Waldorf Microwave 1 Plug-In
Specification

Faithful recreation of Waldorf's first generation Microwave Synthesizer based on the famous Waldorf ASIC chip (Application Specific Integrated Circuit).

Digital Section (ASIC)

- Internally running with 250 kHz sampling rate to match original ASIC sampling rate.
- Modeling of digital-to-analog converters for each voice (DAC).
- Two oscillators based on same wavetable per multi instrument.
- Unique digital noise generator based on ASIC technology.
- Digital mixer of oscillators and noise based on original ASIC including overflow bug.
- Faithful recreation of non-interpolated pitch generation.

Wavetables

- All original wavetables of Microwave 1 based on the original coding and bit-identical to original.
- Including algorithmic and speech wavetables.
- Faithful recreation of 8-bit quantization and aliasing.
- Easy to use wavetable editor based on internal control tables.
- Full waveform catalogue of original instrument can be accessed.
- User waveform editor.

Filter

- Faithful modeling of revision A and B analogue filters.
- Voice individual calibration of cutoff and resonance to model detuned hardware.
- Cutoff and resonance modulations.
- Frequency response graphic animated by live modulations

Amplifier

- Modeling of voltage controlled analogue amplifiers and panning section.
- Faithful recreation of control voltage DACs including stepping effects.

Modulators

- Recreation of unique envelope and LFO timings based of original 68k code.
- Modeling of beautiful micro variations in timings due to limitations of the original hardware.
- Filter envelope with ADSR and additional delay parameter.
- Volume envelope with ADSR.
- All filter and volume envelope timings and levels can be modulated.
- Unique 8 stage wave envelope with variable key-off point and looping.
- Wave envelope levels and timings can be modulated.
- Attack-Decay envelope for LFO1 with additional delay.
- 2 LFOs with various waveforms, symmetry and humanize parameters.

- LFOs can be phase shifted to each other.
- LFO1 with global option, rate & level modulation.

Non-Standard Tunings

- 4 user tunings can be individually edited.
- Will be stored into user presets.

Multi-Mode

- Up to 8 instruments which can be layered and split or any combination of both.
- Split by key zone and velocity range.
- Multi instrument mixer with volume, panning, detuning, transpose and many more parameters.
- Individual tuning per instrument possible,
- Huge catalogue of all original multi sounds.

Polyphony

- 8 voice polyphony like the original hardware.
- Dynamic assignment of the voices to the multi instruments.

Presets

- All factory single and multi presets included.
- 5 additional original sound sets.
- 2 new sound sets from contemporary sound designers.
- Can import original .mid and .syx files with preset dumps including user tables and wavetables.
- User presets store all additional data like user wavetables and tuning & velocity tables.

Hardware Control

- Plug-in can be used to control original hard in single mode via MIDI interface,
- Control optionally in live mode where each control is transferred automatically.

Extras

- Configurable spectrum analyzer.
- Resizable graphical user interface.

Formats

- macOS: VST, VST3, AudioUnit and AAX
- Windows: VST, VST and AAX