u-he

Filterscape

FX | Q6 | VA

User Guide

version 1.5

u-he • Heckmann Audio GmbH • Berlin

Table of Contents

Introduction

Congratulations on choosing Filterscape! This creative multi-talent comes in three flavours…

Filterscape FX, the filter playground: Four morphing EQ bands and two blendable multimode filters
Filterscape Q6, the dynamics specialist: Six morphing EQ bands driven by four envelope followers
Filterscape VA, the synthesizer: Complex waveforms, polyphonic morphing EQ and analogue filter models

Version 1.5 has a sleek new design, an EQ optimized for rapid modulation, and new sophisticated analogue filter models. Filterscape VA now boasts six additional oscillator wavetables.

Installation

Go to the [Filterscape page](#) at u-he.com, download the appropriate installer for your computer and unzip the compressed file. Open the *Filterscape* folder and start the installer. The demo restriction is a mild crackling sound which occurs at irregular intervals after about two minutes. This will disappear after you have entered a valid serial number: right-click on the data display in any Filterscape plug-in and select the first entry. Note that the recently renamed **Filterscape FX** will still appear in plug-in lists as **Filterscape**, i.e. without the 'FX'.

By default, Filterscape now uses the following directories:

PC

presets (local)   *C:\Users\YOU\Documents\u-he\Filterscape.data\Presets\Filterscape(Q6, VA)*
presets (user)   *C:\Users\YOU\Documents\u-he\Filterscape.data\UserPresets\Filterscape(Q6, VA)*
preferences   *C:\Users\YOU\Documents\u-he\Filterscape.data\Support* (*.txt files)

The Windows uninstaller doesn't delete registration data or user-created files (e.g. presets or preferences and the folder in which these reside). For technical reasons, folders created by older installers that did not include an uninstaller cannot be automatically removed.

Mac

presets (local)   *Macintosh HD/Library/Audio/Presets/u-he/Filterscape(Q6, VA)/*
presets (user)   *Macintosh HD/Users/YOU/Library/Audio/Presets/u-he/Filterscape(Q6, VA)/*
preferences   *Macintosh HD/Users/YOU/Library/Application Support/u-he/com.u-he.Filterscape...*
resources   *Macintosh HD/Library/Application Support/u-he/Filterscape(Q6,VA)/*

Links

To check out all other u-he products, go to the [u-he website](#)
For a lively discussion about u-he products, go to the [u-he forum](#)
For friendship and informal news, visit to our [Facebook page](#)
For video tutorials and more, go to our [YouTube channel](#)
For details about the Bitwig/u-he [CLAP](#) format, go to [Clever Audio](#)
For extra u-he product presets, check [PatchLib](#)

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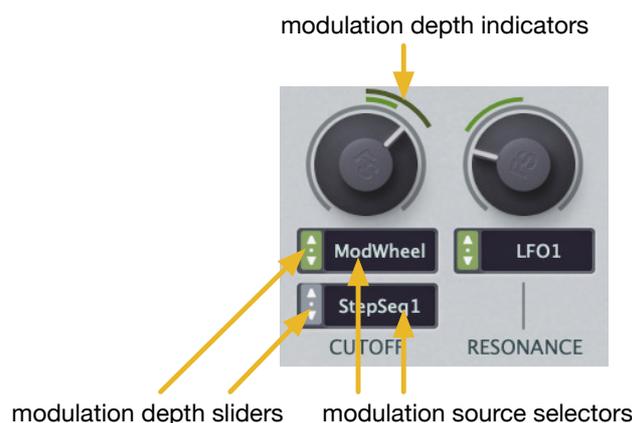
↓ click on the links at the bottom of each page to jump between chapters ↓

Common Features

This chapter cobers all features shared by **Filterscape FX**, **VA** and **Q6** except the preset browser and the configuration pages, which are described in separate chapters towards the end of this user guide.

GUI Elements

Continuous controls in Filterscape appear as knobs, sliders or 2D fields, depending on which type is best for the job at hand. Many of the controls are bipolar i.e. you can set negative values, and most have modulation source selectors with sliders to control the modulation depth:

modulation depth indicators

modulation depth sliders   modulation source selectors

Adjusting Values

The usual vertical click-and-drag, with fine resolution via SHIFT on your computer keyboard. Double-click any knob, slider or EQ handle to recall the default value.

If you own a wheel-mouse you can adjust values by hovering over the control and rolling the wheel. For fine control, hold SHIFT and watch the data display while you roll the wheel.

Parameter Locking

To ensure that certain parameters don't change when you switch presets, most of them can be **locked** (exception: EQ handles). Right-click and select *Lock* from the context menu. Locked parameters are exempt from randomization (RND – see the next page).

Remember: Locked parameters can still be adjusted manually or via MIDI CC!

Control Bar

The narrow strip along the top of the window contains the following elements:

MIDI Activity (unlabeled)

A small indicator on the left flashes whenever MIDI messages are being received. For information about how to route MIDI into effect plug-ins, please refer to the documentation of your host application.

Version Information

Specifics about the current Filterscape installation. Depending on GUI size, the revision number can be hard to read, but if you hover over the 'REV' value it will also appear in the data display for a short while.

RND

Randomizes the preset based on current settings. The little slider set the strength (low values are usually recommended). Oscillator tuning, the CLIPPER as well as locked parameters are unaffected – you might like to lock TRANSPOSE and/or FINE TUNE. Randomization cannot be undone via UNDO (see below).

Data Display

Shows the preset name or, while a parameter is being edited, its value. Click to choose any preset from the current directory. The small **< | >** arrows to the right step backwards / forwards through presets.You can load a preset from a system window via drag & drop onto the data display.

Initialize Preset

Whenever you want to create something 'from scratch' using a clean template, simply right-click on the data display and select *init*.

UNDO / REDO

Click on the curved arrows to undo (maximum 30 steps) or redo an action. As you can even undo a change of preset in Filterscape, there's little risk of suddenly losing important edits. Note that RND cannot be undone, and that the 4 functions at the bottom of the EQ's context menu will not REDO.

PRESETS

Opens and closes the preset browser which is described in a separate chapter.

SAVE

Stores the loaded preset in either the *User* folder or the currently open folder, depending on the status of the *Save Presets To* preference.

Right-click on [SAVE] to set the format you will be using: The standard *.h2p* has the advantage of being cross-platform compatible, while *.h2p extended* can also include per-line comments.

Selecting the *Tag this Patch* entry opens a window where you can specify CATEGORY, FEATURE and CHARACTER tags for the currently loaded preset. See Preset Tagging.

CLIPPER

The Clipper protects your ears and equipment against overly loud signal output, with **3 algorithm** options (Hard, Medium or Soft) and **4 threshold** options (-6, 0, +6 or +12 dB). Note that output levels of up to 6 dB above the chosen threshold are possible… and even expected. The defaults are medium, +6.

The shield indicator next to the OUTPUT knob flashes purple whenever the threshold is exceeded.

Note: The Clipper algorithm and threshold are also global preferences.

OUTPUT

The main, final volume control. The range is 0% to 200%. The shield icon indicates soft clipping.

u-he badge

Click on the badge for links to our website, to this user guide and other Filterscape documents, to our user support forum at KVR and to our main social network pages.

At the very bottom of the menu is the entry *Install Soundset...* Unless you are running Linux you probably won't need this function – see Installing Soundsets.
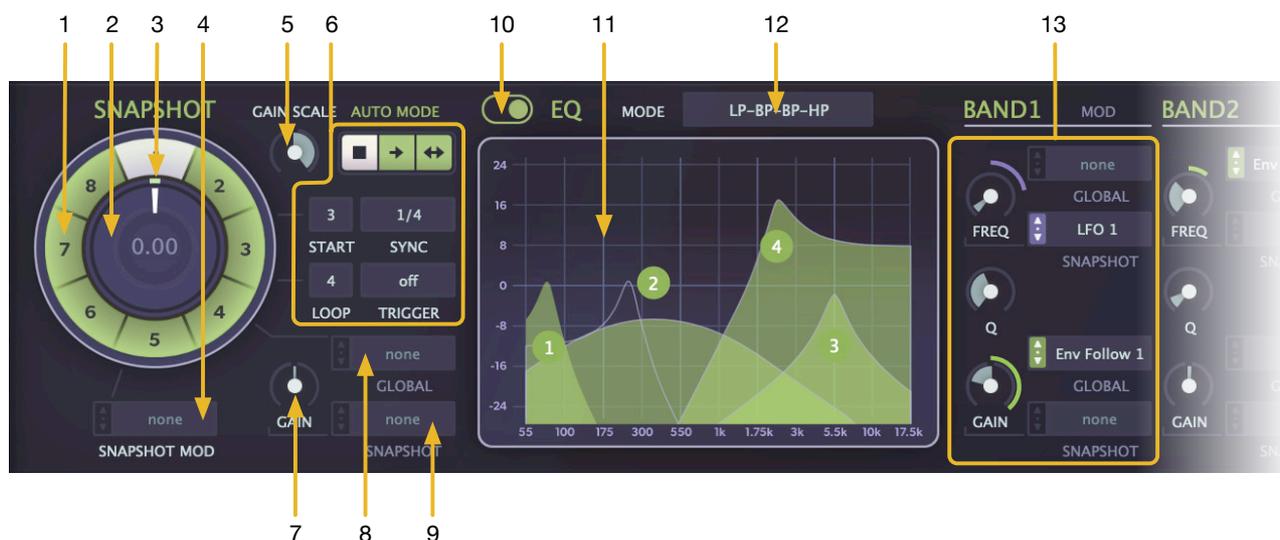
Cogwheel (configuration)

Click the cogwheel at the top-right to open the pages where you can adjust global preferences and set up remote control via MIDI CC.

For details, see the Configuration chapter.

EQ Panel

Filterscape's beating heart! 8 morphable snapshots and extensive modulation options…

1 Snapshot selectors (1 to 8)

"Snapshots" are **complete EQ settings**. To edit a snapshot, click a number in the dial, then adjust the pips in the graphic editor (11). Double-click on a snapshot selector to move the morph position.

A right-click on a snapshot selector opens a context menu offering *Copy / Paste* as well as interpolation (clockwise or counterclockwise) between the currently selected snapshot and the clicked snaphot. Note that the *Copy/Paste* here includes any modulation settings (compare with EQ editor copy/paste).

It's worth experimenting and practicing for a while until you become familiar with these functions!

2 Snapshot morph position control

The inner part of the dial is actually a knob which sweeps smoothly through all snapshots. The number in the centre is the *snapshot morph offset*, which is often the selected snapshot index minus 1.

A right-click offers *Auto-select.* If activated, adjusting the morph position will also switch the snapshots.

3 Snapshot morph position / modulation depth indicators

The white line shows the nominal morph position, and the coloured pip indicates the current position including any modulation.

4 SNAPSHOT MOD

Source selector / depth control for snapshot modulation. The modulation depth is indicated by a coloured arc, as well as numerically to the left of the selector.

5 GAIN SCALE

Multiplies the resulting EQ curve with a number between -1 … +1 (normal). Setting GAIN SCALE to zero completely flattens the EQ, while negative values invert the curve.

6 AUTO MODE

The 'auto-proceed' feature makes scanning through snapshots easier than using an LFO. The row of buttons select stop, forward-only or bidirectional motion. Below this are four AUTO MODE parameters:

START specifies the snapshot where the loop will start. Note: Playback starts at the snapshot morph position (see 3) if this is either before or within the loop, otherwise at START.

LOOP sets the range (e.g. LOOP = 3 with START = 5 will loop between snapshots 5 and 8).

SYNC sets the speed from 1/64th notes to 8 bars including triplets and dotted values.

TRIGGER sets a number of bars (measures) after which the loop will be automatically reset.

7   GAIN

Per snapshot level control, with modulation selector / depth (see 10 below).

8   GLOBAL gain modulation

Source selector and modulation depth control for overall gain. Note that, although there is no global Gain knob, the modulation depth appears as a coloured arc around the local GAIN knob. The GLOBAL gain modulation selector is therefore attached (via a faint line) to the dial, not to the GAIN knob.

9   SNAPSHOT gain modulation

Source selector and modulation depth control for per-snapshot gain.
Remember: **Each snapshot can have its own gain modulation source!**

10   EQ on/off (unlabelled)

Enables / disables the EQ.

11   EQ graphic editor

Left-click and drag to change the frequency and gain of each band in the selected snapshot. Right-click and drag vertically to change the Q (quality / steepness). Of course you can use the knobs instead: see *13 BAND Parameters* below.

A right-click anywhere in the editor opens a menu – see EQ editor context menu on the next page.

Use opt + left-click (Mac) / ctrl + left-click (Win) on any of the handles to move all frequencies and gains in parallel. Similarly, use opt + right-click (Mac) / control + right-click (Win) and drag vertically to adjust all Q-factors at the same time.

12   EQ MODE

In Filterscape FX and Filterscape VA the four bands can be configured in several different ways:

LS-Peak-Peak-HS ....serial: 1 is a low shelf, 2 and 3 are peaks/troughs, 4 is a high shelf
4 Peaks ....serial: all four bands are peaks/troughs
LP-BP-BP-HP ....parallel: 1 is a lowpass, 2 and 3 are bandpasses, 4 is a highpass
4 Bandpasses ....parallel: all four bands are bandpasses
Panned Bandpasses ....same as *4 Bandpasses* but with 1&2 panned left, 3&4 panned right…

Filterscape **VA**: As the voice signal path is mono, the *Panned Bandpasses* option is not available.

Filterscape **Q6**: There is no EQ MODE selector, the EQ is always *LS-Peak-Peak-Peak-Peak-HS*.

In the *Peak* options the EQ bands are applied *in series* 1 > 2 > 3 > 4 (> 5 > 6), and you will see a white overall response curve. In the *Bandpass* modes the filters are applied in parallel – there is no overall response curve.

13   BAND parameters

These four panels (6 in Filterscape Q6) not only offer alternatives to what's available in the EQ editor, but also let you set up modulation per band AND per snapshot:
FREQ controls the cutoff frequency of each band.
Q controls the quality (steepness) of each band.
GAIN controls the level of each band.
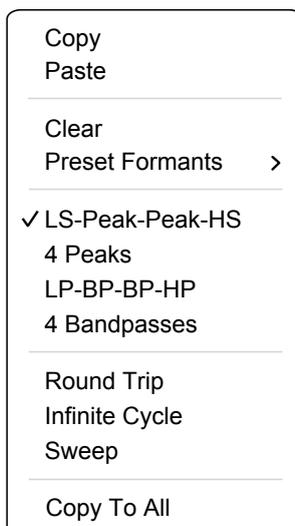The **upper GLOBAL** selector is for global modulation of FREQ.
The **upper SNAPSHOT** selector is for per snapshot modulation of FREQ.
The **lower GLOBAL** selector is for global modulation of GAIN.
The **lower SNAPSHOT** selector is for per snapshot modulation of GAIN.

EQ Editor Menu

A right-click amywhere within the EQ's editor window opens this menu:

```
        Copy
        Paste

        Clear
        Preset Formants        >

      ✓ LS-Peak-Peak-HS
        4 Peaks
        LP-BP-BP-HP
        4 Bandpasses

        Round Trip
        Infinite Cycle
        Sweep

        Copy To All
```

Copy / Paste

Copy the current snapshot (not including any modulation settings, unlike *copy/paste* in the snapshot dial), and paste elsewhere. Before pasting of course you willl need to select a new snapshot: Click on a different number in the dial, then *Paste*.

Clear

Resets the content of the editor, leaving any modulation intact.

Preset Formants

Typical vowel curves meant for either *LP-BP-BP-HP* or *4 Bandpasses* MODE. These presets are not particularly useful in either of the *Peak* modes, and are not available in Filterscape Q6.

EQ Modes

Alternative to using the MODE selector. See 12 EQ MODE on the previous page.

The following functions affect multiple snapshots:

Round Trip

Starting with the currently selected snapshot, each band is moved to the position of the next in line, so that the pattern repeats every two snapshots but in a different order: 1234, 2341, 3412, 4123 etc..

Infinite Cycle

Similar to *Round Trip* except that each band starts and ends with 0 dB gain. As the bands revert to their starting positions inaudibly, this function is ideal for endless "barber pole" motion in either *LP-BP-BP-HP* or *4 Bandpasses* mode.

Sweep

Copies the selected snapshot to all others but shifted successively from the far left (snapshot 1) to the far right (snapshot 8). Tip for AUTO MODE: Set LOOP to 7 and activate bidirectional motion (↔).

Copy To All

Copies the selected snapshot to all others. This also offers a convenient way to reset all snapshots: Simply *Clear* the current snapshot, then *Copy To All*. Note that all Modulation settings will remain intact!

Modulation Sources

For specifics about routing MIDI into **effect plug-ins** such as Filterscape FX or Filterscape Q6, please refer to the documentation of your host application / DAW.

NAME in MENU	DESCRIPTION	FX	Q6	VA
Envelope 1, 2, 3	Envelopes. ENV2 is usually used for the filter			✓
Env Follow 1, 2, 3, 4	Envelope followers	✓	✓	
LFO 1, 2 *	Low frequency oscillators	✓		✓
LFO Global *	Single LFO, with restart after 1 to 32 bars / measures			✓
Step Seq 1, 2	Step sequencer values	✓		
Arp Mod	Arpeggiator step values – see Arp Mod Editor on page 25			✓
Mod Wheel	Modulation wheel (or joystick etc.), MIDI CC#01	✓	✓	✓
Pitch Wheel	MIDI pitch bender	✓	✓	✓
Control A, B	General purpose MIDI controllers, user-definable	✓	✓	✓
Gate	Maximum while a note is being played, otherwise zero			✓
Velocity	MIDI Note-On velocity			✓
Pressure	MIDI aftertouch (channel pressure or poly pressure)			✓
Key Follow	A value derived from the MIDI note number			✓
Alternate	Alternating maximum and minimum (negative) per note			✓
Random	Random value per note			✓
Constant	Maximum			✓

* LFO 1 and LFO 2 in Filterscape FX are functionally the same as LFO Global (LFOG) in Filterscape VA

Filterscape FX

For details of the EQ, (which is common to all three Filterscape plugins) see the previous two pages.

For technical reasons, Filterscape FX will appear in plug-in menus as **Filterscape** i.e. without the 'FX'.

Key Features

Two state-variable filters
- mixable lowpass, bandpass, highpass and notch, with individual gain and panning
- comprehensive modulation options, including filter FM

Parametric morphing EQ
- 8 snapshots, individually editable
- snapshots can be automated / morphed in a variety of ways
- several EQ types including typical parametric as well as multiple bandpasses

Flexible routing
- 5 routing algorithms – different patches for different applications
- 2 mixers with pan, balance, inverse stereo
- host tempo synchronized delay with normal and cross feedback

Modulation sources
- 2 step-sequencers for rhythmic modulation / patterns
- 2 LFOs, both synchronized to host tempo
- 4 envelope followers with pre-filtering and optional attack-release mode

Filters

Filterscape FX includes a pair of state variable filters with *lowpass* (**LP**), *bandpass* (**BP**), *highpass* (**HP**) and *notch* (**NC**) outputs which can dynamically morphed using the **Blender** (the circular control to the right).

On / Off

The small button in the top lefthand corner activates / deactivates the entire filter.

Type

The selector at the top left lets you choose one of five different filter types:

Legacy 2P...................... the original 2-pole model
Linear 2P........................ a more 'clinical', CPU-friendly model
Analog 2P, 3P, 4P .... a more characterful model with 2, 3 or 4 poles, an octave higher

AUTO FM

The depth of cutoff modulation from the filter's own audio input, which can create interesting distortion.

DRIVE

Adds filter-typical distortion. Especially noticeable with higher RESONANCE settings.

CUTOFF

Sets a common frequency for all four modes (LP, BP, HP, NC). If the handle in the Blender (see below) is dead centre you will hear an equal mixture of all four modes so it can be used as an 'all pass' for phasing effects. Note that CUTOFF can be modulated by two sources at the same time.

RESONANCE

The amount of internal feedback for the entire filter.

LP | BP | HP | NC

Settings for each filter mode…

Pan Base (unlabelled selector)

The type of panning. These same options are also available in the [Mixers](#).

Bal L-R ....adjusts relative volumes of the stereo signal while preserving the stereo image.
Pan L-R...............negative values pan the right channel to the left, positive values pan the left channel to the right. None of the signal is lost, only the stereo image is affected.
Bal R-L ....same as Bal L-R, but with an inverted stereo image
Pan R-L...............same as Pan L-R, but with an inverted stereo image
Pan mono...........the stereo signal is summed to mono first, then panned
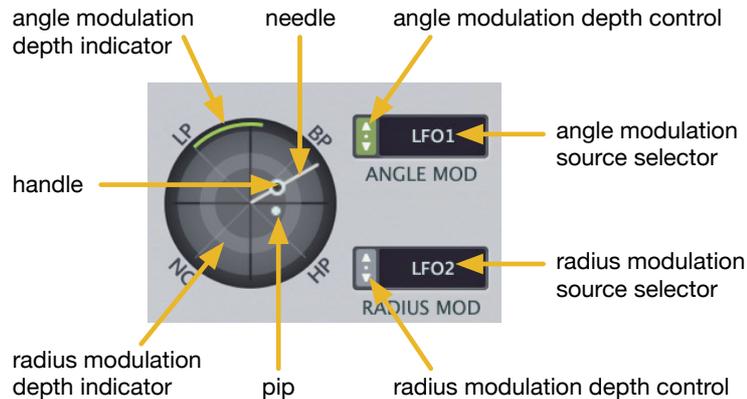
GAIN

Level control for each filter mode.

PAN

Stereo position for each filter mode, with modulation selector and amount slider.

Blender

In addition to the EQ, the filter blender can also add motion:

The **needle** position (a.k.a. angle) specifies the mixture between two of the four filter modes: In the above image it is mostly BP plus a little HP… at least it would be if the small **handle** along its length were at the rim! With the handle positioned fairly close to the centre, a significant amount of the 'opposite' filter modes (NC and LP) is blended in. Note: you don't have to grab the handle to move the needle.

The animated **pip** indicates the blend in real time.

ANGLE / ANGLE MOD

Angle modulation moves the needle position. Note: If the modulation depth (indicated by a green arc) is precisely 4.00, the range for bipolar sources is two cycles, while for unipolar sources e.g. modulation wheel or LFO with POL activated, the range is just one cycle.

RADIUS / RADIUS MOD

How close the pip is to the centre determines how much of the 'opposite' filter modes is blended in, as already mentioned above. At dead centre (move the handle close then double-click), all four filter modes contribute equally: The filter becomes an **allpass** which can be used for creating phasing effects (set the RESONANCE to minimum, modulate CUTOFF, adjust PAN positions).
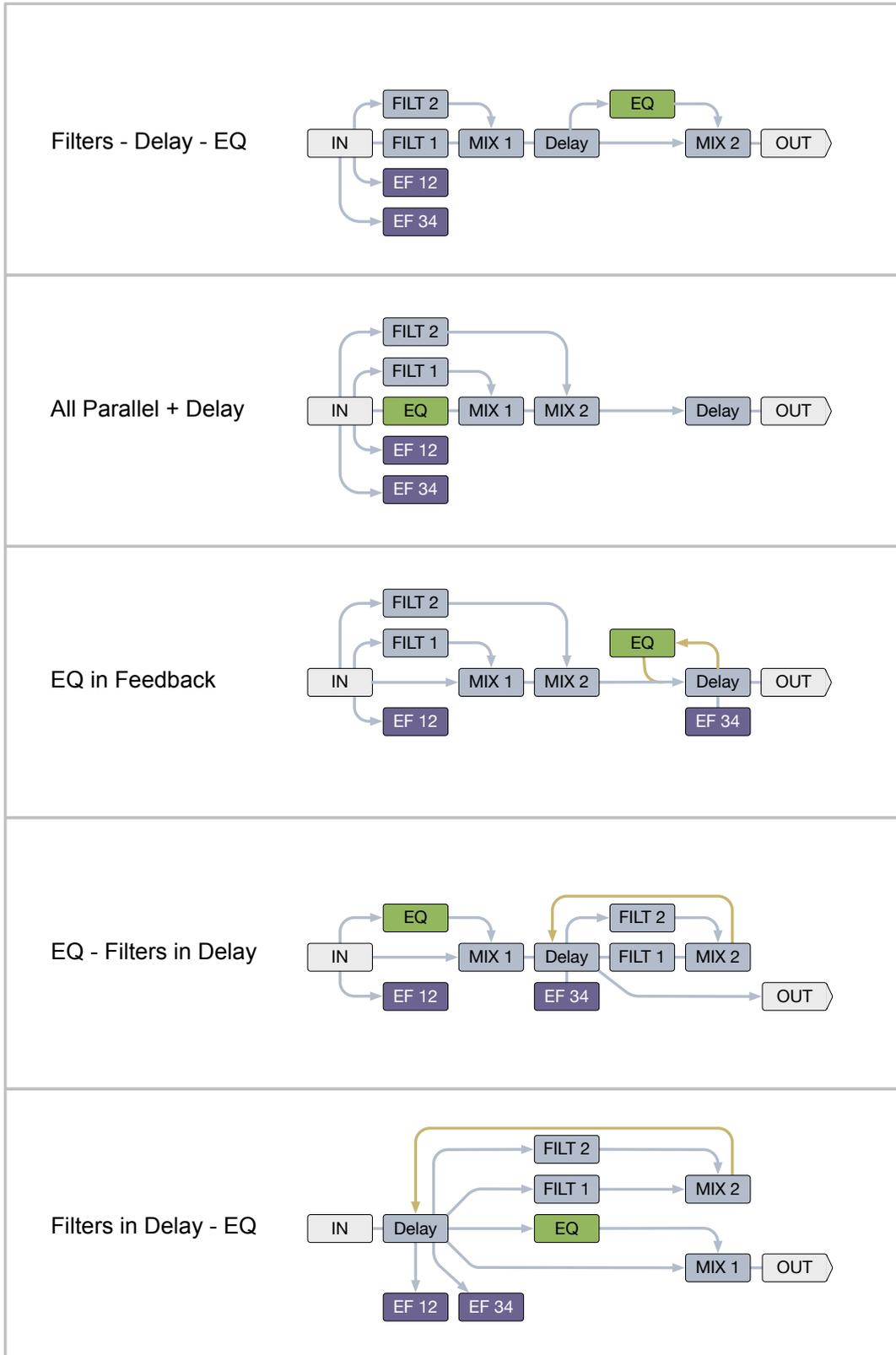
The radius modulation depth is indicated by a ring of variable thickness. For positive values (light) the ring widens towards the rim, while for negative values (dark) it widens towards the centre. Move the RADIUS modulation depth control up and down to check that.

negative radius modulation depth is indicated by a darker ring that moves towards the centre

Routing

As Filterscape FX is based on a modular plug-in engine, the filters, the EQ and the delay can be arranged in series, in parallel, or a mixture of both. Most of the routing algorithms place EQ or filters within the delay's feedback path. Feedback routes appear yellow, EF = envelope follower:

Filters - Delay - EQ

All Parallel + Delay

EQ in Feedback

EQ - Filters in Delay

Filters in Delay - EQ

Mixers

The two mixers give you extra control over the signal flow, determining the dry to wet ratio of parallel stages as well as the pan or balance position of the return signal.
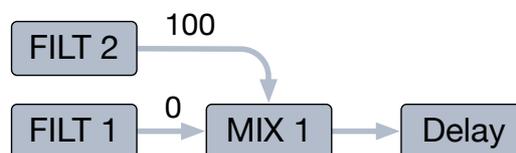

MODE

Bal L-R ....adjusts relative volumes of the left and right channels while preserving the stereo image.

Pan L-R..............negative values pan the right channel to the left, and positive values pan the left channel to the right. The relative volumes are unaltered, only their stereo positions are affected.

Bal R-L ....the same as Bal L-R, but with an inverted stereo image

Pan R-L..............the same as Pan L-R, but with an inverted stereo image

Pan mono...........pans a mono sum of the input signal

PAN

Stereo pan / balance control, with modulation selector and depth slider.

MIX knob

Crossfades between two signals. Here's an example showing part of the *Filters - Delay - EQ* signal flow (see the previous page):

When the **MIX knob** is at 0.00, the delay receives 100% of its input from the lower path (filter 1) and none from the upper path (filter 2). At 50.00, both filters contribute equally. At 100.00 the delay receives all of its input from filter 2 and none from filter 1.

Note that panning (PAN) only affects the output of filter 2.

Envelope Followers (EF)

Envelope followers analyse audio and create modulation sources that follow any changes in amplitude. Filterscape FX's four envelope followers are arranged in pairs, each with a common audio input specified by the selected Routing (see the flow diagrams above).

EF 1/2, EF 3/4

Due to limited panel space on the UI, only two of the envelope followers can appear at the same time. The square buttons at the top switch between pairs of envelope followers – click on the grey one.

EF1…EF4

The round buttons enable or disable individual envelope followers.

TYPE

Selects either the direct *signal*, or a *bandpass*, *lowpass* or *highpass* filtered signal. This filter has no direct effect on the audio, but restricts the frequency range for **analysis**: Different filtering within a pair lets you follow different frequency ranges within the same signal, e.g. bass drum and hi-hat.

A vertical level meter (**IN LV**) shows the audio input and envelope output levels in real time.

MODE

Selects either the normal envelope follower (*Follow*) or an envelope (*AR Env*) which triggers and releases whenever the input level crosses a certain threshold (THRESH).

FREQ

The cutoff frequency of the analysis filter. See TYPE above.

THRESH (threshold)

Sets the level at which the EF becomes active.

A, R (Attack and Release)

In *Follow* MODE (see above), these two parameters control how quickly the envelope responds to the amplitude of the input signal rising (A) and falling (R). The range is 1ms to 650ms.

In *AR Env* mode they control the attack and release times of a triggered envelope.
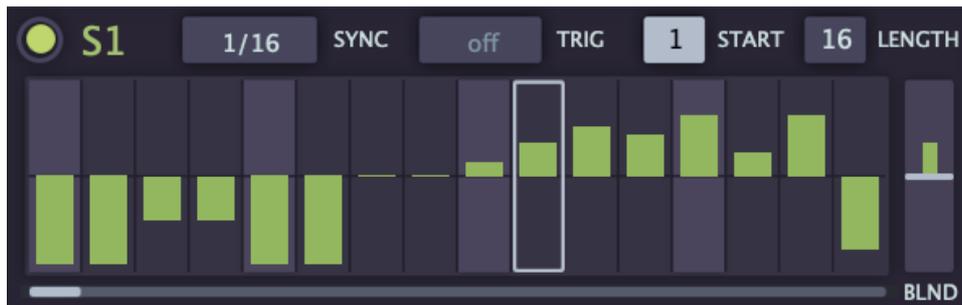
ATTN (attenuation)

Input gain. A very important parameter: the EF will not work at all if ATTN is not set carefully!

SMOOTH

Adds some inertia to the analyzer stage, making it more sluggish. Especially useful with very dynamic audio. Note that SMOOTH also affects the perceived attack and release times.

Step Sequencers

Filterscape includes 2 step sequencers for any kind of pattern-based modulation.

On / Off

The round button at the top left activates / deactivates the sequencer.

SYNC

Sets the speed. The Filterscape step sequencers are permanently synchronized to the host tempo, within a range of 1/64th note to 8 bars / measures.
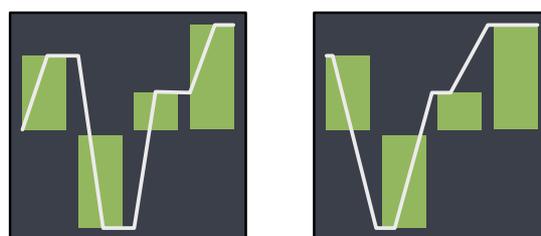
TRIG

The Trigger selector specifies an optional number of bars after which the step sequencer is retriggered. In the *off* position, the step sequencer simply loops continually.

START / LENGTH

This pair of selectors restrict the steps to be repeated: START specifies the first step, and LENGTH sets how many steps will be used in the loop. Tip: MIDI-learn these two and perform loops via CC!

BLEND

The bipolar slider on the right adjusts the **glide** between consecutive steps. At the centre, the steps jump immediately. Positive BLEND values cause the glide to start at the beginning of each step. With negative BLEND values, the glide starts beforehand so that the value is already 'there' when the next step arrives.

BLEND with positive (left) and negative (right) values

Motion is indicated by a narrow bar in the slider. If BLEND is at zero, the indicator will jump immediately to the next value. With BLEND at either extreme, the motion will be very smooth.

LFOs

For cyclic modulation, Filterscape FX has two identical LFOs (low frequency oscillators):

WAVE

The waveform selector gives you a choice of *sine*, *triangle*, *saw up*, *saw down*, *sqr hi-lo* (a square wave starting high), *sqr lo-hi* (a square wave starting low), *random hold* (steps) or *random glide* (smoothed).

POL

The POLARITY button makes the normally bipolar LFO **unipolar** i.e. it will only output positive values.

TIME

LFO speed synchronized to host tempo with a range of 1/64th to 8 bars / measures, including dotted and triplets. The absolute time options (0.1s, 1s, 10s) ensure compatibility with older versions of Filterscape.

RESTART

Number of bars after which the LFO will be restarted at the specified PHASE (see below). If set to *off*, the LFO will cycle continuously i.e. it will not be restarted.

PHASE

Shifts the phase i.e. horizontal position of the LFO backwards (negative) or forwards (positive).

Delay

A host tempo synchronized, clean delay effect.

On / Off

The button on the left activates / deactivates the delay.

LEFT / RIGHT

Delay times expressed as bar divisions for each channel. 1/64 to 1/1 including dotted and triplets.

FEEDBACK

The amount of delayed signal fed back into the **same** stereo channel.

CROSS

The amount of delayed signal fed back into the **opposite** channel.

MIX

The ratio of dry (undelayed) to wet (delayed) signal. Note: Some routing algorithms place the EQ or filters within the delay's feedback path: Experiment with filtered spectra and/or wildly evolving feedback.

As feedback can cause the delay to overload, an invisible limiter tries to keeps the overall level within a reasonable range. However, it is still possible to create 'dangerous' situations against which no existing limiter could possibly guard!

Filterscape Q6

The dynamic EQ specialist in the Filterscape family, with immediate access to all 4 envelope followers:

6-band morphing EQ, 4 frequency-dependent envelope followers

The EQ in Filterscape Q6 is a **6-band** version featuring a low shelf, four parametric bands and a high shelf. Like in Filterscape FX and Filterscape VA you have 8 snapshots which can be modulated by MIDI controllers and/or the 4 envelope followers (there are no LFOs).

For a description of the EQ please refer to the *Common Features* chapter, page 6.

For details about the envelope followers (EF), go to the *Filterscape FX* chapter, page 15.

Filterscape VA

Filterscape VA is the synthesizer member of the Filterscape family. It features the same EQ as Filterscape FX and Filterscape Q6, but polyphonic! For details, refer to the EQ section of the Common Features chapter.

Key features

- Polyphonic morphing EQ
- 2 oscillators, sub-oscillator, sync, FM, ring modulator, noise
- 3 LFOs (1 global, 2 per-voice)
- 3 envelope generators
- Filter with a choice of 15 modes
- Arpeggiator / sequencer
- Chorus and Delay effects
- Allows note expressions,

Filterscape VA signal flow is conventional: *2 oscillators + sub-oscillator + noise ⇨ filter*. Unconventional is that each voice has its own morphing EQ – one reason why 'liquid' sounds are a Filterscape VA speciality.

Oscillators

Filterscape VA has a pair of oscillators plus a sub-oscillator, ring modulation and white noise.

WAVE

The selector lets you choose a wavetable from the list. You can check out the waveforms in each table by adjusting the WARP knob. The default is Virtual Analog at 50.00, a sawtooth wave.

INV (inverse)

Cross-fades the wave with an inverted and 180° phase-shifted copy. -100 means none of the inverted wave (default value) and +100 means none of the original. INV can be used to create a variety of effects, notably PWM (pulse width modulation): Initialize the patch ('init'), set INV to the centre (0.00) for an equal mixture of the original and the copy, then modulate PHASE using an LFO.

KEY S

Adjusts the spread of pitches across the keyboard. At +100 all notes and chords are 'in tune'. At -100 the pitches are perfectly inverted, a technique used to great effect in Weather Report's "Black Market".

WARP

Smooth blend between all waves in the table. Tip: Check the shapes using an oscilloscope plug-in.

TUNE

Offsets the oscillator pitch by +/- two octaves. Each integer step is one semitone. The two main oscillators can be detuned against each other while SUB (see below) remains unaffected – see DETUNE.

PHASE

Shifts the horizontal position of the waveform by +/- 180°.

Tip for virtual analogue sounds: With both oscillator's WAVE set to *V Analog*, modulate the PHASE of one with lots of *Random*.

SYNC

Enables 'hard sync' for OSC 2: Each time OSC 1 completes a cycle, the phase of OSC 2 is forcibly reset. To create the typical biting sync sound you would normally modulate OSC 2 frequency upwards.

FM OSC 1>2

Controls the amount that OSC 1 frequency-modulates OSC 2. Tip: Experiment with relatively pure wave-forms and high oscillator frequencies first.

SUB Waveform (unlabelled)

The three radio buttons select *sine*, *pulse* or *sawtooth* for a much simpler third oscillator. Unlike the implementation in many other synths, sub-oscillator pitch here is not tied to the main oscillators. Note that the sub-oscillator 'saw' is the inverse of the *V Analog* sawtooth (which is actually a 'ramp').

OCTAVE

Sub oscillator transposition: the same as the main oscillators (*note*), or down 1 or 2 octaves.

Mixer

Where all sound generators meet:

OSC1 / OSC2 / SUB

Oscillator volumes.

RING MOD

Ring modulation is a multiplication of two audio sources, used to create more complex timbres. This knob adjusts the volume of ring modulation between the two main oscillators.

NOISE

White noise generator volume, with modulation.

LFOs

Filterscape VA has three general purpose LFOs. The first two are identical 'per voice' modulation sources, while LFOG is global (hence the 'G') like those in *Filterscape FX*.

WAVE

All 3 LFOs offer the same set of waveforms: *sine*, *triangle*, *saw up*, *saw down, sqr hi-lo* (a square starting high) *sqr lo-hi* (starting low), *rand hold* (random steps) or *rand glide* (same but smooth).

POL

When activated, the POLARITY button makes the LFO unipolar i.e. it will only output positive values.

TIME

Specifies the basic LFO speed, either absolute time (1/10 second, 1 second, 10 seconds) or synced to the host's tempo with a range of 1/64th to 8 bars / measures. The otherwise strict host synchronization can be offset by adjusting the RATE (see below).

RESTART

The per voice LFOs let you choose how their phases are reset:

LFO1/2

sync .... Never restarts, and the LFOs for all voices remain in lockstep unless modulated apart

gate .... Restarts to the value of PHASE (see below) whenever a new note is played

single .... Like *sync*, but only restarts whenever a non-legato note is played. Quirky: best avoided when the arpeggiator is on, as rhythms tend to falter at low release times.

random .... Restarts at a random phase whenever a new note is played

LFOG

RESTART here specifies a number of bars / measures (up to 32) after which LFOG will restart. With the *off* setting, the LFO will cycle continuously.

RATE

Shifts the LFO speed relative to the selected TIME. Integer steps halve or double the speed.

DELAY (LFO1 and LFO2 only)

Both LFO 1 and LFO 2 include a *Delay* parameter which adjusts the LFO's fade-in time.
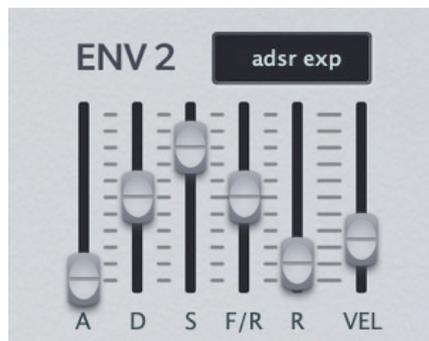
AMP MOD (LFO1 and LFO2 only)

The depth of LFO amplitude modulation from the specified source (ModWheel in the above image). If you set the source to *none,* turning AMP MOD up will simply reduce the amplitude of the LFO signal.

PHASE

Shifts the 'horizontal position' of the LFO backwards (negative) or forwards (positive).

Envelopes

Filterscape VA includes three identical envelope generators:

A, D, S, F/R, R

The *Attack*, *Decay,* *Sustain* and *Release* parameters are the same as in most classic synthesizers and need little explanation: **A** is the rise time, **D** is the fall time towards the **S** level, **R** is the fade out time.

Filterscape's envelopes have an additional **Fall/Rise** parameter: negative values cause the Sustain to fall to zero, while positive values make it rise to maximum. Between -1.00 and +1.00 is a "dead area" where the sustain remains flat. Low F/R values e.g. -1.01 are quite slow, while +/- 100.00 is almost immediate.

Envelope Mode

The selector offers **ADSR** or **HDSR** (H = Hold) in exponential or linear flavours. In the HDSR modes the *Attack* knob controls how long the envelope stays at maximum before the Decay starts.

VEL

How strongly MIDI key *Velocity* affects the level of the envelope signal.

Filter

Filterscape VA has a single multi-mode filter:

On/Off

The switch top left activates or bypasses the filter section.

TYPE

LP I 12dB, 24dB, 36dB

The original 12, 24 or 36dB lowpass options (textbook DSP and therefore prone to problems if modulated rapidly – not recommended). The 36db option is the 24dB with an extra 12dB filter after the DRIVE circuit.

LP II, BP II, HP II

Characterful 2-pole models based on the original Filterscape (FX) state variable circuit.

LP AM 2Pole ... HP AM 4Pole

Nine new analogue models with good audio-rate modulation. Note that these are an octave higher, and that KEY F (see below) pivots around MIDI note 52, the E below middle C, instead of MIDI note 0.

CUTOFF

The frequency above or below which parts of the signal are removed, depending on the TYPE. Cutoff can be modulated by two sources at the same time.

RESONANCE

How strongly the CUTOFF frequency is accentuated.

DRIVE

Crossfades between the clean signal and a distorted, 'overdriven' signal. See also GAIN below.

KEY F (key follow)

Cutoff modulation from MIDI note numbers i.e. how much the keyboard affects the cutoff frequency.

BIAS (I modes)

Adds a DC (direct current) offset, causing more distortion for positive parts of the signal.

GAIN (I modes)

The depth of the DRIVE effect (see above), adding harmonics while losing some of the bass.
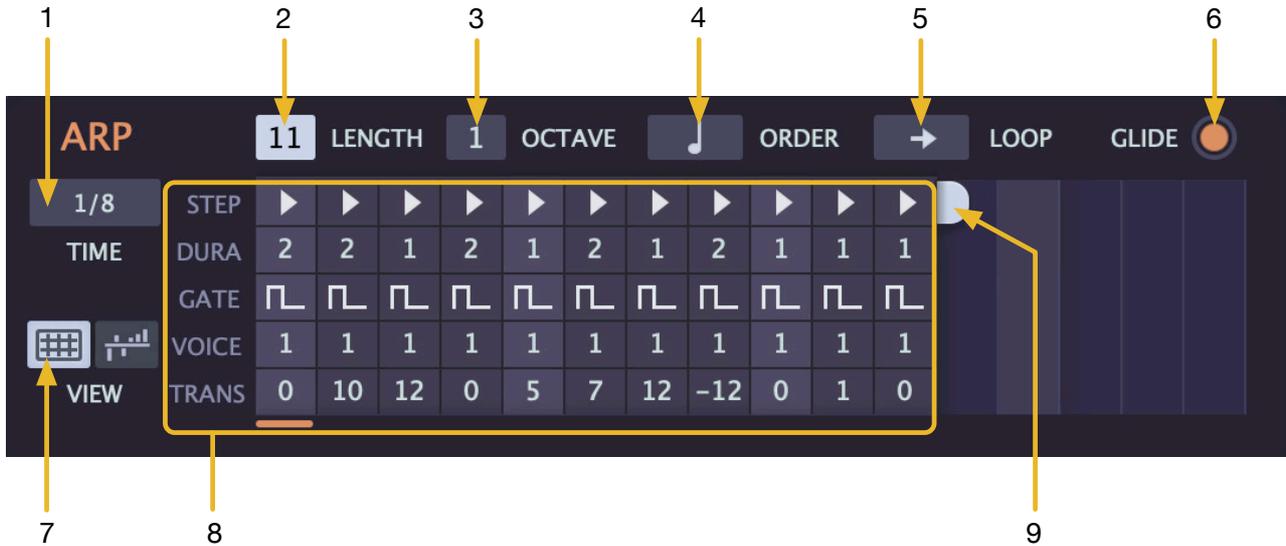
CLICK (II modes)

Injects a short impulse into the filter each time a note is played. Can get overpowering – use sparingly.

OSC1 FM (II and AM modes)

Modulates CUTOFF from the oscillator 1 signal. Note that in 'II' modes the depth of FM depends on the OSC1 volume, while in the AM modes it is independent i.e. OSC1 mix can even be zero.

Arpeggiator

This panel will only appear if you select the *arpeggiator* VOICE MODE (see page 27):

1 TIME

Specifies the default duration of steps, which can be multiplied by up to 4 times (see STEP below).

2 LENGTH

Sets the number of steps the arpeggiator will play before jumping back to the beginning. The range is 1 to 16. Alternatively, the loop length can be adjusted by dragging the handle (**9**) to the left or right.

3 OCTAVE

Sets how often the octave is shifted upwards after playing all held notes (0, 1 or 2).

4 ORDER

How played notes are arranged/sorted within the arpeggiator's **note buffer** before being played back in the direction specified by LOOP.

♩	*by note*	notes are sorted according to pitch, from lowest to highest
🎹	*as played*	the order in which notes were played is retained

5 LOOP

Playback direction **of the notes in the buffer**. This parameter does not affect the order in which the **steps** are played back, which is always strictly left to right.

→	*F -->*	forwards
←	*<--B*	backwards
↔	*FB <->*	forwards then backwards
⊱⊰	*BF >-<*	backwards then forwards

How ORDER and LOOP interact is difficult to describe: It's best to experiment i.e. be playful!

6 GLIDE

If this button is activated, only tied notes (GATE = 5) will GLIDE, while non-tied notes will not. See also Step Editor / GATE below.

7 VIEW

This switch toggles between the **Arp Step Editor** and the **Arp Mod Editor** (see below).

8 Arp Step Editor

Per-note values. See the image on the previous page.

STEP

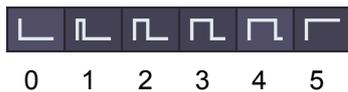|		
▶	*next*	the next note in the buffer (this is the standard setting)
❙❙	*same*	repeat the previous note
◀❙	*first*	jump to the oldest played note
❙▶	*last*	jump to the most recently played note

Tip: For typical mono sequences, set all steps to *last*, adjust all TRANS values, and set OCTAVE to 0.

DURA

The *duration factor* multiplies the length of a step by 1, 2, 3 or 4. Normally left at 1.

Tip: Changing the duration here will affect the rhythm of your arpeggio. Tip: Adjust LENGTH so that all duration factors add up to whatever suits your music best. In the example on the previous page the LENGTH is only 11 steps but the duration factors add up to 16, making it suitable for a 4/4 beat.

GATE

∟	╷∟	⊓	⊓	⊓	⌐
0	1	2	3	4	5

As arpeggiators automatically play and release notes, how long they are held must be defined per step. **0** means a very short gate, and **4** is almost as long as the value of TIME (see the previous page).

5 means that the note is tied to the next one (see also GLIDE on the previous page). The following step will not be retriggered unless it has more than one **voice**...

VOICE

Up to 6 of the played notes/voices can be triggered at each step.

TRANS

Individual steps can be **transposed** by up to +/-12 semitones, almost transforming the arpeggiator into a little sequencer.

Arp Mod Editor

Activating the righthand **VIEW** button reveals the editor for the [modulation source](#) called *Arp Mod,* which delivers a user-definable value for each step. Simply adjust the vertical sliders between -100 and 100. As usual, double-clicking a slider resets its value to zero.

9 LENGTH (unlabeled)

Alternative to (**2**) – click and drag horizontally.

AMP (and more)

The amplifier panel also contains a few VOICE parameters:

Envelope Selector (unlabelled)

Which envelope you would like to be used to modulate the volume. The default is envelope 1.

VOICE MODE

poly ....Normal polyphonic.
retrigger ....Monophonic – each new note triggers the envelopes.
legato ....Monophonic – envelopes are retriggered after spaces between notes.
arpeggiator ....Polyphonic – pitches etc. are defined in the arpeggiator panel.

VOICES

Affects the maximum number of voices generated before note-stealing occurs.

PAN

Offsets the overall pan position across the stereo field, with modulation selector and depth control.

VOLUME

Pre-effects volume control, with modulation.

Tuning

All global settings relating to pitch:

DETUNE

Slightly raises the pitch of OSC 1 and lowers the pitch of OSC 2. The sub-oscillator is unaffected.

TRANSPOSE

Shifts oscillator pitch and KEY F (see Filter section) by maximum +/- 24 semitones i.e. 2 octaves.

FINE TUNE

+/- 100 cents overall pitch offset for all oscillators as well as anything that uses the modulation source *KeyFollow* (including filter KEY F).

DRIFT

When activated, each new note is detuned slightly, emulating the less-than-perfect pitch typical of classic analogue oscillators. Switch off for maximum precision.

GLIDE

Glide a.k.a. 'portamento' means slowing down pitch change between consecutive notes, and the GLIDE knob in Filterscape VA sets that speed. GLIDE is applied to the oscillators as well as anything that uses the modulation source *KeyFollow* (including filter KEY F).

PB (Pitch Bend)

Separate MIDI pitch bend ranges for down (–) and up (+), from 0 to 24 semitones in each direction.
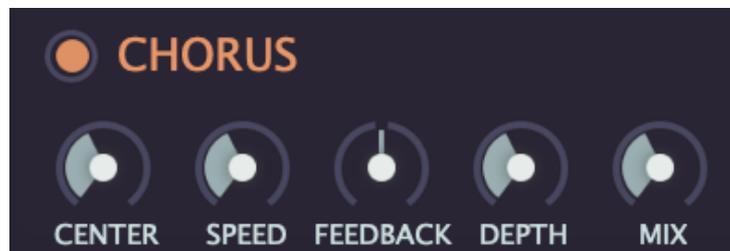
VIBRATO (LFO1)

Adds pitch modulation from LFO1 to all oscillators, with a maximum range of +/- 50 cents at 100%.

MTS-ESP

Filterscape VA now supports Oddsound MTS-ESP, a system for **microtuning** multiple plug-ins within a DAW environment. The freeware 'Mini' version is all you need to get started.

Chorus

Chorus has a long tradition as synthesizer effect: After spring reverb, it was the second effect to be built into a commercial synth. Often used to make otherwise sterile sounds richer.

On / Off

The button next to the label activates / deactivates the chorus.

CENTER

The nominal phase position which is then modulated up and down by a dedicated LFO…

SPEED

…the rate of that LFO. Note that higher values mean slower!

FEEDB

Bipolar feedback control for 'flanger' style resonance.
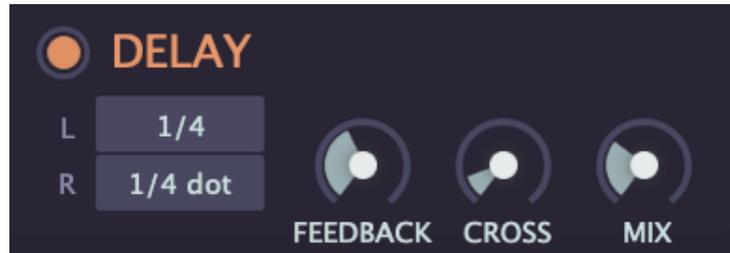
DEPTH

Amount of modulation from the chorus LFO (see CENTER above).

MIX

Relative levels of the original (dry) and processed signals.

Delay

Probably the most popular effect built into synthesizers:

On / Off

The button at the top left activates / deactivates the delay effect.

L, R

Select a delay time independently for each channel. 1/64 to 1/1 including dotted and triplet values.

FEEDBACK

The amount of delayed signal fed back into the **same** stereo channel.

CROSS

The amount of delayed signal fed back into the **opposite** channel.

MIX

Relative levels of the original (dry) and processed signals.

MIDI Specialities

Polyphonic Aftertouch

As well as the much more common Channel Aftertouch, FilterscapeVA recognizes and reacts appropriately to Polyphonic Aftertouch. Both types are combined in FilterscapeVA's *Pressure* modulation source.

Unlike channel aftertouch, polyphonic aftertouch acts on each played note individually so you can articulate each note within a chord.

Caution: Polyphonic aftertouch can cause very dense MIDI data streams, often dense enough to choke older computer systems.

CLAP

If you are running FilterscapeVA in a host that supports CLAP (e.g. Bitwig), we recommend that you use that format in preference to VSTi or AUi. The CLAP format includes many advanced features not available in the older formats, including time stamped parameter changes, Note Expressions, and Parameter Modulation. Please note that **Timbre Expression** is permanently mapped to **Control A** in FilterscapeVA.

More information is available at the following websites:

https://u-he.com/community/clap/
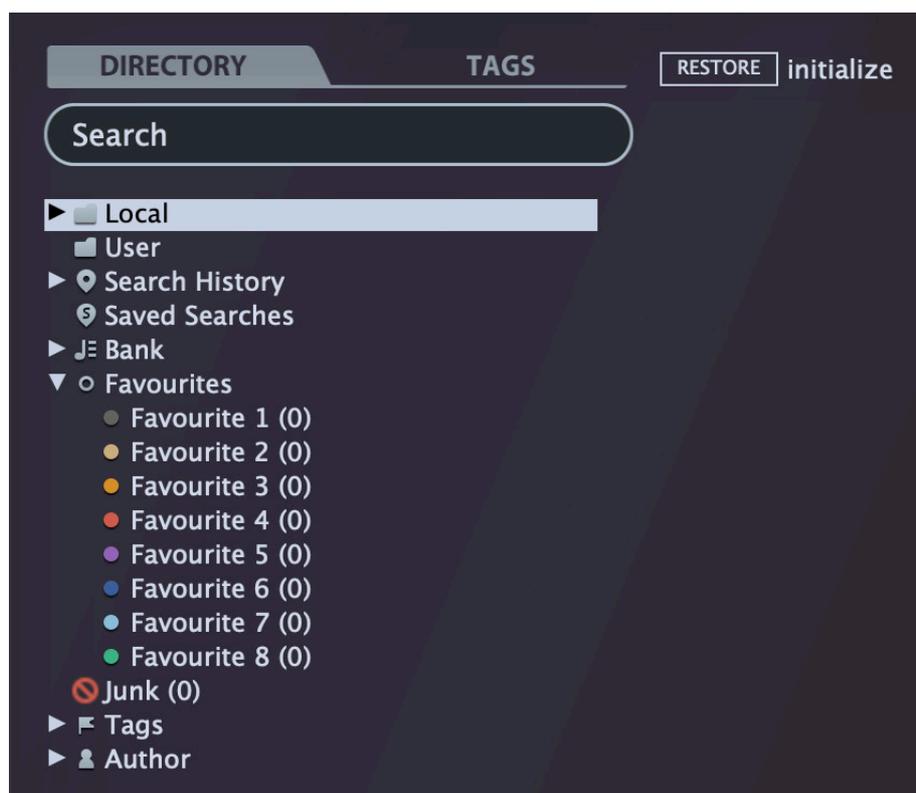https://cleveraudio.org

MTS-ESP

FilterscapeVA now supports Oddsound MTS-ESP, a system for microtuning multiple plug-ins within a DAW environment. The free 'Mini' version is all you need to get started. MTS-ESP can be overridden by activating Filterscape's own microtuning, for instance with the .tun file *Default Scale*.

Preset Browser

You can load presets by clicking on the data display, or step through them by clicking on the arrow symbols on either side. However, Filterscape also includes a powerful preset browser. Click on the PRESETS button and select the DIRECTORY tab to open this view:

Folders appear on the left, presets are listed in the centre. Open the 'Local' folder and one of the categorized folders by clicking on the triangles. Immediately after selecting a preset in the centre panel you can step through all the others using your computer's cursor keys.

That's all you really need to know!

If you eventually decide to dig deeper, Filterscape's browser offers many interesting features including a comprehensive search engine. For details, please read the rest of this chapter.

Default preset

When a new instance of any Filterscape starts it checks whether the 'Local' root directory contains a preset called 'default', which is then loaded instead of the standard one. If you want to change the default preset, make sure that the *Local* folder is selected then [Save] the one you want under the name "default". Note that 'default' will not appear in the browser.

If a fresh instance of Filterscape is not loading your new default preset, it probably landed in the 'User' folder instead of 'Local' – see the preference Save Presets To.

PRESETS

Directory

Local

Filterscape's factory presets are sorted into subfolders within 'Local'. Tip: It is best not to mess with the 'Local' folder, but to put your own creations and any other presets in the 'User' folder.

MIDI Programs

Important: Some hosts automatically route MIDI data into effect plug-ins, while others expect you to set this up yourself. For information on how to do this, please refer to the documentation of your host / DAW!

The 'Local' root contains a folder called 'MIDI Programs' which is normally empty. When the first instance of Filterscape starts, all presets (up to 128) in this folder are loaded into memory so they can be selected via MIDI 'Program Change' messages.

As the presets in the MIDI Programs folder are accessed in alphabetical order it is best to rename them, adding an index at the front. For instance "000 rest-of-name" to "127 rest-of-name".

Unlike regular presets, MIDI Programs cannot be added, removed etc. on the fly. Any changes are only updated after the host has been restarted.

'MIDI Programs' can contain up to 127 sub-folders of 128 presets each, switchable via MIDI 'Bank Select' message (CC#0) preceding the Program Change message. 'MIDI Programs' is bank 0 and sub-folders are addressed in alphabetical order starting with bank 1.

When Filterscape receives a Program Change message, it will display the bank and program numbers to the left of the preset name (e.g. "0:0" for the first preset in the first bank). In certain hosts, however, the first bank / preset is designated "1" instead of the correct "0".

To avoid another possible source of confusion, please make sure there are no junked presets in the MIDI Programs folder: All files there are addressed, even if they are hidden!

User

The best address for your own creations as well as presets from other sources. You can either select 'User' immediately before saving, or set a global preference ensuring that it will always be saved in User (or a sub-folder thereof): See the preference *Save Presets To*.

Tip: It's worth finding out where the 'User' folder resides on your computer. Right-click on 'User' and select *Open in Finder / Explorer*.

Smart Folders

The top-level folders below 'User' don't contain real files, but list the results of querying a database. The content is therefore dynamic – it will change whenever the underlying data changes.

You can drop smart folder content onto e.g. 'User' or the desktop to create folders containing real copies of those presets. See Drag & Drop a few pages down.

You can hide any or all of these smart folders – see *Hidden Folders* in the Directory context menu.

Search History

Click on this folder to display the results of past searches (maximum 10). If you want the search results to be more permanent, right-click and select *Save Search*... To remove all searches from the list, right-click on the 'Search History' folder and select *Clear*.

Saved Searches

This folder contains any search results that were saved via right-click in the Search History list. To remove individual saved searches, right-click on the entry and select *Delete*.

Banks

These smart folders reference metadata about the version of the factory or third party library with which the preset was installed. See 'Preset Info' below. Banks are already predefined for factory presets.

You can create your own banks: Drag & drop one or more presets onto the main 'Bank' folder than enter a suitable name into the dialogue box.

To remove Bank attributes from selected presets, either drag & drop them onto the '[no Bank]' folder, or right-click on the Bank and select *Remove Presets from Bank*. Empty Banks will be automatically deleted.

Favourites

8 colour-coded smart folders. Presets dropped onto a 'Favourite' folder will be marked as such. Favourites can be imported / exported - see External Drag & Drop a few pages down.

You can clear the Favourite status from all presets of one particular colour / index at once by right-clicking on the 'Favourite' folder and selecting *Remove All Favourite (n) Marks*.

Junk

Smart folder pointing to all 'junked' presets – see the presets context menu on the next page. Presets dropped here will disappear from the browser unless they are made visible via *Show Junk* in the Presets context menu. Note: this smart folder will not appear until at least one preset has been junked.

Like Favourites, Junk can be exported/imported (as *Junk.uhe-fav*) – see External Drag & Drop.
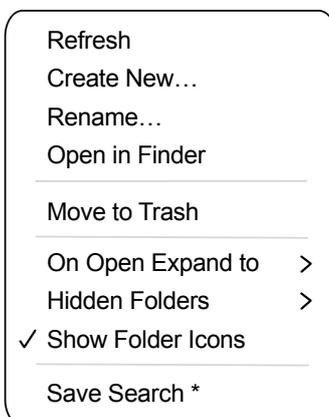
Author

Smart folders for each preset author. Tip: Instead of signing each of your creations individually you could sign just one of them, then select and drag & drop any others onto your new author smart folder. As the process cannot be undone, please use this feature with caution!

Duplicate Names

Smart folder containing presets that share the exact same name. This smart folder is hidden by default - see *Hidden Folders* in the directory context menu...

Directory Context Menu

Right-clicking on any folder within 'Local' or 'User' will open a menu:

```
Refresh
Create New…
Rename…
Open in Finder
─────────────────────
Move to Trash
─────────────────────
On Open Expand to        >
Hidden Folders           >
✓ Show Folder Icons
─────────────────────
Save Search *
```

Refresh

Update the browser contents. Although it will also work on a Mac, Refresh is mainly aimed at Windows users, especially after files or folders have been moved, added, removed or renamed using Explorer.

Create New…

Insert an empty subdirectory.

Rename…

Edit a folder's name.

Open in Finder / Explorer

Open a system window for the selected folder. Hold *option* (Mac) or *ctrl* (Windows) to switch this to Show in Finder / Explorer, which highlights the folder instead of opening it.

PRESETS

Move to Trash

This normally moves the selected folder to the system trash. However, if you right click on the *Junk* folder (see previous page), this entry will be replaced by *Remove All Junk Marks*. Similarly, if you right click on a *Bank* smart folder, the entry will be replaced by *Remove Presets from Bank* (see Smart Folders above).

On Open Expand to

These options determine how deeply the browser will open subdirectories whenever the GUI is reopened or Refresh is called.

Hidden Folders

Select the smart folders you don't want to see.

Show Folder Icons

Deselect this option if you find the folder icons distracting.
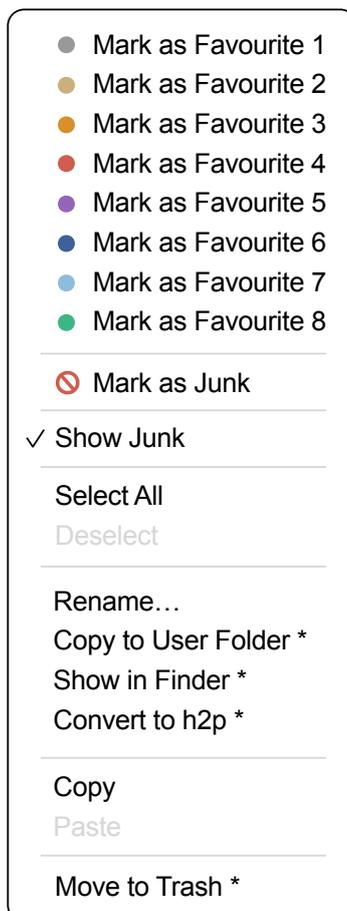
Save Search / Delete

Only appears if you right-click on an entry in the *Search History* smart folder. Saves the clicked search to the *Saved Searches* smart folder. Right-click there to delete again..

Presets Panel

The central, unlabelled area of the browser is where you click to load presets.

Presets Context Menu

A right-click opens a menu containing functions that can be applied to individual presets:

- ● Mark as Favourite 1
- ● Mark as Favourite 2
- ● Mark as Favourite 3
- ● Mark as Favourite 4
- ● Mark as Favourite 5
- ● Mark as Favourite 6
- ● Mark as Favourite 7
- ● Mark as Favourite 8

🚫 Mark as Junk

✓ Show Junk

Select All
Deselect

Rename…
Copy to User Folder *
Show in Finder *
Convert to h2p *

Copy
Paste

Move to Trash *

* these entries depend on the computer platform and certain dynamic factors - see the next page

Mark as Favourite 1-8

Tick one of 8 'favourite' colours. The selected entry will be replaced with *Unmark as Favourite*.

Mark as Junk / Show Junk

Instead of deleting unloved presets, you can mark them as 'junk' so that they disappear from the browser. Tick *Show Junk* to display junked files instead: Such presets will be marked with a STOP symbol.

Select All / Deselect

See 'Multiple selection' below.

Rename...

You can change the names of presets using this function. Note that only the most recently selected preset can be renamed i.e. you can't rename multiple files at the same time.

Duplicate / Copy to User Folder

This entry depends on the status of the preference *Save Presets To…* and whether the source presets are in the Local folder or the User folder. Selected presets are copied with an index appended to the name (like the *Auto Versioning* [preference](#)).

Show in Finder / Explorer

Opens a system window for the right-clicked file. In smart folders only, holding down an option key (Mac) or ctrl key (Windows) replaces this entry with *Show in Browser*, which shows the currently selected file in its original location within Filterscape's browser.

Convert to native / h2p / h2p extended

Converts the selected preset(s) to the format previously selected via right-click on the SAVE button.

Copy / Paste

Clipboard functions. Individual or multiple presets can be copied / pasted, even between Filterscape's browser and system windows (Finder, Explorer).

Move to Trash / Recycle Bin

This function moves all selected preset(s) to the system trash. **Caution!** This also works on files in smart folders i.e. the **originals** will land in the system trash.

Restore

At the top left of the presets panel is a RESTORE button...

While in the browser you can audition as many presets as you like without losing track of the one that was previously loaded: Clicking RESTORE will always get you back to where you started.

Multiple Selection

A block of adjacent presets can be selected via shift+click, and individual presets can be added to the selection via cmd+click (Mac) / alt+click (Windows). To deselect, either select a different preset or choose Deselect from the context menu.

Drag & Drop

Internal

You can drag and drop single or multiple files from the preset panel onto any folders in the directory panel. Files dragged onto regular folders will be moved unless you hold *option* (macOS) or *Ctrl* (Windows), in which case they will be copied instead.

Files dropped onto smart folders adopt the attribute of that folder: For instance, you can set the Author or Favourite status of several presets at once.

External

To manage your preset library externally you can drag presets and folders between Filterscape's browser and e.g. your desktop (or any system window). On the Mac, most Finder operations automatically update the browser. Updating might not be immediate when using multiple formats or multiple host applications, but all it usually takes is a click on the GUI or in the directory tree (sets focus to the clicked instance of Filterscape). On Windows systems, a manual *Refresh* (see [Directory context menu](#)) will be required before changes to the contents of the browser appear.

Another little helper: If you drag a Filterscape preset from e.g. your desktop and drop it onto the Data Display, that preset will be loaded (but not automatically saved).

Exporting smart folders

Drag any smart folder onto the desktop to create a new folder containing those presets. Drag an entry from e.g. your Search History, or a Category, Favourites or one of the Authors.

Exporting favourite / junk status

You can export Favourite status, all at once or individually: Shift+click and drag the 'Favourites' folder onto the desktop to create a file called *Favourites.uhe-fav*. Similar for sub-folders: If you shift+click and drag e.g. 'Favourites 5', this will create a file called *Favourite 5.uhe-fav*.

The same method also works for Junk status, creating a file called *Junk.uhe-fav*. Such files can be imported into Filterscape's browser on a different computer (for instance), via drag & drop onto or anywhere within the Favourites folder, or to the Junk folder.
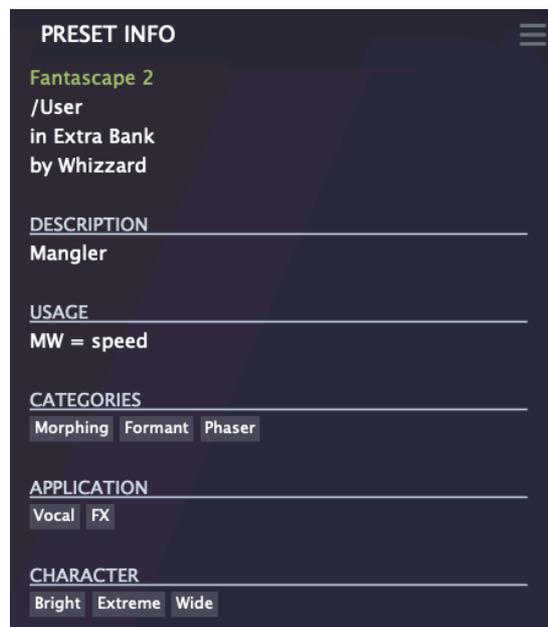
Note that importing *.uhe-fav* files from another computer will only work 100% correctly if all the preset names and locations are identical on both computers.

Note for Windows users

According to Microsoft, drag & drop will only work between applications with the same rights (i.e. both admin or both normal) for security reasons. If the host was started using the "run as admin" option, drag & drop functionality will be limited: You can still drag objects between plug-ins, or from the plugin into system windows e.g. your desktop. However, attempts to drag & drop anything into the plugin from outside the host will fail. This applies to presets, folders, favourites, *.uhe-soundset* files or indeed anything that can be dropped onto the plug-in GUI.

Preset Info

The panel to the right displays information about the selected preset:

If you can't see this panel, click on the button in the top right corner and tick *Show Preset Info*.

Below the preset name you should see its path (from /Local or /User), the Bank and the Author (which also appear as Smart Folders).

DESCRIPTION and USAGE text is entered immediately before saving a patch. CATEGORIES, APPLI-CATION / FEATURES and CHARACTER are the tags for the current preset. You can remove or add tags directly – see 'Tagging via PRESET INFO' a few pages down.

Installing Soundsets

Any extra presets we distribute ourselves will be available in *.uhe-soundset* format. Third parties are also encouraged to use this package format for their own commercial presets (for details please contact our [support](#) team).

Standard Method
To install, drag & drop the *.uhe-soundset* file into Filterscape – anywhere will work. The soundset should appear in the 'User' folder. If a soundset with the same name already exists there, any modified files will be backed up and the location of the backup file will be displayed.

Alternative Method
Soundsets in *.uhe-soundset* format can also be installed by clicking on the **u-he badge**, selecting *Install Soundset...* in the menu and navigating to the *.uhe-soundset* file. This option is especially useful for Linux, as the browser version for that platform does not support drag & drop.

Regular Folders
Folders containing Filterscape presets can be manually copied or moved into the 'User' folder. You might have to refresh the browser (see Directory context menu) before they appear there. A refresh is generally necessary in Windows but not in macOS.
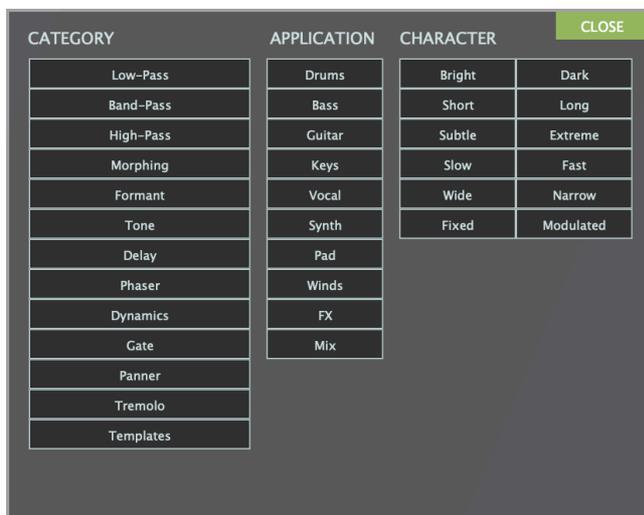
Note: As *.uhe-soundset* files are basically ZIP-compressed folders, you can rename them i.e. replace the long file extension with 'zip', then extract the presets and documentation.
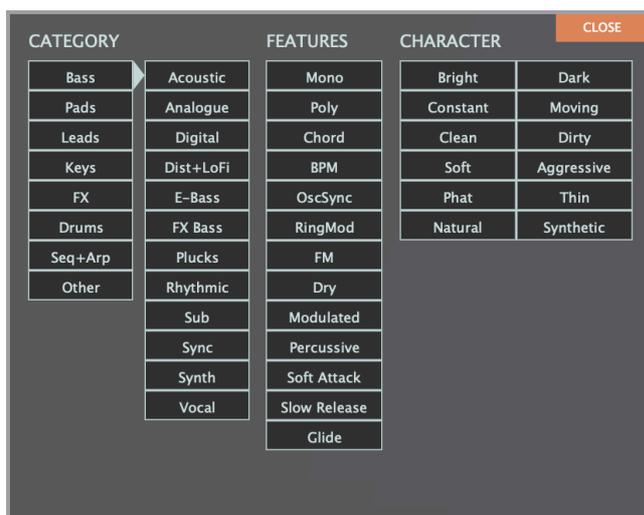
Tagging

"Tags" are elements of metadata, information you can add to presets so they can be more easily found according to certain attributes – see Search by Tags on the next page.

The Tagging Window

To tag your own work, right-click on the [Save] button and select Tag this Patch:

CATEGORY tags describe a preset according to the type of sound, APPLICATION tags describe typical usage, and CHARACTER tags are pairs of opposite attributes from which you can choose only one.

The tagging window for **Filterscape VA** shown here includes **sub-categories**: Click on a main category and choose a sub-category from the second column. It also lists FEATURES instead of APPLICATION.

IMPORTANT!

We recommend only defining tags **after saving** the preset, not while you are editing it. If you decide to change some tags in the middle of creating a new version of an existing preset, please be aware that you are also editing the tags **in the original**.

Clicking on the [SAVE] button isn't required, as Tags are always updated immediately. This means that you don't have to save the preset each time you tweak the tags.

Tagging via PRESET INFO

In the PRESET INFO panel, right-click on CATEGORIES, APPLICATION or CHARACTER and select tags from the menu. Tip: If you right-click on an existing tag, the first option becomes *Remove Tag*...

The function *Create Search from Tags* looks for other presets with the exact same set of tags.
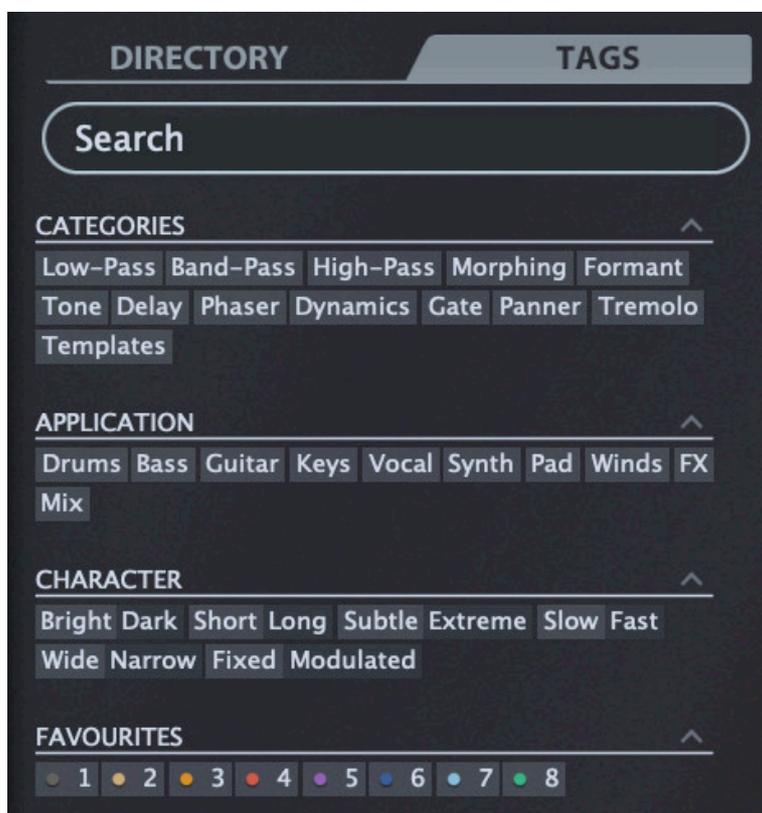
Tagging via Smart Folder

You can also tag presets by dragging & dropping them onto one of the 'Tags' smart folders. To remove all tags, drag them onto the '[no Tags]' smart folder.

Search Functions

Search By Tags

In the preset browser, click on the [TAGS] tab. The buttons let you set up search criteria according to existing tags with just a few mouse clicks. Here is the TAGS panel for Filterscape FX:

There are four sets of buttons: The first three correspond to the tags in the tagging window (see the previous page), while the bottom row lets you find any presets tagged as *Favourites*.

Clicking on the [^] icon to the right of each label hides the tags.

Practically...

Click on the [DIRECTORY] tab, then right-click on the 'Search History' folder and select *Clear*. Double-click on 'Local' to restrict the scope to that folder (any presets in the 'User' folder will not appear in the search results now). The selected path appears immediately below the Search field. If you wanted to exit the "restriction" folder again, click on the [^] symbol to the left – but don't do that right now…

Click on the [TAGS] tab and select the [Low-Pass] and [Delay] categories. All presets tagged with either category will appear in the centre panel.

Click on the DIRECTORY tab again: #Filter:Low-Pass #Delay" will appear in the Search field as well as in Search History. Adventurous souls might like to experiment with the contents of the Search field now: the results will be updated accordingly.

Note: Unlike setting multiple CATEGORIES, which expands the scope of the search, all other tag types *refine* the search so you will get fewer hits.

Search by Text

The Search field lets you find presets according to a string of text. An easy example: If you remember that the preset you're looking for has the word "space" in either its name or the description, simply enter "space" into the Search field and hit [Return].

The search routine normally looks into the preset name, the author, the DESCRIPTION and USAGE (see the PRESET INFO panel). Searches are not case-sensitive, and quotation marks are not required unless you need to include spaces between multiple words.

Search Path

To restrict the search to a particular search path, go into the DIRECTORY and double click on a folder. The path will appear below the Search field. The [^] button to the left moves the search path up one level, while the [X] button to the right resets the search path to the default (i.e. all Filterscape presets). Alternatively, you can navigate directly to any higher level by right-clicking on the search path.

Scope

You can limit the scope of the search to just the preset name or specific parts of PRESET INFO by using *name* (preset name), *author*, *desc* (description) or *use* (usage) followed by a colon. For instance, "*author:the*" finds all presets by sound designers whose author names contain "the". Similarly, "*desc:space*" will find all presets with the word "space" in the description.

Logic

The following logical operators can be used between text strings, but not between tags:

AND requires that presets contain both words. It can be written explicitly or simply left out. For example, "*star AND wars*" or "*star wars*" will find presets that contain both "star" and "wars".

OR means that presets can contain just one of the words... or both. For example, "*star OR wars*" will find presets that contain "star" as well as presets that contain "wars".

NOT excludes presets containing the specified word. To find all presets that do contain "star" but don't contain "wars", enter "*star NOT wars*".

Including Tags in Text Searches

Tags can be entered into the Search field if preceded by a '#'. For example, "*name:cold #Phaser*" will find all presets with "cold" in their names that are also tagged with the [Phaser] category.

Note: In the current version of the browser, text items must appear before (to the left of) any tags.

Configuration

The **cogwheel** icon at the top right opens the global configuration pages where you can e.g. adjust window size and brightness, or connect Filterscape parameters to hardware controls.

You can set the current configuration page as default by right-clicking anywhere except on the [X]. Clicking on the cogwheel will then take you directly to the desired page every time.
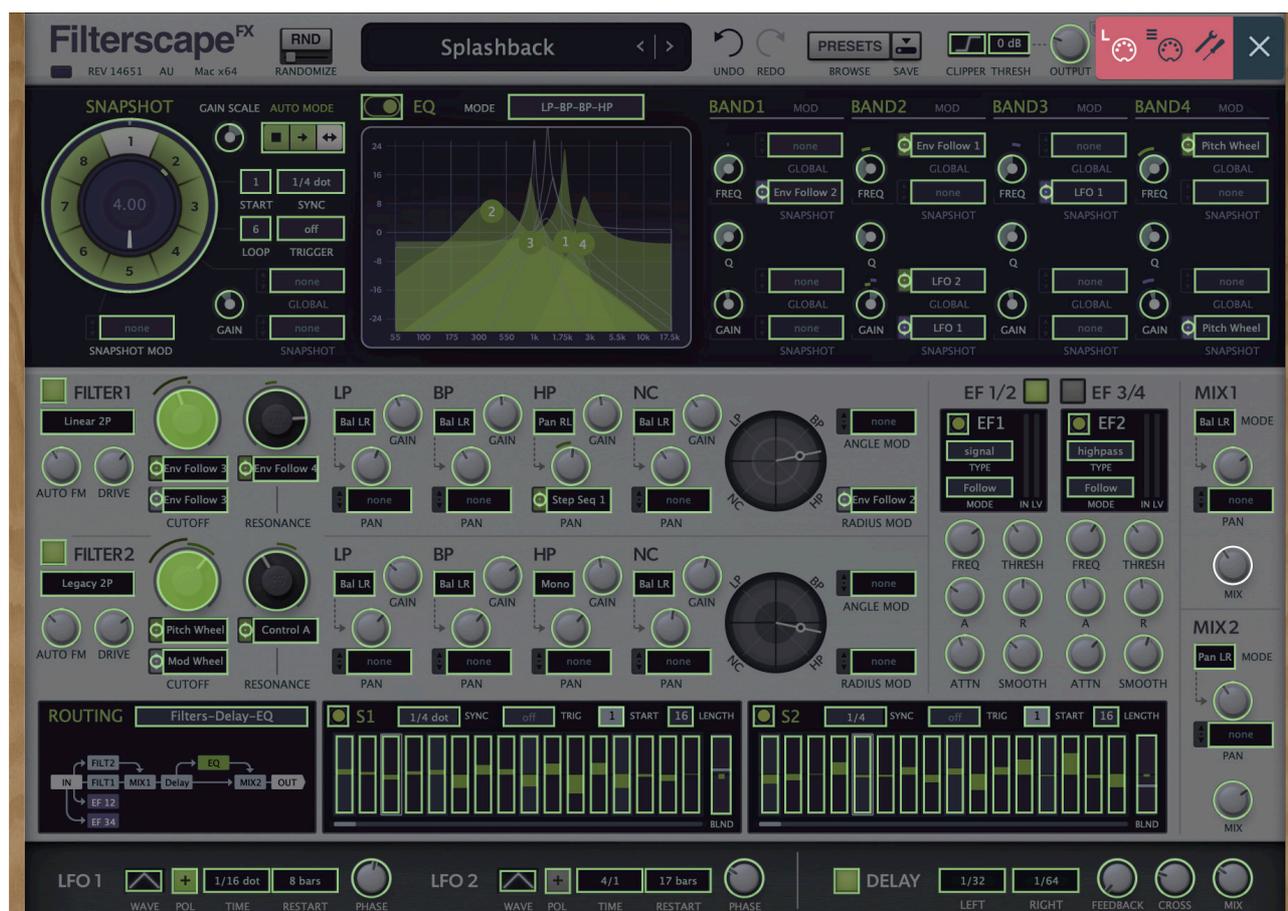
About MIDI CC

CC (control change) is a multi-purpose message format for performing as well as editing plugin parameters. The MMA (MIDI Manufacturers Association) left most of the CC numbers undefined, but two of them have specific meanings also recognized by Filterscape: CC#01 = modulation wheel and CC#64 = sustain pedal. For details about routing MIDI into effect plug-ins, please refer to the documentation of your host application.

MIDI Learn

The MIDI Learn page is where you can connect MIDI CC to most Filterscape parameters. CC data can be generated by e.g. knobs on your hardware controller, or by a track in your host sequencer. Click on the configuration button and select the 'L' MIDI icon (resembles a 5-pin DIN connector).

You are presented with a translucent overlay. MIDI-learnable elements appear as selectable outlines, while existing connections appear filled (like the two CUTOFF controls in this image). The currently active control (ready to MIDI learn) is highlighted, like MIX 1 'MIX' here. Click on a knob and send it some MIDI CC data (wiggle a knob or slider on your MIDI controller). Double-click to remove the new CC connection again.

MIDI Table

Click on the configuration button (cogwheel) and select the MIDI icon labeled with three horizontal lines. All assigned controls will appear as a list in this page.

MIDI table

Parameter	Channel	Controller	Mode	Type	
StateVariable1:cutoff	1	15	normal	Continuous7bit	✖
StateVariable2:cutoff	1	16	normal	Continuous7bit	✖
–not assigned–	1	1	normal	Continuous7bit	✖

Parameter

This field selects one of Filterscape's many parameters, sorted into sub-menus. Click on the [Add] button at the bottom and experiment. Afterwards, delete the line by clicking on the [X] to the right.

An experimental feature: Select *Last Clicked Control* from the bottom of the Parameter menu, enter a suitable CC number in the *Controller* field, then exit the configuration pages. All MIDI controllable elements in Filterscape will now respond to that controller – you just have to click it first! The *Last Clicked Control Fine* option is similar, but with a significantly reduced range.

Channel / Controller

The next two fields are for MIDI channel and CC number.

Mode

Specifies the range / resolution of values. The last 2 options are for adjusting oscillator pitch

normal ....full range, continuous
integer ....full range, whole numbers only
fine ....0.01 steps between the two integers closest to the current value
octaves............................maximum 5 discrete values (Filterscape VA only)
semitone ....+/- 6 semitones, continuous (Filterscape VA only)

Type

Specifies the type of hardware. By far the most common is Continuous 7-bit.

Encoder 127...................'relative mode' endless rotary controls which repeatedly send the CC value 1 when turned up, or 127 (interpreted as -1) when turned down
Encoder 64 ....'relative mode' endless rotary controls which repeatedly send the CC value 65 when turned up, or 63 when turned down
Continuous 7-bit ....7-bit MIDI CC (normal resolution, most common)
Continuous 14-bit.........14-bit MIDI CC (high resolution, rare)

Remove

To remove individual assignments, click on the [X] to the right of each line. To remove them all at once, click on the [Delete All] button at the bottom of the window.

Per Instance Control

The panel to the right of the MIDI Table offers local versions of the *Control A Default* and *Control B Default* settings i.e. for the current instance only. As these override the global versions, they are particularly useful while controling multiple instances.

Set as Default: You can use these settings for all new instances without having to open the Preferences page: Clicking on the [Set as Default] button copies them both to the global preferences.

Preferences

These are **global options**. Click on the cogwheel and select the 'tools' icon...

CONTROLS

Mouse Wheel Raster

If your mouse wheel is rastered (you can feel it clicking slightly as you roll the wheel), set this option to 'on' so that each little click increments the value in sensible steps.

Scroll Horizontal

Direction of scrolling within the presets panel.

APPEARANCE

Default Size

The GUI size for each new instance. You can temporarily change the GUI size without opening the Preferences page by right-click- ing anywhere in the background.

Gamma

Effectively Filterscape UI brightness. It might take a moment before the new setting appears.

Text Antialiasing

Smoothing of labels and values. Normally left on – only in certain special cases will switch- ing this off im- prove readability.

PRESETS

Auto Versioning

If switched *on*, an index is appended to the name and automatically incremented each time you save it. For instance, saving 'Space' three times in a row would create three files: 'Space', 'Space 2' and 'Space 3'.

Save Presets To

The *user folder* option ensures that presets are saved in the User folder (or in a subfolder if selected).

Scan On Startup

Whether the preset library should be scanned and the database recreated when Filterscape is first started, e.g. whenever you reopen a project.

OTHERS

Base Latency

If you are certain that your audio system – hardware plus software – uses buffers that are a multiple of 16 samples in size (please check the appropriate documentation), you can safely disable Filterscape's base latency. Otherwise leave it set to the default *16 samples* to prevent crackles.

Without reloading Filterscape, a new Base Latency setting will only take effect when the host allows e.g. on playback or after switching the sample rate.

Clipper Algorithm / Threshold

Default settings for the output CLIPPER.

<div style="background:#fbe6b3">

ABOUT THOSE BUFFERS

Internally, Filterscape processes audio in chunks of n x 16 samples. This 'block processing' method significantly reduces the CPU load and memory usage of all our plug-ins.

If the number of samples to be processed is say 41, Filterscape processes the first 32 and keeps the remaining 9 in a small buffer (16 samples is enough). Those 9 samples are then processed at the start of the next call... and so on.

The extra buffer is only necessary if the host or audio driver processes 'unusual' buffer sizes. In the many host applications that process buffers of e.g. 64, 128, 256 or 512 samples (all multiples of 16), try switching it off so that Filterscape can process latency-free.

</div>

Control A/B Default

Apart from the modulation wheel, the list of modulation sources in the previous version included two extra fixed MIDI controls, Breath (CC#02) and Xpress (CC#11). While retaining backwards compatibility we have replaced those with the user-definable Control A and Control B sources.

MIDI Control Slew

Determines the strength of parameter smoothing for the following performance controls: pitch bend, modulation wheel, Control A, Control B and Pressure. With MIDI Control Slew 'off', Filterscape is more responsive to modulation wheel data (for instance), but can sound rather steppy when performance controls are used. The default setting 'Fast' is a good compromise between responsiveness and smoothness.

Note: The 'Slow' option is adaptive: Whenever the incoming control data jumps suddenly between values that are further apart, the slew is not applied.