VIVO S10_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: $OH\sim FH$ (Ch.1~16) $vv=Modulation\ depth:\ OOH\sim 7FH\ (O\sim 127)$

• 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) $vv=Volume: 00H~7FH (0^2127),$

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

• Panpot (Controller number 10)

Status 2nd byte 3rd byte

BnH 0AH vvH $n=MIDI\ channel\ number:\ OH^FH\ (Ch.1^16)$ $vv=pan:\ OOH^4OH^7FH\ (Left^Center^Right).\ Initial\ value=\ 40H\ (Center)$

• Not received when "Panpot" RX is Off

Expression (Controller number 11)

Status 2nd byte 3rd byte

BnH 0BH vvH $n=MIDI\ channel\ number:\ OH^FH\ (Ch.1^16)$ $vv=Expression:\ OOH^7FH\ (O^127),\ Initial\ value=7FH\ (127)$

• Not received when "Expression" RX is Off.

Hold (Controller number 64)

Status 2nd byte 3rd byte BnH 40H vvH n=MIDI channel number: $0H^{\sim}FH$ ($Ch.1^{\sim}16$) $vv=Control\ value: 00H^{\sim}7FH$ ($0^{\sim}127$) • 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= 0FF, 64~127= 0N

VV- Control value: 0011 7111 (0 127) 0 03-011, 04 127-0

• Not received when "Sostenuto" RX is Off.

● Soft (Controller number 67)

Status 2nd byte 3rd byte

BnH 43H vvH $n=MIDI\ channel\ number:\ OH^FH\ (Ch.1^16)$ $vv=Control\ value:\ OOH^7FH\ (0^127)\ 0^63=OFF,\ 64^127=ON$

• 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: $OH^{\sim}FH$ (Ch.1~16) vv=Reverb Send Level: $OOH^{\sim}7FH$ ($O^{\sim}127$)

- 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 IIH mmH n=MIDI channel number: OH^*FH (Ch.1~16)

mm, II= 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 "Aftertouch" RX is Off.
- The Aftertouch 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: $OH^{\sim}FH$ (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

BnH

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

When this mess 2nd byte 3rd byte
 their reset values. 79H 00H

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

BnH

n= MIDI channel number: $OH^{\sim}FH$ (Ch. $1^{\sim}16$)

When All Notes O, 2nd byte 3rd byte

will be turned off. 7BH 00H

be continued until these are turned off.

■System Realtime Messages

Active Sensing

Status

FEH

• This message is received at intervals of approximately 250 ms.

■ Memory RX

Midi Message	Value	Memory
CC00	0~8	BANK : 1~9
PG	0~8	NUMBER: 1~9

• Default MIDI channel is 15

Example:

- to receive Memory 1.1 send CC00=0, PG=0
- to receive Memory 4.2 send CC00=3, PG=1
- Not received when "Memory RX Status" is Off.

■TONE WHEEL MIDI Messages

MAIN 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)

OH = 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.

● MAIN 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)

OH = 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.

● MAIN 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)

OH = 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.

MAIN 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)

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

● MAIN 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)

OH = 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.

MAIN 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 byte3rd byte0H = 0, 10H = 1, 2: 15HvvH

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

MAIN 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)

OH = 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.

MAIN 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)

OH = 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.

• MAIN 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)

OH = 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)

OH = 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)

OH = 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)

OH = 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)

OH = 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)

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

● 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)

OH = 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)

OH = 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)

OH = 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)

OH = 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)

OH = 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)

OH = 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)

OH = 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)

OH = 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)

OH = 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

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 $n=MIDI\ channel\ number:\ OH^FH\ (Ch.1^16);\ default\ midi\ ch.14$ $vv=Control\ value:\ OOH^7FH\ (O^127)$

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: $0H^{\sim}FH$ (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=EH (Ch. 1=16): default midi.

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

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

00H = 2nd, 7FH = 3rd

2.Trasmitted 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)

■ Control Change

Bank Select (Controller number 0, 32)

 Status
 2nd byte
 3rd byte

 BnH
 00H
 mmH

 BnH
 20H
 IIH

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

 II= 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: $OH^{\sim}FH$ ($Ch.1^{\sim}16$) vv=Modulation depth: $OOH^{\sim}7FH$ ($O^{\sim}127$)

• Not transmitted when "Modulation" TX is OFF.

Volume (Controller number 7)

Status 2nd byte 3rd byte

BnH 07H vvH n=MIDI channel number 0H $^{\sim}$ FH (Ch.1 $^{\sim}$ 16) $vv=Volume: 00H^{\sim}$ 7FH (0 $^{\sim}$ 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: OH^*FH ($Ch.1^*16$) $vv=pan: OOH^*4OH^*7FH$ ($Left^*Center^*Right$), • Not transmitted when "PanPot" TX 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: $OH^{\sim}FH$ ($Ch.1^{\sim}16$) $vv=Control\ value: OOH^{\sim}7FH$ ($O^{\sim}127$)
• Not transmitted when "Hold" TX is Off.

• Sostenuto (Controller number 66)

Status 2nd byte 3rd byte

BnH 42H vvH $n=MIDI\ channel\ number:\ OH^FH\ (Ch.1^16)$ $vv=Control\ value:\ OOH^7FH\ (0^127)\ 0^63=OFF,\ 64^127=ON$

• Not transmitted when "Sostenuto" TX is Off.

•Soft (Controller number 67)

Status 2nd byte 3rd byte

BnH 43H vvH $n=MIDI\ channel\ number:\ OH^FH\ (Ch.1^16)$ $vv=Control\ value:\ OOH^7FH\ (O^127)\ O^63=OFF,\ 64^127=ON$

• Not transmitted when "Soft" TX is Off.

Reverb Send Level (Controller number 91)

Status 2nd byte 3rd byte

BnH 5BH vvH $n=MIDI\ channel\ number:\ OH^FH\ (Ch.1^16)$ $v=Reverb\ Send\ Level:\ OOH^7FH\ (O^127)$

- 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 IIH mmH n=MIDI channel number: $OH^{\sim}FH$ (Ch.1~16)

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

• Not trasmitted when "PB" TX is Off.

AFTERTOUCH (Channel Pressure)

Status 2nd byte

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.

■ TONE WHEEL MIDI Messages

• MAIN 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)

OH = 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.

• MAIN 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.

• MAIN 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.

MAIN 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)

OH = 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.

●MAIN 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)

OH = 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.

● MAIN 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)

OH = 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.

MAIN 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)

OH = 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.

● MAIN 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)

OH = 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.

● MAIN 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.

■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)

OH = 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)

OH = 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)

OH = 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 $^{\sim}$ FH (Ch.1 $^{\sim}$ 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)

OH = 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.

● 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)

OH = 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)

OH = 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 $n=MIDI\ channel\ number:\ OH^FH\ (Ch.1^16);\ default\ midi\ ch.14$

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

OH = 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.

● 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)

OH = 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)

OH = 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)

OH = 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)

OH = 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)

OH = 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)

OH = 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: $00H^{\sim}7FH$ ($0^{\sim}127$) 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 $^{\sim}$ FH (Ch.1 $^{\sim}$ 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: $0H^{\sim}FH$ (Ch.1 $^{\sim}16$); 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.

■System Realtime Messages

Active Sensing

Status

FEH

- This message is transmitted at intervals of approximately 250 ms.
- Not transmitted when "Active sensing" is Off.

■ Memory TX

Midi Message	Value	Memory
CC00	0~9	BANK: 1,2,3,4,5,6,7,8,9
PG	0~9	NUMBER: 1,2,3,4,5,6,7,8,9

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

MIDI CONTROLLERS

Midi Controllers S1~S9 (assignable from CC1 to CC127)

Status 2nd byte 3rd byte

BnH 01H~7FH vvH

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

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

- Not transmitted when "Midi Control" button is off.
- Each midi controller is assignable from CC1 to CC127

● Midi Controllers C1~C6 (assignable from CC1 to CC127)

Status 2nd byte 3rd byte

BnH 01H $^{\sim}$ 7FH vvH

n= MIDI channel number 0H $^{\sim}$ FH (Ch.1 $^{\sim}$ 16)

vv= Control Value: 00H $^{\sim}$ 7FH (0 $^{\sim}$ 127),

- Not transmitted when "C1~C6 to MIDI" button is off.
- Each midi controller is assignable from CC1 to CC127