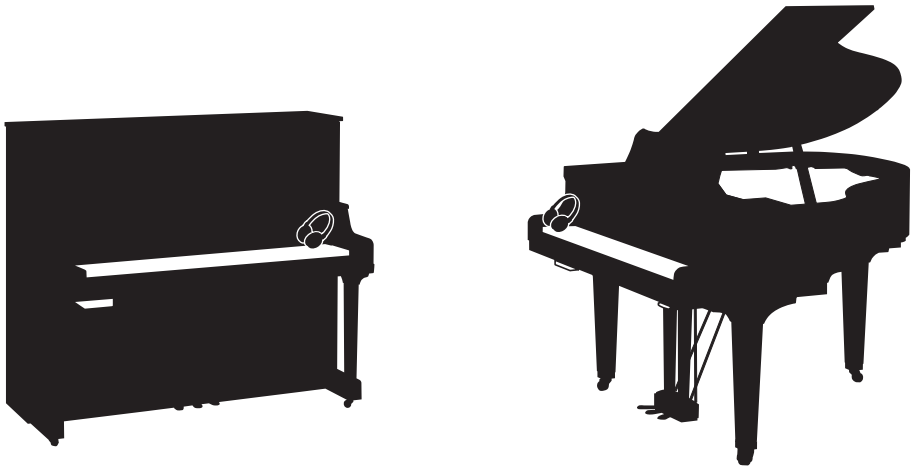
YAMAHA

SILENT Piano™

SC2



MIDI Reference
MIDI-Referenz
Référence MIDI
Referencia MIDI

EN
DE
FR
ES

MIDI Data Format / MIDI-Datenformat / Format des données MIDI / Formato de datos MIDI

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

Decimal	Hexadecimal	Binary	Decimal	Hexadecimal	Binary	Decimal	Hexadecimal	Binary	Decimal	Hexadecimal	Binary
0	00	0000 0000	32	20	0010 0000	64	40	0100 0000	96	60	0110 0000
1	01	0000 0001	33	21	0010 0001	65	41	0100 0001	97	61	0110 0001
2	02	0000 0010	34	22	0010 0010	66	42	0100 0010	98	62	0110 0010
3	03	0000 0011	35	23	0010 0011	67	43	0100 0011	99	63	0110 0011
4	04	0000 0100	36	24	0010 0100	68	44	0100 0100	100	64	0110 0100
5	05	0000 0101	37	25	0010 0101	69	45	0100 0101	101	65	0110 0101
6	06	0000 0110	38	26	0010 0110	70	46	0100 0110	102	66	0110 0110
7	07	0000 0111	39	27	0010 0111	71	47	0100 0111	103	67	0110 0111
8	08	0000 1000	40	28	0010 1000	72	48	0100 1000	104	68	0110 1000
9	09	0000 1001	41	29	0010 1001	73	49	0100 1001	105	69	0110 1001
10	0A	0000 1010	42	2A	0010 1010	74	4A	0100 1010	106	6A	0110 1010
11	0B	0000 1011	43	2B	0010 1011	75	4B	0100 1011	107	6B	0110 1011
12	0C	0000 1100	44	2C	0010 1100	76	4C	0100 1100	108	6C	0110 1100
13	0D	0000 1101	45	2D	0010 1101	77	4D	0100 1101	109	6D	0110 1101
14	0E	0000 1110	46	2E	0010 1110	78	4E	0100 1110	110	6E	0110 1110
15	0F	0000 1111	47	2F	0010 1111	79	4F	0100 1111	111	6F	0110 1111
16	10	0001 0000	48	30	0011 0000	80	50	0101 0000	112	70	0111 0000
17	11	0001 0001	49	31	0011 0001	81	51	0101 0001	113	71	0111 0001
18	12	0001 0010	50	32	0011 0010	82	52	0101 0010	114	72	0111 0010
19	13	0001 0011	51	33	0011 0011	83	53	0101 0011	115	73	0111 0011
20	14	0001 0100	52	34	0011 0100	84	54	0101 0100	116	74	0111 0100
21	15	0001 0101	53	35	0011 0101	85	55	0101 0101	117	75	0111 0101
22	16	0001 0110	54	36	0011 0110	86	56	0101 0110	118	76	0111 0110
23	17	0001 0111	55	37	0011 0111	87	57	0101 0111	119	77	0111 0111
24	18	0001 1000	56	38	0011 1000	88	58	0101 1000	120	78	0111 1000
25	19	0001 1001	57	39	0011 1001	89	59	0101 1001	121	79	0111 1001
26	1A	0001 1010	58	3A	0011 1010	90	5A	0101 1010	122	7A	0111 1010
27	1B	0001 1011	59	3B	0011 1011	91	5B	0101 1011	123	7B	0111 1011
28	1C	0001 1100	60	3C	0011 1100	92	5C	0101 1100	124	7C	0111 1100
29	1D	0001 1101	61	3D	0011 1101	93	5D	0101 1101	125	7D	0111 1101
30	1E	0001 1110	62	3E	0011 1110	94	5E	0101 1110	126	7E	0111 1110
31	1F	0001 1111	63	3F	0011 1111	95	5F	0101 1111	127	7F	0111 1111

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

Preset Voice List

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

Voice Name	MSB (0-127)	LSB (0-127)	Program Change # (1-128)
Binaural CFX Grand	108	100	1
CFX Grand	108	0	1
Bösendorfer Imperial	108	6	1
Upright Piano	108	5	3
Stage E.Piano	108	0	5
DX E.Piano	108	0	6
Vintage E.Piano	108	1	5
Harpsichord 8'	108	0	7
Celesta	108	0	9
Organ Principal	108	1	20
Jazz Organ	108	0	17

MIDI CHANNEL MESSAGE (1)

Application Range	MIDI, Internal Sequencer

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

MIDI CHANNEL MESSAGE (2)

Application Range	MIDI, Internal Sequencer

NRPN (Non Registered Parameter Number)

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

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

RPN (Registered Parameter Number)

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

XG PARAMETER CHANGE TABLE

Application Range	MIDI, Internal Sequencer

MIDI Parameter Change table (XG SYSTEM)

Address (H)	Size (H)	Data (H)	Parameter	Description	XG Default (H)	MIDI Reception	MIDI Transmission	
						Song	Panel (main generation method)	Song
00 00 00	4	00-0F 00-0F 00-0F 00-0F	MASTER TUNE	-102.4...0...+102.3 [cent] 1st bit 3-0→bit 15-12 2nd bit 3-0→bit 11-8 3rd bit 3-0→bit 7-4 4th bit 3-0→bit 3-0	*Panel setting value	O	X	O
04	1	00-7F	MASTER VOLUME	0...127	7F	O	X	O
05	1	00-7F	MASTER ATTENUATOR	0...127	00	X	X	X
06	1	28-58	TRANSPOSE	-24...0...+24 [semitones]	40	O	X	O
7D	1	N	DRUM SETUP RESET	N: Drum setup number	-	O	X	O
7E	1	00	XG SYSTEM ON	00=XG system ON	-	O	X	O
7F	1	00	ALL PARAMETER RESET	00=ON	-	O	X	X

TOTAL SIZE 07

MIDI Parameter Change table (SYSTEM INFORMATION)

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

TOTAL SIZE 10

Transmitted in response to Dump Request. Not received.

MIDI Parameter Change table (EFFECT1)

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

TOTAL SIZE 0E

02 01 10	1	00-7F	REVERB PARAMETER 11		*1	O *1	X	O
11	1	00-7F	REVERB PARAMETER 12		*1	O *1	X	O
12	1	00-7F	REVERB PARAMETER 13		*1	O *1	X	O
13	1	00-7F	REVERB PARAMETER 14		*1	O *1	X	O
14	1	00-7F	REVERB PARAMETER 15		*1	O *1	X	O
15	1	00-7F	REVERB PARAMETER 16		*1	O *1	X	O

TOTAL SIZE 06

*1 Depends on Reverb Type.

Address (H)	Size (H)	Data (H)	Parameter	Description	XG Default (H)	MIDI Reception	MIDI Transmission	
						Song	Panel (main generation method)	Song
02 01 20	2	00-7F	CHORUS TYPE MSB		41 (=CHORUS1)	O	O (Voice)	O
		00-7F	CHORUS TYPE LSB		00			
22	1	00-7F	CHORUS PARAMETER 1		*2	O *2	X	O
23	1	00-7F	CHORUS PARAMETER 2		*2	O *2	X	O
24	1	00-7F	CHORUS PARAMETER 3		*2	O *2	X	O
25	1	00-7F	CHORUS PARAMETER 4		*2	O *2	X	O
26	1	00-7F	CHORUS PARAMETER 5		*2	O *2	X	O
27	1	00-7F	CHORUS PARAMETER 6		*2	O *2	X	O
28	1	00-7F	CHORUS PARAMETER 7		*2	O *2	X	O
29	1	00-7F	CHORUS PARAMETER 8		*2	O *2	X	O
2A	1	00-7F	CHORUS PARAMETER 9		*2	O *2	X	O
2B	1	00-7F	CHORUS PARAMETER 10		*2	O *2	X	O
2C	1	00-7F	CHORUS RETURN	-∞dB...0dB...+6dB (0...64...127)	40	O	X	O
2D	1	01-7F	CHORUS PAN	L63...C...R63	40	O	X	O
2E	1	00-7F	SEND CHORUS TO REVERB	-∞dB...0dB...+6dB (0...64...127)	00	O	X	O

TOTAL SIZE 0F

02	01	30	1	00-7F	CHORUS PARAMETER 11		*2	O *2	X	O
		31	1	00-7F	CHORUS PARAMETER 12		*2	O *2	X	O
		32	1	00-7F	CHORUS PARAMETER 13		*2	O *2	X	O
		33	1	00-7F	CHORUS PARAMETER 14		*2	O *2	X	O
		34	1	00-7F	CHORUS PARAMETER 15		*2	O *2	X	O
		35	1	00-7F	CHORUS PARAMETER 16		*2	O *2	X	O

TOTAL SIZE 06

*2 Depends on Chorus Type.

Address (H)			Size (H)	Data (H)	Parameter	Description	XG Default (H)	MIDI Reception	MIDI Transmission	
								Song	Panel (main generation method)	Song
02	01	40	2	00-7F	VARIATION TYPE MSB		05 (=DELAY L, C, R)	O	X	O
				00-7F	VARIATION TYPE LSB		00			
		42	2	00-7F	VARIATION PARAMETER 1 MSB		*3	O *3	X	O
				00-7F	VARIATION PARAMETER 1 LSB					
		44	2	00-7F	VARIATION PARAMETER 2 MSB		*3	O *3	X	O
				00-7F	VARIATION PARAMETER 2 LSB					
		46	2	00-7F	VARIATION PARAMETER 3 MSB		*3	O *3	X	O
				00-7F	VARIATION PARAMETER 3 LSB					
		48	2	00-7F	VARIATION PARAMETER 4 MSB		*3	O *3	X	O
				00-7F	VARIATION PARAMETER 4 LSB					
		4A	2	00-7F	VARIATION PARAMETER 5 MSB		*3	O *3	X	O
				00-7F	VARIATION PARAMETER 5 LSB					
		4C	2	00-7F	VARIATION PARAMETER 6 MSB		*3	O *3	X	O
				00-7F	VARIATION PARAMETER 6 LSB					
		4E	2	00-7F	VARIATION PARAMETER 7 MSB		*3	O *3	X	O
				00-7F	VARIATION PARAMETER 7 LSB					
		50	2	00-7F	VARIATION PARAMETER 8 MSB		*3	O *3	X	O
				00-7F	VARIATION PARAMETER 8 LSB					
		52	2	00-7F	VARIATION PARAMETER 9 MSB		*3	O *3	X	O
				00-7F	VARIATION PARAMETER 9 LSB					
		54	2	00-7F	VARIATION PARAMETER 10 MSB		*3	O *3	X	O
				00-7F	VARIATION PARAMETER 10 LSB					
		56	1	00-7F	VARIATION RETURN	-∞dB...0dB...+6dB (0...64...127)	40	O	X	O
		57	1	01-7F	VARIATION PAN	L63...C...R63	40	O	X	O
		58	1	00-7F	SEND VARIATION TO REVERB	-∞dB...0dB...+6dB (0...64...127)	00	O	X	O
		59	1	00-7F	SEND VARIATION TO CHORUS	-∞dB...0dB...+6dB (0...64...127)	00	O	X	O
		5A	1	00-01	VARIATION CONNECTION	INSERTION, SYSTEM	00	O	X	O
		5B	1	00-7F	VARIATION PART NUMBER	Reception: Part 1...16 (0...15) Transmission: Part 1...16 (0...15) AD (64) OFF (127)	7F	O	X	O
		5C	1	00-7F	MW VARIATION CONTROL DEPTH	-64...0...+63	40	O	X	O
		5D	1	00-7F	BEND VARIATION CONTROL DEPTH	-64...0...+63	40	O	X	O
		5E	1	00-7F	CAT VARIATION CONTROL DEPTH	-64...0...+63	40	O	X	O
		5F	1	00-7F	AC1 VARIATION CONTROL DEPTH	-64...0...+63	40	O	X	O
		60	1	00-7F	AC2 VARIATION CONTROL DEPTH	-64...0...+63	40	O	X	O

TOTAL SIZE 21

02	01	70	1	00-7F	VARIATION PARAMETER 11		*3	O *3	X	O
		71	1	00-7F	VARIATION PARAMETER 12		*3	O *3	X	O
		72	1	00-7F	VARIATION PARAMETER 13		*3	O *3	X	O
		73	1	00-7F	VARIATION PARAMETER 14		*3	O *3	X	O
		74	1	00-7F	VARIATION PARAMETER 15		*3	O *3	X	O
		75	1	00-7F	VARIATION PARAMETER 16		*3	O *3	X	O

TOTAL SIZE 06

*3 Depends on Variation Type.

MIDI Parameter Change table (MULTI EQ)

Address (H)			Size (H)	Data (H)	Parameter	Description	* The MULTI EQ Parameter cannot be reset to its factory setting with XG SYSTEM ON.	MIDI Reception	MIDI Transmission	
								Song	Panel (main generation method)	Song
02	40	00	1	00-04	EQ TYPE	flat, jazz, pops, rock, classic		X	X	X
		01	1	34-4C	EQ GAIN1	-12...0...+12 [dB]		X	X	X
		02	1	04-28	EQ FREQUENCY1	32...2.0k [Hz]		X	X	X
		03	1	01-78	EQ Q1	0.1...12.0		X	X	X
		04	1	00-01	EQ SHAPE1	shelving, peaking		X	X	X
		05	1	34-4C	EQ GAIN2	-12...0...+12 [dB]		X	X	X
		06	1	0E-36	EQ FREQUENCY2	100...10.0k [Hz]		X	X	X
		07	1	01-78	EQ Q2	0.1...12.0		X	X	X
		08	1		NOT USED			-	-	-
		09	1	34-4C	EQ GAIN3	-12...0...+12 [dB]		X	X	X
		0A	1	0E-36	EQ FREQUENCY3	100...10.0k [Hz]		X	X	X
		0B	1	01-78	EQ Q3	0.1...12.0		X	X	X
		0C	1		NOT USED			-	-	-
		0D	1	34-4C	EQ GAIN4	-12...0...+12 [dB]		X	X	X
		0E	1	0E-36	EQ FREQUENCY4	100...10.0k [Hz]		X	X	X
		0F	1	01-78	EQ Q4	0.1...12.0		X	X	X
		10	1		NOT USED			-	-	-
		11	1	34-4C	EQ GAIN5	-12...0...+12 [dB]		X	X	X
		12	1	1C-3A	EQ FREQUENCY5	0.5k...16.0k [Hz]		X	X	X
		13	1	01-78	EQ Q5	0.1...12.0		X	X	X
		14	1	00-01	EQ SHAPE5	shelving, peaking		X	X	X

TOTAL SIZE 15

MIDI Parameter Change table (EFFECT2)

Address (H)	Size (H)	Data (H)	Parameter	Description	* The EFFECT 2 Parameter cannot be reset to its factory setting with XG SYSTEM ON.	MIDI Reception	MIDI Transmission	
						Song	Panel (main generation method)	Song
03 n 00	2	00-7F	INSERTION EFFECT TYPE MSB			O	X	O
		00-7F	INSERTION EFFECT TYPE LSB					
02	1	00-7F	INSERTION EFFECT PARAMETER 1			O *4	X	O
03	1	00-7F	INSERTION EFFECT PARAMETER 2			O *4	X	O
04	1	00-7F	INSERTION EFFECT PARAMETER 3			O *4	X	O
05	1	00-7F	INSERTION EFFECT PARAMETER 4			O *4	X	O
06	1	00-7F	INSERTION EFFECT PARAMETER 5			O *4	X	O
07	1	00-7F	INSERTION EFFECT PARAMETER 6			O *4	X	O
08	1	00-7F	INSERTION EFFECT PARAMETER 7			O *4	X	O
09	1	00-7F	INSERTION EFFECT PARAMETER 8			O *4	X	O
0A	1	00-7F	INSERTION EFFECT PARAMETER 9			O *4	X	O
0B	1	00-7F	INSERTION EFFECT PARAMETER 10			O *4	X	O
0C	1	00-7F	INSERTION EFFECT PART NUMBER	Reception: Part 1...16 (0...15) Transmission: Part 1...16 (0...15) AD (64) OFF (127)		O	O (Voice)	O
0D	1	00-7F	MW INSERTION CONTROL DEPTH	-64...0...+63		O	X	O
0E	1	00-7F	BEND INSERTION CONTROL DEPTH	-64...0...+63		O	X	O
0F	1	00-7F	CAT INSERTION CONTROL DEPTH	-64...0...+63		O	X	O
10	1	00-7F	AC1 INSERTION CONTROL DEPTH	-64...0...+63		O	O (Function)	O
11	1	00-7F	AC2 INSERTION CONTROL DEPTH	-64...0...+63		O	X	O
TOTAL SIZE	12							
20	1	00-7F	INSERTION EFFECT PARAMETER 11			O *4	X	O
21	1	00-7F	INSERTION EFFECT PARAMETER 12			O *4	X	O
22	1	00-7F	INSERTION EFFECT PARAMETER 13			O *4	X	O
23	1	00-7F	INSERTION EFFECT PARAMETER 14			O *4	X	O
24	1	00-7F	INSERTION EFFECT PARAMETER 15			O *4	X	O
25	1	00-7F	INSERTION EFFECT PARAMETER 16			O *4	X	O
TOTAL SIZE	06							
30	2	00-7F	INSERTION EFFECT PARAMETER 1 MSB			O *4	X	O
		00-7F	INSERTION EFFECT PARAMETER 1 LSB					
32	2	00-7F	INSERTION EFFECT PARAMETER 2 MSB			O *4	X	O
		00-7F	INSERTION EFFECT PARAMETER 2 LSB					
34	2	00-7F	INSERTION EFFECT PARAMETER 3 MSB			O *4	X	O
		00-7F	INSERTION EFFECT PARAMETER 3 LSB					
36	2	00-7F	INSERTION EFFECT PARAMETER 4 MSB			O *4	X	O
		00-7F	INSERTION EFFECT PARAMETER 4 LSB					
38	2	00-7F	INSERTION EFFECT PARAMETER 5 MSB			O *4	X	O
		00-7F	INSERTION EFFECT PARAMETER 5 LSB					
3A	2	00-7F	INSERTION EFFECT PARAMETER 6 MSB			O *4	X	O
		00-7F	INSERTION EFFECT PARAMETER 6 LSB					
3C	2	00-7F	INSERTION EFFECT PARAMETER 7 MSB			O *4	X	O
		00-7F	INSERTION EFFECT PARAMETER 7 LSB					
3E	2	00-7F	INSERTION EFFECT PARAMETER 8 MSB			O *4	X	O
		00-7F	INSERTION EFFECT PARAMETER 8 LSB					
40	2	00-7F	INSERTION EFFECT PARAMETER 9 MSB			O *4	X	O
		00-7F	INSERTION EFFECT PARAMETER 9 LSB					
42	2	00-7F	INSERTION EFFECT PARAMETER 10 MSB			O *4	X	O
		00-7F	INSERTION EFFECT PARAMETER 10 LSB					
TOTAL SIZE	14							

*4 Depends on Insertion Type.

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

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

MIDI Parameter Change table (MULTI PART)

Address (H)	Size (H)	Data (H)	Parameter	Description	XG Default (H)	MIDI Reception	MIDI Transmission	
						Song	Panel (main generation method)	Song
08 nn 00	1	00-20	NOT USED			X	X	X
01	1	00-7F	BANK SELECT MSB	0...127	part 10=7F, other parts=00	O	X	O
02	1	00-7F	BANK SELECT LSB	0...127	00	O	X	O
03	1	00-7F	PROGRAM NUMBER	1...128	00	O	X	O
04	1	00-0F,7F	Rcv CHANNEL	1...16, OFF	Part No.	O	X	O
05	1	00-01	MONO/POLY MODE	MONO, POLY	01	O	X	O
06	1	00-02	SAME NOTE NUMBER KEY ON ASSIGN	SINGLE, MULTI, INST (for Drum)	01	O	X	O
07	1	00-03	PART MODE	NORMAL, DRUM, DRUMS 1...2	part 10=02, other parts=00	O	O (Voice)	O
08	1	28-58	NOTE SHIFT	-24...0...+24 [semitones]	40	O	X	O
09	2	00-0F 00-0F	DETUNE	-12.8...0...+12.7 [Hz] 1st bit 3-0→bit 7-4	08 00	O	X	O
0B	1	00-7F	VOLUME	0...127	64	O	X	O
0C	1	00-7F	VELOCITY SENSE DEPTH	0...127	40	O	O (Function)	O
0D	1	00-7F	VELOCITY SENSE OFFSET	0...127	40	O	O (Function)	O
0E	1	00-7F	PAN	RND, L63...C...R63	40	O	X	O
0F	1	00-7F	NOTE LIMIT LOW	C-2...G8	00	O	X	O
10	1	00-7F	NOTE LIMIT HIGH	C-2...G8	7F	O	X	O
11	1	00-7F	DRY LEVEL	0...127	7F	O	X	O
12	1	00-7F	CHORUS SEND	0...127	00	O	X	O
13	1	00-7F	REVERB SEND	0...127	28	O	X	O
14	1	00-7F	VARIATION SEND	0...127	00	O	X	O
15	1	00-7F	VIBRATO RATE	-64...0...+63	40	O	X	O
16	1	00-7F	VIBRATO DEPTH	-64...0...+63	40	O	X	O
17	1	00-7F	VIBRATO DELAY	-64...0...+63	40	O	X	O
18	1	00-7F	FILTER CUTOFF FREQUENCY	-64...0...+63	40	O	X	O
19	1	00-7F	FILTER RESONANCE	-64...0...+63	40	O	X	O
1A	1	00-7F	EG ATTACK TIME	-64...0...+63	40	O	X	O
1B	1	00-7F	EG DECAY TIME	-64...0...+63	40	O	X	O
1C	1	00-7F	EG RELEASE TIME	-64...0...+63	40	O	X	O
1D	1	28-58	MW PITCH CONTROL	-24...0...+24 [semitones]	40	O	X	O
1E	1	00-7F	MW LOW PASS FILTER CONTROL	-9600...0...+9450 [cent]	40	O	X	O
1F	1	00-7F	MW AMPLITUDE CONTROL	-100...0...+100 [%]	40	O	X	O
20	1	00-7F	MW LFO PMOD DEPTH	0...127	0A	O	X	O
21	1	00-7F	MW LFO FMOD DEPTH	0...127	00	O	X	O
22	1	00-7F	MW LFO AMOD DEPTH	0...127	00	O	X	O
23	1	28-58	BEND PITCH CONTROL	-24...0...+24 [semitones]	42	O	X	O
24	1	00-7F	BEND LOW PASS FILTER CONTROL	-9600...0...+9450 [cent]	40	O	X	O
25	1	00-7F	BEND AMPLITUDE CONTROL	-100...0...+100 [%]	40	O	X	O
26	1	00-7F	BEND LFO PMOD DEPTH	0...127	00	O	X	O
27	1	00-7F	BEND LFO FMOD DEPTH	0...127	00	O	X	O
28	1	00-7F	BEND LFO AMOD DEPTH	0...127	00	O	X	O
TOTAL SIZE	29							

30	1	00-01	Rcv PITCH BEND	OFF, ON	01	O	X	O
31	1	00-01	Rcv CH AFTER TOUCH(CAT)	OFF, ON	01	O	X	O
32	1	00-01	Rcv PROGRAM CHANGE	OFF, ON	01	O	X	O
33	1	00-01	Rcv CONTROL CHANGE	OFF, ON	01	O	X	O
34	1	00-01	Rcv POLY AFTER TOUCH(PAT)	OFF, ON	01	O	X	O
35	1	00-01	Rcv NOTE MESSAGE	OFF, ON	01	O	X	O
36	1	00-01	Rcv RPN	OFF, ON	01	O	X	O
37	1	00-01	Rcv NRPN	OFF, ON	XG mode=01, GM mode=00	O	X	O
38	1	00-01	Rcv MODULATION	OFF, ON	01	O	X	O
39	1	00-01	Rcv VOLUME	OFF, ON	01	O	X	O
3A	1	00-01	Rcv PAN	OFF, ON	01	O	X	O
3B	1	00-01	Rcv EXPRESSION	OFF, ON	01	O	X	O
3C	1	00-01	Rcv HOLD1	OFF, ON	01	O	X	O
3D	1	00-01	Rcv PORTAMENTO	OFF, ON	01	O	X	O
3E	1	00-01	Rcv SOSTENUTO	OFF, ON	01	O	X	O
3F	1	00-01	Rcv SOFT PEDAL	OFF, ON	01	O	X	O
40	1	00-01	Rcv BANK SELECT	OFF, ON	01	O	X	O
41	1	00-7F	SCALE TUNING C	-63...0...+63 [cent]	40	O	O (Function)	O
42	1	00-7F	SCALE TUNING C♯	-63...0...+63 [cent]	40	O	O (Function)	O
43	1	00-7F	SCALE TUNING D	-63...0...+63 [cent]	40	O	O (Function)	O
44	1	00-7F	SCALE TUNING D♯	-63...0...+63 [cent]	40	O	O (Function)	O
45	1	00-7F	SCALE TUNING E	-63...0...+63 [cent]	40	O	O (Function)	O
46	1	00-7F	SCALE TUNING F	-63...0...+63 [cent]	40	O	O (Function)	O
47	1	00-7F	SCALE TUNING F♯	-63...0...+63 [cent]	40	O	O (Function)	O
48	1	00-7F	SCALE TUNING G	-63...0...+63 [cent]	40	O	O (Function)	O
49	1	00-7F	SCALE TUNING G♯	-63...0...+63 [cent]	40	O	O (Function)	O
4A	1	00-7F	SCALE TUNING A	-63...0...+63 [cent]	40	O	O (Function)	O

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

TOTAL SIZE 3F

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

TOTAL SIZE 04

74	1		NOT USED		-	-	-	-
75	1		NOT USED		-	-	-	-
76	1	04-28	EQ BASS FREQUENCY	32...2.0k [Hz]	0C	O	X	O
77	1	1C-3A	EQ TREBLE FREQUENCY	500...16.0k [Hz]	36	O	X	O
78	1		NOT USED		-	-	-	-
79	1		NOT USED		-	-	-	-
7A	1		NOT USED		-	-	-	-
7B	1		NOT USED		-	-	-	-
7C	1		NOT USED		-	-	-	-
7D	1		NOT USED		-	-	-	-
7E	1		NOT USED		-	-	-	-
7F	1		NOT USED		-	-	-	-

TOTAL SIZE 0C

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

TOTAL SIZE 06

nn = PART NUMBER

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

MIDI Parameter Change table (DRUM SETUP)

Address (H)	Size (H)	Data (H)	Parameter	Description	XG Default (H)	MIDI Reception	MIDI Transmission	
						Song	Panel (main generation method)	Song
3n rr 00	1	00-7F	PITCH COARSE	-64...0...+63	40	O	X	O
01	1	00-7F	PITCH FINE	-64...0...+63 [cent]	40	O	X	O
02	1	00-7F	LEVEL	0...127	*5	O	X	O
03	1	00-7F	ALTERNATE GROUP	OFF, 1...127	*5	O	X	O
04	1	00-7F	PAN	RND, L63...C...R63	*5	O	X	O
05	1	00-7F	REVERB SEND	0...127	*5	O	X	O
06	1	00-7F	CHORUS SEND	0...127	*5	O	X	O
07	1	00-7F	VARIATION SEND	0...127	7F	O	X	O
08	1	00-01	KEY ASSIGN	SINGLE, MULTI	00	O	X	O
09	1	00-01	Rcv NOTE OFF	OFF, ON	*5	O	X	O
0A	1	00-01	Rcv NOTE ON	OFF, ON	01	O	X	O
0B	1	00-7F	LOW PASS FILTER CUTOFF FREQUENCY	-64...0...+63	40	O	X	O
0C	1	00-7F	LOW PASS FILTER RESONANCE	-64...0...+63	40	O	X	O
0D	1	00-7F	EG ATTACK RATE	-64...0...+63	40	O	X	O
0E	1	00-7F	EG DECAY1 RATE	-64...0...+63	40	O	X	O
0F	1	00-7F	EG DECAY2 RATE	-64...0...+63	40	O	X	O

TOTAL SIZE 10
*5 Depends on the note.

20	1	00-7F	EQ BASS GAIN	-12...+12 [dB]	40	X	X	X
21	1	00-7F	EQ TREBLE GAIN	-12...+12 [dB]	40	X	X	X
22	1		NOT USED		-	-	-	-
23	1		NOT USED		-	-	-	-
24	1	04-28	EQ BASS FREQUENCY	32...2.0k [Hz]	0C	X	X	X
25	1	1C-3A	EQ TREBLE FREQUENCY	500...16.0k [Hz]	36	X	X	X
26	1		NOT USED		-	-	-	-
27	1		NOT USED		-	-	-	-
28	1		NOT USED		-	-	-	-
29	1		NOT USED		-	-	-	-
2A	1		NOT USED		-	-	-	-
2B	1		NOT USED		-	-	-	-
2C	1		NOT USED		-	-	-	-
2D	1		NOT USED		-	-	-	-

TOTAL SIZE 0E

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

In the following cases, the instrument will initialize all Drum Setups.
• XG SYSTEM ON received
• GM SYSTEM ON received
• GM LEVEL2 SYSTEM ON received
• GS RESET received
• DRUM SETUP RESET received (only when in XG mode)

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

System Exclusive Messages (1)

Application Range	MIDI, Internal Sequencer

Not received when Receive System Exclusive Message Parameters is set to off.
Not transmitted when Transmit System Exclusive Message Parameters is set to off.

System Exclusive Messages (Universal Real Time Messages)

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

<table>
<tr><th rowspan="2">MIDI Event</th><th rowspan="2">Data Format</th><th rowspan="2">MIDI Formats</th><th>MIDI Reception</th><th colspan="2">MIDI Transmission</th></tr>
<tr><th>Song</th><th>Panel (main generation method)</th><th>Song</th></tr>
<tr><td>Channel Pressure (Aftertouch)</td><td>F0 7F XN 09 01 0M PP RR … F7
11110000 F0 = Exclusive status
01111111 7F = Universal Real Time
0xxxnnnn XN = When N is received N=0-F, whichever is received. X=ignored
00001001 09 = Sub-ID #1=Controller Destination Setting
00000001 01 = Sub-ID #2=Controller Type: 01 (Channel Pressure)
0000mmmm 0M = MIDI Channel (00-0F)
0ppppppp PP = Controlled Parameter
0rrrrrrr RR = Data
… …
11110111 F7 = End of Exclusive

Make sure to set both the controlled parameter and the range.
Parameters not set will be restored to their default values.

Control Parameter (pp) | Data (RR) | Description | Default Value
pp=00 Pitch Control | 28H-58H | -24…0…+24 semitones | 40H
pp=01 Filter Cutoff Control | 00H-7FH | -9600…0…+9450 cents | 40H
pp=02 Amplitude Control | 00H-7FH | -100…0…+100% | 40H
pp=03 LFO Pitch Depth | 00H-7FH | 0…127 | 00H
pp=04 LFO Filter Depth | 00H-7FH | 0…127 | 00H
pp=05 LFO Amplitude Depth | 00H-7FH | 0…127 | 00H</td><td>[GM2]</td><td>O</td><td>X</td><td>△ *1</td></tr>
<tr><td>Controller (Control Change)</td><td>F0 7F XN 09 03 0M CC PP RR … F7
11110000 F0 = Exclusive status
01111111 7F = Universal Real Time
0xxxnnnn XN = When N is received N=0-F, whichever is received. X=ignored
00001001 09 = Sub-ID #1=Controller Destination Setting
00000011 03 = Sub-ID #2=Controller Type: 03 (Control Change)
0000mmmm 0M = MIDI Channel (00-0F)
0ccccccc CC = Controller Number (01H-1FH, 40H-5FH)
0ppppppp PP = Controlled Parameter
0rrrrrrr RR = Range
… …
11110111 F7 = End of Exclusive

Make sure to set both the controlled parameter and the range.
Parameters not set will be restored to their default values.

Control Parameter (pp) | Data (RR) | Description | Default Value
pp=00 Pitch Control | 28H-58H | -24…0…+24 semitones | 40H
pp=01 Filter Cutoff Control | 00H-7FH | -9600…0…+9450 cents | 40H
pp=02 Amplitude Control | 00H-7FH | -100…0…+100% | 40H
pp=03 LFO Pitch Depth | 00H-7FH | 0…127 | 00H
pp=04 LFO Filter Depth | 00H-7FH | 0…127 | 00H
pp=05 LFO Amplitude Depth | 00H-7FH | 0…127 | 00H</td><td>[GM2]</td><td>O</td><td>X</td><td>△ *1</td></tr>
<tr><td>Key-Based Instrument Control</td><td>F0 7F XN 0A 01 0M KK CC VV … F7
11110000 F0 = Exclusive status
01111111 7F = Universal Real Time
0xxxnnnn XN = When N is received N=0-F, whichever is received. X=ignored
00001010 0A = Sub-ID #1=Key-Based Instrument Control
00000011 01 = Sub-ID #2=Controller
0000mmmm 0M = MIDI Channel (00-0F)
0kkkkkkk KK = Key Number
0ccccccc CC = Controller Number
0vvvvvvv VV = Value
… …
11110111 F7 = End of Exclusive

Make sure to set both the controlled number and the value.

Control Number (CC) | Value (VV) | Description | Default Value
CC=07H Volume | 00H-7FH | -100…0…+100% | 40H
CC=0AH Pan | 00H-7FH (absolute) | L63…C…R63 | (Preset value)
CC=5BH Reverb Send Level | 00H-7FH (absolute) | 0…Max | (Preset value)
CC=5DH Chorus Send Level | 00H-7FH (absolute) | 0…Max | (Preset value)</td><td>[GM2]</td><td>O</td><td>X</td><td>△ *1</td></tr>
</table>

*1 Changed to XG, and output.

System Exclusive Messages (Universal Non-Real Time Messages)

MIDI Event	Data Format	MIDI Formats	MIDI Reception	MIDI Transmission	
			Song	Panel (main generation method)	Song
GM1 System On	F0 7E XN 09 01 F7 11110000 F0 = Exclusive status 01111110 7E = Universal Non-Real Time 0xxxnnnn XN = When N is received N=0-F, whichever is received. X=ignored 00001001 09 = Sub-ID #1=General MIDI Message 00000001 01 = Sub-ID #2=General MIDI On 11110111 F7 = End of Exclusive	[GM1][GM2]	O	X	△ *1
GM2 System On	F0 7E XN 09 03 F7 11110000 F0 = Exclusive status 01111110 7E = Universal Non-Real Time 0xxxnnnn XN = When N is received N=0-F, whichever is received. X=ignored 00001001 09 = Sub-ID #1=General MIDI Message 00000011 03 = Sub-ID #2=General MIDI2 On 11110111 F7 = End of Exclusive	[GM2]	O	X	△ *1
General MIDI System Off	F0 7E XN 09 02 F7 11110000 F0 = Exclusive status 01111110 7E = Universal Non-Real Time 0xxxnnnn XN = When N is received N=0-F, whichever is received. X=ignored 00001001 09 = Sub-ID #1=General MIDI Message 00000010 02 = Sub-ID #2=General MIDI Off 11110111 F7 = End of Exclusive	[GM1][GM2]	O	X	△ *1
Scale/Octave Tuning	F0 7E XN 08 08 JJ GG MM SS … F7 11110000 F0 = Exclusive status 01111110 7E = Universal Non-Real Time 0xxxnnnn XN = When N is received N=0-F, whichever is received. X=ignored 00001000 08 = Sub-ID #1=MIDI Tuning Standard 00001000 08 = Sub-ID #2=scale/octave tuning 1byte form 0jjjjjjj JJ = Channel/option byte1 bits 0 to 1 = channel 15 to 16 bits 2 to 6 = reserved 0ggggggg GG = Channel byte 2 - bits 0 to 6 = channel 8 to 14 0mmmmmmm MM = Channel byte 2 - bits 0 to 6 = channel 1 to 7 0sssssss SS = 12 byte tuning offset of 12 semitones from C to B 00H means -64cent 40H means 0cent 7FH means +63cent … … 11110111 F7 = End of Exclusive	[GM2]	O	X	△ *1

*1 Changed to XG, and output.

System Exclusive Messages (2)

Application Range	MIDI, Internal Sequencer

System Exclusive Messages (XG)

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

System Exclusive Messages (Others)

MIDI Event	Data Format	MIDI Reception (effective or not for each part)	MIDI Transmission (generated data)	
		Song	Panel (main generation method)	Song
MIDI Master Tuning	F0 43 1n 27 30 00 00 mm ll cc F7 11110000 F0 = Exclusive status 01000011 43 = YAMAHA ID 0001nnnn 1n n= always 0 (when transmit), n=0-F (when receive) 00100111 27 = Model ID of TG100 00110000 30 = Address High 00000000 00 = Address Mid 00000000 00 = Address Low 0000mmmm 0m = Master Tune MSB 00001lll 0l = Master Tune LSB 0ccccccc cc = don't care 11110111 F7 = End of Exclusive	O	X	X

System Exclusive Messages (Preset Voice)

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

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

MIDI Implementation Chart / MIDI-Implementierungstabelle / Tableau d'implémentation MIDI / Gráfico de implementación MIDI

YAMAHA [Silent Piano] Date:09-Jan-2018
Model SC2 MIDI Implementation Chart Version:1.0

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

Notes: *1 For some Voices (such as Piano or Harpsichord Voices), the pitch may not be changed according to the pitch bend setting range.
*2 These Control Change messages cannot be transmitted by panel operations, but can be transmitted by Song playback data.

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

Manual Development Group

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