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 Mugenkidou (mugenkidou.wakakusa@gmail.com)
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 We will not take any responsibility for any data loss, hardware failure,
 or other damage.

MIDI

Address	Description
01 00 00 00	0000 aaaa MIDI OUT CHANNEL (0 - 15) 1 - 16
01	0000 aaaa MIDI IN CHANNEL (0 - 15) 1 - 16
02	0000 000a OMNI MODE (0 - 1) OFF, ON
00 00 00 03	Total Size

UNIDENTIFIED

Address	Description
02 00 00 00	0000 0000 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)
01	0aaa aaaa UNIDENTIFIED (0 - 127)
02	0aaa aaaa CROSS MODULATION DEPTH(SAW>SAW) (0 - 127)
03	0aaa aaaa CROSS MODULATION DEPTH(WHITE NOISE>SAW) (0 - 127)
04	0aaa aaaa CROSS MODULATION DEPTH(PINK NOISE>SAW) (0 - 127)
05	0aaa aaaa CROSS MODULATION DEPTH(SQR>SQR) (0 - 127)
06	0aaa aaaa UNIDENTIFIED (0 - 127)
07	0aaa aaaa CROSS MODULATION DEPTH(SAW>SQR) (0 - 127)
08	0aaa aaaa CROSS MODULATION DEPTH(WHITE NOISE>SQR) (0 - 127)
09	0aaa aaaa CROSS MODULATION DEPTH(PINK NOISE>SQR) (0 - 127)
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 UNIDENTIFIED (0 - 127)
02	0aaa aaaa UNIDENTIFIED (0 - 127)
03	0aaa aaaa RING MODULATION DEPTH(RING) (0 - 127)
04	0aaa aaaa RING MODULATION DEPTH(WHITE NOISE) (0 - 127)
05	0aaa aaaa RING MODULATION DEPTH(PINK NOISE) (0 - 127)
06	0aaa aaaa UNIDENTIFIED (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)
0B	0aaa aaaa UNIDENTIFIED (0 - 127)
0C	0aaa aaaa UNIDENTIFIED (0 - 127)
0D	0aaa aaaa UNIDENTIFIED (0 - 127)
00 00 00 0E	Total Size

VCO

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 LEVEL	(0 - 1)
			OFF, ON
0C	0000 000a	VCO PINK NOISE LEVEL	(0 - 1)
			OFF, ON
0D	0000 000a	VCO RING NOISE LEVEL	(0 - 1)
			OFF, ON

00 00 00 0E | Total Size|

VCF

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)
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)

00 00 00 0B | Total Size|

VCA

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)

00 00 00 05 | Total Size|

DISTORTION

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)

00 00 00 09 | Total Size|

Address	Description	
10 00 10 00	0000 aaaa	EFX1 TYPE (0 - 10) BYPASS, CS, RM, BC, TR, CH, FL, PH, DD, PS, EQ
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)
			-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)

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		

EFX2

Address	Description		
10 00 12 00	0000 aaaa	EFX2 TYPE	(0 - 9)
			BYPASS, CS, RM, BC, TR, CH, FL, PH, DD, RV

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	
	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]	
	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	
	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)	
				-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)		
	43	0aaa aaaa	DD FEEDBACK	(0 - 100)	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	
	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)	OFF, ON	
	48	0000 0aaa	RV TYPE	(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) C-2 - C7
0D	0aaa aaaa	STEP 14 PITCH	(12 - 108) C-2 - C7
0E	0aaa aaaa	STEP 15 PITCH	(12 - 108) C-2 - C7
0F	0aaa aaaa	STEP 16 PITCH	(12 - 108) C-2 - C7
10	0aaa aaaa	STEP 17 PITCH	(12 - 108) C-2 - C7
11	0aaa aaaa	STEP 18 PITCH	(12 - 108) C-2 - C7
12	0aaa aaaa	STEP 19 PITCH	(12 - 108) C-2 - C7
13	0aaa aaaa	STEP 20 PITCH	(12 - 108) C-2 - C7
14	0aaa aaaa	STEP 21 PITCH	(12 - 108) C-2 - C7
15	0aaa aaaa	STEP 22 PITCH	(12 - 108) C-2 - C7
16	0aaa aaaa	STEP 23 PITCH	(12 - 108) C-2 - C7
17	0aaa aaaa	STEP 24 PITCH	(12 - 108) C-2 - C7
18	0aaa aaaa	STEP 25 PITCH	(12 - 108) C-2 - C7
19	0aaa aaaa	STEP 26 PITCH	(12 - 108) C-2 - C7
1A	0aaa aaaa	STEP 27 PITCH	(12 - 108) C-2 - C7
1B	0aaa aaaa	STEP 28 PITCH	(12 - 108) C-2 - C7
1C	0aaa aaaa	STEP 29 PITCH	(12 - 108) C-2 - C7

1D	0aaa aaaa	STEP 30 PITCH	(12 - 108)
			C-2 - C7
1E	0aaa aaaa	STEP 31 PITCH	(12 - 108)
			C-2 - C7
1F	0aaa aaaa	STEP 32 PITCH	(12 - 108)
			C-2 - C7

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) ON, OFF
01	0000 000a STEP 2 GATE (0 - 1) ON, OFF
02	0000 000a STEP 3 GATE (0 - 1) ON, OFF
03	0000 000a STEP 4 GATE (0 - 1) ON, OFF
04	0000 000a STEP 5 GATE (0 - 1) ON, OFF
05	0000 000a STEP 6 GATE (0 - 1) ON, OFF
06	0000 000a STEP 7 GATE (0 - 1) ON, OFF
07	0000 000a STEP 8 GATE (0 - 1) ON, OFF
08	0000 000a STEP 9 GATE (0 - 1) ON, OFF
09	0000 000a STEP 10 GATE (0 - 1) ON, OFF
0A	0000 000a STEP 11 GATE (0 - 1) ON, OFF
0B	0000 000a STEP 12 GATE (0 - 1) 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
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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		
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(*1) Parameter IDs

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	UNIDENTIFIED
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
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
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	
-----+	