



Multi-oscillator for Minilogue XD and Prologue

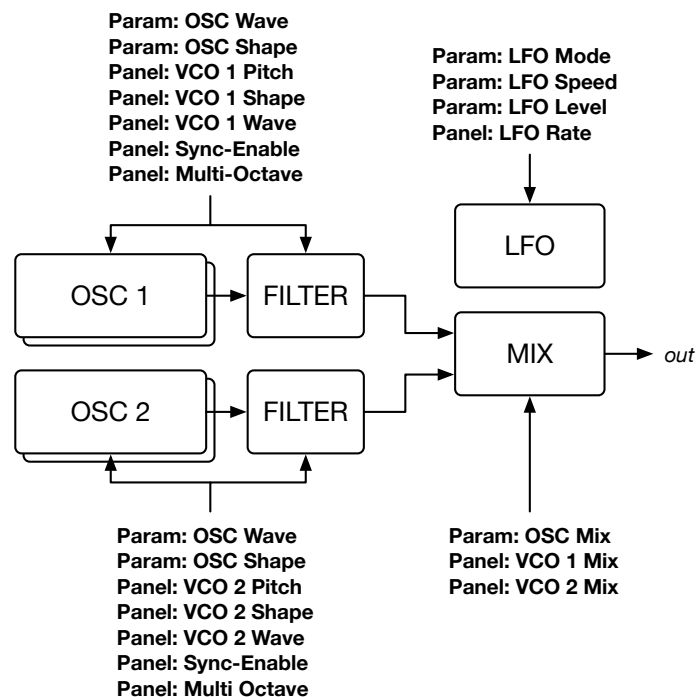
<https://tsoniq.com/software/korg/phase7>

phase7 pro

phase7 pro is a user oscillator for Korg Logue based synthesisers.

Its main features are:

- dual super-oscillators, each with seven independent wave generators
- accurate emulation of the JP8000 SuperSaw waveform
- ten basic wave types with adjustable shape, detune and mix
- an LFO with 100 combinations of waveform and modulation destination
- optional phase synchronisation at key-on for percussive effects
- optional velocity modulation of oscillator wave-shape
- extensive front panel control



phase7 pro supports the Korg Minilogue XD and Prologue synthesisers.

Getting Started

A newly initialised patch is controlled entirely from the front panel.

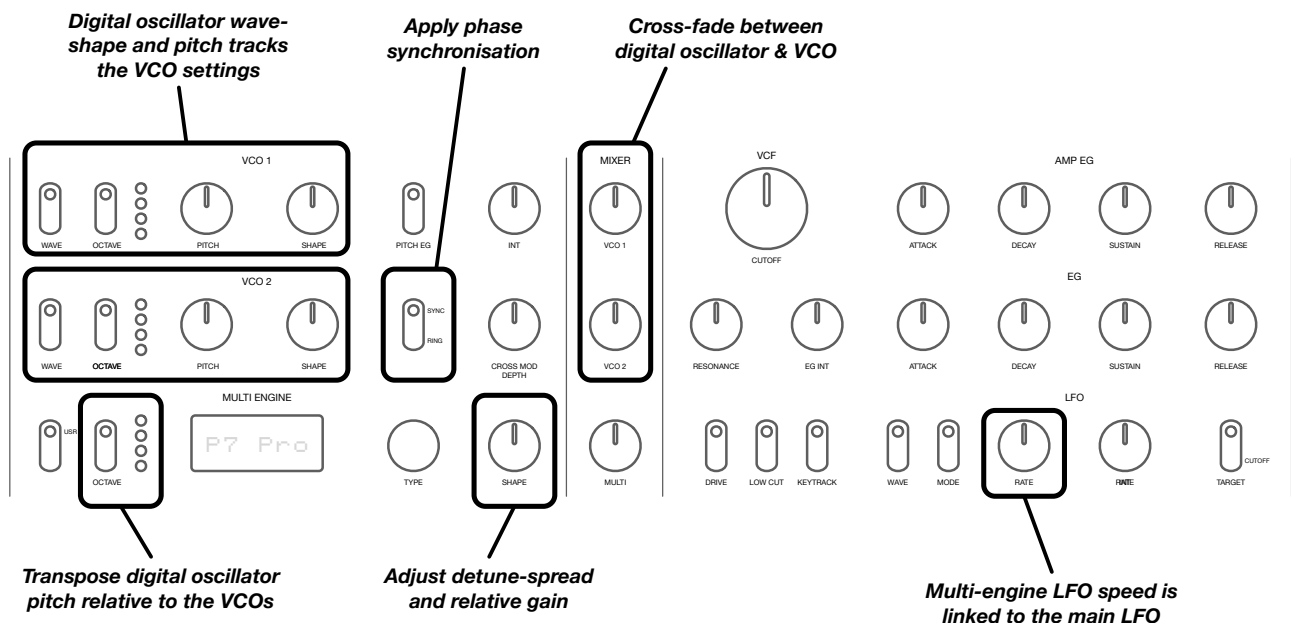
The two digital oscillators track the VCO waveforms, wave-shape, pitch and the inverse of the mixer level. Set a VCO to use a sawtooth waveform, and the corresponding digital oscillator will emulate the VCO setting.

To get started:

1. set the multi-oscillator mixer level to maximum
2. set one or more VCO mixer levels to zero, raising the corresponding digital oscillator output
3. set the waveform via the VCO waveform switch and shape controls
4. set the super-wave detune-mix away from zero by using the multi-engine shift-shape control
5. set the super-wave detune-amount by using the multi-engine shape control

The VCO mixer levels act as cross-faders: turn the VCO mixer level to zero to set the corresponding digital oscillator output to its maximum.

Important! If both VCO output levels are at maximum, the digital oscillator will be silent. Set the multi-oscillator gain to maximum and reduce one or both VCO levels to hear the digital output.



To access the addition waveforms, use the multi-engine parameters and set the waveform manually. This will disconnect the waveform control from the front panel.

Similarly, the wave-shape, oscillator mix and LFO speed can also be specified manually, disconnecting from the front panel.

Parameters

Patch parameters can be accessed from the multi-oscillator edit menu.

Some functions are affected by patch parameters outside of those in the multi-engine. For example, to use velocity modulation it is necessary to also set the **EG Velocity** parameter to a non-zero value. Similarly, the LFO behaviour is affected by the **LFO Key Sync**, **LFO Voice Sync**, **BPM (Prologue only)** and **1-Shot (Minilogue only)** settings.

Parameter	Range	Function
OSC Wave	1 – 41	<p>Sets the waveform.</p> <p>A value of 1 passes control to the front panel. Use the front-panel VCO waveform selection switch to set the basic waveform type and the VCO Sync switch to enable phase synchronisation. The oscillators mimic the Korg's saw, triangle and square wave VCO waveforms.</p> <p>The remaining values disable the front panel control for waveform and phase synchronisation, and specify one of 10 possible waveforms together with options for phase synchronisation and velocity sensitivity.</p>
OSC Shape	0 – 100	<p>Sets the waveform shape control used by OSC 1 and OSC 2.</p> <p>A value of 0 passes control of the shape to the VCO 1 and VCO 2 front panel controls. Each oscillator shape can be controlled independently.</p> <p>Values from 1 to 100 decouple the shape control from the VCOs, setting the shape manually for both oscillators.</p>
OSC Mix	0 – 100	<p>Sets the oscillator mix.</p> <p>A value of zero passes control to the front panel VCO mixer controls. The OSC 1 and 2 output levels are set in inverse proportion to the corresponding VCO mixer levels.</p> <p>Values from 1 to 100 decouple the mix from the front panel and specify the mix between OSC 1 and 2 manually.</p>
LFO Wave	1 – 100	<p>Sets the LFO waveform and modulation target. See below.</p>
LFO Level	0 – 100	<p>The LFO modulation level.</p> <p>A value of zero disables the LFO.</p>
LFO Speed	0 – 100	<p>Sets the LFO speed.</p> <p>A value of zero will synchronise the LFO phase and speed with the front-panel LFO.</p> <p>In the case of the Monologue XD, the LFO will also shadow the main LFO's one-shot option. In the case of the Prologue, the LFO will also shadow the main LFO's MIDI sync option.</p> <p>Values from 1 to 100 set a rate independent of the front-panel LFO. Phase is reset at key-on.</p>

OSC Wave

OSC Wave	Note
1	<p>Passes control to the front-panel VCO waveform selector and SYNC control.</p> <p>Select the front panel saw, triangle and square waveforms to switch the multi-engine to corresponding emulations of the VCO.</p> <p>Select SYNC from the front panel to select the corresponding waveforms with phase synchronisation enabled.</p>
2	Korg Saw emulation.
3	Korg Triangle emulation.
4	Korg Square emulation.
5	Triangle-Saw blend controlled via the shape setting.
6	A square wave where each oscillator has a different width.
7	An emulation of the Alpha Juno PWM saw waveform.
8	A hard sync generated between a sawtooth and triangle waveform.
9	A fixed aliasing sawtooth with control over the high-pass filter resonance.
10	A fixed aliasing sawtooth with an adjustable formant filter.
11	An anti-aliased sawtooth backed by a resonant low-pass filter with adjustable cutoff.
12 – 21	<i>As 2 – 11 but with phase-synchronisation enabled at key-on to give a percussive effect.</i>
22 – 31	<p><i>As 2 – 11 but with velocity modulation of the oscillator shape enabled.</i></p> <p><i>Note that the EG Velocity patch parameter must be non-zero and a suitable velocity curve must be selected.</i></p> <p><i>The velocity modulation is added to the oscillator shape control. It may be necessary to adjust the oscillator shape to get the most responsive result.</i></p>
32 – 41	<i>As 2 – 11 but with both phase-synchronisation and velocity modulation enabled.</i>

LFO Wave

The LFO provides 25 shapes and four possible modulation targets, both configured by the *LFO Wave* parameter.

Many of the LFO waveforms are grouped in pairs, where the first is applied equally to both OSC 1 and OSC 2, while the second applies a modified version of the waveform to OSC 2.

Stepped patterns that target the pitch require the LFO Level to be at either 100% or -100% to deliver conventionally harmonic output. These produce simple arpeggiator-like patterns, and can be used for chip-tune or similar effects.

LFO Mode	Shape	Target	Note
1	sine	pitch	A plain sine-wave.
2	shifted-sine	pitch	A sine-wave, phase shifted for OSC 2.
3	triangle	pitch	A plain triangle-wave.
4	inverted-triangle	pitch	A triangle-wave with inversion for OSC 2.
5	poly	pitch	A polynomial waveform similar to a smoothed saw.
6	interted-poly	pitch	A polynomial waveform, inverted for OSC 2.
7	rising-saw	pitch	A rising sawtooth.
8	falling-saw	pitch	A falling sawtooth.
9	square	pitch	A plain square wave.
10	shifted-square	pitch	A square wave with phase shift for OSC 2.
11	pulse	pitch	A pulse with 25% duty cycle.
12	sifted-pulse	pitch	A pulse with phase shift and inversion for OSC 2.
13	pulse2	pitch	A heartbeat-like pulse.
14	pulse2	pitch	A heartbeat pulse with phase shift and inversion for OSC 2.

LFO Wave (continued)

LFO Mode	Shape	Target	Note
15	pattern	pitch	A stepped waveform, repeating { 0, -1, +1 } With the LFO level set to +100 or -100 this will cycle octaves.
16	inv-pattern	pitch	As 15 but with inversion on OSC 2.
17	pattern	pitch	A stepped waveform, repeating { 0, -1, 0, +1 }
18	inv-pattern	pitch	As 17 but with inversion on OSC 2.
19	pattern	pitch	A stepped waveform, repeating { 0, 0.585, 1 }. With the LFO level set to +100 this will cycle the primary tone, a raised 5th and lastly a raised octave.
20	inv-pattern	pitch	As 19 but with inversion on OSC 2.
21	sample & hold	pitch	A random value, sampled twice per LFO period.
22	S&H	pitch	Sample-and-hold constrained to harmonic steps, avoiding discordant close intervals.
23	S&H	pitch	Sample-and-hold quantised to octaves and 5ths.
24	S&H	pitch	Sample-and-hold quantised to octaves, major 3rds and 5ths.
25	S&H	pitch	Sample-and-hold with slew, providing smooth transitions between random levels.
26 – 50	...	<i>amplitude</i>	<i>As 1 – 25, but targeting the oscillator amplitude.</i>
51 – 75	...	<i>shape</i>	<i>As 1 – 25, but targeting the oscillator shape.</i>
76 – 100	...	<i>amplitude + shape</i>	<i>As 1 – 25, but targeting the both amplitude and oscillator shape.</i>

Hints & Tips

- If you can not hear any output, check that either the *OSC Mix* parameter is non-zero or that the VCO mixer levels are not at maximum.
- Emulate the JP-8000 super-saw by selecting a sawtooth waveform with no shape modulation. Use the multi-engine **Shape** and **Shift-Shape** controls to set the detune and the mix.
- Create percussive sounds by enabling **SYNC** on the front panel (with OSC Wave 0), or by selecting OSC Wave values from 12 to 21.
- When creating a new patch, make sure that the **LFO Level** and **LFO Speed** are correctly configured, as the Prologue user-interface does not always correctly show the correct values unless they have been edited.
- Can't hear the velocity modulation? Make sure that the waveform is set to a value from 22 to 41, and that the **EG Velocity** parameter is non-zero for an effect to be heard. The velocity modulation is added to the waveform shape control, which may also need to be adjusted.
- Can't hear the LFO shape modulation? Try adjusting the **LFO Level** parameter and the waveform shape.
- To generate subtle tonal shifts, try selecting one of the filter or sync-based waveforms (eg **OSC Wave** 10) and configure **LFO Wave** to 75. This will give smoothly varying but random tonal shifts.
- Many LFO wave settings may sound the same if only one oscillator is audible.

Downloading and Feedback

Information and updates can be found at <https://tsoniq.com/software/korg/phase7>.

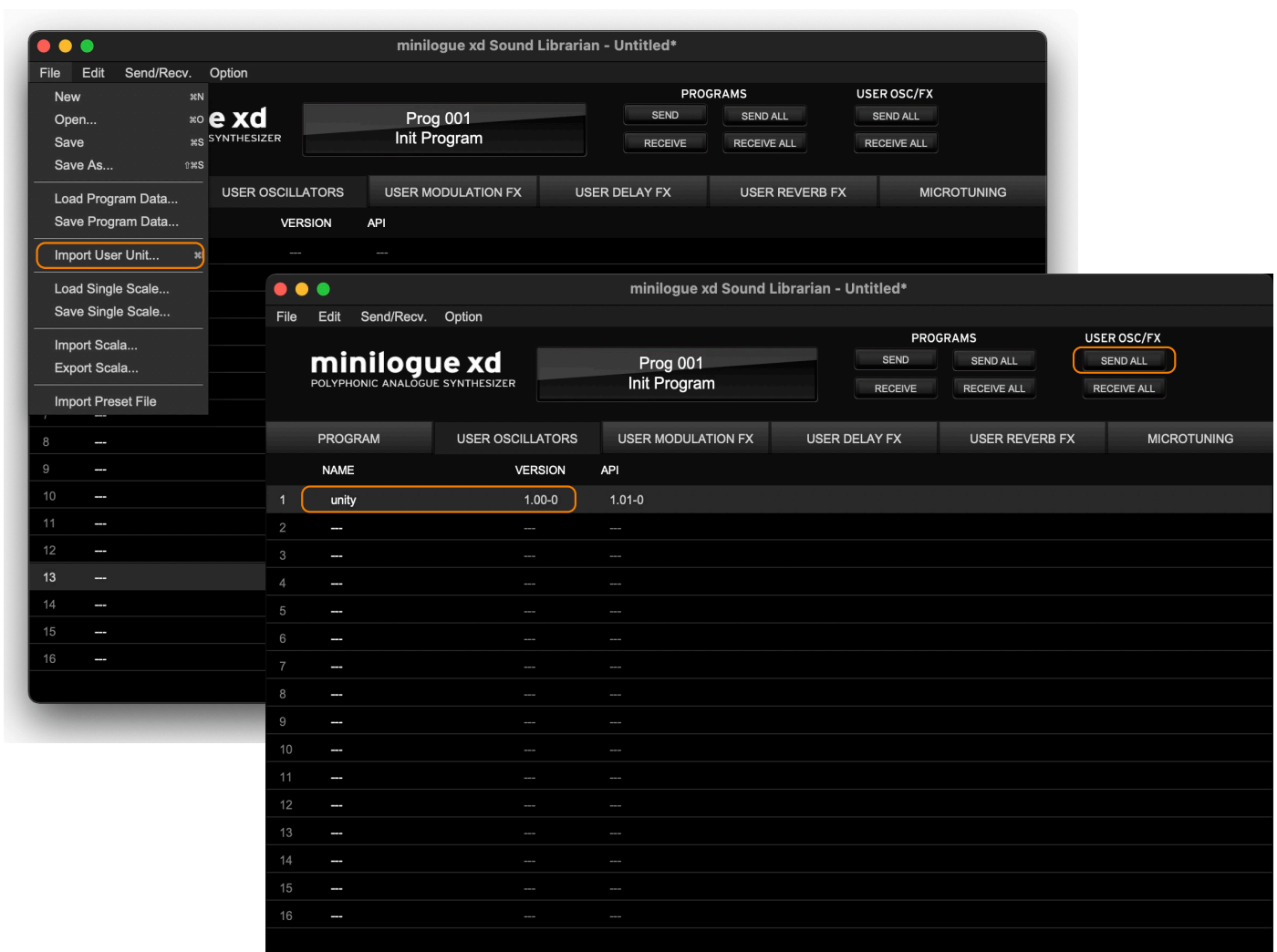
You can send feedback by email to logue@tsoniq.com, or leave a comment on the download page.

Installation

phase7 is supplied as a zip archive containing separate files for each platform:

Minilogue XD: phase7-pro.mnlgxdunit
 Prologue: phase7-pro.prlgunit

Use the appropriate Librarian application (available from <https://korg.com>) to import the unit and then upload to the synthesiser.



Requirements

phase7 requires a Korg Minilogue XD, Prologue 8 or Prologue 16, running firmware 2.10.

Please note that *phase7* is not compatible with the NTS1.

Installation requires the use of a PC or macOS computer and the Korg Librarian software appropriate for the synthesiser.

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Release History

Version	Release Date	Changes
1.0	8-Nov-2022	Initial release.