

fabfilter VOLCANO² software instruments

Introduction

This manual contains complete documentation for FabFilter Volcano 2 in printer-friendly format. All information in this manual is also accessible via the Help button in FabFilter Volcano's user interface.

[Table of contents](#)

Table of Contents

Introduction	
About FabFilter Volcano 2	3
Quick start	4
Using FabFilter Volcano 2	
Overview	5
What-you-use-is-what-you-see	6
Knobs	8
Filters	9
Filter parameters	10
Interactive filter display	12
Routing	13
Modulation	14
Drag-and-drop modulation slots	15
XLFO	16
Envelope generator	18
Envelope follower	19
MIDI source	20
Output controls	21
MIDI Learn	22
Undo and redo	23
A/B switch	24
Presets	
Loading presets	25
Saving presets	26
Section presets	27
How presets are stored	28
Purchasing FabFilter Volcano 2	
Purchasing FabFilter Volcano 2	29
Entering your license key	30
Support	
Support	31
Upgrading to Volcano 2	32
Manual installation	33
VST plug-in versions	34
License agreement	35
Acknowledgements	36
About FabFilter	37

About FabFilter Volcano 2

Volcano 2 is more than just an update of Volcano 1. The original idea of high quality filters being modulated with several sources is still present but Volcano 2 has been redesigned from the ground up. Now it is not only capable of high quality filtering effects, but it can even be used for phasing, flanging, chorus and many other cool effects! Bigger than ever... and easier-to-use than ever!

Of course, the new version of Volcano brings a lot of new features. To start with, you now get [four full-featured filters](#) which can be routed in almost any possible way (including [Per-Channel](#) and [Mid-Side](#)). Then, the real fun starts with our totally re-designed [drag-and-drop modulation system](#) with a 24 slot modulation matrix. And instead of the two simple LFOs and the single Envelope Generator in Volcano 1, you now get all the [XLFOs](#), [Envelope Generators](#), [Envelope Followers](#) and [MIDI Sources](#) you need! Of course, the new version also has a [side-chain input](#), which can be used to trigger the Envelope Generators or feed the Envelope Followers. Volcano 2 also features our [improved MIDI Learn](#) system, which makes it easy to associate your controllers to Volcano's parameters.

What-you-use-is-what-you-see

Volcano 2 introduces a revolutionary new interface concept: [what-you-use-is-what-you-see](#). The idea is simple yet powerful: do you want another filter? Just add one! Do you want an Envelope Follower? Just add one and start modulating things! At all times, the interface only contains the filters, modulation sources and slots that you are actually using. This results in an intuitive user interface that experienced producers and novices alike will embrace.



Modulation madness

Volcano 2 brings new and improved modulation sources and because of our improved interface, you don't have to worry about how many sources you have: there are enough sources to keep you busy for a long time!

Our new XLFO offers you anything from a simple sine wave to a fully programmable 16-step sequencer. The Envelope Generators and Envelope Followers can make use of the plug-in's side-chain signal, and the new MIDI modulation sources let you modulate parameters using any form of MIDI data.

Finally

If you have spent some time with Volcano 2, you will find use for it in any kind of project. The best way to discover what you can do with it is to explore the presets. Find out what a variety of effects you can create, and use them as a starting point for your own explorations.

Fabfilter Volcano 2 is available as RTAS, Audio Units, VST and VST 3 plug-in for Mac OS X (Universal) and as RTAS, VST and VST 3 plug-in for Windows.

Next: [Quick start](#)

See Also

[Using FabFilter Volcano 2](#)

[Upgrading to Volcano 2](#)

[VST plug-in versions](#)

Quick start

The installer will copy the FabFilter Volcano 2 plug-in into the common RTAS, VST and VST 3 plug-in folders (Windows) or the /Library/Audio/Plug-Ins/Components, VST, VST3, or Pro Tools plug-ins folder (OS X) on your computer.

In most cases, your host will then recognize the plug-in automatically. However, if the instructions below do not work, see [Manual installation](#) instead.

- **Cubase**
Choose an empty insert slot and select FabFilter Volcano 2 from the pop-up menu. To use the [MIDI Learn](#) feature, create a new MIDI track and set its output to the FabFilter Volcano 2 instance you have just created. (The VST 3 version of Volcano 2 can be found in the Filter section.)
- **Logic**
Choose an empty insert slot on one of your audio tracks, instrument tracks or buses and select FabFilter Volcano 2 from the pop-up menu. You will find FabFilter Volcano 2 in the *Stereo > VST* (Windows) or *Stereo > Audio Units* (OS X) section. A mono version is also available from the *Mono* menu.
- **Pro Tools**
Choose an empty insert slot on one of your audio tracks, instrument tracks or buses and select FabFilter Volcano 2 from the pop-up menu in the Effects section. Note that there are both mono and stereo versions of Volcano 2 available.

Use the Presets button to try different settings from the many factory presets that are bundled with FabFilter Volcano 2. Have fun!

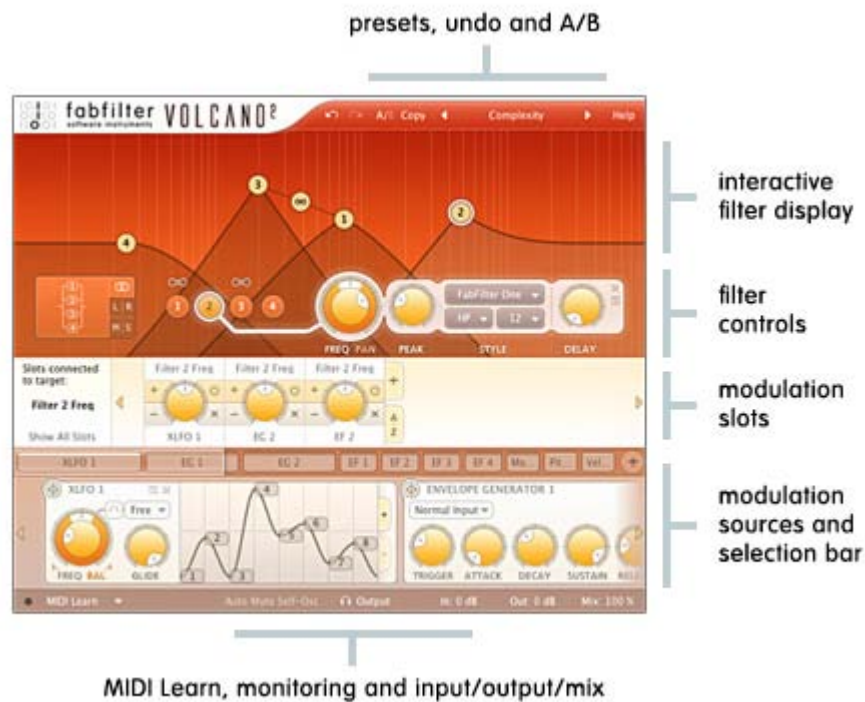
Next: [FabFilter Volcano 2 overview](#)

See Also

[VST plug-in versions](#)
[Upgrading to Volcano 2](#)
[Overview](#)
[Loading presets](#)

Overview

Volcano's interface is divided into horizontal sections:



- Presets, undo and A/B
The [Undo](#), [Redo](#), [A/B](#) and [Copy](#) buttons at the top of the plug-in interface enable you to undo your changes and switch between different states of the plug-in. With the [preset buttons](#), you can easily browse through the factory presets or save your own settings so you can re-use them in other songs.
- Interactive filter display
This is the graphic representation of the filter settings which allows you to drag all filters individually or simultaneously and control the filter settings with key combinations. See [Interactive filter display](#).
- Filter controls
At the bottom of the display, the [filter controls](#) provide full control over all filter parameters. The filters offer a choice of low-pass, high-pass and band-pass modes and come with 11 algorithms that offer different filter characteristics. Each filter has a special delay option with short delay times up to 30 ms, creating all kinds of stereo effects. At the left of the filter controls, the [routing button](#) selects the routing of the four filters.
- Modulation slots
The modulation slots are the connection between modulation sources and modulation targets. You can very easily set up modulation connection with drag-and-drop. See [Modulation](#).
- Modulation sources and selection bar
All modulation sources that you create are grouped horizontally. Above the modulation sources, the [source selection bar](#) provides an overview of all sources and enables quick access to them. FabFilter Volcano 2 offers [XLFO](#), [Envelope Generator \(EG\)](#), [Envelope Follower \(EF\)](#) and [MIDI](#) sources. See also [Modulation](#).
- MIDI Learn, monitoring and input/output/mix
The bottom bar contains the [MIDI Learn](#) feature which sets up any MIDI controller to control any plug-in parameter. Next, we find various output options and mix buttons. See [Output controls](#).

Next: [What-you-use-is-what-you-see](#)

See Also

[About FabFilter Volcano 2](#)
[Support](#)

What-you-use-is-what-you-see

Most of the times an impressive feature list results in an impressively difficult-to-use interface, full of controls for parameters you might never even use.

For almost every plug-in developer one of the greatest challenges when making such a complex full-featured plug-in is to design an interface that is easy-to-use. And we think we did it! FabFilter introduces a revolutionary new interface concept: What-you-use-is-what-you-see.

The idea is simple yet powerful. Do you want another [filter](#)? Just add one! Do you want an [envelope follower](#)? Just add one and start modulating things! At all times, the interface only contains the filters, modulation sources and slots that you are actually using. Of course there is a limit to the number of sources you can create, but in practice it feels like you can create as many sources as you will ever need.

This results in an intuitive user interface that experienced producers and novices alike will embrace. To give you an idea, a simple preset with just one low pass filter and no modulation looks like this:



... a more complex preset with two filters and modulation using our new XLFO and an Envelope Generator looks like this:



... and a very complex preset, with four filters and a lot of modulation sources and modulation, looks like this:



To help you understand even the most complex presets, the modulation matrix will show a subset of the slots that apply to the modulation source or target you are working on at the time.

Next: [Knobs](#)

See Also
[Modulation Overview](#)

Knobs

It is easy to control Volcano's parameters with the large round knobs. They will light up when you move the mouse cursor around to indicate that you can adjust them. The moment you move the mouse cursor over a knob, a parameter value display will pop up, which shows the name and current value of the parameter.



All knobs support four ways of control:

1. Vertical mode
Click on the center area of a knob and drag up or down to rotate it. The knob reacts to the speed with which you are dragging, so if you move the mouse slowly, you make precise adjustments.
2. Rotate mode
Grab the arrow of the knob and drag it around. By moving the mouse cursor further away from the knob while dragging it, you can make precise adjustments.
3. Mouse wheel mode
Perhaps the easiest way to make adjustments is by using the mouse wheel when you hover over a knob. This mode works for all the knobs and panning rings. (On Windows, you might need to click in the plug-in interface first to make sure it is the active window.)
4. Text entry mode
Double-click on a knob to enter the value exactly using the keyboard.

Tips

- To reset a knob to its default position, hold down the *Ctrl* key (Windows) or *Command* key (OS X) and click the knob once.
- To fine-tune a value when using vertical drag mode or the mouse wheel, hold down the *Shift* key while dragging or moving the mouse wheel.
- When adjusting a parameter of a filter, you can hold down the *Alt* key while dragging to adjust this parameter in all filters in parallel.
- In text entry mode, there are several handy shortcuts. With frequency values, you can type e.g. '1k' to set the value to 1000 Hz. With dB values, you can type e.g. '2x' to get +6 dB (the value that corresponds to two times louder). With all values, you can also type a percentage (e.g. '50%' will put a knob exactly in the middle position).
- Pro Tools note: the RTAS plug-in uses the default Pro Tools keyboard shortcuts for fine tune (*Ctrl*+drag on Windows, *Command*+drag on OS X), reset to default (*Alt*+click) and linked operation (*Shift*+drag).

Next: [Filters](#)

See Also
[Support](#)


Filters

Volcano 2 comes with four multi-mode stereo filters, which can be routed in almost every possible way, even per-channel and mid-side.

Every filter can be switched between low-pass, high-pass, and band-pass responses with 12, 24 and 48 dB/octave slopes and a staggering amount of eleven different high-quality filter characteristics that define the unique sound and overdrive of the filter. They range from smooth with moderate overdrive to raw, self-oscillating and over-the-top! All [characteristics](#) have been tuned very carefully, using our state-of-the-art FabFilter filter technology.



One set of [filter controls](#) is shared among all filters, which shows the parameters of the active filter.

- To activate a filter, click one of the numbered filter buttons. The button for the currently active filter lights up and is connected visually with the filter controls section.
- To bypass the active filter, click its filter button again. The first click activates the filter; once it is active, the filter button enables and disables the filter. When a filter is bypassed, the [filter controls](#) will look disabled, but can still be used to adjust the filter.
- To add a filter, click the + button next to the last filter button. The newly added filter will copy most of its settings from the currently active filter.
- To remove a filter, activate it and then click the Remove button **X** at the top right of the filter controls section. If there is only one filter left, you cannot remove it.
- Click the Presets button  to save the current filter and routing settings, or to access previously saved section presets. Note that this affects all filters and the routing, not just the active filter. See also [Section presets](#).

In the filters section, we applied our new [what-you-use-is-what-you-see](#) concept: you only get filter buttons for filters that you are actually using at the moment. Even the Routing button only contains the routing options available for the current number of filters!

When using [L/R or M/S configuration](#), the amount of filters will always be 2 or 4. So when adding or deleting filters just one click will add or delete 2 filters automatically.

You can use the filters individually or combine filter characteristics to create your own sounds in any way imaginable. To experience the full potential of Volcano 2's filters, try it on some signals with rich harmonics (synth sounds, distorted guitar or complete mixes are good sources for filtering).

Next: [Filter parameters](#)

See Also

[Interactive filter display](#)
[Modulation](#)

Filter parameters

Volcano 2 contains up to four independent multi-mode filters. You control the parameters of the [active filter](#) with the following settings:



- **Frequency**
The filter frequency is adjustable over the entire audio range. The Frequency controls the center or cut-off frequency of the active filter and can be controlled in real time, either manually or via external devices.
- **Pan**
The Pan ring around the Frequency knob lets you filter the left and right channels differently. It works as a stereo balance setting for the center frequency of the filter. For example, when you turn the Pan knob to the left, the left channel will be filtered with a lower center frequency, and the right channel will be filtered with a higher center frequency. You can use this to create various stereo filtering effects, especially in combination with modulation.
- **Peak**
The Peak knob adjusts the resonance of the active filter. A little resonance will cause the filter to create warmer and more characteristic tones. At maximum resonance, the filter will self-oscillate with most filter characteristics. (The Auto Mute Self-Osc option in the bottom bar will help to keep this manageable. See [Output controls](#).)
- **Characteristic**
FabFilter Volcano 2 lets you choose between 11 different filter characteristics:
 1. *FabFilter One*, the original filter characteristic taken from our award-winning FabFilter One synthesizer
 2. *Smooth*, like the cream in your coffee
 3. *Raw*, a filter with lots of overdrive and exhibits a character of its own. Great for distortion guitar sounds
 4. *Hard*, moderately distorting filter, with a nice clean whistle
 5. *Hollow*, juicy moderate distortion with fairly much low-end self-oscillation
 6. *Extreme*, for more wild sonic ideas
 7. *Gentle*, a more smooth and clean general purpose characteristic
 8. *Tube*, with a warmer sound and nice overdrive, great for synth sounds
 9. *Metal*, with a rough, sharper sound and distortion
 10. *Easy Going*, a softer version of the *Tube* filter
 11. *Clean*, linear behavior with no clipping distortion at all
- **Response**
The response of each filter can be set to either Low Pass, High Pass, or Band Pass. In Low Pass mode, the filter will pass through frequencies lower than the center frequency. In High Pass mode, frequencies higher than the center frequency will be passed through. In Band Pass mode, only the frequencies around the cut-off frequency will be passed through.
- **Slope**
The slope switch sets the steepness of the filter, which controls how aggressively the frequencies around the center frequency are filtered. You can choose between 12 dB/octave, 24 dB/octave or 48 dB/octave settings. For example, if the response is set to Low Pass, more high frequencies will be passed above the cutoff frequency using at 12 dB/octave than at 48 dB/octave. But let your ears decide! Just listen to the sound as you move the filter around and see if you like it...
- **Delay**
Each filter has an delay function that will, well yes, delay the sound passing through. This feature will add some more wobbliness to your sounds! For example the creation of comb-filter effects (chorus/flanging). These effects occur when 2 or more signals are added together while the delay time is changing of at least 1 of the signals. You can set it up by using an [XLFO](#) sending a simple sine wave to modulate the delay time of a filter. Use slow XLFO rates to create the classic flanging effect. In this case the Stereo configuration works best.

Or how about some crazy stereo effects using the "Haas" effect. Mr. Haas found out that time differences are very important for your stereo perception. So when the left channel is delayed we will hear it coming from the right speaker. More about this in [this Wikipedia article](#).

To set this up start with 2 filters and select the *L/R* configuration with the [routing button](#). The schematic diagram will show us the filter 1 is used for the left channel and filter 2 is used for the right channel. If you raise the delay of filter 1 it will sound like the sound is panned to the right purely based on delay times, not volume. Now reset the delay time (both filters) to 0 and take a new XLFO to modulate the delay time of both filters and inverse 1 of the [Modulation Slot](#). Now you will hear the stereo image move from left to right. Sweet innit! From here you can add more filters with different settings and pan them differently and it will create some truly blissful stereo effects.

The delay offers so many extra sound design opportunities that we strongly suggest that you take some time to experiment with it.

Tip: When you make changes to filter parameters that are [modulation targets](#) (cut-off frequency, peak, pan and delay), the [modulation slots](#) that use that target are automatically shown. You can return to view all connections by using the *Show All Slots* button that appears on the left in the modulation slots bar.

Next: [Interactive filter display](#)

See Also

[Filters](#)

[Modulation](#)

Interactive filter display

The interactive filter display gives an overview of the filter parameters and makes it very easy to adjust multiple filter parameters simultaneously. The vertical lines in the background represent a logarithmic scale that correspond to the actual filter frequencies.



- Drag a filter dot to adjust the *Frequency* and *Peak* parameters for that filter. The [active filter](#) will have a light colored ring around its filter dot in the display (filter 2 in the screen shot above).
- Drag the link dot (between filter 1 and 3 in the screen shot above) to adjust all linked filters simultaneously. To link filters, click on the link buttons that appear when the mouse is just above the filter buttons. For example, you can set them up as 4 resonant band-pass filters and sweep the cutoffs simultaneously. This configuration will give you access to all manner of 'vocal' sounds, as well as even more dramatic formant-based timbres.
- Shift+click a filter dot to toggle between the different filter slopes.
- Ctrl+click (Command+click on Mac) a filter dot to toggle between the different filter responses.
- When holding down the Alt key while dragging a filter dot, the other linked filters will change accordingly, as if you were dragging the link dot.
- Holding down both the Alt+Ctrl keys (Alt+Command keys on Mac) while dragging a filter dot will adjust all linked filters while fixing the link dot in the center, so the other linked filters will 'mirror' the changes.

Tips

- Of course, all changes made in the filter display can be automated!
- You can connect a MIDI controller to either the frequency or the peak adjustment of the link dot with the [MIDI Learn](#) feature.

Next: [Routing](#)

See Also

[Filters](#)

[Filter parameters](#)

Routing

Volcano 2 lets you route the four available filters in almost any way you can think of. There are 3 basic routing configurations: Stereo, L/R or M/S. By clicking the main routing button, the routing possibilities are presented for each configuration depending on the amount of filters used.



The three buttons at the right of the routing button switch between the main routing configurations:

- **Stereo**
In this default mode, both the left and the right channel pass through all filters. You can use the Pan rings to introduce differences in cutoff frequencies for each output channel and thus create beautiful stereo effects.
- **Left/Right**
In this case the left and right channel will go through different filters. This allows for more extreme settings and stereo effects. If there are two filters, the left channel will go only through filter 1, and the right channel will only go through filter 2. If there are four filters, filter 1 and 2 are used by the left channel, and filter 3 and 4 are used by the right channel.
- **Mid/Side**
This is the icing on the cake, never seen before in a filter plug-in. Now the signal is split into a Mid and a Side channel using the sum and difference of the left and right channels. Each signal is sent through different filters (as in L/R mode) after which it is reconstructed into the normal left and right channels. The Mid/Side concept has its origin in stereo microphone techniques using two microphones (more about that [here on Wikipedia](#)) but also gives us many options to process a stereo audio signal.

Next: [Modulation](#)

See Also
[Filters](#)

Modulation

Modular sound design employs modules as the basis of design. The modules in Volcano 2 are the multimode [filters](#), the [XLFO](#), the [Envelope Generator](#), the [Envelope Follower](#) and the [MIDI source](#). Each of these modules have parameters that can be changed by both knob movements and modulation. These parameters are called modulation targets. The modules that can send control signals to the modulation targets are called modulation sources. The modulation signal always flows via a modulation slot that allows you to vary the extent of modulation among other options.

FabFilter Volcano 2 offers very flexible modulation possibilities which make this plug-in capable of many sound design applications. Ever-changing parameters can make your music become more alive because an exact reoccurrence is very unlikely to happen.



- **Modulation slots**
The modulation slot bar contains all modulation slots in a horizontally scrolling strip. See [Drag-and-drop modulation slots](#).
- **Source selection bar**
The source selection bar shows a schematic overview of all modulation sources at all times. Simply click on a source button here to scroll the source into view. The highlighted section of the bar shows the currently visible part, and it can be dragged to scroll the sources as well. The top segment of each source button lights up according to the modulation signal it is currently emitting.
- **Modulation sources**
The modulation sources are organized in a horizontally scrolling strip below the source selection bar. There are 4 different kinds of sources available: The [XLFO](#) can generate almost any waveform you can imagine and can be synchronized to the host tempo. The [Envelope Generator](#) is of the usual ADSR kind and triggered by audio or MIDI. The [Envelope Follower](#) will follow the loudness of the incoming audio or side-chain signal. And the [MIDI source](#) transforms any incoming MIDI data into a modulation signal.

Volcano 2 introduces the innovative [what-you-use-is-what-you-see](#) concept, so you decide which modulation sources you see in the interface!

- To add a modulation source, click the + button in the source selection bar.
- To delete a modulation source, click the Remove button **X** in the top right corner in the source interface. When a source is deleted, modulation slots that use that source will also be deleted automatically.

Next: [Drag-and-drop modulation slots](#)

See Also

[Filters Overview](#)

Drag-and-drop modulation slots

One of the best features of FabFilter Volcano 2 is undoubtedly the ability to set up modulation connections with 'drag-and-drop'. There is no need to search through long drop-down menus containing dozens of sources and targets or to find your way in cluttered and obscure matrix views. This simple method of making modulation connections makes sound designing become fun, easy and, above all: fast. So how does it work?

Grab a source...



... drag it to a target...



... and drop it.



First, grab the source drag button that you would like to use as a modulation signal, for example XLFO 1. The moment you click on the source drag button, the interface dims and all modulation targets are highlighted.

The moment you start dragging, you will see a line from the source drag button to the icon that you are dragging. It will snap to any available modulation target.

Now drop the icon on the highlighted knob of the parameter that you would like to modulate, for example the *Filter Frequency* knob. That's all there is to it!

This way a modulation slot is created with the correct source and target selected. Once a slot has been added, you can edit it:

- Use the Level knob to adjust the amount of modulation.
- To the left of the Level knob, you can invert the modulation signal with the - and + buttons.
- You can disable the slot with the Bypass button in the top-right corner of the slot.
- To delete the slot, click the Remove button **X** in the bottom-right corner.
- To group all slots by modulation source and target, click the A..Z button to the right of the modulation slots. This can help you create an overview when there are many slots.

You can also modulate slot level knobs, which makes incredibly complex modulation setups possible.

Our new [what-you-use-is-what-you-see](#) interface includes a dynamic slot overview that makes programming Volcano 2 very easy:

- Click on a source button in the source selection bar to activate that source. The modulation slot bar now only shows the slots that work with this source.
- Click on any modulation target knob to activate that target. The modulation slot bar now only shows the slots that work with this target.
- Click the Show All Slots button, or click on an empty area in the slots bar to go back to the full overview.

If you wish, you can also add a slot manually using the plus sign on the right side of the slot section. If you wish to change the source or target click on the name. A menu will appear with all available sources and targets.

Next: [XLFO](#)

See Also

[Modulation](#)

[What-you-use-is-what-you-see](#)

XLFO



The XLFO is like a classic LFO but it can do so much more! It can also be used as a 16 step sequencer with an individual glide parameter for every step. The display shows the wave form that is used by the XLFO. Steps can be freely added or deleted to shape the funkiest of wave forms.

To add an XLFO as a modulation source, click the + button in the [source selection bar](#) and click New XLFO.



At the left of the XLFO interface, you find the global parameters that affect the entire wave form:

- **Frequency**
The frequency knob sets the time it takes for 1 cycle of the waveform to complete. This knob is a modulation target, so you could let one XLFO modulate the frequency of another XLFO. The XLFO can be synchronized to the tempo of the plug-in host or set to run free. With the options at the top-right corner of the frequency knob you can choose the different settings:
 - Free running mode will allow values from 0.02 to 500 Hz. This corresponds to a cycle length of 50 to 0.002 seconds.
 - When using any of the synchronized cycle lengths (16 to 1/64, measured in bars) the frequency knob changes into the Offset knob. It now acts like a cycle length multiplier and therefore is capable of changing the cycle length relative to the host tempo, from half to two times the host tempo. Click the dots around the knob to jump to certain predefined offsets for dotted and triplet synchronization.
- **MIDI sync**
The XLFO can be restarted at any point using MIDI if the MIDI sync option is enabled at the top-right corner of the frequency knob. When activated a note-on MIDI message (e.g. pressing a key) will restart the cycle of the waveform.
- **Balance**
The outer ring of the frequency knob adjusts the time balance of the first and last halves of the step sequence. For example, when turned to the left, the first half of the wave form is generated more quickly than the last half.
- **Glide**
The global Glide knob acts like an overall glide offset. The amount of glide determines the point within a step at which the XLFO starts to interpolate to the value of the next step. The global Glide value is added to the glide value for individual steps to arrive at the final glide value for each step. The final glide value is limited between 0 (no interpolation) and 1 (full interpolation). Because the global Glide value can range from -1 to 1 it can completely overrule the individual step glide values at the extreme settings. It is also a modulation target which allows for very cool effects.

At the top right of the global settings, the Presets button  provides access to the XLFO [section presets](#). The Remove button  deletes the XLFO source. By default, the XLFO starts with two steps that make a sine wave. You can customize this by overwriting the predefined Default section preset.

Editing Steps

You can shape the waveform of the XLFO in almost any way you want by editing the individual steps.

- Drag a step up or down to change the value for the step.
- Click a step to select it.
- Hold down *Ctrl* (*Command* on Mac) and click a step to select multiple steps. Hold down *Shift* and click a step to select a consecutive range of steps.
- Click next to a step to deselect all steps.
- Click the + button at the end of all steps to add a new step. The new step is added to the right of the selected step, or at the end of all steps.
- Click the - button at the end of all steps to remove the selected steps. If no steps are selected, the last step is removed.

If one or more steps are selected, the XLFO expands to show the step interface where the parameters for the selected steps can be edited:

- **Random**
The Random button enables random values for this step. If enabled, the XLFO will use a new random value

for the step each time it encounters it. The display also changes to show that the value is chosen at random (see step 3 in the screen shot above).

- Value
The Value knob adjusts the value of step. This is the same as dragging the step up and down, except that with multiple selected steps, the value of all steps is set to the same value. In contrast, when you drag multiple selected steps, the relative distance is kept the same.
- Curve
The Curve button selects the curve that is used to interpolate to the next step when the final glide value is higher than 0: Linear, Sqr, Sqrt and Sine.
- Glide
The Glide knob sets the per-step glide value. This is combined with the global glide value to determine at which point the XLFO starts to interpolate towards the next step.

To start exploring the many sound shaping possibilities you could make an XLFO [modulate](#) a Filter Frequency knob to make sounds change over time. You'll be amazed by the many possibilities. Have a look at the presets to see the XLFO in many different setups to get an idea of what it can do for you and start creating your own sequences to funkify your life!

Next: [Envelope generator](#)

See Also

[Modulation](#)

[Drag-and-drop modulation slots](#)

[What-you-use-is-what-you-see](#)

Envelope generator



The envelope generator modulation source generates an ADSR envelope when the input signal exceeds the threshold set by the *Threshold* knob. The envelope is set by the *Attack*, *Decay*, *Sustain* and *Release* parameters.

To add an envelope generator as a modulation source, click the + button in the [source selection bar](#) and click New Envelope Generator.



Depending on the type and amplitude of the incoming signal you need to adjust the threshold for optimal functioning. Look at the top segment of the source button for the EG to see when it is in the triggered (Attack-Decay-Sustain) state.

The EG can receive three different kinds of input: the signal passing through Volcano 2 (Normal Input), the signal from the side-chain (Side Chain) or a MIDI note event (MIDI). When MIDI is selected, the Threshold knob is disabled.

At the top right of the source interface, the Presets button  provides access to the EG [section presets](#). The Remove button  deletes the envelope generator. You can customize the default EG settings (used when creating a new EG) by overwriting the predefined Default section preset.

Next: [Envelope follower](#)

See Also

[Modulation](#)

[Drag-and-drop modulation slots](#)

[What-you-use-is-what-you-see](#)


Envelope follower

The envelope follower modulation source will output an envelope similar to the incoming signal. The amplitude of the positive peaks of the input signal is measured and the outer shape (= envelope) is the output signal of the modulation source. You can set the *Attack* and *Release* parameters to 'smooth out the bumps'.

To add an envelope follower as a modulation source, click the + button in the [source selection bar](#) and click New Envelope Follower.



The envelope follower can receive two different kinds of input: the signal passing through Volcano 2 (Normal Input) or the signal from the side-chain (Side Chain).

At the top right of the source interface, the Presets button  provides access to the EF [section presets](#). The Remove button **X** deletes the envelope follower. You can customize the default EF settings (used when creating a new EG) by overwriting the predefined Default section preset.

Next: [MIDI source](#)

See Also

[Modulation](#)

[Drag-and-drop modulation slots](#)

[What-you-use-is-what-you-see](#)

MIDI source


The MIDI source is a powerful modulation source if you want more control using a MIDI keyboard or MIDI control knobs.

To add a MIDI source as a modulation source, click the + button in the [source selection bar](#) and click New MIDI Source .



Firstly, the MIDI source lets you use MIDI input such as velocity, pitch bend and modulation wheel to influence any parameter that can be modulated. But when you set the input selection to Controller, it lets you use any MIDI controller as a modulation source.

This is different from [MIDI Learn](#) because there is no direct control of a knob via MIDI but it uses a modulation slot instead. This way you can add modulation to an already modulated destination. Or you can use the full rotation of a knob while actually modulating a smaller range. This can be good way to control say, the filter cut-off frequency or EG attack for which you sometimes want to make small changes with great precision.

At the top right of the source interface, the Presets button  provides access to the MIDI source [section presets](#). The Remove button  deletes the MIDI source. You can customize the default MIDI source settings (used when creating a new MIDI source) by overwriting the predefined Default section preset.

Next: [Output controls](#)

See Also

[Modulation](#)

[Drag-and-drop modulation slots](#)

[What-you-use-is-what-you-see](#)

[MIDI learn](#)

Output controls

Besides the [MIDI learn](#) button, the bottom bar controls various options and settings for the output signal of Volcano 2.



- **Auto Mute Self-Osc**
The Auto Mute Self-Osc option reduces the resonance of the filters if there is no incoming audio signal. Depending on the filter characteristic you can push the filter into self-oscillation with increasing peak values. The auto-mute feature will make higher peak settings possible while the filters will not be howling continuously when you stop playback in your host.
- **Audition**
The audition switch (recognizable by its headphones icon) lets you listen to either the normal output signal (default setting), the input signal (bypassing the entire plug-in) or the side chain signal. When setting up side chaining in your host this is very useful to confirm that the correct side chain signal is routed to the plug-in.
- **Input**
The input button shows the current input gain and lets you adjust it from -36 dB to +36 dB. To change the gain, simply drag the button up and down. For precise adjustments or to change the panning, click the input button once to open a pop-up window with the actual input/pan knobs. Click the button again to let the pop-up window disappear. The input and pan knobs are also [modulation targets](#).
- **Output**
The output button shows the current output gain, also adjustable from -36 dB to +36 dB. It works the same as the input button and is also a modulation target. Note that you can overdrive the filters by increasing the input gain and reducing the output gain at the same time.
- **Mix**
You can use the mix button to mix some of the original (dry, unprocessed) input signal back into the output signal, reducing the amount of filtered (wet) signal. Like the input and output buttons, this is also a modulation target.

Next: [MIDI learn](#)

See Also

[Overview](#)
[Modulation](#)

MIDI Learn

Controlling FabFilter Volcano 2's parameters directly with MIDI is very easy using the MIDI Learn feature. With MIDI Learn, you can associate any MIDI controller with any parameter.



Click the MIDI Learn button to enter MIDI Learn mode. The interface dims and the parameters that can be controlled are highlighted. Each parameter has a small text balloon that displays the associated controller number. Now do the following to associate a controller number with a parameter:

1. Touch the control of the desired parameter in the interface that you wish to control. A red square will mark the chosen parameter. Note that activating a filter or scrolling to a modulation source is still possible in MIDI Learn mode.
2. Adjust the slider or knob on your MIDI keyboard or MIDI controller that you want to associate with that parameter.

That's it! The parameter will now be controlled with the MIDI controller. You can now go back to step 1 to associate a different parameter. Note that there is no warning when you associate a different knob with a controller number that is already used. It will just be replaced.

To exit MIDI Learn mode, click the MIDI Learn button again.

Click the small menu drop-down button next to the MIDI Learn button to access the MIDI Learn menu:

- **Disable MIDI (or Enable MIDI)**
Globally enables or disables MIDI input for the plug-in. Disabling MIDI events is useful if your host automatically sends MIDI to all effects on a channel.
- **Clear**
This submenu shows all parameter associations and lets you delete individual associations or clear all associations in one step.
- **Revert**
Reverts to the last saved MIDI mapping (or the state when the plug-in was started).
- **Save**
Saves the current MIDI mapping so Revert will go back to this state. The current mapping is automatically saved when closing the plug-in.

Next: [Undo and redo](#)

See Also
[Overview](#)

Undo and redo

The Undo and Redo buttons at the top of the plug-in interface enable you to easily undo changes you made to the plug-in.



- The Undo button at the left will undo the last change. Every change to the plug-in (such as dragging a knob or selecting a new preset) creates a new state in the undo history. The Undo button steps back through the history to restore the previous states of the plug-in.
- The Redo button cancels the last undo command. It steps forward through the history until you are back at the most recent plug-in state.

Notes

- If the plug-in parameters are changed without using the plug-in interface, for example with MIDI or automation, no new undo states are recorded.
 - The Undo and Redo buttons will disable themselves if there is nothing to undo or redo.
-

Next: [A/B switch](#)

See Also
[Overview](#)

A/B switch

With the A/B feature in FabFilter Volcano 2, you can quickly switch between two different states of the plug-in.



- The A/B button switches from A to B and back. Before switching, the current state of the plug-in is saved, so if you click this button twice, you are back at the first state. The button highlights the currently selected state (A or B). In the example above, the A state is active.
- The Copy button copies the active state to the inactive state. This marks the current state of the plug-in and allows you to go back to it easily with the A/B button. After clicking Copy, the button disables itself to show that both states are equal, so there is nothing to copy anymore.

Next: [Loading presets](#)

See Also

[Undo and redo](#)

[Overview](#)

Loading presets

The included presets give a great overview of what you can do with FabFilter Volcano 2. You can either use the presets as they are, or tweak them further to create your own unique effects.

- To load a preset, click the preset button in the top section. The presets menu will appear with all available presets, ordered in categories. Click on a menu item to load that preset.
- To explore the presets one by one, click on the little arrow buttons to the left and right of the main preset button. This will load the previous or next preset in the menu.

The preset button shows the name of the current preset. If you have changed the preset by adjusting one or more knobs, the name is dimmed to indicate that this is not the original preset anymore.

Tips

- The Default Setting preset is loaded automatically when FabFilter Volcano 2 is started. To change the default settings, simply [overwrite](#) this preset.
 - Some factory presets use [envelope generators](#). You may need to adjust their threshold parameters (depending on the level of the input signal) to get the desired effect.
 - If somehow the factory presets are lost or not installed properly, click Options > Restore Factory Presets in the preset menu to restore them.
-

MIDI Program Change and Bank Select

Loading a presets can also be done via MIDI, using Bank Select and Program Change messages. Click Options > View Bank/Program Numbers in the preset menu to enable or disable the display of bank/program numbers (for example: *(2/65) Low Pass*). This means that you can load that preset by first sending a Bank Select message to select bank 2 and then sending a Program Change message to select program 65.

Important: All the presets in your preset folder are numbered automatically, starting with bank 0 and program 0. This way, you are able to access any of the presets via MIDI. However, this also means that when you add new presets to the menu, bank/program numbers of other presets might change. Be aware of this when recording program changes in a song!

Compatibility with Volcano 1.x

All presets created with Volcano 1.x can be loaded in Volcano 2. If Volcano 1.x is also installed on your computer, your Volcano 1 presets will be accessible via the V1 Preset Folder submenu in the preset menu. You can read more about compatibility between Volcano 1.x and Volcano 2 in [Upgrading to Volcano 2](#). Please take some time to read it if you are planning to replace Volcano 1 instances with Volcano 2 instances in your songs.

Next: [Saving presets](#)

See Also

[Overview](#)

[Quick Start](#)

Saving presets

You can easily extend the included presets with new settings to build your own library of sounds that you can reuse in various projects. This is also a good way to copy settings across multiple instances of FabFilter Volcano 2 in a song.

To save the current setting as a preset, click the preset button, and then click Save As. A standard save dialog will appear. Type a name for the new preset and click Save to finish.

In the save dialog, you can also rename and delete existing presets and create a new folder to store presets in. New folders will show up as new categories in the preset menu. (On a Mac, this should be done with the Finder.)

See [How presets are stored](#) to determine the preset folder location and learn more about factory presets.


Next: [Section presets](#)

See Also

[Loading presets](#)

[Using FabFilter Volcano 2](#)

Section presets

You can save your own unique settings for different components of the plug-in using section presets. This way you can reuse certain common settings to customize Volcano to your own needs. To load and save section presets, click the Presets button  in a section. This will display a presets menu for that section. FabFilter Volcano 2 comes with a basic selection of section presets, but we encourage you to save your own presets to build a custom library of sound building blocks.

Supported sections are:

- The combined filter section, including routing and routing mode
- XLFO
- Envelope generator
- Envelope follower
- MIDI source

When you add a new modulation source, it loads its Default section preset. You can customize the initial settings by just overwriting that preset using the save dialog.

Section presets are stored in the *Application Data* folder (Windows) or *Application Support* folder (OS X) for the current user. For example, the full path to the presets for the filter section on Windows XP is *C:\Documents and Settings\<User>\Application Data\FabFilter\Volcano 2\Component Presets\Filters*. You cannot change the section preset paths.

Next: [How presets are stored](#)

See Also

[Loading presets](#)
[Overview](#)

How presets are stored

Presets for FabFilter Volcano 2 are stored in separate files with the .ffp extension (for FabFilter Preset). All presets reside in subfolders in the main preset folder. The subfolders will show up as separate categories in the preset menu. You can also further divide the subfolders into categories.

You can manage the preset files just like other files on your computer. The easiest way to do this is in the Save dialog that appears if you are saving a preset. The preset menu will automatically reload itself with the changes when the dialog is closed.

Furthermore it is very easy to share your newly created presets with other users since FabFilter presets use the same file format on both Windows and Mac OS X.

The default location of the main preset folder is *My Documents\FabFilter\Volcano 2* for Windows, and *~/Library/Audio/Presets/FabFilter/FabFilter Volcano 2* for Mac OS X. To change this location, first copy all presets to the desired new location, and then click Options > Change Preset Folder in the preset menu and select the new folder.

Restoring factory presets

If you have accidentally lost the factory presets, you can easily restore them by clicking Options > Restore Factory Presets in the preset menu. This will install all factory presets again, but without overwriting any existing files.

Next: [Purchasing FabFilter Volcano 2](#)

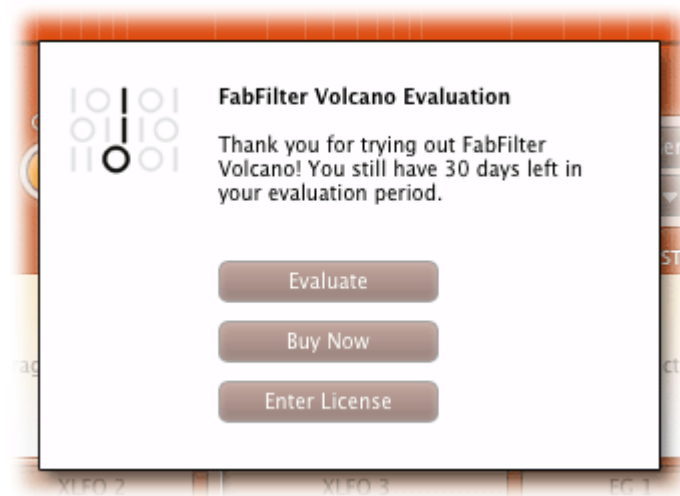
See Also

[Saving presets](#)

[Overview](#)

Purchasing FabFilter Volcano 2

Once you have downloaded and installed the evaluation copy of the FabFilter Volcano 2, you may use it freely for 30 days. Every time you start the plugin, you will see the following dialog:



While there are still days left, you can click Evaluate to start working with the plugin. If you want to keep using FabFilter Volcano 2 after the evaluation period, you must buy a copy in the online FabFilter Shop by clicking the Buy Now button in the evaluation dialog.

- [Click here to go to the FabFilter Shop and purchase FabFilter Volcano 2 now](#) 

We accept credit cards from all major companies, check payments, wire payments, and PayPal. The FabFilter Shop uses secure connections and encryption, therefore your personal information is safe.

Within a few minutes after you have purchased your copy, you will receive an e-mail containing your personal license key. You use this license key to turn the evaluation copy into a fully registered version without the evaluation dialog and the 30-day trial restriction.

Next: [Entering your license key](#)

See Also

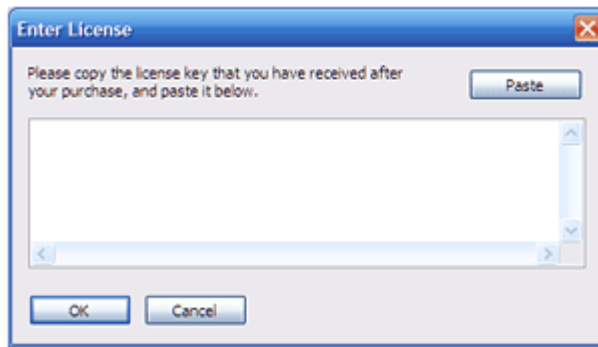
[Support](#)

[License agreement](#)

Entering your license key

After you have purchased FabFilter Volcano 2 in the online [FabFilter Shop](#), you will immediately receive an e-mail containing your personal license key. This license key will turn the evaluation version into a fully registered plug-in.

- Start FabFilter Volcano 2 and click Enter License in the evaluation dialog, or click Enter License on the Help menu if the plugin is already running.
- Copy the license information from the e-mail you have received and paste it into the text field. Make sure that you are copying the entire license key including the Product and Licensee lines! If you are not sure what text to copy, just copy and paste the whole e-mail.



After you have entered your license information, you will need to restart the plug-in host, so make sure you save your settings if needed. From now on, you will be able to use FabFilter Volcano 2 for an unlimited period of time with full support via email.

We recommend you to join the [FabFilter mailing list](#) to keep up with the latest updates.

Next: [Support](#)

See Also

[Purchasing FabFilter Volcano 2](#)

[Support](#)

[License agreement](#)

Support

If you need help with problems or questions, and the help file does not provide an answer, please visit the support pages on our web site.

- [Go to FabFilter Support](#) 

Here, you will find the latest news and updates on FabFilter products and answers to frequently asked questions. Go to the specialized user forums to ask your questions and get answers from the experts! The support section also contains extra downloads (such as presets) and PDF versions of this help file.

For sales questions and technical support, you can also contact FabFilter directly at info@fabfilter.com.

Next: [Upgrading to Volcano 2](#)

See Also

[Overview](#)

[About FabFilter](#)

Upgrading to Volcano 2

Upgrading from Volcano 1.x to Volcano 2 is safe and easy: installing Volcano 2 will not replace or delete the previous Volcano 1.x plug-in. Both versions will co-exist and can both be used at the same time. This ensures that you can open old songs that use Volcano 1.x without problems!

Volcano 1.x presets

All presets created with Volcano 1.x can be loaded in Volcano 2. If you upgraded from Volcano 1 to the new version, your original Volcano 1 presets will be accessible via the V1 Preset Folder item in the preset menu. See also [Loading presets](#).

Replacing a Volcano 1.x instance by Volcano 2

If you are working on a song and want to replace a Volcano 1 instance with the new Volcano 2, we advise you to do the following:

- First, save the current setting of the Volcano 1.x instance as a FabFilter preset in the Volcano 1 preset folder.
- Then, remove the Volcano 1 instance and add Volcano 2 in its place.
- Finally, load the V1 preset that you just created into Volcano 2 via the preset menu.

Automation

Because the feature set of Volcano 2 has changed drastically, any automation data that has been written by a Volcano 1 instance cannot be read correctly by Volcano 2.

Next: [Manual installation](#)


See Also
[Overview](#)
[Support](#)

Manual installation

When installing FabFilter Volcano 2, the installation program will try to copy the plug-in into the common VST 2, VST3 and RTAS plug-in folders (Windows) or the /Library/Audio/Plug-Ins/Components, VST, VST3, and the /Library/Application Support/Digidesign/Plug-Ins folders (OS X) on your computer. In most cases, your favorite host will then find the plug-in right away.

On OS X, this is the only possible location for the Audio Units, VST 2, VST 3 and RTAS plug-ins (although you can install them in the user's Library folders under `~/Library/Audio/Plug-Ins` as well).

On Windows, most hosts have their own VST 2 plug-ins folder. So if you are using Windows and your host does not recognize FabFilter Volcano 2, you need to locate the proper plug-ins folder for your host first (it is usually shown in the Preferences or similar dialog). Then, copy the file *FabFilter Volcano 2.dll* from `C:\Program Files\FabFilter\Volcano 2` (or `C:\Program Files (x86)\FabFilter\Volcano 2` if you are using a 32-bit host on 64-bit Windows) to the plug-ins folder that you have found and restart the host so it can reload all its plug-ins. If you are using the RTAS version of Volcano 2, copy the *FabFilter Volcano 2.dpm* and *FabFilter Volcano 2.dpm.rsr* files to the Pro Tools plug-in directory on your computer.

If you still have problems, contact [FabFilter Support](#) .

Next: [VST plug-in versions](#)

See Also

[Quick start](#)

[Support](#)

VST plug-in versions

FabFilter Volcano 2 is available in both VST 2 and the new VST 3 formats. They can be installed and used both at the same time. The VST 3 format can only be used by hosts that support it, for example Steinberg's Cubase 5. It has the advantage of easy side-chaining, while in VST 2 it can be quite a hassle to get this to work properly. On the other hand, the VST 2 format is compatible with more different hosts and it has more thorough MIDI support (i.e. polyphonic aftertouch).

VST 2

For the VST 2 format, there are four versions of the FabFilter Volcano 2 plug-in that form all combinations of mono/stereo and with or without [external side chain input](#):

- *FabFilter Volcano 2* (stereo without side chain)
- *FabFilter Volcano 2 (SC)* (stereo with side chain)
- *FabFilter Volcano 2 (Mono)* (mono without side chain)
- *FabFilter Volcano 2 (Mono SC)* (mono with side chain).

The default VST plug-in does not have external side chain support because some hosts (e.g. Steinberg WaveLab) will not work correctly otherwise.

The external side chain feature in FabFilter Volcano 2 (SC) works well in Ableton Live 6 and in Tracktion 2 (use Tracktion's Rack feature to be able to route the side chain input).

With Steinberg Cubase, do the following to use an external side chain input:

1. Create a Group Channel track with Quadro configuration (in the More... menu).
2. Open the VST Connections window. In the Group/FX tab, locate the group bus you just created and right-click it to create child buses for the Stereo and Stereo (Ls Rs) parts.
3. In the Mixer, insert FabFilter Volcano 2 (SC) in the group channel track.
4. You can now route the input audio signal track to the Stereo child bus. The side chain track must be routed to the Stereo (Ls Rs) child bus. (The routing settings are found at the top of each channel.)
5. Use Volcano 2's [monitoring feature](#) in the bottom bar to confirm that everything is routed as you want it.

Note: In earlier versions of Cubase, the Group/FX tab is missing from the VST Connections window. In this case, you must pan the input track to the front of the quadro bus, and the side chain track to the rear of the quadro bus. If you are using Cubase 4, make sure you have upgraded to at least version 4.02 to get everything to work.

Next: [License agreement](#)

See Also

[Quick start](#)

[Manual installation](#)

FabFilter Software License Agreement

1. Disclaimer

FABFILTER, FREDERIK SLIJKERMAN AND FLORIS KLINKERT, AUTHORS OF THIS FABFILTER PRODUCT, SPECIFICALLY DISCLAIM ALL WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT SHALL FABFILTER, FREDERIK SLIJKERMAN AND FLORIS KLINKERT, BE LIABLE FOR ANY DAMAGE A FABFILTER PRODUCT MAY CAUSE, INCLUDING BUT NOT LIMITED TO SPECIAL, INCIDENTAL, CONSEQUENTIAL OR OTHER DAMAGES.

2. Terms of Use

You may use an evaluation copy of this FabFilter product for a period of up to 30 days. Once the evaluation period has ended, you must either purchase your copy, or remove it from your computer. If you have purchased your copy of this FabFilter product, you may continue to use your evaluation copy beyond the end of the 30-day evaluation period until your license key arrives.

We encourage you to distribute the evaluation copy and give copies to friends, as long as there is no payment involved.

You may not reverse engineer, reverse compile, or disassemble any of the files in the distribution.

You are not allowed to distribute or copy the full version of any FabFilter product. The license key that you receive when purchasing it is personal and confidential and may not be disclosed. The full version is a commercial program. It is a violation of international copyright laws to give copies to other people. You may give them the evaluation copy, so they can purchase the plug-in on their own.

3. VST plugin technology

VST is a trademark of Steinberg Soft- und Hardware GmbH.

Next: [Acknowledgements](#)

See Also

[Purchase FabFilter Volcano 2](#)
[Support](#)

Acknowledgements

Credits go to Gijs van Klooster for writing this help file. You can visit Gijs' web site at www.redhouse.nl .

FabFilter Volcano 2 comes with a large library of presets. Some of these were created by external sound designers:

- bManic (BM)
- Ouroboros (O)

Visit the [FabFilter sound designers page](#)  to read more about each sound designer.

Next: [About FabFilter](#)

See Also

[Purchase FabFilter Volcano 2](#)
[Support](#)

About FabFilter

FabFilter Software Instruments was founded in 2002 by Frederik Slijkerman MSc and Floris Klinkert MSc, and is based in the center of Amsterdam in the Netherlands.

In their roles as professional musicians and studio engineers, Floris Klinkert and Frederik Slijkerman have always loved the sound of old analog gear but also kept up with new software synthesis developments. However, none of the available software instruments met their high quality standards.

Many plug-in developers try to emulate old analog gear, or stuff their plug-ins with as many features and (often mediocre) effects as possible, diverting you from the real issue: the sound.

Both also being professional software engineers, Frederik Slijkerman and Floris Klinkert decided to do things differently and create the software instruments they dreamed of, resulting in the release of FabFilter One in early 2004, followed by FabFilter Volcano, Twin, Timeless, Simplon and Pro-C.

To accomplish their goals, a lot of effort has been put into developing highly advanced filter techniques, superb digital oscillators, smart parameter interpolation methods and innovative user interface solutions. The highly optimized FabFilter plug-in design results in very little CPU requirements.

FabFilter strongly believes that musicians don't just need more knobs, faders or options on plug-ins: they need better sound quality and usability. That is why FabFilter creates easy-to-use yet powerful plug-ins, with innovative interfaces and superb sound quality, for a reasonable price.

FabFilter will expand their range of plug-ins in the future, supporting both Mac OS X and Windows, providing the best possible sound quality and filter designs. We hope that you will enjoy our products. Please feel free to contact us if you have any suggestions!

The FabFilter team

See Also

[Support](#)

[FabFilter web site](#) 