

VIVO SX8 MIDI IMPLEMENTATION

1. Received data

■ Channel Voice Messages

● Note off

Status	2nd byte	3rd byte
8nH	kkH	ccH

n= MIDI channel number: 0H~FH (Ch.1~16)
kk= note number: 00H~7FH (0~127)
cc= note off velocity: 00H~7FH (0~127)

● Note on

Status	2nd byte	3rd byte
9nH	kkH	vvH

n= MIDI channel number: 0H~FH (Ch.1~16)
kk= note number: 00H~7FH (0~127)
vv= note off velocity: 00H~7FH (0~127)

- Not received when Rx.STATUS= OFF. (Initial value is ON)

■ Control Change

● Bank Sound Select (Controller number 0, 32)

Status	2nd byte	3rd byte
BnH	00H	mmH

n= MIDI channel number: 0H~FH (Ch.1~16)
mm= Bank number MSB: 00H~7FH (Initial value= 00H)

● Modulation (Controller number 1)

Status	2nd byte	3rd byte
BnH	01H	vvH

n= MIDI channel number: 0H~FH (Ch.1~16)
vv= Modulation depth: 00H~7FH (0~127)

- Not received when Rx.MODULATION= OFF (Initial value is ON).

● Volume (Controller number 7)

Status	2nd byte	3rd byte
BnH	07H	vvH

n= MIDI channel number 0H~FH (Ch.1~16)
vv= Volume: 00H~7FH (0~127),

- Not received when Rx.VOLUME= OFF (Initial value is ON).

● Panpot (Controller number 10)

Status	2nd byte	3rd byte
BnH	0AH	vvH

n= MIDI channel number: 0H~FH (Ch.1~16)
vv= pan: 00H~40H~7FH (Left~Center~Right). Initial value= 40H (Center)

- Not received when "Panpot" RX is Off

● Expression (Controller number 11)

Status	2nd byte	3rd byte
BnH	0BH	vvH

n= MIDI channel number: 0H~FH (Ch.1~16)
vv= Expression: 00H~7FH (0~127), Initial value= 7FH (127)

- Not received when "Expression" RX is Off.

● Hold (Controller number 64)

Status	2nd byte	3rd byte
BnH	40H	vvH

n= MIDI channel number: 0H~FH (Ch.1~16)
vv= Control value: 00H~7FH (0~127)

- Not received when "Hold" RX is Off.

● Sostenuto (Controller number 66)

Status	2nd byte	3rd byte
BnH	42H	vvH

n= MIDI channel number: 0H~FH (Ch.1~16)
vv= Control value: 00H~7FH (0~127) 0~63= OFF, 64~127= ON

- Not received when "Sostenuto" RX is Off.

● Soft (Controller number 67)

Status	2nd byte	3rd byte
BnH	43H	vvH

n= MIDI channel number: 0H~FH (Ch.1~16)
vv= Control value: 00H~7FH (0~127) 0~63= OFF, 64~127= ON

- Not received when "Soft" RX is Off.

● Reverb Send Level (Controller number 91)

Status	2nd byte	3rd byte
BnH	5BH	vvH

n= MIDI channel number: 0H~FH (Ch.1~16)
vv= Reverb Send Level: 00H~7FH (0~127)

- This message adjusts the Reverb Send Level of each Part.
- Not received when "Reverb" RX is Off.

● Program Change

Status	2nd byte
CnH	ppH

n= MIDI channel number: 0H~FH (Ch.1~16)
pp= Program number: 00H~7FH (prog.1~prog.128)

- Not received when "PG" RX is Off.

● Pitch Bend Change

Status	2nd byte	3rd byte
EnH	llH	mmH

n = MIDI channel number: 0H~FH (Ch.1~16)
mm, ll = Pitch Bend value: 00 00H~40 00H~7F 7FH (-8192~0~+8191)

- Not received when "PB" RX is Off.

● AFTERTOUCH (Channel Pressure)

Status	2nd byte
DnH	vvH

n = MIDI channel number: 0H~FH (Ch.1~16)

vv = value: 00H~7FH (0~127)

- Not received when "Aftersustain" RX is Off.
- The Aftersustain will affect to all notes received in that channel.

■ Channel Mode Messages

● All Sounds Off (Controller number 120)

Status	2nd byte	3rd byte
BnH	78H	00H

n = MIDI channel number: 0H~FH (Ch.1~16)

When the message is received, all notes currently sounding on the corresponding channel will be turned Off.

● Reset All Controllers (Controller number 121)

Status	2nd byte	3rd byte
BnH	79H	00H

n = MIDI channel number: 0H~FH (Ch.1~16)

- When this message is received, the following controllers will be set to their reset values.

Controller Reset value:

Pitch Bend Change +/-0 (center)

Modulation 0 (off)

Expression 127 (max)

Hold 1 0 (off)

Sostenuto 0 (off)

Soft 0 (off)

● All Notes Off (Controller number 123)

Status	2nd byte	3rd byte
BnH	7BH	00H

n = MIDI channel number: 0H~FH (Ch.1~16)
When All Notes Off is received, all notes on the corresponding channel will be turned off. However, if Hold 1 or Sostenuto is ON,

the sound will be continued until these are turned off.

■ Memory RX

Midi Message	Value	Memory
PG	0 ~ 79	NUMBER: 1 ~ 80

- Default MIDI channel is 15

Example:

- to receive Memory 1 send PG=0
- to receive Memory 43 send PG= 42
- Not received when "Memory RX Status" is Off.

■ TONE WHEEL MIDI Messages

● UPPER TW 16' (Controller number 16)

Status	2nd byte	3rd byte
BnH	10H	vvH

n = MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv = Control value: 00H~7FH (0~127)

0H = 0, 10H = 1, 20H = 2, 30H = 3, 40H = 4, 50H = 5, 60H = 7, 70H = 7, 7FH = 8

- Not received when "Organ Control - Status" RX is Off.

● UPPER TW 5 1/3' (Controller number 17)

Status	2nd byte	3rd byte
BnH	11H	vvH

n = MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv = Control value: 00H~7FH (0~127)

0H = 0, 10H = 1, 20H = 2, 30H = 3, 40H = 4, 50H = 5, 60H = 7, 70H = 7, 7FH = 8

- Not received when "Organ Control - Status" RX is Off.

● UPPER TW 8' (Controller number 18)

Status	2nd byte	3rd byte
BnH	12H	vvH

n = MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv = Control value: 00H~7FH (0~127)

0H = 0, 10H = 1, 20H = 2, 30H = 3, 40H = 4, 50H = 5, 60H = 7, 70H = 7, 7FH = 8

- Not received when "Organ Control - Status" RX is Off.

UPPER TW 4' (Controller number 19)

Status	2nd byte	3rd byte
BnH	13H	vvH

n = MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv = Control value: 00H~7FH (0~127)

0H = 0, 10H = 1, 20H = 2, 30H = 3, 40H = 4, 50H = 5, 60H = 7, 70H = 7, 7FH = 8

- Not received when "Organ Control - Status" RX is Off.

● UPPER TW 2 2/3' (Controller number 20)

Status	2nd byte	3rd byte
BnH	14H	vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

0H = 0, 10H = 1, 20H = 2, 30H = 3, 40H = 4, 50H = 5, 60H = 7, 70H = 7, 7FH = 8

- Not received when "Organ Control - Status" RX is Off.

● UPPER TW 2' (Controller number 21)

Status	2nd byte	3rd byte
BnH	15H	vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 2nd byte 3rd byte

0H = 0, 10H = 1, 2 15H vvH

- Not received when "Organ Control - Status" RX is Off.

● UPPER TW 1 3/5' (Controller number 22)

Status	2nd byte	3rd byte
BnH	16H	vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

0H = 0, 10H = 1, 20H = 2, 30H = 3, 40H = 4, 50H = 5, 60H = 7, 70H = 7, 7FH = 8

- Not received when "Organ Control - Status" RX is Off.

● UPPER TW 1 1/3' (Controller number 23)

Status	2nd byte	3rd byte
BnH	17H	vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

0H = 0, 10H = 1, 20H = 2, 30H = 3, 40H = 4, 50H = 5, 60H = 7, 70H = 7, 7FH = 8

- Not received when "Organ Control - Status" RX is Off.

● UPPER TW 1' (Controller number 24)

Status	2nd byte	3rd byte
BnH	18H	vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

0H = 0, 10H = 1, 20H = 2, 30H = 3, 40H = 4, 50H = 5, 60H = 7, 70H = 7, 7FH = 8

- Not received when "Organ Control - Status" RX is Off.

● LOWER TW 16' (Controller number 70)

Status	2nd byte	3rd byte
BnH	46H	vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

0H = 0, 10H = 1, 20H = 2, 30H = 3, 40H = 4, 50H = 5, 60H = 7, 70H = 7, 7FH = 8

- Not received when "Organ Control - Status" RX is Off.

● LOWER TW 5 1/3' (Controller number 71)

Status	2nd byte	3rd byte
BnH	47H	vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

0H = 0, 10H = 1, 20H = 2, 30H = 3, 40H = 4, 50H = 5, 60H = 7, 70H = 7, 7FH = 8

- Not received when "Organ Control - Status" RX is Off.

● LOWER TW 8' (Controller number 72)

Status	2nd byte	3rd byte
BnH	48H	vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

0H = 0, 10H = 1, 20H = 2, 30H = 3, 40H = 4, 50H = 5, 60H = 7, 70H = 7, 7FH = 8

- Not received when "Organ Control - Status" RX is Off.

● LOWER TW 4' (Controller number 73)

Status	2nd byte	3rd byte
BnH	49H	vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

0H = 0, 10H = 1, 20H = 2, 30H = 3, 40H = 4, 50H = 5, 60H = 7, 70H = 7, 7FH = 8

- Not received when "Organ Control - Status" RX is Off.

● LOWER TW 2 2/3' (Controller number 74)

Status	2nd byte	3rd byte
BnH	4AH	vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

0H = 0, 10H = 1, 20H = 2, 30H = 3, 40H = 4, 50H = 5, 60H = 7, 70H = 7, 7FH = 8

- Not received when "Organ Control - Status" RX is Off.

● LOWER TW 2' (Controller number 75)

Status	2nd byte	3rd byte
BnH	4BH	vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

0H = 0, 10H = 1, 20H = 2, 30H = 3, 40H = 4, 50H = 5, 60H = 7, 70H = 7, 7FH = 8

- Not received when "Organ Control - Status" RX is Off.

● LOWER TW 1 3/5' (Controller number 76)

Status	2nd byte	3rd byte
BnH	4CH	vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

0H = 0, 10H = 1, 20H = 2, 30H = 3, 40H = 4, 50H = 5, 60H = 7, 70H = 7, 7FH = 8

- Not received when "Organ Control - Status" RX is Off.

● LOWER TW 1 1/3' (Controller number 77)

Status	2nd byte	3rd byte
BnH	4DH	vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

0H = 0, 10H = 1, 20H = 2, 30H = 3, 40H = 4, 50H = 5, 60H = 7, 70H = 7, 7FH = 8

- Not received when "Organ Control - Status" RX is Off.

LOWER TW 1' (Controller number 78)

Status	2nd byte	3rd byte
BnH	4EH	vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

0H = 0, 10H = 1, 20H = 2, 30H = 3, 40H = 4, 50H = 5, 60H = 7, 70H = 7, 7FH = 8

- Not received when "Organ Control - Status" RX is Off.

PEDAL TW 16' (Controller number 14)

Status	2nd byte	3rd byte
BnH	0EH	vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

0H = 0, 10H = 1, 20H = 2, 30H = 3, 40H = 4, 50H = 5, 60H = 7, 70H = 7, 7FH = 8

- Not received when "Organ Control - Status" RX is Off.

PEDAL TW 5 1/3' (Controller number 15)

Status	2nd byte	3rd byte
BnH	0FH	vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

0H = 0, 10H = 1, 20H = 2, 30H = 3, 40H = 4, 50H = 5, 60H = 7, 70H = 7, 7FH = 8

- Not received when "Organ Control - Status" RX is Off.

PEDAL TW 8' (Controller number 25)

Status	2nd byte	3rd byte
BnH	19H	vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

0H = 0, 10H = 1, 20H = 2, 30H = 3, 40H = 4, 50H = 5, 60H = 7, 70H = 7, 7FH = 8

- Not received when "Organ Control - Status" RX is Off.

PEDAL TW 4' (Controller number 26)

Status	2nd byte	3rd byte
BnH	1AH	vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

0H = 0, 10H = 1, 20H = 2, 30H = 3, 40H = 4, 50H = 5, 60H = 7, 70H = 7, 7FH = 8

- Not received when "Organ Control - Status" RX is Off.

● PEDAL TW 2 2/3' (Controller number 27)

Status	2nd byte	3rd byte
BnH	1BH	vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

0H = 0, 10H = 1, 20H = 2, 30H = 3, 40H = 4, 50H = 5, 60H = 7, 70H = 7, 7FH = 8

- Not received when "Organ Control - Status" RX is Off.

● PEDAL TW 2' (Controller number 28)

Status	2nd byte	3rd byte
BnH	1CH	vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

0H = 0, 10H = 1, 20H = 2, 30H = 3, 40H = 4, 50H = 5, 60H = 7, 70H = 7, 7FH = 8

- Not received when "Organ Control - Status" RX is Off.

● PEDAL TW 1 3/5' (Controller number 29)

Status	2nd byte	3rd byte
BnH	1DH	vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

0H = 0, 10H = 1, 20H = 2, 30H = 3, 40H = 4, 50H = 5, 60H = 7, 70H = 7, 7FH = 8

- Not received when "Organ Control - Status" RX is Off.

● PEDAL TW 1 1/3' (Controller number 30)

Status	2nd byte	3rd byte
BnH	1EH	vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

0H = 0, 10H = 1, 20H = 2, 30H = 3, 40H = 4, 50H = 5, 60H = 7, 70H = 7, 7FH = 8

- Not received when "Organ Control - Status" RX is Off.

● PEDAL TW 1' (Controller number 31)

Status	2nd byte	3rd byte
BnH	1FH	vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

0H = 0, 10H = 1, 20H = 2, 30H = 3, 40H = 4, 50H = 5, 60H = 7, 70H = 7, 7FH = 8

- Not received when "Organ Control - Status" RX is Off.

● TW Percussion ON/OFF (Controller number 87)

Status	2nd byte	3rd byte
BnH	57H	vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

00H = Off, 7FH = On

- Not received when "Organ Control - Status" RX is Off.

● TW Percussion NORMAL/SOFT (Controller number 88)

Status	2nd byte	3rd byte
BnH	58H	vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

00H = Normal, 7FH = Soft

- Not received when "Organ Control - Status" RX is Off.

● TW Percussion Time SLOW/FAST (Controller number 89)

Status	2nd byte	3rd byte
BnH	59H	vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

00H = Slow, 7FH = Fast

- Not received when "Organ Control - Status" RX is Off.

● TW Percussion Harmonic 2nd/3rd (Controller number 95)

Status	2nd byte	3rd byte
BnH	5FH	vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

00H = 2nd, 7FH = 3rd

- Not received when "Organ Control - Status" RX is Off.

● TW Vibrato Mode (Controller number 84)

Status	2nd byte	3rd byte
BnH	54H	vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

00H = 2nd, 7FH = 3rd

- Not received when "Organ Control - Status" RX is Off.

● TW Vibrato On/Off (Controller number 69)

Status	2nd byte	3rd byte
BnH	45H	vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

00H = 2nd, 7FH = 3rd

- Not received when "Organ Control - Status" RX is Off.

● TW Rotary On/Off (Controller number 80)

Status	2nd byte	3rd byte
BnH	50H	vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

00H = 2nd, 7FH = 3rd

- Not received when "Organ Control - Status" RX is Off.

● TW Rotary Brake On/Off (Controller number 81)

Status	2nd byte	3rd byte
BnH	51H	vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

00H = 2nd, 7FH = 3rd

- Not received when "Organ Control - Status" RX is Off.

● TW Rotary Slow/Fast (Controller number 82)

Status	2nd byte	3rd byte
BnH	52H	vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

00H = 2nd, 7FH = 3rd

- Not received when "Organ Control - Status" RX is Off.

● TW Overdrive On/Off (Controller number 83)

Status	2nd byte	3rd byte
BnH	53H	vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

00H = 2nd, 7FH = 3rd

- Not received when "Organ Control - Status" RX is Off.

● TW Overdrive Level (Controller number 90)

Status	2nd byte	3rd byte
BnH	5AH	vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

00H = 2nd, 7FH = 3rd

- Not received when "Organ Control - Status" RX is Off.

● TW Overdrive Drive (Controller number 92)

Status	2nd byte	3rd byte
BnH	5CH	vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

00H = 2nd, 7FH = 3rd

- Not received when "Organ Control - Status" RX is Off.

● TW Overdrive Tone (Controller number 94)

Status	2nd byte	3rd byte
BnH	5EH	vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

00H = 2nd, 7FH = 3rd

- Not received when "Organ Control - Status" RX is Off.

2. Transmitted data

■ Control Change

● Bank Select (Controller number 0, 32)

Status	2nd byte	3rd byte
BnH	00H	mmH
BnH	20H	llH

n = MIDI channel number: 0H~FH (Ch.1~16)

mm = Bank number MSB: 00H~7FH

ll = Bank number LSB: 00H~7FH

- Not transmitted when "PG" TX is Off.

● Modulation (Controller number 1)

Status	2nd byte	3rd byte
BnH	01H	vvH

n = MIDI channel number: 0H~FH (Ch.1~16)

vv = Modulation depth: 00H~7FH (0~127)

- Not transmitted when "Modulation" TX is OFF.

● Volume (Controller number 7)

Status	2nd byte	3rd byte
BnH	07H	vvH

n = MIDI channel number 0H~FH (Ch.1~16)

vv = Volume: 00H~7FH (0~127), Initial value= 64H (100)

- Not transmitted when "Volume" TX is off.

● Pan (Controller number 10)

Status	2nd byte	3rd byte
BnH	0AH	vvH

n = MIDI channel number: 0H~FH (Ch.1~16)

vv = pan: 00H~40H~7FH (Left~Center~Right),

- Not transmitted when "PanPot" RX is Off

● Expression (Controller number 11)

Status	2nd byte	3rd byte
BnH	0BH	vvH

n = MIDI channel number: 0H~FH (Ch.1~16)

vv = Expression: 00H~7FH (0~127), Initial value= 7FH (127)

- This adjusts the volume of a Part. It can be used independently from volume messages. Expression messages are used for musical expression within a performance, e.g., expression pedal movements, crescendo and decrescendo.
- Not transmitted when "Expression" TX is Off.

● Hold (Controller number 64)

Status	2nd byte	3rd byte
BnH	40H	vvH

n = MIDI channel number: 0H~FH (Ch.1~16)

vv = Control value: 00H~7FH (0~127)

- Not transmitted when "Hold" TX is Off.

● Sostenuto (Controller number 66)

Status	2nd byte	3rd byte
BnH	42H	vvH

n = MIDI channel number: 0H~FH (Ch.1~16)

vv = Control value: 00H~7FH (0~127) 0~63= OFF, 64~127= ON

- Not transmitted when "Sostenuto" TX is Off.

● Soft (Controller number 67)

Status	2nd byte	3rd byte
BnH	43H	vvH

n = MIDI channel number: 0H~FH (Ch.1~16)

vv = Control value: 00H~7FH (0~127) 0~63= OFF, 64~127= ON

- Not transmitted when "Soft" TX is Off.

● Reverb Send Level (Controller number 91)

Status	2nd byte	3rd byte
BnH	5BH	vvH

n = MIDI channel number: 0H~FH (Ch.1~16)

vv = Reverb Send Level: 00H~7FH (0~127)

- This message adjusts the Reverb Send Level of each Part.
- Not transmitted when "Reverb" TX is Off.

● Program Change

Status	2nd byte
CnH	ppH

n = MIDI channel number: 0H~FH (Ch.1~16)

pp = Program number: 00H~7FH (prog.1~prog.128)

- Not transmitted when "PG" TX is Off.

● Pitch Bend Change

Status	2nd byte	3rd byte
EnH	llH	mmH

n = MIDI channel number: 0H~FH (Ch.1~16)

mm, *ll* = Pitch Bend value: 00 00H~40 00H~7F 7FH (-8192~0~+8191)

- Not transmitted when "PB" TX is Off.

● AFTERTOUCHE (Channel Pressure)

Status 2nd byte

DnH vvH

n= MIDI channel number: 0H~FH (Ch.1~16)

vv= value: 00H~7FH (0~127)

- Not transmitted when "Aftertouch" TX is Off.
- The Aftertouch will affect to all notes playing in that channel.

● UPPER TW 2 2/3' (Controller number 20)

Status 2nd byte 3rd byte

BnH 14H vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

0H = 0, 10H = 1, 20H = 2, 30H = 3, 40H = 4, 50H = 5, 60H = 7, 70H = 7, 7FH = 8

- Not transmitted when "Organ Control - Status" TX is Off.

■ Memory TX

Midi Message	Value	Memory
PG	0 ~ 79	NUMBER: 1 ~ 80

- Default MIDI channel is 15
- Not transmitted when "Memory TX Status" is Off.

● UPPER TW 2' (Controller number 21)

Status 2nd byte 3rd byte

BnH 15H vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

0H = 0, 10H = 1, 20H = 2, 30H = 3, 40H = 4, 50H = 5, 60H = 7, 70H = 7, 7FH = 8

- Not transmitted when "Organ Control - Status" TX is Off.

■ TONE WHEEL MIDI Messages

● UPPER TW 16' (Controller number 16)

Status 2nd byte 3rd byte

BnH 10H vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

0H = 0, 10H = 1, 20H = 2, 30H = 3, 40H = 4, 50H = 5, 60H = 7, 70H = 7, 7FH = 8

- Not transmitted when "Organ Control - Status" TX is Off.

● UPPER TW 1 3/5' (Controller number 22)

Status 2nd byte 3rd byte

BnH 16H vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

0H = 0, 10H = 1, 20H = 2, 30H = 3, 40H = 4, 50H = 5, 60H = 7, 70H = 7, 7FH = 8

- Not transmitted when "Organ Control - Status" TX is Off.

● UPPER TW 5 1/3' (Controller number 17)

Status 2nd byte 3rd byte

BnH 11H vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

0H = 0, 10H = 1, 20H = 2, 30H = 3, 40H = 4, 50H = 5, 60H = 7, 70H = 7, 7FH = 8

- Not transmitted when "Organ Control - Status" TX is Off.

● UPPER TW 1 1/3' (Controller number 23)

Status 2nd byte 3rd byte

BnH 17H vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

0H = 0, 10H = 1, 20H = 2, 30H = 3, 40H = 4, 50H = 5, 60H = 7, 70H = 7, 7FH = 8

- Not transmitted when "Organ Control - Status" TX is Off.

● UPPER TW 8' (Controller number 18)

Status 2nd byte 3rd byte

BnH 12H vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

0H = 0, 10H = 1, 20H = 2, 30H = 3, 40H = 4, 50H = 5, 60H = 7, 70H = 7, 7FH = 8

- Not transmitted when "Organ Control - Status" TX is Off.

● UPPER TW 1' (Controller number 24)

Status 2nd byte 3rd byte

BnH 18H vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

0H = 0, 10H = 1, 20H = 2, 30H = 3, 40H = 4, 50H = 5, 60H = 7, 70H = 7, 7FH = 8

- Not transmitted when "Organ Control - Status" TX is Off.

● UPPER TW 4' (Controller number 19)

Status 2nd byte 3rd byte

BnH 13H vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

0H = 0, 10H = 1, 20H = 2, 30H = 3, 40H = 4, 50H = 5, 60H = 7, 70H = 7, 7FH = 8

- Not transmitted when "Organ Control - Status" TX is Off.

● LOWER TW 16' (Controller number 70)

Status 2nd byte 3rd byte

BnH 46H vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

0H = 0, 10H = 1, 20H = 2, 30H = 3, 40H = 4, 50H = 5, 60H = 7, 70H = 7, 7FH = 8

- Not transmitted when "Organ Control - Status" TX is Off.

● LOWER TW 5 1/3' (Controller number 71)

Status	2nd byte	3rd byte
BnH	47H	vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

0H = 0, 10H = 1, 20H = 2, 30H = 3, 40H = 4, 50H = 5, 60H = 7, 70H = 7, 7FH = 8

- Not transmitted when "Organ Control - Status" TX is Off.

● LOWER TW 8' (Controller number 72)

Status	2nd byte	3rd byte
BnH	48H	vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

0H = 0, 10H = 1, 20H = 2, 30H = 3, 40H = 4, 50H = 5, 60H = 7, 70H = 7, 7FH = 8

- Not transmitted when "Organ Control - Status" TX is Off.

● LOWER TW 4' (Controller number 73)

Status	2nd byte	3rd byte
BnH	49H	vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

0H = 0, 10H = 1, 20H = 2, 30H = 3, 40H = 4, 50H = 5, 60H = 7, 70H = 7, 7FH = 8

- Not transmitted when "Organ Control - Status" TX is Off.

● LOWER TW 2 2/3' (Controller number 74)

Status	2nd byte	3rd byte
BnH	4AH	vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

0H = 0, 10H = 1, 20H = 2, 30H = 3, 40H = 4, 50H = 5, 60H = 7, 70H = 7, 7FH = 8

- Not transmitted when "Organ Control - Status" TX is Off.

● LOWER TW 2' (Controller number 75)

Status	2nd byte	3rd byte
BnH	4BH	vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

0H = 0, 10H = 1, 20H = 2, 30H = 3, 40H = 4, 50H = 5, 60H = 7, 70H = 7, 7FH = 8

- Not transmitted when "Organ Control - Status" TX is Off.

● LOWER TW 1 3/5' (Controller number 76)

Status	2nd byte	3rd byte
BnH	4CH	vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

0H = 0, 10H = 1, 20H = 2, 30H = 3, 40H = 4, 50H = 5, 60H = 7, 70H = 7, 7FH = 8

- Not transmitted when "Organ Control - Status" TX is Off.

● LOWER TW 1 1/3' (Controller number 77)

Status	2nd byte	3rd byte
BnH	4DH	vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

0H = 0, 10H = 1, 20H = 2, 30H = 3, 40H = 4, 50H = 5, 60H = 7, 70H = 7, 7FH = 8

- Not transmitted when "Organ Control - Status" TX is Off.

● LOWER TW 1' (Controller number 78)

Status	2nd byte	3rd byte
BnH	4EH	vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

0H = 0, 10H = 1, 20H = 2, 30H = 3, 40H = 4, 50H = 5, 60H = 7, 70H = 7, 7FH = 8

- Not transmitted when "Organ Control - Status" TX is Off.

● PEDAL TW 16' (Controller number 14)

Status	2nd byte	3rd byte
BnH	0EH	vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

0H = 0, 10H = 1, 20H = 2, 30H = 3, 40H = 4, 50H = 5, 60H = 7, 70H = 7, 7FH = 8

- Not transmitted when "Organ Control - Status" TX is Off.

● PEDAL TW 5 1/3' (Controller number 15)

Status	2nd byte	3rd byte
BnH	0FH	vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

0H = 0, 10H = 1, 20H = 2, 30H = 3, 40H = 4, 50H = 5, 60H = 7, 70H = 7, 7FH = 8

- Not transmitted when "Organ Control - Status" TX is Off.

● PEDAL TW 8' (Controller number 25)

Status	2nd byte	3rd byte
BnH	19H	vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

0H = 0, 10H = 1, 20H = 2, 30H = 3, 40H = 4, 50H = 5, 60H = 7, 70H = 7, 7FH = 8

- Not transmitted when "Organ Control - Status" TX is Off.

● PEDAL TW 4' (Controller number 26)

Status	2nd byte	3rd byte
BnH	1AH	vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

0H = 0, 10H = 1, 20H = 2, 30H = 3, 40H = 4, 50H = 5, 60H = 7, 70H = 7, 7FH = 8

- Not transmitted when "Organ Control - Status" TX is Off.

● PEDAL TW 2 2/3' (Controller number 27)

Status	2nd byte	3rd byte
BnH	1BH	vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

0H = 0, 10H = 1, 20H = 2, 30H = 3, 40H = 4, 50H = 5, 60H = 7, 70H = 7, 7FH = 8

- Not transmitted when "Organ Control - Status" TX is Off.

● PEDAL TW 2' (Controller number 28)

Status	2nd byte	3rd byte
BnH	1CH	vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

0H = 0, 10H = 1, 20H = 2, 30H = 3, 40H = 4, 50H = 5, 60H = 7, 70H = 7, 7FH = 8

- Not transmitted when "Organ Control - Status" TX is Off.

● PEDAL TW 1 3/5' (Controller number 29)

Status	2nd byte	3rd byte
BnH	1DH	vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

0H = 0, 10H = 1, 20H = 2, 30H = 3, 40H = 4, 50H = 5, 60H = 7, 70H = 7, 7FH = 8

- Not transmitted when "Organ Control - Status" TX is Off.

● PEDAL TW 1 1/3' (Controller number 30)

Status	2nd byte	3rd byte
BnH	1EH	vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

0H = 0, 10H = 1, 20H = 2, 30H = 3, 40H = 4, 50H = 5, 60H = 7, 70H = 7, 7FH = 8

- Not transmitted when "Organ Control - Status" TX is Off.

● PEDAL TW 1' (Controller number 31)

Status	2nd byte	3rd byte
BnH	1FH	vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

0H = 0, 10H = 1, 20H = 2, 30H = 3, 40H = 4, 50H = 5, 60H = 7, 70H = 7, 7FH = 8

- Not transmitted when "Organ Control - Status" TX is Off.

● TW Percussion ON/OFF (Controller number 87)

Status	2nd byte	3rd byte
BnH	57H	vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H-7FH (0-127)

00H = Off, 7FH = On

- Not received when "Organ Control - Status" RX is Off.

● TW Percussion NORMAL/SOFT (Controller number 88)

Status	2nd byte	3rd byte
BnH	58H	vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

00H = Normal, 7FH = Soft

- Not received when "Organ Control - Status" RX is Off.

● TW Percussion Time SLOW/FAST (Controller number 89)

Status	2nd byte	3rd byte
BnH	59H	vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

00H = Slow, 7FH = Fast

- Not received when "Organ Control - Status" RX is Off.

● TW Percussion Harmonic 2nd/3rd (Controller number 95)

Status	2nd byte	3rd byte
BnH	5FH	vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

00H = 2nd, 7FH = 3rd

- Not transmitted when "Organ Control - Status" TX is Off.

● TW Rotary On/Off (Controller number 80)

Status	2nd byte	3rd byte
BnH	50H	vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

00H = 2nd, 7FH = 3rd

- Not transmitted when "Organ Control - Status" TX is Off.

● TW Rotary Slow/Fast (Controller number 82)

Status	2nd byte	3rd byte
BnH	52H	vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

00H = 2nd, 7FH = 3rd

- Not transmitted when "Organ Control - Status" TX is Off.

● TW Rotary Brake On/Off (Controller number 81)

Status	2nd byte	3rd byte
BnH	51H	vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

00H = 2nd, 7FH = 3rd

- Not transmitted when "Organ Control - Status" TX is Off.

● TW Vibrato Mode (Controller number 84)

Status 2nd byte 3rd byte

BnH 54H vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

00H = 2nd, 7FH = 3rd

- Not transmitted when "Organ Control - Status" TX is Off.

● TW Vibrato On/Off (Controller number 69)

Status 2nd byte 3rd byte

BnH 45H vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

00H = 2nd, 7FH = 3rd

- Not transmitted when "Organ Control - Status" TX is Off.

● TW Overdrive On/Off (Controller number 83)

Status 2nd byte 3rd byte

BnH 53H vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

00H = 2nd, 7FH = 3rd

- Not transmitted when "Organ Control - Status" TX is Off.

● TW Overdrive Drive (Controller number 92)

Status 2nd byte 3rd byte

BnH 5CH vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

00H = 2nd, 7FH = 3rd

- Not transmitted when "Organ Control - Status" TX is Off.

● TW Overdrive Level (Controller number 90)

Status 2nd byte 3rd byte

BnH 5AH vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

00H = 2nd, 7FH = 3rd

- Not transmitted when "Organ Control - Status" TX is Off.

● TW Overdrive Tone (Controller number 94)

Status 2nd byte 3rd byte

BnH 5EH vvH

n= MIDI channel number: 0H~FH (Ch.1~16); default midi ch.14

vv= Control value: 00H~7FH (0~127)

00H = 2nd, 7FH = 3rd

- Not transmitted when "Organ Control - Status" TX is Off.