



Manual

Filtroid for PowerCore

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SUPPORT AND CONTACT DETAILS	2
TABLE OF CONTENTS	3
INTRODUCTION	4
GENERAL INFORMATION	5
PLUG-IN VIEW	6
MASTER SECTION	8
FILTROID PARAMETERS	9
AMPLIFIER	9
MODULATION	11
LFO MODULATION	11
ENVELOPE FOLLOWER	12
MODULATION ROUTING	13
SIDE CHAINING	14
PRESET HANDLING	15

INTRODUCTION

Filtroid brings the sound of analogue filter banks to any POWERCORE system - with its carefully crafted algorithm featuring dual filters and extensive modulation capabilities. As the filters can be used in series or parallel, extreme filter effects become possible. The sidechain input even allows for modulation of the filter from another track. Tempo Sync ensures that filter movements are always synchronized to the speed of the sequencer, and a distortion unit adds an additional edge to the sound if desired. Filtroid is the definitive Filter Plug-In for POWERCORE!

Filtroid Features

- 2 Discrete Filters
- Each filter can be configured as either Low Pass, Hi Pass or Band Pass
- Resonance with Self-oscillation
- 12, 18 and 24 dB characteristics
- Independent LFO per Filter
- Envelope Follower
- Out of Phase Stereo Modulation
- External Side Chain Input

GENERAL INFORMATION

GETTING STARTED

Scroll Wheel Support

If you are using a host application that supports this feature, all parameters support scrolling on both Windows XP and Mac OS X. Simply place the mouse over a parameter value field and use the Scroll Wheel to increment/decrement the associated parameter-value.

Key Commands

In most host applications, Plug-Ins support keyboard commands for certain functions. The following key commands are available for all Plug-In parameters.

Key Commands in Mac OS

Fine Adjust = [Apple]
Ungroup Key = [Shift]
Reset To Default = [Alt]
Context Key = [Control] + [Mouse]
button or [Right Mouse Click]

Key Commands in Windows

Fine Adjust = [Alt]
Ungroup = [Shift]
Reset To Default = [Shift] + [Control]
Contextual Menu = [Right Mouse Click]

DSP USAGE

For each open instance of the Filtroid on PowerCore devices (X8, FireWire, Compact, Express, mkII, Unplugged), the following DSP usage applies:

@44.1 kHz:	@48 kHz:	@88.2 kHz:	@96 kHz:
mono 56%	mono 61%	mono 56%	mono 61%
stereo 56%	stereo 61%	stereo 56%	stereo 61%



MASTER SECTION

Input Controls

Filtroid features a single input meter with gain control via triangular increment / decrement switches, which also function as integrated clip indicators. When a peak is detected at the input stage, the gain controls will become clip indicators, flashing red when signal above 0dB is detected.

Output Controls

Filtroid also features a single output meter with gain control via triangular increment / decrement switches. These also function as integrated clip indicators at the output stage of the effect, becoming red when signal is clipping.

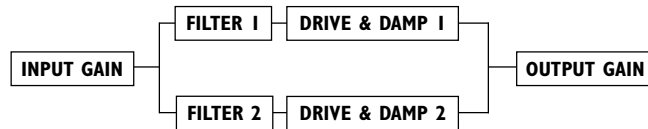
Signal

Setting the signal flow of the two filters is a global setting. By default, the signal path is series: Filter 1 feeds processed signal to Filter 2. The two filters can also be run in parallel, where they are working on the same audio at the same time. Refer to the block diagrams for a clear idea of Filtroid's signal flow.

Series



Parallel



Mix Control

The Mix parameter between the two meters controls the amount of the wet/dry mix between the input and output signal.

No Latency mode

Filtroid features No Latency Mode, allowing you latency free interaction with the Plug-In. To engage No Latency Mode, click on the POWERCORE logo on the lower left corner of the Plug-In. When engaged, the POWERCORE logo will have a red glow to indicate operation. Remember that this much flexibility comes at a price: No Latency Mode will place a significant load on your CPU.

FILTROID PARAMETERS

Filters

As the name so rightly indicates, Filtroid is all about filters. Featuring two complete filter sections with a diversity of modulation possibilities, Filtroid offers more “cool and unusual features” than anything else out there. Almost all of the parameters described in this manual are duplicated for both filters; only global parameters will be identified as such.

Dimensional Controller

By moving the controller target, you can control the Filter frequency cut-off and the filter resonance simultaneously on an easy to use Dimensional Controller surface. The vertical axis represents the filter resonance, while the horizontal axis represents the filter cut-off. Together, these filter controls can create extremely interesting sounds often associated with synthesizer filters.

In Phase

By default, the “In Phase” lamp is lit, indicating that both channels of a stereo signal are receiving the same LFO modulation per filter. When disengaged, the “In Phase” lamp will be turned off, and one of the stereo spectrum channels will receive inverted modulation, dramatically enhancing the stereo field.

Filter Types

“HP” selects the High Pass filter, allowing the high frequencies of a signal to pass, while attenuating the frequencies below the cutoff frequency. The amount of attenuation will increase as you increase the size of the cutoff slope. (A 24 dB slope on a High Pass filter will cutoff much more low frequency signal than a 12 dB slope).

“BP” selects the Band Pass filter, passing only the frequencies that fall within a selected range. The high and low frequencies are attenuated above and below the cutoff frequencies. The amount of attenuation will increase as you increase the size of the cutoff slope. (A 24 dB slope on a Band Pass filter will cutoff much more low and high frequencies of a signal than a 12 dB slope).

“LP” selects the Low Pass filter, allowing the low frequencies of a signal to pass, while attenuating the frequencies above the cutoff frequency. The amount of attenuation will increase as you increase the size of the cutoff slope. (A 24 dB slope of a LP filter will cutoff much more high frequency signal than a 12 dB slope).

Amplifier

Each filter has two amplifier parameters: Drive and Damp.

Drive

Increasing the Drive will increase the amount of distortion in the signal.

Damp

Increasing the Damp parameter will attenuate the high frequencies, resulting in a sound that is much smoother, especially when a lot of Drive has been introduced into the signal. The greater the amount of damping applied to the signal, the more the signal will soften, rounding out peaks of your driven signal.

Filtroid offers a wide range of modulation possibilities. In addition to two LFOs and an Envelope follower, Filtroid also provides modulation control from as many as two side chain channels, a setting for Envelope triggered LFO, Tempo Sync and more.

Modulation Displays

Each filter has a Modulation Display that indicates both modulation depth and speed. At first glance, the displays resemble an oscilloscope, but this is in fact a ‘Fish Eye’ display and not a true oscilloscope. The modulation display will ‘warp’ the waveforms at the edges of the display. The height of the wave shows the modulation depth, while the speed is displayed by the length of the wave cycles. The modulation display will appear flat by default until a modulation source such as an LFO or the Envelope Follower is applied.

LFO modulation

The LFOs are Low Frequency Oscillators that acts as modulators for the effect. The oscillators generate a cyclic waveform at a frequency below the audible range. Depending on the speed and the wave shape that you select for the LFOs, you can achieve effects such as wah-wah and tremolo.



High LFO Speed

large Depth settings



Low LFO Speed

lower Depth settings

Shape

This switch will change the shape of the LFO waveform. The options are Sine, Triangle, Saw, Square, and Random.

Speed

This sets the speed of the LFO, in BPM (Beats per Minute).

Sync

When Sync is enabled, the LFO will automatically detect incoming MIDI clock for speed control. When the Sync light is yellow, the Plug-In is receiving MIDI Clock and the LFO is synchronized. When the Sync button is gray and does not respond to the mouse, no sync is being received.

Division

This multiplies the modulation speed from 1/16 to 16/1 beats. With a setting of 1/1, the LFO will complete one cycle of modulation in one bar at the tempo determined by the Speed parameter. By clicking on the Division field and dragging with the mouse, only even number divisions will appear. For odd or unusual divisions, double click on the Division field and enter the beat division manually.

LFO Depth

This fader controls the modulation depth of the LFO. By default, the control is centered at zero, and will not affect the signal.

ENVELOPE FOLLOWER

The Envelope Follower tracks the volume of the input sound to produce modulation that follows the dynamics of your original signal. You can also use an external source by using the SideChainer plug-in, described later.

Attack

The Attack parameter sets Attack time for the Filter Envelope (0 to 100 ms)

Hold

The Hold parameter sets the Hold time from the maximum level for the Attack phase to the start of the Decay. (10 to 500 ms)

Decay

The Decay Parameter sets the Decay time of the Filter Envelope. (10 to 500 ms)

Envelope Depth

The Env Depth parameter adjusts the cutoff modulation depth. When this fader is centered, it will have no effect on the audio.

ENV-Trig LFO

This switch will set the LFO to be triggered by the Envelope follower. The LFO is continuously running, but when this switch is engaged, the envelope will trigger the LFO to “reset” and begin running from the start of the LFO-waveform. The LFO will continue to run until the next trigger event.

Trigger Sense

Trigger Sens sets the sensitivity for the Envelope Triggered LFO. The more this parameter is increased, the more sensitive the LFO is to the envelope of the input signal.

Modulation Routing

You can modulate four parameters for each filter with varying amounts from 0% to 100%. You can set the modulation amount for the Filter [Frequency Cut-off], RESO [Resonance], Drive and Damp.

To bypass modulation altogether, de-select the parameter switch: when you do so, it will be lights out for the parameter lamp.

EXT. SIDECHAINER

Introduction

Sidechaining in audio production refers to using the dynamic content of one track to control the processing of an effect inserted on another track. The TC SideChainer plug-in is included with the PowerCore package and is used in conjunction with a number of plug-ins, one of these being the Filtroid.



Please refer to the SideChainer plug-in manual on the CD for additional information and usage of the SideChainer plug-in.

PARAMETERS

On

For the Filtroid to respond to an instance of the SideChainer plug-in press “ON” and select the relevant SideChainer instance from the drop-down menu.

Amount

The Amount parameter determines how responsive the Filtroid should be to the dynamic content on the selected sidechain. Notice that the Send Gain parameter on the SideChain plug-in has a similar function.

USING THE SIDECAINER PLUG-IN WITH FILTROID

One of the exciting features of Filtroid is the ability to control the Envelope Follower with a signal outside of the processed signal path of the plug-in itself. Using the included SideChainer plug-in, you can modify the sound of one track using the envelope of another track for modulation of filter parameters. As an example, you could control the filter sweeps of a Filtroid on a synth pad using the drum track as a side chain so that the filter opens up with the beat and closes on the off-beat.

When Thru is deactivated, the SideChainer's audio output is muted. This is nice for situations where you don't want your control channel to be audible in the mix down.

Insert a SideChainer Plug-In on the channel you want to act as master. Insert a Filtroid Plug-In on the channel you would like to slave to the SideChainer master. The result is that Filtroid's Envelope Follower is now responding to the dynamics of the SideChainer channel.

Once you have inserted a SideChainer on the desired controller channel(s), you must activate the side chain inputs in Filtroid. The Side Chain lamp will become active in the display when a SideChainer is loaded into another channel. You can use either or both available side chains to trigger the Envelope Follower of Filtroid.



The sidechain features in PowerCore 3.0 and above are changed significantly compared to previous versions. Therefore the sidechain settings created in old sessions will have to be re-adjusted the first time you open older sessions with PowerCore version 3.0



Please refer to the SideChainer plug-in manual on the CD for additional information and usage of the SideChainer plug-in.

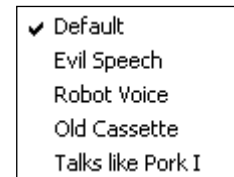
Introduction

We recommend using the dedicated PowerCore file handling system that, apart from recall; store and compare facilities, allows for easy exchange of entire preset folders with other users, between Windows/Mac platforms and also between different host applications.



File

Click "File" to open the File menu.



Load Preset: Select to load presets from the default preset location.

Save Preset: Select to save the preset in My Presets folder.

My Presets: Via "My Presets" you are able to load your own presets.



If you chose to store presets in other locations than the "My Preset" folder, these presets will not appear in the "My Preset" drop down menu. However, you can still navigate to, and load these presets via the Load Preset function.

Preset name

This is the name of the preset.

Up/down

The [UP]/[DOWN] arrows can be used to browse through all presets.

A/B

With the A/B compare function you can easily compare different parameter settings when working with the plug-in.

PRESET HANDLING

When you start working with your preset, the A/B button is grayed out. This state indicates that the settings in both memory locations A and B are identical - so there is actually nothing to compare.

As soon as you touch one of the parameters, the memory location “A” will be active. All parameter changes will be applied to memory location “A”. If you switch to memory location “B”, you go back to the starting point, and all further changes will now be applied to memory location “B”.

Every time you press the A/B button, you will toggle between these two memory locations.



The A/B memory locations are temporary settings only! Saving a preset, will save the currently selected memory location only. The setting of the other (hidden) memory location will not be saved!

Reset

Click “Reset” to clear memories A/B and return to the originally recalled preset.

DEFAULT PRESET LOCATIONS

The following locations will describe where you can find the presets, which are stored in a folder unique to each plug-in:

Mac OS X preset paths:

Factory presets:

⟨Macintosh HD⟩/Library/Application Support/TC Electronic/⟨plug-in name⟩/Presets/

User presets:

/Users/⟨user name⟩/Library/Application Support/TC Electronic/⟨plug-in name⟩/Presets/

Windows preset paths:

Factory presets:

C:\Program Files\TC Electronic\⟨plug-in name⟩\Presets

User presets:

C:\Documents and Settings\⟨your user name⟩\My Documents\TC Electronic\⟨plug-in name⟩\Presets

- To delete a preset file, simply move it to the “Trash” or “Recycle bin”.
- To create a new sub-folder that appears in the plug-in menu, simply create a new folder in the plug-in folder that resides in the PRESETS folder of the plug-ins default preset location.



A folder will not appear in the Preset File Menu unless it has at least one preset inside!