

Swamp Synthesizer V.1.1

The Timbre – Modulation Synthesizer

unique sounds from clear & harsh metallic seq.-sounds to soft & wide modulated pads



The basic features are:

two digital PCM-wave oscillators powered by **64 different waveforms** (new since V.1.1)

each oscillators has two outputs: normal and Timbre-modulated

Timbre-modulation is achieved by special system of processing the waves of each oscillator

one filter (24db Lowpass)

two ADSR-style envelope generators

four LFO (bpm-synced)

three Sample & Hold (bpm-synced)

one bpm-synced Delay with LFO-synced Pan-modulation

This synthesizer features 'Timbre-modulation' being achieved by processing each oscillator's waveform in a very unique way. The result is frequencies are moved to more mid and high ranges - enriching the sound even with harmonics and at certain settings adds a metallic character usually expected by a ringmodulator - but there is no ringmodulator used.

Each oscillator has actually two audio-outputs: one normal and one Timbre-modulated both being routed by mix-sliders to filter or direct out of VCA. So the most interesting part of a sound is already created in using the mix and modulation section of each oscillator. In addition to that the filter section adds what You expect from a synthesizer.

This is also an ideal companion to the STS-17 Transition Synthesizer.

The features of that Swamp thing in detail

The sound-sources



There are two oscillators which can be fine detuned [**<Detune>**] to each other for a more vivid sound. Basically this detuning shifts one Osc up while the other one is shifted down at the same amount. An octave range may be selected from -2,-1,0 and -1 by the [**Octave**] buttons. The [**Level**] knobs determine the basic output level of each oscillator.

Now to the more specific functions:

The slider [**N Fil:Dir**] adjusts the level of the normal, unmodified signal to filter or direct out to the VCA, while the slider [**T Fil:Dir**] does the same for the timbre-modulated signal. Thus there are two audiosignal from each oscillator. By the [**<Bal N:T>**] knob you can determine the amount or mix between both signals. Below this knob there is a button to select the modulation source for it. Set to Man(ual) the knob works – to + while set to any other mod-source the amount of modulation ranges from 0 to +.

By the [**Timbre**] knob the amount of Timbre-modulation or the amount of modulation set by the [**ModTimb**] can be adjusted. In manual mode it might be possible in rare cases you might move over so called „dead spots“ with no sound which is due to phase-elimination as the phase is moved by a delay.

The basic effect of timbre modulation will result the frequencies are moved to more mid and high ranges - enriching the sound even with harmonics and at certain settings adds a metallic character. Please check yourself how the effect of the Timbre knob works on different waves in order to get a feeling for using this special feature.

As there are already several mod-sources available in this section it is possible to create already very vivid and stunning sounds here. As primary mod-sources there are two LFO and two S&H generators (bpm-synced) left to the oscillator section. Further mod-sources are both ADSR – EG. Note: using Squ! of LFOs might lead to sharp cuts (resulting in possible clicks) under certain conditions, but otherwise it is quite nice so it has been left inside.

As special parameter the [**Seed-Src**] button within the S&H should be explained as it changes the characteristics of the sampled pulses: Less (peaks), More (peaks) and Up & Dn types for ascending or descending motion preferably at lower rates.

Last but not least there are three [**Lazy?!**] buttons in this section. The one in the middle will change values of knobs and sliders on both oscillators (except Level) while the ones next to each wave-selection are just changing the waveforms.

The Filter section



This is a 24dB lowpass filter with Resonance [Q] which can be modulated by its own Filter EG, LFO and S&H determined by the [LFO-Cut] and [S&H Cut] knobs and [Env>Filt] slider.

With the [A] [D] [S] [R] envelope generator you can adjust the way the filter works on the incoming signal with **Attack**, **Decay**, **Sustain** and **Release** providing the shape on filtering. With the [Env>Filt] – slider you can adjust the amount of this modulation on the filter.

The Master section



The output section provides an [A] [D] [S] [R] envelope generator for shaping the overall signal with **Attack**, **Decay**, **Sustain** and **Release**. With the [Vol] – slider you can adjust the overall output of the Swamp synthesizer. Lower the volume if you experience overload!

The [Pan] knob serves to place the signal in stereo-panorama in a very special way as it will send the signal of direct out and delay out into opposite direction automatically. So to say it spreads the signal. This Pan can be modulated by a bpm-synced LFO to provide motion to the stereo-position. Using a Squ wave gives an interesting tremolo effect in combination with the delay.

This delay is synced to host clock at various selectable division-settings even up to quite fast sounding a bit like spring reverb.

Use the [Mix-Vol] knob to adjust the amount of delayed signal to the normal signal while the [Fdbck] knob determines the amount of repetitions.

The [Lazy?!] knob between Filter and Master section changes setting of knobs and sliders of both sections while the [Lazy?!] knob below the volume knob changes all parameter sets. Note: all Lazy?! buttons can be remote controlled by MIDI-controllers.

Finally there is the Setup-section to set the synthesizer to MonoMode, Retrigger On/Off, Last note priority in Mono Mode and Portamento with adjustable time.

General hint: When moving a knob or slider you can also press <Ctrl> on the PC-keyboard for fine adjustments.

Known bugs: loading a single patch program (*.fxp) to first program number (and only there) may change the waveform of the oscillators. This does not apply when loading a patchbank file (*.fxb)! This has to be fixed in the development-environment before I can do an update.

Credits, thanks and further info

The Swamp Synthesizer has been created with Synthedit by Jeff McClintock with only one further module by David Haupt.

The stunning GUI has been done by **Vera Kinter** (Brno, Czech Republic) - very big thanks!

Preset patches were kindly done by:
Vera Kinter, Dimitri Schkoda, Derek Kay, Aron Elvar & 'foosnark'

A big thank you goes them and to all who have helped, betasted and taken part elsewise within this project also those at KvR esp.: ugo, vurt, sicklecell666, db, Jack Dark, Willem & Madeleine, Spaceman, dx-9, Hellbilly, mayan and a few others.

H. G. Fortune
near Bonn (Germany) March, 17th 2005

Btw: actually I did not even know 10 days ago I was doing this one - it just did happen!
To me it has been a lot of fun but also some sleepless nights ... "the stars which never rest..."

The eight voice version of Swamp is available via Paypal or ShareIt for 20,00 Euro
with an introductory offer until April, 21st 2005 for only 15,00 Euro.

A special bundle of Swamp plus the STS-17 will be available during this time for only 39,00 Euro - for details please have a look at www.flomo-art.de/se

Note: If You'd like to buy that Swamp thing but don't have an opportunity to do it via PayPal or ShareIt then just drop me an email so we can find a solution.

There is a also **Free Version of Swamp** - limited to 2 voices instead of 8

Other VSTI by H. G. Fortune are:
STS-17 Space Transition Synthesizer
ASET-2121 Mythosperic Space Synthesizer

Wheel of Fortune (Freeware)
X-Wheel of Fortune (Freeware)
X-Wheel of Fortune Pro

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MIDI-Implementation of Continuous Controllers (CC) for sliders & knobs

	MIDI CC #	Valuerange	Remarks
Oscillator & Filter section			
Bal 1 (Osc 1)	CC # 70	0 – 127	64 = 0 (Midposition) in manual mode
Bal 2 (Osc 2)	CC # 71	0 – 127	64 = 0 (Midposition) in manual mode
Osc 1 Timbre	CC # 72	0 – 127	
Osc 2 Timbre	CC # 73	0 – 127	
Detune	CC # 74	0 – 127	
T1 Fil:Dir	CC # 85	0 – 64 – 127	64 = 0 (Midposition)
N2 Fil:Dir	CC # 86	0 – 64 – 127	64 = 0 (Midposition)
N1 Fil:Dir	CC # 84	0 – 64 – 127	64 = 0 (Midposition)
T2 Fil:Dir	CC # 87	0 – 64 – 127	64 = 0 (Midposition)
Wav 1	CC #110	0 – 127	From wave #1 to last wave present
Wav 2	CC # 111	0 – 127	From wave #1 to last wave present
LFO F Cut	CC # 75	0 – 127	
LFO F S&H	CC # 76	0 – 127	
Cut 1	CC # 77	0 – 127	
Q 1	CC # 78	0 – 127	
A	CC # 79	0 – 127	
D	CC # 80	0 – 127	
S	CC # 81	0 – 127	
R	CC # 82	0 – 127	
Env>Filt	CC # 83	0 – 127	
Main Out section			
A	CC # 29	0 – 127	
D	CC # 30	0 – 127	
S	CC # 31	0 – 127	
R	CC # 32	0 – 127	
Pan	CC # 10 (Pan)	0 – 64 – 127	64 = 0 (Midposition)
Pan Mod	CC # 12	0 – 127	
Vol (Overall Volume)	CC # 7 (Volume)	0 – 127	
X-Delay: Fdbck	CC # 27	0 – 127	
X-Delay: MixVol	CC # 28	0 – 127	
Portamento	CC # 5	0 / 127	Off / On
Lazy?! (all -below Volume)	CC # 114	0 / 127	Off / On
Lazy?! (Osc. section)	CC # 115	0 / 127	Off / On
Lazy?! (Wav 1)	CC # 116	0 / 127	Off / On
Lazy?! (Wav 2)	CC # 117	0 / 127	Off / On
Lazy?! (LFO / S&H)	CC # 118	0 / 127	Off / On
Lazy?! (Filter/Master)	CC # 119	0 / 127	Off / On

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