

THE OUTPUT OF THE SYNTHESIZED SIGNAL IS RAN THROUGH A MOOG INSPIRED LOW PASS LADDER FILTER (FOUR SINGLE-ORDER LOW PASS FILTERS IN SERIES) WITH A RESPONSE OF 50HZ TO 5000HZ AT -24 DB/OCTAVE FOR THE SQUARE, SAW, AND SINE PROGRAMS.

THE FREQUENCY IS SWEEPED UP TO THE CUTOFF WITH THE SAME ENVELOPE AS THE VOLUME. THERE IS A FIXED FEEDBACK PATH WHICH PROVIDES A BOOST AROUND THE CUTOFF FILTER FOR A MORE PRONOUNCED SWEEP.

THE EXPRESSION PEDAL INPUT CAN ALSO CONTROL THE CUTOFF FREQUENCY.

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KEELEY
ELECTRONICS

SYNTH-1

SLOW ATTACK / SYNTH WAVE GENERATOR



EFFECT TYPE: VOLUME SWELL / SYNTH WAVE GENERATOR
POWER REQUIREMENT: 9VDC CENTER NEGATIVE, 70mA POWER SUPPLY ONLY
INPUT/OUTPUT: MONO INSTRUMENT INPUT, MONO INSTRUMENT OUTPUT

- 1** **LEVEL** - CONTROLS THE OVERALL LEVEL OF THE SYNTH-1.
- 2** **ATTACK** - VOLUME SWELL EFFECT RANGING FROM 1500ms TO 4ms. THIS EFFECTS BOTH THE DRY SIGNAL AND THE SYNTH SIGNAL.
- 3** **BLEND** - LEFT FOR DRY SIGNAL, RIGHT FOR SYNTH WAVE SIGNAL.
- 4** **ON/OFF SWITCH** - TURNS BOTH THE SWELL AND SYNTH ON AND OFF.
- 5** **FILTER** - CONTROLS THE CUTOFF FREQUENCY OF THE SYNTH WAVES. SWEEP IS THE SAME ON ALL MODES, RANGING FROM 50Hz - 5000Hz.
- 6** **CHAOS SWITCH** - THE CHAOS SWITCH CHANGES THE TYPE OF DETECTION USED. IN THE "NORMAL" MODE POSITIVE AND NEGATIVE PEAK DETECTORS ARE COMPARED TO THE INPUT SIGNAL TO OBTAIN THE PERIOD. THIS IS THE SAME TYPE OF DETECTION USED IN THE BOSS OC-2 AND IS MUCH MORE STABLE AND CONSISTENT. IN CHAOS MODE ZERO-CROSS DETECTION IS USED ON THE SAW AND SQUARE TO OBTAIN THE PITCH. THIS MODE IS ONLY LOOKING FOR A SIGN CHANGE ON THE INPUT SIGNAL. IT HAS A HARDER TIME DETERMINING THE FUNDAMENTAL FROM HARMONICS CAUSING IT TO BE MORE UNSTABLE. THE CHAOS SINE MODE USES A STANDARD OCTAVE DOWN WITH ANOTHER OCTAVE SLIGHTLY OUT OF TUNE TO CAUSE FLANGING TYPE MODULATION. THE SIGNAL IS THEN HARD CLIPPED TO ACHIEVE DISTORTION.
- 7** **PEAK LIGHT** - INDICATES THE PASSING OF SIGNAL THROUGH THE FILTER SECTION OF THE SYNTH-1.
- 8** **EXPRESSION PEDAL JACK** - PLUG IN YOUR FAVORITE TRS STYLE EXPRESSION PEDAL TO CONTROL THE FILTER KNOB WITH YOUR FOOT.
- 9** **WAVEFORM ROCKER SWITCH** - SELECT BETWEEN SQUARE (UP), SAW (MIDDLE), AND SINE (BOTTOM).

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