

-- Unofficial TB-3 MIDI Sysex Implementation v1.4.1  
-- August 23rd, 2024

-- UPDATED by Dope Robot [doperobot.com]

-- updates:  
-- fixed VCO label names  
-- added ring mod depth name label  
-- added RING MOD SQR LEVEL  
-- added unknown ring modulation 7  
-- ring, white, and pink ring mod level were mislabeled because there was one extra  
-- unidentified parameter in between them

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-- sure to make any necessary backups and proceed at your own risk. We will not take  
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-- machine gets to an unusable state, please refer to the restart and initialize  
-- routines at [doperobot.com/tb3](http://doperobot.com/tb3)  
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-- MIDI

Address	Description	
01 00 00 00	MIDI OUT CHANNEL	(0 - 15)
		1 - 16
01 00 00 00	MIDI IN CHANNEL	(0 - 15)
		1 - 16
02 00 00 0a	OMNI MODE	(0 - 1)
		OFF, ON
00 00 00 03	Total Size	

-- UNIDENTIFIED

Address	Description	
02 00 00 00	UNIDENTIFIED	(0 - 0)
00 00 00 01	Total Size	

-- UNIDENTIFIED

Address	Description
02 00 02 00   0000 0000	UNIDENTIFIED (0 - 0)
00 00 00 01	Total Size

UNIDENTIFIED

Address	Description
02 00 40 00   0000 0000	UNIDENTIFIED (0 - 0)
00 00 00 01	Total Size

LFO

Address	Description
10 00 00 00   0aaa aaaa	LFO RATE (0 - 127)
01   0aaa aaaa	LFO DELAY (0 - 127)
02   0aaa aaaa	LFO WAVE (SAW) (0 - 127)
03   0aaa aaaa	LFO WAVE (SQR) (0 - 127)
04   0aaa aaaa	LFO WAVE (TRI) (0 - 127)
05   0aaa aaaa	LFO WAVE (SIN) (0 - 127)
06   0aaa aaaa	CV OFFSET (LFO) (0 - 127)
07   0aaa aaaa	LFO WAVE (S&H) (0 - 127)
08   0aaa aaaa	LFO DEPTH (VCO) (0 - 127)
	-64 - 63
09   0aaa aaaa	LFO DEPTH (VCF) (0 - 127)
	-64 - 63
0A   0aaa aaaa	LFO DEPTH (VCA) (0 - 127)
	-64 - 63
0B   0000 000a	BPM SYNC (0 - 1)
	OFF, ON
0C   0000 000a	LFO RETRIGGER (0 - 1)
00 00 00 0D	Total Size

CV OFFSET

Address	Description
10 00 02 00   0000 aaaa	CV OFFSET (SQR PITCH) (0 - 255)
01   0000 bbbb	-128 - 127
02   0000 aaaa	CV OFFSET (SAW PITCH) (0 - 255)

03	0000	bbbb		-128 - 127
04	0000	aaaa	CV OFFSET (RING PITCH)	(0 - 255)
05	0000	bbbb		-128 - 127
-----				
00 00 00 06	Total Size			
-----				

CROSS MODULATION

Address	Description			
10 00 04 00	0aaa	aaaa	CROSS MODULATION DEPTH(SQR>SAW)	(0 - 127)
				-64 - 63
01	0aaa	aaaa	UNIDENTIFIED	(0 - 127)
02	0aaa	aaaa	CROSS MODULATION DEPTH(SAW>SAW)	(0 - 127)
				-64 - 63
03	0aaa	aaaa	CROSS MODULATION DEPTH(WHITE NOISE>SAW)	(0 - 127)
				-64 - 63
04	0aaa	aaaa	CROSS MODULATION DEPTH(PINK NOISE>SAW)	(0 - 127)
				-64 - 63
05	0aaa	aaaa	CROSS MODULATION DEPTH(SQR>SQR)	(0 - 127)
				-64 - 63
06	0aaa	aaaa	UNIDENTIFIED	(0 - 127)
07	0aaa	aaaa	CROSS MODULATION DEPTH(SAW>SQR)	(0 - 127)
				-64 - 63
08	0aaa	aaaa	CROSS MODULATION DEPTH(WHITE NOISE>SQR)	(0 - 127)
				-64 - 63
09	0aaa	aaaa	CROSS MODULATION DEPTH(PINK NOISE>SQR)	(0 - 127)
				-64 - 63
-----				
00 00 00 0A	Total Size			
-----				

RING MODULATION

Address	Description			
10 00 06 00	0aaa	aaaa	RING MODULATION DEPTH(SAW)	(0 - 127)
01	0aaa	aaaa	RING MODULATION DEPTH(SQR)	(0 - 127)
02	0aaa	aaaa	UNIDENTIFIED	(0 - 127)
03	0aaa	aaaa	UNIDENTIFIED	(0 - 127)
04	0aaa	aaaa	RING MODULATION DEPTH(RING)	(0 - 127)
05	0aaa	aaaa	RING MODULATION DEPTH(WHITE NOISE)	(0 - 127)
06	0aaa	aaaa	RING MODULATION DEPTH(PINK NOISE)	(0 - 127)
07	0aaa	aaaa	UNIDENTIFIED	(0 - 127)
08	0aaa	aaaa	UNIDENTIFIED	(0 - 127)
09	0aaa	aaaa	UNIDENTIFIED	(0 - 127)
0A	0aaa	aaaa	UNIDENTIFIED	(0 - 127)

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-- |          0B | 0aaa aaaa | RING MODULATION DEPTH          (0 - 127) |
-- |          0C | 0aaa aaaa | UNIDENTIFIED                   (0 - 127) |
-- |          0D | 0aaa aaaa | UNIDENTIFIED                   (0 - 127) |

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-- | 00 00 00 0E | Total Size|

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VCO

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-- | Address          | Description
-- |-----|-----|
-- | 10 00 08 00 | 0aaa aaaa | VCO SAW LEVEL          (0 - 127) |
-- |          01 | 0aaa aaaa | VCO SQR LEVEL         (0 - 127) |
-- |          02 | 0aaa aaaa | UNIDENTIFIED          (0 - 127) |
-- |          03 | 0aaa aaaa | UNIDENTIFIED          (0 - 127) |
-- |          04 | 0aaa aaaa | VCO SIN LEVEL         (0 - 127) |
-- |          05 | 0aaa aaaa | VCO WHITE NOISE LEVEL (0 - 127) |
-- |          06 | 0aaa aaaa | VCO PINK NOISE LEVEL  (0 - 127) |
-- |          07 | 0aaa aaaa | VCO RING LEVEL        (0 - 127) |
-- |          08 | 0000 000a | VCO SAW SW            (0 - 1)   |
-- |          |          |                       OFF, ON    |
-- |          09 | 0000 000a | VCO SQR SW            (0 - 1)   |
-- |          |          |                       OFF, ON    |
-- |          0A | 0000 000a | VCO SIN SW            (0 - 1)   |
-- |          |          |                       OFF, ON    |
-- |          0B | 0000 000a | VCO WHITE NOISE SW   (0 - 1)   |
-- |          |          |                       OFF, ON    |
-- |          0C | 0000 000a | VCO PINK NOISE SW    (0 - 1)   |
-- |          |          |                       OFF, ON    |
-- |          0D | 0000 000a | VCO RING SW          (0 - 1)   |
-- |          |          |                       OFF, ON    |
-- | 00 00 00 0E | Total Size|

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VCF

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-- | Address          | Description
-- |-----|-----|
-- | 10 00 0A 00 | 0000 aaaa | VCF CUTOFF            (0 - 255) |
-- |          01 | 0000 bbbb |                       |
-- |          02 | 0000 aaaa | VCF RESONANCE        (0 - 255) |
-- |          03 | 0000 bbbb |                       |
-- |          04 | 0000 aaaa | VCF ENVELOPE DEPTH (ENV MOD) (0 - 255) |
-- |          05 | 0000 bbbb |                       |
-- |          06 | 0aaa aaaa | VCF ENVELOPE ATTACK  (0 - 127) |

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-- |          07 | 0aaa aaaa | VCF ENVELOPE DECAY                (0 - 127) |
-- |          08 | 0aaa aaaa | VCF ENVELOPE SUSTAIN              (0 - 127) |
-- |          09 | 0aaa aaaa | VCF ENVELOPE RELEASE              (0 - 127) |
-- |          0A | 0aaa aaaa | VCF KEY FOLLOW                     (0 - 127) |

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-- |-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
-- | 00 00 00 0B | Total Size|
-- |-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+

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-- VCA

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-- |-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
-- | Address      | Description
-- |-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
-- | 10 00 0C 00 | 0aaa aaaa | VCA ENVELOPE ATTACK                (0 - 127) |
-- |          01 | 0aaa aaaa | VCA ENVELOPE DECAY                (0 - 127) |
-- |          02 | 0aaa aaaa | VCA ENVELOPE SUSTAIN              (0 - 127) |
-- |          03 | 0aaa aaaa | VCA ENVELOPE RELEASE              (0 - 127) |
-- |          04 | 0aaa aaaa | MASTER VOLUME                      (0 - 127) |

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-- |-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
-- | 00 00 00 05 | Total Size|
-- |-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+

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-- DISTORTION

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-- |-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
-- | Address      | Description
-- |-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
-- | 10 00 0E 00 | 0000 000a | DISTORTION SW                      (0 - 1) |
-- |          |          | OFF, ON
-- |          01 | 000a aaaa | TYPE                                (0 - 24) |
-- |          |          | 0 Mid Boost, 1 Clean Boost, 2 Treble Bst,
-- |          |          | 3 Blues OD, 4 Crunch, 5 Natural OD,
-- |          |          | 6 OD-1, 7 T-Scream, 8 Turbo OD,
-- |          |          | 9 Warm OD, 10 Distortion, 11 Mild DS,
-- |          |          | 12 Mid DS, 13 RAT, 14 GUV DS,
-- |          |          | 15 DST+, 16 Modern DS, 17 Solid DS,
-- |          |          | 18 Stack, 19 Loud, 20 Metal Zone,
-- |          |          | 21 Lead, 22 '60s FUZZ, 23 Oct FUZZ,
-- |          |          | 24 MUFF FUZZ
-- |          02 | 0aaa aaaa | DRIVE                                (0 - 120) |
-- |          03 | 0aaa aaaa | BOTTOM                                (0 - 100) |
-- |          |          | -50 - 50
-- |          04 | 0aaa aaaa | TONE                                (0 - 100) |
-- |          |          | -50 - 50
-- |          05 | 0aaa aaaa | EFFECT LEVEL                        (0 - 100) |
-- |          06 | 0aaa aaaa | DRY LEVEL                          (0 - 100) |
-- |          07 | 0000 000a | COLOR                                (0 - 1) |
-- |          08 | 0000 000a | UNIDENTIFIED                        (0 - 1) |

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-- |-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
-- | 00 00 00 09 | Total Size|
-- |-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+

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EFX1

Address		Description	
10 00 10 00	0000 aaaa	EFX1 TYPE BYPASS, CS, RM, BC, TR, CH, FL, PH, DD, PS, EQ	(0 - 10)
10 00 10 01	0000 000a	CS SW	(0 - 1) OFF, ON
02	0aaa aaaa	CS ATTACK	(0 - 124) 0 - 800 [ms]
03	0aaa aaaa	CS RELEASE	(0 - 124) 0 - 8000 [ms]
04	00aa aaaa	CS THRESHOLD	(0 - 40) -40 - 0 [dB]
05	0000 aaaa	CS RATIO	(0 - 13) 1:1.0 - 1:INF
06	0000 aaaa	CS KNEE	(0 - 9) Hard, Soft1 - Soft9
07	0aaa aaaa	CS GAIN	(0 - 80) -40 - 40 [dB]
08	0aaa aaaa	CS BALANCE	(0 - 100) -50 - 50
10 00 10 09	0000 000a	RM SW	(0 - 1) OFF, ON
0A	0aaa aaaa	RM FREQUENCY	(0 - 127)
0B	0aaa aaaa	RM SENS	(0 - 127)
0C	0000 000a	RM POLARITY	(0 - 1) UP, DOWN
0D	000a aaaa	RM EQ LOW	(0 - 30) -15 - 15 [dB]
0E	000a aaaa	RM EQ HIGH	(0 - 30) -15 - 15 [dB]
0F	0aaa aaaa	RM BALANCE	(0 - 100) -50 - 50
10	0aaa aaaa	RM LEVEL	(0 - 127)
10 00 10 11	0000 000a	BC SW	(0 - 1) OFF, ON
12	0aaa aaaa	BC FILTER	(0 - 127)
13	0aaa aaaa	BC SAMPLE RATE	(0 - 127)
14	0aaa aaaa	UNIDENTIFIED	(0 - 20)
15	000a aaaa	BC EQ LOW	(0 - 30) -15 - 15 [dB]
16	000a aaaa	BC EQ HIGH	(0 - 30) -15 - 15 [dB]
17	0aaa aaaa	BC LEVEL	(0 - 127)

10 00 10 18	0000 000a	TR SW	(0 - 1)
			OFF, ON
19	0000 0aaa	TR TYPE	(0 - 5)
		TRI, SAW1, SAW2, SIN, SQUARE, RAND	
1A	0aaa aaaa	TR PHASE	(0 - 100)
			0 - 360
1B	0aaa aaaa	TR RATE	(0 - 100)
			8000 - 20 [ms]
1C	000a aaaa	TR BPM SYNC	(0 - 20)
		OFF, 2, 3/2, 4/3, 1, 3/4, 2/3, 1/2,	
		3/8, 1/3, 1/4, 3/16, 1/6, 1/8, 3/32,	
		1/12, 1/16, 3/64, 1/24, 1/32, 3/128	
1D	0aaa aaaa	TR SHAPE	(0 - 100)
1E	0aaa aaaa	TR DEPTH	(0 - 100)
1F	0000 000a	TR PAN SELECT	(0 - 1)
			TRE, PAN
20	0aaa aaaa	TR LEVEL	(0 - 100)
10 00 10 21	0000 000a	CH SW	(0 - 1)
			OFF, ON
22	0000 00aa	CH MODE	(0 - 2)
		MONO, STEREO1, STEREO2	
23	0aaa aaaa	CH RATE	(0 - 100)
			8000 - 20 [ms]
24	000a aaaa	CH BPM SYNC	(0 - 20)
		OFF, 2, 3/2, 4/3, 1, 3/4, 2/3, 1/2,	
		3/8, 1/3, 1/4, 3/16, 1/6, 1/8, 3/32,	
		1/12, 1/16, 3/64, 1/24, 1/32, 3/128	
25	0aaa aaaa	CH DEPTH	(0 - 100)
26	0aaa aaaa	CH PRE DELAY	(0 - 80)
			0 - 80 [ms]
10 00 10 27	000a aaaa	CH HPF	(0 - 17)
			Flat - 800 [Hz]
28	0000 aaaa	CH LPF	(0 - 14)
			630 [Hz] - Flat
29	0aaa aaaa	CH LEVEL	(0 - 100)
10 00 10 2A	0000 000a	FL SW	(0 - 1)
			OFF, ON
2B	0aaa aaaa	FL RATE	(0 - 100)
			8000 - 20 [ms]
2C	000a aaaa	FL BPM SYNC	(0 - 20)
		OFF, 2, 3/2, 4/3, 1, 3/4, 2/3, 1/2,	
		3/8, 1/3, 1/4, 3/16, 1/6, 1/8, 3/32,	
		1/12, 1/16, 3/64, 1/24, 1/32, 3/128	
2D	0aaa aaaa	FL DEPTH	(0 - 100)
2E	0aaa aaaa	FL MANUAL	(0 - 100)

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-- |                                     |                                     | -50 - 50 |
-- | 2F | 0aaa aaaa | FL RESONANCE |                                     | (0 - 100) |
-- | 30 | 0aaa aaaa | FL SEPARATION |                                     | (0 - 100) |
-- | 31 | 0000 aaaa | FL HPF |                                     | (0 - 10) |
-- |                                     |                                     | Flat - 800 [Hz] |
-- | 32 | 0aaa aaaa | FL EFFECT LEVEL |                                     | (0 - 100) |
-- | 33 | 0aaa aaaa | FL DIRECT LEVEL |                                     | (0 - 100) |
-----|-----|-----|-----|-----|
-- | 10 00 10 34 | 0000 000a | PH SW |                                     | (0 - 1) |
-- |                                     |                                     | OFF, ON |
-- | 35 | 0000 00aa | PH TYPE |                                     | (0 - 3) |
-- |                                     |                                     | 4Stage, 8Stage, 12Stage, Bi-Phase |
-- | 36 | 0aaa aaaa | PH RATE |                                     | (0 - 100) |
-- |                                     |                                     | 8000 - 20 [ms] |
-- | 37 | 000a aaaa | PH BPM SYNC |                                     | (0 - 20) |
-- |                                     |                                     | OFF, 2, 3/2, 4/3, 1, 3/4, 2/3, 1/2, |
-- |                                     |                                     | 3/8, 1/3, 1/4, 3/16, 1/6, 1/8, 3/32, |
-- |                                     |                                     | 1/12, 1/16, 3/64, 1/24, 1/32, 3/128 |
-- | 38 | 0aaa aaaa | PH DEPTH |                                     | (0 - 100) |
-- | 39 | 0aaa aaaa | PH MANUAL |                                     | (0 - 100) |
-- |                                     |                                     | -50 - 50 |
-- | 3A | 0aaa aaaa | PH RESONANCE |                                     | (0 - 127) |
-- | 3B | 000a aaaa | PH STEP RATE |                                     | (0 - 20) |
-- |                                     |                                     | OFF, 2, 3/2, 4/3, 1, 3/4, 2/3, 1/2, |
-- |                                     |                                     | 3/8, 1/3, 1/4, 3/16, 1/6, 1/8, 3/32, |
-- |                                     |                                     | 1/12, 1/16, 3/64, 1/24, 1/32, 3/128 |
-- | 3C | 0aaa aaaa | PH EFFECT LEVEL |                                     | (0 - 100) |
-- | 3D | 0aaa aaaa | PH DIRECT LEVEL |                                     | (0 - 100) |
-----|-----|-----|-----|-----|
-- | 10 00 10 3E | 0000 000a | DD SW |                                     | (0 - 1) |
-- |                                     |                                     | OFF, ON |
-- | 3F | 0000 00aa | DD TYPE |                                     | (0 - 2) |
-- |                                     |                                     | SINGLE, PAN, STEREO |
-- | 40 | 0aaa aaaa | DD TIME |                                     | (0 - 100) |
-- |                                     |                                     | 0 - 100 [ms] |
-- | 41 | 0aaa aaaa | DD TAP TIME |                                     | (0 - 100) |
-- |                                     |                                     | 0 - 100 [ms] |
-- | 42 | 000a aaaa | DD BPM SYNC |                                     | (0 - 20) |
-- |                                     |                                     | OFF, 2, 3/2, 4/3, 1, 3/4, 2/3, 1/2, |
-- |                                     |                                     | 3/8, 1/3, 1/4, 3/16, 1/6, 1/8, 3/32, |
-- |                                     |                                     | 1/12, 1/16, 3/64, 1/24, 1/32, 3/128 |
-- | 43 | 0aaa aaaa | DD FEEDBACK |                                     | (0 - 100) |
-- | 44 | 0000 aaaa | DD LPF |                                     | (0 - 14) |
-- |                                     |                                     | 630 [Hz] - Flat |
-- | 45 | 0aaa aaaa | DD EFFECT LEVEL |                                     | (0 - 100) |
-- | 46 | 0aaa aaaa | DD DIRECT LEVEL |                                     | (0 - 100) |

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10 00 10 47	0000 000a	PS SW	(0 - 1)
			OFF, ON
48	0000 00aa	PS VOICE	(0 - 2)
			1MONO, 2MONO, 2Stereo
49	00aa aaaa	PS 1 PITCH	(0 - 48)
			-2400 - 2400 [Cent]
4A	0aaa aaaa	PS 1 PRE DELAY	(0 - 100)
			0 - 100 [ms]
4B	0aaa aaaa	PS FEEDBACK	(0 - 100)
4C	0aaa aaaa	PS 1 EFX LEVEL	(0 - 100)
4D	00aa aaaa	PS 2 PITCH	(0 - 48)
			-2400 - 2400 [Cent]
4E	0aaa aaaa	PS 2 PRE DELAY	(0 - 100)
			0 - 100 [ms]
4F	0000 0000	UNIDENTIFIED	(0 - 0)
50	0aaa aaaa	PS 2 EFX LEVEL	(0 - 100)
51	0aaa aaaa	PS DIRECT LEVEL	(0 - 100)
52	000a aaaa	UNIDENTIFIED	(0 - 30)
10 00 10 53	0000 000a	EQ SW	(0 - 1)
			OFF, ON
54	000a aaaa	EQ LOW CUT	(0 - 17)
			Flat - 800 [Hz]
55	00aa aaaa	EQ LOW GAIN	(0 - 40)
			-20 - 20 [dB]
56	000a aaaa	EQ LOW MID FREQ	(0 - 27)
			20.0 - 10.0k [Hz]
57	0000 0aaa	EQ LOW MID Q	(0 - 5)
			0.5 - 16
58	00aa aaaa	EQ LOW MID GAIN	(0 - 40)
			-20 - 20 [dB]
59	000a aaaa	EQ HIGH MID FREQ	(0 - 27)
			20.0 - 10.0k [Hz]
5A	0000 0aaa	EQ HIGH MID Q	(0 - 5)
			0.5 - 16
5B	00aa aaaa	EQ HIGH MID GAIN	(0 - 40)
			-20 - 20 [dB]
5C	0000 aaaa	EQ HIGH CUT	(0 - 14)
			630 [Hz] - Flat
5D	00aa aaaa	EQ HIGH GAIN	(0 - 40)
			-20 - 20 [dB]
5E	00aa aaaa	EQ LEVEL	(0 - 40)
			-20 - 20 [dB]
00 00 00 5F	Total Size		

Address		Description	
10 00 12 00	0000 aaaa	EFX2 TYPE BYPASS, CS, RM, BC, TR, CH, FL, PH, DD, RV	(0 - 9)
10 00 12 01	0000 000a	CS SW	(0 - 1) OFF, ON
	02	0aaa aaaa	CS ATTACK (0 - 124) 0 - 800 [ms]
	03	0aaa aaaa	CS RELEASE (0 - 124) 0 - 8000 [ms]
	04	00aa aaaa	CS THRESHOLD (0 - 40) -40 - 0 [dB]
	05	0000 aaaa	CS RATIO (0 - 13) 1:1.0 - 1:INF
	06	0000 aaaa	CS KNEE (0 - 9) Hard, Soft1 - Soft9
	07	0aaa aaaa	CS GAIN (0 - 80) -40 - 40 [dB]
	08	0aaa aaaa	CS BALANCE (0 - 100) -50 - 50
10 00 12 09	0000 000a	RM SW	(0 - 1) OFF, ON
	0A	0aaa aaaa	RM FREQUENCY (0 - 127)
	0B	0aaa aaaa	RM SENS (0 - 127)
	0C	0000 000a	RM POLARITY (0 - 1) UP, DOWN
	0D	000a aaaa	RM EQ LOW (0 - 30) -15 - 15 [dB]
	0E	000a aaaa	RM EQ HIGH (0 - 30) -15 - 15 [dB]
	0F	0aaa aaaa	RM BALANCE (0 - 100) -50 - 50
	10	0aaa aaaa	RM LEVEL (0 - 127)
10 00 12 11	0000 000a	BC SW	(0 - 1) OFF, ON
	12	0aaa aaaa	BC FILTER (0 - 127)
	13	0aaa aaaa	BC SAMPLE RATE (0 - 127)
	14	0aaa aaaa	UNIDENTIFIED (0 - 20)
	15	000a aaaa	BC EQ LOW (0 - 30) -15 - 15 [dB]
	16	000a aaaa	BC EQ HIGH (0 - 30) -15 - 15 [dB]
	17	0aaa aaaa	BC LEVEL (0 - 127)
10 00 12 18	0000 000a	TR SW	(0 - 1)

									OFF, ON
	19	0000	0aaa	TR TYPE					(0 - 5)
								TRI, SAW1, SAW2, SIN, SQUARE, RAND	
	1A	0aaa	aaaa	TR PHASE					(0 - 100)
									0 - 360
	1B	0aaa	aaaa	TR RATE					(0 - 100)
									8000 - 20 [ms]
	1C	000a	aaaa	TR BPM SYNC					(0 - 20)
								OFF, 2, 3/2, 4/3, 1, 3/4, 2/3, 1/2,	
								3/8, 1/3, 1/4, 3/16, 1/6, 1/8, 3/32,	
								1/12, 1/16, 3/64, 1/24, 1/32, 3/128	
	1D	0aaa	aaaa	TR SHAPE					(0 - 100)
	1E	0aaa	aaaa	TR DEPTH					(0 - 100)
	1F	0000	000a	TR PAN SELECT					(0 - 1)
									TRE, PAN
	20	0aaa	aaaa	TR LEVEL					(0 - 100)
-----									
10	00	12	21	0000	000a	CH SW			(0 - 1)
									OFF, ON
									(0 - 2)
								MONO, STEREO1, STEREO2	
	23	0aaa	aaaa	CH RATE					(0 - 100)
									8000 - 20 [ms]
	24	000a	aaaa	CH BPM SYNC					(0 - 20)
								OFF, 2, 3/2, 4/3, 1, 3/4, 2/3, 1/2,	
								3/8, 1/3, 1/4, 3/16, 1/6, 1/8, 3/32,	
								1/12, 1/16, 3/64, 1/24, 1/32, 3/128	
	25	0aaa	aaaa	CH DEPTH					(0 - 100)
	26	0aaa	aaaa	CH PRE DELAY					(0 - 80)
									0 - 80 [ms]
	27	000a	aaaa	CH HPF					(0 - 17)
									Flat - 800 [Hz]
	28	0000	aaaa	CH LPF					(0 - 14)
									630 [Hz] - Flat
	29	0aaa	aaaa	CH LEVEL					(0 - 100)
-----									
10	00	12	2A	0000	000a	FL SW			(0 - 1)
									OFF, ON
									(0 - 100)
									8000 - 20 [ms]
	2C	000a	aaaa	FL BPM SYNC					(0 - 20)
								OFF, 2, 3/2, 4/3, 1, 3/4, 2/3, 1/2,	
								3/8, 1/3, 1/4, 3/16, 1/6, 1/8, 3/32,	
								1/12, 1/16, 3/64, 1/24, 1/32, 3/128	
	2D	0aaa	aaaa	FL DEPTH					(0 - 100)
	2E	0aaa	aaaa	FL MANUAL					(0 - 100)
									-50 - 50
	2F	0aaa	aaaa	FL RESONANCE					(0 - 100)

	30	0aaa	aaaa	FL SEPARATION	(0 - 100)
	31	0000	aaaa	FL HPF	(0 - 10)
				Flat - 800 [Hz]	
	32	0aaa	aaaa	FL EFFECT LEVEL	(0 - 100)
	33	0aaa	aaaa	FL DIRECT LEVEL	(0 - 100)
-----					
10 00 12	34	0000	000a	PH SW	(0 - 1)
					OFF, ON
	35	0000	00aa	PH TYPE	(0 - 3)
					4Stage, 8Stage, 12Stage, Bi-Phase
	36	0aaa	aaaa	PH RATE	(0 - 100)
					8000 - 20 [ms]
	37	000a	aaaa	PH BPM SYNC	(0 - 20)
					OFF, 2, 3/2, 4/3, 1, 3/4, 2/3, 1/2,
					3/8, 1/3, 1/4, 3/16, 1/6, 1/8, 3/32,
					1/12, 1/16, 3/64, 1/24, 1/32, 3/128
	38	0aaa	aaaa	PH DEPTH	(0 - 100)
	39	0aaa	aaaa	PH MANUAL	(0 - 100)
					-50 - 50
	3A	0aaa	aaaa	PH RESONANCE	(0 - 127)
	3B	000a	aaaa	PH STEP RATE	(0 - 20)
					OFF, 2, 3/2, 4/3, 1, 3/4, 2/3, 1/2,
					3/8, 1/3, 1/4, 3/16, 1/6, 1/8, 3/32,
					1/12, 1/16, 3/64, 1/24, 1/32, 3/128
	3C	0aaa	aaaa	PH EFFECT LEVEL	(0 - 100)
	3D	0aaa	aaaa	PH DIRECT LEVEL	(0 - 100)
-----					
10 00 12	3E	0000	000a	DD SW	(0 - 1)
					OFF, ON
	3F	0000	00aa	DD TYPE	(0 - 2)
					SINGLE, PAN, STEREO
	40	0aaa	aaaa	DD TIME	(0 - 100)
					0 - 100 [ms]
	41	0aaa	aaaa	DD TAP TIME	(0 - 100)
					0 - 100 [ms]
	42	000a	aaaa	DD BPM SYNC	(0 - 20)
					OFF, 2, 3/2, 4/3, 1, 3/4, 2/3, 1/2,
					3/8, 1/3, 1/4, 3/16, 1/6, 1/8, 3/32,
					1/12, 1/16, 3/64, 1/24, 1/32, 3/128
	43	0aaa	aaaa	DD FEEDBACK	(0 - 100)
	44	0000	aaaa	DD LPF	(0 - 14)
					630 [Hz] - Flat
	45	0aaa	aaaa	DD EFFECT LEVEL	(0 - 100)
	46	0aaa	aaaa	DD DIRECT LEVEL	(0 - 100)
-----					
10 00 12	47	0000	000a	RV SW	(0 - 1)

48	0000 0aaa	RV TYPE	OFF, ON (0 - 6) AMBIENT, ROOM, HALL1, HALL2, PLATE, SPRING, MODULATION
49	0aaa aaaa	RV TIME	(0 - 99)
4A	0aaa aaaa	RV PRE DELAY	(0 - 100) 0 - 100 [ms]
4B	000a aaaa	RV HPF	(0 - 17) Flat - 800 [Hz]
4C	0000 aaaa	RV LPF	(0 - 14) 630 [Hz] - Flat
4D	0000 aaaa	RV DENSITY	(0 - 10)
4E	0aaa aaaa	RV EFFECT LEVEL	(0 - 100)
4F	0aaa aaaa	RV DIRECT LEVEL	(0 - 100)
50	0aaa aaaa	RV SPRING SENS	(0 - 100)
51	0000 aaaa	UNIDENTIFIED	(0 - 255)
52	0000 bbbb		
53	000a aaaa	UNIDENTIFIED	(0 - 30)
-----			
00 00 00 54	Total Size		

PARAMETER ASSIGN

Address	Description
10 00 14 00	0000 000a   PORTAMENT SW (0 - 1) OFF, ON
01	0aaa aaaa   PORTAMENT TIME (0 - 127)
02	0000 000a   PORTAMENT MODE (0 - 1) LEGATO, ALWAYS
03	0000 aaaa   BENDER RANGE (0 - 17)
04	0000 aaaa   PARAMETER ID(XY PAD MODULATION) (*1) (0 - 255)
05	0000 bbbb
06	0000 aaaa   PARAMETER ID(EFFECT KNOB) (*1) (0 - 255)
07	0000 bbbb
08	0000 aaaa   PARAMETER ID(XY PAD X) (*1) (0 - 255)
09	0000 bbbb
0A	0000 aaaa   PARAMETER ID(XY PAD Y) (*1) (0 - 255)
0B	0000 bbbb
0C	0000 aaaa   UNIDENTIFIED (0 - 15)
0D	0000 aaaa   UNIDENTIFIED (0 - 15)

0E	0000	aaaa	ACCENT	(0 - 255)
0F	0000	bbbb		
10	0aaa	aaaa	UNIDENTIFIED	(0 - 100)
11	0aaa	aaaa	UNIDENTIFIED	(0 - 100)
-----				
00 00 00 12	Total Size			

PATTERN SETTING

Address	Description			
30 00 00 00	0000	000a	TRIPLET	(0 - 1) OFF, ON
01	000a	aaaa	PATTERN LENGTH	(0 - 31)
02	0aaa	aaaa	GATE TIME	(0 - 127)
-----				
00 00 00 03	Total Size			

PATTERN PITCH

Address	Description			
30 00 02 00	0aaa	aaaa	STEP 1 PITCH	(12 - 108) C-2 - C7
01	0aaa	aaaa	STEP 2 PITCH	(12 - 108) C-2 - C7
02	0aaa	aaaa	STEP 3 PITCH	(12 - 108) C-2 - C7
03	0aaa	aaaa	STEP 4 PITCH	(12 - 108) C-2 - C7
04	0aaa	aaaa	STEP 5 PITCH	(12 - 108) C-2 - C7
05	0aaa	aaaa	STEP 6 PITCH	(12 - 108) C-2 - C7
06	0aaa	aaaa	STEP 7 PITCH	(12 - 108) C-2 - C7
07	0aaa	aaaa	STEP 8 PITCH	(12 - 108) C-2 - C7
08	0aaa	aaaa	STEP 9 PITCH	(12 - 108) C-2 - C7
09	0aaa	aaaa	STEP 10 PITCH	(12 - 108) C-2 - C7
0A	0aaa	aaaa	STEP 11 PITCH	(12 - 108) C-2 - C7
0B	0aaa	aaaa	STEP 12 PITCH	(12 - 108)

				C-2 - C7
0C	0aaa aaaa	STEP 13	PITCH	(12 - 108)
0D	0aaa aaaa	STEP 14	PITCH	(12 - 108)
0E	0aaa aaaa	STEP 15	PITCH	(12 - 108)
0F	0aaa aaaa	STEP 16	PITCH	(12 - 108)
10	0aaa aaaa	STEP 17	PITCH	(12 - 108)
11	0aaa aaaa	STEP 18	PITCH	(12 - 108)
12	0aaa aaaa	STEP 19	PITCH	(12 - 108)
13	0aaa aaaa	STEP 20	PITCH	(12 - 108)
14	0aaa aaaa	STEP 21	PITCH	(12 - 108)
15	0aaa aaaa	STEP 22	PITCH	(12 - 108)
16	0aaa aaaa	STEP 23	PITCH	(12 - 108)
17	0aaa aaaa	STEP 24	PITCH	(12 - 108)
18	0aaa aaaa	STEP 25	PITCH	(12 - 108)
19	0aaa aaaa	STEP 26	PITCH	(12 - 108)
1A	0aaa aaaa	STEP 27	PITCH	(12 - 108)
1B	0aaa aaaa	STEP 28	PITCH	(12 - 108)
1C	0aaa aaaa	STEP 29	PITCH	(12 - 108)
1D	0aaa aaaa	STEP 30	PITCH	(12 - 108)
1E	0aaa aaaa	STEP 31	PITCH	(12 - 108)
1F	0aaa aaaa	STEP 32	PITCH	(12 - 108)

---

00 00 00 32 | Total Size|

---

PATTERN SLIDE

Address	Description
---------	-------------

--		30 00 04 00		0000 000a		STEP 1 SLIDE		(0 - 1)	
--								OFF, ON	
--		01		0000 000a		STEP 2 SLIDE		(0 - 1)	
--								OFF, ON	
--		02		0000 000a		STEP 3 SLIDE		(0 - 1)	
--								OFF, ON	
--		03		0000 000a		STEP 4 SLIDE		(0 - 1)	
--								OFF, ON	
--		04		0000 000a		STEP 5 SLIDE		(0 - 1)	
--								OFF, ON	
--		05		0000 000a		STEP 6 SLIDE		(0 - 1)	
--								OFF, ON	
--		06		0000 000a		STEP 7 SLIDE		(0 - 1)	
--								OFF, ON	
--		07		0000 000a		STEP 8 SLIDE		(0 - 1)	
--								OFF, ON	
--		08		0000 000a		STEP 9 SLIDE		(0 - 1)	
--								OFF, ON	
--		09		0000 000a		STEP 10 SLIDE		(0 - 1)	
--								OFF, ON	
--		0A		0000 000a		STEP 11 SLIDE		(0 - 1)	
--								OFF, ON	
--		0B		0000 000a		STEP 12 SLIDE		(0 - 1)	
--								OFF, ON	
--		0C		0000 000a		STEP 13 SLIDE		(0 - 1)	
--								OFF, ON	
--		0D		0000 000a		STEP 14 SLIDE		(0 - 1)	
--								OFF, ON	
--		0E		0000 000a		STEP 15 SLIDE		(0 - 1)	
--								OFF, ON	
--		0F		0000 000a		STEP 16 SLIDE		(0 - 1)	
--								OFF, ON	
--		10		0000 000a		STEP 17 SLIDE		(0 - 1)	
--								OFF, ON	
--		11		0000 000a		STEP 18 SLIDE		(0 - 1)	
--								OFF, ON	
--		12		0000 000a		STEP 19 SLIDE		(0 - 1)	
--								OFF, ON	
--		13		0000 000a		STEP 20 SLIDE		(0 - 1)	
--								OFF, ON	
--		14		0000 000a		STEP 21 SLIDE		(0 - 1)	
--								OFF, ON	
--		15		0000 000a		STEP 22 SLIDE		(0 - 1)	
--								OFF, ON	
--		16		0000 000a		STEP 23 SLIDE		(0 - 1)	
--								OFF, ON	
--		17		0000 000a		STEP 24 SLIDE		(0 - 1)	
--								OFF, ON	
--		18		0000 000a		STEP 25 SLIDE		(0 - 1)	

				OFF, ON
19	0000 000a	STEP 26 SLIDE	(0 - 1)	OFF, ON
1A	0000 000a	STEP 27 SLIDE	(0 - 1)	OFF, ON
1B	0000 000a	STEP 28 SLIDE	(0 - 1)	OFF, ON
1C	0000 000a	STEP 29 SLIDE	(0 - 1)	OFF, ON
1D	0000 000a	STEP 30 SLIDE	(0 - 1)	OFF, ON
1E	0000 000a	STEP 31 SLIDE	(0 - 1)	OFF, ON
1F	0000 000a	STEP 32 SLIDE	(0 - 1)	OFF, ON

00 00 00 20 | Total Size|

PATTERN GATE

Address	Description		
30 00 06 00	0000 000a	STEP 1 GATE	(0 - 1)
01	0000 000a	STEP 2 GATE	ON, OFF
02	0000 000a	STEP 3 GATE	(0 - 1)
03	0000 000a	STEP 4 GATE	ON, OFF
04	0000 000a	STEP 5 GATE	(0 - 1)
05	0000 000a	STEP 6 GATE	ON, OFF
06	0000 000a	STEP 7 GATE	(0 - 1)
07	0000 000a	STEP 8 GATE	ON, OFF
08	0000 000a	STEP 9 GATE	(0 - 1)
09	0000 000a	STEP 10 GATE	ON, OFF
0A	0000 000a	STEP 11 GATE	(0 - 1)
0B	0000 000a	STEP 12 GATE	ON, OFF
0C	0000 000a	STEP 13 GATE	(0 - 1)
			ON, OFF

--		0D		0000 000a		STEP 14 GATE		(0 - 1)	
--								ON, OFF	
--		0E		0000 000a		STEP 15 GATE		(0 - 1)	
--								ON, OFF	
--		0F		0000 000a		STEP 16 GATE		(0 - 1)	
--								ON, OFF	
--		10		0000 000a		STEP 17 GATE		(0 - 1)	
--								ON, OFF	
--		11		0000 000a		STEP 18 GATE		(0 - 1)	
--								ON, OFF	
--		12		0000 000a		STEP 19 GATE		(0 - 1)	
--								ON, OFF	
--		13		0000 000a		STEP 20 GATE		(0 - 1)	
--								ON, OFF	
--		14		0000 000a		STEP 21 GATE		(0 - 1)	
--								ON, OFF	
--		15		0000 000a		STEP 22 GATE		(0 - 1)	
--								ON, OFF	
--		16		0000 000a		STEP 23 GATE		(0 - 1)	
--								ON, OFF	
--		17		0000 000a		STEP 24 GATE		(0 - 1)	
--								ON, OFF	
--		18		0000 000a		STEP 25 GATE		(0 - 1)	
--								ON, OFF	
--		19		0000 000a		STEP 26 GATE		(0 - 1)	
--								ON, OFF	
--		1A		0000 000a		STEP 27 GATE		(0 - 1)	
--								ON, OFF	
--		1B		0000 000a		STEP 28 GATE		(0 - 1)	
--								ON, OFF	
--		1C		0000 000a		STEP 29 GATE		(0 - 1)	
--								ON, OFF	
--		1D		0000 000a		STEP 30 GATE		(0 - 1)	
--								ON, OFF	
--		1E		0000 000a		STEP 31 GATE		(0 - 1)	
--								ON, OFF	
--		1F		0000 000a		STEP 32 GATE		(0 - 1)	
--								ON, OFF	

-----+  
-- | 00 00 00 20 | Total Size|  
-----+

-- PATTERN ACCENT

Address		Description
--	30 00 08 00	0000 000a   STEP 1 ACCENT (0 - 1)
--		OFF, ON
--	01	0000 000a   STEP 2 ACCENT (0 - 1)

--						OFF, ON	
--		02		0000 000a		STEP 3 ACCENT	
						(0 - 1)	
--						OFF, ON	
--		03		0000 000a		STEP 4 ACCENT	
						(0 - 1)	
--						OFF, ON	
--		04		0000 000a		STEP 5 ACCENT	
						(0 - 1)	
--						OFF, ON	
--		05		0000 000a		STEP 6 ACCENT	
						(0 - 1)	
--						OFF, ON	
--		06		0000 000a		STEP 7 ACCENT	
						(0 - 1)	
--						OFF, ON	
--		07		0000 000a		STEP 8 ACCENT	
						(0 - 1)	
--						OFF, ON	
--		08		0000 000a		STEP 9 ACCENT	
						(0 - 1)	
--						OFF, ON	
--		09		0000 000a		STEP 10 ACCENT	
						(0 - 1)	
--						OFF, ON	
--		0A		0000 000a		STEP 11 ACCENT	
						(0 - 1)	
--						OFF, ON	
--		0B		0000 000a		STEP 12 ACCENT	
						(0 - 1)	
--						OFF, ON	
--		0C		0000 000a		STEP 13 ACCENT	
						(0 - 1)	
--						OFF, ON	
--		0D		0000 000a		STEP 14 ACCENT	
						(0 - 1)	
--						OFF, ON	
--		0E		0000 000a		STEP 15 ACCENT	
						(0 - 1)	
--						OFF, ON	
--		0F		0000 000a		STEP 16 ACCENT	
						(0 - 1)	
--						OFF, ON	
--		10		0000 000a		STEP 17 ACCENT	
						(0 - 1)	
--						OFF, ON	
--		11		0000 000a		STEP 18 ACCENT	
						(0 - 1)	
--						OFF, ON	
--		12		0000 000a		STEP 19 ACCENT	
						(0 - 1)	
--						OFF, ON	
--		13		0000 000a		STEP 20 ACCENT	
						(0 - 1)	
--						OFF, ON	
--		14		0000 000a		STEP 21 ACCENT	
						(0 - 1)	
--						OFF, ON	
--		15		0000 000a		STEP 22 ACCENT	
						(0 - 1)	
--						OFF, ON	
--		16		0000 000a		STEP 23 ACCENT	
						(0 - 1)	
--						OFF, ON	
--		17		0000 000a		STEP 24 ACCENT	
						(0 - 1)	
--						OFF, ON	
--		18		0000 000a		STEP 25 ACCENT	
						(0 - 1)	
--						OFF, ON	
--		19		0000 000a		STEP 26 ACCENT	
						(0 - 1)	
--						OFF, ON	

1A	0000 000a	STEP 27 ACCENT	(0 - 1)
			OFF, ON
1B	0000 000a	STEP 28 ACCENT	(0 - 1)
			OFF, ON
1C	0000 000a	STEP 29 ACCENT	(0 - 1)
			OFF, ON
1D	0000 000a	STEP 30 ACCENT	(0 - 1)
			OFF, ON
1E	0000 000a	STEP 31 ACCENT	(0 - 1)
			OFF, ON
1F	0000 000a	STEP 32 ACCENT	(0 - 1)
			OFF, ON

-----+-----  
 -- | 00 00 00 20 | Total Size |  
 -----+-----

(\*1) Parameter Ids (approx 244)

ID	Parameter Name
00 00	LFO RATE
00 01	LFO DELAY
00 02	LFO WAVE SAW
00 03	LFO WAVE SQR
00 04	LFO WAVE TRI
00 05	LFO WAVE SIN
00 06	CV OFFSET LFO
00 07	LFO WAVE S&H
00 08	VCO LFO DEPTH
00 09	VCF LFO DEPTH
00 0A	VCA LFO DEPTH
00 0B	BPM SYNC
00 0C	LFO RETRIGGER
00 0D	CV OFFSET TO SQR PITCH
00 0E	CV OFFSET TO SAW PITCH
00 0F	CV OFFSET TO RING PITCH
01 00	CROSS MODULATION DEPTH (SQR>SAW)
01 01	UNIDENTIFIED
01 02	CROSS MODULATION DEPTH (SAW>SAW)
01 03	CROSS MODULATION DEPTH (WHITE NOISE>SAW)
01 04	CROSS MODULATION DEPTH (PINK NOISE>SAW)
01 05	CROSS MODULATION DEPTH (SQR>SQR)
01 06	UNIDENTIFIED
01 07	CROSS MODULATION DEPTH (SAW>SQR)

```

-- | 01 08 | CROSS MODULATION DEPTH(WHITE NOISE>SQR) |
-- | 01 09 | CROSS MODULATION DEPTH(PINK NOISE>SQR) |
-- |-----+-----|
-- | 01 0A | RING MODULATION DEPTH(SAW) |
-- | 01 0B | RING MODULATION DEPTH(SQR) |
-- | 01 0C | UNIDENTIFIED |
-- | 01 0D | UNIDENTIFIED |
-- | 01 0E | RING MODULATION DEPTH(RING) |
-- | 01 0F | RING MODULATION DEPTH(WHITE NOISE) |
-- | 02 00 | RING MODULATION DEPTH(PINK NOISE) |
-- | 02 01 | UNIDENTIFIED |
-- | 02 02 | UNIDENTIFIED |
-- | 02 03 | UNIDENTIFIED |
-- | 02 04 | UNIDENTIFIED |
-- | 02 05 | RING MODULATION DEPTH |
-- | 02 06 | UNIDENTIFIED |
-- | 02 07 | UNIDENTIFIED |
-- |-----+-----|
-- | 02 08 | VCO SAW LEVEL |
-- | 02 09 | VCO SQR LEVEL |
-- | 02 0A | UNIDENTIFIED |
-- | 02 0B | UNIDENTIFIED |
-- | 02 0C | VCO SIN LEVEL |
-- | 02 0D | VCO WHITE NOISE LEVEL |
-- | 02 0E | VCO PINK NOISE LEVEL |
-- | 02 0F | VCO RING LEVEL |
-- | 03 00 | VCO SAW SW |
-- | 03 01 | VCO SQR SW |
-- | 03 02 | VCO SIN SW |
-- | 03 03 | VCO WHITE NOISE SW |
-- | 03 04 | VCO PINK NOISE SW |
-- | 03 05 | VCO RING SW |
-- |-----+-----|
-- | 03 06 | VCF CUTOFF |
-- | 03 07 | VCF RESONANCE |
-- | 03 08 | VCF ENVELOPE DEPTH(ENV MOD) |
-- | 03 09 | VCF ENVELOPE ATTACK |
-- | 03 0A | VCF ENVELOPE DECAY |
-- | 03 0B | VCF ENVELOPE SUSTAIN |
-- | 03 0C | VCF ENVELOPE RELEASE |
-- | 03 0D | VCF KEY FOLLOW |
-- |-----+-----|
-- | 03 0E | VCA ENVELOPE ATTACK |
-- | 03 0F | VCA ENVELOPE DECAY |
-- | 04 00 | VCA ENVELOPE SUSTAIN |
-- | 04 01 | VCA ENVELOPE RELEASE |
-- | 04 02 | MASTER VOLUME |
-- |-----+-----|
-- | 04 03 | DISTORTION SW |

```

--		04 04		TYPE	
--		04 05		DRIVE	
--		04 06		BOTTOM	
--		04 07		TONE	
--		04 08		EFFECT LEVEL	
--		04 09		DRY LEVEL	
--		04 0A		COLOR	
--		04 0B		UNIDENTIFIED	
-----+					
--		04 0C		EFX1 TYPE	
-----+					
--		04 0D		CS SW	
--		04 0E		CS ATTACK	
--		04 0F		CS RELEASE	
--		05 00		CS THRESHOLD	
--		05 01		CS RATIO	
--		05 02		CS KNEE	
--		05 03		CS GAIN	
--		05 04		CS BALANCE	
-----+					
--		05 05		RM SW	
--		05 06		RM FREQUENCY	
--		05 07		RM SENS	
--		05 08		RM POLARITY	
--		05 09		RM EQ LOW	
--		05 0A		RM EQ HIGH	
--		05 0B		RM BALANCE	
--		05 0C		RM LEVEL	
-----+					
--		05 0D		BC SW	
--		05 0E		BC FILTER	
--		05 0F		BC SAMPLE RATE	
--		06 00		UNIDENTIFIED	
--		06 01		BC EQ LOW	
--		06 02		BC EQ HIGH	
--		06 03		BC LEVEL	
-----+					
--		06 04		TR SW	
--		06 05		TR TYPE	
--		06 06		TR PHASE	
--		06 07		TR RATE	
--		06 08		TR BPM SYNC	
--		06 09		TR SHAPE	
--		06 0A		TR DEPTH	
--		06 0B		TR PAN SELECT	
--		06 0C		TR LEVEL	
-----+					
--		06 0D		CH SW	
--		06 0E		CH MODE	

--		06 0F		CH RATE	
--		07 00		CH BPM SYNC	
--		07 01		CH DEPTH	
--		07 02		CH PRE DELAY	
--		07 03		CH HPF	
--		07 04		CH LPF	
--		07 05		CH LEVEL	
-----					
--		07 06		FL SW	
--		07 07		FL RATE	
--		07 08		FL BPM SYNC	
--		07 09		FL DEPTH	
--		07 0A		FL MANUAL	
--		07 0B		FL RESONANCE	
--		07 0C		FL SEPARATION	
--		07 0D		FL HPF	
--		07 0E		FL EFFECT LEVEL	
--		07 0F		FL DIRECT LEVEL	
-----					
--		08 00		PH SW	
--		08 01		PH TYPE	
--		08 02		PH RATE	
--		08 03		PH BPM SYNC	
--		08 04		PH DEPTH	
--		08 05		PH MANUAL	
--		08 06		PH RESONANCE	
--		08 07		PH STEP RATE	
--		08 08		PH EFFECT LEVEL	
--		08 09		PH DIRECT LEVEL	
-----					
--		08 0A		DD SW	
--		08 0B		DD TYPE	
--		08 0C		DD TIME	
--		08 0D		DD TAP TIME	
--		08 0E		DD BPM SYNC	
--		08 0F		DD FEEDBACK	
--		09 00		DD LPF	
--		09 01		DD EFFECT LEVEL	
--		09 02		DD DIRECT LEVEL	
-----					
--		09 03		PS SW	
--		09 04		PS VOICE	
--		09 05		PS 1 PITCH	
--		09 06		PS 1 PRE DELAY	
--		09 07		PS FEEDBACK	
--		09 08		PS 1 EFX LEVEL	
--		09 09		PS 2 PITCH	
--		09 0A		PS 2 PRE DELAY	
--		09 0B		UNIDENTIFIED	

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-- | 09 0C | PS 2 EFX LEVEL
-- | 09 0D | PS DIRECT LEVEL
-- | 09 0E | UNIDENTIFIED
-- |-----+-----
-- | 09 0F | EQ SW
-- | 0A 00 | EQ LOW CUT
-- | 0A 01 | EQ LOW GAIN
-- | 0A 02 | EQ LOW MID FREQ
-- | 0A 03 | EQ LOW MID Q
-- | 0A 04 | EQ LOW MID GAIN
-- | 0A 05 | EQ HIGH MID FREQ
-- | 0A 06 | EQ HIGH MID Q
-- | 0A 07 | EQ HIGH MID GAIN
-- | 0A 08 | EQ HIGH CUT
-- | 0A 09 | EQ HIGH GAIN
-- | 0A 0A | EQ LEVEL
-- |-----+-----
-- | 0A 0B | EFX2 TYPE
-- |-----+-----
-- | 0A 0C | CS SW
-- | 0A 0D | CS ATTACK
-- | 0A 0E | CS RELEASE
-- | 0A 0F | CS THRESHOLD
-- | 0B 00 | CS RATIO
-- | 0B 01 | CS KNEE
-- | 0B 02 | CS GAIN
-- | 0B 03 | CS BALANCE
-- |-----+-----
-- | 0B 04 | RM SW
-- | 0B 05 | RM FREQUENCY
-- | 0B 06 | RM SENS
-- | 0B 07 | RM POLARITY
-- | 0B 08 | RM EQ LOW
-- | 0B 09 | RM EQ HIGH
-- | 0B 0A | RM BALANCE
-- | 0B 0B | RM LEVEL
-- |-----+-----
-- | 0B 0C | BC SW
-- | 0B 0D | BC FILTER
-- | 0B 0E | BC SAMPLE RATE
-- | 0B 0F | UNIDENTIFIED
-- | 0C 00 | BC EQ LOW
-- | 0C 01 | BC EQ HIGH
-- | 0C 02 | BC LEVEL
-- |-----+-----
-- | 0C 03 | TR SW
-- | 0C 04 | TR TYPE
-- | 0C 05 | TR PHASE
-- | 0C 06 | TR RATE

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--		0C 07		TR BPM SYNC	
--		0C 08		TR SHAPE	
--		0C 09		TR DEPTH	
--		0C 0A		TR PAN SELECT	
--		0C 0B		TR LEVEL	
-----					
--		0C 0C		CH SW	
--		0C 0D		CH MODE	
--		0C 0E		CH RATE	
--		0C 0F		CH BPM SYNC	
--		0D 00		CH DEPTH	
--		0D 01		CH PRE DELAY	
--		0D 02		CH HPF	
--		0D 03		CH LPF	
--		0D 04		CH LEVEL	
-----					
--		0D 05		FL SW	
--		0D 06		FL RATE	
--		0D 07		FL BPM SYNC	
--		0D 08		FL DEPTH	
--		0D 09		FL MANUAL	
--		0D 0A		FL RESONANCE	
--		0D 0B		FL SEPARATION	
--		0D 0C		FL HPF	
--		0D 0D		FL EFFECT LEVEL	
--		0D 0E		FL DIRECT LEVEL	
-----					
--		0D 0F		PH SW	
--		0D 00		PH TYPE	
--		0D 01		PH RATE	
--		0D 02		PH BPM SYNC	
--		0D 03		PH DEPTH	
--		0E 04		PH MANUAL	
--		0E 05		PH RESONANCE	
--		0E 06		PH STEP RATE	
--		0E 07		PH EFFECT LEVEL	
--		0E 08		PH DIRECT LEVEL	
-----					
--		0E 09		DD SW	
--		0E 0A		DD TYPE	
--		0E 0B		DD TIME	
--		0E 0C		DD TAP TIME	
--		0E 0D		DD BPM SYNC	
--		0E 0E		DD FEEDBACK	
--		0E 0F		DD LPF	
--		0F 00		DD EFFECT LEVEL	
--		0F 01		DD DIRECT LEVEL	
-----					
--		0F 02		RV SW	

--		0F 03		RV TYPE	
--		0F 04		RV TIME	
--		0F 05		RV PRE DELAY	
--		0F 06		RV HPF	
--		0F 07		RV LPF	
--		0F 08		RV DENSITY	
--		0F 09		RV EFFECT LEVEL	
--		0F 0A		RV DIRECT LEVEL	
--		0F 0B		RV SPRING SENS	
--		0F 0C		UNIDENTIFIED	
--		0F 0D		UNIDENTIFIED	
+-----+					
--		0F 0E		PORTAMENT SW	
--		0F 0F		PORTAMENT TIME	
--		10 00		PORTAMENT MODE	
--		10 01		BENDER RANGE	
--		10 02		PARAMETER ID(XY PAD MODULATION) (*1)	
--		10 03		PARAMETER ID(EFFECT KNOB) (*1)	
--		10 04		PARAMETER ID(XY PAD X) (*1)	
--		10 06		PARAMETER ID(XY PAD Y) (*1)	
--		10 06		UNIDENTIFIED	
--		10 07		UNIDENTIFIED	
--		10 08		ACCENT	
--		10 09		UNIDENTIFIED	
--		10 0A		UNIDENTIFIED	
+-----+					