between the sound produced by the rotating speaker's high frequency horn and the low frequency woofer. Turning clockwise gives more highs, while turning counterclockwise gives a more pronounced bass sound.
- **PAN** changes the treble and bass rotors' location in the stereo field. Turning clockwise moves treble right while bass moves left and vice versa.
- **DISTANCE** sets the distance between the virtual microphones and the rotating speaker. The closer they are, the stronger the rotating effect is perceived.
- **DRY/WET** controls the effect's strength; turn fully clockwise to hear the rotating speakers only.

### Expert Controls

- **CAB TONE** allows deactivating the Rotator's own cabinet simulation for more customization possibilities. For the most authentic sound, insert the Cabinets & Mics component preceding the Rotator with two signal chains. One holds the Rotator Bass cabinet panned to the left, the other the Rotator Horn cabinet panned to the right. Generally, the Rotator routes the left incoming channel to the bass rotor and the right incoming channel to the treble rotor and creates a new stereo field.
- Each rotor (treble and bass) has a set of identical controls.
- **SLOW** sets the rotor speed in slow mode.
- **FAST** sets the rotor speed in fast mode.
- **ACCEL** controls the acceleration of the rotors when switching from slow to fast mode and vice versa. It spans from a very sedate speed change to almost instant switching.
- **SPREAD** controls the width of the stereo image by setting the distance between the virtual microphones.

## 10.6 Stereo Tune



The Stereo Tune

### About

The STEREO TUNE is a stereo widening effect. Using this tool will give a larger soundstage and the impression of a moving stereo image.

### Controls

- MIX mixes the dry and wet signals
- SPLIT adjusts the split frequency for the detuned input signal. This allows the user to leave the bass frequencies unaffected.
- DRIFT detunes the input signal by a given percentage. The left and right channels are tuned at different frequencies to create a stereo widening effect.
- SPREAD adjusts the affected signal from mono to stereo.

## 10.7 Stoned Phaser



The Stoned Phaser

## About

The Stoned Phaser adds a swirling effect to the sound especially known from Psychedelic Rock music. This component is modeled after a popular phaser from the 1970s.

## Controls

- **RATE** controls the speed of the phaser effect.
- **SYNC** synchronizes the phaser rate to the metronome or host, depending on the Sync setting.
- The **COLOR** switch provides a timbre change to the standard phaser sound.

## Expert Controls

- **INVERT** changes the phase of the shifted signal, producing a yet another coloration.
- **NOTCHES** determines the number of stages of the phase shifter. Click on the number and drag to select from 1 to 5 notches.
- **COLOR STRENGTH** controls how much the Color Button affects the sound.
- **SWEEP MIN** sets the sweep's lower frequency limit.
- **SWEEP MAX** sets the sweep's upper frequency limit.
- **ROTATE** alters the phase difference between the LFOs feeding the left and right channels for a stereo effect.
- **DRY/WET** adjusts the mix of the dry and processed sound.

## 10.8 Tremolo



The Tremolo

## About

This component provides a periodic amplitude change creating a pulsing effect.

## Controls

- **INTENS** (intensity) controls the tremolo effect depth.
- **RATE** sets the modulation frequency. Fast settings add a shimmering effect to the sound.
- **SYNC** will synchronize the tremolo rate to the host tempo or the Metronome tempo, depending on your sync settings.
- **STEREO Pan** activates a stereo tremolo effect: When the level increases in one channel, it decreases in the other one and vice-versa.

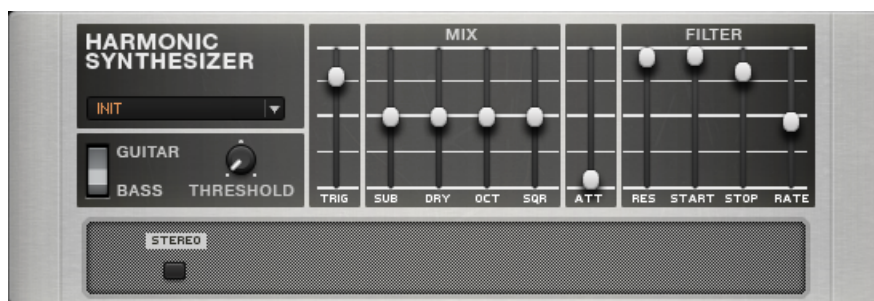
## Expert Controls

- **WIDTH** controls the ratio between the phases of high and low amplitude. Turning it up increases the “gaps” between the times the signal is at full amplitude. In stereo mode, turning this knob to the left decreases the time the signal is panned to the left and vice versa. Turning it to the right does the same in the opposite direction.
- **DOWN** controls the decay time of the tremolo, i.e. the time it takes to go from the highest to the lowest volume level.
- **UP** changes the attack time, i.e. the time it takes to go from the lowest to the highest volume level. Turning both down creates an edgy stutter effect.

# 11 Pitch

A collection of Pitch and synthesizer based effects for interesting, modern sounds. It's time to experiment with harmonics!

## 11.1 Harmonic Synthesizer



The Harmonic Synthesizer

### About

The Harmonic Synthesizer opens up a whole world of synthesizer sounds, controlled simply by playing your guitar. It can produce faithful re-creations of classic sounds but is also well suited for generating effects never heard before.

The effect adds three synthetic voices to the dry signal- sub-octave, octave and square wave- that can be freely mixed. An envelope-controlled filter is also included.

Mind that this component tracks the instrument's pitch best when playing single notes.

### Controls

- **GUITAR/BASS** is used for switching the filter sweep range to be fed by a guitar or a bass.
- **THRESHOLD** acts as a noise gate for the input signal. Only signals above the threshold will get through and trigger the volume envelope and the filter sweep. Dial in a setting according to your individual instrument and playing style.

- The **TRIGGER** fader controls the sensitivity of the filter's trigger, reducing the signal volume needed to activate it. If you set it too high it may result in a stuttering filter due to multiple triggering. Experiment a bit to find the setting that suits your needs.
- **SUB** controls the volume of the sub-octave added by the synthesizer. Only works with single notes.
- **DRY** controls the volume of the original guitar signal.
- **OCT** controls the volume of the upper octave added by the synthesizer.
- **SQR** mixes in a distorted or square-wave version of the original signal that can be controlled by dynamic playing.
- **ATT** shapes the attack of the synthesizer envelope. The higher it is set, the slower the signal will be faded in, attenuating the attack sound of the instrument.
- **RES** controls resonance and width of the filter. With higher values you get a narrower frequency range and a more pronounced peak around the filtered frequencies.
- **STRT** sets the frequency at which the filter sweep starts.
- **STOP** sets the destination and resting frequency of the filter sweep. If **Start** and **Stop** are set to the same value, the filter will emphasize that particular frequency without sweeping.
- **RATE** determines the speed of the filter sweep from the start frequency to the stop frequency.

## 11.2 Oktaver



The Oktaver

## About

This component adds two signals to the original pitch that are one and two octaves below. Please mind:

The Oktaver works well only with single notes, not with chords. Insert the Oktaver near the beginning of your rack's signal chain. Do not precede it with reverb, delay, or other modulation effects, as these will confuse its pitch tracking. However, it usually works well after compressors and EQs.

## Controls

- **DIRECT** sets the level of the dry signal.
- **OCT 1** sets the level of the signal one octave below.
- **OCT 2** sets the level of the signal two octaves below.

## Expert Controls

- **CUTOFF** changes the timbre for **OCT 1** and **OCT 2** separately. Turn up to increase brightness.
- **RESO** sets the filter resonance for **OCT 1** and **OCT 2** separately.
- **STEREO** activates true stereo processing for this module.

## 11.3 Pitch Pedal



The Pitch Pedal



## About

The Pitch Pedal basically has the same effect as a guitar's vibrato tailpiece, except that all the strings stay in tune as you bend up and down. Controlling the pitch shift with a controller pedal is highly recommended for hands-free control over pitch changes.

The expert mode offers many controls to tweak the effect for your particular bending needs. If you don't want to get involved in these, simply choose one of the component presets for common string-bending effects.

## Controls

- **DRAG** changes pitch within the range set in the expert controls.
- **DRY/WET** controls the blend of dry and processed sound.

## Expert Controls

- **MIN SHIFT** sets amount and direction of the pitch shift when the slider is set to the extreme left. The range is  $\pm 24$  semitones.
- **MIN DETUNE** allows fine-tuning the pitch shift for the left position of the slider. The range is  $\pm 100$  cents.
- **MAX SHIFT** sets amount and direction of the pitch shift when the slider is set to the extreme right. The range is  $\pm 24$  semitones.
- **MAX DETUNE** allows fine-tuning the pitch shift for the right position of the slider. The range is  $\pm 100$  cents.
- **FEEDBACK** determines the amount of the output signal to be looped back to the input, offering interesting effects. If the Pitch Pedal is set to transpose the signal +1 semitone, that signal is looped to be transposed another semitone, and so on, producing an ascending series of tones.
- **DELAY** controls the amount of delay in the feedback path, from 10 to 50 ms. The longer the delay, the more it creates a discreet series of notes; with shorter delays the result is a smooth reverberation.

## 11.4 Resochord



The Resochord

### About

A new Pitch component for Guitar Rig 5 is the RESOCHORD. The Resochord is a bank of 6 comb filters, each of which is individually tuned according to the selected chord. The results are most effective with non-melodic content (like drums) as the Resochord will print its own harmonic content on to any input material.

### Controls

The **MIX** controls the amount of signal being affected. The **MODE** section has three controls and one switch.

- The switch toggles between **CHORD** and **STRING**. In **CHORD** mode, three controls are used:
  - **CHORD** determines the chord overlay of the processed signal.
  - **STYLE** sets the chord type from major, minor, alt, meta and frank.
  - **KEY** allows you to transpose the Resochord in semitones.
- In **STRING** mode, only **SPREAD** and **KEY** controls are used.
  - **SPREAD** sets the range of frequency affected.
  - **KEY** allows you to transpose the Resochord in semitones.

- In **CHORD** mode, the 6 combs are tuned according to various chords. In **STRING** mode, the 6 combs are centered around one frequency and can be spread for an intense chorus-like effect.
- The **DECAY** control determines the time the effect is held after the original signal.

### **Expert Controls**

- **BRIGHTNESS** allows for more high frequency content in the effect.
- **FEEDBACK** intensifies the effect, adding more resonance.
- **INPUT GAIN** increases input level to the effect.
- **MUTE** mutes the effect.

## 12 Reverbs

Reverbs offer an electronic interpretation of sound in a particular space. While technically speaking reverbs are essentially short delays, they certainly deserve a separate category of their own!

### 12.1 Iceverb



The Iceverb

#### About

The Iceverb is a very colorful reverb that can sound like you're playing in a giant icy cave- or in an igloo! Seriously, it offers a wide range of reverb characteristics and a filter that can even be used like a very special wah-wah effect when controlled with a foot pedal.

#### Controls

- **DRY/WET** sets the amount of the signal being fed into the reverb section, controlling the intensity of the effect.
- **SIZE** controls the duration of the reverberation, which creates a varying perception of the room size.
- **COLOUR** sets the frequency range that is emphasized in the filter preceding the reverberation. This control resembles a wah-wah, as it allows sliding a strong frequency peak up and down the spectrum.
- **ICE** controls the intensity of the filter by setting the resonance of the filtered frequency band.

- **FREEZE** completely shuts off the dry signal and simultaneously increases the volume of the reverberation. This function can be triggered to create impressive stops that are followed by a majestic, fading reverb sound.
- **MUTE** shuts off the signal going through the reverb section, but lets only the dry signals pass through. Sounds currently being processed will continue ringing out even after the button is pressed. If the **DRY/WET** control is turned fully up, you will hear no more sound, because no signal is allowed into the dry section.

## 12.2 Little Reflektor



The Little Reflektor

### About

Another new reverb in Guitar RIG 5 is LITTLEREFLEKTOR. This versatile reverb is simple to use and can go from subtle to extreme.

### Controls

- **DRY/WET** controls the amount of signal being affected by the reverb.
- In the control window there are 8 buttons for **SHORT**, **MED**, **LONG**, **XXL**. These describe the length of the reverb signal.
- **A** and **B** are different styles of reverb and reflections.
- **DECAY** sets the time for the reverb to trail off. Further clockwise makes for a longer reverb.
- **LOW CUT** is high-pass filter to remove bass frequencies that can make a reverb sound muddy.

- **MUTE** shuts off the signal going through the reverb section, but lets only the dry signals pass through. Sounds currently being processed will continue ringing out even after the button is pressed. If the **DRY/WET** control is turned fully up, you will hear no more sound, because no signal is allowed into the dry section.

## 12.3 Octaverb



The Octaverb

### About

The Octaverb is a powerful stereo reverb, precisely emulating the early acoustic reflections of eight different rooms. Besides the usual reverb parameters such as room size, it also offers some unique features that can be used both for subtle tone shaping and for extreme effects.

### Controls

- **DRY/WET** sets the amount of the signal being fed into the reverb section, controlling the intensity of the effect.
- **ER MODE** selects the room shape, which determines the character of the reverb by emulating different patterns of early acoustic reflections. These are perceived as more or less distinct echoes, before their further reflection in the room creates a diffuse mix. This control offers realistic presets such as “Concrete Room” and completely virtual ones like “Strange Localization”- just try them out and play with the Size parameter to see what they are about.
- **SIZE** sets the amount and duration of diffuse reverberation following the early reflections. This setting mainly influences the perception of room size.
- **HI-DAMP** controls how much high frequencies are attenuated in the process of reverberation.

- **BASSTRAP** controls to what extent low frequencies get “caught” in the reverberation. Turning it up gives the reverb a thicker bottom end.
- **MUTE** shuts off the signal going through the reverb section, but lets only the dry signals pass through. Sounds currently being processed will be ringing out even after the button is pressed. If the **DRY/WET** control is turned fully up, you will hear no more sound, because no signal is allowed into the dry section.

### Expert Controls

- **EQ** is an additional tone control for the reverberated signal, mainly useful for boosting or attenuating higher frequencies.
- **Wetlevel** controls the level of the processed signal, allowing changing the mix while preserving the volume of the dry signal.
- **Source** controls the position of the dry signal in the stereo panorama. Turning it clockwise brings it to the right channel, turning it counterclockwise brings it to the left channel.
- **Width** adjusts the stereo panorama of the processed signal: When turned clockwise, the effect is fully distributed across both channels. When centered, the processing is mono. When turned fully down, the channels are inverted, meaning that the left part of the reverb signal is routed to the right output channel and vice versa.
- **Freeze** completely shuts off the dry signal and simultaneously increases the volume of the reverberation. This function can be triggered to create impressive stops that are followed by a majestic, fading reverb sound.

## 12.4 Spring Reverb



The Spring Reverb

## About

This is the classic reverb effect found in older amps, before the advent of solid-state reverb units. But luckily, the classic noise and hum is missing in this component.

## Controls

- **REVERB** sets the amount of the signal being fed into the reverb section, controlling the intensity of the effect.
- **TIME** controls the reverb decay time. Turn clockwise to increase decay.
- **BASS** controls the low-frequency response characteristics. Turn up for a more pronounced bass sound.
- **MUTE** shuts off the signal going through the reverb section, letting only the dry signal pass through. This button can be used to trigger the reverb for single “splash” effects. When the **REVERB** control is turned fully up, you will hear no more sound, because no signal is allowed into the dry section.

## Expert Controls

- **SPRING LENGTH** adjusts the length of the virtual spring. Shorter springs produce a tighter, more metallic effect, and longer springs create a diffused sound with a longer decay.
- **HIGH DAMP** reduces the decay time for high frequencies in relation to the **Time** setting.
- **LOW DAMP** reduces the decay time for low frequencies in relation to the **Time** setting.

## 12.5 Studio Reverb



The Studio Reverb



## About

The Studio Reverb provides a realistic emulation of halls and rooms.

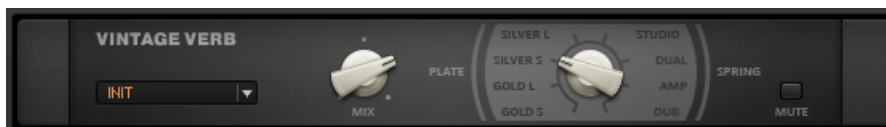
## Controls

- **DRY/WET** sets the amount of the signal being fed into the reverb section, controlling the intensity of the effect.
- **PRE DELAY** sets the delay time before the reverberated signal sets in.
- **ROOM SIZE** sets the cubic volume of the virtual room. Turn clockwise for a large concert hall, counterclockwise for a small auditorium or room.
- **BRIGHT** boosts high frequencies in the reverberated signal.
- **MUTE** shuts off the signal going through the reverb section, letting only the dry signals pass through. This button can be used to trigger the reverb for single “splash” effects. When the **REVERB** control is turned fully up, you will hear no more sound, because no signal is allowed into the dry section.

## Expert Controls

- **STEREO** controls the stereo width of the reverberated signal.
- **TREBLE** controls the decay time for high frequencies in relation to the Time setting.

## 12.6 Vintage Verb



The Vintage Verb

## About

This component offers a selection of the finest reverbs at the flick of a switch! Vintage Verb delivers the sound of selected classic plates and spring reverbs.

## Controls

- **MIX** sets the amount of signal being affected by the reverb.
- The second control provides eight distinct choices of reverb effect.
- **GOLD S** creates a short gold foil plate reverb sound.
- **GOLD L** creates a long gold foil plate reverb sound.
- **SILVER S** creates a short plate reverb sound
- **SILVER L** creates a long plate reverb sound
- Next is the **STUDIO** spring reverb. This sound is similar to a plate reverb without some of the boing normally associated with springs.
- The **DUAL** spring uses two springs in series to create a unique long reverb.
- The **AMP** setting is derived from a guitar amplifier's spring reverb, lots of boing and splash.
- Finally, the **DUB** spring reverb emulates the style of Jamaica's famous producers—loads of resonance and tunnel sound.
- **MUTE** shuts off the signal going through the reverb section, letting only the dry signal pass through. When the **REVERB** control is turned fully up, you will hear no more sound, because no signal is allowed into the dry section.

## 13 Special FX

A collection of Special FX devices for advanced sound design and unusual effects.

### 13.1 Grain Delay



The Grain Delay

#### About

The Grain Delay is much more than just another delay effect. With its innovative granular approach it allows for a spacious refinement of your tones as well as massive walls of echoing sound- its interdependent controls are an invitation to experiment in order to achieve truly individual effects. The signal is sliced into samples of arbitrary length that are delayed, transformed and repeated in manifold ways, including a powerful stereo feature. With the Grain Delay, it gets just as weird as you like, at the same time the effect is perfectly controllable on all levels.

#### Controls

- **DRY/WET** sets the amount of the signal being fed into the delay section, controlling the intensity of the effect.
- **MODULATION** controls the amount of periodical pitch shift (vibrato) applied to the delayed signal.

- **PITCH** controls the pitch shift applied to the delayed signal. The amount of shifting is set in chromatic steps, spanning 4 octaves in both directions. Simultaneously, the duration of the sample in each “grain” is time-stretched by the according amount- think of a record player playing at different speeds! This pitch shift is not applied to the feedback channel, so it will not produce ever-ascending scales, but a constantly pitched delay.
- **FINE** allows changing the pitch shift by the amount of cents to refine the setting of the Pitch control.
- **SIZE** sets the duration of the samples that are fed into the delay section. The original signal is sliced into snippets (“grains”) of this duration and repeated. If the slices are time-stretched using the Pitch control, the contained sample will be repeated within each grain or cut off, keeping the overall duration of the grain constant.
- **SPACE** controls the amount of time between the repetitions of each grain relative to the Size parameter. When set to 100%, the first repetition will start just when the grain is completely buffered. Reducing Space will start the repetition sooner and vice versa. The former leads to overlapping delays, the latter to gaps between the repetitions.
- **DENSITY** controls how much of the output feeds back into the input. Minimum feedback gives a single echo; increasing this parameter produces repeating echoes that are modulated and distorted, depending on the according expert controls.
- **DRIVE** controls the amount of overdrive created when the signal feeds back repeatedly and causes the component to overload.
- **H-CUT** sets the threshold frequency of a filter applied to the delayed signal. Frequencies above the threshold are strongly attenuated.
- **L-CUT** sets the frequency of a filter applied to the delayed signal. Frequencies below the threshold are strongly attenuated.
- **REVERSE** plays back the delayed signal in reverse.
- **FREEZE** stops sampling new slices of the signal and will repeat the current grain as long as it is activated.
- **MUTE** shuts off the signal going through the delay section, letting only the dry signals pass through. Delays currently being processed will be ringing out even after the button is pressed. If the **DRY/WET** control is turned fully up, you will hear no more sound, because no signal is allowed into the dry section.

### Expert Controls

- **Sync** synchronizes the Size control to the metronome or host, depending on the Sync setting.
- **Jitter** varies the durations of each sampled grain by a small amount, creating a more lively texture.
- **Stereo** controls the amount by which the delayed signal is distributed to the stereo channels. Turning this up oscillates the signal between the stereo channels creating a ping-pong effect.

## 13.2 Ring Modulator



The Ring Modulator

### About

A ring modulator is one of the seminal effects from the era of analogue noisemaking. The basic idea is very simple, nothing more than taking two signals and mixing the sum and difference of both, but the result is a large variety of unique sounds.

### Controls

- The **MOD** section offers the following controls:
- **RING** is a dry/wet control and blends the original and the ring-modulated sound.
- **FM** controls the amount of frequency modulation applied to the original signal.
- The **FREQ** knob controls the frequency of the oscillator's signal being mixed with the original signal.

- **HI/LO** sets the frequency range of the oscillator, influencing the range of the **FM** and **FREQ** knobs.
- The **LFO** adds movement to the sound by periodically affecting the oscillator in the **MOD** section.
- The **AMOUNT** knob controls the amount of modulation the LFO applies to the oscillator.
- The **RATE** knob controls the rate of periodic modulation through the LFO.
- The sine/square switches the LFO's signal between a sine wave or square wave, creating either soft or sudden changes of the oscillator's frequency.
- The red LED blinks in time to the LFO frequency.

### **Expert Controls**

- **SYNC** synchronizes the LFO speed to the metronome or host, depending on the Sync setting.
- **EDGE** modifies the waveform of the oscillator. You can add overtones resulting in a more aggressive sound.

## 14 Tools

The Tools components are at the heart of GUITAR RIG 5's extreme flexibility. These Tools are the key to creating fresh, extraordinary sounds.

### 14.1 Container



The Container

#### About

In the TOOLS components, there is something new called CONTAINER. The CONTAINER lets you combine multiple devices to create powerful multi effects with up to sixteen custom macro controllers. The CONTAINER keeps your rack clear and allows for easy reuse and exchange of your favorite effect creations through your GUITAR RIG rack presets.

#### Controls

When first opened, four controllers are available for parameter assignments. Up to sixteen controls can be configured at a time. Controls can be added and deleted via the CONTROLS pull down menu. Each macro control can be displayed as a knob or button using the parameter context menu. Each Container control can remotely control up to eight different effect parameters.

- There are two buttons at the top of Container: **x** and an arrow.

- The **x** allows the user to clear the effects in the CONTAINER.
- The arrow allows the user to hide or show the contained effects.
- **CONTROLS** is used to configure the number of macro controls. A CONTAINER may have four, eight, twelve or sixteen controls.
- The MacroControl knobs are used to remotely control effect parameters.
- Besides a control is a label displaying the parameter name. This label is also used to assign parameters to the control. Simply click and drag the label on to any parameter that you like to control inside the CONTAINER rack.

### Expert Controls

- The EXPERT PANEL is context sensitive and shows all parameter assignments for one CONTAINER control at a time.
- The blue label on the left displays which macro controller is selected. Just click on the label to the left of a macro control to switch the EXPERT PANEL view to show the assignments for this macro control. The selected controller is also highlighted with two blue lines around its label
- 1-4 displays the first 4 parameters controlled by the highlighted MacroControl.
- 5-8 displays the second 4 parameters controlled by the highlighted MacroController.
  - These displays show the name of each parameter being remotely controlled by CONTAINER.
  - The check mark activates or bypasses the control.
  - The **x** clears the assignment from the list.
  - The two handles to the right of the assigned parameter adjust the range of the remotely controlled parameter.

### Assigning Parameters to the Container Macro Controls

The labels beside the controls show which function is currently assigned to them. Assigning functions is easy with drag and drop:

1. Click on one of the CONTAINER control labels and drag it onto a controller in the CONTAINER Rack to assign the function.



2. While dragging, the mouse pointer gives you feedback as to where you can create an assignment by showing a small arrow.
3. A No Entry sign is shown at areas where dropping the item is not possible.

### **Configuring Assignments**

The CONTAINER's assignments can be managed in the expert panel. Click on the arrow button to reveal the assignment, then click on a label or control on the CONTAINER to select it. The functions assigned to this particular control are now shown in the expert panel.

Here is what the expert panel can do for you:

- Assigning functions by dragging and dropping the blue label in the upper-left corner.
- To change the displayed name for the selected control, change the text in the middle field on top of the expert panel. This is what is shown on the CONTAINER control label, regardless of the text in the blue label.
- There are two pages with 4 assignment slots each. If you are using more than 4 assignments, click on the button labelled 5-8 to show them.
- To temporarily deactivate an assignment, click on the tick mark on its left-hand side. Click again to reactivate it.
- To delete an assignment, click on the x (Cross) on its right-hand side.

### **Mapped Range of Parameters**

There is a horizontal line representing the value range of each assignment. To adjust the way the controller's input values are mapped to the assigned parameter, you can click and drag the brackets left and right of the line.

- The left bracket defines the value mapped to the controller at zero; the right bracket defines the value mapped to the controller at maximum.
- Because you can drag the brackets across to either end, the mapping can be inverted so that the assigned knob will be turned down when you move the CONTAINER control up. This is useful if you want to assign two different value changes to one control, e.g., increasing gain while turning the master volume down.

## 14.2 Crossover Mix



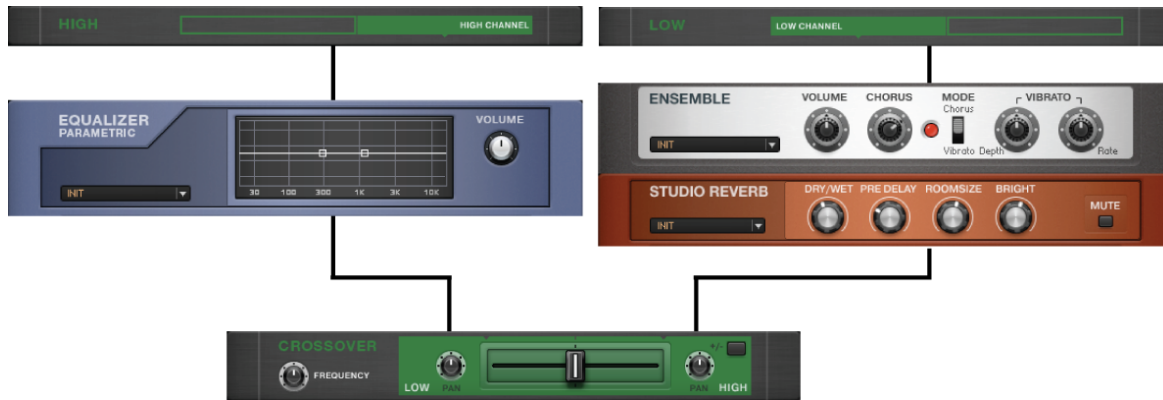
The Crossover

### About

This component is similar to the Split, as it splits the signal path into two independent sections, allowing parallel effects. However, only the lower frequency range of the signal enters the LOW section while the higher range enters the HIGH section. There is a freely adjustable threshold frequency that divides between HIGH and LOW. A straightforward example is that you can create rich effect chains that only affect the high frequencies and mix with a more solid natural foundation of the sound.

### Using the Crossover Mix

The Crossover Mix inserts three components into your rack, labeled LOW, HIGH and CROSS-OVER MIX. Even though they appear in the same vertical order as any GUITAR RIG 5 components, the signal doesn't go this way using the Crossover Mix. It is divided into the lower and the higher parts of the frequency spectrum, running through the LOW and HIGH sections, which are mixed in the CROSSOVER MIX component.



This diagram shows the Crossover Mix's signal flow.

To assign components to each of the signal paths, just drag them below the LOW or HIGH components in the rack. To distinguish between the signal paths, we will call them the low section and high section. You can create completely independent rigs within each section, or use them to add two effect chains to your current rack. Even using more than two signal paths is possible by nesting another Crossover Mix or a Split in one of the sections of the first one.

The CROSSOVER MIX offers various controls determining how these two signal chains are brought together.

### Controls

- The Crossfader controls the mix between both signal chains. When fully left, you'll only hear the low section. When fully right, you'll only hear the high section.
- **PAN** controls the position of each signal chain in the stereo panorama and offers various mixing possibilities.
- **FREQUENCY** sets the crossover point frequency, where the spectrum is divided and routed into the low and high sections.
- The "+/-" switch inverts the polarity (also called "phase") of section B's signal. This can change the sound of the mix because of different phase elimination phenomena.

## 14.3 Loop Machine



The Loop Machine

### About

The Loop Machine allows recording, playing back, and overdubbing multiple layers of sound. The loops can be synchronized with the host, or to the metronome tempo in stand-alone mode. Furthermore, individual layers as well as the complete loop can be exported as WAV files.

### Controls

The four LEDs on the left of the component indicate which mode the Loop Machine is currently in:

- **REC:** The first layer is being recorded, determining the overall length of the loop (see also Overdub Multiply).
- **PLAY:** The loop is playing back; recording is disabled.
- **OVERDUB:** The loop is playing back; recording is enabled for the uppermost layer.
- **EMPTY:** Nothing has been recorded yet.

When nothing has been recorded into the Loop Machine, the Play/Record button has a red outline. Pressing the Play/Record button has different functions depending on the Loop Machine mode.

1. Press once to start the recording. The button turns red.

2. Press again to stop recording and begin loop playback from the beginning. The button turns green.
3. Press again to enter overdub mode. The button turns yellow. Existing material plays back and you can record the next layer. When the loop repeats, you can continue overdubbing.

From this point on, pressing the Play button toggles between Play and Overdub modes. Each time you do this, a new layer is created. The Layers display shows how many layers have been recorded. It's convenient to go into Play mode to practice your part for the next loop, and then return to Overdub mode.

1. Click on the Stop button once to stop the loop from playing.
2. The **Play** button now has a red outline to indicate that something has been recorded.
3. To delete all layers, double-click on the Stop button.
  - The **BEAT** button enables a flashing indicator of the beat after the first layer has been recorded. It is trying to match a 4/4 beat with a common number of bars to the loop length.
  - The meter shows the progress of the loop. Loop Time is the total loop time, while Rec Time is the current time within the loop.
  - **REC VOL** sets the input level.
  - **PLAY VOL** controls the playback level.
  - **UNDO** deletes the current layer. Pressing Undo repeatedly deletes layers starting from the most recent. Although you can Undo multiple layers, you can Redo only to the most recent layer.
  - **REDO** restores the last deleted layer.
  - Load (folder icon) allows loading up Loop Machine files, which have an .ls suffix. They consist of the audio files and all settings for a particular loop.
  - Save (floppy disk icon) saves Loop Machine files, which have an .ls suffix and consist of the audio files and all settings for a particular loop.
  - **EXP MIX** exports the entire loop as a single mixed WAV file.
  - **EXP LAY** exports the loop into a series of WAV files, each consisting of one of the layers.

### Expert Controls

- If **AUTOSTART** is turned on, recording won't start immediately after you press the Play/Record button, but right when you start playing.

- **OVERDUB MULTIPLY** allows recording a part that is longer than the current loop. When the end of the loop is exceeded in Overdub mode, the overall duration of the loop will be doubled.
- If **REVERSE** is activated, the loop will be played back in reverse, starting from the next run.
- **REC PAN** places the recorded signal in the stereo field. This works independent for each recorded layer.
- **SYNC** synchronizes the Loop Machine to the metronome or host, depending on the Sync setting.
- **LOOP A/B** toggles between two completely independent instances of the loop machine. When one loop is complete, use this button to start another one from scratch and to switch between both.

## 14.4 Master FX



The Master FX Rack Tool with Delay and Reverb preset.

Whether you want to let a long delay ring over your change of presets, add a global EQ to all of your presets, or just stick to your FX chain while changing amp presets: Master FX is what you need.

The Master FX holds components that process the sound after going through the “core” Rack. The main difference is that the content of this section remains unchanged when you load another Rack Preset.

Using this section should feel very natural if you look at it as a Rack within the Rack:

- Add components from the Components Pool or the Rack with drag and drop. The orange line indicating the destination must be below the Master FX header.
- Delete, move or quickly replace components within the grey outlined Master FX area.
- Configure your Master FX chain from factory or user presets.
- Click on the x (cross) to empty the whole Master FX section.
- Click on the arrow to minimize the Master FX section.

### Master FX Presets

You can store any chain of components in a Component Preset for the Master FX. This works just the same as with any regular component: Click on the arrow of the black Component

Preset Display to open the pull down menu, and select *Save As*. Master FX Presets are stored in the Tools section of the Component Pool.

New Banks may also be created similarly to other Component Presets.

Just as the other Rack Tools, the Master FX can't be selected or highlighted.

## 14.5 Split



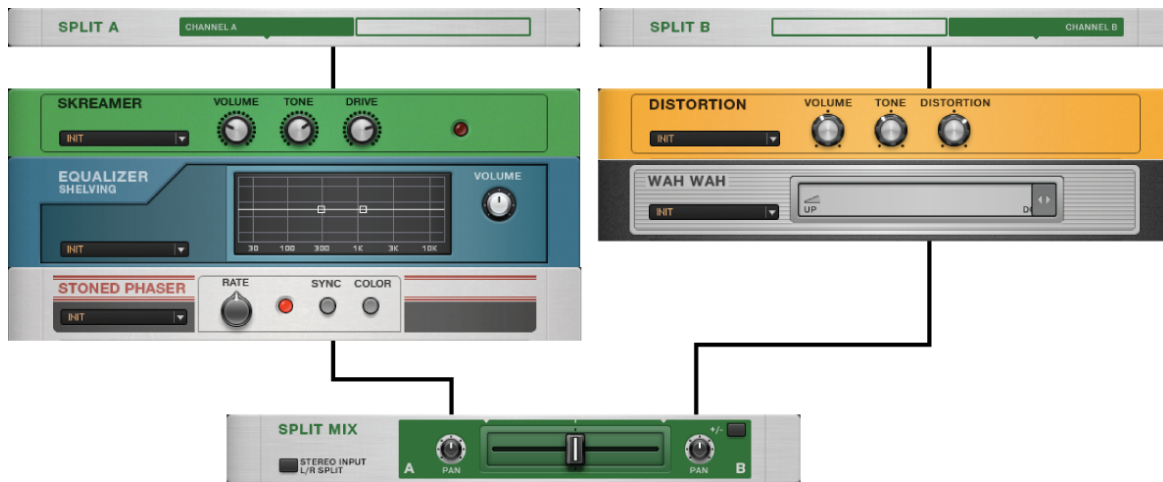
The channel splitter

## About

This component splits the signal into two parallel paths, which is especially useful for stereo effects and to mix the sound of two independent effect chains.

## Using the Split

The Split inserts three components into your rack, labeled SPLIT A, SPLIT B and SPLIT MIX. Even though they appear in the same vertical order as any GUITAR RIG 5 components, the signal doesn't go this way using the Split. It is divided into two parallel paths running through the SPLIT A and SPLIT B sections, which are mixed in the SPLIT MIX component.



This diagram shows the Split's signal flow.

To assign components to each of the signal paths, just drag them below the SPLIT A or SPLIT B components in the rack. To distinguish the signal paths, we will call them section A and B. You can create completely independent rigs within each section, or use them to add two effect chains to your current rack. Even using more than two signal paths is possible by nesting another Split or a Crossover Mix (see below) in one of the sections of the first one.

The SPLIT MIX offers various controls determining how these two signal chains are brought together.



## Controls

- The Crossfader controls the mix between both signal chains. When fully left, you'll only hear section A. When fully right, you'll only hear section B.
- **PAN** controls the position of each signal chain in the stereo panorama and offers various mixing possibilities. For example, you can create completely different sounds for section A and B and pan them to the left and right, creating the impression of two guitars playing in unison.
- **STEREO INPUT L/R SPLIT** assigns the left incoming channel to section A, and the right channel to section B. When deactivated, both sections are processing the exact stereo input feeding the split. Activating this switch is useful if you use GUITAR RIG 5 with two guitars and want two different sounds.
- The "+/-" switch inverts the polarity (also called "phase") of section B's signal. This can change the sound of the mix because of different phase elimination phenomena.

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