



User's Guide



**Contralogic Productions**



## Introduction

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Feldspar is a VSTi software synthesizer featuring a range of tempo-based modulation options.

### *Installation*

Copy the file Feldspar.dll into your VST plugins folder. Note that the demo and full versions of Feldspar have the same four character VST identifier (this is to ensure that banks of presets are compatible with both versions), so if you have already installed the demo version please remove FeldsparDEMO.dll from your plugins folder.

You may need to instruct your host software to rescan your VST plugins folder - refer to your host's documentation for instructions on how to do this.

# Panel Reference

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## OSC

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**WAVE** : Selects the basic waveform. Options are: sine, sawtooth, ramp, triangle, pulse, white noise and pink noise.

**MOD** : The **MOD** control morphs the oscillator's output in one of two ways depending on whether 'Type A' or 'Type B' is selected in the **WAVE** control.

**OCT, NOTE** : Selects the octave and semitone of the oscillator's output relative to the input note that is played.

**FINE** : Fine tunes the pitch of the oscillator by up to a semitone. In order to tune the pitch down slightly you need to select the next lowest semitone with the **OCT** and **NOTE** controls (ie. Set **OCT** to -1 and **NOTE** to 11) and adjust the **FINE** control to almost maximum.

## X

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**FM** : Controls how much the output of **OSC 1** modulates the pitch of **OSC 2**. This is 'analog style' frequency modulation which typically results in the perceived pitch of **OSC 2** rising the more this control is increased. Accordingly, you may have to compensate by tuning **OSC 2** down using its **OCT, NOTE** and **FINE** controls.

**MIX** : This control is basically a cross-fader which adjusts the volumes of the oscillators relative to one another. In the minimum position only **OSC 1** will be heard, in the maximum position only **OSC 2** will be heard.

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## RING MOD

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**TYPE** : The ring modulator effect combines the output of the two oscillators in a number of ways. The **TYPE** control selects the algorithm that is used. It can also be set to 'off' which disables the effect so it won't use any CPU. *Note that the ring modulator acts on the oscillators' direct output, irrespective of the position of the **MIX** control.*

You can see a visual representation of the various ring modulator algorithms by clicking on the Feldspar logo on the interface.

**LVL** : Rather than simply turning the effect on or off you can specify the balance between the oscillators' dry output and the ring modulator's output.

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## SUB

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**OCT, NOTE** : Selects the octave and semitone of the sub-oscillator's output relative to the input note that is played.

**FINE** : Fine tunes the pitch of the sub-oscillator.

**LVL** : Adjusts the volume of the sub-oscillator.

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## ECHO

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**MODE** : The echo effect can be switched between a straight and a ping-pong delay. The 'LR' and 'RL' setting specifies whether the left or right channel comes first in ping-pong mode. Also the **MODE** can be set to 'off' which disables the effect.

**TIME** : The delay time is linked to tempo and is measured in beats. So at 120 beats per minute a **TIME** setting of 1 will result in an delay time of 0.5 seconds.

**HP, LP** : The echo effect has a high and low pass filter in the feedback path. The **HP** and **LP** controls adjust the cutoff frequency of these filters.

**FB** : Controls the amount of feedback.

**LVL** : Controls the volume of the echo effect.

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## LFO

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**WAVE** : Selects the shape of the the low frequency oscillator's output.

You can see a visual representation of the various LFO waveforms by clicking on the Feldspar logo on the interface.

**SYNC** : When set to 'off' the LFO is free running, 'key' and 'bar' resets the LFO's cycle either when a note is played or at the start of a measure in a sequencer environment. Note that if multiple notes are played simultaneously only the first note will retrigger the LFO.

**PHASE** : Specifies in degrees the point in a cycle where the LFO begins outputting when it is retriggered in the method specified by the **SYNC** control. 90 is equivalent to a quarter of the cycle, 180 is half way through and 270 is three quarters.

**RATE** : If the **rate** selector is set to 'free' the LFO's frequency is controlled by the dial, otherwise it is linked to the current tempo and the value is equivalent to the number of beats the LFO takes to complete a single cycle. So at 120 beats per minute a **rate** setting of 1 will result in a frequency of 2 hertz.

**FM** : Controls how much the frequency of the LFO is modulated by the output of the preceding LFO. In the case of **LFO1** the **FM** dial controls how much **LFO1**'s frequency is modulated by **LFO3**'s output.

**AM** : Controls how much the level of an LFO is modulated by the output of the preceding LFO. As with the **FM** control, in the case of **LFO1** the **AM** dial controls how much **LFO1**'s amplitude is modulated by **LFO3**'s output.

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## FILTER

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**F1** : The filter section consists of two filters connected in series. The **F1** control selects the type of the first filter. Available options are: low pass; high pass; band pass and band reject. The output of **filter 1** is fed into **filter 2** which is a low pass filter.

**OFFSET** : This control specifies the cutoff frequency of **filter 1** relative to **filter 2**'s cutoff frequency. The small mark on the **OFFSET** dial indicates zero – ie. When the dial is lined up with this indicator both filters will have the same cutoff frequency.

**RESO1** : The resonance of filter 1.

**BLEED** : This control specifies how much the output of **filter 1** modulates the cutoff frequency of **filter 2**.

**CUTOFF** : Directly controls the cutoff frequency of **filter 2**, and in combination with the **OFFSET** control controls the cutoff frequency of **filter 1**.

**RESO2** : The resonance of **filter 2**.

**FOLLOW** : Also known as 'keyboard tracking', this control adjusts how much the cutoff frequency of the filters is modulated by the pitch of any notes that are played.

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## ENV

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**MODE** : Select the response type of the envelope's output.  
Options are 'Lin','Exp' and 'Db' which produce linear, shallow and steep response curves respectively.

**GATE** : When the **GATE** selector is set to 'Off' the envelope behaves in a standard way – ie. It is triggered whenever a new note is played. If 'Key' or 'Bar' are selected the envelope is retriggered according to the gating pattern (specified by the row of numbered buttons) which is synchronized to either a new note being played or the start of a sequencer measure.

**RATE** : The **RATE** control is only effective when **GATE** is set to 'Key' or 'Bar' and specifies how fast the gating pattern is played. In free mode the speed is controlled by the **RATE** dial, otherwise it is linked to the tempo and the value represents divisions of a bar.

**ATT, DEC, SUS, REL** : Standard attack, decay, sustain and release controls. Extremely short attack times are possible – so in some cases it may be required to increase the **ATT** dial to eliminate clicks at the start of a sound.

**VELO** : Controls how much the overall level of the envelope's output is modulated by the velocity of notes played.

## MODULATION



**SOURCE** : In addition to the LFOs and envelopes other possible modulation sources are: note velocity and aftertouch, mod wheel (MIDI controller 01); expression pedal (MIDI controller 11); the output from the arpeggiator; and two sample-and-hold sources ('S&H1' and 'S&H2') which produce a new random value each time either **ENV1** or **ENV2** are triggered.

***DESTINATION*** : Selects which parameter is modulated by the corresponding source.

**LVL** : The depth of modulation of the selected **DESTINATION** parameter by the specified **SOURCE**. When this dial is at the

minimum setting no modulation will take place. Inverse modulation is produced by selecting the required 'negative' modulation source – eg. by choosing 'LFO-' instead of 'LFO+' in the **SOURCE** selector.

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## ARP

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**ACTIVE** : Controls whether the mini-arpeggiator is enabled or disabled.

**SYNC** : Similar to the LFO **SYNC** control, specifies whether the arpeggiator sequence is free running ('Off') or retriggered when a note is played ('Key') or at the start of a sequencer measure ('Bar').

**STEPS** : Choose whether the arpeggiator will use either the first three notes or all four notes in the sequence.

**RATE** : Controls the playback speed of the arpeggiator sequence. When the **RATE** selector is set to 'Free' the dial controls the speed, otherwise the speed is linked to tempo with the selected value equal to divisions of a bar.

**GLIDE** : Controls the time taken for the arpeggiator's output to rise or fall to the next note in the sequence.

**PITCH** : Controls how much the pitch of the main oscillators is modulated by the arpeggiator's output. Typically this control will be left in the maximum position, but it can be set to less in order to produce interesting vibrato effects, or set to zero if you want to use the arpeggiator solely as a modulation source to control parameters other than the oscillators' pitch.

**OCT, NOTE** : Selects the pitch of the notes in the arpeggiator sequence. If these are all set to zero the arpeggiator will have no effect.

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## CONTROL

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**MONO** : When mono mode is set to 'On' only one note is played at a time in a legato style.

**BEND** : Selects the range in semitones of the pitch-bend controller.

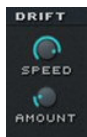
**GLIDE** : When a new note is played the **GLIDE** control specifies how long it takes for the pitch to rise or fall from the last played note.

**DETUNE** : Increases the pitch of the left channel whilst simultaneously decreasing the pitch of the right channel, producing a thicker, richer sound.

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## DRIFT

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**SPEED** : The drift effect introduces random pitch variations into the main oscillators' output, similar to the 'analog feel' effect on Roland JV and XP synthesizers. As the value of the **SPEED** dial is increased the variation in pitch is slower and smoother.

**AMOUNT** : The depth of the pitch drifting effect.

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## OUTPUT

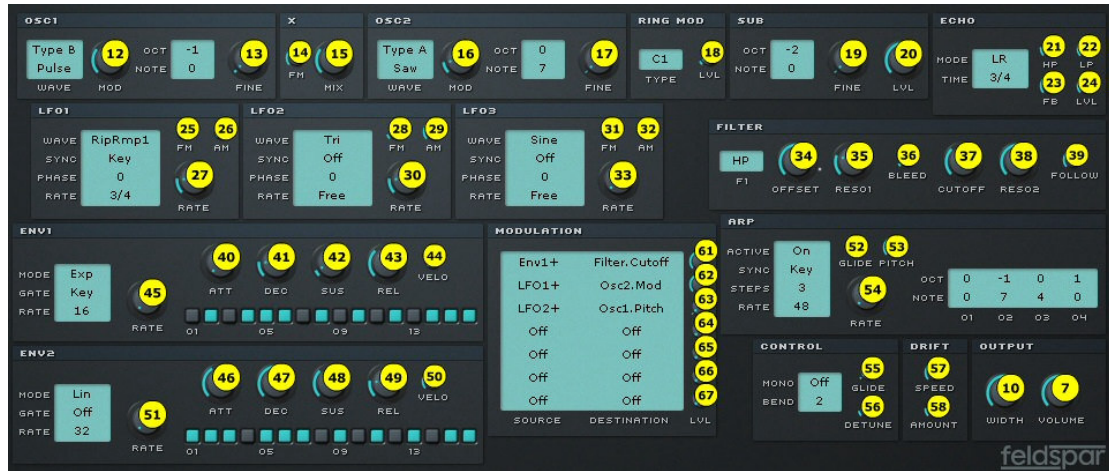
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**WIDTH** : Controls the stereo spread of the left and right channels. *Note: if the drift **AMOUNT** and **DETUNE** controls are set to zero, and the echo **MODE** is set to either 'Off' or 'STR', then the width control will have no effect.*

**VOLUME** : The master volume control.

# MIDI Implementation



MIDI controller	parameter	MIDI controller	parameter
7	Output volume	38	Filter resonance2
10	Output width	39	Filter key-follow
12	OSC1 mod	40	ENV1 attack
13	OSC1 fine	41	ENV1 decay
14	X fm	42	ENV1 sustain
15	X mix	43	ENV1 release
16	OSC2 mod	44	ENV1 velo.sens.
17	OSC2 fine	45	ENV1 gate rate
18	Ring mod level	46	ENV2 attack
19	SUB fine	47	ENV2 decay
20	SUB level	48	ENV2 sustain
21	Echo Hi-pass cutoff	49	ENV2 release
22	Echo Lo-pass cutoff	50	ENV2 velo.sens.
23	Echo feedback	51	ENV2 gate rate
24	Echo level	52	ARP glide
25	LFO1 fm	53	ARP pitch
26	LFO1 am	54	ARP rate
27	LFO1 rate	55	Glide
28	LFO2 fm	56	Stereo detune
29	LFO2 am	57	Drift speed
30	LFO2 rate	58	Drift amount
31	LFO3 fm	61	MOD level 1
32	LFO3 am	62	MOD level 2
33	LFO3 rate	63	MOD level 3
34	Filter offset	64	MOD level 4
35	Filter resonance1	65	MOD level 5
36	Filter bleed	66	MOD level 6
37	Filter cutoff	67	MOD level 7

## Disclaimer

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This VST/i features modules by Chris Kerry  
<http://www.chriskerry.f9.co.uk>

Thanks to Matt Hooper for helping out with the preset sounds  
<http://www.topazproductions.co.uk>



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