

MIDI CONTROLLER $\pi\lambda^2$ (FIRMWARE V2.0)

| Dec. | Hex. | Meaning | Comments (dec. numbers) |
|------|------|-------------------------------|---|
| 1 | 1 | Modulation Wheel | 0-127 (refer to #31 and #82) |
| 3 | 3 | Waveform/Submode Select | 0: normal, 1: second (2-127 unused) |
| 5 | 5 | Portamento Time* | 0-127 |
| 7 | 7 | Out Volume | 0-127 |
| 10 | A | PWM 1 & 2* | 0-127 (overwrites both) |
| 14 | E | Filter Cutoff - Analog | 0-127 |
| 15 | F | Filter Resonance - Digital | 0-127 |
| 16 | 10 | ADSR Release | 0-127 |
| 17 | 11 | ADSR Attack | 0-127 |
| 18 | 12 | Digital Filter Cutoff | 0-127 |
| 19 | 13 | ADSR Decay | 0-127 |
| 20 | 14 | OSC Volume (Pre Filter) | 0-127 |
| 21 | 15 | ADSR Sustain | 0-127 |
| 22 | 16 | DC Offset Filter | 0-127 |
| 23 | 17 | PWM 2* | 0-127 |
| 24 | 18 | Waveform/Submode (1-4) | 0-31: 1, 32-63: 2, 64-95: 3, 96-127: 4 |
| 25 | 19 | PWM 1* | 0-127 |
| 26 | 1A | Dual/Detune (on/off) | 64-127: mono on (dual/detune off) |
| 27 | 1B | Dual/Octave (on/off) | 64-127: mono on (dual/octave off) |
| 28 | 1C | Filter Type - Digital | 0-63: LP, 64-95: BP, 96-127: HP |
| 29 | 1D | Filter Link ADSR (on/off) | 64-127: on |
| 30 | 1E | Key Off Attack (on/off) | 64-127: on (for bass sounds) |
| 31 | 1F | Modulation Wheel Mode | 0-127 (bitpattern) |
| 64 | 40 | Sustain - Hold (on/off) | 64-127: on |
| 65 | 41 | Portamento (on/off) | 64-127: on |
| 70 | 46 | Filter Cutoff - Analog | 0-127 |
| 71 | 47 | Filter Resonance - Digital | 0-127 |
| 72 | 48 | ADSR Release | 0-127 |
| 73 | 49 | ADSR Attack | 0-127 |
| 74 | 4A | Filter Cutoff - Digital | 0-127 |
| 75 | 4B | Waveform/Submode (1-4) | 0-31: 1, 32-63: 2, 64-95: 3, 96-127: 4 |
| 76 | 4C | PWM 1* | 0-127 |
| 77 | 4D | Dual/Detune (on/off) | 64-127: mono on (dual/detune off) |
| 78 | 4E | Dual/Octave (on/off) | 64-127: mono on (dual/octave off) |
| 79 | 4F | Filter Type - Digital | 0-63: LP, 64-95: BP, 96-127: HP |
| 80 | 50 | Filter Link ADSR (on/off) | 64-127: on |
| 81 | 51 | Key Off Attack (on/off) | 64-127: on (for bass sounds) |
| 82 | 52 | Modulation Wheel Mode | 0-127 (bitpattern) |
| 83 | 53 | DC Offset Wave (on/off)* | 64-127: on |
| 85 | 55 | LFO PWM Mod. (on/off) | 64-127: on |
| 86 | 56 | LFO Pitch Mod. (on/off) | 64-127: on |
| 87 | 57 | LFO Filter Mod. (on/off) | 64-127: on |
| 88 | 58 | LFO Amp Mod. (on/off) | 64-127: on |
| 89 | 59 | Note Priority / Aftertouch | Note Priority: 64-127: lowest Aftertouch: 32-127: on |
| 91 | 5B | ADSR Decay | 0-127 |
| 92 | 5C | OSC Volume (Pre Filter) | 0-127 |
| 93 | 5D | ADSR Sustain | 0-127 |
| 94 | 5E | DC Offset Filter | 0-127 |
| 95 | 5F | PWM 2* | 0-127 |
| 120 | 78 | All Sound Off | 0 |
| 123 | 7B | All Notes Off | 0 |
| 126 | 7E | Mono On | 0-127 |
| 127 | 7F | Dual On | 0 |

* Different mapping in bassdrum submode (second mode)