Messiah

polyphonic Synthesizer

User Guide

Version 2.0

http://www.memorymoon.com

Index

Chapter 1 - General

1.1 - About Messiah

Messiah design is inspired by Prophet5. P5 filter modelled after Prophet5 Rev.3.

But instead of saw, tri and pulse oscillators it has 3 innovative oscillators:

- Morph oscillator with 4 waveforms.
- Unison oscillator with 7 voices (and you can put this oscillator into 8 voice unison for 56 voices).
- Flexi oscillator that consist of 2 seperate waves that can perform PWM, ring mod. and phase distortion with very low CPU.

1.2 - Credits

- Design: Gunnare Ekornäs.
- Programming: Chris Kerry.
- Skin: Scott Kane.
- English user manual rebuild: Laurent Bergman.
- VST is a trademark of Steinberg Media Technologies GmbH. Windows is a registered trademark of Microsoft Corporation. MacOSX and Audio Unit Logo is a registered trademark of Apple Computer Inc.

1.3 - Install

Uninstall old version.

Run .exe or .pkg file for your system.

PC users: Please browse to your VST plugins folder while running the installer. There is a big chance that the default folder is wrong.

Chapter 2 - Presets

2.1 - Preset manager

- GRAPHIC ENV: Envelope graphics.
- Preset Name: Preset name. You can right-click on text to rename it.
- File Button:
  - Load preset.
  - Save preset.
  - Copy current preset.
  - Paste to this preset.
  - Load Bank (Load & import bank will automatically recognize Messiah 1.3 banks and convert them to messiah 2.0 banks).
  - Save Bank.
  - Load Midi CC Map.
  - Save Midi CC Map.
- Bank button: Here you have direct access to all 7 pre-installed banks, and the factory bank with less effects in the patches. You can save your own patches to the same folder, and they will appear from the "Bank" button.
- Program Arrows: Previous/Next preset.
- KBD: Keyboard (default).
- GATE: Control, Card-Drift, Gate and Arpeggiator
- LFO FX: LFO's, FX units, individual panning of voices and osc fizz.
- OSC: Advanced oscillators parameters.

Chapter 3 - Controls

3.1 - SD selector

- SD: Standard display.
- HD: 200% GUI size.

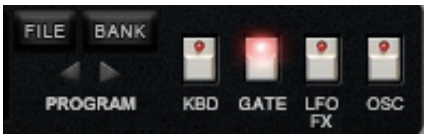
3.2 - MPE selector

MPE mode (Bottom switch right corner on the GUI) and option to reverse aftertouch and slide (CC74) operation for Roli keyboards. Recommended settings Roli Seaboard and Block:

- Pitch: 1 octave.
- Slide: CC 74.
- Slide mode: Relative Unipolar.
- Glide Rate: 0.
- Strike Sensitivity: 100 %.
- Glide Sensitivity: 50 %.
- Slide Sensitivity: 100 %.
- Pressure Sensitivity: 50 %.
- Lift Sensitivity: 50 %.

3.3 - Performance settings

Go to "GATE" page:



"Control" panel:

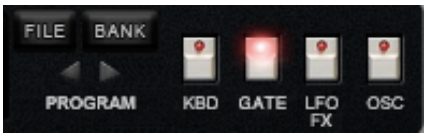
- Hold: The synth will continue to play all notes you play.
- Wheel LFO Rate: Modwheel increases LFO rate.
- Wheel Morph: You can morph from wave 1 to wave 4 with the mod wheel when morph oscillator is set to manual morph mode l.
- Octave Shift: At strong velocity the osc pitch is one octave higher.
- Wheel Osc B: This is a weird control intended for distortion. OscB is 5 semitones lower when mod wheel is at zero position (for power chords). 'When modwheel is at max oscB pitch is normal.
- LFO Reset Sync Mode: On- reset when fresh notes are played.
- Wheel Filter/LFO: LFO level controlled from modwheel.You can touch the text below the knob to select pitch/filter control.
- Foot Polym: Polymod voltage is controlled from foot pedal. With this control you can use polymod even when oscB and envelope is turned down in the polymod section. The foot pedal will provide the control voltage.
- After Filter: Aftertouch increases filter cutoff frequency.
- After LFO: Aftertouch increases LFO amount.
- Amp Velocity: Velocity controls output level and envelope speed.
- Filter Velocity: Velocity controls filter cotoff frequency.

3.4 - Mono/Poly parameters

- Glide: glide time.
- Mono: Only one voice. Will not be retriggered unless you lift all hands from the keyboard.
- Unison: 8 voicecards assigned to a single key. Used for fat sounds. Set detuning in "card-drift" section. The unison oscillator can also be in unison mode. Then it can play 56 voices!
- Poly Mode: Switch off mono and unison buttons. Polyphony: 8 voices.

3.5 - Card Drift parameters

Go to "GATE" page:



- Detune: Each voicecard has different pitch.
- Pulse: Each voicecard has different pulse.
- VCA: Each voicecard has different level.
- Filter: Each voicecard has different cutoff frequency.
- Flexi Detune: Detuning of the flexi-oscillator.

3.6 - Mod Wheel parameters

- LFO/Noise Source Mix: Balance of LFO or noise.
- Destinations:
  - Freq A: Oscillator A pitch.
  - Freq B: Oscillator B pitch.
  - PW A: Oscillator A pulse wave modulation (Pulse length).
  - PW B: Oscillator B pulse wave modulation (Pulse length).
  - Filter: Filter cutoff frequency.
  - Amp: Amplitude. Volume. Used with phase start set to 50% to do sidechain effect (see chapter 7.7).

3.7 - Pitch-Bend parameters

- Pitch-Bend Range:
  - 2nd: +/- 2 demi-tons.
  - 5th: +/- 5 demi-tons.
  - Oct: +/- 1 Octave.

Chapter 4 - Oscillators

4.1 - Oscillator A

- Freq: Pitch in half-steps. Range: 5 octaves.
- Shape: Oscillators off/on switches. Select the waveform and oscillator mode in the oscillator page. Most patches in the factory bank is set up like the Prophet5: saw - square.
- Pulse: Pulsewidth. This is sent to flexi oscillator and can do more than pulse wave modulation depending on the oscillator mode.
- Sync A=>B: The pitch of osc A is hardsynced to osc B (Flexi B must be on, because it controls the pitch):

This button forces the pich of oscillator A to follow the pitch of oscillator B. So you set the pitch for OSC A in the OSC B section. The trick is to sweep the pitch of OSC A with the LFO, so that the sync gets some pitch-variations to work with.

Note: Only works if oscillator FlexiB is on (Because it is sync source).

Tip: You can control the pitch of oscA with foot pedal to make wah-wah effects.

4.2 - Oscillator B

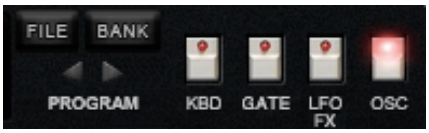
- Freq: Pitch in half-steps. Range: 5 octaves.
- Sync: sync to host clock.
- Fine: Fine.
- Shape: Oscillators off/on switches. Select the waveform and oscillator mode in the oscillator page. Most patches in the factory bank is set up like the Prophet5: saw - triangle - square.
- Pulse: Pulsewidth. This is sent to flexi oscillator and can do more than pulse wave modulation depending on the oscillator mode.
- Low: Osc B in low mode. Used when oscB is modulation signal in the Poly-mod section. The pitch is 5 octaves lower in low mode.
- Keyboard: When on, incoming midi messages will control the pitch of oscB, and it will track the keyboard. When off oscB is free running. When on in low mode each voicecard will have different pitch in Poly-mod.

4.3 - Mixer

- Osc A: OscA level 0-10.
- Osc B: OscB level 0-10.
- Noise: Noise level 0-10.

4.4 - Oscillators - Advanced parameters

Go to "OSC" page:



4.5 - Morph oscillators A and B

Common for all oscillators:

- Drift Depth: The level of the oscillator`s pitch LFO.
- Drift Rate: The speed of the oscillator`s pitch LFO.
- Osc Mode**:**
  - Wavetrain: All waves played in fast sequence after each other. Will create noisy sounds.
  - Morph: Use man morph knob or "wheel morph" in control section to morph between the 4 waves.
  - Morph2: Same as Morph.
  - AutoMorph: A built-in LFO in the oscillator will morph between the 4 waves with the speed set in the "auto morph time" knob.
  - AutoMorph2: Same as AutoMorph.
  - Step: Same as Morph2, but with no blending between the waves.
  - Wave1: Wave1 only is played. This mode saves CPU.
- Wave 1 - Wave 4: Wave selectors.

4.6 - Unison B oscillator

- Drift Depth: The level of the voices drift.
- Drift Rate: The speed of the voices drift.
- Wave: Wave selector:
  - Sine
  - Saw
  - Ramp
  - Soft
  - Peak
  - Square
  - Triangle
  - Peak
  - Octava
  - Cluster 1
  - Cluster 2
  - Cluster 3
  - Cluster 4
  - Bell
  - Pulse
- Unison Voices: 1-7 voices. In addition, the whole synth can be in unison mode (8 voices) - so this oscillator can play 7 X8 voices = 56 voices unison if the whole synth is in unison mode.
- Detune: Makes each voice out of tune.
- Detune Stretch: Makes the detuning less linear between the voices.

4.7 - Flexi oscillators A and B

Common for all oscillators:

- Drift Depth: The level of the oscillator`s pitch LFO.
- Drift Rate: The speed of the oscillator`s pitch LFO.
- Osc Mode:
  - Single: Only wave A. This saves CPU. PWM= Phasemodulation.
  - Shaped Env A: Wave A is shaped by the envelope. PWM= Balance between the shaped and unshaped waveform.
  - Shaped Env B: Wave A is shaped by the envelope. PWM= Phasemodulation of wave A.
  - Biwave : WaveA is played first, then waveB. PWM= Phasemodulation. B/Env offset has no function in this mode.
  - Pulse: WaveA saw and WaveB saw is used to produce pulse wave with pulse width modulation. PWM is pulse width modulation. (This is the original Prophet5 mode.) Both waves must be saw to produce traditional PWM.
  - Dual A + B: The 2 waves are added. PWM= Phasemodulation.
  - Dual A - B: The 2 waves are subtracted. PWM= Phasemodulation.
  - Dual Mix: Both waves are played. PWM= Balancebetween the 2 waves.
  - Ring Depth: The waves performs ring modulation. PWM= Ring-modulationdepth.
  - Ring-Width + A: The waves performs ring modulation. PWM= Phasewidth/gap between the waves.
  - Phz Dist Wave: The 2 waves performs phase distortion. PWM= The depth of phase modulation.
  - Phz Dist Env A: Envelope distorts the phase of wave A. PWM= The depth of phase modulation.
  - Phz Dist Env B: Envelope directly drives the phase of wave A. PWM= Phasemodulation of wave A.
  - Env: Only the envelope is output. This will not make any sound, but can be used as modulator signal.
  - Ext.Indexing: PWM directly drives the phase of waveA.

- Wave B/Env Offset: Pitch of waveB or depth of envelope.
- Phase Dist Mode: You can select the mode that sounds best for the phase Phz dist modes.
- Wave A - Wave B: Waveform selectors.
- Curved Env: Changes ENV curve.
- Level 1-9: Level for 9 stages in the built-in envelope. The times are fixed.
- Harmonics A: Set the overtones from 0-256. It is like a built in filter. Harmonics A for the FlexiA oscillator controls the harmonics of all the other oscillators in the synth, except the flexi oscillators.
- Harmonics B: Set the overtones from 0-1024. Like a built in filter.

Chapter 5 - Filter

5.1 - Filter settings

Filter parameters:

- Cutoff: Frequencies lower than this setting will pass the filter. (Low-pass filter).
- Res: Resonance. Gives more emphasis to the frequency set as cutoff frequency.
- Filt Env: The level of the filter envelope.
- KB Track: Makes the highest notes brighter. It is a cutoff frequency compensation.
- Mode: Filter can be in lowpass, bandpass, highpass or notch mode:
    - Low-pass: Only sound lower that cutoff will pass.
    - High-pass: Only sound higher than cutoff will pass.
    - Band-pass: Only sound in a band around cutoff will pass. Res sets bandwidth.
    - Notch: Only sound over and under the band will pass. Res is bandwidth.

Chapter 6 - Envelope Generators

6.1 - Filter envelope generator

Filter envelope. Affects how the sound develop over time:

- Attack: Start time. Time from zero level to full level.
- Decay: Time from full level to sustain level.
- Sustain: The level when the envelope is finished and you still hold you hand on the keys.
- Release: Fade out time after you lift your hands from the keyboard.
- 12 dB: Switch to 12dB/Octave.

6.2 - Amplifier envelope generator

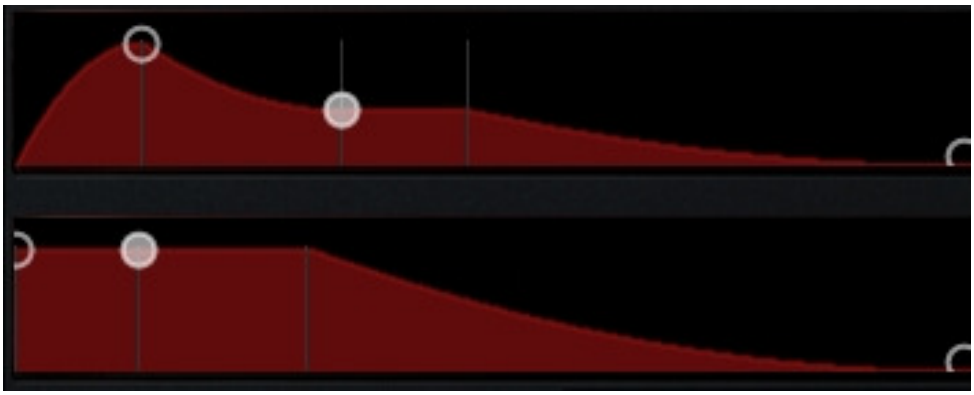
- Attack: Start time. Time from zero level to full level.
- Decay: Time from full level to sustain level.
- Sustain: The level when the envelope is finished and you still hold you hand on the keys.
- Release: Fade out time after you lift your hands from the keyboard.

The Amplifier envelope has 2 options:

- Keyb. Follow: Shorter sounds in the highest ranges. (Like a piano).
- Release: Release stage off/on.

6.3 - Graphic envelopes

You can make the graphic envelopes visible with "GRAPHIC ENV":



You can select the curve for each stage.

To change curve: Left-click on the stage. The upper is filter envelope, the lower is amp envelope.

Chapter 7 - Modulation

7.1 - Poly-Mod

The levels of filter envelope and oscillator B is mixed and used as modulation signal.

- Filt Env Source: Filter envelope level.
- Osc B Amount: oscillator B level.
- Destination:
  - Freq A: Oscillator A pitch.
  - PW A: Oscillator A pulse width length.
  - Filter: Filter Cutoff.
  - Pan: Pan.

Note that the foot-pedal can also be used as modulation signal in polymod. It is selected in the control section "foot polymod".

7.2 - LFO 1

- Rate: Speed from 0.04 to 20 Hz.
- Sync: Sync to host clock. Overrides rate knob when on.
- Level: Level is also available in control section: "Wheel LFO".
- Shape: LFO shape selector:
  - Saw Up (Ramp).
  - Triangle.
  - Square.
  - Sinus.
  - Saw Down.

7.3 - Additional LFO's

Messiah has 3 additional LFO's and some extra's modulation functions. Go to "LFO-FX" page:

7.4 - LFO 2 and LFO 3

LFO2 and LFO3 are now full LFOs.

Note that pulse width modulation is sent to flexi-oscillator only and it can perform a lot more than pulse-width modulation depending on the oscillator mode.

7.5 - LFO 4

LFO4 is hardwired to pitch modulation from modulation wheel.

- Rate: Speed.

7.6 - OSC Fiss option

Go to "LFO-FX" page:

- OSC Fiss: Noise to pitch modulation to mimic minimoog oscillators.

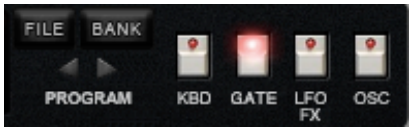
7.7 - LFO 1 Phase Start option

Go to "LFO-FX" page:

- Phase Start: Changes phase start of LFO 1.

Chapter 8 - Arpeggiator and Gate

Go to "GATE" page:



8.1 - Tempo control

Tempo control is also sent to LFO sync, OscB sync and Delay sync. Independent division of step tempo, cutoff tempo and harmonics tempo. The LFO, OscB and delay has its own divide controls. The tempo control is master for all the divisions.

- Sync: Use this setting when you compose songs. Off mode is intended for live use.

The other controls is for live use:

- Tap 4 Times: The tap tempo button.
- BPM: Actual speed display.
- Tempo: You can use this instead of the tap button when sync is off.

8.2 - Arpeggiator

- Length: Note length. Full is 100%.
- Oct: The arpeggiator will work with 1-4 octaves.
- Hold: Will hold all notes you play.

8.3 - Gate

The gate has off/on switches for each row Première rangée :

- First row: Step off/on. Gate sustain button: Steps next to each other will be tied.
- Second row: Pitch. Sent to oscillator pitch. (-12-12) is half-steps from -1 octave to +1 octave.
- Second row: Sent to filter cutoff.
- Speed: Vitesse d'exécution des pas du gate de filtre.
- Third row: Sent to oscillator harmonics. This is a kind of built in filter in the oscillator. Filter and Harmonics gate has glide knobs.

Chapter 9 - Effects

Go to "LFO-FX" page:

9.1 - Overdrive

This is distortion. When set to off, the signal is bypassed, and that will reduce CPU-load.

- High Cut: Will remove frequencies above 5 Khz. Like a guitar cabinet.
- Gain: When you increase this knob, the sound will become more and more like a square wave.
- EQ: You can set the level and frequency for each band. I tried to emulate the Marshall JCM 800 eq when I designed it. (But of course the JCM 800 has fixed bands).

You can use the EQ without distortion. Just set the gain to 0V.

9.2 - Delay

- Speed: Delay time when sync is not selected.
- Sync: Syncronization with host clock.
- Fdbck: Number of repetitions.
- Right 2x: Double delay time for right output. If you increase feedback the result will be ping-pong delay.
- Quality: As you increase the knob value the quality will get worse, and the effect is bucket brigade delay.
- Wheel: Increase in delay level with the mod-wheel.

9.3 - Chorus

- Level: Level of the chorus signal in the mix.
- Speed: Rate for the first chorus LFO.
- Speed 2: Rate for the second chorus LFO.
- Depth: Depth of the modulation signal. At lowest settings the result is flanging. At higher settings the result is chorus.
- Feedb: Level ofthe feedback signal. Should be set to zero when used as a chorus. Increase feedback to do a flanger sound.

9.4 - Ensemble

The ensemble effect is similar to the ensemble effect in Polysix.

Have fun!

Gunnare.