Waldorf microWAVE Wavetables

This is a listing, with short descriptions, of the 65 ROM wavetables in the Microwave, Microwave II and XT(k) synthesizers. These include the wavetables from the PPG Wave 2.2 synthesizer, except for the “Upper Waves”. Wavetables 28–52 and 65 are algorithmically generated, i.e. they do not play ROM waves directly, but generate waveforms by algorithmic calculations, possibly based on a ROM wave as a starting point. Wavetables 31–64 were added to the original Microwave with OS version 2.0. Wavetable 65 “True PWM” is not available there.

The descriptions are intended to give a flavour of the harmonic progression of each wavetable when heard with a single oscillator and the filter fully open. In use, individual portions of each table can yield a wide variety of timbres.

No.	Name	Description
001	**Resonant**	Harmonics 1-8 very strong, simulation of a resonant filter,wave number 00 is a sine wave.
002	**Resonant 2**	Similar to wavetable 001, but with additional higher harmonics, dual VCF simulation.
003	**MalletSyn**	Similar to the two previous wavetables, but also good for vibes, bells, tubular bells, and so on.
004	**Sqr-Sweep**	Sine-to-rectangular sweep, low-resonance VCF simulation, clarinette and flute sounds.
005	**Bellish**	Waves 00-47 feature very high harmonics in progressively greater amplitudes. Waves 47-59 continue to add high harmonics but at a faster rate. Also useful for delay effects and church bells.
006	**Pul-Sweep**	Very high harmonics are emphasized, effects similar to wavetable 016, but more mixture-like.
007	**Saw-Sweep**	Sine-to-ramp sweep, low-resonance-VCF effects, also good for woodwinds.
008	**MellowSaw**	VCF sweep without resonance, also useful for woodwind sounds.
009	**Feedback**	Highpass VCF simulation without resonance. Wave 00 has little or no fundamental. Wave 25 has fundamental at maximum amplitude. Useful for dark percussive strings, bass with click-like attack.
010	**Add Harm**	Formants are strong middle-range harmonics, useful for ring-modulation and vocal sounds.
011	**Reso 3 HP**	Similar to wavetable 010.
012	**Wind Syn**	Low formants. Wave 00 is dark, 32 is bright, 59 is dark.
013	**High Harm**	High formants that sweep.
014	**Clipper**	Very strong high-order harmonics, the fundamental is weak. Useful for bright percussive stringed keyboard instrument sounds like clavichord, harpsichord, and so on. When swept, you get an amplitude modulation effect. Wave 00 is maximum amplitude, 24 is minimum amplitude, 59 is maximum. Use great detuning and dissonant low chords for noise effects.
015	**Organ Syn**	Several organ registers. Sine, Hammond, Lowery, Church organs.
016	**SquareSaw**	Harmonics 2 + 3 to sawtooth sweep. Useful for harmonium, accordian, harmonica sounds.
017	**Formant 1**	Wild amplitude modulation effects when swept. Several peaks and dips in amplitude.
018	**Polated**	Wave 00 features the fundamental and second harmonic. Wave 14 is the fundamental alone. Wave 40 has high harmonics. Wave 59 is the fundamental alone.
019	**Transient**	When swept produces high-low-high harmonic sweep effect.
020	**ElectricP**	Waves 00-32 are stationary waveforms with string upper harmonics and a few lower harmonics. Wave 59 has no fundamental.
021	**Robotic**	Fast discrete changes of low and high harmonics for sample and hold effects. Wave 00 is a sine wave.
022	**StrongHrm**	Sine wave to high frequency formants.

No.	Name	Description
023	**PercOrgan**	This wavetable is particularly suited for echoing effects. Waveforms vary from original attack plus one delay, to two colored delays. Wave 00 is a sine wave.
024	**ClipSweep**	Strong high harmonics.
025	**ResoHarms**	Stationary organs. If swept produces ascending high harmonic sweeps.
026	**2 Echoes**	Waves 59 to 49 go from bright to sine wave. 48 to 33 have a colored delay. 33 to 18 are sinewaves. 17 to 00 have a colored delay echo.
027	**Formant 2**	Variations on sawtooth waves with strong, bright formants. Good for brass sounds.
028	**FmntVocal**	Formant sweeps. When keyboard is used to control the waves vocal and choir sounds can be produced.
029	**MicroSync**	Phasing sawtooth waves. Useful for ensemble string sounds. Generated algorithmically.
030	**Micro PWM**	Square to rectangular to narrow pulse waves. Sweeps produce pulse-width modulation effects. Generated algorithmically.
031	**Glassy**	Hollow triangle-like wave with different harmonic content. Good for subtle pad sounds. Generated algorithmically.
032	**Square HP**	Square-like waves from hollow to bright. Generated algorithmically.
033	**SawSync 1**	Sawtooth wave table with oscillator sync 1. Generated algorithmically.
034	**SawSync 2**	Sawtooth wave tables with oscillator sync 2. Wider slave detuning range. Generated algorithmically.
035	**SawSync 3**	Sawtooth wave tables with oscillator sync 3. Even wider slave detuning range. Generated algorithmically.
036	**PulSync 1**	Pulse wave tables with oscillator sync 1. Generated algorithmically.
037	**PulSync 2**	Pulse wave tables with oscillator sync 2. Wider slave detuning range. Generated algorithmically.
038	**PulSync 3**	Pulse wave tables with oscillator sync 3. Even wider slave detuning range. Generated algorithmically.
039	**SinSync 1**	3 Sine wave tables with oscillator sync 1. Generated algorithmically.
040	**SinSync 2**	3 Sine wave tables with oscillator sync 2. Wider slave detuning range. Generated algorithmically.
041	**SinSync 3**	3 Sine wave tables with oscillator sync 3. Even wider slave detuning range. Generated algorithmically.
042	**PWM Pulse**	Pulse waves whose width is modulated. 50% duty cycle at upper end. Generated algorithmically.
043	**PWM Saw**	Sawtooth waves whose width is modulated. Normal saw wave at upper end. Generated algorithmically.
044	**Fuzz Wave**	Light metallic fuzz waves. Generated algorithmically.
045	**Distorted**	Powerful distortion waves. Higher harmonics progressively less pronounced towards upper waves. Generated algorithmically.
046	**HeavyFuzz**	More powerful distortion waves. Generated algorithmically.
047	**Fuzz Sync**	Synced fuzz waves. Generated algorithmically.
048	**K+Strong1**	Karplus Strong series 1 – ideal for plucked string type sounds. Generated algorithmically.
049	**K+Strong2**	Karplus Strong series 2 – ideal for plucked string type sounds. Generated algorithmically.
050	**K+Strong3**	Karplus Strong series 3 – ideal for plucked string type sounds. Generated algorithmically.
051	**1-2-3-4-5**	Robot voice counting to 5. Best intelligibility around MIDI note 36. Generated algorithmically.
052	**19/twenty**	Robot voice saying "19 20". Best intelligibility around MIDI note 36. Generated algorithmically.
053	**Wavetrip1**	Rich and varied selection of waves.

No.	Name	Description
054	**Wavetrip2**	Rich and varied selection of waves.
055	**Wavetrip3**	Rich and varied selection of waves.
056	**Wavetrip4**	Rich and varied selection of waves.
057	**MaleVoice**	Metallic male vocal sound sweeping through the vowels “aeiou”. Best suited for the octave around MIDI note 48.
058	**Low Piano**	Like the bottom end of a piano.
059	**ResoSweep**	Resonant (below self-oscillation) filter sweep. Filter closes towards upper end.
060	**Xmas Bell**	Ring-mod-like harmonic series.
061	**FM Piano**	Convincing DX7 piano waves.
062	**Fat Organ**	Even harmonic series – the name says it all.
063	**Vibes**	Hollow metallic vibes. A bit like bowed glass.
064	**Chorus 2**	Rich phasing chorus – the best of the lot! Description by Wolfram Franke (Dec. 1999): "The wavetable is an analysis of a male choir sample I did 5 years ago for the Wave. The original choir pitch was F1 and the Wave transformed it so that it generates an equal formant spectrum through the whole keyboard range."
065	**True PWM**	Pulse-width modulation. 50% duty cycle is at lower end. Upper end is a very narrow pulse. Generated algorithmically. Microwave II/XT(k) only.

Sources

- The microWAVE II/XT(k) manual.
- http://www.xs4all.nl/~hkwad/waldorf/wavetables.html
- http://www.soundonsound.com/sos/1995_articles/aug95/waldorfmicrowave.html

… and my own observations.

Compiled by Christopher Arndt, March 2, 2011.