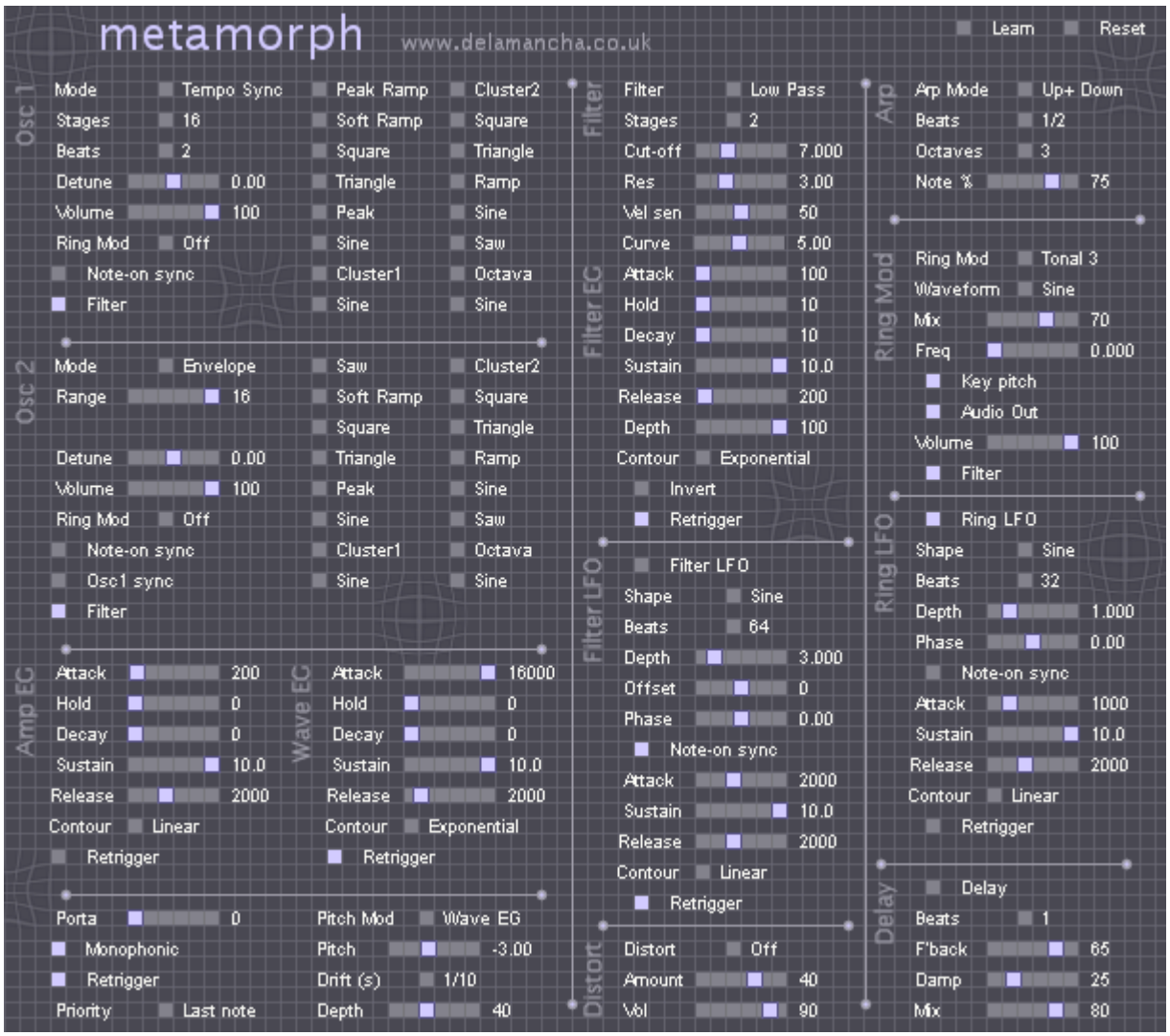

metamorph was developed by **de la Mancha** with presets by **Runagate**
It is a VST synth for Microsoft Windows.

Introduction

metamorph is a waveform morphing synth with a bunch of envelopes, LFOs and onboard effects to guarantee movement on even the most vanilla note
Each oscillator can morph through a selection of waveforms in tempo sync or modulated by an envelope. It can also step through the waveforms, make each cycle a new waveform or even just stick with one waveform if you want. Throw in pitch modulation, 5 envelopes, 2 LFO's, a ring mod / 3rd audio osc, variable state filter, distortion, delay and an arpeggiator and that held note will never sound the same again

Features

- 2 morphing oscillators with 11 waveforms, 16 morph stages and 5 morphing modes
- 3rd audio oscillator in combination with ring modulator
- 2 LFO's (Filter cutoff, Ring Mod)
- 3 AHSDR envelopes (Amp, Filter, Wavemorph)
- 2 ASR envelopes (both LFO's)
- both LFOs have 19 waveforms with adjustable phase and depth and can be synced to note-on messages
- all 5 envelopes have 13 contours and can be retriggered or free running
- Pitch can be modulated by any of the 3 ADHSR envelopes or either LFO
- Pitch can be set to drift, analogue style
- Variable state filter, 6 modes, up to 4 stages and variable response curve
- Distortion, 20 modes, wet/dry level and volume control
- Arpegiator, tempo sync, 6 modes, selectable number of octaves and note length
- Ring modulation with dedicated LFO, 9 modes, 11 waveforms and wet/dry mix
- Delay, tempo sync with feedback, damp and wet/dry controls
- Midi CC and midi learn
- 40 presets by Runagate

Installation

To install, you should copy the metamorph.dll file from the zip file into your VST directory and install in your host as you would any other VST instrument.

Controls

Morphing Oscillators
There are 2 morphing oscillators (Osc 1 & 2) that have a number of morphing modes to change their waveforms on the fly.
For each oscillator, you can select different waveforms for up to 16 morph stages that the synth will cycle through, thus changing the sound as it morphs. There are 11 different waveforms to choose from for each stage.
There are 5 modes of morphing between the stages;

- **tempo-sync**, the osc smoothly morphs through the waveforms at a tempo-sync rate
- **envelope**, the osc smoothly morphs through the waveforms at a rate determined by the wavemorph envelope
- **env step**, the osc abrubtly steps through the waveforms according to the wavemorph envelope
- **sequence**, the osc changes waveform every cycle
- **static**, the osc acts like a standard oscillator using the first waveform in the list

tempo-sync controls
range (2-16), the number of morph stages the osc will cycle through. eg 6 will mean the osc will cycle through the first 6 waveforms in the list (the list is 2 columns, worked through column 1, then column 2)
beats (1/16 to 128), frequency that the osc will morph through the list

envelope and env step controls
range (1-16), how far up the list the attack stage of the envelope will reach
* *see wavemorph envelope for more details*

sequence controls
range (2-16), the number of morph stages the osc will loop through, changing waveform once every cycle

oscillator common controls
detune (-36 to +36 semitones), detune the osc from the midi note played, adjustable to cent scale
volume (0-100), relative volume of the oscillator output
ring mod - modulate the output of the osc with the other morph osc, includes 8 tonal variations and sum or difference modes
note-on sync - this ensures the waveform starts from zero each time a note is played, which can be useful for consistency, especially for low frequency sounds
filter - on/off, routes the osc output to the state variable filter

osc2 controls
Osc1 sync - restarts the osc2 waveform from zero in sync with osc1, most useful when the oscs are detuned from each other to get a rougher sound

Amp EG
This envelope modulates the synth volume when a note is played
all stages are in ms, except sustain which is maximum level (0-10)
you can select the contour of the envelope curve (where 2 shapes are shown, the first is attack, the second is the decay/release)
the envelope can be set to retrigger from zero. If this is not selected, the envelope will retrigger from the current value

Wave EG
This envelope modulates the oscillator waveform in envelope or env step mode. The osc will morph or step through the waveforms at a rate dictated by the envelope curve and the range selected in the osc menu
the osc always starts at the waveform in stage 1, then morphs through the number of stages (set in range) during the attack phase, morphs back down the list in decay phase and stays at the waveform determined by the sustain level until note release when the osc will morph back down the list to stage 1
eg if osc range = 8, then the attack setting (ms) will determine how quickly the osc morphs through stages 1 to 8. If the attack time is increased, then the osc will morph more slowly through the 8 stages. If the number of stages is increased to 16, then the osc will morph through 16 stages in the same time. The same principle applies to decay and release. The sustain level will determine which waveform is held during the sustain stage
eg if osc range = 7 and sustain = 5, then the waveform in stage 4 will be played during sustain

Pitch modulation
Pitch can be modulated in 3 ways, by envelope, LFO or by analogue style drift, all selected in the bottom section of the synth
Pitch mod - select which EG or LFO you wish to modulate pitch
choose the pitch modulation amount in semitones, negative or positive modulation are possible
To make the pitch drift in a subtle and random way, use the drift frequency and depth. This can give the impression of analogue pitch instability with the right subtlety

Polyphony
metamorph can be set to be either polyphonic or monophonic, with portamento available. Options when in monophonic include retrigger (to retrigger envelopes if a new note is hit before the previous one is finished) and priority (which note has priority)

State variable filter
choose from 6 filter types (or off) and the number of stages (to increase dB/oct curve steepness)
cutoff is selected in kHz and resonance 0-10
adjust the velocity sensitivity of the filter cutoff from 0-100% Full velocity will open the filter to the full cut-off
the velocity sensitvitiy at 100% will make a 50% velocity = 50% cutoff value
the velocity sensitvitiy at 50% will make a 50% velocity = 75% cutoff value
the velocity sensitvitiy at 10% will make a 50% velocity = 95% cutoff value
the velocity sensitvitiy at 0% will make a 50% velocity = 100% cutoff value
curve - if 2 or more filter stages are chosen, the curve setting will influence the cutoff curve across the stages, higher values give greater differences
the filter has an AHDSR envelope with depth setting to adjust the impact of the envelope
the contour of the filter EG curves can be selected (where 2 shapes are shown, the first is attack, the second is the decay/release).
Options are there to invert the envelope (negative modulation) and retrigger from zero. If retrigger is not selected, the envelope will retrigger from the current value

Filter LFO
the filter has a tempo sync LFO to modulate cutoff, turn it on by highlighting 'Filter LFO'
choose the LFO waveform, cycle (in beats for tempo sync) and depth in kHz
offset (-100% to +100%) moves the LFO centre away from the cutoff value
0% = cutoff modulated equally above and below cutoff value
100% = cutoff modulated only above cutoff value
-100% = cutoff modulated only below cutoff value

note-on sync means the LFO is restarted at each new note played
phase is the phase of the LFO
the LFO also has attack sustain and release phases to make the LFO come in and out gradually, with the same contour and retrigger options as the AMP, Waveform and Filter EGs

Effects

Distortion
Choose from 20 distortion modes, with controls for distortion amount and wet/dry mix levels

Arp
Choose from 6 arpegiator modes in the dropdown menu
The number of octaves can be selected, as can a tempo-sync value for frequency
note length is expressed as % of time between the arp freq period
50% = 50% of gap between arp notes, so note on and silence are equal length 100% would mean no silence between notes

Ring Modulation
choose from standard ring modulation or 8 tonal variations
the sound of the ring modulator can be changed by selecting a waveform, the wet/dry mix level and the frequency (in kHz)
the frequency of the modulating signal can also be set to the key pitch (of the midi note being played)
Audio Osc. The freq slider is in addition to this, so works like a detune
The ring modulating oscillator can also output to audio, to give a 3rd audio oscillator, so key pitch and freq are important here
If audio out is selected, options for relative volume and routing to filter appear

Ring Modulation LFO works exactly the same way as the Filter LFO, except it doesn't have an offset option

Delay
The delay is tempo-sync (in beats) with controls for feedback, damping (increased LP filter of each delay echo) and wet/dry mix level

MIDI learn
Press 'learn'
LED will light
tweak control on metamorph
tweak control on your MIDI controller
LED will go out

Press 'reset' to go back to default values

User License Agreement

Credits

Thanks go to Runagate for the weird and wonderful presets

Thanks also to Jeff McClintock for creating SynthEdit and to the 3rd party SE module developers, without which this plug-in wouldn't exist.

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Links

SynthEdit	http://www.synthedit.com/
Dave Haupt Modules	http://www.dehaupt.com/SynthEdit/semodules.htm
Chris Kelly Modules	http://www.chriskerry.f9.co.uk/
Runagate	http://briarmonsmetrach.googlepages.com/home

About the Developer

de la Mancha lives, eats, dreams and breathes VST plugins, seeking to bring randomization and modulation to the masses. He is also a producer of odd-skool breakbeat, downtempo glitchy beats and other assorted bleeps and noises. You can find his music at www.papadodo.co.uk www.3x0.co.uk and www.mono-log.co.uk

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