

RG



User Guide

Powered by RPCX

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Registering and 2nd activation request:

For the second activation code, say for use on a second computer, please create an account on the **www.robpapen.com** website, there you can obtain a 2nd activation code.

To request the second activation you will need to add your RG product in the section "Software registration". Use the RG 'activation code' which you can find on the cardboard sleeve in your packaging (box version) or inside the ShareIt registration e-mail to add RG inside your product list.

Welcome

First of all we would like to thank you for purchasing the Rob Papen RG.

RG is a software instrument that allows the user to create guitar grooves and sounds which a real guitar player could never produce (this is also the case the other way round!).

While this innovative plug-in can realistically simulate a Rhythm guitar, the real power of RG is its ability to create new grooves and sounds for your productions. So we can consider RG to be the first 'Rhythm Guitar Synth' as opposed to just being a real guitar emulator.



User guide settings

- [Big Bold]** = Header of 'synth-section or part' inside RG
- Bold regular** = Header sub-part inside a 'synth-section or part' of RG
- Underlined = parameter inside RG
- setting* = setting of a parameter inside RG
- 'section' = refers to a section of RG. For instance the Filter section.

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Installation on PC (VST)

1. If you have purchase a box version of the RP plug-in, you can use the installer on the CD-ROM/DVD.
However it is better if you download the latest version of the plug-in, by following the steps below.
2. Login onto the www.robpapen.com homepage or create an account if you do not have one yet
3. Then register your RP plug-in, using the serial from your registration email.
NOTE: registering your plug-in will also allows you to obtain support, updates and 2nd serials for additional computers.
4. Next click on the download link that pops up after registration and download the correct version for your computer.
The Multi-core versions for PC are for multi-core processor computers and the 64bits versions are for 64bits (music software) hosts and computers.
5. Run the plug-in's installer and then start your host (music program) software.
6. Open, inside your (music program) host, the RP plug-in.
When you first open the plug-in an '**Enter Serial**' box will appear.

Please enter the plug-in's 'serial code' in this box, if this code is correct the plug-in will then be authorized and ready for use.

If you have any questions regarding the installation of your RP software please look in the FAQ section or contact our support team at www.robpapen.com/yourdetails

For details on how to handle plugins in general, please look at your music software (host) documentation

Installation on PC (RTAS)

1. If you have purchase a box version of the RP plug-in, you can use the installer on the CD-ROM/DVD.
However it is better if you download the latest version of the plug-in, by following the steps below.
2. Login onto the www.robpapen.com homepage or create an account if you do not have one yet
3. Then register your RP plug-in, using the serial from your registration email.
NOTE: registering your plug-in will also allows you to obtain support, updates and 2nd serials for additional computers.
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Installation on Mac

1. If you have purchase a box version of the RP plug-in, you can use the installer on the CD-ROM/DVD.
However it is better if you download the latest version of the plug-in, by following the steps below.
2. Login onto the www.robpapen.com homepage or create an account if you do not have one yet
3. Then register your RP plug-in, using the serial from your registration email.
NOTE: registering your plug-in will also allows you to obtain support, updates and 2nd serials for additional computers.
4. Next click on the download link that pops up after registration and download the correct version for your computer.
The Multi-core versions for PC are for multi-core processor computers and the 64bits versions are for 64bits (music software) hosts and computers.
5. Run the plug-in's installer and then start your host (music program) software.
6. Open, inside your (music program) host, the RP plug-in.
When you first open the plug-in an '**Enter Serial**' box will appear.

Please enter the plug-in's 'serial code' in this box, if this code is correct the plug-in will then be authorized and ready for use.

If you have any questions regarding the installation of your RP software please look in the FAQ section or contact our support team at www.robpapen.com/yourdetails

For details on how to handle plugins in general, please look at your music software (host) documentation.

RG Features

- VST2.4, AU and RTAS plug-in synthesizer for PC and Mac (IntelMac compatible)

Rhythm Guitar models

- Electric guitar type Fender Stratocaster ®
Offering in the RG sequencer: Down Stroke, Up Stroke, Ghost Stroke and Glide stroke.
Available chords are: Major and Minor7 in "classic" Rhythm guitar setting.
- Steel 8TH type for Steelstrings 8th note grooves
Offering in the RG sequencer: Down Stroke, Up Stroke and Extra Stroke (hand mute on strings)
Available chords are: Major and Minor.
- Steel 16TH type for Steelstrings 16th note grooves.
Offering in the RG sequencer: Down Stroke, Up Stroke and Ghost Stroke.
Available chords are: Major and Minor.

Sequencer section:

- Controls the guitar strokes and RG synthesizer parts.
- 32 steps
- Each step has on/off, Tie, Stroke (Down, Up, Ghost or Glide/Extra), Velocity and Free row.
- Sequencer A and B each with fully independant settings
- Sequence A is played by using keyboard range C1 - B3
- Sequence B is played by using keyboard range C3 - B4
- Each sequence keyboard range is divided into Major chords and Minor chords
- Start Loop setting, Sequencer can loop from any step of the sequence
- Speed setting of 1/4, 1/3, 1/2, 2/3, 1, 3/2, 2, 3 and 4x BPM. Independant for each sequence
- Swing amount
- Velocity control knob which mixes between keyboard (midi) velocity input and the steps velocity settings
- Tie modes normal or special which allows 'velocity' and 'free' settings inside a step if that step is set to Tie
- Sequencer Latch which can be controlled by the midi sustain pedal as well
- Reset Mode on/off. When it is set to 'on' the sequencer resets each time you press a new key
- File button function with: load, save, copy, paste, swap and clear for sequencer A or B
- File < and > to scroll through sequences stored on harddisk

Keyboard layout RG:

- Sequence A is played by playing notes in the keyboard range C1 - B3
- Sequence B is played by playing notes in the keyboard range C3 - B4
- Sequence A keyboard range is divided into Major chords and Minor chords
- Major chords are from C1- B1 range and Minor are from C2 - B2 range
- Sequence B keyboard range is divided into Major chords and Minor chords
- Major chords are from C3- B3 range and Minor are from C3 - B4 range
- Build in keyboard to demo grooves

Overall Pitch modulation section:

- Tempo sync-able global Pitch LFO
- Amount control option
- Pitch bend with separate settings for up and down pitch-bends.

Filter section:

- Main filter is an analogue modelled stereo Multimode Filter, offering 6dB LowPass and HighPass, 12dB, 18dB and 24dB LowPass and HighPass, 12dB and 24dB BandPass, 12dB and 24dB Notch, Comb and Vowel Filter
- Pre-filtering distortion
- Easy Filter control by pre-defined Cutoff Frequency modulation controllers: Envelope, Velocity, Modulation Wheel and LFO
- Built-in Filter Envelope with Attack, Decay, Sustain, Fade and Release
- Build in Filter LFO with various waveforms, modulation amount control and tempo sync option with speed settings between 16/1 and 1/32t
- LFO free or mono mode options.

Amp section:

- Built-in Amp/Volume Envelope with Attack, Decay and Release.
- Volume control.
- Velocity > Volume amount.
- Panning control.

Modulation section:

- 2 free modulation routings
- 33 modulation sources, included the stroke types of the RG sequencer
- 22 modulation destinations.

FX section:

- 3 HQ effects blocks in serial mode
- Available effects: Mono Delay, Stereo Delay, Comb Filter, Reverb, Chorus, Chorus/Delay, Flanger, Phaser, Ensemble, FX Filter, WahWah/Delay, AutoWah, Amp Simulator (5 models), Cabinet Simulator (5 models), Distortion, Low Fi, Waveshaper, Multi-distort (11 types), Stereo Widener, Autopan, Gator and Compressor
- Midi tempo based settings in most effects
- Overall bypass for FX or bypass per FX
- Right mouse menu options with: FX copy, paste, swap, clear, undo, save, load and option to un-sync the effects
- 2 FX modulation matrix for connecting RG sequencer, midi or synth controls to FX parameters.

EQ section:

- Equalizer with 5 bands at 60Hz, 200Hz, 600Hz, 2000Hz and 8000Hz frequencies.

Overall:

- Parameter read-out field above the preset box.
- Back panel with extra global function:
 - External controller settings can be saved to disk
 - Computer keyboard up/down for scrolling presets can be turned on/off.
 - Syncing on/off. Depending on host it can be turned on/off

Preset section:

- Uses sound banks composed of 128 presets
- Preset handling with copy, paste, clear and compare function.

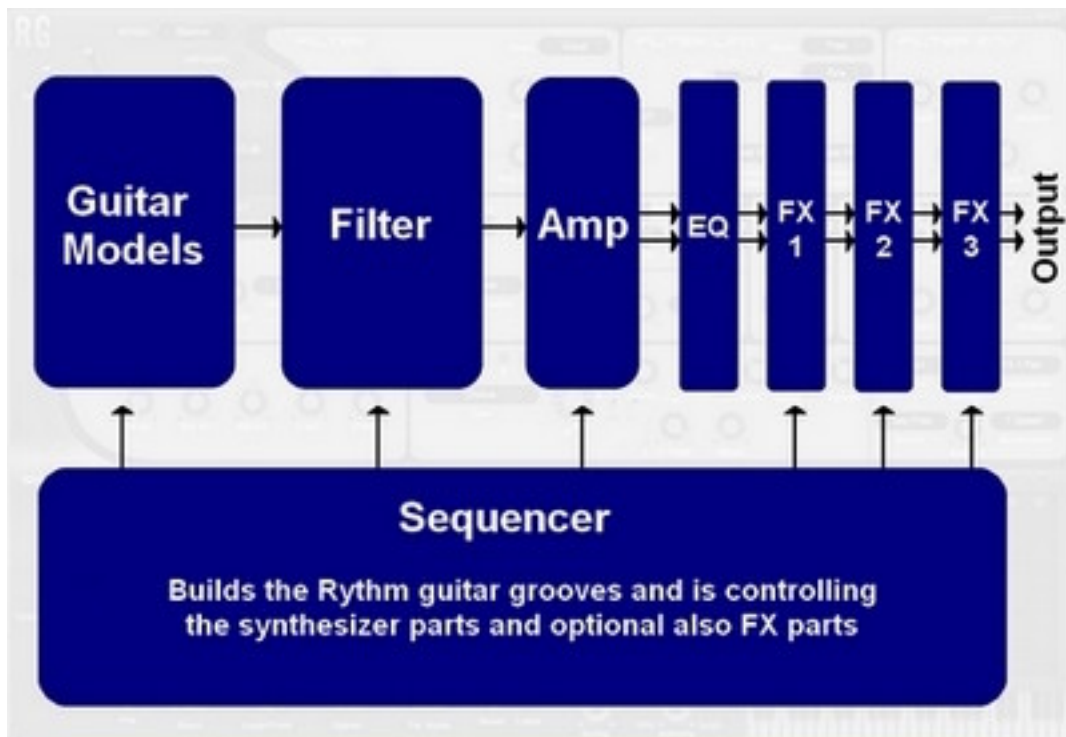
Introduction into RG

The audio route:

The RG concept is new and the best description is 'Rhythm Guitar Synthesizer'.

This means that many features found on a conventional synthesizer that has a sequencer and effects can be found within RG.

The only big difference is that RG does not have traditional oscillators but guitar 'strokes' as it's basic sound source. Shown below is the audio path of RG and this is very much the same as a synthesizer, except that the oscillator is now replaced by guitar models holding 'chord strokes' or 'chord strums'.

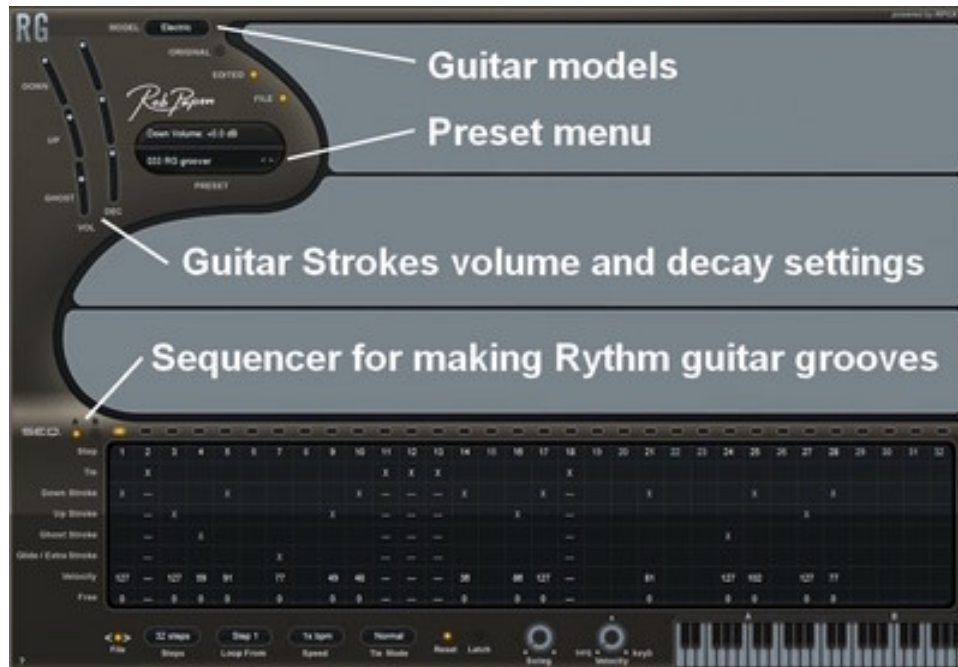


The user interface Step 1:

The user interface or 'GUI' of RG is shown below. First we have the 'Guitar Model' and the strokes it can produce. So, if we take a look at the 'Electric' guitar model as an example, we have 'Down stroke', 'Upstroke', 'Ghost note' and 'Glide stroke' settings available.

Shown at the bottom of the GUI is the sequencer inside RG which allows the user to control and adjust how the strokes are played and so generates the groove. These elements combined together are the first basic building blocks to begin creating your own phrases.

The other sections have been obscured in the image below to highlight the location of these two major parts. Also shown below is the 'preset menu' where you can select presets or load and save banks.



The bottom section of the RG GUI is used to create and manipulate grooves. This is the 'sequencer' where you program, like an old-style drum computer, the individual strokes of the guitar.

Now, strokes are one thing, but what about chords? Songs and arrangements are built up using chords and usually by playing in a certain key. This has been solved by the introduction of a virtual keyboard. This is located on the bottom right-hand side of the GUI and if you click on it with your mouse, you can play a groove.

We use two octaves to play both 'major' and 'minor' chords.

The first octave of your keyboard (C1 - B1) plays 'major' chords. So for example, if you hit the note E1, it plays an E major groove.

The second octave (C2 - B2) plays "minor / minor 7" chords, so if you hit the note E2, it plays an E minor groove. You may be thinking 'what about the other chords?' like Sus4 and so on. Well, please keep in mind that RG is a 'Rhythm guitar synthesizer'....

If you look again at the picture you can see sequence 'A' and 'B' located to the top left of the sequencer.

RG has two extra octaves to play 'sequence B' as a variation.

So the 3rd octave (C3 - B3) is again 'major' chords but plays sequence B as opposed to sequence A.

The 4th octave (C4 - B4) is again minor/minor7 chords but plays sequence B.

So by using one single finger you can produce a groove and bear in mind you can also control the length of the note, how the sequence plays and also on which beat the pattern is triggered.

The user interface Step 2:

The next step of the RG signal path is the 'filter'. The sound that is produced from the Guitar strokes is then sent to the Filter section of RG and there the fun really starts!
The picture below shows you the Filter parts of RG which includes the Filter LFO and Filter Envelope.



The user interface Step 3:

Next stage is the amplifier section or 'Amp' which should not be confused with a guitar amplifier. This is the synthesizer amplifier of RG which works very differently from a guitar amplifier. So here we also need to keep in mind that RG is a 'Rhythm Guitar Synthesizer' and the Amp is a synthesizer part. In the picture below you can see that the Amp also has an envelope built in to control the length of each stroke by the sequencer.



The user interface Step 4:

The next controls which are shown below are the 'modulation' section and the overall pitch control. As an example, within the modulation section you could assign the 'downstroke' parameter to control the panning of the Amp. These are all synthesizer parts.



The user interface Step 5:

If you look once more at the audio path diagram you can see that RG goes from the Amp into the 'EQ' and then into the 'FX' section. RG has 3 effect units which are configured in series. The fun part of RG is that you can control the FX by using the modulation matrix which has endless possibilities, like 'upstroke' from the sequencer could be set to control the 'mix' of an effect.



By now it should be clear that RG goes far beyond just being a 'Rhythm Guitar' simulator, the real power of RG lies in its synthesizer elements. Please read the next section for more details about the different features.

RG Controls

RG uses controller knobs and buttons to adjust its parameters. If you move your mouse over a control the controller name and its value is shown in RG's read-out screen, which is located above the preset names screen.

Knobs

Knobs are controlled by left clicking on them and moving the mouse up and down, you can see the value in the read-out screen. Pressing shift and moving up / down allows you to fine tune the control and pressing ctrl + mouse button sets the control to its default value.

Buttons come in two kinds:

On / Off buttons

On / Off buttons: Left clicking toggles between on and off. An example of this is the 'EQ' button.

Menu buttons

When you left click on these a pop-up menu appears, this allows you to select the value for this control.

Right clicking

Right clicking (or control-click on Mac) on a control will bring up the midi / help menu. Here is shown the control name, the current value and which midi control this control is latched to. Also you can do the following.

- **Set to default** (right clicking or control-click on Mac)
Set the control to its default value.
- **Latch to midi** (right clicking or control-click on Mac)
Latches that control to the next midi control received.
For instance to latch Cutoff Frequency to midi expression, right click on Cutoff Frequency, click on Latch to Midi and then move the midi expression control, this should move the Cutoff Frequency knob as well.
These addressed midi controller settings are overall and will work for all presets and active RGs in your host.
- **Unlatch midi** (right clicking or control-click on Mac)
Unlatches that RG control from any midi control.
- **Clear midi** (right clicking or control-click on Mac)
Clears all of the midi latching.

Note: click the 'Rob Papen' logo to see the back panel. There you can save or load your whole midi (latch) controller setup to Hard Disk. The button to reach this menu is called "ECS".

Computer Keyboard Controls

You can alter the current preset and banks using your computer keyboard. Click on the "Rob Papen" logo on the user interface to display the back panel. There you can disable this function.

- Up arrow key

Previous preset

- Down arrow key

Next preset

[Preset]



In this section you control the presets options of RG.

RG Readout

The preset field is divided into two halves; the top half shows the parameter readout field and the bottom half the preset readout.

Preset

Here you can select the preset, either by clicking on the 'preset screen' itself which pops up a menu where you can select the preset. You can also use the < and > to scroll through the presets of the selected bank as well. Also in the preset menu you can do the following

<i>rename preset</i>	Renames the current preset.
<i>copy preset</i>	Copies the current preset.
<i>paste preset</i>	Pastes the last copied preset over the current preset.
<i>default preset</i>	Sets the current presets to a default blank preset.
<i>load preset</i>	Loads a preset from the disk.
<i>save preset</i>	Saves the current preset to disk.
<i>load bank</i>	Loads a bank of presets from disk.
<i>save bank</i>	Saves the current bank of presets to disk.
<i>revert to original preset</i>	Returns the preset to it's original state
<i>revert to edited preset</i>	Returns the preset to it's last edited state

File Button (Menu)

This brings up the file pop-up menu, which has the following entries

<i>load bank</i>	Loads a bank of presets from disk.
<i>save bank</i>	Saves the current bank of presets to disk.
<i>load preset</i>	Loads a preset from the disk.
<i>save preset</i>	Saves the current preset to disk.
<i>copy preset</i>	Copies the current preset.
<i>paste preset</i>	Pastes the last copied preset over the current preset.
<i>rename preset</i>	Renames the current preset.
<i>default preset</i>	Sets the current presets to a default blank preset.

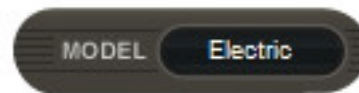
Edit / Original

Once you have edited a preset, the 'Edit/Original' button will light up.

If you then the click on the Original button it will return the preset to its original settings, if you then click on the Edit button, it will return it to its edited version. This allows you to toggle between the original preset and the edited one, to hear the differences to any changes that you have made.

Note: if you change a preset inside a bank, you need to save that preset within the whole bank to keep the changed preset. To keep the original preset banks, always save the bank with a new name.

[Guitar Models]



Model

This button allows you to select the type of guitar that RG uses, the available options are Electric, Steel 8th and Steel 16th

Electric guitar = the classic Fender Stratocaster® which many consider to be the original 'Rhythm' guitar.

The strokes available are as follows:

- Down stroke
- Up stroke
- Ghost stroke (short percussive sound that is heard in between strokes)
- Glide stroke (the classic upgrade stroke)

Steel 16th = a steel string guitar which is great for acoustic 'Rhythm' guitar grooves.

In this instance, 16th stands for 16th note grooves. The strokes are as follows:

- Down stroke
- Upstroke
- Ghost stroke (short percussive sound that is heard in between strokes)

As the 'Glide stroke' is not conventionally used when playing the Steel-string 'Rhythm' guitar" grooves, it has been left out and the Ghost stroke is used again.

Steel 8th = a Steel-string guitar which is particularly good for acoustic ballad-style guitar grooves.

Once again, the 8th stands for 8th note grooves. The strokes are as follows:

- Down stroke
- Upstroke
- Ghost stroke / extra = hand mute on strings

As the 'Glide stroke' is not conventionally used when playing the Steel-string 'Rhythm' guitar" grooves, it has been left out and the 'Ghost stroke /extra' is used again.

Volume controls of the Guitar Models

This controls the volume of the guitar strokes.

NOTE: the Glide stroke volume is set to be always the same as the Down stroke volume.

Decay controls of the Guitar Models

This controls the "overall" decay of the guitar strokes. That is how quickly the sound's volume is reduced to zero. Please note that this is independent from the synthesizer parts of RG and its Amp envelope.

The decay time is in milliseconds or seconds, and at the maximum value the decay is turned off. The Glide stroke decay time is set to be always the same as the Down stroke decay time.

[Sequencer]



The sequencer is very much the heart of RG, here you can set up the sequences of guitar chords. RG uses two sequences A and B, and you can select them by playing the region in which the keyboard uses sequence A or B. This means you need only one note to play the sequence/chord you want to play.

Midi Notes 36 **C1** to 47 **B1** plays sequence-A major chords

Midi Notes 48 **C2** to 59 **B2** plays sequence-A minor chords.

Midi Notes 60 **C3** to 71 **B3** plays sequence-B major chords

Midi Notes 72 **C4** to 83 **B4** plays sequence-B minor chords

In the sequencer each step can be a guitar stroke or used as a rest note or a tied step.

The sequencer uses up to 32 steps and if the parameter speed is set to *1x bpm* these steps are 16th note.

Step number

Current step number, clicking on this turns that current step *on* or *off*.

The *off* step is the same as a rest note and nothing is displayed in the rows below.

Tie

Sets if the current note (step) is tied to the previous one, if it is, then the previous note continues to play. So it allows you to play notes which are twice (or more) as long as the normal sequencer note. In other words, you can tie notes together using this function. When using notes with tie, there are two different modes, selected using the Tied Mode button.

normal: steps with tie do not have an individual velocity and free setting.

special: steps with tie do still have their individual velocity and free settings.

Try preset '123 Seq Special Mode' to hear how the free row of the sequencer changes the vowel of the filter.

Down stroke, Up stroke, Ghost stroke, Glide / Extra stroke

Each note in the chord can be one of these types of chords. Click here to select the type of chord that the selected step plays. The used types of strokes are for each model guitar a bit different.

Electric guitar

Down stroke

Up stroke

Ghost stroke = this little percussive sound that is heard inbetween

Glide stroke = the classic upglide stroke

Steelstring 16th

Down stroke

Up stroke

Ghost stroke = this little percussive sound that is heard in between

Glide stroke / Extra = not used and does play the ghost stroke.

Steelstring 8th

Down stroke

Up stroke

Ghost stroke / extra = hand mute on strings

Glide / Extra stroke = not used and does play the hand mute

Velocity

Sets the velocity setting for each step of the sequencer.

Note: this is used in combination with the Seq/Keyboard control knob which determines how the velocity of the sequencer controls the RG synthesizer parts.

This Seq/Keyboard parameter needs to be fully turned to 'Seq' to make the velocity settings of the steps work!

If you use tie in a step, the velocity does not work at that step if the sequencer is in *normal* tie mode.

Free

Free control allows you to control other properties of RG (i.e. panning etc) using the sequencer. This is because you can use the Free control in the Free section to modulate other controls by selecting the source to be *Seq Free*. If you use tie in a step, the free setting does not work at that step if the sequencer is in tie mode normal.

Sequencer Controls

The dials and buttons below the sequencer allows you to alter the properties of the sequencer.

< File >

On your hard disk you will find a folder called 'sequences', it contains a variety of sequences files.

The < and > selectors allow you to scroll through these files. Keep in mind that the sequences that can be selected here are mixed, including electric, steel 8th and steel 16th.

This < and > is a cool function if you have found a preset you like and want to try it out with a few other sequences. If you do not like what you hear, just press original which you can find above the preset part of RG and you will go back to the original sequence.

File

If you press this button, you will be given the option to load or save the sequencer settings that you have made to your hard disk.

All the sequencer settings are saved and loaded using this function. The copy and paste option is available to copy a sequencer A or B setting and paste it to any other preset inside the bank.

Steps

Number of steps in the sequencer. This can be from 1 to 32 steps. Sequencer A & B can have different number of steps.

Loops From

Controls the loop start position. So for example, if you have 8 steps and step the loop start at 4, it will play 1,2,3,4,5,6,7,8, and then 4,5,6,7,8,4,5,6,7,8 ...

Tie Mode

normal: steps with tie do not have an individual velocity and free setting.

special: steps with tie do have still individual velocity and free settings.

Speed

Speed of the sequencer with respect to the host tempo, from ¼ of the tempo up to 4 times the tempo.

Sequencer A & B can have different speed settings.

Swing

This controls the swing of the sequence, this is the difference in timing between consecutive notes and it gives a more human/swing feel to the sequence. Sequencer A & B can have different swing settings.

Velocity

This controls whether RG's velocity parameter settings are controlled by the sequencer step settings (at 0%) or the pressed key's velocity (at 100%) or a combination of the two values. Sequencer A & B can have different velocity settings.

Sequencer Reset

Determines what happens when you press another key when one is already pressed down.

When reset is on, when you press a new key, when one is still pressed down, the sequencer is reset to its first step when it plays the next note, i.e. If you were at step 6 when you pressed the new note the sequencer reset with step 1.

When reset is off, when you press a new key, when one is still pressed down, the sequencer carries on to the next step, i.e. If you were at step 6 when you pressed the new note the sequencer continues with step 7. Keep in mind that with RG you only need to play one note.

Latch

When latching is turned on you don't need to keep a key pressed down for the sequencer to continue to play.

Tip: you can use also the sustain pedal to Latch and Unlatch the sequencer.

Keyboard Controls

At the lower right corner is a virtual keyboard which allows you to preview the current sequences.

Octave 1 plays sequencer A using major chords

Octave 2 plays sequencer A using minor chords

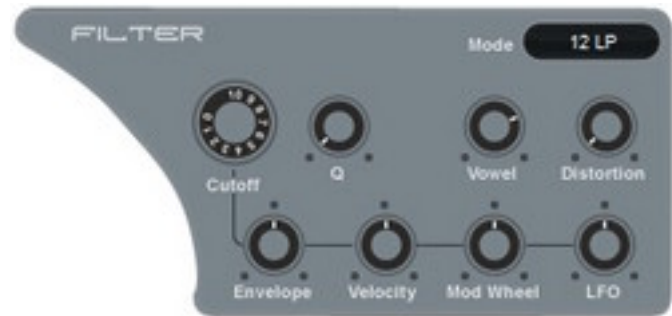
Octave 3 plays sequencer B using major chords

Octave 4 plays sequencer B using minor chords

Quick Help

Pressing the ? Button brings up the quick help.

[Filter]



The sound generated in the guitar models is passed into the filter. Here, the harmonic structure is altered by the selected filter type. The RG filter controls include Envelope, Velocity, Modulation Wheel and LFO which all can modulate the Cutoff Frequency.

Cutoff

This sets the filter's frequency where the filter starts altering the sound.

For instance, if you set the Cutoff to 2000Hz and use a 12dB Lowpass filter it reduces any frequencies above 2000Hz, so for instance a sound at 4000Hz will be reduced by 12dB.

The Cutoff frequency can be static at a fixed frequency, but you can also modulate the Cutoff frequency with the Filter Envelope, Velocity, Modulation Wheel and LFO.

Therefore there is a line on RG front-end which shows that these controls alter the Cutoff frequency.

The modulation doesn't move the Cutoff control knob from its initial position, but if you add any kind of modulation the Cutoff frequency is internally modulated.

Resonance (Q)

The resonance controls how much the sound at the Cutoff frequency is increased, so the resonance "emphasises" this frequency.

As you increase resonance it gets more and more pronounced till the filter "self-oscillates".

So basically the resonance is feedback onto the Cutoff frequency.

NB: the 6dB filter types are unable to self-oscillate, and in Comb filter the resonance controls the comb filters feedback.

To hear what resonance does, the best thing to do is to try changing it. If you open the LFO modulation you will hear that the Cutoff frequency starts to move. Opening the Resonance emphasises this movement.

Distortion

This pre-distorts the sound before it goes into the filter using a saturator distortion effect.

Vowel

This controls the vowel uses by the vocal filter, either A, E, I, O or U.

Filter mode

- Bypass

The filter is bypassed and the sound passes through unaffected.

- 6dB LowPass

Low frequencies pass through this filter and frequencies above the Cutoff frequency are reduced by 6dB per octave. For example: a frequency 2000Hz is 6dB softer in volume if the Cutoff frequency is set to 1000Hz.

- 6dB HighPass

High frequencies pass through this filter and those below the Cutoff frequency are reduced by 6dB per octave. The filter is open if the Cutoff frequency knob is fully turned left.

- 12dB LowPass

Low frequencies pass through this filter and those above the Cutoff frequency are reduced by 12dB per octave.

- 12dB HighPass

High frequencies pass through this filter and those below the Cutoff frequency are reduced by 12dB per octave.

The filter is fully open if the Cutoff frequency control knob is fully turned left.

- 18dB LowPass

Low frequencies pass through this filter and those above the Cutoff frequency are reduced by 18dB per octave.

- 18dB HighPass

High frequencies pass through this filter and those below the Cutoff frequency are reduced by 18dB per octave.

The filter is fully open if the Cutoff frequency knob is fully turned left.

- 24dB LowPass

Low frequencies pass through this filter and those above the Cutoff frequency are reduced by 24dB per octave.

- 24dB HighPass

High frequencies pass through this filter and those below the Cutoff frequency are reduced by 24dB per octave. The filter is fully open if the Cutoff frequency knob is fully turned left.

- 12dB BandPass

This filter mode is a combination of 12dB LowPass and 12dB HighPass filters.

Only those frequencies near to the filter Cutoff frequency pass through (a band of frequencies), the resonance (Q), controls the width of this band so that low & high frequencies are removed.

- 24dB BandPass

This filter mode is a combination of a 24dB LowPass and 24dB HighPass filter.

Only those frequencies near to filter Cutoff frequency pass through (a band of frequencies).

The resonance (Q) controls the width of this band, so low & high frequencies are removed.

- 12dB Notch

Those frequencies near to the filter Cutoff frequency are reduced in volume (12dB), the resonance controls the width of this removal region.

- 24dB Notch

Those frequencies near to the filter Cutoff frequency are reduced in volume (24dB), the resonance controls the width of this removal region.

- Comb filter

This is a very short delay, which emphasises the comb filter frequency. The Cutoff frequency controls the length of this delay and resonance (Q) the feedback of the filter.

- Vox filter

Vocal Filter, which adds a voice-like quality to the sound. In Vox filter mode, the distortion knob controls the vowel of the filter.

Modulation amounts of Cutoff frequency

Envelope

Adds a positive or negative Cutoff frequency Envelope amount. The 'Envelope' is inside the Filter section itself. Keep in mind that if you use negative modulation, that the envelope is reversed.

Velocity

Adds a positive or negative Cutoff frequency modulation by the amount of velocity used. Note that the velocity settings are set by the sequencer and its velocity controls in each step.

LFO

Adds negative or positive Cutoff frequency modulation by the 'Filter LFO'.

Mod.Wheel

Adds negative or positive Cutoff frequency modulation by the 'Modulation Wheel'.

[Filter Envelope]



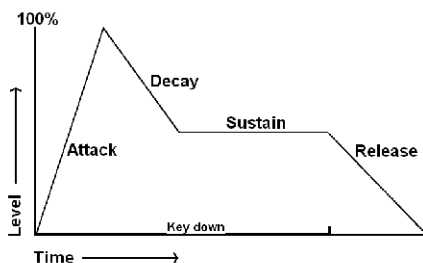
The Filter Envelope is addressed to the main filter Cutoff Frequency of RG and the amount is controlled by the Env amount in the Filter section.

An envelope is a time based modulation inside a synthesizer. If you press a key it moves from 0% up to 100% and back to 0% when you release the key.

Inside RG, *stroke* steps in the sequencer simulate key events.

Between this you can adjust the time how it does do this. The first part is known as the attack, this is the time it takes to reach 100%. The second part is known as the decay, this is the time it takes to reach the sustain (the final) level. If this level of sustain is for instance 50, the decay goes down to 50% and stays there. Finally when you release the key, the envelope goes to 0%, during the period that you just set.

An extra feature inside RG is Fade. Fade adds a second part to the sustain level, when it is positive the sustain level goes up to 100% over a set period, if it is negative then the sustain level goes down to 0% over a set period. This is a handy feature if you want the Cutoff frequency of the filter to rise whilst holding the keys.



To hear the full effect of the Filter Envelope you have to open the Env amount, which you can find in the filter section next to the Cutoff Frequency. The amount can be positive or negative.

Attack

An envelope always rises from 0 to 100% and back to 0% when the key is released.

Inside RG, *stroke* steps in the sequencer simulate key events.

Attack controls how fast it rises to 100%. So if you open the Attack control knob, it takes longer to go from 0 to 100%. With Attack closed, the envelope starts at 100%.

Decay

After the attack stage, with the envelope at 100%, the decay stage is reached.

Decay reduces the envelope level to the sustain level over a set time. So if you use a long decay, it takes longer to reach the sustain level. If the sustain level is 100% the Decay has nothing to fall to and so the sustain stage is reached immediately after the attack.

Sustain

This is level of the sustain stage. After the attack & decay stage, the envelope goes into the sustain stage and remains here for as long as you have a key pressed down. The sustain level is the level of this sustain stage. Sustain level in the Filter envelope means the level of where the Cutoff frequency parameter stays as long as you hold the key(s). Inside RG, *stroke* steps in the sequencer simulate key events.

Sustain fade

If the fade is set to off, the sustain remains at the sustain level i.e. it is a classic sustain.

If you open the fade amount in a positive direction the sustain changes into a second attack.

So after the Decay reaches the Sustain level it starts rising to 100% again and the time it takes to reach 100% is set by the Fade time.

If you open the fade amount in a negative direction the sustain changes into a second decay.

So after the Decay reaches the Sustain level it starts falling to 0% again and the time it takes to reach 0% is set by the Fade time.

Release

After you have released a key (note), the release stage starts. The envelope then decays from the sustain level to 0%, the time it takes is set with the release knob.

Inside RG, *stroke* steps in the sequencer simulate key events.

[Filter LFO]



An LFO (Low Frequency Oscillator) is an oscillator at a very low pitch/frequency.

In RG the LFO can have a frequency between 0.03Hz and 27.50Hz.

The RG Filter LFO produces changes to the Filter Cutoffs frequency. You need to open the LFO amount in the 'Filter section' to hear the results.

Often used is the sine waveform, here the Filter Cutoff frequency raises up and down. But also using other waveforms with the LFO can be used to produce interesting results.

RG has the option to "tempo base" the LFO, which makes it a great feature for changing sounds in a musical tempo based way.

Waveform

Sine, Triangle, Saw Up, Saw Down, Square and S&H.

Here you can set the type of wave, this modulates the Filter Cutoff Frequency.

Sinus and Triangle are often used because they produce a modulation that goes up and down smoothly.

The other waveforms are more suitable for FX or special sounds.

Speed

This controls how fast or slow the LFO is running. If the control Sync is set *on* then the speed is tempo based.

Sync

If you turn Sync *on*, the Speed of the LFO will be tempo based. So it will synchronise with the song tempo. To find the right setting you need to adjust the Speed parameter.

Mode

Free and Mono

This controls how the LFO responds when the sequencer is playing. With 'mono' the LFO resets each time you hit a new step. With 'free' the LFO keeps on running and is not influenced by the sequencer at all.

Free mode: the LFO is free running and all the notes share the same LFO. The LFO is always running and does not reset when you press a key.

Mono mode: similar to free mode. However when you press a key in Mono mode, the LFO is reset to the initial start position.

Amount control

Here you can select the controller to adjust the LFO modulation inside the 'Filter section'. This can be a positive or a negative amount. So you can increase the modulation or decrease the modulation.

Look at preset "122 Moving Filter" in the first bank as an example. You can see that in this preset the Mod.Wheel is addressed with a -38% amount.

So if you open the Mod.Wheel the LFO modulation inside the 'Filter section' will be less.

In fact with a fully open Mod.Wheel the LFO does not modulate the filter anymore.

This happens because the LFO amount in the filter is 38% and the modulation control is set to -38%.

[Pitch]



This section shows how you can alter the overall pitch of the sound, either by using an LFO to generate vibrato or how much the pitch bend controller alters the pitch.

Pitch bend is done using the 'Pitch wheel' of the midi keyboard and adds pitch bending during the playing of the RG groove.

TIP: the 'Pitch LFO' can be very useful for other modulations.

Try preset '124 London Town' in which the 'Pitch LFO' is used for panning effects and connected by using the 'Modulation' section of RG.

Pitch Modulation LFO

Amount

The amount of LFO modulation applied. At the full amount, the pitch goes up / down by one semitone. A sinus waveform is used inside this LFO.

Amount control

Here you can select the controller (for instance Modulation Wheel) that controls the amount of Pitch LFO modulation. The control amount can be set to positive as well as negative.

Speed

This controls how fast or slow the L.F.O is running.

Sync

If you turn sync *on*, the speed of the LFO will be tempo based.

To find the correct setting you need to adjust the speed parameter.

Pitch bend

Down

This sets the pitch change when you move the pitch-bend wheel Down. It ranges from *Off*, down to - 48 semitones (-4 octaves).

Up

This sets the pitch change when you move the pitch-bend wheel Up. It ranges from *Off*, up to + 48 semitones (+ 4 octaves).

[Amp (amplifier)]



The audio that comes from the 'Filter' section then passes on to the 'Amp' section. This amplifies the signal and allows you to control the volume and panning. Keep in mind that this Amp is a synthesizer part and has nothing to do with a guitar-style amplifier. Each stroke which is set by the sequencer triggers the Amp and its envelope.

An important controller of the Volume is the Volume Envelope. This controls the volume contour over time. Also in the Amp section is velocity control, this controls the response of RG to the velocity of the keyboard or sequencer.

Volume

This sets the overall volume of the preset.

Vel>vol

This sets the amount volume and depends on the velocity set by the RG sequencer steps and its menu.

Pan

This sets the overall panning of the presets, from totally left, to centered, to totally right.

Volume Envelope

This envelope controls the volume contour over time. RG uses a simplified version of this for the Amp section. The 'sustain' setting which is normally found in an envelope has not been included as there is no natural volume sustain in a guitar sound. The sound of the guitar always decays - only an organ has 'sustain' and of course any regular synthesizer.

Each *stroke* inside the sequencer of RG triggers the Envelopes, except if the step is *off* or in *tie* mode. To fully understand this, please turn down the release knob while playing a groove. You can then hear that the release works on each step being played.

An envelope is a time based modulation inside a synthesizer. If you press a key it moves from 0% up to 100% and back to 0% when you release the key. By using the Volume Envelope you can adjust the amount of time it takes to do this.

The first part is known as the attack stage, this is the time it takes to reach 100% volume. The second part is known as the decay, this is the time it takes to reach the 0% volume. Inside RG the Amp decay is only active if a step is followed by one or more *tie* steps. Finally if the current step of the sequencer is followed by a *rest* step or another *stroke* step, the envelope goes to 0% volume, during the Release time that you have set.

Attack

An envelope always rises from 0 to 100% and back down to 0% when the key is released. Attack controls how fast it rises to 100%. So if you open the Attack knob, it takes longer to go from 0 to 100%. With Attack closed, the envelope starts at 100%. Inside RG, *stroke* steps in the sequencer simulate key events.

Decay

After the attack stage, with the envelope at 100%, the decay stage is reached.

Decay reduces the envelope level to zero over a set time.

The decay only works if the sequencer step is followed by one or more *tie* steps.

Release

The release works if a step is followed by a *rest* step or another *stroke* step.

The envelope then decays to 0% level. The time it takes is set with the release knob.

[Modulation]



Modulation 1 & 2

RG has 2 slots available to set your own modulation connections.

There are a total 33 modulation sources that include both midi sources and synth sources. These sources connect to 22 modulation destinations inside RG. There is also an amount control for each connection, which could for instance control a modulation by another source. Special sources include for instance the 'Down stroke', 'Up stroke', 'Ghost stroke' and 'Glide stroke' from the sequencer.

Try preset "125 Saturn groove" which uses the Up stroke from the sequencer to change the Cutoff of the 'Filter'.

Or preset "126 16th Modular 01" which uses the Up stroke to change the attack time of the 'Amp Envelope'.

Source 1 & 2

This is where you can select one of the 33 modulation sources.

Destination 1 & 2

Here you select one of the 22 modulation destinations.

Destination amount 1 & 2

This is where you select the amount of the modulation. This can be a positive or a negative modulation depending on the selected parameter.

[EQ]



RG includes a 5 band equalizer that is placed between the synth engine and effects in the audio path. The on button turns the equalizer *on* or *off*.

The equalizer uses 5 bands at 60Hz, 200Hz, 600Hz, 2000Hz and 8000Hz frequencies. The control knob for each band controls that bands volume, from -20db to +20db

[Effects]



In this section you can use up to 3 effects for RG. These are connected into series. So that if you use Fx1 it goes into Fx2 and then into Fx3. A special feature of RG is that you can control all Fx parameters by midi or use a RG modulation source.

Type

Here you can select one of the 22 effects for each of the 3 Fx units RG.

Mix

This is where you control how much the fx output is mixed with the original signal. Fully left only the original signal is output and the more you move the knob to the right, the more the Fx will be added.

Pan

Controls the Panning of the selected Fx.

Fx No

This is where you can select which one of the 3 Fx units that you want to select or edit.

Right clicking on the FX LED's brings up the FX Control Menu. This shows the Fx's used and whether it's bypassed or not, also it allows you to load / save / copy / paste & clear Fx's, swap the FX's around, and bypass individual FX's. FX Sync Length allows you to set the delay length in qb or milliseconds

Fx No bypass / used or not

The Fx number itself shows if the Fx unit is used and whether it is bypassed or not. If the Fx unit is not used the Fx number is shown in gray, if it is used then it's shown in black if on, gray if bypassed. You can toggle between a Fx being bypassed or not by clicking on the Fx number.

FX Bypass

The button next to the word FX bypasses all the 3 Fx units at once. So only the dry signal is heard.

Mono Delay

A mono tempo based delay, great for making rhythmic grooves. For instance the 1/8* (1/8 dotted) is nice for all kinds of arpeggiator or lead sounds.

To make the sound a bit spacey, modulation of the length is possible which makes the delay swirl.

<i>Length</i>	Length of the delay set in tempo based settings. Clicking on fx sync length allows you to toggle between time in qb or milliseconds
<i>Feedback</i>	Feedback of the delay.
<i>LP Filter</i>	Low pass filter frequency.
<i>HP Filter</i>	High pass filter frequency.
<i>Widen</i>	Stereo widening amount.
<i>Mod Amount</i>	Delay modulation amount.
<i>Mod Speed</i>	Delay modulation speed.

Stereo Delay

Two tempo based delays. One delay for each of the audio channels (left and Right).

This is useful for making deep pad sounds if you use 1/8* (Left) and 1/4 (right) settings.

The Feed Equal option makes it possible to have equal feedback fade time, even if the left and right delay have other length settings. Clicking on Fx sync length allows you to toggle between time in qb or milliseconds

<i>Left Delay</i>	Left length of the delay set in tempo based settings.
<i>Right Delay</i>	Right length of the delay set in tempo based settings.
<i>Feedback</i>	Feedback of the delay.
<i>Cross Feed</i>	Feedback between the left / right delay.
<i>LP Filter</i>	Low pass filter frequency.
<i>HP Filter</i>	High pass filter frequency.
<i>Mod Amount</i>	Delay modulation amount.
<i>Feed Equal</i>	Equal <i>on</i> makes that both L and R feedback do fade way equal, regardless which length you use.

Comb

The Comb Filter effect uses two joined comb filters where the output of one is fed back into the other one. Comb filters that are very short in delay and has a frequency, which in turn determines the length of this delay.

<i>Comb 1 Freq</i>	Comb Filter 1 Frequency.
<i>Comb 1 Feed</i>	Comb Filter 1 Feedback amount.
<i>Comb 1 Mod</i>	Comb Filter 1 Feedback modulation amount.
<i>Comb 2 Freq</i>	Comb Filter 2 Frequency.
<i>Comb 2 Feed</i>	Comb Filter 2 Feedback amount.
<i>Comb 2 Mod</i>	Comb Filter 2 Feedback modulation amount.
<i>Mod 1 Speed</i>	Tempo based Comb modulation 1 speed.
<i>Mod 2 Speed</i>	Tempo based Comb modulation 2 speed

Reverb

This effect reproduces the sound of acoustics in rooms using different sizes and reflections.

<i>Pre-Delay</i>	Pre-delay amount of the reverbed signal.
<i>Size</i>	Reverb room size.
<i>Damp</i>	Reverb damping amount.
<i>LP Filter</i>	Low pass filter frequency.
<i>HP Filter</i>	High pass filter frequency.
<i>Spread</i>	Stereo spreading amount.

Chorus

The chorus is a modulated delay signal which is useful for thickening up the sound and making it sound 'fatter'.

<i>Length</i>	Length of the chorus.
<i>Width</i>	Maximum change or modulation to chorus length.
<i>Speed</i>	Speed that the chorus length changes.
<i>Spread</i>	Difference in speed between the left and right hand channels.
<i>LP Filter</i>	Low pass filter frequency.
<i>Widen</i>	Stereo widening amount.

Chorus/Delay

This is a combined chorus / delay. Specially developed in case you want to use another effect in combination with Chorus without losing a delay function.

<i>Length</i>	Maximum length of the chorus in milliseconds.
<i>Width</i>	The amount how much the chorus length will change.
<i>Speed</i>	The rate the chorus length changes.
<i>Spread</i>	The amount the chorus length differs between left and right channels.
<i>Delay</i>	Length of the chorus delay. Delay is after the chorus. Clicking on fx sync length allows you to toggle between time in qb or milliseconds
<i>Feedback</i>	Amount the chorus delay feeds back into the sound.
<i>Delay Vol</i>	Volume of the delay.

Flanger

The flanger effect is a very short delay which changes overtime, to make a whooshing type sound.

<i>Length</i>	Length of the flanger.
<i>Width</i>	Maximum change to flanger length.
<i>Speed</i>	Speed the flanger length changes, this is midi tempo based.
<i>Feedback</i>	Feedback of the flanger.
<i>Pan Mod</i>	Flanger panning amount.
<i>LP Filter</i>	Low pass filter frequency.
<i>HP Filter</i>	High pass filter frequency.

Phaser

A phaser is a combination of filters that can create a phasing effect.

<i>Stages</i>	Number of stages in the phaser.
<i>Pitch</i>	Pitch of the phaser.
<i>Feedback</i>	Feedback of the phaser.
<i>Width</i>	Maximum change to phaser pitch.
<i>Speed</i>	Speed the phaser length changes, this is midi tempo based.
<i>Spread</i>	Amount the phaser stages are spread from the central pitch.
<i>Pan Mode</i>	Speed the phaser pans from the left / right hand channels.

Ensemble

This effect uses 6 choruses, each having its own setting, to give the effect of several copies of the sound playing at once.

<i>Length</i>	Length of the ensemble effect.
<i>Width</i>	Maximum change to ensemble length.
<i>Speed</i>	Speed the ensemble length changes.
<i>Feedback</i>	Feedback of the choruses.
<i>Ensemble</i>	Amount the choruses differ from each other.
<i>Spread</i>	Amount the choruses are panned to the left or right.

FX Filter

This is an analogue modeled stereo Multimode Filter, which has all the properties of RG's main filter.

<i>Type</i>	Sets the type of filter, offering 6dB LowPass and HighPass, 12dB, 18dB and 24dB LowPass, HighPass, 12dB and 24dB BandPass, 12dB and 24dB Notch and Comb Filter modes.
<i>Frequency</i>	Sets the Cutoff frequency of the filter.
<i>Q</i>	Sets the Resonance level of the filter.
<i>Distort</i>	Sets the pre-filter distortion of the filter.
<i>Smooth</i>	Sets the pre-filter distortion as <i>smooth</i> or <i>edgy</i> in sound.

Wah/Delay

This effect produces a wahwah type effect by running the sound through a lowpass-filter which frequency is changed over time. There is a built in delay which adds delays to the sound.

<i>Low Range</i>	Lowest Frequency of the filter. Here you can adjust how deep the LP filter ranges. The more you move the dial to the left, the lower the filter goes.
<i>High Range</i>	Highest Frequency of the filter. Here you can adjust how high the LP filter goes. The more you move the dial to the right, the higher the filter goes.
<i>Speed</i>	The rate the filter frequency changes over time. Tempo based.
<i>Resonance</i>	Controls the resonance of the used low-pass filter.
<i>Delay</i>	Length of the wahwah delay. This delay is after the WahWah FX. Clicking on Fx sync length allows you to toggle between time in qb or milliseconds
<i>Feedback</i>	Amount the wahwah delay feeds back into the sound.
<i>Delay Vol</i>	Volume of the delay.

AutoWah

Autowah uses a low/bandpass filter to filter the signal using the volume of signal to alter the frequency of the filter.

<i>Type</i>	Type of auto-wah filter, lowpass or bandpass
<i>Low Frequency</i>	Lowest frequency of auto-wah filter
<i>High Frequency</i>	Highest frequency of auto-wah filter
<i>Amount</i>	How much the volume of the signal alters the filter's frequency
<i>Q</i>	Resonance / Bandwidth of autowah filter
<i>Smooth</i>	How much signal volume is smoothed.

Amp Sim

Several types of amp types are simulated. Great for creating edgy sounds.

<i>Type</i>	Type of amp simulation. Settings are:- <i>None, 4x10" guitar speakers, 4x12" guitar speakers, Bass speaker, Combo speaker and Radio speaker.</i> The <i>none</i> speaker setting is useful if you want to only use the distortion in the FX effect.
<i>Distort</i>	Amount of distortion added to the sound. Also works if the <i>none</i> speaker setting is selected.
<i>Bass</i>	Bass EQ Volume. Adds or removes low end from the speaker simulator.
<i>Treble</i>	Treble EQ Volume. Adds or removes high frequencies from the speaker simulator.
<i>Volume</i>	Volume boost. Adjusts the volume of the processed sound.

Note: with the Amp simulator FX it is recommended to fully open the Mix control knob (wet).

Cabinet

Several types of cabinet types are simulated. Great for creating edgy sounds.

<i>Type</i>	Type of cabinet simulation. Settings are:- <i>None, Fender, Marshall & Off Axis</i> . The <i>none</i> speaker setting is useful if you want to only use the distortion in the FX effect.
<i>Distort</i>	Amount of distortion added to the sound. Also works if the <i>none</i> cabinet setting is selected.
<i>Bass</i>	Bass EQ Volume. Adds or removes low end from the cabinet simulator.
<i>Treble</i>	Treble EQ Volume. Adds or removes high frequencies from the cabinet simulator.
<i>Volume</i>	Volume boost. Adjusts the volume of the processed sound.

Note: with the Amp simulator FX it is recommended to fully open the Mix control knob (wet).

Distort (distortion)

This distorts the audio by saturating, limiting, rectifying and bandpass filtering the input.

<i>Limit</i>	Hard limiter threshold.
<i>Rect</i>	Amount of rectification, from -100% (no change), 0% half to 100% - full.
<i>Distort</i>	Amount of Distortion.
<i>Tone</i>	Frequency of the band pass filter.
<i>Emphasis</i>	Bandwidth of the band pass filter.
<i>Post-Boost</i>	Amount the filter signal is boosted.
<i>M-Wheel>Tone</i>	Amount the band pass filter frequency is changed by the modulation wheel.

Low-Fi

This effect reduces the digital audio quality of the sound, which results in old style computer sound effects.

<i>Bits</i>	Bit level of the signal.
<i>Sample Rate</i>	Sample rate of the signal.
<i>LP Filter</i>	Frequency of the low pass filter.
<i>M-Wheel>Filter</i>	Amount the low pass filter frequency is changed by the modulation wheel.

WaveShaper

The waveshaper effect shapes the in-going sound to a kind of distorted version of it. It is then passed through a low pass filter which its frequency is changed over time by a tempo based LFO.

<i>Top Amt</i>	The amount positive input is waveshaped.
<i>Bottom Amt</i>	The amount negative input is waveshaped.
<i>Rect</i>	The amount the sound is rectified, at -100% the sound goes through as normal, at 0% no negative output is heard and at 100% any negative output is made positive.
<i>Filter</i>	Low pass filter frequency. This filter does not filter the high frequencies.
<i>LFO Amount</i>	The amount the low pass filter frequency can change.
<i>LFO Speed</i>	The rate the low pass filter frequency can change.

MultiDistort

Allows you to use several different types of distortion effects.

<i>Type</i>	Different type of distortion allowed, they are <i>None, Atan, Cos, Cross, Foldover, Fuzz, Limiter, Overdrive, Power, Rectifier, Saturator, Square, None</i> means no distortion is used
<i>Pre-boost</i>	How much the signal is boosted before going into the distortion
<i>Amount 1</i>	Control how much the signal is distorted
<i>Amount 2</i>	Additional distortion parameter for Fuzz
<i>Normalize</i>	How much the output volume is normalized to the input volume, at 100% the output volume should be the same as the input volume.
<i>Low Filter</i>	Post distortion low-pass filter
<i>High Filter</i>	Post distortion high-pass filter
<i>Post-Boost</i>	How much the output of the distortion is boosted.

Stereo Widener

This effect widens the stereo sound.

<i>Widen</i>	Stereo widening amount.
<i>Width</i>	Maximum change to the stereo widening amount.
<i>Speed</i>	Speed at which the stereo widening amount changes.
<i>LP Filter</i>	Low pass filter frequency.
<i>HP Filter</i>	High pass filter frequency.

AutoPan

Autopan pans the sound between the left and right speakers.

<i>Amount</i>	Amount the autopan moves the sound in the stereo field.
<i>Speed</i>	The rate at which the autopan moves the sound. This is Tempo based so for example 1/1 does mean that the pan moves from left to right within 1bar.

Note: for maximal effect you also need to open the Fx *Mix* control knob fully right (wet).

Gator

The gator uses a 16 step sequencer to alter the volume of the sound to give a 'trancegate' type effect. Basically it is a sequencer controlled audio gate.

<i>Speed</i>	The speed of the gator. Speed is time based from 16/1 up to 1/32T speed. If for example the speed is set to 1/1 each step is 1/16 note. If for example the speed is set to 2/1 then each step is 1/8 of a note.
<i>Smooth</i>	How much the volume changes are smoothed out. This helps to avoid clicks.
<i>Mode</i>	Whether the gator affects the left & right channels, the left channel only or the right channel only or both.
<i>Sync</i>	Turns on / off the host syncing. For example if you do not hear the gator FX in standalone host, then switch to <i>off</i> . Inside a host sequencer program the best setting is <i>auto</i> or <i>sync</i> . The default setting in most presets is <i>auto</i> . So if you have problems with these settings, try <i>off</i> .
<i>Left</i>	Left channel sequencer. Clicking here turns on / off that step in the gator. When a step is on (light color) the gate is open and you can hear the audio. When a step is off (dark color) the audio is muted.
<i>Right</i>	Right channel sequencer. Clicking here turns on / off that step in the gator. When a step is on (light color) the gate is open and you can hear the audio. When a step is off (dark color) the audio is muted.

Note: FX Mix sets how much of the Gator FX is added. With the Gator FX it is wise to fully open the Mix control knob (wet).

Compressor

The compressor is an audio effect that changes the dynamic range and response of a signal.

<i>Threshold</i>	This sets the threshold on which the compressor starts to work.
<i>Ratio</i>	This sets the amount of dB reduction. So with a ratio setting of 1:2, and the signal exceeds the threshold by 4dB then it is reduced by $4\text{db}/2 = 2\text{db}$.
<i>Attack</i>	This sets how fast the compressor kicks in.
<i>Release</i>	This sets how long the compressor takes to react to a reduction in volume.
<i>Volume</i>	This allows you to correct the volume after the signal has been compressed.

Note: FX Mix sets how much of the Compressor FX is added. With the Compressor FX it is wise to fully open the Mix control knob (wet).

Fx modulation matrix

Next to the Fx section you can find two modulation matrix slots.

Using these slots you can connect different midi or RG synth parts to the Fx parameters. There are 33 modulation sources and you can use any Fx parameter as a destination. For instance you can increase the Reverb length by using the Mod.Wheel. Also the guitar strokes of the sequencer are used for dynamic Fx control. This Fx modulation feature of RG makes it very special.

Please listen to preset '127 Surprise delay' and preset '128 slow me electr 2fx' to hear what you can do with the FX modulation matrix.

Source

Here you can select the source that modulates the FX parameter. For example the 'Free' row of the sequencer or one of the stroke types.

Amount

Here you can set how much the modulation source will alter the Fx parameter.

Destination

Here you can select the destination FX control, all the FX parameters are shown here, though some work better using modulation than others, its best to experiment and see the results.

[Back panel]



Click on RG / Rob Papen brings up the back panel screen. Clicking on it again closes it down. There are several global functions here.

Syncing

This turns on / off the sequencer syncing to your host sequencer. Depending on your host and also what you are doing you may want this to be either *on* or *off*. Default is *on*.

Computer Keyboard Up / Down

Turns on computer keyboard controls up/down arrows to select presets.

- **Up arrow key**
Previous preset
- **Down arrow key**
Next preset

ECS (Easy Controler Set-up)

Also this menu shows the ECS controls, there allows you to load / save an external midi controller setup. Once set it is shared by all of the presets. You can latch one of RG's controls to a midi controller by using the right button (or control-click on Mac) menu and selecting latch midi. You can also unlatch midi controls the same way or clear all of the midi controls. For example try latching the filter cutoff control or one of the envelope knobs.

- load esc* this opens the folder that holds ECS setups. Installer of RG installed a folder called ECS and it loads.ECS files.
- save esc* this gives the user the option to save the midi setup you made and use them in other songs, it is saved as an.ECS file.
- reset all midi* this clears all the midi settings for the RG synth. Handy if you want to start from scratch.

MIDI Implementation Chart

Product: Rob Papen RG Version 1.0 Date: 1 May 2008
 Manufacturer Rob Papen / RPCX

Function	Transmitted	Recognized	Remarks
Basic Channel			
Default	no	no	
Changed	no	no	
Mode			
Default	no	Omni	
Changed	no	no	
Note Number			
True Voice	no	yes	
Velocity			
Note On	no	yes	
Note Off	no	no	
Aftertouch			
Poly (Key)	no	yes	
Mono (Channel)	no	yes	
Pitch Bend	no	yes	
Control Change	no	yes	
Program Change	no	yes	
Bank Change	no	yes	
System Exclusive	no	no	
System Common			
Song Position	no	no	
Song Select	no	no	
Tune Request	no	no	
System Realtime			
Clock	no	yes	
Commands	no	yes	
Aux Messages			
Local On/Off	no	no	
All Notes Off	no	yes	
Active Sensing	no	no	
System Reset	no	yes	

Appendix A: LFO Sync Settings

Off, 16/1*, 16/1, 16/1T, 8/1*, 8/1, 8/1T, 4/1*, 4/1, 4/1T, 2/1*, 2/1, 2/1T, 1/1*, 1/1, 1/1T, 1/2*, 1/2, 1/2T, 1/4*, 1/4, 1/4T, 1/8*, 1/8, 1/8T, 1/16*, 1/16, 1/16T, 1/32*, 1/32, 1/32T.

Note: "T" stands for Triplet and "*" stands for a dotted note. In the case of a dotted note, the note duration is equal to 1.5 times its original undotted value.

Appendix B: Delay Sync Settings

Off, 1/2, 1/2T, 1/4*, 1/4, 1/4T, 1/8*, 1/8, 1/8T, 1/16*, 1/16, 1/16T, 1/32*, 1/32, 1/32T.

Note: "T" stands for Triplet and "*" stands for a dotted note. In the case of a dotted note, the note duration is equal to 1.5 times its original undotted value.

Appendix C: Modulation Sources and Destinations

Modulation Sources Synth:

Filter Envelope	Bipolar.
Filter & Pitch LFO	Bipolar.
Sequencer Velocity	The Velocity row settings of the Sequencer. Bipolar.
Sequencer Free	The Free row settings of the Sequencer. Bipolar.
Down / Up / Ghost / Glide	The guitar stroke setting of the Sequencer, Bipolar.
Offset	Constant value to extend the range of controls. Bipolar.

Modulation Sources Midi:

Modulation Wheel	The MIDI modulation wheel (MIDI CC 1) (unipolar).
Mod.Whl.+Aftertouch	The MIDI modulation wheel combined with Aftertouch.
Channel Aftertouch (mono)	One aftertouch value is used for the whole keyboard. All notes being played on a specific channel share the same monophonic aftertouch value. This is how most keyboards work (unipolar).
Poly Aftertouch	The Aftertouch value of each separate note is used as a modulation source. Your MIDI keyboard must support this. If this doesn't work it is likely that your keyboard has no polyphonic aftertouch (unipolar).
Velocity	The MIDI note-on velocity information. The harder the key is hit, the higher the modulation value (unipolar).
Pitch Bend	The value of the pitch-Wheel which is taken as modulation source. It is usually centered which produces no change in pitch, with top value producing maximum positive values and bottom value producing maximum negative values.

Note	The note being played with a linear response. The modulation value follows the note number (bipolar).
Breath Controller	MIDI CC 2 (unipolar).
Foot Controller	MIDI CC 4 (unipolar).
Expression Contr.	MIDI CC 11 (unipolar).
CC16 Controller	MIDI CC 16 (bipolar).
CC17 Controller	MIDI CC 17 (bipolar).
CC18 Controller	MIDI CC 18 (bipolar).
CC19 Controller	MIDI CC 19 (bipolar).
CC20 Controller	MIDI CC 20 (bipolar).
CC21 Controller	MIDI CC 21 (bipolar).
CC84 Controller	MIDI CC 84 (bipolar).
CC85 Controller	MIDI CC 85 (bipolar).
CC86 Controller	MIDI CC 86 (bipolar).
CC87 Controller	MIDI CC 87 (bipolar).
CC88 Controller	MIDI CC 88 (bipolar).
CC89 Controller	MIDI CC 89 (bipolar).
CC90 Controller	MIDI CC 90 (bipolar).

Modulation Destinations:

Global:

Global Pitch	Main pitch control in semitone ranges. (-48 to +48 semitone).
Pitch modulation LFO Speed	Main pitch LFO modulation speed control.
Pitch modulation LFO Amount	Main pitch LFO modulation amount control.

Filter:

Filt Cutoff Frequency	Cutoff Frequency control.
Filter Resonance (Q)	Resonance control or the amount of feedback of the comb filter.
Filter Vowel	Vowel for Vocal filter.
Filt Distortion	Controls the pre-filtering saturation distortion.
Filter Envelope Amount	Filter Envelope amount control.
Filter Env Speed	Filter Envelope speed control.
Filter Env Attack	Filter envelope attack speed
Filter Env Decay	Filter envelope decay speed
Filter Env Sustain	Filter envelope sustain level
Filter Env Fade	Filter envelope fade amount
Filter Env Release	Filter envelope release speed
Filter LFO Speed	Filter LFO speed control.
Filter LFO Amount	Filter LFO amount control.

Amp:

Volume	Volume control.
Panning	Panning control.
Amp Env Speed	Volume Envelope speed control.
Amp Attack	Attack speed
Amp Decay	Decay speed
Amp Release	Release speed

FX

FX 1/2/3 Mix	FX wet / dry mix amount
FX 1/2/3 Pan	FX panning
FX 1/2/3 Variables	FX Variables