

Filter Force Creative Dual Filter Bank

Manual for version 1.0.0

TheWaveWarden



www.thewavewarden.com



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Chapter 0

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Chapter 1

Introduction

1.1 Installation

You can download the installers for Filter Force from <https://www.thewavewarden.com/filterforce>. Make sure to download the correct installer for your platform.

Windows:

The install wizard will guide you through the process on Windows systems.

MacOS:

The install wizard gives you the option to install either the VST3 or AudioUnit plugins. Installing the AudioUnit version is only recommended for users of Apples Digital Audio Workstation "Logic".

Please note that **Filter Force is not available as a VST2 plugin** due to ended licensing on behalf of Steinberg Media Technologies.

Adding Filter Force to a Track

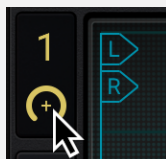
Filter Force can be added to your track like any other VST3 or AudioUnit. For details on how to add the plugin in your Digital Audio Workstation, refer to its manual.

1.2 Quickstart Guide

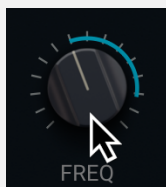
In the upper part of the plugin, you will find two identical filter modules:



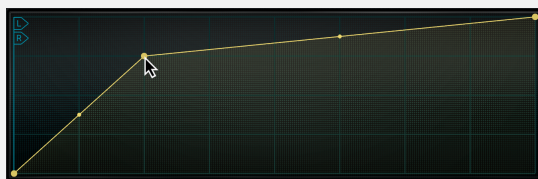
You can select from a variety of filter characteristics and adjust the filter controls to your liking. To add modulation, click the modulation trigger to the left of the user interface:



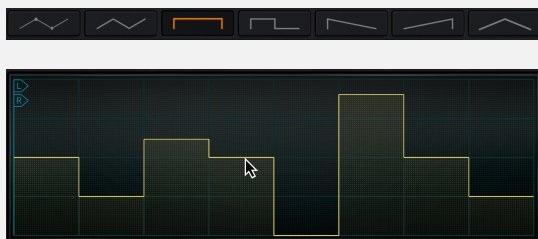
Drag any knob you would like to modulate:



The parameter you have just selected is now being modulated. The modulation curve below starts moving. Add a point to the modulation curve by double clicking inside the editor:



You can drag the points around freely, or draw in brush mode by selecting one of the brushes above:



1.3 Panel Overview

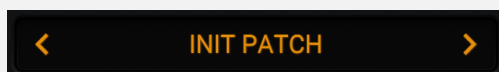


- **A:** Preset loading and saving. See Chapter 1.4.
- **B:** The main filters. See Chapter 3.
- **C:** Global mix and routing. See Chapter 2.
- **D:** Modulation curve editor. See Chapter 4.1.
- **E:** Modulation selectors. See Chapter 4.
- **F:** Modulation curve brush selectors. See Chapter 4.1.2.
- **G:** Modulation curve parameters. See Chapter 4.3.
- **H:** Global Settings. See Chapter 1.5.

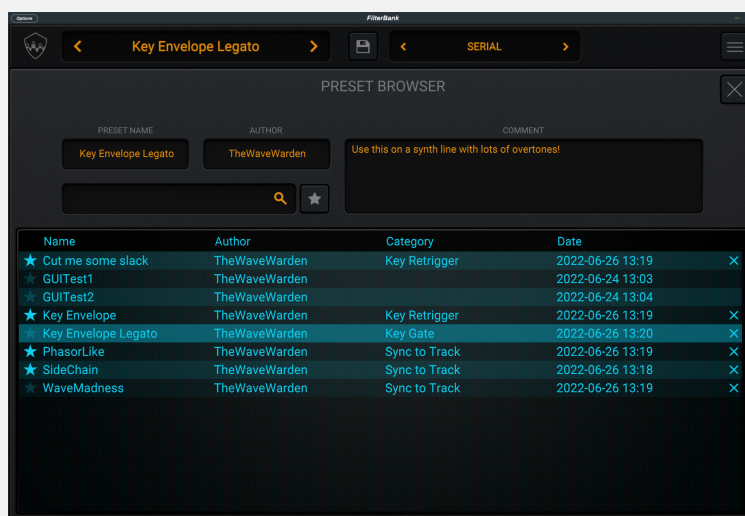
1.4 Saving and Loading Presets

1.4.1 Loading Presets

To select presets, use the preset selector on top of the user interface:



You can either audition presets by clicking the left and right pointing arrows, or enter the preset section by clicking on the text itself:



Here you will find a detailed overview of all available presets, along with the ability to filter and favourite them.

1.4.2 Saving Presets

To save the current state to a preset, select the save icon on top of the user interface:



You'll be prompted to input some information and can then save the preset.

1.5 Global Settings

Press the burger button in the top right corner to access the global settings:



Here you can access some global settings:

1.5.1 Zoom

You can set the zoom of the plugin in increments from 100% to 300%. Note that using display scaling in your operating system might make the user interface look blurry. The user interface provides pixel perfect assets for all zoom sizes at 100% OS display scaling.

1.5.2 Init Preset

This resets the plugin to its initial state. Beware: All changes you made to the preset will be lost.

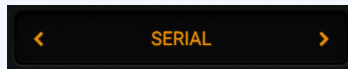
1.5.3 Manual

This will take you to the manual which was installed along the plugin. But since you're already here...

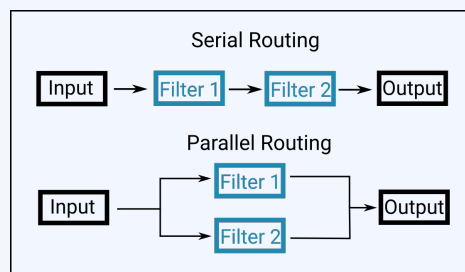
2.1 Routing

The two main filters can be routed either in serial or parallel mode.

Routing



The two filter modules are either processed one after the other, or separately:



2.2 Mix



Mix

Modulatable: **×**

Mixes the output of the entire plugin between input and filtered signal.
Note that this is the only parameter controlled by a knob in the plugin which is not modulatable from the modulation curves.

Enabled

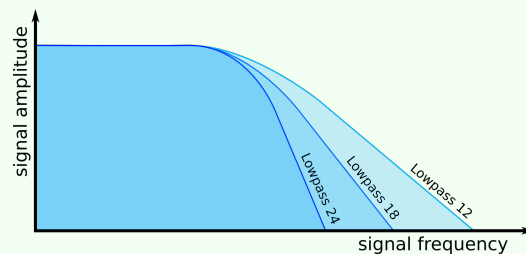


The global enablement button underneath the mix bypasses the entire plugin.

Chapter 3

Filters

The filters are the heart of the Filter Force plugin. Filters are used to modify the content of a signal depending on its frequency. Different filter characteristics can provide a wide range of sound altering qualities. A low-pass filter for example will let low frequencies pass, while attenuating high frequencies. The amount of attenuation is determined by the type of filter used, as well as the most important control: The **Filter Frequency**. Most filter models also feature a **Resonance** parameter. This parameter can be used to boost the frequencies around the filter frequency. When modulating a resonant filter, a psychedelic "acid" effect can be achieved.



Typical filter response curves for different types of lowpass filter without any resonance.

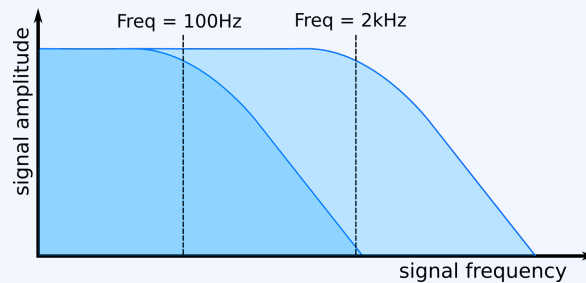
3.1 Filter Parameters



Frequency

Modulatable: ✓

Changes the cutoff point of the filter. This has a different meaning for different filter types. For the standard-filter types, it usually denotes the frequency, at which the signal is attenuated by 3dB.

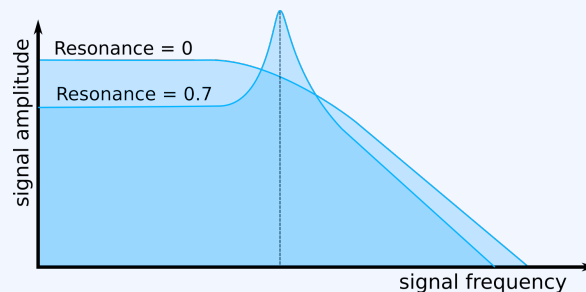


Resonance

Modulatable: ✓

Resonance regulates a feedback loop inside the filter. This usually means that the signal will be boosted around the filter frequency. Other frequencies will be attenuated slightly: In a lowpass filter for example, you will lose some low-end frequencies.

Attention: High resonance values can create harsh tones, as frequencies are boosted by a very high amount. When setting the resonance to its maximum value of 1, most filter types will self-oscillate. This means they will continue to ring loudly at the cutoff frequency even after the input signal is being shut. Please take care of your ears when experimenting with the resonance parameter.





Drive

Modulatable: ✓

Distorts the signal by routing it through a saturation stage.

Filter Enabled



Enables or disables this filter module. Note that even with the filter module disabled, the amplifier 3.3 module will still affect the signal.

3.2 Filter Types

Filter Force plugin comes with a lot of filter characteristics, which can be combined to produce a vast variety of sounds. Most of the filter types work well with signals that are rich in harmonic content, since most filters will subtract from the spectrum.

Filter Type



Selects the currently active filter characteristic for this module.

3.2.1 Low Pass

The classic. A low pass filter cuts high frequencies and only lets lower frequencies pass. This filter characteristic is available from 6 dB / octave rolloff (weakest), to 24 dB / octave (strongest).

3.2.2 High Pass

A high pass filter cuts low frequencies and only lets higher frequencies pass. This filter characteristic is available from 6 dB / octave rolloff (weakest), to 24 dB / octave (strongest).

3.2.3 Band Pass

A band pass filter is like a combination of low pass and high pass. It will allow only frequencies around the cutoff point to pass, while filtering everything above and below. Besides the standard 6 dB / oct and 12 dB / oct modes, this filter also has asymmetrical 6 / 12 and 12 / 6 modes. In these modes, the rolloff for low frequencies will be different to the rolloff for high frequencies.

3.2.4 Notch

A notch filter lets all frequencies pass, except for a small band around the cutoff frequency. The cutoff frequency itself is completely removed. You can play around with the resonance parameter to change the rolloff characteristic. This filter comes in two separate flavours Notch A and Notch B.

3.2.5 All Pass

All pass filters are interesting filters, because they let all frequencies pass... Well what do they do then? Like all filters they modulate the **phase** of the signal. Humans ears can't detect the phase of a signal, so adding this filter won't change the sound as it seems. However, interesting things will start to happen, once you modulate the frequency of this filter and mix it with the dry signal. This will effectively create a phaser.

3.2.6 Formant

The most unique of the bunch. This filter tries to emulate the vocal expression created by the human voice by exciting so called formants in the signal.



Formant

Modulatable: ✓

Changes the vowel of the formant filter. You can set the parameter continuously over the vowels A-I-O-E-U.

3.2.7 Comb

A comb filter is essentially a tuned delay module. It will delay the signal by the time $1/Freq$ and mix it together with the input signal. The result is a comb shape in a linear frequency spectrum plot, where the filter takes its name from. The resonance parameter for this filter controls the feedback of the delay. You can use resonance to create metallic sounds. This filter comes in the variants plus (add signal to input) and minus (subtract signal from input). Note that the minus variant tends to eliminate low frequencies.

3.3 Amplifier Parameters

Each module comes with a dedicated amplifier stage after the filter. Note that the amplifier controls can be used even if the filter module is disabled.



Gain

Modulatable: ✓

Increases or decreases the volume of the signal.



Pan

Modulatable: ✓

Shifts the signal between left and right stereo channels.

Note that unlike all other parameters, Pan can not be modulated for the left and right channels separately.

Chapter 4

Modulation Curves

FilterForce is all about modulation. By using the modulation section in the bottom half of the plugin, you can create anything from slight movement to a complete chop-up of your signal.



To start the modulation of a parameter, use the modulation initiator, then drag any knob you would like to modulate:



Filter Force offers four completely individual modulation curves for you to use. All the settings described in this section are handled separately for each of the modulation curves. To select which curve you're editing, select one of the modulation selectors to the left and click on its number.

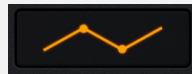


4.1 Curve Editor

The curve editor can be used to draw whatever modulation curve you can imagine. You can either edit the individual curve points and curvatures in **Point Edit Mode** or draw quick modulations in **Brush Mode**. To start off, we'll take a look at editing points directly. For brush editing, see section 4.1.2 below.

4.1.1 Point Edit Mode

To edit points directly, make sure your brush selection button is set to points:



Moving Points

To move a point, simply drag the handle control point with your mouse. Note that the left- and rightmost points are fixed vertically to always fill the entire width of the editor.

Adding Points

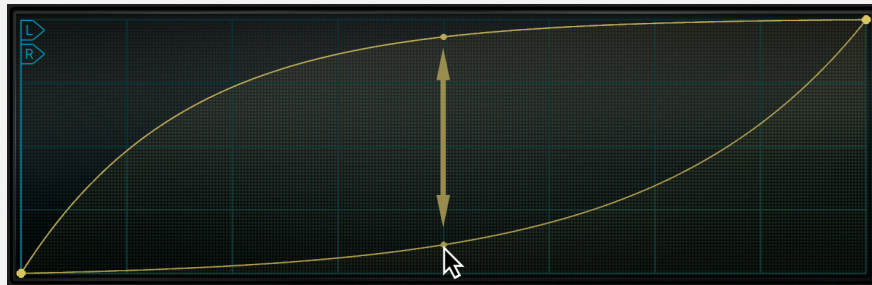
To add points to the curve, simply double-click a free spot on the editor. Alternatively, you can right click inside the editor and select "Add point" from the dropdown.

Removing Points

To remove a point, right click it.

Adjusting Curvature

The curve between two points can be skewed upwards or downwards. To do so, simply drag the smaller handle on the curve between two control points upward or downward.



To reset the curve to a linear section, right-click the curve handle.

4.1.2 Brush Modes

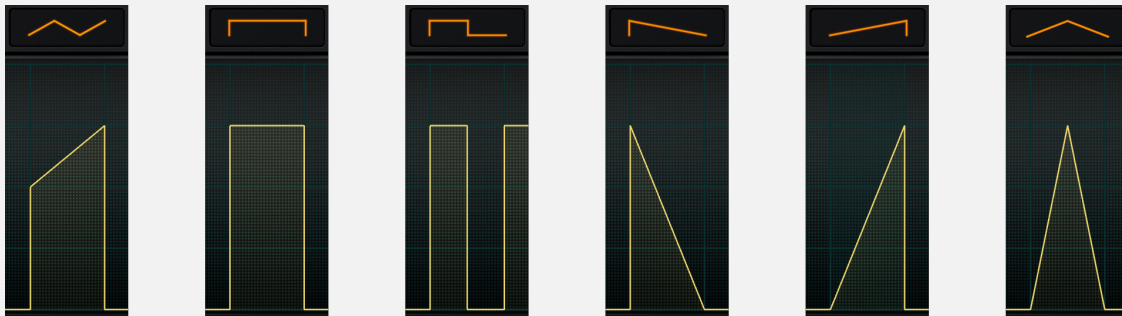
The various brush modes offer a quicker way to draw a rough shape into the curve editor. Upon drawing, the currently highlighted subdivision of the grid will be filled with the selected brush at the height the cursor is at.

Brush Mode Buttons



Selects which brush is currently used for painting over the editor. The left-most button disables brushes and selects point edit mode. 4.1.1

Here's an overview of the regular brush buttons and the effect they have when drawing:

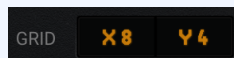


The width of the brush being drawn is equal to the current grid size in x-direction.

4.1.3 Grid

In the background of the editor, you will see a faint grid. This acts as a soft-grid, meaning you can still access values in between the grid, but elements will snap to the grid when they're close. The grid is used both in point edit mode and brush mode.

Grid Subdivisions



Sets the grid subdivision both in X- and Y- directions

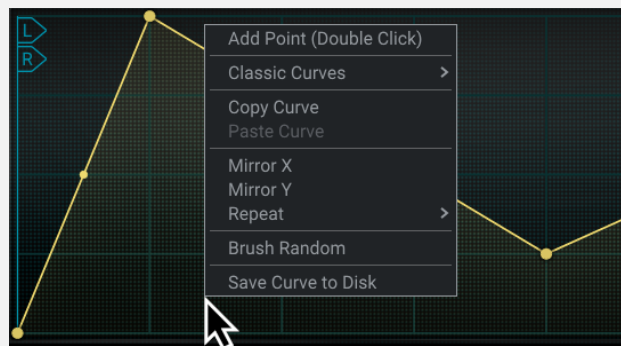
To disable the grid in either direction, set the subdivision parameter to 1.

4.1.4 Phase

To the left of the editor, you will notice two flags with the letters "L" and "R". These act as the starting point of the modulation curve when it is being restarted for the left and right channels respectively. The point at which the phases are applied to the modulation differ depending on the RunMode parameter. 4.3.4 Notice that setting the left and right indicator to a different position will offset the modulation curves for the left and right channel to a different phase, effectively creating movement in the stereo field.

4.2 Curve Editor Context Menu

By right clicking in a free area in the curve editor, you can access another menu, with handy options to quickly generate curves:



4.2.1 Classic Curves

A set of traditional modulation curves, like they're found in any synthesizer. Upon selecting one of these, the curve editor will be replaced with the selected curve.

4.2.2 Copy / Paste

Use this to copy and paste any created curve between different curve editors, or to save a curve before making an edit.

4.2.3 Mirror X / Y

Replaces the curve inside the editor with a mirrored version, either in X or Y direction.

4.2.4 Repeat

Repeats the currently drawn curve for the specified number of times and squeezes the result, so that it still fits into the editor.

4.2.5 Copy / Paste

Use this to copy and paste any created curve between different curve editors, or to save a curve before making an edit.

4.2.6 Brush Random

Creates a random curve, based on the current brush and grid settings. The created curve is the same as the ones created in random mode 4.3.1.

4.3 Curve Controls

4.3.1 Random

You can enable the Random parameter to make the curve regenerate random content based on the current settings on every cycle.

Random

RANDOM

When this parameter is activated, the curve editor will regenerate random content on every cycle completion. The content will be generated according to the selected brush and grid parameters. Notice that the regeneration of content is only triggered when the left position indicator completes a cycle. The right position indicator plays no role. Additionally, for RunModes 4.3.4, which are triggered by MIDI key events, a random curve is generated on key starts.

4.3.2 Scale



Scale

Modulatable: ✓

Scales the output of this modulation curve from 0 to 2.

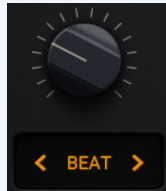
4.3.3 Rate / Beat



Rate / Beat

Modulatable: ✓

Determines the speed at which the modulation curve is played back.

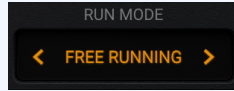


Depending on the selection in the lower selector this control will behave differently:

- **Hz:** The control sets the speed continuously in Hz.
- **Beat:** The speed syncs to the hosts tempo in regular timings.
- **Triplet:** The speed syncs to the hosts tempo in triplet timings.

4.3.4 RunMode

RunMode

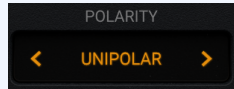


There are a variety of run modes for the modulation curve available:

- **Sync To Track:** The curve will sync to the hosts position. If the transport is not playing in the host, the curve will rest at a specific position. This mode is great for getting consistent results in your music, since the same position will always correspond to the same modulation section.
- **Free Running:** The curve will indefinitely run, regardless of the host transport.
- **KeyTrig:** The curve will indefinitely run, but a MIDI key down signal will reset the position to the phase 4.1.4 markers.
- **KeyTrig Legato:** The same as KeyTrig, but pressing a new key before releasing the last will not trigger a reset.
- **Key Gate:** The curve will start at the phase 4.1.4 markers on MIDI key down signal. If no key is held, the curve will not play.
- **Key Gate OneShot:** The same as Key Gate, but the curve will not cycle back to the beginning upon completion, effectively only playing the curve data once.

4.3.5 Polarity

Polarity

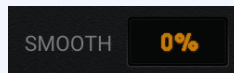


Depends whether the curve outputs in unipolar or bipolar mode.

- **Unipolar:** The curve outputs only positive values between 0 and 1.
- **Bipolar:** The curve outputs positive and negative values between -1 and 1.

4.3.6 Smooth

Smooth



Smooths the output of the modulation curve, effectively removing sharp edges and discontinuities. The type of smoothing used is linear. The amount of smoothing applied determines the slope of the linear smoothing.

4.4 Stereo Modulation

One of the exciting features about FilterForce is that it can be used to create **true stereo modulation**: Every sound processing module is stereo of course, but so is every modulation curve. This means that every one of the four modulation curves has a complete individual state for the left and right stereo channel. This could be used to offset the phase 4.1.4 of the two modulations, make one run faster than the other or have them have different output scaling factors. If you apply such a stereo modulation to any parameter in the plugin, the internal stereo curves will map to the left and right audio processing channels respectively. On top of this, every regular audio parameter in the filter modules can be modulated by the stereo source as well.

To start a stereo modulation, use the special stereo modulation handle, and apply modulation like with every other modulation:



Using this modulation source will effectively **create an offset for the right audio channel**. So let's say you modulate this onto the filter cutoff parameter with positive modulation, the right filter processing module will have a higher cutoff frequency than the left. Like stated above though, the real magic happens when you use this to modulate the modulation curve parameters.