YAMAHA

ARIUS

YDP-184

MIDI Reference

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EN

Effect Type List

Reverb Block

Reverb types that can be selected by Voice Menu.

Effect Name	MSB	LSB
Off	0	0
Recital Hall	1	24
Concert Hall	1	4
Chamber	2	24
Cathedral	1	5
Club	3	24
Plate	4	24

Chorus Block

Chorus types that can be selected by Voice Menu.

Effect Name	MSB	LSB
Off	0	0
Chorus	65	8
Celeste	66	8
Flanger	67	1

DSP Block

Effect type that can be selected by Voice Menu.

Effect Name	MSB	LSB
OFF	64	0
DelayLCR	5	16
DelayLR	6	0
Echo	7	0
CrossDelay	8	0
Symphonic	68	16
Rotary	66	18
Tremolo	70	18
VibeRotor	119	0
AutoPan	71	21
Phaser	72	16
AutoWah	78	16

Effect Parameter List

Parameters marked with a ● in the "Control" column can be controlled from an AC1 (assignable controller 1) etc.
(Parameter 10 Dry/Wet only affects DSP type effects.)
(*1) Reverb Block
(*2) Chorus Block
(*3) DSP Block

REVERB

BASIC HALL, LIGHT HALL, HALL1, 2, 3, 4, 5, HALL M, HALL L, ATMO HALL, VOCAL HALL1, 2, ACOUSTIC ROOM, DRUMS ROOM, PERC ROOM, ROOM1, 2, 3, 4, 5, 6, 7, ROOM S, ROOM M, ROOM L, STAGE1, 2, 3, 4, PLATE1, 2, 3, GM PLATE

No.	Parameter	Display	Value	See Table	Control
1	Reverb Time	0.3s – 30.0s	0 – 69	Table #4	
2	Diffusion	0 – 10	0 – 10		
3	Initial Delay	0.1ms – 200.0ms (*1) 0.1ms – 99.3ms (*2, 3)	0 – 127 0 – 63	Table #5	
4	HPF Cutoff	Thru, 22Hz – 8.0kHz	0, 1 – 52	Table #3	
5	LPF Cutoff	1.0kHz – 18kHz, Thru	34 – 59, 60	Table #3	
6					
7					
8					
9					
10	Dry/Wet	D63>W – D=W – D<W63	1 – 64 – 127		●
11	Rev Delay	0.1ms – 200.0ms (*1) 0.1ms – 99.3ms (*2, 3)	0 – 127 0 – 63	Table #5	
12	Density	0 – 4 (*1, 3) 0 – 2 (*2)	0 – 4 0 – 2		
13	Er/Rev Balance	E63>R – E=R – E<R63	1 – 64 – 127		
14	High Damp	0.1 – 1.0	1 – 10		
15	Feedback Level	-63 – 0 – +63	1 – 64 – 127		
16					

BALLAD HALL, PIANO HALL, LARGE HALL, MEDIUM HALL WARM ROOM, WOODY ROOM, RICH PLATE

No.	Parameter	Display	Value	See Table	Control
1	Reverb Time	0.3s – 30.0s	0 – 69	Table #4	
2	Diffusion	0 – 10	0 – 10		
3	Initial Delay	0.1ms – 200.0ms	0 – 127	Table #5	
4	HPF Cutoff	Thru, 22Hz – 8.0kHz	0, 1 – 52	Table #3	
5	LPF Cutoff	1.0kHz – 18kHz, Thru	34 – 59, 60	Table #3	
6					
7					
8					
9					
10	Dry/Wet	D63>W – D=W – D<W63	1 – 64 – 127		●
11					
12					
13					
14	High Damp	0.1 – 1.0	1 – 10		
15					
16					

TUNNEL, CANYON, BASEMENT, WHITE ROOM

No.	Parameter	Display	Value	See Table	Control
1	Reverb Time	0.3s – 30.0s	0 – 69	Table #4	
2	Diffusion	0 – 10	0 – 10		
3	Initial Delay	0.1ms – 200.0ms (*1) 0.1ms – 99.3ms (*3)	0 – 127 0 – 63	Table #5	
4	HPF Cutoff	Thru, 22Hz – 8.0kHz	0, 1 – 52	Table #3	
5	LPF Cutoff	1.0kHz – 18kHz, Thru	34 – 59, 60	Table #3	
6	Width	0.5m – 30.2m (*1) 0.5m – 10.2m (*3)	0 – 104 0 – 37	Table #11	
7	Height	0.5m – 30.2m (*1) 0.5m – 20.2m (*3)	0 – 104 0 – 73	Table #11	
8	Depth	0.5m – 30.2m	0 – 104	Table #11	
9	Wall Vary	0 – 30	0 – 30		
10	Dry/Wet	D63>W – D=W – D<W63	1 – 64 – 127		●
11	Rev Delay	0.1ms – 200.0ms (*1) 0.1ms – 99.3ms (*3)	0 – 127 0 – 63	Table #5	
12	Density	0 – 4	0 – 4		
13	Er/Rev Balance	E63>R – E=R – E<R63	1 – 64 – 127		
14	High Damp	0.1 – 1.0	1 – 10		
15	Feedback Level	-63 – 0 – +63	1 – 64 – 127		
16					

MODERN HALL, CONCERT HALL, CATHEDRAL, CHAMBER, CLUB, PLATE

No.	Parameter	Display	Value	See Table	Control
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					

DELAY

DELAY LCR1, DELAY LCR2

No.	Parameter	Display	Value	See Table	Control
1	Lch Delay	0.1ms – 1638.3ms	1 – 16383		
2	Rch Delay	0.1ms – 1638.3ms	1 – 16383		
3	Cch Delay	0.1ms – 1638.3ms	1 – 16383		
4	Feedback Delay	0.1ms – 1638.3ms	1 – 16383		
5	Feedback Level	-63 – 0 – +63	1 – 64 – 127		
6	Cch Level	0 – 127	0 – 127		
7	High Damp	0.1 – 1.0	1 – 10		
8					
9					
10	Dry/Wet	D63>W – D=W – D<W63	1 – 64 – 127		●
11					
12					
13	EQ Low Frequency	32Hz – 2.0kHz	4 – 40	Table #3	
14	EQ Low Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
15	EQ High Frequency	500Hz – 16.0kHz	28 – 58	Table #3	
16	EQ High Gain	-12dB – 0dB – +12dB	52 – 64 – 76		

DELAY LR

No.	Parameter	Display	Value	See Table	Control
1	Lch Delay	0.1ms – 1638.3ms	1 – 16383		
2	Rch Delay	0.1ms – 1638.3ms	1 – 16383		
3	Feedback Delay 1	0.1ms – 1638.3ms	1 – 16383		
4	Feedback Delay 2	0.1ms – 1638.3ms	1 – 16383		
5	Feedback Level	-63 – 0 – +63	1 – 64 – 127		
6	High Damp	0.1 – 1.0	1 – 10		
7					
8					
9					
10	Dry/Wet	D63>W – D=W – D<W63	1 – 64 – 127		●
11					
12					
13	EQ Low Frequency	32Hz – 2.0kHz	4 – 40	Table #3	
14	EQ Low Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
15	EQ High Frequency	500Hz – 16.0kHz	28 – 58	Table #3	
16	EQ High Gain	-12dB – 0dB – +12dB	52 – 64 – 76		

ECHO

No.	Parameter	Display	Value	See Table	Control
1	Lch Delay1	0.1ms – 1486.0ms	1 – 14860		
2	Lch Feedback Level	-63 – 0 – +63	1 – 64 – 127		
3	Rch Delay1	0.1ms – 1486.0ms	1 – 14860		
4	Rch Feedback Level	-63 – 0 – +63	1 – 64 – 127		
5	High Damp	0.1 – 1.0	1 – 10		
6	Lch Delay2	0.1ms – 1486.0ms	1 – 14860		
7	Rch Delay2	0.1ms – 1486.0ms	1 – 14860		
8	Delay2 Level	0 – 127	0 – 127		
9					
10	Dry/Wet	D63>W – D=W – D<W63	1 – 64 – 127		●
11					
12					
13	EQ Low Frequency	32Hz – 2.0kHz	4 – 40	Table #3	
14	EQ Low Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
15	EQ High Frequency	500Hz – 16.0kHz	28 – 58	Table #3	
16	EQ High Gain	-12dB – 0dB – +12dB	52 – 64 – 76		

CROSS DELAY1, CROSS DELAY2

No.	Parameter	Display	Value	See Table	Control
1	L->R Delay	0.1ms – 1486.0ms	1 – 14860		
2	R->L Delay	0.1ms – 1486.0ms	1 – 14860		
3	Feedback Level	-63 – 0 – +63	1 – 64 – 127		
4	Input Select	L, R, L&R	0 – 2		
5	High Damp	0.1 – 1.0	1 – 10		
6					
7					
8					
9					
10	Dry/Wet	D63>W – D=W – D<W63	1 – 64 – 127		●
11					
12					
13	EQ Low Frequency	32Hz – 2.0kHz	4 – 40	Table #3	
14	EQ Low Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
15	EQ High Frequency	500Hz – 16.0kHz	28 – 58	Table #3	
16	EQ High Gain	-12dB – 0dB – +12dB	52 – 64 – 76		

TEMPO DELAY1, TEMPO DELAY2, TEMPO ECHO

No.	Parameter	Display	Value	See Table	Control
1	Delay Time	64th/3 – 4thx6	0 – 19	Table #13	
2	Feedback Level	-63 – 0 – +63	1 – 64 – 127		
3	Feedback High Dump	0.1 – 1.0	1 – 10		
4	L/R Diffusion	-63ms – 0ms – 63ms	1 – 64 – 127		
5	Lag	-63ms – 0ms – 63ms	1 – 64 – 127		
6					
7					
8					
9					
10	Dry/Wet	D63>W – D=W – D<W63	1 – 64 – 127		●
11					
12					
13	EQ Low Frequency	32Hz – 2.0kHz	4 – 40		
14	EQ Low Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
15	EQ High Frequency	500Hz – 16.0kHz	28 – 58		
16	EQ High Gain	-12dB – 0dB – +12dB	52 – 64 – 76		

TEMPO CROSS1, 2, 3, 4

No.	Parameter	Display	Value	See Table	Control
1	Delay Time L>R	64th/3 – 4thx6	0 – 19	Table #13	
2	Delay Time R>L	64th/3 – 4thx6	0 – 19	Table #13	
3	Feedback Level	-63 – 0 – +63	1 – 64 – 127		
4	Input Select	L, R, L&R	0 – 2		
5	Feedback High Dump	0.1 – 1.0	1 – 10		
6	Lag	-63ms – 0ms – 63ms	1 – 64 – 127		
7					
8					
9					
10	Dry/Wet	D63>W – D=W – D<W63	1 – 64 – 127		●
11					
12					
13	EQ Low Frequency	32Hz – 2.0kHz	4 – 40		
14	EQ Low Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
15	EQ High Frequency	500Hz – 16.0kHz	28 – 58		
16	EQ High Gain	-12dB – 0dB – +12dB	52 – 64 – 76		

ER/KARAOKE

KARAOKE1, 2, 3

No.	Parameter	Display	Value	See Table	Control
1	Delay Time	0.1ms – 400.0ms	0 – 127	Table #7	
2	Feedback Level	-63 – 0 – +63	1 – 64 – 127		
3	HPF Cutoff	Thru, 22Hz – 8.0kHz	0, 1 – 52	Table #3	
4	LPF Cutoff	1.0kHz – 18kHz, Thru	34 – 59, 60	Table #3	
5					
6					
7					
8					
9					
10	Dry/Wet	D63>W – D=W – D<W63	1 – 64 – 127		●
11	Density	0 – 3	0 – 3		
12					
13					
14					
15					
16					

ER1, ER2

No.	Parameter	Display	Value	See Table	Control
1	Type	S-H, L-H, Rdm, Rvs, Plt, Spr	0 – 5		
2	Room Size	0.1 – 20.0	0 – 127	Table #6	
3	Diffusion	0 – 10	0 – 10		
4	Initial Delay	0.1ms – 200.0ms	0 – 127	Table #5	
5	Feedback Level	-63 – 0 – +63	1 – 64 – 127		
6	HPF Cutoff	Thru, 22Hz – 8.0kHz	0, 1 – 52	Table #3	
7	LPF Cutoff	1.0kHz – 18kHz, Thru	34 – 59, 60	Table #3	
8					
9					
10	Dry/Wet	D63>W – D=W – D<W63	1 – 64 – 127		●
11	Liveness	0 – 10	0 – 10		
12	Density	0 – 3	0 – 3		
13	High Damp	0.1 – 1.0	1 – 10		
14					
15					
16					

GATE REVERB1, GATE REVERB2, REVERSE GATE

No.	Parameter	Display	Value	See Table	Control
1	Type	TypeA, TypeB	0 – 1		
2	Room Size	0.1 – 20.0	0 – 127	Table #6	
3	Diffusion	0 – 10	0 – 10		
4	Initial Delay	0.1ms – 200.0ms	0 – 127	Table #5	
5	Feedback Level	-63 – 0 – +63	1 – 64 – 127		
6	HPF Cutoff	Thru, 22Hz – 8.0kHz	0, 1 – 52	Table #3	
7	LPF Cutoff	1.0kHz – 18kHz, Thru	34 – 59, 60	Table #3	
8					
9					
10	Dry/Wet	D63>W – D=W – D<W63	1 – 64 – 127		●
11	Liveness	0 – 10	0 – 10		
12	Density	0 – 3	0 – 3		
13	High Damp	0.1 – 1.0	1 – 10		
14					
15					
16					

CHORUS

CHORUS1, 2, 3, 4, 5, 6, 7, 8, CHORUS FAST, CHORUS LITE, GM CHORUS1, 2, 3, 4, FB CHORUS, CELESTE1, 2

No.	Parameter	Display	Value	See Table	Control
1	LFO Frequency	0.00Hz – 39.7Hz	0 – 127	Table #1	
2	LFO Depth	0 – 127	0 – 127		
3	Feedback Level	-63 – 0 – +63	1 – 64 – 127		
4	Delay Offset	0.0ms – 50ms	0 – 127	Table #2	
5					
6	EQ Low Frequency	32Hz – 2.0kHz	4 – 40	Table #3	
7	EQ Low Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
8	EQ High Frequency	500Hz – 16.0kHz	28 – 58	Table #3	
9	EQ High Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
10	Dry/Wet	D63>W – D=W – D<W63	1 – 64 – 127		●
11	EQ Mid Frequency (*3)	100Hz – 10.0kHz	14 – 54	Table #3	
12	EQ Mid Gain (*3)	-12dB – 0dB – +12dB	52 – 64 – 76		
13	EQ Mid Width (*3)	0.1 – 12.0	1 – 120		
14					
15	Input Mode	mono, stereo	0 – 1		
16					

SYMPHONIC1, SYMPHONIC2

No.	Parameter	Display	Value	See Table	Control
1	LFO Frequency	0.00Hz – 39.7Hz	0 – 127	Table #1	
2	LFO Depth	0 – 127	0 – 127		
3	Delay Offset	0.0ms – 50ms	0 – 127	Table #2	
4					
5					
6	EQ Low Frequency	32Hz – 2.0kHz	4 – 40	Table #3	
7	EQ Low Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
8	EQ High Frequency	500Hz – 16.0kHz	28 – 58	Table #3	
9	EQ High Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
10	Dry/Wet	D63>W – D=W – D<W63	1 – 64 – 127		●
11	EQ Mid Frequency (*3)	100Hz – 10.0kHz	14 – 54	Table #3	
12	EQ Mid Gain (*3)	-12dB – 0dB – +12dB	52 – 64 – 76		
13	EQ Mid Width (*3)	0.1 – 12.0	1 – 120		
14					
15					
16					

ENS DETUNE1, ENS DETUNE2

No.	Parameter	Display	Value	See Table	Control
1	Detune	-50cent – 0cent – +50cent	14 – 64 – 114		
2	Lch Init Delay	0.0ms – 50ms	0 – 127	Table #2	
3	Rch Init Delay	0.0ms – 50ms	0 – 127	Table #2	
4					
5					
6					
7					
8					
9					
10	Dry/Wet	D63>W – D=W – D<W63	1 – 64 – 127		●
11	EQ Low Frequency	32Hz – 2.0kHz	4 – 40	Table #3	
12	EQ Low Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
13	EQ High Frequency	500Hz – 16.0kHz	28 – 58	Table #3	
14	EQ High Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
15					
16					

FLANGER

FLANGER1, 2, 3, 4, 5, GM FLANGER

No.	Parameter	Display	Value	See Table	Control
1	LFO Frequency	0.00Hz – 39.7Hz	0 – 127	Table #1	
2	LFO Depth	0 – 127	0 – 127		
3	Feedback Level	-63 – 0 – +63	1 – 64 – 127		
4	Delay Offset	0.0ms – 50ms	0 – 127	Table #2	
5					
6	EQ Low Frequency	32Hz – 2.0kHz	4 – 40	Table #3	
7	EQ Low Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
8	EQ High Frequency	500Hz – 16.0kHz	28 – 58	Table #3	
9	EQ High Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
10	Dry/Wet	D63>W – D=W – D<W63	1 – 64 – 127		●
11	EQ Mid Frequency (*3)	100Hz – 10.0kHz	14 – 54	Table #3	
12	EQ Mid Gain (*3)	-12dB – 0dB – +12dB	52 – 64 – 76		
13	EQ Mid Width (*3)	0.1 – 12.0	1 – 120		
14	LFO Phase Difference	-180deg – 0deg – +180deg	4 – 64 – 124	resolution =3deg.	
15					
16					

T_FLANGER

No.	Parameter	Display	Value	See Table	Control
1	LFO Freq	16th – 4thx16	5 – 29	Table #13	
2	LFO Depth	0 – 127	0 – 127		
3	Feedback Level	-63 – 0 – +63	1 – 64 – 127		
4	Delay Offset	0.0ms – 50ms	0 – 127	Table #2	
5					
6	EQ Low Frequency	32Hz – 2.0kHz	4 – 40	Table #3	
7	EQ Low Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
8	EQ High Frequency	500Hz – 16.0kHz	28 – 58	Table #3	
9	EQ High Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
10	Dry/Wet	D63>W – D=W – D<W63	1 – 64 – 127		●
11	EQ Mid Frequency (*3)	100Hz – 10.0kHz	14 – 54	Table #3	
12	EQ Mid Gain (*3)	-12dB – 0dB – +12dB	52 – 64 – 76		
13	EQ Mid Width (*3)	0.1 – 12.0	1 – 120		
14	LFO Phase Difference	-180deg – 0deg – +180deg	4 – 64 – 124	resolution =3deg.	
15					
16					

PHASER

PHASER1, EP PHASER1, 2, 3

No.	Parameter	Display	Value	See Table	Control
1	LFO Frequency	0.00Hz – 39.7Hz	0 – 127	Table #1	
2	LFO Depth	0 – 127	0 – 127		
3	Phase Shift Offset	0 – 127	0 – 127		
4	Feedback Level	-63 – 0 – +63	1 – 64 – 127		
5					
6	EQ Low Frequency	32Hz – 2.0kHz	4 – 40	Table #3	
7	EQ Low Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
8	EQ High Frequency	500Hz – 16.0kHz	28 – 58	Table #3	
9	EQ High Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
10	Dry/Wet	D63>W – D=W – D<W63	1 – 64 – 127		●
11	Stage	4 – 22 (*3) 4 – 12 (*2)	4 – 22 4 – 12		
12	Diffusion	mono, stereo	0 – 1		
13					
14					
15					
16					

PHASER2, PHASER3

No.	Parameter	Display	Value	See Table	Control
1	LFO Frequency	0.00Hz – 39.7Hz	0 – 127	Table #1	
2	LFO Depth	0 – 127	0 – 127		
3	Phase Shift Offset	0 – 127	0 – 127		
4	Feedback Level	-63 – 0 – +63	1 – 64 – 127		
5					
6	EQ Low Frequency	32Hz – 2.0kHz	4 – 40	Table #3	
7	EQ Low Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
8	EQ High Frequency	500Hz – 16.0kHz	28 – 58	Table #3	
9	EQ High Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
10	Dry/Wet	D63>W – D=W – D<W63	1 – 64 – 127		●
11	Stage	3 – 11	3 – 11		
12					
13	LFO Phase Difference	-180deg – 0deg – +180deg	4 – 64 – 124	resolution =3deg.	
14					
15					
16					

T_PHASER1, T_PHASER2

No.	Parameter	Display	Value	See Table	Control
1	LFO Freq	16th – 4thx16	5 – 29	Table #13	
2	LFO Depth	0 – 127	0 – 127		
3	Phase Shift Offset	0 – 127	0 – 127		
4	Feedback Level	-63 – 0 – +63	1 – 64 – 127		
5					
6	EQ Low Frequency	32Hz – 2.0kHz	4 – 40	Table #3	
7	EQ Low Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
8	EQ High Frequency	500Hz – 16.0kHz	28 – 58	Table #3	
9	EQ High Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
10	Dry/Wet	D63>W – D=W – D<W63	1 – 64 – 127		●
11	Stage	3 – 11	3 – 11		
12					
13	LFO Phase Difference	-180deg – 0deg – +180deg	4 – 64 – 124	resolution =3deg.	
14					
15					
16					

DISTORTION

V_DIST WARM, V_DIST CLS H, V_DIST CLS S, V_DIST METAL, V_DIST CRUNC, V_DIST BLUES, V_DIST EDGY, V_DIST SOLID, V_DST CLEAN1, V_DST CLEAN2, V_DIST TWIN, V_DST JZ CLN, V_DIST HARD, V_DSIT SOFT

No.	Parameter	Display	Value	See Table	Control
1	Overdrive	0% – 100%	0 – 100		
2	Device	Transistor, Vintage Tube, Dist1, Dist2, Fuzz	0 – 4		
3	Speaker	Flat, Stack, Combo, Twin, Radio, Megaphone	0 – 5		
4	Presence	0 – 20	0 – 20		
5	Output Level	0% – 100%	0 – 100		
6					
7					
8					
9					
10	Dry/Wet Balance	D63>W – D=W – D<W63	1 – 64 – 127		●
11					
12					
13					
14					
15					
16					

V_DIST ROCA, V_DST FUSION

No.	Parameter	Display	Value	See Table	Control
1	Overdrive	0% – 100%	0 – 100		
2	Device	Transistor, Vintage Tube, Dist1, Dist2, Fuzz	0 – 4		
3	Speaker	Flat, Stack, Combo, Twin, Radio, Megaphone	0 – 5		
4	Presence	0 – 20	0 – 20		
5	Output Level	0% – 100%	0 – 100		
6	Delay Time	64th/3 – 4thx6	0 – 19	Table #13	
7	Delay Feedback Level	-63 – 0 – +63	1 – 64 – 127		
8	L/R Diffusion	-63ms – 0ms – 63ms	1 – 64 – 127		
9	Lag	-63ms – 0ms – 63ms	1 – 64 – 127		
10	Dry/Wet	D63>W – D=W – D<W63	1 – 64 – 127		●
11	Delay Mix	0 – 127	0 – 127		
12	Feedback High Dump	0.1 – 1.0	1 – 10		
13					
14					
15					
16					

ST AMP SOLID, ST AMP CRUNC, ST AMP BLUES, ST AMP CLEAN, ST AMP HARP, ST DIST HARD, ST DIST SOFT, ST AMP1, 2, 3, 4, 5, 6

No.	Parameter	Display	Value	See Table	Control
1	Drive	0 – 127	0 – 127		●
2	AMP Type	Off, Stack, Combo, Tube	0 – 3		
3	LPF Cutoff	1.0kHz – 18kHz, Thru	34 – 59, 60	Table #3	
4	Output Level	0 – 127	0 – 127		
5					
6					
7					
8					
9					
10	Dry/Wet	D63>W – D=W – D<W63	1 – 64 – 127		
11	Edge (Clip Curve)	0 – 127 (mild – sharp)	0 – 127		
12					
13					
14					
15					
16					

DIST HARD1, DIST HARD2, DIST SOFT1, DIST SOFT2, AMP SIM1

No.	Parameter	Display	Value	See Table	Control
1	Drive	0 – 127	0 – 127		●
2	AMP Type	Off, Stack, Combo, Tube	0 – 3		
3	LPF Cutoff	1.0kHz – 18kHz, Thru	34 – 59, 60	Table #3	
4	Output Level	0 – 127	0 – 127		
5					
6					
7					
8					
9					
10	Dry/Wet	D63>W – D=W – D<W63	1 – 64 – 127		
11	Edge (Clip Curve)	0 – 127 (mild – sharp)	0 – 127		
12					
13					
14					
15					
16					

DIST HEAVY, OVERDRIVE

No.	Parameter	Display	Value	See Table	Control
1	Drive	0 – 127	0 – 127		●
2	EQ Low Frequency	32Hz – 2.0kHz	4 – 40	Table #3	
3	EQ Low Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
4	LPF Cutoff	1.0kHz – 18kHz, Thru	34 – 59, 60	Table #3	
5	Output Level	0 – 127	0 – 127		
6					
7	EQ Mid Frequency	100Hz – 10.0kHz	14 – 54	Table #3	
8	EQ Mid Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
9	EQ Mid Width	0.1 – 12.0	1 – 120		
10	Dry/Wet	D63>W – D=W – D<W63	1 – 64 – 127		
11	Edge (Clip Curve)	0 – 127 (mild – sharp)	0 – 127		
12					
13					
14					
15					
16					

ST DIST, ST OD

No.	Parameter	Display	Value	See Table	Control
1	Drive	0 – 127	0 – 127		●
2	EQ Low Frequency	32Hz – 2.0kHz	4 – 40	Table #3	
3	EQ Low Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
4	LPF Cutoff	1.0kHz – 18kHz, Thru	34 – 59, 60	Table #3	
5	Output Level	0 – 127	0 – 127		
6					
7	EQ Mid Frequency	100Hz – 10.0kHz	14 – 54	Table #3	
8	EQ Mid Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
9	EQ Mid Width	0.1 – 12.0	1 – 120		
10	Dry/Wet	D63>W – D=W – D<W63	1 – 64 – 127		
11	Edge (Clip Curve)	0 – 127	0 – 127		
12					
13					
14					
15					
16					

AMP SIM2

No.	Parameter	Display	Value	See Table	Control
1	Drive	0 – 127	0 – 127		●
2	AMP Type	Off, Stack, Combo, Tube, Crunch, Hi gain, British	0 – 6		
3	LPF Cutoff	1.0kHz – 18kHz, Thru	34 – 59, 60	Table #3	
4	Output Level	0 – 127	0 – 127		
5					
6					
7					
8					
9					
10	Dry/Wet	D63>W – D=W – D<W63	1 – 64 – 127		
11					
12					
13					
14					
15					
16					

DISTORTION+

DST+DELAY1, DST+DELAY2, OD+DELAY1, OD+DELAY2

No.	Parameter	Display	Value	See Table	Control
1	Lch Delay Time	0.1ms – 1638.3ms	1 – 16383		
2	Rch Delay Time	0.1ms – 1638.3ms	1 – 16383		
3	Delay Feedback Time	0.1ms – 1638.3ms	1 – 16383		
4	Delay Feedback Level	-63 – 0 – +63	1 – 64 – 127		
5	Delay Mix	0 – 127	0 – 127		
6	Dist Drive	0 – 127	0 – 127		
7	Dist Output Level	0 – 127	0 – 127		
8	Dist EQ Low Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
9	Dist EQ Mid Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
10	Dry/Wet	D63>W – D=W – D<W63	1 – 64 – 127		●
11					
12					
13					
14					
15					
16					

CMP+DST+DLY1, CMP+DST+DLY2, CMP+OD+DLY1, CMP+OD+DLY2

No.	Parameter	Display	Value	See Table	Control
1	Delay Time	0.1ms – 1638.3ms	1 – 16383		
2	Delay Feedback Level	-63 – 0 – +63	1 – 64 – 127		
3	Delay Mix	0 – 127	0 – 127		
4	Dist Drive	0 – 127	0 – 127		
5	Dist Output Level	0 – 127	0 – 127		
6	Dist EQ Low Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
7	Dist EQ Mid Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
8					
9					
10	Dry/Wet	D63>W – D=W – D<W63	1 – 64 – 127		●
11	Comp. Attack	1ms – 40ms	0 – 19	Table #8	
12	Comp. Release	10ms – 680ms	0 – 15	Table #9	
13	Comp. Threshold	-48dB – -6dB	79 – 121		
14	Comp. Ratio	1.0 – 20.0	0 – 7	Table #10	
15					
16					

V_DST H+DLY, V_DST S+DLY

No.	Parameter	Display	Value	See Table	Control
1	Overdrive	0% – 100%	0 – 100		
2	Device	Transistor, Vintage Tube, Dist1, Dist2, Fuzz	0 – 4		
3	Speaker	Flat, Stack, Combo, Twin, Radio, Megaphone	0 – 5		
4	Presence	0 – 20	0 – 20		
5	Output Level	0% – 100%	0 – 100		
6	Delay Time L	0.1ms – 1638.3ms	1 – 16383		
7	Delay Time R	0.1ms – 1638.3ms	1 – 16383		
8	Delay Feedback Time	0.1ms – 1638.3ms	1 – 16383		
9	Delay Feedback Level	-63 – 0 – +63	1 – 64 – 127		
10	Dry/Wet Balance	D63>W – D=W – D<W63	1 – 64 – 127		●
11	Delay Mix	0 – 127	0 – 127		
12	Feedback High Dump	0.1 – 1.0	1 – 10		
13					
14					
15					
16					

DST+TDLY, OD+TDLY

No.	Parameter	Display	Value	See Table	Control
1	Delay Time	64th/3 – 4thx6	0 – 19	Table #13	
2	Delay Feedback Level	-63 – 0 – +63	1 – 64 – 127		
3	Delay Mix	0 – 127	0 – 127		
4	Dist Drive	0 – 127	0 – 127		
5	Dist Output Level	0 – 127	0 – 127		
6	Dist EQ Low Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
7	Dist EQ Mid Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
8	L/R Diffusion	-63ms – 0ms – 63ms	1 – 64 – 127		
9	Lag	-63ms – 0ms – 63ms	1 – 64 – 127		
10	Dry/Wet	D63>W – D=W – D<W63	1 – 64 – 127		●
11					
12					
13					
14					
15					
16					

COMP+DIST1, COMP+DIST2

No.	Parameter	Display	Value	See Table	Control
1	Drive	0 – 127	0 – 127		●
2	EQ Low Frequency	32Hz – 2.0kHz	4 – 40	Table #3	
3	EQ Low Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
4	LPF Cutoff	1.0kHz – 18kHz, Thru	34 – 59, 60	Table #3	
5	Output Level	0 – 127	0 – 127		
6					
7	EQ Mid Frequency	100Hz – 10.0kHz	14 – 54	Table #3	
8	EQ Mid Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
9	EQ Mid Width	0.1 – 12.0	1 – 120		
10	Dry/Wet	D63>W – D=W – D<W63	1 – 64 – 127		
11	Edge (Clip Curve)	0 – 127 (mild – sharp)	0 – 127		
12	Attack	1ms – 40ms	0 – 19	Table #8	
13	Release	10ms – 680ms	0 – 15	Table #9	
14	Threshold	-48dB – -6dB	79 – 121		
15	Ratio	1.0 – 20.0	0 – 7	Table #10	
16					

CMP+DST+TDL, CMP+OD+TDLY1, 2, 3, 4, 5, 6

No.	Parameter	Display	Value	See Table	Control
1	Delay Time	64th/3 – 4thx6	0 – 19	Table #13	
2	Delay Feedback Level	-63 – 0 – +63	1 – 64 – 127		
3	Delay Mix	0 – 127	0 – 127		
4	Dist Drive	0 – 127	0 – 127		
5	Dist Output Level	0 – 127	0 – 127		
6	Dist EQ Low Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
7	Dist EQ Mid Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
8	L/R Diffusion	-63ms – 0ms – 63ms	1 – 64 – 127		
9	Lag	-63ms – 0ms – 63ms	1 – 64 – 127		
10	Dry/Wet	D63>W – D=W – D<W63	1 – 64 – 127		●
11	Comp. Attack	1ms – 40ms	0 – 19	Table #8	
12	Comp. Release	10ms – 680ms	0 – 15	Table #9	
13	Comp. Threshold	-48dB – -6dB	79 – 121		
14	Comp. Ratio	1.0 – 20.0	0 – 7	Table #10	
15					
16					

V_DST H+TDL1, V_DST H+TDL2, V_DST S+TDL1, V_DST S+TDL2

No.	Parameter	Display	Value	See Table	Control
1	Overdrive	0% – 100%	0 – 100		
2	Device	Transistor, Vintage Tube, Dist1, Dist2, Fuzz	0 – 4		
3	Speaker	Flat, Stack, Combo, Twin, Radio, Megaphone	0 – 5		
4	Presence	0 – 20	0 – 20		
5	Output Level	0% – 100%	0 – 100		
6	Delay Time	64th/3 – 4thx6	0 – 19	Table #13	
7	Delay Feedback Level	-63 – 0 – +63	1 – 64 – 127		
8	L/R Diffusion	-63ms – 0ms – 63ms	1 – 64 – 127		
9	Lag	-63ms – 0ms – 63ms	1 – 64 – 127		
10	Dry/Wet	D63>W – D=W – D<W63	1 – 64 – 127		●
11	Delay Mix	0 – 127	0 – 127		
12	Feedback High Dump	0.1 – 1.0	1 – 10		
13					
14					
15					
16					

PITCH CHANGE

PITCH CHG1, PITCH CHG2

No.	Parameter	Display	Value	See Table	Control
1	Pitch	-24 – +24	40 – 88		
2	Initial Delay	0.1ms – 400.0ms	0 – 127	Table #7	
3	Fine 1	-50cent – 0cent – +50cent	14 – 64 – 114		
4	Fine 2	-50cent – 0cent – +50cent	14 – 64 – 114		
5	Feedback Level	-63 – 0 – +63	1 – 64 – 127		
6					
7					
8					
9					
10	Dry/Wet	D63>W – D=W – D<W63	1 – 64 – 127		●
11	Pan 1	L63 – C – R63	1 – 64 – 127		
12	Output Level 1	0 – 127	0 – 127		
13	Pan 2	L63 – C – R63	1 – 64 – 127		
14	Output Level 2	0 – 127	0 – 127		
15					
16					

PITCH CHG3

No.	Parameter	Display	Value	See Table	Control
1	Pitch	-24 – +24	40 – 88		
2	Initial Delay	0.1ms – 400.0ms	0 – 127	Table #7	
3	Fine 1	-50cent – 0cent – +50cent	14 – 64 – 114		
4	Fine 2	-50cent – 0cent – +50cent	14 – 64 – 114		
5	Feedback Level	-63 – 0 – +63	1 – 64 – 127		
6					
7					
8					
9					
10	Dry/Wet	D63>W – D=W – D<W63	1 – 64 – 127		●
11	Pan 1	L63 – C – R63	1 – 64 – 127		
12	Output Level 1	0 – 127	0 – 127		
13	Pan 2	L63 – C – R63	1 – 64 – 127		
14	Output Level 2	0 – 127	0 – 127		
15					
16					

WAH AUTO

AUTO WAH1, AUTO WAH2

No.	Parameter	Display	Value	See Table	Control
1	LFO Frequency	0.00Hz – 39.7Hz	0 – 127	Table #1	
2	LFO Depth	0 – 127	0 – 127		
3	Cutoff Frequency Offset	0 – 127	0 – 127		●
4	Resonance	1.0 – 12.0	10 – 120		
5					
6	EQ Low Frequency	32Hz – 2.0kHz	4 – 40	Table #3	
7	EQ Low Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
8	EQ High Frequency	500Hz – 16.0kHz	28 – 58	Table #3	
9	EQ High Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
10	Dry/Wet	D63>W – D=W – D<W63	1 – 64 – 127		
11	Drive	0 – 127	0 – 127		
12					
13					
14					
15					
16					

AT.WAH+DST1, 2, AT.WH+DST HD, AT.WH+DST HV, AT.WH+DST LT
AT.WAH+OD1, 2, AT.WH+OD HD, AT.WH+OD HV, AT.WH+OD LT

No.	Parameter	Display	Value	See Table	Control
1	LFO Frequency	0.00Hz – 39.7Hz	0 – 127	Table #1	
2	LFO Depth	0 – 127	0 – 127		
3	Cutoff Frequency Offset	0 – 127	0 – 127		●
4	Resonance	1.0 – 12.0	10 – 120		
5					
6	EQ Low Frequency	32Hz – 2.0kHz	4 – 40	Table #3	
7	EQ Low Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
8	EQ High Frequency	500Hz – 16.0kHz	28 – 58	Table #3	
9	EQ High Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
10	Dry/Wet	D63>W – D=W – D<W63	1 – 64 – 127		
11	Drive	0 – 127	0 – 127		
12	EQ Low Gain (distortion)	-12dB – 0dB – +12dB	52 – 64 – 76		
13	EQ Mid Gain (distortion)	-12dB – 0dB – +12dB	52 – 64 – 76		
14	LPF Cutoff	1.0kHz – 18kHz, Thru	34 – 59, 60	Table #3	
15	Output Level	0 – 127	0 – 127		
16					

TEMPO AT.WAH

No.	Parameter	Display	Value	See Table	Control
1	LFO Freq	16th – 4thx16	5 – 29	Table #13	
2	LFO Depth	0 – 127	0 – 127		
3	Cutoff Frequency Offset	0 – 127	0 – 127		●
4	Resonance	1.0 – 12.0	10 – 120		
5					
6	EQ Low Frequency	32Hz – 2.0kHz	4 – 40	Table #3	
7	EQ Low Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
8	EQ High Frequency	500Hz – 16.0kHz	28 – 58	Table #3	
9	EQ High Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
10	Dry/Wet	D63>W – D=W – D<W63	1 – 64 – 127		
11	Drive	0 – 127	0 – 127		
12					
13					
14					
15					
16					

T_AT.WH+DST, T_A.WH+DSTHD, T_A.WH+DSTHV, T_A.WH+DSTLT
T_AT.WH+OD, T_A.WH+OD HD, T_A.WH+OD HV, T_A.WH+OD LT

No.	Parameter	Display	Value	See Table	Control
1	LFO Freq	16th – 4thx16	5 – 29	Table #13	
2	LFO Depth	0 – 127	0 – 127		
3	Cutoff Frequency Offset	0 – 127	0 – 127		●
4	Resonance	1.0 – 12.0	10 – 120		
5					
6	EQ Low Frequency	32Hz – 2.0kHz	4 – 40	Table #3	
7	EQ Low Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
8	EQ High Frequency	500Hz – 16.0kHz	28 – 58	Table #3	
9	EQ High Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
10	Dry/Wet	D63>W – D=W – D<W63	1 – 64 – 127		
11	Drive	0 – 127	0 – 127		
12	EQ Low Gain (distortion)	-12dB – 0dB – +12dB	52 – 64 – 76		
13	EQ Mid Gain (distortion)	-12dB – 0dB – +12dB	52 – 64 – 76		
14	LPF Cutoff	1.0kHz – 18kHz, Thru	34 – 59, 60	Table #3	
15	Output Level	0 – 127	0 – 127		
16					

WAH TCH/PDL

TOUCH WAH1, TC.WH+DST1, TC.WH+DST2

No.	Parameter	Display	Value	See Table	Control
1	Sensitivity	0 – 127	0 – 127		
2	Cutoff Frequency Offset	0 – 127	0 – 127		●
3	Resonance	1.0 – 12.0	10 – 120		
4					
5					
6	EQ Low Frequency	32Hz – 2.0kHz	4 – 40	Table #3	
7	EQ Low Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
8	EQ High Frequency	500Hz – 16.0kHz	28 – 58	Table #3	
9	EQ High Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
10	Dry/Wet	D63>W – D=W – D<W63	1 – 64 – 127		
11	Drive	0 – 127	0 – 127		
12					
13					
14					
15					
16					

TOUCH WAH2, TOUCH WAH3, TC.WH+DST HD, TC.WH+DST HV,
TC.WH+DST LT, TC.WH+OD1, 2, TC.WH+OD HD, TC.WH+OD HV,
TC.WH+OD LT, CLAVI TC.WAH, EP TC.WAH

No.	Parameter	Display	Value	See Table	Control
1	Sensitivity	0 – 127	0 – 127		
2	Cutoff Frequency Offset	0 – 127	0 – 127		●
3	Resonance	1.0 – 12.0	10 – 120		
4					
5					
6	EQ Low Frequency	32Hz – 2.0kHz	4 – 40	Table #3	
7	EQ Low Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
8	EQ High Frequency	500Hz – 16.0kHz	28 – 58	Table #3	
9	EQ High Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
10	Dry/Wet	D63>W – D=W – D<W63	1 – 64 – 127		
11	Drive	0 – 127	0 – 127		
12	EQ Low Gain (distortion)	-12dB – 0dB – +12dB	52 – 64 – 76		
13	EQ Mid Gain (distortion)	-12dB – 0dB – +12dB	52 – 64 – 76		
14	LPF Cutoff	1.0kHz – 18kHz, Thru	34 – 59, 60	Table #3	
15	Output Level	0 – 127	0 – 127		
16	Release	10ms – 680ms	52 – 67	Table #12	

WH+DST+DLY1, WH+DST+DLY2, WH+OD+DLY1, WH+OD+DLY2

No.	Parameter	Display	Value	See Table	Control
1	Delay Time	0.1ms – 1638.3ms	1 – 16383		
2	Delay Feedback Level	-63 – 0 – +63	1 – 64 – 127		
3	Delay Mix	0 – 127	0 – 127		
4	Dist Drive	0 – 127	0 – 127		
5	Dist Output Level	0 – 127	0 – 127		
6	Dist EQ Low Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
7	Dist EQ Mid Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
8					
9					
10	Dry/Wet	D63>W – D=W – D<W63	1 – 64 – 127		●
11	Wah Sensitivity	0 – 127	0 – 127		
12	Wah Cutoff Freq Offset	0 – 127	0 – 127		
13	Wah Resonance	1.0 – 12.0	10 – 120		
14	Wah Release	10ms – 680ms	52 – 67	Table #12	
15					
16					

WH+DST+TDLY, WH+OD+TDLY1, WH+OD+TDLY2

No.	Parameter	Display	Value	See Table	Control
1	Delay Time	64th/3 – 4thx6	0 – 19	Table #13	
2	Delay Feedback Level	-63 – 0 – +63	1 – 64 – 127		
3	Delay Mix	0 – 127	0 – 127		
4	Dist Drive	0 – 127	0 – 127		
5	Dist Output Level	0 – 127	0 – 127		
6	Dist EQ Low Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
7	Dist EQ Mid Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
8	L/R Diffusion	-63ms – 0ms – 63ms	1 – 64 – 127		
9	Lag	-63ms – 0ms – 63ms	1 – 64 – 127		
10	Dry/Wet	D63>W – D=W – D<W63	1 – 64 – 127		●
11	Wah Sensitivity	0 – 127	0 – 127		
12	Wah Cutoff Freq Offset	0 – 127	0 – 127		
13	Wah Resonance	1.0 – 12.0	10 – 120		
14	Wah Release	10ms – 680ms	52 – 67	Table #12	
15					
16					

PEDAL WAH

No.	Parameter	Display	Value	See Table	Control
1	Pedal Control	0 – 127	0 – 127		●
2	Depth	0 – 127	0 – 127		
3	Cutoff Frequency Offset	0 – 127	0 – 127		
4	Resonance	1.0 – 12.0	10 – 120		
5					
6	EQ Low Frequency	32Hz – 2.0kHz	4 – 40	Table #3	
7	EQ Low Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
8	EQ High Frequency	500Hz – 16.0kHz	28 – 58	Table #3	
9	EQ High Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
10	Dry/Wet	D63>W – D=W – D<W63	1 – 64 – 127		
11	Drive	0 – 127	0 – 127		
12					
13					
14					
15					
16					

PEDAL WH+DST, P.WH+DIST HD, P.WH+DIST HV, P.WH+DIST LT
PEDAL WH+OD, P.WH+OD HD, P.WH+OD HV, P.WH+OD LT

No.	Parameter	Display	Value	See Table	Control
1	Pedal Control	0 – 127	0 – 127		●
2	Depth	0 – 127	0 – 127		
3	Cutoff Frequency Offset	0 – 127	0 – 127		
4	Resonance	1.0 – 12.0	10 – 120		
5					
6	EQ Low Frequency	32Hz – 2.0kHz	4 – 40	Table #3	
7	EQ Low Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
8	EQ High Frequency	500Hz – 16.0kHz	28 – 58	Table #3	
9	EQ High Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
10	Dry/Wet	D63>W – D=W – D<W63	1 – 64 – 127		
11	Drive	0 – 127	0 – 127		
12	EQ Low Gain (distortion)	-12dB – 0dB – +12dB	52 – 64 – 76		
13	EQ Mid Gain (distortion)	-12dB – 0dB – +12dB	52 – 64 – 76		
14	LPF Cutoff	1.0kHz – 18kHz, Thru	34 – 59, 60	Table #3	
15	Output Level	0 – 127	0 – 127		
16					

DYNAMIC

COMP MED, COMP HEAVY, COMPRESSOR

No.	Parameter	Display	Value	See Table	Control
1	Attack	1ms – 40ms	0 – 19	Table #8	
2	Release	10ms – 680ms	0 – 15	Table #9	
3	Threshold	-48dB – -6dB	79 – 121		
4	Ratio	1.0 – 20.0	0 – 7	Table #10	
5	Output Level	0 – 127	0 – 127		
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					

COMP MELODY, COMP BASS, MBAND COMP

No.	Parameter	Display	Value	See Table	Control
1	Type	Normal, Low, Mid, High, Low/High, Low/Mid, Mid/ High, Full Bit, Wild, Attacky, Low End, Hard, Basic	0 – 12		
2	Threshold Offset	-32 – +32	32 – 96		●
3	Low Gain Offset	-63 – 0 – +63	1 – 64 – 127		
4	Mid Gain Offset	-63 – 0 – +63	1 – 64 – 127		
5	High Gain Offset	-63 – 0 – +63	1 – 64 – 127		
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					

NOISE GATE

No.	Parameter	Display	Value	See Table	Control
1	Attack	1ms – 40ms	0 – 19	Table #8	
2	Release	10ms – 680ms	0 – 15	Table #9	
3	Threshold	-72dB – -30dB	55 – 97		
4	Output Level	0 – 127	0 – 127		
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					

ROTARY SP

DUAL ROT BRT, DUAL ROT WRM, DUAL ROT SP1, 2

No.	Parameter	Display	Value	See Table	Control
1	Rotor Speed Slow	0.00Hz – 2.65Hz	0 – 63	Table #1	
2	Horn Speed Slow	0.00Hz – 2.65Hz	0 – 63	Table #1	
3	Rotor Speed Fast	2.69Hz – 39.7Hz	64 – 127	Table #1	
4	Horn Speed Fast	2.69Hz – 39.7Hz	64 – 127	Table #1	
5	Slow-Fast Time of R	0 – 127	0 – 127		
6	Slow-Fast Time of H	0 – 127	0 – 127		
7	Drive Low	0 – 127	0 – 127		
8	Drive High	0 – 127	0 – 127		
9	Low/High Balance	L63>H – L=H – L<H63	1 – 64 – 127		
10					
11	EQ Low Frequency	32Hz – 2.0kHz	4 – 40	Table #3	
12	EQ Low Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
13	EQ High Frequency	500Hz – 16.0kHz	28 – 58	Table #3	
14	EQ High Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
15	Mic L-R Angle	0deg – 180deg	0 – 60		
16	Speed Control	Slow, Fast	0 – 1		●

ROTARY SP1, ROTARY SP6

No.	Parameter	Display	Value	See Table	Control
1	LFO Frequency	0.00Hz – 39.7Hz	0 – 127	Table #1	●
2	LFO Depth	0 – 127	0 – 127		
3					
4					
5					
6	EQ Low Frequency	32Hz – 2.0kHz	4 – 40	Table #3	
7	EQ Low Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
8	EQ High Frequency	500Hz – 16.0kHz	28 – 58	Table #3	
9	EQ High Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
10	Dry/Wet	D63>W – D=W – D<W63	1 – 64 – 127		
11	EQ Mid Frequency (*3)	100Hz – 10.0kHz	14 – 54	Table #3	
12	EQ Mid Gain (*3)	-12dB – 0dB – +12dB	52 – 64 – 76		
13	EQ Mid Width (*3)	0.1 – 12.0	1 – 120		
14					
15					
16					

ROTARY SP2, 3, 7

No.	Parameter	Display	Value	See Table	Control
1	LFO Frequency	0.00Hz – 39.7Hz	0 – 127	Table #1	●
2	L/R Depth	0 – 127	0 – 127		
3	F/R Depth	0 – 127	0 – 127		
4	PAN Direction	L<->R, L->R, L<-R, Lturn, Rturn, L/R	0 – 5		
5					
6	EQ Low Frequency	32Hz – 2.0kHz	4 – 40	Table #3	
7	EQ Low Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
8	EQ High Frequency	500Hz – 16.0kHz	28 – 58	Table #3	
9	EQ High Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
10					
11	EQ Mid Frequency (*3)	100Hz – 10.0kHz	14 – 54	Table #3	
12	EQ Mid Gain (*3)	-12dB – 0dB – +12dB	52 – 64 – 76		
13	EQ Mid Width (*3)	0.1 – 12.0	1 – 120		
14					
15					
16					

ROTARY SP4

No.	Parameter	Display	Value	See Table	Control
1	LFO Frequency	0.00Hz – 39.7Hz	0 – 127	Table #1	●
2	AM Depth	0 – 127	0 – 127		
3	PM Depth	0 – 127	0 – 127		
4					
5					
6	EQ Low Frequency	32Hz – 2.0kHz	4 – 40	Table #3	
7	EQ Low Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
8	EQ High Frequency	500Hz – 16.0kHz	28 – 58	Table #3	
9	EQ High Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
10					
11	EQ Mid Frequency (*3)	100Hz – 10.0kHz	14 – 54	Table #3	
12	EQ Mid Gain (*3)	-12dB – 0dB – +12dB	52 – 64 – 76		
13	EQ Mid Width (*3)	0.1 – 12.0	1 – 120		
14	LFO Phase Difference	-180deg – 0deg – +180deg	4 – 64 – 124	resolution =3deg.	
15	Input Mode	mono, stereo	0 – 1		
16					

ROTARY SP5

No.	Parameter	Display	Value	See Table	Control
1	LFO Frequency	0.00Hz – 39.7Hz	0 – 127	Table #1	
2	LFO Depth	0 – 127	0 – 127		
3	Feedback Level	-63 – 0 – +63	1 – 64 – 127		
4	Delay Offset	0.0ms – 50ms	0 – 127	Table #2	
5					
6	EQ Low Frequency	32Hz – 2.0kHz	4 – 40	Table #3	
7	EQ Low Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
8	EQ High Frequency	500Hz – 16.0kHz	28 – 58	Table #3	
9	EQ High Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
10	Dry/Wet	D63>W – D=W – D<W63	1 – 64 – 127		●
11	EQ Mid Frequency (*3)	100Hz – 10.0kHz	14 – 54	Table #3	
12	EQ Mid Gain (*3)	-12dB – 0dB – +12dB	52 – 64 – 76		
13	EQ Mid Width (*3)	0.1 – 12.0	1 – 120		
14					
15	Input Mode	mono, stereo	0 – 1		
16					

2WAY ROT SP

No.	Parameter	Display	Value	See Table	Control
1	Rotor Speed	0.00Hz – 39.7Hz	0 – 127	Table #1	●
2	Drive Low	0 – 127	0 – 127		
3	Drive High	0 – 127	0 – 127		
4	Low/High	L63>H – L=H – L<H63	1 – 64 – 127		
5					
6	EQ Low Frequency	32Hz – 2.0kHz	4 – 40	Table #3	
7	EQ Low Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
8	EQ High Frequency	500Hz – 16.0kHz	28 – 58	Table #3	
9	EQ High Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
10					
11	Crossover Frequency	100Hz – 10.0kHz	14 – 54	Table #3	
12	Mic L-R Angle	0deg – 180deg	0 – 60	resolution =3deg.	
13					
14					
15					
16					

DST+ROT SP, OD+ROT SP

No.	Parameter	Display	Value	See Table	Control
1	LFO Frequency	0.00Hz – 39.7Hz	0 – 127	Table #1	●
2	LFO Depth	0 – 127	0 – 127		
3					
4					
5					
6	EQ Low Frequency	32Hz – 2.0kHz	4 – 40	Table #3	
7	EQ Low Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
8	EQ High Frequency	500Hz – 16.0kHz	28 – 58	Table #3	
9	EQ High Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
10	Dry/Wet	D63>W – D=W – D<W63	1 – 64 – 127		
11					
12					
13					
14	Drive	0 – 127	0 – 127		
15	LPF Cutoff	1.0kHz – 18kHz, Thru	34 – 59, 60	Table #3	
16	Output Level	0 – 127	0 – 127		

DST+2ROT SP, OD+2ROT SP

No.	Parameter	Display	Value	See Table	Control
1	Rotor Speed	0.00Hz – 39.7Hz	0 – 127	Table #1	●
2	Drive Low	0 – 127	0 – 127		
3	Drive High	0 – 127	0 – 127		
4	Low/High Balance	L63>H – L=H – L<H63	1 – 64 – 127		
5					
6	EQ Low Frequency	32Hz – 2.0kHz	4 – 40	Table #3	
7	EQ Low Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
8	EQ High Frequency	500Hz – 16.0kHz	28 – 58	Table #3	
9	EQ High Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
10					
11	Crossover Frequency	100Hz – 10.0kHz	14 – 54	Table #3	
12	Mic L-R Angle	0deg – 180deg	0 – 60		
13					
14	Drive	0 – 127	0 – 127		
15	LPF Cutoff	1.0kHz – 18kHz, Thru	34 – 59, 60	Table #3	
16	Output Level	0 – 127	0 – 127		

AMP+ROT SP

No.	Parameter	Display	Value	See Table	Control
1	LFO Frequency	0.00Hz – 39.7Hz	0 – 127	Table #1	●
2	LFO Depth	0 – 127	0 – 127		
3	AMP Type	Off, Stack, Combo, Tube	0 – 3		
4					
5					
6	EQ Low Frequency	32Hz – 2.0kHz	4 – 40	Table #3	
7	EQ Low Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
8	EQ High Frequency	500Hz – 16.0kHz	28 – 58	Table #3	
9	EQ High Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
10	Dry/Wet	D63>W – D=W – D<W63	1 – 64 – 127		
11					
12					
13					
14	Drive	0 – 127	0 – 127		
15	LPF Cutoff	1.0kHz – 18kHz, Thru	34 – 59, 60	Table #3	
16	Output Level	0 – 127	0 – 127		

AMP+2ROT SP

No.	Parameter	Display	Value	See Table	Control
1	Rotor Speed	0.00Hz – 39.7Hz	0 – 127	Table #1	●
2	Drive Low	0 – 127	0 – 127		
3	Drive High	0 – 127	0 – 127		
4	Low/High Balance	L63>H – L=H – L<H63	1 – 64 – 127		
5					
6	EQ Low Frequency	32Hz – 2.0kHz	4 – 40	Table #3	
7	EQ Low Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
8	EQ High Frequency	500Hz – 16.0kHz	28 – 58	Table #3	
9	EQ High Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
10					
11	Crossover Frequency	100Hz – 10.0kHz	14 – 54	Table #3	
12	Mic L-R Angle	0deg – 180deg	0 – 60		
13	AMP Type	Off, Stack, Combo, Tube (AMPSIM only)	0 – 3		
14	Drive	0 – 127	0 – 127		
15	LPF Cutoff	1.0kHz – 18kHz, Thru	34 – 59, 60	Table #3	
16	Output Level	0 – 127	0 – 127		

TREMOLO

TREMOLO1, TREMOLO3, EP TREMOLO, GT TREMOLO2

No.	Parameter	Display	Value	See Table	Control
1	LFO Frequency	0.00Hz – 39.7Hz	0 – 127	Table #1	●
2	AM Depth	0 – 127	0 – 127		
3	PM Depth	0 – 127	0 – 127		
4					
5					
6	EQ Low Frequency	32Hz – 2.0kHz	4 – 40	Table #3	
7	EQ Low Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
8	EQ High Frequency	500Hz – 16.0kHz	28 – 58	Table #3	
9	EQ High Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
10					
11	EQ Mid Frequency (*3)	100Hz – 10.0kHz	14 – 54	Table #3	
12	EQ Mid Gain (*3)	-12dB – 0dB – +12dB	52 – 64 – 76		
13	EQ Mid Width (*3)	0.1 – 12.0	1 – 120		
14	LFO Phase Difference	-180deg – 0deg – +180deg	4 – 64 – 124	resolution =3deg.	
15	Input Mode	mono, stereo	0 – 1		
16					

TREMOLO2, GT TREMOLO1

No.	Parameter	Display	Value	See Table	Control
1	LFO Frequency	0.00Hz – 39.7Hz	0 – 127	Table #1	●
2	L/R Depth	0 – 127	0 – 127		
3	F/R Depth	0 – 127	0 – 127		
4	PAN Direction	L<->R, L->R, L<-R, Lturn, Rturn, L/R	0 – 5		
5					
6	EQ Low Frequency	32Hz – 2.0kHz	4 – 40	Table #3	
7	EQ Low Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
8	EQ High Frequency	500Hz – 16.0kHz	28 – 58	Table #3	
9	EQ High Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
10					
11	EQ Mid Frequency (*3)	100Hz – 10.0kHz	14 – 54	Table #3	
12	EQ Mid Gain (*3)	-12dB – 0dB – +12dB	52 – 64 – 76		
13	EQ Mid Width (*3)	0.1 – 12.0	1 – 120		
14					
15					
16					

VIBE VIBRATE

No.	Parameter	Display	Value	See Table	Control
1	Vibrate Speed	0.00Hz – 39.7Hz	0 – 127	Table #1	
2	Vibrate Depth (AM)	0 – 127	0 – 127		
3	Vibrate Depth (PM)	0 – 127	0 – 127		
4					
5					
6	EQ Low Frequency	32Hz – 2.0kHz	4 – 40	Table #3	
7	EQ Low Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
8	EQ High Frequency	500Hz – 16.0kHz	28 – 58	Table #3	
9	EQ High Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
10	Dry/Wet Balance	D63>W – D=W – D<W63	1 – 64 – 127		
11	EQ Mid Frequency (*3)	100Hz – 10.0kHz	14 – 54	Table #3	
12	EQ Mid Gain (*3)	-12dB – 0dB – +12dB	52 – 64 – 76		
13	EQ Mid Width (*3)	0.1 – 12.0	1 – 120		
14	LFO Phase Difference	-180deg – 0deg – +180deg	4 – 64 – 124	resolution =3deg.	
15	Input Mode	mono, stereo	0 – 1		
16	Vibrate SW	Off, On	0 – 1		●

T_TREMOLO

No.	Parameter	Display	Value	See Table	Control
1	LFO Freq	16th – 4thx16	5 – 29	Table #13	●
2	AM Depth	0 – 127	0 – 127		
3	PM Depth	0 – 127	0 – 127		
4					
5					
6	EQ Low Frequency	32Hz – 2.0kHz	4 – 40	Table #3	
7	EQ Low Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
8	EQ High Frequency	500Hz – 16.0kHz	28 – 58	Table #3	
9	EQ High Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
10					
11	EQ Mid Frequency (*3)	100Hz – 10.0kHz	14 – 54	Table #3	
12	EQ Mid Gain (*3)	-12dB – 0dB – +12dB	52 – 64 – 76		
13	EQ Mid Width (*3)	0.1 – 12.0	1 – 120		
14	LFO Phase Difference	-180deg – 0deg – +180deg	4 – 64 – 124	resolution =3deg.	
15	Input Mode	mono, stereo	0 – 1		
16					

SPATIAL

AUTO PAN1, AUTO PAN2, EP AUTO PAN

No.	Parameter	Display	Value	See Table	Control
1	LFO Frequency	0.00Hz – 39.7Hz	0 – 127	Table #1	●
2	L/R Depth	0 – 127	0 – 127		
3	F/R Depth	0 – 127	0 – 127		
4	PAN Direction	L<->R, L->R, L<-R, Lturn, Rturn, L/R	0 – 5		
5					
6	EQ Low Frequency	32Hz – 2.0kHz	4 – 40	Table #3	
7	EQ Low Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
8	EQ High Frequency	500Hz – 16.0kHz	28 – 58	Table #3	
9	EQ High Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
10					
11	EQ Mid Frequency (*3)	100Hz – 10.0kHz	14 – 54	Table #3	
12	EQ Mid Gain (*3)	-12dB – 0dB – +12dB	52 – 64 – 76		
13	EQ Mid Width (*3)	0.1 – 12.0	1 – 120		
14					
15					
16					

AUTO PAN3

No.	Parameter	Display	Value	See Table	Control
1	LFO Frequency	0.00Hz – 39.7Hz	0 – 127	Table #1	●
2	L/R Depth	0 – 127	0 – 127		
3	F/R Depth	0 – 127	0 – 127		
4	PAN Direction	L<->R, L->R, L<-R, Lturn, Rturn, L/R	0 – 5		
5	LFO Wave	0 – 28	0 – 28		
6	EQ Low Frequency	32Hz – 2.0kHz	4 – 40	Table #3	
7	EQ Low Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
8	EQ High Frequency	500Hz – 16.0kHz	28 – 58	Table #3	
9	EQ High Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
10					
11	EQ Mid Frequency (*3)	100Hz – 10.0kHz	14 – 54	Table #3	
12	EQ Mid Gain (*3)	-12dB – 0dB – +12dB	52 – 64 – 76		
13	EQ Mid Width (*3)	0.1 – 12.0	1 – 120		
14					
15	Input Mode	mono, stereo	0 – 1		
16					

T_AUTO PAN1

No.	Parameter	Display	Value	See Table	Control
1	LFO Freq	16th – 4thx16	5 – 29	Table #13	●
2	L/R Depth	0 – 127	0 – 127		
3	F/R Depth	0 – 127	0 – 127		
4	PAN Direction	L<->R, L->R, L<-R, Lturn, Rturn, L/R	0 – 5		
5					
6	EQ Low Frequency	32Hz – 2.0kHz	4 – 40	Table #3	
7	EQ Low Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
8	EQ High Frequency	500Hz – 16.0kHz	28 – 58	Table #3	
9	EQ High Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
10					
11	EQ Mid Frequency (*3)	100Hz – 10.0kHz	14 – 54	Table #3	
12	EQ Mid Gain (*3)	-12dB – 0dB – +12dB	52 – 64 – 76		
13	EQ Mid Width (*3)	0.1 – 12.0	1 – 120		
14					
15					
16					

T_AUTO PAN2

No.	Parameter	Display	Value	See Table	Control
1	LFO Freq	16th – 4thx16	5 – 29	Table #13	●
2	L/R Depth	0 – 127	0 – 127		
3	F/R Depth	0 – 127	0 – 127		
4	PAN Direction	L<->R, L->R, L<-R, Lturn, Rturn, L/R	0 – 5		
5	LFO Wave	0 – 28	0 – 28		
6	EQ Low Frequency	32Hz – 2.0kHz	4 – 40	Table #3	
7	EQ Low Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
8	EQ High Frequency	500Hz – 16.0kHz	28 – 58	Table #3	
9	EQ High Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
10					
11	EQ Mid Frequency (*3)	100Hz – 10.0kHz	14 – 54	Table #3	
12	EQ Mid Gain (*3)	-12dB – 0dB – +12dB	52 – 64 – 76		
13	EQ Mid Width (*3)	0.1 – 12.0	1 – 120		
14					
15	Input Mode	mono, stereo	0 – 1		
16					

EQ/ENHANCER

EQ DISCO, EQ TEL, 3BAND EQ, ST 3BAND EQ

No.	Parameter	Display	Value	See Table	Control
1	EQ Low Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
2	EQ Mid Frequency	100Hz – 16.0kHz	14 – 58	Table #3	
3	EQ Mid Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
4	EQ Mid Width	0.1 – 12.0	1 – 120		
5	EQ High Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
6	EQ Low Frequency	50Hz – 2.0kHz	8 – 40	Table #3	
7	EQ High Frequency	500Hz – 16.0kHz	28 – 58	Table #3	
8					
9					
10					
11					
12					
13					
14					
15	Input Mode	mono, stereo	0 – 1		
16					

2BAND EQ

No.	Parameter	Display	Value	See Table	Control
1	EQ Low Frequency	32Hz – 2.0kHz	4 – 40	Table #3	
2	EQ Low Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
3	EQ High Frequency	500Hz – 16.0kHz	28 – 58	Table #3	
4	EQ High Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					

HM ENHANCE1, HM ENHANCE2

No.	Parameter	Display	Value	See Table	Control
1	HPF Cutoff	500Hz – 16.0kHz	28 – 58		
2	Drive	0 – 127	0 – 127		
3	Mix Level	0 – 127	0 – 127		
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					

MISC

VCE CANCEL

No.	Parameter	Display	Value	See Table	Control
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11	Low Adjust	0 – 26	0 – 26		
12	High Adjust	0 – 26	0 – 26		
13					
14					
15					
16					

AMBIENCE

No.	Parameter	Display	Value	See Table	Control
1	Delay Time	0.0ms – 50ms	0 – 127	Table #2	
2	Output Phase	normal, inverse	0 – 1		
3					
4					
5					
6	EQ Low Frequency	32Hz – 2.0kHz	4 – 40	Table #3	
7	EQ Low Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
8	EQ High Frequency	500Hz – 16.0kHz	28 – 58	Table #3	
9	EQ High Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
10	Dry/Wet	D63>W – D=W – D<W63	1 – 64 – 127		●
11					
12					
13					
14					
15					
16					

TALKING MOD

No.	Parameter	Display	Value	See Table	Control
1	Vowel	a, i, u, e, o	0 – 4		●
2	Move speed	1 – 62	1 – 62		
3	Drive	0 – 127	0 – 127		
4	Output Level	0 – 127	0 – 127		
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					

LO-FI DRUM3, LO-FI DRUM4

No.	Parameter	Display	Value	See Table	Control
1	EQ Low Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
2	EQ Mid Frequency	100Hz – 16.0kHz	14 – 58	Table #3	
3	EQ Mid Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
4	EQ Mid Width	0.1 – 12.0	1 – 120		
5	EQ High Gain	-12dB – 0dB – +12dB	52 – 64 – 76		
6	EQ Low Frequency	50Hz – 2.0kHz	8 – 40	Table #3	
7	EQ High Frequency	500Hz – 16.0kHz	28 – 58	Table #3	
8					
9					
10					
11					
12					
13					
14					
15	Input Mode	mono, stereo	0 – 1		
16					

ISOLATOR

No.	Parameter	Display	Value	See Table	Control
1	On/off SW	Off, On	0 – 1		●
2	Low Level	0 – 127	0 – 127		
3	Mid Level	0 – 127	0 – 127		
4	High Level	0 – 127	0 – 127		
5	Low Mute	Off, On	0 – 1		
6	Mid Mute	Off, On	0 – 1		
7	High Mute	Off, On	0 – 1		
8					
9					
10					
11					
12					
13					
14					
15					
16					

NO EFFECT

NO EFFECT

No.	Parameter	Display	Value	See Table	Control
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					

THRU

THRU

No.	Parameter	Display	Value	See Table	Control
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					

Effect Data Assign Table

Table #1
LFO Frequency

Data	Value	Data	Value
0	0.00	64	2.69
1	0.04	65	2.78
2	0.08	66	2.86
3	0.13	67	2.94
4	0.17	68	3.03
5	0.21	69	3.11
6	0.25	70	3.20
7	0.29	71	3.28
8	0.34	72	3.37
9	0.38	73	3.45
10	0.42	74	3.53
11	0.46	75	3.62
12	0.51	76	3.70
13	0.55	77	3.87
14	0.59	78	4.04
15	0.63	79	4.21
16	0.67	80	4.37
17	0.72	81	4.54
18	0.76	82	4.71
19	0.80	83	4.88
20	0.84	84	5.05
21	0.88	85	5.22
22	0.93	86	5.38
23	0.97	87	5.55
24	1.01	88	5.72
25	1.05	89	6.06
26	1.09	90	6.39
27	1.14	91	6.73
28	1.18	92	7.07
29	1.22	93	7.40
30	1.26	94	7.74
31	1.30	95	8.08
32	1.35	96	8.41
33	1.39	97	8.75
34	1.43	98	9.08
35	1.47	99	9.42
36	1.51	100	9.76
37	1.56	101	10.1
38	1.60	102	10.8
39	1.64	103	11.4
40	1.68	104	12.1
41	1.72	105	12.8
42	1.77	106	13.5
43	1.81	107	14.1
44	1.85	108	14.8
45	1.89	109	15.5
46	1.94	110	16.2
47	1.98	111	16.8
48	2.02	112	17.5
49	2.06	113	18.2
50	2.10	114	19.5
51	2.15	115	20.9
52	2.19	116	22.2
53	2.23	117	23.6
54	2.27	118	24.9
55	2.31	119	26.2
56	2.36	120	27.6
57	2.40	121	28.9
58	2.44	122	30.3
59	2.48	123	31.6
60	2.52	124	33.0
61	2.57	125	34.3
62	2.61	126	37.0
63	2.65	127	39.7

Table #2
Modulation Delay Offset

Data	Value	Data	Value
0	0.0	64	6.4
1	0.1	65	6.5
2	0.2	66	6.6
3	0.3	67	6.7
4	0.4	68	6.8
5	0.5	69	6.9
6	0.6	70	7.0
7	0.7	71	7.1
8	0.8	72	7.2
9	0.9	73	7.3
10	1.0	74	7.4
11	1.1	75	7.5
12	1.2	76	7.6
13	1.3	77	7.7
14	1.4	78	7.8
15	1.5	79	7.9
16	1.6	80	8.0
17	1.7	81	8.1
18	1.8	82	8.2
19	1.9	83	8.3
20	2.0	84	8.4
21	2.1	85	8.5
22	2.2	86	8.6
23	2.3	87	8.7
24	2.4	88	8.8
25	2.5	89	8.9
26	2.6	90	9.0
27	2.7	91	9.1
28	2.8	92	9.2
29	2.9	93	9.3
30	3.0	94	9.4
31	3.1	95	9.5
32	3.2	96	9.6
33	3.3	97	9.7
34	3.4	98	9.8
35	3.5	99	9.9
36	3.6	100	10.0
37	3.7	101	11.1
38	3.8	102	12.2
39	3.9	103	13.3
40	4.0	104	14.4
41	4.1	105	15.5
42	4.2	106	17.1
43	4.3	107	18.6
44	4.4	108	20.2
45	4.5	109	21.8
46	4.6	110	23.3
47	4.7	111	24.9
48	4.8	112	26.5
49	4.9	113	28.0
50	5.0	114	29.6
51	5.1	115	31.2
52	5.2	116	32.8
53	5.3	117	34.3
54	5.4	118	35.9
55	5.5	119	37.5
56	5.6	120	39.0
57	5.7	121	40.6
58	5.8	122	42.2
59	5.9	123	43.7
60	6.0	124	45.3
61	6.1	125	46.9
62	6.2	126	48.4
63	6.3	127	50.0

Table #3
EQ Frequency

Data	Value	Data	Value
0	THRU (20)	31	700
1	22	32	800
2	25	33	900
3	28	34	1.0k
4	32	35	1.1k
5	36	36	1.2k
6	40	37	1.4k
7	45	38	1.6k
8	50	39	1.8k
9	56	40	2.0k
10	63	41	2.2k
11	70	42	2.5k
12	80	43	2.8k
13	90	44	3.2k
14	100	45	3.6k
15	110	46	4.0k
16	125	47	4.5k
17	140	48	5.0k
18	160	49	5.6k
19	180	50	6.3k
20	200	51	7.0k
21	225	52	8.0k
22	250	53	9.0k
23	280	54	10.0k
24	315	55	11.0k
25	355	56	12.0k
26	400	57	14.0k
27	450	58	16.0k
28	500	59	18.0k
29	560	60	THRU (20.0k)
30	630		

Table #4
Reverb Time

Data	Value	Data	Value
0	0.3	35	3.8
1	0.4	36	3.9
2	0.5	37	4.0
3	0.6	38	4.1
4	0.7	39	4.2
5	0.8	40	4.3
6	0.9	41	4.4
7	1.0	42	4.5
8	1.1	43	4.6
9	1.2	44	4.7
10	1.3	45	4.8
11	1.4	46	4.9
12	1.5	47	5.0
13	1.6	48	5.5
14	1.7	49	6.0
15	1.8	50	6.5
16	1.9	51	7.0
17	2.0	52	7.5
18	2.1	53	8.0
19	2.2	54	8.5
20	2.3	55	9.0
21	2.4	56	9.5
22	2.5	57	10.0
23	2.6	58	11.0
24	2.7	59	12.0
25	2.8	60	13.0
26	2.9	61	14.0
27	3.0	62	15.0
28	3.1	63	16.0
29	3.2	64	17.0
30	3.3	65	18.0
31	3.4	66	19.0
32	3.5	67	20.0
33	3.6	68	25.0
34	3.7	69	30.0

Table #5
Delay Time (0.1 – 200.0 [ms])

Data	Value	Data	Value
0	0.1	64	100.8
1	1.7	65	102.4
2	3.2	66	104.0
3	4.8	67	105.6
4	6.4	68	107.1
5	8.0	69	108.7
6	9.5	70	110.3
7	11.1	71	111.9
8	12.7	72	113.4
9	14.3	73	115.0
10	15.8	74	116.6
11	17.4	75	118.2
12	19.0	76	119.7
13	20.6	77	121.3
14	22.1	78	122.9
15	23.7	79	124.4
16	25.3	80	126.0
17	26.9	81	127.6
18	28.4	82	129.2
19	30.0	83	130.7
20	31.6	84	132.3
21	33.2	85	133.9
22	34.7	86	135.5
23	36.3	87	137.0
24	37.9	88	138.6
25	39.5	89	140.2
26	41.0	90	141.8
27	42.6	91	143.3
28	44.2	92	144.9
29	45.7	93	146.5
30	47.3	94	148.1
31	48.9	95	149.6
32	50.5	96	151.2
33	52.0	97	152.8
34	53.6	98	154.4
35	55.2	99	155.9
36	56.8	100	157.5
37	58.3	101	159.1
38	59.9	102	160.6
39	61.5	103	162.2
40	63.1	104	163.8
41	64.6	105	165.4
42	66.2	106	166.9
43	67.8	107	168.5
44	69.4	108	170.1
45	70.9	109	171.7
46	72.5	110	173.2
47	74.1	111	174.8
48	75.7	112	176.4
49	77.2	113	178.0
50	78.8	114	179.5
51	80.4	115	181.1
52	81.9	116	182.7
53	83.5	117	184.3
54	85.1	118	185.8
55	86.7	119	187.4
56	88.2	120	189.0
57	89.8	121	190.6
58	91.4	122	192.1
59	93.0	123	193.7
60	94.5	124	195.3
61	96.1	125	196.9
62	97.7	126	198.4
63	99.3	127	200.0

Table #6
Room Size

Data	Value	Data	Value
0	0.1	64	10.1
1	0.3	65	10.3
2	0.4	66	10.4
3	0.6	67	10.6
4	0.7	68	10.8
5	0.9	69	10.9
6	1.0	70	11.1
7	1.2	71	11.2
8	1.4	72	11.4
9	1.5	73	11.5
10	1.7	74	11.7
11	1.8	75	11.9
12	2.0	76	12.0
13	2.1	77	12.2
14	2.3	78	12.3
15	2.5	79	12.5
16	2.6	80	12.6
17	2.8	81	12.8
18	2.9	82	12.9
19	3.1	83	13.1
20	3.2	84	13.3
21	3.4	85	13.4
22	3.5	86	13.6
23	3.7	87	13.7
24	3.9	88	13.9
25	4.0	89	14.0
26	4.2	90	14.2
27	4.3	91	14.4
28	4.5	92	14.5
29	4.6	93	14.7
30	4.8	94	14.8
31	5.0	95	15.0
32	5.1	96	15.1
33	5.3	97	15.3
34	5.4	98	15.5
35	5.6	99	15.6
36	5.7	100	15.8
37	5.9	101	15.9
38	6.1	102	16.1
39	6.2	103	16.2
40	6.4	104	16.4
41	6.5	105	16.6
42	6.7	106	16.7
43	6.8	107	16.9
44	7.0	108	17.0
45	7.2	109	17.2
46	7.3	110	17.3
47	7.5	111	17.5
48	7.6	112	17.6
49	7.8	113	17.8
50	7.9	114	18.0
51	8.1	115	18.1
52	8.2	116	18.3
53	8.4	117	18.4
54	8.6	118	18.6
55	8.7	119	18.7
56	8.9	120	18.9
57	9.0	121	19.1
58	9.2	122	19.2
59	9.3	123	19.4
60	9.5	124	19.5
61	9.7	125	19.7
62	9.8	126	19.8
63	10.0	127	20.0

Table #7
Delay Time (0.1 – 400.0 [ms])

Data	Value	Data	Value
0	0.1	64	201.6
1	3.2	65	204.8
2	6.4	66	207.9
3	9.5	67	211.1
4	12.7	68	214.2
5	15.8	69	217.4
6	19.0	70	220.5
7	22.1	71	223.7
8	25.3	72	226.8
9	28.4	73	230.0
10	31.6	74	233.1
11	34.7	75	236.3
12	37.9	76	239.4
13	41.0	77	242.6
14	44.2	78	245.7
15	47.3	79	248.9
16	50.5	80	252.0
17	53.6	81	255.2
18	56.8	82	258.3
19	59.9	83	261.5
20	63.1	84	264.6
21	66.2	85	267.7
22	69.4	86	270.9
23	72.5	87	274.0
24	75.7	88	277.2
25	78.8	89	280.3
26	82.0	90	283.5
27	85.1	91	286.6
28	88.3	92	289.8
29	91.4	93	292.9
30	94.6	94	296.1
31	97.7	95	299.2
32	100.9	96	302.4
33	104.0	97	305.5
34	107.2	98	308.7
35	110.3	99	311.8
36	113.5	100	315.0
37	116.6	101	318.1
38	119.8	102	321.3
39	122.9	103	324.4
40	126.1	104	327.6
41	129.2	105	330.7
42	132.4	106	333.9
43	135.5	107	337.0
44	138.6	108	340.2
45	141.8	109	343.3
46	144.9	110	346.5
47	148.1	111	349.6
48	151.2	112	352.8
49	154.4	113	355.9
50	157.5	114	359.1
51	160.7	115	362.2
52	163.8	116	365.4
53	167.0	117	368.5
54	170.1	118	371.7
55	173.3	119	374.8
56	176.4	120	378.0
57	179.6	121	381.1
58	182.7	122	384.3
59	185.9	123	387.4
60	189.0	124	390.6
61	192.2	125	393.7
62	195.3	126	396.9
63	198.5	127	400.0

Table #8
Compressor Attack Time

Data	Value	Data	Value
0	1	10	12
1	2	11	14
2	3	12	16
3	4	13	18
4	5	14	20
5	6	15	23
6	7	16	26
7	8	17	30
8	9	18	35
9	10	19	40

Table #9
Compressor Release Time

Data	Value	Data	Value
0	10	8	85
1	15	9	100
2	25	10	115
3	35	11	140
4	45	12	170
5	55	13	230
6	65	14	340
7	75	15	680

Table #10
Compressor Ratio

Data	Value	Data	Value
0	1.0	4	5.0
1	1.5	5	7.0
2	2.0	6	10.0
3	3.0	7	20.0

Table #11
Reverb Width; Depth; Height

Data	Value	Data	Value
0	0.5	53	14.5
1	0.8	54	14.8
2	1.0	55	15.1
3	1.3	56	15.4
4	1.5	57	15.6
5	1.8	58	15.9
6	2.0	59	16.2
7	2.3	60	16.5
8	2.6	61	16.8
9	2.8	62	17.1
10	3.1	63	17.3
11	3.3	64	17.6
12	3.6	65	17.9
13	3.9	66	18.2
14	4.1	67	18.5
15	4.4	68	18.8
16	4.6	69	19.1
17	4.9	70	19.4
18	5.2	71	19.7
19	5.4	72	20.0
20	5.7	73	20.2
21	5.9	74	20.5
22	6.2	75	20.8
23	6.5	76	21.1
24	6.7	77	21.4
25	7.0	78	21.7
26	7.2	79	22.0
27	7.5	80	22.4
28	7.8	81	22.7
29	8.0	82	23.0
30	8.3	83	23.3
31	8.6	84	23.6
32	8.8	85	23.9
33	9.1	86	24.2
34	9.4	87	24.5
35	9.6	88	24.9
36	9.9	89	25.2
37	10.2	90	25.5
38	10.4	91	25.8
39	10.7	92	26.1
40	11.0	93	26.5
41	11.2	94	26.8
42	11.5	95	27.1
43	11.8	96	27.5
44	12.1	97	27.8
45	12.3	98	28.1
46	12.6	99	28.5
47	12.9	100	28.8
48	13.1	101	29.2
49	13.4	102	29.5
50	13.7	103	29.9
51	14.0	104	30.2
52	14.2		

Table #12
Wah Release Time

Data	Value	Data	Value
52	10	60	85
53	15	61	100
54	25	62	115
55	35	63	140
56	45	64	170
57	55	65	230
58	65	66	340
59	75	67	680

Table #13
Tempo

Data	Value	Data	Value
0	64th/3	39	4thX26
1	64th.	40	4thX27
2	32th	41	4thX28
3	32th/3	42	4thX29
4	32th.	43	4thX30
5	16th	44	4thX31
6	16th/3	45	4thX32
7	16th.	46	4thX33
8	8th	47	4thX34
9	8th/3	48	4thX35
10	8th.	49	4thX36
11	4th	50	4thX37
12	4th/3	51	4thX38
13	4th.	52	4thX39
14	2nd	53	4thX40
15	2nd/3	54	4thX41
16	2nd.	55	4thX42
17	4thX4	56	4thX43
18	4thX5	57	4thX44
19	4thX6	58	4thX45
20	4thX7	59	4thX46
21	4thX8	60	4thX47
22	4thX9	61	4thX48
23	4thX10	62	4thX49
24	4thX11	63	4thX50
25	4thX12	64	4thX51
26	4thX13	65	4thX52
27	4thX14	66	4thX53
28	4thX15	67	4thX54
29	4thX16	68	4thX55
30	4thX17	69	4thX56
31	4thX18	70	4thX57
32	4thX19	71	4thX58
33	4thX20	72	4thX59
34	4thX21	73	4thX60
35	4thX22	74	4thX61
36	4thX23	75	4thX62
37	4thX24	76	4thX63
38	4thX25	77	4thX64

MIDI Data Format

Many MIDI messages listed in the MIDI Data Format are expressed in decimal numbers, binary numbers and hexadecimal numbers. Hexadecimal numbers may include the letter “H” as a suffix.
Also, “n” can freely be defined as any whole number. To enter data/values, refer to the table below.

Decimal	Hexadecimal	Binary
0	00	0000 0000
1	01	0000 0001
2	02	0000 0010
3	03	0000 0011
4	04	0000 0100
5	05	0000 0101
6	06	0000 0110
7	07	0000 0111
8	08	0000 1000
9	09	0000 1001
10	0A	0000 1010
11	0B	0000 1011
12	0C	0000 1100
13	0D	0000 1101
14	0E	0000 1110
15	0F	0000 1111
16	10	0001 0000
17	11	0001 0001
18	12	0001 0010
19	13	0001 0011
20	14	0001 0100
21	15	0001 0101
22	16	0001 0110
23	17	0001 0111
24	18	0001 1000
25	19	0001 1001
26	1A	0001 1010
27	1B	0001 1011
28	1C	0001 1100
29	1D	0001 1101
30	1E	0001 1110
31	1F	0001 1111

Decimal	Hexadecimal	Binary
32	20	0010 0000
33	21	0010 0001
34	22	0010 0010
35	23	0010 0011
36	24	0010 0100
37	25	0010 0101
38	26	0010 0110
39	27	0010 0111
40	28	0010 1000
41	29	0010 1001
42	2A	0010 1010
43	2B	0010 1011
44	2C	0010 1100
45	2D	0010 1101
46	2E	0010 1110
47	2F	0010 1111
48	30	0011 0000
49	31	0011 0001
50	32	0011 0010
51	33	0011 0011
52	34	0011 0100
53	35	0011 0101
54	36	0011 0110
55	37	0011 0111
56	38	0011 1000
57	39	0011 1001
58	3A	0011 1010
59	3B	0011 1011
60	3C	0011 1100
61	3D	0011 1101
62	3E	0011 1110
63	3F	0011 1111

Decimal	Hexadecimal	Binary
64	40	0100 0000
65	41	0100 0001
66	42	0100 0010
67	43	0100 0011
68	44	0100 0100
69	45	0100 0101
70	46	0100 0110
71	47	0100 0111
72	48	0100 1000
73	49	0100 1001
74	4A	0100 1010
75	4B	0100 1011
76	4C	0100 1100
77	4D	0100 1101
78	4E	0100 1110
79	4F	0100 1111
80	50	0101 0000
81	51	0101 0001
82	52	0101 0010
83	53	0101 0011
84	54	0101 0100
85	55	0101 0101
86	56	0101 0110
87	57	0101 0111
88	58	0101 1000
89	59	0101 1001
90	5A	0101 1010
91	5B	0101 1011
92	5C	0101 1100
93	5D	0101 1101
94	5E	0101 1110
95	5F	0101 1111

Decimal	Hexadecimal	Binary
96	60	0110 0000
97	61	0110 0001
98	62	0110 0010
99	63	0110 0011
100	64	0110 0100
101	65	0110 0101
102	66	0110 0110
103	67	0110 0111
104	68	0110 1000
105	69	0110 1001
106	6A	0110 1010
107	6B	0110 1011
108	6C	0110 1100
109	6D	0110 1101
110	6E	0110 1110
111	6F	0110 1111
112	70	0111 0000
113	71	0111 0001
114	72	0111 0010
115	73	0111 0011
116	74	0111 0100
117	75	0111 0101
118	76	0111 0110
119	77	0111 0111
120	78	0111 1000
121	79	0111 1001
122	7A	0111 1010
123	7B	0111 1011
124	7C	0111 1100
125	7D	0111 1101
126	7E	0111 1110
127	7F	0111 1111

- Except the table above, for example 144-159 (decimal)/9nH/1001 0000-1001 1111 (binary) denotes the Note On Message for each channel (1-16). 176-191/BnH/1011 0000-1011 1111 denotes the Control Change Message for each channel (1-16). 192-207/CnH/1100 0000-1100 1111 denotes the Program Change Message for each channel (1-16). 240/FOH/1111 0000 denotes the start of a System Exclusive Message. 247/F7H/1111 0111 denotes the end of a System Exclusive Message.
- aaH (hexidecimal)/0aaaaaaa (binary) denotes the data address. The address contains High, Mid, and Low.
- bbH/0bbbbbbb denotes the byte count.
- ccH/0ccccccc denotes the check sum.
- ddH/0ddddddd denotes the data/value.

■ Preset Voice List

Program change numbers are often specified as numbers “0 – 127.” Since this list uses a “1 – 128” numbering system, in such cases it is necessary to subtract 1 from the transmitted program change numbers to select the appropriate sound: e.g. to select No. 2 in the list below, transmit program change number 1.

Voice Group	Voice Name	Bank MSB	Bank LSB	Program Change (1-128)
Piano	CFX Grand	108	0	1
	Binaural CFX Grand	108	100	1
	Pop Grand	108	1	2
	Jazz Grand	108	6	2
	Rock Grand	108	0	3
	HonkyTonk Pf	108	5	4
E.Piano	Stage E. Piano	108	0	5
	DX E.Piano	108	0	6
	Vintage EP	108	1	5
	Soft EP	108	2	5
	Phaser EP	108	3	5
Organ	Organ Principal	108	1	20
	Jazz Organ	108	0	17
	Mellow Organ	108	2	17
Strings	Strings	108	0	49
	Slow Strings	108	0	50
	Choir	108	0	53
	Slow Choir	108	1	53
	Synth Pad	108	0	90
Bass	Acoustic Bass	108	0	33
	Electric Bass	108	0	34
Others	Harpsichord 8'	108	0	7
	Harpsi. 8'+4'	108	1	7
	Vibraphone	108	0	12
	Nylon Guitar	108	0	25
	Steel Guitar	108	0	26

MIDI CHANNEL MESSAGE (1)

Application Range	MIDI, Internal Sequencer

MIDI Events	Status byte	1st Data byte			2nd Data byte			MIDI Formats	MIDI Reception			MIDI Transmission	
	Status	Data	(Hex)	Parameter	Data	(Hex)	Parameter		Song	R1 R2 L	Keyboard (All manually played parts)	Panel (main generation method)	Song
Key Off	8nH (n: Channel Number)	kk		Key no. (0-127)	vv		Velocity (0-127)	[GM1] [GM2]	O	O	O	O (Keyboard)	O
Key On	9nH (n: Channel Number)	kk		Key no. (0-127)	vv		Key On: vv=1-127 Key Off: vv=0	[GM1] [GM2]	O	O	O	O (Keyboard)	O
Control Change	BnH	0	(00H)	Bank Select MSB	0 64 118 119 120 121 126 127	(00H) (40H) (76H) (77H) (78H) (79H) (7EH) (7FH)	Normal SFX Voice GS Rhythm GS Normal GM2 Rhythm GM2 Normal SFX kit Drum kit	[GM2]	O	O	× (*1)	O (Voice)	O
		1	(01H)	Modulation	0-127	(00H...7FH)	Data	[GM1] [GM2]	O	O	O	×	O
		5	(05H)	Portamento Time	0-127	(00H...7FH)	Data	[GM2]	O	O	O	×	O
		6	(06H)	Data Entry MSB	0-127	(00H...7FH)	Data	[GM2]	O	O	O	O (Function)	O
		7	(07H)	Main Volume	0-127	(00H...7FH)	Data	[GM1] [GM2]	O	O	O	O (Function)	O
		10	(0AH)	Panpot	0-127	(00H...7FH)	L64...C...R63	[GM1] [GM2]	O	O	O	O (Function)	O
		11	(0BH)	Expression	0-127	(00H...7FH)	Data	[GM1] [GM2]	O	O	O	O (Pedal)	O
		32	(20H)	Bank Select LSB	0-127	(00H...7FH)	Data	[GM2]	O	O	× (*1)	O (Voice)	O
		38	(26H)	Data Entry LSB	0-127	(00H...7FH)	Data	[GM2]	O	O	O	O (Function)	O
		64	(40H)	Sustain (Damper)	0-127	(00H...7FH)	Data	[GM1] [GM2]	O	O	O	O (Pedal)	O
		65	(41H)	Portamento	0-127	(00H...7FH)	0...63, 64...127 (OFF, ON)	[GM2]	O	O	O	×	O
		66	(42H)	Sostenuto	0-127	(00H...7FH)	0...63, 64...127 (OFF, ON)	[GM2]	O	O	O	O (Pedal)	O
		67	(43H)	Soft Pedal	0-127	(00H...7FH)	0...63, 64...127 (OFF, ON)	[GM2]	O	O	O	O (Pedal)	O
		71	(47H)	Harmonic Content	0-127	(00H...7FH)	-64...0...+63	[GM2]	O	O	O	O (Function)	O
		72	(48H)	Release Time	0-127	(00H...7FH)	-64...0...+63	[GM2]	O	O	O	×	O
		73	(49H)	Attack Time	0-127	(00H...7FH)	-64...0...+63	[GM2]	O	O	O	×	O
		74	(4AH)	Brightness	0-127	(00H...7FH)	-64...0...+63	[GM2]	O	O	O	O (Function)	O
		75	(4BH)	Decay Time	0-127	(00H...7FH)	-64...0...+63	[GM2]	O	O	O	×	O
		76	(4CH)	Vibrate Rate	0-127	(00H...7FH)	-64...0...+63	[GM2]	O	O	O	×	O
		77	(4DH)	Vibrate Depth	0-127	(00H...7FH)	-64...0...+63	[GM2]	O	O	O	×	O
		78	(4EH)	Vibrate Delay	0-127	(00H...7FH)	-64...0...+63	[GM2]	O	O	O	×	O
		84	(54H)	Portamento Control	0-127	(00H...7FH)	Key no. (0-127)		O	O	×	×	O
		91	(5BH)	Effect1 Depth (Reverb Send Level)	0-127	(00H...7FH)	Data	[GM2]	O	O	O	O (Function)	O
		93	(5DH)	Effect3 Depth (Chorus Send Level)	0-127	(00H...7FH)	Data	[GM2]	O	O	O	O (Function)	O
		94	(5EH)	Effect4 Depth (Variation Send Level)	0-127	(00H...7FH)	Data		O	O	O	×	O
		96	(60H)	RPN Increment	–	–	The data byte is ignored.		O	O	×	×	O
		97	(61H)	RPN Decrement	–	–	The data byte is ignored.		O	O	×	×	O
		98	(62H)	NRPN LSB	0-127	(00H...7FH)	Data		O	×	×	×	O
		99	(63H)	NRPN MSB	0-127	(00H...7FH)	Data		O	×	×	×	O
		100	(64H)	RPN LSB	0-127	(00H...7FH)	Data	[GM2]	O	O	O	O (Function)	O
		101	(65H)	RPN MSB	0-127	(00H...7FH)	Data	[GM2]	O	O	O	O (Function)	O
Mode Message	BnH (n: Channel Number)	120	(78H)	All Sound Off	0	(00H)	Data	[GM2]	O	O	O	×	O
		121	(79H)	Reset All Controllers	0	(00H)	Data	[GM1] [GM2]	O	×	×	×	O
		122	(7AH)	Local Control	0 127	(00H) (7FH)	OFF ON		O			×	×
		123	(7BH)	All Note Off	0	(00H)	Data	[GM1] [GM2]	O	O	O	×	O
		124	(7CH)	Omni Off	0	(00H)	Data	[GM2]	O	×	×	×	O
		125	(7DH)	Omni On	0	(00H)	Data	[GM2]	O	×	×	×	O
		126	(7EH)	Mono	0-16	(00H...10H)	Data	[GM2]	O	×	×	×	O
		127	(7FH)	Poly	0	(00H)	Data	[GM2]	O	×	×	×	O
Program Change	CnH (n: Channel Number)	pp	(00H...7FH)	Voice number (0-127)	–	–	–	[GM1] [GM2]	O	O	× (*1)	O (Voice)	O
Channel After Touch	DnH (n: Channel Number)	vv	(00H...7FH)	Data	–	–	–	[GM1] [GM2]	O	O	O	×	O
Polyphonic After Touch	AnH (n: Channel Number)	kk	(00H...7FH)	Key no. (0-127)	vv	(00H...7FH)	Data		O	×	×	×	O
Pitch Bend Change	EnH (n: Channel Number)	cc	(00H...7FH)	LSB	dd	(00H...7FH)	MSB	[GM1] [GM2]	O	O	O	O (Pedal)	O
Realtime Message	F8H MIDI Clock	–		–	–		–			×		O	
	FAH Start	–		–	–		–			O		O	
	FBH Continue	–		–	–		–			×		×	
	FCH Stop	–		–	–		–			O		O	
	FEH Active Sens	–		–	–		–	[GM2]		O		O	
	FFH System Reset	–		–	–		–			×		×	

*1 Ignored when Bank Select MSB/LSB/Program Change are received in Keyboard mode.

MIDI CHANNEL MESSAGE (2)

Application Range	MIDI, Internal Sequencer

Parameters controlled by NRPN (Non-Registered Parameter Numbers)

NRPN		Data Entry		Parameter	Data Range	MIDI Formats	MIDI Reception			MIDI Transmission	
MSB	LSB	MSB	LSB				Song	R1 R2 L	Keyboard (All manually played parts)	Panel (main generation method)	Song
01H	08H	mmH	–	Vibrato Rate	mm: 00H-40H-7FH (-64...0...+63)		O	×	×	×	O
01H	09H	mmH	–	Vibrato Depth	mm: 00H-40H-7FH (-64...0...+63)		O	×	×	×	O
01H	0AH	mmH	–	Vibrato Delay	mm: 00H-40H-7FH (-64...0...+63)		O	×	×	×	O
01H	20H	mmH	–	Low Pass Filter Cutoff Frequency	mm: 00H-40H-7FH (-64...0...+63)		O	×	×	×	O
01H	21H	mmH	–	Low Pass Filter Resonance	mm: 00H-40H-7FH (-64...0...+63)		O	×	×	×	O
01H	30H	mmH	–	EQ BASS	mm: 00H-40H-7FH (-64...0...+63)		O	×	×	×	O
01H	31H	mmH	–	EQ TREBLE	mm: 00H-40H-7FH (-64...0...+63)		O	×	×	×	O
01H	34H	mmH	–	EQ BASS Frequency	mm: 04H-28H (32...2.0k [Hz])		O	×	×	×	O
01H	35H	mmH	–	EQ TREBLE Frequency	mm: 1CH-3AH (500...16.0k [Hz])		O	×	×	×	O
01H	63H	mmH	–	EG Attack Time	mm: 00H-40H-7FH (-64...0...+63)		O	×	×	×	O
01H	64H	mmH	–	EG Decay Time	mm: 00H-40H-7FH (-64...0...+63)		O	×	×	×	O
01H	66H	mmH	–	EG Release	mm: 00H-40H-7FH (-64...0...+63)		O	×	×	×	O
14H	rrH	mmH	–	Drum Low Pass Filter Cutoff Frequency	rr: drum instrument note number mm: 00H-40H-7FH (-64...0...+63)		O	×	×	×	O
15H	rrH	mmH	–	Drum Low Pass Filter Resonance	rr: drum instrument note number mm: 00H-40H-7FH (-64...0...+63)		O	×	×	×	O
16H	rrH	mmH	–	Drum EG Attack Rate	rr: drum instrument note number mm: 00H-40H-7FH (-64...0...+63)		O	×	×	×	O
17H	rrH	mmH	–	Drum EG Decay Rate	rr: drum instrument note number mm: 00H-40H-7FH (-64...0...+63)		O	×	×	×	O
18H	rrH	mmH	–	Drum Pitch Coarse	rr: drum instrument note number mm: 00H-40H-7FH (-64...0...+63)		O	×	×	×	O
19H	rrH	mmH	–	Drum Pitch Fine	rr: drum instrument note number mm: 00H-40H-7FH (-64...0...+63)		O	×	×	×	O
1AH	rrH	mmH	–	Drum Level	rr: drum instrument note number mm: 00H-7FH (0...127)		O	×	×	×	O
1CH	rrH	mmH	–	Drum Pan	rr: drum instrument note number mm: 00H, 01H-40H-7FH (RND, L63...C...R63)		O	×	×	×	O
1DH	rrH	mmH	–	Drum Reverb Send Level	rr: drum instrument note number mm: 00H-7FH (0...127)		O	×	×	×	O
1EH	rrH	mmH	–	Drum Chorus Send Level	rr: drum instrument note number mm: 00H-7FH (0...127)		O	×	×	×	O
1FH	rrH	mmH	–	Drum Variation Send Level	rr: drum instrument note number mm: 00H-7FH (0...127)		O	×	×	×	O
24H	rrH	mmH	–	Drum HPF Cutoff Frequency	rr: drum instrument note number mm: 00H-40H-7FH (-64...0...+63)		O	×	×	×	O
30H	rrH	mmH	–	Drum EQ Bass Gain	rr: drum instrument note number mm: 00H-7FH (0...127)		×	×	×	×	O
31H	rrH	mmH	–	Drum EQ Treble Gain	rr: drum instrument note number mm: 00H-7FH (0...127)		×	×	×	×	O
34H	rrH	mmH	–	Drum EQ Bass Frequency	rr: drum instrument note number mm: 04H-28H (32...2.0k [Hz])		×	×	×	×	O
35H	rrH	mmH	–	Drum EQ Treble Frequency	rr: drum instrument note number mm: 1CH-3AH (500...16.0k [Hz])		×	×	×	×	O
40H	rrH	mmH	–	Drum VELOCITY PITCH SENS.	rr: drum instrument note number mm: 00H-0FH (0...15)		×	×	×	×	O
41H	rrH	mmH	–	Drum VELOCITY LPF CUTOFF SENS.	rr: drum instrument note number mm: 00H-0FH (0...15)		×	×	×	×	O

NRPN MSB: 14H-1FH (for drums) message is accepted as long as the channel is set with a drum voice.
Data Entry LSB: Ignored.

Parameters controlled by RPN (Registered Parameter Numbers)

NRPN		Data Entry		Parameter	Data Range	MIDI Formats	MIDI Reception (respond/ignored)			MIDI Transmission (generated data)	
MSB	LSB	MSB	LSB				Song	R1 R2 L	Keyboard (All manually played parts)	Panel (main generation method)	Song
00H	00H	mmH	–	Pitch Bend Sensitivity	mm: 00H-18H (0...+24 [semitones])	[GM1] [GM2]	O	O	O	O (Function)	O
00H	01H	mmH	llH	Fine Tune	mm ll: 00H 00H -100 [cent] ... mm ll: 40H 00H 0 [cent] ... mm ll: 7FH 7FH 100 [cent]	[GM1] [GM2]	O	O	O	O (Function)	O
00H	02H	mmH	–	Coarse Tune	mm: 28H-40H-58H (-24...0...+24 [semitones])	[GM1] [GM2]	O	O	O	×	O
00H	05H	mmH	llH	Modulation Sensitivity	mm: Specified in semitone steps ll: Specified in 100/128 cent steps	[GM2]	O	O	O	×	O
7FH	7FH	–	–	Null	–	[GM2]	O	O	O	×	O

MIDI PARAMETER CHANGE TABLE

Application Range	MIDI, Internal Sequencer

* Not Received when Receive Parameter SysEx is set to off.
* Not transmitted when Transmit Parameter SysEx is set to off.

MIDI Parameter Change Table (XG SYSTEM)

Address (H)			Size (H)	Data (H)	Parameter	Description	XG Default (H)	MIDI Reception			MIDI Transmission	
								Song	R1 R2 L	Keyboard	Panel (main generation method)	Song
00	00	00	4	00-0F 00-0F 00-0F 00-0F	MASTER TUNE	-102.4...0...+102.3 [cent] 1st bit3-0→bit15-12 2nd bit3-0→bit11-8 3rd bit3-0→bit7-4 4th bit3-0→bit3-0	*Panel setting value	O			×	O
		04	1	00-7F	MASTER VOLUME	0...127	7F	O	×	×	×	O
		05	1	00-7F	MASTER ATTENUATOR	0...127	00	×	×	×	×	×
		06	1	28-58	TRANSPOSE	-24...0...+24 [semitones]	40	O	×	×	×	O
		7D	1	N	DRUM SETUP RESET	N: Drum setup number	–	O	×	×	×	O
		7E	1	00	XG SYSTEM ON	00=XG system ON	–	O	×	×	×	O
		7F	1	00	ALL PARAMETER RESET	00=ON	–	O	×	×	×	×

TOTAL SIZE 07

MIDI Parameter Change Table (SYSTEM INFORMATION)

Address (H)			Size (H)	Data (H)	Parameter	Description	MIDI Reception			MIDI Transmission	
							Song	R1 R2 L	Keyboard	Panel (main generation method)	Song
01	00	00 ... 0D	E	20-7F ... 20-7F	Model Name 1 ... Model Name 14	32...127 (ASCII CHARACTER) ... 32...127 (ASCII CHARACTER)	–	–	–	×	×
		0E	1		NOT USED						
		0F	1		NOT USED						

TOTAL SIZE 10
Transmitted in response to Dump Request. Not received.

MIDI Parameter Change Table (EFFECT1)

Address (H)			Size (H)	Data (H)	Parameter	Description	XG Default (H)	MIDI Reception			MIDI Transmission	
								Song	R1 R2 L	Keyboard	Panel (main generation method)	Song
02	01	00	2	00-7F	REVERB TYPE MSB REVERB TYPE LSB	Refer to Effect Parameter List	01 (=HALL1) 00	O			O (Function)	O
		02	1	00-7F	REVERB PARAMETER 1	*	Depends on Reverb Type	O (Depends on Reverb Type)			×	O
		03	1	00-7F	REVERB PARAMETER 2	*	Depends on Reverb Type	O (Depends on Reverb Type)			×	O
		04	1	00-7F	REVERB PARAMETER 3	*	Depends on Reverb Type	O (Depends on Reverb Type)			×	O
		05	1	00-7F	REVERB PARAMETER 4	*	Depends on Reverb Type	O (Depends on Reverb Type)			×	O
		06	1	00-7F	REVERB PARAMETER 5	*	Depends on Reverb Type	O (Depends on Reverb Type)			×	O
		07	1	00-7F	REVERB PARAMETER 6	*	Depends on Reverb Type	O (Depends on Reverb Type)			×	O
		08	1	00-7F	REVERB PARAMETER 7	*	Depends on Reverb Type	O (Depends on Reverb Type)			×	O
		09	1	00-7F	REVERB PARAMETER 8	*	Depends on Reverb Type	O (Depends on Reverb Type)			×	O
		0A	1	00-7F	REVERB PARAMETER 9	*	Depends on Reverb Type	O (Depends on Reverb Type)			×	O
		0B	1	00-7F	REVERB PARAMETER 10	*	Depends on Reverb Type	O (Depends on Reverb Type)			×	O
		0C	1	00-7F	REVERB RETURN	-∞dB...0dB...+6dB (0...64...127)	40	O			×	O
		0D	1	01-7F	REVERB PAN	L63...C...R63	40	O			×	O

TOTAL SIZE 0E

02	01	10	1	00-7F	REVERB PARAMETER 11	Refer to Effect Parameter List	Depends on Reverb Type	O (Depends on Reverb Type)			×	O
		11	1	00-7F	REVERB PARAMETER 12	*	Depends on Reverb Type	O (Depends on Reverb Type)			×	O
		12	1	00-7F	REVERB PARAMETER 13	*	Depends on Reverb Type	O (Depends on Reverb Type)			×	O
		13	1	00-7F	REVERB PARAMETER 14	*	Depends on Reverb Type	O (Depends on Reverb Type)			×	O
		14	1	00-7F	REVERB PARAMETER 15	*	Depends on Reverb Type	O (Depends on Reverb Type)			×	O
		15	1	00-7F	REVERB PARAMETER 16	*	Depends on Reverb Type	O (Depends on Reverb Type)			×	O

TOTAL SIZE 06

Address (H)			Size (H)	Data (H)	Parameter	Description	XG Default (H)	MIDI Reception			MIDI Transmission	
								Song	R1 R2 L	Keyboard	Panel (main generation method)	Song
02	01	20	2	00-7F	CHORUS TYPE MSB CHORUS TYPE LSB	Refer to Effect Parameter List	41 (=CHORUS1) 00	O			O (Function)	O
		22	1	00-7F	CHORUS PARAMETER 1	*	Depends on Chorus Type	O (Depends on Chorus Type)			×	O
		23	1	00-7F	CHORUS PARAMETER 2	*	Depends on Chorus Type	O (Depends on Chorus Type)			×	O
		24	1	00-7F	CHORUS PARAMETER 3	*	Depends on Chorus Type	O (Depends on Chorus Type)			×	O

Address (H)			Size (H)	Data (H)	Parameter	Description	XG Default (H)	MIDI Reception			MIDI Transmission	
								Song	R1 R2 L	Keyboard	Panel (main generation method)	Song
		25	1	00-7F	CHORUS PARAMETER 4	Refer to Effect Parameter List	Depends on Chorus Type	O (Depends on Chorus Type)			×	O
		26	1	00-7F	CHORUS PARAMETER 5	*	Depends on Chorus Type	O (Depends on Chorus Type)			×	O
		27	1	00-7F	CHORUS PARAMETER 6	*	Depends on Chorus Type	O (Depends on Chorus Type)			×	O
		28	1	00-7F	CHORUS PARAMETER 7	*	Depends on Chorus Type	O (Depends on Chorus Type)			×	O
		29	1	00-7F	CHORUS PARAMETER 8	*	Depends on Chorus Type	O (Depends on Chorus Type)			×	O
		2A	1	00-7F	CHORUS PARAMETER 9	*	Depends on Chorus Type	O (Depends on Chorus Type)			×	O
		2B	1	00-7F	CHORUS PARAMETER 10	*	Depends on Chorus Type	O (Depends on Chorus Type)			×	O
		2C	1	00-7F	CHORUS RETURN	-∞dB...0dB...+6dB (0...64...127)	40	O			×	O
		2D	1	01-7F	CHORUS PAN	L63...C...R63	40	O			×	O
		2E	1	00-7F	SEND CHORUS TO REVERB	-∞dB...0dB...+6dB (0...64...127)	00	O			×	O
TOTAL SIZE			0F									
02	01	30	1	00-7F	CHORUS PARAMETER 11	Refer to Effect Parameter List	Depends on Chorus Type	O (Depends on Chorus Type)			×	O
		31	1	00-7F	CHORUS PARAMETER 12	*	Depends on Chorus Type	O (Depends on Chorus Type)			×	O
		32	1	00-7F	CHORUS PARAMETER 13	*	Depends on Chorus Type	O (Depends on Chorus Type)			×	O
		33	1	00-7F	CHORUS PARAMETER 14	*	Depends on Chorus Type	O (Depends on Chorus Type)			×	O
		34	1	00-7F	CHORUS PARAMETER 15	*	Depends on Chorus Type	O (Depends on Chorus Type)			×	O
		35	1	00-7F	CHORUS PARAMETER 16	*	Depends on Chorus Type	O (Depends on Chorus Type)			×	O
TOTAL SIZE			06									

Address (H)			Size (H)	Data (H)	Parameter	Description	XG Default (H)	MIDI Reception			MIDI Transmission	
								Song	R1 R2 L	Keyboard	Panel (main generation method)	Song
02	01	40	2	00-7F 00-7F	VARIATION TYPE MSB VARIATION TYPE LSB	Refer to Effect Parameter List	05 (=DELAY L, C, R) 00	O			×	O
		42	2	00-7F 00-7F	VARIATION PARAMETER 1 MSB VARIATION PARAMETER 1 LSB	*	Depends on Variation Type	O (Depends on Variation Type)			×	O
		44	2	00-7F 00-7F	VARIATION PARAMETER 2 MSB VARIATION PARAMETER 2 LSB	*	Depends on Variation Type	O (Depends on Variation Type)			×	O
		46	2	00-7F 00-7F	VARIATION PARAMETER 3 MSB VARIATION PARAMETER 3 LSB	*	Depends on Variation Type	O (Depends on Variation Type)			×	O
		48	2	00-7F 00-7F	VARIATION PARAMETER 4 MSB VARIATION PARAMETER 4 LSB	*	Depends on Variation Type	O (Depends on Variation Type)			×	O
		4A	2	00-7F 00-7F	VARIATION PARAMETER 5 MSB VARIATION PARAMETER 5 LSB	*	Depends on Variation Type	O (Depends on Variation Type)			×	O
		4C	2	00-7F 00-7F	VARIATION PARAMETER 6 MSB VARIATION PARAMETER 6 LSB	*	Depends on Variation Type	O (Depends on Variation Type)			×	O
		4E	2	00-7F 00-7F	VARIATION PARAMETER 7 MSB VARIATION PARAMETER 7 LSB	*	Depends on Variation Type	O (Depends on Variation Type)			×	O
		50	2	00-7F 00-7F	VARIATION PARAMETER 8 MSB VARIATION PARAMETER 8 LSB	*	Depends on Variation Type	O (Depends on Variation Type)			×	O
		52	2	00-7F 00-7F	VARIATION PARAMETER 9 MSB VARIATION PARAMETER 9 LSB	*	Depends on Variation Type	O (Depends on Variation Type)			×	O
		54	2	00-7F 00-7F	VARIATION PARAMETER 10 MSB VARIATION PARAMETER 10 LSB	*	Depends on Variation Type	O (Depends on Variation Type)			×	O
		56	1	00-7F	VARIATION RETURN	-∞dB...0dB...+6dB (0...64...127)	40	O			×	O
		57	1	01-7F	VARIATION PAN	L63...C...R63	40	O			×	O
		58	1	00-7F	SEND VARIATION TO REVERB	-∞dB...0dB...+6dB (0...64...127)	00	O			×	O
		59	1	00-7F	SEND VARIATION TO CHORUS	-∞dB...0dB...+6dB (0...64...127)	00	O			×	O
		5A	1	00-01	VARIATION CONNECTION	INSERTION, SYSTEM	00	O			×	O
		5B	1	00-7F	VARIATION PART NUMBER	Reception: Part1...16 (0...15) Transmission: Part1...16 (0...15) AD (64) OFF (127)	7F	O			×	O
		5C	1	00-7F	MW VARIATION CONTROL DEPTH	-64...0...+63	40	O		×	×	O
		5D	1	00-7F	BEND VARIATION CONTROL DEPTH	-64...0...+63	40	O		×	×	O
		5E	1	00-7F	CAT VARIATION CONTROL DEPTH	-64...0...+63	40	O		×	×	O
		5F	1	00-7F	AC1 VARIATION CONTROL DEPTH	-64...0...+63	40	O		×	×	O
		60	1	00-7F	AC2 VARIATION CONTROL DEPTH	-64...0...+63	40	O		×	×	O
TOTAL SIZE			21									
02	01	70	1	00-7F	VARIATION PARAMETER 11	Refer to Effect Parameter List	Depends on Variation Type	O (Depends on Variation Type)			×	O
		71	1	00-7F	VARIATION PARAMETER 12	*	Depends on Variation Type	O (Depends on Variation Type)			×	O
		72	1	00-7F	VARIATION PARAMETER 13	*	Depends on Variation Type	O (Depends on Variation Type)			×	O
		73	1	00-7F	VARIATION PARAMETER 14	*	Depends on Variation Type	O (Depends on Variation Type)			×	O
		74	1	00-7F	VARIATION PARAMETER 15	*	Depends on Variation Type	O (Depends on Variation Type)			×	O
		75	1	00-7F	VARIATION PARAMETER 16	*	Depends on Variation Type	O (Depends on Variation Type)			×	O
TOTAL SIZE			06									

MIDI Parameter Change Table (MULTI EQ)

*The MULTI EQ Parameter cannot be reset to its factory setting with XG SYSTEM ON.

Address (H)			Size (H)	Data (H)	Parameter	Description	MIDI Reception			MIDI Transmission	
							Song	R1 R2 L	Keyboard	Panel (main generation method)	Song
02	40	00	1	00-04	EQ TYPE	flat, jazz, pops, rock, classic	×			×	×
		01	1	34-4C	EQ GAIN1	-12…0…+12 [dB]	×			×	×
		02	1	04-28	EQ FREQUENCY1	32…2.0k [Hz]	×			×	×
		03	1	01-78	EQ Q1	0.1…12.0	×			×	×
		04	1	00-01	EQ SHAPE1	shelving, peaking	×			×	×
		05	1	34-4C	EQ GAIN2	-12…0…+12 [dB]	×			×	×
		06	1	0E-36	EQ FREQUENCY2	100…10.0k [Hz]	×			×	×
		07	1	01-78	EQ Q2	0.1…12.0	×			×	×
		08	1		NOT USED		–			–	–
		09	1	34-4C	EQ GAIN3	-12…0…+12 [dB]	×			×	×
		0A	1	0E-36	EQ FREQUENCY3	100…10.0k [Hz]	×			×	×
		0B	1	01-78	EQ Q3	0.1…12.0	×			×	×
		0C	1		NOT USED		–			–	–
		0D	1	34-4C	EQ GAIN4	-12…0…+12 [dB]	×			×	×
		0E	1	0E-36	EQ FREQUENCY4	100…10.0k [Hz]	×			×	×
		0F	1	01-78	EQ Q4	0.1…12.0	×			×	×
		10	1		NOT USED		–			–	–
		11	1	34-4C	EQ GAIN5	-12…0…+12 [dB]	×			×	×
		12	1	1C-3A	EQ FREQUENCY5	0.5k…16.0k [Hz]	×			×	×
		13	1	01-78	EQ Q5	0.1…12.0	×			×	×
		14	1	00-01	EQ SHAPE5	shelving, peaking	×			×	×
TOTAL SIZE			15								

MIDI Parameter Change Table (EFFECT2)

*The EFFECT2 Parameter cannot be reset to its factory setting with XG SYSTEM ON.

Address (H)			Size (H)	Data (H)	Parameter	Description	MIDI Reception			MIDI Transmission	
							Song	R1 R2 L	Keyboard	Panel (main generation method)	Song
03	n	00	2	00-7F 00-7F	INSERTION EFFECT TYPE MSB INSERTION EFFECT TYPE LSB	Refer to Effect Parameter List	O			O (Function)	O
		02	1	00-7F	INSERTION EFFECT PARAMETER 1	*	O (Depends on Insertion Type)			O (Function)	O
		03	1	00-7F	INSERTION EFFECT PARAMETER 2	*	O (Depends on Insertion Type)			×	O
		04	1	00-7F	INSERTION EFFECT PARAMETER 3	*	O (Depends on Insertion Type)			O (Function)	O
		05	1	00-7F	INSERTION EFFECT PARAMETER 4	*	O (Depends on Insertion Type)			×	O
		06	1	00-7F	INSERTION EFFECT PARAMETER 5	*	O (Depends on Insertion Type)			×	O
		07	1	00-7F	INSERTION EFFECT PARAMETER 6	*	O (Depends on Insertion Type)			×	O
		08	1	00-7F	INSERTION EFFECT PARAMETER 7	*	O (Depends on Insertion Type)			×	O
		09	1	00-7F	INSERTION EFFECT PARAMETER 8	*	O (Depends on Insertion Type)			×	O
		0A	1	00-7F	INSERTION EFFECT PARAMETER 9	*	O (Depends on Insertion Type)			×	O
		0B	1	00-7F	INSERTION EFFECT PARAMETER 10	*	O (Depends on Insertion Type)			O (Function)	O
		0C	1	00-7F	INSERTION EFFECT PART NUMBER	Reception: Part1…16 (0…15) Transmission: Part1…16 (0…15) AD (64) OFF (127)	O			O (Voice)	O
		0D	1	00-7F	MW INSERTION CONTROL DEPTH	-64…0…+63	O			×	O
		0E	1	00-7F	BEND INSERTION CONTROL DEPTH	-64…0…+63	O			×	O
		0F	1	00-7F	CAT INSERTION CONTROL DEPTH	-64…0…+63	O			×	O
		10	1	00-7F	AC1 INSERTION CONTROL DEPTH	-64…0…+63	O			O	O
		11	1	00-7F	AC2 INSERTION CONTROL DEPTH	-64…0…+63	O			×	O
TOTAL SIZE			12								
		20	1	00-7F	INSERTION EFFECT PARAMETER 11	Refer to Effect Parameter List	O (Depends on Insertion Type)			×	O
		21	1	00-7F	INSERTION EFFECT PARAMETER 12	*	O (Depends on Insertion Type)			×	O
		22	1	00-7F	INSERTION EFFECT PARAMETER 13	*	O (Depends on Insertion Type)			×	O
		23	1	00-7F	INSERTION EFFECT PARAMETER 14	*	O (Depends on Insertion Type)			×	O
		24	1	00-7F	INSERTION EFFECT PARAMETER 15	*	O (Depends on Insertion Type)			×	O
		25	1	00-7F	INSERTION EFFECT PARAMETER 16	*	O (Depends on Insertion Type)			O (Function)	O
TOTAL SIZE			6								
		30	2	00-7F 00-7F	INSERTION EFFECT PARAMETER 1 MSB INSERTION EFFECT PARAMETER 1 LSB	Refer to Effect Parameter List	O (Depends on Insertion Type)			×	O
		32	2	00-7F 00-7F	INSERTION EFFECT PARAMETER 2 MSB INSERTION EFFECT PARAMETER 2 LSB	*	O (Depends on Insertion Type)			×	O
		34	2	00-7F 00-7F	INSERTION EFFECT PARAMETER 3 MSB INSERTION EFFECT PARAMETER 3 LSB	*	O (Depends on Insertion Type)			×	O
		36	2	00-7F 00-7F	INSERTION EFFECT PARAMETER 4 MSB INSERTION EFFECT PARAMETER 4 LSB	*	O (Depends on Insertion Type)			×	O
		38	2	00-7F 00-7F	INSERTION EFFECT PARAMETER 5 MSB INSERTION EFFECT PARAMETER 5 LSB	*	O (Depends on Insertion Type)			×	O
		3A	2	00-7F 00-7F	INSERTION EFFECT PARAMETER 6 MSB INSERTION EFFECT PARAMETER 6 LSB	*	O (Depends on Insertion Type)			×	O
		3C	2	00-7F 00-7F	INSERTION EFFECT PARAMETER 7 MSB INSERTION EFFECT PARAMETER 7 LSB	*	O (Depends on Insertion Type)			×	O
		3E	2	00-7F 00-7F	INSERTION EFFECT PARAMETER 8 MSB INSERTION EFFECT PARAMETER 8 LSB	*	O (Depends on Insertion Type)			×	O

		40	2	00-7F 00-7F	INSERTION EFFECT PARAMETER 9 MSB INSERTION EFFECT PARAMETER 9 LSB	Refer to Effect Parameter List	O (Depends on Insertion Type)	×	O
		42	2	00-7F 00-7F	INSERTION EFFECT PARAMETER 10 MSB INSERTION EFFECT PARAMETER 10 LSB	*	O (Depends on Insertion Type)	O (Function)	O

TOTAL SIZE 14
The second byte of the address is considered as an Insertion effect number.
n: insertion effect number

The Insertion Effect No. range is from 0 to 1. Values outside the range are handled as unknown and ignored.
For effect types that do not require MSB, the Parameters for Address 02-0B will be received and the Parameters for Address 30-42 will not be received.
For effect types that require MSB, the Parameters for Address 30-42 will be received and the Parameters for Address 02-0B will not be received.
When Bulk Dumps that include Effect Type data are transmitted, the Parameters for Address 02-0B will always be transmitted. But, effects that require MSB, when the bulk dump is received the Parameters for Address 02-0B will not be received.

MIDI Parameter Change Table (MULTI PART)

Address (H)			Size (H)	Data (H)	Parameter	Description	XG Default (H)	MIDI Reception			MIDI Transmission	
								Song	R1 R2 L	Keyboard	Panel (main generation method)	Song
08	nn	00	1	00-20	NOT USED			×	×	×	×	×
		01	1	00-7F	BANK SELECT MSB	0...127	part 10=7F, other parts=00	O	O	×	×	O
		02	1	00-7F	BANK SELECT LSB	0...127	00	O	O	×	×	O
		03	1	00-7F	PROGRAM NUMBER	1...128	00	O	O	×	×	O
		04	1	00-0F, 7F	Rcv CHANNEL	1...16, OFF	Part No.	O	×	×	×	O
		05	1	00-01	MONO/POLY MODE	MONO, POLY	01	O	×	×	×	O
		06	1	00-02	SAME NOTE NUMBER KEY ON ASSIGN	SINGLE, MULTI, INST (for Drum)	01	O	×	×	×	O
		07	1	00-03	PART MODE	NORMAL, DRUM, DRUMS1...2	part 10=02, other parts=00	O	×	×	O (Voice)	O
		08	1	28-58	NOTE SHIFT	-24...0...+24 [semitones]	40	O	O	×	×	O
		09	2	00-0F 00-0F	DETUNE	-12.8...0...+12.7 [Hz] 1st bit3-0 → bit7-4 2nd bit3-0 → bit3-0	08 00	O	O	×	×	O
		0B	1	00-7F	VOLUME	0...127	64	O	O	×	×	O
		0C	1	00-7F	VELOCITY SENSE DEPTH	0...127	40	O	O	×	O (Function)	O
		0D	1	00-7F	VELOCITY SENSE OFFSET	0...127	40	O	O	×	O (Function)	O
		0E	1	00-7F	PAN	RND, L63...C...R63	40	O	O	×	×	O
		0F	1	00-7F	NOTE LIMIT LOW	C-2...G8	00	O	O	×	×	O
		10	1	00-7F	NOTE LIMIT HIGH	C-2...G8	7F	O	O	×	×	O
		11	1	00-7F	DRY LEVEL	0...127	7F	O	O	×	×	O
		12	1	00-7F	CHORUS SEND	0...127	00	O	O	×	×	O
		13	1	00-7F	REVERB SEND	0...127	28	O	O	×	×	O
		14	1	00-7F	VARIATION SEND	0...127	00	O	O	×	×	O
		15	1	00-7F	VIBRATO RATE	-64...0...+63	40	O	O	×	×	O
		16	1	00-7F	VIBRATO DEPTH	-64...0...+63	40	O	O	×	×	O
		17	1	00-7F	VIBRATO DELAY	-64...0...+63	40	O	O	×	×	O
		18	1	00-7F	FILTER CUTOFF FREQUENCY	-64...0...+63	40	O	O	×	×	O
		19	1	00-7F	FILTER RESONANCE	-64...0...+63	40	O	O	×	×	O
		1A	1	00-7F	EG ATTACK TIME	-64...0...+63	40	O	O	×	×	O
		1B	1	00-7F	EG DECAY TIME	-64...0...+63	40	O	O	×	×	O
		1C	1	00-7F	EG RELEASE TIME	-64...0...+63	40	O	O	×	×	O
		1D	1	28-58	MW PITCH CONTROL	-24...0...+24 [semitones]	40	O	O	×	×	O
		1E	1	00-7F	MW LOW PASS FILTER CONTROL	-9600...0...+9450 [cent]	40	O	O	×	×	O
		1F	1	00-7F	MW AMPLITUDE CONTROL	-100...0...+100 [%]	40	O	O	×	×	O
		20	1	00-7F	MW LFO PMOD DEPTH	0...127	0A	O	O	×	×	O
		21	1	00-7F	MW LFO FMOD DEPTH	0...127	00	O	O	×	×	O
		22	1	00-7F	MW LFO AMOD DEPTH	0...127	00	O	O	×	×	O
		23	1	28-58	BEND PITCH CONTROL	-24...0...+24 [semitones]	42	O	O	×	×	O
		24	1	00-7F	BEND LOW PASS FILTER CONTROL	-9600...0...+9450 [cent]	40	O	O	×	×	O
		25	1	00-7F	BEND AMPLITUDE CONTROL	-100...0...+100 [%]	40	O	O	×	×	O
		26	1	00-7F	BEND LFO PMOD DEPTH	0...127	00	O	O	×	×	O
		27	1	00-7F	BEND LFO FMOD DEPTH	0...127	00	O	O	×	×	O
		28	1	00-7F	BEND LFO AMOD DEPTH	0...127	00	O	O	×	×	O

TOTAL SIZE 29

		30	1	00-01	Rcv PITCH BEND	OFF, ON	01	O	×	×	×	O
		31	1	00-01	Rcv CH AFTER TOUCH (CAT)	OFF, ON	01	O	×	×	×	O
		32	1	00-01	Rcv PROGRAM CHANGE	OFF, ON	01	O	×	×	×	O
		33	1	00-01	Rcv CONTROL CHANGE	OFF, ON	01	O	×	×	×	O
		34	1	00-01	Rcv POLY AFTER TOUCH (PAT)	OFF, ON	01	O	×	×	×	O
		35	1	00-01	Rcv NOTE MESSAGE	OFF, ON	01	O	×	×	×	O
		36	1	00-01	Rcv RPN	OFF, ON	01	O	×	×	×	O
		37	1	00-01	Rcv NRPN	OFF, ON	XG mode=01, GM mode=00	O	×	×	×	O
		38	1	00-01	Rcv MODULATION	OFF, ON	01	O	×	×	×	O
		39	1	00-01	Rcv VOLUME	OFF, ON	01	O	×	×	×	O
		3A	1	00-01	Rcv PAN	OFF, ON	01	O	×	×	×	O
		3B	1	00-01	Rcv EXPRESSION	OFF, ON	01	O	×	×	×	O
		3C	1	00-01	Rcv HOLD1	OFF, ON	01	O	×	×	×	O
		3D	1	00-01	Rcv PORTAMENTO	OFF, ON	01	O	×	×	×	O
		3E	1	00-01	Rcv SOSTENUTO	OFF, ON	01	O	×	×	×	O
		3F	1	00-01	Rcv SOFT PEDAL	OFF, ON	01	O	×	×	×	O
		40	1	00-01	Rcv BANK SELECT	OFF, ON	01	O	×	×	×	O
		41	1	00-7F	SCALE TUNING C	-63...0...+63 [cent]	40	O	O	×	O (Function)	O
		42	1	00-7F	SCALE TUNING C#	-63...0...+63 [cent]	40	O	O	×	O (Function)	O
		43	1	00-7F	SCALE TUNING D	-63...0...+63 [cent]	40	O	O	×	O (Function)	O
		44	1	00-7F	SCALE TUNING D#	-63...0...+63 [cent]	40	O	O	×	O (Function)	O
		45	1	00-7F	SCALE TUNING E	-63...0...+63 [cent]	40	O	O	×	O (Function)	O
		46	1	00-7F	SCALE TUNING F	-63...0...+63 [cent]	40	O	O	×	O (Function)	O
		47	1	00-7F	SCALE TUNING F#	-63...0...+63 [cent]	40	O	O	×	O (Function)	O

		48	1	00-7F	SCALE TUNING G	-63...0...+63 [cent]	40	O	O	×	O (Function)	O
		49	1	00-7F	SCALE TUNING G#	-63...0...+63 [cent]	40	O	O	×	O (Function)	O
		4A	1	00-7F	SCALE TUNING A	-63...0...+63 [cent]	40	O	O	×	O (Function)	O
		4B	1	00-7F	SCALE TUNING A#	-63...0...+63 [cent]	40	O	O	×	O (Function)	O
		4C	1	00-7F	SCALE TUNING B	-63...0...+63 [cent]	40	O	O	×	O (Function)	O
		4D	1	28-58	CAT PITCH CONTROL	-24...0...+24 [semitones]	40	O	×	×	×	O
		4E	1	00-7F	CAT LOW PASS FILTER CONTROL	-9600...0...+9450 [cent]	40	O	×	×	×	O
		4F	1	00-7F	CAT AMPLITUDE CONTROL	-100...0...+100 [%]	40	O	×	×	×	O
		50	1	00-7F	CAT LFO PMOD DEPTH	0...127	00	O	×	×	×	O
		51	1	00-7F	CAT LFO FMOD DEPTH	0...127	00	O	×	×	×	O
		52	1	00-7F	CAT LFO AMOD DEPTH	0...127	00	O	×	×	×	O
		53	1	28-58	PAT PITCH CONTROL	-24...0...+24 [semitones]	40	O	×	×	×	O
		54	1	00-7F	PAT LOW PASS FILTER CONTROL	-9600...0...+9450 [cent]	40	O	×	×	×	O
		55	1	00-7F	PAT AMPLITUDE CONTROL	-100...0...+100 [%]	40	O	×	×	×	O
		56	1	00-7F	PAT LFO PMOD DEPTH	0...127	00	O	×	×	×	O
		57	1	00-7F	PAT LFO FMOD DEPTH	0...127	00	O	×	×	×	O
		58	1	00-7F	PAT LFO AMOD DEPTH	0...127	00	O	×	×	×	O
		59	1	00-5F	AC1 CONTROLLER NUMBER	0...95	10	O	O	×	O	O
		5A	1	28-58	AC1 PITCH CONTROL	-24...0...+24 [semitones]	40	O	×	×	×	O
		5B	1	00-7F	AC1 LOW PASS FILTER CONTROL	-9600...0...+9450 [cent]	40	O	×	×	×	O
		5C	1	00-7F	AC1 AMPLITUDE CONTROL	-100...0...+100 [%]	40	O	×	×	×	O
		5D	1	00-7F	AC1 LFO PMOD DEPTH	0...127	00	O	×	×	×	O
		5E	1	00-7F	AC1 LFO FMOD DEPTH	0...127	00	O	×	×	×	O
		5F	1	00-7F	AC1 LFO AMOD DEPTH	0...127	00	O	×	×	×	O
		60	1	00-5F	AC2 CONTROLLER NUMBER	0...95	11	O	×	×	×	O
		61	2	28-58	AC2 PITCH CONTROL	-24...0...+24 [semitones]	40	O	×	×	×	O
		62	1	00-7F	AC2 LOW PASS FILTER CONTROL	-9600...0...+9450 [cent]	40	O	×	×	×	O
		63	1	00-7F	AC2 AMPLITUDE CONTROL	-100...0...+100 [%]	40	O	×	×	×	O
		64	1	00-7F	AC2 LFO PMOD DEPTH	0...127	00	O	×	×	×	O
		65	1	00-7F	AC2 LFO FMOD DEPTH	0...127	00	O	×	×	×	O
		66	1	00-7F	AC2 LFO AMOD DEPTH	0...127	00	O	×	×	×	O
		67	1	00-01	PORTAMENTO SWITCH	OFF, ON	00	O	O	×	×	O
		68	1	00-7F	PORTAMENTO TIME	0...127	00	O	O	×	×	O
		69	1	00-7F	PITCH EG INITIAL LEVEL	-64...0...+63	40	O	×	×	×	O
		6A	1	00-7F	PITCH EG ATTACK TIME	-64...0...+63	40	O	×	×	×	O
		6B	1	00-7F	PITCH EG RELEASE LEVEL	-64...0...+63	40	O	×	×	×	O
		6C	1	00-7F	PITCH EG RELEASE TIME	-64...0...+63	40	O	×	×	×	O
		6D	1	01-7F	VELOCITY LIMIT LOW	1...127	01	O	×	×	×	O
		6E	1	01-7F	VELOCITY LIMIT HIGH	1...127	7F	O	×	×	×	O
TOTAL SIZE			3F										

		70	1		NOT USED		–	–	–	–	–	–	–
		71	1		NOT USED		–	–	–	–	–	–	–
		72	1	00-7F	EQ BASS GAIN	-12dB...+12dB	40	O	×	×	×	O
		73	1	00-7F	EQ TREBLE GAIN	-12dB...+12dB	40	O	×	×	×	O
TOTAL SIZE			04										

		74	1		NOT USED		–	–	–	–	–	–	–
		75	1		NOT USED		–	–	–	–	–	–	–
		76	1	04-28	EQ BASS FREQUENCY	32...2.0k [Hz]	0C	O	×	×	×	O
		77	1	1C-3A	EQ TREBLE FREQUENCY	500...16.0k [Hz]	36	O	×	×	×	O
		78	1		NOT USED		–	–	–	–	–	–	–
		78	1		NOT USED		–	–	–	–	–	–	–
		7A	1		NOT USED		–	–	–	–	–	–	–
		7B	1		NOT USED		–	–	–	–	–	–	–
		7C	1		NOT USED		–	–	–	–	–	–	–
		7D	1		NOT USED		–	–	–	–	–	–	–
		7E	1		NOT USED		–	–	–	–	–	–	–
		7F	1		NOT USED		–	–	–	–	–	–	–
TOTAL SIZE			0C										

0A	nn	40	1	00-7F	MW OFFSET LEVEL CONTROL	-100 – 100 [%]	40	O	×	×	×	O
		41	1	00-7F	BEND OFFSET LEVEL CONTROL	-100 – 100 [%]	40	O	×	×	×	O
		42	1	00-7F	CAT OFFSET LEVEL CONTROL	-100 – 100 [%]	40	O	×	×	×	O
		43	1	00-7F	PAT OFFSET LEVEL CONTROL	-100 – 100 [%]	40	O	×	×	×	O
		44	1	00-7F	AC1 OFFSET LEVEL CONTROL	-100 – 100 [%]	40	O	×	×	×	O
		45	1	00-7F	AC2 OFFSET LEVEL CONTROL	-100 – 100 [%]	40	O	×	×	×	O
TOTAL SIZE			06									

nn = PART NUMBER
If there is a Drum Voice assigned to the part, the following parameters are ineffective.
- BANK SELECT LSB
- PORTAMENTO
- MONO/POLY
- SCALE TUNING
- POLY AFTER TOUCH
- PITCH EG

MIDI Parameter Change Table (DRUM SETUP)

Address (H)			Size (H)	Data (H)	Parameter	Description	XG Default (H)	MIDI Reception			MIDI Transmission	
								Song	R1 R2 L	Keyboard	Panel (main generation method)	Song
3n	rr	00	1	00-7F	PITCH COARSE	-64...0...+63	40	O	×	×	×	O
		01	1	00-7F	PITCH FINE	-64...0...+63 [cent]	40	O	×	×	×	O
		02	1	00-7F	LEVEL	0...127	Depends on the note	O	×	×	×	O
		03	1	00-7F	ALTERNATE GROUP	OFF, 1...127	Depends on the note	O	×	×	×	O
		04	1	00-7F	PAN	RND, L63...C...R63	Depends on the note	O	×	×	×	O
		05	1	00-7F	REVERB SEND	0...127	Depends on the note	O	×	×	×	O
		06	1	00-7F	CHORUS SEND	0...127	Depends on the note	O	×	×	×	O
		07	1	00-7F	VARIATION SEND	0...127	7F	O	×	×	×	O
		08	1	00-01	KEY ASSIGN	SINGLE, MULTI	00	O	×	×	×	O
		09	1	00-01	Rcv NOTE OFF	OFF, ON	Depends on the note	O	×	×	×	O
		0A	1	00-01	Rcv NOTE ON	OFF, ON	01	O	×	×	×	O
		0B	1	00-7F	LOW PASS FILTER CUTOFF FREQUENCY	-64...0...+63	40	O	×	×	×	O
		0C	1	00-7F	LOW PASS FILTER RESONANCE	-64...0...+63	40	O	×	×	×	O
		0D	1	00-7F	EG ATTACK RATE	-64...0...+63	40	O	×	×	×	O
		0E	1	00-7F	EG DECAY1 RATE	-64...0...+63	40	O	×	×	×	O
		0F	1	00-7F	EG DECAY2 RATE	-64...0...+63	40	O	×	×	×	O
TOTAL SIZE			10									
		20	1	00-7F	EQ BASS GAIN	-12dB...+12dB	40	×	×	×	×	×
		21	1	00-7F	EQ TREBLE GAIN	-12dB...+12dB	40	×	×	×	×	×
		22	1		NOT USED		–	–	–	–	–	–
		23	1		NOT USED		–	–	–	–	–	–
		24	1	04-28	EQ BASS FREQUENCY	32...2.0k [Hz]	0C	×	×	×	×	×
		25	1	1C-3A	EQ TREBLE FREQUENCY	500...16.0k [Hz]	36	×	×	×	×	×
		26	1		NOT USED		–	–	–	–	–	–
		27	1		NOT USED		–	–	–	–	–	–
		28	1		NOT USED		–	–	–	–	–	–
		29	1		NOT USED		–	–	–	–	–	–
		2A	1		NOT USED		–	–	–	–	–	–
		2B	1		NOT USED		–	–	–	–	–	–
		2C	1		NOT USED		–	–	–	–	–	–
		2D	1		NOT USED		–	–	–	–	–	–
TOTAL SIZE			0E									

n: Drum Setup Number (0-1)
rr: note number (0D-5B)

In the following cases, the instrument will initialize all Drum Setups.
XG SYSTEM ON received
GM SYSTEM ON received
GM LEVEL 2 SYSTEM ON received
GS RESET received
DRUM SETUP RESET received (only when in XG mode)

NOTICE
When a part to which a Drum Setup is assigned receives a program change, the assigned Drum Setup will be initialized.
If the same Drum Setup is assigned to two or more parts, changes in Drum Setup parameters (including program changes) will apply to all parts to which it is assigned.

System Exclusive Messages (1)

Application Range	MIDI, Internal Sequencer

* Not Received when Receive Parameter System Exclusive is set to off.
* Not transmitted when Transmit Parameter System Exclusive is set to off.

System Exclusive Messages (Universal Realtime Messages)

MIDI Event	Data Format	MIDI Formats	MIDI Reception			MIDI Transmission	
			Song	R1 R2 L	Keyboard	Panel (main generation method)	Song
Master Volume	F0 7F XN 04 01 SS TT F7 11110000 F0 = Exclusive status 01111111 7F = Universal Real Time 0xxxnnnn XN = When N is received N=0-F, whichever is received. X=ignored 00000100 04 = Sub-ID #1 = Device Control Message 00000001 01 = Sub-ID #2 = Master Volume 0sssssss SS = Volume LSB 0ttttttt TT = Volume MSB 11110111 F7 = End of Exclusive	[GM2]	O	×	×	×	△ (Changed to XG, and output)
Master Fine Tuning	F0 7F XN 04 03 SS TT F7 11110000 F0 = Exclusive status 01111111 7F = Universal Real Time 0xxxnnnn XN = When N is received N=0-F, whichever is received. X=ignored 00000100 04 = Sub-ID #1 = Device Control Message 00000011 03 = Sub-ID #2 = Master Fine Tuning 0sssssss SS = Fine Tuning LSB 0ttttttt TT = Fine Tuning MSB 11110111 F7 = End of Exclusive	[GM2]	O	×	×	×	△ (Changed to XG, and output)
Master Coarse Tuning	F0 7F XN 04 04 00 TT F7 11110000 F0 = Exclusive status 01111111 7F = Universal Real Time 0xxxnnnn XN = When N is received N=0-F, whichever is received. X=ignored 00000100 04 = Sub-ID #1 = Device Control Message 00000100 04 = Sub-ID #2 = Master Fine Tuning 00000000 00 0ttttttt TT = Coarse Tuning MSB 11110111 F7 = End of Exclusive	[GM2]	O	×	×	×	△ (Changed to XG, and output)
Reverb Parameter	F0 7F XN 04 05 01 01 01 01 01 PP VV ... F7 11110000 F0 = Exclusive status 01111111 7F = Universal Real Time 0xxxnnnn XN = When N is received N=0-F, whichever is received. X=ignored 00000100 04 = Sub-ID #1 = Device Control Message 00000101 05 = Sub-ID #2 = Global Parameter Control 00000001 01 = Slot path length = 1 00000001 01 = Parameter ID width = 1 00000001 01 = Value width = 1 00000001 01 = Slot path MSB = 1 (Reverb) 00000001 01 = Slot path LSB = 1 0ppppppp PP = Parameter to be controlled. 0vvvvvvv VV = Value for the Parameter. ... ... 11110111 F7 = End of Exclusive Parameter (pp) Value (vv) Display pp=0 Reverb Type 0...8 0: RoomS 1: RoomM 2: RoomL 3: HallM 4: HallL (default) 8: GM Plate pp=1 Reverb Time 0...127 0...11.0s	[GM2]	O			×	△ (Changed to XG, and output)
Chorus Parameter	F0 7F XN 04 05 01 01 01 01 02 PP VV ... F7 11110000 F0 = Exclusive status 01111111 7F = Universal Real Time 0xxxnnnn XN = When N is received N=0-F, whichever is received. X=ignored 00000100 04 = Sub-ID #1 = Device Control Message 00000101 05 = Sub-ID #2 = Global Parameter Control 00000001 01 = Slot path length = 1 00000001 01 = Parameter ID width = 1 00000001 01 = Value width = 1 00000001 01 = Slot path MSB = 1 (Chorus) 00000010 02 = Slot path LSB = 2 0ppppppp PP = Parameter to be controlled. 0vvvvvvv VV = Value for the Parameter. ... ... 11110111 F7 = End of Exclusive Parameter (pp) Value (vv) Display pp=0 Chorus Type 0....5 0: GM Chorus1 1: GM Chorus2 2: GM Chorus3 (default) 3: GM Chorus4 4: FB Chorus 5: GM Flanger pp=1 Mod Rate 0...127 0...15.5Hz pp=2 Mod Depth 0...127 pp=3 Feedback 0...127 pp=4 Send to Reverb 0...127	[GM2]	O			×	△ (Changed to XG, and output)

MIDI Event	Data Format	MIDI Formats	MIDI Reception			MIDI Transmission	
			Song	R1 R2 L	Keyboard	Panel (main generation method)	Song
Channel Pressure (Aftertouch)	F0 7F XN 09 01 0M PP RR ... F7 11110000 F0 = Exclusive status 01111111 7F = Universal Real Time 0xxxnnnn XN = When N is received N=0-F, whichever is received. X=ignored 00001001 09 = Sub-ID #1 = Controller Destination Setting 00000001 01 = Sub-ID #2 = Controller Type: 01 (Channel Pressure) 0000mmmm 0M = MIDI Channel (00-0F) 0ppppppp PP = Controlled Parameter 0rrrrrrr RR = Data ... ... 11110111 F7 = End of Exclusive Make sure to set both the controlled parameter and the range. Parameters not set will be restored to their default values. Control Parameter (pp) / Data (RR) / Description / Default value pp=00 Pitch Control: 28H-58H, -24...0...+24 semitones, 40H pp=01 Filter Cutoff Control: 00H-7FH, -9600...0...+9450 cents, 40H pp=02 Amplitude Control: 00H-7FH, -100...0...+100%, 40H pp=03 LFO Pitch Depth: 00H-7FH, 0...127, 00H pp=04 LFO Filter Depth: 00H-7FH, 0...127, 00H pp=05 LFO Amplitude Depth: 00H-7FH, 0...127, 00H	[GM2]	O	×	×	×	△ (Changed to XG, and output)
Controller (Control Change)	F0 7F XN 09 03 0M CC PP RR ... F7 11110000 F0 = Exclusive status 01111111 7F = Universal Real Time 0xxxnnnn XN = When N is received N=0-F, whichever is received. X=ignored 00001001 09 = Sub-ID #1 = Controller Destination Setting 00000011 03 = Sub-ID #2 = Controller Type: 03 (Control Change) 0000mmmm 0M = MIDI Channel (00-0F) 0ccccccc CC = Controller Number (01H-1FH, 40H-5FH) 0ppppppp PP = Controlled Parameter 0rrrrrrr RR = Range ... ... 11110111 F7 = End of Exclusive Make sure to set both the controlled parameter and the range. Parameters not set will be restored to their default values. Control Parameter (pp) / Data (RR) / Description / Default value pp=00 Pitch Control: 28H-58H, -24...0...+24 semitones, 40H pp=01 Filter Cutoff Control: 00H-7FH, -9600...0...+9450 cents, 40H pp=02 Amplitude Control: 00H-7FH, -100...0...+100%, 40H pp=03 LFO Pitch Depth: 00H-7FH, 0...127, 00H pp=04 LFO Filter Depth: 00H-7FH, 0...127, 00H pp=05 LFO Amplitude Depth: 00H-7FH, 0...127, 00H	[GM2]	O	×	×	×	△ (Changed to XG, and output)
Key-Based Instrument Control	F0 7F XN 0A 01 0M KK CC VV ... F7 11110000 F0 = Exclusive status 01111111 7F = Universal Real Time 0xxxnnnn XN = When N is received N=0-F, whichever is received. X=ignored 00001010 0A = Sub-ID #1 = Key-Based Instrument Control 00000011 01 = Sub-ID #2 = Controller 0000mmmm 0M = MIDI Channel (00-0F) 0kkkkkkk KK = Key Number 0ccccccc CC = Controller Number 0vvvvvvv VV = Value ... ... 11110111 F7 = End of Exclusive Make sure to set both the controlled number and the value. Control Number (CC) / Value (VV) / Description / Default value CC=07H Volume: 00H-7FH, -100...0...+100%, 40H CC=0AH Pan: 00H-7FH (absolute), L63...C...R63, (Preset value) CC=5BH Reverb Send Level: 00H-7FH (absolute), 0...Max, (Preset value) CC=5DH Chorus Send Level: 00H-7FH (absolute), 0...Max, (Preset value)	[GM2]	O	×	×	×	△ (Changed to XG, and output)

System Exclusive Messages (Universal Non Realtime Messages)

MIDI Event	Data Format	MIDI Formats	MIDI Reception			MIDI Transmission	
			Song	R1 R2 L	Keyboard	Panel (main generation method)	Song
GM1 System On	F0 7E XN 09 01 F7 11110000 F0 = Exclusive status 01111110 7E = Universal Non-Real Time 0xxxnnnn XN = When N is received N=0-F, whichever is received. X=ignored 00001001 09 = Sub-ID #1 = General MIDI Message 00000001 01 = Sub-ID #2 = General MIDI On 11110111 F7 = End of Exclusive	[GM1] [GM2]	O	×	×	×	△ (Changed to XG, and output)
GM2 System On	F0 7E XN 09 03 F7 11110000 F0 = Exclusive status 01111110 7E = Universal Non-Real Time 0xxxnnnn XN = When N is received N=0-F, whichever is received. X=ignored 00001001 09 = Sub-ID #1 = General MIDI Message 00000011 03 = Sub-ID #2 = General MIDI2 On 11110111 F7 = End of Exclusive	[GM2]	O	×	×	×	△ (Changed to XG, and output)
General MIDI System Off	F0 7E XN 09 02 F7 11110000 F0 = Exclusive status 01111110 7E = Universal Non-Real Time 0xxxnnnn XN = When N is received N=0-F, whichever is received. X=ignored 00001001 09 = Sub-ID #1 = General MIDI Message 00000010 02 = Sub-ID #2 = General MIDI Off 11110111 F7 = End of Exclusive	[GM1] [GM2]	O	×	×	×	△ (Changed to XG, and output)

MIDI Event	Data Format	MIDI Formats	MIDI Reception			MIDI Transmission	
			Song	R1 R2 L	Keyboard	Panel (main generation method)	Song
Scale/Octave Tuning	F0 7E XN 08 08 JJ GG MM SS ... F7 11110000 F0 = Exclusive status 01111110 7E = Universal Non-Real Time 0xxxnnnn XN = When N is received N=0-F, whichever is received. X=ignored 00001000 08 = Sub-ID #1 = MIDI Tuning Standard 00001000 08 = Sub-ID #2 = scale/octave tuning 1byte form 0jjjjjjj JJ = Channel/option byte1 bits 0 to 1 = channel 15 to 16 bits 2 to 6 = reserved 0ggggggg GG= Channel byte 2 - bits 0 to 6 = channel 8 to 14 0mmmmmmm MM= Channel byte 2 - bits 0 to 6 = channel 1 to 7 0sssssss SS = 12 byte tuning offset of 12 semitones from C to B 00H means -64cent 40H means 0cent 7FH means +63cent ... ... 11110111 F7 = End of Exclusive	[GM2]	O	×	×	×	△ (Changed to XG, and output)

System Exclusive Messages (2)

Application Range	MIDI, Internal Sequencer

* Not Received when Receive Parameter System Exclusive is set to off.
* Not transmitted when Transmit Parameter System Exclusive is set to off.

System Exclusive Messages (XG)

MIDI Event	Data Format	MIDI Reception			MIDI Transmission	
		Song	R1 R2 L	Keyboard	Panel (main generation method)	Song
XG Parameter Change	F0 43 1n 4C hh mm ll dd ... F7 11110000 F0 = Exclusive status 01000011 43 = YAMAHA ID 0001nnnn 1n = Device Number n=always 0 (when transmit), n=0-F (when receive) 01001100 4C = Model ID 0hhhhhhh hh = Address High 0mmmmmmm mm= Address Mid 01111111 ll = Address Low 0ddddddd dd = Data ... ... 11110111 F7 = End of Exclusive	O *Refer to Parameter Change Table			O *Refer to Parameter Change Table	
XG Bulk Dump	F0 43 0n 4C aa bb hh mm ll dd ... dd cc F7 11110000 F0 = Exclusive status 01000011 43 = YAMAHA ID 0000nnnn 0n = Device Number n=always 0 (when transmit), n=0-F (when receive) 01001100 4C = Model ID 0aaaaaaa aa = Byte Count MSB 0bbbbbbb bb = Byte Count LSB 0hhhhhhh hh = Address High 0mmmmmmm mm= Address Mid 01111111 ll = Address Low 0ddddddd dd = Data : : 0ddddddd dd = Data 0ccccccc cc = Checksum 11110111 F7 = End of Exclusive	O *Refer to Parameter Change Table			O *Refer to Parameter Change Table	
XG Parameter Request	F0 43 3n 4C hh mm ll F7 11110000 F0 = Exclusive status 01000011 43 = YAMAHA ID 0011nnnn 3n = Device Number n=always 0 (when transmit), n=0-F (when receive) 01001100 4C = Model ID 0hhhhhhh hh = Address High 0mmmmmmm mm= Address Mid 01111111 ll = Address Low 11110111 F7 = End of Exclusive	O *Refer to Parameter Change Table. (However, the request for address "0A nn 4v" will be ignored.)	×	×	×	
XG Dump Request	F0 43 2n 4C hh mm ll F7 11110000 F0 = Exclusive status 01000011 43 = YAMAHA ID 0010nnnn 2n = Device Number n=always 0 (when transmit), n=0-F (when receive) 01001100 4C = Model ID 0hhhhhhh hh = Address High 0mmmmmmm mm= Address Mid 01111111 ll = Address Low 11110111 F7 = End of Exclusive	O *Refer to Parameter Change Table. (However, the request for address "0A nn 40" will be ignored.)	×	×	×	

System Exclusive Messages (Others)

MIDI Event	Data Format	MIDI Reception (effective or not for each part)			MIDI Transmission (generated data)	
		Song	R1 R2 L	Keyboard	Panel (main generation method)	Song
MIDI Master Tuning	F0 43 1n 27 30 00 00 0m 0l cc F7 11110000 F0 = Exclusive status 01000011 43 = YAMAHA ID 0001nnnn 1n n= always 0 (when transmit), n=0-F (when receive) 00100111 27 = Model ID of TG100 00110000 30 = Address High 00000000 00 = Address Mid 00000000 00 = Address Low 0000mmmm 0m = Master Tune MSB 00001111 0l = Master Tune LSB 0ccccccc cc = don't care 11110111 F7 = End of Exclusive	O			×	×

System Exclusive Messages (Preset Voice)

MIDI Event	Data Format	MIDI Reception (effective or not for each part)			MIDI Transmission (generated data)	
		Song	R1 R2 L	Keyboard	Panel (main generation method)	Song
String Resonance Depth	F0 43 73 01 50 11 0n 02 dd F7 11110000 F0 = Exclusive status 01000011 43 = YAMAHA ID 01110011 73 = Instrument ID 00000001 01 = Model ID (Instrument's common ID) 01010000 50 = Sub-ID 00010001 11 = Sub-ID 0000nnnn 0n = Channel (00-0F) 00000010 02 = Sub-ID (String Resonance Depth) 0ddddddd dd = Depth (00-48) 11110111 F7 = End of Exclusive	×	×	×	×	O
Sustain Sample Depth	F0 43 73 01 50 11 0n 03 dd F7 11110000 F0 = Exclusive status 01000011 43 = YAMAHA ID 01110011 73 = Instrument ID 00000001 01 = Model ID (Instrument's common ID) 01010000 50 = Sub-ID 00010001 11 = Sub-ID 0000nnnn 0n = Channel (00-0F) 00000011 03 = Sub-ID (Sustain Sample Depth) 0ddddddd dd = Depth (00-48) 11110111 F7 = End of Exclusive	×	×	×	×	O
Key Off Sampling Depth	F0 43 73 01 50 11 0n 04 dd F7 11110000 F0 = Exclusive status 01000011 43 = YAMAHA ID 01110011 73 = Instrument ID 00000001 01 = Model ID (Instrument's common ID) 01010000 50 = Sub-ID 00010001 11 = Sub-ID 0000nnnn 0n = Channel (00-0F) 00000100 04 = Sub-ID (Key Off Sampling Depth) 0ddddddd dd = Depth (00-50) 11110111 F7 = End of Exclusive	O	O	×	O (Function)	O
Soft Pedal Depth	F0 43 73 01 50 11 0n 05 dd F7 11110000 F0 = Exclusive status 01000011 43 = YAMAHA ID 01110011 73 = Instrument ID 00000001 01 = Model ID (Instrument's common ID) 01010000 50 = Sub-ID 00010001 11 = Sub-ID 0000nnnn 0n = Channel (00-0F) 00000101 05 = Sub-ID (Soft Pedal Depth) 0ddddddd dd = Depth (00-7F) 11110111 F7 = End of Exclusive	O	O	×	O (Function)	O

*For each Depth value, the reset value is 40H = voice parameter.

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Model YDP-184 Version : 1.0

Function...		Transmitted	Recognized	Remarks
Basic Channel	Default	1 - 16	1 - 16	
	Changed	O	O	
Mode	Default	3	3	
	Messages	×	×	
	Altered	**********	×	
Note Number : True voice		0 - 127 **********	0 - 127 0 - 127	
Velocity	Note ON	O 9nH,v=1-127	O 9nH,v=1-127	
	Note OFF	O 8nH,v=1-127	O 9nH,v=0 or 8nH	
After Touch	Key's	×	O	
	Ch's	×	O	
Pitch Bend		O	O 0 - 24 semi	*1
Control Change	0,32	O	O	Bank Select
	1,5	×*2	O	
	7,10,11	O	O	
	6,38	O	O	Data Entry
	64,66,67	O	O	Pedal
	65	×*2	O	Portamento Control
	71,74	O	O	Sound Controller
	72,73	×*2	O	Sound Controller
	84,94	×*2	O	
	91,93	O	O	Effect Depth
	96-97	×*2	O	RPN Inc,Dec
	98-99	×*2	O	NRPN LSB,MSB
	100-101	O	O	RPN LSB,MSB
Prog Change : True #		O 0 - 127 **********	O 0 - 127	
System Exclusive		O	O	
Common : Song Pos.		×	×	
: Song Sel.		×	×	
: Tune		×	×	
System : Clock		O	×	
Real Time : Commands		O	O	
Aux : All Sound Off		×	O (120,126,127)	
: Reset All Cntrls		×	O (121)	
: Local ON/OFF		×	O (122)	
Mes- : All Notes OFF		×	O (123-125)	
sages: Active Sense		O	O	
: Reset		×	×	

Notes: *1 For some Voices, the pitch may not be changed according to the pitch bend setting range.
*2 These Control Change messages cannot be transmitted by panel operations, but can be transmitted by song playback data.

Mode 1 : OMNI ON , POLY Mode 2 : OMNI ON ,MONO O : Yes
Mode 3 : OMNI OFF, POLY Mode 4 : OMNI OFF,MONO × : No

Manual Development Group

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