**Vintage Toy Synthesiser MIDI CC Implementation**

All the parameters of the Vintage Toy Synthesiser can be controlled externally via MIDI CC messages. Also the dials and switches of the front panel can transmit MIDI CCs. Below is a list of all the CCs that are used.

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| **Parameter Category** | **Parameter** | **CC Number** | **CC Range/Values** | **Notes** |
| Filter | Cutoff | 74 | 0 – 127 |  |
| Resonance | 19 | 0 – 127 |  |
| LP Mix | 26 | 0 – 127 |  |
| HP Mix | 28 | 0 – 127 |  |
| BP Mix | 27 | 0 – 127 |  |
| Notch Mix | 29 | 0 – 127 |  |
| Oscillators | Sine Mix | 14 | 0 – 127 |  |
| Triangle Mix | 15 | 0 – 127 |  |
| Sawtooth Mix | 16 | 0 – 127 |  |
| Square Mix | 18 | 0 – 127 |  |
| Pulse Mix | 17 | 0 – 127 |  |
| Pulse Amount | 3 | 0 – 127 |  |
| Sine Note | 33 | 40 – 88 | Bipolar, 64 is midpoint |
| Triangle Note | 34 | 40 – 88 | Bipolar, 64 is midpoint |
| Sawtooth Note | 35 | 40 – 88 | Bipolar, 64 is midpoint |
| Square Note | 37 | 40 – 88 | Bipolar, 64 is midpoint |
| Pulse Note | 36 | 40 – 88 | Bipolar, 64 is midpoint |
| Phase Spread | 20 | 0 – 127 |  |
| Amplitude  Envelope | Amount | 7 | 0 – 127 |  |
| Attack | 73 | 0 – 127 |  |
| Decay | 75 | 0 – 127 |  |
| Sustain | 79 | 0 – 127 |  |
| Release | 72 | 0 – 127 |  |
| Filter Envelope | Attack | 22 | 0 – 127 |  |
| Decay | 23 | 0 – 127 |  |
| Sustain | 24 | 0 – 127 |  |
| Release | 25 | 0 – 127 |  |
| LFO | Shape | 50 | 0 – 3 | 0 = sine, 1 = tri, 2 = saw, 3 = square |
| Rate | 47 | 0 – 127 |  |
| Depth | 48 | 1 – 127 | Bipolar, 64 is midpoint |
| Modulation Depths | LFO to Amplitude | 58 | 1 – 127 | Bipolar, 64 is midpoint |
|  | LFO to Cutoff | 112 | 1 – 127 | Bipolar, 64 is midpoint |
|  | LFO to Resonance | 56 | 1 – 127 | Bipolar, 64 is midpoint |
|  | Velocity to Amplitude | 63 | 1 – 127 | Bipolar, 64 is midpoint |
|  | Velocity to Cutoff | 109 | 1 – 127 | Bipolar, 64 is midpoint |
|  | Velocity to Resonance | 110 | 1 – 127 | Bipolar, 64 is midpoint |
| Keyboard/  Voices | Scale | 102 | 0 – 7 | 0 = chromatic, 1 = major, 2 = major pentatonic, 3 = minor, 4 = minor pentatonic, 5 = melodic minor, 6 = harmonic minor, 7 = blues |
|  | Octave | 114 | 61 - 67 | Bipolar, 64 is midpoint |
|  | Transpose | 106 | 58 - 70 | Bipolar, 64 is midpoint |
|  | Voice Mode | 103 | 0 or 127 | 0 = mono, 127 = poly |
| Global | Distortion Amount | 13 | 0 – 127 |  |
|  | Vintage Amount | 107 | 0 – 127 |  |
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