

YAMAHA

STONE GENERATOR

MU80

SOUND LIST & MIDI DATA

Effect Program List

REVERB

No.	Effect Type	Features
1	NO EFFECT	Effect off.
2	HALL1	Concert hall reverb.
3	HALL2	Concert hall reverb.
4	ROOM1	Small room reverb.
5	ROOM2	Small room reverb.
6	ROOM3	Small room reverb.
7	STAGE1	Reverb for solo instruments.
8	STAGE2	Reverb for solo instruments.
9	PLATE	Simulated steel plate reverb.
10	WHITE ROOM	Distinctive short reverb with initial delay.
11	TUNNEL	Simulation of long tunnel-like space.
12	CANYON	Long, cavernous reverb.
13	BASEMENT	Small, highly reflective room reverb.

CHORUS

No.	Effect Type	Features
1	NO EFFECT	Effect off.
2	CHORUS1	Conventional chorus program with rich, warm chorusing.
3	CHORUS2	Conventional chorus program with rich, warm chorusing.
4	CHORUS3	Conventional chorus program with rich, warm chorusing.
5	CELESTE1	Three-phase LFO for richer, more pronounced chorusing.
6	CELESTE2	Three-phase LFO for richer, more pronounced chorusing.
7	CELESTE3	Three-phase LFO for richer, more pronounced chorusing.
8	FLANGER 1	Pronounced three-phase modulation with slight metallic sound.
9	FLANGER 2	Pronounced three-phase modulation with slight metallic sound.
10	SYMPHONIC	Exceptionally rich & deep chorusing.
11	PHASER	Pronounced, metallic modulation with periodic phase change.

VARIATION

No.	Effect Type	Features
1	NO EFFECT	Effect off.
2	HALL1	Concert hall reverb.
3	HALL2	Concert hall reverb.
4	ROOM1	Small room reverb.
5	ROOM2	Small room reverb.
6	ROOM3	Small room reverb.
7	STAGE1	Reverb for solo instruments.
8	STAGE2	Reverb for solo instruments.
9	PLATE	Simulated steel plate reverb.
10	DELAY L,C,R	Three independent delays, for the left, right and center stereo positions.
11	DELAY L,R	Initial delay for each stereo channel, and two separate feedback delays.
12	ECHO	Stereo delay, with independent Feedback Level controls for each channel.
13	CROSS DELAY	Complex effect that sends the delayed repeats "bouncing" between the left and right channels.
14	ER1	Early reflections only.
15	ER2	Early reflections only.
16	GATE REVERB	Gated reverb effect, in which the reverberation is quickly cut off for special effects.
17	REVERSE GATE	Similar to Gate Reverb, but with a reverse increase in reverb.
18	KARAOKE1	Deep echo effects, suited especially for Karaoke-type vocals.
19	KARAOKE2	Deep echo effects, suited especially for Karaoke-type vocals.
20	KARAOKE3	Deep echo effects, suited especially for Karaoke-type vocals.
21	CHORUS1	Conventional chorus program with rich, warm chorusing.
22	CHORUS2	Conventional chorus program with rich, warm chorusing.
23	CHORUS3	Conventional chorus program with rich, warm chorusing.
24	CELESTE1	Three-phase LFO for richer, more pronounced chorusing.
25	CELESTE2	Three-phase LFO for richer, more pronounced chorusing.
26	CELESTE3	Three-phase LFO for richer, more pronounced chorusing.
27	FLANGER 1	Pronounced three-phase modulation with slight metallic sound.
28	FLANGER 2	Pronounced three-phase modulation with slight metallic sound.
29	SYMPHONIC	Exceptionally rich & deep chorusing.
30	ROTARY SPEAKER	Rotary speaker simulation. Rotation speed can be controlled using AC1 (Assignable Controller 1).
31	TREMOLO	Rich Tremolo effect with both volume and pitch modulation.
32	AUTO PAN	Several panning effects that automatically shift the sound position (left, right, front, back).
33	PHASER	Pronounced, metallic modulation with periodic phase change.
34	DISTORTION	Hard-edge distortion.
35	OVERDRIVE	Mild, warm distortion.
36	AMP SIMULATOR	Simulated guitar amplifier sound.
37	3BAND EQ(MONO)	Mono EQ, with Low, Mid and High band controls.
38	*2BANDEQ(STEREO)	Stereo EQ program with low and high frequency controls; ideal for tweaking drum parts. (Cannot be used with A/D input.)
39	AUTO WAH(LFO)	Repeating filter sweep "wah" effect; also serves as pedal wah (with AC1).
40	PITCH CHANGE	Independent left, right channel pitch change.
41	AURAL EXCITER	Enhances the sound by giving it greater definition, presence and clarity.
42	TOUCH WAH	Wah effect that varies filter sweep according to input level (or touch); also serves as pedal wah (with AC1).
43	TOUCH WAH+DIST	Same as Touch Wah, but with added Distortion.
44	COMPRESSOR	Affects the dynamics of the sound by smoothing out the high-volume peaks and soft-volume dips.
45	NOISE GATE	Eliminates any noise or hum in the signal.
46	THRU	Effect bypass; no effect applied.

*2BAND EQ(STEREO) voice cannot be used with A/D input.

DISTORTION

No.	Effect Type	Features
1	THRU	Effect off.
2	DISTORTION	Hard-edge distortion.
3	OVERDRIVE	Mild, warm distortion.
4	3BAND EQ(MONO)	Mono EQ, with Low, Mid and High band controls.

MU80 Effect Parameter List

Parameter	Range	Value	Table No.	AC1 Control	
HALL 1,HALL2 ROOM1,ROOM2,ROOM3 STAGE1,STAGE2 PLATE					
1 Reverb Time	0.3~30.0s	0-69	Table#4	This determines the time or length of the Reverb effect. This determines the density and complexity of the reflections that make up the Reverb effect. Lower values result in a clearer, simpler Reverb sound, while higher values result in a thicker, richer sound. This determines the time delay between the direct sound and the first of the many reflections that make up the Reverb sound. The High Pass Filter allows you to filter out low frequency sounds from the Reverb sound, "passing" only the high frequencies above the cutoff point. This parameter determines the frequency cutoff point for the filter. Higher values effectively take the bass sounds out of the Reverb effect. The Low Pass Filter allows you to filter out high frequency sounds from the Reverb sound, "passing" only the low frequencies below the cutoff point. This parameter determines the frequency cutoff point for the filter. Lower values effectively take the treble sounds out of the Reverb effect.	
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					
7					
8					
9					
10 Dry/Wet	D63>W ~ D=W ~ D<W63	1-127			●
11 Rev Delay	0-63	0-63	Table#5		
12 Density	0-4	0-4			
13 Er/Rev Balance	E63>R ~ E=R ~ E<R63	1-127			
14 High Damp	0.1-1.0	1-10			
15					
16					

HINT : LPF Cutoff Judicious use of the Low Pass Filter helps to create a more natural Reverb sound, since many actual performance environments have a relatively "dead" sound in which the high frequency reflections are absorbed. On the other hand, you may wish to create a more "live" reverb sound by setting the High Pass Filter Cutoff above to emphasize the high frequencies.

**WHITE ROOM
TUNNEL
CANYON
BASEMENT**

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 Height	0.5~20.2m	0-73	Table#11
8 Depth	0.5~30.2m	0-104	Table#11
9 Wall Vary	0-30	0-30	
10 Dry/Wet	D63>W ~ D=W ~ D<W63	1-127	
11 Rev Delay	0-63	0-63	Table#5
12 Density	0-4	0-4	
13 Er/Rev Balance	E63>R ~ E=R ~ E<R63	1-127	
14 High Damp	0.1-1.0	1-10	
15 Feedback Level	-63~+63	1-127	
16			

See above.
See above.
See above.
See above.
See above.

DELAY L,C,R

1 Lch Delay	0.1~715.0ms	1-7150	
2 Rch Delay	0.1~715.0ms	1-7150	
3 Cch Delay	0.1~715.0ms	1-7150	
4 Feedback Delay	0.1~715.0ms	1-7150	
5 Feedback Level	-63~+63	1-127	
6 Cch Level	0-127	0-127	
7 High Damp	0.1-1.0	1-10	
8			
9			
10 Dry/Wet	D63>W ~ D=W ~ D<W63	1-127	
11 HPF Cutoff	Thru~8.0kHz	0-52	Table#3
12 LPF Cutoff	1.0k~Thru	34-60	Table#3
13			
14			
15			
16			

Left channel initial delay time.
Right channel initial delay time.
Center channel initial delay time.
Time delay of all delayed repeats following the initial delayed repeat.
Level of feedback delays.
A setting of 0 results in no delayed repeats after the initial delay.

CAUTION! : FB Level Be careful when setting this parameter, since extreme values may result in uncontrollable feedback.
NOTE : FB Level This parameter is not available for the Symphonic effect.

DELAY L,R

1 Lch Delay	0.1~715.0ms	1-7150	
2 Rch Delay	0.1~715.0ms	1-7150	
3 Feedback Delay 1	0.1~715.0ms	1-7150	
4 Feedback Delay 2	0.1~715.0ms	1-7150	
5 Feedback Level	-63~+63	1-127	
6 High Damp	0.1-1.0	1-10	
7			
8			
9			
10 Dry/Wet	D63>W ~ D=W ~ D<W63	1-127	
11 HPF Cutoff	Thru~8.0kHz	0-52	Table#3
12 LPF Cutoff	1.0k~Thru	34-60	Table#3
13			
14			
15			
16			

Right channel initial delay time.
Center channel initial delay time.
Time delay of all delayed repeats (for Delay 1) following the initial delayed repeat.
Time delay of all delayed repeats (for Delay 2) following the initial delayed repeat.
Level of both feedback delays.

ECHO

1 Lch Delay1	0.1~355.0ms	1-3550	
2 Lch Feedback Level	-63~+63	1-127	
3 Rch Delay1	0.1~355.0ms	1-3550	
4 Rch Feedback Level	-63~+63	1-127	
5 High Damp	0.1-1.0	1-10	
6 Lch Delay2	0.1~355.0ms	1-3550	
7 Rch Delay2	0.1~355.0ms	1-3550	
8 Delay2 Level	0-127	0-127	
9			
10 Dry/Wet	D63>W ~ D=W ~ D<W63	1-127	
11 HPF Cutoff	Thru~8.0kHz	0-52	Table#3
12 LPF Cutoff	1.0k~Thru	34-60	Table#3
13			

Left channel initial delay time.
Level of left channel feedback delays (following initial delay).
Right channel delay time.
Level of right channel feedback delays (following initial delay).
Damping or filtering out of high frequencies in delay sound.

See above.
See above.

MU80 Effect Parameter List

Parameter	Range	Value	Table No.	AC1 Control	
14					
15					
16					
CROSS DELAY					
1	L->R Delay	0.1~355.0ms	1-3550	Time of delay fed from left channel to right.	
2	R->L Delay	0.1~355.0ms	1-3550	Time of delay fed from right channel to left.	
3	Feedback Level	-63~+63	1-127	Level of feedback delays.	
4	Input Select	L,R,L&R	0-2	Determines input for initial delay: Left, Right, or Left & Right.	
5	High Damp	0.1~1.0	1-10	Damping or filtering out of high frequencies in delay sound.	
6					
7					
8					
9					
10	Dry/Wet	D63>W ~ D=W ~ D<W63	1-127	●	
11	HPF Cutoff	Thru~8.0kHz	0-52	Table#3	See above.
12	LPF Cutoff	1.0k~Thru	34-60	Table#3	See above.
13					
14					
15					
16					
EARLY REF1,EARLY REF2					
1	Type	S-H, L-H, Rdm, Rvs, Plt, Spr	0-5	Selects the pattern of early reflections: S-H (Small Hall), L-H (Large Hall), Rdm (Random), Rvs (Reverse), Plt (Plate), Spr (Spring).	
2	Room Size	0.1~7.0	0-44	Table#6	Apparent room size. Affects length of reflections.
3	Diffusion	0~10	0-10		See above.
4	Initial Delay	0~63	0-63	Table#5	See above.
5	Feedback Level	-63~+63	1-127		See above.
6	HPF Cutoff	Thru~8.0kHz	0-52		See above.
7	LPF Cutoff	1.0k~Thru	34-60		See above.
8					
9					
10	Dry/Wet	D63>W ~ D=W ~ D<W63	1-127	●	
11	Liveness	0~10	0-10		
12	Density	0~3	0-3		
13	High Damp	0.1~1.0	1-10		
14					
15					
16					
GATE REVERB					
REVERSE GATE					
1	Type	TypeA,TypeB	0-1	Selects the type of gate reverb.	
2	Room Size	0.1~7.0	0-44	Table#6	Apparent room size. Affects length of reverb.
3	Diffusion	0~10	0-10		See above.
4	Initial Delay	0~63	0-63	Table#5	See above.
5	Feedback Level	-63~+63	1-127		See above.
6	HPF Cutoff	Thru~8.0kHz	0-52		See above.
7	LPF Cutoff	1.0k~Thru	34-60		See above.
8					
9					
10	Dry/Wet	D63>W ~ D=W ~ D<W63	1-127	●	
11	Liveness	0~10	0-10		
12	Density	0~3	0-3		
13	High Damp	0.1~1.0	1-10		
14					
15					
16					
KARAOKE1,2,3					
1	Delay Time	0~63	0-127	Table#7	Time between delayed repeats.
2	Feedback Level	-63~+63	1-127		See above.
3	HPF Cutoff	Thru~8.0kHz	0-52		See above.
4	LPF Cutoff	1.0k~Thru	34-60		See above.
5					
6					
7					
8					
9					
10	Dry/Wet	D63>W ~ D=W ~ D<W63	1-127	●	
11					
12					
13					
14					
15					
16					
CHORUS1,2,3					
CELESTE1,2,3					
1	LFO Frequency	0.08~39.7Hz	0-127	Table#1	This determines the amount of phase shift, or to what degree the modulated signal is out of phase with the dry signal. Lower values result in the signal being more out of phase, and hence create a stronger Phaser effect.
2	LFO PM Depth	0~63	0-63		See above.
3	Feedback Level	-63~+63	1-127		See above.
4	Delay Offset	0~127	0-127	Table#2	See above.
5					
6	EQ Low Frequency	32Hz~2.0kHz	4-40	Table#3	
7	EQ Low Gain	-12~+12dB	52-76		
8	EQ High Frequency	500Hz~16.0kHz	28-58	Table#3	
9	EQ High Gain	-12~+12dB	52-76		
10	Dry/Wet	D63>W ~ D=W ~ D<W63	1-127	●	
11	EQ Mid Frequency	100Hz~10.0kHz	14-54	Table#3	
12	EQ Mid Gain	-12~+12dB	52-76		
13	EQ Mid Width	1.0~12.0	10-120		
14	LFO AM Depth	0~127	0-127		
15					
16					
NOTE : Delay Ofst This parameter is not available for the Phaser effect.					
FLANGER1,FLANGER2					
1	LFO Frequency	0.08~39.7Hz	0-127	Table#1	See above.
2	LFO Depth	0~127	0-127		
3	Feedback Level	-63~+63	1-127		
4	Delay Offset	0~63	0-63	Table#2	
5					
6	EQ Low Frequency	32Hz~2.0kHz	4-40	Table#3	

MU80 Effect Parameter List

Parameter	Range	Value	Table No.	AC1 Control
7 EQ Low Gain	-12~+12dB	52-76		
8 EQ High Frequency	500Hz~16.0kHz	28-58	Table#3	
9 EQ High Gain	-12~+12dB	52-76		
10 Dry/Wet	D63>W ~ D=W ~ D<W63	1-127		●
11 EQ Mid Frequency	100Hz~10.0kHz	14-54	Table#3	
12 EQ Mid Gain	-12~+12dB	52-76		
13 EQ Mid Width	1.0~12.0	10-120		
14 LFO Phase Difference	-180~+180deg	4-124		
15				
16				
NOTE : Delay Ofst This parameter is not available for the Phaser effect.				
SYMPHONIC				
1 LFO Frequency	0.08~39.7Hz	0-127	Table#1	See above.
2 LFO Depth	0~127	0-127		
3 Delay Offset	0~127	0-127	Table#2	
4				
5				
6 EQ Low Frequency	32Hz~2.0kHz	4-40	Table#3	
7 EQ Low Gain	-12~+12dB	52-76		
8 EQ High Frequency	500Hz~16.0kHz	28-58	Table#3	
9 EQ High Gain	-12~+12dB	52-76		
10 Dry/Wet	D63>W ~ D=W ~ D<W63	1-127		●
11 EQ Mid Frequency	100Hz~10.0kHz	14-54	Table#3	
12 EQ Mid Gain	-12~+12dB	52-76		
13 EQ Mid Width	1.0~12.0	10-120		
14				
15				
16				
NOTE : Delay Ofst This parameter is not available for the Phaser effect.				
ROTARY SPEAKER				
1 LFO Frequency	0.08~39.7Hz	0-127	Table#1	● Apparent speed of rotary speaker.
2 LFO Depth	0~127	0-127		Depth of rotary speaker effect.
3				
4				
5				
6 EQ Low Frequency	32Hz~2.0kHz	4-40	Table#3	
7 EQ Low Gain	-12~+12dB	52-76		
8 EQ High Frequency	500Hz~16.0kHz	28-58	Table#3	
9 EQ High Gain	-12~+12dB	52-76		
10 Dry/Wet	D63>W ~ D=W ~ D<W63	1-127		
11 EQ Mid Frequency	100Hz~10.0kHz	14-54	Table#3	
12 EQ Mid Gain	-12~+12dB	52-76		
13 EQ Mid Width	1.0~12.0	10-120		
14				
15				
16				
TREMOLO				
1 LFO Frequency	0.08~39.7Hz	0-127	Table#1	● Speed of tremolo effect.
2 AM Depth	0~127	0-127		Depth of tremolo effect on volume. (AM = Amplitude Modulation)
3 PM Depth	0~127	0-127		Depth of tremolo effect on pitch. (PM = Pitch Modulation)
4				
5				
6 EQ Low Frequency	32Hz~2.0kHz	4-40	Table#3	
7 EQ Low Gain	-12~+12dB	52-76		
8 EQ High Frequency	500Hz~16.0kHz	28-58	Table#3	
9 EQ High Gain	-12~+12dB	52-76		
10				
11 EQ Mid Frequency	100Hz~10.0kHz	14-54	Table#3	
12 EQ Mid Gain	-12~+12dB	52-76		
13 EQ Mid Width	1.0~12.0	10-120		
14 LFO Phase Difference	-180~+180deg	4-124		
15				
16				
AUTO PAN				
1 LFO Frequency	0.08~39.7Hz	0-127	Table#1	● Speed of auto pan effect.
2 L/R Depth	0~127	0-127		Depth of left/right stereo separation.
3 F/R Depth	0~127	0-127		Depth of apparent front/rear image separation. (This parameter is only effective when Pan Direction below is set to Lturn or Rturn.)
4 PAN Direction	L<->R,L->R,L<-R,Lturn,Rturn,L/R	0-5		Direction of auto pan effect: L<->R (shifts back and forth between left and right), L->R (shifts continually from left to right), L<-R (shifts continually from right to left), Lturn (simulated 3D panning effect in which sound circles counterclockwise), Rturn (simulated 3D panning effect in which sound circles clockwise), L/R (alternates between left and right).
5				
6 EQ Low Frequency	32Hz~2.0kHz	4-40	Table#3	
7 EQ Low Gain	-12~+12dB	52-76		
8 EQ High Frequency	500Hz~16.0kHz	28-58	Table#3	
9 EQ High Gain	-12~+12dB	52-76		
10				
11 EQ Mid Frequency	100Hz~10.0kHz	14-54	Table#3	
12 EQ Mid Gain	-12~+12dB	52-76		
13 EQ Mid Width	1.0~12.0	10-120		
14				
15				
16				
NOTE If Variation Connection is set to SYS, the Variation Pan parameter should be set to C (Center) for optimum use of Auto Pan.				
PHASER				
1 LFO Frequency	0.08~39.7Hz	0-127	Table#1	See above.
2 LFO Depth	0~127	0-127		See above.
3 Phase Shift Offset	0~127	0-127		See above.
4 Feedback Level	-63~+63	1-127		See above.
5				
6 EQ Low Frequency	32Hz~2.0kHz	4-40	Table#3	
7 EQ Low Gain	-12~+12dB	52-76		
8 EQ High Frequency	500Hz~16.0kHz	28-58	Table#3	
9 EQ High Gain	-12~+12dB	52-76		
10 Dry/Wet	D63>W ~ D=W ~ D<W63	1-127		●

MU80 Effect Parameter List

Parameter	Range	Value	Table No.	AC1 Control
11 Stage	4,6,8	4-8		
12 Diffusion	Mono/Stereo	0-1		
13				
14				
15				
16				
DISTORTION OVERDRIVE				
1 Drive	0-127	0-127		• This determines the intensity of the Distortion effect. The higher the value, the greater the distortion.
2 EQ Low Frequency	32Hz~2.0kHz	4-40	Table#3	
3 EQ Low Gain	-12~+12dB	52-76		
4 LPF Cutoff	1.0k~Thru	34-60		
5 Output Level	0-127	0-127		This determines the level of the Distortion effect. Use this parameter together with the Dry/Wet Balance parameter below to obtain the desired overall sound.
6				
7 EQ Mid Frequency	100Hz~10.0kHz	14-54		
8 EQ Mid Gain	-12~+12dB	52-76		
9 EQ Mid Width	1.0-12.0	10-120		
10 Dry/Wet	D63>W ~ D=W ~ D<W63	1-127		
11				
12				
13				
14				
15				
16				
GUITAR AMP SIMULATOR				
1 Drive	0-127	0-127		• See above.
2 AMP Type	Off,Stack,Combo,Tube	0-3		Type of amplifier simulated: Stack (huge amp/speaker setup), Combo (compact amp cabinet), Tube (warm tube amplifier sound).
3 LPF Cutoff	1.0k~Thru	34-60		
4 Output Level	0-127	0-127		See above.
5				
6				
7				
8				
9				
10 Dry/Wet	D63>W ~ D=W ~ D<W63	1-127		
11				
12				
13				
14				
15				
16				
MONO EQ(3BAND)				
1 EQ Low Gain	-12~+12dB	52-76		Amount of boost or cut of low frequencies.
2 EQ Mid Frequency	100Hz~10.0kHz	14-54	Table#3	Central frequency for mid-range adjustment.
3 EQ Mid Gain	-12~+12dB	52-76		Amount of boost or cut of mid-range frequencies.
4 EQ Mid Width	1.0-12.0	10-120		Band width of mid-range frequencies. Higher values result in a narrower range of frequencies.
5 EQ High Gain	-12~+12dB	52-76		Amount of boost or cut of high frequencies.
6 EQ Low Frequency	32Hz~2.0kHz	4-40	Table#3	
7 EQ High Frequency	500Hz~16.0kHz	28-58	Table#3	
8				
9				
10				
11				
12				
13				
14				
15				
16				
STEREO EQ(2BAND)				
1 EQ Low Frequency	32Hz~2.0kHz	4-40	Table#3	Central frequency for low adjustment.
2 EQ Low Gain	-12~+12dB	52-76		Amount of boost or cut of low frequencies.
3 EQ High Frequency	500Hz~16.0kHz	28-58	Table#3	Central frequency for high adjustment.
4 EQ High Gain	-12~+12dB	52-76		Amount of boost or cut of high frequencies.
5				
6				
7				
8				
9				
10				
11 EQ Mid Frequency	100Hz~10.0kHz	14-54	Table#3	
12 EQ Mid Gain	-12~+12dB	52-76		
13 EQ Mid Width	1.0-12.0	10-120		
14				
15				
16				
AUTO WAH				
1 LFO Frequency	0.08~39.7Hz	0-127	Table#1	Speed of auto wah effect.
2 LFO Depth	0-127	0-127		Depth of auto wah effect.
3 Cutoff Frequency Offset	0-127	0-127		• Central frequency for the auto wah effect.
4 Resonance	1.0-12.0	10-120		Amount of emphasis of the cutoff frequency.
5				
6 EQ Low Frequency	32Hz~2.0kHz	4-40	Table#3	
7 EQ Low Gain	-12~+12dB	52-76		
8 EQ High Frequency	500Hz~16.0kHz	28-58	Table#3	
9 EQ High Gain	-12~+12dB	52-76		
10 Dry/Wet	D63>W ~ D=W ~ D<W63	1-127		
11 Drive	0-127	0-127		
12				
13				
14				
15				
16				
PITCH CHANGE				
1 Pitch	-24~+24	40-88		Coarse pitch change setting. (Affects both left and right channels.)
2 Initial Delay	0-127	0-127	Table#7	Length of time before onset of pitch change.
3 Fine 1	-50~+50	14-114		Fine pitch adjustment for the left channel sound.
4 Fine 2	-50~+50	14-114		Fine pitch adjustment for the right channel sound.

MU80 Effect Parameter List

Parameter	Range	Value	Table No.	Control	AC1
5 Feedback Gain	-99~+99%	1-127			Level of pitch change sound that is returned (or fed back) to the Pitch Change effect. Extreme values send the pitch +spiraling+ down or up (depending on the Pitch and Fine 1/2 parameters).
6					
7					
8					
9					
10 Dry/Wet	D63>W ~ D=W ~ D<W63	1-127		●	
11 Pan 1	L63~R63	1-127			
12 Output Level 1	0~127	0-127			
13 Pan 2	L63~R63	1-127			
14 Output Level 2	0~127	0-127			
15					
16					
AURAL EXCITER**					
1 HPF cutoff	500Hz~16.0kHz	28-58			High pass filter cutoff frequency for the Aural Exciter [®] effect.
2 Drive	0~127	0-127			Degree or depth of the Aural Exciter [®] effect.
3 Mix Level	0~127	0-127			Level of the Aural Exciter [®] sound, relative to the dry sound.
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
*Aural Exciter [®] is a registered trademark of Aphex Systems Ltd.					
TOUCH WAH,WAH+DIST					
1 Sensitive	0~127	0-127			Sensitivity of wah effect to playing velocity and Voice level.
2 Cutoff Frequency Offset	0~127	0-127		●	Central frequency for the wah effect.
3 Resonance	1.0~12.0	10-120			Amount of emphasis of the cutoff frequency.
4					
5					
6 EQ Low Frequency	32Hz~2.0kHz	4-40	Table#3		
7 EQ Low Gain	-12~+12dB	52-76			
8 EQ High Frequency	500Hz~16.0kHz	28-58	Table#3		
9 EQ High Gain	-12~+12dB	52-76			
10 Dry/Wet	D63>W ~ D=W ~ D<W63	1-127			
11 Drive	0~127	0-127			
12					
13					
14					
15					
16					
COMPRESSOR					
1 Attack	1~40ms	0-19	Table#8		Amount of time before compression of the signal begins.
2 Release	10~680ms	0-15	Table#9		Amount of time for which compression of the signal continues. Higher values result in a gradual decay of the compression.
3 Threshold	-48~-6dB	79-121			Determines minimum level of signal necessary to trigger compression.
4 Ratio	1.0~20.0	0-7	Table#10		Determines the degree of compression. Higher levels result in greater compression of the signal.
5 Output Level	0~127	0-127			Output level of the compressor sound.
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
NOISE GATE					
1 Attack	1~40ms	0-19	Table#8		Amount of time before the noise gate is triggered.
2 Release	10~680ms	0-15	Table#9		Amount of time the noise gate remains. Higher values result in a gradual decay of the noise gate.
3 Threshold	-72~-30dB	55-97			Determines minimum level of signal necessary to trigger the noise gate.
4 Output Level	0~127	0-127			Output level of the overall sound.
5					
6					
7					
8					
9					
10					
11 Ratio	1.0~5.0	0-7			
12					
13					
14					
15					
16					

Data Value Assignment Tables

Table#1 LFO Frequency		Table#2 Modulation Delay Offset		Table#3 EQ Frequency		Table#4 Reverb Time		Table#5 Delay Time(200.0ms)		Table#6 Room Size	
Data	Value	Data	Value	Data	Value	Data	Value	Data	Value	Data	Value
0	0.00	58	2.43	116	22.20	58	11.0	0	0.1	58	91.4
1	0.08	59	2.52	117	23.50	59	18.0K	1	1.7	59	93.0
2	0.08	60	2.52	118	24.80	60	18.0K	2	3.2	60	94.5
3	0.16	61	2.60	119	26.20			3	4.8	61	96.1
4	0.16	62	2.60	120	27.50			4	6.4	62	97.7
5	0.25	63	2.69	121	28.90			5	8.0	63	99.3
6	0.25	64	2.69	122	30.20			6	9.5	64	100.8
7	0.33	65	2.77	123	31.60			7	11.1	65	102.4
8	0.33	66	2.86	124	32.90			8	12.7	66	104.0
9	0.42	67	2.94	125	34.30			9	14.3	67	105.6
10	0.42	68	3.02	126	37.00			10	15.8	68	107.1
11	0.50	69	3.11	127	39.70			11	17.4	69	108.7
12	0.50	70	3.19					12	19.0	70	110.3
13	0.58	71	3.28	13	90			13	20.6	71	111.9
14	0.58	72	3.36	14	100			14	22.1	72	113.4
15	0.67	73	3.44	15	110			15	23.7	73	115.0
16	0.67	74	3.53	16	125			16	25.3	74	116.6
17	0.75	75	3.61	17	140			17	26.9	75	118.2
18	0.75	76	3.70	18	160			18	28.4	76	119.7
19	0.84	77	3.86	19	180			19	30.0	77	121.3
20	0.84	78	4.03	20	200			20	31.6	78	122.9
21	0.92	79	4.20	21	225			21	33.2	79	124.4
22	0.92	80	4.37	22	250			22	34.7	80	126.0
23	1.00	81	4.54	23	280			23	36.3	81	127.6
24	1.00	82	4.71	24	315			24	37.9	82	129.2
25	1.09	83	4.87	25	355			25	39.5	83	130.7
26	1.09	84	5.04	26	400			26	41.0	84	132.3
27	1.17	85	5.21	27	450			27	42.6	85	133.9
28	1.17	86	5.38	28	500			28	44.2	86	135.5
29	1.26	87	5.55	29	560			29	45.7	87	137.0
30	1.26	88	5.72	30	630			30	47.3	88	138.6
31	1.34	89	6.05	31	700			31	48.9	89	140.2
32	1.34	90	6.39	32	800			32	50.5	90	141.8
33	1.43	91	6.72	33	900			33	52.0	91	143.3
34	1.43	92	7.06	34	10K			34	53.6	92	144.9
35	1.51	93	7.40	35	11K			35	55.2	93	146.5
36	1.51	94	7.73	36	12K			36	56.8	94	148.1
37	1.59	95	8.07	37	14K			37	58.3	95	149.6
38	1.59	96	8.41	38	16K			38	59.9	96	151.2
39	1.68	97	8.74	39	18K			39	61.5	97	152.8
40	1.68	98	9.08	40	20K			40	63.1	98	154.4
41	1.76	99	9.42	41	22K			41	64.6	99	155.9
42	1.76	100	9.75	42	25K			42	66.2	100	157.5
43	1.85	101	10.00	43	28K			43	67.8	101	159.1
44	1.85	102	10.70	44	32K			44	69.4	102	160.6
45	1.93	103	11.40	45	36K			45	70.9	103	162.2
46	1.93	104	12.10	46	40K			46	72.5	104	163.8
47	2.01	105	12.70	47	45K			47	74.1	105	165.4
48	2.01	106	13.40	48	50K			48	75.7	106	166.9
49	2.10	107	14.10	49	56K			49	77.2	107	168.5
50	2.10	108	14.80	50	63K			50	78.8	108	170.1
51	2.18	109	15.40	51	70K			51	80.4	109	171.7
52	2.18	110	16.10	52	80K			52	81.9	110	173.2
53	2.27	111	16.80	53	90K			53	83.5	111	174.8
54	2.27	112	17.40	54	100K			54	85.1	112	176.4
55	2.35	113	18.10	55	110K			55	86.7	113	178.0
56	2.35	114	19.50	56	120K			56	88.2	114	179.5
57	2.43	115	20.80	57	140K			57	89.8	115	181.1

Data Value Assignment Tables

Table#7
Delay Time(400.0ms)

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

Table#9
Compressor Release Time

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

Table#10
Compressor Ratio

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

Table#8
Compressor Attack Time

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

Table#11
Reverb Width;Depth;Height

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

MU80 MIDI Data Format

1. Channel Messages

1.1 Key On and Key Off

Receivable note range: C2 to G8
Velocity range: 1 to 127 (Value accepted only at Note On)

If multipart parameter "Rcv NOTE MESSAGE" is OFF, the part ignores these messages.
Rhythm part will ignore Key Off if "Rcv NOTE OFF = OFF".
Rhythm part will ignore Key On if "Rcv NOTE ON = OFF".

1.2 Control Change

If multipart parameter "Rcv CONTROL CHANGE" is OFF, the part ignores these messages.

1.2.1 Bank Select

Cntrl#	Parameter	Data Range
0	Bank Select MSB	0:Normal, 64:SFX, 126-127:Drum
32	Bank Select LSB	0...127

A new bank selection does not become effective until receipt of the next Program Change message.
If "Sound Module Mode = C/M", all Bank Selects are ignored.

1.2.2 Modulation

Cntrl#	Parameter	Data Range
1	Modulation	0...127

If multipart parameter "Rcv MODULATION" is OFF, the part ignores this message.

1.2.3 Portamento Time

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

Sets the pitch-change speed used when Portamento is ON. A value of 0 produces the shortest portamento time; value 127 selects the longest time.

1.2.4 Data Entry

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

Sets the value for the parameter specified by RPN/NRPN.

1.2.5 Main Volume

Cntrl#	Parameter	Data Range
7	Data Entry MSB	0...127

If multipart parameter "Rcv VOLUME" is OFF, the part ignores this message.

1.2.6 Pan

Cntrl#	Parameter	Data Range
10	Data Entry MSB	0...127

0 = left; 127 = right

If multipart parameter "Rcv PAN" is OFF, the part ignores this message.

1.2.7 Expression

Cntrl#	Parameter	Data Range
11	Data Entry MSB	0...127

If multipart parameter "Rcv EXPRESSION" is OFF, the part ignores this message.

1.2.8 Hold1

Cntrl#	Parameter	Data Range
64	Data Entry MSB	0...127 (0-63:off, 64-127:on)

If multipart parameter "Rcv HOLD1" is OFF, the part ignores this message.

1.2.9 Portamento

Cntrl#	Parameter	Data Range
65	Portamento	0...127 (0-63:off, 64-127:on)

If multipart parameter "Rcv PORTAMENTO" is OFF, the part ignores this message.

1.2.10 Sostenuto

Cntrl#	Parameter	Data Range
66	Sostenuto	0...127 (0-63:off, 64-127:on)

If multipart parameter "Rcv SOSTENUTO" is OFF, the part ignores this message.

1.2.11 Soft Pedal

Cntrl#	Parameter	Data Range
67	Soft Pedal	0...127 (0-63:off, 64-127:on)

If multipart parameter "Rcv SOFT PEDAL" is OFF, the part ignores this message.

1.2.12 Harmonic Content

Cntrl#	Parameter	Data Range
71	Harmonic Content	0...127 (0:-64, 64:+0, 127:+63)

Applies adjustment to the resonance value set by the voice. This parameter specifies relative change, with value 64 producing zero adjustment. As values get higher the sound becomes increasingly eccentric. Note that for some voices the effective parameter range is narrower than the legal parameter range.

1.2.13 Release Time

Cntrl#	Parameter	Data Range
72	Release Time	0...127 (0:-64, 64:+0, 127:+63)

Applies adjustment to the envelope release time set by the voice.
This parameter specifies relative change, with value 64 producing zero adjustment.

1.2.14 Attack Time

Cntrl#	Parameter	Data Range
73	Attack Time	0...127 (0:-64, 64:+0, 127:+63)

Applies adjustment to the envelope attack time set by the voice.
This parameter specifies relative change, with value 64 producing zero adjustment.

1.2.15 Brightness

Cntrl#	Parameter	Data Range
74	Brightness	0...127 (0:-64, 64:+0, 127:+63)

Applies adjustment to the cutoff frequency set by the voice. This parameter specifies relative change, with value 64 producing zero adjustment. Lower voices produce a softer sound. For some voices the effective parameter range is narrower than the legal parameter range.

1.2.16 Portamento Control

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

Message should be sent with Note On already sounding. The data value sets the portamento source key number.
The channel with change from the currently sounding pitch to the next received Note-On key using Portamento Time of 0.
This message is effective even when "Rcv Portamento = OFF."

1.2.17 Effect1 Depth (Reverb Send Level)

Cntrl#	Parameter	Data Range
91	Effect1 Depth	0...127

Adjusts the reverb send level.

1.2.18 Effect3 Depth (Chorus Send Level)

Cntrl#	Parameter	Data Range
93	Effect3 Depth	0...127

Adjusts the chorus send level.

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1.2.19 Effect4 Depth (Variation Effect Send Level)

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

Adjusts the variation effect send level. Not effective if "Variation Connection" is set to 0 (Insertion).

\$1C	\$rr	\$mm	Drum Instrument Panpot
			mm : \$00 - \$40 - \$7F (Random, L→C→R) rr : drum instrument note number

\$1D	\$rr	\$mm	Drum Instrument Reverb Send Level
			mm : \$00 - \$7F (0 to Max) rr : drum instrument note number

1.2.20 Data Increment / Decrement (for RPN)

Cntrl#	Parameter	Data Range
96	RPN Increment	0...127
97	RPN Decrement	0...127

The data byte has no meaning.

This message adds or subtracts 1 to/from the Pitchbend Sensitivity, Fine Tune, and Coarse Tune MSBs. Note that the Increment (Decrement) message will not change a setting that has already reached its maximum (minimum) value. Incrementation or decrementation of the Fine Tune value never carries over to the Coarse Tune value.

Note that LSB values 14H through 1FH (drum parameters) are effective only if the channel is in drum mode and drum setup 1, 2, 3, or 4 is currently selected.

\$1E	\$rr	\$mm	Drum Instrument Chorus Send Level
			mm : \$00 - \$7F (0 to Max) rr : drum instrument note number

\$1F	\$rr	\$mm	Drum Instrument Variation Send Level
			mm : \$00 - \$7F (0 to Max) rr : drum instrument note number

1.2.21 NRPN (Nonregistered parameter number)

Cntrl#	Parameter	Data Range
98	RPN LSB	0...127
99	RPN MSB	0...127

If multipart parameter "Rcv NRPN" is OFF, the part ignores this message. First send the NRPN MSB and LSB to select the control parameter, then set the value by Data Entry.

The following NRPN values are supported.

NRPN MSB	NRPN LSB	Data entry MSB	Data entry LSB	Parameter	Data 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 Freq. 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 Freq. 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 (Effects both Decay 1 and Decay 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 to Max) rr : drum instrument note number	

1.2.22 RPN (Registered parameter number)

Cntrl#	Parameter	Data Range
100	RPN LSB	0...127
101	RPN MSB	0...127

Default: 7F 7FH

If multipart parameter "Rcv RPN" is OFF, the part ignores this message.

The following parameters are supported.

NRPN MSB	NRPN LSB	Data entry MSB	Data entry LSB	Parameter	Data Range
00H	00H	mmH	--	Pitchbend Sensitivity mm: 00-18H (0-2 semitones) Can be set up 2 octaves, in semitone units. Default: 02H LSB is ignored.	
00H	01H	mmH	11H	Fine Tuning mm:00H-40H-7FH(-64-0-+63)	
00H	02H	mmH	--	Course Tuning mm:28H - 40H - 18H(-24-+24 semitones) LSB is ignored.	
7FH	7FH	--	--	RPN Null Clears current RPN and NRPN number settings. Does not change internal parameter settings.	

1.2.23 Channel Mode Messages

The following Channel Mode messages are supported.

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

1.2.23.1 All Sound Off

Switches off all sound from the channel. Does not reset Note On and Hold On conditions established by Channel Messages.

1.2.23.2 Reset All Controllers

Resets controllers as follows.

Controller	Value
Pitchbend change	+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 portamento source note number
RPN	Sets number to null. (Internal data remains unchanged.)
NRPN	Sets number to null. (Internal data remains unchanged.)

1.2.23.3 All Notes Off

Switches off all of the channel's "on" notes. Any notes being held by HOLD1 or SOSTENUTO continue to sound until HOLD1/SOSTENUTO goes off.

1.2.23.4 Omni Off

Same processing as for All Notes Off.

1.2.23.5 Omni On

Same processing as for All Notes Off.

1.2.23.6 Mono

Generates "All Sound Off" operation. If the value of the third byte (mono number) is 0 to 16, the channel changes to Mode 4 (m=1).

1.2.23.7 Poly

Generates "All Sound Off" operation, and sets the channel to Mode 3.

1.3 Program Change

If multipart parameter "Rcv PROGRAM CHANGE" is OFF, the part ignores this message. If "Sound Module Mode = C/M", drum voice parts ignore all Program Change messages.

1.4 Pitchbend

If multipart parameter "Rcv PITCH BEND" is OFF, the part ignores this message.

1.5 Channel Aftertouch

Not effective under initial settings.

If multipart parameter "Rcv CHANNEL AFTERTOUCH" is Off, the part ignores this message.

1.6 Polyphonic Channel Aftertouch

Not effective under initial settings.

If multipart parameter "Rcv POLYPHONIC CHANNEL AFTERTOUCH" is Off, the part ignores this message.

This message is effective only for note numbers 36 through 97 only.

2. System Exclusive Messages

2.1 Parameter Change

The MU80 supports the following Parameter Change messages.

[UNIVERSAL REALTIME MESSAGE]

1) Master Volume

[UNIVERSAL NON-REALTIME MESSAGE]

3) General MIDI Mode On

[XG NATIVE]

- 1) XG System on
- 2) XG System Data parameter change
- 3) System Information
- 4) Multi Effect1 Data parameter change
- 5) Multi EQ Data parameter change
- 6) Multi Effect2 Data parameter change
- 7) Display Data parameter change
- 8) Multi Part Data parameter change
- 9) AD Part Data parameter change
- 10) Drum Setup Data parameter change

[MU80 NATIVE]

- 1) MU80 System Data parameter change
- 2) Current Performance parameter change
- 3) Remote switch

[Others]

- 1) Master tuning
- 2) TG300 System Data parameter change
- 3) TG300 Multi Effect Data parameter change
- 4) TG300 Mutli Part Data parameter change

2.1.2 Universal Realtime Message

2.1.2.1 Master Volume

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

Received Volume MSB is written to System Parameter MASTER VOLUME.

*Hexadecimal representation of 0sssss ss. (Same below)

2.1.3 Universal Non-Realtime Message

2.1.3.1 General MIDI Mode On

11110000	F0	= Exclusive status
01111110	7E	= Universal Non-Realtime
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-Realtime
0xxxxnnn	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

This message switches SOUND MODULE MODE to XG.

This message is ignored if operation is in C/M mode.

If "Rcv GM EXCLUSIVE = OFF", the message is ignored.

This message requires approximately 50ms to execute, so sufficient time should be allowed before the next message is sent.

2.1.4 XG Native Parameter Change

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

Data size must match parameter size (2 or 4 bytes).

2.1.4.1 XG System On

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

This message switches SOUND MODULE MODE to XG. The message requires approximately 50ms to execute, so sufficient time should be allowed before the next message is sent.

2.1.4.2 XG System Data parameter change

See Tables 1-1, 1-2.

2.1.4.3 System Information

System information is sent in response to dump request. Any received parameter changes are ignored.

See Tables 1-1, 1-3.

MU80 MIDI Data Format

2.1.4.4 Multi Effect1 Data parameter change

See Tables 1-1, 1-4.

2.1.4.5 Multi EQ Data parameter change

See Tables 1-1, 1-5.

2.1.4.6 Multi Effect2 Data parameter change

See Tables 1-1, 1-6.

2.1.4.7 Display Data parameter change

See Tables 1-1, 1-7.

2.1.4.8 Multi Part Data parameter change

See Tables 1-1, 1-8.

2.1.4.9 AD Part Data parameter change

See Tables 1-1, 1-9.

2.1.4.10 Drum Setup Data parameter change

See Tables 1-1, 1-10.

If operation is in XG mode, this message reinitializes all drum setup parameters. Note that regardless of mode, drum setup parameters always reinitialize whenever the drum set changes.

2.1.5 MU80 Native Parameter Change

11110000	F0	Exclusive status
01000011	43	YAMAHA ID
0001nnnn	1n	Device Number
01001001	49	Model ID
0aaaaaaa	aaaaaa	Address High
0aaaaaaa	aaaaaa	Address Mid
0aaaaaaa	aaaaaa	Address Low
0ddddddd	dddddd	Data
11110111	F7	End of Exclusive

Data size must match parameter size (2 or 4 bytes).

2.1.5.1 MU80 System Data parameter change

See Tables 2-1, 2-2.

2.1.5.2 Current Performance parameter change

See Tables 2-1, 2-3.

2.1.5.3 Remote Switch

See Tables 2-1, 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
0lllllll	ll	Master Tune LSB
0ccccccc	cc	
11110111	F7	End of Exclusive

Changes tuning of all channels.

2.2 Bulk Dump

The MU80 supports the following parameters.

[XG NATIVE]

- 1) XG System Data
- 2) Multi Effect1 Data
- 3) Multi EQ Data
- 4) Multi Effect2 Data
- 5) Multi Part Data
- 6) AD Part Data
- 7) Drums Setup Data

[MU80 NATIVE]

- 1) MU80 System data
- 2) Internal Performance

2.2.1 XG Native Bulk Data

11110000	F0	Exclusive status
01000011	43	YAMAHA ID
0000nnnn	0n	Device Number
01001100	4C	Model ID
0bbbbbbb	bbbbbb	ByteCount
0bbbbbbb	bbbbbb	ByteCount
0aaaaaaa	aaaaaa	Address High
0aaaaaaa	aaaaaa	Address Mid
0aaaaaaa	aaaaaa	Address Low
00000000	00	Data
0ccccccc	cccccc	Check sum
11110111	F7	End of Exclusive

For information about "Address" and "Byte Count" fields, refer to attached tables. The checksum value is set such that the sum of Address, Byte Count, and Checksum has value zero in its seven least significant bits.

No more than 512 bytes should be sent in a single transmission. If the Dump Request asks for more than 512 bytes, data should be sent in packets of 512 bytes or less, with at least 120ms between transmission of consecutive packets.

2.2.1.1 XG System Data bulk dump

See Tables 1-1, 1-2.

2.2.1.2 Multi Effect1 Data bulk dump

See Tables 1-1, 1-4.

2.2.1.3 Multi EQ Data bulk dump

See Tables 1-1, 1-5.

2.2.1.4 Multi Effect2 Data bulk dump

See Tables 1-1, 1-6.

2.2.1.5 Multi Part Data bulk dump

See Tables 1-1, 1-8.

2.2.1.6 AD Part Data bulk dump

See Tables 1-1, 1-9.

2.2.1.7 Drums Setup Data bulk dump

See Tables 1-1, 1-10.

2.2.2 MU80 Native Bulk Dump

11110000	F0	Exclusive status
01000011	43	YAMAHA ID
0000nnnn	0n	Device Number
01001001	49	Model ID
0bbbbbbb	bbbbbb	ByteCount
0bbbbbbb	bbbbbb	ByteCount
0aaaaaaa	aaaaaa	Address High
0aaaaaaa	aaaaaa	Address Mid
0aaaaaaa	aaaaaa	Address Low
00000000	00	Data
0ccccccc	cccccc	Check sum
11110111	F7	End of Exclusive

For information about "Address" and "Byte Count" fields, refer to attached tables. The checksum value is set such that the sum of Address, Byte Count, and Checksum has value zero in its seven least significant bits.

No more than 512 bytes should be sent in a single transmission. If the Dump Request asks for more than 512 bytes, data should be sent in packets of 512 bytes or less, with at least 120ms between transmission of consecutive packets.

2.2.2.1 MU80 System Data bulk dump

See Tables 2-1, 2-2.

2.2.2.2 Internal Performance bulk dump

See Tables 2-1, 2-5.

2.3 Parameter Request

The MU80 supports the following request for parameters covered by Parameter Change specifications.

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

2.4 Dump Request

The MU80 supports the following request for data covered by bulk dump.

11110000	F0	Exclusive status
01000011	43	YAMAHA ID
0010nnnn	2n	Device Number
01001100	4C	Model ID
0aaaaaaa	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
Transmission is not supported.
- b) Reception
If no MIDI data is received within 300ms following receipt of FE, the unit executes processing equivalent to ALL SOUND OFF, ALL NOTES OFF, and RESET ALL CONTROLLERS, then clears any remaining FEs.

MU80 MIDI Data Format

<Table 1-1>

Parameter Base Address
Model ID = 4C

	Parameter Change			Description
	Address			
	(H)	(M)	(L)	
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)
	02	40	00	Multi EQ
EFFECT 2	03	00	00	Insertion Effect 1
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
	08	10	00	Multi Part 17
			:	
	08	1F	00	Multi Part 32
A/D PART	10	00	00	A/D Part 1
	10	01	00	A/D Part 2
DRUM	30	0B	00	Drum Setup 1
	31	0B	00	Drum Setup 2
	32	0B	00	Drum Setup 3
	33	0B	00	Drum Setup 4

Address	Parameter
3n 0B 00	note number 13
3n 0C 00	note number 14
:	:
3n 5B 00	note number 91



<Table 1-2>

MIDI Parameter Change table (SYSTEM)

Address (H)	Size (H)	Data (H)	Parameter	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	MASTER ATTENUATOR	0 - 127	00
06	1	28 - 58	TRANSPOSE	-24 - +24[semitones]	40
7D	n	n	DRUM SETUP RESET	n=Drum setup number	
7E	00	00	XG SYSTEM ON	00=XG sytem ON (receive only)	
7F	00	00	RESET ALL PARAMETERS	00=ON (receive only)	
TOTAL SIZE 06					

<Table 1-3>

MIDI Parameter Change table (System information)

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value (H)
01 00 00	F	20 - 7F	Model Name	32-127(ASCII)	
:					
0D		20 - 7F			
0E	1	00			00
0F	1	00			00
TOTAL SIZE 10					

Transmitted in response to dump request. Parameter changes are not accepted.

<Table 1-4>

MIDI Parameter Change table (EFFECT 1)

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value (H)
02 01 00	2	00-7F	REVERB TYPE MSB	Refer to Effect Program List	01(=HALL1)
		00-7F	REVERB TYPE LSB	00 : basic type	00
02	1	00-7F	REVERB PARAMETER 1	Refer to Effect Program List	Depends on reverb type
03	1	00-7F	REVERB PARAMETER 2	Refer to Effect Program List	Depends on reverb type
04	1	00-7F	REVERB PARAMETER 3	Refer to Effect Program List	Depends on reverb type
05	1	00-7F	REVERB PARAMETER 4	Refer to Effect Program List	Depends on reverb type
06	1	00-7F	REVERB PARAMETER 5	Refer to Effect Program List	Depends on reverb type
07	1	00-7F	REVERB PARAMETER 6	Refer to Effect Program List	Depends on reverb type
08	1	00-7F	REVERB PARAMETER 7	Refer to Effect Program List	Depends on reverb type
09	1	00-7F	REVERB PARAMETER 8	Refer to Effect Program List	Depends on reverb type
0A	1	00-7F	REVERB PARAMETER 9	Refer to Effect Program List	Depends on reverb type
0B	1	00-7F	REVERB PARAMETER 10	Refer to Effect Program List	Depends on reverb type
0C	1	00-7F	REVERB RETURN	→dB...0dB...+6dB(0...64...127)	40
0D	1	01-7F	REVERB PAN	L63...C...R63(1...64...127)	40
TOTAL SIZE 0E					
02 01 10	1	00-7F	REVERB PARAMETER 11	Refer to Effect Program List	Depends on reverb type
11	1	00-7F	REVERB PARAMETER 12	Refer to Effect Program List	Depends on reverb type

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12	1	00-7F	REVERB PARAMETER 13	Refer to Effect Program List	Depends on reverb type
13	1	00-7F	REVERB PARAMETER 14	Refer to Effect Program List	Depends on reverb type
14	1	00-7F	REVERB PARAMETER 15	Refer to Effect Program List	Depends on reverb type
15	1	00-7F	REVERB PARAMETER 16	Refer to Effect Program List	Depends on reverb type
TOTAL SIZE 6					
02 01 20	2	00-7F	CHORUS TYPE MSB	Refer to Effect Program List	41(=CHORUS1)
		00-7F	CHORUS TYPE LSB	00 : basic type	00
22	1	00-7F	CHORUS PARAMETER 1	Refer to Effect Program List	Depends on chorus type
23	1	00-7F	CHORUS PARAMETER 2	Refer to Effect Program List	Depends on chorus type
24	1	00-7F	CHORUS PARAMETER 3	Refer to Effect Program List	Depends on chorus type
25	1	00-7F	CHORUS PARAMETER 4	Refer to Effect Program List	Depends on chorus type
26	1	00-7F	CHORUS PARAMETER 5	Refer to Effect Program List	Depends on chorus type
27	1	00-7F	CHORUS PARAMETER 6	Refer to Effect Program List	Depends on chorus type
28	1	00-7F	CHORUS PARAMETER 7	Refer to Effect Program List	Depends on chorus type
29	1	00-7F	CHORUS PARAMETER 8	Refer to Effect Program List	Depends on chorus type
2A	1	00-7F	CHORUS PARAMETER 9	Refer to Effect Program List	Depends on chorus type
2B	1	00-7F	CHORUS PARAMETER 10	Refer to Effect Program List	Depends on chorus type
2C	1	00-7F	CHORUS RETURN	-->dB...0dB...+6dB(0...64...127)	40
2D	1	01-7F	CHORUS PAN	L63...C...R63(1...64...127)	40
2E	1	00-7F	SEND CHORUS TO REVERB	-->dB...0dB...+6dB(0...64...127)	00
TOTAL SIZE 0F					
02 01 30	1	00-7F	CHORUS PARAMETER 11	Refer to Effect Program List	Depends on chorus type
31	1	00-7F	CHORUS PARAMETER 12	Refer to Effect Program List	Depends on chorus type
32	1	00-7F	CHORUS PARAMETER 13	Refer to Effect Program List	Depends on chorus type
33	1	00-7F	CHORUS PARAMETER 14	Refer to Effect Program List	Depends on chorus type
34	1	00-7F	CHORUS PARAMETER 15	Refer to Effect Program List	Depends on chorus type
35	1	00-7F	CHORUS PARAMETER 16	Refer to Effect Program List	Depends on chorus type
TOTAL SIZE 6					
02 01 40	2	00-7F	VARIATION TYPE MSB	Refer to Effect Program List	05(=DELAY L,C,R)
		00-7F	VARIATION TYPE LSB	00 : basic type	00
42	2	00-7F	VARIATION PARAMETER 1 MSB	Refer to Effect Parameter List	Depends on variation type
		00-7F	VARIATION PARAMETER 1 LSB	Refer to Effect Parameter List	Depends on variation type
44	2	00-7F	VARIATION PARAMETER 2 MSB	Refer to Effect Parameter List	Depends on Variation type
		00-7F	VARIATION PARAMETER 2 LSB	Refer to Effect Parameter List	Depends on Variation type
46	2	00-7F	VARIATION PARAMETER 3 MSB	Refer to Effect Parameter List	Depends on Variation type
		00-7F	VARIATION PARAMETER 3 LSB	Refer to Effect Parameter List	Depends on Variation type
48	2	00-7F	VARIATION PARAMETER 4 MSB	Refer to Effect Parameter List	Depends on Variation type
		00-7F	VARIATION PARAMETER 4 LSB	Refer to Effect Parameter List	Depends on Variation type
4A	2	00-7F	VARIATION PARAMETER 5 MSB	Refer to Effect Parameter List	Depends on Variation type
		00-7F	VARIATION PARAMETER 5 LSB	Refer to Effect Parameter List	Depends on Variation type
4C	2	00-7F	VARIATION PARAMETER 6 MSB	Refer to Effect Parameter List	Depends on Variation type
		00-7F	VARIATION PARAMETER 6 LSB	Refer to Effect Parameter List	Depends on Variation type
4E	2	00-7F	VARIATION PARAMETER 7 MSB	Refer to Effect Parameter List	Depends on Variation type
		00-7F	VARIATION PARAMETER 7 LSB	Refer to Effect Parameter List	Depends on Variation type
50	2	00-7F	VARIATION PARAMETER 8 MSB	Refer to Effect Parameter List	Depends on Variation type
		00-7F	VARIATION PARAMETER 8 LSB	Refer to Effect Parameter List	Depends on Variation type
52	2	00-7F	VARIATION PARAMETER 9 MSB	Refer to Effect Parameter List	Depends on Variation type
		00-7F	VARIATION PARAMETER 9 LSB	Refer to Effect Parameter List	Depends on Variation type
54	2	00-7F	VARIATION PARAMETER 10 MSB	Refer to Effect Parameter List	Depends on Variation type
		00-7F	VARIATION PARAMETER 10 LSB	Refer to Effect Parameter List	Depends on Variation type
56	1	00-7F	VARIATION RETURN	-->dB...0dB...+6dB(0...64...127)	40
57	1	01-7F	VARIATION PAN	L63...C...R63(1...64...127)	40
58	1	00-7F	SEND VARIATION TO REVERB	-->dB...0dB...+6dB(0...64...127)	00
59	1	00-7F	SEND VARIATION TO CHORUS	-->dB...0dB...+6dB(0...64...127)	00
5A	1	00-01	VARIATION CONNECTION	0:INSERTION,1:SYSTEM	00
5B	1	00-01	VARIATION PART	Part1...64(0...63) AD1...AD63(64...126) OFF(127)	7F
5C	1	00-7F	MW VARIATION CONTROL DEPTH	-64...+63	40
5D	1	00-7F	BEND VARIATION CONTROL DEPTH	-64...+63	40
5E	1	00-7F	CAT VARIATION CONTROL DEPTH	-64...+63	40
5F	1	00-7F	AC1 VARIATION CONTROL DEPTH	-64...+63	40
60	1	00-7F	AC2 VARIATION CONTROL DEPTH	-64...+63	40
TOTAL SIZE 21					
02 01 70	1	00-7F	VARIATION PARAMETER 11	option parameter	Depends on variation type
71	1	00-7F	VARIATION PARAMETER 12	option parameter	Depends on variation type
72	1	00-7F	VARIATION PARAMETER 13	option parameter	Depends on variation type
73	1	00-7F	VARIATION PARAMETER 14	option parameter	Depends on variation type
74	1	00-7F	VARIATION PARAMETER 15	option parameter	Depends on variation type
75	1	00-7F	VARIATION PARAMETER 16	option parameter	Depends on variation type
TOTAL SIZE 6					

<Table 1-5>

MIDI Parameter Change table (MULTI EQ)

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value (H)
02 40 00	1	00 - 04	EQ type	0:FLAT 1:JAZZ 2:POPS 3:ROCK 4:CLASSIC	00
01	1	34 -4C	EQ gain1	-12 - +12[dB]	40
02	1	04-28	EQ frequency1	32-2000[Hz]	0C
03	1	01-78	EQ Q1	0.1-12.0	07
04	1	00-01	EQ shape1	00:shelving, 01:peaking	00
05	1	34 -4C	EQ gain2	-12 - +12[dB]	40

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06	1	0E-36	EQ frequency2	100-10.0[kHz]	1C
07	1	01-78	EQ Q2	0.1-12.0	07
08	1		not used		
09	1	34 -4C	EQ gain3	-12 - +12[dB]	40
0A	1	0E-36	EQ frequency3	100-10.0[kHz]	22
0B	1	01-78	EQ Q3	0.1-12.0	07
0C	1		not used		
0D	1	34 -4C	EQ gain4	-12 - +12[dB]	40
0E	1	0E-36	EQ frequency4	100-10.0[kHz]	2E
0F	1	01-78	EQ Q4	0.1-12.0	07
10	1		not used		
11	1	34 -4C	EQ gain5	-12 - +12[dB]	40
12	1	1C-3A	EQ frequency5	0.5-16.0[kHz]	3C
13	1	01-78	EQ Q5	0.1-12.0	07
14	1	00-01	EQ shape5	00:shelving, 01:peaking	00
TOTAL SIZE 0B					

<Table 1-6>

MIDI Parameter Change table (EFFECT 2)

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value (H)
03 00 00	2	00-7F	INSERTION EFFECT 1 TYPE MSB	Refer to Effect Program List	48(=DISTORTION)
		00-7F	INSERTION EFFECT 1 TYPE LSB	00 : basic type	00
02	1	00-7F	INSERTION EFFECT 1 PARAMETER1	Refer to Effect Parameter List	Depends on insertion 1 type
03	1	00-7F	INSERTION EFFECT 1 PARAMETER2	Refer to Effect Parameter List	Depends on insertion 1 type
04	1	00-7F	INSERTION EFFECT 1 PARAMETER3	Refer to Effect Parameter List	Depends on insertion 1 type
05	1	00-7F	INSERTION EFFECT 1 PARAMETER4	Refer to Effect Parameter List	Depends on insertion 1 type
06	1	00-7F	INSERTION EFFECT 1 PARAMETER5	Refer to Effect Parameter List	Depends on insertion 1 type
07	1	00-7F	INSERTION EFFECT 1 PARAMETER6	Refer to Effect Parameter List	Depends on insertion 1 type
08	1	00-7F	INSERTION EFFECT 1 PARAMETER7	Refer to Effect Parameter List	Depends on insertion 1 type
09	1	00-7F	INSERTION EFFECT 1 PARAMETER8	Refer to Effect Parameter List	Depends on insertion 1 type
0A	1	00-7F	INSERTION EFFECT 1 PARAMETER9	Refer to Effect Parameter List	Depends on insertion 1 type
0B	1	00-7F	INSERTION EFFECT 1 PARAMETER10	Refer to Effect Parameter List	Depends on insertion 1 type
0C	1	00-7F	INSERTION EFFECT 1 PART	Part1...64(0...63) AD1...AD63(64...126) OFF(127)	7F
0D	1	00-7F	MW INSERTION CONTROL DEPTH	-64...+63	40
0E	1	00-7F	BEND INSERTION CONTROL DEPTH	-64...+63	40
0F	1	00-7F	CAT INSERTION CONTROL DEPTH	-64...+63	40
10	1	00-7F	AC1 INSERTION CONTROL DEPTH	-64...+63	40
11	1	00-7F	AC2 INSERTION CONTROL DEPTH	-64...+63	40
TOTAL SIZE 12					
20	1	00-7F	INSERTION EFFECT 1 PARAMETER11	Refer to Effect Parameter List	Depends on insertion 1 type
21	1	00-7F	INSERTION EFFECT 1 PARAMETER12	Refer to Effect Parameter List	Depends on insertion 1 type
23	1	00-7F	INSERTION EFFECT 1 PARAMETER13	Refer to Effect Parameter List	Depends on insertion 1 type
24	1	00-7F	INSERTION EFFECT 1 PARAMETER14	Refer to Effect Parameter List	Depends on insertion 1 type
25	1	00-7F	INSERTION EFFECT 1 PARAMETER15	Refer to Effect Parameter List	Depends on insertion 1 type
26	1	00-7F	INSERTION EFFECT 1 PARAMETER16	Refer to Effect Parameter List	Depends on insertion 1 type
TOTAL SIZE 6					

*Data Range varies according to Effect type value.

<Table 1-7>

MIDI Parameter Change table (DISPLAY DATA)

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value (H)
06 00 00	20	20 - 7F	DISPLAY LETTER	32-127(ASCII)	
:		1F			
TOTAL SIZE 20					
07 00 00	30	00 - 7F	DISPLAY BITMAP Data0	0 - 127	
:					
2F			Data47		
TOTAL SIZE 30					

Relation of data and display:

Each data byte defines seven contiguous pixels in the horizontal direction.
A bitvalue of "1" sets the pixel ON, "0" sets it off.

Alignment of data on the screen is as follows.

Data0	b6	b5	b4	b3	b2	b1	b0	Data16	b6	b5	b4	b3	b2	b1	b0	Data32	b6	b5	b4	b3	b2	b1	b0
Data0	*	*	*	*	*	*	*	Data16	*	*	*	*	*	*	*	Data32	*	*	-	-	-	-	-
Data1								Data17								Data33							
Data2								Data18								Data34							
Data3								Data19								Data35							
Data4								Data20								Data36							
Data5								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							

For Data32~Data 47, only b6 and b5 are effective.

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It is possible to limit reception of bitmap data to selected pixels only, while leaving unselected pixels in their existing display state. It is also possible to start transmission of Display Data parameter-change data from any arbitrary point.

<Table 1-8>

MIDI Parameter Change table (MULTI PART)

Address (H)	Size (H)	Data (H)	Parameter	Description	Default 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	BANK SELECT LSB	0 - 127	00
nn 03	1	00 - 7F	PROGRAM NUMBER	1 - 128	00
nn 04	1	00 - 1F, 7F	Rev CHANNEL	A1 - A16, B1 - B16, OFF	Part No.
nn 05	1	00 - 01	MONO/POLY MODE	0:MONO 1:POLY	01
nn 06	1	00 - 02	SAME NOTE NUMBER KEY ON ASSIGN	0:SINGLE 1:MULTI 2:INST (for DRUM)	00
nn 07	1	00 - 01	PART MODE	0:NORMAL 1:DRUM	00 (Part other than 10) 01 (Part 10)
nn 08	1	28 - 58	NOTE SHIFT	2 - 5:DRUMS1 - 4 -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 0B	1	00 - 7F	VOLUME	0 - 127	64
nn 0C	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 L63...C...R63(1...64...127)	40
nn 0F	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
nn 15	1	00 - 7F	VIBRATO RATE	-64 - +63	40
nn 16	1	00 - 7F	VIBRATO DEPTH	-64 - +63	40
nn 17	1	00 - 7F	VIBRATO DELAY	-64 - +63	40
nn 18	1	00 - 7F	FILTER CUTOFF FREQUENCY	-64 - +63	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	-100 - +100[%]	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	-100 - +100[%]	40
nn 26	1	00 - 7F	BEND LFO PMOD DEPTH	0 - 127	00
nn 27	1	00 - 7F	BEND LFO FMOD DEPTH	0 - 127	00
nn 28	1	00 - 7F	BEND LFO AMOD DEPTH	0 - 127	00
TOTAL SIZE 29					
nn 30	1	00 - 01	Rev PITCH BEND	OFF/ON	01
nn 31	1	00 - 01	Rev CH AFTERTOUCH (CAT)	OFF/ON	01
nn 32	1	00 - 01	Rev PROGRAM CHANGE	OFF/ON	01
nn 33	1	00 - 01	Rev CONTROL CHANGE	OFF/ON	01
nn 34	1	00 - 01	Rev POLY AFTERTOUCH (PAT)	OFF/ON	01
nn 35	1	00 - 01	Rev NOTE MESSAGE	OFF/ON	01
nn 36	1	00 - 01	Rev RPN	OFF/ON	01
nn 37	1	00 - 01	Rev NRPN	OFF/ON	XG=01, GM=00
nn 38	1	00 - 01	Rev MODULATION	OFF/ON	01
nn 39	1	00 - 01	Rev VOLUME	OFF/ON	01
nn 3A	1	00 - 01	Rev PAN	OFF/ON	01
nn 3B	1	00 - 01	Rev 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	1	00 - 01	Rev SOSTENUTO	OFF/ON	01
nn 3F	1	00 - 01	Rev SOFT PEDAL	OFF/ON	01
nn 40	1	00 - 01	Rev BANK SELECT	OFF/ON	XG=01, GM=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

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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	1	00 - 7F	CAT AMPLITUDE CONTROL	-100 - +100[%]	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
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	-100 - +100[%]	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	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	-100 - +100[%]	40
nn 5D	1	00 - 7F	AC1 LFO PMOD DEPTH	0 - 127	00
nn 5E	1	00 - 7F	AC1 LFO FMOD DEPTH	0 - 127	00
nn 5F	1	00 - 7F	AC1 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	-9600 - +9450[cent]	40
nn 63	1	00 - 7F	AC2 AMPLITUDE CONTROL	-100 - +100[%]	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
nn 67	1	00 - 01	PORTAMENTO SWITCH	OFF/ON	00
nn 68	1	00 - 7F	PORTAMENTO TIME	0 - 127	00
nn 69	1	00 - 7F	PITCH EG INITIAL LEVEL	-64 - +63	40
nn 6A	1	00 - 7F	PITCH EG ATTACK TIME	-64 - +63	40
nn 6B	1	00 - 7F	PITCH EG RELEASE LEVEL	-64 - +63	40
nn 6C	1	00 - 7F	PITCH EG RELEASE TIME	-64 - +63	40
nn 6D	1	00 - 7F	VELOCITY LIMIT LOW	0 - 127	00
nn 6E	1	00 - 7F	VELOCITY LIMIT HIGH	0 - 127	7F
TOTAL SIZE 3F					

nn = PartNumber

For DRUM PART, the following parameters are ineffective.

- BANK SELECT LSB
- PORTAMENTO
- SOFT PEDAL
- MONO/POLY
- SCALE TUNING
- POLY AFTERTOUCH

<Table 1-9>

MIDI Parameter Change table (A/D PART)

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value (H)
10 0n 00	1	00 - 01	INPUT GAIN	0:MIC,1:LINE	
01	1	00 - 7F	BANK SELECT MSB	0 - 127	00
02	1	00 - 7F	BANK SELECT LSB	0 - 127	00
03	1	00 - 7F	PROGRAM NUMBER	1 - 128	00
04	1	00 - 1F, 7F	Rev CHANNEL	A1 - A16,B1 - B16,OFF	7F
05	1		NOT USED		
06	1		NOT USED		
07	1		NOT USED		
08	1		NOT USED		
09	1		NOT USED		
0A	1		NOT USED		
0B	1	00 - 7F	VOLUME	0 - 127	64
0C	1		NOT USED		
0D	1		NOT USED		
0E	1	01 - 7F	PAN	L63...C...R63(1...64...127)	40
0F	1		NOT USED		
10	1		NOT USED		
11	1	00 - 7F	DRY LEVEL	0 - 127	7F
12	1	00 - 7F	CHORUS SEND	0 - 127	00
13	1	00 - 7F	REVERB SEND	0 - 127	40
14	1	00 - 7F	VARIATION SEND	0 - 127	00
TOTAL SIZE 15					
10 0n 30	1	00 - 01	NOT USED		
31	1	00 - 01	NOT USED		
32	1	00 - 01	Rev PROGRAM CHANGE	OFF/ON	01
33	1	00 - 01	Rev CONTROL CHANGE	OFF/ON	01
34	1	00 - 01	NOT USED		
35	1	00 - 01	NOT USED		
36	1	00 - 01	NOT USED		
37	1	00 - 01	NOT USED		
38	1	00 - 01	NOT USED		
39	1	00 - 01	Rev VOLUME	OFF/ON	01
3A	1	00 - 01	Rev PAN	OFF/ON	01
3B	1	00 - 01	Rev EXPRESSION	OFF/ON	01
3C	1	00 - 01	NOT USED		
3D	1	00 - 01	NOT USED		
3E	1	00 - 01	NOT USED		

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3F	1	00 - 01	NOT USED		
40	1	00 - 01	Rev BANK SELECT	OFF/ON	01
41	1	00 - 7F	NOT USED		
42	1	00 - 7F	NOT USED		
43	1	00 - 7F	NOT USED		
44	1	00 - 7F	NOT USED		
45	1	00 - 7F	NOT USED		
46	1	00 - 7F	NOT USED		
47	1	00 - 7F	NOT USED		
48	1	00 - 7F	NOT USED		
49	1	00 - 7F	NOT USED		
4A	1	00 - 7F	NOT USED		
4B	1	00 - 7F	NOT USED		
4C	1	00 - 7F	NOT USED		
4D	1	28 - 58	NOT USED		
4E	1	00 - 7F	NOT USED		
4F	1	00 - 7F	NOT USED		
50	1	00 - 7F	NOT USED		
51	1	00 - 7F	NOT USED		
52	1	00 - 7F	NOT USED		
53	1	28 - 58	NOT USED		
54	1	00 - 7F	NOT USED		
55	1	00 - 7F	NOT USED		
56	1	00 - 7F	NOT USED		
57	1	00 - 7F	NOT USED		
58	1	00 - 7F	NOT USED		
59	1	00 - 5F	AC1 CONTROLLER NUMBER	0 - 95	10
5A	1	28 - 58	NOT USED		
5B	1	00 - 7F	NOT USED		
5C	1	00 - 7F	NOT USED		
5D	1	00 - 7F	NOT USED		
5E	1	00 - 7F	NOT USED		
5F	1	00 - 7F	NOT USED		
60	1	00 - 5F	AC2 CONTROLLER NUMBER	0 - 95	11
TOTAL SIZE	31				

n:A/D Part number(0 - 1)

<Table 1-10>

MIDI Parameter Change table (DRUM SETUP)

Address (H)	Size (H)	Data (H)	Parameter	Description	Default 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	Depends on note
3n rr 03	1	00 - 7F	ALTERNATE GROUP	0:OFF 1 - 127	Depends on note
3n rr 04	1	00 - 7F	PAN	0:random 1:L63 : 64:C(center) : 127:R63	Depends on note
3n rr 05	1	00 - 7F	REVERB SEND	0 - 127	Depends on note
3n rr 06	1	00 - 7F	CHORUS SEND	0 - 127	Depends on note
3n rr 07	1	00 - 7F	VARIATION SEND	0 - 127	7F
3n rr 08	1	00 - 01	KEY ASSIGN	0:SINGLE 1:MULTI	00
3n rr 09	1	00 - 01	Rev NOTE OFF	OFF/ON	Depends on note
3n rr 0A	1	00 - 01	Rev NOTE ON	OFF/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	-64 - 63	40
3n rr 0E	1	00 - 7F	EG DECAY1	-64 - 63	40
3n rr 0F	1	00 - 7F	EG DECAY2	-64 - 63	40
TOTAL SIZE	10				

[Note]

n: Drum number (0 to 3)

rr: Note number (0D to 5B)

Receipt of "XG System On" or "GM System On" message generates reinitialization of all DRUM SETUP parameters.

"Drum Setup Reset" message can be used to reinitialize drum setup parameters.

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<Table 2-1>

Parameter Base Address
Model ID = 49

Parameter Change				
			Address	
	(H)	(M)	(L)	Description
MU80 SYSTEM	00	00	00	System
CURRENT PERFORMANCE	09	00	00	Performance Common
	09	01	00	Performance Part1
	09	02	00	Performance Part2
	09	03	00	Performance Part3
	09	04	00	Performance Part4
REMOTE SWITCH	0A	00	00	Switch remote
INTERNAL PERFORMANCE	30	00	00	Internal Performance#1 Common
	:	:	:	:
	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	

Performance Common

Address	Parameter
09 00 00	System
00 20	Effect
00 70	EQ

pp: Performance#

Performance Common INT

Address	Parameter
30 pp 00	System
pp 20	Effect
pp 70	EQ

pp: Performance#

<Table 2-2>

MIDI Parameter Change table (SYSTEM)

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value (H)
00 00 00	1		MUTE LOCK	OFF/ON	0
01 1	1		AD LOCK	OFF/ON	0
02 1	1		EQ LOCK	OFF/ON	0
03 1	1		RECEIVE GM ON	OFF/ON	1
04 1	1		RECEIVE BANK SELECT	OFF/ON	1
05 1	1		BULK OUT INTERVAL TIME	0 - 4	2
06 1	1		PERFORMANCE CHANNEL	1 - 16, all	16(all)
07 1	1		PERFORMANCE NOTE SHIFT	-24 - +24[semitone]	40
08 1	1		LCD CONTRAST	0 - 7	1
09 1	1		MULTI PORT NUMBER for MIDI OUT	0 - 7	0
TOTAL SIZE 0A					

<Table 2-3>

MIDI Parameter Change table (CURRENT PERFORMANCE COMMON SYSTEM)

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value (H)
09 00 00	0C	20 - 7F	Performance name	ASCII CHARACTER	
09 00 0C	01	00 - 7F	Master volume	0 - 127	
09 00 0D	01	01 - 7F	Master pan	1(left) - 127(right)	
09 00 0E	01	00 - 5F	AC1 CC Number	0- 95	
09 00 0F	01	00 - 01	A/D Input	OFF/ON	
TOTAL SIZE 10					

pp:performance number

(00-40)

MIDI Parameter Change table (CURRENT PERFORMANCE COMMON EFFECT)

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value (H)
09 00 20	2	00-7F	REVERB TYPE MSB	Refer to 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	Refer to Effect Parameter List	Depends on reverb type
09 00 23	1	00-7F	REVERB PARAMETER 2	Refer to Effect Parameter List	Depends on reverb type
09 00 24	1	00-7F	REVERB PARAMETER 3	Refer to Effect Parameter List	Depends on reverb type
09 00 25	1	00-7F	REVERB PARAMETER 4	Refer to Effect Parameter List	Depends on reverb type
09 00 26	1	00-7F	REVERB PARAMETER 5	Refer to Effect Parameter List	Depends on reverb type
09 00 27	1	00-7F	REVERB RETURN	--dB...0dB...+6dB(0...96...127)	60
09 00 28	1	01-7F	REVERB PAN	L63...C...R63(1...64...127)	40
09 00 29	2	00-7F	CHORUS TYPE MSB	Refer to Effect Program List	41(=CHORUS1)
09 00 2A		00-7F	CHORUS TYPE LSB	00 : basic type	00
09 00 2B	1	00-7F	CHORUS PARAMETER 1	Refer to Effect Parameter List	Depends on chorus type
09 00 2C	1	00-7F	CHORUS PARAMETER 2	Refer to Effect Parameter List	Depends on chorus type
09 00 2D	1	00-7F	CHORUS PARAMETER 3	Refer to Effect Parameter List	Depends on chorus type
09 00 2E	1	00-7F	CHORUS PARAMETER 4	Refer to Effect Parameter List	Depends on chorus type
09 00 2F	1	00-7F	CHORUS PARAMETER 5	Refer to Effect Parameter List	Depends on chorus type
09 00 30	1	00-7F	CHORUS RETURN	--dB...0dB...+6dB(0...96...127)	60
09 00 31	1	01-7F	CHORUS PAN	L63...C...R63(1...64...127)	40
09 00 32	1	00-7F	SEND CHORUS TO REVERB	--dB...0dB...+6dB(0...96...127)	00
09 00 33	2	00-7F	VARIATION TYPE MSB	Refer to 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 PARAMETER 1 MSB	Refer to Effect Parameter List	Depends on variation type
09 00 36		00-7F	VARIATION PARAMETER 1 LSB	Refer to Effect Parameter List	Depends on variation type
09 00 37	2	00-7F	VARIATION PARAMETER 2 MSB	Refer to Effect Parameter List	Depends on variation type

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09 00 38		00-7F	VARIATION PARAMETER 2 LSB	Refer to Effect Parameter List	Depends on variation type
09 00 39	2	00-7F	VARIATION PARAMETER 3 MSB	Refer to Effect Parameter List	Depends on variation type
09 00 3A		00-7F	VARIATION PARAMETER 3 LSB	Refer to Effect Parameter List	Depends on variation type
09 00 3B	2	00-7F	VARIATION PARAMETER 4 MSB	Refer to Effect Parameter List	Depends on variation type
09 00 3C		00-7F	VARIATION PARAMETER 4 LSB	Refer to Effect Parameter List	Depends on variation type
09 00 3D	2	00-7F	VARIATION PARAMETER 5 MSB	Refer to Effect Parameter List	Depends on variation type
09 00 3E		00-7F	VARIATION PARAMETER 5 LSB	Refer to Effect Parameter List	Depends on variation type
09 00 3F	2	00-7F	VARIATION PARAMETER 10 MSB	Refer to Effect Parameter List	Depends on variation type
09 00 40		00-7F	VARIATION PARAMETER 10 LSB	Refer to Effect Parameter List	Depends on variation type
09 00 41	1	00-7F	VARIATION RETURN	--dB...0dB...+6dB(0...96...127)	60
09 00 42	1	01-7F	VARIATION PAN	L63...C...R63(1...64...127)	40
09 00 43	1	00-7F	SEND VARIATION TO REVERB	--dB...0dB...+6dB(0...96...127)	00
09 00 44	1	00-7F	SEND VARIATION TO CHORUS	--dB...0dB...+6dB(0...96...127)	00
09 00 45	1	00-7F	AC1 VARIATION CONTROL DEPTH	0-127	00
09 00 46	1	00-01	VARIATION CONNECTION	0:INSERTION,1:SYSTEM	00
09 00 47	1	00-7F	VARIATION PART	Part1...4(0...3)	7F
				AD1...AD2(64...65)	
				OFF(127)	
09 00 48	2	00-7F	INSERTION EFFECT 1 TYPE MSB	Refer to Effect Program List	48(=DISTORTION)
09 00 49		00-7F	INSERTION EFFECT 1 TYPE LSB	00 : basic type	00
09 00 4A	1	00-7F	INSERTION EFFECT 1 PARAMETER1	Refer to Effect Parameter List	Depends on insertion 1 type
09 00 4B	1	00-7F	INSERTION EFFECT 1 PARAMETER2	Refer to Effect Parameter List	Depends on insertion 2 type
09 00 4C	1	00-7F	INSERTION EFFECT 1 PARAMETER3	Refer to Effect Parameter List	Depends on insertion 3 type
09 00 4D	1	00-7F	INSERTION EFFECT 1 PARAMETER4	Refer to Effect Parameter List	Depends on insertion 4 type
09 00 4E	1	00-7F	INSERTION EFFECT 1 PARAMETER5	Refer to Effect Parameter List	Depends on insertion 5 type
09 00 4F	1	00-7F	INSERTION EFFECT 1 PARAMETER10	Refer to Effect Parameter List	Depends on insertion 6 type
09 00 50	1	00-7F	INSERTION EFFECT 1 PART	Part1...4(0...3)	7F
				AD1...AD2(64...65)	
				OFF(127)	

TOTAL SIZE 31

MIDI Parameter Change table (CURRENT PERFORMANCE COMMON EQ)

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value (H)
09 00 70	1	00 - 04	EQ type	flat,jazz,pops,rock,classic	
09 00 71	1	34 - 4C	EQ gain1	-12 - +12[dB]	
09 00 72	1	34 - 4C	EQ gain2	-12 - +12[dB]	
09 00 73	1	34 - 4C	EQ gain3	-12 - +12[dB]	
09 00 74	1	34 - 4C	EQ gain4	-12 - +12[dB]	
09 00 75	1	34 - 4C	EQ gain5	-12 - +12[dB]	

TOTAL SIZE 06

MIDI Parameter Change table (CURRENT PERFORMANCE PART)

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value (H)
09 0n 00	1	00 - 7F	PROGRAM NUMBER	1 - 128	
09 0n 01	1	00 - 7F	BANK SELECT	0 - 127 (See XG voice map; 127=SEFX bank)	
09 0n 02	1	00 - 7F	VOLUME	0 - 127	
09 0n 03	1	00 - 7F	PAN	0:random 1:L63 : 64:C(center) : 127:R63	
09 0n 04	1	00 - 7F	DRY SEND LEVEL	0 - 127	
09 0n 05	1	00 - 7F	CHORUS SEND	0 - 127	
09 0n 06	1	00 - 7F	REVERB SEND	0 - 127	
09 0n 07	1	00 - 7F	VARIATION SEND	0 - 127	
09 0n 08	1	28 - 58	NOTE SHIFT	-24 - +24[semitones]	
09 0n 09	1	00 - 01	Rev NOTE MESSAGE (MUTE)	OFF/ON	
09 0n 0A	1	00 - 7F	FILTER CUTOFF FREQUENCY	-64 - 63	
09 0n 0B	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 0n 0E	1	00 - 7F	EG RELEASE TIME	-64 - 63	
09 0n 0F	1	00 - 7F	VIBRATO RATE	-64 - 63	
09 0n 10	1	00 - 7F	VIBRATO DEPTH	-64 - 63	
09 0n 11	1	00 - 7F	VIBRATO DELAY	-64 - 63	
09 0n 12	2	00 - 7F	DETUNE	-12.8 - +12.7[Hz] 1st bit3-0→bit7-4	
09 0n 14	1	00 - 7F	PITCH EG INITIAL LEVEL	0 - 127	
09 0n 15	1	00 - 7F	PITCH EG ATTACK TIME	0 - 127	
09 0n 16	1	00 - 7F	PITCH EG RELEASE LEVEL	0 - 127	
09 0n 17	1	00 - 7F	PITCH EG RELEASE TIME	0 - 127	
09 0n 18	1	00 - 7F	MW LFO PMOD DEPTH	0 - 127	
09 0n 19	1	00 - 7F	MW LFO FMOD DEPTH	0 - 127	
09 0n 1A	1	28 - 58	BEND PITCH CONTROL	-24 - +24[semitones]	
09 0n 1B	1	00 - 7F	AC1 FILTER CONTROL	-64 - 63	
09 0n 1C	1	00 - 7F	AC1 AMPLITUDE CONTROL	-100 - +100[%]	
09 0n 1D	1	00 - 01	MONO/POLY MODE	0:MONO 1:POLY	
09 0n 1E	1	00 - 7F	VELOCITY SENSE DEPTH	0 - 127	
09 0n 1F	1	00 - 7F	VELOCITY SENSE OFFSET	0 - 127	
09 0n 20	1	00 - 7F	NOTE LIMIT LOW	C-2 - G8	
09 0n 21	1	00 - 7F	NOTE LIMIT HIGH	C-2 - G8	
09 0n 22	1	00 - 01	PORTAMENTO SWITCH	OFF/ON	
09 0n 23	1	00 - 7F	PORTAMENTO TIME	0 - 127	
09 0n 24	1	00 - 7F	VELOCITY LIMIT LOW	0 - 127	
09 0n 25	1	00 - 7F	VELOCITY LIMIT HIGH	0 - 127	

TOTAL SIZE 26

[Note]

n: performance part number

(01-04)

MU80 MIDI Data Format

<Table 2-4>

MIDI Parameter Change table (REMOTE SWITCH)

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value (H)
0A 00 00	1	00-01	PLAY switch	OFF/ON	
0A 00 01	1	00-01	UTIL switch	OFF/ON	
0A 00 02	1	00-01	MODE switch	OFF/ON	
0A 00 03	1	00-01	EDIT switch	OFF/ON	
0A 00 04	1	00-01	EFFECT switch	OFF/ON	
0A 00 05	1	00-01	EQ switch	OFF/ON	
0A 00 06	1	00-01	MUTE/SOLO switch	OFF/ON	
0A 00 07	1	00-01	ENTER switch	OFF/ON	
0A 00 08	1	00-01	EXIT switch	OFF/ON	
0A 00 09	1	00-01	PART- switch	OFF/ON	
0A 00 0A	1	00-01	SELECT- switch	OFF/ON	
0A 00 0B	1	00-01	VALUE- switch	OFF/ON	
0A 00 0C	1	00-01	PART+ switch	OFF/ON	
0A 00 0D	1	00-01	SELECT+ switch	OFF/ON	
0A 00 0E	1	00-01	VALUE+ switch	OFF/ON	

<Table 2-5>

MIDI Parameter Change table (INTERNAL PERFORMANCE COMMON SYSTEM)

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value (H)
30 pp 00	0C	20 - 7F	Performance name	ASCII CHARACTER	
30 pp 0C	01	00 - 7F	Performance volume	0 - 127	
30 pp 0D	01	01 - 7F	Performance pan	1(left) - 127(right)	
30 pp 0E	01	00 - 5F	AC1 CC Number	0- 95	
30 pp 0F	01	00 - 01	A/D Input	OFF/ON	
TOTAL SIZE	10				

pp:performance number (00-7F)

MIDI Parameter Change table (INTERNAL PERFORMANCE COMMON EFFECTS)

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value (H)
30 pp 20	2	00-7F	REVERB TYPE MSB	Refer to Effect Program List	01(=HALL1)
30 pp 21		00-7F	REVERB TYPE LSB	00 : basic type	00
30 pp 22	1	00-7F	REVERB PARAMETER 1	Refer to Effect Parameter List	Depends on reverb type
30 pp 23	1	00-7F	REVERB PARAMETER 2	Refer to Effect Parameter List	Depends on reverb type
30 pp 24	1	00-7F	REVERB PARAMETER 3	Refer to Effect Parameter List	Depends on reverb type
30 pp 25	1	00-7F	REVERB PARAMETER 4	Refer to Effect Parameter List	Depends on reverb type
30 pp 26	1	00-7F	REVERB PARAMETER 5	Refer to Effect Parameter List	Depends on reverb type
30 pp 27	1	00-7F	REVERB RETURN	--dB...0dB...+6dB(0...96...127)	60
30 pp 28	1	01-7F	REVERB PAN	L63...C...R63(1...64...127)	40
30 pp 29	2	00-7F	CHORUS TYPE MSB	Refer to Effect Program List	41(=CHORUS1)
30 pp 2A		00-7F	CHORUS TYPE LSB	00 : basic type	00
30 pp 2B	1	00-7F	CHORUS PARAMETER 1	Refer to Effect Parameter List	Depends on chorus type
30 pp 2C	1	00-7F	CHORUS PARAMETER 2	Refer to Effect Parameter List	Depends on chorus type
30 pp 2D	1	00-7F	CHORUS PARAMETER 3	Refer to Effect Parameter List	Depends on chorus type
30 pp 2E	1	00-7F	CHORUS PARAMETER 4	Refer to Effect Parameter List	Depends on chorus type
30 pp 2F	1	00-7F	CHORUS PARAMETER 5	Refer to Effect Parameter List	Depends on chorus type
30 pp 30	1	00-7F	CHORUS RETURN	--dB...0dB...+6dB(0...96...127)	60
30 pp 31	1	01-7F	CHORUS PAN	L63...C...R63(1...64...127)	40
30 pp 32	1	00-7F	SEND CHORUS TO REVERB	--dB...0dB...+6dB(0...96...127)	00
30 pp 33	2	00-7F	VARIATION TYPE MSB	Refer to Effect Program List	05(=DELAY L,C,R)
30 pp 34		00-7F	VARIATION TYPE LSB	00 : basic type	00
30 pp 35	2	00-7F	VARIATION PARAMETER 1 MSB	Refer to Effect Parameter List	Depends on variation type
30 pp 36		00-7F	VARIATION PARAMETER 1 LSB	Refer to Effect Parameter List	Depends on variation type
30 pp 37	2	00-7F	VARIATION PARAMETER 2 MSB	Refer to Effect Parameter List	Depends on variation type
30 pp 38		00-7F	VARIATION PARAMETER 2 LSB	Refer to Effect Parameter List	Depends on variation type
30 pp 39	2	00-7F	VARIATION PARAMETER 3 MSB	Refer to Effect Parameter List	Depends on variation type
30 pp 3A		00-7F	VARIATION PARAMETER 3 LSB	Refer to Effect Parameter List	Depends on variation type
30 pp 3B	2	00-7F	VARIATION PARAMETER 4 MSB	Refer to Effect Parameter List	Depends on variation type
30 pp 3C		00-7F	VARIATION PARAMETER 4 LSB	Refer to Effect Parameter List	Depends on variation type
30 pp 3D	2	00-7F	VARIATION PARAMETER 5 MSB	Refer to Effect Parameter List	Depends on variation type
30 pp 3E		00-7F	VARIATION PARAMETER 5 LSB	Refer to Effect Parameter List	Depends on variation type
30 pp 3F	2	00-7F	VARIATION PARAMETER 10 MSB	Refer to Effect Parameter List	Depends on variation type
30 pp 40		00-7F	VARIATION PARAMETER 10 LSB	Refer to Effect Parameter List	Depends on variation type
30 pp 41	1	00-7F	VARIATION RETURN	--dB...0dB...+6dB(0...96...127)	60
30 pp 42	1	01-7F	VARIATION PAN	L63...C...R63(1...64...127)	40
30 pp 43	1	00-7F	SEND VARIATION TO REVERB	--dB...0dB...+6dB(0...96...127)	00
30 pp 44	1	00-7F	SEND VARIATION TO CHORUS	--dB...0dB...+6dB(0...96...127)	00
30 pp 45	1	00-7F	AC1 VARIATION CONTROL DEPTH	0-127	00
30 pp 46	1	00-01	VARIATION CONNECTION	0:INSERTION,1:SYSTEM	00
30 pp 47	1	00-03,7F	VARIATION PART	Part1...4(0...3) AD1...AD2(64...65) OFF(127)	7F
30 pp 48	2	00-7F	INSERTION EFFECT 1 TYPE MSB	Refer to Effect Program List	48(=DISTORTION)
30 pp 49		00-7F	INSERTION EFFECT 1 TYPE LSB	00 : basic type	00
30 pp 4A	1	00-7F	INSERTION EFFECT 1 PARAMETER1	Refer to Effect Parameter List	Depends on insertion 1 type
30 pp 4B	1	00-7F	INSERTION EFFECT 1 PARAMETER2	Refer to Effect Parameter List	Depends on insertion 2 type
30 pp 4C	1	00-7F	INSERTION EFFECT 1 PARAMETER3	Refer to Effect Parameter List	Depends on insertion 3 type
30 pp 4D	1	00-7F	INSERTION EFFECT 1 PARAMETER4	Refer to Effect Parameter List	Depends on insertion 4 type
30 pp 4E	1	00-7F	INSERTION EFFECT 1 PARAMETER5	Refer to Effect Parameter List	Depends on insertion 5 type

MU80 MIDI Data Format

30 pp 4F	1	00-7F	INSERTION EFFECT 1 PARAMETER10	Refer to Effect Parameter List	Depends on insertion 6 type
30 pp 50	1	00-7F	INSERTION EFFECT 1 PART	Part1...4(0...3) AD1...AD2(64...65) OFF(127)	7F

TOTAL SIZE 31

[Note]

pp:performance number (00-7F)

MIDI Parameter Change table (INTERNAL PERFORMANCE COMMON EQ)

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value (H)
30 pp 70	1	00 - 04	EQ type	flat,jazz,pops,rock,classic	
30 pp 71	1	34 - 4C	EQ gain1	-12 - +12[dB]	
30 pp 72	1	34 - 4C	EQ gain2	-12 - +12[dB]	
30 pp 73	1	34 - 4C	EQ gain3	-12 - +12[dB]	
30 pp 74	1	34 - 4C	EQ gain4	-12 - +12[dB]	
30 pp 75	1	34 - 4C	EQ gain5	-12 - +12[dB]	
TOTAL SIZE 06					

MIDI Parameter Change table (INTERNAL PERFORMANCE PART)

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value (H)
3n pp 00	1	00 - 7F	PROGRAM NUMBER	1 - 128	
3n pp 01	1	00 - 7F	BANK SELECT	0 - 127 (See XG voice map; 127=SFx bank)	
3n pp 02	1	00 - 7F	VOLUME	0 - 127	
3n pp 03	1	00 - 7F	PAN	0:random 1:L:63 : 64:C(center) : 127:R:63	
3n pp 04	1	00 - 7F	DRY SEND LEVEL	0 - 127	
3n pp 05	1	00 - 7F	CHORUS SEND	0 - 127	
3n pp 06	1	00 - 7F	REVERB SEND	0 - 127	
3n pp 07	1	00 - 7F	VARIATION SEND	0 - 127	
3n pp 08	1	28 - 58	NOTE SHIFT	-24 - +24[semitones]	
3n pp 09	1	00 - 7F	FILTER CUTOFF FREQUENCY	-64 - 63	
3n pp 0A	1	00 - 7F	FILTER RESONANCE	-64 - 63	
3n pp 0B	1	00 - 7F	EG ATTACK TIME	-64 - 63	
3n pp 0C	1	00 - 7F	EG DECAY TIME	-64 - 63	
3n pp 0D	1	00 - 7F	EG RELEASE TIME	-64 - 63	
3n pp 0E	1	00 - 7F	VIBRATO RATE	-64 - 63	
3n pp 0F	1	00 - 7F	VIBRATO DEPTH	-64 - 63	
3n pp 10	1	00 - 7F	VIBRATO DELAY	-64 - 63	
3n pp 11	2	00 - FF	DETUNE	-12.8 - +12.7[Hz] 1st bit3-0→bit7-4 1st bit6 : OFF/ON	
			Rev NOTE MESSAGE	1st bit5 : 0/MONO, 1/POLY	
			MONO/POLY MODE	1st bit4 : OFF/ON	
			PORTAMENTO SWITCH	1st bit4 : OFF/ON	
3n pp 13	1	00 - 7F	PITCH EG INITIAL LEVEL	0 - 127	
3n pp 14	1	00 - 7F	PITCH EG ATTACK TIME	0 - 127	
3n pp 15	1	00 - 7F	PITCH EG RELEASE LEVEL	0 - 127	
3n pp 16	1	00 - 7F	PITCH EG RELEASE TIME	0 - 127	
3n pp 17	1	00 - 7F	MW LFO PMOD DEPTH	0 - 127	
3n pp 18	1	00 - 7F	MW LFO PMOD 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	-100 - +100[%]	
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	00 - 7F	VELOCITY LIMIT LOW	0 - 127	
3n pp 22	1	00 - 7F	VELOCITY LIMIT HIGH	0 - 127	
TOTAL SIZE 23					

[Note]

n: performance part number (01-04)

pp:performance number (00-7F)

XG Voice List

Instrument Group	Pch#	Bank Select MSB=00		KSP		Stereo		Single		Slow		Fast Decay		Double Attack		Bright		Dark		Resonant				
		Bank 0	Elem	Bank 1	Elem	Bank 3	Elem	Bank 6	Elem	Bank 8	Elem	Bank 12	Elem	Bank 14	Elem	Bank 16	Elem	Bank 17	Elem	Bank 18	Elem	Bank 19	Elem	Bank 20
Piano	1	GrandPno	1	GrandPnoK1	1														MeltoGrp	1				
	2	BritPno	1	BritPnoK1	1																			
	3	EGrand	2	EGrPnoK2	2																			
	4	HnkyTnk	2	HnkyTnkK2	2																			
	5	E Piano1	2	El Pno1K1	1															MeltoEP1	2			
	6	E Piano2	2	El Pno2K1	1																			
	7	Hrps.	1	HrpsK1	1																			
	8	Clavi.	2	Clavi_K	1																			
Chromatic Percussion	9	Celesta	1																					
	10	Glocken	1																					
	11	MusicBox	2																					
	12	Vibes	1	VibesK	1																			
	13	Marimba	1	MarimbaK1	1																			
	14	Xylophon	1																					
	15	TubulBel	1																					
	16	Dulcimer	1																					
Organ	17	DrawOrgan	1																					
	18	PercOrgan	1																					
	19	RockOrgan	2																					
	20	ChrdOrg	2																					
	21	ReedOrgan	1																					
	22	Accordion	2																					
	23	Harmnica	1																					
	24	TangoAcid	2																					
Guitar	25	NylonGtr	1																					
	26	SteelGtr	1																					
	27	JazzGtr	1																					
	28	CleanGtr	1																					
	29	MuteGtr	1																					
	30	Ovrdrive	1																					
	31	Dist.Gtr	1																					
	32	GtrFarmo	1																					
Bass	33	Aco.Bass	1																					
	34	FngrBass	1																					
	35	PckBass	1																					
	36	Fretless	1																					
	37	SlapBass1	1																					
	38	SlapBass2	1																					
	39	SynBass1	1																					
	40	SynBass2	2																					
Strings	41	Violin	1																					
	42	Viola	1																					
	43	Cello	1																					
	44	Contrabs	1																					
	45	Trem.Str	1																					
	46	Pizz.Str	1																					
	47	Harp	1																					
	48	Timpani	1																					
Ensemble	49	Strings1	1																					
	50	Strings2	1																					
	51	SynStr1	2																					
	52	SynStr2	2																					
	53	ChoirAah	1																					
	54	VoiceOgh	1																					
	55	SynVoice1	1																					
	56	Och.Hrt	2																					
Brass	57	Trumpet	1																					
	58	Trombone	1																					
	59	Tuba	1																					
	60	Muc.Trp	1																					
	61	Fr.Horn	1																					
	62	BrasSect	1																					
	63	SynBras1	2																					
	64	SynBras2	1																					

: Same as Bank 0

XG Voice List

Instrument Group	Bank Select MSB=00																								
	Attack		Release		Rezo Sweep		Muted		Detune 1		Detune 2		Detune 3		Octave 1		Octave 2		5th 1		5th 2		Bend		
Program	Bank 24	Elem	Bank 25	Elem	Bank 27	Elem	Bank 28	Elem	Bank 32	Elem	Bank 33	Elem	Bank 34	Elem	Bank 35	Elem	Bank 36	Elem	Bank 37	Elem	Bank 38	Elem	Bank 39	Elem	
1																									
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XG Voice List

Instrument Group	Patch #	Tutti		Velo-Switch		Velo-Xfade		other wave		Bank 67		Bank 68		Bank 69		Bank 70													
		Elem	Bank 40	Elem	Bank 41	Elem	Bank 42	Elem	Bank 43	Elem	Bank 44	Elem	Bank 45	Elem	Bank 64	Elem	Bank 65	Elem	Bank 66	Elem	Bank 67	Elem	Bank 68	Elem	Bank 69	Elem	Bank 70		
Piano	1		PlanoStr	2	Dream	2																							
	2		ElGrPho1	2	ElGrPho2	2																							
	3		HardELP	2	DX+Analg	2	DXKoroHP	2																					
	4		DX Phase	2																									
	5																												
	6																												
	7																												
	8																												
Chromatic Percussion	9																												
	10																												
	11																												
	12																												
	13																												
	14																												
	15																												
	16																												
Organ	17		16+2/2/3	2																									
	18																												
	19																												
	20		NotreDum	2																									
	21		Puff Org	2																									
	22																												
	23																												
	24																												
Guitar	25																												
	26		Nyln&Stl	2	Stl&Body	2																							
	27																												
	28																												
	29		FunkGtr1	2	MuteStlG	2																							
	30																												
	31		FeedbGt	2	FeedbGt2	2																							
	32																												
Bass	33		JazzRlhm	2																									
	34		Ba&DStEG	2																									
	35																												
	36																												
	37																												
	38		TeknoBa	2																									
	39		ModlurBa	2	DX Bass	2																							
Strings	40																												
	41																												
	42																												
	43																												
	44		Susp Str	2																									
	45																												
	46		YangChin	2																									
	47																												
Ensemble	48		Orchestr	2	Orchstr2	2	TrentOrch	2																					
	49		Warm Str	2	Kingdom	2																							
	50																												
	51																												
	52		ChoirStr	2																									
	53																												
	54		SynVox2	2	Choral	2																							
	55																												
	56																												
Brass	57																												
	58																												
	59																												
	60																												
	61		BrsSec2	2	HiBrass	2	MelloBrs	2																					
	62																												
	63		SynBrs4	2	ChoirBrs	2																							
	64																												

XG Voice List

Bank Select MSB=64

Pch#	Bank 0	Elem
1	CutmeNz	1
2	CtngNz2	2
3	DcCutNz	2
4	StrSlap	1
5	B.Stide	2
6	P.Scrpe	1
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17	FlkClk	1
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		
31		
32	Rain	1
33	Thunder	1
34	Wind	1
35	Stream	2
36	Bubble	2
37	Feed	2
38		
39		
40		
41		
42		
43		
44		
45		
46		
47		
48		
49	Dog	1
50	Hore	1
51	Bird 2	1
52	Kitty	1
53	Growl	1
54	Haunted	2
55	Ghost	2
56	Maout	2
57		
58		
59		
60		
61		
62		
63		
64		

Bank Select MSB=00

Instrument Group	Pch#	Bank 71	Elem	Bank 72	Elem	Bank 96	Elem	Bank 97	Elem	Bank 98	Elem	Bank 99	Elem	Bank 100	Elem	Bank 101	Elem
Piano	1																
	2																
	3																
	4																
	5																
	6																
	7																
Chromatic Percussion	8																
	9																
	10																
	11																
	12																
	13					Balafon	2	Balafon2	2	Log Drum	2						
	14																
	15					ChrhBel	2	Carillon	2								
	16					Cimbalom	2	Santur	2								
Organ	17																
	18																
	19																
	20																
	21																
	22																
	23																
	24																
Guitar	25					Ukulele	1										
	26					Mandolin	2										
	27					PllSteel	1										
	28																
	29					Mt.DstGr	2										
	30																
	31																
Bass	32																
	33																
	34																
	35																
	36					SynFret	2	Smooth	2								
	37																
	38																
	39																
	40					Hammer	2										
Strings	41																
	42																
	43																
	44																
	45																
	46																
	47																
	48																
Ensemble	49																
	50																
	51																
	52																
	53																
	54					VoiceHmn	1										
	55																
	56					FluglHm	1										
Brass	57																
	58																
	59																
	60																
	61																
	62																
	63																
	64																

: No sound

XG Voice List

Instrument Group	Patch #	Bank Select MSB=00		KSP		Stereo		Single		Slow		Fast Decay		Double Attack		Bright		Dark		Resonant					
		Elem	Bank 0	Elem	Bank 1	Elem	Bank 3	Elem	Bank 6	Elem	Bank 8	Elem	Bank 12	Elem	Bank 14	Elem	Bank 16	Elem	Bank 17	Elem	Bank 18	Elem	Bank 19	Elem	Bank 20
Reed	65		SprmoSax	1																					
	66		Alto Sax	1																					
	67		TenorSax	1																					
	68		BariSax	1																					
	69		Oboe	2																					
	70		Eng.Horn	1																					
	71		Bassoon	1																					
Pipe	72		Clarinet	1																					
	73		Piccolo	1																					
	74		Flute	1																					
	75		Recorder	1																					
	76		PanFlute	1																					
	77		Bottle	2																					
	78		Shakichi	2																					
	79		Whistle	1																					
	80		Ocarina	1																					
Synth Lead	81		SquareLd	2				Square 2	1	LMSquare	2														
	82		Saw.Lead	2				Saw 2	1	ThickSaw	2														
	83		CaloptLd	2																					
	84		ChiffLd	2																					
	85		CharanLd	2																					
	86		Voice Ld	2																					
	87		Fifth Ld	2																					
	88		Bass &Ld	2																					
Synth Pad	89		NewAgePd	2																					
	90		Warm Pad	2																					
	91		PolySynPd	2																					
	92		ChoirPad	2																					
	93		BowedPad	2																					
	94		MetalPad	2																					
	95		Halo Pad	2																					
	96		SweepPad	2																					
Synth Effects	97		Rain	2																					
	98		SoundTtk	2																					
	99		Crystal	2																					
	100		Atmosphr	2																					
	101		Bright	2																					
	102		Goblins	2																					
	103		Echoes	2																					
	104		Sci-Fi	2																					
Ethnic	105		Sitar	1						EchoPad2	2														
	106		Banjo	1																					
	107		Shamisen	1																					
	108		Koto	1																					
	109		Kalimba	1																					
	110		Bagpipe	2																					
	111		Fiddle	1																					
	112		Shanat	1																					
Percussive	113		TnkIBell	2																					
	114		Agogo	2																					
	115		SteelDrum	2																					
	116		WoodBlok	1																					
	117		TaikoDrum	1																					
	118		MelodTom	2																					
	119		Syn.Drum	1																					
	120		Rev.Cymbal	1																					
Sound Effects	121		FretNoiz	2																					
	122		BritNoiz	2																					
	123		Seashore	2																					
	124		Tweet	2																					
	125		Telephone	1																					
	126		Helcptr	1																					
	127		Applause	1																					
	128		Gumshot	1																					

: Same as Bank 0

XG Voice List

Instrument Group	Bank Select MSB=00												
	Attack Bank 24	Release Bank 25	Rezo Sweep Bank 27	Muted Bank 28	Detune 1 Bank 32	Detune 2 Bank 33	Detune 3 Bank 34	Octave 1 Bank 35	Octave 2 Bank 36	5th 1 Bank 37	5th 2 Bank 38	Bend Bank 39	
Reed	65												
	66												
	67												
	68												
	69												
	70												
	71												
	72												
Pipe	73												
	74												
	75												
	76												
	77												
	78												
	79												
	80												
Synth Lead	81												
	82	HeavySyn 2	WaspySyn 2										
	83												
	84												
	85												
	86	SynthAah 2						Big Five 2					
	87												
	88												
Synth Pad	89												
	90												
	91												
	92												
	93												
	94												
	95												
	96		Converge 2										
Synth Effects	97		Prologue 2										
	98												
	99												
	100												
	101												
	102												
	103												
	104												
Ethnic	105												
	106												
	107												
	108												
	109												
	110												
	111												
	112												
Percussive	113												
	114												
	115												
	116												
	117												
	118												
	119												
	120								DetSitar 1				
Sound Effects	121								MuteBnjo 2				
	122												
	123												
	124												
	125												
	126												
	127												
	128												

XG Voice List

Instrument Group	Tutti			Velo-Switch			Velo-Xfade			other wave			
	Bank 40	Bank 41	Bank 42	Bank 43	Bank 44	Bank 45	Bank 64	Bank 65	Bank 66	Bank 67	Bank 68	Bank 69	Bank 70
65													
66	Sax Sect 2												
67	BrthTrnSx 2	SoftTmr 2		HyprAlto 2			TrnSax 2 1						
68													
69													
70													
71													
72													
73													
74													
75													
76													
77													
78													
79													
80													
81													
82	PulseSaw 2	Dr. Lead 2				VeloLead 2							
83													
84													
85													
86													
87													
88													
89													
90													
91													
92													
93													
94													
95													
96													
97													
98													
99	GlockChi 2	CleanBel 2	ChorBell 2										
100	NylonEP 2												
101													
102													
103													
104													
105													
106													
107													
108													
109													
110													
111													
112													
113													
114													
115													
116													
117													
118													
119													
120													
121													
122													
123													
124													
125													
126													
127													
128													

XG Voice List

Bank Select MSB=64
SFX

Pch#	Bank 0	Elem
65	TelDial	1
66	DoorSnk	1
67	Door Slam	1
68	Scratch	1
69	Scratch 2	2
70	WindChim	1
71	Telphon2	1
72		
73		
74		
75		
76		
77		
78		
79		
80		
81	CarEngin	1
82	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	Cosster	2
91	ShMarine	2
92		
93		
94		
95		
96	Laughing	1
97	Scream	1
98	Punch	1
99	FootStep	1
100	Applaus2	1
101		
102		
103		
104		
105		
106		
107		
108		
109		
110		
111		
112	MchinGun	1
113	LaserGun	2
114	Xploston	2
115	FireWork	2
116		
117		
118		
119		
120		
121		
122		
123		
124		
125		
126		
127		
128		

Bank Select MSB=00

Instrument Group	Pch#	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																
	66																
	67																
	68																
	69																
	70																
Pipe	71					BassClar	1										
	72																
	73																
	74																
	75					Kawala	2										
	76																
	77																
	78																
	79																
	80																
Synth Lead	81					Seq Ana	2										
	82																
	83																
	84																
	85																
	86																
	87																
	88																
Synth Pad	89																
	90																
	91																
	92																
	93																
	94																
	95																
Synth Effects	96																
	97																
	98																
	99	BellHarp	2	Gamelmba	2												
	100																
	101					Smokey	2										
	102	Glisten	2	Puffy	2	BelChoir	2										
	103																
	104																
Ethnic	105					Tambra	2	Tamboura	2								
	106					Rabab	2	Gopichit	2	Oud	2						
	107					Tsugatu	2										
	108					T. Koto	2	Kanoon	2								
	109																
	110																
	111																
	112					Pungi	1	Hichriki	2								
Percussive	113					Bonang	2	Gendur	2	Gamelan	2	S. Gamelan	2	Rama Cymr	2	AsiamBel	2
	114					Aririgane	2										
	115					Tablas	2	GlasPerc	2	ThaiBell	2						
	116					Castanet	1										
	117					Gr.Cassa	1										
	118																
	119																
	120					RevSnar1	1	RevSnar2	1	RevKick1	1	RevComBD	1	Rev Tom1	1	Rev Tom2	1
Sound Effects	121																
	122																
	123																
	124																
	125																
	126																
	127																
	128																

: No sound

TG300B Voice List

Bank Select LSB=00

Instrument Group	Pol#	Bank 0	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																						
	2	BritePno	1																						
	3	E-Grand	2	EIGrPno1	2	EIGrPno2	2																		
	4	HinkyTonk	2																						
	5	E-Piano1	2																						
	6	E-Piano2	2																						
	7	Harpsi.	1																						
	8	Clavi.	2																						
Chromatic	9	Celesta	1																						
Percussion	10	Glocken	1																						
	11	MusicBox	2																						
	12	Vibes	1	Hard Vibe	2																				
	13	Marimba	1																						
	14	Xylophon	1																						
	15	TubulBel	1																						
Organ	16	Dulcimer	2	DulcMr 2	2																				
	17	DrawOrgn	1	70sDrOr1	2																				
	18	PercOrgn	1	70sPcOr1	2																				
	19	RockOrgn	2																						
	20	ChrchOrg	2																						
	21	ReedOrgn	1																						
	22	Acordion	2																						
	23	Flammica	1	Harmo 2	2																				
	24	TangoAcid	2																						
Guitar	25	NylonGtr	1																						
	26	SteelGtr	1																						
	27	Jazz Gtr	1	MelloGrr	1																				
	28	CleanGtr	1																						
	29	Mute.Gtr	1	Mu.DstGt	2																				
	30	Ovrdrive	1																						
	31	Dist.Gtr	2	DistGtr3	2																				
	32	GtrHarmo	1																						
Bass	33	Acob.Bass	1																						
	34	FngBass	1	FngBass2	2	JazzBass	1																		
	35	PickBass	1																						
	36	Fretless	1	Fretles2	2	Fretles3	2	Fretles4	2	SynFret	2	Smooth	2												
	37	SlapBas1	1																						
	38	SlapBas2	1																						
	39	SynBas1	1	SynBa1Dk	1																				
Strings	40	SynBas2	2	ClkSynBa	2	ModulrBa	2	Seq Bass	2																
	41	Violin	1																						
	42	Viola	1																						
	43	Cello	1																						
	44	Contrabs	1																						
	45	Trem.Str	1																						
	46	Pizz.Str	1																						
	47	Harp	1																						
Ensemble	48	Timpani	1																						
	49	Strings1	1	Slow Str	1																				
	50	Strings2	1	70s Str	1																				
	51	Syn.Str1	2	SynStr4	2																				
	52	Syn.Str2	2																						
	53	Choir.Aah	1																						
	54	VoiceDoo	1																						
	55	SynVoice	1																						
Brass	56	Oreh.Htr	2	OrehHtr2	2																				
	57	Trumpet	1	Trumpet2	1																				
	58	Trumbone	1	Trmbone2	1																				
	59	Tuba	1	Tuba 2	1																				
	60	Mute.Trp	1																						
	61	Fr.Horn	2	FrHorn2	2																				
	62	BrasSect	1																						
	63	SynBras1	2	PolyBrss	2																				
	64	SynBras2	1	Soft Brs	2																				

TG300B Voice List

Bank Select LSB=00

Instrument Group	Pch#	Bank 16	Bank 17	Bank 18	Bank 19	Bank 24	Bank 25	Bank 26	Bank 32	Bank 33	Bank 40	Bank 126	Bank 127	Elem
Piano	1	MelloGrp	1									A-Piano1	2	apiano1
	2											A-Piano2	2	apiano2
	3											A-Piano3	2	apiano3
	4											A-Piano4	2	apiano4
	5	VX El.P1	2			60SELP	1	HardEIP	2	MelloEIP1	2	A-Piano5	2	apiano5
	6	VX El.P2	2			DX Hard	2			ElPnoIK	1	A-Piano6	1	e.piano2
	7	Harpst.K	1			Harps.2	2			ElPno2K	1	A-Piano7	2	e.piano3
	8											A-Piano8	1	e.piano4
Chromatic	9											E-Piano1	2	hkytnk
Percussion	10											E-Piano2	2	e.organ1
	11											E-Piano3	2	e.organ2
	12											A-Guitr1	1	e.organ3
	13	Balafo	2	Balafo2	2							A-Guitr2	2	e.organ4
	14											A-Guitr3	2	pipeorg1
	15											E-Guitr1	2	pipeorg2
	16											E-Guitr2	1	pipeorg3
	17	60sDrOr1	2	60sDrOr2	2	60sDrOr3	2					Slap-1	2	acordion
Organ	18											Slap-2	2	harpst1
	19	Slorotar	2									Slap-3	2	harpst2
	20	ChurrOrg3	2									Slap-4	2	harpst3
	21											Slap-5	2	clavi1
	22											Slap-6	2	clavi2
	23											Slap-7	2	clavi3
	24											Slap-8	2	celestal
Guitar	25	NylonGt3	2									Finger-1	1	celestal
	26	Mandolin	2									Finger-2	2	synbrs1
	27											Picked-1	1	synbrs2
	28											Picked-2	2	synbrs3
	29	FunkGtr2	2									FretsBS	1	synbrs4
	30											A-Bass	2	synbrs1
Bass	31	PowerGt1	2	PowerGt2	2	Dst.5ths	2					Choir-1	1	synbrs2
	32	AcoHarmo	1									Choir-2	1	synbrs3
	33											Choir-3	2	synbrs4
	34											Choir-4	2	newagepd
	35											Strings-1	2	synharmo
	36											Strings-2	2	choir pd
	37											Strings-3	2	bowd pd
	38											Strings-4	2	soundtrk
	39	ResoBass	1									E-Organ1	2	atmosphr
Strings	40	RubberBa	2	SynBa2DK	1	MelloSB2	1					E-Organ2	2	syn warm
	41											E-Organ3	2	synfunny
	42											E-Organ4	2	syncho1
	43											E-Organ5	2	rain
	44											E-Organ6	2	synoboe
	45											E-Organ7	2	syncho2
	46											E-Organ8	2	synsolo
	47											E-Organ9	2	synrdorg
	48											SoftTP-1	1	synbell
Ensemble	49	S.Strngs	2									SoftTP-2	1	squareld
	50											TP/TRB-1	1	strsect1
	51											TP/TRB-2	1	strsect2
	52											TP/TRB-3	1	strsect3
	53											TP/TRB-4	1	pazz.sr
	54											TP/TRB-5	2	violin 1
	55											TP/TRB-6	2	violin 2
	56	LoFiRave	2									Sax-1	1	cello 1
Brass	57											Sax-2	1	cello 2
	58											Sax-3	1	contrabs
	59											Sax-4	2	harp 1
	60											Brass-1	1	harp 2
	61	HomOrch	2									Brass-2	1	guitar 1
	62	BrssFall	1									Brass-3	2	guitar 2
	63	AmBrs1	2									Brass-4	2	elecgr1
	64	AmBrs2	2	VelBras2	2							Brass-5	2	elecgr2
												Orch-Hit	1	star

TG300B Voice List

Bank Select LSB=00

Instrument Group	Bank0	Bank 1	Bank 2	Bank 3	Bank 4	Bank 5	Bank 6	Bank 7	Bank 8	Bank 9	Bank 10	Bank 11	Elem					
65	SprnoSax	1																
66	Alto Sax	1																
67	TnrSax 2	1							HyprAlto	2								
68	Bari.Sax	1							Brh1nSx	2								
69	Oboe	2																
70	Eng.Horn	1																
71	Bassoon	1							BassClar	1								
72	Clarnet	1																
73	Piccolo	1																
74	Flute	1																
75	Recorder	1																
76	PanFlute	1							Kawala	2								
77	Bottle	2																
78	Shakchi	2																
79	Whistle	1																
80	Ocarina	1																
81	SquareLd	2	Square 2	1	Hollow	2	SoloSine	2	Shmoog	2	LMSquare	2						
82	SawLead	2	Saw2	1	PulseSaw	2	ThickSaw	2	VelolLead	2	HeavySyn	2						
83	CaloppLd	2	Vent. Syn	2	Pure Pad	2			DynsSaw	1								
84	Chiff Ld	2																
85	CharamLd	2																
86	Voice Ld	2							DistLead	2								
87	Fifth Ld	2	Big Five	2														
88	Bass &Ld	2	Big&Low	2	Fat&Prky	2												
89	NewAgePd	2	Fantasy2	2														
90	Warm Pad	2	ThickPad	2	Horn Pad	2	RotanStr	2	Soft Pad	2								
91	PolySyPd	2	PolyPd80	2														
92	ChairPad	2	Heaven2	2														
93	BowedPad	2																
94	MetalPad	2	Tine Pad	2	Pan Pad	2												
95	Halo Pad	2																
96	SweepPad	2	PolarPad	2					Converge	2	Shwimmer	2	Celstial	2				
97	Rain	2	HrmoRain	2	AfrenWind	2			ClaviPad	2								
98	SoundTrk	2	Ancestrl	2	Prologue	2			Rave	2								
99	Crystal	2	SynMalet	2	RndGlock	2	RndGlock	2	GlockChi	2	ClearBel	2						
100	Atmosphr	2	WarmAtms	2	NylnHarp	2	Harp Vox	2	HollowRls	2	N\%ontP	2	XmasBell	2	VibeBell	2	DigitBell	2
101	Bright	2																
102	Goblins	2	GobSyn	2	50sSciFi	2												
103	Echoes	2	EchoBell	2	Echo Pan	2												
104	Sci-Fi	2	Starz	2														
105	Sitar	1	Sitar 2	2	DetSitar	2												
106	Banjo	1	MuteBnjo	1														
107	Shamnsen	1	Tsigaru	2														
108	Koto	1																
109	Kalimba	1																
110	Bagpipe	2																
111	Fiddle	1																
112	Shanat	1	Shanat 1															
113	TnklBell	2																
114	Agogo	2																
115	SteelDrm	2																
116	WoodBlok	1																
117	TsikoDrm	1																
118	MetodTom	2	Real Tom	2														
119	Syn.Drum	1																
120	RevCymb	1	Rev Cym2	1														
121	FretNoiz	2	CutingNz	2	Sr Slap	1	CtingNz2	2	DsCutNz	2	B.Slide	2	P.Scraper	1				
122	BrthNoiz	2	FLKClk	1														
123	Seashore	2	Rain	1	Thunder	1	Wind	2	Stream	2	Bubble	2						
124	Tweet	2	Dog	1	Horse	1	Bird 2	1	Kitty	1	Growl	1						
125	Telephone	1	Tel.Dial	1	DoorSqek	1	DoorSlam	1	Scratch	1	WindChm	1	Scratch2	2				
126	Helicpr	1	CarEngin	1	Car Stop	1	CarCrash	1	Siren	2	Train	2						
127	Applause	1	Laughing	1	Scream	1	Punch	1	Heart	1	FootStep	1						
128	Gmshot	1	MchInGm	1	LaserGm	2	Xplosion	2										

TG300B Voice List

Bank Select LSB=00

Instrument Group	Chan#	Bank 16	Bank 17	Bank 18	Bank 19	Bank 24	Bank 25	Bank 26	Bank 32	Bank 33	Bank 40	Bank 126	Bank 127	Elem
Reed	65											Silence	a.bass 1	1
	66											Silence	a.bass 2	1
	67											Silence	e.bass 1	1
	68											Silence	e.bass 2	1
	69											Silence	slapbas1	1
	70											Silence	slapbas2	1
	71											Silence	fretles1	1
	72											Silence	fretles2	1
Pipe	73											Silence	flute1	1
	74											Silence	flute2	1
	75											Silence	piccolo1	1
	76											Silence	piccolo2	2
	77											Silence	recorder	1
	78											Silence	panpipes	2
	79											Silence	sax1	2
	80											Silence	sax2	1
Synth Lead	81											Silence	sax3	1
	82	WaspvSyn	2									Silence	sax4	1
	83											Silence	clarinet1	1
	84											Silence	clarinet2	1
	85											Silence	oboe	1
	86											Silence	eng.horn	1
	87											Silence	bassoon	1
	88											Silence	harmica	1
Synth Pad	89											Silence	trumpet1	1
	90											Silence	trumpet2	1
	91											Silence	tritone1	2
	92											Silence	tritone2	2
	93											Silence	fr.horn1	1
	94											Silence	fr.horn2	2
	95											Silence	tuba	2
	96											Silence	brs.sect1	1
Synth Effects	97											Silence	brs.sect2	2
	98											Silence	vibe1	1
	99	ChorBell	2	AirBells	2	BellHarp	2	Gamelmba	2			Silence	vibe2	1
	100											Silence	symallet	1
	101											Silence	malwin	2
	102											Silence	guc.ken	2
	103											Silence	tubutbel	1
	104											Silence	xylophon	1
Ethnic	105	Tamboura	2									Silence	marimba	2
	106	Gopichnt	2									Silence	koto	1
	107											Silence	sho	2
	108	Kamoon	2									Silence	shakhchi	2
	109											Silence	whistle1	2
	110											Silence	whistle2	1
	111											Silence	bottle	2
	112	Hichrki	2									Silence	breath	2
Percussive	113	Rama Cym	2									Silence	trimpani	1
	114											Silence	melonom	1
	115											Silence	deepshar	1
	116											Silence	e.perc1	1
	117											Silence	e.perc2	1
	118											Silence	taiko	1
	119											Silence	taikotim	1
Sound Effects	120	RevKick1	1	RevComBD	1	Rev Tom1	1	Rev Tom2	1			Silence	cymbal	2
	121											Silence	castanet	1
	122											Silence	triangle	1
	123											Silence	orchbit	1
	124											Silence	telephone	1
	125											Silence	bird	1
	126	Coaster	2									Silence	jam	1
	127											Silence	ercitwar	2
	128											Silence	ercitngl	2

C/M Voice List

Pgm#	TYPE1 part1-9	TYPE2 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	shakchi	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	taikoram	Silence
120	snymbal	Silence
121	castanet	Silence
122	triangle	Silence
123	orchelhit	Silence
124	telephone	Silence
125	bird	Silence
126	jam	Silence
127	efctwatr	Silence
128	efctjngl	Silence

Pgm#	TYPE1 part1-9	TYPE2 part11-16
49	srsect1	TP/TRB-1
50	srsect2	TP/TRB-2
51	srsect3	TP/TRB-3
52	pizz-str	TP/TRB-4
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	elegtr1	Brass-4
63	elegtr2	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	slapbas 1	Silence
70	slapbas 2	Silence
71	freelst	Silence
72	freelst2	Silence
73	flute1	Silence
74	flute2	Silence
75	piccolo1	Silence
76	piccolo2	Silence
77	reorder	Silence
78	pauinpup	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

Pgm#	TYPE1 part1-9	TYPE2 part11-16
1	a.piano1	A-Piano1
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-Piano7
8	hkytrnk	E-Piano1
9	e.orgam1	E-Piano2
10	e.orgam2	E-Piano3
11	e.orgam3	A-Guitr1
12	e.orgam4	A-Guitr2
13	pipeorg1	A-Guitr3
14	pipeorg2	E-Guitr1
15	pipeorg3	E-Guitr2
16	accordion	Slap-1
17	harpst1	Slap-2
18	harpst2	Slap-3
19	harpst3	Slap-4
20	clavi1	Slap-5
21	clavi2	Slap-6
22	clavi3	Slap-7
23	celestal1	Slap-8
24	celestal2	Finger-1
25	synbras1	Finger-2
26	synbras2	Picked-1
27	synbras3	Picked-2
28	synbras4	Fret&Bs
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	syncho1	E-Organ4
42	rain	E-Organ5
43	synboe	E-Organ6
44	syncho2	E-Organ7
45	synsolo	E-Organ8
46	syndorg	E-Organ9
47	synbell	SoftTP-1
48	squareld	SoftTP-2

MU80 Drum List

XG-Drum Map

Bank	MSB#	Program #	127	127	127	127	127	127	127	127	127	127	127	126	126
Bank	MSB#	Program #	127	127	127	127	127	127	127	127	127	127	127	126	126
Key	Alternate	Standard Kit	Standard2 Kit	Room Kit	Rock Kit	Electro Kit	Analog Kit	Jazz Kit	Brush Kit	Classic Kit	SFX 1	SFX 2			
Note	off	assign													
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	Scratch Pull												
19	G-1		Finger Snap												
20	G#-1		Click Noise												
21	A-1		Metronome Click												
22	A#-1		Metronome Bell												
23	B-1		Seq Click L												
24	C-0		Seq Click H												
25	C#-0		Brush Tap												
26	D-0	0	Brush Swirl L												
27	D#-0		Brush Slap												
28	E-0	0	Brush Swirl H												
29	F-0	0	Snare Roll												
30	F#-0		Castanet												
31	G-0		Snare L												
32	G#-0		Sticks												
33	A-0		Bass Drum L												
34	A#-0		Open Rim Shot												
35	B-0		Bass Drum M												
36	C-0		Bass Drum H												
37	C#-0		Side Stick												
38	D-0		Snare M												
39	D#-0		Hand Clap												
40	E-0		Snare H												
41	F-0		Floor Tom L												
42	F#-0	1	Hi-Hat Closed												
43	G-0		Floor Tom H												
44	G#-0	1	Hi-Hat Pedal												
45	A-0	1	Low Tom												
46	A#-0	1	Hi-Hat Open												
47	B-0	1	Mid Tom L												
48	C-0	2	Mid Tom H												
49	C#-0	2	Crash Cymbal 1												
50	D-0	2	High Tom												
51	D#-0	2	Ride Cymbal 1												
52	E-0	2	Chinese Cymbal												
53	F-0	2	Ride Cymbal Cup												
54	F#-0	2	Tambourine												
55	G-0	2	Splash Cymbal												
56	G#-0	2	Cowbell												
57	A-0	2	Crash Cymbal 2												
58	A#-0	2	Vibraslap												
59	B-0	2	Ride Cymbal 2												
60	C-0	3	Bongo H												
61	C#-0	3	Bongo L												
62	D-0	3	Conga H Mute												
63	D#-0	3	Conga H Open												
64	E-0	3	Conga L												
65	F-0	3	Timbale H												
66	F#-0	3	Timbale L												
67	G-0	3	Agogo H												

: Same as Standard Kit

: No Sound

MU80 Drum List

Bank MSB#	Program #	127	127	127	127	127	127	127	127	127	127	127	127	127	127	126	126
Note#	Note	Alternate Assign	Standard Kit	Room Kit	Power Kit	Electro Kit	Rock Kit	Electro Kit	Analog Kit	Jazz Kit	Brush Kit	Jazz Kit	Brush Kit	Orchestra Kit	Classic Kit	SFX 1	SFX 2
68	G# 3		Standard Kit														
69	A# 3		Agogo L														
70	A# 3		Cabasa														
71	B 3		Maracas														
72	C 4		Samba Whistle H						Analog Maracas								
73	C# 4		Samba Whistle L														
74	D 4		Guiro Short														
75	D# 4		Guiro Long														
76	E 4		Claves														
77	F 4		Wood Block H														
78	F# 4		Wood Block L														
79	G 4		Cuica Mute						Scratch Push								
80	G# 4		Cuica Open						Scratch Pull								
81	A 4	2	Triangle Mute														
82	A# 4	2	Triangle Open														
83	B 4		Shaker														
84	C 5		Jingle Bell														
85	C# 5		Bell Tree														
86	D 5																
87	D# 5																
88	E 5																
89	F 5																
90	F# 5																
91	G 5																

TG300-B Drum Map

Program #	Alternate Assign	1	9	17	25	26	33	41	49	57	128
Note#	Note	Standard Kit	Room Kit	Power Kit	Electro Kit	Analog Kit	Jazz Kit	Brush Kit	Orchestra Kit	SFX Set	C/M Kit
25	C# 0										
26	D 0										
27	D# 0										
28	E 0										
29	F 0										
30	F# 0										
31	G 0										
32	G# 0										
33	A 0										
34	A# 0										
35	B 0										
36	C 1										
37	C# 1										
38	D 1										
39	D# 1										
40	E 1										
41	F 1										
42	F# 1										
43	G 1										
44	G# 1										
45	A 1										
46	A# 1										
47	B 1										
48	C 2										
49	C# 2										
50	D 2										

: No Sound
: Same as Standard Kit

MU80 Drum List

Program #	Alternate Assign	1	9	17	25	26	33	41	49	57	128
Notes#	Note	Standard Kit	Room Kit	Power Kit	Electro Kit	Analog Kit	Jazz Kit	Brush Kit	Orchestra Kit	SFX Set	CM 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	Scratch	
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								Jeplane	
70	A# 3	Marcus				Analog Maracas				Helicopter	
71	B 3	Samba Whistle H								Starship	
72	C 4	Samba Whistle L								Gunshot	
73	C# 4	Guitro Short								Machine Gun	
74	D 4	Guitro Long								Laser Gun	Vibraslap
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	Cuica Mute								Bird Tweet	Punch
79	G 4	Cuica Open								Rain	Heartbeat
80	G# 4	Triangle Mute								Thunder	Footsteps 1
81	A 4	Triangle Open								Wind	Footsteps 2
82	A# 4	Shaker								Seashore	Applause
83	B 4	Jingle Bell								Door Creaking	Door Slam
84	C 5	Bell Tree								Bubble	
85	C# 5	Castanet									Scratch
86	D 5	Surdio Mute									Windchime
87	D# 5	Surdio Open							Applause	Engine Start	Engine Start
88	E 5									Car Passing	Tire Screech
89	F 5									Crash	Crash
90	F# 5									Siren	Siren
91	G 5									Train	Train
92	G# 5									Jeplane	Jeplane
93	A 5									Helicopter	Helicopter
94	A# 5									Starship	Starship
95	B 5									Gunshot	Gunshot
96	C 6									Machine Gun	Machine Gun
97	C# 6									Laser Gun	Laser Gun
98	D 6									Explosion	Explosion
99	D# 6									Dog	Dog
100	E 6									Horse Gallop	Horse Gallop
101	F 6									Bird Tweet	Bird Tweet
102	F# 6									Rain	Rain
103	G 6									Thunder	Thunder
104	G# 6									Wind	Wind
105	A 6									Seashore	Seashore
106	A# 6									Stream	Stream
107	B 6									Bubble	Bubble
108	C 7										

: Same as Standard Kit

: No Sound

C/M Drum Map

Note#	Note	Alternate Assign	C/M Kit
35	B0		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		
53	F2		
54	F#2		Tambourine
55	G2		
56	G#2		Cowbell
57	A2		
58	A#2		
59	B2		Bongo H
60	C3		Bongo L
61	C#3		Conga H Mute
62	D3		Conga H Open
63	D#3		Conga L
64	E3		Timbale H
65	F3		Timbale L
66	F#3		Agogo H
67	G3		Agogo L
68	G#3		Calabasa
69	A3		Maracas
70	A#3		Samba Whistle H
71	B3	2	Samba Whistle L
72	C4	2	VibraSlap
73	C#4		
74	D4		Claves
75	D#4		Laughing
76	E4		Screaming
77	F4		Punch
78	F#4		Heartbeat
79	G4		Footsteps 1
80	G#4		Footsteps 2
81	A4		

Note#	Note	Alternate Assign	C/M Kit
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	B6		Stream
108	C7		Bubble

█ : No Sound

MU80 Performance List

#	Category	Performance Name	Comment
1	CO	Flower	Layered voice: harp plus chorus
2	AP	ConcertGrand	Full concert grand with realistic rich resonance
3	OR	BackyardOR	Jazz organ; good for backing
4	GT	C l e a n EG	Clean electric guitar; good for arpeggios
5	BA	VacuumBass	Weighty bass with sharp phaser
6	ST	Rich Strings	String voice with velocity-driven changes in attack and thickness
7	BR	Punch Brass	Punch brass; blend of acoustic and synth
8	PD	Easter	Ethnic pad with lead-voice characteristics
9	SC/LD	Solomon	Synth lead with comp feel
10	FX	Creation	FX voice with effective portamento. Raise MW for additional sound change.
11	SE	Sea View	Feel yourself on the deep seas
12	CO	Gabriel CP	Layered pad with CP features
13	CO	MIDI Grand	Layered voice: electric piano plus acoustic piano. Raising MW changes voice to acoustic piano with pad.
14	OR	Church Organ	Solemn church organ
15	GT	Metal Dist	Heavy-metal distortion guitar. Features are the touch-driven picking harmonics and the scratching sound of notes from B1 down.
16	BA	SynJazzBass	Synth bass with jazz-bass echo
17	ST	Horn&Strings	Easy string voice with mixed-in horn
18	BR	TijuanaBrass	Soft brass section with 60s flavor
19	PD	Blue&Blue	Pellucid pad
20	SC	Mega Studio	Synth voice good for SEQ phrasing and backing beat
21	PD	Aquamarine	Underwater pad
22	ET	Asian Dance	Ethnic bell sound with Southeast Asian feel
23	SC	Clavorgue	Blend of clavinet and organ
24	EP	Phazed EP	Electric piano with sharp phaser
25	OR	Old Days OR	Percussive organ. Use MW to change rotary speaker speed.
26	GT	Wah Guitar	Electric guitar with funky auto-wah
27	BA	WaterPhazeBs	Heavy bass with distinctive velocity-induced timbre changes
28	ST	Hi Strings	Hybrid strings; mixture of acoustic and synth
29	BR	CS80mind	Brass from the great Yamaha CS80 analog synth
30	CH	Ooh Choir	Chorus voice with effect-driven expansiveness
31	SC	Solid Funk	Comp voice with metallic attack
32	FX	Z-Hole	Pad voice pulling you into unknown world
33	ET	Jungle Road	African jungle image
34	CO	Jewel Box	Pad voice with music-box attack
35	EP	DX Lover	Rich electric piano with blended DX-type sound
36	OR	ProgressiveOR	Typical progressive rock organ sound. MW1 operates rotary speaker
37	GT	12st Fantasy	12-string guitar. Hold down key to add padding.
38	BA	Porta Bass	Mono synth bass with portamento
39	FX	Star Dust	Typical sparkling pad. Raise MW for flashy change.
40	BR	PowerSyn BR	Powerful synth brass; also usable as reed
41	PD	White Train	Fantastical soporific pad
42	LD	SyncousticLD	Combination synth and acoustic lead
43	PD	FatEnsemble	Warm analog-synth feel
44	SE	SAMURAI!	Good accompaniment to shamisens in Japanese period plays. Velocity produces neighing running horse.
45	CO	Nylon EP	Layered voice: DX electric piano plus acoustic guitar. MW brings out pad.
46	KY	Clav Westrn	Classical clavinet sound
47	OR	Doors OR	Heavy, imposing organ
48	BA	Slap Switch	Slap bass with split velocity
49	ST	Orchestra	Orchestra voice. Strong velocity produces timpani sound.
50	BR	Shot Brass	Brass-hit
51	PD	Analog Age	Warm, limpid analog synth pad
52	SC	Clababy	Synth clavinet with distinctive auto-wah
53	FX	To Heaven	Pad with impressive bell sound
54	SE	Alien	Mysterious space creature. Strong velocity produces shrieking voice.
55	CO	1950's Jazz	Split wood-bass/piano voice with 50s feel
56	EP	Spector EP	Electric piano. MW produces a variety of timbres.
57	OR	Dream Organ	Dreamlike organ with bell-like sound mixed in
58	RD	SoftSaxSect	Mild sax section; 4 saxes
59	PD	Movie Pad	Big fat string-type pad
60	LD	MonoWireLD	Mild synth lead with intruding wire-like sound
61	SC	Fat Comp	Versatile comp; usable as brass or reed
62	LD	Sticky LD	Synth lead with distinctive velocity-induced attack change
63	FX	Space Legend	Chorus-like pad with outer-space feel
64	SE	Devil'sHouse	Effects voice producing image of devil's lair. Strong touch produces devil voice and cries, becoming really scary as you pass split point C3.

Performance bank selects are as follows.

PRE : MSB = 01, LSB = 00

INT : MSB = 02, LSB = 00

A/D1		A/D2													
BANK	Source	Preset Name	PGM CNG# = 0	1	2	3	4	5	6	7	8	9	10	11	12
0	MIC	input gain var type	Off mic	Mic -	Reverb mic	Chorus mic	Chorus+Reverb mic	Karaoke1 mic	Karaoke2 mic	Karaoke3 mic	Echo mic	Vocal mic	Studio mic	Oct Up mic	Oct Down mic
1	GUITAR*	input gain var type	Off mic	Guitar -	Reverb mic	Chorus mic	Chorus+Reverb mic	Tube mic	Stack mic	Flang Gtr mic	Clean Gtr mic	Funk Gtr mic	Tremolo mic	Phaser mic	5th Guitar mic
2	KEYBOARD	input gain var type	Off line	Keyboard line	Reverb line	Chorus line	Chorus+Reverb line	Phaser EP line	Pan EP line	Wah Clavi line	Rotary Orgn line	Synth Str line	Synth Pad line	Synth Lead line	SFX line
3	AUDIO**	input gain var type	Off line	Audio line	Reverb line	Chorus line	Chorus+Reverb line	Phaser line	Auto Pan line	Touch Wah line	Rotary Speaker line	Symphonic line	Flanger2 line	Delay LCR line	Pitch Change line

* Some guitars may produce input distortion. Correct by adjusting the A/D input volume or guitar volume.

** For Audio, pan is set so A/D1 is on Lch, A/D2 is on Rch.

NOTE: For information about parameter change by System Exclusive Message, refer to Table 1-9 (page 18).

Function ...	Transmitted	Recognized	Remarks
Basic Default Channel Changed	x x	1 - 16 1 - 16	memorized
Mode Default Messages Altered	x x *****	3 3,4(m = 1) x	*2
Note Number : True voice	x *****	0 - 127 0 - 127	
Velocity Note ON Note OFF	x x	o 9nH,v=1-127 x	
After Key's Touch Ch's	x x	o o	*1 *1
Pitch Bender	x	o 0-24 semi	*1
Control	x x x x x x x x x x x x	o o o o o o o o o o o o	*1 *1 *1 *1 *1 *1 *1 *1 *1 *1 *1 *1
Change	x x x x x x x x x x x x	o o o o o o o o o o o o	Bank Select Data Entry Sound Controller Portamento Cntrl Effect Depth Data Entry SW NRPN LSB,MSB RPN LSB,MSB All Sound Off Reset All Cntrls
Prog Change : True #	x *****	o 0 - 127	
System Exclusive	o	*3	*3
System : Song Pos. : Song Sel. Common : Tune	x x x		
System :Clock Real Time :Commands	x x		
Aux :Local ON/OFF :All Notes OFF Mes- :Active Sense sages:Reset	x x x x	x o(123-127) o x	

Notes: *1 ; receive if switch is on.
 *2 ; m is always treated as "1" regardless of its value.
 *3 ; transmit/receive if exclusive 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

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