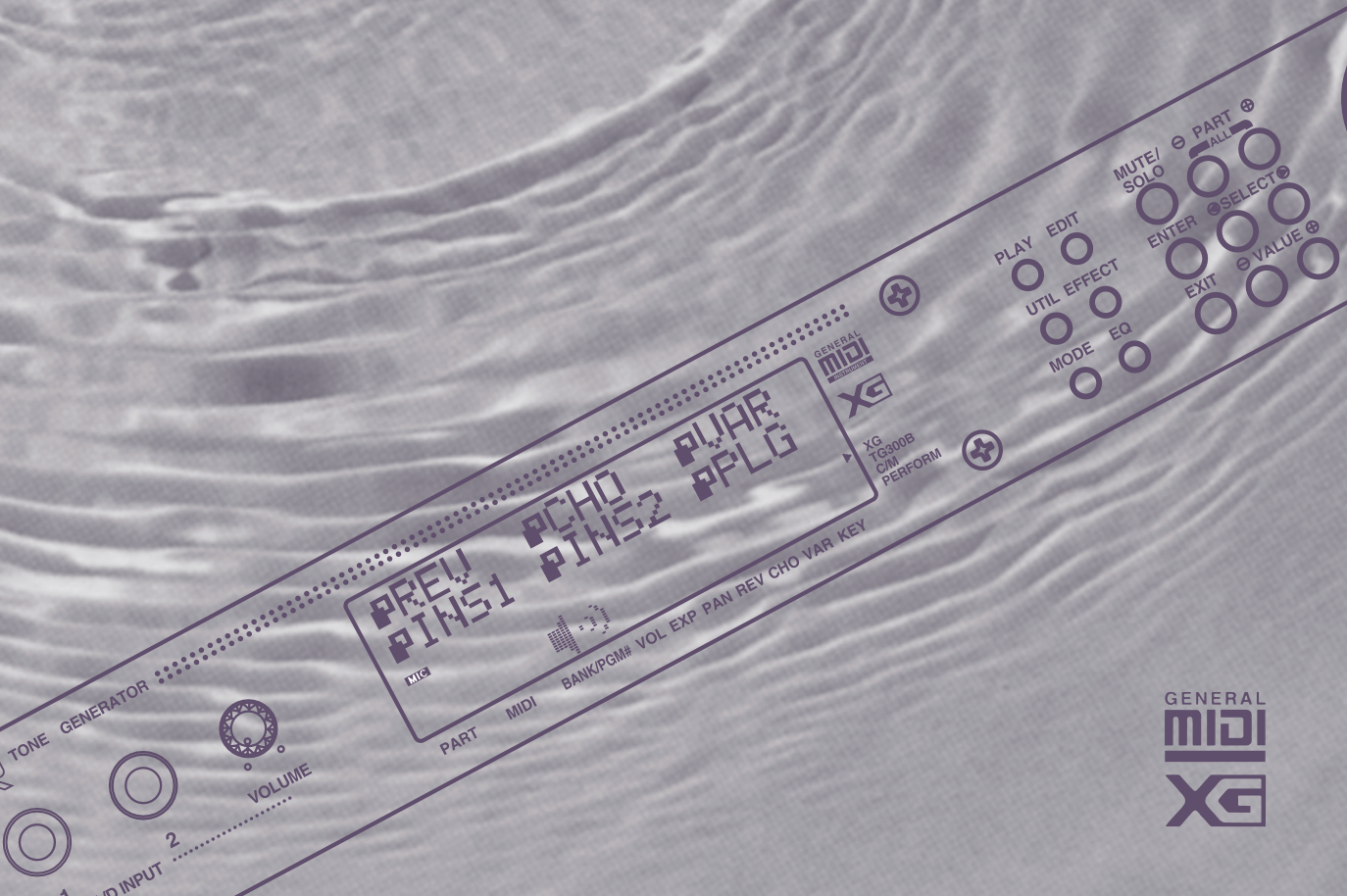


YAMAHA

# MU100R

## tone GENERATOR

### SOUND LIST & MIDI DATA



GENERAL  
MIDI  
XG

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## A/D Input Preset

		A/D1													
		A/D2													
BANK	Source	PGM CNG# = 0	1	2	3	4	5	6	7	8	9	10	11	12	
0	MIC	Preset Name input gain var type	Off mic -	Mic mic -	Reverb mic -	Chorus mic -	Chorus+Reverb mic -	Karaoke1 mic Karaoke1	Karaoke2 mic Karaoke2	Karaoke3 mic Karaoke3	Echo mic Echo	Vocal mic Stage1	Studio mic Exciter	Oct Up mic Pitch Change	Oct Down mic Pitch Change
1	GUITAR (Note 1)	Preset Name input gain var type	Off mic -	Guitar mic -	Reverb mic -	Chorus mic -	Chorus+Reverb mic -	Tube mic Amp Sim.	Stack mic Amp Sim.	Flang Gtr mic Flanger	Clean Gtr mic Celeste	Funk Gtr mic Touch Wah	Tremolo mic Tremolo	Phaser mic Phaser	5th Guitar mic Pitch Change
2	KEYBOARD	Preset Name input gain var type	Off line -	Keyboard line -	Reverb line -	Chorus line -	Chorus+Reverb line -	Phaser EP line Phaser	Pan EP line Auto Pan	Wah Clavi line Touch Wah	Rotary Orgn line Rotary Speaker	Synth Str line Symphonic	Synth Pad line Flanger2	Synth Lead line Delay LCR	SFX line Pitch Change
3	AUDIO (Note 2)	Preset Name input gain var type	Off line -	Audio line -	Reverb line -	Chorus line -	Chorus+Reverb line -								
18	STEREO KEYBOARD (Note 3)	Preset Name input gain var type	Off line -	Keyboard line -	Reverb line -	Chorus line -	Chorus+Reverb line -	Phaser EP line Phaser	Pan EP line Auto Pan	Wah Clavi line Touch Wah	Rotary Orgn line Rotary Speaker	Synth Str line Symphonic	Synth Pad line Flanger2	Synth Lead line Delay LCR	SFX line Pitch Change
19	STEREO AUDIO (Note 3)	Preset Name input gain var type	Off line -	Audio line -	Reverb line -	Chorus line -	Chorus+Reverb line -								

(Note 1) Depending on the guitar, the input may be distorted. Adjust the A/D INPUT VOLUME or the volume of your guitar.

(Note 2) AUDIO sets PAN to Lch for A/D1 and Rch for A/D2.

(Note 3) The Stereo setting can be selected only for A/D1.

The A/D1 and A/D2 inputs will be handled as the Lch and Rch respectively of a stereo signal.

Thus, when you select Stereo, the bank number and program number of part A2 will be displayed as "\*\*\*" and cannot be set.

## Effect Type List

### REVERB

No.	MSB	LSB	Effect Type	Remarks
0	00H	00H	NO EFFECT	Turn off the effect.
1	01H	00H	HALL 1	Reverb simulating the acoustics of a hall.
2	01H	01H	HALL 2	~
3	02H	00H	ROOM 1	Reverb simulating the acoustics of a room.
4	02H	01H	ROOM 2	~
5	02H	02H	ROOM 3	~
6	03H	00H	STAGE 1	Reverb appropriate for a solo instrument.
7	03H	01H	STAGE 2	~
8	04H	00H	PLATE	Reverb simulating a metal plate reverb device.
9	10H	00H	WHITE ROOM	Unique short reverb with a slight initial delay.
10	11H	00H	TUNNEL	Simulation of a cylindrical space extending to left and right.
11	12H	00H	CANYON	A hypothetical acoustic space which extends without limit.
12	13H	00H	BASEMENT	Reverb with distinctive resonance following a slight initial delay.

### CHORUS

No.	MSB	LSB	Effect Type	Remarks
0	00H	00H	NO EFFECT	Turn off the effect.
1	41H	00H	CHORUS 1	A standard chorus effect, adding natural spaciousness to the sound.
2	41H	01H	CHORUS 2	~
3	41H	02H	CHORUS 3	~
4	41H	08H	CHORUS 4	~
5	42H	00H	CELESTE 1	An effect which uses a 3-phase LFO to add modulation and spaciousness to the sound.
6	42H	01H	CELESTE 2	~
7	42H	02H	CELESTE 3	~
8	42H	08H	CELESTE 4	~
9	43H	00H	FLANGER 1	An effect reminiscent of a jet airplane taking off and landing.
10	43H	01H	FLANGER 2	~
11	43H	08H	FLANGER 3	~
12	44H	00H	SYMPHONIC	A multi-stage version of CELESTE modulation.
13	57H	00H	ENSEMBLE DETUNE	Chorus effect without modulation, created by adding a slightly pitch-shifted sound.
14	48H	00H	PHASER 1	Cyclically changes the phase to modulate the sound.

## VARIATION

No.	MSB	LSB	Effect Type	Remarks
0	00H	00H	NO EFFECT	Turns off the effect.
1	01H	00H	HALL 1	Reverb simulating the acoustics of a hall.
2	01H	01H	HALL 2	-
3	02H	00H	ROOM 1	Reverb simulating the acoustics of a room.
4	02H	01H	ROOM 2	-
5	02H	02H	ROOM 3	-
6	03H	00H	STAGE 1	Reverb appropriate for a solo instrument.
7	03H	01H	STAGE 2	-
8	04H	00H	PLATE	Reverb simulating a metal plate reverb device.
9	10H	00H	WHITE ROOM	Distinctive short reverb with a slight initial delay.
10	11H	00H	TUNNEL	Simulation of a cylindrical space extending to left and right.
11	12H	00H	CANYON	A hypothetical acoustic space which extends without limit.
12	13H	00H	BASEMENT	Reverb with distinctive resonance following a slight initial delay.
13	05H	00H	DELAY L,C,R	Three delay sounds L, R and C (center).
14	06H	00H	DELAY L,R	Two delay sounds L and R, with two feedback delays.
15	07H	00H	ECHO	Two delays L and R, with independent feedback delay for L and R.
16	08H	00H	CROSS DELAY	This effect crosses the feedback of two delays.
17	09H	00H	ER 1	This effect isolates only the early reflection components of the reverb.
18	09H	01H	ER 2	-
19	0AH	00H	GATE REVERB	Simulation of gated reverb.
20	0BH	00H	REVERSE GATE	Simulation of gated reverb played back in reverse.
21	14H	00H	KARAOKE 1	Echo for karaoke.
22	14H	01H	KARAOKE 2	-
23	14H	02H	KARAOKE 3	-
24	41H	00H	CHORUS 1	Conventional chorus effect which gives natural spaciousness to the sound.
25	41H	01H	CHORUS 2	-
26	41H	02H	CHORUS 3	-
27	41H	08H	CHORUS 4	-
28	42H	00H	CELESTE 1	A three-phase LFO is used to give modulation and spaciousness to the sound.
29	42H	01H	CELESTE 2	-
30	42H	02H	CELESTE 3	-
31	42H	08H	CELESTE 4	-
32	43H	00H	FLANGER 1	An effect reminiscent of a jet airplane taking off and landing.
33	43H	01H	FLANGER 2	-
34	43H	08H	FLANGER 3	-
35	44H	00H	SYMPHONIC	A multi-stage version of CELESTE modulation.
36	57H	00H	ENSEMBLE DETUNE	Chorus effect without modulation, created by adding a slightly pitch-shifted sound.
37	58H	00H	AMBIENCE	An effect which adds spatial breadth by blurring the location of the sound.
38	45H	00H	ROTARY SPEAKER	Simulation of a rotary speaker. AC1 (assignable controller 1) etc. can be used to control the rotation speed.
39	56H	00H	2WAY ROTARY SPEAKER	Simulation of a rotary speaker. AC1 (assignable controller 1) etc. can be used to control the rotation speed.
40	46H	00H	TREMOLO	An effect which cyclically modulates the volume.
41	47H	00H	AUTO PAN	An effect which cyclically moves the sound between left/right and front/back.
42	48H	00H	PHASER 1	Cyclically changes the phase to modulate the sound.
43	48H	08H	PHASER 2	-
44	49H	00H	DISTORTION	Adds distortion with an edge to the sound. Since a noise gate is included, this is suitable for use with A/D input as well.
45	49H	01H	COMP+DISTORTION	Since a compressor is included in the first stage, distortion can be applied evenly, regardless of the input level.
46	4AH	00H	OVER DRIVE	Adds mild distortion to the sound. Since a noise gate is included, this is suitable for A/D input as well.
47	4BH	00H	AMP SIMULATOR	Simulation of a guitar amp. Since a noise gate is included, this is suitable for use with A/D input as well.
48	4CH	00H	3BAND EQ(MONO)	Mono EQ with equalization of LOW, MID and HIGH.
49	4DH	00H	2BAND EQ(STEREO)	Stereo EQ with equalization of LOW and HIGH. Ideal for Drum Parts.
50	4EH	00H	AUTO WAH(LFO)	Cyclically changes the center frequency of a wah filter. Can also be used with AC1 etc. as a pedal wah.
51	4EH	01H	AUTO WAH+DIST	Applies DISTORTION to the output of AUTO WAH to distort the sound. Can also be used with AC1 etc. as a pedal wah.
52	4EH	02H	AUTO WAH+ODRV	Applies OVERDRIVE to the output of AUTO WAH to distort the sound. Can also be used with AC1 etc. as a pedal wah.
53	52H	00H	TOUCH WAH 1	Changes the center frequency of a wah filter according to the input level. Can also be used with AC1 etc. as a pedal wah.
54	52H	01H	TOUCH WAH 2	Applies DISTORTION to the output of TOUCH WAH to distort the sound. Can also be used with AC1 etc. as a pedal wah.
55	52H	02H	TOUCH WAH+DIST	Applies OVERDRIVE to the output of TOUCH WAH to distort the sound. Can also be used with AC1 etc. as a pedal wah.
56	52H	08H	TOUCH WAH+ODRV	Changes the center frequency of a wah filter according to the input level. Can also be used with AC1 etc. as a pedal wah.
57	50H	00H	PITCH CHANGE 1	This effect changes the pitch of the input signal.
58	50H	01H	PITCH CHANGE 2	-
59	51H	00H	AURAL EXCITER®	This effect adds new overtones to the input signal to make the sound stand out.
60	53H	00H	COMPRESSOR	Holds down the output when the input exceeds a specified level. Can also be used to add a sense of attack to the sound.
61	54H	00H	NOISE GATE	Gates the input when the input signal falls below a specified level. Useful for cutting noise from the A/D input, etc.
62	55H	00H	VOICE CANCEL	Attenuates the vocal part from sources such as CDs.
63	5DH	00H	TALKING MODULATOR	Adds a vowel sound to the input signal.
64	5EH	00H	LO-FI	Degrades the audio quality of the input signal.
65	5FH	00H	DIST+DELAY	DISTORTION and DELAY are connected in series.
66	5FH	01H	OVERDRIVE+DELAY	OVERDRIVE and DELAY are connected in series.
67	60H	00H	COMP+DIST+DELAY	COMPRESSOR, DISTORTION and DELAY are connected in series.
68	60H	01H	COMP+OVERDRIVE+DELAY	COMPRESSOR, OVERDRIVE and DELAY are connected in series.
69	61H	00H	WAH+DIST+DELAY	TOUCH WAH, DISTORTION and DELAY are connected in series.
70	61H	01H	WAH+OVERDRIVE+DELAY	TOUCH WAH, OVERDRIVE and DELAY are connected in series.
71	40H	00H	THRU	Bypass without applying an effect.

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## INSERTION1,2

No.	MSB	LSB	Effect Type	Remarks
0	40H	00H	THRU	Bypass without applying an effect.
1	01H	00H	HALL 1	Reverb simulating the acoustics of a hall.
2	01H	01H	HALL 2	~
3	02H	00H	ROOM 1	Reverb simulating the acoustics of a room.
4	02H	01H	ROOM 2	~
5	02H	02H	ROOM 3	~
6	03H	00H	STAGE 1	Reverb appropriate for a solo instrument.
7	03H	01H	STAGE 2	~
8	04H	00H	PLATE	Reverb simulating a metal plate reverb device.
9	05H	00H	DELAY L,C,R	Three delay sounds L, R and C (center).
10	06H	00H	DELAY L,R	Two delay sounds L and R, with two feedback delays.
11	07H	00H	ECHO	Two delays L and R, with independent feedback delay for L and R.
12	08H	00H	CROSS DELAY	This effect crosses the feedback of two delays.
13	14H	00H	KARAOKE 1	Echo for karaoke.
14	14H	01H	KARAOKE 2	~
15	14H	02H	KARAOKE 3	~
16	41H	00H	CHORUS 1	Conventional chorus effect which gives natural spaciousness to the sound.
17	41H	01H	CHORUS 2	~
18	41H	02H	CHORUS 3	~
19	41H	08H	CHORUS 4	~
20	42H	00H	CELESTE 1	A three-phase LFO is used to give modulation and spaciousness to the sound.
21	42H	01H	CELESTE 2	~
22	42H	02H	CELESTE 3	~
23	42H	08H	CELESTE 4	~
24	43H	00H	FLANGER 1	An effect reminiscent of a jet airplane taking off and landing.
25	43H	01H	FLANGER 2	~
26	43H	08H	FLANGER 3	~
27	44H	00H	SYMPHONIC	A multi-stage version of CELESTE modulation.
28	57H	00H	ENSEMBLE DETUNE	Chorus effect without modulation, created by adding a slightly pitch-shifted sound.
29	45H	00H	ROTARY SPEAKER	Simulation of a rotary speaker. AC1 (assignable controller 1) etc. can be used to control the rotation speed.
30	46H	00H	TREMOLO	An effect which cyclically modulates the volume.
31	47H	00H	AUTO PAN	An effect which cyclically moves the sound between left/right and front/back.
32	48H	00H	PHASER 1	Cyclically changes the phase to modulate the sound.
33	49H	00H	DISTORTION	Adds distortion with an edge to the sound.
34	4AH	00H	OVER DRIVE	Adds mild distortion to the sound.
35	4BH	00H	AMP SIMULATOR	Simulation of a guitar amp.
36	4CH	00H	3BAND EQ(MONO)	Mono EQ with equalization of LOW, MID and HIGH.
37	4DH	00H	2BAND EQ(STEREO)	Stereo EQ with equalization of LOW and HIGH. Ideal for Drum Parts.
38	4EH	00H	AUTO WAH(LFO)	Cyclically changes the center frequency of a wah filter. Can also be used with AC1 etc. as a pedal wah.
39	52H	00H	TOUCH WAH 1	Changes the center frequency of a wah filter according to the input level. Can also be used with AC1 etc. as a pedal wah.
40	52H	08H	TOUCH WAH 2	Changes the center frequency of a wah filter according to the input level. Can also be used with AC1 etc. as a pedal wah.
41	51H	00H	AURAL EXCITER®	This effect adds new overtones to the input signal to make the sound stand out.
42	53H	00H	COMPRESSOR	Holds down the output when the input exceeds a specified level. Can also be used to add a sense of attack to the sound.
43	54H	00H	NOISE GATE	Gates the input when the input signal falls below a specified level. Useful for cutting noise from the A/D input, etc.

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# Effect LSB/MSB List

## REVERB TYPE

TYPE MSB		TYPE LSB				
DEC	HEX	00	01	02	...	08
000	0	NO EFFECT				
001	1	HALL 1	HALL 2			
002	2	ROOM 1	ROOM 2	ROOM 3		
003	3	STAGE 1	STAGE 2			
004	4	PLATE				
005	5	NO EFFECT				
:	:	:				
015	F	NO EFFECT				
016	10	WHITE ROOM				
017	11	TUNNEL				
018	12	CANYON				
019	13	BASEMENT				
020	14	NO EFFECT				
:	:	:				
127	7F	NO EFFECT				

NO EFFECT

Same as basic effects (LSB=00)

## CHORUS TYPE

TYPE MSB		TYPE LSB				
DEC	HEX	00	01	02	...	08
000	0	NO EFFECT				
001	1	NO EFFECT				
:	:	:				
064	40	NO EFFECT				
065	41	CHORUS 1	CHORUS 2	CHORUS 3		CHORUS 4
066	42	CELESTE 1	CELESTE 2	CELESTE 3		CELESTE 4
067	43	FLANGER 1	FLANGER 2			FLANGER 3
068	44	SYMPHONIC				
069	45	NO EFFECT				
:	:	:				
071	47	NO EFFECT				
072	48	PHASER 1				
073	49	NO EFFECT				
:	:	:				
086	56	NO EFFECT				
087	57	ENSEMBLE DETUNE				
088	58	NO EFFECT				
:	:	:				
127	7F	NO EFFECT				

NO EFFECT

Same as basic effects (LSB=00)

## VARIATION TYPE (MSB=0 - 63)

TYPE MSB		TYPE LSB				
DEC	HEX	00	01	02	...	08
000	0	NO EFFECT				
001	1	HALL 1	HALL 2			
002	2	ROOM 1	ROOM 2	ROOM 3		
003	3	STAGE 1	STAGE 2			
004	4	PLATE				
005	5	DELAY L,C,R				
006	6	DELAY L,R				
007	7	ECHO				
008	8	CROSS DELAY				
009	9	ER 1	ER 2			
010	A	GATE REVERB				
011	B	REVERSE GATE				
012	C	NO EFFECT or THRU				
:	:	:				
015	F	NO EFFECT or THRU				
016	10	WHITE ROOM				
017	11	TUNNEL				
018	12	CANYON				
019	13	BASEMENT				
020	14	KARAOKE 1	KARAOKE 2	KARAOKE 3		
021	15	NO EFFECT or THRU				
:	:	:				
063	3F	NO EFFECT or THRU				

NO EFFECT (for SYS) or THRU (for INS)

Same as basic effects (LSB=00)

## VARIATION TYPE (MSB=64 - 127)

TYPE MSB		TYPE LSB				
DEC	HEX	00	01	02	...	08
064	40	THRU				
065	41	CHORUS 1	CHORUS 2	CHORUS 3		CHORUS 4
066	42	CELESTE 1	CELESTE 2	CELESTE 3		CELESTE 4
067	43	FLANGER 1	FLANGER 2			FLANGER 3
068	44	SYMPHONIC				
069	45	ROTARY SPEAKER				
070	46	TREMOLO				
071	47	AUTO PAN				
072	48	PHASER 1				PHASER 2
073	49	DISTORTION	COMP+DISTORTION			
074	4A	OVER DRIVE				
075	4B	AMP SIMULATOR				
076	4C	3-BAND EQ				
077	4D	2-BAND EQ				
078	4E	AUTO WAH(LFO)	AUTO WAH+DIST	AUTO WAH+OVERDRIVE		
079	4F	THRU				
080	50	PITCH CHANGE 1	PITCH CHANGE 2			
081	51	AURAL EXCITER®				
082	52	TOUCH WAH 1	TOUCH WAH+DIST	TOUCH WAH+OVERDRIVE		TOUCH WAH 2
083	53	COMPRESSOR				
084	54	NOISE GATE				
085	55	VOICE CANCEL				
086	56	2WAY ROTARY SPEAKER				
087	57	ENSEMBLE DETUNE				
088	58	AMBIENCE				
089	59	THRU				
:	:	:				
092	5C	THRU				
093	5D	TALKING MODULATOR				
094	5E	LO-FI				
095	5F	DIST+DELAY	OVERDRIVE+DELAY			
096	60	COMP+DIST+DELAY	COMP+OVERDRIVE+DELAY			
097	61	WAH+DIST+DELAY	WAH+OVERDRIVE+DELAY			
098	62	THRU				
:	:	:				
127	7F	THRU				

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THRU

Same as basic effects (LSB=00)



## INSERTION TYPE

TYPE MSB		TYPE LSB				
DEC	HEX	00	01	02	...	08
000	0	THRU				
001	1	HALL 1	HALL 2			
002	2	ROOM 1	ROOM 2	ROOM 3		
003	3	STAGE 1	STAGE 2			
004	4	PLATE				
005	5	DELAY L,C,R				
006	6	DELAY L,R				
007	7	ECHO				
008	8	CROSS DELAY				
009	9	THRU				
:	:	:				
019	13	THRU				
020	14	KARAOKE 1	KARAOKE 2	KARAOKE 3		
021	15	THRU				
:	:	:				
063	3F	THRU				
064	40	THRU				
065	41	CHORUS 1	CHORUS 2	CHORUS 3		CHORUS 4
066	42	CELESTE 1	CELESTE 2	CELESTE 3		CELESTE 4
067	43	FLANGER 1	FLANGER 2	FLANGER 3		
068	44	SYMPHONIC				
069	45	ROTARY SPEAKER				
070	46	TREMOLO				
071	47	AUTO PAN				
072	48	PHASER 1				
073	49	DISTORTION				
074	4A	OVER DRIVE				
075	4B	AMP SIMULATOR				
076	4C	3BAND EQ				
077	4D	2-BAND EQ				
078	4E	AUTO WAH(LFO)				
079	4F	THRU				
080	50	THRU				
081	51	AURAL EXCITER®				
082	52	TOUCH WAH 1				TOUCH WAH 2
083	53	COMPRESSOR				
084	54	NOISE GATE				
085	55	THRU				
086	56	THRU				
087	57	ENSEMBLE DETUNE				
088	58	THRU				
:	:	:				
127	7F	THRU				

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THRU

Same as basic effects (LSB=00)

## UNIQUE INSERTION EFFECT (HARMONY) TYPE

TYPE MSB		TYPE LSB				
DEC	HEX	00	01	02	...	08
000	0	THRU				
:	:	:				
088	58	THRU				
089	59	VOCODER HARMONY				
090	5A	CHORDAL HARMONY				
091	5B	DETUNE HARMONY				
092	5C	CHROMATIC HARMONY				
093	5D	THRU				
:	:	:				
127	7F	THRU				

THRU

Same as basic effects (LSB=00)

# Effect Parameter List

## Note

- Parameters marked with a ● in the "Control" column can be controlled from an AC1 (assignable controller 1) etc. However, this is valid only for a Variation effect (when selected for Insertion) and for Insertion effects 1/2.
- Dry/Wet is valid only for a Variation effect (when selected for Insertion) and for Insertion effects 1/2.
- Parameters 1 - 5 can be edited from the front panel of the MU100R.
- Abbreviations used in the effect block diagrams

LPF = Low Pass Filter  
 HPF = High Pass Filter  
 LSF = Low Shelving Filter  
 HSF = High Shelving Filter  
 PDF = Peak Dip Filter  
 EF = Envelope Follower  
 ER = Early Reflection

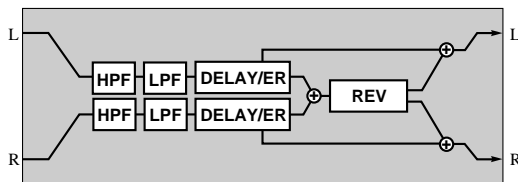
- HALL1, 2  
 ROOM1, 2, 3  
 STAGE1, 2  
 PLATE (Reverb, Variation, Insertion1, 2 block)

No.	Parameter	Display	Value	See Table	Control
1	Reverb Time	0.3 - 30.0s	0-69	table#4	
2	Diffusion	0 - 10	0-10	table#4	
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 (reverb, variation block)	0-4		
13	Er/Rev Balance	0 - 2 (insertion1,2 block)	0-2		
14	Er/Rev Balance	E63>R - E=R - E<R63	1-127		
15	High Damp	0.1 - 1.0	1-10		
16	Feedback Level	-63 - +63	1-127		

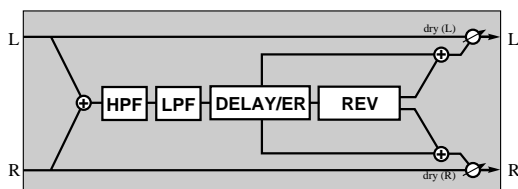
- WHITE ROOM  
 TUNNEL  
 CANYON  
 BASEMENT (Reverb, Variation block)

No.	Parameter	Display	Value	See Table	Control
1	Reverb Time	0.3 - 30.0s	0-69	table#4	
2	Diffusion	0 - 10	0-10	table#4	
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					

## Reverb Block

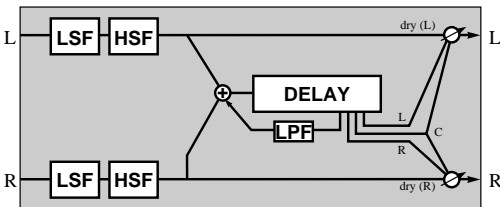


## Variation, Insertion Block



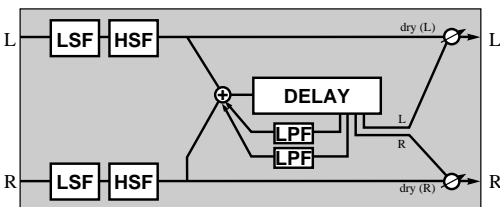
● DELAY L, C, R  
(Variation, Insertion 1, 2 block)

No.	Parameter	Display	Value	See Table	Control
1	Lch Delay	0.1 - 1486.0ms (variation block)	1-14860		
2	Rch Delay	0.1 - 1486.0ms (variation block)	1-14860		
3	Cch Delay	0.1 - 1486.0ms (variation block)	1-14860		
4	Feedback Delay	0.1 - 1486.0ms (variation block)	1-14860		
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					
12					
13	EQ Low Frequency	32Hz - 2.0kHz	4-40	table#3	
14	EQ Low Gain	-12 - +12dB	52-76		
15	EQ High Frequency	500Hz - 16.0kHz	28-58	table#3	
16	EQ High Gain	-12 - +12dB	52-76		



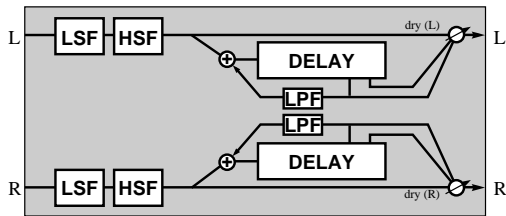
● DELAY L, R (Variation, Insertion 1, 2 block)

No.	Parameter	Display	Value	See Table	Control
1	Lch Delay	0.1 - 1486.0ms (variation block)	1-14860		
2	Rch Delay	0.1 - 1486.0ms (variation block)	1-14860		
3	Feedback Delay 1	0.1 - 1486.0ms (variation block)	1-14860		
4	Feedback Delay 2	0.1 - 1486.0ms (variation block)	1-14860		
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					
12					
13	EQ Low Frequency	32Hz - 2.0kHz	4-40	table#3	
14	EQ Low Gain	-12 - +12dB	52-76		
15	EQ High Frequency	500Hz - 16.0kHz	28-58	table#3	
16	EQ High Gain	-12 - +12dB	52-76		



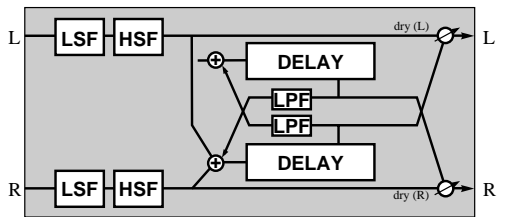
● ECHO (Variation, Insertion 1, 2 block)

No.	Parameter	Display	Value	See Table	Control
1	Lch Delay1	0.1 - 743.0ms (variation block)	1-7430		
2	Lch Feedback Level	0.1 - 371.4ms (insertion1,2 block)	1-3714		
3	Rch Delay1	-63 - +63	1-127		
4	Rch Feedback Level	0.1 - 743.0ms (variation block)	1-7430		
5	High Damp	0.1 - 371.4ms (insertion1,2 block)	1-3714		
6	Lch Delay2	-63 - +63	1-127		
7	Lch Delay2	0.1 - 1.0	1-10		
8	Rch Delay2	0.1 - 743.0ms (variation block)	1-7430		
9	Rch Delay2	0.1 - 371.4ms (insertion1,2 block)	1-3714		
10	Delay2 Level	0.1 - 743.0ms (variation block)	1-7430		
11	Delay2 Level	0.1 - 371.4ms (insertion1,2 block)	1-3714		
12					
13	Dry/Wet	D63>W - D=W - D<W63	1-127		●
14					
15	EQ Low Frequency	32Hz - 2.0kHz	4-40	table#3	
16	EQ Low Gain	-12 - +12dB	52-76		
17	EQ High Frequency	500Hz - 16.0kHz	28-58	table#3	
18	EQ High Gain	-12 - +12dB	52-76		



● CROSS DELAY  
(Variation, Insertion 1, 2 block)

No.	Parameter	Display	Value	See Table	Control
1	L->R Delay	0.1 - 743.0ms (variation block)	1-7430		
2	R->L Delay	0.1 - 371.4ms (insertion1,2 block)	1-3714		
3	Feedback Level	0.1 - 743.0ms (variation block)	1-7430		
4	Input Select	0.1 - 371.4ms (insertion1,2 block)	1-3714		
5	High Damp	-63 - +63	1-127		
6		L,R,L&R	0-2		
7		0.1 - 1.0	1-10		
8					
9					
10	Dry/Wet	D63>W - D=W - D<W63	1-127		●
11					
12					
13	EQ Low Frequency	32Hz - 2.0kHz	4-40	table#3	
14	EQ Low Gain	-12 - +12dB	52-76		
15	EQ High Frequency	500Hz - 16.0kHz	28-58	table#3	
16	EQ High Gain	-12 - +12dB	52-76		



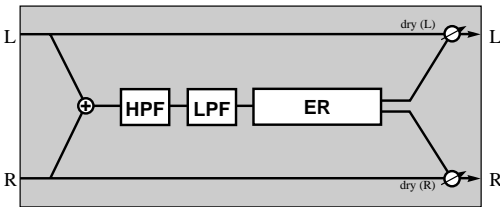
● EARLY REF 1, 2 (Variation block)

No.	Parameter	Display	Value	See Table	Control
1	Type	S-H, L-H, Rdm, Rvs, PIt, Spr	0-5		
2	Room Size	0.1 - 7.0	0-44	table#6	
3	Diffusion	0 - 10	0-10		
4	Initial Delay	0 - 63	0-63	table#5	
5	Feedback Level	-63 - +63	1-127		
6	HPF Cutoff	Thru - 8.0kHz	0-52	table#3	
7	LPF Cutoff	1.0k - Thru	34-60	table#3	
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

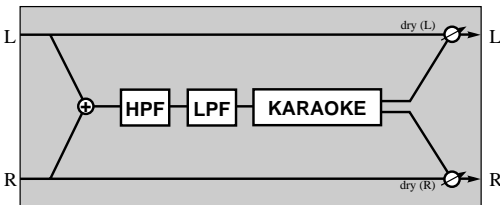
REVERSE GATE (Variation block)

No.	Parameter	Display	Value	See Table	Control
1	Type	TypeA, TypeB	0-1		
2	Room Size	0.1 - 20.0	0-127	table#6	
3	Diffusion	0 - 10	0-10		
4	Initial Delay	0 - 127	0-127	table#5	
5	Feedback Level	-63 - +63	1-127		
6	HPF Cutoff	Thru - 8.0kHz	0-52	table#3	
7	LPF Cutoff	1.0k - Thru	34-60	table#3	
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 (Variation, Insertion 1, 2 block)

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

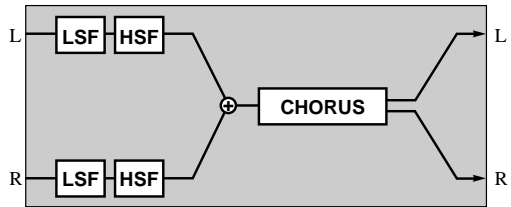


● CHORUS 1, 2, 3, 4

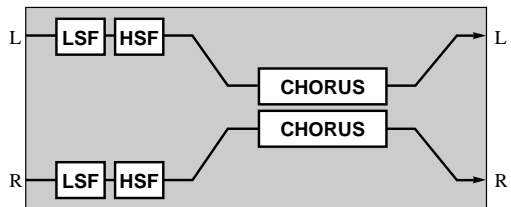
CELESTE 1, 2, 3, 4 (Chorus, Variation, Insertion 1, 2 block)

No.	Parameter	Display	Value	See Table	Control
1	LFO Frequency	0.00Hz - 39.7Hz	0-127	table#1	
2	LFO Depth	0 - 127	0-127		
3	Feedback Level	-63 - +63	1-127		
4	Delay Offset	0 - 127	0-127	table#2	
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 (variation block)	14-54	table#3	
12	EQ Mid Gain	-12 - +12dB (variation block)	52-76		
13	EQ Mid Width	1.0 - 12.0 (variation block)	10-120		
14					
15	Input Mode	mono/stereo	0-1		
16					

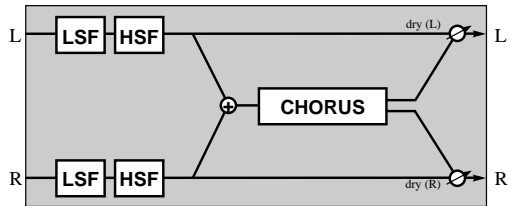
Chorus Block: when input mode = "mono"



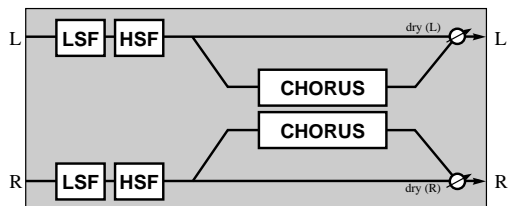
Chorus Block: when input mode = "stereo"



Variation, Insertion Block: when input mode = "mono"



Variation, Insertion Block: when input mode = "stereo"

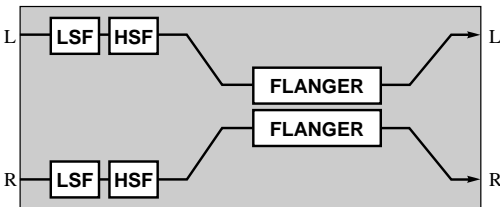


● FLANGER 1, 2, 3

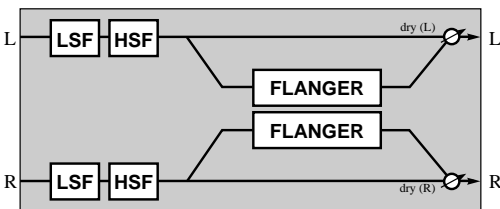
(Chorus, Variation, Insertion 1, 2 block)

No.	Parameter	Display	Value	See Table	Control
1	LFO Frequency	0.00Hz – 39.7Hz	0-127	table#1	
2	LFO Depth	0 – 127	0-127		
3	Feedback Level	-63 – +63	1-127		
4	Delay Offset	0 – 63	0-63	table#2	
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 (variation block)	14-54	table#3	
12	EQ Mid Gain	-12 – +12dB (variation block)	52-76		
13	EQ Mid Width	1.0 – 12.0 (variation block)	10-120		
14	LFO Phase Difference	-180 – +180deg	4-124		resolution=3deg.
15					
16					

Chorus Block



Variation, Insertion Block

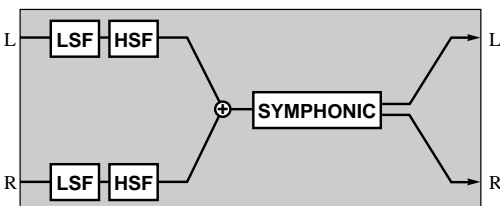


● SYMPHONIC

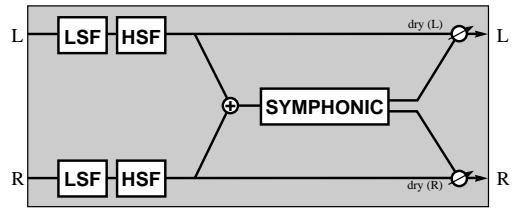
(Chorus, Variation, Insertion 1, 2 block)

No.	Parameter	Display	Value	See Table	Control
1	LFO Frequency	0.00Hz – 39.7Hz	0-127	table#1	
2	LFO Depth	0 – 127	0-127		
3	Delay Offset	0 – 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 (variation block)	14-54	table#3	
12	EQ Mid Gain	-12 – +12dB (variation block)	52-76		
13	EQ Mid Width	1.0 – 12.0 (variation block)	10-120		
14					
15					
16					

Chorus Block



Variation, Insertion Block

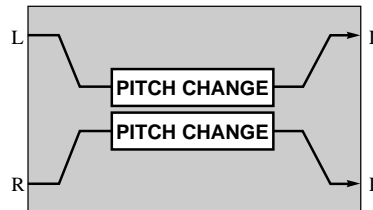


● ENSEMBLE DETUNE

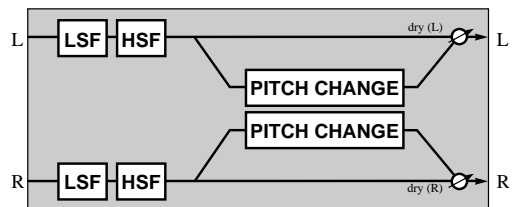
(Chorus, Variation, Insertion 1, 2 block)

No.	Parameter	Display	Value	See Table	Control
1	Detune	-50 – +50cent	14-114		
2	Lch Init Delay	0 – 127	0-127	table#2	
3	Rch Init Delay	0 – 127	0-127	table#2	
4					
5					
6					
7					
8					
9					
10	Dry/Wet	D63>W – D=W – D<W63	1-127		●
11	EQ Low Frequency	32Hz – 2.0kHz (variation, insertion1,2 block)	4-40	table#3	
12	EQ Low Gain	-12 – +12dB (variation, insertion1,2 block)	52-76		
13	EQ High Frequency	500Hz – 16.0kHz (variation, insertion1,2 block)	28-58	table#3	
14	EQ High Gain	-12 – +12dB (variation, insertion1,2 block)	52-76		
15					
16					

Chorus Block

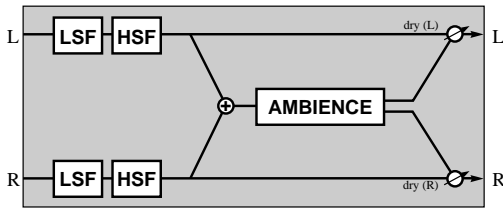


Variation, Insertion Block



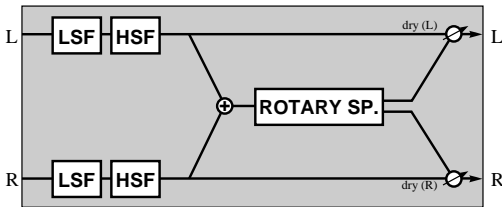
● AMBIENCE (Variation block)

No.	Parameter	Display	Value	See Table	Control
1	Delay Time	0 – 127	0-127	table#2	
2	Output Phase	normal/invers	0-1		
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					
12					
13					
14					
15					
16					



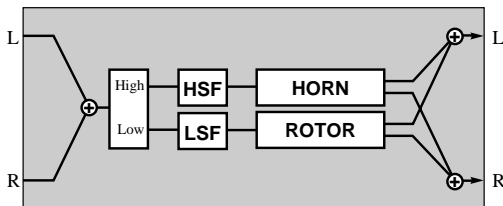
● ROTARY SPEAKER  
(Variation, Insertion 1, 2 block)

No.	Parameter	Display	Value	See Table	Control
1	LFO Frequency	0.00Hz – 39.7Hz	0-127	table#1	●
2	LFO Depth	0 – 127	0-127		
3					
4					
5					
6	EQ Low Frequency	32Hz – 2.0kHz	4-40	table#3	
7	EQ Low Gain	-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 (variation block)	14-54	table#3	
12	EQ Mid Gain	-12 – +12dB (variation block)	52-76		
13	EQ Mid Width	1.0 – 12.0 (variation block)	10-120		
14					
15					
16					



● 2WAY ROTARY SPEAKER  
(Variation block)

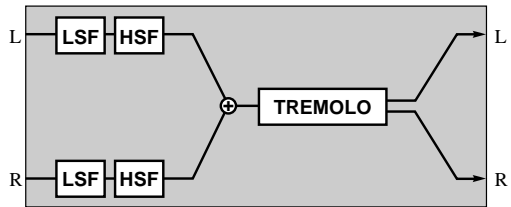
No.	Parameter	Display	Value	See Table	Control
1	Rotor Speed	0.0Hz – 39.7Hz	0-127	table#1	●
2	Drive Low	0 – 127	0-127		
3	Drive High	0 – 127	0-127		
4	Low/High	L63>H – L=H – L<H63	1-127		
5					
6	EQ Low Frequency	32Hz – 2.0kHz	4-40	table#3	
7	EQ Low Gain	-12 – +12dB	52-76		
8	EQ High Frequency	500Hz – 16.0kHz	28-58	table#3	
9	EQ High Gain	-12 – +12dB	52-76		
10					
11	Crossover Frequency	100Hz – 10.0kHz	14-54	table#3	
12	Mic L-R Angle	0deg – 180deg	0-60	resolution=3deg.	
13					
14					
15					
16					



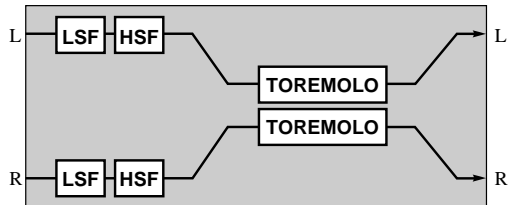
● TREMOLO (Variation, Insertion 1, 2 block)

No.	Parameter	Display	Value	See Table	Control
1	LFO Frequency	0.00Hz – 39.7Hz	0-127	table#1	●
2	AM Depth	0 – 127	0-127		
3	PM Depth	0 – 127	0-127		
4					
5					
6	EQ Low Frequency	32Hz – 2.0kHz	4-40	table#3	
7	EQ Low Gain	-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 (variation block)	14-54	table#3	
12	EQ Mid Gain	-12 – +12dB (variation block)	52-76		
13	EQ Mid Width	1.0 – 12.0 (variation block)	10-120		
14	LFO Phase Difference	-180 – +180deg	4-124	resolution=3deg.	
15	Input Mode	mono/stereo	0-1		
16					

When input mode="mono"

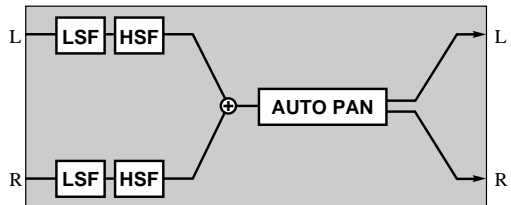


When input mode="stereo"



● AUTO PAN (Variation, Insertion 1, 2 block)

No.	Parameter	Display	Value	See Table	Control
1	LFO Frequency	0.00Hz – 39.7Hz	0-127	table#1	●
2	L/R Depth	0 – 127	0-127		
3	F/R Depth	0 – 127	0-127		
4	PAN Direction	L<->R, L>R, L<-R, Lturn, Rturn, L/R	0-5		
5					
6	EQ Low Frequency	32Hz – 2.0kHz	4-40	table#3	
7	EQ Low Gain	-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 (variation block)	14-54	table#3	
12	EQ Mid Gain	-12 – +12dB (variation block)	52-76		
13	EQ Mid Width	1.0 – 12.0 (variation block)	10-120		
14					
15					
16					

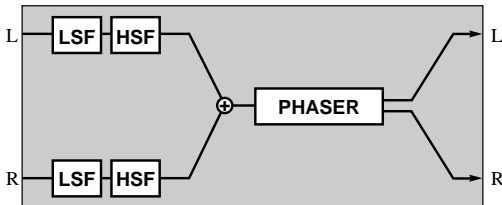


● PHASER 1

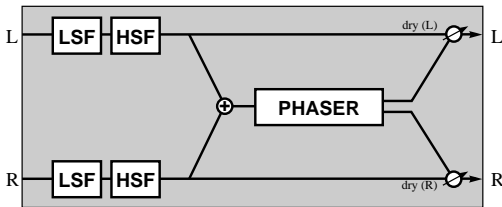
(Chorus, Variation, Insertion 1, 2 block)

No.	Parameter	Display	Value	See Table	Control
1	LFO Frequency	0.00Hz - 39.7Hz	0-127	table#1	
2	LFO Depth	0 - 127	0-127		
3	Phase Shift Offset	0 - 127	0-127		
4	Feedback Level	-63 - +63	1-127		
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	Stage	4,5,6 (chorus, insertion1,2 block)	4-6		
12	Diffusion	4 - 12 (variation block)	4-12		
13		mono/stereo	0-1		
14					
15					
16					

Chorus Block

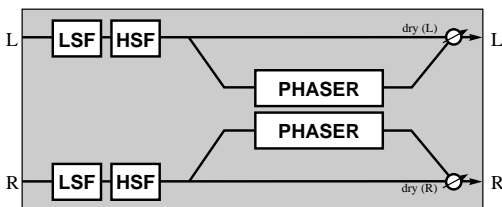


Variation, Insertion Block



● PHASER 2 (Variation block)

No.	Parameter	Display	Value	See Table	Control
1	LFO Frequency	0.00Hz - 39.7Hz	0-127	table#1	
2	LFO Depth	0 - 127	0-127		
3	Phase Shift Offset	0 - 127	0-127		
4	Feedback Level	-63 - +63	1-127		
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	Stage	3,4,5,6	3-6		
12					
13	LFO Phase Difference	-180deg - +180deg	4-124	resolution=3deg.	
14					
15					
16					



● DISTORTION

OVERDRIVE (Variation, Insertion 1, 2 block)

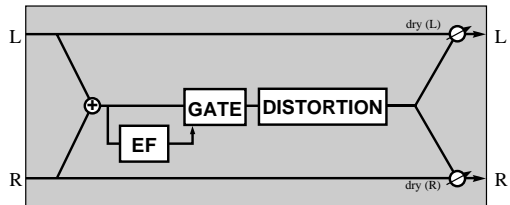
No.	Parameter	Display	Value	See Table	Control
1	Drive	0 - 127	0-127		●
2	EQ Low Frequency	32Hz - 2.0kHz	4-40	table#3	
3	EQ Low Gain	-12 - +12dB	52-76		
4	LPF Cutoff	1.0k - Thru	34-60	table#3	
5	Output Level	0 - 127	0-127		
6					
7	EQ Mid Frequency	100Hz - 10.0kHz	14-54	table#3	
8	EQ Mid Gain	-12 - +12dB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

AMP SIMULATOR

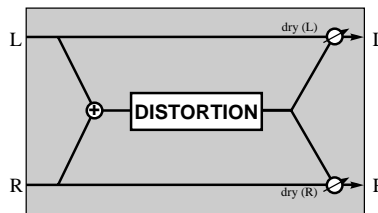
(Variation, Insertion 1, 2 block)

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

Variation Block

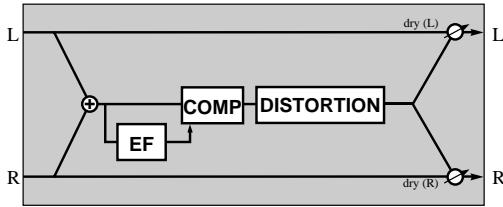


Insertion Block



● COMP+DIST (Variation block)

No.	Parameter	Display	Value	See Table	Control
1	Drive	0 - 127	0-127		●
2	EQ Low Frequency	32Hz - 2.0kHz	4-40	table#3	
3	EQ Low Gain	-12 - +12dB	52-76		
4	LPF Cutoff	1.0k - Thru	34-60	table#3	
5	Output Level	0 - 127	0-127		
6					
7	EQ Mid Frequency	100Hz - 10.0kHz	14-54	table#3	
8	EQ Mid Gain	-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	Edge(Clip Curve)	0 - 127	0-127	mild to sharp	
12	Attack	1ms - 40ms	0-19	table#6	
13	Release	10ms - 680ms	0-15	table#9	
14	Threshold	-48dB - -6dB	79-121		
15	Ratio	1.0 - 20.0	0-7	table#10	
16					

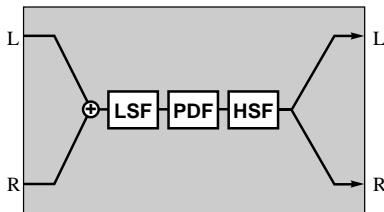


● 3BAND EQ (MONO)

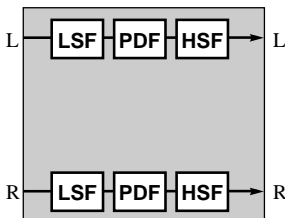
(Variation, Insertion 1, 2 block)

No.	Parameter	Display	Value	See Table	Control
1	EQ Low Gain	+12 - +12dB	52-76		
2	EQ Mid Frequency	100Hz - 10.0kHz	14-54	table#3	
3	EQ Mid Gain	-12 - +12dB	52-76		
4	EQ Mid Width	1.0 - 12.0	10-120		
5	EQ High Gain	-12 - +12dB	52-76		
6	EQ Low Frequency	50Hz - 2.0kHz	8-40	table#3	
7	EQ High Frequency	500Hz - 16.0kHz	28-58	table#3	
8					
9					
10					
11					
12					
13					
14					
15	Input Mode	mono/stereo	0-1		
16					

When input mode="mono"



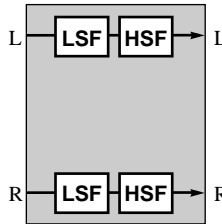
When input mode="stereo"



● 2BAND EQ (STEREO)

(Variation, Insertion 1, 2 block)

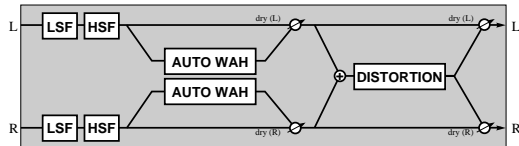
No.	Parameter	Display	Value	See Table	Control
1	EQ Low Frequency	32Hz - 2.0kHz	4-40	table#3	
2	EQ Low Gain	-12 - +12dB	52-76		
3	EQ High Frequency	500Hz - 16.0kHz	28-58	table#3	
4	EQ High Gain	-12 - +12dB	52-76		
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					



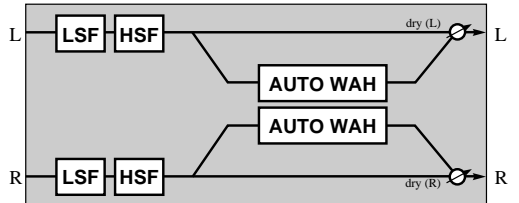
● AUTO WAH (Variation, Insertion 1, 2 block)

No.	Parameter	Display	Value	See Table	Control
1	LFO Frequency	0.00Hz - 39.7Hz	0-127	table#1	
2	LFO Depth	0 - 127	0-127		
3	Cutoff Frequency Offset	0 - 127	0-127		●
4	Resonance	1.0 - 12.0	10-120		
5					
6	EQ Low Frequency	32Hz - 2.0kHz	4-40	table#3	
7	EQ Low Gain	-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 (Variation block)	0 - 127	0-127		
12					
13					
14					
15					
16					

Variation Block



Insertion Block

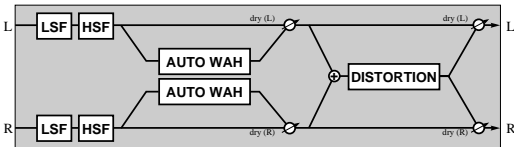




● AUTO WAH+DIST

AUTO WAH+ODRV (Variation block)

No.	Parameter	Display	Value	See Table	Control
1	LFO Frequency	0.00Hz - 39.7Hz	0-127	table#1	●
2	LFO Depth	0 - 127	0-127		
3	Cutoff Frequency Offset	0 - 127	0-127		
4	Resonance	1.0 - 12.0	10-120		
5					
6	EQ Low Frequency	32Hz - 2.0kHz	4-40	table#3	
7	EQ Low Gain	-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	EQ Low Gain(distortion)	-12 - +12dB	52-76		
13	EQ Mid Gain(distortion)	-12 - +12dB	52-76		
14	LPF Cutoff	1.0kHz - thru	34-60	table#3	
15	Output Level	0 - 127	0-127		
16					



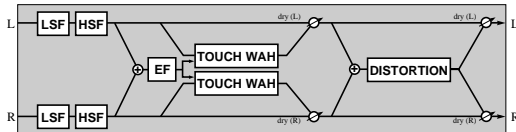
● TOUCH WAH 1

(Variation, Insertion 1, 2 block)

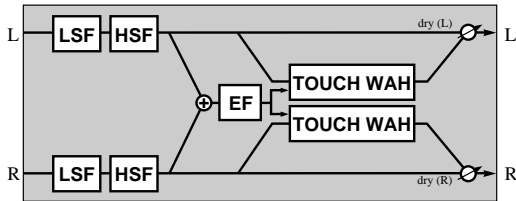
TOUCH WAH+DIST (Variation block)

No.	Parameter	Display	Value	See Table	Control
1	Sensitive	0 - 127	0-127		●
2	Cutoff Frequency Offset	0 - 127	0-127		
3	Resonance	1.0 - 12.0	10-120		
4					
5					
6	EQ Low Frequency	32Hz - 2.0kHz	4-40	table#3	
7	EQ Low Gain	-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 (Variation block)	0 - 127	0-127		
12					
13					
14					
15					
16					

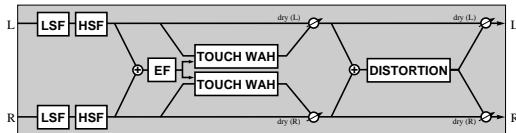
Variation Block: TOUCH WAH 1



Insertion Block: TOUCH WAH 1



Variation Block: TOUCH WAH+DIST



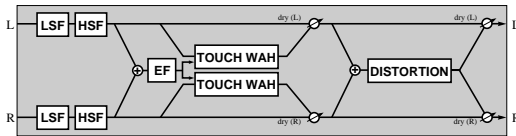
● TOUCH WAH 2

(Variation, Insertion 1, 2 block)

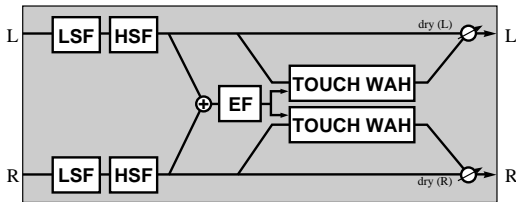
TOUCH WAH+ODRV (Variation block)

No.	Parameter	Display	Value	See Table	Control
1	Sensitive	0 - 127	0-127		●
2	Cutoff Frequency Offset	0 - 127	0-127		
3	Resonance	1.0 - 12.0	10-120		
4					
5					
6	EQ Low Frequency	32Hz - 2.0kHz	4-40	table#3	
7	EQ Low Gain	-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	EQ Low Gain(distortion)	-12 - +12dB	52-76		
13	EQ Mid Gain(distortion)	-12 - +12dB	52-76		
14	LPF Cutoff	1.0kHz - thru	34-60	table#3	
15	Output Level	0 - 127	0-127		
16	Release	10 - 680ms	52-67		

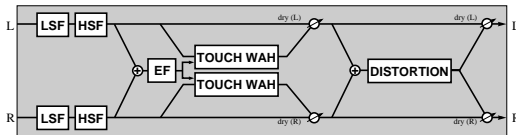
Variation Block: TOUCH WAH 2



Insertion Block: TOUCH WAH 2



Variation Block: TOUCH WAH+ODRV

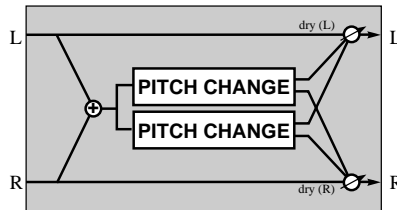


● PITCH CHANGE 1 (Variation block)

No.	Parameter	Display	Value	See Table	Control
1	Pitch	-24 - +24	40-88		
2	Initial Delay	0 - 127	0-127	table#7	
3	Fine 1	-50 - +50	14-114		
4	Fine 2	-50 - +50	14-114		
5	Feedback Level	-99 - +99%	1-127		
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					

PITCH CHANGE 2 (Variation block)

No.	Parameter	Display	Value	See Table	Control
1	Pitch	-24 - +24	40-88		
2	Initial Delay	0 - 127	0-127	table#7	
3	Fine 1	-50 - +50cent	14-114		
4	Fine 2	-50 - +50cent	14-114		
5	Feedback Level	-99 - +99%	1-127		
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					



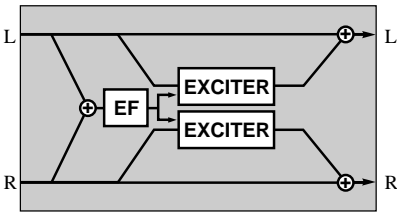
● AURAL EXCITER®

(Variation, Insertion 1, 2 block)

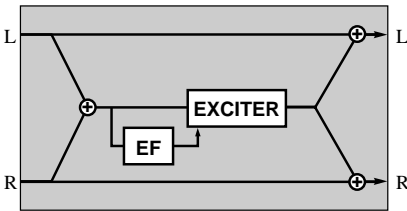
No.	Parameter	Display	Value	See Table	Control
1	HPF Cutoff	500Hz - 16.0kHz	28-58	table#3	●
2	Drive	0 - 127	0-127		
3	Mix Level	0 - 127	0-127		
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					

Aural Exciter® is a registered trademark of Apex Corporation.

Variation Block



Insertion Block

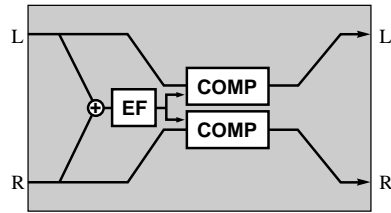


● COMPRESSOR

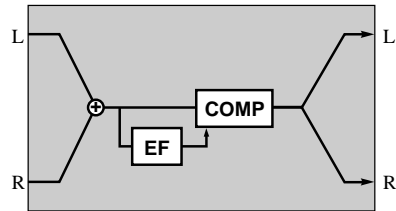
(Variation, Insertion 1, 2 block)

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

Variation Block



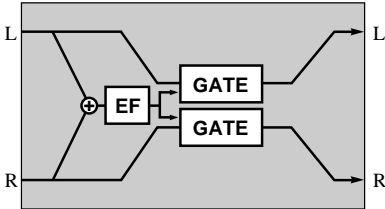
Insertion Block



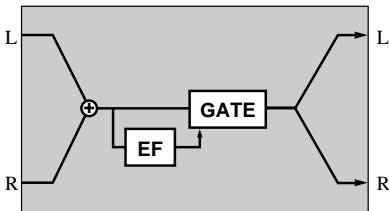
● NOISE GATE (Variation, Insertion 1, 2 block)

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

Variation Block

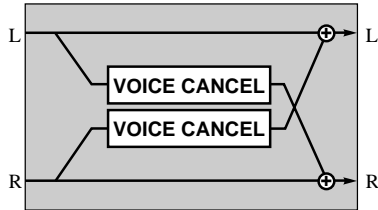


Insertion Block



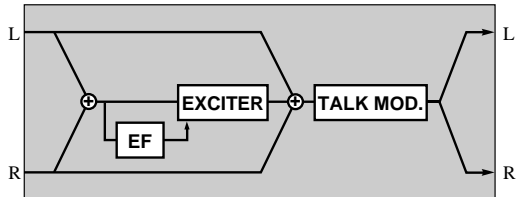
● VOICE CANCEL (Variation block)

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



● TALKING MODULATOR (Variation block)

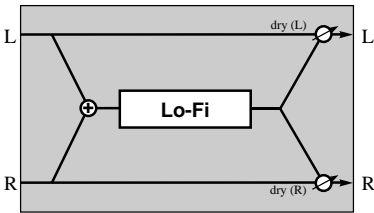
No.	Parameter	Display	Value	See Table	Control
1	Vowel	a,i,u,e,o	0-4		
2	Move speed	1 - 62	1-62		
3	Drive	0 - 127	0-127		
4	Output level	0 - 127	0-127		
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					



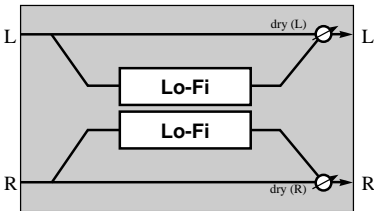
● LO-FI (Variation block)

No.	Parameter	Display	Value	See Table	Control
1	sampling freq control	44.1kHz - 345Hz	0-127		
2	word length	1 - 127	1-127		
3	output gain	-6 - +12dB	0-18		
4	LPF Cutoff	63Hz - thru	10-60		
5	filter type	Thru,PowerBass,Radio,Telephone,Clean,Low	0-5		
6	LPF resonance	1.0 - 12.0	10-120		
7	bit assign	0 - 6	0-6		
8	emphasis	off/on	0-1		
9					
10	Dry/Wet	D63>W - D=W - D<W63	1-127		●
11					
12					
13					
14					
15	Input Mode	mono/stereo	0-1		
16					

When input mode="mono"

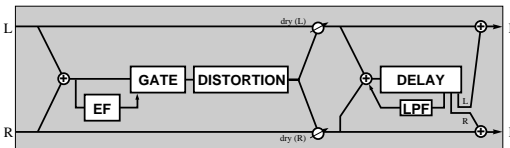


When input mode="stereo"



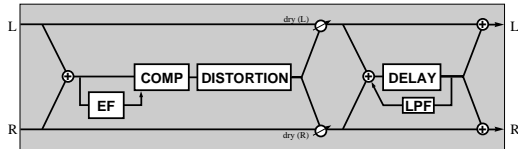
● DIST+DELAY (Variation block)  
OVERDRIVE+DELAY (Variation block)

No.	Parameter	Display	Value	See Table	Control
1	Lch Delay Time	0.1 - 1486.0ms	1-14860		
2	Rch Delay Time	0.1 - 1486.0ms	1-14860		
3	Delay Feedback Level	0.1 - 1486.0ms	1-14860		
4	Delay Feedback Level	-63 - +63	1-127		
5	Delay Mix	0 - 127	0-127		
6	Dist Drive	0 - 127	0-127		
7	Dist Output Level	0 - 127	0-127		
8	Dist EQ Low Gain	-12 - +12dB	52-76		
9	Dist EQ Mid Gain	-12 - +12dB	52-76		
10	Dry/Wet	D63>W - D=W - D<W63	1-127		●
11					
12					
13					
14					
15					
16					



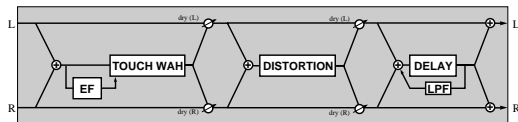
● COMP+DIST+DELAY (Variation block)  
COMP+ODRV+DELAY (Variation block)

No.	Parameter	Display	Value	See Table	Control
1	Delay Time	0.1 - 1486.0ms	1-14860		
2	Delay Feedback Level	-63 - +63	1-127		
3	Delay Mix	0 - 127	0-127		
4	Dist Drive	0 - 127	0-127		
5	Dist Output Level	0 - 127	0-127		
6	Dist EQ Low Gain	-12 - +12dB	52-76		
7	Dist EQ Mid Gain	-12 - +12dB	52-76		
8					
9					
10	Dry/Wet	D63>W - D=W - D<W63	1-127		●
11	Comp. Attack	1ms - 40ms	0-19	table#8	
12	Comp. Release	10ms - 680ms	0-15	table#9	
13	Comp. Threshold	-48dB - -6dB	79-121		
14	Comp. Ratio	1.0 - 20.0	0-7	table#10	
15					
16					



● WAH+DIST+DELAY (Variation block)  
WAH+ODRV+DELAY (Variation block)

No.	Parameter	Display	Value	See Table	Control
1	Delay Time	0.1 - 1486.0ms	1-14860		
2	Delay Feedback Level	-63 - +63	1-127		
3	Delay Mix	0 - 127	0-127		
4	Dist Drive	0 - 127	0-127		
5	Dist Output Level	0 - 127	0-127		
6	Dist EQ Low Gain	-12 - +12dB	52-76		
7	Dist EQ Mid Gain	-12 - +12dB	52-76		
8					
9					
10	Dry/Wet	D63>W - D=W - D<W63	1-127		●
11	Wah Sensitive	0 - 127	0-127		
12	Wah Cutoff Freq Offset	0 - 127	0-127		
13	Wah Resonance	1.0 - 12.0	10-120		
14	Wah Release	10 - 680ms	52-67		
15					
16					



## ● Vocoder Harmony

No.	Parameter	Display	Value	See Table	Control
1	Mode	1: no trans. 3: -3 oct trns. 5: -1 oct trns. 7: +2 oct trns. 2: auto trans 4: -2 oct trns 6: +1 oct trans 8: +3 oct trns.	0-7		
2	Harmony Gender Type	off, auto	0-1		
3	Lead Gender Type	off, unis, male, fem.	0-3		
4	Lead Gender Depth	-64 – +63	0-127		
5	Lead Pitch Correction	off, on	0-1		
6	Auto Upper Gender Threshold	0 – 12	0-12		
7	Auto Lower Gender Threshold	0 – 12	0-12		
8	Upper Gender Depth	-64 – +63	0-127		
9	Lower Gender Depth	-64 – +63	0-127		
10	Lead/Harmony	L63>H – (L=H) – L<H63	0-127		
11	Vibrato depth	0 – 127	0-127		
12	Vibrato rate	0 – 127	0-127		
13	Vibrato delay	0 – 127	0-127		
14					
15					
16					

## ● Chromatic Harmony

No.	Parameter	Display	Value	See Table	Control
1	Mode	1: oct below 3: 5th below 5: 3rd above 7: oct above 2: 3rd below 4: unison 6: 5th above	0-6		
2	Harmony Gender Type	off, auto	0-1		
3	Lead Gender Type	off, unis, male, fem.	0-3		
4	Lead Gender Depth	-64 – +63	0 – 127		
5	Lead Pitch Correction	off, on	0-1		
6	Auto Upper Gender Threshold	0 – 12	0-12		
7	Auto Lower Gender Threshold	0 – 12	0-12		
8	Upper Gender Depth	-64 – +63	0-127		
9	Lower Gender Depth	-64 – +63	0-127		
10	Lead/Harmony	L63>H – (L=H) – L<H63	0-127		
11	Vibrato depth	0 – 127	0-127		
12	Vibrato rate	0 – 127	0-127		
13	Vibrato delay	0 – 127	0-127		
14					
15					
16					

## ● Chordal Harmony

No.	Parameter	Display	Value	See Table	Control
1	Mode	1: duet above 3: duet abv+vb 5: trio a&b 7: trio a&b+vb 9: quar a&b 2: duet below 4: trio above 6: trio below 8: quar above 10: quar below	0-9		
2	Harmony Gender Type	off, auto	0-1		
3	Lead Gender Type	off, unis, male, fem.	0-3		
4	Lead Gender Depth	-64 – +63	0-127		
5	Lead Pitch Correction	off, on	0-1		
6	Auto Upper Gender Threshold	0 – 12	0-12		
7	Auto Lower Gender Threshold	0 – 12	0-12		
8	Upper Gender Depth	-64 – +63	0-127		
9	Lower Gender Depth	-64 – +63	0-127		
10	Lead/Harmony	L63>H – (L=H) – L<H63	0-127		
11	Vibrato depth	0 – 127	0-127		
12	Vibrato rate	0 – 127	0-127		
13	Vibrato delay	0 – 127	0-127		
14					
15					
16					

## ● Detune Harmony

No.	Parameter	Display	Value	See Table	Control
1	Mode	1: low 3: mid-high 2: mid-low 4: high	0-3		
2					
3	Lead Gender Type	off, unis, male, fem.	0-3		
4	Lead Gender Depth	-64 – +63	0-127		
5					
6					
7					
8					
9					
10	Lead/Harmony	L63>H – (L=H) – L<H63	1-127		
11	Vibrato depth	0 – 127	0-127		
12	Vibrato rate	0 – 127	0-12		
13	Vibrato delay	0 – 127	0-12		
14					
15					
16					

## Explanation of effect parameters

Parameter name	Effect types in which the parameter exists	Explanation of parameter
AM Depth	TREMOLO	Depth of volume modulation
AMP Type	AMP SIMULATOR	Select the type of amp to be simulated
Attack	COMPRESSOR type NOISE GATE	Time until the compressor effect begins to apply Time until the gate begins to open
Bit Assign	LO-FI	Adjust the word length of the audio data
Cch Delay	DELAY L,C,R	Length of the center channel delay
Cch Level	DELAY L,C,R	Volume of the center channel
Crossover Frequency	2WAY ROTARY SPEAKER	Crossover frequency between the high-range and low-range speakers
Cutoff Frequency Offset	WAH type	Frequency offset value that will control the wah filter
Delay Mix	DIST+DELAY,OVERDRIVE+DELAY, COMP+DIST+DELAY,COMP+ODRV+DELAY, WAH+DIST+DELAY,WAH+ODRV+DELAY	Mixing amount of delay sound
Delay Offset	CHORUS type	Offset value of delay modulation
Delay Time	KARAOKE1,2,3 AMBIENCE	Spacing of reflections for karaoke echo Delay length
Delay2 Level	ECHO	Volume of second delay
Density	REVERB type, EARLY REF type	Density of reflections. Higher values produce closer spacing
Depth	REVERB type	Depth of the simulated room
Detune	ENSEMBLE DETUNE	Amount of pitch shift
Diffusion	REVERB type, EARLY REF type, PHASER	Control the spaciousness
Drive	DISTORTION type AURAL EXCITER® TALKING MODULATION	Depth of distortion Depth at which the exciter effect is applied Depth at which the exciter effect is applied
Drive High	2WAY ROTARY SPEAKER	Depth of modulation caused by rotation of the low-range speaker
Drive Low	2WAY ROTARY SPEAKER	Depth of modulation caused by rotation of the high-range speaker
Dry/Wet	All types	Balance between dry sound and effect sound
Edge(Clip Curve)	DISTORTION type	Curve of distortion characteristics (sharp(127) distorts suddenly, mild(0) distorts gradually)
Emphasis	LO-FI	Modify the character of the high range
EQ High Frequency	All types	Frequency at which the EQ will boost/cut the high range
EQ High Gain	All types	Gain amount by which the EQ will boost/cut the high range
EQ Low Frequency	All types	Frequency at which the EQ will boost/cut the low range
EQ Low Gain	All types	Gain amount by which the EQ will boost/cut the low range
EQ Mid Frequency	All types	Frequency at which the EQ will boost/cut the mid range
EQ Mid Gain	All types	Gain amount by which the EQ will boost/cut the mid range
EQ Mid Width	All types	Width of the area boosted/cut by the mid-range EQ
Er/Rev Balance	REVERB type	Level balance between the early reflections and the reverberation
F/R Depth	AUTO PAN	Depth of front/back panning (valid when PAN Direction=Lturn,Rturn)
Feedback Delay	DELAY L,C,R	Length of feedback delay
Feedback Delay 1	DELAY L,R	Length of feedback delay 1
Feedback Delay 2	DELAY L,R	Length of feedback delay 2
Feedback Level	REVERB type DELAY type,EARLY REF type,PITCH CHANGE type KARAOKE type CHORUS type, FLANGER type PHASER type	Feedback amount of initial delay Feedback amount Setting for repeated reflections Level at which delay output is again returned to the input (negative values invert the phase) Level at which phaser output is again returned to the input (negative values insert the phase)
Filter Type	LO-FI	Select the type of tonal effect
Fine 1	PITCH CHANGE type	Fine adjustment to pitch of first sound
Fine 2	PITCH CHANGE type	Fine adjustment to pitch of second sound
Height	REVERB type	Height of simulated room
High Adjust	VOICE CANCELAR	Adjust the upper limit of the mid-frequency range that will be attenuated
High Damp	REVERB type,DELAY type,EARLY REF type	Attenuation of the high frequency range (lower values will cause the high range to decay more rapidly)
HPF Cutoff	REVERB type,EARLY REF type,KARAOKE type,AURAL EXCITER®	Frequency at which the high pass filter will cut the low range
Initial Delay	REVERB type EARLY REF type PITCH CHANGE type	Delay time until the early reflections Delay length until ER (GateReverb) sounds Delay length
Input Mode	All types	Mono/stereo switch for input
Input Select	CROSS DELAY	Input select
L/R Depth	AUTO PAN	Depth of left/right panning
L->R Delay	CROSS DELAY	Delay time from left (input) to right (output)
Lch Delay	DELAY type	Length of left channel delay
Lch Delay1	ECHO	Length of first left channel delay
Lch Delay2	ECHO	Length of second left channel delay
Lch Feedback Level	ECHO	Amount of left channel feedback
Lch Init Delay	ENSEMBLE DETUNE	Length of left channel delay
LFO Depth	CHORUS type,FLANGER type,SYMPHONIC ROTARY SPEAKER PHASER type WAH type	Depth of delay modulation Depth of modulation caused by speaker rotation Depth of phase modulation Depth at which the wah filter will be controlled
LFO Frequency	CHORUS type,FLANGER type,SYMPHONIC ROTARY SPEAKER TREMOLO AUTO PAN PHASER type WAH type	Frequency of delay modulation Frequency at which the speaker will rotate Modulation frequency Autopan frequency Phase modulation frequency Frequency at which wah filter will be controlled

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LFO Phase Difference	PHASER type, FLANGER type	L/R phase difference for modulation waveform (0 deg (=64) is no phase difference)
Liveness	EARLY REF type	ER decay. Lower values cause faster decay.
Low Adjust	VOICE CANCEL	Adjust the lower frequency limit of the mid-range that will be attenuated
Low/High	2WAY ROTARY SPEAKER	Volume balance between the high-range and low-range speakers
LPF Cutoff	All types	Frequency at which the low pass filter will cut the high frequency range
LPF Resonance	LO-FI	Add character to the low pass filter of the input
Mic L-R Angle	2WAY ROTARY SPEAKER	L/R angle of the mic that picks up the output
Mix Level	AURAL EXCITER®	Level of the effect sound that is mixed into the dry sound
Move Speed	TALKING MODULATOR	Time over which the sound specified by Vowel is reached
Output Gain	LO-FI	Output gain
Output Level	All types	Output level
Output Level 1	PITCH CHANGE type	Output level for first unit
Output Level 2	PITCH CHANGE type	Output level for second unit
Output Phase	AMBIENCE	Swap phase of the effect sound between L/R
Pan 1	PITCH CHANGE type	Pan of first unit
Pan 2	PITCH CHANGE type	Pan of second unit
PAN Direction	AUTO PAN	Autopan type (L<->R is sine wave, L/R is square wave)
Phase Shift Offset	PHASER type	Offset value for phase modulation
Pitch	PITCH CHANGE type	Pitch setting in semitones
PM Depth	TREMLO	Depth of delay modulation
R->L Delay	CROSS DELAY	Delay time from right (input) to left (output)
Ratio	COMPRESSOR type	Compression ratio of the compressor
Rch Delay	DELAY type	Length of right channel delay
Rch Delay1	ECHO	Length of first right channel delay
Rch Delay2	ECHO	Length of second right channel delay
Rch Feedback Level	ECHO	Amount of right channel feedback
Rch Init Delay	ENSEMBLE DETUNE	Length of right channel delay
Release	COMPRESSOR type NOISE GATE TOUCH WAH2, TOUCH WAH+ODRV	Time until the sound is released from the compressor effect Time until the gate closes Time until the center frequency of the wah filter returns to normal
Resonance	WAH type	Bandwidth of the wah filter
Rev Delay	REVERB type	Delay time between the early reflections and the reverberation
Reverb Time	REVERB type	Length of reverb
Room Size	EARLY REF type	Size of room. Increasing this value will lengthen ER.
Rotor Speed	2WAY ROTARY SPEAKER	Frequency at which the speaker rotates
Sampling Freq Control	LO-FI	Sampling frequency control
Sensitive	WAH type	Sensitivity with which the wah filter will change in response to changes in the input
Stage	PHASER type	Number of steps for the phase shifter
Threshold	COMPRESSOR type NOISE GATE	Input level at which compression will begin Input level at which the gate will begin to open
Type	EARLY REF type	Type selection
Vowel	TALKING MODULATOR	Vowel selection
Wah Release	WAH+DIST+DELAY, WAH+ODRV+DELAY	Time until the center frequency of the wah filter returns to normal
Wall Vary	REVERB type	Condition of the walls of the simulated room (higher values produce more random reflections)
Width	REVERB type	Width of the simulated room
Word Length	LO-FI	Specify the roughness of the sound

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Additional note: In the preceding pages, indication of effect types such as REVERB-type respectively include the following effect types.

CHORUS type	CHORUS1, CHORUS2, CHORUS3, CHORUS4, CELESTE1, CELESTE2, CELESTE3, CELESTE4
COMPRESSOR type	COMPRESSOR, COMP+DIST, COMP+DIST+DELAY, COMP+OVERDRIVE+DELAY
DELAY type	DELAY L,C,R, DELAY L,R, ECHO, CROSS DELAY, DIST+DELAY, OVERDRIVE+DELAY, COMP+DIST+DELAY, COMP+DIST+DELAY, COMP+OVERDRIVE+DELAY, WAH+DIST+DELAY, WAH+OVERDRIVE+DELAY
DISTORTION type	DISTORTION, OVERDRIVE, AMP SIMULATOR, AUTO WAH+DIST, AUTO WAH+ODRV, TOUCH WAH+DIST, TOUCH WAH+ODRV, COMP+DIST, DIST+DELAY, OVERDRIVE+DELAY, COMP+DIST+DELAY, COMP+DIST+DELAY, COMP+OVERDRIVE+DELAY, WAH+DIST+DELAY, WAH+OVERDRIVE+DELAY
EARLY REF type	EARLY REF1, EARLY REF2, GATE REVERB, REVERSE GATE
FLANGER type	FLANGER1, FLANGER2, FLANGER3
KARAOKE type	KARAOKE1, KARAOKE2, KARAOKE3
PHASER type	PHASER1, PHASER2
PITCH CHANGE type	PITCH CHANGE1, PITCH CHANGE2
REVERB type	HALL1, HALL2, ROOM1, ROOM2, ROOM3, STAGE1, STAGE2, PLATE, WHITE ROOM, TUNNEL, CANYON, BASEMENT
WAH type	AUTO WAH, AUTO WAH+DIST, AUTO WAH+ODRV, TOUCH WAH1, TOUCH WAH2, TOUCH WAH+DIST, TOUCH WAH+ODRV, WAH+DIST+DELAY, WAH+OVERDRIVE+DELAY



# Effect Data Assign Table

Table#1

LFO Frequency

Data	Value	Data	Value	Data	Value	Data	Value
0	0.00	32	1.34	64	2.69	96	8.41
1	0.08	33	1.43	65	2.77	97	8.74
2	0.08	34	1.43	66	2.86	98	9.08
3	0.16	35	1.51	67	2.94	99	9.42
4	0.16	36	1.51	68	3.02	100	9.75
5	0.25	37	1.59	69	3.11	101	10.0
6	0.25	38	1.59	70	3.19	102	10.7
7	0.33	39	1.68	71	3.28	103	11.4
8	0.33	40	1.68	72	3.36	104	12.1
9	0.42	41	1.76	73	3.44	105	12.7
10	0.42	42	1.76	74	3.53	106	13.4
11	0.50	43	1.85	75	3.61	107	14.1
12	0.50	44	1.85	76	3.70	108	14.8
13	0.58	45	1.93	77	3.86	109	15.4
14	0.58	46	1.93	78	4.03	110	16.1
15	0.67	47	2.01	79	4.20	111	16.8
16	0.67	48	2.01	80	4.37	112	17.4
17	0.75	49	2.10	81	4.54	113	18.1
18	0.75	50	2.10	82	4.71	114	19.5
19	0.84	51	2.18	83	4.87	115	20.8
20	0.84	52	2.18	84	5.04	116	22.2
21	0.92	53	2.27	85	5.21	117	23.5
22	0.92	54	2.27	86	5.38	118	24.8
23	1.00	55	2.35	87	5.55	119	26.2
24	1.00	56	2.35	88	5.72	120	27.5
25	1.09	57	2.43	89	6.05	121	28.9
26	1.09	58	2.43	90	6.39	122	30.2
27	1.17	59	2.52	91	6.72	123	31.6
28	1.17	60	2.52	92	7.06	124	32.9
29	1.26	61	2.60	93	7.40	125	34.3
30	1.26	62	2.60	94	7.73	126	37.0
31	1.34	63	2.69	95	8.07	127	39.7

Table#2

Modulation Delay Offset

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

Table#3  
EQ Frequency

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

Table#5  
Delay Time(200.0ms)

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

Table#4  
Reverb time

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

Table#6  
Room Size

Data	Value	Data	Value
0	0.1	32	5.1
1	0.3	33	5.3
2	0.4	34	5.4
3	0.6	35	5.6
4	0.7	36	5.7
5	0.9	37	5.9
6	1.0	38	6.1
7	1.2	39	6.2
8	1.4	40	6.4
9	1.5	41	6.5
10	1.7	42	6.7
11	1.8	43	6.8
12	2.0	44	7.0
13	2.1		
14	2.3		
15	2.5		
16	2.6		
17	2.8		
18	2.9		
19	3.1		
20	3.2		
21	3.4		
22	3.5		
23	3.7		
24	3.9		
25	4.0		
26	4.2		
27	4.3		
28	4.5		
29	4.6		
30	4.8		
31	5.0		

**Effect Data Assign Table**

**Table#7**

Delay Time (400.0ms)

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

**Table#11**

Reverb Width; Depth; Height

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

**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#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

# MIDI data format

## 1. Channel messages

### 1.1 Note on/note off

These messages convey keyboard performance data.

Note-on is transmitted when a note is pressed, and note-off is transmitted when a note is released.

These messages contain a "note number" which indicates the key that was played, and a "velocity" which indicates how strongly it was played.

When a note-on of velocity "0" is received, it has the same effect as a note-off.

Range of note numbers received = 0 (C-2)...60 (C3)...127 (G8)

Velocity range = 1...127 (Velocity is received only for note-on)

When the Multi Part parameter "Rcv NOTE MESSAGE" = OFF, that part will not receive these messages.

For a drum part\*, key-off is not received if the DrumSetup parameter Rcv NOTE OFF = OFF.

For a drum part, key-on is not received if the DrumSetup parameter Rcv NOTE ON = OFF.

\* Drum Part indicates that the Multi Part parameter PART MODE is "set to DRUM or DRUMS1...4."

### 1.2 Control changes

These messages control volume or pan etc.

Their functions are differentiated by the control number (Ctrl#).

If the Multi Part parameter Rcv CONTROL CHANGE = OFF, that part will not receive control changes.

#### 1.2.1 Bank Select

This voice selects the voice bank.

The voice bank is selected by the combination of two control change messages: MSB and LSB.

The function of the MSB and LSB will differ depending on the sound module mode.

In the case of "XG," the MSB value will specify the major division of voices, and the LSB value will specify the detailed division.

In the case of "TG300B," the LSB value is fixed, and only the MSB value will specify the detailed voice division.

In the case of "C/M," Bank Select is not received.

Control#	Parameter	Data Range
0	Bank Select MSB	0...127
32	Bank Select LSB	0...127

The Bank Select data will be processed only after a Program Change is received, and then voice bank will change at that time.

If you wish to change the voice bank as well as the voice, you must transmit Bank Select and Program Change messages as a set, in the order of Bank Select MSB, LSB, and Program Change.

### 1.2.2 Modulation

This message is used primarily to control the depth of vibrato, but the depth of the following 7 types of effect can be controlled.

The effect of this message can be changed by the following parameters.

#### • Multi Part Parameter

1. MW PITCH CONTROL
2. MW FILTER CONTROL
3. MW AMPLITUDE CONTROL
4. MW LFO PMOD DEPTH
5. MW LFO FMOD DEPTH
6. MW LFO AMOD DEPTH

#### • Effect1 Parameter

7. MW VARIATION CONTROL DEPTH

(Valid when Variation Effect is assigned to a part as Insertion)

By default, an LFO Pitch Modulation (PMOD) effect will apply.

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

If the Multi Part parameter Rcv MODULATION = OFF, that part will not receive Modulation.

If the receive channel is a drum part, effects 5 and 6 will not apply.

### 1.2.3 Breath Controller

Control#	Parameter	Data Range
2	Breath Controller	0...127

Valid only when a VL sound is selected.

### 1.2.4 Foot Controller

Control#	Parameter	Data Range
4	Foot Controller	0...127

Valid only when a VL sound is selected.

### 1.2.5 Portamento Time

This message controls the degree of Portamento (refer to 1.2.11).

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

When Portamento (control number 065) is ON, this regulates the speed of the pitch change.

A value of 0 is the shortest portamento time, and 127 is the longest portamento time.

If the receive channel is a drum part, Portamento Time is not received.

### 1.2.6 Data Entry

This message sets the value of the parameter which was specified by RPN MSB/LSB (see 1.2.22) and NRPN MSB/LSB (see 1.2.21).

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

### 1.2.7 Main Volume

This message controls the volume of each part.  
This is used to adjust the volume balance between parts.

Control#	Parameter	Data Range
7	Main Volume	0...127

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

With a value of 0 there will be no sound, and a value of 127 will be the maximum volume.

### 1.2.8 Panpot

This message control the panning (stereo location) of each part.

This will be the location of the sound when heard in stereo.

Control#	Parameter	Data Range
10	Pan	0...64...127

When the Multi Part parameter Rcv PAN = OFF, that part will not receive Panpot.

0 is left, 64 is center, and 127 is right.

### 1.2.9 Expression

This message controls expression (dynamics within a musical line) for each part.

It is used to create volume changes during a song.

Control#	Parameter	Data Range
11	Expression	0...127

If the Multi Part parameter Rcv EXPRESSION = OFF, that part will not receive Expression.

With a value of 0 there will be no sound, and with a value of 127 the volume will be maximum.

### 1.2.10 Control Change13

Control#	Parameter	Data Range
13	Control Change13	0...127

Valid only when a VL sound is selected.

### 1.2.11 Hold1

This message controls sustain pedal on/off.  
The notes that are sounding while the pedal is pressed will be sustained.

Control#	Parameter	Data Range
64	Hold1	0...63,64...127 (OFF, ON)

For data of 0...63 the sustain pedal will be OFF (released), and for data of 64...127 it will be ON (pressed).

When this is ON, currently-sounding notes will continue to sound even if note-off messages are received.

If the Multi Part parameter Rcv HOLD1 = OFF, that part will not receive Hold1.

### 1.2.12 Portamento

This message controls portamento on/off.  
When the pedal is pressed, a portamento effect will be applied.

Control#	Parameter	Data Range
65	Portamento	0...63, 64...127 (OFF, ON)

For data of 0...63 the portamento pedal will be OFF (released), and for 64...127 it will be ON (pressed).

When this is ON, the pitch will change smoothly between notes. The time over which the pitch changes is adjusted by Portamento Time (see 1.2.3). Also, when the Multi Part parameter MONO/POLY MODE = MONO, the tone will also change smoothly (legato) if Portamento = ON.

If any of the following Multi Part parameter settings apply, that part will not receive Portamento.

- Rcv PORTAMENTO = OFF
- PART MODE = DRUM, DRUMS1...4

### 1.2.13 Sostenuto

This message controls sostenuto pedal on/off.  
Notes which were already pressed when the pedal was pressed will be sustained.

Control#	Parameter	Data Range
66	Sostenuto	0...63,64...127 (OFF, ON)

For data of 0...63, the sostenuto pedal will be OFF (released), and for 64...127 it will be ON (pressed).

If sostenuto is turned on while a note is sounding, that note will be sustained until sostenuto is turned OFF.

If the Multi Part parameter Rcv SOSTENUTO = OFF, that part will not receive Sostenuto.

Has no effect on VL sounds.

### 1.2.14 Soft Pedal

This message controls soft pedal on/off.  
The sound will become more mellow while the pedal is pressed.

Control#	Parameter	Data Range
67	Soft Pedal	0...63, 64...127 (OFF, ON)

For data of 0...63, the soft pedal is OFF (released), and for 64...127 it is ON (pressed).

If any of the following Multi Part parameter settings apply, that part will not receive the Soft Pedal.

- Rcv SOFT PEDAL = OFF
- PART MODE = DRUM, DRUM1...4

### 1.2.15 Harmonic Content

This message adjusts the resonance of the filter that is specified for the sound.

The value of 0~127 is taken as -64~+63, and added as an offset value to the original sound data to modify the resonance.

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

Since this is a relative change parameter, it specifies a boost or cut relative to 64.

Higher values will produce a more distinctive sound.

For some sounds, the effective range may be less than the possible range of settings.

### 1.2.16 Release Time

This message adjusts the EG release time that was specified by the sound data.

The value of 0~127 is taken as -64~+63, and added to the original sound data as an offset value to modify the release time.

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

Since this is a relative change parameter, it specifies an increase or decrease relative to 64.

Increasing this value will lengthen the release that follows a note-off.

### 1.2.17 Attack Time

This message adjusts the EG attack time that was specified by the sound data.

The value of 0~127 is taken as -64~+63, and added to the original sound data as an offset value to modify the attack time.

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

Since this a relative change parameter, it specifies an increase or decrease relative to 64.

Increasing this value will make the attack more gradual, and decreasing this value will make the attack sharper.

### 1.2.18 Brightness

This message adjusts the cutoff frequency of the low pass filter specified by the sound data.

The value of 0~127 is taken as -64~+63, and added to the original sound data as an offset value to modify the cutoff frequency.

Control#	Parameter	Data Range
74	Brightness	0...64...127 (-64...0...+63)

Since this is a relative change parameter, it specifies an increase or decrease relative to 64.

Lower values will produce a more mellow sound.

For some sounds, the effective range may be less than the possible range of settings.

### 1.2.19 Portamento Control

This message specifies the portamento source key number (the key number at which portamento will begin).

Data of 0...127 specifies the portamento source key.

When Portamento Control is received, the currently-sounding pitch will change at a Portamento Time of 0 to the key of the next-received note-on of the same channel.

Control#	Parameter	Data Range
84	Portamento Control	0...127 (C-2...G8)

This is received even if Rcv PORTAMENTO = OFF.

Has no effect on VL sounds.

### 1.2.20 Effect1 Depth(Reverb Send Level)

This message specifies the send level for the reverb effect.

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

Increasing this value will produce a richer reverb. The effect of the value will depend on the state of the reverb effect.

### 1.2.21 Effect3 Depth(Chorus Send Level)

This message specifies the send level for the chorus effect.

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

Raising this value will increase the modulation or spaciousness. The effect of the value will depend on the state of the chorus effect.

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

This message specifies the send level for the variation effect.

Control#	Parameter	Data Range
94	Effect4 Depth	0...127

However, this is not received if the Variation Effect parameter Variation Connection = 0 (Insertion).

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

After RPN (see 1.2.22) is used to specify a parameter such as Pitch Bend Sensitivity, Fine Tune, or Coarse Tune, this message is used to increment or decrement the respective parameter value in steps of 1.

Control#	Parameter	Data Range
96	RPN Increment	--
97	RPN Decrement	--

The data byte is ignored.

### 1.2.24 NRPN (Non-registered parameter number)

This message is used to specify a sound parameter (such as vibrato, filter, EG, drum setup etc.) as an offset value.

Use NRPN MSB and NRPN LSB to specify the parameter that you wish to modify, and then use Data Entry (see 1.2.4) to set the value for the specified parameter.

Control#	Parameter	Data Range
98	NRPN LSB	0...127
99	NRPN MSB	0...127

If the Multi Part parameter Rcv NRPN = OFF, that part will not receive NRPN.

The following NRPN messages can be received.

NRPN MSB	NRPN LSB	Data Entry *1 MSB	Data Entry *1 LSB	Parameter name and value range
01	08	mm	-- *2	Vibrato rate mm: 00 - 64 - 127 (-64...0...+63)
01	09	mm	--	Vibrato depth mm: 00 - 64 - 127 (-64...0...+63)
01	10	mm	-- *3	Vibrato delay mm: 00 - 64 - 127 (-64...0...+63)
01	32	mm	--	Low pass filter cutoff frequency mm: 00 - 64 - 127 (-64...0...+63)
01	33	mm	--	Low pass filter resonance mm : 00 - 64 - 127 (-64...0...+63)
01	34	mm	--	Filter EG Depth (VL sounds only) mm : 00 - 64 - 127 (-64...0...+63)
01	36	mm	--	High pass filter cutoff frequency (Has no effect on VL sounds) mm: 00 - 64 - 127 (-64...0...+63)
01	48	mm	-- *4	EQ bass gain mm: 00 - 64 - 127 (-64...0...+63)
01	49	mm	-- *4	EQ treble gain mm: 00 - 64 - 127 (-64...0...+63)
01	52	mm	-- *4	EQ bass frequency (Has no effect on VL sounds) mm: 04 - 40 (32...2.0k [Hz])

01	53	mm	-- *4	EQ treble frequency (Has no effect on VL sounds) mm: 28 - 58 (500...16.0k [Hz])
01	99	mm	--	EG attack time mm: 00 - 64 - 127 (-64...0...+63)
01	100	mm	--	EG decay time mm: 00 - 64 - 127 (-64...0...+63)
01	102	mm	--	EG release time mm: 00 - 64 - 127 (-64...0...+63)
20	rr	mm	--	Drum low pass filter cutoff frequency rr: drum instrument note number mm: 00 - 64 - 127 (-64...0...+63)
21	rr	mm	--	Drum low pass filter resonance rr: drum instrument note number mm: 00 - 64 - 127 (-64...0...+63)
22	rr	mm	--	Drum EG attack rate rr: drum instrument note number mm: 00 - 64 - 127 (-64...0...+63)
23	rr	mm	--	Drum EG decay rate rr: drum instrument note number mm: 00 - 64 - 127 (-64...0...+63) The effect will apply both to Decay 1 and 2.
24	rr	mm	--	Drum instrument pitch coarse rr: drum instrument note number mm: 00 - 64 - 127 (-64...0...+63)
25	rr	mm	--	Drum instrument pitch fine rr: drum instrument note number mm: 00 - 64 - 127 (-64...0...+63)
26	rr	mm	--	Drum instrument level rr: drum instrument note number mm: 00 - 127(0...maximum)
28	rr	mm	--	Drum instrument panpot rr: drum instrument note number mm: 00, 01-64-127(RND, L63...C...R63)
29	rr	mm	--	Drum instrument reverb send level rr: drum instrument note number mm: 00 - 127(0...maximum)

30	rr	mm	--	Drum instrument chorus send level rr: drum instrument note number mm: 00 - 127(0...maximum)
31	rr	mm	--	Drum instrument variation send level rr: drum instrument note number mm: 00 - 127(0...maximum) (when Variation Connection = SYSTEM) mm: 00, 01-127 (OFF,ON) (when Variation Connection = INSERTION))
36	rr	mm	--	Drum high pass filter cutoff frequency mm: 00 - 64 - 127 (-64...0...+63)
48	rr	mm	--	Drum EQ bass gain mm: 00 - 64 - 127 (-64...0...+63)
49	rr	mm	--	Drum EQ treble gain mm: 00 - 64 - 127 (-64...0...+63)
52	rr	mm	--	Drum EQ bass frequency mm: 04 - 40(32...2.0k [Hz])
53	rr	mm	--	Drum EQ treble frequency mm: 28 - 58(500...16.0k [Hz])

MSB 14H-35H (for drums) is received when Multi Part parameter PART MODE = DRUMS1...4.

\*1 Refer to 1.2.4

\*2 '-' indicates that the setting value is ignored.

\*3 Adjusts the time after the note is played until vibrato begins to take effect. The effect will begin more quickly for higher values, and more slowly for higher values. No effect if Bank Select MSB=127 is selected.

\*4 No effect if Multi Part parameter PART MODE = DRUM, DRUMS1...4.

### 1.2.25 RPN (Registered parameter number)

This message is used to specify part parameters such as Pitch Bend Sensitivity or Tuning etc. as an offset value.

Use RPN MSB and RPN LSB to specify the parameter that you wish to modify, and then use Data Entry (see 1.2.4) to set the value of the specified parameter.

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

If the Multi Part parameter Rcv RPN = OFF, that part will not receive this message.

The following RPN messages can be received.

RPN		Data Entry*1		Parameter name and value range
MSB	LSB	MSB	LSB	
00	00	mm	-- *2	Pitch bend sensitivity mm: 00-24 (0...+24 semitones) Specify up to 2 octaves in semitone steps
00	01	mm	ll	Fine tuning mm ll: 00 00 -100 cents : : mm ll: 64 00 0 cents : : mm ll: 127 127 +100 cents [Note] mm ll: 00 127 (=-87.5) cents is followed by 01 00 (=-87.4) cents.
00	02	mm	--	Coarse tuning mm: 40 - 64 - 88 (-24...0...+24 semitones)
127	127	--	--	RPN Null This sets RPN and NRPN numbers to an unset state. Internal data is not affected.

\*1 Refer to 1.2.4

\*2 '-' indicates that the setting value is ignored.

### 1.2.26 Assignable controller

By assigning a control change number of 0...95 to a part, the specified effect can be controlled.

This device allows two control change numbers (AC1 and AC2) to be specified for each part.

The following parameters specify the effect of AC1 and AC2.

• Multi Part Parameter

1. AC1, AC2 PITCH CONTROL
2. AC1, AC2 FILTER CONTROL
3. AC1, AC2 AMPLITUDE CONTROL
4. AC1, AC2 LFO PMOD DEPTH
5. AC1, AC2 LFO FMOD DEPTH
6. AC1, AC2 LFO AMOD DEPTH

• Effect1 Parameter

7. AC1, AC2 VARIATION CONTROL DEPTH

(Valid if Variation Effect is assigned to a part as Insertion)

The AC1 control change number is specified by the Multi Part or A/D Part parameter AC1 CONTROLLER NUMBER, and the AC2 control change number is specified by the Multi Part or A/D Part parameter AC2 CONTROLLER NUMBER.

## 1.3 Channel mode messages

These messages specify the basic operation of a part.

### 1.3.1 All Sound Off

This message silences all currently-sounding notes on the corresponding channel.

However, the state of channel messages such as Note-on and Hold-on will be maintained.



Control#	Parameter	Data Range
120	All Sound Off	0

### 1.3.2 Reset All Controllers

This message resets the following controllers to their default values.

Controller	Value
Pitch bend change	±0 (center)
Channel pressure	0 (off)
Polyphonic key pressure	0 (off)
Modulation	0 (off)
Breath control	127 (maximum)
Foot control	127 (maximum)
Expression	127 (maximum)
Control change13	±0 (center)
Hold	0 (off)
Portamento	0 (off)
Sostenuto	0 (off)
Soft pedal	0 (off)
Portamento control	Reset the portamento source note number that was received
RPN	Number unset, internal data is not affected.
NRPN	Number unset, internal data is not affected.

The following data is not changed

Parameter values specified by program change, bank select MSB/LSB, volume, pan, effect send levels 1, 3, 4, RPN and NRPN.

Control#	Parameter	Data Range
121	Reset All Controllers	0

### 1.3.3 All Note Off

This message turns off all notes which are currently on for the corresponding part.

However, if Hold 1 or Sostenuto are on, notes will continue to sound until these are turned off.

Control#	Parameter	Data Range
123	All Note Off	0

### 1.3.4 Omni Off

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

Control#	Parameter	Data Range
124	Omni Off	0

### 1.3.5 Omni On

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

Control#	Parameter	Data Range
125	Omni On	0

### 1.3.6 Mono

Perform the same processing as when All Sound Off is received, and if the value (mono number) is in the range of 0...16, set the corresponding channel to Mode4\* (m = 1).

Control#	Parameter	Data Range
126	Mono	0...16

\* Mode4 is a state in which only channel messages on the specified channel will be received, and notes will be sounded individually (monophonically).

### 1.3.7 Poly

Perform the same processing as when All Sound Off is received, and set the corresponding channel to Mode3\*.

Control#	Parameter	Data Range
127	Poly	0

\* Mode3 is when channel messages will be received only on the specified channel, and will be sounded polyphonically.

## 1.4 Program change

This message is used to select voices or performances.

When this is transmitted in conjunction with Bank Select (see 1.2.1), voices and performances can be selected not only from the basic voice bank but also from the extended voice bank and from internal performances.

If the Multi Part parameter Rcv PROGRAM CHANGE = OFF, that part will not receive program changes.

If Sound Module Mode = C/M, program changes for the Drum Part will not be received.

## 1.5 Pitch bend

This message conveys movements of the pitch bender.

This message is generally used to modify the pitch of a part, but the depth of the following seven effects can be controlled.

The effect of this message can be modified by the following parameters.

- Multi Part Parameter
  1. BEND PITCH CONTROL
  2. BEND FILTER CONTROL
  3. BEND AMPLITUDE CONTROL
  4. BEND LFO PMOD DEPTH
  5. BEND LFO FMOD DEPTH
  6. BEND LFO AMOD DEPTH
- Effect1 Parameter
  7. BEND VARIATION CONTROL DEPTH
 (Valid when Variation Effect is assigned to a part as Insertion)

By default, the Pitch Control effect is applied.

If the receive channel is a drum part, effects 5 and 6 will not apply.

If the Multi Part parameter Rcv PITCH BEND CHANGE = OFF, that part will not receive pitch bend messages.

## 1.6 Channel aftertouch

This message conveys the pressure which is applied to the keyboard after playing a note in order to create tonal changes (for an entire MIDI channel). The pressure can be controlled for each part. This message will affect the currently-sounding notes.

The effect of this message will be determined by the settings of the following parameters.

- Multi Part Parameter
    1. CAT PITCH CONTROL
    2. CAT FILTER CONTROL
    3. CAT AMPLITUDE CONTROL
    4. CAT LFO PMOD DEPTH
    5. CAT LFO FMOD DEPTH
    6. CAT LFO AMOD DEPTH
  - Effect1 Parameter
    7. CAT VARIATION CONTROL DEPTH
- (Valid when the Variation Effect is assigned to a part as Insertion)

By default, there will be no effect.

If the receive channel is a drum part, effects 5 and 6 will not apply.

If the Multi Part parameter Rcv CHANNEL AFTER TOUCH = OFF, that part will not receive Channel Aftertouch.

## 1.7 Polyphonic aftertouch

This message conveys the pressure that is applied to the keyboard after playing a note (for individual note numbers).

The pressure can be controlled independently for each note. This message will affect currently-sounding notes.

The effect of this message is determined by the following Multi Part parameters.

1. PAT PITCH CONTROL
2. PAT FILTER CONTROL
3. PAT AMPLITUDE CONTROL
4. PAT LFO PMOD DEPTH
5. PAT LFO FMOD DEPTH
6. PAT LFO AMOD DEPTH

By default, there will be no effect.

The effect will apply to note numbers 36...97.

In the case of either of the following Multi Part parameter settings, that part will not receive Polyphonic Aftertouch.

Rcv CHANNEL AFTER TOUCH = OFF  
PART MODE = DRUM, DRUMS1...4

## 2. System exclusive messages

These MIDI messages are not directly "performance data," but are used to make settings related to the system of the MIDI device.

For example, these messages can be used to save data specific to this device on a MIDI data filer such as the MDF2, or to exchange data between two or more MU100R units.

By using these messages, it is possible to edit virtually all settings of the MU100R from an external MIDI device.

However, data cannot be exchanged unless the receiving and transmitting devices are set to the same Device Number.

### 2.1 Parameter changes

This devices uses the following parameter changes.

[UNIVERSAL REALTIME MESSAGE]

- 1) Master Volume

[UNIVERSAL NON REALTIME MESSAGE]

- 1) General MIDI System On
- 2) Identity Request(INQUIRY MESSAGE)
- 3) Identity Reply(INQUIRY MESSAGE)

[XG PARAMETER CHANGE]

- 1) XG System on
- 2) XG System parameter change
- 3) Multi Effect1 parameter change
- 4) Multi EQ parameter change
- 5) Multi Effect2 parameter change
- 6) Unique Effect parameter change
- 7) Display parameter change
- 8) Multi Part parameter change
- 9) AD Part parameter change
- 10) AD System parameter change
- 11) Drums Setup parameter change
- 12) Part Assign parameter change

[MU100 NATIVE PARAMETER CHANGE 1]

- 1) System parameter change
- 2) Remote switch

[MU100 NATIVE PARAMETER CHANGE 2]

- 1) Current Performance parameter change

[VL70-m NATIVE PARAMETER CHANGE]

- 1) VL System parameter change
- 2) VL Current Voice/Common Misc parameter change
- 3) VL Part parameter change
- 4) VL Current Voice/Element parameter change

[Others]

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

### 2.1.1 Universal realtime messages

#### 2.1.1.1 Master Volume

This system exclusive message is used to control the volume of all channels simultaneously.

11110000	F0H	= Exclusive status
01111111	7FH	= Universal Real Time
01111111	7FH	= ID of target device
00000100	04H	= Sub-ID #1 = Device Control Message
00000001	01H	= Sub-ID #2 = Master Volume
* 0sssssss	SSH	= Volume LSB
0ttttttt	TTH	= Volume MSB
11110111	F7H	= End of Exclusive
or,		
11110000	F0H	= Exclusive status
01111111	7FH	= Universal Real Time
0xxxnnnn	XNH	= Device Number, xxx = don't care

00000100	04H	= Sub-ID #1 = Device Control Message
00000001	01H	= Sub-ID #2 = Master Volume
0sssssss	SSH	= Volume LSB
0ttttttt	TTH	= Volume MSB
11110111	F7H	= End of Exclusive

When this is received, the Volume MSB will be reflected by the System parameter MASTER VOLUME.

\* The binary expression 0sssssss is expressed in hexadecimal as SSH.

The same applies elsewhere.

## 2.1.2 Universal non-realtime messages

### 2.1.2.1 General MIDI System On

This system exclusive message causes the MU100R to function as a tone generator that is compatible with GM System Level 1.

11110000	F0H	= Exclusive status
01111110	7EH	= Universal Non-Real Time
01111111	7FH	= ID of target device
00001001	09H	= Sub-ID #1 = General MIDI Message
00000001	01H	= Sub-ID #2 = General MIDI On
11110111	F7H	= End of Exclusive
or,		
11110000	F0H	= Exclusive status
01111110	7EH	= Universal Non-Real Time
0xxxxnnn	XNH	= N:Device Number, X:don't care
00001001	09H	= Sub-ID #1 = General MIDI Message
00000001	01H	= Sub-ID #2 = General MIDI On
11110111	F7H	= End of Exclusive

When this message is received, the SOUND MODULE MODE is set to XG, and all MIDI messages defined by GM will be received.

All data except for MIDI Master Tuning will be restored to the default value.

However this message will not be received in any of the following cases.

- SOUND MODULE MODE = C/M
- MU100 System Parameter (see table 2-2) Rcv GM EXCLUSIVE MESSAGE= OFF

Since approximately 50[ms] is required in order to process this message, be sure to allow an appropriate interval before sending the next message.

### 2.1.2.2 Identity Request

11110000	F0H	= Exclusive status
01111110	7EH	= Universal Non-Real Time

0mmmmmmm	MMH	= Device Number
00000110	06H	= Sub-ID #1 = General Information
00000001	01H	= Sub-ID #2 = Identity Request
11110111	F7H	= End of Exclusive

When this message is received, this device will transmit an Identity Reply message as described in the following section 2.1.2.3.

### 2.1.2.3 Identity Reply

11110000	F0H	= Exclusive status
01111110	7EH	= Universal Non-Real Time
0mmmmmmm	MMH	= Device Number
00000110	06H	= Sub-ID #1 = General Information
00000010	02H	= Sub-ID #2 = Identity Reply
01000011	43H	= YAMAHA ID
00000000	00H	= Device Family Code LSB
		MU100R ID #1
01000001	41H	= Device Family Code MSB
		MU100R ID #2
00000000	00H	= Device Number Code LSB
		MU100R ID #3
00000011	03H	= Device Number Code MSB
		MU100R ID #4
00000000	00H	
00000000	00H	
00000000	00H	
00000001	01H	= Tone Generator Code = XG
11110111	F7H	= End of Exclusive

This device will transmit this message when it receives the Identity Request message of 2.1.2.2.

### 2.1.3 XG parameter change

This message sets XG-related parameters. Each message can set a single parameter.

The message format is as follows.

11110000	F0H	Exclusive status
01000011	43H	YAMAHA ID
0001nnnn	1NH	N:device Number
01001100	4CH	Model ID
0ggggggg	GGH	Address High
0mmmmmmm	MMH	Address Mid
01111111	LLH	Address Low
0sssssss	SSH	Data
:	:	
11110111	F7H	End of Exclusive

For parameters whose Data Size is 2 or 4, the appropriate amount of data will be transmitted as indicated by Size.

### 2.1.3.1 XG System On

This system exclusive message causes the MU100R to function as an "XG"-compatible tone generator.

11110000	F0H	Exclusive status
01000011	43H	YAMAHA ID
0001nnnn	1NH	N:device Number
01001100	4CH	Model ID
00000000	00H	Address High
00000000	00H	Address Mid
01111110	7EH	Address Low
00000000	00H	Data
11110111	F7H	End of Exclusive

When On is received, the SOUND MODULE MODE will be set to XG, and all MIDI messages defined by XG such as NRPN or bank select etc. can be received.

Since approximately 50[ms] are required in order to execute this message, please allow an appropriate interval before transmitting the next message.

### 2.1.3.2 XG System parameter change

This message sets the XG SYSTEM block (refer to tables <1 - 1>, <1 - 2>).

### 2.1.3.3 Multi Effect1 parameter change

This message sets the MULTI EFFECT1 block (refer to tables <1 - 1>, <1 - 4>).

### 2.1.3.4 Multi EQ parameter change

This message sets the MULTI EQ block (refer to tables <1 - 1>, <1 - 5>).

### 2.1.3.5 Multi Effect2 parameter change

This message sets the MULTI EFFECT2 block (refer to tables <1 - 1>, <1 - 6>).

### 2.1.3.6 Unique Effect parameter change

This messages set the Unique Effect block (refer to tables <1 - 1>, <1 - 7>).

### 2.1.3.7 Display parameter change

This message sets the DISPLAY block (refer to tables <1 - 1>, <1 - 8>).

### 2.1.3.8 Multi Part parameter change

This message sets the MULTI PART block (refer to tables <1 - 1>, <1 - 9>).

### 2.1.3.9 AD Part parameter change

This message sets the AD PART block (refer to tables <1 - 1>, <1 - 10>).

### 2.1.3.10 AD System parameter change

This message sets the AD SYSTEM block (refer to tables <1 - 1>, <1 - 11>).

### 2.1.3.11 Drums Setup parameter change

This message sets the DRUMS SETUP block (refer to tables <1 - 1>, <1 - 12>).

### 2.1.3.12 Part Assign parameter change

This messages set the Part Assign block (refer to tables <1 - 1>, <1 - 13>).

## 2.1.4 MU100 native parameter change (1)

This message sets parameters unique to the MU100. Each message sets a single parameter.

As indicated below, the message format is in common with the MU50, MU80, and MU90.

11110000	F0H	Exclusive status
01000011	43H	YAMAHA ID
0001nnnn	1NH	N:Device Number
01001001	49H	Model ID
0gggggggg	GGH	Address High
0mmmmmmm	MMH	Address Mid
01111111	LLH	Address Low
0vvvvvvvv	VVH	Data
:	:	
11110111	F7H	End of Exclusive

For parameters whose Data Size is 2 or 4, the number of data bytes indicated by Size are transmitted.

### 2.1.4.1 MU100 System parameter change

This message sets the SYSTEM block (refer to tables <2 - 1>, <2 - 2>).

### 2.1.4.2 Remote Switch

This message sets the REMOTE SWITCH (refer to tables <2 - 1>, <2 - 3>).

## 2.1.5 MU100 native parameter change (2)

This message sets parameters which are unique to the MU100. Each message modifies a single parameter.

The format of this message is the same as for the MU90, as shown below.

11110000	F0H	Exclusive status
01000011	43H	YAMAHA ID
0001nnnn	1NH	N:Device Number
01011001	59H	Model ID
0gggggggg	GGH	Address High
0mmmmmmm	MMH	Address Mid
01111111	LLH	Address Low
0vvvvvvvv	VVH	Data
:	:	
11110111	F7H	End of Exclusive

For parameters whose Data Size is 2 or 4, the number of data bytes indicated by Size are transmitted.

### 2.1.5.1 Current Performance parameter change

This message sets the CURRENT PERFORMANCE block (refer to tables <3 - 1>, <3 - 2>).

## 2.1.6 VL70-m native parameter changes

11110000	F0H	Exclusive status
01000011	43H	YAMAHA ID
0001nnnn	1NH	N:Device Number
01010111	57H	Model ID
0ggggggg	GGH	Address High
0mmmmmmm	MMH	Address Mid
01111111	LLH	Address Low
0vvvvvvv	VVH	Data
:	:	
11110111	F7H	End of Exclusive

2.1.6.1 VL System parameter change (refer to table <4 - 1>).

2.1.6.2 VL Current Voice/Common Misc parameter change (refer to table <4 - 2>).

2.1.6.3 VL Part parameter change (refer to table <4 - 3>).

2.1.6.4 VL Current Voice/Element parameter change (refer to table <4 - 4>).

## 2.1.7 Other parameter changes

### 2.1.7.1 Master tuning

This message simultaneously modifies the tuning of all channels.

11110000	F0H	Exclusive status
01000011	43H	YAMAHA ID
0001nnnn	1NH	N:device Number
00100111	27H	Model ID
00110000	30H	Address High
00000000	00H	Address Mid
00000000	00H	Address Low
0000mmmm	0MH	Master Tune MSB
00001111	0LH	Master Tune LSB
0xxxxxxx	XXH	don't care
11110111	F7H	End of Exclusive

Normally, the XG SYSTEM message MASTER TUNE should be used (refer to table <1-2>).

## 2.2 Bulk dump

This device uses the following bulk dump messages.

### [XG BULK DUMP]

- 1) XG System bulk dump
- 2) System Information bulk dump
- 3) Multi Effect1 bulk dump
- 4) Multi EQ bulk dump
- 5) Multi Effect2 bulk dump
- 6) Multi Part bulk dump
- 7) AD Part bulk dump
- 8) Drums Setup bulk dump

### [MU100 NATIVE BULK DUMP 1]

- 1) MU100 System bulk dump
- 2) MU80, MU50 Internal Performance bulk dump

### [MU100 NATIVE BULK DUMP 2]

- 1) MU100 Internal Performance bulk dump

### [VL70-m NATIVE BULK DUMP]

- 1) VL System bulk dump
- 2) VL Current Voice/Common Misc bulk dump
- 3) VL Part bulk dump
- 4) VL Current Voice/Element bulk dump
- 5) VL Custom Voice bulk dump
- 6) VL Internal Voice bulk dump

### 2.2.1 XG bulk dump

This message sets XG-related parameters. Unlike parameter change messages, a single message can modify multiple parameters. The message format is as follows.

11110000	F0H	Exclusive status
01000011	43H	YAMAHA ID
0000nnnn	0NH	N:Device Number
01001100	4CH	Model ID
0sssssss	SSH	ByteCountMSB
0ttttttt	TTH	ByteCountLSB
0ggggggg	GGH	Address High
0mmmmmmm	MMH	Address Mid
01111111	LLH	Address Low
0vvvvvvv	VVH	Data
:	:	
0kkkkkkk	KKH	Check-sum
11110111	F7H	End of Exclusive

Address and Byte Count are given in tables 1-n. Byte Count is indicated by the total size of the Data in tables 1-n.

Bulk dump and dump request messages are received when the beginning of the block is specified as the 'Address'.

'Block' indicates the unit of the data string that is indicated in tables 1-n as 'Total size'.

Check sum is the value that produces a lower 7 bits of 0 when the Start Address, Byte Count, Data, and the Check-sum itself are added.

#### 2.2.1.1 XG System bulk dump

This message sets the XG SYSTEM block (refer to tables <1 - 1>, <1 - 2>).

### 2.2.1.2 System Information bulk dump

This message indicates the contents of the SYSTEM INFORMATION block (refer to tables <1 - 1>, <1 - 3>).

This message is transmitted in response to a Dump Request, but this message will be ignored if it is received.

### 2.2.1.3 Multi Effect1 bulk dump

This message sets the MULTI EFFECT1 block (refer to tables <1 - 1>, <1 - 4>).

### 2.2.1.4 Multi EQ bulk dump

This message sets the MULTIEQ block (refer to tables <1 - 1>, <1 - 5>).

### 2.2.1.5 Multi Effect2 bulk dump

This message sets the MULTI EFFECT2 block (refer to tables <1 - 1>, <1 - 6>).

### 2.2.1.6 Unique Effect bulk dump

This messages set the Unique Effect block (refer to tables <1 - 1>, <1 - 7>).

### 2.2.1.7 Multi Part bulk dump

This message sets the MULTIPART block (refer to tables <1 - 1>, <1 - 9>).

### 2.2.1.8 A/D Part bulk dump

This message sets the A/D PART block (refer to tables <1 - 1>, <1 - 10>).

### 2.2.1.9 Drums Setup bulk dump

This message sets the DRUMS SETUP block (refer to tables <1 - 1>, <1 - 12>).

## 2.2.2 MU100 native bulk dump (1)

This message modifies parameters unique to the MU100. Unlike parameter change messages, a single message will modify multiple parameters.

```

11110000 F0H Exclusive status
01000011 43H YAMAHA ID
0000nnnn ONH N:Device Number
01001001 49H Model ID
0sssssss SSH ByteCountMSB
0ttttttt TTH ByteCountLSB
0ggggggg GGH Address High
0mmmmmmm MMH Address Mid
01111111 LLH Address Low
0vvvvvvv VVH Data
: :
0kkkkkkk KKH Check-sum
11110111 F7H End of Exclusive

```

Details are the same as for 2.2.1 XG Bulk Dump. However, refer to table 2-n for the address, byte count, and block.

### 2.2.2.1 MU100 System bulk dump

This message sets the SYSTEM block (refer to tables <2 - 1>, <2 - 2>).

### 2.2.2.2 MU80, MU50 Internal Performance bulk dump

This message is in MU80 / MU50 data format. It sets the INTERNAL PERFORMANCE block (refer to tables <2 - 1>, <2 - 4>).

## 2.2.3 MU100 native bulk dump (2)

This message sets parameters unique to the MU100. Unlike parameter change messages, a single message can modify multiple parameters.

```

11110000 F0H Exclusive status
01000011 43H YAMAHA ID
0000nnnn ONH N:Device Number
01011001 59H Model ID
0sssssss SSH ByteCountMSB
0ttttttt TTH ByteCountLSB
0ggggggg GGH Address High
0mmmmmmm MMH Address Mid
01111111 LLH Address Low
0vvvvvvv VVH Data
: :
0kkkkkkk KKH Check-sum
11110111 F7H End of Exclusive

```

Details are the same as for 2.2.1 XG Bulk Dump. However, refer to table 3-n for address, byte count, and block.

### 2.2.3.1 MU100 Internal Performance bulk dump

This message sets the INTERNAL PERFORMANCE block (refer to tables <3 - 1>, <3 - 3>).

## 2.2.4 VL70-m native bulk dump

This messages set parameters that are unique to the VL section.

```

11110000 F0H Exclusive status
01000011 43H YAMAHA ID
0001nnnn 1NH N:Device Number
01010111 57H Model ID
0sssssss SSH ByteCountMSB
0ttttttt TTH ByteCountLSB
0ggggggg GGH Address High
0mmmmmmm MMH Address Mid
01111111 LLH Address Low
0vvvvvvv VVH Data
: :
0kkkkkkk KKH Check-sum
11110111 F7H End of Exclusive

```

- 2.2.4.1 VL System parameter change  
(refer to table <4 - 1>).
- 2.2.4.2 VL Current Voice/Common  
Misc parameter change (refer to  
table <4 - 2>).
- 2.2.4.3 VL Part parameter change (refer  
to table <4 - 3>).
- 2.2.4.4 VL Current Voice/Element  
parameter change (refer to table  
<4 - 4>).
- 2.2.4.5 VL Custom Voice bulk dump  
(refer to table <4 - 5>).
- 2.2.4.6 VL Internal Voice bulk dump  
(refer to table <4 - 6>).

## 2.3 Parameter request

This message requests transmission of a parameter value.  
The output is transmitted in the Parameter Change message format  
(refer to 2.1.3, 2.1.4, and 2.1.5).

### 2.3.1 XG parameter request

This message requests transmission of XG parameter  
settings.

Settings are transmitted in the format of an XG parameter  
change (refer to 2.1.3).

11110000	F0H	Exclusive status
01000011	43H	YAMAHA ID
0011nnnn	3NH	N:device Number
01001100	4CH	Model ID
0ggggggg	GGH	Address High
0mmmmmmm	MMH	Address Mid
01111111	LLH	Address Low
11110111	F7H	End of Exclusive

### 2.3.2 MU100 native parameter request (1)

This message requests transmission of a parameter value  
unique to the MU100.

The output is transmitted in the format of a MU100 native  
parameter change (refer to 2.1.4).

11110000	F0H	Exclusive status
01000011	43H	YAMAHA ID
0011nnnn	3NH	N:Device Number
01001001	49H	Model ID
0ggggggg	GGH	Address High
0mmmmmmm	MMH	Address Mid
01111111	LLH	Address Low
11110111	F7H	End of Exclusive

### 2.3.3 MU100 native parameter request (2)

This message requests the transmission of a parameter value  
unique to the MU100.

The output format is the same as for a MU100 native  
parameter change (refer to 2.1.5).

11110000	F0H	Exclusive status
01000011	43H	YAMAHA ID
0011nnnn	3NH	N:Device Number
01011001	59H	Model ID
0ggggggg	GGH	Address High
0mmmmmmm	MMH	Address Mid
01111111	LLH	Address Low
11110111	F7H	End of Exclusive

## 2.4 Dump request

This message requests transmission of a specific block of parameter  
values.

The output is the same as the bulk dump format.

### 2.4.1 XG dump request

This message requests transmission of all parameters of the  
specified block of XG parameters.

The output is the same as the format of XG bulk dump (refer  
to 2.2.1).

11110000	F0H	Exclusive status
01000011	43H	YAMAHA ID
0010nnnn	2NH	N:device Number
01001100	4CH	Model ID
0ggggggg	GGH	Address High
0mmmmmmm	MMH	Address Mid
01111111	LLH	Address Low
11110111	F7H	End of Exclusive

Address is valid only when the beginning of the block has  
been specified.

Reception/transmission of Dump Request cannot be turned  
off by MIDI switches other than Exclusive = off.

### 2.4.2 MU100 native dump request (1)

This message requests transmission of all parameters of the  
specified block of MU100 native parameters.

The output is in the same format as an MU100 native bulk  
dump (refer to 2.2.2).

11110000	F0H	Exclusive status
01000011	43H	YAMAHA ID
0010nnnn	2NH	N:Device Number
01001001	49H	Model ID
0ggggggg	GGH	Address High
0mmmmmmm	MMH	Address Mid
01111111	LLH	Address Low
11110111	F7H	End of Exclusive

Details are the same as for 2.4.1 XG Bulk Dump Request.

### 2.4.3 MU100 native dump request (2)

This message requests transmission of all parameter values of the specified MU100 native parameter block.

The output is in the format of MU100 Native Bulk Dump (refer to 2.2.3).

```

11110000  F0H  Exclusive status
01000011  43H  YAMAHA ID
0010nnnn  2NH  N:Device Number
01011001  59H  Model ID
0ggggggg  GGH  Address High
0mmmmmmm  MMH  Address Mid
01111111  LLH  Address Low
11110111  F7H  End of Exclusive

```

Details are the same as for 2.4.1 XG Bulk Dump Request.

## 3. Realtime messages

### 3.1 Active sensing

This message is used to prevent problems which could occur if a MIDI cable were to be disconnected or broken during a performance.

When this message is received, the MU100R will begin monitoring the state of the MIDI cable.

- a) Transmission not transmitted.
- b) Receive

ReceptionOnce FE has been received, failure to receive any MIDI message for an interval longer than approximately 300 msec will cause processing to be performed as if ALL SOUND OFF, ALL NOTE OFF, and RESET ALL CONTROLLERS messages were received, and the unit will reset to a condition in which FE was never received.

## 4.1 Channel messages (for Harmony Effect)

### 4.1.1 Note on/note off

		Harmony ch	Melody ch
9n	kk vv	○	○
	note on message		
	For Vocoder harmony, used to specify the pitch to be sounded.		
	For Chordal harmony, used to detect chords.		
8n	kk vv	○	○
	note off message		
9n	kk 00		

n : MIDI channel  
kk : note number  
vv : velocity

Velocity values are ignored.

For the Harmony channel, processing will be as follows.

- 1) For Vocoder harmony, these messages will specify the pitch to be sounded.
- 2) For Chordal harmony, these messages are used to detect chords.

For the Melody channel, these messages are received for the following purposes.

- 1) For Vocoder harmony, these messages are received as the basic pitch to control the gender of the harmony sound.
- 2) For Vocoder harmony, if Vocoder Mode is "Auto Transpose," the basic pitch is received.  
For both 1) and 2), if the Melody channel is off, the input audio will be the basic pitch.
- 3) When Lead Gender and Lead Pitch Correction are on the input pitch is shifted to the note-on pitch of the received note.  
If the Melody channel is off, the pitch will be shifted to the nearest chromatic pitch.

### 4.1.2 Control changes

Bn cc VV

n : MIDI channel  
cc : control#  
vv : data

#### 4.1.2.1 Data Entry

This message sets the value of the parameter that was specified by RPN (refer to 1.2.4) or NRPN (refer to 1.2.3).

Control#	Parameter	Data Range	Harmony ch	Melody ch
6	Data Entry MSB	0...127	○	○



## 4.1.2.2 Hold1

This message controls sustain pedal on/off.

Control#	Parameter	Data Range	Harmony ch	Melody ch
64	Hold1	0...63, 64...127 (OFF, ON)	○	X

When ON, currently-sounding notes will be sustained even after note-off is received.

## 4.1.2.3 NRPN (Non-registered parameter number)

This message is used to set sound parameters such as vibrato or detune, etc.

The NRPN MSB and NRPN LSB specify the parameter which is to be controlled, and subsequently Data Entry (refer to 1.2.1) is used to set the value of the specified parameter. Only the MSB of Data Entry is recognized.

Control#	Parameter	Data Range	Harmony ch	Melody ch
98	NRPN LSB	0...127	○	○
99	NRPN MSB	0...127		

The following NRPN messages are recognized.

NRPN MSB LSB	Data Entry MSB	Parameter name and range of values	Harmony ch	Melody ch
00 00	mm	Harmony Mute mm : 00 - 63 (off), 64 - 127 (on)	○	X
01 08	mm	Vibrato Rate Modulation mm : 00 - 64 - 127 (0...127)  Melody channel is effective only when Gender is ON.	○	○
01 09	mm	Vibrato Depth Modulation mm : 00 - 64 - 127 (0...127)  Melody channel is effective only when Gender is ON.	○	○
01 10	mm	Vibrato Delay Modulation mm : 00 - 64 - 127 (0...127)  Melody channel is effective only when Gender is ON.	○	○
01 26	mm	Detune Modulation mm : 00 - 127 (0...127)  Controls the overall amount of detune specified for the individual voice.  The following NRPN numbers independently control the volume of each harmony note. The currently-sounding harmony notes are numbered sequentially beginning from the lowest note.	○	X
02 16	mm	Harmony 1 Volume mm : 00 - 127 (0...127)	○	X
02 17	mm	Harmony 2 Volume mm : 00 - 127 (0...127)	○	X
02 18	mm	Harmony 3 Volume mm : 00 - 127 (0...127)  The following NRPN numbers independently control the panning of each harmony note.	○	X

			The currently-sounding harmony notes are numbered sequentially beginning from the lowest note. When the value is 0, panning will be random. For random panning with Vocoder harmony, the pan position will change at each key-on. For random panning with Chordal harmony, the pan position will change whenever the chord changes. For Detune and Chromatic harmony, random pan will not function, and the panning will be centered.		
02	32	mm	Harmony 1 Pan mm : 00, 01 - 64 - 127 (random, Lch...center...Rch)	<input type="radio"/>	X
02	33	mm	Harmony 2 Pan mm : 00, 01 - 64 - 127 (random, Lch...center...Rch)	<input type="radio"/>	X
02	34	mm	Harmony 3 Pan mm : 00, 01 - 64 - 127 (random, Lch...center...Rch)	<input type="radio"/>	X
			The following NRPN numbers independently control the detune amount for each harmony sound. The currently-sounding harmony notes are numbered sequentially beginning from the lowest note.		
02	48	mm	Harmony 1 Detune mm : 00 - 64 - 127 (-64...0...+63)	<input type="radio"/>	X
02	49	mm	Harmony 2 Detune mm : 00 - 64 - 127 (-64...0...+63)	<input type="radio"/>	X
02	50	mm	Harmony 3 Detune mm : 00 - 64 - 127 (-64...0...+63)	<input type="radio"/>	X

#### 4.1.2.4 RPN (Registered Parameter Number)

This message is used to set Pitch Bend Sensitivity.

RPN MSB and RPN LSB are used to specify the parameter which is to be controlled, and subsequently Data Entry (refer to 1.2.1) is used to set the value of the specified parameter.

Only the MSB of Data Entry is recognized.

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

The following RPN numbers are recognized.

RPN MSB LSB	Data Entry MSB	Parameter name and range of values	Harmony ch	Melody ch
00 00	mm	Pitch Bend Sensitivity mm : 00 - 24 (0...24 semitones) Settable in semitone steps over a two-octave range	<input type="radio"/>	<input type="radio"/>
127 127	--	RPN null Set RPN and NRPN numbers to a condition in which no numbers have been specified. Internal settings will not be affected.	<input type="radio"/>	<input type="radio"/>

#### 4.1.2.5 All Note Off

For Vocoder harmony, this message turns off all currently-sounding harmony notes.

Control#	Parameter	Data Range
123	All Note Off	0

### 4.1.3 Pitch Bend

En vv vv

Harmony ch

Melody ch

○

○

n : MIDI channel  
vv : data

This message conveys operations of the pitch bender.

It will modify the pitch in the range specified by RPN Pitch Ben Sensitivity.

For the Melody channel, this message will have an effect only when Lead Gender is ON.

## 4.2 System exclusive messages (for Harmony Effect)

### 4.2.1 Chord Control Code

F0 43 7E 02 cr ct 7F 7F F7

For Chordal mode, this is used to specify the chord.

The chord can also be specified by Note-on messages.

cr : chord root (o f f f n n n n)

fff : Accidental	n n n n : Note
0 : bbb	0 : reserved
1 : bb	1 : C
2 : b	2 : D
3 : natural	3 : E
4 : #	4 : F
5 : ##	5 : G
6 : ###	6 : B

ct : chord type

0 : Maj  
1 : Maj6  
2 : Maj7  
3 : Maj7 (#11)  
4 : Maj (9)  
5 : Maj7 (9)  
6 : Maj6 (9)  
7 : aug  
8 : min  
9 : min6  
0A : min7  
0B : min7b5  
0C : min (9)  
0D : min7 (9)  
0E : min7 (11)  
0F : minMaj7  
10 : minMaj7 (9)  
11 : dim  
12 : dim7  
13 : 7th  
14 : 7sus4  
15 : 7b5  
16 : 7 (9)  
17 : 7(#11)  
18 : 7 (13)  
19 : 7 (b9)  
1A : 7 (b13)  
1B : 7 (#9)  
1C : Maj7aug  
1D : 7aug  
1E : 1+8

1F : 1+5  
 20 : sus4  
 21 : 1+2+5  
 22 : chord cancel    Same processing as chord-off.

(Example) To specify Am7,  
 F0 43 7E 02 36 0A 7F 7F F7  
 (A) (m7)

< Table 1 - 1 >

Parameter Base Address  
 Model ID = 4C

Parameter	Address			Description
	(H)	(M)	(L)	
XG SYSTEM	00	00	00	System
	00	00	7D	Drum setup Reset
	00	00	7E	XG System On
	00	00	7F	All Parameter Reset
INFORMATION	01	00	00	System Information
EFFECT 1	02	01	00	Effect 1 (Reverb, Chorus, Variation)
	02	40	00	Multi EQ
EFFECT 2	03	00	00	Insertion Effect 1
	03	01	00	Insertion Effect 2
UNIQUE EFFECT	04	00	00	Insertion Effect (VH)
DISPLAY	06	00	00	Display Letter
	07	00	00	Display Bit Map
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
MULTI PART (additional)	0A	00	00	Multi Part 1 :
	0A	0F	00	Multi Part 16
	0A	10	00	Multi Part 17 :
	0A	1F	00	Multi Part 32
A/D PART	10	00	00	A/D Part 1
	10	01	00	A/D Part 2
A/D SYSTEM	11	00	00	A/D System
DRUM	30	0D	00	Drum Setup 1
	31	0D	00	Drum Setup 2
	32	0D	00	Drum Setup 3
	33	0D	00	Drum Setup 4
PART ASSIGN	70	00	00	VL Part Assign

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

< Table 1 - 2 >

MIDI Parameter Change table (XG SYSTEM)

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value (H)
00 00	00 4	00 - 0F	MASTER TUNE	-102.4...0...+102.3 [cent]	00 04 00 00
	01	00 - 0F		1st bit3-0→bit15-12	
	02	00 - 0F		2nd bit3-0→bit11-8	
	03	00 - 0F		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...0...+24 [semitones]	40
	7D 1	N	DRUM SETUP RESET	N: Drum setup number (receive only)	--
	7E 1	00	XG SYSTEM ON	00 = XG system ON (receive only)	--
	7F 1	00	ALL PARAMETER RESET	00 = ON (receive only)	--
TOTAL SIZE	07				

< Table 1 - 3 >

MIDI Parameter Change table (SYSTEM INFORMATION)

Address (H)	Size (H)	Data (H)	Parameter	Description
01 00	00 E	20 - 7F	Model Name 1	32...127(ASCII CHARACTER)
	:	:	:	:
	0D	20 - 7F	Model Name 14	32...127 (ASCII CHARACTER)
	0E 1	00 - 7F	XG Level 1	
	0F 1	00 - 7F	XG Level 2	
TOTAL SIZE	10			

Transmitted in response to Dump Request. Not received.

< 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
	02 1	00 - 7F	REVERB PARAMETER 1	~	12 (depends on reverb type)
	03 1	00 - 7F	REVERB PARAMETER 2	~	0A (-)
	04 1	00 - 7F	REVERB PARAMETER 3	~	08 (-)
	05 1	00 - 7F	REVERB PARAMETER 4	~	0D (-)
	06 1	00 - 7F	REVERB PARAMETER 5	~	31 (-)
	07 1	00 - 7F	REVERB PARAMETER 6	~	00 (-)
	08 1	00 - 7F	REVERB PARAMETER 7	~	00 (-)
	09 1	00 - 7F	REVERB PARAMETER 8	~	00 (-)
	0A 1	00 - 7F	REVERB PARAMETER 9	~	00 (-)
	0B 1	00 - 7F	REVERB PARAMETER 10	~	00 (-)
	0C 1	00 - 7F	REVERB RETURN	∞dB...0dB...+6dB (0...96...127)	40
	0D 1	01 - 7F	REVERB PAN	L63...C...R63	40
TOTAL SIZE	0E				
02 01	10 1	00 - 7F	REVERB PARAMETER 11	refer to Effect Parameter List	00 (depends on reverb type)
	11 1	00 - 7F	REVERB PARAMETER 12	~	04 (-)
	12 1	00 - 7F	REVERB PARAMETER 13	~	32 (-)
	13 1	00 - 7F	REVERB PARAMETER 14	~	08 (-)
	14 1	00 - 7F	REVERB PARAMETER 15	~	40 (-)
	15 1	00 - 7F	REVERB PARAMETER 16	~	00 (-)
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

22	1	00 - 7F	CHORUS PARAMETER 1	~	06 (depends on chorus type)
23	1	00 - 7F	CHORUS PARAMETER 2	~	36 (-)
24	1	00 - 7F	CHORUS PARAMETER 3	~	4D (-)
25	1	00 - 7F	CHORUS PARAMETER 4	~	6A (-)
26	1	00 - 7F	CHORUS PARAMETER 5	~	00 (-)
27	1	00 - 7F	CHORUS PARAMETER 6	~	1C (-)
28	1	00 - 7F	CHORUS PARAMETER 7	~	40 (-)
29	1	00 - 7F	CHORUS PARAMETER 8	~	2E (-)
2A	1	00 - 7F	CHORUS PARAMETER 9	~	40 (-)
2B	1	00 - 7F	CHORUS PARAMETER 10	~	40 (-)
2C	1	00 - 7F	CHORUS RETURN	-∞dB...0dB...+6dB (0...96...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...96...127)	00
TOTAL SIZE 0F					
02	01	30	1	00 - 7F	CHORUS PARAMETER 11 refer to Effect Parameter List 2E (depends on chorus type)
		31	1	00 - 7F	CHORUS PARAMETER 12 ~ 40 (-)
		32	1	00 - 7F	CHORUS PARAMETER 13 ~ 0A (-)
		33	1	00 - 7F	CHORUS PARAMETER 14 ~ 00 (-)
		34	1	00 - 7F	CHORUS PARAMETER 15 ~ 00 (-)
		35	1	00 - 7F	CHORUS PARAMETER 16 ~ 00 (-)
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
		42	2	00 - 7F	VARIATION PARAMETER 1 MSB ~ 1A (depends on variation type)
				00 - 7F	VARIATION PARAMETER 1 LSB ~ 05 (-)
		44	2	00 - 7F	VARIATION PARAMETER 2 MSB ~ 0D (-)
				00 - 7F	VARIATION PARAMETER 2 LSB ~ 03 (-)
		46	2	00 - 7F	VARIATION PARAMETER 3 MSB ~ 27 (-)
				00 - 7F	VARIATION PARAMETER 3 LSB ~ 08 (-)
		48	2	00 - 7F	VARIATION PARAMETER 4 MSB ~ 27 (-)
				00 - 7F	VARIATION PARAMETER 4 LSB ~ 08 (-)
		4A	2	00 - 7F	VARIATION PARAMETER 5 MSB ~ 00 (-)
				00 - 7F	VARIATION PARAMETER 5 LSB ~ 4A (-)
		4C	2	00 - 7F	VARIATION PARAMETER 6 MSB ~ 00 (-)
				00 - 7F	VARIATION PARAMETER 6 LSB ~ 64 (-)
		4E	2	00 - 7F	VARIATION PARAMETER 7 MSB ~ 00 (-)
				00 - 7F	VARIATION PARAMETER 7 LSB ~ 0A (-)
		50	2	00 - 7F	VARIATION PARAMETER 8 MSB ~ 00 (-)
				00 - 7F	VARIATION PARAMETER 8 LSB ~ 00 (-)
		52	2	00 - 7F	VARIATION PARAMETER 9 MSB ~ 00 (-)
				00 - 7F	VARIATION PARAMETER 9 LSB ~ 00 (-)
		54	2	00 - 7F	VARIATION PARAMETER 10 MSB ~ 00 (-)
				00 - 7F	VARIATION PARAMETER 10 LSB ~ 20 (-)
		56	1	00 - 7F	VARIATION RETURN -∞dB...0dB...+6dB (0...96...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...96...127) 00
		59	1	00 - 7F	SEND VARIATION TO CHORUS -∞dB...0dB...+6dB (0...96...127) 00
		5A	1	00 - 01	VARIATION CONNECTION INSERTION, SYSTEM 00
		5B	1	00 - 7F	VARIATION PART NUMBER Part1...32 (0...31) 7F
					AD1, AD2 (64, 65)
					OFF (127)
		5C	1	00 - 7F	MW VARIATION CONTROL DEPTH -64...0...+63 40
		5D	1	00 - 7F	BEND VARIATION CONTROL DEPTH -64...0...+63 40
		5E	1	00 - 7F	CAT VARIATION CONTROL DEPTH -64...0...+63 40
		5F	1	00 - 7F	AC1 VARIATION CONTROL DEPTH -64...0...+63 40
		60	1	00 - 7F	AC2 VARIATION CONTROL DEPTH -64...0...+63 40
TOTAL SIZE 21					
02	01	70	1	00 - 7F	VARIATION PARAMETER 11 refer to Effect Parameter List 00 (depends on variation type)
		71	1	00 - 7F	VARIATION PARAMETER 12 ~ 3C (-)
		72	1	00 - 7F	VARIATION PARAMETER 13 ~ 1C (-)

73	1	00 - 7F	VARIATION PARAMETER 14	~	40 (-)
74	1	00 - 7F	VARIATION PARAMETER 15	~	2E (-)
75	1	00 - 7F	VARIATION PARAMETER 16	~	40 (-)
TOTAL SIZE	6				

## &lt; Table 1 - 5 &gt;

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	flat, jazz, pops, rock, classic	00
	01 1	34 - 4C	EQ GAIN1	-12...0...+12 [dB]	40 (depends on EQ type)
	02 1	04 - 28	EQ FREQUENCY1	32...2.0k [Hz]	0C (-)
	03 1	01 - 78	EQ Q1	0.1...12.0	07 (-)
	04 1	00 - 01	EQ SHAPE1	shelving, peaking	00 (-)
	05 1	34 - 4C	EQ GAIN2	-12...0...+12 [dB]	40 (-)
	06 1	0E - 36	EQ FREQUENCY2	100...10.0k [Hz]	1C (-)
	07 1	01 - 78	EQ Q2	0.1...12.0	07 (-)
	08 1		NOT USED		--
	09 1	34 - 4C	EQ GAIN3	-12...0...+12 [dB]	40 (-)
	0A 1	0E - 36	EQ FREQUENCY3	100...10.0k [Hz]	22 (-)
	0B 1	01 - 78	EQ Q3	0.1...12.0	07 (-)
	0C 1		NOT USED		--
	0D 1	34 - 4C	EQ GAIN4	-12...0...+12 [dB]	40 (-)
	0E 1	0E - 36	EQ FREQUENCY4	100...10.0k [Hz]	2E (-)
	0F 1	01 - 78	EQ Q4	0.1...12.0	07 (-)
	10 1		NOT USED		--
	11 1	34 - 4C	EQ GAIN5	-12...0...+12 [dB]	40 (-)
	12 1	1C - 3A	EQ FREQUENCY5	0.5k...16.0k [Hz]	34 (-)
	13 1	01 - 78	EQ Q5	0.1...12.0	07 (-)
	14 1	00 - 01	EQ SHAPE5	shelving, peaking	00 (-)
TOTAL SIZE	15				

## &lt; Table 1 - 6 &gt;

MIDI Parameter Change table (EFFECT 2)

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value (H)
03 00	00 2	00 - 7F	INSERTION EFFECT1 TYPE MSB	refer to Effect Program List	49 (= DISTORTION)
		00 - 7F	INSERTION EFFECT1 TYPE LSB	~	00
	02 1	00 - 7F	INSERTION EFFECT1 PARAMETER1	~	28 (depends on insertion effect1 type)
	03 1	00 - 7F	INSERTION EFFECT1 PARAMETER2	~	14 (-)
	04 1	00 - 7F	INSERTION EFFECT1 PARAMETER3	~	48 (-)
	05 1	00 - 7F	INSERTION EFFECT1 PARAMETER4	~	35 (-)
	06 1	00 - 7F	INSERTION EFFECT1 PARAMETER5	~	40 (-)
	07 1	00 - 7F	INSERTION EFFECT1 PARAMETER6	~	00 (-)
	08 1	00 - 7F	INSERTION EFFECT1 PARAMETER7	~	2B (-)
	09 1	00 - 7F	INSERTION EFFECT1 PARAMETER8	~	4A (-)
	0A 1	00 - 7F	INSERTION EFFECT1 PARAMETER9	~	0A (-)
	0B 1	00 - 7F	INSERTION EFFECT1 PARAMETER10	~	7F (-)
	0C 1	00 - 7F	INSERTION EFFECT1 PART NUMBER	Part1...32 (0...31) AD1, AD2 (64, 65) OFF (127)	7F
	0D 1	00 - 7F	MW INSERTION CONTROL DEPTH	-64...0...+63	40
	0E 1	00 - 7F	BEND INSERTION CONTROL DEPTH	-64...0...+63	40
	0F 1	00 - 7F	CAT INSERTION CONTROL DEPTH	-64...0...+63	40
	10 1	00 - 7F	AC1 INSERTION CONTROL DEPTH	-64...0...+63	40
	11 1	00 - 7F	AC2 INSERTION CONTROL DEPTH	-64...0...+63	40
TOTAL SIZE	12				
	20 1	00 - 7F	INSERTION EFFECT1 PARAMETER11	refer to Effect Parameter List	78 (depends on insertion effect1 type)
	21 1	00 - 7F	INSERTION EFFECT1 PARAMETER12	~	00 (-)
	22 1	00 - 7F	INSERTION EFFECT1 PARAMETER13	~	00 (-)
	23 1	00 - 7F	INSERTION EFFECT1 PARAMETER14	~	00 (-)

24	1	00 - 7F	INSERTION EFFECT1 PARAMETER15 ~	00 (-)
25	1	00 - 7F	INSERTION EFFECT1 PARAMETER16 ~	00 (-)
TOTAL SIZE	6			
30	2	00 - 7F	INSERTION EFFECT1 PARAMETER1 MSB refer to Effect Parameter List	00 (depends on insertion effect1 type)
		00 - 7F	INSERTION EFFECT1 PARAMETER1 LSB ~	28 (-)
32	2	00 - 7F	INSERTION EFFECT1 PARAMETER2 MSB ~	00 (-)
		00 - 7F	INSERTION EFFECT1 PARAMETER2 LSB ~	14 (-)
34	2	00 - 7F	INSERTION EFFECT1 PARAMETER3 MSB ~	00 (-)
		00 - 7F	INSERTION EFFECT1 PARAMETER3 LSB ~	48 (-)
36	2	00 - 7F	INSERTION EFFECT1 PARAMETER4 MSB ~	00 (-)
		00 - 7F	INSERTION EFFECT1 PARAMETER4 LSB ~	35 (-)
38	2	00 - 7F	INSERTION EFFECT1 PARAMETER5 MSB ~	00 (-)
		00 - 7F	INSERTION EFFECT1 PARAMETERS5 LSB ~	40 (-)
3A	2	00 - 7F	INSERTION EFFECT1 PARAMETER6 MSB ~	00 (-)
		00 - 7F	INSERTION EFFECT1 PARAMETER6 LSB ~	00 (-)
3C	2	00 - 7F	INSERTION EFFECT1 PARAMETER7 MSB ~	00 (-)
		00 - 7F	INSERTION EFFECT1 PARAMETER7 LSB ~	2B (-)
3E	2	00 - 7F	INSERTION EFFECT1 PARAMETER8 MSB ~	00 (-)
		00 - 7F	INSERTION EFFECT1 PARAMETERS8 LSB ~	4A (-)
40	2	00 - 7F	INSERTION EFFECT1 PARAMETER9 MSB ~	00 (-)
		00 - 7F	INSERTION EFFECT1 PARAMETER9 LSB ~	0A (-)
42	2	00 - 7F	INSERTION EFFECT1 PARAMETER10 MSB ~	00(-)
		00 - 7F	INSERTION EFFECT1 PARAMETER10 LSB ~	7F (-)
TOTAL SIZE	14			

When using an EFFECT TYPE which does not require the MSB, parameters of addresses 02~0B are received, and parameters of addresses 30~42 are not received.

When using an EFFECT TYPE which requires the MSB, parameters of addresses 30~42 are received, and parameters of addresses 02~0B are not received.

Bulk data which includes the EFFECT TYPE is always transmitted with the parameters of addresses 02~0B, but in the case of an EFFECT TYPE which requires the MSB, parameters of addresses 02~0B are not received even for bulk reception.

03	01	00	2	00 - 7F	INSERTION EFFECT2 TYPE MSB refer to Effect Program List	49 (= DISTORTION)
				00 - 7F	INSERTION EFFECT2 TYPE LSB ~	00
				00 - 7F	INSERTION EFFECT2 PARAMETER1 ~	28(depends on insertion effect2 type)
				00 - 7F	INSERTION EFFECT2 PARAMETER2 ~	14 (-)
				00 - 7F	INSERTION EFFECT2 PARAMETER3 ~	48 (-)
				00 - 7F	INSERTION EFFECT2 PARAMETER4 ~	35 (-)
				00 - 7F	INSERTION EFFECT2 PARAMETER5 ~	40 (-)
				00 - 7F	INSERTION EFFECT2 PARAMETER6 ~	00 (-)
				00 - 7F	INSERTION EFFECT2 PARAMETER7 ~	2B (-)
				00 - 7F	INSERTION EFFECT2 PARAMETER8 ~	4A (-)
				00 - 7F	INSERTION EFFECT2 PARAMETER9 ~	0A (-)
				00 - 7F	INSERTION EFFECT2 PARAMETER10 ~	7F (-)
				00 - 7F	INSERTION EFFECT2 PART NUMBER Part1...32 (0...31) AD1, AD2 (64, 65) OFF (127)	7F
				00 - 7F	MW INSERTION CONTROL DEPTH -64...0...+63	40
				00 - 7F	BEND INSERTION CONTROL DEPTH -64...0...+63	40
				00 - 7F	CAT INSERTION CONTROL DEPTH -64...0...+63	40
				00 - 7F	AC1 INSERTION CONTROL DEPTH -64...0...+63	40
				00 - 7F	AC2 INSERTION CONTROL DEPTH -64...0...+63	40
TOTAL SIZE	12					
20	1	00 - 7F	INSERTION EFFECT2 PARAMETER11 refer to Effect Parameter List	78 (depends on insertion effect2 type)		
21	1	00 - 7F	INSERTION EFFECT2 PARAMETER12 ~	00 (-)		
22	1	00 - 7F	INSERTION EFFECT2 PARAMETER13 ~	00 (-)		
23	1	00 - 7F	INSERTION EFFECT2 PARAMETER14 ~	00 (-)		
24	1	00 - 7F	INSERTION EFFECT2 PARAMETER15 ~	00 (-)		
25	1	00 - 7F	INSERTION EFFECT2 PARAMETER16 ~	00 (-)		
TOTAL SIZE	6					



30	2	00 - 7F	INSERTION EFFECT2 PARAMETER1 MSB	refer to Effect Parameter List	00 (depends on insertion effect2 type)
		00 - 7F	INSERTION EFFECT2 PARAMETER1 LSB	~	28 (-)
32	2	00 - 7F	INSERTION EFFECT2 PARAMETER2 MSB	~	00 (-)
		00 - 7F	INSERTION EFFECT2 PARAMETER2 LSB	~	14 (-)
34	2	00 - 7F	INSERTION EFFECT2 PARAMETER3 MSB	~	00 (-)
		00 - 7F	INSERTION EFFECT2 PARAMETER3 LSB	~	48 (-)
36	2	00 - 7F	INSERTION EFFECT2 PARAMETER4 MSB	~	00 (-)
		00 - 7F	INSERTION EFFECT2 PARAMETER4 LSB	~	35 (-)
38	2	00 - 7F	INSERTION EFFECT2 PARAMETER5 MSB	~	00 (-)
		00 - 7F	INSERTION EFFECT2 PARAMETER5 LSB	~	40 (-)
3A	2	00 - 7F	INSERTION EFFECT2 PARAMETER6 MSB	~	00 (-)
		00 - 7F	INSERTION EFFECT2 PARAMETER6 LSB	~	00 (-)
3C	2	00 - 7F	INSERTION EFFECT2 PARAMETER7 MSB	~	00 (-)
		00 - 7F	INSERTION EFFECT2 PARAMETER7 LSB	~	2B (-)
3E	2	00 - 7F	INSERTION EFFECT2 PARAMETER8 MSB	~	00 (-)
		00 - 7F	INSERTION EFFECT2 PARAMETER8 LSB	~	4A (-)
40	2	00 - 7F	INSERTION EFFECT2 PARAMETER9 MSB	~	00 (-)
		00 - 7F	INSERTION EFFECT2 PARAMETER9 LSB	~	0A (-)
42	1	00 - 7F	INSERTION EFFECT2 PARAMETER10 MSB	~	00 (-)
		00 - 7F	INSERTION EFFECT2 PARAMETER10 LSB	~	7F (-)
TOTAL SIZE	14				

When using an EFFECT TYPE which does not require the MSB, parameters of addresses 02~0B are received, and parameters of addresses 30~42 are not received.

When using an EFFECT TYPE which requires the MSB, parameters of addresses 30~42 are received, and parameters of addresses 02~0B are not received.

Transmission of bulk data which includes EFFECT TYPE data will always include the parameters of addresses 02~0B, but in the case of an EFFECT TYPE which does not require the MSB, parameters of addresses 02~0B will not be received even in bulk reception.

### < Table 1 - 7 >

MIDI Parameter Change table (UNIQUE EFFECT)

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value (H)
04 00 00	2	00 - 7F	UNIQUE INSERTION EFFECT TYPE MSB	Refer to XG EFFECT MAP	59 (=Vocoder harmony)
		00 - 7F	UNIQUE INSERTION EFFECT TYPE LSB	00 : basic type	00
02	1	00 - 7F	UNIQUE INSERTION EFFECT PARAMETER1	Refer to Effect parameter list	depends on type
03	1	00 - 7F	UNIQUE INSERTION EFFECT PARAMETER2	~	~
04	1	00 - 7F	UNIQUE INSERTION EFFECT PARAMETER3	~	~
05	1	00 - 7F	UNIQUE INSERTION EFFECT PARAMETER4	~	~
06	1	00 - 7F	UNIQUE INSERTION EFFECT PARAMETER5	~	~
07	1	00 - 7F	UNIQUE INSERTION EFFECT PARAMETER6	~	~
08	1	00 - 7F	UNIQUE INSERTION EFFECT PARAMETER7	~	~
09	1	00 - 7F	UNIQUE INSERTION EFFECT PARAMETER8	~	~
0A	1	00 - 7F	UNIQUE INSERTION EFFECT PARAMETER9	~	~
0B	1	00 - 7F	UNIQUE INSERTION EFFECT PARAMETER10	~	~
0C	1	00 - 7F	UNIQUE INSERTION EFFECT PART	Part1...32 (0...31) AD1, AD2 (64, 65) OFF (127)	7F
0D	1		NOT USED		--
0E	1		NOT USED		--
0F	1		NOT USED		--
10	1		NOT USED		--
11	1		NOT USED		--
TOTAL SIZE	12				
04 00 14	1	00 - 7F	UNIQUE INSERTION EFFECT EXTERNAL CONTROL CH1 (HARMONY CHANNEL)	1...16 (0...15), off (127)	7F
15	1	00 - 7F	UNIQUE INSERTION EFFECT EXTERNAL CONTROL CH2 (MELODY CHANNEL)	~	7F
TOTAL SIZE	2				

04	00	20	1	00 - 7F	UNIQUE INSERTION EFFECT PARAMETER11	Refer to Effect parameter list	depends on type
		21	1	00 - 7F	UNIQUE INSERTION EFFECT PARAMETER12	~	~
		22	1	00 - 7F	UNIQUE INSERTION EFFECT PARAMETER13	~	~
		23	1	00 - 7F	UNIQUE INSERTION EFFECT PARAMETER14	~	~
		24	1	00 - 7F	UNIQUE INSERTION EFFECT PARAMETER15	~	~
		25	1	00 - 7F	UNIQUE INSERTION EFFECT PARAMETER16	~	~
TOTAL SIZE		6					

## &lt; Table 1 - 8 &gt;

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 Data1	32...127(ASCII CHARACTER) --
	:	:	:	:	:	:
	1F			DISPLAY LETTER Data32	32...127(ASCII CHARACTER) --	
TOTAL SIZE		20				
07	00	00	30	00 - 7F	DISPLAY BITMAP Data1*	0...127 --
	:	:	:	:	:	:
	2F			DISPLAY BITMAP Data48	0...127 --	
TOTAL SIZE		30				

\* The relation between DISPLAY BITMAP data and the display screen

Seven pixels horizontally are one byte of data.

Set a bit to 1 to display the corresponding pixel, and set a bit to 0 to turn it off.

This data is mapped to the screen as follows.

	b7 b6 b5 b4 b3 b2 b1 b0	b7 b6 b5 b4 b3 b2 b1 b0	b7 b6 b5 b4 b3 b2 b1 b0 ('b' stands for 'bit')
Data1	0 * * * * * *	Data17	0 * * * * * *
Data2		Data18	
Data3		Data19	
Data4		Data20	
Data5		Data21	
Data6		Data22	
Data7		Data23	
Data8		Data24	
Data9		Data25	
Data10		Data26	
Data11		Data27	
Data12		Data28	
Data13		Data29	
Data14		Data30	
Data15		Data31	
Data16		Data32	
		Data33	0 * * - - - - -

For Data33~Data48, only bit 6 and bit 5 are used.

Specific individual pixels of the bitmap data can also be received. In this case, other pixels will retain their previous state.

DISPLAY DATA parameter changes can be transmitted continuously from a specified location.

## &lt; Table 1 - 9 &gt;

MIDI Parameter Change table (MULTI PART)

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value (H)	
08	nn	00	1	00 - 40	ELEMENT RESERVE	0...64 (Not valid for VL)
	nn	01	1	00 - 7F	BANK SELECT MSB	0...127
	nn	02	1	00 - 7F	BANK SELECT LSB	0...127
	nn	03	1	00 - 7F	PROGRAM NUMBER	1...128
	nn	04	1	00-1F, 7F	Rcv CHANNEL	A1...A16, B1...B16, OFF

## MIDI data format

nn	05	1	00 - 01	MONO/POLY MODE	MONO , POLY	01
nn	06	1	00 - 02	SAME NOTE NUMBER	SINGLE, MULTI, INST(for DRUM)	01
				KEY ON ASSIGN	(Not valid for VL)	
nn	07	1	00 - 05	PART MODE	NORMAL, DRUM, DRUMS1...4	Part10 = 2, Part26 = 4 other parts = 0
nn	08	1	28 - 58	NOTE SHIFT	-24...0...+24 [semitones]	40
nn	09	2	00 - 0F	DETUNE	-12.8...0...+12.7 [Hz]	08 00
nn	0A		00 - 0F		1st bit3-0→bit7-4 2nd bit3-0→bit3-0	
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	RND, L63...C...R63	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...0...+63	40
nn	16	1	00 - 7F	VIBRATO DEPTH	-64...0...+63	40
nn	17	1	00 - 7F	VIBRATO DELAY	-64...0...+63	40
nn	18	1	00 - 7F	LOW PASS FILTER CUTOFF FREQUENCY	-64...0...+63	40
nn	19	1	00 - 7F	LOW PASS FILTER RESONANCE	-64...0...+63	40
nn	1A	1	00 - 7F	EG ATTACK TIME	-64...0...+63	40
nn	1B	1	00 - 7F	EG DECAY TIME	-64...0...+63	40
nn	1C	1	00 - 7F	EG RELEASE TIME	-64...0...+63	40
nn	1D	1	28 - 58	MW PITCH CONTROL	-24...0...+24 [semitones]	40
nn	1E	1	00 - 7F	MW LOW PASS FILTER CONTROL	-9600...0...+9450[cent]	40
nn	1F	1	00 - 7F	MW AMPLITUDE CONTROL	-100...0...+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 (Not valid for VL)	00
nn	23	1	28 - 58	BEND PITCH CONTROL	-24...0...+24 [semitones]	42
nn	24	1	00 - 7F	BEND LOW PASS FILTER CONTROL	-9600...0...+9450 [cent]	40
nn	25	1	00 - 7F	BEND AMPLITUDE CONTROL	-100...0...+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 (Not valid for VL)	00
TOTAL SIZE		29				
nn	30	1	00 - 01	Rev PITCH BEND	OFF, ON	01
nn	31	1	00 - 01	Rev CH AFTER TOUCH (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 AFTER TOUCH (PAT)	OFF, ON (Not valid for VL)	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	XGmode = 01, GMmode = 00
nn	38	1	00 - 01	Rev MODURATION	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 (Not valid for VL)	01
nn	3F	1	00 - 01	Rev SOFT PEDAL	OFF, ON	01
nn	40	1	00 - 01	Rev BANK SELECT	OFF, ON	XGmode = 01, GMmode = 00
nn	41	1	00 - 7F	SCALE TUNING C	-64...0...+63 [cent]	40
nn	42	1	00 - 7F	SCALE TUNING C#	-64...0...+63 [cent]	40
nn	43	1	00 - 7F	SCALE TUNING D	-64...0...+63 [cent]	40
nn	44	1	00 - 7F	SCALE TUNING D#	-64...0...+63 [cent]	40
nn	45	1	00 - 7F	SCALE TUNING E	-64...0...+63 [cent]	40

nn	46	1	00 - 7F	SCALE TUNING F	-64...0...+63 [cent]	40
nn	47	1	00 - 7F	SCALE TUNING F#	-64...0...+63 [cent]	40
nn	48	1	00 - 7F	SCALE TUNING G	-64...0...+63 [cent]	40
nn	49	1	00 - 7F	SCALE TUNING G#	-64...0...+63 [cent]	40
nn	4A	1	00 - 7F	SCALE TUNING A	-64...0...+63 [cent]	40
nn	4B	1	00 - 7F	SCALE TUNING A#	-64...0...+63 [cent]	40
nn	4C	1	00 - 7F	SCALE TUNING B	-64...0...+63 [cent]	40
nn	4D	1	28 - 58	CAT PITCH CONTROL	-24...0...+24 [semitones]	40
nn	4E	1	00 - 7F	CAT LOW PASS FILTER CONTROL	-9600...0...+9450[cent]	40
nn	4F	1	00 - 7F	CAT AMPLITUDE CONTROL	-100...0...+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 (Not valid for VL)	00
nn	53	1	28 - 58	PAT PITCH CONTROL	-24...0...+24 [semitones] (Not valid for VL)	40
nn	54	1	00 - 7F	PAT LOW PASS FILTER CONTROL	-9600...0...+9450 [cent] (Not valid for VL)	40
nn	55	1	00 - 7F	PAT AMPLITUDE CONTROL	-100...0...+100 [%] (Not valid for VL)	40
nn	56	1	00 - 7F	PAT LFO PMOD DEPTH	0...127 (Not valid for VL)	00
nn	57	1	00 - 7F	PAT LFO FMOD DEPTH	0...127 (Not valid for VL)	00
nn	58	1	00 - 7F	PAT LFO AMOD DEPTH	0...127 (Not valid for VL)	00
nn	59	1	00 - 5F	AC1 CONTROLLER NUMBER	0...95	10
nn	5A	1	28 - 58	AC1 PITCH CONTROL	-24...0...+24 [semitones]	40
nn	5B	1	00 - 7F	AC1 LOW PASS FILTER CONTROL	-9600...0...+9450 [cent]	40
nn	5C	1	00 - 7F	AC1 AMPLITUDE CONTROL	-100...0...+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 (Not valid for VL)	00
nn	60	1	00 - 5F	AC2 CONTROLLER NUMBER	0...95 (Not valid for VL)	11
nn	61	1	28 - 58	AC2 PITCH CONTROL	-24...0...+24 [semitones] (Not valid for VL)	40
nn	62	1	00 - 7F	AC2 LOW PASS FILTER CONTROL	-9600...0...+9450 [cent] (Not valid for VL)	40
nn	63	1	00 - 7F	AC2 AMPLITUDE CONTROL	-100...0...+100 [%] (Not valid for VL)	40
nn	64	1	00 - 7F	AC2 LFO PMOD DEPTH	0...127 (Not valid for VL)	00
nn	65	1	00 - 7F	AC2 LFO FMOD DEPTH	0...127 (Not valid for VL)	00
nn	66	1	00 - 7F	AC2 LFO AMOD DEPTH	0...127 (Not valid for VL)	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...0...+63	40
nn	6A	1	00 - 7F	PITCH EG ATTACK TIME	-64...0...+63	40
nn	6B	1	00 - 7F	PITCH EG RELEASE LEVEL	-64...0...+63	40
nn	6C	1	00 - 7F	PITCH EG RELEASE TIME	-64...0...+63	40
nn	6D	1	01 - 7F	VELOCITY LIMIT LOW	1...127 (Not valid for VL)	01
nn	6E	1	01 - 7F	VELOCITY LIMIT HIGH	1...127 (Not valid for VL)	7F
TOTAL SIZE		3F				
nn	70	1	28 - 58	BEND PITCH LOW CONTROL	-24...+24 [semitone] (VL only)	3E
nn	71	1	00 - 7F	FILTER EG DEPTH	-64...+63 (VL only)	40
nn	72	1	00 - 7F	EQ BASS GAIN	-12 - +12 [dB]	40
nn	73	1	00 - 7F	EQ TREBLE GAIN	-12 - +12 [dB]	40
TOTAL SIZE		4				
nn	74	1		NOT USED		--
nn	75	1		NOT USED		--
nn	76	1	04 - 28	EQ BASS FREQUENCY	32...2.0k [Hz] (Not valid for VL)	0C
nn	77	1	1C - 3A	EQ TREBLE FREQUENCY	500...16.0k [Hz] (Not valid for VL)	36
nn	78	1		NOT USED		--
nn	79	1		NOT USED		--
nn	7A	1		NOT USED		--

nn	7B	1		NOT USED		--
nn	7C	1		NOT USED		--
nn	7D	1		NOT USED		--
nn	7E	1		NOT USED		--
nn	7F	1		NOT USED		--
TOTAL SIZE		0C				

09	Op	00	1	00 - 01	NOTE ASSIGN	OFF/ON	01
		01	1		NOT USED		--
		02	1		NOT USED		--
		03	1	00 - 62	PRESSURE CONTROL NO.	off - 95, AT, VELOCITY, PB	00
		04	1	00 - 7F	DEPTH	-64...+63	40
		05	1	00 - 62	EMBOUCHURE CONTROL NO.	off - 95, AT, VELOCITY, PB	00
		06	1	00 - 7F	DEPTH	-64...+63	40
		07	1	00 - 62	TONGUING CONTROL NO.	off - 95, AT, VELOCITY, PB	00
		08	1	00 - 7F	DEPTH	-64...+63	40
		09	1	00 - 62	SCREAM CONTROL NO.	off - 95, AT, VELOCITY, PB	00
		0A	1	00 - 7F	DEPTH	-64...+63	40
		0B	1	00 - 62	BREATH NOISE CONTROL NO.	off - 95, AT, VELOCITY, PB	00
		0C	1	00 - 7F	DEPTH	-64...+63	40
		0D	1	00 - 62	GROWL CONTROL NO.	off - 95, AT, VELOCITY, PB	00
		0E	1	00 - 7F	DEPTH	-64...+63	40
		0F	1	00 - 62	THROAT FORMANT CONTROL NO.	off - 95, AT, VELOCITY, PB	00
		10	1	00 - 7F	DEPTH	-64...+63	40
		11	1	00 - 62	HARMONIC ENHANCER CONTROL NO.	off - 95, AT, VELOCITY, PB	00
		12	1	00 - 7F	DEPTH	-64...+63	40
		13	1	00 - 62	DAMPING CONTROL NO.	off - 95, AT, VELOCITY, PB	00
		14	1	00 - 7F	DEPTH	-64...+63	40
		15	1	00 - 62	ABSORPTION CONTROL NO.	off - 95, AT, VELOCITY, PB	00
		16	1	00 - 7F	DEPTH	-64...+63	40
TOTAL SIZE							

p = Part Number (0 - F)

The above block affects only VL.

0A	nn	10	1	00, 08, 28, 29	OUTPUT SELECT	0:stereo out, 8:indiv1+2 40:indiv1,41:indiv2	0
----	----	----	---	----------------	---------------	---	---

TOTAL SIZE 1

If data other than the above is received, 0:stereo out will be selected.

Note: In the case of OUTPUT SELECT, if the received value exceeds the number that can be supported, the parameter value will be 0.

0A	nn	20	1	00 - 7F	HIGH PASS FILTER CUTOFF FREQUENCY	-64...0...+63	40
	nn	21	1		NOT USED		--
TOTAL SIZE			2				

nn = PART NUMBER

In the case of a DRUM PART, the following parameters will have no effect.

- BANK SELECT LSB
- MONO/POLY MODE
- SCALE TUNING
- PORTAMENTO
- PITCH EG
- FILTER MODURATION DEPTH (FMOD DEPTH)
- AMPLITUDE MODURATION DEPTH (AMOD DEPTH)
- OUTPUT SELECT

< Table 1 - 10 >

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	MIC , LINE 00

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	00
0C	1		NOT USED		--
0D	1		NOT USED		--
0E	1	01 - 7F	PAN	L63...C...R63	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	00
14	1	00 - 7F	VARIATION SEND	0...127	00
TOTAL SIZE		15			
10	0n	30	1		
		31	1		--
		32	1	00 - 01	Rev PROGRAM CHANGE OFF , ON 00
		33	1	00 - 01	Rev CONTROL CHANGE OFF , ON 01
		34	1		NOT USED --
		35	1	00 - 01	MUTE OFF , ON 01
		36	1		NOT USED --
		37	1		NOT USED --
		38	1		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		NOT USED --
		3D	1		NOT USED --
		3E	1		NOT USED --
		3F	1		NOT USED --
		40	1	00 - 01	Rev BANK SELECT OFF , ON 00
		41	1		NOT USED --
		42	1		NOT USED --
		43	1		NOT USED --
		44	1		NOT USED --
		45	1		NOT USED --
		46	1		NOT USED --
		47	1		NOT USED --
		48	1		NOT USED --
		49	1		NOT USED --
		4A	1		NOT USED --
		4B	1		NOT USED --
		4C	1		NOT USED --
		4D	1		NOT USED --
		4E	1		NOT USED --
		4F	1		NOT USED --
		50	1		NOT USED --
		51	1		NOT USED --
		52	1		NOT USED --
		53	1		NOT USED --
		54	1		NOT USED --
		55	1		NOT USED --
		56	1		NOT USED --
		57	1		NOT USED --
		58	1		NOT USED --

## MIDI data format

59	1	00 - 5F	AC1 CONTROLLER NUMBER	0...95	10
5A	1		NOT USED		--
5B	1		NOT USED		--
5C	1		NOT USED		--
5D	1		NOT USED		--
5E	1		NOT USED		--
5F	1		NOT USED		--
60	1	00 - 5F	AC2 CONTROLLER NUMBER	0...95	11
TOTAL SIZE	31				

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

### < Table 1 - 11 >

MIDI Parameter Change table (A/D System)

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value (H)
11 00 00	1	00 - 01	A/D1, 2 MONO/STEREO MODE	MONO/STEREO	00
TOTAL SIZE	1				

### < Table 1 - 12 >

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...0...+63	40
01	1	00 - 7F	PITCH FINE	-64...0...+63 [cent]	40
02	1	00 - 7F	LEVEL	0...127	depend on the note
03	1	00 - 7F	ALTERNATE GROUP	OFF, 1...127	~
04	1	00 - 7F	PAN	RND, L63...C...R63	~
05	1	00 - 7F	REVERB SEND	0...127	~
06	1	00 - 7F	CHORUS SEND	0...127	~
07	1	00 - 7F	VARIATION SEND	0...127	7F
08	1	00 - 01	KEY ASSIGN	SINGLE, MULTI	00
09	1	00 - 01	Rev NOTE OFF	OFF, ON	depend on the note
0A	1	00 - 01	Rev NOTE ON	OFF, ON	01
0B	1	00 - 7F	LOW PASS FILTER CUTOFF FREQUENCY	-64...0...63	40
0C	1	00 - 7F	LOW PASS FILTER RESONANCE	-64...0...63	40
0D	1	00 - 7F	EG ATTACK RATE	-64...0...63	40
0E	1	00 - 7F	EG DECAY1 RATE	-64...0...63	40
0F	1	00 - 7F	EG DECAY2 RATE	-64...0...63	40
TOTAL SIZE	10				
3n rr 20	1	00 - 7F	EQ BASS GAIN	-12 - +12 [dB]	40
21	1	00 - 7F	EQ TREBLE GAIN	-12 - +12 [dB]	40
22	1		NOT USED		--
23	1		NOT USED		--
24	1	04 - 28	EQ BASS FREQUENCY	32...2.0k [Hz]	0C
25	1	1C - 3A	EQ TREBLE FREQUENCY	500...16.0k [Hz]	36
26	1		NOT USED		--
27	1		NOT USED		--
28	1		NOT USED		--
29	1		NOT USED		--
2A	1		NOT USED		--
2B	1		NOT USED		--
2C	1		NOT USED		--
2D	1		NOT USED		--
TOTAL SIZE	0E				
3n rr 40	1	00, 08, 28, 29	OUTPUT SELECT	0:stereo out, 8:indiv1+2 40:indiv1, 41:indiv2	0
TOTAL SIZE	1				

When data other than the above is received, 0:stereo out will be selected.

3n	rr	50	1	00 - 7F	HIGH PASS FILTER CUTOFF FREQUENCY	-64...0...63	40
		51	1		NOT USED		--
TOTAL SIZE		2					
3n	rr	60	1	30 - 50	VELOCITY SENSE PITCH	-16...0...16	depend on the note
		61	1	30 - 50	VELOCITY SENSE LPF CUTOFF	-16...0...16	~
TOTAL SIZE		2					

n:Drum Setup Number (0 - 3)

rr:note number (0D - 5B)

In the following cases, the MU100R will initialize all Drum Setups.

XG SYSTEM ON received

GM SYSTEM ON received

DRUM SETUP RESET received (when in XG mode)

[Note]

When a part to which a Drum Setup is assigned receives a program change, the assigned Drum Setup will be initialized.

If the same Drum Setup is assigned to two or more parts, changes in Drum Setup parameters (including program changes) will apply to all parts to which it is assigned.

< Table 1 - 13 >

MIDI Parameter Change table (PART ASSIGN)

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value (H)
70 00 00	1	00 - 0F, 7F	VL PART ASSIGN	PART 1...16, OFF	0
TOTAL SIZE		1			

< Table 2 - 1 >

Parameter Bass Address  
Model ID = 49

Parameter	Address			Description
	(H)	(M)	(L)	
MU100 SYSTEM	00	00	00	System
REMOTE SWITCH	0A	00	00	Remote Switch
MU80 INTERNAL PERFORMANCE	30	00	00	#1 Common
		:	:	
	30	63	00	#100 Common
	31	00	00	#1 Part1
		:	:	
	31	63	00	#100 Part1
	32	00	00	#1 Part2
		:	:	
	32	63	00	#100 Part2
	33	00	00	#1 Part3
		:	:	
	33	63	00	#100 Part3
34	00	00	#1 Part4	
	:	:		
34	63	00	#100 Part4	

MU80 Performance Common INT

Address (H)	Parameter		
30	pp	00	System
	pp	20	Effect
	pp	70	EQ

pp:Performance#

< Table 2 - 2 >

MIDI Parameter Change table (MU100 SYSTEM)

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value (H)
00 00 00	1	00 - 01	MUTE LOCK	OFF , ON	00
	01	00 - 01	AD LOCK	OFF , ON	00
	02	00 - 01	EQ LOCK	OFF , ON	00
	03	00 - 01	Rev GM EXCLUSIVE MESSAGE	OFF , ON	01
	04	00 - 01	Rev BANK SELECT	OFF , ON	01



## MIDI data format

05	1	00 - 04	BULK OUT INTERVAL TIME	50, 100, 150, 200, 300	02
06	1	00 - 0F	PERFORMANCE SYSTEM CHANNEL	1...16	00
07	1	28 - 58	PERFORMANCE SYSTEM TRANSPOSE	-24...0...+24 [semitone]	40
08	1	00 - 07	LCD CONTRAST	1...8	01
09	1	00 - 07	MULTI PORT NUMBER for MIDI OUT	1...8	00
TOTAL SIZE	0A				

00 00 10	1	00 - 01	DRUM EDIT Rcv NOTE	OFF, ON	01
TOTAL SIZE	1				

00 00 11	1	00 - 01	OUTPUT SELECT LOCK	OFF, ON	00
TOTAL SIZE	1				

OUTPUT SELECT LOCK is only for the MU100R.

00 00 12	1	00 - 01	VOICE MAP	MU basic, MU100 Native	01
TOTAL SIZE	1				

### < Table 2 - 3 >

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	--
	01	00-01	UTIL SWITCH	OFF, ON	--
	02	00-01	MODE SWITCH	OFF, ON	--
	03	00-01	EDIT SWITCH	OFF, ON	--
	04	00-01	EFFECT SWITCH	OFF, ON	--
	05	00-01	EQ SWITCH	OFF, ON	--
	06	00-01	MUTE/SOLO SWITCH	OFF, ON	--
	07	00-01	ENTER SWITCH	OFF, ON	--
	08	00-01	EXIT SWITCH	OFF, ON	--
	09	00-01	PART- SWITCH	OFF, ON	--
	0A	00-01	SELECT- SWITCH	OFF, ON	--
	0B	00-01	VALUE- SWITCH	OFF, ON	--
	0C	00-01	PART+ SWITCH	OFF, ON	--
	0D	00-01	SELECT+ SWITCH	OFF, ON	--
	0E	00-01	VALUE+ SWITCH	OFF, ON	--
TOTAL SIZE	0F				

### < Table 2 - 4 >

MIDI Parameter Change table (MU80, MU50 INTERNAL PERFORMANCE)

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value (H)
30 pp 00	0C	20 - 7F	PERFORMANCE NAME	32...127 (ASCII CHARACTER)	depends on performance number
pp 0C	01	00 - 7F	PERFORMANCE VOLUME	0...127	~
pp 0D	01	01 - 7F	PERFORMANCE PAN	L63...C...R63 (1...64...127)	~
pp 0E	01	00 - 60	AC1 CC NUMBER	0...95, CAT (96)	~
pp 0F	01	00 - 01	A/D INPUT	OFF, ON	~
TOTAL SIZE	10				
30 pp 20	2	00-7F	REVERB TYPE MSB	refer to Effect Program List	depends on performance number
pp 21		00-7F	REVERB TYPE LSB	~	~
pp 22	1	00-7F	REVERB PARAMETER 1	~	~
pp 23	1	00-7F	REVERB PARAMETER 2	~	~
pp 24	1	00-7F	REVERB PARAMETER 3	~	~
pp 25	1	00-7F	REVERB PARAMETER 4	~	~
pp 26	1	00-7F	REVERB PARAMETER 5	~	~
pp 27	1	00-7F	REVERB RETURN	-∞ΩdB...0dB...+6dB (0...96...127)	~
pp 28	1	01-7F	REVERB PAN	L63...C...R63	~
pp 29	2	00-7F	CHORUS TYPE MSB	refer to Effect Program List	~
pp 2A		00-7F	CHORUS TYPE LSB	~	~
pp 2B	1	00-7F	CHORUS PARAMETER 1	~	~
pp 2C	1	00-7F	CHORUS PARAMETER 2	~	~

pp	2D	1	00-7F	CHORUS PARMETER 3	~	~
pp	2E	1	00-7F	CHORUS PARMETER 4	~	~
pp	2F	1	00-7F	CHORUS PARMETER 5	~	~
pp	30	1	00-7F	CHORUS RETURN	--ΩdB...0dB...+6dB (0...96...127)	~
pp	31	1	01-7F	CHORUS PAN	L63...C...R63	~
pp	32	1	00-7F	SEND CHORUS TO REVERB	--ΩdB...0dB...+6dB (0...96...127)	~
pp	33	2	00-7F	VARIATION TYPE MSB	refer to Effect Program List	~
pp	34	2	00-7F	VARIATION TYPE LSB	~	~
pp	35	2	00-7F	VARIATION PARMETER 1 MSB	~	~
pp	36	2	00-7F	VARIATION PARMETER 1 LSB	~	~
pp	37	2	00-7F	VARIATION PARMETER 2 MSB	~	~
pp	38	2	00-7F	VARIATION PARMETER 2 LSB	~	~
pp	39	2	00-7F	VARIATION PARMETER 3 MSB	~	~
pp	3A	2	00-7F	VARIATION PARMETER 3 LSB	~	~
pp	3B	2	00-7F	VARIATION PARMETER 4 MSB	~	~
pp	3C	2	00-7F	VARIATION PARMETER 4 LSB	~	~
pp	3D	2	00-7F	VARIATION PARMETER 5 MSB	~	~
pp	3E	2	00-7F	VARIATION PARMETER 5 LSB	~	~
pp	3F	2	00-7F	VARIATION PARMETER 10 MSB	~	~
pp	40	2	00-7F	VARIATION PARMETER 10 LSB	~	~
pp	41	1	00-7F	VARIATION RETURN	--ΩdB...0dB...+6dB (0...96...127)	~
pp	42	1	01-7F	VARIATION PAN	L63...C...R63 (1...64...127)	~
pp	43	1	00-7F	SEND VARIATION TO REVERB	--ΩdB...0dB...+6dB (0...96...127)	~
pp	44	1	00-7F	SEND VARIATION TO CHORUS	--ΩdB...0dB...+6dB (0...96...127)	~
pp	45	1	00-7F	AC1 VARIATION CONTROL DEPTH	0...127	~
pp	46	1	00-01	VARIATION CONNECTION	INSERTION , SYSTEM	~
pp	47	1	00-7F	VARATION PART	Part1...4 (0...3) AD1, AD2 (64, 65) OFF (127)	~
pp	48	2	00-7F	INSERTION EFFECT 1 TYPE MSB	refer to Effect Program List	~
pp	49	2	00-7F	INSERTION EFFECT 1 TYPE LSB	~	~
pp	4A	1	00-7F	INSERTION EFFECT 1 PARAMETER1	~	~
pp	4B	1	00-7F	INSERTION EFFECT 1 PARAMETER2	~	~
pp	4C	1	00-7F	INSERTION EFFECT 1 PARAMETER3	~	~
pp	4D	1	00-7F	INSERTION EFFECT 1 PARAMETER4	~	~
pp	4E	1	00-7F	INSERTION EFFECT 1 PARAMETER5	~	~
pp	4F	1	00-7F	INSERTION EFFECT 1 PARAMETER10	~	~
pp	50	1	00-7F	INSERTION EFFECT 1 PART	Part1...4 (0...3) AD1, AD2 (64, 65) OFF (127)	~

TOTAL SIZE 31

## 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, concert	depends on performance number
pp 71	1	34 - 4C	EQ GAIN1	-12...0...+12 [dB]	~
pp 72	1	34 - 4C	EQ GAIN2	-12...0...+12 [dB]	~
pp 73	1	34 - 4C	EQ GAIN3	-12...0...+12 [dB]	~
pp 74	1	34 - 4C	EQ GAIN4	-12...0...+12 [dB]	~
pp 75	1	34 - 4C	EQ GAIN5	-12...0...+12 [dB]	~

TOTAL SIZE 06

3n pp 00	1	00 - 7F	PROGRAM NUMBER	1...128	depends on performance number
3n pp 01	1	00 - 7F	BANK SELECT	0...127 (refer to XG voice map)	~
3n pp 02	1	00 - 7F	VOLUME	0...127	~
3n pp 03	1	00, 01 - 7F	PAN	RND, L63...C...R63	~
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...0...+24 [semitones]	~
3n pp 09	1	00 - 7F	LOW PASS FILTER CUTOFF FREQUENCY	-64...0...+63	~

## MIDI data format

3n	pp	0A	1	00 - 7F	LOW PASS FILTER RESONANCE	-64...0...+63	~
3n	pp	0B	1	00 - 7F	EG ATTACK TIME	-64...0...+63	~
3n	pp	0C	1	00 - 7F	EG DECAY TIME	-64...0...+63	~
3n	pp	0D	1	00 - 7F	EG RELEASE TIME	-64...0...+63	~
3n	pp	0E	1	00 - 7F	VIBRATO RATE	-64...0...+63	~
3n	pp	0F	1	00 - 7F	VIBRATO DEPTH	-64...0...+63	~
3n	pp	10	1	00 - 7F	VIBRATO DELAY	-64...0...+63	~
3n	pp	11	2	00 - 0F	DETUNE	-12.8...0...+12.7 [Hz]	~
3n	pp	11		00 - 0F		1st bit3-0→bit7-4	
						2nd bit3-0→bit3-0	
					Rev NOTE MESSAGE	1st bit6: OFF, ON (0,1)	
					MONO/POLY MODE	1st bit5: MONO, POLY (0,1)	
					PORTAMENTO SWITCH	* 1st bit4: OFF, ON (0,1)	
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 FMOD DEPTH	* 0...127	~
3n	pp	19	1	28 - 58	PITCH BEND CONTROL	* -24...0...+24 [semitones]	~
3n	pp	1A	1	00 - 7F	AC1 LOW PASS FILTER CONTROL	* -64...0...63	~
3n	pp	1B	1	00 - 7F	AC1 AMPLITUDE CONTROL	* -100...0...+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	01 - 7F	VELOCITY LIMIT LOW	1...127	~
3n	pp	22	1	01 - 7F	VELOCITY LIMIT HIGH	1...127	~
TOTAL SIZE				23			

n: performance part number (01-04)

pp: performance number (00-63)

Parameters marked by \* will receive only the n=1 data as Common data, and will not receive the n = 2-4 data.

< Table 3 - 1 >

Parameter Base Address

Model ID = 59

Parameter	Address			Description
	(H)	(M)	(L)	
CURRENT PERFORMANCE	09	00	00	Part1
	09	01	00	Part2
	09	02	00	Part3
	09	03	00	Part4
	0B	00	00	Common
	0C	00	00	Insertion1 Effect
	0C	01	00	Insertion2 Effect
INTERNAL PERFORMANCE	30	00	00	#1 Part1
	:	:	:	:
	30	63	00	#100 Part1
	31	00	00	#1 Part2
	:	:	:	:
	31	63	00	#100 Part2
	32	00	00	#1 Part3
	:	:	:	:
	32	63	00	#100 Part3
	33	00	00	#1 Part4
	:	:	:	:
	33	63	00	#100 Part4

Performance Common INT		
Address (H)	Parameter	
40	pp	00 System
	pp	20 Effect
	pp	70 EQ
pp:Performance#		

INTERNAL PERFORMANCE (Continued)	Address (H)	Size (H)	Data (H)	Parameter	Performance Common CUR		
					Address (H)	Parameter	
	40	00	00	#1 Common			
	:	:	:	:			
	40	63	00	#100 Common	0B	00	00 System
	50	00	00	#1 Insertion1 Effect	00	20	Effect
	:	:	:	:	00	70	EQ
	50	63	00	#100 Insertion1 Effect			
	:	:	:	:			
	51	00	00	#1 Insertion2 Effect			
	:	:	:	:			
	51	63	00	#100 Insertion2 Effect			
	:	:	:	:			
	60	00	00	#1 Plugin Board1			
	:	:	:	:			
	60	63	00	#100 Plugin Board1			
	:	:	:	:			
	61	00	00	#1 Plugin Board2			
	:	:	:	:			
	61	63	00	#100 Plugin Board2			

&lt; Table 3 - 2 &gt;

MIDI Parameter Change table (CURRENT PERFORMANCE)

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value (H)		
09	0n	00	1	00 - 7F	PROGRAM NUMBER	1...128	depends on performance number
	0n	01	1		NOT USED	--	
	0n	02	1	00 - 7F	VOLUME	0...127	depends on performance number
	0n	03	1	00 - 7F	PAN	RND,L63...C...R63 (0, 1...64...127)	~
	0n	04	1	00 - 7F	DRY SEND LEVEL	0...127	~
	0n	05	1	00 - 7F	CHORUS SEND	0...127	~
	0n	06	1	00 - 7F	REVERB SEND	0...127	~
	0n	07	1	00 - 7F	VARIATION SEND	0...127	~
	0n	08	1	28 - 58	NOTE SHIFT	-24...0...+24 [semitones]	~
	0n	09	1	00 - 01	Rcv NOTE MESSAGE (MUTE)	OFF , ON (0, 1)	~
	0n	0A	1	00 - 7F	LOW PASS FILTER CUTOFF FREQUENCY	-64...0...+63	~
	0n	0B	1	00 - 7F	LOW PASS FILTER RESONANCE	-64...0...+63	~
	0n	0C	1	00 - 7F	EG ATTACK TIME	-64...0...+63	~
	0n	0D	1	00 - 7F	EG DECAY TIME	-64...0...+63	~
	0n	0E	1	00 - 7F	EG RELEASE TIME	-64...0...+63	~
	0n	0F	1	00 - 7F	VIBRATO RATE	-64...0...+63	~
	0n	10	1	00 - 7F	VIBRATO DEPTH	-64...0...+63	~
	0n	11	1	00 - 7F	VIBRATO DELAY	-64...0...+63	~
	0n	12	2	00 - 0F	DETUNE	-12.8...0...+12.7[Hz]	~
	0n	13		00 - 0F		1st bit3-0→bit7-4 2nd bit3-0→bit3-0	
	0n	14	1	00 - 7F	PITCH EG INITIAL LEVEL	-64...0...+63	~
	0n	15	1	00 - 7F	PITCH EG ATTACK TIME	-64...0...+63	~
	0n	16	1	00 - 7F	PITCH EG RELEASE LEVEL	-64...0...+63	~
	0n	17	1	00 - 7F	PITCH EG RELEASE TIME	-64...0...+63	~
	0n	18	1	00 - 01	MONO/POLY MODE	MONO , POLY (0, 1)	~
	0n	19	1	00 - 7F	VELOCITY SENSE DEPTH	0...127	~
	0n	1A	1	00 - 7F	VELOCITY SENSE OFFSET	0...127	~
	0n	1B	1	00 - 7F	NOTE LIMIT LOW	C-2...G8 (0...127)	~
	0n	1C	1	00 - 7F	NOTE LIMIT HIGH	C-2...G8 (0...127)	~
	0n	1D	1	01 - 7F	VELOCITY LIMIT LOW	1...127	~
	0n	1E	1	01 - 7F	VELOCITY LIMIT HIGH	1...127	~
	0n	1F	1	00 - 7F	EQ BASS	-64 ...0...+63 (-12 - +12 [dB])	~
	0n	20	1	00 - 7F	EQ TREBLE	-64 ...0...+63 (-12 - +12 [dB])	~
	0n	21	1	04 - 28	EQ BASS frequency	32...2.0k [Hz]	~
	0n	22	1	1C - 3A	EQ TREBLE frequency	500...16.0k [Hz]	~
	0n	23	1	00 - 7F	HIGH PASS FILTER CUTOFF FREQUENCY	-64...0...+63	~
	0n	24	2	00 - 7F	BANK SELECT MSB	0...127	~
	0n	25		00 - 7F	BANK SELECT LSB	0...127	~
TOTAL SIZE		26					

n: performance part number

(00-03)

**MIDI data format**

0B	00	00	0C	20 - 7F	PERFORMANCE NAME	32...127 (ASCII CHARACTER)	depends on performance number
		0C	01	00 - 7F	PERFORMANCE VOLUME	0...127	~
		0D	01	01 - 7F	PERFORMANCE PAN	L63...C...R63	~
		0E	01	00 - 60	AC1 CC NUMBER	0...95, CAT	~
		0F	01	00 - 01	A/D INPUT	OFF, ON	~
		10	01	00 - 7F	MW LFO PMOD DEPTH	0...127	~
		11	01	00 - 7F	MW LFO FMOD DEPTH	0...127	~
		12	01	28 - 58	BEND PITCH CONTROL	-24..0..+24 [semitones]	~
		13	01	00 - 7F	AC1 LOW PASS FILTER CONTROL	-64 ...0...+63	~
		14	01	00 - 7F	AC1 AMPLITUDE CONTROL	-64 ...0...+63	~
		15	01	00 - 7F	AC1 LFO FMOD DEPTH	0...127	~
		16	01	00 - 01	PORTAMENTO SWITCH	OFF, ON (0, 1)	~
		17	01	00 - 7F	PORTAMENTO TIME	0...127	~
TOTAL SIZE				18			

0B	00	20	2	00-7F	REVERB TYPE MSB	refer to Effect Program List	depends on performance number
		21		00-7F	REVERB TYPE LSB	~	~
		22	1	00-7F	REVERB PARAMETER 1	~	~
		23	1	00-7F	REVERB PARAMETER 2	~	~
		24	1	00-7F	REVERB PARAMETER 3	~	~
		25	1	00-7F	REVERB PARAMETER 4	~	~
		26	1	00-7F	REVERB PARAMETER 5	~	~
		27	1	00-7F	REVERB RETURN	-∞dB...0dB...+6dB (0..96...127)	~
		28	1	01-7F	REVERB PAN	L63...C...R63	~
		29	2	00-7F	CHORUS TYPE MSB	refer to Effect Program List	~
		2A		00-7F	CHORUS TYPE LSB	~	~
		2B	1	00-7F	CHORUS PARAMETER 1	~	~
		2C	1	00-7F	CHORUS PARAMETER 2	~	~
		2D	1	00-7F	CHORUS PARAMETER 3	~	~
		2E	1	00-7F	CHORUS PARAMETER 4	~	~
		2F	1	00-7F	CHORUS PARAMETER 5	~	~
		30	1	00-7F	CHORUS RETURN	-∞dB...0dB...+6dB (0..96...127)	~
		31	1	01-7F	CHORUS PAN	L63...C...R63 (1...64...127)	~
		32	1	00-7F	SEND CHORUS TO REVERB	-∞dB...0dB...+6dB (0..96...127)	~
		33	2	00-7F	VARIATION TYPE MSB	refer to Effect Program List	~
		34		00-7F	VARIATION TYPE LSB	~	~
		35	2	00-7F	VARIATION PARAMETER 1 MSB	~	~
		36		00-7F	VARIATION PARAMETER 1 LSB	~	~
		37	2	00-7F	VARIATION PARAMETER 2 MSB	~	~
		38		00-7F	VARIATION PARAMETER 2 LSB	~	~
		39	2	00-7F	VARIATION PARAMETER 3 MSB	~	~
		3A		00-7F	VARIATION PARAMETER 3 LSB	~	~
		3B	2	00-7F	VARIATION PARAMETER 4 MSB	~	~
		3C		00-7F	VARIATION PARAMETER 4 LSB	~	~
		3D	2	00-7F	VARIATION PARAMETER 5 MSB	~	~
		3E		00-7F	VARIATION PARAMETER 5 LSB	~	~
		3F	2	00-7F	VARIATION PARAMETER 10 MSB	~	~
		40		00-7F	VARIATION PARAMETER 10 LSB	~	~
		41	1	00-7F	VARIATION RETURN	-∞dB...0dB...+6dB (0..96...127)	~
		42	1	01-7F	VARIATION PAN	L63...C...R63	~
		43	1	00-7F	SEND VARIATION TO REVERB	-∞dB...0dB...+6dB (0..96...127)	~
		44	1	00-7F	SEND VARIATION TO CHORUS	-∞dB...0dB...+6dB (0..96...127)	~
		45	1	00-7F	AC1 VARIATION CONTROL DEPTH	0...127	~
		46	1	00-01	VARIATION CONNECTION	INSERTION , SYSTEM	~
		47	1	00-7F	VARIATION PART	Part1...4 (0...3) AD1, AD2 (64, 65) OFF (127)	~
TOTAL SIZE				28			

0B	00	70	1	00 - 04	EQ TYPE	flat, jazz, pops, rock, concert	depends on performance number
		71	1	34 - 4C	EQ GAIN1	-12...0...+12 [dB]	~
		72	1	34 - 4C	EQ GAIN2	-12...0...+12 [dB]	~
		73	1	34 - 4C	EQ GAIN3	-12...0...+12 [dB]	~

	74	1	34 - 4C	EQ GAIN4	-12...0...+12 [dB]	~
	75	1	34 - 4C	EQ GAIN5	-12...0...+12 [dB]	~
TOTAL SIZE	06					
0C	00	00	2	00-7F	INSERTION EFFECT 1 TYPE MSB	refer to Effect Program List depends on performance number
	01			00-7F	INSERTION EFFECT 1 TYPE LSB	~
	02	2		00-7F	INSERTION EFFECT 1 PARAMETER1 MSB	~
	03			00-7F	INSERTION EFFECT 1 PARAMETER1 LSB	~
	04	2		00-7F	INSERTION EFFECT 1 PARAMETER2 MSB	~
	05			00-7F	INSERTION EFFECT 1 PARAMETER2 LSB	~
	06	2		00-7F	INSERTION EFFECT 1 PARAMETER3 MSB	~
	07			00-7F	INSERTION EFFECT 1 PARAMETER3 LSB	~
	08	2		00-7F	INSERTION EFFECT 1 PARAMETER4 MSB	~
	09			00-7F	INSERTION EFFECT 1 PARAMETER4 LSB	~
	0A	2		00-7F	INSERTION EFFECT 1 PARAMETER5 MSB	~
	0B			00-7F	INSERTION EFFECT 1 PARAMETER5 LSB	~
	0C	2		00-7F	INSERTION EFFECT 1 PARAMETER10 MSB	~
	0D			00-7F	INSERTION EFFECT 1 PARAMETER10 LSB	~
	0E	1		00-7F	INSERTION EFFECT 1 PART	Part1...4 (0...3) AD1, AD2 (64, 65) OFF (127)
TOTAL SIZE	0F					
0C	01	00	2	00-7F	INSERTION EFFECT 2 TYPE MSB	refer to Effect Program List depends on performance number
	01			00-7F	INSERTION EFFECT 2 TYPE LSB	~
	02	2		00-7F	INSERTION EFFECT 2 PARAMETER1 MSB	~
	03			00-7F	INSERTION EFFECT 2 PARAMETER1 LSB	~
	04	2		00-7F	INSERTION EFFECT 2 PARAMETER2 MSB	~
	05			00-7F	INSERTION EFFECT 2 PARAMETER2 LSB	~
	06	2		00-7F	INSERTION EFFECT 2 PARAMETER3 MSB	~
	07			00-7F	INSERTION EFFECT 2 PARAMETER3 LSB	~
	08	2		00-7F	INSERTION EFFECT 2 PARAMETER4 MSB	~
	09			00-7F	INSERTION EFFECT 2 PARAMETER4 LSB	~
	0A	2		00-7F	INSERTION EFFECT 2 PARAMETER5 MSB	~
	0B			00-7F	INSERTION EFFECT 2 PARAMETER5 LSB	~
	0C	2		00-7F	INSERTION EFFECT 2 PARAMETER10 MSB	~
	0D			00-7F	INSERTION EFFECT 2 PARAMETER10 LSB	~
	0E	1		00-7F	INSERTION EFFECT 2 PART	Part1...4 (0...3) AD1, AD2 (64, 65) OFF (127)
TOTAL SIZE	0F					

## &lt; Table 3 - 3 &gt;

## MIDI Parameter Change table (INTERNAL PERFORMANCE)

Address (H)	Parameter (H)	Size (H)	Data (H)	Parameter	Description	Default value (H)
3n	pp	00	1	00 - 7F	PROGRAM NUMBER	1...128 depends on performance number
3n	pp	01	1	00 - 7F	BANK SELECT	0...127 ~
3n	pp	02	1	00 - 7F	VOLUME	0...127 ~
3n	pp	03	1	"00,01-7F"	PAN	RND, L63...C...R63 ~
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...0...+24 [semitones] ~
3n	pp	09	1	00 - 7F	LOW PASS FILTER CUTOFF FREQUENCY	-64...0...+63 ~
3n	pp	0A	1	00 - 7F	LOW PASS FILTER RESONANCE	-64...0...+63 ~
3n	pp	0B	1	00 - 7F	EG ATTACK TIME	-64...0...+63 ~
3n	pp	0C	1	00 - 7F	EG DECAY TIME	-64...0...+63 ~
3n	pp	0D	1	00 - 7F	EG RELEASE TIME	-64...0...+63 ~
3n	pp	0E	1	00 - 7F	VIBRATO RATE	-64...0...+63 ~
3n	pp	0F	1	00 - 7F	VIBRATO DEPTH	-64...0...+63 ~

## MIDI data format

3n	pp	10	1	00 - 7F	VIBRATO DELAY	-64...0...+63	~
3n	pp	11	2	00 - 0F	DETUNE	-12.8...0...+12.7 [Hz]	~
3n	pp	12		00 - 7F		1st bit3-0→bit7-4	
						2nd bit3-0→bit3-0	
					Rev NOTE MESSAGE	1st bit6: OFF, ON (0, 1)	
					MONO/POLY MODE	1st bit5: MONO, POLY (0, 1)	
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	VELOCITY SENSE DEPTH	0...127	~
3n	pp	18	1	00 - 7F	VELOCITY SENSE OFFSET	0...127	~
3n	pp	19	1	00 - 7F	NOTE LIMIT LOW	C-2...G8	~
3n	pp	1A	1	00 - 7F	NOTE LIMIT HIGH	C-2...G8	~
3n	pp	1B	1	01 - 7F	VELOCITY LIMIT LOW	1...127	~
3n	pp	1C	1	01 - 7F	VELOCITY LIMIT HIGH	1...127	~
3n	pp	1D	1	00 - 7F	EQ BASS	-64 ...0...+63 (-12 - +12 [dB])	~
3n	pp	1E	1	00 - 7F	EQ TREBLE	-64 ...0...+63 (-12 - +12 [dB])	~
3n	pp	1F	1	04 - 28	EQ BASS frequency	32...2.0k [Hz]	~
3n	pp	20	1	1C - 3A	EQ TREBLE frequency	500...16.0k [Hz]	~
3n	pp	21	1	00 - 7F	HIGH PASS FILTER CUTOFF FREQUENCY	-64...0...+63	~
TOTAL SIZE		22					
3n	pp	30	2	00 - 7F	BANK SELECT MSB	0...127	depends on performance number
3n	pp			00 - 7F	BANK SELECT LSB	0...127	~
TOTAL SIZE		2					
n: performance part number				(00-03)			
pp:performance number				(00-63)			
40	pp	00	0C	20 - 7F	PERFORMANCE NAME	32...127 (ASCII CHARACTER)	depends on performance number
	pp	0C	01	00 - 7F	PERFORMANCE VOLUME	0...127	~
	pp	0D	01	01 - 7F	PERFORMANCE PAN	L63...C...R63 (1...64...127)	~
	pp	0E	01	00 - 60	AC1 CC NUMBER	0...95, CAT	~
	pp	0F	01	00 - 01	A/D INPUT	OFF, ON	~
	pp	10	01	00 - 7F	MW LFO PMOD DEPTH	0...127	~
	pp	11	01	00 - 7F	MW LFO FMOD DEPTH	0...127	~
	pp	12	01	28 - 58	BEND PITCH CONTROL	-24..0...+24 [semitones]	~
	pp	13	01	00 - 7F	AC1 FILTER CONTROL	-64 ...0...+63	~
	pp	14	01	00 - 7F	AC1 AMPLITUDE CONTROL	-100...0...+100 [%]	~
	pp	15	01	00 - 7F	AC1 LFO FMOD DEPTH	0...127	~
	pp	16	01	00 - 01	PORTAMENTO SWITCH	OFF, ON (0, 1)	~
	pp	17	01	00 - 7F	PORTAMENTO TIME	0...127	~
TOTAL SIZE		18					
40	pp	20	2	00-7F	REVERB TYPE MSB	refer to Effect Program List	depends on performance number
	pp	21		00-7F	REVERB TYPE LSB	~	~
	pp	22	1	00-7F	REVERB PARAMETER 1	~	~
	pp	23	1	00-7F	REVERB PARAMETER 2	~	~
	pp	24	1	00-7F	REVERB PARAMETER 3	~	~
	pp	25	1	00-7F	REVERB PARAMETER 4	~	~
	pp	26	1	00-7F	REVERB PARAMETER 5	~	~
	pp	27	1	00-7F	REVERB RETURN	-∞dB...0dB...+6dB (0...96...127)	~
	pp	28	1	01-7F	REVERB PAN	L63...C...R63	~
	pp	29	2	00-7F	CHORUS TYPE MSB	refer to Effect Program List	~
	pp	2A		00-7F	CHORUS TYPE LSB	~	~
	pp	2B	1	00-7F	CHORUS PARMETER 1	~	~
	pp	2C	1	00-7F	CHORUS PARMETER 2	~	~
	pp	2D	1	00-7F	CHORUS PARMETER 3	~	~
	pp	2E	1	00-7F	CHORUS PARMETER 4	~	~
	pp	2F	1	00-7F	CHORUS PARMETER 5	~	~
	pp	30	1	00-7F	CHORUS RETURN	-∞dB...0dB...+6dB (0...96...127)	~
	pp	31	1	01-7F	CHORUS PAN	L63...C...R63	~

pp	32	1	00-7F	SEND CHORUS TO REVERB	-∞dB...0dB...+6dB (0...96...127)	~
pp	33	2	00-7F	VARIATION TYPE MSB	refer to Effect Program List	~
pp	34		00-7F	VARIATION TYPE LSB	~	~
pp	35	2	00-7F	VARIATION PARMETER 1 MSB	~	~
pp	36		00-7F	VARIATION PARMETER 1 LSB	~	~
pp	37	2	00-7F	VARIATION PARMETER 2 MSB	~	~
pp	38		00-7F	VARIATION PARMETER 2 LSB	~	~
pp	39	2	00-7F	VARIATION PARMETER 3 MSB	~	~
pp	3A		00-7F	VARIATION PARMETER 3 LSB	~	~
pp	3B	2	00-7F	VARIATION PARMETER 4 MSB	~	~
pp	3C		00-7F	VARIATION PARMETER 4 LSB	~	~
pp	3D	2	00-7F	VARIATION PARMETER 5 MSB	~	~
pp	3E		00-7F	VARIATION PARMETER 5 LSB	~	~
pp	3F	2	00-7F	VARIATION PARMETER 10 MSB	~	~
pp	40		00-7F	VARIATION PARMETER 10 LSB	~	~
pp	41	1	00-7F	VARIATION RETURN	-∞dB...0dB...+6dB (0...96...127)	~
pp	42	1	01-7F	VARIATION PAN	L63...C...R63 (1...64...127)	~
pp	43	1	00-7F	SEND VARIATION TO REVERB	-∞dB...0dB...+6dB (0...96...127)	~
pp	44	1	00-7F	SEND VARIATION TO CHORUS	-∞dB...0dB...+6dB (0...96...127)	~
pp	45	1	00-7F	AC1 VARIATION CONTROL DEPTH	0...127	~
pp	46	1	00-01	VARIATION CONNECTION	INSERTION, SYSTEM	~
pp	47	1	00-7F	VARIATION PART	Part1...4 (0...3) AD1, AD2 (64, 65) OFF (127)	~
TOTAL SIZE		28				
40	pp	70	1	00 - 04	EQ TYPE	flat, jazz, pops, rock, concert depends on performance number
	pp	71	1	34 - 4C	EQ GAIN1	-12...0...+12 [dB] ~
	pp	72	1	34 - 4C	EQ GAIN2	-12...0...+12 [dB] ~
	pp	73	1	34 - 4C	EQ GAIN3	-12...0...+12 [dB] ~
	pp	74	1	34 - 4C	EQ GAIN4	-12...0...+12 [dB] ~
	pp	75	1	34 - 4C	EQ GAIN5	-12...0...+12 [dB] ~
TOTAL SIZE		06				
50	pp	00	2	00-7F	INSERTION EFFECT 1 TYPE MSB	refer to Effect Program List depends on performance number
	pp	01		00-7F	INSERTION EFFECT 1 TYPE LSB	~
	pp	02	2	00-7F	INSERTION EFFECT 1 PARAMETER1 MSB	~
	pp	03		00-7F	INSERTION EFFECT 1 PARAMETER1 LSB	~
	pp	04	2	00-7F	INSERTION EFFECT 1 PARAMETER2 MSB	~
	pp	05		00-7F	INSERTION EFFECT 1 PARAMETER2 LSB	~
	pp	06	2	00-7F	INSERTION EFFECT 1 PARAMETER3 MSB	~
	pp	07		00-7F	INSERTION EFFECT 1 PARAMETER3 LSB	~
	pp	08	2	00-7F	INSERTION EFFECT 1 PARAMETER4 MSB	~
	pp	09		00-7F	INSERTION EFFECT 1 PARAMETER4 LSB	~
	pp	0A	2	00-7F	INSERTION EFFECT 1 PARAMETER5 MSB	~
	pp	0B		00-7F	INSERTION EFFECT 1 PARAMETER5 LSB	~
	pp	0C	2	00-7F	INSERTION EFFECT 1 PARAMETER10 MSB	~
	pp	0D		00-7F	INSERTION EFFECT 1 PARAMETER10 LSB	~
	pp	0E	1	00-7F	INSERTION EFFECT 1 PART	Part1...4 (0...3) AD1, AD2 (64, 65) OFF (127)
TOTAL SIZE		0F				
51	pp	00	2	00-7F	INSERTION EFFECT 2 TYPE MSB	refer to Effect Program List depends on performance number
	pp	01		00-7F	INSERTION EFFECT 2 TYPE LSB	~
	pp	02	2	00-7F	INSERTION EFFECT 2 PARAMETER1 MSB	~
	pp	03		00-7F	INSERTION EFFECT 2 PARAMETER1 LSB	~
	pp	04	2	00-7F	INSERTION EFFECT 2 PARAMETER2 MSB	~
	pp	05		00-7F	INSERTION EFFECT 2 PARAMETER2 LSB	~
	pp	06	2	00-7F	INSERTION EFFECT 2 PARAMETER3 MSB	~
	pp	07		00-7F	INSERTION EFFECT 2 PARAMETER3 LSB	~
	pp	08	2	00-7F	INSERTION EFFECT 2 PARAMETER4 MSB	~
	pp	09		00-7F	INSERTION EFFECT 2 PARAMETER4 LSB	~



pp	0A	2	00-7F	INSERTION EFFECT 2 PARAMETER5 MSB	~	~
pp	0B		00-7F	INSERTION EFFECT 2 PARAMETER5 LSB	~	~
pp	0C	2	00-7F	INSERTION EFFECT 2 PARAMETER10 MSB	~	~
pp	0D		00-7F	INSERTION EFFECT 2 PARAMETER10 LSB	~	~
pp	0E	1	00-7F	INSERTION EFFECT 2 PART	Part1...4 (0...3)	~
					AD1, AD2 (64, 65)	
					OFF (127)	
TOTAL SIZE		0F				
60	pp	00	64	00-7F	PLUGIN BOARD 1 PARAMETER	depends on Plugin Board
TOTAL SIZE			64			depends on performance number
61	pp	00	64	00-7F	PLUGIN BOARD 2 PARAMETER	depends on Plugin Board
TOTAL SIZE			64			depends on performance number

pp: performance number (00-63)

< Table 4 - 1 >

VL System Parameter

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value (H)
00 00	00	B	NOT USED		--
	0B	1	00-01	BREATH CONTROL NUMBER	BC,EXPRESSION 00
	0C	1	30-50	BREATH CONTROL CURVE	-16 - 16 40
	0D	1	00-01	WX LIP LOCK	OFF/ON 00
	0E	1	00-01	BREATH SET LOCK	OFF/ON 00
	0F	1	00-01	WX LIP	NORMAL,EXPAND 00
	10	1	00-02	BREATH MODE	BC/WX,VELOCITY,TOUCH EG 00
	11	1	00-7F	VELOCITY DEPTH	0 - 127 30
	12	1	00-7F	VELOCITY OFFSET	0 - 127 50
	13	1	00-7F	TOUCH EG TIME	0 - 127 2A
	14	1	00-7F	AT LOW DEPTH	0 - 127 1B
	15	1	00-7F	AT LOW OFFSET	0 - 127 50
	16	1	00-7F	AT HIGH DEPTH	0 - 127 25
	17	1	00-7F	AT HIGH OFFSET	0 - 127 65
TOTAL SIZE		18			

Only addresses 00000B-000017 are supported for parameter changes.

< Table 4 - 2 >

VL Current Voice/Comon Misc Parameter

Address (H)	Size (H)	Data (H)	Parameter	Description
10 00	00	1	20 - 7F	VOICE NAME #1
	01	1	20 - 7F	VOICE NAME #2
	02	1	20 - 7F	VOICE NAME #3
	03	1	20 - 7F	VOICE NAME #4
	04	1	20 - 7F	VOICE NAME #5
	05	1	20 - 7F	VOICE NAME #6
	06	1	20 - 7F	VOICE NAME #7
	07	1	20 - 7F	VOICE NAME #8
	08	1		NOT USED
	09	1	00 - 7F	VOICE LEVEL
	0A	1	00 - 02	ASSIGN MODE
	0B	2	00 00 - 1F 1F	POLY EXPAND
	0D	1	00 - 01	PORTAMENTO MODE
	0E	1		NOT USED
TOTAL SIZE		0F		

&lt; Table 4 - 3 &gt;

## VL Part Parameter

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value (H)
09 00	17	1	AMP LEVEL SCALE BREAK POINT	C-2 - G8	3C
	18	1	DEPTH	-64 - +63	40
	19	1	FILTER CUTOFF SCALE BREAK POINT	C-2 - G8	3C
	1A	1	DEPTH	-64 - +63	40
	1B	1	NOT USED		
	1C	1	NOT USED		
TOTAL SIZE	06				

&lt; Table 4 - 4 &gt;

## VL Current Voice/Element Parameter

Address (H)	Size (H)	Data (H)	Parameter	Description
20 00	00	1	NOT USED	
	01	1	NOT USED	
	02	1	NOT USED	
	03	1	NOT USED	
	04	1	NOT USED	
	05	1	NOT USED	
	06	1	NOT USED	
	07	1	NOT USED	
	08	1	NOT USED	
	09	1	NOT USED	
	0A	1	00 - 01	EXPRESSION MODE BC, VOLUME
	0B	1	00 - 62	PRESSURE CONTROL NO. off - 95, AT, VELOCITY, PB
	0C	2	01 01 - 00 7F	DEPTH -127 - +127
	0E	1	70 - 10	CURVE -16 - +16
	0F	1	00 - 62	FILTER CONTROL NO. off - 95, AT, VELOCITY, PB
	10	2	01 01 - 00 7F	DEPTH -127 - +127
	12	1	70 - 10	CURVE -16 - +16
	13	1	00 - 62	AMPLITUDE CONTROL NO. off - 95, AT, VELOCITY, PB
	14	2	01 01 - 00 7F	DEPTH -127 - +127
	16	1	70 - 10	CURVE -16 - +16
	17	1	00 - 62	EMBOUCHURE CONTROL NO. off - 95, AT, VELOCITY, PB
	18	2	01 01 - 00 7F	UPPER DEPTH -127 - +127
	1A	2	01 01 - 00 7F	LOWER DEPTH -127 - +127
	1C	1	00 - 01	MODE CENTER BASE, MINIMUM BASE
	1D	1	00 - 62	TONGUING CONTROL NO. off - 95, AT, VELOCITY, PB
	1E	2	01 01 - 00 7F	DEPTH -127 - +127
	20	1	70 - 10	CURVE -16 - +16
	21	1	00 - 62	SCREAM CONTROL NO. off - 95, AT, VELOCITY, PB
	22	2	01 01 - 00 7F	DEPTH -127 - +127
	24	1	70 - 10	CURVE -16 - +16
	25	1	00 - 62	BREATH NOISE CONTROL NO. off - 95, AT, VELOCITY, PB
	26	2	01 01 - 00 7F	DEPTH -127 - +127
	28	1	70 - 10	CURVE -16 - +16
	29	1	00 - 62	GROWL CONTROL NO. off - 95, AT, VELOCITY, PB
	2A	2	01 01 - 00 7F	DEPTH -127 - +127
	2C	1	70 - 10	CURVE -16 - +16
	2D	1	00 - 62	THROAT FORMANT CONTROL NO. off - 95, AT, VELOCITY, PB
	2E	2	01 01 - 00 7F	DEPTH -127 - +127
	30	1	70 - 10	CURVE -16 - +16
	31	1	00 - 62	HARMONIC ENHANCER CONTROL NO. off - 95, AT, VELOCITY, PB
	32	2	01 01 - 00 7F	DEPTH -127 - +127
	34	1	70 - 10	CURVE -16 - +16
	35	1	00 - 62	DAMPING CONTROL NO. off - 95, AT, VELOCITY, PB
	36	2	01 01 - 00 7F	DEPTH -127 - +127
	38	1	70 - 10	CURVE -16 - +16
	39	1	00 - 62	ABSORPTION CONTROL NO. off - 95, AT, VELOCITY, PB

00	3A	2	01 01 - 00 7F	DEPTH	-127 - +127
00	3C	1	70 - 10	CURVE	-16 - +16
00	3D				
:	:			reserve	
0A	6A				
TOTAL SIZE			56B		

## &lt; Table 4 - 5 &gt;

## VL Custom Voice Parameter

Address (H)	Size (H)	Data (H)	Parameter	Description
30 00 0n	1	20 - 7F	VOICE NAME #1	32-127(ASCII)
	1	20 - 7F	VOICE NAME #2	32-127(ASCII)
	1	20 - 7F	VOICE NAME #3	32-127(ASCII)
	1	20 - 7F	VOICE NAME #4	32-127(ASCII)
	1	20 - 7F	VOICE NAME #5	32-127(ASCII)
	1	20 - 7F	VOICE NAME #6	32-127(ASCII)
	1	20 - 7F	VOICE NAME #7	32-127(ASCII)
	1	20 - 7F	VOICE NAME #8	32-127(ASCII)
	1		NOT USED	
	1	00-7F	VOICE LEVEL	0 - 127
	1	00-02	ASSIGN MODE	BOTTOM,TOP,LAST
	2		NOT USED	
	1	00-01	PORTAMENTO MODE	FULLTIME,FINGERED
	B5		NOT USED	
TOTAL SIZE	A3			
31 00 0n	1		NOT USED	
	1		NOT USED	
	1		NOT USED	
	1		NOT USED	
	1		NOT USED	
	1		NOT USED	
	1		NOT USED	
	1		NOT USED	
	1		NOT USED	
	1	00-01	EXPRESSION MODE	BC,VOLUME
	1	00-62	PRESSURE CONTROL NO.	off - 95,AT,VELOCITY,PB
	2	01 01-00 7F	DEPTH	-127 - +127
	1	70-10	CURVE	-16 - +16
	1	00-62	FILTER CONTROL NO.	off - 95,AT,VELOCITY,PB
	2	01 01-00 7F	DEPTH	-127 - +127
	1	70-10	CURVE	-16 - +16
	1	00-62	AMPLITUDE CONTROL NO.	off - 95,AT,VELOCITY,PB
	2	01 01-00 7F	DEPTH	-127 - +127
	1	70-10	CURVE	-16 - +16
	1	00-62	EMBOUCHURE CONTROL NO.	off - 95,AT,VELOCITY,PB
	2	01 01-00 7F	UPPER DEPTH	-127 - +127
	2	01 01-00 7F	LOWER DEPTH	-127 - +127
	1	00-01	MODE	CENTER BASE,MINIMUM BASE
	1	00-62	TONGUING CONTROL NO.	off - 95,AT,VELOCITY,PB
	2	01 01-00 7F	DEPTH	-127 - +127
	1	70-10	CURVE	-16 - +16
	1	00-62	SCREAM CONTROL NO.	off - 95,AT,VELOCITY,PB
	2	01 01-00 7F	DEPTH	-127 - +127
	1	70-10	CURVE	-16 - +16
	1	00-62	BREATH NOISE CONTROL NO.	off - 95,AT,VELOCITY,PB
	2	01 01-00 7F	DEPTH	-127 - +127
	1	70-10	CURVE	-16 - +16
	1	00-62	GROWL CONTROL NO.	off - 95,AT,VELOCITY,PB
	2	01 01-00 7F	DEPTH	-127 - +127
	1	70-10	CURVE	-16 - +16

1	00-62	THROAT FORMANT CONTROL NO.	off - 95,AT,VELOCITY,PB
2	01 01-00 7F	DEPTH	-127 - +127
1	70-10	CURVE	-16 - +16
1	00-62	HARMONIC ENHANCER CONTROL NO.	off - 95,AT,VELOCITY,PB
2	01 01-00 7F	DEPTH	-127 - +127
1	70-10	CURVE	-16 - +16
1	00-62	DAMPING CONTROL NO.	off - 95,AT,VELOCITY,PB
2	01 01-00 7F	DEPTH	-127 - +127
1	70-10	CURVE	-16 - +16
1	00-62	ABSORPTION CONTROL NO.	off - 95,AT,VELOCITY,PB
2	01 01-00 7F	DEPTH	-127 - +127
1	70-10	CURVE	-16 - +16
52E		reserve	

TOTAL SIZE 56B

n = Voice Number(0 - 5)

## &lt; Table 4 - 6 &gt;

## VL Internal Voice Parameter

Address (H)	Size (H)	Data (H)	Parameter	Description
40 00 nn	1	20 - 7F	VOICE NAME #1	32 - 127 (ASCII)
	1	20 - 7F	VOICE NAME #2	32 - 127 (ASCII)
	1	20 - 7F	VOICE NAME #3	32 - 127 (ASCII)
	1	20 - 7F	VOICE NAME #4	32 - 127 (ASCII)
	1	20 - 7F	VOICE NAME #5	32 - 127 (ASCII)
	1	20 - 7F	VOICE NAME #6	32 - 127 (ASCII)
	1	20 - 7F	VOICE NAME #7	32 - 127 (ASCII)
	1	20 - 7F	VOICE NAME #8	32 - 127 (ASCII)
	1	00 - 7F	VOICE LEVEL	0 - 127
	1	00 - 02	ASSIGN MODE	BOTTOM, TOP, LAST
2D			NOT USED	
	1	00 - 7F	AMP LEVEL SCALE BREAK POINT	C-2 - G8
	1	00 - 7F	DEPTH	-64 - +63
	1	00 - 7F	FILTER CUTOFF SCALE BREAK POINT	C-2 - G8
	1	00 - 7F	DEPTH	-64 - +64
	1	00 - 02	BANK POINTER	PRESET1, PRESET2, CUSTOM
	1	00 - 7F	PROGRAM POINTER	1 - 128
33			NOT USED	
	1	00 - 01	EXPRESSION MODE	BC, VOLUME
	1	00 - 62	PRESSURE CONTROL NO.	off - 95, AT, VELOCITY, PB
	2	01 01 - 00 7F	DEPTH	-127 - +127
	1	70 - 10	CURVE	-16 - +16
	1	00 - 62	FILTER CONTROL NO.	off - 95, AT, VELOCITY, PB
	2	01 01 - 00 7F	DEPTH	-127 - +127
	1	70 - 10	CURVE	-16 - +16
	1	00 - 62	AMPLITUDE CONTROL NO.	off - 95, AT, VELOCITY, PB
	2	01 01 - 00 7F	DEPTH	-127 - +127
	1	70 - 10	CURVE	-16 - +16
	1	00 - 62	ENBOUCHURE CONTROL NO.	off - 95, AT, VELOCITY, PB
	2	01 01 - 00 7F	UPPER DEPTH	-127 - +127
	2	01 01 - 00 7F	LOWER DEPTH	-127 - +127
	1	00 - 01	MODE	CENTER BASE, MINIMUM BASE
	1	00 - 62	TONGUING CONTROL NO.	off - 95, AT, VELOCITY, PB
	2	01 01 - 00 7F	DEPTH	-127 - +127
	1	70 - 10	CURVE	-16 - +16
	1	00 - 62	SCREAM CONTROL NO.	off - 95, AT, VELOCITY, PB
	2	01 01 - 00 7F	DEPTH	-127 - +127
	1	70 - 10	CURVE	-16 - +16
	1	00 - 62	BREATH NOISE CONTROL NO.	off - 95, AT, VELOCITY, PB
	2	01 01 - 00 7F	DEPTH	-127 - +127
	1	70 - 10	CURVE	-16 - +16
	1	00 - 62	GROWL CONTROL NO.	off - 95, AT, VELOCITY, PB

## MIDI data format

2	01 01 - 00 7F	DEPTH	-127 - +127
1	70 - 10	CURVE	-16 - +16
1	00 - 62	THROAT FORMANT CONTROL NO.	off - 95, AT, VELOCITY, PB
2	01 01 - 00 7F	DEPTH	-127 - +127
1	70 - 10	CURVE	-16 - +16
1	00 - 62	HARMONIC ENHANCER CONTROL NO.	off - 95, AT, VELOCITY, PB
2	01 01 - 00 7F	DEPTH	-127 - +127
1	70 - 10	CURVE	-16 - +16
1	00 - 62	DAMPING CONTROL NO.	off - 95, AT, VELOCITY, PB
2	01 01 - 00 7F	DEPTH	-127 - +127
1	70 - 10	CURVE	-16 - +16
1	00 - 62	ABSORPTION CONTROL NO.	off - 95, AT, VELOCITY, PB
2	01 01 - 00 7F	DEPTH	-127 - +127
1	70 - 10	CURVE	-16 - +16

TOTAL SIZE A3

nn = Voice Number (00 - 3F)



Date :31-JUL-1997  
 Version : 1.0

[ Tone Generator ]  
 Model MU100R MIDI Implementation Chart

YAMAHA

MIDI implementation chart

Function...	Transmitted	Recognized	Remarks
Basic Channel Default Changed	x x	1 - 16 1 - 16	
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 Touch Key's Ch's	x x	o *1 o *1	
Pitch Bend	x	o 0-24 semi *1	
Control Change 0, 32 1, 2, 4, 5, 7 10, 11, 13 6, 38 64-67 71-74 84 91, 93, 94 96-97 98-99 100-101 120 121	x x x x x x x x x x x x x x x	o *1 o *1 o *1 o *1 o *1 o *1 o *1 o *1 o *1 o *1 o *1 o *1 o *1 o *1 o *1	Bank Select  Data Entry  Sound Controller Portamento Cntrl Effect Depth RPN Inc,Dec NRPN LSB,MSB RPN LSB,MSB All Sound Off Reset All Cntrls

Prog Change : True #	X *****	O 0 - 127	
System Exclusive	O *3	O *3	
: Song Pos.	X	X	
: Song Sel.	X	X	
: Tune	X	X	
System : Clock	X	X	
Real Time: Commands	X	X	
Aux : Local ON/OFF	X	X	
: All Notes OFF	X	O(123-127)	
Mes- : Active Sense	X	O	
sages : Reset	X	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



# XG Voice List (Normal voices)

Bank Select LSB=Bank number

		Key Scale		Panning		Stereo		Single		Slow		Fast Decay	
Bank Select MSB	0	0	0	0	0	0	0	0	0	0	0	0	0
Bank Select LSB	0	0	1	3	6	8	12						
Instrument Group	Pgm# (1-128)	MU100 Basic	E	MU100 Native	E								
Piano	1	GrandPno	1	† GrandP #	1	GrndPnoK	1						
	2	BritePno	1	† BriteP #	1	BritPnoK	1	† StBrtPno	2				
	3	El.Grand	2			ElGrPnoK	2						
	4	HnkyTonk	2			HnkyTnkK	2						
	5	E.Piano1	2	† EPiano1#	2	El.Pno1K	1						
	6	E.Piano2	2	† EPiano2#	1	El.Pno2K	1						† ChoEPDcy 2
	7	Harpsi.	1			Harpsi.K	1						
	8	Clavi	2	† Clavi #	2	Clavi K	1						
Chromatic Percussion	9	Celesta	1										
	10	Glocken	1										
	11	MusicBox	2										
	12	Vibes	1			Vibes K	1						
	13	Marimba	1			MarimbaK	1						
	14	Xylophon	1										
	15	TubulBel	1										
	16	Dulcimer	1										
Organ	17	DrawOrgn	1	† DrawOrg#	2			† StDrawOr	2				
	18	PercOrgn	1	† PercOrg#	2								
	19	RockOrgn	2	† RockOrg#	2								
	20	ChrchOrg	2										
	21	ReedOrgn	1										
	22	Acordion	2										
	23	Harmnica	1										
	24	TangoAc	2	† TangoAc#	2								
Guitar	25	NylonGtr	1	† NylonGt#	1								
	26	SteelGtr	1	† SteelGt#	1								
	27	Jazz Gtr	1	† JazzGtr#	2								
	28	CleanGtr	1										
	29	Mute Gtr	1	† MuteGtr#	2								
	30	Ovrdrive	1	† Ovrdriv#	2								
	31	Dist.Gtr	1	† DistGtr#	1								DstRthmG ** 2
	32	GtrHarmo	1										
Bass	33	Aco.Bass	1	† AcoBass#	1								
	34	FngrBass	1	† FngrBa #	1								
	35	PickBass	1										
	36	Fretless	1	† Frtless#	1								
	37	SlapBas1	1	† SlapBa1#	2								
	38	SlapBas2	1	† SlapBa2#	2								
	39	SynBass1	1										
	40	SynBass2	2						MelloSba	1			Seq Bass 2
Strings	41	Violin	1	† Violin #	1					Slow Vln	1		
	42	Viola	1										
	43	Cello	1										
	44	Contrabs	1										
	45	Trem.Str	1	† TremStr#	2					SlwTrStr	1		
	46	Pizz.Str	1										
	47	Harp	1										
	48	Timpani	1										
Ensemble	49	Strings1	1	† Strngs1#	1			S.Strngs	2		Slow Str	1	
	50	Strings2	1	† Strngs2#	1			S.SlwStr	2		LegatoSt	2	
	51	Syn Str1	2								† Memory	2	
	52	Syn Str2	2										
	53	ChoirAah	1					S.Choir	2				
	54	VoiceOoh	1										
	55	SynVoice	1										
	56	Orch.Hit	2										LoFi Hit *** 2
Brass	57	Trumpet	1	† Trumpet#	1								
	58	Trombone	1	† Trmbone#	1								
	59	Tuba	1										
	60	Mute Trp	1	† MuteTrp#	2								
	61	Fr. Horn	1							FrHrSolo 1			
	62	BrssSect	1	† BrssSec#	2			StBrsSec ***	2				
	63	SynBrss1	2										Quack Br 2
	64	SynBrss2	1										

Continued on page 86

□ : Same as Bank 0  
 \*\* : MU80 Extension  
 \*\*\* : MU90 Extension  
 † : MU100 Extension

E: Number of elements



# XG Voice List (Normal voices)

Bank Select LSB=Bank number

		Vel-cutoff freq	Attack	Release	Sweep	Resonant Sweep			
Bank Select MSB	0	0	0	0	0	0			
Bank Select LSB	0	22	24	25	26	27			
Instrument Group	Prgm# (1-128)	MU100 Basic	E	E	E	E			
Piano	1	GrandPno	1						
	2	BritePno	1						
	3	El.Grand	2						
	4	HnkyTonk	2						
	5	E.Piano1	2						
	6	E.Piano2	2						
	7	Harpsi.	1		Harpsi.2	2			
	8	Clavi	2			ClaviWah	2		
Chromatic Percussion	9	Celesta	1						
	10	Glocken	1						
	11	MusicBox	2						
	12	Vibes	1						
	13	Marimba	1						
	14	Xylophon	1						
	15	TubulBel	1						
	16	Dulcimer	1						
Organ	17	DrawOrgn	1						
	18	PercOrgn	1	70sPcOr1	2				
	19	RockOrgn	2						
	20	ChrchOrg	2						
	21	ReedOrgn	1						
	22	Acordion	2						
	23	Harmnica	1						
	24	TangoAcid	2						
Guitar	25	NylonGtr	1		NylonGt3	2			
	26	SteelGtr	1						
	27	Jazz Gtr	1						
	28	CleanGtr	1						
	29	Mute Gtr	1						
	30	Ovrdrive	1						
	31	Dist.Gtr	1	DistGtr2 **	2				
	32	GtrHarmo	1						
Bass	33	Aco.Bass	1						
	34	FngrBass	1			FlangeBa	2		
	35	PickBass	1						
	36	Fretless	1						
	37	SlapBas1	1			ResoSlap	1		
	38	SlapBas2	1	† Wah Slap	2				
	39	SynBass1	1		AcidBass	1	ResoBass ***	1	
	40	SynBass2	2	† Zealot	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		Arco Str	2			
	50	Strings2	1						
	51	Syn Str1	2				Reso Str	2	
	52	Syn Str2	2						
	53	ChoirAah	1						
	54	VoiceOoh	1						
	55	SynVoice	1						
	56	Orch.Hit	2						
Brass	57	Trumpet	1						
	58	Trombone	1						
	59	Tuba	1						
	60	Mute Trp	1						
	61	Fr. Horn	1						
	62	BrssSect	1						
	63	SynBrss1	2		PolyBrss	2		SynBrss3	2
	64	SynBrss2	1						

⬇ Continued on page 88 ⬇

☐ : Same as Bank 0  
 \*\* : MU80 Extension  
 \*\*\* : MU90 Extension  
 † : MU100 Extension

E: Number of elements



# XG Voice List (normal voices)

Bank Select LSB=Bank number

		5th 1		5th 2		Bend		Tutti 1		Tutti 2	
Bank Select MSB		0		0		0		0		0	
Bank Select LSB		37		38		39		40		41	
Instrument Group	Pgm# (1-128)	MU100 Basic	E	E	E	E	E	E	E	E	E
Piano	1	GrandPno	1					PianoStr	2	Dream	2
	2	BritePno	1					† SyPadPno	2		
	3	El.Grand	2					LayerCP1	2	LayerCP2	2
	4	HnkyTonk	2								
	5	E.Piano1	2					HardEl.P	2		
	6	E.Piano2	2					DX Phase	2	DX+Analg	2
	7	Harpsi.	1					† ElHarpsi	2		
	8	Clavi	2					† CsmcClav	2		
Chromatic Percussion	9	Celesta	1								
	10	Glocken	1								
	11	MusicBox	2								
	12	Vibes	1								
	13	Marimba	1								
	14	Xylophon	1								
	15	TubulBel	1								
	16	Dulcimer	1								
Organ	17	DrawOrgn	1	60sDrOr3	2	Even Bar	2			16+2"2/3	2
	18	PercOrgn	1	PercOrg2	2						
	19	RockOrgn	2								
	20	ChrchOrg	2							NotreDam	2
	21	ReedOrgn	1							Puff Org	2
	22	Acordion	2								
	23	Harmnica	1								
	24	TangoAcid	2								
Guitar	25	NylonGtr	1							† Wayside	2
	26	SteelGtr	1							Nyln&Stl	2
	27	Jazz Gtr	1							† OrganGtr	2
	28	CleanGtr	1								
	29	Mute Gtr	1							FunkGtr1	2
	30	Ovrdrive	1							† Parallel	2
	31	Dist.Gtr	1	PowerGt1 **	2	Dst.5ths **	2			FeedbkGt	2
	32	GtrHarmo	1							FeedbkG2	2
Bass	33	Aco.Bass	1							JazzRthm	2
	34	FngrBass	1							Ba&DstEG	2
	35	PickBass	1							† PkB&MtGt	2
	36	Fretless	1								
	37	SlapBas1	1								
	38	SlapBas2	1								
	39	SynBass1	1							TechnoBa	2
	40	SynBass2	2							† Kik'n'Ba	2
Strings	41	Violin	1							ModulrBa	2
	42	Viola	1							† Unison	2
	43	Cello	1							† VlaDoubl	2
	44	Contrabs	1								
	45	Trem.Str	1							Susp.Str	2
	46	Pizz.Str	1							† Sleep	2
	47	Harp	1							YangChin	2
	48	Timpani	1								
Ensemble	49	Strings1	1							Orchestr	2
	50	Strings2	1							Orchstr2	2
	51	Syn Str1	2							Warm Str	2
	52	Syn Str2	2							Kingdom	2
	53	ChoirAah	1							† Monarchy	2
	54	VoiceOoh	1							† WormHole	2
	55	SynVoice	1							† Gasp	2
	56	Orch.Hit	2							ChoirStr	2
Brass	57	Trumpet	1							† Dead Sea	2
	58	Trombone	1							Voice2	2
	59	Tuba	1							Choral	2
	60	Mute Trp	1							† Throne	2
	61	Fr. Horn	1	HornOrch	2						
	62	BrssSect	1							SyVoice2	2
	63	SynBrss1	2							† Backyard	2
	64	SynBrss2	1							BrssFall **	1

Continued on page 90

☐ : Same as Bank 0  
 \*\* : MU80 Extension  
 \*\*\* : MU90 Extension  
 † : MU100 Extension

E: Number of elements

Tutti 3      Velocity Switch    Velocity Cross Fade    Detune 4      Tutti 4      Tutti 5      Tutti 6

0 42	0 43	0 45	0 48	0 52	0 53	0 54			
E	E	E	E	E	E	E			
		VX El.P1	2						
DXKotoEP	2	VX El.P2	2	† ChoEP K	2	† DXMallet	2		
		HardVibe	2						
	VelGtHrm	2							
	FunkGtr2	2	Jazz Man	1					
	Gt.Pinch	2							
† TwinDist	2	RckRthm2 **	2	RckRthm1 **	2				
	† Blink Ba	2	VXUprght	2					
	FngrSlap	2	FngBass2	2					
	VeloSlap	2							
† NEP	2								
† DXBa Brt	2								
	† Roll&Hit	2							
TremOrch	2		Velo.Str	2	† Lento	2			
† SwpStOct	2								
MelloBrs	2			† Bund	2	† FakeHorn	2	† FkHrnOct	2
		AnVelBr1	2						
† AnHrnRch	2	AnVelBr2	2						

⬇ Continued on page 91 ⬇

# XG Voice List (Normal voices)

Bank Select LSB=Bank number

Other Waves 1    Other Waves 2    Other Waves 3    Other Waves 4    Other Waves 5

Bank Select MSB	0	0	0	0	0	0	0
Bank Select LSB	0	64	65	66	67	68	
Instrument Group	Pgm# (1-128)	MU100 Basic	E	E	E	E	E
Piano	1	GrandPno	1 † ConGrnd	1 † ConGrndK	1 † DblConGr	2 † MIDIGrd1	2 † MIDIGrd2
	2	BritePno	1 † BrConGrd	1 † BrConGrK	1 † MIDIGrd3	2 † MIDIGrd4	2 † OldPiano
	3	El. Grand	2				
	4	HnkyTonk	2				
	5	E.Piano1	2 60sEl.P1	1 † Old EP	1 † Tribecca	1 † Diploid1	2 † Flops
	6	E.Piano2	2 † Shrakawa	2 † OldEP Tn	2 † Flips	1 † FlipsDtd	2 † Flicks
	7	Harpsi.	1 † SynHrpsi	2			
	8	Clavi	2 PulseClv	1 PierceCl	2 † ClrClavi	1 † SwpClavi	1 † SynClavi
Chromatic Percussion	9	Celesta	1 † FMCelsta	1			
	10	Glocken	1				
	11	MusicBox	2 Orgel	2 † SmalOrgl	2		
	12	Vibes	1				
	13	Marimba	1 SineMrb	2			
	14	Xylophon	1				
	15	TubulBel	1				
	16	Dulcimer	1				
Organ	17	DrawOrgn	1 Organ Ba	1 70sDrOr2	2 CheezOrg	2 DrawOrg3	2 StdiumOr ***
	18	PercOrgn	1 JazOrgan ***	1 WarmJzOr ***	2 ClikOrgn ***	2 † Grace	2 † CrnGrace
	19	RockOrgn	2 RotaryOr	2 SloRotar	2 FstRotar	2 † GlacLRtr	2
	20	ChrchOrg	2 OrgFlute	2 TrmOrgFl	2		
	21	ReedOrgn	1 † SyReedDk	2			
	22	Acordion	2				
	23	Harmnica	1				
	24	TangoAcid	2 TngoAcid2	2 † TightAcid	1 † TghtAcidD	2	
Guitar	25	NylonGtr	1 † EsGuitar	1 † EsGtrHrd	1 † EsGtMllo	1 † EsGtrDcy	1
	26	SteelGtr	1 † Nashville	1 † NashvilleR	1 † Nashville12	2	
	27	Jazz Gtr	1 † SuperJzM	1 † SuperJzB	1 † SuperJzD	2 † SuperJzR	1 † DX JzGtr
	28	CleanGtr	1 CleanGt2 **	1 MidT.Gtr ***	1 MidTGtSt ***	1 NasalGtr ***	1 NasIGtSt ***
	29	Mute Gtr	1 † Wrench	1 † WrenchHv	1 † WrnchDbl	2 † Tin	2
	30	Ovrdrive	1 † ManhttnM	1 † ManhttnB	1 † ManhttnD	2 † ManhttnP	2
	31	Dist.Gtr	1 † Bite	1 † Bite Res	1 † Bite Dtd	2 † Bite +	2 † Burnout
	32	GtrHarmo	1 AcoHarmo **	1 GtFeedbk	1 GtrHrmo2	1 † Shimla	2
Bass	33	Aco.Bass	1 † Boston	1 † BostnBrt	1 † Coolth	1 † Coolth B	1
	34	FngrBass	1 Jazzy Ba **	1 Mod.Bass	2 † Chase	1 † ChaseRes	1 † BlueBass
	35	PickBass	1 † HardPick	1 † HrdPikRs	2 † PkBass +	2	
	36	Fretless	1 † PwrFrtls	1 † PwrFrtlR	1 † TalkinBa	1 † NoizFrtl	2
	37	SlapBas1	1 Slapper ***	1 Thum&Slp ***	2 † GltzySlp	2 † FM Slap	1 † FMSlpDtd
	38	SlapBas2	1				
	39	SynBass1	1 Orbiter	2 Sqr.Bass	2 RubberBa	2 Fish ***	1 HardReso ***
	40	SynBass2	2 X WireBa	2 AtkPulse ***	1 CS Light ***	1 MetlBass ***	1 † FrcOscBa
Strings	41	Violin	1 † Cadenza	1 † CadenzDk	1		
	42	Viola	1 † Sonata	1			
	43	Cello	1				
	44	Contrabs	1				
	45	Trem.Str	1 † Fear	1 † Fear Dtd	2 † Apoclyps	2	
	46	Pizz.Str	1				
	47	Harp	1				
	48	Timpani	1				
Ensemble	49	Strings1	1 † SprStrng	1 † SprStrSt	2 † Triste	1 † Basso	2
	50	Strings2	1 70s Str	1 Strings3	1		
	51	Syn Str1	2 Syn Str4	2 Syn Str5	2 † Solitude	2 † Fate	1 † Thulium
	52	Syn Str2	2 † Hope	2 † Virgo	2 † Platinum	1 † OctavPWM	2 † Taurus
	53	ChoirAah	1 StrngAah **	1 Male Aah **	1 † Scroll	2 † Scroll +	2
	54	VoiceOoh	1 VoiceDoo **	1 † Hmn	1 † WrlChoir	2	
	55	SynVoice	1 AnaVoice	1 † Aspirate	1 † AsprateD	2 † Facula	2
	56	Orch.Hit	2 Impact	2 BrssStab **	2 DoublHit **	2 BrStab80 **	2 Bass Hit ***
Brass	57	Trumpet	1 Dark Trp ***	1 DrkTpSft ***	1 † Soft Trp	1 † Blow	1 † Blow Dbl
	58	Trombone	1 BrghtTrb ***	1 MellowTb ***	1 † JJJ	1	
	59	Tuba	1				
	60	Mute Trp	1 MuteTrp2 **	1 † Bkstairs	1		
	61	Fr. Horn	1 † Syn Horn	1			
	62	BrssSect	1 † SprBrass	2 † SprBrCut	1 † SprBrBlw	2 † PwrD Sfz	2 † PwrSfzBr
	63	SynBrss1	2 AnaBrss1	2 † SynthThn	1 † SynthBrss	1 † SynthBrSt	2 † AnaHorn1
	64	SynBrss2	1 AnaBrss2	2 † Soft Cut	1 † AnaHornS	2	

Continued on page 92

☐ : Same as Bank 0  
 \*\* : MU80 Extension  
 \*\*\* : MU90 Extension  
 † : MU100 Extension

E: Number of elements

0 69	0 70	0 71	0 72	0 73	0 74	0 75
E	E	E	E	E	E	E
† Soho	1 † FlopsDtd	2 † Diploid2	2 † Brooklyn	1 † Diploid3	2 PhunkyDX	2 † Nasal DX
† FliksDtd	† BrightDX	1 † BrtDXDtd	2 † Kitayama	2 † Tumpik1	2 Tumpik2	2 † Cerritos
† SprClavi	2 † GtrClavi	2 † HardyPlk	1 † HrdyPlk+	2 † FMClavDb		
StdiumO2 ***	2 GospelOr ***	1 CkGspIO ***	2 ChapelOr ***	2 † DimChors	2 Dawn	1 † Mellorgn
† DimClick	2 † Dusk	2 † FM Click	1 † Spooky	1 † SprRotry	2 LoFIOrgn	2 † BeepOrgn
† DXJzGt D	2 † PulsJazz	1 † RghcastN	1 † RghcastM	1		
† Hammer M	1 † Hammer B	1 † Hammer D	2 † HammerSt	2 † FMChoGtr	2 FMChoGtS	2 † PeskyGtr
† Bombay	2 † Bombay S	2 † Jaipur	2			
† Wah Saw	1 † Pluto	1 † Pluto +	2 † Stimuli	1 † RunPulse	1 TalkPuls	1 † Node
† Cubit	1 † Cubit +	2 † Keel	1 † KeelPwr	2 † PlnPulse	2 PwrPuls	1 † PwrPulsB
† Brook	1 † Brook St	2				
† Frost	2 † Leo	2 † SolPlexs	2			
BassHit+ ***	2 6th Hit ***	1 6thHit + ***	2 Euro Hit ***	1 EuroHit+ ***	2 Blowout	2
† Alto&Trp	2 † Tnr&Trp	2 † BrssBros	2 † VagueBro	2		
† AnaHrn2	1 † AnHrnOct	2 † SawBrPwr	2			

⬇ Continued on page 93 ⬇



# XG Voice List (Normal voices)

Bank Select LSB=Bank number

Other Waves 13 Other Waves 14 Other Waves 15 Other Waves 16 Other Waves 17

Bank Select MSB	0	0	0	0	0	0	0	
Bank Select LSB	0	76	77	78	79	80		
Instrument Group	Pgm# (1-128)	MU100 Basic	E	E	E	E	E	
Piano	1	GrandPno	1					
	2	BritePno	1					
	3	El.Grand	2					
	4	HnkyTonk	2					
	5	E.Piano1	2 † NaslDXDt	2 † Din	2			
	6	E.Piano2	2 † Sunset	1 † Soft DX	2 † Reso DX	1 † PiercnDX	2 † ShvrngDX	1
	7	Harpsi.	1					
	8	Clavi	2					
Chromatic Percussion	9	Celesta	1					
	10	Glocken	1					
	11	MusicBox	2					
	12	Vibes	1					
	13	Marimba	1					
	14	Xylophon	1					
	15	TubulBel	1					
	16	Dulcimer	1					
Organ	17	DrawOrgn	1 † Fuzzorgn	2 † FMO	1			
	18	PercOrgn	1 † Belief	2 † SnapOrgn	1			
	19	RockOrgn	2					
	20	ChrchOrg	2					
	21	ReedOrgn	1					
	22	Acordion	2					
	23	Harmnica	1					
	24	TangoAcid	2					
Guitar	25	NylonGtr	1					
	26	SteelGtr	1					
	27	Jazz Gtr	1					
	28	CleanGtr	1 † ClaviGtr	2				
	29	Mute Gtr	1					
	30	Ovrdrive	1					
	31	Dist.Gtr	1					
	32	GtrHarmo	1					
Bass	33	Aco.Bass	1					
	34	FngrBass	1					
	35	PickBass	1					
	36	Fretless	1					
	37	SlapBas1	1					
	38	SlapBas2	1					
	39	SynBass1	1 † Stainer	1 † StainAtk	1 † SweepSqr	1 † SwpSqr +	2 † Stinks	1
	40	SynBass2	2 † Pwrdr Saw	1				
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	Syn Str1	2					
	52	Syn Str2	2					
	53	ChoirAah	1					
	54	VoiceOoh	1					
	55	SynVoice	1					
	56	Orch.Hit	2					
Brass	57	Trumpet	1					
	58	Trombone	1					
	59	Tuba	1					
	60	Mute Trp	1					
	61	Fr. Horn	1					
	62	BrssSect	1					
	63	SynBrss1	2					
	64	SynBrss2	1					

Continued on page 94

☐ : Same as Bank 0  
 \*\* : MU80 Extension  
 \*\*\* : MU90 Extension  
 † : MU100 Extension

E: Number of elements



# XG Voice List (Normal voices)

Bank Select LSB=Bank number

Other Waves 25 Other Instrument 1 Other Instrument 2 Other Instrument 3 Other Instrument 4

Bank Select MSB	0	0	0	0	0	0
Bank Select LSB	0	88	96	97	98	99
Instrument Group	Pgm# (1-128)	MU100 Basic	E	E	E	E
Piano	1	GrandPno	1			
	2	BritePno	1			
	3	El.Grand	2			
	4	HnkyTonk	2			
	5	E.Piano1	2			
	6	E.Piano2	2			
	7	Harpsi.	1			
	8	Clavi	2			
Chromatic Percussion	9	Celesta	1			
	10	Glocken	1			
	11	MusicBox	2			
	12	Vibes	1			
	13	Marimba	1	Balafon **	2	Balimba 2 Log Drum 2
	14	Xylophon	1			
	15	TubulBel	1	ChrchBel	2	Carillon 2
	16	Dulcimer	1	Cimbalom	2	Santur 2
Organ	17	DrawOrgn	1			
	18	PercOrgn	1			
	19	RockOrgn	2			
	20	ChrchOrg	2			
	21	ReedOrgn	1			
	22	Acordion	2			
	23	Harmnica	1			
	24	TangoAcid	2			
Guitar	25	NylonGtr	1	Ukulele	1	
	26	SteelGtr	1	Mandolin	2	† MndlnEns 2
	27	Jazz Gtr	1	PdlSteel **	1	
	28	CleanGtr	1			
	29	Mute Gtr	1	Mu.DstGt **	2	
	30	Ovrdrive	1			
	31	Dist.Gtr	1			
	32	GtrHarmo	1			
Bass	33	Aco.Bass	1	† WalkSyBa	1	† Dim&Cool 1
	34	FngrBass	1			
	35	PickBass	1			
	36	Fretless	1	SynFret!	2	SmthFrtl 2
	37	SlapBas1	1			
	38	SlapBas2	1			
	39	SynBass1	1	† Crook	2	Hammer 2
	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	† Vln Harp	1	† VlnHrpDt 2
	48	Timpani	1			
Ensemble	49	Strings1	1			
	50	Strings2	1			
	51	Syn Str1	2			
	52	Syn Str2	2			
	53	ChoirAah	1			
	54	VoiceOoh	1	VoiceHmn **	1	
	55	SynVoice	1			
	56	Orch.Hit	2			
Brass	57	Trumpet	1	FluglHrn **	1	† Cornet 2
	58	Trombone	1			
	59	Tuba	1			
	60	Mute Trp	1			
	61	Fr. Horn	1			
	62	BrssSect	1			
	63	SynBrss1	2			
	64	SynBrss2	1			

Continued on page 96

☐ : Same as Bank 0  
 \*\* : MU80 Extension  
 \*\*\* : MU90 Extension  
 † : MU100 Extension

E: Number of elements

Other Instrument 5    Other Instrument 6    Capital Voices on MU100 Native Map    Capital Voices on MU Basic Map

0	0	0	0
100	101	126	127
E	E	E	E
		† GrandP #	1
		† BriteP #	1
		† EPiano1#	2
		† EPiano2#	1
		† Clavi #	2
		† DrawOrg#	2
		† PercOrg#	2
		† RockOrg#	2
		† TangoAc#	2
		† NylonGt#	1
		† SteelGt#	1
		† JazzGtr#	2
		† MuteGtr#	2
		† Ovrdrv#	2
		† DistGtr#	1
		† AcoBass#	1
		† FngrBa #	1
		† Frtless#	1
		† SlapBa1#	2
		† SlapBa2#	2
		† Violin #	1
		† TremStr#	2
		† Strngs1#	1
		† Strngs2#	1
		† Trumpet#	1
		† Trmbone#	1
		† MuteTrp#	2
		† BrssSec#	2

⬇ Continued on page 97 ⬇

# XG Voice List (Normal voices)

Bank Select LSB=Bank number

## MODEL EXCLUSIVE VOICE

		Timbre		Timbre, Poly		Timbre, Looped		Timbre, Looped, Poly		Phrase, Looped		Phrase, Looped, Poly		SFX, Timbre			
Bank Select MSB	0	48	48	48	48	48	48	48	48	48	48	48	48	48	48		
Bank Select LSB	0	0	8	16	24	32	40	48	56	64	72	80	88	96	104		
Instrument Group	Pgrn # (1-128)	MU100 Basic	E	E	E	E	E	E	E	E	E	E	E	E	E		
Piano	1	GrandPno	1	† MtdClavi	1	† Beeline	1	† Rage	1	† Fuss	1	† Reflex 1	2	† Insanity	2	† DstnFire	2
	2	BritePno	1	† Orimba	2	† BlineHrd	2	† TnglCaos	1	† VanAllen	1	† Reflex 2	2	† Habakkuk	2	† BlowNoiz	1
	3	El.Grand	2			† Dwarf	2	† Incontnc	1	† Divinity	2	† Prcesion	2			† Fall	1
	4	HnkyTonk	2			† Byte	1	† IncntClk	1	† Paranoia	1	† RndmWalk	1			† Chaff	2
	5	E.Piano1	2			† Ping	1	† CheapOsc	1	† Vexation	1	† RandmRun	1				
	6	E.Piano2	2			† NastyCut	1	† CheapOc+	2	† CalcOrg1	1						
	7	Harpsi.	1			† NstyClSt	2	† NstOrSpl	2	† CalcOrg2	2						
	8	Clavi	2			† Xe	1	† SprClick	1	† CalcOrg3	2						
Chromatic Percussion	9	Celesta	1			† OrganHit	1	† Boomout	2	† ChoCalcO	2						
	10	Glocken	1			† OrgnHit+	2	† ChoirSpl	2	† Sodium	2						
	11	MusicBox	2			† Soft Hit	1	† Veld	2								
	12	Vibes	1			† Vein	1	† VaporVox	1								
	13	Marimba	1			† Packet	1	† VoxShoot	2								
	14	Xylophon	1			† Jolly	1	† SemiacOr	2								
	15	TubulBel	1			† Jolly +	2										
	16	Dulcimer	1			† Envy	1										
Organ	17	DrawOrgn	1			† EnvyShrt	2										
	18	PercOrgn	1			† Cough	1										
	19	RockOrgn	2			† Remark	2										
	20	ChrchOrg	2			† Potala	2										
	21	ReedOrgn	1			† Fury	2										
	22	Acordion	2			† Glocken+	1										
	23	Harmnica	1														
	24	TangoAcid	2														
Guitar	25	NylonGtr	1														
	26	SteelGtr	1														
	27	Jazz Gtr	1														
	28	CleanGtr	1														
	29	Mute Gtr	1														
	30	Ovrdrive	1														
	31	Dist.Gtr	1														
	32	GtrHarmo	1														
Bass	33	Aco.Bass	1														
	34	FngrBass	1														
	35	PickBass	1														
	36	Fretless	1														
	37	SlapBas1	1														
	38	SlapBas2	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	Syn Str1	2														
	52	Syn Str2	2														
	53	ChoirAah	1														
	54	VoiceOoh	1														
	55	SynVoice	1														
	56	Orch.Hit	2														
Brass	57	Trumpet	1														
	58	Trombone	1														
	59	Tuba	1														
	60	Mute Trp	1														
	61	Fr. Horn	1														
	62	BrssSect	1														
	63	SynBrss1	2														
	64	SynBrss2	1														

Continued on page 98

: No sound  
 \*\* : MU80 Extension  
 \*\*\* : MU90 Extension  
 † : MU100 Extension

E: Number of elements

48	48	48	48	48	48	48					
72	80	88	96	104	120						
	E	E	E	E	E	E					
† Litning	2	† Zipzap	1	† Escape	2	† TinKettl	2	† Satya	1	† Vodou	1
† Oof	2			† Zigzag	2	† K/S Anlg	2	† Monastry	2		
† Lust	1			† Scud	2	† K/S Humd	2	† Vinaya	2		
† Lust St	2			† Hinayana	2	† K/S Slap	2	† Prana	2		
† SoftHit+	2			† Boot	2	† Rvr/Crsh	2	† Delight	2		
† Cough +	2			† Anathema	2			† Puja	2		
† Ruin	1			† Germ 1	2			† Bent Tom	2		
† Ruin St	2			† Germ 2	2						
† Vein +	2			† Malfnctn	2						
† Universe	1										
† UnvrsSwp	2										
† Xe +	2										
† Daze	2										
† Refusal	1										
† Refusal+	2										
† Lie	1										
† Malice	2										
† Doubt	1										
† DoubtDbl	2										

↕ Continued on page 99 ↕

Bank Select MSB	64		
Bank Select LSB	0		
Instrument Group	Pgrm # (1-128)	E	
	1	CuttngNz	1
	2	CtngNz2	2
	3	DstCutNz **	2
	4	Str Slap	1
	5	B.Slide **	2
	6	P.Scrape **	1
	7		
	8		
	9		
	10		
	11		
	12		
	13		
	14		
	15		
	16		
	17	Fl.KClik	1
	18		
	19		
	20		
	21		
	22		
	23		
	24		
	25		
	26		
	27		
	28		
	29		
	30		
	31		
	32		
	33	Shower	2
	34	Thunder	1
	35	Wind	1
	36	Stream	2
	37	Bubble	2
	38	Feed **	2
	39	† Cave	2
	40		
	41		
	42		
	43		
	44		
	45		
	46		
	47		
	48		
	49	Dog	1
	50	Horse	1
	51	Tweet 2	1
	52	Kitty **	1
	53	Growl **	1
	54	Haunted **	2
	55	Ghost	2
	56	Maou **	2
	57	† Insects	2
	58	† Bacteria	2
	59		
	60		
	61		
	62		
	63		
	64		

↕

# XG Voice List (Normal voices)

Bank Select LSB=Bank number

Key Scale Panning Stereo Single Slow Fast Decay

Bank Select MSB	0	0	0	0	0	0	0	0
Bank Select LSB	0	0	1	3	6	8	12	
Instrument Group	Pgm# (1-128)	MU100 Basic	MU100 Native					
↓ Continued from page 72 ↓								
Reed	65	SprnoSax	1					† VgSprnSx 1
	66	Alto Sax	1	† AltoSax#	2			
	67	TenorSax	1					
	68	Bari.Sax	1					
	69	Oboe	2	† Oboe #	1			
	70	Eng.Horn	1					
	71	Bassoon	1					
	72	Clarinet	1					
Pipe	73	Piccolo	1					
	74	Flute	1	† Flute #	1			
	75	Recorder	1					
	76	PanFlute	1	† PanFlut#	1			
	77	Bottle	2					
	78	Shakhchi	2					
	79	Whistle	1					
	80	Ocarina	1					
Synth Lead	81	SquareLd	2			SquarLd2	1	LMSquare 2
	82	Saw Ld	2			Saw Ld 2	1	ThickSaw 2
	83	CaliopLd	2					
	84	Chiff Ld	2					
	85	CharanLd	2					
	86	Voice Ld	2					
	87	Fifth Ld	2					† FifthLdS 2
	88	Bass&Ld	2					
Synth Pad	89	NewAgePd	2					
	90	Warm Pad	2					
	91	PolySyPd	2					
	92	ChoirPad	2					
	93	BowedPad	2					
	94	MetalPad	2					
	95	Halo Pad	2					
	96	SweepPad	2					
Synth Effects	97	Rain	2					
	98	SoundTrk	2					
	99	Crystal	2					SynDrCmp 2
	100	Atmosphr	2					
	101	Bright	2					
	102	Goblins	2					
	103	Echoes	2				Echoes 2	2
	104	Sci-Fi	2					
Ethnic	105	Sitar	1					
	106	Banjo	1					
	107	Shamisen	1					
	108	Koto	1					
	109	Kalimba	1					
	110	Bagpipe	2					
	111	Fiddle	1					
	112	Shanai	1					
Percussive	113	TrnklBell	2					
	114	Agogo	2					
	115	SteelDrm	2					
	116	Woodblok	1					
	117	TaikoDrm	1					
	118	MelodTom	2					
	119	Syn Drum	1					
	120	RevCymb1	1					
Sound Effects	121	FretNoiz	2					
	122	BrthNoiz	2					
	123	Seashore	2					
	124	Tweet	2					
	125	Telephone	1					
	126	Helicptr	1					
	127	Applause	1					
	128	Gunshot	1					

: Same as Bank 0  
 \*\* : MU80 Extension  
 \*\*\* : MU90 Extension  
 † : MU100 Extension

E: Number of elements





# XG Voice List (Normal voices)

Bank Select LSB=Bank number

		Vel-cutoff freq	Attack	Release	Sweep	Resonant Sweep					
Bank Select MSB	0	0	0	0	0	0					
Bank Select LSB	0	22	24	25	26	27					
Instrument Group	Pgm# (1-128)	MU100 Basic	E	E	E	E	E				
↓ Continued from page 74 ↓											
Reed	65	SprnoSax	1								
	66	Alto Sax	1								
	67	TenorSax	1								
	68	Bari.Sax	1								
	69	Oboe	2								
	70	Eng.Horn	1								
	71	Bassoon	1								
Pipe	72	Clarinet	1								
	73	Piccolo	1								
	74	Flute	1								
	75	Recorder	1								
	76	PanFlute	1								
	77	Bottle	2								
	78	Shakhchi	2								
	79	Whistle	1								
	80	Ocarina	1								
Synth Lead	81	SquareLd	2								
	82	Saw Ld	2	HeavySyn	2	WaspySyn	2	Mondo ***	1	RezySaw ***	1
	83	CallopLd	2								
	84	Chiff Ld	2								
	85	CharanLd	2								
	86	Voice Ld	2	SynthAah	2						
	87	Fifth Ld	2								
	88	Bass&Ld	2								
Synth Pad	89	NewAgePd	2								
	90	Warm Pad	2								
	91	PolySyPd	2								
	92	ChoirPad	2								
	93	BowedPad	2								
	94	MetalPad	2								
	95	Halo Pad	2								
	96	SweepPad	2						Converge	2	
Synth Effects	97	Rain	2								
	98	SoundTrk	2						Prologue	2	
	99	Crystal	2								
	100	Atmosphr	2								
	101	Bright	2								
	102	Goblins	2								
	103	Echoes	2								
	104	Sci-Fi	2								
Ethnic	105	Sitar	1								
	106	Banjo	1								
	107	Shamisen	1								
	108	Koto	1								
	109	Kalimba	1								
	110	Bagpipe	2								
	111	Fiddle	1								
	112	Shanai	1								
Percussive	113	TrnkBell	2								
	114	Agogo	2								
	115	SteelDrum	2								
	116	Woodblok	1								
	117	TaikoDrum	1								
	118	MelodTom	2								
	119	Syn Drum	1								
	120	RevCymbal	1								
Sound Effects	121	FretNoiz	2								
	122	BrthNoiz	2								
	123	Seashore	2								
	124	Tweet	2								
	125	Telephone	1								
	126	Helicptr	1								
	127	Applause	1								
	128	Gunshot	1								

: Same as Bank 0  
 \*\* : MU80 Extension  
 \*\*\* : MU90 Extension  
 † : MU100 Extension

E: Number of elements



# XG Voice List (Normal voices)

Bank Select LSB=Bank number

		5th 1	5th 2	Bend	Tutti 1	Tutti 2		
Bank Select MSB	0	0	0	0	0	0		
Bank Select LSB	0	37	38	39	40	41		
Instrument Group	Pgm# (1-128)	MU100 Basic	E	E	E	E	E	E
↓ Continued from page 76 ↓								
Reed	65	SprnoSax	1					
	66	Alto Sax	1				Sax Sect	2
	67	TenorSax	1				BrthTnSx	2
	68	Bari.Sax	1					SoftTenr
	69	Oboe	2					
	70	Eng.Horn	1					
	71	Bassoon	1					
	72	Clarinet	1				† Syn&Clr	2
Pipe	73	Piccolo	1					
	74	Flute	1				† Brthy Fl	2
	75	Recorder	1					
	76	PanFlute	1					
	77	Bottle	2					
	78	Shakhchi	2					
	79	Whistle	1					
	80	Ocarina	1					
Synth Lead	81	SquareLd	2					
	82	Saw Ld	2				PulseSaw	2
	83	CaliopLd	2				† Novice	2
	84	Chiff Ld	2				† SaltLead	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				† Vishnu	2
	91	PolySyPd	2					
	92	ChoirPad	2					
	93	BowedPad	2					
	94	MetalPad	2					
	95	Halo Pad	2				† Tiu	2
	96	SweepPad	2					
Synth Effects	97	Rain	2					
	98	SoundTrk	2					
	99	Crystal	2				GlockChi	2
	100	Atmosphr	2				Nylon EP	2
	101	Bright	2					
	102	Goblins	2					
	103	Echoes	2					
	104	Sci-Fi	2					
Ethnic	105	Sitar	1				† Bhuj	2
	106	Banjo	1					
	107	Shamisen	1					
	108	Koto	1					
	109	Kalimba	1					
	110	Bagpipe	2					
	111	Fiddle	1					
	112	Shanai	1					
Percussive	113	TrnklBell	2					
	114	Agogo	2					
	115	SteelDrm	2					
	116	Woodblok	1					
	117	TaikoDrm	1					
	118	MelodTom	2					
	119	Syn Drum	1					
	120	RevCymb1	1					
Sound Effects	121	FretNoiz	2					
	122	BrthNoiz	2					
	123	Seashore	2					
	124	Tweet	2					
	125	Telephone	1					
	126	Helicptr	1					
	127	Applause	1					
	128	Gunshot	1					

: Same as Bank 0  
 \*\* : MU80 Extension  
 \*\*\* : MU90 Extension  
 † : MU100 Extension

E: Number of elements



# XG Voice List (Normal voices)

Bank Select LSB=Bank number

Other Waves 1    Other Waves 2    Other Waves 3    Other Waves 4    Other Waves 5

Bank Select MSB	0	0	0	0	0	0	0
Bank Select LSB	0	64	65	66	67	68	
Instrument Group	Pgm# (1-128)	MU100 Basic	E	E	E	E	E
↕ Continued from page 78 ↕							
Reed	65	SprnoSax	1	† Mdtation	1	† MdtatnRs	1
	66	Alto Sax	1	† ASaxPwrd	1	† FakeAlto	1
	67	TenorSax	1	TnrSax 2	1	† SprTenor	1
	68	Bari.Sax	1				
	69	Oboe	2	† Heinz	1	† HeinzUni	2
	70	Eng.Horn	1				
	71	Bassoon	1				
Pipe	72	Clarinet	1				
	73	Piccolo	1				
	74	Flute	1	† Boehm	1	† Boehm Br	2
	75	Recorder	1	† Piplith	2	† Home	1
	76	PanFlute	1	PanFlut2 **	1	† Meadow	1
	77	Bottle	2	† BottLgt	2		
	78	Shakhchi	2				
	79	Whistle	1	† Reverie	2		
	80	Ocarina	1	† Opalina	1		
	Synth Lead	81	SquareLd	2	Mellow	2	SoloSine
82		Saw Ld	2	Digger ***	1	† Dunce	2
83		CalioPd	2	Vent Syn **	2	PureLead	2
84		Chiff Ld	2	Rubby	2	HardSync ***	1
85		CharanLd	2	DistLead	2	WireLead	2
86		Voice Ld	2	Vox Lead	2	Br.Layer ***	2
87		Fifth Ld	2				
88		Bass&Ld	2	Fat&Prky	2	Soft Wrl	2
Synth Pad	89	NewAgePd	2	Fantasy	2	† Libra	2
	90	Warm Pad	2	Horn Pad	2	RotarStr	2
	91	PolySyPd	2	PolyPd80	2	ClickPad	2
	92	ChoirPad	2	Heaven	2	Lite Pad **	2
	93	BowedPad	2	Glacier	2	GlassPad	2
	94	MetalPad	2	Tine Pad	2	Pan Pad	2
	95	Halo Pad	2	† Aries	2		
Synth Effects	96	SweepPad	2	PolarPad	2	Sweepy **	2
	97	Rain	2	HrmoRain	2	AfrcnWnd	2
	98	SoundTrk	2	Ancestrl	2	Rave **	2
	99	Crystal	2	SynMalet	1	SftCryst	2
	100	Atmosphr	2	NylnHarp	2	Harp Vox	2
	101	Bright	2	FantaBel	2		
	102	Goblins	2	GobSynth	2	Creepcr	2
	103	Echoes	2	EchoBell	2	Big Pan	2
	104	Sci-Fi	2	Starz	2	Odin **	2
Ethnic	105	Sitar	1	† Raga Syn	2		
	106	Banjo	1	† El Banjo	1		
	107	Shamisen	1				
	108	Koto	1	† FM Koto	2		
	109	Kalimba	1	BigKalim **	2		
	110	Bagpipe	2	† Thistle	2		
	111	Fiddle	1				
Percussive	112	Shanai	1	Shanai 2	1		
	113	TnklBell	2	† TcklBell	2		
	114	Agogo	2				
	115	SteelDrm	2				
	116	Woodblok	1				
	117	TaikoDrm	1				
	118	MelodTom	2	Mel Tom2	1	Real Tom	2
	119	Syn Drum	1	Ana Tom	1	ElecPerc	2
Sound Effects	120	RevCymb1	1	Rev Cym2 **	1		
	121	FretNoiz	2				
	122	BrthNoiz	2				
	123	Seashore	2				
	124	Tweet	2				
	125	Telephone	1				
	126	Helicptr	1				
	127	Applause	1				
	128	Gunshot	1				

□ : Same as Bank 0  
 \*\* : MU80 Extension  
 \*\*\* : MU90 Extension  
 † : MU100 Extension

E: Number of elements

0 69	0 70	0 71	0 72	0 73	0 74	0 75							
E	E	E	E	E	E	E	E	E	E				
↩ Continued from page 79 ↪													
† ForcdOsc	1	† Accent	1	† Brick	1	† Alum	2	† Query	2	† FMSlwSwp	2	† SyncLdDb	2
† Saw Trp	1	† Hue	1	† StrghtSw	1	† StrtPuls	1	† PWMania	1	† Mod Saw	1	† Toad	1
† SprCyphr	2												
† Sync B&L	1												
† Pixie	2	† Pisces	2	† Spiral	2								
DigiBell	2	AirBells	2	BellHarp	2	GameImba	2	† Bounce	2				
† Akasaka	2	† DgBermda	2										
MilkyWay **	2	Night	2	Glisten	2	Puffy **	2	† Mimicry	2	† Parasite	2	† Cicada	2
Reso&Pan	2												

# XG Voice List (Normal voices)

Bank Select LSB=Bank number

Other Waves 13 Other Waves 14 Other Waves 15 Other Waves 16 Other Waves 17

Bank Select MSB	0	0	0	0	0	0
Bank Select LSB	0	76	77	78	79	80
Instrument Group	Pgm# (1-128)	MU100 Basic	E	E	E	E
↓ Continued from page 80 ↓						
Reed	65	SprnoSax	1			
	66	Alto Sax	1			
	67	TenorSax	1			
	68	Bari.Sax	1			
	69	Oboe	2			
	70	Eng.Horn	1			
	71	Bassoon	1			
	72	Clarinet	1			
Pipe	73	Piccolo	1			
	74	Flute	1			
	75	Recorder	1			
	76	PanFlute	1			
	77	Bottle	2			
	78	Shakhchi	2			
	79	Whistle	1			
	80	Ocarina	1			
Synth Lead	81	SquareLd	2	† Curse	2	† OctvBeep 1
	82	Saw Ld	2	† FatOctav	1	† Overdose 2 † PWMDecay 1 † SawDecay 1
	83	CaliopLd	2			
	84	Chiff Ld	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	PolySyPd	2			
	92	ChoirPad	2			
	93	BowedPad	2			
	94	MetalPad	2			
	95	Halo Pad	2			
	96	SweepPad	2			
Synth Effects	97	Rain	2			
	98	SoundTrk	2			
	99	Crystal	2			
	100	Atmosphr	2			
	101	Bright	2			
	102	Goblins	2	† Beacon	2	
	103	Echoes	2			
	104	Sci-Fi	2			
Ethnic	105	Sitar	1			
	106	Banjo	1			
	107	Shamisen	1			
	108	Koto	1			
	109	Kalimba	1			
	110	Bagpipe	2			
	111	Fiddle	1			
	112	Shanai	1			
Percussive	113	TnklBell	2			
	114	Agogo	2			
	115	SteelDrm	2			
	116	Woodblok	1			
	117	TaikoDrm	1			
	118	MelodTom	2			
	119	Syn Drum	1			
	120	RevCymb	1			
Sound Effects	121	FretNoiz	2			
	122	BrthNoiz	2			
	123	Seashore	2			
	124	Tweet	2			
	125	Telephone	1			
	126	Helicptr	1			
	127	Applause	1			
	128	Gunshot	1			

: Same as Bank 0  
 \*\* : MU80 Extension  
 \*\*\* : MU90 Extension  
 † : MU100 Extension

E: Number of elements





# XG Voice List (Normal voices)

Bank Select LSB=Bank number

Other Waves 25 Other Instrument 1 Other Instrument 2 Other Instrument 3 Other Instrument 4

Bank Select MSB	0	0	0	0	0	0	0					
Bank Select LSB	0	88	96	97	98	99						
Instrument Group	Pgm# (1-128)	MU100 Basic	E	E	E	E	E					
↓ Continued from page 82 ↓												
Reed	65	SprnoSax	1									
	66	Alto Sax	1									
	67	TenorSax	1									
	68	Bari.Sax	1									
	69	Oboe	2									
	70	Eng.Horn	1									
	71	Bassoon	1									
	72	Clarinet	1		BassClar **	1						
Pipe	73	Piccolo	1									
	74	Flute	1									
	75	Recorder	1									
	76	PanFlute	1		Kawala **	2						
	77	Bottle	2									
	78	Shakhchi	2									
	79	Whistle	1									
	80	Ocarina	1									
		81	SquareLd	2								
Synth Lead	82	Saw Ld	2		Seq Ana.	2						
	83	CalliopLd	2									
	84	Chiff Ld	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	PolySyPd	2									
	92	ChoirPad	2									
	93	BowedPad	2									
	94	MetalPad	2									
	95	Halo Pad	2									
	96	SweepPad	2									
Synth Effects	97	Rain	2									
	98	SoundTrk	2									
	99	Crystal	2									
	100	Atmosphr	2									
	101	Bright	2		Smokey	2						
	102	Goblins	2		BelChoir	2	Dharma ***	2				
	103	Echoes	2									
	104	Sci-Fi	2									
Ethnic	105	Sitar	1		Tambra	2	Tamboura	2				
	106	Banjo	1		Rabab	2	Gopichnt	2	Oud	2		
	107	Shamisen	1		Tsugaru **	2						
	108	Koto	1		Taisho-k	2	Kanoon	2				
	109	Kalimba	1									
	110	Bagpipe	2									
	111	Fiddle	1									
Percussive	112	Shanai	1		Pungi	1	Hichriki	2				
	113	TnklBell	2		Bonang	2	Altair	2	Gamelan	2	S.Gamlan	2
	114	Agogo	2		Atrigane **	2						
	115	SteelDrm	2		Tablas **	2	GlasPerc	2	ThaiBell	2		
	116	Woodblok	1		Castanet	1						
	117	TaikoDrm	1		Gr.Cassa	1						
	118	MelodTom	2									
	119	Syn Drum	1									
	120	RevCymb1	1		RevSnar1 **	1	RevSnar2 **	1	RevKick1 **	1	RevConBD **	1
	Sound Effects	121	FretNoiz	2								
122		BrthNoiz	2									
123		Seashore	2									
124		Tweet	2									
125		Telephone	1									
126		Helicptr	1									
127		Applause	1									
128		Gunshot	1									

□ : Same as Bank 0

E: Number of elements

\*\* : MU80 Extension

\*\*\* : MU90 Extension

† : MU100 Extension



# XG Voice List (Normal voices)

Bank Select LSB=Bank number

## MODEL EXCLUSIVE VOICE

Timbre Timbre, Poly Timbre, Looped Timbre, Looped, Poly Phrase, Looped Phrase, Looped, Poly SFX, Timbre

Bank Select MSB			48		48		48		48		48		48		48		
Bank Select LSB			0		8		16		24		48		56		64		
Instrument Group	Pgrn # (1-128)	MU100 Basic	E		E		E		E		E		E		E		
↓ Continued from page 84 ↓																	
Reed	65	SprnoSax	1														
	66	Alto Sax	1														
	67	TenorSax	1														
	68	Bari.Sax	1														
	69	Oboe	2														
	70	Eng.Horn	1														
	71	Bassoon	1														
Pipe	72	Clarinet	1														
	73	Piccolo	1														
	74	Flute	1														
	75	Recorder	1														
	76	PanFlute	1														
	77	Bottle	2														
	78	Shakhchi	2														
	79	Whistle	1														
Synth Lead	80	Ocarina	1														
	81	SquareLd	2														
	82	Saw Ld	2														
	83	CaliopLd	2														
	84	Chiff Ld	2														
	85	CharanLd	2														
	86	Voice Ld	2														
	87	Fifth Ld	2														
Synth Pad	88	Bass&Ld	2														
	89	NewAgePd	2														
	90	Warm Pad	2														
	91	PolySyPd	2														
	92	ChoirPad	2														
	93	BowedPad	2														
	94	MetalPad	2														
	95	Halo Pad	2														
Synth Effects	96	SweepPad	2														
	97	Rain	2														
	98	SoundTrk	2														
	99	Crystal	2														
	100	Atmosphr	2														
	101	Bright	2														
	102	Goblins	2														
	103	Echoes	2														
Ethnic	104	Sci-Fi	2														
	105	Sitar	1														
	106	Banjo	1														
	107	Shamisen	1														
	108	Koto	1														
	109	Kalimba	1														
	110	Bagpipe	2														
	111	Fiddle	1														
Percussive	112	Shanai	1														
	113	TnklBell	2														
	114	Agogo	2														
	115	SteelDrm	2														
	116	Woodblok	1														
	117	TaikoDrm	1														
	118	MelodTom	2														
	119	Syn Drum	1														
Sound Effects	120	RevCymb	1														
	121	FretNoiz	2														
	122	BrthNoiz	2														
	123	Seashore	2														
	124	Tweet	2														
	125	Telephone	1														
	126	Helicptr	1														
	127	Applause	1														
	128	Gunshot	1														

█ : No sound

E: Number of elements

\*\* : MU80 Extension

\*\*\* : MU90 Extension

† : MU100 Extension



# VL-XG Voice List

Bank Select MSB=81, 97

Instrument Group	Pch #	Bank 112	Bank 113	Bank 114	Bank 115	Bank 116	Bank 117	Bank 118	Bank 119
Organ	22	Squeeze	<---	<---	<---	<---	<---	<---	<---
	23	MouthKey	AmpdHarp	CromHarp	<---	<---	<---	<---	<---
Guitar	25	Spanish	<---	<---	<---	<---	<---	<---	<---
	27	JazzGtr!	Carlos	Destiny	<---	<---	<---	<---	<---
	28	L7 Pluck	WetPluck	<---	<---	<---	<---	<---	<---
Bass	33	Upright	<---	<---	<---	<---	<---	<---	<---
	34	Fnground	Birdland	<---	<---	<---	<---	<---	<---
	35	FlageoBs	DampBass	<---	<---	<---	<---	<---	<---
	36	Fretles!	Frtles!2	<---	<---	<---	<---	<---	<---
	37	New Slap	ThumBass	<---	<---	<---	<---	<---	<---
	39	AcidBas!	SqrBass!	<---	<---	<---	<---	<---	<---
	40	PulsClav	MogueBas	<---	<---	<---	<---	<---	<---
Strings	41	NuViolin	Viol Inn C	Violin	BrvtVioln	MuteViol	<---	<---	<---
	42	BrvtViola	ViolOutt	<---	<---	<---	<---	<---	<---
	43	Cello!	Eleanor	Nu Cello	<---	<---	<---	<---	<---
	44	Contrair	DoublBow	<---	<---	<---	<---	<---	<---
Brass	57	Trumpet!	Trumpt!2	FluglHr!	Cornet	<---	<---	<---	<---
	58	Trmbone!	Melwbone	<---	<---	<---	<---	<---	<---
	59	Tuba!	<---	<---	<---	<---	<---	<---	<---
	60	MuteTp!	MuteTp!2	<---	<---	<---	<---	<---	<---
	61	Horn!	Horn!2	<---	<---	<---	<---	<---	<---
Reed	65	SoprSax!	CvopSax	SoprPipe	LiteSopr	<---	<---	<---	<---
	66	AltoSax!	SweetAlt	LiteAlto	HarpAlto	HarpAlt2	GlassAlt	<---	<---
	67	TenrSax!	MildTenr	Jaz Sax	TenorSub	BellMike	GlasTenr	FnkyTenr	OldTenor
	68	BariSax!	VoxoSaxo	<---	<---	<---	<---	<---	<---
	69	Oboe!	Oboe!2	DblReedy	TripleRd	<---	<---	<---	<---
	70	EngHorn!	Loeboe	<---	<---	<---	<---	<---	<---
	71	Bassoon!	Flurinet	<---	<---	<---	<---	<---	<---
	72	Clarint!	LitePipe	HyperCla	BassCla!	<---	<---	<---	<---
Pipe	73	Piccolo!	Piccol!2	BowPicol	<---	<---	<---	<---	<---
	74	C Flute	C Flute2	JazFlute	OakFlute	<---	<---	<---	<---
	75	Recordr!	Claricrd	SoftPipe	<---	<---	<---	<---	<---
	76	Pan Pipe	PanPicol	<---	<---	<---	<---	<---	<---
	77	YamaBot!	Bamboo	Andean	BtlFlute	BtlFlut2	<---	<---	<---
	78	Shakuha!	<---	<---	<---	<---	<---	<---	<---
	79	BowedSaw	<---	<---	<---	<---	<---	<---	<---
	80	Ocarina!	<---	<---	<---	<---	<---	<---	<---
Synth Lead	81	50 / 50	ChalPuls	PluckLd	<---	<---	<---	<---	<---
	82	Brassyn	AcoSynLd	VintgLd	<---	<---	<---	<---	<---
	83	Maysbe?	Air Sax	Baroquen	LipClari	<---	<---	<---	<---
	84	Grunge	Ossyncro	Talk Box	<---	<---	<---	<---	<---
	85	MizuHorn	Floboe	<---	<---	<---	<---	<---	<---
	86	SoftReed	BrethBow	<---	<---	<---	<---	<---	<---
	88	Chamlion	Old Mini	<---	<---	<---	<---	<---	<---
Ethnic	105	Sitar!	India	<---	<---	<---	<---	<---	<---
	110	Chanter	ThaiReed	<---	<---	<---	<---	<---	<---
	111	JetLpBow	<---	<---	<---	<---	<---	<---	<---
Percussive	115	YamSteel	<---	<---	<---	<---	<---	<---	

\* When Bank Select MSB is 81, the blank boxes indicate the same voice as the ones for Bank 112.  
 When Bank Select MSB is 97, the blank boxes indicate the same voice as the ones for XG Voice Bank 1.

# VL-XG Voice List 2

Bank Select MSB=81

Instrument Group	Pch #	Bank 112	Bank 113	Bank 114	Bank 115	Bank 116	Bank 117	Bank 118	Bank 119
Synth Effects	97	Mad Tube	<---	<---	<---	<---	<---	<---	<---
	98	StoneHng	<---	<---	<---	<---	<---	<---	<---
	99	Mu	<---	<---	<---	<---	<---	<---	<---
	100	Moby	<---	<---	<---	<---	<---	<---	<---
	101	Igneous	<---	<---	<---	<---	<---	<---	<---
	102	SquealAT	<---	<---	<---	<---	<---	<---	<---
Sound Effects	121	Jurassic	<---	<---	<---	<---	<---	<---	<---
	122	Formula	<---	<---	<---	<---	<---	<---	<---
	123	Waterphn	<---	<---	<---	<---	<---	<---	<---
	124	Devil	<---	<---	<---	<---	<---	<---	<---
	125	SpcHorse	<---	<---	<---	<---	<---	<---	<---
	126	DinoPerc	<---	<---	<---	<---	<---	<---	<---
	127	SpaceZoo	<---	<---	<---	<---	<---	<---	<---
	128	Jason	<---	<---	<---	<---	<---	<---	

\* The blank boxes indicate the same voice as the ones for Bank 112.  
When Bank Select MSB is 97, the voices above are not included.

# VL Voice List

## Preset 1

No.	Voice Name	Recommended Note Range	Comment
001	Mad Tube	C1 - B4	An extremely aggressive sound that lies between synth lead and distortion guitar.
002	VintgLd	B-1 - C6	Multi-oscillator type synth lead.
003	SpaceZoo	***	Try moving PB, MW, and AT in various ways.
004	GuitHero	G0 - C5	A distortion guitar. Controlling the feedback with AT is particularly effective.
005	StoneHng	F0 - G6	MW produces a sustained sound.
006	Whizzer	G#0 - F#5	Long sustaining synth tone similar to bass guitar harmonics.
007	SimpleBa	C0 - C6	Straight ahead synth bass with some distortion.
008	ClavBass	C0 - E3	Bass sound with both electric/acoustic and synthesizer qualities. If you use FC (CC#4) you can get "clavinet" style overtones.
009	SuperBas	C0 - F#3	DX7 style slapped bass.
010	New Slap	C0 - D5	New type slap bass with punchy power.
011	RockPigs	C0 - E4	Organ-type synth lead sound. AT produces a neighing effect.
012	Igneous	C0 - C5	Feedbacked synth lead sound.
013	50 / 50	C0 - F5	Simple Square wave synth lead.
014	Cybastrg	C-1 - C6	Metallic driller killer sound.
015	Wynth	A-1 - G5	Filter wind synth with control from BC and velocity.
016	BuzzSaw	E-1 - C6	Play with lots of MW filter control.
017	ZubZub	B-1 - C6	Biting analog synth sound. MW controls filter.
018	Blue	G0 - D3	Fizzy synthesiser sound.
019	OsciLead	C0 - G5	Octave synth lead sound.
020	SqrLead	D#0 - C6	Nice Square lead tone. Lowering FC (CC#4) closes filter.
021	Bigger	C-1 - C6	Big analog synth sound - velocity controls filter and volume.
022	AnaSquid	G-1 - C6	Analog synth type sound with MW filter control.
023	SharpSyn	G0 - C6	Slightly mode unstable velocity sensitive sound.
024	AnaWave	C0 - E4	Analog synth type sound with MW filter control.
025	AnaWurl	C0 - C6	Velocity sensitive sound somewhat like a Vintage EP passed through a resonant filter.
026	Babalog	C0 - C6	Velocity controlled synth wind sound.
027	FngerBass	B-1 - C4	Vigorous finger bass sound.
028	Upright	B-1 - C4	Simulation of accoustic bass.
029	Fnground	A-1 - C4	Finger bass with particular sound of rear pick up.
030	Birdland	A-1 - C4	Midway between an analog synth and an electric bass sound. The high range produces harmonics.
031	FlageoBs	G0 - C4	Harmonics of a fingered electric bass.
032	DampBass	G-1 - C3	Damped Pluck-Bass with a dry speaker sound.
033	Fretles!	E-1 - C4	Fretless bass usable for either rhythm or melody.
034	Frtles!2	B-1 - C#4	Another fretless bass, good for melody play.
035	ThumBass	C0 - C3	Thumped Bass.
036	RockBass	G-1 - C4	Heavy overdrive rock bass sound.
037	SmooBass	B-1 - A#3	Expressive synth bass sound with filter control by velocity and "vintage analog" character.
038	WarmBass	B-1 - C4	Warm electric Precision bass sound. Use FC (CC#4) to make sound brighter or darker.
039	YamaBass	A-1 - C4	Yamaha 5-string electric bass with brand new strings and "studio EQ".
040	Box Bass	C0 - C4	Similar to FM synth bass with filter control on MW. Uses resonator for "boxy" effect.
041	BassCab	B-1 - G#4	Slightly distorted electric bass with Resonator simulation of speaker cabinet tone.
042	FruitBas	C0 - C4	Fruity electric bass sound.
043	AcidBas!	B-1 - C5	Bass sound for acid jazz.
044	SqrBass!	B-1 - G4	Square wave synth bass.
045	PulsClav	A-1 - G5	Synth-Clavinet for funky licks.
046	MogueBas	B-1 - C#7	A classic synth bass sound.
047	BoppaBas	B-1 - C4	Synth bass with sub-octave undertone.
048	BuzzrBas	D0 - E4	FM style, bright and buzzy electronic keyboard bass. For fast tempo trance, acid, house, and techno style sequenced basslines.
049	MuteHrBs	C0 - C5	Upper register bass harmonic sound, with accentuated fingering "pop" similar to playing muted guitar style with the palm of the picking hand on the bridge.
050	TekBass	B-1 - C4	Synth bass with sub-octave undertone.
051	TranzBas	C0 - F#4	TB303 style synth bass. For fast tempo trance, acid, house, and techno style sequenced basslines.
052	Chamlion	C0 - B4	Dry Synthbass.
053	ParaSyn	A-1 - C4	Strong, up-front synth bass, ideal for 70's Jazz-Funk. If you like that sort of thing.
054	SteamBas	C0 - C#7	Use lots of PB (Embouchure) for finger slides. Gives greater tonal variety.
055	BooBass	B-1 - C5	MW controls filter and gives sharper attack.

No.	Voice Name	Recommended Note Range	Comment
056	WhelkBas	E-1 - C#5	Synth bass. MW controls filter as does velocity.
057	AtackSyn	G0 - B4	Synth bass sound with strong attack.
058	Q.Klav	A-1 - C#4	Deeply funky clav sound. Try with Phasing on in Chorus section, or alter low and upper mid with Equaliser in modifier section. Altering the Aural Exciter® parameters will also have a big effect.
059	Sitar!	G0 - E4	Simulation of Sitar.
060	India	F#0 - C6	Sitar-type ethnic sound.
061	YamSteel	A2 - C6	Steel drum-type ethnic sound.
062	StungSt	F#0 - B5	FM style, metallic overtone synth. Can use as lead or bass .
063	Mu	***	MW brings in noise. CC#13 can be used to modify the character of the noise.
064	Waterphn	***	Mysterious percussion instrument. Attack is softened with MW. Squeakiness (embouchure) on CC#13. Violent SCRAPE sound with AT.
065	DinoPerc	***	Use with different combinations of MW and PB to produce complex noise percussion.
066	Formula	***	Engine-like sound effect.
067	Jurassic	***	Use PB, MW, and CC#13 to produce the cries of various dinosaurs.
068	Devil	***	A sound effect using extreme oscillation. Try moving PB, MW, and CC#13 in various ways.
069	SpcHorse	***	While applying MW, add AT to create a neighing sound.
070	Jason	***	Use the MW to turn this into a strongly noisy sound effect.
071	Suedhead	F-1 - C6	Sound effect. Make liberal use of Pitch and MWs.
072	Spanish	F-1 - E4	Spanish type acoustic guitar.
073	JazzGtr!	B-1 - A4	Electric guitar suitable mainly for jazz.
074	JazzyGtr	A-1 - C6	Velocity dynamic jazz style sustaining guitar lead.
075	L7 Pluck	B-1 - E4	A classic pluck sound.
076	WetPluck	B-1 - E4	A guitar sound that readily accepts effects such as flanging.
077	Comp Gtr	B-1 - A4	Compressed, clean electric strat guitar sound.
078	FunkyGtr	B-1 - D5	Snappy "70's style" funk guitar, for rhythm and comping.
079	Thin Gtr	B-1 - G5	Clean uncompressed electric guitar with "thin gauge" new strings, good for country, R&B, lead solos etc. Using a high velocity input results in a continuous sound.
080	Carlos	B-1 - G4	Overdrive guitar, front pick up type.
081	Destiny	C0 - C5	Distortion guitar made from a sustained sound with strong attack. CC#13 for feedback effect.
082	Gonzo	B-1 - G5	Velocity controlled. PB down controls noise effect.
083	Grunge	C0 - B6	Dirty synth lead.
084	Ossyncro	B-1 - G5	Cross modulation-type synth lead.
085	Talk Box	F#0 - E7	Voicy Lead, somehow like a guitar-Talkbox.
086	SyncLed	B-1 - E6	Sync type lead tone. Use with Exp or BC - with no pressure sound has stacatto muted tone. Increase for full tone. FC (CC#4) at full produces wide open tone. Lowering darkens timbre. Try striking at hard velocity with no BC, pitchbend up, and slowly.
087	Old Mini	A-1 - A5	A classic analog synth solo sound.
088	Fat Mini	G-1 - A5	A classic analog synth solo sound with fatter timbre.
089	Parlopho	B-1 - C5	If it was possible to mix an accordion with a trumpet it might sound like this.
090	SimpleSy	B-1 - E5	Breath controlled filter synth sound.
091	Choronic	C0 - G5	Synth brass solo sound.
092	SlitMinu	F0 - C6	AT control of Rotor Speed of FX.
093	SynHarmo	B-1 - G6	Filter changed by velocity.
094	Flaggoot	C0 - D4	Vibrato will cause sound to drop an octave except in lower range.
095	SynSkex	C0 - A#5	Analog/acoustic hybrid lead sound with resonant filter.
096	ResoSqr	A-1 - D5	Lowering FC (CC#4) opens filter.
097	WurliLd	B-1 - C6	Dark, reed electric piano style synth lead.
098	FlatLead	G#1 - G5	Analog / digital lead with thick, fat non-dynamic character.
099	PhilTur	B-1 - C6	Bright, resonant synth brass lead with accentuated filter dynamic range.
100	ChalPuls	B-1 - C6	Synth lead with an indefinably "acoustic" atmosphere.
101	Pluck Ld	B-1 - C6	Speedy Synthlead with Guitarlike attack.
102	Brassynd	B-1 - C6	Bright analog synthbrass.
103	AcoSynLd	A-1 - C6	Analog synth lead-type sound with an acoustic flavor.
104	Moby	G-1 - F5	A strange sound in which gradual application of AT increases the fundamental. The key lies in how you use AT.
105	Digitrn	C0 - C6	Digital wavetable style wind controller synth lead.

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No.	Voice Name	Recommended Note Range	Comment
106	LyricOff	B-1 - C6	Pulse wave style analog wind controller synth lead.
107	Rezzawi	B-1 - G5	Bright, resonant sawtooth style analog wind controller synth lead.
108	Macro	B-1 - C6	Assignable Controller(CC#16) control of harmonic enhancer gives a variety of timbres.
109	Claribo	G#-1 - G5	AT controls brightness
110	Binaphon	C0 - C6	New acoustic model. Clarinet style voice.
111	MokoPipe	C0 - C6	Somewhere around Uilleann pipes.
112	AliBaba	B-1 - C6	Play with lots of PB. Try controlling vibrato from Pitch Wheel.
113	Persinet	B-1 - G5	Single reed new acoustic model.
114	PicoPipe	G#0 - C6	Try using lots of PB embouchure control.
115	Gertrude	C0 - C6	Ethnic wood wind sound.
116	Xynth	G-1 - C6	Woodwind guitar synth thing.
117	Duality	G-1 - C6	Synth wind instrument.
118	AltKwek	G#1 - C7	New hybrid, double reed driven cylindrical metal woodwind (oboe reed and a piccolo body).
119	Softblow	C0 - C6	Gentle sax type sound.
120	AlbaPipe	C0 - C6	Boxy sounding double reed with additional lower octave undertone.
121	Electrum	C0 - C6	Expressive brass like sound.
122	Edgeopho	B-1 - F5	Somewhere between a '30s saxophone and distorted blues harmonica. PB control of embouchure is inverted.
123	BassCla!	C0 - C6	A simulation of Bass Clarinet.
124	WX Clari	C1 - C6	Clarinet sound suitable for performance with a wind controller.
125	WX Oboe	C0 - B5	Oboe sound suitable for performance with a wind controller.
126	WX J Gtr	C0 - A4	Jazz guitar sound suitable for performance with a wind controller. Breath character simulates string muting.
127	Shakuha!	C1 - C6	A shakuhachi simulation. Moving CC#13 produces the upper (falsetto) register.
128	LipClari	F-1 - C6	LipClari Imaginary instrument simulating a trumpet mouthpiece blown through a clarinet body.

## Preset 2

No.	Voice Name	Recommended Note Range	Comment
001	Vento	C0 - C6	High noise content in this flute type sound.
002	Floboe	C0 - C6	Imaginary instrument combining a flute and oboe.
003	Sintax	F0 - C5	Synthetic sax type sound.
004	Eastern	E0 - C6	In conjunction with mode shift from PB can be used for "classic" Shakuhachi sample effect.
005	Trumpet!	C0 - C6	Simulation of Trumpet.
006	SoprSax!	C0 - C6	Simulation of Soprano sax.
007	LiteAlto	E0 - C6	Light-feeling alto sax with significant noise component.
008	Trmbone!	C0 - C6	Simulation of a trombone.
009	BtlFlute	C0 - C6	Flute sound similar to a softly blown bottle.
010	Air Sax	G0 - C6	A sax-type instrument that could not exist in reality, produceable only by the VL.
011	TenrSax!	C0 - C6	Simulation of Tenor sax.
012	Coca	C1 - C6	Pan flute sort of thing. Vibrato using pressure (BC) is particularly effective.
013	JetLpBow	A-1 - C6	A subtle sound with a violin-like attack, combining a reed (oboe type) and flute-type instrument.
014	Viol Inn	C0 - C6	A new acoustic sound based on bowed string instruments. Quite usable as a violin.
015	MuteCone	G0 - C6	Muted trumpet with PB "mode" effect.
016	BrethBow	B-1 - C6	A sound somewhere between strings and a blown feel.
017	Trumpt!2	C0 - C6	Trumpet sound.
018	FluglHr!	C0 - C6	Simulation of Flugelhorn
019	Cornet	C0 - C6	Cornet sound suitable for classical music.
020	JzTrump	F#2 - C6	Trumpet sound suitable for jazz.
021	JzTrump2	G#1 - C6	Bright trumpet. PB can be used to imitate a lip slur.
022	Flumpet	D0 - C6	Resonant trumpet/flugely thing. PB controls embouchure and pitch. Legato playing creates different tone.
023	WXTrumpt	C0 - C6	Trumpet sound suitable for performance with a wind controller.
024	MuteTp!	E0 - C6	Simulation of Mute trumpet.
025	MuteTp!2	C0 - C6	Another Mute trumpet.
026	Melwbone	C0 - C6	Mellow Trombone sound.
027	NerzoBr	E0 - C6	Bright synthetic brass with PB "shake" effect.
028	Horn!	B-1 - C6	Simulation of Horn.
029	Horn!2	C0 - C6	Another Horn.
030	NuHorne	B-1 - C6	Mellow french horn with PB "shake" effect.
031	WX Horn	B-1 - C6	Horn sound suitable for performance with a wind controller.
032	Tuba!	C0 - C6	Tuba simulation.
033	NuViolin	C0 - C6	A light violin sound.
034	C Violin	C0 - C6	Violin sound suitable for classical music.
035	BrtVioln	C0 - C6	A bright violin sound.
036	MuteViol	C0 - C6	The sound of a violin with an attached mute.
037	BrtViola	C0 - C6	A bright viola sound, extending from cello range to violin range.
038	ViolOutt	C0 - C6	Bowed-string sound with a sliding feel to the bow.
039	Cello!	C0 - C5	Cello simulation.
040	Eleanor	C0 - C5	The sound of a cello being played in the center of the string. Becomes a wind instrument-like sound in the high register.
041	Nu Cello	B-1 - C6	Cello variation sound.
042	Contrair	A-1 - C5	String bass simulation.
043	DoublBow	A-1 - C5	A string bass that is fairly close to a wind instrument.
044	Piccolo!	C0 - C7	Simulaton of piccolo.
045	Piccol!2	C0 - C7	Another piccolo.
046	BowPicol	C0 - G6	A piccolo flute sound with a bowed string flavor.
047	C Flute	C0 - C6	Flute simulation. Editing the controller settings to increase the breath noise depth will change the nuance of the sound.
048	C Flute2	C0 - C6	Another flute simulation.
049	JazFlute	B-1 - C6	Flute sound suitable for jazz.
050	OakFlute	E0 - C6	Flute sound with hard wooden resonance.
051	BtlFlut2	C0 - C6	Flute-type bottle sound.
052	RzdeFlt	E0 - C6	Expressive resonant flutey sound.
053	Flutuen	G1 - C6	Heavily filtered, synth flute/woodwind lead.
054	Nz Flute	C0 - C6	Flute sound with large noise component.
055	WX Shaku	C1 - C6	Shakuhachi sound suitable for performance with a wind controller.
056	Pan Pipe	E0 - G5	Pan flute simulation. It is effective to edit the controller settings so that growl can be applied.
057	PanPicol	C0 - G6	Another pan flute sound with a beautiful high register.

No.	Voice Name	Recommended Note Range	Comment
058	Bamboo	C0 - C6	The sound of a bamboo pipe.
059	Andean	C0 - C6	The sound of a wooden or bamboo flute such as the quena.
060	Flurinet	F0 - C6	Clarinet with flute mouthpiece.
061	SoftReed	C0 - C6	A sound that mixes oboe with soprano sax, but having a unique feel possessed by neither instrument.
062	Flurmod	F0 - B5	New hybrid, woody reed flute. Keep high breath pressure and hard tonguing when playing in upper mode (with PB = max).
063	Jhopali	G0 - C5	New accordion/hurdy gurdy hybrid with unique AT controlled fifth's undertone. Play ethnic style melodies, playing with hard finger pressure to bounce off the aftertouch sensor to emphasize selected notes with the fifth undertone.
064	Baroquen	C0 - C6	A nostalgic sound combining a flute and reed instrument. Try a slow build-up of breath for refined elegance.
065	SquealAT	C0 - C6	Pipe-type synth-lead sound. Try using AT to create extreme performance effects!
066	NuSopSax	C0 - G5	Mellow pop/fusion style soprano sax. Use (-) PB for "scoop" effect and (+) PB for "growl" effect.
067	CvSopSax	A-1 - C6	Simulation of a curved body-type soprano sax.
068	SoprPipe	F0 - C6	Soprano sax sound close to a clarinet.
069	LiteSopr	E0 - C6	Light feeling sax sound in the soprano-alto range.
070	AnaSopr	F0 - C6	Mid-way between a graceful analog synth sound and a soprano sax.
071	NuAltSax	C0 - C5	Bright pop/rock/fusion style alto sax. Use (-) PB for "scoop" effect and (+) PB for "growl" effect.
072	SweetAlt	F#0 - E5	Sweet-sounding alto sax simulation.
073	AltoSax!	E0 - C6	Simulation of a conventional alto sax.
074	HarpAlto	G0 - C6	Strongly processed sax sound, with harmonica-like formants.
075	HarpAlt2	G0 - C6	Sax sound with different processing.
076	GlassAlt	C0 - C6	Alto sax sound with emphasized glass-like resonance.
077	AcidSax	C0 - C6	Distorted acid sax - use BC for attack, FC (CC#4) controls Tonguing...normal playing with FC (CC#4) at full. Lowering softens tonguing.
078	WackSax	G#0 - E5	Bizarre tenor sax - BC heavily affects characteristics of tone. PB controls pitch and embouchure slightly. AT controls throat and scream.
079	NuTenrSx	D0 - E5	Bright pop/rock/fusion style breathy tenor sax. Use (-) PB for "scoop" effect and (+) PB for "growl" effect.
080	MildTenr	C0 - C6	A conventional tenor sax sound.
081	Jazz Sax	A#0 - E5	Sax sound suitable for jazz.
082	TenorSub	A#0 - A5	Sax sound with a sub-tone, suitable for blues.
083	BellMike	C0 - C5	The sound of a sax recorded by a mic near the bell.
084	GlasTenr	G0 - E5	Tenor sax sound with emphasized glass-like resonance.
085	FnkyTenr	C0 - G5	An unstable tenor sax sound suitable for funky solos. Assign the Throat Formant to a suitable controller, and try adding a throat effect when appropriate.
086	OldTenor	C0 - A5	The kind of tenor sax sound heard on old jazz records.
087	BrtTenor	C0 - C6	Bright and tight tenor sax sound. Suitable for performance with a wind controller.
088	BariSax!	C0 - C5	Simulation of Baritone sax
089	VoxoSaxo	C0 - C5	Breathy, vocal character, synthetic saxophone-like woodwind.
090	Oboe!	F0 - C6	Simulation of Oboe.
091	Oboe!2	C0 - C6	Another oboe.
092	Noboe	C0 - G5	New hybrid/synthetic double reed.
093	OboeWhi	G1 - G6	Oboe/whistle mix. PB up raises embouchure - all the way up is one octave above the fundamental. PB down decreases the embouchure and pitch.
094	DblReedy	C0 - A5	Mysterious sound mixing a double-reed instrument with a "kokyu" (classical Asian bowed string instrument).
095	TripleRd	C0 - C6	New syncoustic reed, with hybrid Oboe and Harmonica character.
096	EngHorn!	C0 - C6	Simulation of English horn
066	NuSopSax	C0 - G5	Mellow pop/fusion style soprano sax. Use (-) PB for "scoop" effect and (+) PB for "growl" effect.
067	CvSopSax	A-1 - C6	Simulation of a curved body-type soprano sax.
068	SoprPipe	F0 - C6	Soprano sax sound close to a clarinet.
069	LiteSopr	E0 - C6	Light feeling sax sound in the soprano-alto range.
070	AnaSopr	F0 - C6	Mid-way between a graceful analog synth sound and a soprano sax.
071	NuAltSax	C0 - C5	Bright pop/rock/fusion style alto sax. Use (-) PB for "scoop" effect and (+) PB for "growl" effect.
072	SweetAlt	F#0 - E5	Sweet-sounding alto sax simulation.
073	AltoSax!	E0 - C6	Simulation of a conventional alto sax.
074	HarpAlto	G0 - C6	Strongly processed sax sound, with harmonica-like formants.
075	HarpAlt2	G0 - C6	Sax sound with different processing.
076	GlassAlt	C0 - C6	Alto sax sound with emphasized glass-like resonance.
077	AcidSax	C0 - C6	Distorted acid sax - use BC for attack, FC (CC#4) controls Tonguing...normal playing with FC (CC#4) at full. Lowering softens tonguing.

No.	Voice Name	Recommended Note Range	Comment
078	WackSax	G#0 - E5	Bizarre tenor sax - BC heavily affects characteristics of tone. PB controls pitch and embouchure slightly. AT controls throat and scream.
079	NuTenrSx	D0 - E5	Bright pop/rock/fusion style breathy tenor sax. Use (-) PB for "scoop" effect and (+) PB for "growl" effect.
080	MildTenr	C0 - C6	A conventional tenor sax sound.
081	Jazz Sax	A#0 - E5	Sax sound suitable for jazz.
082	TenorSub	A#0 - A5	Sax sound with a sub-tone, suitable for blues.
083	BellMike	C0 - C5	The sound of a sax recorded by a mic near the bell.
084	GlasTenr	G0 - E5	Tenor sax sound with emphasized glass-like resonance.
085	FnkyTenr	C0 - G5	An unstable tenor sax sound suitable for funky solos. Assign the Throat Formant to a suitable controller, and try adding a throat effect when appropriate.
086	OldTenor	C0 - A5	The kind of tenor sax sound heard on old jazz records.
087	BrtTenor	C0 - C6	Bright and tight tenor sax sound. Suitable for performance with a wind controller.
088	BariSax!	C0 - C5	Simulation of Baritone sax
089	VoxoSaxo	C0 - C5	Breathy, vocal character, synthetic saxophone-like woodwind.
090	Oboe!	F0 - C6	Simulation of Oboe.
091	Oboe!2	C0 - C6	Another oboe.
092	Noboe	C0 - G5	New hybrid/synthetic double reed.
093	OboeWhi	G1 - G6	Oboe/whistle mix. PB up raises embouchure - all the way up is one octave above the fundamental. PB down decreases the embouchure and pitch.
094	Db!Reedy	C0 - A5	Mysterious sound mixing a double-reed instrument with a "kokyu" (classical Asian bowed string instrument).
095	TripleRd	C0 - C6	New syncoustic reed, with hybrid Oboe and Harmonica character.
096	EngHorn!	C0 - C6	Simulation of English horn
097	Loboe	C0 - C6	New double reed — a contrabass oboe !
098	Bassoon!	C0 - C5	Simulation of Bassoon.
099	Clarint!	A0 - C6	Simulation of Clarinet.
100	LitePipe	C0 - C6	Light-feeling synth lead sound close to a sax or clarinet
101	HyperCla	C0 - C6	A sound combining characteristics of synth lead, clarinet, sax, etc.
101	HyperCla	C0 - C6	A sound combining characteristics of synth lead, clarinet, sax, etc.
102	Clarint2	F0 - C6	Jazz / big band solo clarinet with AT "scoop" effect.
103	IslePipe	C1 - C5	New wooden ethnic flute.
104	Chanter	D1 - C6	A simulation of a bagpipe's melodic note.
105	ThaiReed	C0 - C5	A simulation of a south-east Asian (mainly Thai) flute.
106	Recordr!	C0 - A5	Recorder simulation.
107	Claricrd	C0 - C5	Basically the sound of a medieval reed instrument (like the clarinet's ancestor). As you play into the higher register, it takes on more of a recorder-like character.
108	SoftPipe	G0 - C5	A soft-toned recorder.
109	BowdSaw	C0 - C5	The sound of a bowed saw, with a character like the Ondes Martenot or Theremin (both early electronic instruments).
110	Ocarina!	F0 - C7	Ocarina simulation.
111	Lonely	C#2 - E6	Synth lead-like woodwind instrument with few overtones.
112	Ophelia	C0 - C6	Gentle synth lead with mellow sound. Suitable for performance with a wind controller.
113	Maysbe?	D#0 - A5	Synth lead with brass character in the attack.
114	MizuHorn	C0 - C6	Synth lead sound with brass character.
115	PicoStrg	G#0 - C5	Stringy pipe sound.
116	Sylophon	C0 - C5	Bright, nasal sound with Eastern influences.
117	BowLead	C0 - C6	Violinesque lead sound - velocity controls embouchure and damping. FC (CC#4) controls filter and tonguing. For strongest attack, FC (CC#4) at full. Lowering softens tonguing and closes filter.
118	Squeeze	C0 - C6	Accordion simulation.
119	MouthKey	C0 - C6	Simulation of a reed-type wind instrument with a keyboard.
120	AmpdHarp	C0 - C6	Simulation of a miked blues harp played through a guitar amp.
121	CromHarp	A-1 - C6	Chromatic harmonica simulation.
122	WahUpHp	B-1 - C6	Funky harmonica with breath control wah.
123	YamaBotl	A#1 - C6	Bottle-type sound with metallic resonance.
124	Blowsoo	G-1 - C5	Bright, resonant synth brass lead with accentuated filter dynamic range.
125	Brappo	C0 - C5	The sound of playing a tuba mouthpiece.
126	Crumbon	E0 - G5	Mellow and warm new hybrid double reed (blend of crumhorm, trombone and oboe).
127	Klarina	E0 - B5	New hybrid single reed driven pan pipes. Use (-) PB for "scoop" effect and (+) PB for "growl" effect.
128	ReedWin	E0 - C6	New hybrid jet lip driven cylindrical woodwind (a flute mouthpiece on a clarinet body).

# TG300B Voice List (Normal voices)

Bank Select MSB=000, LSB=Bank number

Bank Select LSB	Bank 0	E	Bank 1	E	Bank 2	E	Bank 3	E	Bank 4	E	Bank 5	E	
Instrument Group	Pgm #												
Piano	1	GrandPho	1										
	2	BritePho	1										
	3	El.Grand	2	LayerCP1	2	LayerCP2	2						
	4	HnkyTonk	2										
	5	E.Piano1	2										
	6	E.Piano2	2										
	7	Harpsi.	1										
	8	Clavi	2										
Chromatic Percussion	9	Celesta	1										
	10	Glocken	1										
	11	MusicBox	2										
	12	Vibes	1	HardVibe	2								
	13	Marimba	1										
	14	Xylophon	1										
	15	TubulBel	1										
	16	Dulcimer	1	Dulcivr2	2								
Organ	17	DrawOrgn	1	70sDrOr1	2								
	18	PercOrgn	1	70sPcOr1	2								
	19	RockOrgn	2										
	20	ChrchrOrg	2										
	21	ReedOrgn	1										
	22	Acordion	2										
	23	Harmnica	1	Harmo. 2	2								
	24	TangoAcd	2										
Guitar	25	NylonGtr	1										
	26	SteelGtr	1										
	27	Jazz Gtr	1	MelloGtr	1								
	28	CleanGtr	1										
	29	Mute Gtr	1	Mu.DstGt	2								
	30	Ovrdrive	1										
	31	Dist.Gtr	1	DistGtr2	2	DistGtr3	2						
	32	GtrHarmo	1										
Bass	33	Aco.Bass	1										
	34	FngrBass	1	FngBass2	2	Jazzy Ba	1						
	35	PickBass	1										
	36	Fretless	1	Fretles2	2	Fretles3	2	Fretles4	2	SynFretl	2	SmthFrtl	2
	37	SlapBas1	1										
	38	SlapBas2	1										
	39	SynBass1	1	SynBa1Dk	1								
	40	SynBass2	2	ClkSynBa	2	ModulrBa	2	Seq Bass	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	Slow Str	1								
	50	Strings2	1	70s Str	1								
	51	Syn Str1	2	Syn Str4	2								
	52	Syn Str2	2										
	53	ChoirAah	1										
	54	VoiceDoo	1										
	55	SynVoice	1										
	56	Orch.Hit	2	OrchHit2	2								
Brass	57	Trumpet	1	Trumpet2	1								
	58	Trombone	1	Trmbone2	2								
	59	Tuba	1	Tuba 2	1								
	60	Mute Trp	1										
	61	Fr. Horn	2	FrHorn 2	2								
	62	BrssSect	1										
	63	SynBrss1	2	PolyBrss	2								
	64	SynBrss2	1	Soft Brs	2								

↓ Continued on page 112 ↓

Same as Bank 0 E: Number of elements

Bank 6	E	Bank 7	E	Bank 8	E	Bank 9	E	Bank 10	E	Bank 11	E	Bank 16	E
				GrndPnoK	1							MelloGrP	1
				BritPnoK	1								
				EIGrPnoK	2								
				HnkyTnkK	2								
				Chor.EP1	2							VX El.P1	2
				Chor.EP2	2							VX El.P2	2
				Harpsi.3	2							Harpsi.K	1
				Clavi K	1								
				Vibes K	1								
				MarimbaK	1							Balafon	2
				ChrchBel	2	Carillon	2						
				Cimbalom	2								
				DetDrwOr	2	70sDrOr2	2					60sDrOr1	2
				DetPrcOr	2								
				RotaryOr	2							SloRotar	2
				ChurOrg2	2							ChurOrg3	2
				AccordIt	2								
				Ukulele	1							NylonGt3	2
				12StrGtr	2	Nyln&Stl	2					Mandolin	2
				PdlSteel	1								
				ChorusGt	2								
				FunkGtr1	2							FunkGtr2	2
				FeedbkGt	2	FeedbGt2	2					PowerGt1	2
				GtFeedbk	1							AcoHarmo	1
				MutePkBa	1								
				ResoSlap	1								
				AcidBass	1	FastResB	1	TechnoBa	2			ResoBass	1
				DX Bass	2	X WireBa	2					RubberBa	2
				Slow Vln	1								
				SlwTrStr	1	Susp.Str	2						
				Orchestr	2	Orchstr2	2	TremOrch	2	ChoirStr	2	S.Strngs	2
				LegatoSt	2	Warm Str	2	S.SlwStr	2				
				Syn Str3	2								
				S.Choir	2	MelChoir	2						
				SyVoice2	2								
				Impact	2	BrsssStab	2	DoubleHit **	2			LoFi Hit	2
				FluglHrn	1								
				FrHrSolo	1							HornOrch	2
				BrsssSec2	2							BrsssFall	1
				SynBrsss3	2	Quack Br	2					AnaBrsss1	2
				SynBrsss4	2							AnaBrsss2	2

Continued on page 113

# TG300B Voice List (Normal voices)

Bank Select MSB=000, LSB=Bank number

Bank Select LSB	Bank 0	E	Bank 17	E	Bank 18	E	Bank 19	E	Bank 24	E	Bank 25	E
Instrument Group	Pgm #											
Piano	1	GrandPno	1									
	2	BritePno	1									
	3	EI.Grand	2									
	4	HnkyTonk	2									
	5	E.Piano1	2						60sEI.P1	1	HardEI.P	2
	6	E.Piano2	2						DX Hard	2		
	7	Harpsi.	1						Harpsi.2	2		
	8	Clavi	2									
Chromatic Percussion	9	Celesta	1									
	10	Glocken	1									
	11	MusicBox	2									
	12	Vibes	1									
	13	Marimba	1	Balimba	2				Log Drum	2		
	14	Xylophon	1									
	15	TubulBel	1									
	16	Dulcimer	1									
Organ	17	DrawOrgn	1	60sDrOr2	2	60sDrOr3	2		CheezOrg	2		
	18	PercOrgn	1									
	19	RockOrgn	2						FstRotar	2		
	20	ChrchrOrg	2						OrgFlute	2		
	21	ReedOrgn	1									
	22	Acordion	2									
	23	Harmnica	1									
	24	TangoAcid	2									
Guitar	25	NylonGtr	1						VelGtHrm	2		
	26	SteelGtr	1									
	27	Jazz Gtr	1									
	28	CleanGtr	1									
	29	Mute Gtr	1									
	30	Ovrdrive	1									
	31	Dist.Gtr	1	PowerGt2	2	Dst.5ths	2		RckRthm1	2	RckRthm2	2
	32	GtrHarmo	1									
Bass	33	Aco.Bass	1									
	34	FngrBass	1									
	35	PickBass	1									
	36	Fretless	1									
	37	SlapBas1	1									
	38	SlapBas2	1									
	39	SynBass1	1									
	40	SynBass2	2	SynBa2Dk	1	MelloSB1	1	SmthSynB	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						Velo.Str	2		
	50	Strings2	1									
	51	Syn Str1	2									
	52	Syn Str2	2									
	53	ChoirAah	1									
	54	VoiceOoh	1									
	55	SynVoice	1									
	56	Orch.Hit	2									
Brass	57	Trumpet	1						BriteTrp	2	Warm Trp	2
	58	Trombone	1									
	59	Tuba	1									
	60	Mute Trp	1									
	61	Fr. Horn	2									
	62	BrssSect	1									
	63	SynBrss1	2									
	64	SynBrss2	1	AnVelBr2	2							

Continued on page 114

Same as Bank 0 E: Number of elements

Bank 26	E	Bank 32	E	Bank 33	E	Bank 40	E	Bank 126	E	Bank 127	E
								A-Piano1	2	a.piano1	1
								A-Piano2	2	a.piano2	1
								A-Piano3	2	a.piano3	1
								A-Piano4	2	e.piano1	1
MelloEP1	2	El.Pno1K	1					A-Piano5	1	e.piano2	1
		El.Pno2K	1					A-Piano6	1	e.piano3	1
								A-Piano7	1	e.piano4	1
								E-Piano1	2	hnkytnk	2
								E-Piano2	2	e.organ1	2
								E-Piano3	2	e.organ2	2
								A-Guitr1	1	e.organ3	1
								A-Guitr2	2	e.organ4	1
								A-Guitr3	2	pipeorg1	2
								E-Guitr1	2	pipeorg2	2
								E-Guitr2	1	pipeorg3	2
								Slap-1	2	acordion	2
		DrawOrg2	2	Even Bar	2	Organ Ba	1	Slap-2	2	harpsi1	1
		PercOrg2	2					Slap-3	2	harpsi2	2
								Slap-4	2	harpsi3	1
		TrmOrgFl	2					Slap-5	2	clavi1	1
								Slap-6	2	clavi2	1
								Slap-7	2	clavi3	1
								Slap-8	2	celesta1	1
								Finger-1	1	celesta2	1
		NylonGt2	1			Requinto	1	Finger-2	2	synbras1	2
		SteelGt2	1					Picked-1	1	synbras2	2
								Picked-2	2	synbras3	2
								FretlsBs	1	synbras4	2
								A-Bass	2	synbass1	1
								Choir-1	1	synbass2	1
								Choir-2	1	synbass3	2
								Choir-3	2	synbass4	1
								Choir-4	2	newagepd	2
								Strngs-1	2	synharmo	2
								Strngs-2	2	choir pd	2
								Strngs-3	2	bowed pd	2
								Strngs-4	2	soundtrk	2
								E-Organ1	2	atmosphr	2
								E-Organ2	2	syn warm	2
								E-Organ3	2	synfunny	1
								E-Organ4	2	synecho1	2
								E-Organ5	2	rain	2
								E-Organ6	2	synoboe	2
								E-Organ7	2	synecho2	2
								E-Organ8	2	synsolo	2
								E-Organ9	2	synrdorg	2
								SoftTP-1	1	synbell	1
								SoftTP-2	1	squareld	2
								TP/TRB-1	1	strsect1	2
								TP/TRB-2	1	strsect2	2
								TP/TRB-3	1	strsect3	2
								TP/TRB-4	1	pizz.str	1
		Ch.Aahs2	2					TP/TRB-5	2	violin 1	2
								TP/TRB-6	2	violin 2	1
								Sax-1	1	cello 1	1
								Sax-2	1	cello 2	1
								Sax-3	1	contrabs	1
								Sax-4	2	harp 1	1
								Brass-1	1	harp 2	1
								Brass-2	1	guitar 1	1
								Brass-3	2	guitar 2	1
								Brass-4	2	elecgr1	2
								Brass-5	2	elecgr2	2
								Orch-Hit	1	sitar	1

Continued on page 115



# TG300B Voice List (Normal voices)

Bank Select MSB=000, LSB=Bank number

Bank Select LSB		Bank 0	E	Bank 1	E	Bank 2	E	Bank 3	E	Bank 4	E	Bank 5	E
Instrument Group	Pgm #												
↓ Continued from page 108 ↓													
Reed	65	SprnoSax	1										
	66	Alto Sax	1										
	67	TnrSax 2	1										
	68	Bari.Sax	1										
	69	Oboe	2										
	70	Eng.Horn	1										
	71	Bassoon	1										
	72	Clarinet	1										
Pipe	73	Piccolo	1										
	74	Flute	1										
	75	Recorder	1										
	76	PanFlute	1										
	77	Bottle	2										
	78	Shakhchi	2										
	79	Whistle	1										
	80	Ocarina	1										
Synth Lead	81	SquareLd	2	SquarLd2	1	Hollow	1	Mellow	2	SoloSine	2	Shroud	2
	82	Saw Ld	2	Saw Ld 2	1	PulseSaw	2	ThickSaw	2	Big Lead	2	VeloLead	2
	83	CaliopLd	2	Vent Syn	2	PureLead	2						
	84	Chiff Ld	2										
	85	CharanLd	2										
	86	Voice Ld	2										
	87	Fifth Ld	2	Big Five	2								
	88	Bass&Ld	2	Big&Low	2	Fat&Prky	2						
Synth Pad	89	NewAgePd	2	Fantasy	2								
	90	Warm Pad	2	ThickPad	2	Horn Pad	2	RotarStr	2	Soft Pad	2		
	91	PolySyPd	2	PolyPd80	2								
	92	ChoirPad	2	Heaven	2								
	93	BowedPad	2										
	94	MetalPad	2	Tine Pad	2	Pan Pad	2						
	95	Halo Pad	2										
	96	SweepPad	2	PolarPad	2								
Synth Effects	97	Rain	2	HrmoRain	2	AfrcnWnd	2						
	98	SoundTrk	2	Ancestrl	2	Prologue	2						
	99	Crystal	2	SynMalet	1	SftCryst	2	RndGlock	2	LoudGlok	2	GlockChi	2
	100	Atmosphr	2	WarmAtms	2	NylnHarp	2	Harp Vox	2	HollwRlrs	2	Nylon EP	2
	101	Bright	2										
	102	Goblins	2	GobSynth	2	Creepier	2						
	103	Echoes	2	EchoBell	2	Echo Pan	2	Echoes 2	2	Big Pan	2	Reso&Pan	2
	104	Sci-Fi	2	Starz	2								
Ethnic	105	Sitar	1	Sitar 2	2	DetSitar	2						
	106	Banjo	1	MuteBnjo	1								
	107	Shamisen	1	Tsugaru	2								
	108	Koto	1										
	109	Kalimba	1										
	110	Bagpipe	2										
	111	Fiddle	1										
	112	Shanai	1	Shanai 2	1								
Percussive	113	TnklBell	2										
	114	Agogo	2										
	115	SteelDrm	2										
	116	Woodblok	1										
	117	TaikoDrm	1										
	118	MelodTom	2	Real Tom	2								
	119	Syn Drum	1										
	120	RevCymb1	1	Rev Cym2	1								
Sound Effects	121	FretNoiz	2	CuttingNz	1	Str Slap	1	CtngNz2	2	DstCutNz	2	B.Slide	2
	122	BrthNoiz	2	Fl.KClk	1								
	123	Seashore	2	Shower	1	Thunder	1	Wind	1	Stream	2	Bubble	2
	124	Tweet	2	Dog	1	Horse	1	Tweet 2	1	Kitty	1	Growl	1
	125	Telephone	1	PhonCall	1	DoorSqek	1	DoorSlam	1	ScratchC	1	WindChim	1
	126	Helicptr	1	CarElgnt	1	CarTSqel	1	Car Pass	1	CarCrash	1	Siren	2
	127	Applause	1	Laugh	1	Scream	1	Punch	1	Heart	1	Footstep	1
	128	Gunshot	1	MchinGun	1	LaserGun	2	Xplosion	2				

Same as Bank 0 E: Number of elements

Bank 6	E	Bank 7	E	Bank 8	E	Bank 9	E	Bank 10	E	Bank 11	E	Bank 16	E
↴ Continued from page 109 ↴													
				HyprAlto	2								
				BrthTnSx	2								
				BassClar	1								
				Kawala	2								
LMSquare	2			SineLead	1								
HeavySyn	2	Dyna Saw	1	Dr.Lead	2						WaspySyn	2	
				DistLead	2								
				Converge	2	Shwimmer	2	Celstial	2				
				ClaviPad	2								
				Rave	2								
ClearBel	2	ChrstBel	2	VibeBell	2	DigiBell	2				ChorBell	2	
AtmosPad	2												
SynPiano	2												
				Tambra	2						Tamboura	2	
				Rabab	2						Gopichnt	2	
				Taisho-k	2						Kanoon	2	
				Pungi	1						Hichriki	2	
				Bonang	2	Altair	2	Gamelan	2	S.Gamlan	2	Rama Cym	2
				Atrigane	2								
				Castanet	1								
				Gr.Cassa	1								
				Mel Tom2	1	Rock Tom	2						
				Ana Tom	1	ElecPerc	2						
				RevSnar1	1	RevSnar2	1				RevKick1	1	
P.Scrape	1												
				ScratchS	2								
Train	1	JetPlane	2	Starship	2	Burst	2				Coaster	2	

# TG300B Voice List (Normal voices)

Bank Select MSB=000, LSB=Bank number

Bank Select LSB	Bank 0	E	Bank 17	E	Bank 18	E	Bank 19	E	Bank 24	E	Bank 25	E	
Instrument Group	Pgm #												
↓ Continued from page 110 ↓													
Reed	65	SprnoSax	1										
	66	Alto Sax	1										
	67	TnrSax 2	1										
	68	Bari.Sax	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	Shakhchi	2										
	79	Whistle	1										
	80	Ocarina	1										
Synth Lead	81	SquareLd	2										
	82	Saw Ld	2										
	83	CaliopLd	2										
	84	Chiff Ld	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	PolySyPd	2										
	92	ChoirPad	2										
	93	BowedPad	2										
	94	MetalPad	2										
	95	Halo Pad	2										
	96	SweepPad	2										
Synth Effects	97	Rain	2										
	98	SoundTrk	2										
	99	Crystal	2	AirBells	2	BellHarp	2	Gamelmba	2				
	100	Atmosphr	2										
	101	Bright	2										
	102	Goblins	2										
	103	Echoes	2										
	104	Sci-Fi	2										
Ethnic	105	Sitar	1										
	106	Banjo	1						Oud	2			
	107	Shamisen	1										
	108	Koto	1										
	109	Kalimba	1										
	110	Bagpipe	2										
	111	Fiddle	1										
	112	Shanai	1										
	Percussive	113	TnklBell	2									
114		Agogo	2										
115		SteelDrm	2										
116		Woodblok	1										
117		TaikoDrm	1										
118		MelodTom	2										
119		Syn Drum	1										
120		RevCymb1	1	RevConBD	1				Rev Tom1	1	Rev Tom2	1	
Sound Effects		121	FretNoiz	2									
		122	BrthNoiz	2									
	123	Seashore	2										
	124	Tweet	2										
	125	Telephone	1										
	126	Helicptr	1										
	127	Applause	1										
	128	Gunshot	1										

Same as Bank 0 E: Number of elements

Bank 26	E	Bank 32	E	Bank 33	E	Bank 40	E	Bank 126	E	Bank 127	E
↓ Continued from page 111 ↓											
								Silence		a.bass 1	1
								Silence		a.bass 2	1
								Silence		e.bass 1	1
								Silence		e.bass 2	1
								Silence		slapbas1	1
								Silence		slapbas2	1
								Silence		fretles1	1
								Silence		fretles2	1
								Silence		flute1	1
								Silence		flute2	1
								Silence		piccolo1	1
								Silence		piccolo2	2
								Silence		recorder	1
								Silence		panpipes	2
								Silence		sax1	2
								Silence		sax2	1
								Silence		sax3	1
								Silence		sax4	1
								Silence		clarint1	1
								Silence		clarint2	1
								Silence		oboe	1
								Silence		eng.horn	1
								Silence		bassoon	1
								Silence		harmnica	1
								Silence		trumpet1	1
								Silence		trumpet2	1
								Silence		trmbone1	2
								Silence		trmbone2	2
								Silence		fr.horn1	1
								Silence		fr.horn2	2
								Silence		tuba	2
								Silence		brssect1	1
								Silence		brssect2	2
								Silence		vibe1	1
								Silence		vibe2	1
								Silence		symallet	1
								Silence		maletwin	2
								Silence		glocken	2
								Silence		tubulbel	1
								Silence		xylophen	1
								Silence		marimba	2
								Silence		koto	1
								Silence		sho	2
								Silence		shakhchi	2
								Silence		whistle1	2
								Silence		whistle2	1
								Silence		bottle	2
								Silence		breath	2
								Silence		timpani	1
								Silence		melotom	1
								Silence		deepsnar	1
								Silence		e.perc1	1
								Silence		e.perc2	1
								Silence		taiko	1
								Silence		taikorim	1
								Silence		cymbal	2
								Silence		castanet	1
								Silence		triangle	1
								Silence		orchehit	1
								Silence		telephone	1
								Silence		bird	1
								Silence		jam	1
								Silence		efctwatr	2
								Silence		efctjngl	2

# About the 128 GM sounds

Group	Pgm# (1-128)	Instrument name	Display	Explanation of voice
Piano	1	Grand Piano	GrandPno	Grand piano
	2	Bright Piano	BritePno	Bright and crisp grand piano
	3	Electric Grand Piano	El.Grand	Electric grand piano (CP80)
	4	Honky-tonk Piano	HnkyTonk	Ragtime-style piano
	5	Electric Piano 1	E.Piano1	Electric piano
	6	Electric Piano 2	E.Piano2	Electric piano with metallic resonance (DX)
	7	Harpsichord	Harpsi.	Harpsichord
	8	Clavi	Clavi	Clavi
Chromatic Percussion	9	Celesta	Celesta	Celesta
	10	Glockenspiel	Glocken	Glockenspiel
	11	Music Box	MusicBox	Music box
	12	Vibraphone	Vibes	Vibraphone (metal bars with resonator tubes)
	13	Marimba	Marimba	Marimba (wooden bars with resonator tubes)
	14	Xylophone	Xylophon	Xylophone (wooden bars)
	15	Tubular Bells	TubulBel	Tubular bells
	16	Dulcimer	Dulcimer	Dulcimer (struck string instrument)
Organ	17	Drawbar Organ	DrawOrgn	Drawbar organ
	18	Percussive Organ	PercOrgn	Electronic organ with strong attack
	19	Rock Organ	RockOrgn	Rock-style organ
	20	Church Organ	ChrchOrg	Pipe organ
	21	Reed Organ	ReedOrgn	Bright and light organ
	22	Accordion	Acordion	Accordion
	23	Hamonica	Harmnica	Harmonica
	24	Tango Accordion	TangoAcdd	Tango accordion
Guitar	25	Nylon Guitar	NylonGtr	Classical guitar
	26	Steel Guitar	SteelGtr	Fork guitar
	27	Jazz Guitar	Jazz Gtr	Electric guitar (jazz)
	28	Clean Guitar	CleanGtr	Electric guitar
	29	Muted Guitar	Mute Gtr	Muted guitar
	30	Overdriven Guitar	Ovrdrive	Overdriven guitar
	31	Distortion Guitar	Dist.Gtr	Distorted guitar
	32	Guitar Harmonics	GtrHarmo	Harmonics
Bass	33	Acoustic Bass	Aco.Bass	Upright bass
	34	Finger Bass	FngrBass	Electric bass (finger plucked)
	35	Pick Bass	PickBass	Electric bass (played with a pick)
	36	Fretless Bass	Fretless	Fretless bass
	37	Slap Bass 1	SlapBas1	Slapped bass
	38	Slap Bass 2	SlapBas2	Slapped bass with soft attack
	39	Synth Bass 1	SynBass1	Synth bass with "sweep"
	40	Synth Bass 2	SynBass2	Synth bass
Strings	41	Violin	Violin	Violin
	42	Viola	Viola	Viola
	43	Cello	Cello	Cello
	44	Contrabass	Contrabs	Contrabass
	45	Tremolo Strings	Trem.Str	Strings played with tremolo
	46	Pizzicato Strings	Pizz.Str	Strings played pizzicato
	47	Orchestral Harp	Harp	Harp
	48	Timpani	Timpani	Timpani
Ensemble	49	Strings 1	Strings1	Strings
	50	Strings 2	Strings2	Strings with gentle attack
	51	Synth Strings 1	Syn Str1	Synth strings
	52	Synth Strings 2	Syn Str2	Synth strings with gentle attack
	53	Choir Aahs	ChoirAah	Choir singing "aah"
	54	Voice Oohs	VoiceOoh	Choir singing "ooh"
	55	Synth Voice	SynVoice	Vocoder-type chorus
	56	Orchestra Hit	Orch.Hit	Orchestra hit
Brass	57	Trumpet	Trumpet	Trumpet
	58	Trombone	Trombone	Trombone
	59	Tuba	Tuba	Tube
	60	Muted Trumpet	Mute Trp	Muted trumpet
	61	French Horn	Fr. Horn	French horn
	62	Brass Section	BrssSect	Brass section
	63	Synth Brass 1	SynBrss1	Synth brass
	64	Synth Brass 2	SynBrss2	Synth brass with gentle attack

Group	Pgm# (1-128)	Instrument name	Display	Explanation of voice
Reed	65	Soprano Sax	SprnoSax	Soprano sax
	66	Alto Sax	Alto Sax	Alto sax
	67	Tenor Sax	TenorSax	Tenor sax
	68	Baritone Sax	Bari.Sax	Baritone sax
	69	Oboe	Oboe	Oboe
	70	English Horn	Eng.Horn	English horn
	71	Bassoon	Bassoon	Bassoon
Pipe	72	Clarinet	Clarinet	Clarinet
	73	Piccolo	Piccolo	Piccolo
	74	Flute	Flute	Flute
	75	Recorder	Recorder	Recorder
	76	Pan Flute	PanFlute	Pan flute
	77	Blown Bottle	Bottle	Blown bootle
	78	Shakuhachi	Shakhchi	Shakuhachi
	79	Whistle	Whistle	Whistle
Synth Lead	80	Ocarina	Ocarina	Ocarina
	81	Square Lead	SquareLd	Analog synth lead (square wave)
	82	Sawtooth Lead	Saw Ld	Analog synth lead (sawtooth wave)
	83	Calliope Lead	CalliopLd	Pan flute-type lead
	84	Chiff Lead	Chiff Ld	Synth brass-type lead
	85	Charang Lead	CharanLd	Distortion guitar-type lead
	86	Voice Lead	Voice Ld	Chorus lead
	87	Fifths Lead	Fifth Ld	Synth lead + perfect 4th below
Synth Pad	88	Bass & Lead	Bass&Ld	Synth bass + synth lead
	89	New Age Pad	NewAgePd	Bell + chorus
	90	Warm Pad	Warm Pad	Pad with gentle attack
	91	Poly Synth Pad	PolySyPd	Synth brass-style pad
	92	Choir Pad	ChoirPad	Chorus pad
	93	Bowed Pad	BowedPad	Glass harp-style pad
	94	Metallic Pad	MetalPad	Pad with hard synth strings
Synth Effects	95	Halo Pad	Halo Pad	Pad with breath noise
	96	Sweep Pad	SweepPad	Sweep pad with gentle attack
	97	Rain	Rain	Warm and transparent synth sound
	98	Sound Track	SoundTrk	Analog synth pad + perfect 4th above
	99	Crystal	Crystal	Music box, bell
	100	Atmosphere	Atmosphr	Harp + strings
	101	Brightness	Bright	Synth chorus with strong attack and rapid decay
Ethnic	102	Goblins	Goblins	Sweep sound with gentle attack + murmuring
	103	Echoes	Echoes	Pad with definite attack + release echo
	104	Sci-Fi	Sci-Fi	Metallic synth pad
	105	Sitar	Sitar	Sitar
	106	Banjo	Banjo	Banjo
	107	Shamisen	Shamisen	Shamisen
	108	Koto	Koto	Koto
Percussive	109	Kalimba	Kalimba	Kalimba
	110	Bagpipe	Bagpipe	Bagpipe
	111	Fiddle	Fiddle	Fiddle (violin)
	112	Shanai	Shanai	Ethnic woodwind
	113	Tinkle Bell	TnklBell	Bell
	114	Agogo	Agogo	Agogo
	115	Steel Drums	SteelDrm	Steel drums
	116	Woodblock	WoodBlok	Woodblock
Sound Effects	117	Taiko Drum	TaikoDrm	Japanese taiko drum
	118	Melodic Tom	MelodTom	Melodic tom
	119	Synth Drum	Syn Drum	Synth drum
	120	Reverse Cymbal	RevCymbI	Reversed cymbal
	121	Fret Noise	FretNoiz	Fret noise
	122	Breath Noise	BrthNoiz	Breath noise
Sound Effects	123	Seashore	Seashore	Waves
	124	Bird Tweet	Tweet	Birds chirping
	125	Telephone Ring	Telephone	Telephone ringing
	126	Helicopter	Helicptr	Helicopter
	127	Applause	Applause	Audience applauding
	128	Gunshot	Gunshot	Gunshot

# C/M Voice List

pgm# (1-128)	TYPE1 Part1 - 9			TYPE2 Part11 - 16		
	(full name)	(display)	E	(full name)	(display)	E
1	acoustic piano 1	a.piano1	1	Acoustic Piano 1	A-Piano1	2
2	acoustic piano 2	a.piano2	1	Acoustic Piano 2	A-Piano2	2
3	acoustic piano 3	a.piano3	1	Acoustic Piano 3	A-Piano3	2
4	electric piano 1	e.piano1	1	Acoustic Piano 4	A-Piano4	2
5	electric piano 2	e.piano2	1	Acoustic Piano 5	A-Piano5	1
6	electric piano 3	e.piano3	1	Acoustic Piano 6	A-Piano6	1
7	electric piano 4	e.piano4	1	Acoustic Piano 7	A-Piano7	1
8	honky-tonk piano	hnytknk	2	Electric Piano 1	E-Piano1	2
9	electric organ 1	e.organ1	2	Electric Piano 2	E-Piano2	2
10	electric organ 2	e.organ2	2	Electric Piano 3	E-Piano3	2
11	electric organ 3	e.organ3	1	Acoustic Guitar 1	A-Guitr1	1
12	electric organ 4	e.organ4	1	Acoustic Guitar 2	A-Guitr2	2
13	pipe organ 1	pipeorg1	2	Acoustic Guitar 3	A-Guitr3	2
14	pipe organ 2	pipeorg2	2	Electric Guitar 1	E-Guitr1	2
15	pipe organ 3	pipeorg3	2	Electric Guitar 2	E-Guitr2	1
16	accordion	acordion	2	Slap Bass 1	Slap-1	2
17	harpsichord 1	harpsi1	1	Slap Bass 2	Slap-2	2
18	harpsichord 2	harpsi2	2	Slap Bass 3	Slap-3	2
19	harpsichord 3	harpsi3	1	Slap Bass 4	Slap-4	2
20	clavi 1	clavi1	1	Slap Bass 5	Slap-5	2
21	clavi 2	clavi2	1	Slap Bass 6	Slap-6	2
22	clavi 3	clavi3	1	Slap Bass 7	Slap-7	2
23	celesta 1	celesta1	1	Slap Bass 8	Slap-8	2
24	celesta 2	celesta2	1	Finger Bass 1	Finger-1	1
25	synth brass 1	synbras1	2	Finger Bass 2	Finger-2	2
26	synth brass 2	synbras2	2	Picked Bass 1	Picked-1	1
27	synth brass 3	synbras3	2	Picked Bass 2	Picked-2	2
28	synth brass 4	synbras4	2	Fretless Bass	FretlsBs	1
29	synth bass 1	synbass1	1	Acoustic Bass	A-Bass	2
30	synth bass 2	synbass2	1	Choir 1	Choir-1	1
31	synth bass 3	synbass3	2	Choir 2	Choir-2	1
32	synth bass 4	synbass4	1	Choir 3	Choir-3	2
33	new age pad	newagepd	2	Choir 4	Choir-4	2
34	synth harmo	synharmo	2	Strings 1	Strngs-1	2
35	choir pad	choir pd	2	Strings 2	Strngs-2	2
36	bowed pad	bowed pd	2	Strings 3	Strngs-3	2
37	sound track	soundtrk	2	Strings 4	Strngs-4	2
38	atmosphere	atmosphr	2	Electric Organ 1	E-Organ1	2
39	synth warm	syn warm	2	Electric Organ 2	E-Organ2	2
40	synth funny	synfunny	1	Electric Organ 3	E-Organ3	2
41	synth echo 1	synecho1	2	Electric Organ 4	E-Organ4	2
42	rain	rain	2	Electric Organ 5	E-Organ5	2
43	synth oboe	synoboe	2	Electric Organ 6	E-Organ6	2
44	synth echo 2	synecho2	2	Electric Organ 7	E-Organ7	2
45	synth solo	synsolo	2	Electric Organ 8	E-Organ8	2
46	synth reed organ	synrdorg	2	Electric Organ 9	E-Organ9	2
47	synth bell	synbell	1	Soft Trumpet 1	SoftTP-1	1
48	square lead	squareld	2	Soft Trumpet 2	SoftTP-2	1
49	string section 1	strsect1	2	Trumpet/Trombone 1	TP/TRB-1	1
50	string section 2	strsect2	2	Trumpet/Trombone 2	TP/TRB-2	1
51	string section 3	strsect3	2	Trumpet/Trombone 3	TP/TRB-3	1
52	pizzicato strings	pizz.str	1	Trumpet/Trombone 4	TP/TRB-4	1
53	violin 1	violin 1	2	Trumpet/Trombone 5	TP/TRB-5	2
54	violin 2	violin 2	1	Trumpet/Trombone 6	TP/TRB-6	2
55	cello 1	cello 1	1	Sax 1	Sax-1	1
56	cello 2	cello 2	1	Sax 2	Sax-2	1
57	contrabass	contrabs	1	Sax 3	Sax-3	1
58	harp 1	harp 1	1	Sax 4	Sax-4	2
59	harp 2	harp 2	1	Brass 1	Brass-1	1
60	guitar 1	guitar 1	1	Brass 2	Brass-2	1
61	guitar 2	guitar 2	1	Brass 3	Brass-3	2
62	electric guitar 1	elecgr1	2	Brass 4	Brass-4	2
63	electric guitar 2	elecgr2	2	Brass 5	Brass-5	2
64	sitar	sitar	1	Orchestra Hit	Orch-Hit	1

pgm# (1-128)	TYPE1 Part1 - 9			TYPE2 Part11 - 16		
	(full name)	(display)	E	(full name)	(display)	E
65	acoustic bass 1	a.bass 1	1	Silence	Silence	
66	acoustic bass 2	a.bass 2	1	Silence	Silence	
67	electric bass 1	e.bass 1	1	Silence	Silence	
68	electric bass 2	e.bass 2	1	Silence	Silence	
69	slap bass 1	slapbas1	1	Silence	Silence	
70	slap bass 2	slapbas2	1	Silence	Silence	
71	fretless bass 1	fretles1	1	Silence	Silence	
72	fretless bass 2	fretles2	1	Silence	Silence	
73	flute 1	flute1	1	Silence	Silence	
74	flute 2	flute2	1	Silence	Silence	
75	piccolo 1	piccolo1	1	Silence	Silence	
76	piccolo 2	piccolo2	2	Silence	Silence	
77	recorder	recorder	1	Silence	Silence	
78	pan pipes	panpipes	2	Silence	Silence	
79	sax 1	sax1	2	Silence	Silence	
80	sax 2	sax2	1	Silence	Silence	
81	sax 3	sax3	1	Silence	Silence	
82	sax 4	sax4	1	Silence	Silence	
83	clarinet 1	clarint1	1	Silence	Silence	
84	clarinet 2	clarint2	1	Silence	Silence	
85	oboe	oboe	1	Silence	Silence	
86	english horn	eng.horn	1	Silence	Silence	
87	bassoon	bassoon	1	Silence	Silence	
88	harmonica	harmnica	1	Silence	Silence	
89	trumpet 1	trumpet1	1	Silence	Silence	
90	trumpet 2	trumpet2	1	Silence	Silence	
91	trombone 1	trmbone1	2	Silence	Silence	
92	trombone 2	trmbone2	2	Silence	Silence	
93	frugel horn 1	fr.horn1	1	Silence	Silence	
94	frugel horn 2	fr.horn2	2	Silence	Silence	
95	tuba	tuba	2	Silence	Silence	
96	brass section 1	brssect1	1	Silence	Silence	
97	brass section 2	brssect2	2	Silence	Silence	
98	vibraphone 1	vibe1	1	Silence	Silence	
99	vibraphone 2	vibe2	1	Silence	Silence	
100	synth mallet	symallet	1	Silence	Silence	
101	mallet windbell	maletwin	2	Silence	Silence	
102	glockenspiel	glocken	2	Silence	Silence	
103	tubular bells	tubulbel	1	Silence	Silence	
104	xylophone	xylophen	1	Silence	Silence	
105	marimba	marimba	2	Silence	Silence	
106	koto	koto	1	Silence	Silence	
107	sho	sho	2	Silence	Silence	
108	shakuhachi	shakhchi	2	Silence	Silence	
109	whistle 1	whistle1	2	Silence	Silence	
110	whistle 2	whistle2	1	Silence	Silence	
111	bottle	bottle	2	Silence	Silence	
112	breath pipe	breath	2	Silence	Silence	
113	timpani	timpani	1	Silence	Silence	
114	melodi tom	melotom	1	Silence	Silence	
115	deep snare	deepsnar	1	Silence	Silence	
116	electric percussion 1	e.perc1	1	Silence	Silence	
117	electric percussion 2	e.perc2	1	Silence	Silence	
118	taiko	taiko	1	Silence	Silence	
119	taiko rim	taikorim	1	Silence	Silence	
120	cymbal	cymbal	2	Silence	Silence	
121	castanet	castanet	1	Silence	Silence	
122	triangle	triangle	1	Silence	Silence	
123	orchestra hit	orchehit	1	Silence	Silence	
124	telephone	telephone	1	Silence	Silence	
125	bird tweet	bird	1	Silence	Silence	
126	one note jam	jam	1	Silence	Silence	
127	effect water	efctwatr	2	Silence	Silence	
128	effect jungle	efctjngl	2	Silence	Silence	









# XG Drum Map

Bank Select MSB			127	127	127	127	
Bank Select LSB			0	0	0	0	
Program#			1	67	127	128	
Note#	Note	Key Alternate	Group	Standard Kit		Standard Kit	Standard Kit
				E	Coffin Kit ****	MU100 Native****	MU Basic****
13	C# -1		3	Surdo Mute	1	Surdo Mute V ***	
14	D -1		3	Surdo Open	1	Surdo Open V ***	
15	D# -1			Hi Q	1		
16	E -1			Whip Slap	1		
17	F -1		4	Scratch H	1		
18	F# -1		4	Scratch L	1		
19	G -1			Finger Snap	1		
20	G# -1			Click Noise	1		
21	A -1			Metronome Click	1		
22	A# -1			Metronome Bell	1		
23	B -1			Seq Click L	1		
24	C 0			Seq Click H	1		
25	C# 0			Brush Tap	1	Brush Tap V ***	
26	D 0	O		Brush Swirl	1	Brush Swirl V ***	
27	D# 0			Brush Slap	1	Brush Slap V ***	
28	E 0	O		Brush Tap Swirl	1	Brush Tap Swirl L ***	
29	F 0	O		Snare Roll	1	Snare Roll V ***	
30	F# 0			Castanet	1		Castanet# 1
31	G 0			Snare Soft	1	Rim Gate 4 ****	Snare Soft# 1
32	G# 0			Sticks	1	Sticks Q ****	
33	A 0			Kick Soft	1	Kick Cough L ****	
34	A# 0			Open Rim Shot	1	Rim Gate 5 ****	Open Rim Shot# 1
35	B 0			Kick Tight	1	Kick Comp 2 L ****	
36	C 1			Kick	1	Kick Comp 2 H ****	
37	C# 1			Side Stick	1	Side Stick Dry L ****	Side Stick# 1
38	D 1			Snare	1	Snare Tin L ****	Snare# 1
39	D# 1			Hand Clap	1	Hand Clap Dark ****	
40	E 1			Snare Tight	1	Snare Can L ****	Snare Tight# 1
41	F 1			Floor Tom L	1	Floor Tom Tech L ****	
42	F# 1	1		Hi-Hat Closed	1	Hi-Hat Closed Tech ****	Hi-Hat Closed# 1
43	G 1			Floor Tom H	1	Floor Tom Tech H ****	
44	G# 1	1		Hi-Hat Pedal	1	Hi-Hat Pedal Tech ****	Hi-Hat Pedal# 1
45	A 1			Low Tom	1	Low Tom Tech ****	
46	A# 1	1		Hi-Hat Open	1	Hi-Hat Open 3 Dark ****	Hi-Hat Open# 1
47	B 1			Mid Tom L	1	Mid Tom Tech L ****	
48	C 2			Mid Tom H	1	Mid Tom Tech H ****	
49	C# 2			Crash Cymbal 1	1	Crash Cymbal Dark 2 ****	Crash Cymbal 1# 1
50	D 2			High Tom	1	High Tom Tech ****	
51	D# 2			Ride Cymbal 1	1	Ride Cymbal Hard 2 ****	Ride Cymbal 1# 1
52	E 2			Chinese Cymbal	1	Chinese Cymbal Q ****	Chinese Cymbal# 1
53	F 2			Ride Cymbal Cup	1	Ride Cymbal Cup 5 ****	Ride Cymbal Cup# 1
54	F# 2			Tambourine	1	Tambourine Dark ****	
55	G 2			Splash Cymbal	1	Tech Splash Cymbal ****	
56	G# 2			Cowbell	1	Cowbell Lo-Fi ****	Cowbell# 1
57	A 2			Crash Cymbal 2	1	Crash Cymbal 2 Q ****	Crash Cymbal 2# 1
58	A# 2			Vibraslap	1		
59	B 2			Ride Cymbal 2	1	Ride Cymbal 5 ****	Ride Cymbal 2# 1
60	C 3			Bongo H	1	Bongo H V ***	
61	C# 3			Bongo L	1	Bongo L V ***	
62	D 3			Conga H Mute	1	Conga H Mute V ***	Conga H Mute# 1
63	D# 3			Conga H Open	1	Conga H Open V ***	Conga H Open# 1
64	E 3			Conga L	1	Conga L 2 ****	Conga L# 1
65	F 3			Timbale H	1	Timbale H V ***	
66	F# 3			Timbale L	1	Timbale L V ***	
67	G 3			Agogo H	1	Agogo H V ***	
68	G# 3			Agogo L	1	Agogo L V ***	
69	A 3			Cabasa	1		
70	A# 3			Maracas	1	Maracas Q ****	
71	B 3	O		Samba Whistle H	1	Samba Whistle H V ***	
72	C 4	O		Samba Whistle L	1	Samba Whistle L V ***	
73	C# 4			Guiro Short	1		
74	D 4	O		Guiro Long	1		
75	D# 4			Claves	1		
76	E 4			Wood Block H	1		
77	F 4			Wood Block L	1		
78	F# 4			Cuica Mute	1		
79	G 4			Cuica Open	1	Cuica Open H ***	
80	G# 4	2		Triangle Mute	1		
81	A 4	2		Triangle Open	1		
82	A# 4			Shaker	1		
83	B 4			Jingle Bells	1		
84	C 5			Bell Tree	1		
85	C# 5						
86	D 5						
87	D# 5						
88	E 5						
89	F 5						
90	F# 5						
91	G 5						

: Same as Standard Kit      \*\* : MU80 Extension      E: Number of elements  
 : No sound                              \*\*\* : MU90 Extension  
 : No sound                              \*\*\*\* : MU100 Extension





# C/M Drum Map

Note#	Note	Alternate assign	C/M Kit	E
35	B	0	Kick Tight CM	1
36	C	1	Kick CM	1
37	C#	1	Side Stick CM	1
38	D	1	Snare CM	1
39	D#	1	Hand Clap CM	1
40	E	1	Snare Electro CM	1
41	F	1	Floor Tom L CM	1
42	F#	1 1	Hi-Hat Closed CM	1
43	G	1	Floor Tom H CM	1
44	G#	1 1	Hi-Hat Open Short CM	1
45	A	1	Low Tom CM	1
46	A#	1 1	Hi-Hat Open CM	1
47	B	1	Mid Tom L CM	1
48	C	2	Mid Tom H CM	1
49	C#	2	Crash Cymbal CM	1
50	D	2	High Tom CM	1
51	D#	2	Ride Cymbal CM	1
52	E	2		
53	F	2		
54	F#	2	Tambourine CM	1
55	G	2		
56	G#	2	Cowbell CM	1
57	A	2		
58	A#	2		
59	B	2		
60	C	3	Bongo H CM	1
61	C#	3	Bongo L CM	1
62	D	3	Conga H Mute CM	1
63	D#	3	Conga H Open CM	1
64	E	3	Conga L CM	1
65	F	3	Timbale H CM	1
66	F#	3	Timbale L CM	1
67	G	3	Agogo H CM	1
68	G#	3	Agogo L CM	1
69	A	3	Cabasa CM	1
70	A#	3	Maracas CM	1
71	B	3 2	Samba Whistle H TG CM	1
72	C	4 2	Samba Whistle L TG CM	1
73	C#	4 3	Vibraslap CM	1
74	D	4 3		
75	D#	4	Claves CM	1
76	E	4	Laugh	1
77	F	4	Scream	1
78	F#	4 4	Punch	1
79	G	4 4	Heartbeat	1
80	G#	4 5	Footsteps	1
81	A	4 5	Footsteps	1
82	A#	4	Applause	1
83	B	4	Door Squeak	1
84	C	5	Door Slam	1
85	C#	5	Scratch Cut	1
86	D	5 6	Wind Chime	1
87	D#	5 6	Ignition	1
88	E	5	Squeal	1
89	F	5	Exhaust	1
90	F#	5	Crash	1
91	G	5	Siren	2
92	G#	5	Train	1
93	A	5	Jet Plane	2
94	A#	5	Helicopter	1
95	B	5	Starship	2
96	C	6	Gunshot	1
97	C#	6	Machine Gun	1
98	D	6	Laser Gun	2
99	D#	6	Explosion	2
100	E	6	Dog	1
101	F	6	Horse	1
102	F#	6	Bird Tweet	2
103	G	6	Shower	2
104	G#	6	Thunder	1
105	A	6	Wind	1
106	A#	6	Seashore	2
107	B	6	Stream	2
108	C	7	Bubble	2

 : No sound

# Performance List

## (Internal Performance List 1 MSB=002, LSB=000)

Pgm#	Category	Performance Name	Comment
1	PD	Emperors	Play boldly. Try moving MW and AT.
2	GT	GuitarShop	Distortion guitar. Don't worry about VL=Mono. Be careful not to overdo AT.
3	KS	Dune	Impressionist music.
4	KS	Box Bass Man	VL synth bass.
5	BA	Fat Boy	Vintage analog synth.
6	ET	Mod-Sitar	Sitar. MW changes the tone.
7	KS	Good Day	Analog-like synth.
8	KS	Red Beard	Shakuhachi in the wilderness. Try moving PB.
9	KS	It's Cool	Classy jazz with both hands.
10	KS	Swing Jazz	Bass and melody for swing jazz.
11	EN	Mounin Voice	Distant howling with PB, growling with AT.
12	LD	VL-Horn	The definitive VL sound. AT controls the noisy sound. Try moving PB and AT.
13	RD	Moody Sax	Gentle evening sax.
14	KS	Midnight	A night on the town. AT controls downward bending.
15	RD	Wood Winds	A pastoral sound.
16	KS	Bamboo	Superb left-hand technique.
17	KS	Blues	Blues. Everything depends on how you use AT.
18	LD	VA-Leed	Solo synth.
19	KS	Brass	Ideal if you use AT for vibrato.
20	KS	Ophelia	Good for lonely melodies.
21	VH	2-Oct Unison	Male/female unison. Good for scat singing. (Chromatic harmony)
22	VH	Silent Voice	Great for Christmas eve or Gospel singing. (Vocoder harmony)
23	VH	Male Chorus	Male chorus. (Vocoder harmony)
24	VH	WhiteChrims	Try singing "White Christmas" with this. (Chordal harmony)
25	VH	DetuneChorus	Doubling for the main vocal. (Detune harmony)
26	VH	FlangeDetune	Flanger detuning. (Detune harmony)
27	VH	Big Chorus	VH number one wide chorus. (Chordal harmony)
28	VH	Oct Unison	Unison with bass voice. (Chromatic harmony)
29	VH	D.TonicChors	Interesting to sing diatonically. PCM will not sound. (Vocoder harmony)
30	VH	TremoloChors	Mixed chorus with tremolo. Vocal sound will not be heard unless you play the keyboard. (Vocoder harmony)
31	VH	Duet Chorus	Harmonizes a third above. (Chordal harmony)
32	VH	Female Solo	Female solo vocal. No harmony is added. (Chromatic harmony)
33	VH	Heavy Chorus	Chorus centered on bass (Chordal harmony)
34	VH	Flange Voice	Flanger is applied. Vocal sound will not be heard unless you play the keyboard. (Vocoder harmony)
35	VH	Open3Harmony	Two-person harmony on pedal bass. (Chordal harmony)
36	VH	A Woman&Mans	Male chorus with one female singer. (Chordal harmony)
37	VH	FemaleChorus	Female chorus with falsetto mixed in. Vocal sound will not be heard unless you play the keyboard. (Vocoder harmony)
38	VH	Mr.Bassman	Try with sound effect-like voices. Likewise for the backup. (Chromatic harmony)
39	VH	MovieVoice	Try using a sound-effect-like voice. The same for backing. (Chromatic harmony)
40	VH	DonatVoice	Sing like a child. No harmony is added. (Vocoder harmony)
41	SE	SpaceZoo	Try moving PB and AT in various.
42	SE	StoneHng	MW produces a sustained sound.
43	BA	Whizzer	Long sustaining synth tone similar to bass guitar harmonics.
44	BA	SimpleBa	Straight ahead synth bass with some distortion.
45	BA	ClavBass	Bass sound with both electric/acoustic and synthesizer qualities. If you use foot controller you can get "clavinet" style overtones.
46	BA	SuperBas	DX7 style slapped bass.
47	BA	New Slap	New type slap bass with punchy power.
48	LD	RockPigs	Organ-type synth lead sound. AT produces a neighing effect.
49	LD	BuzzSaw	Play with lots of MW filter control.
50	LD	ZubZub	Biting analogue synth sound. MW filter control.
51	LD	OsciLead	Octave synth lead sound.
52	LD	SqrLead	Nice Square lead tone. Lowering FC (#4) opens filter.
53	LD	Bioger	Big analog sound - velocity controls filter and volume
54	BA	AnaSquid	Analogue synth type sound with MW filter control.
55	BA	SharpSyn	Slightly mode unstable velocity sensitive sound.
56	BA	AnaWave	Analogue synth type sound.
57	LD	AnaWurl	Velocity sensitive sound somewhat like a Wurlitzer EP passed through a resonant filter.
58	BA	FngerBass	Vigorous finger bass sound.
59	BA	Upright	Simulation of acoustic bass.
60	BA	Fnground	Finger bass with particular sound of rear pick up.
61	BA	Birdland	Midway between an analog synth and an electric bass sound. The high range produces harmonics.
62	BA	FlageoBs	Harmonics of a fingered electric bass
63	BA	DampBass	Damped Pluck-Bass with a dry speaker sound
64	BA	Fretles1	Fretless bass usable for either rhythm or melody.
65	BA	Frtles12	Another fretless bass, good for melody play.
66	BA	ThumBass	Thumped Bass
67	BA	RockBass	Heavy overdrive rock bass sound.
68	BA	WarmBass	Warm electric Precision bass sound. Use foot controller to make sound brighter.
69	BA	BassCab	Slightly distorted electric bass with Resonator simulation of speaker cabinet tone.
70	BA	AcidBas1	Bass sound for acid jazz.
71	BA	SqrBass1	Square wave synth bass.
72	BA	BoopaBas	Synth bass with sub-octave undertone.
73	BA	BuzzrBas	FM style, bright and buzzy electronic keyboard bass. For fast tempo trance, acid, house, and techno style sequenced basslines.
74	BA	TekBass	Synth bass with sub-octave undertone.
75	BA	TranzBas	TB303 style synth bass. For fast tempo trance, acid, house, and techno style sequenced basslines.
76	BA	Chamlion	Dry Synthbass.
77	BA	ParaSynB	Strong, up-front synth bass, ideal for 70's Jazz-Funk. If you like that sort of thing.
78	BA	SteamBas	Use lots of Pitch Bend (Embouchure) for finger slides. Gives greater tonal variety.
79	BA	WhelkBas	Synth bass. Velocity controls tonal change.
80	BA	AttackSyn	Synth bass sound with strong attack.
81	PF	Q.Klav	Deeply funky clav sound. Try with Phasing on in Chorus section, or alter low and upper mid with Equaliser in modifier section. Altering the Aural Exciter parameters will also have a big effect.
82	PC	DinoPerc	Use with different combinations of MW and PB to produce complex noise percussion.
83	SE	Formula	Engine-like sound effect.
84	SE	SpcHorse	While applying MW, add AT to create a neighing sound.
85	SE	Jason	Use the MW to turn this into a strongly noisy sound effect.
86	SE	Suedhead	Sound effect. Make liberal use of Modulation Wheel.
87	GT	Spanish	Spanish type acoustic guitar.
88	GT	JazzGtr1	Electric guitar suitable mainly for jazz.
89	GT	JazzyGtr	Velocity dynamic jazz style sustaining guitar lead.
90	GT	L7 Pluck	A classic pluck sound.
91	GT	WetPluck	A guitar sound that readily accepts effects such as flanging.
92	GT	Comp Gtr	Compressed, clean electric strat guitar sound.
93	GT	FunkyGtr	Snappy "70's style" funk guitar, for rhythm and comping
94	GT	Thin Gtr	Clean uncompressed electric guitar with "thin gauge" new strings, good for country, R&B, lead solos etc.
95	GT	Carlos	Overdrive guitar, front pick up type.
96	GT	Destiny	Distortion guitar by using of hard attacked synth lead. Control change 13 for feedback effect.
97	GT	Gonzo	Velocity controlled. Pitch Wheel down controls noise effect.
98	LD	Old Mini	A classic analog synth solo sound.
99	LD	ResoSqr	Lowering FC (#4) opens filter.
100	LD	WurlrlD	Dark, reed electric piano style synth lead.

PF : piano CP : chromatic percussion OR : organ, accordion, harmonica GT : guitar BA : bass ST : strings EN : ensemble BR : brass  
 RD : reed PL : pipe LD : synth lead PD : synth pad FX : synth effects ET : ethnics PC : percussive SE : sound effects CO : combinations  
 KS : keyboard splits SC : synth comp VH : Harmony Effect

# Performance List

(Internal Performance List 2 MSB=002, LSB=000)

Pam#	Category	Performance Name	Comment
1	PF	Concert Grand	Rich full-concert grand piano that simulates even the resonances.
2	PF	Midi & Grand	Grand piano + electric piano.
3	PF	60s Piano	Vintage stage electric piano with a slight distortion effect.
4	PF	CP Pad	Layer with a pad that takes advantage of the character of the Yamaha CP80.
5	PF	Rhody Phase	Electric piano with phase effect.
6	PF	Rich DX EP	Electric piano sound of the classic DX7.
7	PD	Grand Pad	Warm and dark synth pad. Two-octave layer.
8	PD	Pictures II	Spacy synth pad with a unique feel of pitch rise.
9	PD	Movie Pad II	Vintage synth-type pad.
10	PD	Hmu Choier	Synth pad featuring human voice.
11	PD	Polypad	Good old analog synth pad.
12	PD	Blonk Y	Combination of analog sound and voice pad. Aftertouch controls the filter.
13	PD	Dark Pad	Dark-feeling pad suitable for pop.
14	SC	Analog SQ 1	Analog synth with decay, suitable for sequenced phrases.
15	SC	Analog SQ 2	Short decay analog synth, suitable for sequenced phrases.
16	SC	Xen	Unique hit sound in which each key plays a chord.
17	SC	Short SQ	Analog synth with extremely short decay, suitable for sequenced phrases.
18	SC	Fat Poly	Thick synth sound suitable for dance.
19	OR	Backyard Organ	Jazzy organ suitable for backing.
20	OR	Rock Organ	The ultimate rock organ, with distortion and rotary speaker effect.
21	OR	Stereo Field Organ	Organ with stereo feel.
22	OR	Drawbars 1 AT	Drawbar organ of the 70's. Aftertouch changes the rotary speed.
23	OR	Drawbars 2 MW	Sentimental organ. MW changes the rotary speed.
24	OR	Full Church	Church pipe organ.
25	OR	Old Rock Organ	Electric organ of the 60's.
26	OR	Progressive Organ	Organ typical of progressive rock. MW applies a rotary speaker effect.
27	GT	12-string Fantasy	12 string guitar sound. Continue pressing, and a pad will be added.
28	GT	Wah Guitar	Funky electric guitar with auto-wah.
29	GT	FM Jazz EG	Jazz guitar typical of FM tone generators.
30	GT	Rich 12-string Guitar	Acoustic 12 string guitar.
31	GT	Pedal Steel Wheeler	Pedal steel guitar. Try using the pitch bend wheel.
32	GT	Chorus Guitar	Electric guitar with chorus.
33	BA	Hip Bais	Synth bass with wah. MW controls the filter.
34	BA	Rezy Bass	Synth bass with strong resonance, suitable for sequenced techno phrases.
35	BA	Fuzzline	Synth bass with distortion. MW controls the filter.
36	BA	Bassline 1	Synth bass suitable for dance or techno.
37	BA	Bassline 2	Synth bass with short decay.
38	EN	Pink Bass MW	Synth bass with distortion and portamento.
39	EN	Vienna Strings	String ensemble with an acoustic feel.
40	EN	Orchestra Plus	Orchestral sound with added timpani at strong velocities.
41	EN	Litepad	Light-feeling synth pad.
42	EN	Mello Strings	The strings sound of a legendary instrument.
43	EN	Ooh Choir	Chorus, with effects used to create a feel of spaciousness.
44	EN	Compu Vox	Use on sequenced phrases. MW controls the auto-pan speed.
45	BR	Cutting Brass	Sharp brass section.
46	BR	Tijuana Brass	Soft brass section of the 60's.
47	BR	CS80 Mind	Brass of Yamaha's famous analog synthesizer, the CS80.
48	BR	Fat Ensemble	Warm analog synth-like pad.
49	SC	Beat Hit	Hit sound, effective when used in an intro.
50	BR	Analog Brass	Analog brass with strong sense of attack.
51	LD	Mono Wire Lead	Mild synth lead.
52	LD	Vintage Lead	Old-style analog solo synth.
53	LD	Sticky Lead	Synth lead in which velocity creates unique tonal change in the attack.
54	LD	Saww Lead	Percussive synth lead with detune.
55	LD	Fat Glide	Thick-sounding synth lead.
56	LD	Early Lead	Mild synth lead with attack. MW controls the filter.
57	FX	Dreamer	Soft-attack synth sound with a feel of sweep. MW controls the filter.
58	FX	Slow Sweep	Synth sound in which the filter changes slowly.
59	FX	Flower	Layered harp and chorus.
60	FX	High Light	Synth sound that layers various sounds.
61	PF	DX Lover	Rich electric piano that blends tasty DX-type sounds.
62	PF	Clav Western	Old-style clavi-type sound.
63	PF	TX802 EP	FM-type electric piano. A versatile sound usable in a variety of styles.
64	PF	Chorus DX EP	DX electric piano with chorus.
65	PF	EP Velo SW	Old-style electric piano with tonal change controlled by velocity.
66	CP	Cool Vibes	Percussive vibraphone with reverb.
67	SC	Poly Syn	The classic analog poly synthesizer.
68	SC	Tech Chord 2	Dance sound with layered minor third and fifth. MW controls the filter.
69	SC	Hi Pass SQ 1	Synth sound using a high pass filter.
70	SC	Eight Oscis	Thick-sounding synth brass.
71	SC	HPF Flight	Light-feeling synth lead suitable for sequenced phrases.
72	SC	Acid Hook	Percussive synth sound. Also usable as synth bass.
73	SC	Fat Comp	Versatile comping sound that can be played either as brass or lead.
74	OR	70s Rock Organ	Rock organ of the 70's.
75	OR	Click Organ MW	Electronic organ with key-click sound. MW changes the rotary speed.
76	OR	Nice Organ	Bright-feeling organ of the 80's.
77	OR	Sacral Organ	Full digital organ. MW changes the rotary speed.
78	OR	Baroque Feel	Solemn pipe organ with layered strings.
79	OR	Plain Pipe	Simple-feeling pipe organ.
80	OR	French Accordion	Accordion with a French touch.
81	OR	Lambada Accordion	Accordion suitable for tango or lambada.
82	BA	Lately Bass	Synth bass typical of FM tone generators (4 operator).
83	BA	FM Slap	Slap bass typical of FM tone generators.
84	BA	Frankfurt Bass	Synth bass with deep resonance, suitable for sequenced phrases.
85	KS	Pizza Time	Split ensemble strings and pizzicato.
86	RD	Soprano Sax	Soprano sax that simulates even the breathing.
87	ET	Banio Man	Banio sound suitable for Dixie style.
88	ET	Kanocnics	Percussive-feeling canoon (an instrument with tone similar to a Japanese Koto).
89	SE	Devil's House	Sound effect evoking a devil's lair. Play strongly in the C3 region to hear demon voices and screams.
90	SE	Alien	A mysterious space creature appears. For strong velocities you will hear groaning.
91	SE	Sea View	Pretend that you are on a deep-sea voyage.
92	KS	Phat & Funky	Split with strings and wah guitar.
93	CO	Horn & Strings	Versatile strings with horn added.
94	CO	Clavorgue	A blend of clavi and organ.
95	CO	1950's Jazz	Split with vintage wood bass and piano.
96	ET	Asian Beat	Asiatic percussion with mysterious sense of pitch. Play strongly to sound a drum.
97	FX	Sweepy Line	Percussive synth with a feeling of resonance.
98	FX	Blue & Blue	Transparent pad.
99	FX	Going UP	Ambient-type sound with unique feeling of ascent.
100	SE	MU Creation	Avant-garde sound effect expressed by a diverse variety of sounds.

With the factory settings, the internal performances will be occupied by the above sounds.

PF : piano CP : chromatic percussion OR : organ, accordion, harmonica GT : guitar BA : bass ST : strings EN : ensemble BR : brass

RD : reed PI : pipe LD : synth lead PD : synth pad FX : synth effects ET : ethnics PC : percussive SE : sound effects CO : combinations

KS : keyboard splits SC : synth comp



# Performance List

(Preset Performance List MSB=001, LSB=000)

Pgm#	Category	Performance Name	Comment
1	FX	Heavens Door	Warm effect sound. MW controls the filter.
2	PF	Stereo Grand	Grand piano with a stereo-sampled feel.
3	BR	Saw Classic	Analog sawtooth wave brass. Delay effect.
4	FX	Analog Age	Warm and transparent analog synth pad. Aftertouch controls the filter.
5	FX	VoxBell	Mixture of synth voice and bell.
6	KS	Two Flutish	Left hand plays pad, right hand plays pan-flute.
7	BA	Super Bass	Electric bass with superb low range and thickness.
8	OR	70s Organ AT	Organ of the 70's. Aftertouch controls rotary speed.
9	SL	Touch Line	Sawtooth wave with fuzz. Move the filter and use for techno sequences.
10	SC	Rave Mecca	Dance sound for chording. MW controls the filter.
11	EN	Superstrings	Warm analog synth strings. MW controls the filter.
12	PF	Old EP	Vintage electric piano of vesterwear.
13	LD	Sync SynQ	Synth grand typical of analog synthesizers.
14	PD	Fancy Pad	Atmospheric pad. Aftertouch control the filter.
15	SC	Dikk Tekk	Good for hard sequenced phrases. MW controls the filter.
16	ST	Laser Harp	Synth with deep phasing.
17	GT	Feedback EG	Distortion guitar with realistic feedback.
18	OR	Full Organ	Bright electric organ. MW controls filter.
19	LD	Dyno Lead	Classic analog lead. Portamento is effective.
20	PF	CP70 On Stage	The famous Yamaha electric grand.
21	BR	Super Brass	Powerful straight-ahead brass section. MW controls the filter.
22	FX	Ethnograph	Impressionistic new-age sound collage.
23	SL	Tecspiration	Analog techno sound with fuzz.
24	CO	Vox Pop	Tight synth chorus. Good for rapid passages.
25	PD	Dark Pad	Dark synth pad. MW controls the filter.
26	FX	Sparkie Pad	Sparkling pad. MW causes a surprising change.
27	BR	Jump-off	Legendary synth brass.
28	OR	Overdrive OR	Organ with overdrive.
29	GT	Ricky Guitar	Clean electric guitar for lead parts.
30	SC	Euro Hook	Thick analog sound for percussive sequences.
31	RD	Groovin' Baritone	Baritone sax.
32	FX	Alien Peace	Gorgeous digital synth using two completely different elements.
33	KS	Hit House	Novel split with four brass shots.
34	GT	6-string Guitar	Acoustic guitar with steel strings.
35	EN	Phase Strings	Analog synth strings with phaser applied. MW control the filter.
36	LD	Hyper Shaku8	Synth-type shakuhachi with unique blown feel.
37	OR	Early Bird	Organ with symphonic effect applied. Good for dance music.
38	CO	Orchestral Suite	Orchestral combination of strings, horn and bell.
39	SC	Fat Hook	Ultimate synth for Euro-sound.
40	KS	R&B Gtr	Split with piano/strings and organ.
41	OR	Deep Harp	Clear harmonic. Great for solos.
42	FX	Almost Heaven	Pad with memorable bell sound.
43	SL	Digi Bizzar	Radical digital synth sound. For electronic music.
44	OR	Euro Accordion	Accordion with a European flavor.
45	EN	2 Octaves Strings	Bright analog strings. Two-octave layer.
46	PF	New House Piano	Piano for a new music scene.
47	OR	Crisp Organ	Percussive electric organ.
48	GT	Warm Amp	Electric guitar that simulates even the warm character of a guitar amp.
49	BA	Flangi Baze	Simulation of a monophonic analog bass. MW control the filter.
50	KS	1st Violin	Split between a string ensemble and a solo violin.
51	EN	Deep Choir	Mixed chorus with long reverb.
52	PF	Old Clavi	Old clavi with dynamic wah.
53	SC	Dance Chord	Thick analog synth for chord backing of dance music.
54	FX	White Train	Hypnotic pad. Aftertouch controls the filter.
55	BR	Power Synth Brass	Powerful synth brass.
56	BA	Deep Port	Thick synth bass with sustain. Portamento is applied.
57	SC	Floor Tack	Synth suitable for dance music chording. MW controls the filter.
58	GT	Rich Nylon Guitar	Rich acoustic guitar with nylon strings.
59	OR	Solemn Organ	Solemn pipe organ.
60	CO	Piano & Strings	Layered acoustic piano and stereo strings.
61	RD	Rich Bass Clarinet	Richly expressive bass clarinet for soloists.
62	BR	Slap Switch	Slap bass with velocity split.
63	EN	Hi Strings	Hybrid strings that mix acoustic and synth.
64	PD	Soft Sweep	Spacious pad. MW controls the tone.
65	OR	Draw Organ MW	Drawbar organ. MW changes the rotary speed.
66	SL	Porta Line MW	A simple synth lead. MW controls the filter.
67	FX	Crypt	An effect sound that takes advantage of portamento. Raise MW to make the sound change even more.
68	PF	Easy Seven	Classic FM electric piano. Layered with synth strings.
69	KS	Guitar & Sax	Split sound with soft-feeling guitar and breathy tenor sax.
70	PF	Gut EP	Layered DX electric piano and acoustic guitar. MW adds a pad.
71	BA	SQ2003 Wheel	Fuzz synth with powerful filter modulation. MW controls the filter.
72	PD	Fanta Pad	Spacy synth pad with a "sizzling" feel.
73	SC	Dance Comp	Rhythmic synth sound suitable for chord sequences.
74	ET	AfricanGrand	Pitched African percussion.
75	BR	Trombonist	Expressive brass sound suitable for solos.
76	FX	Orion	Mysterious sound effect. MW controls the filter.
77	BR	Remix Brass	Velocity split between strings/brass section and brass fall.
78	PF	Specter EP	Electric piano. Move MW to play various types of sound.
79	SC	Tech Chord 1	Dance sound with layered minor third and fifth. MW controls the filter.
80	KS	Bass + Piano/Brass	Split between a velocity-split piano and brass, and bass.
81	BA	SQ-Bass	Synth bass suitable for techno/dance sequences.
82	EN	Rich Strings	Strings. Velocity will affect the attack and depth.
83	BR	Hybrid Brass	Punchy brass that combines acoustic and synth.
84	PF	Phaze Clavi	Analog clavi. MW controls the phaser effect.
85	SC	Toy SQ	Analog sound with cross delay for typed-in sequences.
86	SE	MUtoPa	Futuristic-sounding pad. Aftertouch controls the filter.
87	PD	Float Pad	Warm-feeling pad. MW controls the filter.
88	OR	Tiny Pipe	Small pipe organ.
89	SC	Sweet Wine	Synth sound suitable for electronic music.
90	PD	Pad Swell	Bright-sounding synth pad with filter change.
91	FX	Aquarius 90	Underwater sound effect that mixes voice and struck glass.
92	ET	Perc Shamisen	Percussive shamisen.
93	PF	Clav-babe	Synth clavi with distinctive auto-wah.
94	FX	Sweepy Plant	Ambient-type sound with distinctive sweep and modulation.
95	CP	Door Bell	Music box with bell-like sound.
96	SC	FAT*SQ	Thick synth lead with just a touch of portamento.
97	FX	Lo-Fi Loop	"Lo-fi" percussion loop sound.
98	KS	Volksmusik	Split between accordion and brass ensemble.
99	KS	Jfunk Jammin	Split between a solid electric piano and bass.
100	KS	Alpen Echo	Split between a tuba and trumpet. MW controls the delay effect.

PF: piano CP: chromatic percussion OR: organ, accordion, harmonica GT: guitar BA: bass ST: strings EN: ensemble BR: brass  
 RD: reed PI: pipe LD: synth lead PD: synth pad FX: synth effects ET: ethnics PC: percussive SE: sound effects CO: combinations  
 KS: keyboard splits SC: synth comp

# About the MU100R DISK

This floppy disk contains the following data.

## **“SONGS” directory:**

Demo song data (SMF) for the MU100R

PCM (21 songs)

VL (7 songs) ... Songs which make good use of VL voices.

VH (2 songs) ... Songs which make good use of VH effects.

For details refer to the demo song list (page 130-131).

## **“PFMDATA” directory:**

This contains the internal performance data (SMF) that the MU100R is shipped with.

For details refer to the performance list (page 126).

## **“IBM PC” directory:**

This contains “Yamaha CBX Driver for Windows 3.1.”

For installation refer to “CBXT3.WRI”.

## **“MIDIDRV” directory:**

This contains “Yamaha CBX Driver for Windows 95.”

For installation refer to “README\_E.TXT.”

\* This disk is formatted in MS-DOS.

Apple Macintosh users should use Apple File Exchange or similar software.

# MU100R Demo Song List 1 (Using PCM Voices)

No.	File Name	Category	Comment
01	HG_001.MID	Pop Rock	For part 5, the AMP SIM effect applies distortion to the "Hammer M" guitar sound. To give the sound additional spice, AUTO PAN is applied to the electric piano of part 2. The ROTARY SP effect is used lavishly on the Organ of part 8.
02	HG_002.MID	Funk Hard Rock	Part 5 applies the AMP SIM insertion effect to SuperJzB to simulate lead guitar. Gate Rev is used to emphasize a sense of funk for the drums, and also to differentiate it from the other parts.
03	HG_003.MID	Ballade	FMChoGTR is used for the arpeggio guitar on part 6. To distinguish the acoustic drums from the sequenced drums, completely different drum kits are used, and reverb is applied deeply to create a feeling of space.
04	HG_004.MID	Jazz	The bass of part 3 is Boston, with a nice-feeling attack. A new sound is also used for the trumpet of part 6. To top it off, the LO-FI effect is used to make the ending sound like a radio.
05	HG_005.MID	Fusion	In the first section, part 6 uses RhgcastM and part 7 uses NaslGtSt to realistically simulate guitar cutting. Notice that AUTO WAH is applied to the synth lead (Sync B&L) of part 4.
06	HG_006.MID	Fast Swing	To give the piano a sense of weight, DblConGr is used. The bass is BostnBrt. The organ is RotaryOr, and the ROTARY SP effect is used in addition to emphasize the sound.
07	HG_007.MID	Swing(Brush)	The TREMOLO effect is applied to Vibes K of part 5 to emphasize the resonances. For realism, the guitar is SuperJzB and the bass is Coolth.
08	HG_008.MID	Funk	Effects have been carefully used to create a feeling of independence between parts. On the drums, ER2 is applied to the SD, and Hall Reverb is applied to the Tom. By applying AUTO WAH to the guitar and using three parts (3 kits) for the drums, the tonal outline of each part is kept clear.
09	HG_009.MID	Trance	The sequenced phrases use Distance. During the song, NstOrSpl is used in a sound-effect-like manner. Two parts are used for the drums. The main kit is AnlgKit2 for part 10, and HH is programmed using DanceKit.
10	HG_010.MID	TripHop	Three parts are lavishly used for the drums, with a separate kit used for each scene. 10 and 12 are the same kit, but with different effect settings and sound editing. To create a sense of lo-fi, COMP+DIST is applied.
11	HG_011.MID	HipHop	Turnpik1 is used for electric piano and BostnBrt is used for Bass. Drums are up-front and kept simple, using HipHopKit. To create a lo-fi effect, a distortion effect is applied to the drums.
12	HG_012.MID	Techno	FrcOscBa is used to simulate the resonance characteristic of Techno. Three drum parts are used to bring out a feeling of sampling etc. COMP is applied to the drums.
13	HG_013.MID	House	On part 10 (AnlgKit2), COMP is applied to SD/BD for emphasis. HH is played separately by part 11 DanceKit. On fill-ins, reverb is deepened for part 12 DarkRKit, enhancing the feeling of independence of the samples.
14	HG_014.MID	House	Drums are important for dance music. Here, the drums are played mainly by ApogeeKt on part 10. The Latin elements are reproduced by part 11. Exclusive messages for setting the effects have been inserted into the song data to create a sense of "pasted" samples.
15	HG_015.MID	Jungle	Here too, we lavishly use three parts for the drums; 10-JunglKit, 11-TrampKit and 12-TknoKtKS. Each has different effect settings to emphasize the sampled feeling. Part 12 is particularly good.
16	HG_016.MID	ClubJazz	Listen for Bkstairs in the intro. Reverb is applied only to this part to make it sound more like sampling. The drums are carried by two parts; part 10 is used for the main drums, and part 11 as the percussion part.
17	HG_017.MID	AcidJazz	CoffinKt is used on part 10 for the intro and ending to produce a lo-fi feeling. During the song, part 11 uses RogueKit.
18	HG_018.MID	Reggae	The drum part that had been using JazzKit was programmed using CoffinKt for a club atmosphere. To get a sampled feeling, the COMP+DIST variation effect is applied to the drum part.
19	HG_019.MID	Latin/bpm=121	A combination of Latin styles such as salsa and bossanova. Hall1 is the over all effect. For the ending, the "LO-FI" variation effect is applied to the drum part to simulate a separate scene.
20	HG_020.MID	Latin/bpm=111	Latin dance arrangement centered on samba. Listen to the great unison between part 1 (FakeAltD) and part 7 (ManhttnP). On part 11, BD and SD are taken from AmberKit for greater independence.

*Produced by Idecs*

No.	File Name	Category	Comment
01	Trance.mid	Elevation	The recently popular Goa Trance. So much expression can be added using filter and resonance.

*Produced by Hiroshi Mizuide*

## MU100R Demo Song List 2 (Using VL Voices)

No.	File Name	Song Name	Producer
01	COOLKOVA.MID	Cool Jiva	Katsunori Ujiiie
02	OXYGEN.MID	Oxygen	Andy Mowat Daniel Powell (YAMAHA R&D London)
03	NOBODY.MID	Nobody Knows	Akio Suzuki
04	SILHOUET.MID	Silhouettes	Tom Scott (GRP Recording Artist) Nate Tschetter Charles Feilding (YAMAHA Sound Design Office)
05	VAMBIENT.MID	VAmbient	Katsunori Ujiiie
06	DOGROOVA.MID	Do GrooVA	Katsunori Ujiiie
07	CLOUDS.MID	Clouds	Akio Suzuki

## MU100R Demo Song List 3 (Using Harmony Effects)

No.	File Name	Song Name	Comment
01	AMAZING.MID	Amazing Grace	Try connecting a mic to the A/D INPUT 1 jack and singing.
02	JINGLE.MID	Jingle Bells	



# YAMAHA

