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DIGITAL WORKSTATION
CLAVIER ARRANGEUR PROFESSIONNEL
ESTACIÓN DE TRABAJO DIGITAL

PSR-S650

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

CHANNEL MESSAGE/REALTIME MESSAGE

○: Transmitted/received.

△: Transmitted when playing a song or style which contains MIDI Events.

×: Not transmitted/received.

MIDI Events	Status byte		1st Data byte		2nd Data byte		Transmitted	Reception				
	Status		Data (HEX)	Parameter	Data (HEX)	Parameter						
Key Off	8nH	(n: channel no.)	kk	Key no. (0-127)	vv	Velocity (0-127)	△	○				
Key On	9nH		kk	Key no. (0-127)	vv	Key On: vv=1-127 Key Off: vv=0	○	○				
Control Change	BnH		0 (00H)	Bank Select MSB	0 (00H)	Normal	○	○				
			8 (08H)		8 (08H)	Mega Voices						
			62 (3EH)		62 (3EH)	ExpansionPack (Drums/Percussion Kit)						
			63 (3FH)		63 (3FH)	ExpansionPack (Normal)						
			64 (40H)		64 (40H)	SFX Voices						
			104 (68H)		104 (68H)	Normal						
			120 (78H)		120 (78H)	GM2 Rhythm						
			121 (79H)		121 (79H)	GM2 Normal						
			126 (7EH)		126 (7EH)	SFX Kit						
			127 (7FH)		127 (7FH)	Drum Kit						
			32 (20H)		32 (20H)	Bank Select LSB			0-127		○	○
			1 (01H)		1 (01H)	Modulation			0-127 (00H...7FH)		△	○
			5 (05H)		5 (05H)	Portamento Time			0-127 (00H...7FH)		△	○
			6 (06H)		6 (06H)	Data Entry MSB			0-127 (00H...7FH)		○	○
			38 (26H)		38 (26H)	Data Entry LSB			0-127 (00H...7FH)		△	○
			7 (07H)		7 (07H)	Main Volume			0-127 (00H...7FH)		○	○
			10 (0AH)		10 (0AH)	Panpot			0-127 (00H...7FH)		○	○
			11 (0BH)		11 (0BH)	Expression			0-127 (00H...7FH)		△	○
			64 (40H)		64 (40H)	Damper (Sustain)			0-127 (00H...7FH)		○	○
			65 (41H)		65 (41H)	Portamento Switch			0-127 (00H...7FH)		△	○
			66 (42H)		66 (42H)	Sostenuto			0-127 (00H...7FH)		△	○
			67 (43H)		67 (43H)	Soft Pedal			0-127 (00H...7FH)		△	○
			71 (47H)		71 (47H)	Harmonic Content			0-127 (00H...7FH)		△	○
			72 (48H)		72 (48H)	Release Time			0-127 (00H...7FH)		○	○
			73 (49H)		73 (49H)	Attack Time			0-127 (00H...7FH)		△	○
			74 (4AH)		74 (4AH)	Brightness			0-127 (00H...7FH)		△	○
			75 (4BH)		75 (4BH)	Decay Time			0-127 (00H...7FH)		△	○
			76 (4CH)		76 (4CH)	Vibrato Rate			0-127 (00H...7FH)		△	○
			77 (4DH)		77 (4DH)	Vibrato Depth			0-127 (00H...7FH)		△	○
			78 (4EH)		78 (4EH)	Vibrato Delay			0-127 (00H...7FH)		△	○
			84 (54H)		84 (54H)	Portamento Control			0-127 (00H...7FH)		△	○
			91 (5BH)		91 (5BH)	Effect1 Depth (Reverb Send Level)			0-127 (00H...7FH)		○	○
93 (5DH)		93 (5DH)	Effect3 Depth (Chorus Send Level)	0-127 (00H...7FH)		○	○					
94 (5EH)		94 (5EH)	Effect4 Depth (Variation Send Level)	0-127 (00H...7FH)		○	○					
96 (60H)		96 (60H)	Increment	0-127 (00H...7FH)		△	○					
97 (61H)		97 (61H)	Decrement	0-127 (00H...7FH)		△	○					
98 (62H)		98 (62H)	NRPN LSB	0-127 (00H...7FH)		△	○					
99 (63H)		99 (63H)	NRPN MSB	0-127 (00H...7FH)								
100 (64H)		100 (64H)	RPN LSB	0-127 (00H...7FH)		○	○					
101 (65H)		101 (65H)	RPN MSB	0-127 (00H...7FH)								
Mode Message	BnH		120 (78H)	All sound off	0		△	○				
			121 (79H)	Reset all controller	0		△	○				
			122 (7AH)	Local control	0-3F: OFF 40-7F: ON		×	○				
			123 (7BH)	All note off	0		△	○				
			124 (7CH)	OMNI OFF (*1)	0		△	○				
			125 (7DH)	OMNI ON	0		△	○				
			126 (7EH)	MONO (*2)	0-16 (00H...10H)		△	○				
			127 (7FH)	POLY (*3)	0		△	○				
<p>●Supplementary Information The Multi-timbre and Poly modes are always active. No change occurs when Omni on, Omni off mode messages are received. *1 Same operation as when receiving All Note Off. *2 Same operation as when receiving All Sound Off. *3 Same operation as when receiving All Sound Off.</p>												
Program Change	CnH		pp	Voice Number	-	-	○	○				
Channel After Touch	DnH		vv		-	-	△	○				
Polyphonic After Tch	AnH		kk		vv		△	×				
Pitch Bend Change	EnH		cc	LSB	dd	MSB	○	○				
RealTime Message	F8H	MIDI Clock	-		-		○	○				
	FAH	Start	-		-		○	○				
	FCH	Stop	-		-		○	○				
	FEH	Active Sens	-		-		○	○				

MIDI PARAMETER CHANGE TABLE

MIDI PARAMETER CHANGE TABLE (SYSTEM)

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value (H)	Transmitted	Reception
0 0 0 1 2 3	4	0000 - 07FF	MASTER TUNE	-102.4 - +102.3[cent] 1st bit3-0→bit15-12 2nd bit3-0→bit11-8 3rd bit3-0→bit7-4 4th bit3-0→bit3-0	00 04 00 00	○	○
4	1	00 - 7F	MASTER VOLUME	0 - 127	7F	△	○
6	1	28 - 58	TRANSPOSE	-24 - +24[semitones] (MIDI value=28H-58H)	40	△	○
7D	n		DRUM SETUP RESET	n=Drum setup number		△	○
7E	0		XG SYSTEM ON	00=XG system ON		△	○
7F	0		ALL PARAMETER RESET	00=ON		×	○

TOTAL SIZE 7

MIDI PARAMETER CHANGE TABLE (EFFECT 1)

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value (H)	Transmitted	Reception
2 1 0	2	00-7F 00-7F	REVERB TYPE MSB REVERB TYPE LSB	Refer to Effect Type List		○	○
2	1	00-7F	REVERB PARAMETER 1				
3	1	00-7F	REVERB PARAMETER 2		Depends on Reverb Type	△	○
4	1	00-7F	REVERB PARAMETER 3		Depends on Reverb Type	△	○
5	1	00-7F	REVERB PARAMETER 4		Depends on Reverb Type	△	○
6	1	00-7F	REVERB PARAMETER 5		Depends on Reverb Type	△	○
7	1	00-7F	REVERB PARAMETER 6		Depends on Reverb Type	△	○
8	1	00-7F	REVERB PARAMETER 7		Depends on Reverb Type	△	○
9	1	00-7F	REVERB PARAMETER 8		Depends on Reverb Type	△	○
0A	1	00-7F	REVERB PARAMETER 9		Depends on Reverb Type	△	○
0B	1	00-7F	REVERB PARAMETER 10		Depends on Reverb Type	△	○
0C	1	00-7F	REVERB RETURN	-∞dB...0dB...+6dB (0...64...127)	40	△	○
0D	1	01-7F	REVERB PAN	L63...C...R63	40	△	○

TOTAL SIZE 0E

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value (H)	Transmitted	Reception
2 1 10	1	00-7F	REVERB PARAMETER 11		Depends on Reverb Type	△	○
11	1	00-7F	REVERB PARAMETER 12		Depends on Reverb Type	△	○
12	1	00-7F	REVERB PARAMETER 13		Depends on Reverb Type	△	○
13	1	00-7F	REVERB PARAMETER 14		Depends on Reverb Type	△	○
14	1	00-7F	REVERB PARAMETER 15		Depends on Reverb Type	△	○
15	1	00-7F	REVERB PARAMETER 16		Depends on Reverb Type	△	○

TOTAL SIZE 06

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value (H)	Transmitted	Reception
2 1 20	2	00-7F 00-7F	CHORUS TYPE MSB CHORUS TYPE LSB	Refer to Effect Type List		○	○
22	1	00-7F	CHORUS PARAMETER 1				
23	1	00-7F	CHORUS PARAMETER 2		Depends on Chorus Type	△	○
24	1	00-7F	CHORUS PARAMETER 3		Depends on Chorus Type	△	○
25	1	00-7F	CHORUS PARAMETER 4		Depends on Chorus Type	△	○
26	1	00-7F	CHORUS PARAMETER 5		Depends on Chorus Type	△	○
27	1	00-7F	CHORUS PARAMETER 6		Depends on Chorus Type	△	○
28	1	00-7F	CHORUS PARAMETER 7		Depends on Chorus Type	△	○
29	1	00-7F	CHORUS PARAMETER 8		Depends on Chorus Type	△	○
2A	1	00-7F	CHORUS PARAMETER 9		Depends on Chorus Type	△	○
2B	1	00-7F	CHORUS PARAMETER 10		Depends on Chorus Type	△	○
2C	1	00-7F	CHORUS RETURN	-∞dB...0dB...+6dB (0...64...127)	40	△	○
2D	1	01-7F	CHORUS PAN	L63...C...R63	40	△	○
2E	1	00-7F	SEND CHORUS TO REVERB	-∞dB...0dB...+6dB (0...64...127)	00	△	○

TOTAL SIZE 0F

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value (H)	Transmitted	Reception
2 1 30	1	00-7F	CHORUS PARAMETER 11		Depends on Chorus Type	△	○
31	1	00-7F	CHORUS PARAMETER 12		Depends on Chorus Type	△	○
32	1	00-7F	CHORUS PARAMETER 13		Depends on Chorus Type	△	○
33	1	00-7F	CHORUS PARAMETER 14		Depends on Chorus Type	△	○
34	1	00-7F	CHORUS PARAMETER 15		Depends on Chorus Type	△	○
35	1	00-7F	CHORUS PARAMETER 16		Depends on Chorus Type	△	○

TOTAL SIZE 06

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value (H)	Transmitted	Reception
2 1 40	2	00-7F	VARIATION TYPE MSB	Refer to Effect Type List		○	○
		00-7F	VARIATION TYPE LSB				
42	2	00-7F	VARIATION PARAMETER 1 MSB		Depends on Variation Type	△	○
		00-7F	VARIATION PARAMETER 1 LSB				
44	2	00-7F	VARIATION PARAMETER 2 MSB		Depends on Variation Type	△	○
		00-7F	VARIATION PARAMETER 2 LSB				
46	2	00-7F	VARIATION PARAMETER 3 MSB		Depends on Variation Type	△	○
		00-7F	VARIATION PARAMETER 3 LSB				
48	2	00-7F	VARIATION PARAMETER 4 MSB		Depends on Variation Type	△	○
		00-7F	VARIATION PARAMETER 4 LSB				
4A	2	00-7F	VARIATION PARAMETER 5 MSB		Depends on Variation Type	△	○
		00-7F	VARIATION PARAMETER 5 LSB				
4C	2	00-7F	VARIATION PARAMETER 6 MSB		Depends on Variation Type	△	○
		00-7F	VARIATION PARAMETER 6 LSB				
4E	2	00-7F	VARIATION PARAMETER 7 MSB		Depends on Variation Type	△	○
		00-7F	VARIATION PARAMETER 7 LSB				
50	2	00-7F	VARIATION PARAMETER 8 MSB		Depends on Variation Type	△	○
		00-7F	VARIATION PARAMETER 8 LSB				
52	2	00-7F	VARIATION PARAMETER 9 MSB		Depends on Variation Type	△	○
		00-7F	VARIATION PARAMETER 9 LSB				
54	2	00-7F	VARIATION PARAMETER 10 MSB		Depends on Variation Type	△	○
		00-7F	VARIATION PARAMETER 10 LSB				
56	1	00-7F	VARIATION RETURN	-∞dB...0dB...+6dB (0...64...127)	40	△	○
57	1	01-7F	VARIATION PAN	L63...C...R63	40	△	○
58	1	00-7F	SEND VARIATION TO REVERB	-∞dB...0dB...+6dB (0...64...127)	00	○	○
59	1	00-7F	SEND VARIATION TO CHORUS	-∞dB...0dB...+6dB (0...64...127)	00	○	○
5A	1	00-01	VARIATION CONNECTION	INSERTION, SYSTEM	00	○	○
5B	1	00-7F	VARIATION PART	Reception: Part1...16 (0...15) Transmitted: Part1...16 (0...15) AD (64) OFF (127)	7F	△	○

TOTAL SIZE 21

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value (H)	Transmitted	Reception
2 1 70	1	00-7F	VARIATION PARAMETER 11		Depends on Variation Type	△	○
71	1	00-7F	VARIATION PARAMETER 12		Depends on Variation Type	△	○
72	1	00-7F	VARIATION PARAMETER 13		Depends on Variation Type	△	○
73	1	00-7F	VARIATION PARAMETER 14		Depends on Variation Type	△	○
74	1	00-7F	VARIATION PARAMETER 15		Depends on Variation Type	△	○
75	1	00-7F	VARIATION PARAMETER 16		Depends on Variation Type	△	○

TOTAL SIZE 06

MIDI PARAMETER CHANGE TABLE (MULTI PART)

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value (H)	Transmitted	Reception
1	1	00 - 7F	BANK SELECT MSB	0...127	part10=7F, other parts=00	△	○
2	1	00 - 7F	BANK SELECT LSB	0...127	00	△	○
3	1	00 - 7F	PROGRAM NUMBER	1...128	00	△	○
4	1	00 - 0F, 7F	Rcv CHANNEL	1...16, OFF	Part No.	△	○
5	1	00 - 01	MONO/POLY MODE	MONO, POLY	01	△	○
6	1	00 - 02	SAME NOTE NUMBER KEY ON ASSIGN	SINGLE, MULTI, INST (for Drum)	01	△	○
7	1	00 - 03	PART MODE	NORMAL, DRUM, DRUMS1...2	part10=02, other parts=00	△	○
8	1	28 - 58	NOTE SHIFT	-24...0...+24[semitones]	40	△	○
9	2	00 - FF	DETUNE	-12.8...0...+12.7[Hz] 1st bit3-0→bit7-4 2nd bit3-0→bit3-0	08 00	△	○
B	1	00 - 7F	VOLUME	0...127	64	△	○
C	1	00 - 7F	VELOCITY SENSE DEPTH	0...127	40	○	○
D	1	00 - 7F	VELOCITY SENSE OFFSET	0...127	40	○	○
E	1	00 - 7F	PAN	RND, L63...C...R63	40	△	○
F	1	00 - 7F	NOTE LIMIT LOW	C-2...G8	00	△	○
10	1	00 - 7F	NOTE LIMIT HIGH	C-2...G8	7F	△	○
11	1	00 - 7F	DRY LEVEL	0...127	7F	○	○
12	1	00 - 7F	CHORUS SEND	0...127	00	△	○
13	1	00 - 7F	REVERB SEND	0...127	28	△	○
14	1	00 - 7F	VARIATION SEND	0...127	00	△	○
15	1	00 - 7F	VIBRATO RATE	-64...0...+63	40	△	○
16	1	00 - 7F	VIBRATO DEPTH	-64...0...+63	40	△	○
17	1	00 - 7F	VIBRATO DELAY	-64...0...+63	40	△	○
18	1	00 - 7F	FILTER CUTOFF FREQUENCY	-64...0...+63	40	△	○
19	1	00 - 7F	FILTER RESONANCE	-64...0...+63	40	△	○
1A	1	00 - 7F	EG ATTACK TIME	-64...0...+63	40	△	○
1B	1	00 - 7F	EG DECAY TIME	-64...0...+63	40	△	○
1C	1	00 - 7F	EG RELEASE TIME	-64...0...+63	40	△	○
1D	1	00 - 7F	MW PITCH CONTROL	-24...0...+24[semitones]	40	△	○
1E	1	00 - 7F	MW FILTER CONTROL	-9600...0...+9450[cent]	40	△	○
1F	1	00 - 7F	MW AMPLITUDE CONTROL	-100...0...+100[%]	40	△	○
20	1	00 - 7F	MW LFO PMOD DEPTH	0...127	0A	△	○
21	1	00 - 7F	MW LFO FMOD DEPTH	0...127	00	△	○
23	1	00 - 7F	BEND PITCH CONTROL	-24...0...+24[semitones]	42	△	○
24	1	00 - 7F	BEND FILTER CONTROL	-9600...0...+9450[cent]	40	△	○
25	1	00 - 7F	BEND AMPLITUDE CONTROL	-100...0...+100[%]	40	△	○
26	1	00 - 7F	BEND LFO PMOD DEPTH	0...127	00	△	○
27	1	00 - 7F	BEND LFO FMOD DEPTH	0...127	00	△	○

TOTAL SIZE 29

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value (H)	Transmitted	Reception
8 nn	30	1 00-01	Rcv Pitch Bend Off/On	OFF, ON	01	△	○
	31	1 00-01	Rcv ch after touch Off/On	OFF, ON	01	△	○
	32	1 00-01	Rcv program change Off/On	OFF, ON	01	△	○
	33	1 00-01	Rcv control change Off/On	OFF, ON	01	△	○
	34	1 00-01	Rcv polyphonic after touch Off/On	OFF, ON	01	△	○
	35	1 00-01	Rcv note message Off/On	OFF, ON	01	△	○
	36	1 00-01	Rcv RPN Off/On	OFF, ON	01	△	○
	37	1 00-01	Rcv NRPN Off/On	OFF, ON	XGmode=01, GMmode=00	△	○
	38	1 00-01	Rcv modulation Off/On	OFF, ON	01	△	○
	39	1 00-01	Rcv volume Off/On	OFF, ON	01	△	○
	3A	1 00-01	Rcv panpot Off/On	OFF, ON	01	△	○
	3B	1 00-01	Rcv expression Off/On	OFF, ON	01	△	○
	3C	1 00-01	Rcv sustain Off/On	OFF, ON	01	△	○
	3D	1 00-01	Rcv portamento Off/On	OFF, ON	01	△	○
	3E	1 00-01	Rcv sostenuto Off/On	OFF, ON	01	△	○
	3F	1 00-01	Rcv soft Off/On	OFF, ON	01	△	○
	40	1 00-01	Rcv bank select Off/On	OFF, ON	01	△	○
	41	1 00-7F	Scale tuning C	-64...0...+63[cent]	40	○	○
	42	1 00-7F	Scale tuning C#	-64...0...+63[cent]	40	○	○
	43	1 00-7F	Scale tuning D	-64...0...+63[cent]	40	○	○
	44	1 00-7F	Scale tuning D#	-64...0...+63[cent]	40	○	○
	45	1 00-7F	Scale tuning E	-64...0...+63[cent]	40	○	○
	46	1 00-7F	Scale tuning F	-64...0...+63[cent]	40	○	○
	47	1 00-7F	Scale tuning F#	-64...0...+63[cent]	40	○	○
	48	1 00-7F	Scale tuning G	-64...0...+63[cent]	40	○	○
	49	1 00-7F	Scale tuning G#	-64...0...+63[cent]	40	○	○

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value (H)	Transmitted	Reception
4A	1	00-7F	Scale tuning A	-64...0...+63[cent]	40	○	○
4B	1	00-7F	Scale tuning A#	-64...0...+63[cent]	40	○	○
4C	1	00-7F	Scale tuning B	-64...0...+63[cent]	40	○	○
4D	1	28-58	Ch aft tch pitch control	-24...0...+24[semitones]	40	△	○
4E	1	00-7F	Ch aft tch filter control	-9600...0...+9450[cent]	40	△	○
4F	1	00-7F	Ch aft tch amplitude control	-100...0...+100[%]	40	△	○
50	1	00-7F	Ch aft tch LFO pitch mod depth	0...127	00	△	○
51	1	00-7F	Ch aft tch LFO frequency mod depth	0...127	00	△	○
67	1	00-01	PORTAMENTO SWITCH	OFF, ON	00	△	○
68	1	00-7F	PORTAMENTO TIME	0...127	00	△	○
69	1	00-7F	PITCH EG INITIAL LEVEL	-64...0...+63	40	△	○
6A	1	00-7F	PITCH EG ATTACK TIME	-64...0...+63	40	△	○
6B	1	00-7F	PITCH EG RELEASE LEVEL	-64...0...+63	40	△	○
6C	1	00-7F	PITCH EG RELEASE TIME	-64...0...+63	40	△	○
6D	1	01-7F	VELOCITY LIMIT LOW	1...127	01	△	○
6E	1	01-7F	VELOCITY LIMIT HIGH	1...127	7F	△	○

TOTAL SIZE 3F

MIDI PARAMETER CHANGE TABLE (DRUM SETUP)

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value (H)	Transmitted	Reception
3n rr 0	1	00-7F	PITCH COARSE	-64...0...+63	40	△	○
1	1	00-7F	PITCH FINE	-64...0...+63[cent]	40	△	○
2	1	00-7F	LEVEL	0...127	Depends on the note	△	○
3	1	00-7F	ALTERNATE GROUP	OFF, 1...127	Depends on the note	△	○
4	1	00-7F	PAN	RND, L63...C...R63	Depends on the note	△	○
5	1	00-7F	REVERB SEND	0...127	Depends on the note	△	○
6	1	00-7F	CHORUS SEND	0...127	Depends on the note	△	○
7	1	00-7F	VARIATION SEND	0...127	7F	△	○
8	1	00-01	KEY ASSIGN	SINGLE, MULTI	00	△	○
9	1	00-01	Rcv NOTE OFF	OFF, ON	Depends on the note	△	○
0A	1	00-01	Rcv 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

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

SYSTEM EXCLUSIVE MESSAGE

MIDI Event	Data Format	Transmitted	Reception																												
Universal System Exclusive																															
MIDI Master Volume	F0H 7FH 7FH 04H 01H ll mm F7H Volume (mm = MSB, ll = LSB) or F0H 7FH XN 04H 01H ll mm F7H When N is received N=0-F, whichever is received. X = Don't Care Volume (mm = MSB, ll = LSB)	△	○																												
GM System On	F0H 7EH 7FH 09H 01H F7H or F0H 7EH XN 09H 01H F7H When N is received N=0-F, whichever is received. X = Don't care.	○	○																												
Master Fine Tuning [GM2]	F0 7F XN 04 03 SS TT F7 11110000 F0 = Exclusive status 01111111 7F = Universal Real Time 0xxxxnnnn XN = When N is received N=0-F, whichever is received. X=ignored 00000100 04 = Sub-ID #1=Device Control Message 00000011 03 = Sub-ID #2=Master Fine Tuning 0sssssss SS = Fine Tuning LSB 0tttttttt TT = Fine Tuning MSB 11110111 F7 = End of Exclusive	△	○																												
Master Coarse Tuning [GM2]	F0 7F XN 04 04 00 TT F7 11110000 F0 = Exclusive status 01111111 7F = Universal Real Time 0xxxxnnnn XN = When N is received N=0-F, whichever is received. X=ignored 00000100 04 = Sub-ID #1=Device Control Message 00000000 04 = Sub-ID #2=Master Coarse Tuning 00000000 00 0tttttttt TT = Coarse Tuning MSB 11110111 F7 = End of Exclusive	△	○																												
Reverb Parameter [GM2]	F0 7F XN 04 05 01 01 01 01 01 PP VV ... F7 11110000 F0 = Exclusive status 01111111 7F = Universal Real Time 0xxxxnnnn 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 00000001 01 = Slot path LSB = 1 (Reverb) 0ppppppp PP = Parameter to be controlled. 0vvvvvvv VV = Value for the Parameter. ... 11110111 F7 = End of Exclusive	△	○																												
Chorus Parameter [GM2]	F0 7F XN 04 05 01 01 01 01 02 PP VV ... F7 11110000 F0 = Exclusive status 01111111 7F = Universal Real Time 0xxxxnnnn 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 00000010 02 = Slot path LSB = 2 (Chorus) 0ppppppp PP = Parameter to be controlled. 0vvvvvvv VV = Value for the Parameter. ... 11110111 F7 = End of Exclusive	△	○																												
Channel Pressure (Aftertouch) [GM2]	F0 7F XN 09 01 0M PP RR ... F7 11110000 F0 = Exclusive status 01111111 7F = Universal Real Time 0xxxxnnnn XN = When N is received N=0-F, whichever is received. X=ignored 00001001 09 = Sub-ID #1=Controller Destination Setting 00000001 01 = Sub-ID #2=Controller Type: 01 (Channel Pressure) 0000mmmm 0M = MIDI Channel (00-0F) 0ppppppp PP = Controlled Parameter 0rrrrrrr RR = Data ... 11110111 F7 = End of Exclusive	△	○																												
<p>Make sure to set both the controlled parameter and the range. Parameters not set will be restored to their default values.</p> <table border="1"> <thead> <tr> <th>Control Parameter (pp)</th> <th>Data (RR)</th> <th>Description</th> <th>Default Value</th> </tr> </thead> <tbody> <tr> <td>pp=00 Pitch Control</td> <td>28H-58H</td> <td>-24...0...+24semitones</td> <td>40H</td> </tr> <tr> <td>pp=01 Filter Cutoff Control</td> <td>00H-7FH</td> <td>-9600...0...+9450cents</td> <td>40H</td> </tr> <tr> <td>pp=02 Amplitude Control</td> <td>00H-7FH</td> <td>-100...0...+100%</td> <td>40H</td> </tr> <tr> <td>pp=03 LFO Pitch Depth</td> <td>00H-7FH</td> <td>0...127</td> <td>00H</td> </tr> <tr> <td>pp=04 LFO Filter Depth</td> <td>00H-7FH</td> <td>0...127</td> <td>00H</td> </tr> <tr> <td>pp=05 LFO Amplitude Depth</td> <td>00H-7FH</td> <td>0...127</td> <td>00H</td> </tr> </tbody> </table>				Control Parameter (pp)	Data (RR)	Description	Default Value	pp=00 Pitch Control	28H-58H	-24...0...+24semitones	40H	pp=01 Filter Cutoff Control	00H-7FH	-9600...0...+9450cents	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
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pp=05 LFO Amplitude Depth	00H-7FH	0...127	00H																												

MIDI Event	Data Format	Transmitted	Reception																												
Controller (Control Change) [GM2]	<p>F0 7F XN 09 03 0M CC PP RR ... F7</p> <p>11110000 F0 = Exclusive status 01111111 7F = Universal Real Time 0xxxxnnnn XN = When N is received N=0-F, whichever is received. X=ignored 00001001 09 = Sub-ID #1=Controller Destination Setting 00000011 03 = Sub-ID #2=Controller Type: 03 (Control Change) 0000mmmm 0M = MIDI Channel (00-0F) 0ccccccc CC = Controller Number (01H-1FH, 40H-5FH) 0pppppppp PP = Controlled Parameter 0rrrrrrrr RR = Range</p> <p>... 11110111 F7 = End of Exclusive</p> <p>Make sure to set both the controlled parameter and the range. Parameters not set will be restored to their default values.</p> <table border="1"> <thead> <tr> <th>Control Parameter (pp)</th> <th>Data (RR)</th> <th>Description</th> <th>Default Value</th> </tr> </thead> <tbody> <tr> <td>pp=00 Pitch Control</td> <td>28H-58H</td> <td>-24...0...+24semitones</td> <td>40H</td> </tr> <tr> <td>pp=01 Filter Cutoff Control</td> <td>00H-7FH</td> <td>-9600...0...+9450cents</td> <td>40H</td> </tr> <tr> <td>pp=02 Amplitude Control</td> <td>00H-7FH</td> <td>-100...0...+100%</td> <td>40H</td> </tr> <tr> <td>pp=03 LFO Pitch Depth</td> <td>00H-7FH</td> <td>0...127</td> <td>00H</td> </tr> <tr> <td>pp=04 LFO Filter Depth</td> <td>00H-7FH</td> <td>0...127</td> <td>00H</td> </tr> <tr> <td>pp=05 LFO Amplitude Depth</td> <td>00H-7FH</td> <td>0...127</td> <td>00H</td> </tr> </tbody> </table>	Control Parameter (pp)	Data (RR)	Description	Default Value	pp=00 Pitch Control	28H-58H	-24...0...+24semitones	40H	pp=01 Filter Cutoff Control	00H-7FH	-9600...0...+9450cents	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	△	○
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Key-Based Instrument Control [GM2]	<p>F0 7F XN 0A 01 0M KK CC VV ... F7</p> <p>11110000 F0 = Exclusive status 01111111 7F = Universal Real Time 0xxxxnnnn XN = When N is received N=0-F, whichever is received. X=ignored 00001010 0A = Sub-ID #1=Key-Based Instrument Control 00000001 01 = Sub-ID #2=Controller 0000mmmm 0M = MIDI Channel (00-0F) 0kkkkkkk KK = Key Number 0ccccccc CC = Controller Number 0vvvvvvvv VV = Value</p> <p>... 11110111 F7 = End of Exclusive</p> <p>Make sure to set both the controlled number and the value.</p> <table border="1"> <thead> <tr> <th>Control Number (CC)</th> <th>Value (VV)</th> <th>Description</th> <th>Default Value</th> </tr> </thead> <tbody> <tr> <td>CC=07H Volume</td> <td>00H-7FH</td> <td>-100...0...+100%</td> <td>40H</td> </tr> <tr> <td>CC=0AH Pan</td> <td>00H-7FH</td> <td>L63...C...R63</td> <td>(Preset value)</td> </tr> <tr> <td>CC=5BH Reverb Send Level</td> <td>00H-7FH</td> <td>0...Max</td> <td>(Preset value)</td> </tr> <tr> <td>CC=5DH Chorus Send Level</td> <td>00H-7FH</td> <td>0...Max</td> <td>(Preset value)</td> </tr> </tbody> </table>	Control Number (CC)	Value (VV)	Description	Default Value	CC=07H Volume	00H-7FH	-100...0...+100%	40H	CC=0AH Pan	00H-7FH	L63...C...R63	(Preset value)	CC=5BH Reverb Send Level	00H-7FH	0...Max	(Preset value)	CC=5DH Chorus Send Level	00H-7FH	0...Max	(Preset value)	△	○								
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GM2 System On [GM2]	<p>F0 7E XN 09 03 F7</p> <p>11110000 F0 = Exclusive status 01111110 7E = Universal Non-Real Time 0xxxxnnnn XN = When N is received N=0-F, whichever is received. X=ignored 00001001 09 = Sub-ID #1=General MIDI Message 00000011 03 = Sub-ID #2=General MIDI2 On 11110111 F7 = End of Exclusive</p>	△	○																												
General MIDI System Off [GM1][GM2]	<p>F0 7E XN 09 02 F7</p> <p>11110000 F0 = Exclusive status 01111110 7E = Universal Non-Real Time 0xxxxnnnn XN = When N is received N=0-F, whichever is received. X=ignored 00001001 09 = Sub-ID #1=General MIDI Message 00000010 02 = Sub-ID #2=General MIDI Off 11110111 F7 = End of Exclusive</p>	×	○																												
Scale/Octave Tuning [GM2]	<p>F0 7E XN 08 08 JJ GG MM SS ... F7</p> <p>11110000 F0 = Exclusive status 01111110 7E = Universal Non-Real Time 0xxxxnnnn XN = When N is received N=0-F, whichever is received. X=ignored 00001000 08 = Sub-ID #1=MIDI Tuning Standard 00001000 08 = Sub-ID #2=scale/octave tuning 1byte form 0jjjjjjjj JJ = Channel/option byte1 bits 0 to 1 = channel 15 to 16 bits 2 to 6 = reserved 0ggggggg GG = Channel byte2 - bits0 to 6 = channel 8 to 14 0mmmmmmmm MM = Channel byte2 - bits0 to 6 = channel 1 to 7 0sssssss SS = 12byte tuning offset of 12 semitones from C to B 00H means -64cent 40H means 0cent 7FH means +63cent</p> <p>... 11110111 F7 = End of Exclusive</p>	△	○																												
XG																															
XG Parameter Changes	<p>F0H 43H 1nH 4CH hh mm ll dd ... F7H</p> <p>hh mm ll Address dd Data</p>	○	○																												
XG Bulk Dump	<p>F0H 43H 0nH 4CH aa bb hh mm ll dd ... dd cc F7H</p> <p>On Device Number n=0 (send), 0 - f (receive) aa bb Byte Count (aa << 7) + bb hh mm ll Address dd Data cc Check SUM</p>	×	○																												
Others																															
Master Tune	<p>F0H 43H 1n 27H 30H 00H 00H mm ll cc F7H</p> <p>1n Channel (0 (Send), 0 - f (receive)) mm ll cc (mm << 4) + ll (1step/1cent), cc = Don't Care</p>	×	○																												

MIDI Implementation Chart / MIDI-Implementationsstabelle / MIDI Implementation Chart / Gráfico de implementación MIDI

YAMAHA [Digital Workstation]
Model PSR-S650

MIDI Implementation Chart

Date:13-SEP-2010
Version:1.0

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

Mode 1 : OMNI ON , POLY
Mode 3 : OMNI OFF, POLY

Mode 2 : OMNI ON , MONO
Mode 4 : OMNI OFF, MONO

o : Yes
x : No