
PARAMETERS DESCRIPTION

| No. | Class | Name | Range | Value | Text |
|--------|-------|-------------------|--------|--------------|---------------------|
| PAGE A | | | | | |
| A 0 | p | Bank Select | 0..3 | | Bank A..D |
| A 1 | p | Modulation Wheel | | | |
| A 2 | p | Breath Controller | | | |
| A 3 | p | Contr 3 | | | |
| A 4 | p | Foot Controller | | | |
| A 5 | a | Portamento Time | 0..127 | | |
| A 6 | p | Data Slider | | | |
| A 7 | p | Channel Volume | 0..127 | | |
| A 8 | p | Balance | | | |
| A 9 | p | Contr 9 | | | |
| A 10 | a | Panorama | 0..127 | -64..0..+63: | Left..Center..Right |
| A 11 | p | Expression | 0..127 | | |
| A 12 | p | Contr 12 | | | |
| A 13 | p | Contr 13 | | | |
| A 14 | p | Contr 14 | | | |
| A 15 | p | Contr 15 | | | |
| A 16 | p | Contr 16 | | | |
| A 17 | a | Osc1 Shape | 0..127 | -64..0..+63: | Wave..Saw..Pulse |
| A 18 | a | Osc1 Pulsewidth | 0..127 | | |

| No. | Class | Name | Range | Value | Text |
|------|-------|----------------------|--------|--------------|----------------------------|
| A 19 | a | Osc1 Wave Select | 0..64 | | Sine, Triangle, Wave 3..64 |
| A 20 | a | Osc1 Semitone | 0..127 | -64..+63 | |
| A 21 | a | Osc1 Keyfollow | 0..127 | -64..+63, | Default: 32 |
| A 22 | a | Osc2 Shape | 0..127 | -64..0..+63: | Wave..Saw..Pulse |
| A 23 | a | Osc2 Pulsewidth | 0..127 | | |
| A 24 | a | Osc2 Wave Select | 0..64 | | Sine, Triangle, Wave 3..64 |
| A 25 | a | Osc2 Semitone | 0..127 | -64..+63 | |
| A 26 | a | Osc2 Detune | 0..127 | | |
| A 27 | a | Osc2 FM Amount | 0..127 | | |
| A 28 | a | Osc2 Sync | 0..1 | | 0:Off 1:On |
| A 29 | a | Osc2 Filt Env Amt | 0..127 | -64..+63 | |
| A 30 | a | FM Filt Env Amt | 0..127 | -64..+63 | |
| A 31 | a | Osc2 Keyfollow | 0..127 | -64..+63: | Default: 32 |
| A 32 | p | Bank Select | 0..3 | | Bank A..D |
| A 33 | a | Osc Balance | 0..127 | -64..+63: | |
| A 34 | a | Suboscillator Volume | 0..127 | | |
| A 35 | a | Suboscillator Shape | 0..1 | | 0:Square 1:Triangle |
| A 36 | a | Osc Mainvolume | 0..127 | | |
| A 37 | a | Noise Volume | 0..127 | | |
| A 38 | a | Ringmodulator Volume | 0..127 | | |
| A 39 | a,Vb | Noise Color | 0..127 | -64..0..+63 | |
| A 40 | a | Cutoff | 0..127 | | |

| No. | Class | Name | Range | Value | Text |
|------|-------|-------------------------|--------|-----------|---|
| A 41 | a | Cutoff2 | 0..127 | -64..+63 | |
| A 42 | a | Filter1 Resonance | 0..127 | | |
| A 43 | a | Filter2 Resonance | 0..127 | | |
| A 44 | a | Filter1 Env Amt | 0..127 | | |
| A 45 | a | Filter2 Env Amt | 0..127 | | |
| A 46 | a | Filter1 Keyfollow | 0..127 | -64..+63 | |
| A 47 | a | Filter2 Keyfollow | 0..127 | -64..+63 | |
| A 48 | a | Filter Balance | 0..127 | -64..+63 | |
| A 49 | a | Saturation Curve | 0..6 | | o:Off 1:Light 2:Soft 3:Middle 4:Hard 5:Digital .. |
| A 51 | a | Filter1 Mode | 0..3 | | o:LP 1:HP 2:BP 3:BS |
| A 52 | a | Filter2 Mode | 0..3 | | o:LP 1:HP 2:BP 3:BS |
| A 53 | a | Filter Routing | 0..3 | | o:Ser4 1:Ser6 2:Par4 3:Split |
| A 54 | a | Filter Env Attack | 0..127 | | |
| A 55 | a | Filter Env Decay | 0..127 | | |
| A 56 | a | Filter Env Sustain | 0..127 | | |
| A 57 | a | Filter Env Sustain Time | 0..127 | -64..+63: | Fall..Infinite..Rise |
| A 58 | a | Filter Env Release | 0..127 | | |
| A 59 | a | Amp Env Attack | 0..127 | | |
| A 60 | a | Amp Env Decay | 0..127 | | |
| A 61 | a | Amp Env Sustain | 0..127 | | |
| A 62 | a | Amp Env Sustain Time | 0..127 | -64..+63: | Fall..Infinite..Rise |

| No. | Class | Name | Range | Value | Text |
|------|-------|----------------------|--------|----------|---|
| A 63 | a | Amp Env Release | 0..127 | | |
| A 64 | p | Hold Pedal | | | |
| A 65 | p | Portamento Pedal | | | |
| A 66 | p | Sostenuto Pedal | | | |
| A 67 | a | Lfo1 Rate | 0..127 | | |
| A 68 | a | Lfo1 Shape | 0..5 | | 0:Sine 1:Tri 2:Saw 3:Square 4:S&H 5:S&G .. |
| A 69 | a | Lfo1 Env Mode | 0..1 | | 0:Off 1:On |
| A 70 | a | Lfo1 Mode | 0..1 | | 0:Poly 1:Mono |
| A 71 | a | Lfo1 Symmetry | 0..127 | -64..+63 | |
| A 72 | a | Lfo1 Keyfollow | 0..127 | | |
| A 73 | a | Lfo1 Keytrigger | 0..127 | | 0:Off, 1..127:Keytrigger Phase |
| A 74 | a | Osc1 Lfo1 Amount | 0..127 | -64..+63 | |
| A 75 | a | Osc2 Lfo1 Amount | 0..127 | -64..+63 | |
| A 76 | a | PW Lfo1 Amount | 0..127 | -64..+63 | |
| A 77 | a | Reso Lfo1 Amount | 0..127 | -64..+63 | |
| A 78 | a | FiltGain Lfo1 Amount | 0..127 | -64..+63 | |
| A 79 | a | Lfo2 Rate | 0..127 | | |
| A 80 | a | Lfo2 Shape | 0..5 | | 0:Sine 1:Tri 2:Saw 3:Square 4:S&H 5:S&G .. |
| A 81 | a | Lfo2 Env Mode | 0..1 | | 0:Off 1:On |
| A 82 | a | Lfo2 Mode | 0..1 | | 0:Poly 1:Mono |
| A 83 | a | Lfo2 Symmetry | 0..127 | -64..+63 | |

| No. | Class | Name | Range | Value | Text |
|------|-------|------------------------|--------|----------|--------------------------------------|
| A 84 | a | Lfo2 Keyfollow | 0..127 | | |
| A 85 | a | Lfo2 Keytrigger | 0..127 | | o:Off, 1..127:Keytrigger Phase |
| A 86 | a | OscShape Lfo2 Amount | 0..127 | -64..+63 | |
| A 87 | a | FmAmount Lfo2 Amount | 0..127 | -64..+63 | |
| A 88 | a | Cutoff1 Lfo2 Amount | 0..127 | -64..+63 | |
| A 89 | a | Cutoff2 Lfo2 Amount | 0..127 | -64..+63 | |
| A 90 | a | Panorama Lfo2 Amount | 0..127 | -64..+63 | |
| A 91 | a | Patch Volume | 0..127 | | |
| A 93 | a | Transpose | 0..127 | -64..+63 | |
| A 94 | a | Key Mode | 0..4 | | o:Poly 1..4: Mono1-4 |
| A 97 | a | Unison Mode | 0..15 | | o:Off 1:Twin 2..15 |
| A 98 | a | Unison Detune | 0..127 | | |
| A 99 | a | Unison Panorama Spread | 0..127 | | |
| A100 | a | Unison Lfo Phase | 0..127 | -64..+63 | |
| A101 | a | Input Mode | 0..2 | | o:Off 1:Dynamic 2:Static 3:ToEffects |
| A102 | a | Input Select | 0..8 | | o:In1L 1:In1L+R 2:In1R .. |
| A105 | a | Chorus Mix | 0..127 | | |
| A106 | a | Chorus Rate | 0..127 | | |
| A107 | a | Chorus Depth | 0..127 | | |

| No. | Class | Name | Range | Value | Text |
|------|-------------|-------------------|--------|----------|---|
| A108 | a | Chorus Delay | 0..127 | | |
| A109 | a | Chorus Feedback | 0..127 | -64..+63 | |
| A110 | a | Chorus Lfo Shape | 0..5 | | 0:Sine 1:Tri 2:Saw 3:Square 4:S&H 5:S&G .. |
| A112 | a | Delay/Reverb Mode | 0..1 | | 0:Off 1:Delay 2:Reverb 3:Rev+Feedb1 |
| A113 | a,ms | Effect Send | 0..127 | | |
| A114 | a,ms, np | Delay Time | 0..127 | | |
| A115 | a,ms, np | Delay Feedback | 0..127 | | |
| A116 | a,ms, np | Delay Rate | 0..127 | | |
| | | Reverb Decay Time | 0..127 | | |
| A117 | a,ms, np | Delay Depth | 0..127 | | |
| | | Reverb Room Size | 0..3 | | 0:Ambience 1:SmallRoom 2:LargeRoom 3:Hall |
| A118 | a,ms, np | Delay Lfo Shape | 0..5 | | 0:Sine 1:Tri 2:Saw 3:Square 4:S&H 5:S&G .. |
| | | Reverb Damping | 0..127 | | |
| A119 | a,ms, np | Delay Color | 0..127 | -64..+63 | |
| A122 | g | Keyb Local | 0..1 | | 0:Off 1:On |
| A123 | p | All Notes Off | | | |

| No. | Class | Name | Range | Value | Text |
|--------|-------------|--------------------|--------|-------------|--|
| PAGE B | | | | | |
| B 1 | b | Arp Mode | 0..6 | | 0:Off 1:Up 2:Down 3:Up&Down 4:AsPlayed 5:Random 6:Chord |
| B 2 | b | Arp Pattern Select | 0..31 | | |
| B 3 | b | Arp Octave Range | 0..3 | | |
| B 4 | b | Arp Hold Enable | 0..1 | | 0:Off 1:On |
| B 5 | b | Arp Note Length | 0..127 | -64..+63c | |
| B 6 | b | Arp Swing | 0..127 | 50%..75% | |
| B 7 | b | Lfo3 Rate | 0..127 | | |
| B 8 | b | Lfo3 Shape | 0..5 | | 0:Sine 1:Tri 2:Saw 3:Square 4:S&H 5:S&G .. |
| B 9 | b | Lfo3 Mode | 0..1 | | 0:Poly 1:Mono |
| B 10 | b | Lfo3 Keyfollow | 0..127 | | |
| B 11 | b | Lfo3 Destination | 0..5 | | 0:Osc1 1:Osc1+2 2:Osc2 3:PW1 4:PW1+2 5:PW2 |
| B 12 | b | Osc Lfo3 Amount | 0..127 | | |
| B 13 | b | Lfo3 Fade-In Time | 0..127 | | |
| B 16 | b | Clock Tempo | 0..127 | 63..190 BPM | |
| B 17 | b | Arp Clock | 1..17 | 1/64..1/1 | |
| B 18 | b | Lfo1 Clock | 0..19 | | Off, 1/64..4/1 |
| B 19 | b | Lfo2 Clock | 0..19 | | Off, 1/64..4/1 |
| B 20 | b,ms, np | Delay Clock | 0..16 | | Off, 1/64..3/4 |
| B 21 | b | Lfo3 Clock | 0..19 | | Off, 1/64..4/1 |

| No. | Class | Name | Range | Value | Text |
|------|-------|----------------------|--------|----------|--|
| B 25 | b | Control Smooth Mode | 0..3 | | 0:Off, 1:On, 2:Auto, 3:Note |
| B 26 | b | Bender Range Up | 0..127 | -64..+63 | |
| B 27 | b | Bender Range Down | 0..127 | -64..+63 | |
| B 28 | b | Bender Scale | 0..1 | | 0:Linear 1:Exponential |
| B 30 | b | Filter1 Env Polarity | 0..1 | | 0:Negative 1:Positive |
| B 31 | b | Filter2 Env Polarity | 0..1 | | 0:Negative 1:Positive |
| B 32 | b | Filter2 Cutoff Link | 0..1 | | 0:Off 1:On |
| B 33 | b | Filter Keytrack Base | 0..127 | | C-1..G9 |
| B 34 | b,Vb | Osc FM Mode | 0..12 | | 0:Pos-Tri 1:Tri 2:Wave 3:Noise 4:Ln L 5:Ln L+R .. |
| B 35 | b | Osc Init Phase | 0..127 | | 0:Off 1..127 |
| B 36 | b | Punch Intensity | 0..127 | | |
| B 38 | b,Vb | Input Follower Mode | 0..9 | | 0:Off 1:Ln L 2:Ln L+R ... |
| B 39 | b | Vocoder Mode | 0..12 | | 0:Off 1:Osc 2:OscHold 3:Noise 4:Ln L 5:Ln L+R .. |
| B 41 | b,Vb | Osc3 Mode | 0..67 | | 0:Off 1:Osc2Slave 2:Saw 3:Pulse 4:Sine 5 Triangle .. |
| B 42 | b,Vb | Osc3 Volume | 0..127 | | |
| B 43 | b,Vb | Osc3 Semitone | 0..127 | -64..+63 | |
| B 44 | b,Vb | Osc3 Detune | 0..127 | | |
| B 47 | b | Osc1 Shape Velocity | 0..127 | -64..+63 | |
| B 48 | b | Osc2 Shape Velocity | 0..127 | -64..+63 | |

| No. | Class | Name | Range | Value | Text |
|------|-------|-------------------------|--------|----------|-----------------------------------|
| B 49 | b | PulseWidth Velocity | 0..127 | -64..+63 | |
| B 50 | b | Fm Amount Velocity | 0..127 | -64..+63 | |
| B 54 | b | Filter1 EnvAmt Velocity | 0..127 | -64..+63 | |
| B 55 | b | Filter1 EnvAmt Velocity | 0..127 | -64..+63 | |
| B 56 | b | Resonance1 Velocity | 0..127 | -64..+63 | |
| B 57 | b | Resonance2 Velocity | 0..127 | -64..+63 | |
| B 58 | b | Second Output Balance | 0..127 | | o:Off 1..127: Front..Center..Rear |
| B 60 | b | Amp Velocity | 0..127 | -64..+63 | |
| B 61 | b | Panorama Velocity | 0..127 | -64..+63 | |
| B 62 | b | Definable1 Single | | | see Definable List |
| B 63 | b | Definable2 Single | | | see Definable List |
| B 64 | b | Assign1 Source | | | see Assign Sources List |
| B 65 | b | Assign1 Destination | | | see Assign Destinations List |
| B 66 | b | Assign1 Amount | 0..127 | -64..+63 | |
| B 67 | b | Assign2 Source | | | see Assign Sources List |
| B 68 | b | Assign2 Destination1 | | | see Assign Destinations List |
| B 69 | b | Assign2 Amount1 | 0..127 | -64..+63 | |
| B 70 | b | Assign2 Destination2 | | | see Assign Destinations List |

| No. | Class | Name | Range | Value | Text |
|------|-------|----------------------|--------|----------|------------------------------|
| B 71 | b | Assign2 Amount2 | 0..127 | -64..+63 | |
| B 72 | b | Assign3 Source | | | see Assign Sources List |
| B 73 | b | Assign3 Destination1 | | | see Assign Destinations List |
| B 74 | b | Assign3 Amount1 | 0..127 | -64..+63 | |
| B 75 | b | Assign3 Destination2 | | | see Assign Destinations List |
| B 76 | b | Assign3 Amount2 | 0..127 | -64..+63 | |
| B 77 | b | Assign3 Destination3 | | | see Assign Destinations List |
| B 78 | b | Assign3 Amount3 | 0..127 | -64..+63 | |
| | | | | | |
| B 79 | b | LFO1 Assign Dest | | | see Assign Destinations List |
| B 80 | b | LFO1 Assign Amount | 0..127 | -64..+63 | |
| B 81 | b | LFO2 Assign Dest | | | see Assign Destinations List |
| B 82 | b | LFO2 Assign Amount | 0..127 | -64..+63 | |
| B 84 | b,Vb | Phaser Mode | 0..6 | | 0:Off, 1..6 Phaser Stages |
| B 85 | b,Vb | Phaser Mix | 0..127 | | |
| B 86 | b,Vb | Phaser Rate | 0..127 | | |
| B 87 | b,Vb | Phaser Depth | 0..127 | | |
| B 88 | b,Vb | Phaser Frequency | 0..127 | | |
| B 89 | b,Vb | Phaser Feedback | 0..127 | -64..+63 | |
| B 90 | b,Vb | Phaser Spread | 0..127 | | |

| No. | Class | Name | Range | Value | Text |
|------|-------|----------------------|---------|-------|---|
| B 97 | b,Vb | Bass Intensity | 0..127 | | |
| B 98 | b,Vb | Bass Tune | 0..127 | | |
| B 99 | b,Vb | Input Ringmodulator | 0..127 | | o:Off 1..127: Direct..Ringmodulator..Input |
| B100 | b,Vb | Distortion Curve | 0..6 | | o:Off 1:Light 2:Soft 3:Middle 4:Hard 5:Digital .. |
| B101 | b,Vb | Distortion Intensity | 0..127 | | |
| B112 | b | Single Name Char1 | 32..127 | ASCII | |
| B113 | b | Single Name Char2 | 32..127 | ASCII | |
| B114 | b | Single Name Char3 | 32..127 | ASCII | |
| B115 | b | Single Name Char4 | 32..127 | ASCII | |
| B116 | b | Single Name Char5 | 32..127 | ASCII | |
| B117 | b | Single Name Char6 | 32..127 | ASCII | |
| B118 | b | Single Name Char7 | 32..127 | ASCII | |
| B119 | b | Single Name Char8 | 32..127 | ASCII | |
| B120 | b | Single Name Char9 | 32..127 | ASCII | |
| B121 | b | Single Name Char10 | 32..127 | ASCII | |
| B122 | b | Filter Select | 0..2 | | o:Filt1 1:Filt2 2:Filt1*2 |
| B123 | b,Vb | | | | Category1 |
| B124 | b,Vb | | | | Category2 |