# **YAMAHA**

**TONE GENERATOR** 

**MU50** 

SOUND LIST & MIDI DATA

## MU50 Effect Type List

REVERB		
No. Exclusive	Effect Type	Description
msb lsb 0 0 0	NO EFFECT	Effect turned off
1 1 0	HALL1	Effect turned off. Reverb simulating the resonance of a hall.
2 1 1	HALL2	Reverb simulating the resonance of a hall.
3 2 0	ROOM1	Reverb simulating the resonance of a room.
4 2 1	ROOM2	Reverb simulating the resonance of a room.
5 2 2 6 3 0	ROOM3 STAGE1	Reverb simulating the resonance of a room.  Reverb appropriate for a solo instrument.
7 3 1	STAGE2	Reverb appropriate for a solo instrument.
8 4 0	PLATE	Reverb simulating a metal plate reverb unit.
9 10 0	WHITE ROOM	A unique short reverb with a bit of initial delay.
10 11 0 11 13 0	TUNNEL BASEMENT	Simulation of a tunnel space expanding to left and right.  A bit of initial delay followed by reverb with a unique resonance.
11 13 0	DASENIENT	A bit of initial delay followed by reverb with a unique resonance.
CHORUS		
No. Exclusive	Effect Type	Description
msb lsb 0 0 0	NO EFFECT	Effect turned off
1 41 0	CHORUS1	Effect turned off.  Conventional chorus program that adds natural spaciousness.
2 41 1	CHORUS2	Conventional chorus program that adds natural spaciousness.
3 41 2	CHORUS3	Conventional chorus program that adds natural spaciousness.
4 41 8	CHORUS4	Chorus with stereo input. The pan setting specified for the Part will also apply to the effect sound.
5 42 0 6 42 1	CELESTE1 CELESTE2	A 3-phase LFO adds modulation and spaciousness to the sound.  A 4-phase LFO adds modulation and spaciousness to the sound.
7 42 2	CELESTE2 CELESTE3	A 5-phase LFO adds modulation and spaciousness to the sound.
8 42 8	CELESTE4	CELESTE with stereo input. The pan setting specified for the Part will also apply to the effect sound.
9 43 0	FLANGER1	Adds a jet-airplane effect to the sound.
10 43 1	FLANGER2	Adds a jet-airplane effect to the sound.
11 43 8	FLANGER3	Adds a jet-airplane effect to the sound.
VARIATION		
No. Exclusive	Effect Type	Description
msb lsb	No prepare	700
0 0 0	NO EFFECT HALL1	Effect turned off.
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	HALL2	Reverb simulating the resonance of a hall.  Reverb simulating the resonance of a hall.
3 2 0	ROOM1	Reverb simulating the resonance of a room.
4 2 1	ROOM2	Reverb simulating the resonance of a room.
5 2 2	ROOM3	Reverb simulating the resonance of a room.
6 3 0 7 3 1	STAGE1 STAGE2	Reverb appropriate for a solo instrument.
8 4 0	PLATE	Reverb appropriate for a solo instrument.  Reverb simulating a metal plate reverb unit.
9 5 0	DELAY L,C,R	A program that creates three delay sounds; L, R, and C (center).
10 6 0	DELAY L,R	A program that creates two delay sounds; L and R. Two feedback delays are provided.
11 7 0	ECHO	Two delays (L and R) and independent feedback delays for L and R.
12 8 0 13 9 0	CROSS DELAY ER1	A program that crosses the feedback of two delays.  An effect that produces only the early reflection component of reverb.
14 9 1	ER2	An effect that produces only the early reflection component of reverb.
15 A 0	GATE REVERB	A simulation of gated reverb.
16 B 0	REVERSE GATE	A program that simulates gated reverb played backwards.
17 14 0 18 14 1	KARAOKE 1	A delay with feedback of the same type as used for karaoke reverb.
19 14 2	KARAOKE 2 KARAOKE 3	A delay with feedback of the same type as used for karaoke reverb.  A delay with feedback of the same type as used for karaoke reverb.
20 41 0	CHORUS1	A conventional chorus program, providing natural spaciousness.
21 41 1	CHORUS2	A conventional chorus program, providing natural spaciousness.
22 41 2 23 41 8	CHORUS3	A conventional chorus program, providing natural spaciousness.
23 41 8 24 42 0	CHORUS4 CELESTE1	Chorus with stereo input.  A 3-phase LFO adds modulation and spaciousness to the sound.
25 42 1	CELESTE2	A 4-phase LFO adds modulation and spaciousness to the sound.
26 42 2	CELESTE3	A 5-phase LFO adds modulation and spaciousness to the sound.
27 42 8	CELESTE4	Celeste with stereo input.
28 43 0 29 43 1	FLANGER1 FLANGER2	Adds a jet-airplane effect to the sound.  Adds a jet-airplane effect to the sound.
30 43 8	FLANGER2 FLANGER3	Adds a jet-airplane effect to the sound.  Adds a jet-airplane effect to the sound.
31 44 0	SYMPHONIC	A multi-phase version of CELESTE.
32 45 0	ROTARY SPEAKER	A simulation of a rotary speaker. You can use an AC1 (assignable controller) etc. to control the speed of rotation.
33 46 0	TREMOLO	An effect that cyclically modulates the volume.  A program that cyclically moves the sound image to left and right, front and back.
34 47 0 35 48 0	AUTO PAN PHASER1	A program that cyclically moves the sound image to left and right, front and back.  Cyclically changes the phase to add modulation to the sound.
36 48 8	PHASER2	Phaser with stereo input.
37 49 0	DISTORTION	Adds a sharp-edged distortion to the sound.
38 4A 0	OVER DRIVE	Adds mild distortion to the sound.
39 4B 0 40 4C 0	AMP SIMULATOR 3-BAND EQ(MONO)	A simulation of a guitar amp.  A mono EQ with adjustable LOW, MID, and HIGH equalizing.
40 4C 0 41 4D 0	2-BAND EQ(MONO)	A stereo EQ with adjustable LOW and HIGH. Ideal for drum Parts.
42 4E 0	AUTO WAH(LFO)	Cyclically modulates the center frequency of a wah filter. With an AC1 etc. this can function as a pedal wah.
43 40 0	THRU	Bypass without applying an effect.

parameter  $1\sim10$  = required parameters parameter  $11\sim16$  = optional parameters

BAS	SIC EFFECT TYPE						parameter 11~16 = op	tional parameters	
	Parameter	Display	Value	See Table	ΜŪ	J <b>80</b>		MU50	Control
CEL	DRUS1,2,3,4 ESTE1,2,3,4	0.00.20.711	0.127	. 11 //1	_			_	
	LFO Frequency LFO PM Depth	0.00~39.7Hz 0~127	0-127	table#1	:			T 0-127	
3	Feedback Level	-63~+63	1-127		•			•	
4 5	Delay Offset	0~127	0-127	table#2	•			•	
6	EQ Low Frequency	50Hz~2.0kHz	8-40	table#3	Т	4-40	32Hz~2.0kHz	•	
7	EQ Low Gain	-12~+12dB	52-76		•			•	
8		500Hz~16.0kHz -12~+12dB	28-58 52-76	table#3	•			•	
10	Dry/Wet	D63>W ~ D=W ~ D <w63< td=""><td>1-127</td><td></td><td>•</td><td></td><td></td><td>•</td><td>•</td></w63<>	1-127		•			•	•
	EQ Mid Frequency	100Hz~10.0kHz		table#3	•				
12 13	EQ Mid Gain EQ Mid Width	-12~+12dB 1.0~12.0	52-76 10-120		•				
14	LFO AM Depth	0~127	0-127		•				
15 16	Input Mode	mono/stereo	0-1					•	
10									
	NGER1,2,3	0.00.20.711-	0.127	1.1.#1				ā	
	LFO Frequency LFO Depth	0.00~39.7Hz 0~127	0-127	table#1	:			•	
3	Feedback Level	-63~+63	1-127		•			•	
4 5	Delay Offset	0~63	0-63	table#2	•			•	
6		50Hz~2.0kHz	8-40	table#3	Т	4-40	32Hz~2.0kHz	•	
7		-12~+12dB	52-76	1.1.#2	•			•	
8	EQ High Frequency EQ High Gain	500Hz~16.0kHz -12~+12dB	52-76	table#3	:			•	
	Dry/Wet	D63>W ~ D=W ~ D <w63< td=""><td>1-127</td><td></td><td>•</td><td></td><td></td><td>•</td><td>•</td></w63<>	1-127		•			•	•
11 12	EQ Mid Frequency EQ Mid Gain	100Hz~10.0kHz -12~+12dB	14-54 52-76	table#3	:				
13	EQ Mid Width	1.0~12.0	10-120		•				
14	LFO Phase Difference	-180~+180deg	4-124	resolution = 30deg.	•			T resolution = 3deg.	
15 16									
0)/4	ADLIONIO								
	IPHONIC LFO Frequency	0.00~39.7Hz	0-127	table#1	•			•	
	LFO Depth	0~127	0-127	taoron i	•			•	
3	Delay Offset	0~127	0-127	table#2	•			•	
5									
6	EQ Low Frequency	50Hz~2.0kHz	8-40	table#3	Т	4-40	32Hz~2.0kHz	•	
7 8	EQ Low Gain EQ High Frequency	-12~+12dB 500Hz~16.0kHz	52-76 28-58	table#3	:			•	
9	EQ High Gain	-12~+12dB	52-76	tablens	•			•	
10	Dry/Wet	D63>W ~ D=W ~ D <w63< td=""><td>1-127</td><td>1.1.#2</td><td>•</td><td></td><td></td><td>•</td><td>•</td></w63<>	1-127	1.1.#2	•			•	•
11 12	EQ Mid Frequency EQ Mid Gain	100Hz~10.0kHz -12~+12dB	52-76	table#3	•				
13	EQ Mid Width	1.0~12.0	10-120		•				
14 15									
16									
ROT	ARY SPEAKER								
	LFO Frequency	0.00~39.7Hz	0-127	table#1	•			•	•
2	LFO Depth	0~127	0-127		•			•	
4									
5	EO Low Errons	50Hz. 2 0kHz	0.40	table#3	т	4.40	20Hz. 2 Obj.	•	
6 7	EQ Low Frequency EQ Low Gain	50Hz~2.0kHz -12~+12dB	8-40 52-76	table#3	T	4-40	32Hz~2.0kHz	•	
8	EQ High Frequency	500Hz~16.0kHz	28-58	table#3	•			•	
9 10	EQ High Gain Dry/Wet	-12~+12dB D63>W ~ D=W ~ D <w63< td=""><td>52-76 1-127</td><td></td><td>•</td><td></td><td></td><td>•</td><td></td></w63<>	52-76 1-127		•			•	
11	EQ Mid Frequency	100Hz~10.0kHz	14-54	table#3	•				
12 13	•	-12~+12dB 1.0~12.0	52-76 10-120		•				
14	בע אוומ איומווו	1.0 12.0	10-120		٠				
15									
16									
	MOLO	0.00 00 00						_	_
1 2	LFO Frequency AM Depth	0.00~39.7Hz 0~127	0-127 0-127	table#1	•			•	•
3		0~127	0-127		•			•	
4 5									
	EQ Low Frequency	50Hz~2.0kHz	8-40	table#3	Т	4-40	32Hz~2.0kHz	•	
7	EQ Low Gain	-12~+12dB	52-76		•			•	
8	EQ High Frequency EQ High Gain	500Hz~16.0kHz -12~+12dB	28-58 52-76	table#3	•			•	
10	- •			. 11 #6	_				
11 12	EQ Mid Frequency EQ Mid Gain	100Hz~10.0kHz -12~+12dB	14-54 52-76	table#3	•				
		**							

No	Parameter	Display	Value	See Table	м	U80		м	U50 Co	ontrol
13 14	EQ Mid Width LFO Phase Difference Input Mode	1.0~12.0 -180~+180deg mono/stereo	10-120	resolution = 30deg.	•	000			resolution = 3deg.	inti oi
	O PAN									
1	LFO Frequency L/R Depth	0.00~39.7Hz 0~127	0-127 0-127	table#1	•			•	•	
3	F/R Depth PAN Direction	0~127 L<->R,L->R,L<-R,Lturn,Rturn,L/R	0-127		•			•		
5	EQ Low Frequency	50Hz~2.0kHz	8-40	table#3	Т	4-40	32Hz~2.0kHz	•		
7	EQ Low Gain EQ High Frequency	-12~+12dB 500Hz~16.0kHz	52-76	table#3	•			•		
	EQ High Gain	-12~+12dB	52-76	table#3	•			•		
11	EQ Mid Frequency EQ Mid Gain	100Hz~10.0kHz -12~+12dB	14-54 52-76	table#3	•					
	EQ Mid Width	1.0~12.0	10-120		•					
15 16										
	SER1,PHASER2									
1	LFO Frequency LFO Depth	0.00~39.7Hz 0~127	0-127 0-127	table#1	•			•		
3 4	Phase Shift Offset Feedback Level	0~127 0~127 -63~+63	0-127 0-127 1-127		•			•		
5				table#2	T	4.40	32Hz~2.0kHz	•		
7	EQ Low Frequency EQ Low Gain	50Hz~2.0kHz -12~+12dB 500Hz~16.0kHz	8-40 52-76	table#3	•	4-40	32HZ~2.UKHZ	•		
9	EQ High Frequency EQ High Gain Dry/Wet	-12~+12dB	52-76	table#3	:			•	_	
11		D63>W ~ D=W ~ D <w63 3~10</w63 	1-127 3-10		Ā	4,6,8	,	•	6~10(phaser1) / 3~5(phaser2)	
	LFO Phase Difference	Mono/Stereo -180~+180deg.	0-1 4-124	resolution = 3 deg.	٠			•	phaser2 only	
15 16										
	CODITION									
OVE	ORTION RDRIVE									
2	Drive EQ Low Frequency	0~127 50Hz~2.0kHz		table#3	•	4-40	32Hz~2.0kHz	•	•	
4	EQ Low Gain LPF Cutoff	-12~+12dB 1.0k~Thru		table#3	:			•		
5 6	Output Level	0~127	0-127		•			•		
	EQ Mid Frequency EQ Mid Gain	500Hz~10.0kHz -12~+12dB	52-76	table#3	T •	14-5	4 100Hz~10.0kHz	•		
10	EQ Mid Width Dry/Wet	1.0~12.0 D63>W ~ D=W ~ D <w63< td=""><td>10-120 1-127</td><td></td><td>•</td><td></td><td></td><td>•</td><td></td><td></td></w63<>	10-120 1-127		•			•		
11 12	Edge(Clip Curve)	0~127	0-127	mild~sharp				•		
13 14										
15 16										
	TAR AMP SIMULATOR							_	_	
2	Drive AMP Type	0~127 Off,Stack,Combo,Tube	0-127		•			•	•	
4	LPF Cutoff Output Level	1.0k~Thru 0~127	0-127	table#3	•			•		
5 6										
7 8										
	Dry/Wet	D63>W ~ D=W ~ D <w63< td=""><td>1-127</td><td></td><td>•</td><td></td><td></td><td>•</td><td></td><td></td></w63<>	1-127		•			•		
11 12	Edge(Clip Curve)	0~127	0-127	mild~sharp				•		
13 14										
15 16										
	ND EQ	40.40.10								
2	EQ Low Gain EQ Mid Frequency	-12~+12dB 500Hz~10.0kHz		table#3	T	14-5	4 100Hz~10.0kHz	•		
4	EQ Mid Gain EQ Mid Width	-12~+12dB 1.0~12.0	52-76 10-120		•			•		
6	EQ High Gain EQ Low Frequency	-12~+12dB 50Hz~2.0kHz		table#3	T	4-40	32Hz~2.0kHz	•		
7 8	EQ High Frequency	500Hz~16.0kHz	28-58	table#3	•			•		
9 10										
11 12										

No. 13 14	Parameter	Display	Value	See Table	MU80	MU50	Control
15 16							
1	ND EQ EQ Low Frequency EQ Low Gain EQ High Frequency EQ High Gain	50Hz~2.0kHz -12~+12dB 500Hz~16.0kHz -12~+12dB	52-76	table#3	T 4-40 32Hz~2.0kHz	•	
5 6 7 8 9 10 11 12 13 14	EQ Mid Frequency EQ Mid Gain EQ Mid Width	100Hz~10.0kHz -12~+12dB 1.0~12.0		table#3	<b>:</b>		
16							
1	O WAH LFO Frequency LFO Depth Cutoff Frequency Offset Resonance	0.00~39.7Hz 0~127 0~127 1.0~12.0	0-127 0-127 0-127 10-120	table#1	• •	•	•
6 7 8 9	EQ Low Frequency EQ Low Gain EQ High Frequency EQ High Gain Dry/Wet	50Hz~2.0kHz -12~+12dB 500Hz~16.0kHz -12~+12dB D63>W ~ D=W ~ D <w63< td=""><td>52-76</td><td>table#3</td><td>T 4-40 32Hz~2.0kHz •</td><td>•</td><td></td></w63<>	52-76	table#3	T 4-40 32Hz~2.0kHz •	•	
11 12 13 14 15	Drive	0~127	0-127		•		
HAL	L1,HALL2 DM1,ROOM2,ROOM3 GE1,STAGE2 TE						
2 3 4 5 6 7 8	Reverb Time Diffusion Initial Delay HPF Cutoff LPF Cutoff	0.3~30.0s 0~10 0~63 Thru~8.0kHz 1.0k~Thru	0-69 0-10 0-63 0-52 34-60	table#5 table#3 table#3	•	•	
11 12 13 14	Dry/Wet Rev Delay Density Er/Rev Balance High Damp Feedback Level	D63>W ~ D=W ~ D <w63 0~63 0~3 E63&gt;R ~ E=R ~ E<r63 0.1~1.0 -63~+63</r63 </w63 	1-127 0-63 0-3 1-127 1-10 1-127	table#5	• T 0-4 *REV(0-4),VAR(0-3)	• •	•
1 2 3 4 5 6 7 8	AY L,C,R Lch Delay Rch Delay Cch Delay Feedback Delay Feedback Level Cch Level High Damp	0.1~715.0ms 0.1~715.0ms 0.1~715.0ms 0.1~715.0ms 0.1~715.0ms -63~+63 0~127 0.1~1.0	1-7150 1-7150 1-7150 1-7150 1-7150 1-127 0-127 1-10		•	•	
9 10	Dry/Wet	D63>W ~ D=W ~ D <w63< td=""><td>1-127</td><td></td><td>•</td><td>•</td><td>•</td></w63<>	1-127		•	•	•
12 13 14 15	HPF Cutoff LPF Cutoff EQ Low Frequency EQ Low Gain EQ High Frequency EQ High Gain	Thru~8.0kHz 1.0k~Thru 50Hz~2.0kHz -12~+12dB 500Hz~16.0kHz -12~+12dB	34-60 8-40 52-76	table#3 table#3 table#3 table#3	:	•	
1 2 3 4 5	AY L,R Lch Delay Rch Delay Feedback Delay 1 Feedback Delay 2 Feedback Level High Damp	0.1~715.0ms 0.1~715.0ms 0.1~715.0ms 0.1~715.0ms 0.1~715.0ms -63~+63 0.1~1.0	1-7150 1-7150 1-7150 1-7150 1-127 1-10		: : :	•	

	Parameter	Display	Value	See Table	MU80	MU50	Control
7 8							
9 10	Dry/Wet	D63>W ~ D=W ~ D <w63< td=""><td>1-127</td><td></td><td>•</td><td>•</td><td>•</td></w63<>	1-127		•	•	•
11	HPF Cutoff	Thru~8.0kHz	0-52		•		
	LPF Cutoff EQ Low Frequency	1.0k~Thru 50Hz~2.0kHz	34-60 8-40	table#3 table#3	•	•	
14	EQ Low Frequency EQ Low Gain	-12~+12dB	52-76	table#3		•	
	EQ High Frequency	500Hz~16.0kHz		table#3		•	
10	EQ High Gain	-12~+12dB	52-76			•	
ECH		0.1.255.0	1 2550		_		
	Lch Delay1 Lch Feedback Level	0.1~355.0ms -63~+63	1-3550 1-127		•	:	
3	Rch Delay1	0.1~355.0ms	1-3550		•	•	
	Rch Feedback Level High Damp	-63~+63 0.1~1.0	1-127 1-10		•	•	
	Lch Delay2	0.1~355.0ms	1-3550		•	•	
7 8	Rch Delay2 Delay2 Level	0.1~355.0ms 0~127	1-3550 0-127		•	•	
9	Delay 2 Devel	0 127	0 12/				
10 11	Dry/Wet HPF Cutoff	D63>W ~ D=W ~ D <w63 Thru~8.0kHz</w63 	1-127 0-52	table#3	•	•	•
12	LPF Cutoff	1.0k~Thru		table#3	•		
13 14	EQ Low Frequency	50Hz~2.0kHz -12~+12dB	8-40 52-76	table#3		•	
	EQ Low Gain EQ High Frequency	500Hz~16.0kHz		table#3		•	
16	EQ High Gain	-12~+12dB	52-76			•	
CRC	OSS DELAY						
1	L->R Delay	0.1~355.0ms	1-3550		•	•	
2	R->L Delay Feedback Level	0.1~355.0ms -63~+63	1-3550 1-127		•	•	
4	Input Select	L,R,L&R	0-2		•	•	
5 6	High Damp	0.1~1.0	1-10		•	•	
7							
8							
	Dry/Wet	D63>W ~ D=W ~ D <w63< td=""><td>1-127</td><td></td><td>•</td><td>•</td><td>•</td></w63<>	1-127		•	•	•
11	HPF Cutoff LPF Cutoff	Thru~8.0kHz 1.0k~Thru	0-52 34-60	table#3 table#3	•		
13	EQ Low Frequency	50Hz~2.0kHz	8-40	table#3	•	•	
14	EQ Low Gain	-12~+12dB	52-76	toble#2		•	
15 16	EQ High Frequency EQ High Gain	500Hz~16.0kHz -12~+12dB	28-58 52-76	table#3		•	
E 4 D							
	LY REF1,EARLY REF2 Type	S-H, L-H, Rdm, Rvs, Plt, Spr	0-5		•	•	
2	Room Size	0.1~7.0	0-44	table#6	•	•	
3	Diffusion Initial Delay	0~10 0~63	0-10 0-63	table#5	•	•	
5	Feedback Level	-63~+63	1-127		•	•	
6 7	HPF Cutoff LPF Cutoff	Thru~8.0kHz 1.0k~Thru	0-52 34-60		•	•	
8	Zi i cuton	Tion Time	5.00				
9 10	Dry/Wet	D63>W ~ D=W ~ D <w63< td=""><td>1-127</td><td></td><td>•</td><td>•</td><td>•</td></w63<>	1-127		•	•	•
11	Liveness	0~10	0-10		•	•	
	Density High Domp	0~3 0.1~1.0	0-3 1-10		•	•	
14	High Damp	0.1~1.0	1-10		•	·	
15 16							
	E REVERB ÆRSE GATE						
	Type	TypeA,TypeB	0-1		•	•	
2	Room Size	0.1~7.0		table#6	•	•	
	Diffusion Initial Delay	0~10 0~63	0-10 0-63	table#5	•	•	
5	Feedback Level	-63~+63	1-127		•	•	
	HPF Cutoff LPF Cutoff	Thru~8.0kHz 1.0k~Thru	0-52 34-60		•	•	
8	Zi i cuton	Tion Time	5.00				
9 10	Dry/Wet	D63>W ~ D=W ~ D <w63< td=""><td>1-127</td><td></td><td>•</td><td>•</td><td>•</td></w63<>	1-127		•	•	•
11	Liveness	0~10	0-10		•	•	
12 13	Density High Damp	0~3 0.1~1.0	0-3 1-10		•	•	
14	rugu ramp	0.1 1.0	1-10				
15 16							
OP <sup>-</sup>	TION EFFECT TYPE						
PITO	CH CHANGE						
1	Pitch	-24~+24	40-88	. 11 //=	•		
2	Initial Delay	0~127	0-127	table#7	•		

#### MU50 Effect Parameter List No. Parameter Display Value See Table MU80 MU50 Control 14-114 3 Fine 1 -50~+50 4 Fine 2 -50~+50 -99~+99% 14-114 • Feedback Gain 5 1-127 6 8 10 Dry/Wet D63>W ~ D=W ~ D<W63 1-127 • 11 Pan 1 L63~R63 1-127 0~127 • 12 Output Level 1 0-127 L63~R63 13 Pan 2 1-127 14 Output Level 2 0~127 0 - 12715 16 AURAL EXICETER 1 HPF cutoff 500Hz~16.0kHz 28-58 Drive 0~127 0-127 Mix Level 0~127 0-127 5 6 7 8 9 10 11 12 13 14 15 16 TOUCH WAH, WAH+DIST Sensitive 0~127 0-127 Cutoff Frequency Offset 0~127 0-127 1.0~12.0 10-120 Resonance EQ Low Frequency 32Hz~2.0kHz 4-40 table#3 EQ Low Gain -12~+12dB 52-76 • 28-58 table#3 52-76 EQ High Frequency 500Hz~16.0kHz • -12~+12dB D63>W ~ D=W ~ D<W63 EQ High Gain 10 Dry/Wet 1-127 0~127 11 Drive 0 - 12712 13 14 15 16 COMPRESSOR Attack 1~40ms 0-19 table#8 Release 10~680ms 0-15 table#9 3 Threshold -48~-6dB 79-121 1.0~20.0 0-7 Ratio table#10 0~127 0-127 Output Level 6 7 8 10 11 12 13 14 15 16 NOISE GATE Attack 1~40ms 0-19 table#8 Release 10~680ms 0-15 table#9 Threshold -72~-30dB 55-97 • 0~127 0-127 4 Output Level 5 6 7 8 11 Ratio 1.0~5.0 0-7 12 13 14 15

16

No.	Parameter	Display	Value	See Table	MU80	MU50	Control
WHI	TE ROOM						
TUN	NEL						
CAN	IYON (MU80 Only)						
BAS	EMENT						
1	Reverb Time	0.3~30.0s	0-69	table#4	•	•	
2	Diffusion	0~10	0-10		•	•	
3	Initial Delay	0~63	0-63	table#5	•	•	
4	HPF Cutoff	Thru~8.0kHz	0-52	table#3	•	•	
5	LPF Cutoff	1.0k~Thru	34-60	table#3	•	•	
6	Width	0.5~10.2m	0-37	table#11	•	•	
7	Heigt	0.5~20.2m	0-73	table#11	•	•	
8	Depth	0.5~30.2m		table#11	•	•	
9	Wall Vary	0~30	0-30		•	•	
10	Dry/Wet	D63>W ~ D=W ~ D <w63< td=""><td>1-127</td><td></td><td>•</td><td>•</td><td>•</td></w63<>	1-127		•	•	•
11	Rev Delay	0~63	0-63	table#5	•	•	
12	Density	0~3	0-3		T 0-4 *REV(0-4),VAR(0-3	) •	
13	Er/Rev Balance	E63>R ~ E=R ~ E <r63< td=""><td>1-127</td><td></td><td>•</td><td>•</td><td></td></r63<>	1-127		•	•	
14	High Damp	0.1~1.0	1-10		•	_	
	Feedback Level	-63~+63	1-127			•	
16							
KAR	AOKE1,2,3						
1	Delay Time	0~127	0-127	table#7	•	•	
	Feedback Level	-63~+63	1-127		•	•	
3	HPF Cutoff	Thru~8.0kHz	0-52		•	•	
4	LPF Cutoff	1.0k~Thru	34-60		•	•	
5							
6							
7							
8							
9							
10	Dry/Wet	D63>W ~ D=W ~ D <w63< td=""><td>1-127</td><td></td><td>•</td><td>•</td><td>•</td></w63<>	1-127		•	•	•
11							
12							
13							
14							
15							
16							

 $\infty$ 

Changes from the MU80

Delete tables #8,#9,#10(comp attack time,comp release time, comp ra

Exchange table#1 with updated table

	ge mon	Jπ1 WILL	i upuu					
able#1					table#2			
LFO Fr	equenc	y			Modula	tion De	lay Off	set
Data	Value	Data	Value	1 1	Data	Value	Data	Value
0	0	64	2.69		0	0.0	64	6.4
1	0.04	65	2.77		1	0.1	65	6.5
2	0.08	66	2.86		2	0.2	66	6.6
3	0.12	67	2.94		3	0.3	67	6.7
4	0.16	68	3.02		4	0.4	68	6.8
5	0.21	69	3.11		5	0.5	69	6.9
<u>6</u> 7	0.25	70 71	3.19		<u>6</u> 7	0.6	70 71	7.0
- 8	0.29	72	3.36		8	0.7	72	7.1
9	0.33	73	3.44		9	0.8	73	7.3
10	0.37	74	3.53		10	1.0	74	7.4
11	0.46	75	3.61		11	1.1	75	7.5
12	0.50	76	3.70		12	1.2	76	7.6
13	0.54	77	3.86		13	1.3	77	7.7
14	0.58	78	4.03		14	1.4	78	7.8
15	0.63	79	4.20		15	1.5	79	7.9
16	0.67	80	4.37		16	1.6	80	8.0
17	0.71	81	4.54		17	1.7	81	8.1
18	0.75	82	4.71		18	1.8	82	8.2
19	0.79	83	4.87		19	1.9	83	8.3
20	0.84	84	5.04		20	2.0	84	8.4
21	0.88	85	5.21		21	2.1	85	8.5
22	0.92	86	5.38		22	2.2	86	8.6
23	0.96	87	5.55		23	2.3	87	8.7
24	1.00	88	5.72		24 25	2.4	88	8.8
26	1.05	89 90	6.05		26		89 90	8.9 9.0
27	1.09	90	6.39		27	2.6	90	9.0
28	1.17	92	7.06		28	2.7	92	9.1
29	1.22	93	7.40		29	2.9	93	9.3
30	1.26	94	7.73		30	3.0	94	9.4
31	1.30	95	8.07		31	3.1	95	9.5
32	1.34	96	8.41		32	3.2	96	9.6
33	1.38	97	8.74		33	3.3	97	9.7
34	1.43	98	9.08		34	3.4	98	9.8
35	1.47	99	9.42		35	3.5	99	9.9
36	1.51	100	9.75		36	3.6	100	10.0
37	1.55	101	10.0		37	3.7	101	11.1
38	1.59	102	10.7		38	3.8	102	12.2
39	1.64	103	11.4		39	3.9	103	13.3
40	1.68	104	12.1		40	4.0	104	14.4
41	1.72	105	12.7		41	4.1	105	15.5
42	1.76	106	13.4		42	4.2	106	17.1
43	1.80	107	14.1		43	4.3	107	18.6 20.2
44	1.85	108	14.8 15.4		44	4.4	108	21.8
46	1.89	110	16.1		45	4.5	110	23.3
47	1.93	111	16.8		47	4.0	111	24.9
48	2.01	112	17.5		48	4.8	112	26.5
49	2.06	113	18.1		49	4.9	113	28.0
50	2.10	114	19.5		50	5.0	114	29.6
51	2.14	115	20.8		51	5.1	115	31.2
52	2.18	116	22.2		52	5.2	116	32.8
53	2.22	117	23.5		53	5.3	117	34.3
54	2.27	118	24.8		54	5.4	118	35.9
55	2.31	119	26.2		55	5.5	119	37.5
56	2.35	120	27.5		56	5.6	120	39.0
57	2.39	121	28.9		57	5.7	121	40.6
58	2.43	122	30.2		58	5.8	122	42.2
59	2.48	123	31.6		59	5.9	123	43.7
60	2.52	124	32.9		60	6.0	124	45.3
61	2.56	125	34.3		61	6.1	125	46.9
62	2.60	126 127	37.0 39.7		62	6.2	126 127	48.4
63	2.65	127	59./		6.5	6.3	127	50.0

atio).							
	table#3 EQ Frequency						
Data	Value						
8	50						
9	56						
10	63						
11	70						
12	80						
13	90						
14	100						
15	110						
16	125						
17	140						
18	160						
19	180						
20	200						
21	225						
	250						
23	280						
24	315						
25	355						
26	400						
27	450						
28	500						
29	560						
30	630						
31	700 800						
33	900 1.0k						
35	1.0k						
36	1.1k						
37	1.4k						
38	1.4k						
39	1.8k						
40	2.0k						
41	2.0k						
42	2.5k						
43	2.8k						
44	3.2k						
45	3.6k						
46	4.0k						

47

48

49

50

51

52

53

54

55

56

57

58

59

4.5k

5.0k

5.6k

6.3k

7.0k

8.0k

9.0k

10.0k

11.0k

12.0k

14.0k

16.0k

18.0k

60 THRU(20.0k)

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

63 16.0

elay T			
Data 0	Value 0.1	Data	Value 100.8
1	1.7	64	100.8
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 11.1	70	110.3 111.9
- 7 8	12.7	71 72	111.9 113.4
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 79	121.3 122.9 124.4
15 16	23.7	80	124.4 126.0
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 37.9	87 88	137.0 138.6
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		93	146.5
30	47.3	94	148.1
31	48.9 50.5	95 96	149.6
33	52.0	97	152.8
34	53.6	98	154.4
35	55.2	99	
36	56.8	100	157.5
37	58.3	101	159.1
38	59.9 61.5	102	160.6
39 40		103	162.2 163.8
41	63.1 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 74.1	110	173.2 174.8
48	75.7	111 112	174.8 176.4
49	75.7 77.2	112 113	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 55	85.1 86.7	118 119	185.8 187.4
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	125 126	196.9
62	97.7 99.3	126 127	198.4 200.0

Room S			table#7 Delay 7	Γime(40	0.0m
Data	Value	l	Data	Value	Dat
0	0.1		0	0.1	6
1	0.3		1	3.2	6.
2	0.4		2	6.4	6
3	0.6		3	9.5	6
4	0.7		4	12.7	6
5	0.9		5	15.8	6
6	1.0		6	19.0	7
7	1.2		7	22.1	7
8	1.4		8	25.3	7:
9	1.5		9	28.4	7.
10	1.7		10	31.6	7-
11	1.8		11	34.7	7:
12	2.0		12	37.9	
13	2.1		13	41.0	7
14	2.3		14	44.2	7
15	2.5		15	47.3	7
16	2.6		16	50.5	8
17	2.8		17	53.6	8
18	2.9		18	56.8	8:
19	3.1		19	59.9	8
20	3.2		20	63.1	8
21	3.4		21	66.2	8:
	3.5 3.7		22	69.4	8
23				72.5	8
24	3.9		24 25	75.7	8
	4.0			78.8	8 <sup>1</sup>
26 27	4.2		26 27	82.0	9
28	4.3		28	85.1	9
29	4.5		29	88.3 91.4	9
30	4.6		30	94.6	9.
31	5.0		31	97.7	9:
32	5.1		32	100.9	9
33	5.3		33	100.9	9
34	5.4		34	107.2	9
35	5.6		35	110.3	9
36	5.7		36	113.5	10
37	5.9		37	116.6	10
38	6.1		38	119.8	10
39	6.2		39	122.9	10
40	6.4		40	126.1	10
41	6.5		41	129.2	10:
42	6.7		42	132.4	10
43	6.8		43	135.5	10
44	7.0		44	138.6	10
	, ,	•	45	141.8	10
			46	144.9	110
			47	148.1	11
			48	151.2	11:
			49	154.4	11
			50	157.5	114
			£1	160.7	11

ω(ΛΓ	0.0ms)			table#8 Reverb Width;Depth;Height					
alue	Data	Value	ŀ	Data	Value	Data	Value		
0.1	64	201.6		0	0.5	64	17.6		
3.2	65	204.8	ŀ	1	0.8	65	17.9		
6.4	66	207.9	ŀ	2	1.0	66	18.2		
9.5	67	211.1		3	1.3	67	18.5		
2.7	68	214.2	l	4	1.5	68	18.8		
5.8	69	217.4	l	5	1.8	69	19.1		
9.0	70	220.5	l	6	2.0	70	19.4		
2.1	71	223.7	l	7	2.3	71	19.7		
5.3	72	226.8	l	8	2.6	72	20.0		
8.4	73	230.0	l	9	2.8	73	20.2		
1.6	74	233.1	l	10	3.1	74	20.5		
4.7	75	236.3	l	11	3.3	75	20.8		
7.9	76	239.4	l	12	3.6	76	21.1		
1.0	77	242.6	l	13	3.9	77	21.4		
4.2	78	245.7	l	14	4.1	78	21.7		
7.3	79	248.9	l	15	4.4	79	22.0		
0.5	80	252.0	l	16	4.6	80	22.4		
3.6	81	255.2	l	17	4.9	81	22.7		
6.8	82	258.3	l	18	5.2	82	23.0		
9.9	83	261.5	l	19	5.4	83	23.3		
3.1	84	264.6	l	20	5.7	84	23.6		
6.2	85	267.7	l	21	5.9	85	23.9		
9.4	86	270.9	l	22	6.2	86	24.2		
2.5	87	274.0	l	23	6.5	87	24.5		
5.7	88	277.2	l	24	6.7	88	24.9		
8.8	89	280.3	l	25	7.0	89	25.2		
2.0	90	283.5	l	26	7.2	90	25.5		
5.1	91	286.6	l	27	7.5	91	25.8		
8.3	92	289.8	l	28	7.8	92	26.1		
1.4	93	292.9	l	29	8.0	93	26.5		
4.6	94	296.1	l	30	8.3	94	26.8		
7.7	95	299.2	l	31	8.6	95	27.1		
0.9	96	302.4	l	32	8.8	96	27.5		
14.0	97	305.5	l	33	9.1	97	27.8		
7.2	98	308.7	l	34	9.4	98	28.1		
0.3	99	311.8	l	35	9.6	99	28.5		
3.5	100	315.0	l	36	9.9	100	28.8		
6.6	101	318.1	l	37	10.2	101	29.2		
9.8	102	321.3	l	38	10.4	102	29.5		
2.9	103	324.4	l	39	10.7	103	29.9		
6.1	104	327.6	l	40	11.0	104	30.2		
9.2	105	330.7	l	41	11.2				
2.4	106	333.9	l	42	11.5	l			
5.5	107	337.0	l	43	11.8	l			
8.6	108	340.2	l	44	12.1	l			
1.8	109	343.3	l	45	12.3	l			
4.9	110	346.5	l	46	12.6	l			
8.1	111	349.6	l	47	12.9	l			
1.2	112	352.8	I	48	13.1				
4.4	113	355.9	l	49	13.4	l			
7.5	11/	350.1		50	13.7	1			

50 13.7

51 14.0

52 14.2

53 14.5 54 14.8

55 15.1

56 15.4

57 15.6 58 15.9

59 16.2

60 16.5

62 17.1

63 17.3

61 16.8

114 359.1

115 362.2

116 365.4

117 368.5 118 371.7

119 374.8

120 378.0

121 381.1 122 384.3

123 387.4

124 390.6

125 393.7

126 396.9

127 400.0

51 160.7

52 163.8

53 167.0 54 170.1

55 173.3

56 176.4

57 179.6 58 182.7

59 185.9

60 189.0

61 192.2

62 195.3

63 198.5

#### MU50 EFFECT TYPE

REVERB TYPE

The following effect types are required under XG.

11typ

TYPE MSB		TYPE LSB			
DEC	HEX	00	01	02	 08
000	0	[0] NO EFFECT			
001	1	[1] HALL1	[2] HALL2		
002	2	[3] ROOM1	[4] ROOM2	[5] ROOM3	
003	3	[6] STAGE1	[7] STAGE2		
004	4	[8] PLATE			
005	5	NO EFFECT			
:	:	:			
015	F	NO EFFECT			
016	10	[9] WHITE ROOM			
017	11	[10] TUNNEL			
018	12	NO EFFECT			
019	13	[11] BASEMENT			
020	14	NO EFFECT			
:	:	:			
127	7F	NO EFFECT			

NO EFFECT

same as BASIC EFFECT(LSB=0)

CHORUS TYPE

TYPE MSB		TYPE LSB			
DEC	HEX	00	01	02	 08
000	0	[0] NO EFFECT			
001	1	NO EFFECT			
:	:	:			
064	40	NO EFFECT			
065	41	[1] CHORUS1	[2] CHORUS2	[3] CHORUS3	[4] CHORUS4
066	42	[5] CELESTE1	[6] CELESTE2	[7] CELESTE3	[8] CELESTE4
067	43	[9] FLANGER 1	[10] FLANGER 2		[11] FLANGER3
068	44	NO EFFECT			
:	:	:			
127	7F	NO EFFECT			

NO EFFECT same as BASIC EFFECT(LSB=0)

VARIATION TYPE(0~63)

42type

11type

TYPE MSB		TYPE LSB			
DEC	HEX	00	01	02	 08
000	0	[0] NO EFFECT			
001	1	[1] HALL1	[2] HALL2		
002	2	[3] ROOM1	[4] ROOM2	[5] ROOM3	
003	3	[6] STAGE1	[7] STAGE2		
004	4	[8] PLATE			
005	5	[9] DELAY L,C,R			
006	6	[10] DELAY L,R			
007	7	[11] ECHO			
008	8	[12] CROSS DELAY			
009	9	[13] ER1	[14] ER2		
010	A	[15] GATE REVERB			
011	В	[16] REVERSE GATE			
012	C	NO EFFECT or THRU			
:	:				
019	13	NO EFFECT or THRU			
020	14	[17] KARAOKE1	[18] KARAOKE2	[19] KARAOKE3	
021	15	NO EFFECT or THRU			
:	:	:			
063	3F	NO EFFECT or THRU			

NO EFFECT (for SYS) or THRU (for INS) same as BASIC EFFECT (LSB=0)

#### VARIATION TYPE(64~127)

THE THOIL	(	/			
TYPE MSB		TYPE LSB			
DEC	HEX	00	01	02	 08
064	40	[43] THRU			
065	41	[20] CHORUS1	[21] CHORUS2	[22] CHORUS3	[23] CHORUS4
066	42	[24] CELESTE1	[25] CELESTE2	[26] CELESTE3	[27] CELESTE4
067	43	[28] FLANGER 1	[29] FLANGER 2		[30] FLANGER3
068	44	[31] SYMPHONIC			
069	45	[32] ROTARY SPEAKER			
070	46	[33] TREMOLO			
071	47	[34] AUTO PAN			
072	48	[35] PHASER1			[36] PHASER2
073	49	[37] DISTORTION			
074	4A	[38] OVER DRIVE			
075	4B	[39] AMP SIMULATOR			
076	4C	[40] 3-BAND EQ(MONO)			
077	4D	[41] 2-BAND EQ(STEREO)			
078	4E	[42] AUTO WAH(LFO)			
079	4F	THRU			
:	:				
127	7F	THRU			

THRU same as BASIC EFFECT (LSB=0)

### 1. Channel messages

#### 1.1 Key on / Key off

Reception note range =C-2~G8

Velocity range = 1~127 (Velocity is received only for Note Off)

Not received by a Part for which the Multi Part parameter Rcv NOTE MESSAGE =

Not received by a Rhythm Part for which Rcv NOTE OFF = OFF

Key On is not received by a Rhythm Part for which Rcv NOTE ON = OFF

#### 1.2 Control change

Control Changes are not received by a Part for which the Multi Part parameter Rcv CONTROL CHANGE = OFF

#### 1.2.1 Bank Select

Cntrl# parameter Data Range

Bank Select MSB 0:Normal, 64:SFX, 126-127:Drum

32 Bank Select LSB 0...127

Bank Select processing is suspended until a Program Change is received. When Sound Module Mode = C/M, all Bank Select messages are ignored.

#### 1.2.2 Modulation

Cntrl# Data Range parameter

Modulation 0...127

When the Multi Part parameter Rcv MODULATION = OFF, that Part will not receive Modulation messages

#### 1.2.3 Portamento Time

Cntrl# parameter Data Range Portamento Time 5 0...127

When the parameter 1.2.9 Portamento = ON, this adjusts the speed of pitch change. A setting of 0 is minimum portamento time, and 127 is longest portamento time.

#### Data Entry

Cntrl# Data Range Data Entry MSB 0...127 38 Data Entry LSB 0...127

Use this to set the value of the parameter specified by RPN and NRPN.

#### 1.2.5 Main Volume

Cntrl# parameter Data Range Main Volume 0...127

When the Multi Part parameter Rcv VOLUME = OFF, that Part will not receive Volume messages.

#### 1.2.6

Cntrl# parameter Data Range 0...127 10 Pan

0 is left, 127 is right.

When the Multi Part parameter Rcv PAN = OFF, that Part will not receive Pan messages.

#### 1.2.7 Expression

Data Range Cntrl# parameter 0...127 Expression

When the Multi Part parameter Rcv EXPRESSION = OFF, that Part will not receive

#### 1.2.8 Hold1

parameter Data Range Cntrl# 64 Hold1 0...127

(0-63:off, 64-127:on)

When the Multi Part parameter Rcv HOLD1 = OFF, that Part will not receive Hold1 messages.

#### 1.2.9 Portamento

Cntrl# parameter Data Range 0...127

(0-63:off, 64-127:on)

When the Multi Part parameter Rcv PORTAMENTO = OFF, that Part will not receive Portamento messages.

#### 1.2.10 Sostenuto

Cntrl# Data Range parameter 66

Sostenuto 0...127

(0-63:off, 64-127:on)

When the Multi Part parameter Rcv SOSTENUTO = OFF, that Part will not receive Sostenuto messages

#### 1 2 11 Soft Pedal

Data Range Cntrl# parameter 67

Soft Pedal 0...127

(0-63:off, 64-127:on)

When the Multi Part parameter Rcv SOFT PEDAL= OFF, that Part will not receive Soft Pedal messages.

#### 1.2.12 Harmonic Content

Cntrl# parameter Data Range 71 Harmonic Content 0...127

(0:-64, 64:+0, 127:+63)

This message adjusts the resonance specified by the voice data. Since this is a relative change parameter,

specify the increase or decrease relative to a center value of 64. Higher values will result in a more characteristic sound.

Depending on the voice, the range of effect may be narrower than the range available for setting.

#### 1.2.13 Release Time

Cntrl# parameter Data Range Release Time 72 0...127

(0:-64, 64:+0, 127:+63)

This message adjusts the envelope release time specified by the voice data. Since this is a relative change parameter.

specify an increase or decrease relative to a center value of 64.

#### 1.2.14 Attack Time

Cntrl# Data Range parameter 73 Attack Time 0...127

(0:-64, 64:+0, 127:+63)

This message adjusts the envelope attack time specified by the voice data. Since this is a relative change parameter,

specify an increase or decrease relative to a central value of 64.

#### 1.2.15 Brightness

Data Range parameter Cntrl#

74 Brightness 0...127

(0:-64, 64:+0, 127:+63)

This message adjusts the cutoff frequency specified by the voice data. Since this is a relative change parameter,

specify an increase or decrease relative to a central value of 64. Lower values will result in a softer sound.

For some voices, the range of effect may be narrower than the range available for adjustment.

#### 1.2.16 Portamento Control

Cntrl# parameter Data Range Portamento Control 0...127 84

Portamento Control is transmitted specifying the Note On Key of currently-sounding note.

Specify a Portamento Source Key number of 0~127. When a Portamento Control message is received,

the currently sounding pitch will change with a Portamento Time of 0 to the key of the next-received Note On on the same channel.

This message is received even if Rcv PORTAMENTO = OFF

#### 1.2.17 Effect1 Depth ( Reverb Send Level )

Cntrl# parameter Data Range Effect1 Depth 0...127

This message sets the send level for the reverb effect.

#### 1.2.18 Effect3 Depth (Chorus Send Level)

parameter Data Range Effect3 Depth 0...127

This message sets the send level for the chorus effect.

#### 1.2.19 Effect4 Depth ( Variation Effect Send Level )

Cntrl# parameter Data Range 94 Effect4 Depth 0...127(when Variation Connection = 1 (System))

This message sets the send level for the Variation effect. If Variation Connection = 0(Insertion), this has no effect.

#### 1.2.20 Data Increment / Decrement (for RPN)

Cntrl#	parameter	Data Range
96	RPN Increment	0127
97	RPN Decrement	0127

The data byte is ignored.

These messages increase or decrease the MSB value of Pitch Bend Sensitivity, Fine Tune, or Coarse Tune in steps of 1.

When the maximum value or minimum value is reached, the value will not be incremented or decremented further.

(Incrementing the Fine Tune will not cause the Coarse Tune to be stepped up.)

#### 1.2.21 NRPN (Non-Registered Parameter Number)

Cntrl#	parameter	Data Ran
98	NRPN LSB	0127
99	NRPN MSB	0127

When the Multi Part parameter Rcv NRPN = OFF, that Part will not receive NRPN messages.

First send the NRPN MSB and NRPN LSB to specify the parameter which is to be controlled. Then

use Data Entry to set the value of the specified parameter.

The following NRPN numbers can be received.

NRPN MSB LSB	Data entry MSB	Parameter name and value range
\$01 \$08	\$mm	Vibrato Rate mm: \$00 - \$40 - \$7F (-64 - 0 - +63)
\$01 \$09	\$mm	Vibrato Depth mm: \$00 - \$40 - \$7F (-64 - 0 - +63)
\$01 \$0A	\$mm	Vibrato Delay mm : \$00 - \$40 - \$7F (-64 - 0 - +63)
\$01 \$20	\$mm	Filter Cutoff Frequency mm: \$00 - \$40 - \$7F (-64 - 0 - +63)
\$01 \$21	\$mm	Filter Resonance mm: \$00 - \$40 - \$7F (-64 - 0 - +63)
\$01 \$63	\$mm	EG Attack Time mm: \$00 - \$40 - \$7F (-64 - 0 - +63)
\$01 \$64	\$mm	EG Decay Time mm: \$00 - \$40 - \$7F (-64 - 0 - +63)
\$01 \$66	\$mm	EG Release Time mm: \$00 - \$40 - \$7F (-64 - 0 - +63)
\$14 \$rr	\$mm	Drum Filter Cutoff Frequency mm: \$00 - \$40 - \$7F (-64 - 0 - +63) rr: drum instrument note number
\$15 \$rr	\$mm	Drum Filter Resonance mm: \$00 - \$40 - \$7F (-64 - 0 - +63) rr: drum instrument note number
\$16 \$rr	\$mm	Drum EG Attack Rate mm: \$00 - \$40 - \$7F (-64 - 0 - +63) rr: drum instrument note number
\$17 \$rr	\$mm	Drum EG Decay Rate mm : \$00 - \$40 - \$7F (-64 - 0 - +63) rr : drum instrument note number Applies to both Decay1 and 2.
\$18 \$rr	\$mm	Drum Instrument Pitch Coarse mm: \$00 - \$40 - \$7F (-64 - 0 - +63) rr: drum instrument note number
\$19 \$rr	\$mm	Drum Instrument Pitch Fine mm: \$00 - \$40 - \$7F (-64 - 0 - +63) rr: drum instrument note number
\$1A \$rr	\$mm	Drum Instrument Level mm: \$00 - \$7F (0 - max)

rr: drum instrument note number

\$1C	\$rr	\$mm	Drum Instrument Pan

mm: \$00 - \$40 - \$7F (random, left - center - right)

rr: drum instrument note number

\$1D \$rr \$mm Drum Instrument Reverb Send Level mm: \$00 - \$7F (0 - max)

rr : drum instrument note number

\$1E \$rr \$mm Drum Instrument Chorus Send Level

mm : \$00 - \$7F (0 - max) rr : drum instrument note number

\$1F \$rr \$mm Drum Instrument Variation Send Level

mm: \$00 - \$7F (0 - max)

rr: drum instrument note number

MSB 14h-1Fh(for Drum)is valid only when that channel is in Drum mode and Drum Setup 1 or 2 is selected.

#### 1.2.22 RPN (Registered Parameter Number)

Cntrl#	parameter	Data Range
100	RPN LSB	0127
101	RPN MSB	0127

Default:7F 7FH

When the Multi Part parameter Rcv RPN = OFF, that Part will not receive these messages.

The following RPN numbers can be received.

RPN	Data entry	
MCR I CR	MCR I CR	Parameter name and value range

MSB LSB MSB LSB Parameter name and value range

00H 00H mmH — Pitch Bend Sensitivity

mm:00-18H(0-2 chromatic steps) Settable in chromatic steps up to 2 octaves

Default:02H LSB value is ignored.

00H 01H mmH 11H Fine Tuning mm:00H-40H-7FH(-64-0-+63)

11111011 1011 111(01010)

00H 02H mmH — Coarse Tuning mm:28H - 40H - 58H(-24 - +24 chromatic steps)

LSB value is ignored.

7FH 7FH — — RPN null
Set condition in which RPN and NRPN numbers are not

specified.

Internally set values are not affected.

#### 1.2.23 Channel Mode Messages

The following Channel Mode Messages are received.

2nd byte	3rd byte	
120	0	All Sound Off
121	0	Reset All Controllers
123	0	All Note Off
124	0	Omni Off
125	0	Omni On
126	0 ~ 16	Mono
127	0	Poly

#### 1.2.23.1 All Sound Off

Turn off all sounds currently sounding on the specified channel. However the status of channel messages such as Note On and Hold On is maintained.

#### 1.2.23.2 Reset All Controllers

The values of the following controllers will change.

Controller	Value
Pitch Bend	±0 (center)
Channel Pressure	0 (off)
Polyphonic Key Pressure	0 (off)
Modulation	0 (off)
Expression	127 (max)
Hold	0 (off)
Portamento	0 (off)
Sostenuto	0 (off)
Soft Pedal	0 (off)
Portamento Control	resets the Portamento Source Note
	Number that was received
RPN	number not specified; internal data
	will not change
NRPN	number not specified; internal data
	will not change

#### 1.2.23.3 All Note Off

This message turns off all notes currently on for the specified channel However if Hold 1 or Sostenuto are on, notes will continue sounding until these are turned off.

#### 1.2.23.4 Omni Off

Perform the same processing as when All Note Off is received.

#### 1.2.23.5 Omni On

Perform the same processing as when All Note Off is received.

#### 1.2.23.6 Mono

Perform the same processing as when All Sound Off is received, and if the 3rd byte (mono number) is in the range of 0~16, set the applicable channel to Mode 4 (m = 1).

#### 1.2.23.7 Poly

Perform the same processing as when All Sound Off is received, and set the applicable channel to Mode 3.

#### 1.3 Program Change

If the Multi Part parameter Rcv PROGRAM CHANGE = OFF, that Part will not receive 2.1.3 Program Change

If Sound Module Mode = C/M, all Program Changes for the Drum Voice Part are

#### 1.4 Pitch Bend

If the Multi Part parameter Rcv PITCH BEND CHANGE = OFF, that Part will not receive Pitch Bend messages.

#### Channel Aftertouch

With the default setting there will be no function. If the Multi Part parameter Rcv CHANNEL AFTER TOUCH = OFF, that Part will not receive Channel Aftertouch.

#### 1.6 Polyphonic Aftertouch

With the default setting there will be no function. If the Multi Part parameter Rcv POLYPHONIC AFTER TOUCH = OFF,

that Part will not receive Polyphonic Aftertouch. There will be an effect only for note numbers 36-97.

### 2. System Exclusive Messages

#### 2.1 Parameter Changes

This device uses the following parameter changes.

- [ UNIVERSAL REALTIME MESSAGE ]
- 1) Master Volume
- [ UNIVERSAL NON REALTIME MESSAGE ]
- 1) General MIDI Mode On
- 2) Identity Request(INQUIRY MESSAGE)
- 3) Identity Reply(INQUIRY MESSAGE)
- [XG NATIVE]
- 1) XG System on
- 2) XG System Data parameter change
- 3) System Information
- 4) Multi Effect1 Data parameter change 5) Display Data parameter change
- 6) Multi Part Data parameter change
- 7) Drums Setup Data parameter change
- [ MU80, MU50 NATIVE ]
- 1) MU80, MU50 System data parameter change
- 2) Current Performance parameter change
- 3) Remote switch
- [Other]
- 1) Master tuning
- 2) TG300 System Data Parameter change
- 3) TG300 Multi Effect Data parameter change 4) TG300 Multi Part Data parameter change
- 5) Disk Orchestra On

#### Universal Realtime Messages

#### 2.1.2.1 Master Volume

11110000	F0	= Exclusive status
01111111	7F	= Universal Real Time
01111111	7F	= ID of target device
00000100	04	= Sub-ID #1=Device Control Message
00000001	01	= Sub-ID #2=Master Volume
Osssssss	*SS	= Volume LSB
Ottttttt	TT	= Volume MSB
11110111	F7	= End of Exclusive
or,		
11110000	F0	= Exclusive status
01111111	7F	= Universal Real Time
0xxxnnnn	XN	= Device Number, xxx = don't care
00000100	04	= Sub-ID #1=Device Control Message
00000001	01	= Sub-ID #2=Master Volume
Osssssss	SS	= Volume LSB
Ottttttt	TT	= Volume MSB
11110111	F7	= End of Exclusive

When this is received, the Volume MSB will be reflected in the System Parameter MASTER VOLUME

#### Universal Non-Realtime Messages

#### 2.1.3.1 General MIDI Mode On

11110000	F0	= Exclusive status
01111110	7E	= Universal Non-Real Time
01111111	7F	= ID of target device
00001001	09	= Sub-ID #1=General MIDI Message
00000001	01	= Sub-ID #2=General MIDI On
11110111	F7	= End of Exclusive
or,		
11110000	F0	= Exclusive status
01111110	7E	= Universal Non-Real Time
Oxxxnnnn	XN	= Device Number, xxx = don't care
00001001	09	= Sub-ID #1=General MIDI Message
00000001	01	= Sub-ID #2=General MIDI On
11110111	F7	= End of Exclusive

When On is received, the SOUND MODULE MODE will be changed to XG mode. Ignored when in C/M mode.

Not received when Rcv GM EXCLUSIVE = OFF

Since approximately 50 ms is required to execute this message, leave an appropriate interval before the message that follows it.

#### 2.1.3.2 Identity Request

11110000	F0	= Exclusive status
01111110	7E	= Universal Non-Real Time
0сссссс	cccccc	= Device Number
00000110	06	<ul> <li>General Information</li> </ul>
00000001	01	= Identity Request(Sub-ID #2)
11110111	F7	= End of Exclusive

When this message is received, this device will transmit the following 2.1.3.3 Identity Reply message.

#### 2.1.3.3 Identity Reply

11110000	F0	=Exclusive status	
11111110	7E	=Universal Non-Real Time	
Onnnnnn	Onnnnnn	=Device Number	
00000110	06	=General Information(Sub-ID	#1)
00000010	02	=Device Identity Reply(Sub-I	D #2)
01000011	43	=YAMAHA ID	
00000000	00	=Device Family Code LSB	MU50ID#1
01000001	41	=Device Family Code MSB	MU50ID#2
01000110	46	=Device Number Code LSB	MU50ID#3
00000001	01	=Device Number Code MSB	MU50ID#4
00000000	00		
00000000	00		
00000000	00		
00000000	01	=XG ID	
11110111	F7	=End of Exclusive	

This device transmits this message when it receives a 2.1.3.2 Identity Request message.

<sup>\*</sup> SS is the hex expression of Osssssss Same for others

#### 2.1.4 XG Native Parameter Change

11110000	F0	Exclusive status
01000011	43	YAMAHA ID
0001nnnn	1n	device Number
01001100	4C	XG Model ID
0aaaaaaa	aaaaaaa	Address High
0aaaaaaa	aaaaaaa	Address Mid
0aaaaaaa	aaaaaaa	Address Low
0ddddddd	ddddddd	Data
11110111	F7	End of Exclusive

For parameters whose data size is 2 or 4, transmit the appropriate number of data bytes.

#### 2.1.4.1 XG Sytem On

11110000	F0	Exclusive status
01000011	43	YAMAHA ID
0001nnnn	1N	device Number
01001100	4C	XG Model ID
Oaaaaaaa	00	Address High
0aaaaaaa	00	Address Mid
0aaaaaaa	7E	Address Low
00000000	00	Data
11110111	F7	End of Exclusive

When On is received, the SOUND MODULE MODE will change to XG. Since approximately 50 ms is required to execute this message, leave an appropriate interval before

the message that follows it.

#### 2.1.4.2 XG System Data parameter change

Refer to tables <1-1> and <1-2>.

#### 2.1.4.3 System Information

Data transmission is performed in response to a Dump Request, but data reception is ignored.

Refer to tables <1-1> and <1-3>.

#### 2.1.4.4 Multi Effect1 Data parameter change

Refer to tables <1-1> and <1-4>

#### 2.1.4.5 Display Data parameter change

Refer to tables <1-1> and <1-5>.

### 2.1.4.6 Multi Part Data parameter change

Refer to tables <1-1> and <1-6>.

#### 2.1.4.7 Drums Setup Data parameter change

Refer to tables <1-1> and <1-7>.

If a DRUM SETUP RESET parameter change is received while in XG mode, the Drum Setup parameter values will be initialized.

In any mode, selecting a Drum Set will cause the Drum Setup parameter values to be initialized.

#### 2.1.5 MU80, MU50 native parameter change

11110000	F0	Exclusive status
01000011	43	YAMAHA ID
0001nnnn	1n	device Number
01001001	49	MU80, MU50 Model ID
Oaaaaaaa	aaaaaaa	Address High
Oaaaaaaa	aaaaaaa	Address Mid
Oaaaaaaa	aaaaaaa	Address Low
0ddddddd	ddddddd	Data
11110111	F7	End of Exclusive

For parameters with a data size of 2 or 4, transmit the appropriate number of data bytes.

#### 2.1.5.1 MU80, MU50 System Data parameter change

Refer to tables <2-1> and <2-2>.

#### 2.1.5.2 Current Performance parameter change

Refer to tables <2-1> and <2-3>.

### 2.1.5.3 Remote Switch

Refer to tables <2-1> and <2-4>.

#### 2.1.6 Other parameter changes

#### 2.1.6.1 Master Tuning

11110000	F0	Exclusive status
01000011	43	YAMAHA ID
0001nnnn	1n	device Number
00100111	27	Model ID
00000001	30	Sub ID2
00000000	00	
00000000	00	
0mmmmmmm	mm	Master Tune MSB
Olllllll	11	Master Tune LSB
Осссссс	cc	
11110111	F7	End of Evelucive

This message simultaneously changes the pitch of all channels.

#### 2.1.6.2 Disk Orchestra On

	770
11110000	F0
01000011	43
01110011	73
00000001	01
00010100	14
11110111	F7

This message sets the SOUND MODULE MODE of this device to DOC MODE.

#### 2.2 Bulk Dump

This device handles the following bulk dump data.

[ XG NATIVE ]

- 1) XG System Data
- 2) Multi Effect1 Data
- 3) Multi Part Data
- Drums Setup Data

#### [ MU80, MU50 NATIVE ]

- 1) MU80, MU50 System data
- 2) Internal Performance

#### 2.2.1 XG Native Bulk Dump

11110000	F0	Exclusive status
01000011	43	YAMAHA ID
0000nnnn	0n	device Number
01001100	4C	XG Model ID
0bbbbbbb	bbbbbbb	ByteCount
0bbbbbbb	bbbbbbb	ByteCount
0aaaaaaa	aaaaaaa	Address High
0aaaaaaa	aaaaaaa	Address Mid
0aaaaaaa	aaaaaaa	Address Low
00000000	00	Data
0сссссс	cccccc	Check-sum
11110111	F7	End of Exclusiv

For the Address and Byte Count, refer to the supplementary tables.

The Check Sum is the value that results in a value of zero for the lower 7 bits when the Start Address, Byte Count, and the Check Sum itself are added.

No more than 512 bytes shall be transmitted at one time. If one of the above Dump Request messages for 513 bytes or more is received,

the data will be divided into appropriate packets of 512 bytes or less, and transmitted at appropriate intervals (of at least 120 msec).

#### 2.2.1.1 XG System Data bulk dump

Refer to tables <1-1> and <1-2>.

### 2.2.1.2 Multi Effect1 Data bulk dump

 $Refer\ to\ tables < 1\text{-}1> and < 1\text{-}4>.$ 

### 2.2.1.3 Multi Part Data bulk dump

 $Refer \ to \ tables < 1-1 > and < 1-6 >.$ 

#### 2.2.1.4 Drums Setup Data bulk dump

Refer to tables <1-1> and <1-7>.

#### 2.2.2 MU80, MU50 Native Bulk Dump

F0	Exclusive status
43	YAMAHA ID
On	device Number
49	MU80, MU50 Model ID
bbbbbbb	ByteCount
bbbbbbb	ByteCount
aaaaaaa	Address High
aaaaaaa	Address Mid
aaaaaaa	Address Low
00	Data
į	
cccccc	Check-sum
F7	End of Exclusive
	43 On 49 bbbbbbb aaaaaaa aaaaaaa aaaaaaa OO

For the Address and Byte Count, refer to the supplementary tables.

The Check Sum is the value that results in a value of zero for the lower 7 bits when the Start Address, Byte Count, and the Check Sum itself are added.

No more than 512 bytes shall be transmitted at one time. If one of the above Dump Request messages for 513 bytes or more is received,

the data will be divided into appropriate packets of 512 bytes or less, and transmitted at appropriate intervals (of at least 120 msec).

## $\begin{array}{ll} \textbf{2.2.2.1} & \textbf{MU80, MU50 System Data bulk dump} \\ \textbf{Refer to tables $<2$-1> and $<2$-2>.} \end{array}$

#### 2.2.2.2 Internal Performance bulk dump

Refer to tables <2-1> and <2-5>.

#### 2.3 Parameter Request

This device is able to handle requests for parameters corresponding to parameter

11110000	F0	Exclusive status
01000011	43	YAMAHA ID
0011nnnn	3n	device Number
01001100	4C	XG Model ID
Oaaaaaaa	aaaaaaa	Address High
0aaaaaaa	aaaaaaa	Address Mid
0aaaaaaa	aaaaaaa	Address Low
11110111	F7	End of Exclusive

#### 2.4 Dump Request

This device is able to handle requests for various types of bulk dump data.

11110000	F0	Exclusive status
01000011	43	YAMAHA ID
0010nnnn	2n	device Number
01001100	4C	XG Model ID
Oaaaaaaa	aaaaaaa	Address High
0aaaaaaa	aaaaaaa	Address Mid
0aaaaaaa	aaaaaaa	Address Low
11110111	F7	End of Exclusive

#### 3. Realtime Messages

### 3.1 Active Sensing

a) Transmission Not transmited.

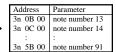
#### b) Reception

Once FE has been received, if no MIDI data is subsequently received for longer than an interval of approximately 300 msec, this device will perform the same processing as when ALL SOUND OFF, ALL NOTE OFF, and RESET ALL CONTROLLERS messages are received, and will then return to a status in which FE is not monitored.

### <Table 1-1>

Parameter Base Address Model ID = 4C [XG]

Paramet	er Chai	nge		
		Address	3	
	(H)	(M)	(L)	Description
XG SYSTEM	00	00	00	System
	00	00	7D	Drum Setup Reset
	00	00	7E	XG System On
	00	00	7F	Reset All Parameters
INFORMATION	01	00	00	System Information
EFFECT 1	02	01	00	Effect1(Reverb, Chorus, Variation)
DISPLAY	06	00	00	Display Letter
	07	00	00	Display Bitmap
MULTI PART	08	00	00	Multi Part 1
				:
	08	0F	00	Multi Part 16
DRUM	30	18	00	Drum Setup 1
	31	18	00	Drum Setup 2



### <Table 1-2>

MIDI Para	meter	Change table	e (SYSTEM)[XG]		
Address (H)	Size (H)	Data (H)	Prameter	Description	Default value(H)
00 00 00	4	0000 - 07FF	MASTER TUNE	-102.4 - +102.3[cent]	00 04 00 00
01				1st bit3-0→bit15-12	-400
02				2nd bit3-0→bit11-8	
03				3rd bit3-0→bit7-4	
				4th bit3-0→bit3-0	
04	1	00 - 7F	MASTER VOLUME	0 - 127	7F
05	1	00 - 7F	not used		
06	1	28 - 58	TRANSPOSE	-24 - +24[semitones]	40
7D		n	DRUM SETUP RESET	n=Drum setup number (receive on	ly)
7E		00	XG SYSTEM ON	00=XG sytem ON (receive only)	
7F		00	ALL PARAMETER RESET	00=ON (receive only)	

TOTAL SIZE 06

#### <Table 1-3>

MIDI Para	ameter	Change table	e ( System information ) [XG]	
Address	Size	Data	Prameter	

WIIDI I ala	110101	onango tabi	io ( Gyotom imormation ) [xto]		
Address	Size	Data	Prameter	Description	Default
(H)	(H)	(H)			value(H)
01 00 00	E	20 - 7F	Model Name	32-127(ASCII)	
:		:			
0E		20 - 7F			
0F	1	00 - 7F	XG Support Level		0 - 127

TOTAL SIZE 10

This is transmitted in response to a Dump Request. This message is not received.

#### <Table 1-4>

MIDI Parameter	Change table	/ FFFFCT	1) [YC]

MIDI Para	meter	Change tai	DIE (EFFECT 1) [XG]		
Address	Size	Data	Prameter	Description	Default
(H)	(H)	(H)			value(H)
02 01 00	2	00-7F	REVERB TYPE MSB	see Effect Program List	01(=HALL1)
		00-7F	REVERB TYPE LSB	00 : basic type	00
02	1	00-7F	REVERB PARAMETER 1	see Effect Parameter List	depends on reverb type
03	1	00-7F	REVERB PARAMETER 2	see Effect Parameter List	depends on reverb type
04	1	00-7F	REVERB PARAMETER 3	see Effect Parameter List	depends on reverb type
05	1	00-7F	REVERB PARAMETER 4	see Effect Parameter List	depends on reverb type
06	1	00-7F	REVERB PARAMETER 5	see Effect Parameter List	depends on reverb type
07	1	00-7F	REVERB PARAMETER 6	see Effect Parameter List	depends on reverb type
08	1	00-7F	REVERB PARAMETER 7	see Effect Parameter List	depends on reverb type
09	1	00-7F	REVERB PARAMETER 8	see Effect Parameter List	depends on reverb type
0A	1	00-7F	REVERB PARAMETER 9	see Effect Parameter List	depends on reverb type
0B	1	00-7F	REVERB PARAMETER 10	see Effect Parameter List	depends on reverb type
0C	1	00-7F	REVERB RETURN	-∞dB0dB+6dB(064127)	40
0D	1	01-7F	REVERB PAN	L63CR63(164127)	40
TOTAL SIZ	E 0E				
		00.50	DEVENDE DAD LA CEMENTAL	D00 - D	
02 01 10	1	00-7F	REVERB PARAMETER 11	see Effect Parameter List	depends on reverb type
11	1	00-7F	REVERB PARAMETER 12	see Effect Parameter List	depends on reverb type
12	1	00-7F	REVERB PARAMETER 13	see Effect Parameter List	depends on reverb type
13	1	00-7F	REVERB PARAMETER 14	see Effect Parameter List	depends on reverb type
14	1	00-7F	REVERB PARAMETER 15	see Effect Parameter List	depends on reverb type
15	_ 1	00-7F	REVERB PARAMETER 16	see Effect Parameter List	depends on reverb type
TOTAL SIZ	E 6				
02 01 20	2	00-7F	CHORUS TYPE MSB	see Effect Program List	41(=CHORUS1)
02 01 20	_	00-7F	CHORUS TYPE LSB	00 : basic type	00
22	1	00-7F	CHORUS PARAMETER 1	see Effect Parameter List	depends on chorus Type
23	i	00-7F	CHORUS PARAMETER 2	see Effect Parameter List	depends on chorus Type
24	1	00-7F	CHORUS PARAMETER 3	see Effect Parameter List	depends on chorus Type
25	1	00-7F	CHORUS PARAMETER 4	see Effect Parameter List	depends on chorus Type
26	1	00-7F	CHORUS PARAMETER 5	see Effect Parameter List	depends on chorus Type
					1 31

```
00-7F
                                    CHORUS PARAMETER 6
                                                                                  see Effect Parameter List
                                                                                                                   depends on chorus Type
                                    CHORUS PARAMETER 7
      28
                      00-7F
                                                                                  see Effect Parameter List
                                                                                                                   depends on chorus Type
      29
                      00-7F
                                    CHORUS PARAMETER 8
                                                                                  see Effect Parameter List
                                                                                                                   depends on chorus Type
      2A
                      00-7F
                                    CHORUS PARAMETER 9
                                                                                  see Effect Parameter List
                                                                                                                   depends on chorus Type
      2B
                      00-7F
                                    CHORUS PARAMETER 10
                                                                                  see Effect Parameter List
                                                                                                                   depends on chorus Type
      2C
                      00-7F
                                    CHORUS RETURN
                                                                                   -∞dB...0dB...+6dB(0...64...127)
                                                                                                                   40
      2D
                                                                                  L63...C...R63(1...64...127)
                      01-7F
                                    CHORUS PAN
                                                                                                                   40
                                    SEND CHORUS TO REVERB
                                                                                  -∞dB...0dB...+6dB(0...64...127)
                                                                                                                   00
      2E
                      00-7F
TOTAL SIZE
02 01 30
                      00-7F
                                    CHORUS PARAMETER 11
                                                                                  see Effect Parameter List
                                                                                                                   depends on chorus Type
      31
                      00-7F
                                    CHORUS PARAMETER 12
                                                                                  see Effect Parameter List
                                                                                                                   depends on chorus Type
      32
                      00-7F
                                    CHORUS PARAMETER 13
                                                                                  see Effect Parameter List
                                                                                                                   depends on chorus Type
                                                                                  see Effect Parameter List
      33
                      00-7F
                                    CHORUS PARAMETER 14
                                                                                                                   depends on chorus Type
      34
                      00-7F
                                    CHORUS PARAMETER 15
                                                                                  see Effect Parameter List
                                                                                                                   depends on chorus Type
      35
                      00-7F
                                    CHORUS PARAMETER 16
                                                                                  see Effect Parameter List
                                                                                                                   depends on chorus Type
TOTAL SIZE
              6
                                                                                  see Effect Program List
02 01 40
              2
                      00-7F
                                    VARIATION TYPE MSB
                                                                                                                   05(=DELAY L,C,R)
                                                                                  00 : basic type
                                    VARIATION TYPE LSB
                      00-7F
      42
              2
                      00-7F
                                    VARIATION PARAMETER 1 MSB
                                                                                  see Effect Parameter List
                                                                                                                   depends on variation type
                      00-7F
                                    VARIATION PARAMETER 1 LSB
                                                                                  see Effect Parameter List
                                                                                                                   depends on variation type
                                    VARIATION PARAMETER 2 MSB
VARIATION PARAMETER 2 LSB
                                                                                  see Effect Parameter List
      44
              2
                      00-7F
                                                                                                                   depends on variation type
                      00-7F
                                                                                  see Effect Parameter List
                                                                                                                   depends on variation type
              2
                      00-7F
                                    VARIATION PARAMETER 3 MSB
                                                                                  see Effect Parameter List
      46
                                                                                                                   depends on variation type
                      00-7F
                                    VARIATION PARAMETER 3 LSB
                                                                                  see Effect Parameter List
                                                                                                                   depends on variation type
      48
              2
                      00-7F
                                    VARIATION PARAMETER 4 MSB
                                                                                  see Effect Parameter List
                                                                                                                   depends on variation type
                      00-7F
                                    VARIATION PARAMETER 4 LSB
                                                                                  see Effect Parameter List
                                                                                                                   depends on variation type
              2
                      00-7F
                                    VARIATION PARAMETER 5 MSB
                                                                                  see Effect Parameter List
                                                                                                                   depends on variation type
      4A
                      00-7F
                                    VARIATION PARAMETER 5 LSB
                                                                                  see Effect Parameter List
                                                                                                                   depends on variation type
              2
                                    VARIATION PARAMETER 5 MSB
      4C
                      00-7F
                                                                                  see Effect Parameter List
                                                                                                                   depends on variation type
                      00-7F
                                    VARIATION PARAMETER 6 LSB
                                                                                  see Effect Parameter List
                                                                                                                   depends on variation type
      4E
              2
                      00-7F
                                    VARIATION PARAMETER 7 MSB
                                                                                  see Effect Parameter List
                                                                                                                   depends on variation type
                      00-7F
                                    VARIATION PARAMETER 7 LSB
                                                                                  see Effect Parameter List
                                                                                                                   depends on variation type
      50
              2
                      00-7F
                                    VARIATION PARAMETER 8 MSB
                                                                                  see Effect Parameter List
                                                                                                                   depends on variation type
                                    VARIATION PARAMETER 8 LSB
                                                                                  see Effect Parameter List
                      00-7F
                                                                                                                   depends on variation type
      52
              2
                      00-7F
                                    VARIATION PARAMETER 9 MSB
                                                                                  see Effect Parameter List
                                                                                                                   depends on variation type
                      00-7F
                                    VARIATION PARAMETER 9 LSB
                                                                                  see Effect Parameter List
                                                                                                                   depends on variation type
      54
              2
                      00-7F
                                    VARIATION PARAMETER 10 MSB
                                                                                  see Effect Parameter List
                                                                                                                   depends on variation type
                                    VARIATION PARAMETER 10 LSB
                                                                                  see Effect Parameter List
                      00-7F
                                                                                                                   depends on variation type
                                    VARIATION RETURN
                                                                                   -∞dB...0dB...+6dB(0...64...127)
      56
                      00-7F
                                                                                                                   40
      57
                      01-7F
                                    VARIATION PAN
                                                                                  L63...C...R63(1...64...127)
                                                                                                                   40
                                    SEND VARIATION TO REVERB
      58
                      00-7F
                                                                                  -∞dB...0dB...+6dB(0...64...127)
                                                                                                                   00
                                    SEND VARIATION TO CHORUS
      59
                      00-7F
                                                                                   -∞dB...0dB...+6dB(0...64...127)
                                                                                                                   00
      5A
                      00-01
                                    VARIATION CONNECTION
                                                                                  0:INSERTION,1:SYSTEM
                                                                                                                   00
      5B
                      00-01
                                    VARIATION PART
                                                                                  Part1...16(0...15)
                                                                                                                   7F
              1
                                                                                  OFF(127)
                                    MW VARIATION CONTROL DEPTH
      5C
               1
                      00-7F
                                                                                  -64 - +63
                                                                                                                   40
      5D
                      00-7F
                                    BEND VARIATION CONTROL DEPTH
                                                                                  -64 - +63
                                                                                                                   40
                                    CAT VARIATION CONTROL DEPTH
      5E
                      00-7F
                                                                                  -64 - +63
                                                                                                                   40
                                    AC1 VARIATION CONTROL DEPTH
      5F
                      00-7F
                                                                                  -64 - +63
                                                                                                                   40
                                    AC2 VARIATION CONTROL DEPTH
      60
                      00-7F
                                                                                  -64 - +63
                                                                                                                   40
TOTAL SIZE
             21
02 01 70
               1
                      00-7F
                                    VARIATION PARAMETER 11
                                                                                  see Effect Parameter List
                                                                                                                   depends on variation type
      71
                      00-7F
                                    VARIATION PARAMETER 12
                                                                                  see Effect Parameter List
                                                                                                                   depends on variation type
                                    VARIATION PARAMETER 13
                      00-7F
                                                                                  see Effect Parameter List
      72
                                                                                                                   depends on variation type
      73
                      00-7F
                                    VARIATION PARAMETER 14
                                                                                  see Effect Parameter List
                                                                                                                   depends on variation type
      74
                      00-7F
                                    VARIATION PARAMETER 15
                                                                                  see Effect Parameter List
                                                                                                                   depends on variation type
                                    VARIATION PARAMETER 16
                                                                                  see Effect Parameter List
                                                                                                                   depends on variation type
TOTAL SIZE
              6
<Table 1-5>
MIDI Parameter Change table (DISPLAY DATA) [XG]
Address
                                                                                  Description
                                                                                                                   Default
             (H)
                       (H)
                                                                                                                   value(H)
06 00 00
              20
                      20 - 7F
                                    DISPLAY LETTER
                                                                                  32-127(ASCII CHARACTER)
      1F
                     20 - 7F
TOTAL SIZE 20
07 vh 00
              30
                     00 - 7F
                                    DISPLAY BITMAP Data0
                                                                                  0 - 127
      2F
                     00 - 7F
TOTAL SIZE 30
v: Vertical extension (0 to 7)
                                    Single display is 16×16 dots, so maximum display is 256 dots (h) by 128 dots (v).
h: Horizontal extension (0 to F)
The data is related to the display screen as follows
Each byte of data represents seven horizontal pixels.
Set a bit to 1 to turn on a pixe, and to 0 to turn off a pixel.
This data is arranged on the screen as follows.
            b6 b5 b4 b3 b2 b1 b0
                                               b6 b5 b4 b3 b2 b1 b0
                                                                                  b6 b5 b4 b3 b2 b1 b0 (b stands for bit)
    Data0
                                        Data16 *
                                                                           Data32
    Data1
                                        Data17
                                                                           Data33
    Data2
                                        Data18
                                                                           Data34
    Data3
                                        Data19
                                                                           Data35
    Data4
                                        Data20
                                                                           Data36
                                        Data21
                                                                           Data37
```

Data6	Data22	Data38
Data7	Data23	Data39
Data8	Data24	Data40
Data9	Data25	Data41
Data10	Data26	Data42
Data11	Data27	Data43
Data12	Data28	Data44
Data13	Data29	Data45
Data14	Data30	Data46
Data15	Data31	Data47
East Date 22	Dec. 47 - also his Constitute from 122	

<sup>&</sup>quot;For Data32~Data47, only bit 6 and bit 5 are used."

It is also possible for bitmap data to be received to change only for specified pixels. In this case, other pixels will display the previous status. DISPLAY DATA parameter changes can be used to transmit consecutive data starting with a desired location.

### <Table 1-6>

MIDI Para	meter		e ( MULTI PART ) [XG]		
Address	Size	Data	Prameter	Description	Default
(H)	(H)	(H)			value(H)
08 nn 00	1	00 - 20	ELEMENT RESERVE	0 - 32	part10=0, other =2
nn 01	1	00 - 7F	BANK SELECT MSB	0 - 127	part10=7F, other=0
nn 02	1	00 - 7F 00 - 7F	BANK SELECT LSB	0 - 127 1 - 128	00
nn 03 nn 04	1	00 - 7F 00 - 1F, 7F	PROGRAM NUMBER Rcv CHANNEL		00 Part No.
III 04	1	00 - 11, 71	RCV CHANNEL	A1 - A16, OFF	rait No.
nn 05	1	00 - 01	MONO/POLY MODE	0:MONO	01
05	•	00 01	MONOTOLI MODL	1:POLY	01
nn 06	1	00 - 02	SAME NOTE NUMBER	0:SINGLE	1 (all part)
			KEY ON ASSIGN	1:MULTI	Part 10=2, other=0
				2:INST (for DRUM)	
nn 07	1	00 - 05	PART MODE	0:NORMAL	00 (Other than Part 10)
				1:DRUM	02 (Part10)
				2 - 5:DRUMS1 - 4	
nn 08	1	28 - 58	NOTE SHIFT	-24 - +24[semitones]	40
nn 09	2	00 - FF	DETUNE	-12.8 - +12.7[Hz]	08 00
nn 0A				1st bit3-0→bit7-4 2nd bit3-0→bit3-0	(80)
nn OB	1	00 - 7F	VOLUME	0 - 127	64
nn OC	1	00 - 7F	VELOCITY SENSE DEPTH	0 - 127	40
nn 0D	1	00 - 7F	VELOCITY SENSE OFFSET	0 - 127	40
nn 0E	1	00 - 7F	PAN	0:random	40
	-			1/L6364/C127/R63	
nn OF	1	00 - 7F	NOTE LIMIT LOW	C-2 - G8	00
nn 10	1	00 - 7F	NOTE LIMIT HIGH	C-2 - G8	7F
nn 11	1	00 - 7F	DRY LEVEL	0 - 127	7F
nn 12	1	00 - 7F	CHORUS SEND	0 - 127	00
nn 13	1	00 - 7F	REVERB SEND	0 - 127	28
nn 14	1	00 - 7F	VARIATION SEND	0 - 127	00
1.5		00 75	LUDD A TO DATE	64	40
nn 15	1	00 - 7F	VIBRATO RATE	-64 - +63	40
nn 16	1	00 - 7F 00 - 7F	VIBRATO DEL AV	-64 - +63	40 (drum part ignores)
nn 17 nn 18	1 1	00 - 7F 00 - 7F	VIBRATO DELAY FILTER CUTOFF FREQUENCY	-64 - +63 -64 - +63	40 (drum part ignores) 40
nn 19	1	00 - 7F	FILTER RESONANCE	-64 - +63	40
nn 1A	1	00 - 7F	EG ATTACK TIME	-64 - +63	40
nn 1B	1	00 - 7F	EG DECAY TIME	-64 - +63	40
nn 1C	1	00 - 7F	EG RELEASE TIME	-64 - +63	40
nn 1D	1	28 - 58	MW PITCH CONTROL	-24 - +24[semitones]	40
nn 1E	1	00 - 7F	MW FILTER CONTROL	-9600 - +9450[cent]	40
nn 1F	1	00 - 7F	MW AMPLITUDE CONTROL	-64 - +63	40
nn 20	1	00 - 7F	MW LFO PMOD DEPTH	0 - 127	0A
nn 21	1	00 - 7F	MW LFO FMOD DEPTH	0 - 127	00
nn 22	1	00 - 7F	MW LFO AMOD DEPTH	0 - 127	00
nn 23	1	28 - 58	BEND PITCH CONTROL	-24 - +24[semitones]	42
nn 24	1	00 - 7F	BEND FILTER CONTROL	-9600 - +9450[cent]	40
nn 25	1	00 - 7F	BEND AMPLITUDE CONTROL	-64 - +63	40
nn 26	1	00 - 7F	BEND LFO PMOD DEPTH	0 - 127	40
nn 27	1	00 - 7F	BEND LFO FMOD DEPTH	0 - 127	40
nn 28	1	00 - 7F	BEND LFO AMOD DEPTH	0 - 127	40
TOTAL SIZI	E 29				
			n nemati nema	OFFICAN	0.4
nn 30	1	00 - 01	Rev PITCH BEND	OFF/ON	01
nn 31 nn 32	1	00 - 01	Rev CH AFTER TOUCH(CAT)	OFF/ON	01 01
nn 33	1 1	00 - 01 00 - 01	Rcv PROGRAM CHANGE Rcv CONTROL CHANGE	OFF/ON OFF/ON	01
nn 34	1	00 - 01	Rev POLY AFTER TOUCH(PAT)	OFF/ON	01
nn 35	i	00 - 01	Rcv NOTE MESSAGE	OFF/ON	01
nn 36	1	00 - 01	Rcv RPN	OFF/ON	01
nn 37	1	00 - 01	Rcv NRPN	OFF/ON	XG=01, GM=00
nn 38	1	00 - 01	Rcv MODURATION	OFF/ON	01
nn 39	1	00 - 01	Rcv VOLUME	OFF/ON	01
nn 3A	1	00 - 01	Rev PAN	OFF/ON	01
nn 3B	1	00 - 01	Rcv EXPRESSION	OFF/ON	01
nn 3C	1	00 - 01	Rev HOLD1	OFF/ON	01
nn 3D	1	00 - 01	Rev PORTAMENTO	OFF/ON	01
nn 3E nn 3F	1	00 - 01 00 - 01	Rcv SOSTENUTO Rcv SOFT PEDAL	OFF/ON OFF/ON	01 01
nn 40	1	00 - 01	Rev BANK SELECT	OFF/ON	XG=01, GM=00
III 40	1	00 - 01	NOT DAINE DELECT	OF T/ON	AG-01, UM-00

nn 41	1	00 - 7F	SCALE TUNING C	-64 - +63[cent]	40
nn 42	1	00 - 7F	SCALE TUNING C#	-64 - +63[cent]	40
nn 43	1	00 - 7F	SCALE TUNING D	-64 - +63[cent]	40
nn 44	1	00 - 7F	SCALE TUNING D#	-64 - +63[cent]	40
nn 45	1	00 - 7F	SCALE TUNING E	-64 - +63[cent]	40
nn 46	1	00 - 7F	SCALE TUNING F	-64 - +63[cent]	40
nn 47	1	00 - 7F	SCALE TUNING F#	-64 - +63[cent]	40
nn 48	1	00 - 7F	SCALE TUNING G	-64 - +63[cent]	40
nn 49	1	00 - 7F	SCALE TUNING G#	-64 - +63[cent]	40
nn 4A	1	00 - 7F	SCALE TUNING A	-64 - +63[cent]	40
nn 4B	1	00 - 7F	SCALE TUNING A#	-64 - +63[cent]	40
nn 4C	1	00 - 7F	SCALE TUNING B	-64 - +63[cent]	40
	_				
nn 4D	1	28 - 58	CAT PITCH CONTROL	-24 - +24[semitones]	40
nn 4E	1	00 - 7F	CAT FILTER CONTROL	-9600 - +9450[cent]	40
nn 4F	i	00 - 7F	CAT AMPLITUDE CONTROL	-64 - +63	40
nn 50	1	00 - 7F	CAT LFO PMOD DEPTH	0 - 127	00
nn 51	1	00 - 7F	CAT LFO FMOD DEPTH	0 - 127	00
nn 52	1	00 - 7F	CAT LFO AMOD DEPTH	0 - 127	00
IIII 32	1	00 - 71	CAT LI O AMOD DEF III	0 - 127	00
nn 53	1	28 - 58	PAT PITCH CONTROL	-24 - +24[semitones]	40
nn 54	1	00 - 7F	PAT FILTER CONTROL	-9600 - +9450[cent]	40
nn 55	1	00 - 7F	PAT AMPLITUDE CONTROL	-64 - +63	40
nn 56	1	00 - 7F	PAT LFO PMOD DEPTH	0 - 127	00
nn 57	1	00 - 7F	PAT LFO FMOD DEPTH	0 - 127	00
nn 58	1	00 - 7F 00 - 7F	PAT LFO FMOD DEPTH PAT LFO AMOD DEPTH	0 - 127	
nn 38	1	00 - /F	PAT LFO AMOD DEPTH	0 - 127	00
nn 59	1	00 - 5F	AC1 CONTROLLER NUMBER	0 - 95	10
nn 5A	1	28 - 58	AC1 PITCH CONTROL	-24 - +24[semitones]	40
nn 5B	1	00 - 7F	AC1 FILTER CONTROL	-9600 - +9450[cent]	40
nn 5C	1	00 - 7F	AC1 AMPLITUDE CONTROL	-64 - +63	40
nn 5D	1	00 - 7F	AC1 LFO PMOD DEPTH	0 - 127	00
nn 5E	1	00 - 7F 00 - 7F	AC1 LFO FMOD DEPTH AC1 LFO FMOD DEPTH	0 - 127	00
nn 5F	1	00 - 7F 00 - 7F	AC1 LFO AMOD DEPTH	0 - 127	
nn 3F	1	00 - /F	ACT LFO AMOD DEPTH	0 - 127	00
nn 60	1	00 - 5F	AC2 CONTROLLER NUMBER	0 - 95	11
nn 61	1	28 - 58	AC2 PITCH CONTROL	-24 - +24[semitones]	40
nn 62	1	00 - 7F	AC2 FILTER CONTROL	. ,	40
nn 63	1	00 - 7F 00 - 7F	AC2 AMPLITUDE CONTROL	-9600 - +9450[cent] -64 - +63	40
nn 64	1	00 - 7F	AC2 LFO PMOD DEPTH	0 - 127	00
nn 65	1	00 - 7F	AC2 LFO FMOD DEPTH	0 - 127	00
nn 66	1	00 - 7F	AC2 LFO AMOD DEPTH	0 - 127	00
67	1	00 - 01	DODE A MENTO CWITCH	0/OFF 1/ON	00
nn 67	1	00 - 01 00 - 7F	PORTAMENTO SWITCH	0/OFF, 1/ON	00
nn 68	1	00 - /F	PORTAMENTO TIME	0 - 127	00
nn 69	1	00 - 7F	PITCH EG INITIAL LEVEL	-64 - +63	40
nn 6A	1	00 - 7F 00 - 7F	PITCH EG INTTAL LEVEL PITCH EG ATTACK TIME	-64 - +63	40
nn 6B	1	00 - 7F 00 - 7F		-64 - +63 -64 - +63	40
			PITCH EG RELEASE LEVEL		
nn 6C	1 1	00 - 7F	PITCH EG RELEASE TIME	-64 - +63 1 - 127	40
nn 6D		00 - 7F	VELOCITY LIMIT LOW		01 7F
nn 6E	1	00 - 7F	VELOCITY LIMIT HIGH	1 - 127	/F
TOTAL SIZE	. 5F				

 $nn = PartNumber \; (0:1 \; Part, \; 1:2 \; Part, \; 2:3 \; Part, \ldots, 15:16 \; Part)$ 

For the DRUM PART, the following parameters have no effect.

• BANK SELECT LSB

- PORTAMENTO
- SOFT PEDAL
- MONO/POLY
- SCALE TUNING
- POLY AFTER TOUCH
- PITCH EG

#### <Table 1-7>

MIDI Parameter Change table ( DRUM SETUP ) [XG]

MIDI Para	imeter	Change tab	DRUM SETUP) [XG]		
Address	Size	Data	Prameter	Description	Default
(H)	(H)	(H)			value(H)
3n rr 00	1	00 - 7F	PITCH COARSE	-64 - +63	40
3n rr 01	1	00 - 7F	PITCH FINE	-64 - +63[cent]	40
3n rr 02	1	00 - 7F	LEVEL	0 - 127	depend on the note
3n rr 03	1	00 - 7F	ALTERNATE GROUP	0:OFF, 1 - 127	depend on the note
3n rr 04	1	00 - 7F	PAN	0:random, 1/L63_64/C_127/R63	depend on the note
3n rr 05	1	00 - 7F	REVERB SEND	0 - 127	depend on the note
3n rr 06	1	00 - 7F	CHORUS SEND	0 - 127	depend on the note
3n rr 07	1	00 - 7F	VARIATION SEND	0 - 127	7F
3n rr 08	1	00 - 01	KEY ASSIGN	0:SINGLE	00
				1:MULTI	
3n rr 09	1	00 - 01	Rcv NOTE OFF	0/OFF, 1/ON	depend on the note
3n rr 0A	1	00 - 01	Rcv NOTE ON	0/OFF, 1/ON	01
3n rr 0B	1	00 - 7F	FILTER CUTOFF FREQUENCY	-64 - 63	40
3n rr 0C	1	00 - 7F	FILTER RESONANCE	-64 - 63	40
3n rr 0D	1	00 - 7F	EG ATTACK RATE	-64 - 63	40
3n rr 0E	1	00 - 7F	EG DECAY1 RATE	-64 - 63	40
3n rr 0F	1	00 - 7F	EG DECAY2 RATE	-64 - 63	40
TOTAL SIZ	E 10				

[Note]

n:Drum setup number, A minimum of two setups is required.

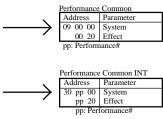
rr:Note Number (0D-54), As a minimum, all notes covered by GMx must be supported. When XG system on or GM system on messages are received, all DRUM SETUP parameters are initialized.

The Drum Setup Reset message can be used to initialize each Drum Setup parameter.

### <Table 2-1>

Parameter Base Address Model ID = 49 [MU80, MU50]

Parameter Change				
		Address	S	
	(H)	(M)	(L)	Description
MU50 SYSTEM	00	00	00	System
CURRENT	09	00	00	Performance Common PER-
FORMANCE	09	01	00	Performance Part1
09	02			ice Part2 09
03	00Pe	rforma	ce Part	β 09
04	00Pe	rforma	ce Part	4 REMOTE SWITCH 0A
00	00Sv	vitch re	note	
INTERNAL	30	00	00	Internal Performance#1 Common
PERFORMANCE		:		:
	30	7F	00	Internal Performance#128 Common
	31	00	00	Internal Performance#1 Part1
		:		:
	31	7F	00	Internal Performance#128 Part1
	32	00	00	Internal Performance#1 Part2
		:		:
	32	7F	00	Internal Performance#128 Part2
	33	00	00	Internal Performance#1 Part3
		:		:
	33	7F	00	Internal Performance#128 Part3
	34	00	00	Internal Performance#1 Part4
		:		:
	34	7F	00	Internal Performance#128 Part4



### <Table2-2>

MIDI Parameter Change table ( SYSTEM ) [MU80, MU50]

Address	Size	Data	Prameter	Description	Default
(H)	(H)	(H)			value(H)
00 00 00	1	00-01	MUTE LOCK	0/OFF, 1/ON	0
01	1		not used		
02	1		not used		
03	1	00-01	RECEIVE GM ON	0/OFF,1/ON	1
04	1	00-01	RECELVE BANK SELECT	0/OFF,1/ON	1
05	1	00-04	BULK OUT INTERVAL TIME	0/50, 1/100, 2/150, 3/200, 4/300	2
06	1	00-10	PERFORMANCE CHANNEL	1 - 16, all	1
07	1	28-58	PERFORMANCE TRANSPOSE	-24 - +24[semitone]	40
08	1	00-07	LCD CONTRAST	1 - 8	2
09	1	00-07	MULTI PORT NUMBER for MIDI OUT	1 - 8	1

TOTAL SIZE 0A

### <Table2-3>

MIDI Parameter Change table (CURRENT PERFORMANCE COMMON SYSTEM) [MU80, MU50]

Address	Size	Data	Prameter	Description	Default
(H)	(H)	(H)			value(H)
09 00 00	0C	20 - 7F	performance name	32 - 127(ASCII CHARACTER)	
09 00 0C	01	00 - 7F	master volume	0 - 127	
09 00 0D	01	01 - 7F	master pan	1/L63 - 64/C - 127/R63	
09 00 0E	01	00 - 5F	AC1 CC Number	0- 95	
09 00 0F	01	00 - 01	not used		

TOTAL SIZE 10

pp:performance number (00-40)

MIDI Para	ameter (	Change tal	ble ( CURRENT	PERFORMANCE COMMON EFFECT ) [MU80, MU50]
Addroce	Sizo	Doto	Promotor	Description

Address	Size	Data	Prameter	Description	Default
(H)	(H)	(H)			value(H)
09 00 20	2	00-7F	REVERB TYPE MSB	See Effect Program List	01(=HALL1)
09 00 21		00-7F	REVERB TYPE LSB	00 : basic type	00
09 00 22	1	00-7F	REVERB PARAMETER 1	See Effect Parameter List	depends on reverb type
09 00 23	1	00-7F	REVERB PARAMETER 2	See Effect Parameter List	depends on reverb type
09 00 24	1	00-7F	REVERB PARAMETER 3	See Effect Parameter List	depends on reverb type
09 00 25	1	00-7F	REVERB PARAMETER 4	See Effect Parameter List	depends on reverb type
09 00 26	1	00-7F	REVERB PARAMETER 5	See Effect Parameter List	depends on reverb type
09 00 27	1	00-7F	REVERB RETURN	-∞dB0dB+6dB(064127)	40
09 00 28	1	01-7F	REVERB PAN	L63CR63(164127)	40
09 00 29	2	00-7F	CHORUS TYPE MSB	See Effect Program List	41(=CHORUS1)
09 00 2A		00-7F	CHORUS TYPE LSB	00 : basic type	00
09 00 2B	1	00-7F	CHORUS PARMETER 1	See Effect Parameter List	depends on chorus Type
09 00 2C	1	00-7F	CHORUS PARMETER 2	See Effect Parameter List	depends on chorus Type
09 00 2D	1	00-7F	CHORUS PARMETER 3	See Effect Parameter List	depends on chorus Type
09 00 2E	1	00-7F	CHORUS PARMETER 4	See Effect Parameter List	depends on chorus Type
09 00 2F	1	00-7F	CHORUS PARMETER 5	See Effect Parameter List	depends on chorus Type
09 00 30	1	00-7F	CHORUS RETURN	-∞dB0dB+6dB(064127)	40
09 00 31	1	01-7F	CHORUS PAN	L63CR63(164127)	40
09 00 32	1	00-7F	SEND CHORUS TO REVERB	-∞dB0dB+6dB(064127)	00
09 00 33	2	00-7F	VARIATION TYPE MSB	See Effect Program List	05(=DELAY L,C,R)
09 00 34		00-7F	VARIATION TYPE LSB	00 : basic type	00

09 00 35	2	00-7F	VARIATION PARMETER 1 MSB	See Effect Parameter List	depends on variation type
09 00 36		00-7F	VARIATION PARMETER 1 LSB	See Effect Parameter List	depends on variation type
09 00 37	2	00-7F	VARIATION PARMETER 2 MSB	See Effect Parameter List	depends on variation type
09 00 38		00-7F	VARIATION PARMETER 2 LSB	See Effect Parameter List	depends on variation type
09 00 39	2	00-7F	VARIATION PARMETER 3 MSB	See Effect Parameter List	depends on variation type
09 00 3A		00-7F	VARIATION PARMETER 3 LSB	See Effect Parameter List	depends on variation type
09 00 3B	2	00-7F	VARIATION PARMETER 4 MSB	See Effect Parameter List	depends on variation type
09 00 3C		00-7F	VARIATION PARMETER 4 LSB	See Effect Parameter List	depends on variation type
09 00 3D	2	00-7F	VARIATION PARMETER 5 MSB	See Effect Parameter List	depends on variation type
09 00 3E		00-7F	VARIATION PARMETER 5 LSB	See Effect Parameter List	depends on variation type
09 00 3F	2	00-7F	VARIATION PARMETER 10 MSB	See Effect Parameter List	depends on variation type
09 00 40		00-7F	VARIATION PARMETER 10 LSB	See Effect Parameter List	depends on variation type
09 00 41	1	00-7F	VARIATION RETURN	-∞dB0dB+6dB(064127)	40
09 00 42	1	01-7F	VARIATION PAN	L63CR63(164127)	40
09 00 43	1	00-7F	SEND VARIATION TO REVERB	-∞dB0dB+6dB(064127)	00
09 00 44	1	00-7F	SEND VARIATION TO CHORUS	-∞dB0dB+6dB(064127)	00
09 00 45	1	00-7F	AC1 VARIATION CONTROL DEPTH	-64 - +63	00
09 00 46	1	00-01	VARIATION CONECTION	0:INSERTION,1:SYSTEM	00
09 00 47	1	00-7F	VARIATION PART	Part14(03)	7F
				OFF(127)	

TOTAL SIZE 40

MIDI Parameter Change table ( CURRENT PERFORMANCE PART ) [MU80, MU50]

			ic ( OOMALIAT I EIG ONWANDE I A		
Address	Size	Data	Prameter	Description	Default
(H)	(H)	(H)			value(H)
09 On 00	1	00 - 7F	PROGRAM NUMBER	1 - 128	
09 On 01	1	00 - 7F	BANK SELECT	0 - 127 (See XG voice map, 127=	SFX bank)
09 On 02	1	00 - 7F	VOLUME	0 - 127	
09 On 03	1	00 - 7F	PAN	0/random, 1/L63 - 64/C - 127	
09 On 04	1	00 - 7F	DRY SEND LEVEL	0 - 127(VarConnection=SYS)	)
09 On 05	1	00 - 7F	CHORUS SEND	0 - 127	
09 On 06	1	00 - 7F	REVERB SEND	0 - 127	
09 On 07	1	00 - 7F	VARIATION SEND	0 - 127	
09 On 08	1	28 - 58	NOTE SHIFT	-24 - +24[semitones]	
09 On 09	1	00 - 01	Rcv NOTE MESSAGE(MUTE)	0/OFF,1/ON	
09 On OA	1	00 - 7F	FILTER CUTOFF FREQUENCY	-64 - +63	
09 On OB	1	00 - 7F	FILTER RESONANCE	-64 - +63	
09 0n 0C	1	00 - 7F	EG ATTACK TIME	-64 - +63	
09 0n 0D	1	00 - 7F	EG DECAY TIME	-64 - +63	
09 On 0E	1	00 - 7F	EG RELEASE TIME	-64 - +63	
09 On OF	1	00 - 7F	VIBRATO RATE	-64 - +63	
09 On 10	1	00 - 7F	VIBRATO DEPTH	-64 - +63	
09 On 11	1	00 - 7F	VIBRATO DELAY	-64 - +63	
09 On 12	2	00 - FF	DETUNE	-12.8 - +12.7[Hz]	
				1st bit3-0→bit7-4	
09 On 14	1	00 - 7F	PITCH EG INITIAL LEVEL	-64 - +63	
09 On 15	1	00 - 7F	PITCH EG ATTACK TIME	-64 - +63	
09 On 16	1	00 - 7F	PITCH EG RELEASE LEVEL	-64 - +63	
09 On 17	1	00 - 7F	PITCH EG RELEASE TIME	-64 - +63	
09 On 18	1	00 - 7F	MW LFO PMOD DEPTH	0 - 127	
09 On 19	1	00 - 7F	MW LFO FMOD DEPTH	0 - 127	
09 On 1A	1	28 - 58	BEND PITCH CONTROL	-24 - +24[semitones]	
09 On 1B	1	00 - 7F	AC1 FILTER CONTROL	-64 - +63	
09 0n 1C	1	00 - 7F	AC1 AMPLITUDE CONTROL	-64 - +63	
09 0n 1D	1	00 - 01	MONO/POLY MODE	0/MONO, 1/POLY	
09 On 1E	1	00 - 7F	VELOCITY SENSE DEPTH	0 - 127	
09 0n 1F	1	00 - 7F	VELOCITY SENSE OFFSET	0 - 127	
09 On 20	1	00 - 7F	NOTE LIMIT LOW	C-2 - G8	
09 On 21	1	00 - 7F	NOTE LIMIT HIGH	C-2 - G8	
09 On 22	1	00 - 01	PORTAMENTO SWITCH	0/OFF,1/ON	
09 On 23	1	00 - 7F	PORTAMENTO TIME	0 - 127	
09 On 24	1	01 - 7F	VELOCITY LIMIT LOW	1 - 127	
09 On 25	1	01 - 7F	VELOCITY LIMIT HIGH	1 - 127	
TOTAL SIZE	26				

[Note]
n: performance part number (01-04)

### <Table2-4>

MIDI Parameter Change table ( REMOTE SWITCH ) [MU80, MU50]

		Oago .a	\	. / [	
Address	Size	Data	Prameter	Description	Default
(H)	(H)	(H)			value(H)
0A 00 00	1	00-01	PLAY switch	0/OFF,1/ON	
0A 00 01	1	00-01	UTIL switch	0/OFF,1/ON	
0A 00 02	1	00-01	MODE switch	0/OFF,1/ON	
0A 00 03	1	00-01	EDIT switch	0/OFF,1/ON	
0A 00 04	1	00-01	EFFECT switch	0/OFF,1/ON	
0A 00 05	1		not used		
0A 00 06	1	00-01	MUTE/SOLO switch	0/OFF,1/ON	
0A 00 07	1	00-01	ENTER switch	0/OFF,1/ON	
0A 00 08	1	00-01	EXIT switch	0/OFF,1/ON	
0A 00 09	1	00-01	PART- switch	0/OFF,1/ON	
0A 00 0A	1	00-01	SELECT- switch	0/OFF,1/ON	
0A 00 0B	1	00-01	VALUE- switch	0/OFF,1/ON	
0A 00 0C	1	00-01	PART+ switch	0/OFF,1/ON	
0A 00 0D	1	00-01	SELECT+ switch	0/OFF,1/ON	
0A 00 0E	1	00-01	VALUE+ switch	0/OFF,1/ON	

### <Table2-5>

MIDI Parameter Change table	( INTERNAL	PERFORMANCE	COMMON SYSTEM	1 [MU80. MU50]

Address	Size	Data	Prameter	Description	Default
(H)	(H)	(H)			value(H)
30 pp 00	0C	20 - 7F	performance name	32-127(ASCII CHARACTER)	
30 pp 0C	01	00 - 7F	performance volume	0 - 127	
30 pp 0D	01	01 - 7F	performance pan	1/L63 - 64/C - 127/R63	
30 pp 0E	01	00 - 5F	AC1 CC Number	0- 95	
30 pp 0F	01		not used		

TOTAL SIZE 10
pp:performance number (00-7F)

MIDI Parameter Change table (INTERNAL PERFORMANCE COMMON EFFECT) [MU80, MU50]

			C ( IIII EIGI WILL EIG OIGWINGOL OON		
Address	Size	Data	Prameter	Description	Default
(H)	(H)	(H)			value(H)
30 pp 20	2	00-7F	REVERB TYPE MSB	See Effect Program List	
30 pp 21		00-7F	REVERB TYPE LSB	00 : basic type	
30 pp 22	1	00-7F	REVERB PARAMETER 1	See Effect Parameter List	
30 pp 23	1	00-7F	REVERB PARAMETER 2	See Effect Parameter List	
30 pp 24	1	00-7F	REVERB PARAMETER 3	See Effect Parameter List	
30 pp 25	1	00-7F	REVERB PARAMETER 4	See Effect Parameter List	
30 pp 26	1	00-7F	REVERB PARAMETER 5	See Effect Parameter List	
30 pp 27	1	00-7F	REVERB RETURN	-∞dB0dB+6dB(064127)	
30 pp 28	1	01-7F	REVERB PAN	L63CR63(164127)	
30 pp 29	2	00-7F	CHORUS TYPE MSB	See Effect Program List	
30 pp 2A		00-7F	CHORUS TYPE LSB	00 : basic type	
30 pp 2B	1	00-7F	CHORUS PARMETER 1	See Effect Parameter List	
30 pp 2C	1	00-7F	CHORUS PARMETER 2	See Effect Parameter List	
30 pp 2D	1	00-7F	CHORUS PARMETER 3	See Effect Parameter List	
30 pp 2E	1	00-7F	CHORUS PARMETER 4	See Effect Parameter List	
30 pp 2F	1	00-7F	CHORUS PARMETER 5	See Effect Parameter List	
30 pp 30	1	00-7F	CHORUS RETURN	-∞dB0dB+6dB(064127)	
30 pp 31	1	01-7F	CHORUS PAN	L63CR63(164127)	
30 pp 32	1	00-7F	SEND CHORUS TO REVERB	-∞dB0dB+6dB(064127)	
30 pp 33	2	00-7F	VARIATION TYPE MSB	See Effect Program List	
30 pp 34		00-7F	VARIATION TYPE LSB	00 : basic type	
30 pp 35	2	00-7F	VARIATION PARMETER 1 MSB	See Effect Parameter List	
30 pp 36		00-7F	VARIATION PARMETER 1 LSB	See Effect Parameter List	
30 pp 37	2	00-7F	VARIATION PARMETER 2 MSB	See Effect Parameter List	
30 pp 38		00-7F	VARIATION PARMETER 2 LSB	See Effect Parameter List	
30 pp 39	2	00-7F	VARIATION PARMETER 3 MSB	See Effect Parameter List	
30 pp 3A		00-7F	VARIATION PARMETER 3 LSB	See Effect Parameter List	
30 pp 3B	2	00-7F	VARIATION PARMETER 4 MSB	See Effect Parameter List	
30 pp 3C		00-7F	VARIATION PARMETER 4 LSB	See Effect Parameter List	
30 pp 3D	2	00-7F	VARIATION PARMETER 5 MSB	See Effect Parameter List	
30 pp 3E		00-7F	VARIATION PARMETER 5 LSB	See Effect Parameter List	
30 pp 3F	2	00-7F	VARIATION PARMETER 10 MSB	See Effect Parameter List	
30 pp 40		00-7F	VARIATION PARMETER 10 LSB	See Effect Parameter List	
30 pp 41	1	00-7F	VARIATION RETURN	-∞dB0dB+6dB(064127)	
30 pp 42	1	01-7F	VARIATION PAN	L63CR63(164127)	
30 pp 43	1	00-7F	SEND VARIATION TO REVERB	-∞dB0dB+6dB(064127)	
30 pp 44	1	00-7F	SEND VARIATION TO CHORUS	-∞dB0dB+6dB(064127)	
30 pp 45	1	00-7F	AC1 VARIATION CONTROL DEPTH	-64 - +63	
30 pp 46	1	00-01	VARIATION CONECTION	0:INSERTION,1:SYSTEM	
30 pp 47	1	00-03,7F	VARATION PART	Part14(03)	
**		- ,-		OFF(127)	
				* *	

TOTAL SIZE 40

[Note]

pp:performance number (00-7F)

Address	Size	Data	Prameter	
(H)	(H)	(H)		
3n pp 00	1	00 - 7F	PROGRAM NUMBER	
3n pp 01	1	00 - 7F	BANK SELECT	
3n pp 02	1	00 - 7F	VOLUME	
3n pp 03	1	00 - 7F	PAN	

MIDI Parameter Change table ( INTERNAL PERFORMANCE PART ) [MU80, MU50]

3n pp 04 3n pp 05 3n pp 06 DRY SEND LEVEL 00 - 7F 00 - 7F CHORUS SEND 00 - 7F REVERB SEND 3n pp 07 3n pp 08 00 - 7F VARIATION SEND 28 - 58 NOTE SHIFT FILTER CUTOFF FREQUENCY 00 - 7F 3n pp 09 3n pp 09 3n pp 0A 3n pp 0B 3n pp 0C 3n pp 0D 3n pp 0E 3n pp 0F FILTER RESONANCE EG ATTACK TIME EG DECAY TIME 00 - 7F 00 - 7F 00 - 7F 00 - 7F EG RELEASE TIME 00 - 7F VIBRATO RATE 00 - 7F VIBRATO DEPTH 3n pp 10 00 - 7F VIBRATO DELAY 3n pp 11 2 00 - FF DETUNE

-64 - +63 -64 - +63 -64 - +63 -64 - +63 -64 - +63 -64 - +63 -64 - +63 -64 - +63 -12.8 - +12.7[Hz] 1st bit3-0→bit7-4

-24 - +24[semitones]

Description 1 - 128

0 - 127

0 - 127

0 - 127

0 - 127

0 - 127 (See XG voice map, 127=SFX bank) 0 - 127 0/random, 1/L63 - 64/C - 127/R63

Rcv NOTE MESSAGE

2st bit3-0→bit3-0 1st bit6 : 0/OFF,1/ON Default

			MONO/POLY MODE	1st bit5: 0/MONO, 1/POLY
			PORTAMENTO SWITCH	1st bit4: 0/OFF,1/ON
3n pp 13	1	00 - 7F	PITCH EG INITIAL LEVEL	-64 - +63
3n pp 14	1	00 - 7F	PITCH EG ATTACK TIME	-64 - +63
3n pp 15	1	00 - 7F	PITCH EG RELEASE LEVEL	-64 - +63
3n pp 16	1	00 - 7F	PITCH EG RELEASE TIME	-64 - +63
3n pp 17	1	00 - 7F	MW LFO PMOD DEPTH	0 - 127
3n pp 18	1	00 - 7F	MW LFO FMOD DEPTH	0 - 127
3n pp 19	1	28 - 58	BEND PITCH CONTROL	-24 - +24[semitones]
3n pp 1A	1	00 - 7F	AC1 FILTER CONTROL	-64 - +63
3n pp 1B	1	00 - 7F	AC1 AMPLITUDE CONTROL	-64 - +63
3n pp 1C	1	00 - 7F	VELOCITY SENSE DEPTH	0 - 127
3n pp 1D	1	00 - 7F	VELOCITY SENSE OFFSET	0 - 127
3n pp 1E	1	00 - 7F	NOTE LIMIT LOW	C-2 - G8
3n pp 1F	1	00 - 7F	NOTE LIMIT HIGH	C-2 - G8
3n pp 20	1	00 - 7F	PORTAMENTO TIME	0 - 127
3n pp 21	1	01 - 7F	VELOCITY LIMIT LOW	1 - 127
3n pp 22	1	01 - 7F	VELOCITY LIMIT HIGH	1 - 127

TOTAL SIZE 23 [Note]

(01-04) (00-7F) n: performance part number pp:performance number

## XG BASIC EFFECT TYPE

The following effect types are required under XG.

### REVERB BLOCK

TYPE	MSB	TYPE LSB		
DEC	HEX	00	01	02
000	0	NO EFFECT		
001	1	HALL1	HALL2	
002	2	ROOM1	ROOM2	ROOM3
003	3	STAGE1	STAGE2	
004	4	PLATE		

### CHORUS BLOCK

TYPE	MSB		TYPE LSB	
DEC	HEX	00	01	02
000	0	NO EFFECT		
065	41	CHORUS1	CHORUS2	CHORUS3
066	42	CELESTE1	CELESTE2	CELESTE3
067	43	FLANGER 1	FLANGER 2	

#### VARIATION BLOCK

TYPE	MCD		TYPE LSB	
DEC	HEX	00	01	02
000	0	NO EFFECT	01	02
			*****	
001	1	HALL1	HALL2	
002	2	ROOM1	ROOM2	ROOM3
003	3	STAGE1	STAGE2	
004	4	PLATE		
005	5	DELAY L,C,R		
006	6	DELAY L,R		
007	7	ECHO		
008	8	CROSS DELAY		
009	9	ER1	ER2	
010	A	GATE REVERB		
011	В	REVERSE GATE		
064	40	THRU		
065	41	CHORUS1	CHORUS2	CHORUS3
066	42	CELESTE1	CELESTE2	CELESTE3
067	43	FLANGER 1	FLANGER 2	
068	44	SYMPHONIC		
069	45	ROTARY SPEAKER		
070	46	TREMOLO		
071	47	AUTO PAN		
072	48	PHASER		
073	49	DISTORTION		
074	4A	OVER DRIVE		
075	4B	AMP SIMULATOR		
076	4C	3BAND EQ(MONO)		
077	4D	2BAND EQ(STEREO)		
078	4E	AUTO WAH(LFO)		

nstrument	Dam	Rank ()	Flor	KSP Bank 1	Flore	Stereo Bank 3	Flor	Single Bank 6	Flor	Slow Bank 8	Flore	Fast Decay		Double Attack Bank 14	Flor	Bright Bank 16	Flor	Bank 17	Flor	Dark Bank 18	Flor	Rank 10	Flor	Rsonant Bank 20
Group	rgiii	Dank 0	Elem	Dalik I	Elen	Dank 3	Eich	i Dalik 0	Elem	Dalik o	Elem	Dalik 12	Elem	Dalik 14	Elem	Dalik 10	Elem	Dalik 17	Elein	Dalik 10	Elein	Dalik 19	Liciii	Dalik 20
iano	1	GrandPno	1	GrndPnoI	X 1															MelloGrP	1			
	2	BritePno	1	BritPnoK	1																			
	3	BritePno E.Grand HnkyTonk	2	ElGrPnok	( 2																			
	4	HnkyTonk	2	HnkyTnk	K 2																			
	5	E.Piano1	2	El.Pno1K	. 1															MelloEP1	2			
	6	E.Piano2	2	El.Pno2K	1																			
	7	Harpsi.	1	Harpsi.K Clavi. K	1																			
	8	Clavi.	2	Clavi. K	1																			
hromatic	9	Celesta	1																					
rcussion		Glocken	1																					
		MusicBox	2																					
	12	Vibes	1	VibesK	1																			
	13	Marimba	1	Marimbal	K 1																			
	14	Xylophon	1																					
	15	TubulBel	1																					
		Dulcimer	1																					
rgan	17	DrawOrgn	1																					
		PercOrgn	1																					
	19	RockOrgn	2																					
	20	ChrchOrg	2																					
	21	ReedOrgn																						
		Acordion	2																					
		Harmnica	1																					
		TangoAcd																						
uitar		NylonGtr	1													NylonGt2								
	26	SteelGtr	1													SteelGt2	1							
		Jazz Gtr	1																	MelloGtr	1			
	28	CleanGtr	1																					
	29	Mute.Gtr	1																					
	30	Ovrdrive	1																					
		Dist.Gtr	1																					
		GtrHarmo	1																					
ass	33	Aco.Bass	1																					
		FngrBass	1																	FingrDrk	2			
		PickBass	1																					
		Fretless	1																					
	37	SlapBas1	1																					
		SlapBas2	1																					
	39	SynBass1	1																	SynBa1Dk	1			FastResB
		SynBass2	2					MelloSB1	1			Seq Bass	2							ClkSynBa	2	SynBa2Dk	1	
rings	41	Violin	1							SlowVln	1													
	42	Viola	1																					
		Cello	1																					
		Contrabs	1																					
		Trem.Str	1							SlowTrStr	1													
		Pizz.Str	1																					
		Harp	1																					
	48	Timpani	1																					
nsemble	49	Strings1	1			S.Strngs	2			Slow Str	1													
	50	Strings2	1			S.SlwStr	2			LegatoSt	2													
		Syn.Str1	2																					
		Syn.Str2	2			0.61	_									CI A :	_							
		ChoirAah	1			S.Choir	2									Ch.Aahs2	2							
		VoiceOoh																						
	55	SynVoice	1																					
		Orch.Hit	2													T		D :- T						
rass	57	Trumpet	1													Trumpet2	I	BriteTrp	2	T 1 2	_			
		Trombone																		Trmbone2	2			
	59	Tuba	1													Tuba 2	1							
		Mute.Trp	1																					
		Fr.Horn	1					FrHrSolo	2															
		BrasSect	1																					
		SynBras1	2									QuackBr	2							Soft Brs				RezSynBi
	64	SvnBras2	1																		2			

Article Release Reco Sweep Mired Deliver 2 Detune 2 Detune 3 Detun 3 Detun 3 Deliver 3		ank Selec	et MS		LSB	=Bank Num																			
Crown   Crow			Elem	Release Bank 25	Elem	Rezo Swee Bank 27	p Elem	Muted Bank 28	Elem	Detune 1 Bank 32	Elem	Detune 2 Bank 33	Elem	Detune 3 Bank 34	Elem	Octave 1 Bank 35	Elem	Octave 2 Bank 36	Elem	5th 1 Bank 37	Elem	5th 2 Bank 38	Elem	Bend Bank 39	Elem
2																									
S																									
Chore   File   Chore	2									D · CDOO	_														4
Chor	3									Det.CP80	2														1
Choractic   Free   Chart   C										Chor ED1	2														
Note											2	DX Hard	2	DXI egend	1 2										+
Chromatic   9				Harpsi.2	2					CHOTILI 2	Ĩ	Dirima	-	Dillegene	Ť	Harpsi.3	2								+
Percussion   10				T .		ClaviWah	2									1									
11																									
12																									
13																									4
14																									4
15					-														+		+				+
16																									+
Organ   17																Dulcimr2	2								+
19										DetDrwOr	2	60sDrOr1	2	60sDrOr2	2	70sDrOr1		DrawOrg2	2 2	60sDrOr3	2	EvenBar	2		
19	18 70sI	)sPcOr1	2							DetPrcOr	2	LiteOrg	2							PercOrg2	2				
Club																									
Accordit   2										ChurOrg3	2					ChurOrg2	2								
Material   Strings   Material	21									A 17:	_														-
Colurar   24	22																								4
Cultar   25										namo 2									+		+				+
26	25			NylonGt3	2														1		1				+
Strings				Tijionoto	Ť											12StrGtr	2								+
ChorusGt   2										JazzAmp	2														
Sings   AcidBass   I	28									ChorusĜt															
Bass   33	29																								
Bass   33																									4
Bass   33																									4
Strings   1   SmthBa   2   SmthBa   2   SmthBa   2   SmthBa   2   SmthBa   2   SmthBa   2   SmthBa   3   Sm	32				1														+		+		-		+
Strings   1						FlanceRa	2																		+
Strings   41						Timigeba		MutePkBa	1																+
Second   S	36									Fretles2	2	Fretles3	2	Fretles4	2										
Strings   41						ResoSlap	1			PunchThm	2														
Strings 41																									
Strings         41           42         43           44         44           45         46           47         48           Ensemble         49         ArcoStr         2           50         8           51         8         ResoStr         2           53         8         MelChoir         2           55         9         8         9           55         9         9         0           55         9         0         0           55         0         0         0           55         0         0         0           56         0         0         0           Brass         57         0         0		cidBass	1													Clv Bass	2								
## 42   ## 43   ## 44   ## 44   ## 44   ## 45   ## 46   ## 47   ## 48										SmthBa 2	2														4
A3																					+				+-
A4	13																		+		+				+
45																									
Head	45																								
Head	46																								
Ensemble   49   ArcoStr   2																									
So   ResoStr   2		C:	Ļ													CO-C:	ļ _								
S1		rcoStr	2													60sStrng	2								-
52						PacaStr	2																		-
S3						ACSOSII																			
54	53									MelChoir	2														
S	54																								
Brass 57 WarmTrp 2	55																								
																OrchHit2	2								
58										WarmTrp	2														
59 60																									-
60 FrHorn2 1 HornOrch 2										FrHorn?	1									HornOrch	2				+
62 Tp&TbSec 2										111101112	1					Tn&ThSac	2			HOHIOTCH	2				-
63 PolyBrss 2 SynBras 2 JumpBrss 2		olvBrss	2			SynBras3	2			JumpBrss	2.					1 pec 1 osec	É								
64	64	/	Ť			23.113.113.3	Ť			- Jimp 25133	Ě														

25

		Bank Selec Tutti	et MS	B=000	LSB	=Bank Numb	er	Velo-Swite	·h	Velo-Xfade	a	other wave	a												
Instrument	Pgm		Elem	Bank 41	Elem	Bank 42	Elem			Bank 45				Bank 65	Elem	Bank 66	Elem	Bank 67	Elem	Bank 68	Elem	Bank 69	Elem	Bank 70	Elem
Group																									
Piano	1	PianoStr	2	Dream	2																				-
	2	ElGrPno1	2	ElGrPno2	2																				+
	4	Eron nor	Ĺ	Eron noz	L																				
	5	HardEl.P	2							VX El.P1		60sEl.P	1												
	6	DX Phase	2	DX+Analg	2	DXKotoEP	2			VX El.P2	2														
	7											PulseClv	1	DiamacCl	2										4
Chromatic												PulseCiv	1	PierceCi											-
Percussion																									
	11											Orgel	2												
	12									HardVibe	2														
	13 14											SineMrmb	2												-
	15																								+
	16																								
Organ	17	16+2"2/3	2									Organ Ba	1	70sDrOr2	2	CheezOrg	2	DrawOrg3	2						
	18											D		CL D		E.D	_								
	19 20	NotreDam	2									RotaryOr	2	SloRotar TrmOrgFl	2	FstRotar	2								
$\vdash$	21		2									Orgride	12	TillOigFl											
	22	Tun org	Ť																						
	23																								
	24											TngoAcd2	2												
Guitar	25	Nyln&Stl	2	C41 % D a dec	2			VelGtHrm	2																4
	27	Nymæsti	1	SuæBody																					+
	28																								_
	29	FunkGtr1	2	MuteStlG	2			FunkGtr2	2	Jazz Man	1														
	30							Gt.Pinch	2																
		FeedbkGt	2	FeedbGt2	2									C(E, JLL		Ctallana									
Bass	32	JazzRthm	2							VXUprght	2			GtFeedbk	1	GtrHrmo2	1								-
Dass		Ba&DstEG						FngrSlap	2		2			ModAlem	2										+
	35							0		9															
	36																								
	37							37-1-Cl	_																
	38	TeknoBa	2					VeloSlap	2			Oscar	2	SqrBass	2	RubberBa	2								+
	40	ModulrBa		DX Bass	2							X WireBa		DqrDuss	Ě	Rubberbu									
Strings	41																								
	42																								
	43 44																								
	44	Susp Str	2																						
	46	Luop Du	Ť																						
	47	YangChin	2																						
	48					m o :																			
Ensemble		Orchestr Warm Str	2	Orchstr2 Kingdom	2	TremOrch	2			VeloStr	2	70sStr	1	Str Ens3	1										
	51	waiii str	14	Killguom	1							Syn Str4	2		2										
	52											55004	Ť	20 00											
	53	ChoirStr	2																						
	54																								
	55 56	SynVox2	2	Choral	2							AnaVoice	2												
Brass	57											Impact	1 4												
21433	58																								
	59																								
	60																								
	61	BrssSec2	2	Hip	2	MelloBrs	2																		
	62	brsssec2		nibrass	2	Mellobrs	2			AnaVelBr	2	AnaBrss1	2												-
		SynBras4	2	ChorBrss	2							AnaBrss2	2												
	0.	~ J		_1.012100						. 015140/2															_

Instrument	Pgm	Bank 71	Elem	Bank 72	Elem	Bank 96	Elem	Bank 97	Elem	Bank 98	Elem	Bank 99	Elem	Bank 100	Elem	Bank 101	Elen
Group																	
Piano	1																
	2																
	3																
	4																
	5																4
	7																
	8		-														
Chromatic	9																-
Percussion																	_
1 cicussion	11																
	12																
	13							Balafon2	2	Log Drum	2						
	14								Ē								
	15					ChrchBel	2	Carillon	2								
	16					Cimbalom	2	Santur	2								
Organ	17																
	18																
	19																
	20																
	21																
	22																
	23 24																
Conitro	25					T.111-1-	1										4
Guitar	26					Ukulele Mandolin	2										
	27					Mandonn											-
	28																-
	29		-														_
	30																
	31																
	32																
Bass	33																
	34																
	35																
	36					SynFretl	2	Smooth	2								
	37																
	38																
	39					Hammer	2										
_	40																
Strings	41																
	42																-
	43 44																
	44																-
	45																
	47																
	48																
Ensemble	49																
	50																
	51																
	52																
	53																
	54																
	55																
	56																
Brass	57																
	58																
	59																
	60																
	61																
	62																-
	63																

: No sound

55 Ghost 56 Maou

Bank Select MSB=000 LSB=Bank Number KSP Stereo Single Slow Fast Decay Double Attack Bright Elem Bank 3 Elem Bank 12 Elem Bank 14 Elem Bank 16 Elem Bank 17 Elem Bank 18 Elem Bank 19 Elem Bank 20 Instrument Pgm Bank 0 Elem Bank 1 Elem Bank 6 Elem Bank 8 Group Reed 65 SprnoSax 1 66 Alto Sax 1 67 TenorSax 1 68 Bari.Sax 1 69 Oboe 2 70 Eng.Horn 1 71 Bassoon 1 72 Clarinet 1 73 Piccolo Pipe 74 Flute 75 Recorder 1 76 PanFlute 1 77 Bottle 2 78 Shakhchi 2 79 Whistle 1 80 Ocarina 1 Synth Lead 81 SquareLd 2 82 Saw.Lead 2 Square 2 1 LMSquare 2 Saw 2 1 ThickSaw 2 Hollow 1 Shmoog 2 DynaSaw 1 DigiSaw 2 Big Lead 83 CaliopLd 2 84 Chiff Ld 2 85 CharanLd 2 86 Voice Ld 2 87 Fifth Ld 2 88 Bass &Ld 2 Big&Low 2 Synth Pad 89 NewAgePd 2 90 Warm Pad 2 91 PolySyPd 2 ThickPad 2 Soft Pad 2 SinePad 92 ChoirPad 2 93 BowedPad 2 94 MetalPad 2 95 Halo Pad 2 96 SweepPad 2 Shwimmer 2 Synth Effects 97 Rain 98 SoundTrk 2 99 Crystal SynDrCmp 2 Popcorn TinyBell 2 WarmAtms 2 HollwRls 100 Atmosphr 2 101 Bright 102 Goblins 103 Echoes EchoPad2 2 Echo Pan 2 104 Sci-Fi 2 Ethnic 105 Sitar 1 106 Banjo 107 Shamisen 1 108 Koto 109 Kalimba 110 Bagpipe 111 Fiddle 112 Shanai Percussive 113 TnklBell 2 114 Agogo 2 115 SteelDrm 2 116 WoodBlok 1 117 TaikoDrm 1 118 MelodTom 2 119 Syn.Drum 1 120 RevCymbl 1 Sound Effects 121 FretNoiz 2 122 BrthNoiz 2 123 Seashore 2 124 Tweet 2 125 Telphone 1 126 Helicptr 1 127 Applause 1 128 Gunshot 1

<sup>:</sup> Same as Bank 0

Bank Select MSB=000 LSB=Bank Number Attack Release Rezo Sweep Muted Detune 1 Detune 2 Detune 3 Octave 1 Octave 2 5th 1 5th 2 Bend Instrument|Pgm| Bank 24 | Elem | Bank 25 | Elem | Bank 27 | Elem | Bank 28 | Elem | Bank 28 | Elem | Bank 32 | Elem | Bank 32 | Elem | Bank 32 | Elem | Bank 35 | Elem | Bank 36 | Elem | Bank 37 | Elem | Bank 38 | Elem | Bank 39 | Elem | Bank 39 | Elem | Bank 39 | Elem | Bank 30 Group Reed Pipe Synth Lead 81 82 HeavySyn 2 WaspySyn 2 86 SynthAah 2 Big Five 2 Synth Pad 89 Converge 2 Synth Effects 97 Prologue 2 RndGlock 2 Ethnic DetSitar Sitar 2 MuteBnjo 1 Percussive 113 Sound Effects 121 123 

		Bank Selec Tutti	t MS	B=000	LSB:	=Bank Num	ber	Velo-Swite	-h	Velo-Xfad	a	other wave													
Instrument	Pgm		Elem	Bank 41	Elem	Bank 42	Elem			Bank 45				Bank 65	Elem	Bank 66	Elem	Bank 67	Elem	Bank 68	Elem	Bank 69	Elem	Bank 70	Elen
Group Reed	65																								_
Reeu		Sax Sect	2				1	HyprAlto	2																$\vdash$
	67	BrthTnSx	2	SoftTenr	2			Пуртио	Ě			TnrSax 2	1												-
	68																								
	69																								
	70																								
	71																								4
Dino	72 73																								4
Pipe	74																								+
	75																								$\vdash$
	76																								-
	77																								
	78																								
	79																								
0 11	80											3.6.11	1	0.1.0:		G: I I	,								4
Synth Lead		DulasCam	2	De Lood	2					ValaL and	2	Mellow	2	SoloSine	2	SineLead	1								4
	82	PulseSaw		Dr. Lead	2					VeloLead				Pure Pad	2										+
	84											Rubby	2	1 tile 1 att											1
	85											DistLead		WireLead	2										Н
	86											VoxLead													-
	87																								
	88											Fat&Prky	2	SoftWurl	2										
Synth Pad												Fantasy2													
	90											Horn Pad	2	RotarStr	2	A D I	2	C D I	2						4
	91											PolyPd80 Heaven2	2	ClickPad	2	Ana Pad	2	SquarPad CC Pad	2						4
	93				-							Glacier	2	GlaceDad	2	Itopia		CC Pau							1
	94											Tine Pad	2	GlassPad Pan Pad	2										1
	95											Time Tua	Ť	T till T titt	Ť										-
	96											PolarPad	2			Celstial	2								
Synth Effects										ClaviPad	2			AfrenWnd	2	Caribean	2								
	98											Ancestrl	2												
		GlockChi	2	ClearBel	2	ChorBell	2					SynMalet	1	SftCryst	2	LoudGlok AtmosPad	2	XmasBell Planet	2	VibeBell	2	DigiBell	2	AirBells	2
		NylonEP	2									NylnHarp	2	Harp Vox	2	AtmosPad	2	Planet	2						
	101 102											FantaBel GobSyn	2	€O∘C∘;E;	2	Din a Dad	2	Ritual	2	ToHeaven	2			Nicolat	1
	102											EchoBell		50sSciFi Big Pan	2	Ring Pad SynPiano	2		2			Reso Pan	2	Night	2
	103											Starz	2	Dig Fall		SyliFialio		Creation		Startust		Keso Fali			+
Ethnic	105											Duil	Ť												-
	106																								
	107																								
	108																								
	109																								
	110																								4
	111											Shanai2	1												
Percussive												Snanai2	1												
. C1CU351VC	114																								F
	115																								+
	116																								
	117																								
	118												1	Real Tom		Rock Tom	2								
	119											Ana Tom	1	ElecPerc	2										
C 1 ECC .	120																								-
Sound Effect	121 122																								
	123																								H
	123																								Н
	125																								
	126																								
	127																								
	128																								

		Bank Selec	et MS	B=000	LSB=	=Bank Num	ber										
Instrument Group	Pgm	Bank 71	Elem	Bank 72	Elem	Bank 96	Elem	Bank 97	Elem	Bank 98	Elem	Bank 99	Elem	Bank 100	Elem	Bank 101	Elem
Reed	65																-
Reeu	66																
	67																
	68																-
	69																
	70																
	71																+
	72																
Dina	73																
Pipe	74																
	75																
	76																
	77																
	78																
	79																
	80																
Synth Lead																	
Lodd	82					Seq Ana	2										
	83					25q 1 mil	Ť										
	84																
	85																
	86																
	87																
	88																
Synth Pad																	
	90																
	91																
	92																
	93																
	94																
	95																
	96																
Synth Effects																	
	98																
	99	BellHarp	2	Gamelmba	2												
	100																
	101					Smokey	2										
	102	Glisten	2			BelChoir	2										
	103																
	104																
Ethnic	105					Tambra	2	Tamboura	2								
	106					Rabab	2	Gopichnt	2	Oud	2						
	107					TV	1	V	2								
	108 109					T. Koto	2	Kanoon	2								
	110																
	111																
	112					Dungi	1	Hichriki	2								
Percussive						Pungi Bonang	2	Gender	2	Gamelan	2	S.Gamlan	2	Rama Cym	2	AsianBel	2
1 CICUSSIVE	114					Donaing	-	Genuci		Gamerali	-	5.Gainall		Kama Cym		2 ISIAIIDCI	-
	115							GlasPerc	2	ThaiBell	2						
	116					Castanet	1	Chast Cit	-	- manbell	Ť						
	117					Gr.Cassa	1										
	118					J., Cussu											
	119																
	120																
Sound Effects																	
	122																
	123																
	124																
	125																
	126																
	127 128																

	Bank Select SFX		-004	LSB=00
Pgm	Bank 0	Elem		
65	Tel.Dial	1		
66	DoorSqek	1		
67	Door Slam	1		
68	Scratch	1		
69	Scratch 2	2		
70	WindChm	1		
71	Telphon2	1		
72	respinonz	_		
73				
74				
75				
76				
77				
78				
79				
80				
81	CorEngin	1		
82	CarEngin Car Stop	1		
83	Car Pass	1		
84	CarCrash	1		
85	Siren	2		
86	Train	1		
87	Jetplane	2		
88	Starship	2		
89	Burst	2		
90	Coaster	2		
91	SbMarine	2		
92	Solvianne			
93				
93				
95				
96				
97	Laughing	1		
98	Scream	1		
99	Punch	1		
100	Heart	1		
101	FootStep	1		
102	Гоокыср	1		
103				
103				
105				
106				
107				
108				
109				
110				
111				
112				
113	MchinGun	1		
114	LaserGun	2		
115	Xplosion	2		
116	FireWork	2		
117				
118				
119				
120				
121				
122				
123				
124				
125				

: No sound

Instrument Group	Pgm	Bank0	Elem	Bank 1	Elem	Bank 2	Elem	Bank 3	Elem	Bank 4	Elem	Bank 5	Elem	Bank 6	Elem	Bank 7	Elem	Bank 8	Elem	Bank 9	Elem	Bank 10	Elem	Bank 11	Elem
Piano	1	GrandPno	1															GrndPnoK	. 1						
		BritePno	1															BritPnoK	1						
	3	E.Grand	2	ElGrPno1	2	ElGrPno2	2											ElGrPnoK	2						
		HnkyTonk																HnkyTnkI							4
		E.Piano1	2															Chor.EP1 Chor.EP2	2						4
	7	E.Piano2 Harpsi.	2															Harpsi.3	2						-
	8	Clavi.	2															Clavi. K	1						+
Chromatic		Celesta	1															Ciuvii II							
Percussion			1																						
		MusicBox																							
		Vibes		Hard Vibe	2													VibesK	1						
	13	Marimba	1															Marimbak	. 1						4
	14	Xylophon TubulBel	1															ChaobDal	1	Carillon	2				4
				Dulcimr 2	2													ChrchBel Cimbalom		Carmon	2				-
Organ				70sDrOr1														DetDrwOi		70sDrOr2	2				+
	18	PercOrgn	1	70sPcOr1														DetPrcOr	2	. 3021012	Ť				
	19	RockOrgn	2															RotaryOr	2						
	20	ChrchOrg	2															ChurOrg2	2						
		ReedOrgn																							
		Acordion	2															AccordIt	2						4
		Harmnica Tanga A ad		Harmo 2	2																				-
Guitar		TangoAcd NylonGtr																Ukulele	1						+-
Guitai		SteelGtr	1															12StrGtr		Nyln&Stl	2				+
		Jazz Gtr		MelloGtr	1													PdlSteel	1	Ttymeesu					
			1															ChorusGt	2						
			1															FunkGtr1	2						
		Ovrdrive	1																						
		Dist.Gtr	1															FeedbkGt		FeedbGt2	2				4
D		GtrHarmo	1															GtFeedbk	1						4
Bass	33	Aco.Bass FngrBass	1	FngBass2	2																				-
	35	PickBass	1	1 ligDass2														MutePkBa	1						+
		Fretless		Fretles2	2	Fretles3	2	Fretles4	2	SynFretl	2	Smooth	2					Trutter RES							_
	37	SlapBas1	1															ResoSlap	1						
		SlapBas2	1																						
		SynBass1	1	SynBa1Dk	1	16 115												AcidBass		FastResB		TeknoBa	2		
0. 1				ClkSynBa	2	ModulrBa	2	Seq Bass	2									DX Bass		X WireBa	2				4
Strings		Violin Viola	1															SlowVln	1						+-
		Cello	1																						+
		Contrabs	1																						_
		Trem.Str	1															SlwTrStr	1	Susp Str	2				
		Pizz.Str	1																						
		Harp	1																						
Engan-1.1.		Timpani	1	Clan Cr.	1													Onok	2	Onoh-1-2	2	Team	2	Challen	12
Ensemble	49	Strings1 Strings2		Slow Str 70s Str	1													Orchestr LegatoSt		Orchstr2 Warm Str		TremOrch	2	ChoirStr	2
$\vdash$	51	Strings2 Syn.Str1		SynStr4	2													Syn Str 3	2	waiii str		D.SIWSIT			+
	52	Syn.Str2	2	оупон-	Ĺ													Syn Su S	-						
	53	ChoirAah	1															S.Choir	2	MelChoir	2				
	54	VoiceDoo	1																						
	55	SynVoice	1															SynVox2	2						
		Orch.Hit	2	OrchHit2	2													Impact	2						4
Brass		Trumpet		Trumpet2																					4
	58 59	Trombone Tuba		Trmbone2 Tuba 2	1																				+
		Mute.Trp	1	r dDa Z	1																				
	61	Fr.Horn	2	FrHorn2	2													FrHrSolo	1						-
	62	BrasSect	1		Ē													BrssSec2	2						
	63	SynBras1	2	PolyBrss	2													SynBras3	2	QuackBr	2				
	64	SynBras2	1	Soft Brs	2													SynBras4							

Instrument Group	Pgm	Bank 16	Elem	Bank 17	Elem	Bank 18	Elem	Bank 19	Elem	Bank 24	Elem	Bank 25	Elem	Bank 26	Elem	Bank 32	Elem	Bank 33	Elem	Bank 40	Elem	Bank 126	Elem	Bank 127	Elem
Piano	1	MelloGrP	1																			A-Piano1	2	a.piano1	1
	2																					A-Piano2		a.piano2	1
	3																					A-Piano3	2	a.piano3	1
	4																					A-Piano4	2	e.piano1	1
	5	VX El.P1								60sEl.P		HardEl.P	2	MelloEP1	2	El.Pno1K	1					A-Piano5	1	e.piano2	1
	6	VX El.P2	2							DX Hard	2					El.Pno2K	1					A-Piano6	1	e.piano3	1
	7	Harpsi.K	1							Harpsi.2	2											A-Piano7	1	e.piano4	1
CI .:	8																					E-Piano1	2	hnkytnk	2
Chromatic	9																					E-Piano2	2	e.organ1	2
Percussion	11		-		-		-															E-Piano3 A-Guitr1	2	e.organ2 e.organ3	1
	12																					A-Guitr2	2	e.organ4	1
	13			Balafon2	2					Log Drum	2											A-Guitr3	2	pipeorg1	2
	14			Buildion2	Ť					Eog Drum	Ť											E-Guitr1	2	pipeorg2	2
	15																					E-Guitr2	1	pipeorg3	2
	16																					Slap-1	2	acordion	2
Organ	17	60sDrOr1	2	60sDrOr2	2	60sDrOr3	2			CheezOrg	2					DrawOrg2	2	EvenBar	2	Organ Ba	1	Slap-2	2	harpsi1	1
	18									Ŭ						DrawOrg2 PercOrg2	2					Slap-3	2	harpsi2	2
	19	SloRotar	2							FstRotar	2											Slap-4	2	harpsi3	1
	20	ChurOrg3	2							OrgFlute	2					TrmOrgFl	2					Slap-5	2	clavi1	1
	21																					Slap-6	2	clavi2	1
	22																					Slap-7	2	clavi3	1
																						Slap-8	2	celesta1	1
	24																					Finger-1	1	celesta2	1
Guitar	25	NylonGt3								VelGtHrm	2					NylonGt2				LequintG	1	Finger-2	2	synbras1	2
	26	Mandolin	2		-											SteelGt2	1		_			Picked-1	1	synbras2	2
	27						-								<u> </u>						<u> </u>	Picked-2	2	synbras3	2
	28	EI-Ct-2	1		-		-															FretlsBs	1	synbras4	2
	30	FunkGtr2	2																			A-Bass Choir-1	2	synbass1 synbass2	
	31																					Choir-2	1	synbass2 synbass3	
	32		-		-		+												-			Choir-3	2	synbass4	
Bass	33		1		1																	Choir-4	2	newagepo	
Duss	34																					Strngs-1	2	synharmo	
	35																					Strngs-2	2	choir pd	$\frac{2}{2}$
	36																					Strngs-3	2	bowed pd	2
	37																					Strngs-4	2	soundtrk	2
	38																					E-Organ1	2	atmosphr	2
	39	ResoBass	1																			E-Organ2	2	syn warm	
	40	RubberBa	2	SynBa2Dk	1	MelloSB2	1	SmthBa 2	2													E-Organ3	2	synfunny	
Strings	41																					E-Organ4	2	synecho1	2
	42																					E-Organ5	2	rain	2
	43																					E-Organ6	2	synoboe	2
	44		-		-														_			E-Organ7	2	synecho2	2
	45																					E-Organ8	2	synsolo	2
	46																					E-Organ9 SoftTP-1	2	synrdorg synbell	2
	48																					SoftTP-1 SoftTP-2		squareld	2
Ensemble	49	S.Strngs	2							VeloStr	2											TP/TRB-1	1	squareid strsect1	2
Ziisciiiole	50	S.Bungs	L-							· Clobii	É											TP/TRB-2		strsect2	2
	51																					TP/TRB-3		strsect3	2
	52																					TP/TRB-4		pizz.str	1
	53															Ch.Aahs2	2					TP/TRB-5	2	violin 1	2
	54																					TP/TRB-6		violin 2	1
	55																					Sax-1	1	cello 1	1
	56	LoFiRave	2																			Sax-2	1	cello 2	1
Brass	57									BriteTrp	2	WarmTrp	2									Sax-3	1	contrabs	1
	58																					Sax-4	2	harp 1	1
	59																					Brass-1	1	harp 2	1
	60																					Brass-2	1	guitar 1	1
	61	HornOrch	2																			Brass-3	2	guitar 2	1
	62	A D 1																				Brass-4	2	elecgtr1	2
	63	AnaBrss1	2	V/ ID A																		Brass-5	2	elecgtr2	
	64	AnaBrss2	2	VelBras2	2																	Orch-Hit	1	sitar	1

Instrument Group	Pgm	Bank0	Elem	Bank 1	Elem	Bank 2	Elem	Bank 3	Elem	Bank 4	Elem	Bank 5	Elem	Bank 6	Elem	Bank 7	Elem	Bank 8	Elem	Bank 9	Elem	Bank 10	Elem	Bank 11	Elem
Reed	65	SprnoSax	1																						
		Alto Sax	1															HyprAlto	2						
		TnrSax 2	1															BrthTnSx	2						
	68	Bari.Sax	1																						
	69	Oboe	2																						
	70	Eng.Horn	1																						
	71	Bassoon	1																						
	72	Clarinet	1																						
Pipe	73		1																						
	74		1																						
	75		1																						
		PanFlute	1																						
	77	Bottle	2																						
	78	Shakhchi	2																						
	79	Whistle	1																						
Courds I and	80	Ocarina	1	C 2	1	TT-11	1	Mallana	2	C-1-C:	2	Clauses	2	LMC	2			Cincle of	1						
Synth Lead	81	SquareLd Saw.Lead		Square 2 Saw 2	1	Hollow PulseSaw		Mellow	2	SoloSine Big Lead	2	VoloLog-	2	LMSquare	2	DynaSaw	1	SineLead Dr. Lead	2						
	83			oaw z	1	PurseSaw Pure Pad	2	THICKSAW		DIG LEAG		veloLead		rieavysyn		DynasaW	1	DI. Lead							
		Chiff Ld	2			1 urc 1 ad	-																		
		CharanLd																DistLead	2						
	86	Voice Ld																LIMECUU	Ť						
	87	Fifth Ld	2	Big Five	2																				
				Big&Low		Fat&Prky	2																		
Synth Pad	89	NewAgePd	2	Fantasy2	2	r uteer raty	Ē																		
~,	90		2	ThickPad	2	Horn Pad	2	RotarStr	2	Soft Pad	2														
	91	PolySyPd	2	PolyPd80	2		_		_																
	92	ChoirPad			2																				
	93	BowedPad	2																						
		MetalPad		Tine Pad	2	Pan Pad	2																		
	95	Halo Pad																							
	96		2	PolarPad	2													Converge		Shwimmer	2	Celstial	2		
Synth Effects	97	Rain	2	HrmoRain		AfrenWnd	2											ClaviPad	2						
	98	SoundTrk			2	Prologue	2																		
	99		2		1	SftCryst	2	RndGlock	2	LoudGlok	2	GlockChi	2	ClearBel		XmasBell	2	VibeBell	2	DigiBell	2				
	100			WarmAtms	2	NylnHarp	2	Harp Vox	2	HollwRls	2	NylonEP	2	AtmosPad	2										
		Bright	2			#0 0 ITI																			
	102		2		2	50sSciFi	2	E I D 10	_	D: D				C D:	_										
		Echoes	2		2	Echo Pan	2	EchoPad2	2	Big Pan	2			SynPiano	2										
Educia		Sci-Fi	2		2	DatGitan	2											T	1						$\blacksquare$
Ethnic	105 106		1	Sitar 2 MuteBnjo	1	DetSitar	2											Tambra Rabab	2						
		Shamisen			2													Kabab							
	107		1	Tsugaru														T. Koto	2						
	109		1															1. Koto	-						
		Bagpipe	2																						
		Fiddle	1																						
		Shanai	1	Shanai 2	1													Pungi	1						
Percussive			2															Bonang	2	Gender	2	Gamelan	2	S.Gamlan	2
	114	Agogo	2																						
	115	SteelDrm																							
		WoodBlok																Castanet	1						
		TaikoDrm																Gr.Cassa	1						
		MelodTom		Real Tom	2													Mel Tom2		Rock Tom					
		Syn.Drum																Ana Tom	1	ElecPerc	2				
		RevCymbl																							
Sound Effects				CuttngNz	1	Str Slap	1	CttngNz2	2																
	122	BrthNoiz	2	Fl.KClik	1	- T		****				D 111													
		Seashore	2		1	Thunder	1	Wind		Stream	2	Bubble	2												
	124		2		1	Horse	1	Bird 2	1	Compt -1:	1	Windon	1	Const -1-2	2										
<u> </u>	125				1	DoorSqek		DoorSlam			1	WindChm		Scratch2	2	Intulana	2	Ctonobin	1	Danest	2				
		Helicptr		CarEngin	1	Car Stop	1	Car Pass	1	CarCrash	1	Siren	2	Train	1	Jetplane	2	Starship	2	Burst	2				
		Applause				Scream	1	Punch		Heart	1	FootStep	1												
	128	Gunshot	1	MchinGun	1	LaserGun	- 2	Xplosion	2																

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Instrument Group		Bank 16	Elem	Bank 17	Elem	Bank 18	Elem	Bank 19	Elem	Bank 24	Elem	Bank 25	Elem	Bank 26	Elem	Bank 32	Elem	Bank 33	Elem	Bank 40	Elem	Bank 126	Elem		7 Ele
Reed	65																							a.bass 1	1
	66																							a.bass 2	1
	67				-																			e.bass 1	1
	68 69				-																			e.bass 2	1
	70																							slapbas1 slapbas2	
	71																							fretles1	1
	72																							fretles2	1
Pipe	73																							flute1	1
	74																							flute2	1 2 2
	75																							piccolo1	1
	76																							piccolo2	1
	77 78																							recorder	1
	79																							panpipes sax1	s 2 2
	80				+																			sax1	1
Synth Lead	81																							sax3	1
,	82	WaspySyn	2																					sax4	1
	83																							clarint1	1
	84																							clarint2	1
	85																							oboe	1
	86 87																							eng.horn	
	88																							bassoon harmnica	a 1
Synth Pad																								trumpet l	a 1
271111111111	90																							trumpet2	2 1
	91																							trmbone	1 2 2
	92																							trmbone?	2 2
	93																							fr.horn1	1
	94 95				1																			fr.horn2	<u>2</u>
	96				-																			tuba brssect1	1 2 2
Synth Effects					+																			brssect2	2
	98																							vibe1	1
	99	ChorBell	2	AirBells	2	BellHarp	2	Gamelmba	2															vibe2	1
	100																							symallet	1
	101																							maletwii	
	102 103				-																			glocken	$\frac{2}{1}$
	103																							tubulbel xylophoi	n 1
Ethnic	105	Tamboura	2		1																			marimba	1 2
		Gopichnt	2							Oud	2													koto	$\frac{1}{1}$
	107																							sho	i 2 i 2 i 2
		Kanoon	2																					shakhchi	i 2
	109																							whistle1	2
	110																							whistle2	1
	111	Hichriki	2																					bottle breath	2 2
Percussive	113	Rama Cyn	1 2																					timpani	1
	114	ranna Cyn	1-																					melotom	1 1
	115																							deepsnar	r 1
	116																							e.perc1	1
	117																							e.perc2	1
	118																							taiko	1
	119				-																			taikorim	1
Sound Effects	120																							cymbal castanet	2
Sound Enects	122																							triangle	1
	123																							orchehit	1
	124																							telphone	1
	125																							bird	1
		Coaster	2																					jam	1
	127																							efctwatr	2
	128																							efctjngl	2

### C/M Voice List

part1~9   part11~16     1	C/IVI V	oice List	
1         a.piano1         A-Piano2           2         a.piano2         A-Piano3           3         a.piano3         A-Piano3           4         e.piano1         A-Piano5           5         e.piano2         A-Piano6           7         e.piano3         A-Piano6           7         e.piano4         A-Piano7           8         hnkytnk         E-Piano1           9         e.organ1         E-Piano3           10         e.organ3         A-Guitr1           11         e.organ3         A-Guitr2           13         pipeorg1         A-Guitr3           14         pipeorg2         E-Guitr1           15         pipeorg3         E-Guitr1           16         acordion         Slap-1           17         harpsi1         Slap-2           18         harpsi2         Slap-3           19         harpsi3         Slap-4           20         clavi1         Slap-5           21         clavi2         Slap-6           22         clavi3         Slap-7           23         celesta1         Slap-8           24         celesta2         Finger-1 </td <td>Pgm#</td> <td>TYPE1</td> <td>TYPE2</td>	Pgm#	TYPE1	TYPE2
2 a.piano2 A-Piano2 3 a.piano3 A-Piano3 4 e.piano1 A-Piano4 5 e.piano2 A-Piano5 6 e.piano3 A-Piano6 7 e.piano4 A-Piano6 7 e.piano4 A-Piano6 9 e.organ1 E-Piano2 10 e.organ2 E-Piano2 11 e.organ3 A-Guitr1 12 e.organ4 A-Guitr2 13 pipeorg1 A-Guitr3 14 pipeorg2 E-Guitr1 15 pipeorg3 E-Guitr2 16 acordion Slap-1 17 harpsi1 Slap-2 18 harpsi2 Slap-3 19 harpsi3 Slap-4 20 clavi1 Slap-5 21 clavi2 Slap-6 22 clavi3 Slap-6 23 celesta1 Slap-8 24 celesta2 Finger-1 25 synbras1 Finger-2 26 synbras2 Picked-1 27 synbras3 Picked-2 28 synbras4 FretlsBs 29 synbas8 Choir-1 31 synbass3 Choir-2 32 synbass4 Choir-3 33 newagepd Choir-4 34 synbarmo Strngs-1 35 choir pd Strngs-2 36 bowed pd Strngs-3 37 soundtrk Strngs-4 38 atmosphr E-Organ1 39 syn warm E-Organ2 40 synchos E-Organ6 41 synchol E-Organ6 42 rain E-Organ7 43 synoboe E-Organ7 44 synchol E-Organ7 45 synsolo E-Organ8 46 synrdorg E-Organ9 47 synbell SoftTP-1		part1~9	part11~16
3 a.piano3 A-Piano3 4 e.piano1 A-Piano4 5 e.piano2 A-Piano5 6 e.piano3 A-Piano6 7 e.piano4 A-Piano6 7 e.piano4 A-Piano6 7 e.piano4 A-Piano7 8 hnkytnk E-Piano1 9 e.organ1 E-Piano2 10 e.organ2 E-Piano3 11 e.organ3 A-Guitr1 12 e.organ4 A-Guitr2 13 pipeorg1 A-Guitr3 14 pipeorg2 E-Guitr1 15 pipeorg3 E-Guitr2 16 acordion Slap-1 17 harpsi1 Slap-2 18 harpsi2 Slap-3 19 harpsi3 Slap-4 20 clavi1 Slap-5 21 clavi2 Slap-6 22 clavi3 Slap-7 23 celesta1 Slap-8 24 celesta2 Finger-1 25 synbras1 Finger-2 26 synbras2 Picked-1 27 synbras3 Picked-1 28 synbras4 FretlsBs 29 synbass1 A-Bass 30 synbass2 Choir-1 31 synbass3 Choir-2 32 synbass4 Choir-2 33 newagepd Choir-4 34 synharmo Strngs-1 35 choir pd Strngs-2 36 bowd pd Strngs-3 37 soundtrk Strngs-4 38 atmosphr E-Organ1 39 syn warm E-Organ2 40 synchol E-Organ6 44 synchol E-Organ6 45 synbol E-Organ6 46 synrlog E-Organ7 47 synbell SoftTP-1			
4 e.piano1 A-Piano4 5 e.piano2 A-Piano5 6 e.piano3 A-Piano6 7 e.piano4 A-Piano7 8 hnkytnk E-Piano1 9 e.organ1 E-Piano2 10 e.organ2 E-Piano3 11 e.organ3 A-Guitr1 12 e.organ4 A-Guitr1 13 pipeorg1 A-Guitr3 14 pipeorg2 E-Guitr1 15 pipeorg3 E-Guitr1 16 acordion Slap-1 17 harpsi1 Slap-2 18 harpsi2 Slap-3 19 harpsi3 Slap-4 20 clavi1 Slap-5 21 clavi2 Slap-6 22 clavi3 Slap-7 23 celesta1 Slap-7 23 celesta1 Slap-8 24 celesta2 Finger-1 25 synbras1 Finger-2 26 synbras2 Picked-1 27 synbras3 Picked-2 28 synbras4 FretlsBs 29 synbas81 A-Bass 30 synbas82 Choir-1 31 synbass3 Choir-2 32 synbass4 Choir-2 33 newagepd Choir-4 34 synharmo Strngs-1 35 choir pd Strngs-3 37 soundtrk Strngs-4 38 atmosphr E-Organ1 39 syn warm E-Organ2 40 syncholo E-Organ6 41 syncholo E-Organ6 43 synboso E-Organ7 44 syncholo E-Organ7 45 synbrolo E-Organ7 47 synbell SoftTP-1		a.piano2	A-Piano2
5         e.piano2         A-Piano5           6         e.piano3         A-Piano6           7         e.piano4         A-Piano7           8         hnkytnk         E-Piano1           9         e.organ1         E-Piano2           10         e.organ2         E-Piano3           11         e.organ3         A-Guitr1           12         e.organ4         A-Guitr2           13         pipeorg1         A-Guitr3           14         pipeorg2         E-Guitr1           15         pipeorg3         E-Guitr2           16         acordion         Slap-1           17         harpsi1         Slap-2           18         harpsi2         Slap-3           19         harpsi3         Slap-4           20         clavi1         Slap-5           21         clavi2         Slap-6           22         clavi3         Slap-7           23         celesta1         Slap-8           24         celesta2         Finger-1           25         synbras1         Finger-2           26         synbras2         Picked-1           27         synbras3         Picked	3	a.piano3	A-Piano3
6 e.piano3 A-Piano6 7 e.piano4 A-Piano7 8 hnkytnk E-Piano1 9 e.organ1 E-Piano2 10 e.organ2 E-Piano3 11 e.organ3 A-Guitr1 12 e.organ4 A-Guitr2 13 pipeorg1 A-Guitr3 14 pipeorg2 E-Guitr1 15 pipeorg3 E-Guitr2 16 acordion Slap-1 17 harpsi1 Slap-2 18 harpsi2 Slap-3 19 harpsi3 Slap-4 20 clavi1 Slap-5 21 clavi2 Slap-6 22 clavi3 Slap-7 23 celesta1 Slap-8 24 celesta2 Finger-1 25 synbras1 Finger-2 26 synbras2 Picked-1 27 synbras3 Picked-2 28 synbras4 FretlsBs 29 synbass4 FretlsBs 29 synbass1 A-Bass 30 synbass2 Choir-1 31 synbass3 Choir-2 32 synbass4 Choir-3 33 newagepd Choir-4 34 synharmo Strngs-1 35 choir pd Strngs-2 36 bowed pd Strngs-3 37 soundtrk Strngs-4 38 atmosphr E-Organ1 39 syn warm E-Organ2 40 synchol E-Organ4 41 synecho E-Organ6 44 synecho E-Organ6 45 synslol E-Organ7 47 synbol SoftTP-1	4	e.piano1	A-Piano4
7 e.piano4 A-Piano7 8 hnkytnk E-Piano1 9 e.organ1 E-Piano2 10 e.organ3 A-Guitr1 11 e.organ3 A-Guitr1 11 e.organ3 A-Guitr1 11 e.organ4 A-Guitr2 13 pipeorg1 A-Guitr3 14 pipeorg2 E-Guitr1 15 pipeorg3 E-Guitr1 16 acordion Slap-1 17 harpsi1 Slap-2 18 harpsi2 Slap-3 19 harpsi3 Slap-4 20 clavi1 Slap-5 21 clavi2 Slap-6 22 clavi3 Slap-6 22 clavi3 Finger-1 25 synbras1 Finger-2 26 synbras2 Picked-1 27 synbras3 Picked-1 28 synbras4 FretisBs 29 synbass1 A-Bass 30 synbass2 Choir-1 31 synbass3 Choir-2 32 synbass4 Choir-2 33 synbass4 Choir-3 33 newagepd Choir-4 34 synharmo Strngs-1 35 choir pd Strngs-2 36 bowed pd Strngs-3 37 soundtrk Strngs-4 38 atmosphr E-Organ1 39 syn warm E-Organ2 40 synchol E-Organ4 41 synecho2 E-Organ6 44 syncho2 E-Organ6 44 syncho2 E-Organ7 45 synbol E-Organ7 47 synbell SoftTP-1	5	e.piano2	A-Piano5
8         Inkytnk         E-Piano1           9         e.organ1         E-Piano2           10         e.organ2         E-Piano3           11         e.organ3         A-Guitr1           12         e.organ4         A-Guitr2           13         pipeorg1         A-Guitr3           14         pipeorg2         E-Guitr1           15         pipeorg3         E-Guitr2           16         acordion         Slap-1           17         harpsi1         Slap-2           18         harpsi2         Slap-3           19         harpsi3         Slap-4           20         clavi1         Slap-5           21         clavi2         Slap-6           22         clavi3         Slap-7           23         celesta1         Slap-8           24         celesta2         Finger-1           25         synbras1         Finger-2           26         synbras2         Picked-1           27         synbras3         Picked-2           28         synbras4         FretlsBs           29         synbas3         A-Bass           30         synbas3         Choir-1	6	e.piano3	A-Piano6
9 e.organ1 E-Piano2 10 e.organ2 E-Piano3 11 e.organ3 A-Guitr1 12 e.organ4 A-Guitr2 13 pipeorg1 A-Guitr3 14 pipeorg2 E-Guitr1 15 pipeorg3 E-Guitr1 16 acordion Slap-1 17 harpsi1 Slap-2 18 harpsi2 Slap-3 19 harpsi3 Slap-4 20 clavi1 Slap-5 21 clavi2 Slap-6 22 clavi3 Slap-7 23 celesta1 Slap-6 24 celesta2 Finger-1 25 synbras1 Finger-2 26 synbras2 Picked-1 27 synbras3 Picked-2 28 synbras4 FretlsBs 29 synbas8 A-Bass 30 synbas8 Choir-2 31 synbass3 Choir-2 32 synbass1 A-Bass 30 synbass2 Choir-1 31 synbass3 Choir-2 32 synbass4 Fordia Strings-1 35 choir pd Strings-2 36 bowed pd Strings-3 37 soundtrk Strings-4 38 atmosphr E-Organ1 39 syn warm E-Organ2 40 syncholo E-Organ6 41 syncholo E-Organ6 43 synbrolo E-Organ7 44 syncholo E-Organ7 45 synbolo E-Organ7 47 synbolo E-Organ8 46 synridorg E-Organ7 47 synbell SoftTP-1	7	e.piano4	A-Piano7
10   e.organ2   E-Piano3   11   e.organ3   A-Guitr1   12   e.organ4   A-Guitr2   13   pipeorg1   A-Guitr3   14   pipeorg2   E-Guitr1   15   pipeorg3   E-Guitr2   16   acordion   Slap-1   17   harpsi1   Slap-2   Slap-3   Slap-4   20   clavi1   Slap-5   21   clavi2   Slap-6   22   clavi3   Slap-6   22   clavi3   Slap-7   23   celesta1   Slap-8   24   celesta2   Finger-1   25   synbras1   Finger-2   26   synbras2   Picked-1   27   synbras3   A-Bass   29   synbras4   FretlsBs   29   synbras5   Choir-1   31   synbass3   Choir-1   32   synbras6   Choir-1   33   synbass4   Choir-3   33   newagepd   Choir-4   34   synharmo   Strngs-1   35   choir pd   Strngs-2   37   soundtrk   Strngs-4   38   atmosphr   E-Organ1   39   syn warm   E-Organ2   40   synchol P-Organ5   41   synchol P-Organ6   44   synchol P-Organ7   47   synbol   SoftTP-1   Soft	8	hnkytnk	E-Piano1
11         e.organ3         A-Guitr1           12         e.organ4         A-Guitr2           13         pipeorg1         A-Guitr3           14         pipeorg2         E-Guitr1           15         pipeorg3         E-Guitr2           16         acordion         Slap-1           17         harpsi1         Slap-2           18         harpsi2         Slap-3           19         harpsi3         Slap-4           20         clavi1         Slap-5           21         clavi2         Slap-6           22         clavi3         Slap-6           22         clavi3         Slap-7           23         celesta1         Slap-8           24         celesta2         Finger-1           25         synbras1         Finger-2           26         synbras2         Picked-1           27         synbras3         Picked-2           28         synbras4         FretlsBs           29         synbas4         FretlsBs           29         synbass3         Choir-1           31         synbass3         Choir-1           32         synbas4         Choir-3<	9	e.organ1	E-Piano2
12         e.organ4         A-Guitr2           13         pipeorg1         A-Guitr3           14         pipeorg2         E-Guitr1           15         pipeorg3         E-Guitr2           16         acordion         Slap-1           17         harpsi1         Slap-2           18         harpsi2         Slap-3           19         harpsi3         Slap-4           20         clavi1         Slap-5           21         clavi2         Slap-6           22         clavi3         Slap-7           23         celesta1         Slap-8           24         celesta2         Finger-1           25         synbras1         Finger-2           26         synbras2         Picked-1           27         synbras3         Picked-2           28         synbras4         FretlsBs           29         synbas4         FretlsBs           29         synbas3         Choir-1           31         synbass3         Choir-2           32         synbass4         Choir-3           33         newagepd         Choir-4           34         synharmo         Strngs	10	e.organ2	E-Piano3
13         pipeorg1         A-Guitr3           14         pipeorg2         E-Guitr1           15         pipeorg3         E-Guitr2           16         acordion         Slap-1           17         harpsi1         Slap-2           18         harpsi2         Slap-3           19         harpsi3         Slap-4           20         clavi1         Slap-5           21         clavi2         Slap-6           22         clavi3         Slap-7           23         celesta1         Slap-8           24         celesta2         Finger-1           25         synbras1         Finger-2           26         synbras2         Picked-1           27         synbras3         Picked-2           28         synbras4         FretlsBs           29         synbass1         A-Bass           30         synbass3         Choir-1           31         synbass3         Choir-2           32         synbass4         Choir-3           33         newagepd         Choir-4           34         synbarmo         Strngs-1           35         choir pd         Strngs	11	e.organ3	A-Guitr1
14         pipeorg2         E-Guitr1           15         pipeorg3         E-Guitr2           16         acordion         Slap-1           17         harpsi1         Slap-2           18         harpsi2         Slap-3           19         harpsi3         Slap-4           20         clavi1         Slap-5           21         clavi2         Slap-6           22         clavi3         Slap-7           23         celesta1         Slap-8           24         celesta2         Finger-1           25         synbras1         Finger-2           26         synbras2         Picked-1           27         synbras3         Picked-2           28         synbras4         FretlsBs           29         synbass1         A-Bass           30         synbass2         Choir-1           31         synbass3         Choir-2           32         synbass4         Choir-3           33         newagepd         Choir-4           34         synharmo         Strngs-1           35         choir pd         Strngs-2   36         bowed pd         Strngs-3	12	e.organ4	A-Guitr2
15	13	pipeorg1	A-Guitr3
16         acordion         Slap-1           17         harpsi1         Slap-2           18         harpsi2         Slap-3           19         harpsi3         Slap-4           20         clavi1         Slap-5           21         clavi2         Slap-6           22         clavi3         Slap-7           23         celesta1         Slap-8           24         celesta2         Finger-1           25         synbras1         Finger-2           26         synbras2         Picked-1           27         synbas3         Picked-2           28         synbras4         FretsB8           29         synbass4         FretsB8           29         synbass3         Choir-1           31         synbass3         Choir-2           32         synbass4         Choir-3           33         newagepd         Choir-4           34         synharmo         Strngs-1           35         choir pd         Strngs-2           36         bowed pd         Strngs-3           37         soundtrk         Strngs-3           37         soundtrk         Strngs-	14	pipeorg2	E-Guitr1
17         harpsi1         Slap-2           18         harpsi2         Slap-3           19         harpsi3         Slap-4           20         clavi1         Slap-5           21         clavi2         Slap-6           22         clavi3         Slap-7           23         celesta1         Slap-8           24         celesta2         Finger-1           25         synbras1         Finger-2           26         synbras2         Picked-1           27         synbras3         Picked-2           28         synbras4         FretlsBs           29         synbass1         A-Bass           30         synbass2         Choir-1           31         synbass3         Choir-2           32         synbass4         Choir-3           33         newagepd         Choir-4           34         synharmo         Strngs-1           35         choir pd         Strngs-2           36         bowed pd         Strngs-3           37         soundtrk         Strngs-3           37         soundtrk         Strngs-4           38         atmosphr         E-Or	15	pipeorg3	E-Guitr2
18         harpsi2         Slap-3           19         harpsi3         Slap-4           20         clavi1         Slap-5           21         clavi2         Slap-6           22         clavi3         Slap-7           23         celesta1         Slap-8           24         celesta2         Finger-1           25         synbras1         Finger-2           26         synbras2         Picked-1           27         synbras2         Picked-2           28         synbras4         FretlsBs           29         synbass1         A-Bass           30         synbass2         Choir-1           31         synbass3         Choir-2           32         synbass4         Choir-3           33         newagepd         Choir-4           34         synharmo         Strngs-1           35         choir pd         Strngs-2           36         bowed pd         Strngs-3           37         soundtrk         Strngs-4           38         atmosphr         E-Organ1           39         syn warm         E-Organ2           40         synfunny         E	16	acordion	Slap-1
18         harpsi2         Slap-3           19         harpsi3         Slap-4           20         clavi1         Slap-5           21         clavi2         Slap-6           22         clavi3         Slap-7           23         celesta1         Slap-8           24         celesta2         Finger-1           25         synbras1         Finger-2           26         synbras2         Picked-1           27         synbras3         Picked-2           28         synbras4         FretlsBs           29         synbass1         A-Bass           30         synbass2         Choir-1           31         synbass3         Choir-2           32         synbass4         Choir-3           33         newagepd         Choir-4           34         synharmo         Strngs-1           35         choir pd         Strngs-2           36         bowed pd         Strngs-3           37         soundtrk         Strngs-4           38         atmosphr         E-Organ1           39         syn warm         E-Organ2           40         synfunny         E	17	harpsi1	Slap-2
20         clavi1         Slap-5           21         clavi2         Slap-6           22         clavi3         Slap-7           23         celesta1         Slap-8           24         celesta2         Finger-1           25         synbras1         Finger-2           26         synbras2         Picked-1           27         synbras3         Picked-2           28         synbras4         FretlsBs           29         synbass1         A-Bass           30         synbass2         Choir-1           31         synbass3         Choir-2           32         synbass4         Choir-3           33         newagepd         Choir-4           34         synharmo         Strngs-1           35         choir pd         Strngs-2           36         bowed pd         Strngs-3           37         soundtrk         Strngs-3           37         soundtrk         Strngs-4           38         atmosphr         E-Organ1           39         syn warm         E-Organ2           40         synfunny         E-Organ3           41         syncho1	18	harpsi2	Slap-3
20         clavi1         Slap-5           21         clavi2         Slap-6           22         clavi3         Slap-7           23         celesta1         Slap-8           24         celesta2         Finger-1           25         synbras1         Finger-2           26         synbras2         Picked-1           27         synbras3         Picked-2           28         synbras4         FretlsBs           29         synbass1         A-Bass           30         synbass2         Choir-1           31         synbass3         Choir-2           32         synbass4         Choir-3           33         newagepd         Choir-4           34         synharmo         Strngs-1           35         choir pd         Strngs-2           36         bowed pd         Strngs-3           37         soundtrk         Strngs-3           37         soundtrk         Strngs-4           38         atmosphr         E-Organ1           39         syn warm         E-Organ2           40         synfunny         E-Organ3           41         syncho1	19	harpsi3	Slap-4
22         clavi3         Slap-7           23         celesta1         Slap-8           24         celesta2         Finger-1           25         synbras1         Finger-2           26         synbras2         Picked-1           27         synbras3         Picked-2           28         synbras4         FretlsBs           29         synbass1         A-Bass           30         synbass2         Choir-1           31         synbass3         Choir-2           32         synbass4         Choir-3           33         newagepd         Choir-4           34         synharmo         Strngs-1           35         choir pd         Strngs-2           36         bowed pd         Strngs-3           37         soundtrk         Strngs-4           38         atmosphr         E-Organ1           39         syn warm         E-Organ2           40         synfunny         E-Organ3           41         synecho1         E-Organ4           42         rain         E-Organ6           44         synecho2         E-Organ7           45         synsolo	20	clavi1	
23         celesta1         Slap-8           24         celesta2         Finger-1           25         synbras1         Finger-2           26         synbras2         Picked-1           27         synbras3         Picked-2           28         synbras4         FretlsBs           29         synbass1         A-Bass           30         synbass2         Choir-1           31         synbass3         Choir-2           32         synbass4         Choir-3           33         newagepd         Choir-4           34         synharmo         Strngs-1           35         choir pd         Strngs-2           36         bowed pd         Strngs-3           37         soundtrk         Strngs-4           38         atmosphr         E-Organ1           39         syn warm         E-Organ2           40         synfunny         E-Organ3           41         synecho1         E-Organ4           42         rain         E-Organ6           44         synecho2         E-Organ7           45         synsolo         E-Organ8           46         synrdorg	21	clavi2	Slap-6
23         celesta1         Slap-8           24         celesta2         Finger-1           25         synbras1         Finger-2           26         synbras2         Picked-1           27         synbras3         Picked-2           28         synbras4         FretlsBs           29         synbass1         A-Bass           30         synbass2         Choir-1           31         synbass3         Choir-2           32         synbass4         Choir-3           33         newagepd         Choir-4           34         synharmo         Strngs-1           35         choir pd         Strngs-2           36         bowed pd         Strngs-3           37         soundtrk         Strngs-4           38         atmosphr         E-Organ1           39         syn warm         E-Organ2           40         synfunny         E-Organ3           41         synecho1         E-Organ4           42         rain         E-Organ6           44         synecho2         E-Organ7           45         synsolo         E-Organ8           46         synrdorg	22	clavi3	Slap-7
25         synbras1         Finger-2           26         synbras2         Picked-1           27         synbras3         Picked-2           28         synbras4         FretlsBs           29         synbass1         A-Bass           30         synbass2         Choir-1           31         synbass3         Choir-2           32         synbass4         Choir-3           33         newagepd         Choir-4           34         synharmo         Strngs-1           35         choir pd         Strngs-2           36         bowed pd         Strngs-3           37         soundtrk         Strngs-4           38         atmosphr         E-Organ1           39         syn warm         E-Organ2           40         synfunny         E-Organ4           41         synecho1         E-Organ5           43         synoboe         E-Organ6           44         synecho2         E-Organ8           45         synsolo         E-Organ8           46         synrdorg         E-Organ9           47         synbell         SoftTP-1	23	celesta1	
26         synbras2         Picked-1           27         synbras3         Picked-2           28         synbras4         FretlsBs           29         synbass1         A-Bass           30         synbass2         Choir-1           31         synbass3         Choir-2           32         synbass4         Choir-3           33         newagepd         Choir-4           34         synharmo         Strngs-1           35         choir pd         Strngs-2           36         bowed pd         Strngs-3           37         soundtrk         Strngs-4           38         atmosphr         E-Organ1           39         syn warm         E-Organ2           40         synfunny         E-Organ3           41         synecho1         E-Organ4           42         rain         E-Organ6           44         synecho2         E-Organ7           45         synsolo         E-Organ8           46         synrdorg         E-Organ9           47         synbell         SoftTP-1	24	celesta2	Finger-1
27         synbras3         Picked-2           28         synbras4         FretlsBs           29         synbass1         A-Bass           30         synbass2         Choir-1           31         synbass3         Choir-2           32         synbass4         Choir-3           33         newagepd         Choir-4           34         synharmo         Strngs-1           35         choir pd         Strngs-2           36         bowed pd         Strngs-3           37         soundtrk         Strngs-4           38         atmosphr         E-Organ1           39         syn warm         E-Organ2           40         synfunny         E-Organ3           41         synecho1         E-Organ4           42         rain         E-Organ5           43         synecho2         E-Organ6           44         synecho2         E-Organ8           45         synsolo         E-Organ8           46         synrdorg         E-Organ9           47         synbell         SoftTP-1	25	synbras1	Finger-2
28         synbras4         FretlsBs           29         synbass1         A-Bass           30         synbass2         Choir-1           31         synbass3         Choir-2           32         synbass4         Choir-3           33         newagepd         Choir-4           34         synbarmo         Strngs-1           35         choir pd         Strngs-2           36         bowed pd         Strngs-3           37         soundtrk         Strngs-4           38         atmosphr         E-Organ1           39         syn warm         E-Organ2           40         synfunny         E-Organ3           41         synecho1         E-Organ4           42         rain         E-Organ6           44         synecho2         E-Organ6           44         synecho2         E-Organ8           45         synsolo         E-Organ9           47         synbell         SoftTP-1	26	synbras2	Picked-1
29         synbass1         A-Bass           30         synbass2         Choir-1           31         synbass3         Choir-2           32         synbass4         Choir-3           33         newagepd         Choir-4           34         synharmo         Strngs-1           35         choir pd         Strngs-2           36         bowed pd         Strngs-3           37         soundtrk         Strngs-4           38         atmosphr         E-Organ1           39         syn warm         E-Organ2           40         synfunny         E-Organ4           41         synecho1         E-Organ4           42         rain         E-Organ5           43         synecho2         E-Organ6           44         synecho2         E-Organ7           45         synsolo         E-Organ8           46         synrdorg         E-Organ9           47         synbell         SoftTP-1	27	synbras3	Picked-2
30         synbass2         Choir-1           31         synbass3         Choir-2           32         synbass4         Choir-3           33         newagepd         Choir-4           34         synharmo         Strngs-1           35         choir pd         Strngs-2           36         bowed pd         Strngs-3           37         soundtrk         Strngs-4           38         atmosphr         E-Organ1           39         syn warm         E-Organ2           40         synfunny         E-Organ3           41         synecho1         E-Organ4           42         rain         E-Organ5           43         synoboe         E-Organ6           44         synecho2         E-Organ8           45         synsolo         E-Organ8           46         synrdorg         E-Organ9           47         synbell         SoftTP-1	28	synbras4	FretlsBs
31         synbass3         Choir-2           32         synbass4         Choir-3           33         newagepd         Choir-4           34         synharmo         Strngs-1           35         choir pd         Strngs-2           36         bowed pd         Strngs-3           37         soundtrk         Strngs-4           38         atmosphr         E-Organ1           39         syn warm         E-Organ2           40         synfunny         E-Organ3           41         synecho1         E-Organ4           42         rain         E-Organ5           43         synoboe         E-Organ6           44         synecho2         E-Organ7           45         synsolo         E-Organ8           46         synrdorg         E-Organ9           47         synbell         SoftTP-1	29	synbass1	A-Bass
32         synbass4         Choir-3           33         newagepd         Choir-4           34         synharmo         Strngs-1           35         choir pd         Strngs-2           36         bowed pd         Strngs-3           37         soundtrk         Strngs-4           38         atmosphr         E-Organ1           39         syn warm         E-Organ2           40         synfunny         E-Organ3           41         synecho1         E-Organ4           42         rain         E-Organ5           43         synoboe         E-Organ6           44         synecho2         E-Organ7           45         synsolo         E-Organ8           46         synrdorg         E-Organ9           47         synbell         SoftTP-1	30	synbass2	Choir-1
33         newagepd         Choir-4           34         synharmo         Strngs-1           35         choir pd         Strngs-2           36         bowed pd         Strngs-3           37         soundtrk         Strngs-4           38         atmosphr         E-Organ1           39         syn warm         E-Organ2           40         synfunny         E-Organ3           41         synecho1         E-Organ4           42         rain         E-Organ5           43         syneboe         E-Organ6           44         synecho2         E-Organ7           45         synsolo         E-Organ8           46         synrdorg         E-Organ9           47         synbell         SoftTP-1	31	synbass3	Choir-2
34         synharmo         Strngs-1           35         choir pd         Strngs-2           36         bowed pd         Strngs-3           37         soundtrk         Strngs-4           38         atmosphr         E-Organ1           39         syn warm         E-Organ2           40         synfunny         E-Organ3           41         synecho1         E-Organ4           42         rain         E-Organ5           43         syneboe         E-Organ6           44         synecho2         E-Organ7           45         synsolo         E-Organ8           46         synrdorg         E-Organ9           47         synbell         SoftTP-1	32	synbass4	Choir-3
34         synharmo         Strngs-1           35         choir pd         Strngs-2           36         bowed pd         Strngs-3           37         soundtrk         Strngs-4           38         atmosphr         E-Organ1           39         syn warm         E-Organ2           40         synfunny         E-Organ3           41         synecho1         E-Organ4           42         rain         E-Organ5           43         syneboe         E-Organ6           44         synecho2         E-Organ7           45         synsolo         E-Organ8           46         synrdorg         E-Organ9           47         synbell         SoftTP-1	33	newagepd	Choir-4
36         bowed pd         Strngs-3           37         soundtrk         Strngs-4           38         atmosphr         E-Organ1           39         syn warm         E-Organ2           40         synfunny         E-Organ3           41         synecho1         E-Organ4           42         rain         E-Organ5           43         synoboe         E-Organ6           44         synecho2         E-Organ7           45         synsolo         E-Organ8           46         synrdorg         E-Organ9           47         synbell         SoftTP-1	34		Strngs-1
37         soundtrk         Strngs-4           38         atmosphr         E-Organ1           39         syn warm         E-Organ2           40         synfunny         E-Organ3           41         synecho1         E-Organ4           42         rain         E-Organ5           43         synoboe         E-Organ6           44         synecho2         E-Organ7           45         synsolo         E-Organ8           46         synrdorg         E-Organ9           47         synbell         SoftTP-1	35	choir pd	Strngs-2
38         atmosphr         E-Organ1           39         syn warm         E-Organ2           40         synfunny         E-Organ3           41         synecho1         E-Organ4           42         rain         E-Organ5           43         synoboe         E-Organ6           44         synecho2         E-Organ7           45         synsolo         E-Organ8           46         synrdorg         E-Organ9           47         synbell         SoftTP-1	36	bowed pd	Strngs-3
39         syn warm         E-Organ2           40         synfunny         E-Organ3           41         synecho1         E-Organ4           42         rain         E-Organ5           43         synoboe         E-Organ6           44         synecho2         E-Organ7           45         synsolo         E-Organ8           46         synrdorg         E-Organ9           47         synbell         SoftTP-1	37	soundtrk	Strngs-4
40         synfunny         E-Organ3           41         synecho1         E-Organ4           42         rain         E-Organ5           43         synoboe         E-Organ6           44         synecho2         E-Organ7           45         synsolo         E-Organ8           46         synrdorg         E-Organ9           47         synbell         SoftTP-1	38	atmosphr	E-Organ1
41         synecho1         E-Organ4           42         rain         E-Organ5           43         synoboe         E-Organ6           44         synecho2         E-Organ7           45         synsolo         E-Organ8           46         synrdorg         E-Organ9           47         synbell         SoftTP-1	39	syn warm	E-Organ2
42         rain         E-Organ5           43         synoboe         E-Organ6           44         synecho2         E-Organ7           45         synsolo         E-Organ8           46         synrdorg         E-Organ9           47         synbell         SoftTP-1	40	synfunny	E-Organ3
42         rain         E-Organ5           43         synoboe         E-Organ6           44         synecho2         E-Organ7           45         synsolo         E-Organ8           46         synrdorg         E-Organ9           47         synbell         SoftTP-1	41	synecho1	E-Organ4
44         synecho2         E-Organ7           45         synsolo         E-Organ8           46         synrdorg         E-Organ9           47         synbell         SoftTP-1	42	rain	E-Organ5
45         synsolo         E-Organ8           46         synrdorg         E-Organ9           47         synbell         SoftTP-1	43	synoboe	E-Organ6
46 synrdorg E-Organ9 47 synbell SoftTP-1	44	synecho2	E-Organ7
47 synbell SoftTP-1	45	synsolo	E-Organ8
, ,	46	synrdorg	E-Organ9
48 squareld SoftTP-2	47	synbell	SoftTP-1
	48	squareld	SoftTP-2

D#	TYPE1	TYPE2
Pgm#		1
49	part1~9	part11~16 TP/TRB-1
50	strsect1	TP/TRB-1
51	strsect2 strsect3	TP/TRB-2
52		TP/TRB-3
	pizz.str	
53	violin 1	TP/TRB-5
54	violin 2	TP/TRB-6
55	cello 1	Sax-1
56	cello 2	Sax-2
57	contrabs	Sax-3
58	harp 1	Sax-4
59	harp 2	Brass-1
60	guitar 1	Brass-2
61	guitar 2	Brass-3
62	elecgtr1	Brass-4
63	elecgtr2	Brass-5
64	sitar	Orch-Hit
65	a.bass 1	Silence
66	a.bass 2	Silence
67	e.bass 1	Silence
68	e.bass 2	Silence
69	slapbas1	Silence
70	slapbas2	Silence
71	fretles1	Silence
72	fretles2	Silence
73	flute1	Silence
74	flute2	Silence
75	piccolo1	Silence
76	piccolo2	Silence
77	recorder	Silence
78	panpipes	Silence
79	sax1	Silence
80	sax2	Silence
81	sax3	Silence
82	sax4	Silence
83	clarint1	Silence
84	clarint2	Silence
85	oboe	Silence
86	eng.horn	Silence
87	bassoon	Silence
88	harmnica	Silence
89	trumpet1	Silence
90	trumpet2	Silence
91	trmbone1	Silence
92	trmbone2	Silence
93	fr.horn1	Silence
94	fr.horn2	Silence
95	tuba	Silence
96	brssect1	Silence
70	51550011	Silence

Pgm#	TYPE1	TYPE2
	part1~9	part11~16
97	brssect2	Silence
98	vibe1	Silence
99	vibe2	Silence
100	symallet	Silence
101	maletwin	Silence
102	glocken	Silence
103	tubulbel	Silence
104	xylophon	Silence
105	marimba	Silence
106	koto	Silence
107	sho	Silence
108	shakhchi	Silence
109	whistle1	Silence
110	whistle2	Silence
111	bottle	Silence
112	breath	Silence
113	timpani	Silence
114	melotom	Silence
115	deepsnar	Silence
116	e.perc1	Silence
117	e.perc2	Silence
118	taiko	Silence
119	taikorim	Silence
120	cymbal	Silence
121	castanet	Silence
122	triangle	Silence
123	orchehit	Silence
124	telphone	Silence
125	bird	Silence
126	jam	Silence
127	efctwatr	Silence
128	efctjngl	Silence

## DOC Voice List

DOC	VOICE LIST
Pgm#	Voice
1	Brass
2	Trumpet
3	Fr.Horn
4	Sax
5	Clarinet
6	Oboe
7	Flute 1
8	Acordion
9	Strings
10	Violin
11	FullOrgn
12	JazOrgn1
13	Piano
14	E.Piano1
15	Harpsi.
16	Celesta
17	Vibes
18	Marimba
19	Harpsi.
20	Vibes
21	SynBrass
22	
23	SynCrstl
24	Timpani
25	Gut Gtr
26	JazzGtr1
27	RockGtr1
28	Harpsi.
29	U.Bass
30	E.Bass
31	E.Bass/S
32	Syn.Bass
33	
34	
35	
36	
37	
38	
39	
40	
41	Mute Trp
42	Harmnica
43	Choir
44	JazOrgn1
45	Syn.Wood
46	Syn.Str
47	SynChoir

Pgm#	Voice
48	Piano
49	Piano-M
50	Piano
51	E.Piano2
52	Piano-B
53	Piano-B
54	Folk Gtr
55	Rock Gtr
56	Banjo
57	Pizz.
58	Harp
59	
60	
61	Brass
62	Flute
63	Strings
64	Choir
65	PipeOrgn
66	JazOrgn1
67	SynBrass
68	Sax
69	ClavTone
70	RockGtr2
71	Mute Gtr
72	U.Bass-M
73	JazzGtr2
74	PopBrass
75	Str-Mild
76	Violin-H
77	P.Organ
78	Sax-Mild
79	E.Bass-H
80	Flute 2
81	Bassoon
82	Cham.Str
83	JazOrgn2
84	
85	
86	
87	
88	
89	Dist.Gtr
90	Cosmic 1
91	Cosmic 2
92	Cosmic 3
93	Orch.Hit

Pgm#	Voice
95	
96	
97	
98	
99	
100	
101	
102	
103	
104	
105	
106	
107	
108	
109	
110	
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121	
122	
123	
124	
125	
126	
127	
128	

: Ignore program change

### XG Drum Map

			Bank Select MSB=		LSB=000	-		-1	1		-	1	-1
	Bank		127	127	127	127	127	127	127	127	127	126	126
	Program #		1	2	9	17	25	26	33	41	49	1	2
		Alternate											
ote#	Note off		Standard Kit	Standard2 Kit	Room Kit	Rock Kit	Electro Kit	Analog Kit	Jazz Kit	Brush Kit	Classic Kit	SFX 1	SFX 2
13	C# -1	3	Surdo Mute										
14	D -1	3	Surdo Open										
15	D# -1		Hi Q										
16	E -1		Whip Slap										
17	F -1	4	Scratch Push										
18	F# -1	4	ScratchPull										
19	G -1		Finger Snap										
20	G# -1		Click Noise										
21	A -1		Metro Click										
22	A# -1		Metro Bell										
23	B -1		Seq Click L										
24	C 0		Seq Click H										
25	C# 0		Brush Tap										
26	D 0 O		BrushSwirl L										
27	D# 0		Brush Slap										
28	E 0 O		BrushSwirl H				ReversCymbal	ReversCymbal					
29	F 0 O		Snare Roll	Snare Roll 2									
30	F# 0		Castanet				Hi Q	Hi Q					
31	G 0		Snare L	Snare L2		SD Rock M	Snare M	SD Rock H		Brush Slap L			
32	G# 0		Sticks							1			
33	A 0		Bass Drum L			Bass Drum M	Bass Drum H4	Bass Drum M			Bass Drum L2		
34	A# 0		Open RimShot	OpenRimShot2									
35	B 0		Bass Drum M	Bass Drum M2		Bass Drum H3	BD Rock	BD Analog L			Gran Cassa		
36	C 1		Bass Drum H	Bass Drum H2		BD Rock	BD Gate	BD Analog H	BD Jazz	BD Soft	GranCasaMute	GtrCutNoise	Dial Tone
37	C# 1		Side Stick					AnaSideStick				GtrCutNoise2	DoorCreaking
38	D 1		Snare M	Snare M2	SD Room L	SD Rock	SD Rock L	Ana Snare L		Brush Slap	MarchingSn M		Door Slam
39	D# 1		Hand Clap							1		String Slap	Scratch
40	E 1		Snare H	Snare H2	SD Room H	SD Rock Rim	SD Rock H	Ana Snare H		Brush Tap	MarchingSn H	9 1	Scratch 2
41	F 1		Floor Tom L	,,	Room Tom 1	Rock Tom 1	E Tom 1	Analog Tom 1	Jazz Tom 1	Brush Tom 1	Jazz Tom 1		Windchime
42	F# 1	1	Hi-HatClosed					AnaHHClosed1					TelephnRing?
43	G 1		Floor Tom H		Room Tom 2	Rock Tom 2	E Tom 2	Analog Tom 2	Jazz Tom 2	Brush Tom 2	Jazz Tom 2		- confining
44	G# 1	1	Hi-Hat Pedal					AnaHHClosed2					
45	A 1		Low Tom		Room Tom 3	Rock Tom 3	E Tom 3	Analog Tom 3	Jazz Tom 3	Brush Tom 3	Jazz Tom 3		
46	A# 1	1	Hi-Hat Open					Ana HH Open					
47	B 1	•	Mid Tom L		Room Tom 4	Rock Tom 4	E Tom 4	Analog Tom 4	Jazz Tom 4	Brush Tom 4	Jazz Tom 4		
48	C 2		Mid Tom H		Room Tom 5	Rock Tom 5	E Tom 5	Analog Tom 5	Jazz Tom 5	Brush Tom 5	Jazz Tom 5		
49	C# 2		CrashCymbal1		Ttoom Tom 5	Trock Tolli 5	E rom s	Ana Cymbal	Julii Tom 5	Drush Tom 5	HandCymOpenL		
50	D 2		High Tom		Room Tom 6	Rock Tom 6	E Tom 6	Analog Tom 6	Jazz Tom 6	Brush Tom 6	Jazz Tom 6		
51	D# 2	1	Ride Cymbal1					8 0			HandCymClosL		
52	E 2	t	China Cymbal								- Immueymenost	FL.Key Click	Engine Start
53	F 2	<del>                                     </del>	RideCymbalCp									. z.ney enek	Tire Screech
54	F# 2	<b>†</b>	Tambourine										Car Passing
55	G 2	<del>                                     </del>	SplashCymbal										Crash
56	G# 2	<del>                                     </del>	Cowbell					Ana Cowbell					Siren
57	A 2	<del>                                     </del>	CrashCymbal2					. Ind Cowbell			HandCymOpenH		Train
58	A# 2	<del>                                     </del>	Vibraslap								- Landey mopelli		Jetplane
59	B 2	<del>                                     </del>	Ride Cymbal2								HandCymClosH		Starship
60	C 3	1	Bongo H								Timideyine 10311		Burst Noise
61	C# 3	+	Bongo L										Coaster
62	D 3	<del>                                     </del>	Conga H Mute					Ana Conga H					SbMarine
63	D# 3	+	Conga H Open					Ana Conga M					Solvianne
64		-											
	E 3 F 3	-	Conga L					Ana Conga L					
65		-	Timbale H										
66	F# 3	-	Timbale L										
67	G 3	1	Agogo H										

: Same as Standard Kit

Bank Select MSB=Bank Number	LSB=000
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				Bank Sciect MSB-		B-000	105	400	105	100	100	400	121	101
	Ban			127	127	127	127	127	127	127	127	127	126	126
	Progra			1	2	9	17	25	26	33	41	49	1	2
		Key	Alternate											
Note#	Note	off	assign	Standard Kit	Standard2 Kit	Room Kit	Rock Kit	Electro Kit	Analog Kit	Jazz Kit	Brush Kit	Classic Kit	SFX 1	SFX 2
68	G# 3			Agogo L									Rain	Laughing
69	A 3			Cabasa									Thunder	Screaming
70	A# 3			Maracas					Ana Maracas				Wind	Punch
71	B 3	0		SambaWhistlH									Stream	Heartbeat
72	C 4	0		SambaWhistlL									Bubble	Footsteps
73	C# 4			Guiro Short									Feed	
74	D 4	0		Guiro Long										
75	D# 4			Claves					Ana Claves					
76	E 4			Wood Block H										
77	F 4			Wood Block L										
78	F# 4			Cuica Mute				Scratch Push	Scratch Push					
79	G 4			Cuica Open				Scratch Pull	Scratch Pull					
80	G# 4		2	TriangleMute										
81	A 4		2	TriangleOpen										
82	A# 4			Shaker										
83	B 4			Jingle Bell										
84	C 5			Bell Tree									Dog	Machine Gun
85	C# 5												Horse Gallop	Laser Gun
86	D 5												Bird 2	Explosion
87	D# 5													FireWork
88	E 5													
89	F 5													
90	F# 5												Ghost	
91	G 5												Maou	

## TG300B Drum Map

39

	Progran	n #	1	9	17	25	26	33	41	49	57	128
		Alternate										
ote#	Note	Assign	Standard Kit	Room Kit	Power Kit	Electro Kit	Analog Kit	Jazz Kit	Brush Kit	Orchestra Kit	SFX Set	C/M Kit
25	C# 0		Snare Roll									
26	D 0		Finger Snap									
27	D# 0		Hi Q							Hi-Hat Closed		
28	E 0		Whip Slap							Hi-Hat Pedal		
29	F 0	7	Scratch Push							Hi-Hat Open		
30	F# 0	7	Scratch Pull							Ride Cymbal 1		
31	G 0		Sticks									
32	G# 0		Click Noise									
33	A 0		Metronome Click									
34	A# 0		Metronome Bell									
35	B 0		Bass Drum M							BD Jazz		
36	C 1		Bass Drum H		BD Power	BD Electronic	BD Analog H	BD Jazz	BD Soft	Gran Cassa		
37	C# 1		Side Stick				Analog Side Stick					
38	D 1		Snare M		SD Power	SD Electronic	Analog Snare L		Brush Tap	Concert SD		
39	D# 1		Hand Clap						Brush Slap	Castanet	High-Q	
40	E 1		Snare H			SD Power			Brush Swirl	Concert SD	Slap	SD Electro
41	F 1		Floor Tom L	Room Tom 1	Room Tom 1	E Tom 1	Analog Tom 1	Jazz Tom 1	Jazz Tom 1	Timpani F	Scratch Push	
42	F# 1	1	Hi-Hat Closed				Analog HH Closed 1			Timpani F#	Scratch Pull	
43	G 1		Floor Tom H	Room Tom 2	Room Tom 2	E Tom 2	Analog Tom 2	Jazz Tom 2	Jazz Tom 2	Timpani G	Sticks	
44	G# 1	1	Hi-Hat Pedal				Analog HH Closed 2			Timpani G#	Square Click	Hi-Hat Open
45	A 1		Low Tom	Room Tom 3	Room Tom 3	E Tom 3	Analog Tom 3	Jazz Tom 3	Jazz Tom 3	Timpani A	Metronome Click	
46	A# 1	1	Hi-Hat Open				Analog HH Open			Timpani A#	Metronome Bell	Hi-Hat Open
47	B 1		Mid Tom L	Room Tom 4	Room Tom 4	E Tom 4	Analog Tom 4	Jazz Tom 4	Jazz Tom 4	Timpani B	Guitar Fret Noise	
48	C 2		Mid Tom H	Room Tom 5	Room Tom 5	E Tom 5	Analog Tom 5	Jazz Tom 5	Jazz Tom 5	Timpani C	Guitar Cutting Down	
49	C# 2		Crash Cymbal 1				Analog Cymbal			Timpani C#	Guitar Cutting Up	
50	D 2		High Tom	Room Tom 6	Room Tom 6	E Tom 6	Analog Tom 6	Jazz Tom 6	Jazz Tom 6	Timpani D	Ac Bass Slap	
					: Same as Standard	l Kit		: No Sound				

P	rogram #	#	1	9	17	25	26	33	41	49	57	128
		Alternate										
Note#	Note	Assign	Standard Kit	Room Kit	Power Kit	Electro Kit	Analog Kit	Jazz Kit	Brush Kit	Orchestra Kit	SFX Set	C/M Kit
51	D# 2		Ride Cymbal 1							Timpani D#	FL.Key Click	
52	E 2		Chinese Cymbal			Reverse Cymbal				Timpani E	Laughing	
53	F 2		Ride Cymbal Cup							Timpani F	Screaming	
54	F# 2		Tambourine								Punch	
55	G 2		Splash Cymbal								Heartbeat	
56	G# 2		Cowbell				Analog Cowbell				Footsteps 1	
57	A 2		Crash Cymbal 2							Hand Cym.1	Footsteps 2	
58	A# 2		Vibraslap								Applause	
59	B 2		Ride Cymbal 2							Hand Cym.2	Door Creaking	
60	C 3		Bongo H								Door Slam	
61	C# 3		Bongo L								Scratch	
62	D 3		Conga H Mute				Analog Conga H				Windchime	
63	D# 3		Conga H Open				Analog Conga M				Engine Start	
64	E 3		Conga L				Analog Conga L				Tire Screech	
65	F 3		Timbale H								Car Passing	
66	F# 3		Timbale L								Crash	
67	G 3		Agogo H								Siren	
68	G# 3		Agogo L								Train	
69	A 3		Cabasa								Jetplane	
70	A# 3		Maracas				Analog Maracas				Helicopter	
71	B 3	2	Samba Whistle H								Starship	
72	C 4	2	Samba Whistle L								Gunshot	
73	C# 4	3	Guiro Short								Machine Gun	Vibraslap
74	D 4	3	Guiro Long								Laser Gun	
75	D# 4		Claves				Analog Claves				Explosion	
76	E 4		Wood Block H								Dog	Laughing
77	F 4		Wood Block L								Horse Gallop	Screaming
78	F# 4	4	Cuica Mute								Bird Tweet	Punch
79	G 4	4	Cuica Open								Rain	Heartbeat
80	G# 4	5	Triangle Mute								Thunder	Footsteps 1
81	A 4	5	Triangle Open								Wind	Footsteps 2
82	A# 4		Shaker								Seashore	Applause
83	B 4		Jingle Bell								Stream	Door Creaking
84	C 5		Bell Tree								Bubble	Door Slam
85	C# 5		Castanet									Scratch
86	D 5	6	Surdo Mute									Windchime
87	D# 5	6	Surdo Open									Engine Start
88	E 5									Applause		Tire Screech
89	F 5											Car Passing
90	F# 5											Crash
91	G 5											Siren
92	G# 5											Train
93	A 5											Jetplain
94	A# 5											Helicopter
95	B 5											Starship
96	C 6											Gunshot
97	C# 6											Machine Gun
98	D 6											Laser Gun
99	D# 6											Explosion
100	E 6											Dog
101	F 6											Horse Gallop
102	F# 6											Bird Tweet
103	G 6											Rain
104	G# 6											Thunder
105	A 6											Wind
106	A# 6											Seashore
												Stream
107	B 6											

: Same as Standard Kit

4

### C/M Drum Map

C/M	Drun	n Map	
Note#	Note	Alternate Assign	C/M Kit
35	В0	Ť	Bass Drum M
36	C1		Bass Drum H
37	C#1		Side Stick
38	D1		Snare M
39	D#1		Hand Clap
40	E1		SD Electro
41	F1		Floor Tom L
42	F#1	1	Hi-Hat Closed
43	G1		Floor Tom H
44	G#1	1	Hi-Hat Open 1
45	A1		Low Tom
46	A#1	1	Hi-Hat Open 2
47	B1		Mid Tom L
48	C2		Mid Tom H
49	C#2		Crash Cymbal 1
50	D2		High Tom
51	D#2		Ride Cymbal 1
52	E2		rade Cymour 1
53	F2		
54	F#2		Tambourine
55	G2		Tumoourme
56	G#2		Cowbell
57	A2		COWDEN
58	A#2		
59	B2		
60	C3		Bongo H
61	C#3		Bongo L
62	D3		Conga H Mute
63	D#3		Conga H Open
64	E3		Conga L
65	F3		Timbale H
66	F#3		Timbale L
67	G3		Agogo H
68	G#3		Agogo L
69	A3		Cabasa
70	A#3		Maracas
71	В3	2	Samba Whistle H
72	C4	2	Samba Whistle L
73	C#4		Vibraslap
74	D4		vibrasiap
75	D#4		Claves
76	E4		
77	F4		Laughing Screaming
78	F#4		Punch
79	F#4		Punch Heartbeat
80	-		
	G#4		Footsteps 1
81	A4		Footsteps 2

Note#	Note	Alternate	C/M Kit
		Assign	
82	A#4		Applause
83	B4		Door Creaking
84	C5		Door Slam
85	C#5		Scratch
86	D5		Windchime
87	D#5		Engine Start
88	E5		Tire Screech
89	F5		Car Passing
90	F#5		Crash
91	G5		Siren
92	G#5		Train
93	A5		Jetplane
94	A#5		Helicopter
95	B5		Starship
96	C6		Gunshot
97	C#6		Machine Gun
98	D6		Laser Gun
99	D#6		Explosion
100	E6		Dog
101	F6		Horse Gallop
102	F#6		Bird Tweet
103	G6		Rain
104	G#6		Thunder
105	A6		Wind
106	A#6		Seashore
107	В6		Stream
108	C7		Bubble

## DOC Drum Map

Note#	Note	Alternate	C/M Kit
		Assign	
21	A-1		Cymbal Mute
22	A#-1		
23	B-1		
24	C0		
25	C#0		
26	D0		
27	D#0		
28	E0		
29	F0		
30	F#0	1	Brush Roll
31	G0		
32	G#0	2	Hi-Hat closed heavy
33	A0		
34	A#0		Crash Cymbal light
35	В0		BD light
36	C1		SD+RIM heavy
37	C#1		Ride Cymbal cup
38	D1		SD+RIM light
39	D#1		
40	E1		
41	F1		BD norm
42	F#1		Rim Shot
43	G1		SD heavy
44	G#1	1	Brush Shot
45	A1		SD light
46	A#1	2	Hi-Hat pedal
47	B1		SD echo
48	C2		Tom 4
49	C#2	2	Hi-Hat closed norm
50	D2		Tom 3
51	D#2	2	Hi-Hat open
52	E2		Tom 2
53	F2		Tom 1
54	F#2		Ride Cymbal norm
55	G2		E.Tom 3
56	G#2		Crash Cymbal norm
57	A2		E.Tom 2
58	A#2		Crash Cymbal norm
59	B2	2	E.Tom 1
60	C3	2	Conga L
61	C#3		Cabasa
62	D3		Conga H
63	D#3		Metronome
64	E3		Bongo H
65	F3		Timbale L
66	F#3		Claves
67	G3		Timbale H

Note#	Note	Alternate	C/M Kit
		Assign	
68	G#3		Castanets
69	A3		Cuica L
70	A#3		Cowbell
71	В3		Cuica H
72	C4		Handclaps
73	C#4		Agogo L
74	D4		
75	D#4		Agogo H
76	E4		Bongo L
77	F4		Cuica L
78	F#4		Tambourine
79	G4		Crash Cymbal norm
80	G#4	3	Triangle closed
81	A4		Brush Roll
82	A#4	3	Triangle open

## MU50 Performance List

#	Performance Name	Layer	Comment
1	LD:Whistlead	4	Lead sound with whistle mixed in
2	CH:SynVox	2	Synth chorus with distinctive high range
3	BA:KingBass	3	Synth bass for slow and medium tempos
4	OR:Bright	2	Bright organ through rotary speaker
5	EP:CP80	1	CP80 revisited
6	ST:Natural	4	String voice; attack changes with velocity
7	AP:Piano	2	Full-sounding grand piano
8	PD:SnowyNite	2	Snowy sound; use short, articulated key play
9	BR:Legend	3	Fat analog-synth brass
10	SE:NASA-MW	4	Rockeet blastoff and space drift
11	ET:SouthEast	3	Southeast-Asian sound
12	EP:Hammered	2	Dry electric piano
13	GT:Distorted	4	Distortion guitar with touch- and MW-driven feedback
14	LD:Obiees	2	Mono analog-synth lead; also good as brass
15	BA:Moogy	3	Synth bass for fast tempos
16	OR:Rocker	3	Rock organ
17	AP:MIDIGrand	2	Layered grand and electric pianos
18	MK:FunkyClav	2	Funky clavinet with autowow and flanger
19	ET:EthnicKit	4	Left hand is small drum; right hand is bell
20	ST:HiEnsembl	2	Analog-synth string with distinctive high range
21	CH:Natural	3	Natural chorus
22	OR:Church	4	Church organ
23	FX:ZHole	4	Otherworldly pad sound
24	FX:DayBreak	3	FX sound; image of daybreak
25	AP:Piano&Pad	2	Layered piano and strings pad
26	BR:PunchBRS	3	Punch brass; good for live performance
27	FX:HiBeam	2	Fat decay sound with brassy color
28	EP:EP&HiVCE	3	Layered electric piano and chorus
29	ST:PhazedPad	2	Synth pad through phaser
30	SE:TerrorSE	4	Horror-type lower-depths sound effect
31	KS:JazzClub	3	Split: wood bass and piano
32	BR:Festival	2	Fanfare brass; good for single-note play

Performance bank selects are as follows.

PRE: MSB = 01, LSB = 00INT: MSB = 02, LSB = 00

AP:acoustic piano

BA:bass

BR:brass

CH:choir

ET:ethnic

EP:electric piano

FX:synth SFX

GT:guitar

KS:keyboard split

LD:synth lead

MK:misc. piano/keyboard

OR:organ

PD:synth pad

SE:sound effcts

ST:strings/orchestra

YAMAHA [ Tone Generator ] Date:16-FEB-1995 Model MU50 MIDI Implementation Chart Version: 1.0

Transmitted Recognized Remarks Function ... Basic Default x 1 - 16 memorized 1 - 16 Channel Changed x ----+----Default | x Mode Messages x 3,4(m = 1) \*2
Altered \*\*\*\*\*\*\*\*\*\* x Note 0 - 127 Number: True voice | \*\*\*\*\*\*\*\* | 0 - 127 -----Velocity Note ON x Note OFF x o 9nH, v=1-127 x After Key's x
Touch Ch's x \*1 0 \*1 Pitch Bender | o 0-24 semi \*1 | 0,32 | x \*1 | Bank Select Ιo 1,5,7,10,11 x 6,38 x 64-67 x \*1 0 0 Data Entry \*1 0 71-74 | x Control 0 Sound Controller 84 | x Portamento Cntrl 0 Change 91,93,94 x Effect Depth 0 96-97 | x \*1 RPN Inc,Dec 0 98-99 x 100-101 x 120 x 0 \*1 NRPN LSB,MSB 0 \*1 RPN LSB,MSB All Sound Off 0 121 x Reset All Cntrls Ο Prog | x | 0 0 - 127 Change: True # \*\*\*\*\*\*\*\*\*\* System Exclusive o \*3 0 \*3 \_\_\_\_\_\_ System : Song Pos. | x : Song Sel. x Common: Tune x System :Clock | x Real Time : Commands | x Aux :Local ON/OFF | x :All Notes OFF x
Mes-:Active Sense x
sages:Reset x o(123-127)

Notes: \*1 ; receive if switch is on.

Mode 1 : OMNI ON, POLY Mode 2 : OMNI ON, MONO o : Yes Mode 3 : OMNI OFF, POLY Mode 4 : OMNI OFF, MONO x : No

<sup>\*2 ;</sup> m is always treated as "1" regardless of its value.

<sup>\*3 ;</sup> transmit/receive if exclusive switch is on.

