

# Clavinova®

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MIDI Reference	CLP-585
MIDI-Referenz	CLP-575
Référence MIDI	CLP-545
Referencia MIDI	CLP-535
	CLP-565GP

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# Effect Type List / Liste der Effekttypen / Liste des types d'effets / Lista de tipos de efectos

## 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

### All reverb types (CLP-585)

XG Effect Name	MSB	LSB
MODERN HALL	1	24
CONCERT HALL	1	4
CATHEDRAL	1	5
BASIC HALL	1	21
LIGHT HALL	1	22
BALLAD HALL	1	19
PIANO HALL	1	20
HALL1	1	0
HALL2	1	16
HALL3	1	17
HALL4	1	18
HALL5	1	1
HALL M	1	6
HALL L	1	7
ATMO HALL	1	23
VOCAL HALL1	1	27
VOCAL HALL2	1	28
CHAMBER	2	24
CLUB	3	24
ACOUSTIC ROOM	2	20
DRUMS ROOM	2	21
PERC ROOM	2	22
ROOM1	2	16
ROOM2	2	17
ROOM3	2	18
ROOM4	2	19
ROOM5	2	0
ROOM6	2	1
ROOM7	2	2
ROOM S	2	5
ROOM M	2	6
ROOM L	2	7
STAGE1	3	16
STAGE2	3	17
STAGE3	3	0
STAGE4	3	1
PLATE	4	24
PLATE1	4	16
PLATE2	4	17
PLATE3	4	0
GM PLATE	4	7
TUNNEL	17	0
CANYON	18	0
BASEMENT	19	0
LARGE HALL	1	2
MEDIUM HALL	1	3
WARM ROOM	2	3
WHITE ROOM	16	0
WOODY ROOM	2	4
RICH PLATE	4	1
NO EFFECT	0	0

## 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

### All chorus types (CLP-585)

XG Effect Name	MSB	LSB
HALL1	1	0
HALL2	1	16
HALL3	1	17
HALL4	1	18
HALL5	1	1
HALL M	1	6
HALL L	1	7
ATMO HALL	1	23
ACOUSTIC ROOM	2	20
DRUMS ROOM	2	21
PERC ROOM	2	22
ROOM1	2	16
ROOM2	2	17
ROOM3	2	18
ROOM4	2	19
ROOM5	2	0
ROOM6	2	1
ROOM7	2	2
ROOM S	2	5
ROOM M	2	6
ROOM L	2	7
STAGE1	3	16
STAGE2	3	17
STAGE3	3	0
STAGE4	3	1
PLATE1	4	16
PLATE2	4	17
PLATE3	4	0
GM PLATE	4	7
CHORUS1	66	17
CHORUS2	66	8
CHORUS3	66	16
CHORUS4	66	1
CHORUS5	65	2
CHORUS6	65	0
CHORUS7	65	1
CHORUS8	65	8
CHORUS FAST	65	16
CHORUS LITE	65	17
GM CHORUS1	65	3
GM CHORUS2	65	4
GM CHORUS3	65	5
GM CHORUS4	65	6
FB CHORUS	65	7
CELESTE1	66	0
CELESTE2	66	2
SYMPHONIC1	68	16
SYMPHONIC2	68	0
ENS DETUNE1	87	0
ENS DETUNE2	87	16
KARAOKE1	20	0
KARAOKE2	20	1
KARAOKE3	20	2
FLANGER1	67	8
FLANGER2	67	16
FLANGER3	67	17
FLANGER4	67	1
FLANGER5	67	0

XG Effect Name	MSB	LSB
GM FLANGER	67	7
T_FLANGER	107	0
TEMPO DELAY1	21	0
TEMPO DELAY2	21	16
TEMPO ECHO	21	8
TEMPO CROSS1	22	0
TEMPO CROSS2	22	16
TEMPO CROSS3	22	17
TEMPO CROSS4	22	18
PHASER1	72	0
T_PHASER1	108	0
T_PHASER2	108	16
EP PHASER1	72	17
EP PHASER2	72	18
EP PHASER3	72	16
ROTARY SP1	69	16
ROTARY SP2	71	17
ROTARY SP3	71	18
ROTARY SP4	70	17
ROTARY SP5	66	18
ROTARY SP6	69	0
ROTARY SP7	71	22
AUTO PAN1	71	16
AUTO PAN2	71	0
EP AUTOPAN	71	21
T_AUTO PAN1	121	0
TREMOLLO1	70	16
TREMOLLO2	71	19
TREMOLLO3	70	0
EP TREMOLLO	70	18
GT TREMOLLO1	71	20
GT TREMOLLO2	70	19
VIBE VIBRATE	119	0
T_TREMOLLO	120	0
NO EFFECT	0	0

## DSP Block

Effect type that can be selected by Voice Menu.

Effect Name	MSB	LSB
OFF	64	0
DamperReso (CLP-545/535/565GP)	123	8
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

### All variation/insertion effects (CLP-585)

XG Effect Name	MSB	LSB
HALL1	1	0
HALL2	1	16
HALL3	1	17
HALL4	1	18
HALL5	1	1
HALL M	1	6
HALL L	1	7
ATMO HALL	1	23
ACOUSTIC ROOM	2	20
DRUMS ROOM	2	21
PERC ROOM	2	22
ROOM1	2	16
ROOM2	2	17
ROOM3	2	18
ROOM4	2	19
ROOM5	2	0
ROOM6	2	1
ROOM7	2	2
ROOM S	2	5
ROOM M	2	6
ROOM L	2	7
STAGE1	3	16
STAGE2	3	17
STAGE3	3	0
STAGE4	3	1
PLATE1	4	16
PLATE2	4	17
PLATE3	4	0
GM PLATE	4	7
TUNNEL	17	0
CANYON	18	0
BASEMENT	19	0
WHITE ROOM	16	0
CHORUS1	66	17
CHORUS2	66	8
CHORUS3	66	16
CHORUS4	66	1
CHORUS5	65	2
CHORUS6	65	0
CHORUS7	65	1
CHORUS8	65	8
CHORUS FAST	65	16
CHORUS LITE	65	17
GM CHORUS1	65	3
GM CHORUS2	65	4
GM CHORUS3	65	5
GM CHORUS4	65	6

XG Effect Name	MSB	LSB
FB CHORUS	65	7
CELESTE1	66	0
CELESTE2	66	2
SYMPHONIC1	68	16
SYMPHONIC2	68	0
ENS DETUNE1	87	0
ENS DETUNE2	87	16
KARAOKE1	20	0
KARAOKE2	20	1
KARAOKE3	20	2
ER1	9	0
ER2	9	1
GATE REVERB1	10	0
GATE REVERB2	10	16
REVERSE GATE	11	0
EQ DISCO	76	16
EQ TEL	76	17
2BAND EQ	77	0
3BAND EQ	76	0
ST 3BAND EQ	76	18
HM ENHANCE1	81	16
HM ENHANCE2	81	0
FLANGER1	67	8
FLANGER2	67	16
FLANGER3	67	17
FLANGER4	67	1
FLANGER5	67	0
GM FLANGER	67	7
T_FLANGER	107	0
DELAY LCR1	5	16
DELAY LCR2	5	0
DELAY L,R	6	0
ECHO	7	0
CROSS DELAY1	8	0
CROSS DELAY2	8	16
TEMPO DELAY1	21	0
TEMPO DELAY2	21	16
TEMPO ECHO	21	8
TEMPO CROSS1	22	0
TEMPO CROSS2	22	16
TEMPO CROSS3	22	17
TEMPO CROSS4	22	18
V_DIST WARM	98	22
V_DIST CLS H	98	23
V_DIST CLS S	98	20
V_DIST METAL	98	24
V_DIST CRUNC	98	18
V_DIST BLUES	98	21
V_DIST EDGY	98	19
V_DIST SOLID	98	25
V_DIST CLEAN1	98	17
V_DIST CLEAN2	98	26
V_DIST TWIN	98	16
V_DIST ROCA	103	18
V_DIST JZ CLN	98	27
V_DIST FUSION	103	19
ST AMP SOLID	75	29
ST AMP CRUNC	75	30
ST AMP BLUES	75	28
ST AMP CLEAN	75	27
ST AMP HARP	75	31
V_DIST HARD	98	0
V_DIST SOFT	98	2
DIST HARD1	75	16
DIST HARD2	75	22
DIST SOFT1	75	17
DIST SOFT2	75	23
DIST HEAVY	73	0
OVER DRIVE	74	0
ST DIST	73	8

XG Effect Name	MSB	LSB
ST OD	74	8
ST DIST HARD	75	18
ST DIST SOFT	75	19
AMP SIM1	75	0
AMP SIM2	75	1
ST AMP1	75	20
ST AMP2	75	21
ST AMP3	75	8
ST AMP4	75	24
ST AMP5	75	25
ST AMP6	75	26
DST+DELAY1	95	16
DST+DELAY2	95	0
OD+DELAY1	95	17
OD+DELAY2	95	1
CMP+DST+DLY1	96	16
CMP+DST+DLY2	96	0
CMP+OD+DLY1	96	17
CMP+OD+DLY2	96	1
V_DIST H+DLY	98	1
V_DIST S+DLY	98	3
DST+TDLY	100	0
OD+TDLY	100	1
COMP+DIST1	73	16
COMP+DIST2	73	1
CMP+DST+TDL	101	0
CMP+OD+TDLY1	101	1
CMP+OD+TDLY2	101	16
CMP+OD+TDLY3	101	17
CMP+OD+TDLY4	101	18
CMP+OD+TDLY5	101	19
CMP+OD+TDLY6	101	20
V_DIST H+TDL1	103	0
V_DIST H+TDL2	103	17
V_DIST S+TDL1	103	1
V_DIST S+TDL2	103	16
COMP MED	83	16
COMP HEAVY	83	17
COMP MELODY	105	16
COMP BASS	105	17
MBAND COMP	105	0
COMPRESSOR	83	0
NOISE GATE	84	0
VCE CANCEL	85	0
AMBIENCE	88	0
TALKING MOD	93	0
LO-FI DRUM3	76	19
LO-FI DRUM4	76	20
ISOLATOR	115	0
PHASER1	72	0
PHASER2	72	8
PHASER3	72	19
T_PHASER1	108	0
T_PHASER2	108	16
EP PHASER1	72	17
EP PHASER2	72	18
EP PHASER3	72	16
PITCH CHG1	80	16
PITCH CHG2	80	0
PITCH CHG3	80	1
DUAL ROT BRT	99	16
DUAL ROT WRM	99	17
DUAL ROT SP1	99	0
DUAL ROT SP2	99	1
ROTARY SP1	69	16
ROTARY SP2	71	17
ROTARY SP3	71	18
ROTARY SP4	70	17
ROTARY SP5	66	18
ROTARY SP6	69	0

XG Effect Name	MSB	LSB
ROTARY SP7	71	22
2WAY ROT SP	86	0
DST+ROT SP	69	1
DST+2ROT SP	86	1
OD+ROT SP	69	2
OD+2ROT SP	86	2
AMP+ROT SP	69	3
AMP+2ROT SP	86	3
AUTO PAN1	71	16
AUTO PAN2	71	0
AUTO PAN3	71	1
EP AUTOPAN	71	21
T_AUTO PAN1	121	0
T_AUTO PAN2	121	1
TREMOLO1	70	16
TREMOLO2	71	19
TREMOLO3	70	0
EP TREMOLO	70	18
GT TREMOLO1	71	20
GT TREMOLO2	70	19
VIBE VIBRATE	119	0
T_TREMOLO	120	0
AUTO WAH1	78	16
AUTO WAH2	78	0
AT.WAH+DST1	78	17
AT.WAH+DST2	78	1
AT.WH+DST HD	78	21
AT.WH+DST HV	78	23
AT.WH+DST LT	78	25
AT.WAH+OD1	78	18
AT.WAH+OD2	78	2
AT.WH+OD HD	78	22
AT.WH+OD HV	78	24
AT.WH+OD LT	78	26
TEMPO AT.WAH	79	0
T_AT.WH+DST	79	1
T_A.WH+DSTHD	79	21
T_A.WH+DSTHV	79	23
T_A.WH+DSTLT	79	25
T_AT.WH+OD	79	2
T_A.WH+OD HD	79	22
T_A.WH+OD HV	79	24
T_A.WH+OD LT	79	26
TOUCH WAH1	82	0
TOUCH WAH2	82	8
TOUCH WAH3	82	20
TC.WH+DST1	82	16
TC.WH+DST2	82	1
TC.WH+DST HD	82	21
TC.WH+DST HV	82	23
TC.WH+DST LT	82	25
TC.WAH+OD1	82	17
TC.WAH+OD2	82	2
TC.WAH+OD HD	82	22
TC.WAH+OD HV	82	24
TC.WAH+OD LT	82	26
WH+DST+DLY1	97	16
WH+DST+DLY2	97	0
WH+DST+TDLY	102	0
WH+OD+DLY1	97	17
WH+OD+DLY2	97	1
WH+OD+TDLY1	102	1
WH+OD+TDLY2	102	16
CLAVI TC.WAH	82	18
EP TC.WAH	82	19
PEDAL WAH	122	0
PEDAL WH+DST	122	1
P.WH+DIST HD	122	21
P.WH+DIST HV	122	23
P.WH+DIST LT	122	25

XG Effect Name	MSB	LSB
PEDAL WH+OD	122	2
P.WH+OD HD	122	22
P.WH+OD HV	122	24
P.WH+OD LT	122	26
NO EFFECT	0	0
THRU	64	0

# Effect Parameter List / Liste der Effektparameter / Liste des paramètres d'effets / Lista de parámetros de efectos

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		

**ER1, ER2**

No.	Parameter	Display	Value	See Table	Control
1	Type	S-H, L-H, Rdm, Rvs, Pli, 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					

**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		

**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					

**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		

**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					

**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					

**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 – 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					

**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					

**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\_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**

**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					

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					

**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					

**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					

**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					

**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					

**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					

**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					

**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					

**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					

**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	Table #3	●		
2	EQ Low Frequency	32Hz – 2.0kHz	4 – 40				
3	EQ Low Gain	-12dB – 0dB – +12dB	52 – 64 – 76				
4	LPF Cutoff	1.0kHz – 18kHz, Thru	34 – 59, 60				
5	Output Level	0 – 127	0 – 127				
6							
7	EQ Mid Frequency	100Hz – 10.0kHz	14 – 54				
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	Table #8	●		
12	Attack	1ms – 40ms	0 – 19				
13	Release	10ms – 680ms	0 – 15				
14	Threshold	-48dB – -6dB	79 – 121				
15	Ratio	1.0 – 20.0	0 – 7				
16						Table #10	

**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				
13	Comp. Threshold	-48dB – -6dB	79 – 121				
14	Comp. Ratio	1.0 – 20.0	0 – 7				
15						Table #10	
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	Table #13			
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				
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	Table #13	●		
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	Table #7			
2	Initial Delay	0.1ms – 400.0ms	0 – 127				
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	Table #7	●		
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	Table #7			
2	Initial Delay	0.1ms – 400.0ms	0 – 127				
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	Table #7	●		
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				
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				
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					

**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					

**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					

**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					

**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					

**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					

**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	

**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					

**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		

**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		

**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					

**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		

**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					

**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		

**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					

**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					

**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					

**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					

**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					

**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					

**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					

## 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 / Effektdaten-Zuordnungstabelle / Tableau d'assignation des données d'effets / Tabla de asignación de datos para efectos

**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 #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 #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 #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 / MIDI-Datenformat / Format des données MIDI / Formato de datos MIDI

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	Decimal	Hexadecimal	Binary	Decimal	Hexadecimal	Binary	Decimal	Hexadecimal	Binary
0	00	0000 0000	32	20	0010 0000	64	40	0100 0000	96	60	0110 0000
1	01	0000 0001	33	21	0010 0001	65	41	0100 0001	97	61	0110 0001
2	02	0000 0010	34	22	0010 0010	66	42	0100 0010	98	62	0110 0010
3	03	0000 0011	35	23	0010 0011	67	43	0100 0011	99	63	0110 0011
4	04	0000 0100	36	24	0010 0100	68	44	0100 0100	100	64	0110 0100
5	05	0000 0101	37	25	0010 0101	69	45	0100 0101	101	65	0110 0101
6	06	0000 0110	38	26	0010 0110	70	46	0100 0110	102	66	0110 0110
7	07	0000 0111	39	27	0010 0111	71	47	0100 0111	103	67	0110 0111
8	08	0000 1000	40	28	0010 1000	72	48	0100 1000	104	68	0110 1000
9	09	0000 1001	41	29	0010 1001	73	49	0100 1001	105	69	0110 1001
10	0A	0000 1010	42	2A	0010 1010	74	4A	0100 1010	106	6A	0110 1010
11	0B	0000 1011	43	2B	0010 1011	75	4B	0100 1011	107	6B	0110 1011
12	0C	0000 1100	44	2C	0010 1100	76	4C	0100 1100	108	6C	0110 1100
13	0D	0000 1101	45	2D	0010 1101	77	4D	0100 1101	109	6D	0110 1101
14	0E	0000 1110	46	2E	0010 1110	78	4E	0100 1110	110	6E	0110 1110
15	0F	0000 1111	47	2F	0010 1111	79	4F	0100 1111	111	6F	0110 1111
16	10	0001 0000	48	30	0011 0000	80	50	0101 0000	112	70	0111 0000
17	11	0001 0001	49	31	0011 0001	81	51	0101 0001	113	71	0111 0001
18	12	0001 0010	50	32	0011 0010	82	52	0101 0010	114	72	0111 0010
19	13	0001 0011	51	33	0011 0011	83	53	0101 0011	115	73	0111 0011
20	14	0001 0100	52	34	0011 0100	84	54	0101 0100	116	74	0111 0100
21	15	0001 0101	53	35	0011 0101	85	55	0101 0101	117	75	0111 0101
22	16	0001 0110	54	36	0011 0110	86	56	0101 0110	118	76	0111 0110
23	17	0001 0111	55	37	0011 0111	87	57	0101 0111	119	77	0111 0111
24	18	0001 1000	56	38	0011 1000	88	58	0101 1000	120	78	0111 1000
25	19	0001 1001	57	39	0011 1001	89	59	0101 1001	121	79	0111 1001
26	1A	0001 1010	58	3A	0011 1010	90	5A	0101 1010	122	7A	0111 1010
27	1B	0001 1011	59	3B	0011 1011	91	5B	0101 1011	123	7B	0111 1011
28	1C	0001 1100	60	3C	0011 1100	92	5C	0101 1100	124	7C	0111 1100
29	1D	0001 1101	61	3D	0011 1101	93	5D	0101 1101	125	7D	0111 1101
30	1E	0001 1110	62	3E	0011 1110	94	5E	0101 1110	126	7E	0111 1110
31	1F	0001 1111	63	3F	0011 1111	95	5F	0101 1111	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 (hexadecimal)/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.

### CLP-585

Voice Group	Voice Name	Bank MSB	Bank LSB	Program Change (1-128)
PIANO	CFXGrand	108	0	1
	Bösendorfer	108	6	1
	Bright Grand	108	0	2
	Mellow Grand	108	1	1
	Ballad Grand	108	2	1
	Warm Grand	108	7	1
	UprightPiano	108	5	3
	HonkyTonk Pf	108	5	4
	Pop Grand	108	1	2
	Jazz Grand	108	6	2
Rock Grand	108	0	3	
E.PIANO	StageE.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
	DX Bright	108	1	6
	TremoloVintage	108	4	5
ORGAN	OrganGrandJeu	108	4	20
	OrganPrincipal	108	1	20
	Organ Tutti	108	0	20
	Jazz Organ 1	108	0	17
	Jazz Organ 2	108	1	17
	Mellow Organ	108	2	17
	Organ Flute 1	108	2	20
	Organ Flute 2	108	3	20
STRINGS	Strings	108	0	49
	Slow Strings	108	0	50
	Choir	108	0	53

Voice Group	Voice Name	Bank MSB	Bank LSB	Program Change (1-128)
STRINGS	Slow Choir	108	1	53
	Mellow Strings	108	1	49
	Synth Pad 1	108	0	90
	Synth Pad 2	108	1	90
	Synth Pad 3	108	2	90
BASS	Acoustic Bass	108	0	33
	Bass & Cymbal	108	1	33
	E.Bass	108	0	34
	Fretless Bass	108	0	36
	Vintage Bass	108	1	34
OTHERS	Harpsichord 8'	108	0	7
	Harpsi. 8'+4'	108	1	7
	Harp	108	0	47
	Vibraphone	108	0	12
	Marimba	108	0	13
	Celesta	108	0	9
	Nylon Guitar	108	0	25
	Steel Guitar	108	0	26
Scat	108	0	54	

\* For details on XG Voices, refer to the "XG Voice list" in the separate Data List.

### CLP-575/545/535/565GP

Voice Group	Voice Name	Bank MSB	Bank LSB	Program Change (1-128)
PIANO	CFXGrand	108	0	1
	Bösendorfer	108	6	1
	Bright Grand	108	0	2
	Mellow Grand	108	1	1

Voice Group	Voice Name	Bank MSB	Bank LSB	Program Change (1-128)
PIANO	Warm Grand	108	7	1
	Pop Grand	108	1	2
	Jazz Grand	108	6	2
	Rock Grand	108	0	3
E.PIANO	StageE.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
	DX Bright	108	1	6
TremoloVintage	TremoloVintage	108	4	5
	OrganPrincipal	108	1	20
	Organ Tutti	108	0	20
Jazz Organ	Jazz Organ 1	108	0	17
	Jazz Organ 2	108	1	17
	Mellow Organ	108	2	17
	STRINGS	Strings	108	0
Slow Strings		108	0	50
Choir		108	0	53
Slow Choir	Slow Choir	108	1	53
	Synth Pad	108	0	90
BASS	Acoustic Bass	108	0	33
	Bass & Cymbal	108	1	33
	E.Bass	108	0	34
	Fretless Bass	108	0	36
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)

MIDI Events	Status byte	1st Data byte			2nd Data byte			MIDI Reception (respond/ignored)			MIDI Transmission (generated data)		
	Status	Data	(Hex)	Parameter	Data	(Hex)	Parameter	Song	R1 R2 L	Keyboard	Panel (main generation method)	Song	
Key Off [GM1] [GM2]	8nH (n: Channel Number)	kk		Key no. (0-127)	vv		Velocity (0-127)	○	○	○	○ (Keyboard)	○	
Key On [GM1] [GM2]	9nH (n: Channel Number)	kk		Key no. (0-127)	vv		Key On: vv=1-127 Key Off: vv=0	○	○	○	○ (Keyboard)	○	
Control Change	BnH	0	(00H)	Bank Select MSB [GM2]	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	○	○	×	○ (Voice)	○	
		1	(01H)	Modulation [GM1] [GM2]	0-127	(00H...7FH)	Data	○	○	○	(All manually played parts)	×	○
		5	(05H)	Portamento Time [GM2]	0-127	(00H...7FH)	Data	○	○	○	(All manually played parts)	×	○
		6	(06H)	Data Entry MSB [GM2]	0-127	(00H...7FH)	Data	○	○	○	(All manually played parts)	○	○ (Voice Menu)
		7	(07H)	Main Volume [GM1] [GM2]	0-127	(00H...7FH)	Data	○	○	○	(All manually played parts)	○	○ (Voice Menu)
		10	(0AH)	Panpot [GM1] [GM2]	0-127	(00H...7FH)	L64...C...R63	○	○	○	(All manually played parts)	○	○ (Voice Menu)
		11	(0BH)	Expression [GM1] [GM2]	0-127	(00H...7FH)	Data	○	○	○	(All manually played parts)	○	○ (Pedal)
		32	(20H)	Bank Select LSB [GM2]	0-127	(00H...7FH)	Data	○	○	×	(*1)	○	○ (Voice)
		38	(26H)	Data Entry LSB [GM2]	0-127	(00H...7FH)	Data	○	○	○	(All manually played parts)	○	○ (Voice Menu)
		64	(40H)	Sustain (Damper) [GM1] [GM2]	0-127	(00H...7FH)	Data	○	○	○	(All manually played parts)	○	○ (Pedal)
		65	(41H)	Portamento [GM2]	0-127	(00H...7FH)	0...63, 64...127 (OFF, ON)	○	○	○	(All manually played parts)	×	○
		66	(42H)	Sostenuto [GM2]	0-127	(00H...7FH)	0...63, 64...127 (OFF, ON)	○	○	○	(All manually played parts)	○	○ (Pedal)
		67	(43H)	Soft Pedal [GM2]	0-127	(00H...7FH)	0...63, 64...127 (OFF, ON)	○	○	○	(All manually played parts)	○	○ (Pedal)
		71	(47H)	Harmonic Content [GM2]	0-127	(00H...7FH)	-64...0...+63	○	○	○	(All manually played parts)	○	○ (Voice Menu)
		72	(48H)	Release Time [GM2]	0-127	(00H...7FH)	-64...0...+63	○	○	○	(All manually played parts)	×	○
		73	(49H)	Attack Time [GM2]	0-127	(00H...7FH)	-64...0...+63	○	○	○	(All manually played parts)	×	○
		74	(4AH)	Brightness [GM2]	0-127	(00H...7FH)	-64...0...+63	○	○	○	(All manually played parts)	○	○ (Voice Menu)
		75	(4BH)	Decay Time [GM2]	0-127	(00H...7FH)	-64...0...+63	○	○	○	(All manually played parts)	×	○
		76	(4CH)	Vibrate Rate [GM2]	0-127	(00H...7FH)	-64...0...+63	○	○	○	(All manually played parts)	×	○
		77	(4DH)	Vibrate Depth [GM2]	0-127	(00H...7FH)	-64...0...+63	○	○	○	(All manually played parts)	×	○
		78	(4EH)	Vibrate Delay [GM2]	0-127	(00H...7FH)	-64...0...+63	○	○	○	(All manually played parts)	×	○
		84	(54H)	Portamento Control	0-127	(00H...7FH)	Key no. (0-127)	○	○	×		×	○
		91	(5BH)	Effect1 Depth (Reverb Send Level) [GM2]	0-127	(00H...7FH)	Data	○	○	○	(All manually played parts)	○	○ (Voice Menu)
		93	(5DH)	Effect3 Depth (Chorus Send Level) [GM2]	0-127	(00H...7FH)	Data	○	○	○	(All manually played parts)	○	○ (Voice Menu)
		94	(5EH)	Effect4 Depth (Variation Send Level)	0-127	(00H...7FH)	Data	○	○	○		×	○
		96	(60H)	RPN Increment	-	-	The data byte is ignored.	○	○	×		×	○
		97	(61H)	RPN Decrement	-	-	The data byte is ignored.	○	○	×		×	○
		98	(62H)	NRPN LSB	0-127	(00H...7FH)	Data	○	×	×		×	○
		99	(63H)	NRPN MSB	0-127	(00H...7FH)	Data	○	×	×		×	○
		100	(64H)	RPN LSB [GM2]	0-127	(00H...7FH)	Data	○	○	○	(All manually played parts)	○	○ (Voice Menu)
101	(65H)	RPN MSB [GM2]	0-127	(00H...7FH)	Data	○	○	○	(All manually played parts)	○	○ (Voice Menu)		

MIDI Events	Status byte	1st Data byte		2nd Data byte		MIDI Reception (respond/ignored)			MIDI Transmission (generated data)		
	Status	Data (Hex)	Parameter	Data (Hex)	Parameter	Song	R1 R2 L	Keyboard	Panel (main generation method)	Song	
Mode Message	BnH (n: Channel Number)	120 (78H)	All Sound Off [GM2]	0 (00H)	Data	○	○	○ (All manually played parts)	×	○	
		121 (79H)	Reset All Controllers [GM1] [GM2]	0 (00H)	Data	○	×	×	×	○	
		122 (7AH)	Local Control	0 (00H) 127 (7FH)	OFF ON			○		×	×
		123 (7BH)	All Note Off [GM1] [GM2]	0 (00H)	Data	○	○	○ (All manually played parts)	×	○	
		124 (7CH)	Omni Off [GM2]	0 (00H)	Data	○	×	×	×	○	
		125 (7DH)	Omni On [GM2]	0 (00H)	Data	○	×	×	×	○	
		126 (7EH)	Mono [GM2]	0-16 (00H...10H)	Data	○	×	×	×	○	
		127 (7FH)	Poly [GM2]	0 (00H)	Data	○	×	×	×	○	
Program Change [GM1] [GM2]	CnH (n: Channel Number)	pp (00H...7FH)	Voice number (0-127)	-	-	○	○	×	○ (Voice)	○	
Channel After Touch [GM1] [GM2]	DnH (n: Channel Number)	vv (00H...7FH)	Data	-	-	○	○	○ (All manually played parts)	×	○	
Polyphonic After Touch	AnH (n: Channel Number)	kk (00H...7FH)	Key no. (0-127)	vv (00H...7FH)	Data	○	×	×	×	○	
Pitch Bend Change [GM1] [GM2]	EnH (n: Channel Number)	cc (00H...7FH)	LSB	dd (00H...7FH)	MSB	○	○	○ (All manually played parts)	○ (Pedal)	○	
Realtime Message	FBH MIDI Clock	-	-	-	-			×		○	
	FAH Start	-	-	-	-			○		○	
	FBH Continue	-	-	-	-			×		×	
	FCH Stop	-	-	-	-			○		○	
	FEH Active Sens [GM2]	-	-	-	-			○		○	
	FFH System Reset	-	-	-	-			×		×	

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

## MIDI CHANNEL MESSAGE (2)

### Parameters controlled by NRPN (Non-Registered Parameter Numbers)

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

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

## MIDI PARAMETER CHANGE TABLE

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

### MIDI Parameter Change Table (XG SYSTEM)

Address (H)			Size (H)	Data (H)	Parameter	Description	XG Default (H)	MIDI Reception (effective or not for each part)			MIDI Transmission (generated data)	
								Song	R1 R2 L	Keyboard	Panel (main generation method)	Song
00	00	00 01 02 03	4	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				○	○
		04	1	00-7F	MASTER VOLUME	0...127	7F	○	×	×	×	○
		05	1	00-7F	MASTER ATTENUATOR	0...127	00	×	×	×	×	×
		06	1	28-5B	TRANSPOSE	-24...0...+24 [semitones]	40	○	×	×	×	○
		7D	1	N	DRUM SETUP RESET	N: Drum setup number	-	○	×	×	×	○
		7E	1	00	XG SYSTEM ON	00=XG system ON	-	○	×	×	×	○
		7F	1	00	ALL PARAMETER RESET	00=ON	-	○	×	×	×	○

TOTAL SIZE 07

### MIDI Parameter Change Table (SYSTEM INFORMATION)

Address (H)			Size (H)	Data (H)	Parameter	Description	MIDI Reception (effective or not for each part)			MIDI Transmission (generated data)	
							Song	R1 R2 L	Keyboard	Panel (main generation method)	Song
01	00	00 ... 0D	E	20-7F	Model Name 1 ...	32...127 (ASCII CHARACTER)	-	-	-	×	×
		0E	1	20-7F	Model Name 14	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 (effective or not for each part)			MIDI Transmission (generated data)	
								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				○ (Voice Menu)	○
		02	1	00-7F	REVERB PARAMETER 1	*	Depends on Reverb Type			○ (Depends on Reverb Type)	×	○
		03	1	00-7F	REVERB PARAMETER 2	*	Depends on Reverb Type			○ (Depends on Reverb Type)	×	○
		04	1	00-7F	REVERB PARAMETER 3	*	Depends on Reverb Type			○ (Depends on Reverb Type)	×	○
		05	1	00-7F	REVERB PARAMETER 4	*	Depends on Reverb Type			○ (Depends on Reverb Type)	×	○
		06	1	00-7F	REVERB PARAMETER 5	*	Depends on Reverb Type			○ (Depends on Reverb Type)	×	○
		07	1	00-7F	REVERB PARAMETER 6	*	Depends on Reverb Type			○ (Depends on Reverb Type)	×	○
		08	1	00-7F	REVERB PARAMETER 7	*	Depends on Reverb Type			○ (Depends on Reverb Type)	×	○
		09	1	00-7F	REVERB PARAMETER 8	*	Depends on Reverb Type			○ (Depends on Reverb Type)	×	○
		0A	1	00-7F	REVERB PARAMETER 9	*	Depends on Reverb Type			○ (Depends on Reverb Type)	×	○
		0B	1	00-7F	REVERB PARAMETER 10	*	Depends on Reverb Type			○ (Depends on Reverb Type)	×	○
		0C	1	00-7F	REVERB RETURN	--odB...0dB...+6dB (0...64...127)	40			○	×	○
		0D	1	01-7F	REVERB PAN	L63...C...R63	40			○	×	○

TOTAL SIZE 0E

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

TOTAL SIZE 06

Address (H)			Size (H)	Data (H)	Parameter	Description	XG Default (H)	MIDI Reception (effective or not for each part)			MIDI Transmission (generated data)	
								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	01 (=CHORUS1) 00				○ (Voice Menu)	○
		22	1	00-7F	CHORUS PARAMETER 1	*	Depends on Chorus Type			○ (Depends on Chorus Type)	×	○
		23	1	00-7F	CHORUS PARAMETER 2	*	Depends on Chorus Type			○ (Depends on Chorus Type)	×	○
		24	1	00-7F	CHORUS PARAMETER 3	*	Depends on Chorus Type			○ (Depends on Chorus Type)	×	○

Address (H)		Size (H)	Data (H)	Parameter	Description	XG Default (H)	MIDI Reception (effective or not for each part)			MIDI Transmission (generated data)	
							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		0 (Depends on Chorus Type)	×	0
		26	1	00-7F	CHORUS PARAMETER 5	*	Depends on Chorus Type		0 (Depends on Chorus Type)	×	0
		27	1	00-7F	CHORUS PARAMETER 6	*	Depends on Chorus Type		0 (Depends on Chorus Type)	×	0
		28	1	00-7F	CHORUS PARAMETER 7	*	Depends on Chorus Type		0 (Depends on Chorus Type)	×	0
		29	1	00-7F	CHORUS PARAMETER 8	*	Depends on Chorus Type		0 (Depends on Chorus Type)	×	0
		2A	1	00-7F	CHORUS PARAMETER 9	*	Depends on Chorus Type		0 (Depends on Chorus Type)	×	0
		2B	1	00-7F	CHORUS PARAMETER 10	*	Depends on Chorus Type		0 (Depends on Chorus Type)	×	0
		2C	1	00-7F	CHORUS RETURN	--0dB...0dB...+6dB (0...64...127)	40		0	×	0
		2D	1	01-7F	CHORUS PAN	L63...C...R63	40		0	×	0
		2E	1	00-7F	SEND CHORUS TO REVERB	--0dB...0dB...+6dB (0...64...127)	00		0	×	0

TOTAL SIZE 0F

02	01	30	1	00-7F	CHORUS PARAMETER 11	Refer to Effect Parameter List	Depends on Chorus Type		0 (Depends on Chorus Type)	×	0
		31	1	00-7F	CHORUS PARAMETER 12	*	Depends on Chorus Type		0 (Depends on Chorus Type)	×	0
		32	1	00-7F	CHORUS PARAMETER 13	*	Depends on Chorus Type		0 (Depends on Chorus Type)	×	0
		33	1	00-7F	CHORUS PARAMETER 14	*	Depends on Chorus Type		0 (Depends on Chorus Type)	×	0
		34	1	00-7F	CHORUS PARAMETER 15	*	Depends on Chorus Type		0 (Depends on Chorus Type)	×	0
		35	1	00-7F	CHORUS PARAMETER 16	*	Depends on Chorus Type		0 (Depends on Chorus Type)	×	0

TOTAL SIZE 06

Address (H)		Size (H)	Data (H)	Parameter	Description	XG Default (H)	MIDI Reception (effective or not for each part)			MIDI Transmission (generated data)	
							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		0	×	0
		42	2	00-7F 00-7F	VARIATION PARAMETER 1 MSB VARIATION PARAMETER 1 LSB	*	Depends on Variation Type		0 (Depends on Variation Type)	×	0
		44	2	00-7F 00-7F	VARIATION PARAMETER 2 MSB VARIATION PARAMETER 2 LSB	*	Depends on Variation Type		0 (Depends on Variation Type)	×	0
		46	2	00-7F 00-7F	VARIATION PARAMETER 3 MSB VARIATION PARAMETER 3 LSB	*	Depends on Variation Type		0 (Depends on Variation Type)	×	0
		48	2	00-7F 00-7F	VARIATION PARAMETER 4 MSB VARIATION PARAMETER 4 LSB	*	Depends on Variation Type		0 (Depends on Variation Type)	×	0
		4A	2	00-7F 00-7F	VARIATION PARAMETER 5 MSB VARIATION PARAMETER 5 LSB	*	Depends on Variation Type		0 (Depends on Variation Type)	×	0
		4C	2	00-7F 00-7F	VARIATION PARAMETER 6 MSB VARIATION PARAMETER 6 LSB	*	Depends on Variation Type		0 (Depends on Variation Type)	×	0
		4E	2	00-7F 00-7F	VARIATION PARAMETER 7 MSB VARIATION PARAMETER 7 LSB	*	Depends on Variation Type		0 (Depends on Variation Type)	×	0
		50	2	00-7F 00-7F	VARIATION PARAMETER 8 MSB VARIATION PARAMETER 8 LSB	*	Depends on Variation Type		0 (Depends on Variation Type)	×	0
		52	2	00-7F 00-7F	VARIATION PARAMETER 9 MSB VARIATION PARAMETER 9 LSB	*	Depends on Variation Type		0 (Depends on Variation Type)	×	0
		54	2	00-7F 00-7F	VARIATION PARAMETER 10 MSB VARIATION PARAMETER 10 LSB	*	Depends on Variation Type		0 (Depends on Variation Type)	×	0
		56	1	00-7F	VARIATION RETURN	--0dB...0dB...+6dB (0...64...127)	40		0	×	0
		57	1	01-7F	VARIATION PAN	L63...C...R63	40		0	×	0
		58	1	00-7F	SEND VARIATION TO REVERB	--0dB...0dB...+6dB (0...64...127)	00		0	×	0
		59	1	00-7F	SEND VARIATION TO CHORUS	--0dB...0dB...+6dB (0...64...127)	00		0	×	0
		5A	1	00-01	VARIATION CONNECTION	INSERTION, SYSTEM	00		0	×	0
		5B	1	00-7F	VARIATION PART NUMBER	Reception: Part1...16 (0...15) Transmission: Part1...16 (0...15) AD (64) OFF (127)	7F		0	×	0
		5C	1	00-7F	MW VARIATION CONTROL DEPTH	-64...0...+63	40		0	×	0
		5D	1	00-7F	BEND VARIATION CONTROL DEPTH	-64...0...+63	40		0	×	0
		5E	1	00-7F	CAT VARIATION CONTROL DEPTH	-64...0...+63	40		0	×	0
		5F	1	00-7F	AC1 VARIATION CONTROL DEPTH	-64...0...+63	40		0	×	0
		60	1	00-7F	AC2 VARIATION CONTROL DEPTH	-64...0...+63	40		0	×	0

TOTAL SIZE 21

02	01	30	1	00-7F	VARIATION PARAMETER 11	Refer to Effect Parameter List	Depends on Variation Type		0 (Depends on Variation Type)	×	0
		31	1	00-7F	VARIATION PARAMETER 12	*	Depends on Variation Type		0 (Depends on Variation Type)	×	0
		32	1	00-7F	VARIATION PARAMETER 13	*	Depends on Variation Type		0 (Depends on Variation Type)	×	0
		33	1	00-7F	VARIATION PARAMETER 14	*	Depends on Variation Type		0 (Depends on Variation Type)	×	0
		34	1	00-7F	VARIATION PARAMETER 15	*	Depends on Variation Type		0 (Depends on Variation Type)	×	0
		35	1	00-7F	VARIATION PARAMETER 16	*	Depends on Variation Type		0 (Depends on Variation Type)	×	0

TOTAL SIZE 06

### MIDI Parameter Change Table (MULTI EQ)

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

TOTAL SIZE 15  
 \*The MULTI EQ Parameter cannot be reset to its factory setting with XG SYSTEM ON.

### 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 (effective or not for each part)			MIDI Transmission (generated data)	
							Song	R1 R2 L	Keyboard	Panel (main generation method)	Song
03	n	00	2	00-7F	INSERTION EFFECT TYPE MSB	Refer to Effect Parameter List				0	0
		02	1	00-7F	INSERTION EFFECT TYPE LSB					0	0
		03	1	00-7F	INSERTION EFFECT PARAMETER 1	*				0	0
		04	1	00-7F	INSERTION EFFECT PARAMETER 2	*				0	0
		05	1	00-7F	INSERTION EFFECT PARAMETER 3	*				0	0
		06	1	00-7F	INSERTION EFFECT PARAMETER 4	*				0	0
		07	1	00-7F	INSERTION EFFECT PARAMETER 5	*				0	0
		08	1	00-7F	INSERTION EFFECT PARAMETER 6	*				0	0
		09	1	00-7F	INSERTION EFFECT PARAMETER 7	*				0	0
		0A	1	00-7F	INSERTION EFFECT PARAMETER 8	*				0	0
		0B	1	00-7F	INSERTION EFFECT PARAMETER 9	*				0	0
		0C	1	00-7F	INSERTION EFFECT PARAMETER 10	*				0	0
		0D	1	00-7F	INSERTION EFFECT PART NUMBER	Reception: Part1...16 (0...15) Transmission: Part1...16 (0...15) AD (64) OFF (127)				0	0
		0E	1	00-7F	MW INSERTION CONTROL DEPTH	-64...0...+63				0	0
		0F	1	00-7F	BEND INSERTION CONTROL DEPTH	-64...0...+63				0	0
		10	1	00-7F	CAT INSERTION CONTROL DEPTH	-64...0...+63				0	0
		11	1	00-7F	AC1 INSERTION CONTROL DEPTH	-64...0...+63				0	0
					AC2 INSERTION CONTROL DEPTH	-64...0...+63				0	0

TOTAL SIZE 12

02	01	20	1	00-7F	INSERTION EFFECT PARAMETER 11	Refer to Effect Parameter List				0	0
		21	1	00-7F	INSERTION EFFECT PARAMETER 12	*				0	0
		22	1	00-7F	INSERTION EFFECT PARAMETER 13	*				0	0
		23	1	00-7F	INSERTION EFFECT PARAMETER 14	*				0	0
		24	1	00-7F	INSERTION EFFECT PARAMETER 15	*				0	0
		25	1	00-7F	INSERTION EFFECT PARAMETER 16	*				0	0

TOTAL SIZE 6

		30	2	00-7F	INSERTION EFFECT PARAMETER 1 MSB	Refer to Effect Parameter List				0	0
				00-7F	INSERTION EFFECT PARAMETER 1 LSB					0	0
		32	2	00-7F	INSERTION EFFECT PARAMETER 2 MSB	*				0	0
				00-7F	INSERTION EFFECT PARAMETER 2 LSB					0	0
		34	2	00-7F	INSERTION EFFECT PARAMETER 3 MSB	*				0	0
				00-7F	INSERTION EFFECT PARAMETER 3 LSB					0	0
		36	2	00-7F	INSERTION EFFECT PARAMETER 4 MSB	*				0	0
				00-7F	INSERTION EFFECT PARAMETER 4 LSB					0	0
		38	2	00-7F	INSERTION EFFECT PARAMETER 5 MSB	*				0	0
				00-7F	INSERTION EFFECT PARAMETER 5 LSB					0	0
		3A	2	00-7F	INSERTION EFFECT PARAMETER 6 MSB	*				0	0
				00-7F	INSERTION EFFECT PARAMETER 6 LSB					0	0
		3C	2	00-7F	INSERTION EFFECT PARAMETER 7 MSB	*				0	0
				00-7F	INSERTION EFFECT PARAMETER 7 LSB					0	0
		3E	2	00-7F	INSERTION EFFECT PARAMETER 8 MSB	*				0	0
				00-7F	INSERTION EFFECT PARAMETER 8 LSB					0	0

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

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 (effective or not for each part)			MIDI Transmission (generated data)			
						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	part10=7F, other parts=00	○	○	×	×	○
		02	1	00-7F	BANK SELECT LSB	0...127	00	○	○	×	×	○
		03	1	00-7F	PROGRAM NUMBER	1...128	00	○	○	×	×	○
		04	1	00-0F, 7F	Rcv CHANNEL	1...16, OFF	Part No.	○	×	×	×	○
		05	1	00-01	MONO/POLY MODE	MONO, POLY	01	○	×	×	×	○
		06	1	00-02	SAME NOTE NUMBER KEY ON ASSIGN	SINGLE, MULTI, INST (for Drum)	01	○	×	×	×	○
		07	1	00-03	PART MODE	NORMAL, DRUM, DRUMS1...2	part10=02, other parts=00	○	×	×	○	○
		08	1	28-58	NOTE SHIFT	-24...0...+24 [semitones]	40	○	○	×	×	○
		09 0A	2	00-0F 00-0F	DETUNE	-12B...0...+127[Hz] 1st bit3-0 → bit7-4 2nd bit3-0 → bit3-0	08 00	○	○	×	×	○
		0B	1	00-7F	VOLUME	0...127	64	○	○	×	×	○
		0C	1	00-7F	VELOCITY SENSE DEPTH	0...127	40	○	○	×	○	○
		0D	1	00-7F	VELOCITY SENSE OFFSET	0...127	40	○	○	×	○	○
		0E	1	00-7F	PAN	RND, L63...C...R63	40	○	○	×	×	○
		0F	1	00-7F	NOTE LIMIT LOW	C-2...G8	00	○	○	×	×	○
		10	1	00-7F	NOTE LIMIT HIGH	C-2...G8	7F	○	○	×	×	○
		11	1	00-7F	DRY LEVEL	0...127	7F	○	○	×	×	○
		12	1	00-7F	CHORUS SEND	0...127	00	○	○	×	×	○
		13	1	00-7F	REVERB SEND	0...127	28	○	○	×	×	○
		14	1	00-7F	VARIATION SEND	0...127	00	○	○	×	×	○
		15	1	00-7F	VIBRATO RATE	-64...0...+63	40	○	○	×	×	○
		16	1	00-7F	VIBRATO DEPTH	-64...0...+63	40	○	○	×	×	○
		17	1	00-7F	VIBRATO DELAY	-64...0...+63	40	○	○	×	×	○
		18	1	00-7F	FILTER CUTOFF FREQUENCY	-64...0...+63	40	○	○	×	×	○
		19	1	00-7F	FILTER RESONANCE	-64...0...+63	40	○	○	×	×	○
		1A	1	00-7F	EG ATTACK TIME	-64...0...+63	40	○	○	×	×	○
		1B	1	00-7F	EG DECAY TIME	-64...0...+63	40	○	○	×	×	○
		1C	1	00-7F	EG RELEASE TIME	-64...0...+63	40	○	○	×	×	○
		1D	1	28-58	MW PITCH CONTROL	-24...0...+24 [semitones]	40	○	○	×	×	○
		1E	1	00-7F	MW LOW PASS FILTER CONTROL	-9600...0...+9450 [cent]	40	○	○	×	×	○
		1F	1	00-7F	MW AMPLITUDE CONTROL	-100...0...+100 [%]	40	○	○	×	×	○
		20	1	00-7F	MW LFO PMOD DEPTH	0...127	0A	○	○	×	×	○
		21	1	00-7F	MW LFO FMOD DEPTH	0...127	00	○	○	×	×	○
		22	1	00-7F	MW LFO AMOD DEPTH	0...127	00	○	○	×	×	○
		23	1	28-58	BEND PITCH CONTROL	-24...0...+24 [semitones]	42	○	○	×	×	○
		24	1	00-7F	BEND LOW PASS FILTER CONTROL	-9600...0...+9450 [cent]	40	○	○	×	×	○
		25	1	00-7F	BEND AMPLITUDE CONTROL	-100...0...+100 [%]	40	○	○	×	×	○
		26	1	00-7F	BEND LFO PMOD DEPTH	0...127	00	○	○	×	×	○
		27	1	00-7F	BEND LFO FMOD DEPTH	0...127	00	○	○	×	×	○
		28	1	00-7F	BEND LFO AMOD DEPTH	0...127	00	○	○	×	×	○

TOTAL SIZE 29

Address (H)	Size (H)	Data (H)	Parameter	Description	XG Default (H)	MIDI Reception (effective or not for each part)			MIDI Transmission (generated data)			
						Song	R1 R2 L	Keyboard	Panel (main generation method)	Song		
		30	1	00-01	Rcv PITCH BEND	OFF, ON	01	○	×	×	×	○
		31	1	00-01	Rcv CH AFTER TOUCH (CAT)	OFF, ON	01	○	×	×	×	○
		32	1	00-01	Rcv PROGRAM CHANGE	OFF, ON	01	○	×	×	×	○
		33	1	00-01	Rcv CONTROL CHANGE	OFF, ON	01	○	×	×	×	○
		34	1	00-01	Rcv POLY AFTER TOUCH (PAT)	OFF, ON	01	○	×	×	×	○
		35	1	00-01	Rcv NOTE MESSAGE	OFF, ON	01	○	×	×	×	○
		36	1	00-01	Rcv RPN	OFF, ON	01	○	×	×	×	○
		37	1	00-01	Rcv NRPN	OFF, ON	XGmode=01, GMmode=00	○	×	×	×	○
		38	1	00-01	Rcv MODULATION	OFF, ON	01	○	×	×	×	○
		39	1	00-01	Rcv VOLUME	OFF, ON	01	○	×	×	×	○
		3A	1	00-01	Rcv PAN	OFF, ON	01	○	×	×	×	○
		3B	1	00-01	Rcv EXPRESSION	OFF, ON	01	○	×	×	×	○
		3C	1	00-01	Rcv HOLD1	OFF, ON	01	○	×	×	×	○
		3D	1	00-01	Rcv PORTAMENTO	OFF, ON	01	○	×	×	×	○
		3E	1	00-01	Rcv SOSTENUTO	OFF, ON	01	○	×	×	×	○
		3F	1	00-01	Rcv SOFT PEDAL	OFF, ON	01	○	×	×	×	○
		40	1	00-01	Rcv BANK SELECT	OFF, ON	01	○	×	×	×	○
		41	1	00-7F	SCALE TUNING C	-63...0...+63 [cent]	40	○	○	×	○	○
		42	1	00-7F	SCALE TUNING C#	-63...0...+63 [cent]	40	○	○	×	○	○
		43	1	00-7F	SCALE TUNING D	-63...0...+63 [cent]	40	○	○	×	○	○



Address (H)	Size (H)	Data (H)	Parameter	Description	XG Default (H)	MIDI Reception (effective or not for each part)			MIDI Transmission (generated data)			
						Song	R1 R2 L	Keyboard	Panel (main generation method)	Song		
		44	1	00-7F	SCALE TUNING D#	-63...0...+63 [cent]	40	○	○	×	○ (System Menu)	○
		45	1	00-7F	SCALE TUNING E	-63...0...+63 [cent]	40	○	○	×	○ (System Menu)	○
		46	1	00-7F	SCALE TUNING F	-63...0...+63 [cent]	40	○	○	×	○ (System Menu)	○
		47	1	00-7F	SCALE TUNING F#	-63...0...+63 [cent]	40	○	○	×	○ (System Menu)	○
		48	1	00-7F	SCALE TUNING G	-63...0...+63 [cent]	40	○	○	×	○ (System Menu)	○
		49	1	00-7F	SCALE TUNING G#	-63...0...+63 [cent]	40	○	○	×	○ (System Menu)	○
		4A	1	00-7F	SCALE TUNING A	-63...0...+63 [cent]	40	○	○	×	○ (System Menu)	○
		4B	1	00-7F	SCALE TUNING A#	-63...0...+63 [cent]	40	○	○	×	○ (System Menu)	○
		4C	1	00-7F	SCALE TUNING B	-63...0...+63 [cent]	40	○	○	×	○ (System Menu)	○
		4D	1	28-58	CAT PITCH CONTROL	-24...0...+24 [semitones]	40	○	×	×	×	○
		4E	1	00-7F	CAT LOW PASS FILTER CONTROL	-9600...0...+9450 [cent]	40	○	×	×	×	○
		4F	1	00-7F	CAT AMPLITUDE CONTROL	-100...0...+100 [%]	40	○	×	×	×	○
		50	1	00-7F	CAT LFO PMOD DEPTH	0...127	00	○	×	×	×	○
		51	1	00-7F	CAT LFO FMOD DEPTH	0...127	00	○	×	×	×	○
		52	1	00-7F	CAT LFO AMOD DEPTH	0...127	00	○	×	×	×	○
		53	1	28-58	PAT PITCH CONTROL	-24...0...+24 [semitones]	40	○	×	×	×	○
		54	1	00-7F	PAT LOW PASS FILTER CONTROL	-9600...0...+9450 [cent]	40	○	×	×	×	○
		55	1	00-7F	PAT AMPLITUDE CONTROL	-100...0...+100 [%]	40	○	×	×	×	○
		56	1	00-7F	PAT LFO PMOD DEPTH	0...127	00	○	×	×	×	○
		57	1	00-7F	PAT LFO FMOD DEPTH	0...127	00	○	×	×	×	○
		58	1	00-7F	PAT LFO AMOD DEPTH	0...127	00	○	×	×	×	○
		59	1	00-5F	AC1 CONTROLLER NUMBER	0...95	10	○	○	×	○ (Voice Menu)	○
		5A	1	28-58	AC1 PITCH CONTROL	-24...0...+24 [semitones]	40	○	×	×	×	○
		5B	1	00-7F	AC1 LOW PASS FILTER CONTROL	-9600...0...+9450 [cent]	40	○	×	×	×	○
		5C	1	00-7F	AC1 AMPLITUDE CONTROL	-100...0...+100 [%]	40	○	×	×	×	○
		5D	1	00-7F	AC1 LFO PMOD DEPTH	0...127	00	○	×	×	×	○
		5E	1	00-7F	AC1 LFO FMOD DEPTH	0...127	00	○	×	×	×	○
		5F	1	00-7F	AC1 LFO AMOD DEPTH	0...127	00	○	×	×	×	○
		60	1	00-5F	AC2 CONTROLLER NUMBER	0...95	11	○	×	×	×	○
		61	2	28-58	AC2 PITCH CONTROL	-24...0...+24 [semitones]	40	○	×	×	×	○
		62	1	00-7F	AC2 LOW PASS FILTER CONTROL	-9600...0...+9450 [cent]	40	○	×	×	×	○
		63	1	00-7F	AC2 AMPLITUDE CONTROL	-100...0...+100 [%]	40	○	×	×	×	○
		64	1	00-7F	AC2 LFO PMOD DEPTH	0...127	00	○	×	×	×	○
		65	1	00-7F	AC2 LFO FMOD DEPTH	0...127	00	○	×	×	×	○
		66	1	00-7F	AC2 LFO AMOD DEPTH	0...127	00	○	×	×	×	○
		67	1	00-01	PORTAMENTO SWITCH	OFF, ON	00	○	○	×	×	○
		68	1	00-7F	PORTAMENTO TIME	0...127	00	○	○	×	×	○
		69	1	00-7F	PITCH EG INITIAL LEVEL	-64...0...+63	40	○	×	×	×	○
		6A	1	00-7F	PITCH EG ATTACK TIME	-64...0...+63	40	○	×	×	×	○
		6B	1	00-7F	PITCH EG RELEASE LEVEL	-64...0...+63	40	○	×	×	×	○
		6C	1	00-7F	PITCH EG RELEASE TIME	-64...0...+63	40	○	×	×	×	○
		6D	1	00-7F	VELOCITY LIMIT LOW	1...127	01	○	×	×	×	○
		6E	1	00-7F	VELOCITY LIMIT HIGH	1...127	7F	○	×	×	×	○

TOTAL SIZE 3F

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

TOTAL SIZE 04

		74	1		NOT USED		-	-	-	-	-	-
		75	1		NOT USED		-	-	-	-	-	-
		76	1	04-28	EQ BASS FREQUENCY	32...2.0k [Hz]	0C	×	×	×	×	×
		77	1	1C-3A	EQ TREBLE FREQUENCY	500...16.0k [Hz]	36	×	×	×	×	×
		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...0...+100 [%]	40	○	×	×	×	○
		41	1	00-7F	BEND OFFSET LEVEL CONTROL	-100...0...+100 [%]	40	○	×	×	×	○
		42	1	00-7F	CAT OFFSET LEVEL CONTROL	-100...0...+100 [%]	40	○	×	×	×	○
		43	1	00-7F	PAT OFFSET LEVEL CONTROL	-100...0...+100 [%]	40	○	×	×	×	○
		44	1	00-7F	AC1 OFFSET LEVEL CONTROL	-100...0...+100 [%]	40	○	×	×	×	○
		45	1	00-7F	AC2 OFFSET LEVEL CONTROL	-100...0...+100 [%]	40	○	×	×	×	○

TOTAL SIZE 06

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

## MIDI Parameter Change Table (DRUM SETUP)

Address (H)			Size (H)	Data (H)	Parameter	Description	XG Default (H)	MIDI Reception (effective or not for each part)			MIDI Transmission (generated data)	
								Song	R1 R2 L	Keyboard	Panel (main generation method)	Song
3n	rr	00	1	00-7F	PITCH COARSE	-64...0...+63	40	○	×	×	×	○
		01	1	00-7F	PITCH FINE	-64...0...+63 [cent]	40	○	×	×	×	○
		02	1	00-7F	LEVEL	0...127	Depends on the note	○	×	×	×	○
		03	1	00-7F	ALTERNATE GROUP	OFF, 1...127	Depends on the note	○	×	×	×	○
		04	1	00-7F	PAN	RND, L63...C...R63	Depends on the note	○	×	×	×	○
		05	1	00-7F	REVERB SEND	0...127	Depends on the note	○	×	×	×	○
		06	1	00-7F	CHORUS SEND	0...127	Depends on the note	○	×	×	×	○
		07	1	00-7F	VARIATION SEND	0...127	7F	○	×	×	×	○
		08	1	00-01	KEY ASSIGN	SINGLE, MULTI	00	○	×	×	×	○
		09	1	00-01	Rev NOTE OFF	OFF, ON	Depends on the note	○	×	×	×	○
		0A	1	00-01	Rev NOTE ON	OFF, ON	01	○	×	×	×	○
		0B	1	00-7F	LOW PASS FILTER CUTOFF FREQUENCY	-64...0...+63	40	○	×	×	×	○
		0C	1	00-7F	LOW PASS FILTER RESONANCE	-64...0...+63	40	○	×	×	×	○
		0D	1	00-7F	EG ATTACK RATE	-64...0...+63	40	○	×	×	×	○
		0E	1	00-7F	EG DECAY1 RATE	-64...0...+63	40	○	×	×	×	○
		0F	1	00-7F	EG DECAY2 RATE	-64...0...+63	40	○	×	×	×	○

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 Clavinova 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)

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)

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

\* Not transmitted when Transmit Parameter System Exclusive is set to on.

### System Exclusive Messages (Universal Realtime Messages)

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
Master Volume [GM2]	F0 7F XN 04 01 SS TT F7 11110000 F0 = Exclusive status 01111111 7F = Universal Real Time 0xxxxnnn 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	○	×	×	×	△ (Changed to XG, and output)
Master Fine Tuning [GM2]	F0 7F XN 04 03 SS TT F7 11110000 F0 = Exclusive status 01111111 7F = Universal Real Time 0xxxxnnn 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 = Volume LSB 0ttttttt TT = Volume MSB 11110111 F7 = End of Exclusive	○	×	×	×	△ (Changed to XG, and output)
Master Coarse Tuning [GM2]	F0 7F XN 04 04 00 TT F7 11110000 F0 = Exclusive status 01111111 7F = Universal Real Time 0xxxxnnn 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	○	×	×	×	△ (Changed to XG, and output)
Reverb Parameter [GM2]	F0 7F XN 04 05 01 01 01 01 01 PP VV ... F7 11110000 F0 = Exclusive status 01111111 7F = Universal Real Time 0xxxxnnn 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..128 0..11.0s	○			×	△ (Changed to XG, and output)
Chorus Parameter [GM2]	F0 7F XN 04 05 01 01 01 01 02 PP VV ... F7 11110000 F0 = Exclusive status 01111111 7F = Universal Real Time 0xxxxnnn 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	○			×	△ (Changed to XG, and output)

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
Channel Pressure (Aftertouch) [GM2]	<p>F0 7F XN 09 01 0M PP RR ... F7</p> <p>11110000 FO = Exclusive status                      01111111 7F = Universal Real Time                      0xxxxnnnn 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</p> <p>Control Parameter (pp)      Data (RR)      Description      Default value</p> <hr/> <p>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</p>	○	×	×	×	△ (Changed to XG, and output)
Controller (Control Change) [GM2]	<p>F0 7F XN 09 03 0M CC PP RR ... F7</p> <p>11110000 FO = Exclusive status                      01111111 7F = Universal Real Time                      0xxxxnnnn 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)                      0ccccc CC = Controller Number (01H-1FH, 40H-5FH)                      0ppppppp PP = Controlled Parameter                      0rrrrrrr RR = Data                      ...                      11110111 F7 = End of Exclusive</p> <p>Make sure to set both the controlled parameter and the range.                      Parameters not set will be restored to their default values.</p> <p>Control Parameter (pp)      Data (RR)      Description      Default value</p> <hr/> <p>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</p>	○	×	×	×	△ (Changed to XG, and output)
Key-Based Instrument Control [GM2]	<p>F0 7F XN 0A 01 0M KK CC VV ... F7</p> <p>11110000 FO = Exclusive status                      01111111 7F = Universal Real Time                      0xxxxnnnn 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                      0ccccc CC = Controller Number                      0vvvvvvv VV = Value                      ...                      11110111 F7 = End of Exclusive</p> <p>Make sure to set both the controlled number and the value.</p> <p>Control Number (CC)      Value (VV)      Description      Default value</p> <hr/> <p>CC=07H Volume      00H-7FH      -100...0...+100%      40                      CC=0AH Pan      00H-7FH      L63...C...R63      (Preset value)                      (absolute)                      CC=5BH Reverb Send Level      00H-7FH      0...Max      (Preset value)                      (absolute)                      CC=5DH Chorus Send Level      00H-7FH      0...Max      (Preset value)                      (absolute)</p>	○	×	×	×	△ (Changed to XG, and output)

**System Exclusive Messages (Universal Non Realtime Messages)**

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
GM1 System On [GM1] [GM2]	F0 7E XN 09 01 F7 11110000 F0 = Exclusive status 01111110 7E = Universal Non-Real Time 0xxxxnnnn 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	○	×	×	×	△ (Changed to XG, and output)
GM2 System On [GM2]	F0 7E XN 09 03 F7 11110000 F0 = Exclusive status 01111110 7E = Universal Non-Real Time 0xxxxnnnn 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	○	×	×	×	△ (Changed to XG, and output)
General MIDI System Off [GM1] [GM2]	F0 7E XN 09 02 F7 11110000 F0 = Exclusive status 01111110 7E = Universal Non-Real Time 0xxxxnnnn 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	○	×	×	×	△ (Changed to XG, and output)
Scale/Octave Tuning [GM2]	F0 7E XN 08 08 JJ GG MM SS ... F7 11110000 F0 = Exclusive status 01111110 7E = Universal Non-Real Time 0xxxxnnnn 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	○	×	×	×	△ (Changed to XG, and output)

\*If the song data to be loaded contains a GM2 System On event, the Bank MSB/LSB values will be removed.

## System Exclusive Messages (2)

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

### System Exclusive Messages (XG)

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
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	○			○	
XG Bulk Dump	F0 43 0n 4C aa bb hh mm ll dd ... dd cc 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 0aaaaaaaa 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	○			○	
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	○	×	×		×
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	○	×	×		×

### 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 = 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	○			×	×

## 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 = Clavinova ID 00000001 01 = Model ID (Clavinova common ID) 01010000 50 = SubID 00010001 11 = SubID 0000nnnn 0n = Channel (00-0F) 00000010 02 = SubID (String Resonance Depth) 0ddddd dd = Depth (00-48) 11110111 F7 = End of Exclusive	○	○	×	○ (Voice Menu) (CLP-545/535/ 565GP)	○
Sustain Sample Depth	F0 43 73 01 50 11 0n 03 dd F7 11110000 F0 = Exclusive status 01000011 43 = YAMAHA ID 01110011 73 = Clavinova ID 00000001 01 = Model ID (Clavinova common ID) 01010000 50 = SubID 00010001 11 = SubID 0000nnnn 0n = Channel (00-0F) 00000011 03 = SubID (Sustain Sample Depth) 0ddddd dd = Depth (00-48) 11110111 F7 = End of Exclusive	×	×	×	×	○
Key Off Sampling Depth	F0 43 73 01 50 11 0n 04 dd F7 11110000 F0 = Exclusive status 01000011 43 = YAMAHA ID 01110011 73 = Clavinova ID 00000001 01 = Model ID (Clavinova common ID) 01010000 50 = SubID 00010001 11 = SubID 0000nnnn 0n = Channel (00-0F) 00000100 04 = SubID (Key Off Sampling Depth) 0ddddd dd = Depth (00-50) 11110111 F7 = End of Exclusive	○	○	×	○ (Voice Menu)	○
Soft Pedal Depth	F0 43 73 01 50 11 0n 05 dd F7 11110000 F0 = Exclusive status 01000011 43 = YAMAHA ID 01110011 73 = Clavinova ID 00000001 01 = Model ID (Clavinova common ID) 01010000 50 = SubID 00010001 11 = SubID 0000nnnn 0n = Channel (00-0F) 00000101 04 = SubID (Soft Pedal Depth) 0ddddd dd = Depth (00-7F) 11110111 F7 = End of Exclusive	○	○	×	○ (System Menu)	○

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

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



