

OS ocean storm

Ocean Swift Synthesis Ocean Storm Operational Manual



- Concepts from various synth designs of the early millennium combine with original ideas to provide one of the most gritty and powerful machines on the Scope Platform.
- 2 oscs with extensive modulations - pitch, fm, sync, pwm, 8bit mode, ring mod, noise.
 - 2 Sonic Core Poly Filters with 25 types in a serial or parallel configuration. Each filter has its own dedicated envelope and lfo.
 - built in trancegate, panner, phaser, chorus/flanger and delay.

Controls



Osc1:

Wave: sine, triangle, saw up, saw down, pulse, input.

Coarse: Offsets the incoming midi notes by increments of 1 semitone.

Fine: Offsets the incoming midi notes by increments of 100 cents.

Env: The amount of modulation applied to the osc's pitch by the Mod Env.

LFO: The amount of modulation applied to the osc's pitch by the Pitch LFO.

8bit: Turns on and off and 8bit mode for the osc. Use for crunchy sounds.

PW: The pulse width of the osc when the pulse is selected by the Wave knob.

PWM: Modulation range for the osc's width when the pulse is selected by the Wave knob.

PW Rate: The rate at which the PWM modulates the pulse width. The modulation source is a dedicated free running sine lfo.

Free: Turns on and off the osc free mode. When off, the osc receives its base pitch from incoming midi notes. When turned on the osc receives its base pitch from the Freq knob.

Freq: The frequency (pitch) of the osc when in Free Mode.

Osc2:

Wave: sine, triangle, saw up, saw down, pulse, input.

Coarse: Offsets the incoming midi notes by increments of 1 semitone.

Fine: Offsets the incoming midi notes by increments of 100 cents.

LFO: The amount of modulation applied to the osc's pitch by the Pitch LFO.

8bit: Turns on and off and 8bit mode for the osc. Use for crunchy sounds.

PW: The pulse width of the osc when the pulse is selected by the Wave knob.

PWM: Modulation range for the osc's width when the pulse is selected by the Wave knob.

PW Rate: The rate at which the PWM modulates the pulse width. The modulation source is a dedicated free running sine lfo.

Sync: Button to turn on and off osc sync. When on osc2 retriggers for every new cycle of osc1. If osc1 and osc2 are set too far apart in range your sound will break and can even go silent.



FM Section:

FM Amount: Amount of frequency modulation applied to osc2 by osc1. The fm signal always comes from osc1's sine output regardless of osc1's set shape. Thus, you can for example mix a saw from osc1 with a fm texture from osc2.

FM Sharp: Changes the fm mode from direct to dc filtered.

FM Env: When this button is on the fm signal is first passed through an amp controlled by the mod envelope before being applied to osc2.

FM / OSC Envelope:

Envelope that serves both as a pitch modulation source for Osc1 and as the fm envelope when the fm is in Env mode.

AD Envelope: Envelope with controls for attack and decay.

Slope: The slope of the decay of the envelope.

Vel: Velocity control over the overall envelope range. No velocity control is at the center position. Positive values scale the velocity control in relation to the incoming velocity values. Negative values invert the incoming velocity values.



Pitch LFO:

Wave: The waveform of the LFO. The wave is a choice between a sine, square, saw up, saw down, triangle, and random - 6 shapes in total.

Rate: The speed of the lfo when not in sync mode. From 0.01 to 400hz.

Div: The speed of the lfo when in sync mode. Measure divisions based on the device's BPM setting. Provided are 19 divisions: 64bar, 32bar, 16bar, 8bar, 4bar, 2bar, 1bar, 1/2p, 1/2, 1/2t, 1/4p, 1/4, 1/4t, 1/8p, 1/8, 1/8t, 1/16p, 1/16, 1/32.

Phase: The starting phase of the lfo. Noticeable when the LFO is in retrigger mode.

Mild: Tames the lfo's waveform. In general only useful when the Random waveform is selected in order to avoid clicks (smooth the steps).

Sync: Turns sync mode on and off.

Retrig: Retrigger the osc to start at the point specified by the phase knob with each new midi gate.

When in sync mode, the divider will let you set really long times, up to 64 bars. Take into consideration that the Scope system can not go lower than 0.01hz. Very low bpm's coupled with long division times can result in the LFO not going slow enough to be in sync with your tempo.



Mix Section:

Mix: Crossfade mix between osc1 and osc2.

Ring: Crossfade mix between the osc section output and ring modulation.

Noise: Crossfade mix between the osc section output and noise.



Filters:

2 Sonic Core Poly Filters in parallel or serial mode. This filter provides the option for an amazing 25 types. The filter works by only loading the currently selected filter onto the dsp boards.

Thus, there is a tiny hesitation as you change filters, and you might get a click sound as the audio path is routed through your new choice. Be mindful of this and avoid changing filters when on high volume to avoid nasty and loud clicks.

Type: Choice of 25 filter types.

Cut: The cutoff point of the filter.

Q: The resonance quality of the filter.

Drive: Mild distortion on the filter output.

Env: The amount of modulation applied to the filter from its ADSR Envelope.

LFO: The amount of modulation applied to the filter from its LFO.

KBT: Keyboard note tracking of the filter. On Center position no tracking occurs.

ADSR Envelope: Each filter has its own envelope with attack, decay, sustain and release.

Slope: The slope of the decay and release of the envelope.

D Mod: The amount of random modulation applied to the decay of the filter's envelope.

Vel: Velocity control over the overall envelope range. No velocity control is at the center position. Positive values scale the velocity control in relation to the incoming velocity values. Negative values invert the incoming velocity values.

Filter LFO: Each filter has its own dedicated LFO with the same controls as the Pitch LFO (see above).

Filter Mix:

Ser / Par: Switches between serial and parallel filter modes. When in serial filter outputs to filter two. When in parallel the filter outputs are mixed and controlled by the Mix knob.

Mix: Mixes the outputs of the filters when they are in parallel mode.



Amp:

ADSR Envelope: Amplifier envelope with attack, decay, sustain and release.

Slope: The slope of the decay and release of the envelope.

D Mod: The amount of random modulation applied to the decay of the amp envelope.

Vel: Velocity control over the overall envelope range. No velocity control is at the center position. Positive values scale the velocity control in relation to the incoming velocity values. Negative values invert the incoming velocity values.



Main Controls:

Midi: Sets the midi channel for the synth.

BPM: Sets the BPM for the synth. This is the tempo from which all the LFO divisions will divide from and the base tempo for the trancegate and delay dividers to divide from.

Tune: Offsets the incoming midi notes by increments of 1 semitone for BOTH oscs.

Unison: When set to more than 1, activates unison. For each value above 1 another voice is added to the unison count. Remember: these count as polyphony voices!

Detune: The amount of detune between each unison voice.

Portamento: Turns portamento on and off.

Time: Glide time when portamento is turned on.

Main Out: The overall gain of the synth. Center position is 0db gain. This knob is not saved in presets so adjust accordingly if some presets feel too soft or too loud as you are browsing a bank.

Bend: Range setting for the incoming pitch bend wheel controller message up to a range of two octaves.



Built in Effects:

Phaser: Phaser with controls for depth, rate, feedback and wet.

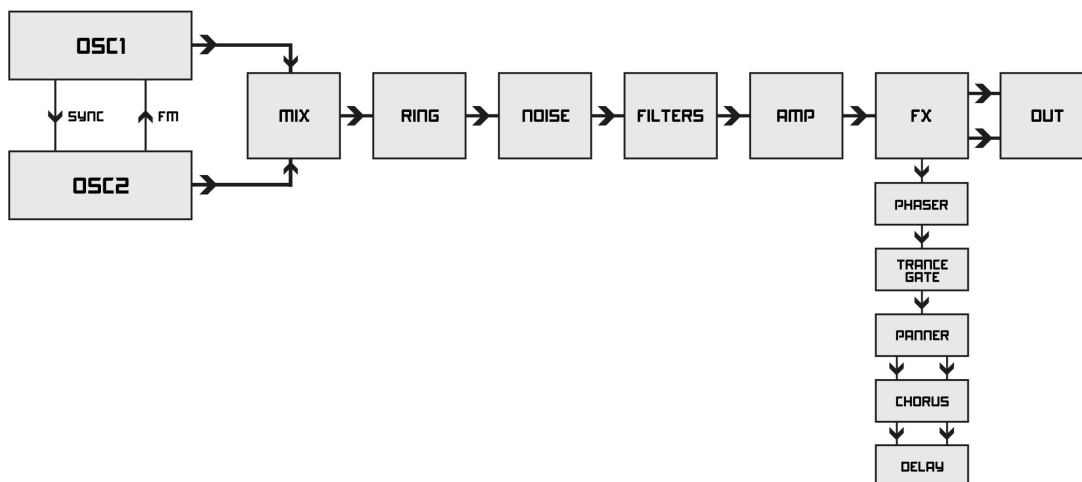
Trancegate: 16 Step trancegate envelope with controls for decay time and decay mod. A separate midi channel can be set for the trancegate in order to allow retriggering at separate intervals than the incoming midi notes. The signal can be mixed with the dry signal.

Panner: Autopan with a dedicated synced-speed and retriggered multi shape lfo and depth of modulation.

Stereo Chorus: Chorus with controls for depth, rate, feedback, phase and wet.

Stereo Delay: Syncable stereo delay with separate time and division controls for the left and right channels. Feedback and feedback damping is provided as well as the option for standard left-right operation or cross feedback. The signal can be mixed with the dry signal.

Audio Signal Flow Chart





Circuit Design: Yaron Eshkar

Gui Design: Fernando Abreu

Lead Beta Tester: Martin Cayless

Beta Team: Marco Heger, Kyle Ramos, Mottl Popcorn, Ybot Namwen

Special Thanks: Holger Drenkelfort, Mehdi Touzani

Web:

<http://www.oceanswift.net/>

<https://www.facebook.com/oceanswifthsynthesis/>