VIVO S7/S3 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 Rx.PANPOT= OFF (Initial value is ON).

● 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 Rx.EXPRESSION = OFF. (Initial value is ON)

● 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 Rx.HOLD = OFF. (Initial value is ON)

● 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 Rx.SOSTENUTO= OFF. (Initial value is ON)

● 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 Rx.SOFT= OFF. (Initial value is ON)

● 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 Rx.REVERB= OFF. (Initial value is ON)

● 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 Rx.PG= OFF. (Initial value is ON)

- **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 Rx.PB= OFF. (Initial value is ON)

■ 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.

■ System Realtime Messages

- **Active Sensing**

Status

FEH

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

■ Memory RX

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

• 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.

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	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),

• The stereo position can be adhusted in 127 steps.

• 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.

● CC 2~6 (General Control)

Status	2nd byte	3rd byte
BnH	5DH	vvH

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

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

- **CC 8, 9 (General Control)**

Status	2nd byte	3rd byte
BnH	5DH	vvH

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

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

- **CC 12~63 (General Control)**

Status	2nd byte	3rd byte
BnH	5DH	vvH

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

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

- **CC 68~90 (General Control)**

Status	2nd byte	3rd byte
BnH	5DH	vvH

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

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

- **CC 92~119 (General Control)**

Status	2nd byte	3rd byte
BnH	5DH	vvH

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

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

- **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 Event is Off.

■ 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)

- **Reset All Controllers (Controller number 121)**

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

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

- **Local ON/OFF (Controller number 122)**

Status	2nd byte	3rd byte
BnH	7AH	vvH

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

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

- **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.

- **OMNI OFF (Controller number 124)**

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

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

- **OMNI ON (Controller number 125)**

Status	2nd byte	
BnH	7DH	00H

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

- **MONO (Controller number 126)**

Status	2nd byte	
BnH	7EH	mmH

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

mm= mono number: 00H~10H (0~16)

- **POLY (Controller number 127)**

Status	2nd byte	
BnH	7FH	00H

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

■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	0~8	BANK : 1,2,3,4,5,6,7,8,9
PG	0~8	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 C1~C4 (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 “C1~C4 to MIDI” button is off.

• Each midi controller is assignable from CC1 to CC127