Error Codes #1 - Z-DSP Cartridge from www.brokensilicon.com

#1 Combiner

Dual comb filter with positive & negative feedback control.

- *Connection:* Feed one or both inputs with audio signal
- *VC-P1:* Base pitch of resonating comb filter
- *VC-P2:* Relative pitch interval of second comb filter
- *VC-P3:* Negative feedback (left most position) or positive (right most position)
- *Z-DSP MIX:* Dry/Wet of comb filter

Typical use: Run with percussive audio or drum loops.
Alternative use: Feed with trigger signals, short envelopes or noise bursts.

#2 Noisekraft

Digital noise generator with speed and bit depth controls.

- *Connection:* Just use output (both identical). Inputs not used.
- *VC-P1:* Volume
- *VC-P2:* Speed (from S/H control signal to audio noise)
- *VC-P3:* Reduce bit depth from 24bits down to 1bit
- *Z-DSP MIX:* Turn to right most position.

Typical use: Noise source with modulated speed.
Alternative use: Feed output to cutoff modulation of self-resonating filter. Play with reduce, speed & volume.

#3 7 Sins

Seven sine wave generators running with linear frequency spread.

- *Connection:* Just use output (both identical). Inputs not used.
- *VC-P1:* Coarse pitch of lowest sine generator (non-standard scale)
- *VC-P2:* Fine pitch
- *VC-P3:* Linear spacing of sine wave frequencies
- *Z-DSP MIX:* Turn to right most position.

Typical use: Strange oscillator as base material for further processing.

#4 Bit Eater

Bit crusher and crude sample rate reducer.

- *Connection:* Feed one or both inputs with audio signal
- *VC-P1:* Eat bits from signal until just one left.
- *VC-P2:* Speed (from audio rate down to LFO rate)
- *VC-P3:* Clipping distortion
- *Z-DSP MIX:* Dry/Wet of bit crusher effect.

Typical use: Destroy any audio material.
Alternative use: Use output as modulation source like for cutoff modulation of self-resonating filter.

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#5 Clipper

Digital clipping distortion.

- *Connection:* Feed one or both inputs with audio signal
- *VC-P1:* Amount of clipping distortion
- *VC-P2:* Threshold below no distortion occurs
- (*VC-P3:* not used)
- *Z-DSP MIX:* Dry/Wet of clipping effect.

Typical use: Destroy any audio material.

#6 Wave Shaver

Digital wave shaper.

- *Connection:* Feed input 1 with audio signal like triangular wave
- *VC-P1:* Threshold control for bending effect
- *VC-P2:* Slope of waveform bend (potentially with clipping saturation)
- *VC-P3:* Vertical shift of bended signal portion
- *Z-DSP MIX:* Dry/Wet of wave shaper. Typically set to right most position.

Typical use: Shape periodic waveforms with less harmonics like triangular waves.
Alternative use: Shape complex waveforms or audio material. Try also shaping LFO signals.

#7 Sync Osc

Digital pulse wave oscillator synchronized from audio input.

- *Connection:* Feed input 1 with audio signal like sawtooth wave. Use output 1.
- *VC-P1:* Pitch of sync'ed oscillator controlling harmonic content
- *VC-P2:* Adding bite by controlling pulse width of oscillator
- (*VC-P3:* not used)
- *Z-DSP MIX:* Turn to right most position.

Typical use: Control with saw from VCO for generating harsh sync effects.
Alternative use: Feed with LFO signals. Modulate pitch.

#7 Burstwerk

Repeating envelope generator.

- *Connection:* Feed input 1 with gate signal. Adjust input level to correct gate tracking. Use output 1.
- *VC-P1:* Attack time of envelope.
- *VC-P2:* Decay time of envelope.
- *VC-P3:* Ritard controls repeated slowdown of envelope.
- *Z-DSP MIX:* Turn to right most position.

Typical use: Use as control signal for all kind of modulation purposes.