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CASIO PX-765 MIDI Implementation User Guide

**PX-765 MIDI Implementation
User Guide**

Contents

PX-765 MIDI Implementation

PX-765/AP-265
MIDI Implementation
CASIO COMPUTER CO., LTD.

Part 1
Overview

Product Configuration as a MIDI Device

As a MIDI device, this Instrument consists of the System Section, Sound Generator Section, and Performance Controller Section described below. Each of these sections can send and receive specific MIDI Messages in accordance with its function.

1.1 System Section

The System Section manages the Instrument status.

1.2 Performance Controller Section

The Performance Controller Section performs generates performance messages in accordance with key- board play and pedal operations, tee. Basically, generated performance messages are sent to external destinations while also being transmitted to the Sound Generator Section. The channel number of the sent channel message is in accordance with the Instrument's part number.

1.3 Sound Generator Section

The Sound Generator Section mainly performs receive of performance information and sound source setting information. Tt consists of a common part that does not depend on the channel and a musical instrument part that is independent of each channel.

1.3.1 Sound Generator Common Block

The common block consists of system effects, master control, etc. These can be controlled by general universal system exclusive messages, or the Instrument's system exclusive messages or all.

1.3.2 Instrument Part Block

The instrument part section consists of a total of 32 instrument parts. The settings of each part can be changed using channel messages or Instrument's system exclusive messages or all. The functions assigned to each part are shown below. The MIDI send channel and MIDI receive channel can be changed using the Instrument's MIDI settings.

Part Number	Part Name	MIDI Receive Ch	MIDI Send Ch	Assigned Function	Description
00	A01	–	01(Note1)	Keyboard	Upper1(Main)/
					(Right-side

					keyboard in the
					Duet Mode)
01	A02	–	02	Keyboard	Upper2(Layer)
02	A03	–	03	Keyboard	Lower1(Split)/
					(Left-side
					keyboard in the
					Duet Mode)
03	A04	–	–	–	
04	A05	–	05	Recorder Play	Track1 main
05	A06	–	06	Recorder Play	Track1 layer
06	A07	–	07	Recorder Play	Track1 split
07	A08	–	–	Metronome/	
				Count	
08	A09	–	–		
09	A10	–	–		
10	A11	–	–		
11	A12	–	–		
12	A13	–	–		
13	A14	–	–		
14	A15	–	04	Recorder Play	Track2
15	A16	–	–	–	–
16	B01	01	–	MIDI/Song Play	Ch.01
17	B02	02	–	MIDI/Song Play	Ch.02
18	B03	03	–	MIDI/Song Play	Ch.03 (Left hand track)
19	B04	04	–	MIDI/Song Play	Ch.04 (Right hand track)
20	B05	05	–	MIDI/Song Play	Ch.05
21	B06	06	–	MIDI/Song Play	Ch.06
22	B07	07	–	MIDI/Song Play	Ch.07
23	B08	08	–	MIDI/Song Play	Ch.08
24	B09	09	–	MIDI/Song Play	Ch.09
25	B10	10	–	MIDI/Song Play	Ch.10
26	B11	11	–	MIDI/Song Play	Ch.11

27	B12	12	–	MIDI/Song Play	Ch.12
28	B13	13	–	MIDI/Song Play	Ch.13
29	B14	14	–	MIDI/Song Play	Ch.14
30	B15	15	–	MIDI/Song Play	Ch.15
31	B16	16	–	MIDI/Song Play	Ch.16

Note: Can be changed by Keyboard Channel setting

## Conditions that Disable Message Send and Receive

No MIDI messages at all can be sent or received while "Please Wait …" is on the display.

Part I1
Channel Message
Instrument Velocity Resolution The upper seven bits of the 14-bit resolution correspond to the Note On/Off message, while the lower seven bits correspond to the High Resolution Velocity Prefix message.

Note On/Off	High Resolution Velocity Prefix
Upper 7 bits	Lower 7 bits

14bits
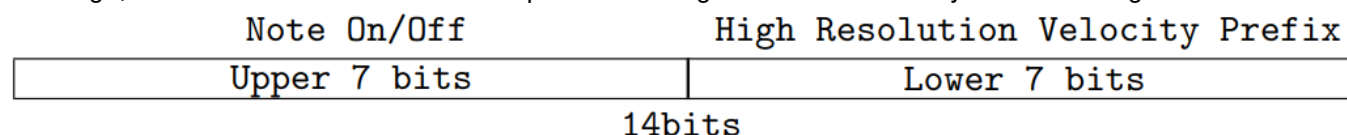
The initial default value for the lower 7 bits is 00H. Receipt of a High Resolution Prefix message causes the lower seven bits to be set, but note on/off is not performed.
Receipt of a Note On/Off message causes the upper seven bits to be set with note on/off performed with 14-bit resolution Velocity.
The High Resolution Velocity Prefix message corresponds the message immediately following the Note On/Off message, and the lower seven bits are cleared to 00H immediately following note on/off by the Note On/Off message. 7-bit resolution note on/off using only the Note On/Off message also continues to be supported.
For details about each message, see " 3 Note O Prefix". Note On", and "5.18 High Resolution Velocity

Note Off

Format

```
Message Format:   8nH kkH vvH
                  9nH kkH 00H(receive only)
            n:    MIDI Channel Number
           kk:    Key Number
           vv:    Velocity
```

Transmit Sent when something is played on the keyboard. The key number changes in accordance with on the Transpose function and Octave Shift function.
Receive Receipt stops a note being sounded by a note on message.
'When a High Resolution Velocity Prefix message is received immediately prior to the Note Off message and the lower seven bits of the 14-bit Velocity are set, the 14-bit resolution note off of the note being sounded is performed.

For information about the relationship between the Note On/Off message and High Resolution Velocity Prefix message, see "Instrument Velocity Resolution" at the beginning of part II.

Note off by making the Note On Velocity 00H is identical to note off by the combination of High Resolution Velocity prefix message 40H and Note Off Message 40H.

Note: This Instrument has a function that assumes connection of an external device that sends Note Off Velocity as a fixed value. Note Off Velocity 00H is replaced with 40H until a Note Off message with a Velocity value other than 00H is received. This function is enabled when the Instrument is turned on, and disabled by receipt of a Note Off message with a Velocity value other than 00H.

Note On

```
Message Format:   9nH kkH vvH
              n:   MIDI Channel Number
             kk:   Key Number
             vv:   Velocity
```

Transmit Sent when something is played on the keyboard. The key number changes in accordance with on the Transpose function and Octave Shift function.

Receive Receipt sounds a note of the corresponding instrument part.

'When a High Resolution Velocity Prefix message is received immediately prior to the Note On message and the lower seven bits of the 14-bit Velocity are set, the 14-bit resolution note on is performed.

For information about the relationship between the Note On/Off message and High Resolution Velocity Prefix message, see "Instrument Velocity Resolution" at the beginning of part II.

Control Change

```
Message Format:   BnH ccH vvH
              n:   MIDI Channel Number
             cc:   Control Number
             vv:   Value
```

For details about messages, see each section of this manual that covers them.

5.1 Bank Select (00H,20H)

```
Message Format:   BnH 00H mmH (MSB)
                  BnH 20H llH (LSB)
              n:   MIDI Channel Number
             mm:   MSB Value(Note1)
             ll:   LSB Value(Transmit:00H, Receive:Ignored)
```

Note: For details about the relationship between the MSB value and the tone, see the Tone List that comes with the Instrument.

Transmit Sent when a tone number is selected. For information about numbers, see the Tone List in the User's Guide.

Receive Receipt causes a change in the tone bank number stored in Instrument memory, but the tone is not actually changed until a Program Change message is received. For details, see "6 Program Change".

5.2 Modulation (01H)

```
Message Format:   BnH 01H vvH
                n:   MIDI Channel Number
               vv:   Value
```

Receive Receipt adds, to the tone being sounded, the case of a tone that already has modulation applied nodulation of a depth specified by the value. In , receipt of this message increases the modulation depth. The modulation effect differs according to the tone being used.

5.3 Portamento Time(05H)

```
Message Format:   BnH 05H vvH
                n:   MIDI Channel Number
               vv:   Value
```

Receive Receipt changes the portamento application time.

5.4 Data Entry (06H,26H)

```
Message Format:   BnH 06H mmH (MSB)
                  BnH 26H llH (LSB)
                n:   MIDI Channel Number
               mm:   MSB Value
               ll:   LSB Value
```

Transmit Sent when there is a change to the parameter assigned to RPN. For details about information assigned to parameters that correspond to RPN, see "5.22 RPN". This Instrument does not have a parameter that corresponds to NRPN.
Receive Receipt changes the parameter assigned to RPN.

5.5 Volume (07H)

```
Message Format:   BnH 07H vvH
                n:   MIDI Channel Number
               vv:   Value
```

Transmit Sent when layer balance or lower volume is adjusted.
Receive Receipt changes the part volume.

5.6 Pan (0AH)

```
Message Format:   BnH 0AH vvH
                n:   MIDI Channel Number
               vv:   Value(Note1)
```

Note: For information about the relationship between setting values and send/receive values, see "11.4 Pan Setting Value
Table" in "IV Setting Values and Send/Receive Values" Transmit Sent when Music Library play is stopped.

Receive Receipt changes the pan of the corresponding part.

5.7 Expression (0BH)

Message Format:	BnH 0BH vvH
n:	MIDI Channel Number
vv:	Value

Receive Receipt changes the Expression value.

5.8 Hold (40H)

Message Format:	BnH 40H vvH
n:	MIDI Channel Number
vv:	Value

Transmit Sent when a pedal that has a sustain (damper) function is operated.
Receive Receipt performs an operation equivalent to a sustain pedal operation.

5.9 Portamento On/Off(41H)

Message Format:	BnH 41H vvH
n:	MIDI Channel Number
vv:	Value (Note1)

Notel: For information about the relationship between setting values and send/receive values, see the "11.1 Off/On Setting
Value Table" in "IV Setting Values and Send/Receive Values" of this document.
Receive Receipt changes the portamento on/off setting.

5.10 Sostenuto (42H)

Message Format:	BnH 42H vvH
n:	MIDI Channel Number
vv:	Value (Note1)

Note: For information about the relationship between setting values and send/receive values, see the "11.1 Off/On
Setting Value Table" in "IV Setting Values and Send/Receive Values" of this document.
Transmit Sent when a pedal that has a sostenuto function is operated.
Receive Receipt performs an operation equivalent to a sostenuto pedal operation.

5.11 Soft (43H)

Message Format:	BnH 43H vvH
n:	MIDI Channel Number
vv:	Value (Note1)

Note: For information about the relationship between setting values and send/receive values, see the "11.1 Off/On
Setting
Value Table" in "IV Setting Values and Send/Receive Values" of this document.
Transmit Sent when a pedal that has a soft function is operated.

Receive Receipt performs an operation equivalent to a soft pedal operation.

5.12 Release Time (48H)

Message Format:	BnH 48H vvH
n:	MIDI Channel Number
vv:	Value (Note1)

Note: For information about the relationship between setting values and send/receive values, see the "11.3 64 – 0 – +63 Setting Value Table" in "IV Setting Values and Send /Receive Values® of this document, Receive Receipt makes a relative change in the time it takes for a note to decay to zero after a key is released.

5.13 Attack Time (49H)

Message Format:	BnH 49H vvH
n:	MIDI Channel Number
vv:	Value (Note1)

Note: For information about the relationship between setting values and send/receive values, see the "11.3 64 – 0 – +63
Setting Value Table" in "IV Setting Values and Send /Receive Values® of this document, Receive Receipt makes a relative change in the time it takes for a note to rise to its maximum level.

5.14 Vibrato Rate (4CH)

Message Format:	BnH 4CH vvH
n:	MIDI Channel Number
vv:	Value (Note1)

Note: For information about the relationship between setting values and send/receive values, see the "11.3 64 – 0 – +63
Setting Value Table" in "IV Setting Values and Send /Receive Values® of this document,
Receive Receipt changes the note vibrato rate.

5.15 Vibrato Depth (4DH)

Message Format:	BnH 4DH vvH
n:	MIDI Channel Number
vv:	Value (Note1)

Note: For information about the relationship between setting values and send/receive values, see the "11.3 64 – 0 – +63
Setting Value Table" in "IV Setting Values and Send /Receive Values® of this document,
Receive Receipt changes the degree of pitch modulation.

5.16 Vibrato Delay (4EH)

```
Message Format:   BnH 4EH vvH
                n:   MIDI Channel Number
               vv:   Value (Note1)
```

Note: For information about the relationship between setting values and send/receive values, see the "11.3 64 – 0 – +63 Setting Value Table" in "IV Setting Values and Send /Receive Values® of this document,
Receive Receipt changes the time it takes until note vibrato starts.

5.17 Portamento Control(54H)

```
Message Format:   BnH 54H vvH
                n:   MIDI Channel Number
               vv:   Source Key Number
```

Receive Receipt of this message first stores the Source Note Number for the next note. When the next Note On is received, the portamento effect is applied to the note using this Source Note Number as the pitch start point and the Note On event key number as the end point. If there already is a note being sounded by Source Note Number at this time, the new note on is not performed and the portamento effect is applied to the pitch of the note being sounded. That is to say that legato play is performed.

5.18 High Resolution Velocity Prefix (58H)

```
Message Format:   BnH 58H vvH
                n:   MIDI Channel Number
               vv:   Value
```

Transmit Sends the lower seven bits of 14-bit Velocity when a key is pressed or released.
Receive Receipt is handled, in combination with the following Note On/Off message, as the lower seven bits of 14-bit Velocity. For information about the relationship between the Note On/Off message and High Resolution Velocity Prefix message, see "Instrument Velocity Resolution" at the beginning of part TI.

5.19 Reverb Send (5BH)

```
Message Format:   BnH 5BH vvH
                n:   MIDI Channel Number
               vv:   Value
```

Transmit Sent when Music Library play (etc.) is operated.
Receive Receipt changes the reverb send of the corresponding part.

5.20 Chorus Send (5DH)

```
Message Format:   BnH 5DH vvH
                n:   MIDI Channel Number
               vv:   Value
```

Transmit Sent when Music Library play (etc.) is operated.
Receive Receipt changes the chorus send of the corresponding part.

5.21 NRPN (62H,63H)

```
Message Format:    BnH 62H llH (LSB)
                   BnH 63H mmH (MSB)
              ─────────────────────────────
              n:   MIDI Channel Number
             ll:   LSB Value
             mm:   MSB Value
```

5.21.1 Assignable Functions to NRPN

This Instrument does not assign any parameters to NRPN.

5.22 RPN (64H,65H)

```
Message Format:    BnH 64H llH (LSB)
                   BnH 65H mmH (MSB)
              ─────────────────────────────
              n:   MIDI Channel Number
             ll:   LSB Value
             mm:   MSB Value
```

5.22.1 Pitch Bend Sensitivity

```
Message Format:    BnH 64H 00H
                   BnH 65H 00H
                   BnH 06H mmH
                   BnH 26H llH
              ─────────────────────────────
              n:   MIDI Channel Number
             mm:   MSB Value(00H - 18H)
             ll:   LSB Value(Transmit:00H, Receive:Ignored)
```

Receive Receipt changes Pitch Bend Sensitivity.

5.22.2 Fine Tune

```
Message Format:   BnH 64H 01H
                  BnH 65H 00H
                  BnH 06H mmH
                  BnH 26H 11H
```
```
              n:  MIDI Channel Number
             mm:  MSB Value
             ll:  LSB Value
```

Receive Receipt changes Channel Fine Tune.
5.22.3 Coarse Tune

```
Message Format:   BnH 64H 02H
                  BnH 65H 00H
                  BnH 06H mmH
                  BnH 26H 11H
```
```
              n:  MIDI Channel Number
             mm:  MSB Value(28H - 58H)
             ll:  LSB Value(Transmit:00H, Receive:Ignored)
```

Receive Receipt changes Channel Coarse Tune.
5.22.4 Null

```
Message Format:   BnH 64H 7FH
                  BnH 65H 7FH
```
```
              n:  MIDI Channel Number
```

Transmit Sent when an RPN message send operation is performed.
Receive Receipt de-selects RPN.
5.23 All Sound Off (78H)

```
Message Format:   BnH 78H 00H
```
```
              n:  MIDI Channel Number
```

Receive Receipt stops all voices that are sounding.
5.24 Reset All Controllers (79H)

```
Message Format:   BnH 79H 00H
```
```
              n:  MIDI Channel Number
```

Transmit Sent when MIDI send related settings are changed.
Receive Receipt initializes each performance controller.

5.25 All Notes Off (7BH)

Message Format: BnH 7BH 00H

n: MIDI Channel Number

Transmit Sent when MIDI send related settings are changed.
Receive Receipt releases (key release) all voices that are sounding.

5.26 Omni Off (7CH)

Message Format: BnH 7CH 00H

n: MIDI Channel Number

Receive Receipt performs the same operation as when All Notes Off is received.
Regardless of the reception of this message, the instrument always operates as Omni Off mode.

5.27 Omni On (7DH)

Message Format: BnH 7DH 00H

n: MIDI Channel Number

Receive Receipt performs the same operation as when All Notes Off is received. Regardless of the reception of this message, the instrument always operates as Omni Off mode.

5.28 Mono (7EH)

Message Format: BnH 7EH 00H

n: MIDI Channel Number

Receive Receipt performs the same operation as when All Notes Off is received. Regardless of the reception of this message, the instrument always operates as Poly mode.

5.29 Poly (7FH)

Message Format: BnH 7FH 00H

n: MIDI Channel Number

Receive Receipt performs the same operation as when All Notes Off is received. Regardless of the reception of this message, the instrument always operates as Poly mode.

Program Change

Message Format: CnH ppH

n: MIDI Channel Number

pp: Program Number (Note1)

Note: For details about the relationship between the program number and the tone, see the Tone List that comes

with the Instrument.

Transmit Sent when a tone number is selected.

Receive Receipt changes the tone of the corresponding part. The selected tone is determined by the program value of this message and the Bank Select message value received prior to this message.

Channel After Touch

```
Message Format:   DnH vvH
              n:  MIDI Channel Number
             vv:  Value
```

Receive Receipt adds, to the tone being sounded, modulation of a depth specified by the value. TN the case of a tone that already has modulation applied, receipt of this message increases the modulation depth. The modulation effect differs according to the tone being used.

Pitch Bend

```
Message Format:   EnH llH mmH
              n:  MIDI Channel Number
             ll:  Value LSB
             mm:  Value MSB
```

Receive Receipt changes the pitch of the currently sounding note. Pitch bend change sensitivity depends on the pitch bend sensitivity configured with RPN.

Part III
System Message

Active Sensing

Message Format: FEH
Transmit This message is never sent.
Receive Once this message is received, the Active Sensing mode is entered. If no MIDI message is received for a specified amount of time, voices being sounded by this Instrument's sound source are released, the controller is reset, and the Active Sensing mode is exited.

System Exclusive Message

```
Message Format:   F0H iiH ddH....F7H
             ii:  ID Number
             dd:  Device ID
```

The Instrument sends and receives standard universal system exclusive messages, and system exclusive messages that have Instrument-specific formats.

ID Number The ID numbers handed by this Instrument are shown below.

ID Number	ID Name
44	Casio Computer Co. Ltd
7EH	Non Real Time System Exclusive Message
7FH	Real Time System Exclusive Message

Device ID The device ID is used mainly for individual control of multiple devices. When a System Exclusive message is sent, the sending device sends messages that include a value that matches the device ID of the sending device. When a System Exclusive message is received, the receiving device receives only messages that include a value that matches the receiving device ID. The device ID 7FH is a special value, and receipt is always performed whenever the device ID of cither the receiving device or the message is 7FH. MIDI Device ID is one of Spec Parameter and can be changed by the System Exclusive Message. Device ID of MIDI System Exclusive Message in this case should be sent is set to 7FH. (Initial Value:7FH)

10.1 Universal Real Time System Exclusive Message

```
Message Format:   F0H 7FH ddH....F7H

            dd:   Device ID
```

10.1.1 Master Volume

```
Message Format:   F0H 7FH ddH 04H 01H 11H mmH F7H

            dd:   Device ID

            ll:   LSB Value(Receive:Ignored)

            mm:   MSB Value
```

Receive Receipt changes the Master Volume.

10.1.2 Master Fine Tuning

```
Message Format:   F0H 7FH ddH 04H 03H 11H mmH F7H

            dd:   Device ID

            ll:   LSB Value(Note1)

            mm:   MSB Value(Note1)
```

Note: For information about the relationship between setting values and send/receive values, see "11.5 Fine Tuning Setting
Value Table" in "IV Setting Values and Send/Receive Values" of this document,
Transmit This message is sent when the tuning setting is changed.
Receive Receipt changes the tuning setting.

10.1.3 Master Coarse Tuning

```
Message Format:   F0H 7FH ddH 04H 04H 11H mmH F7H

            dd:   Device ID

            ll:   LSB Value(Transmit:00H,Receive:Ignored)

            mm:   MSB Value(28H - 58H)
```

Receive Receipt changes the Patch Master Coarse Tune parameter.

10.1.4 Reverb Type

Message Format: F0H 7FH ddH 04H 05H 01H 01H 01H 01H 01H 00H vvH F7H

        dd: Device ID

        vv: Value(Note1)

Note: For information about the relationship between setting values and send /receive values, see "11.6 Reverb Type Setting
Value Table" in "IV Setting Values and Send/Receive Values" of this document, Transmit This message is sent when the reverb type is changed. This Instrument treats a hall simulator as a reverb,
Receive Receipt changes the reverb type.

10.1.5 Reverb Time

Message Format:	FOH 7FH ddH 04H O5H O1H O1H O1H O1H O1H O1H vvH F7H
dd:	Device ID
vv:	Value

Receive Receipt changes the Reverb duration.

10.1.6 Chorus Type

Message Format:	FOH 7FH 7FH 04H O5H O1H O1H O1H O1H 02H OOH vvH F7H
dd:	Device ID
vv:	Value(Note)

Note: For information about the relationship between setting values and send/receive values, see "11.7 Chorus Type Setting
Value Table" in "IV Setting Values and Send/Receive Values" of this document,
Transmit This message is sent when the chorus type is changed.
Receive Receipt changes the chorus type.

10.1.7 Modulation Rate

Message Format:	FOH 7FH ddH 04H O5H O1H O1H O1H O1H 02H O1H vvH F7H
dd:	Device ID
vv:	Value

Receive Receipt changes the Chorus Rate.

10.1.8 Modulation Depth

Message Format:	FOH 7FH ddH 04H O5H O1H O1H O1H O1H 02H 02H vvH F7H
dd:	Device ID
vv:	Value

Receive Receipt changes the chorus level setting.

10.1.9 Send To Reverb

Message Format:	FOH 7FH ddH 04H O5H O1H O1H O1H O1H 02H 04H vvH F7H
dd:	Device ID
vv:	Value

Receive Receipt changes the Chorus Sent To Reverb setting.

10.2 Universal Non Real Time System Exclusive Message

Message Format:	FOH 7EH ddH….F7H
dd:	Device ID

10.2.1 GM System On

Message Format:	FOH 7EH ddH O9H O1H F7H
dd:	Device ID

Receive Receipt puts the settings of sound source into the default of this instrument.

10.2.2 GM System Off

Message Format:	FOH 7EH ddH O9H 02H F7H
dd:	Device ID

Receive Receipt changes the sound source setting to the Instrument presetting.

10.2.3 GMz2 System On

Message Format:	FOH 7EH ddH O9H O3H F7H
dd:	Device ID

Receive Though the Instrument does not support GM2, receipt of the GM2 System On message has the same result as receipt of the GM System On message.

Part IV
Setting Values and Send/ Receive Values

Setting Value Tables

11.1 Off/On Setting Value Table

Transmit Value	Receive Value	Parameter
O00H	O00H – 3FH	off
TFH	40H – TFH	On

11.2 Sustain Pedal Setting Value Table

Transmit Value 00H	Receive Value	Parameter
B	00H	off
:	:	(continuous)
7FH	TFH	Full

11.3 —64 – 0 – +63 Setting Value Table

Transmit Value	Receive Value	Parameter
00H	00H	-64
:	:	:
40H	40H	0
:	:	:
7FH	7FH	+63

11.4 Pan Setting Value Table

Transmit Value	Receive Value	Parameter
00H	00H	Left
:	:	:
40H	40H	Center
:	:	:
7FH	7FH	Right

11.5 Fine Tuning Setting Value Table

Transmit Value	Receive Value	Parameter
(LSB, MSB)		
(43H, 00H)	(OCH, O0H) – (SFH, 00H)	415.5 Hz
(65H, 00H)	(60H, O0H) – (7FH, 00H)	415.6 Hz
(O7H, 01H)	(OCH, O1H) – (1FH, 01H)	415.7 Hz
(29H, 01H)	(20H, O1H) – (3FH, O1H)	415.8 Hz
:	:	:
(40H, 3FH)	(30H, 3FH) – (4FH, 3FH)	439.8 Hz
(60H, 3FH)	(50H, 3FH) – (6FH, 3FH)	439.9 Hz
(00H, 40H)	(70H, 3FH) – (1FH, 40H)	440.0 Hz
(20H, 40H)	(20H, 40H) – (3FH, 40H)	440.1 Hz
(40H, 40H)	(40H, 40H) – (SFH, 40H)	440.2 Hz
:	:	:
(54H, 7TEH)	(50H, 7EH) – (6FH, 7EH)	465.6 Hz
(73H, 7EH)	(70H, 7EH) – (OFH, 7FH)	465.7 Hz
(11H, 7FH)	(10H, 7FH) – (2FH, 7FH)	465.8 Hz
(30H, 7FH)	(30H, 7FH) – (7FH, 7FH)	465.9 Hz

11.6 Reverb Type Setting Value Table

Transmit Value	Receive Value	Parameter
00H	00H	Off
01H	01H	Hall Simulator1
02H	02H	Hall Simulator2
03H	03H	Hall Simulator3
04H	04H	Hall Simulator4

11.7 Chorus Type Setting Value Table

Transmit Value	Receive Value	Parameter
00H	00H	Off
01H	01H	Light Cho
02H	02H	Chorus
03H	03H	FB Chorus
04H	04H	Flinger

Part V
MIDI Implementation Notation

Value Notation

12.1 Hexadecimal Notation
MIDI implementation sometimes requires that data be expressed in hexadecimal format. Hexadecimal values are indicated by the letter "H" after the value. The hexadecimal equivalents of decimal values 10 through 15 are expressed as the letters A through F.
The table below shows the hexadecimal equivalents for decimal values 0 through 127, which are often used in MIDI messages.

Decimal	Hexadecimal	Decimal	Hexadecimal	Decimal	Hexadecimal	Decimal	Hexadecimal
0	00H	32	20H	64	40H	96	60H
1	01H	33	21H	65	41H	97	61H
2	02H	34	22H	66	42H	98	62H
3	03H	35	23H	67	43H	99	63H
4	04H	36	24H	68	44H	100	64H
5	05H	37	25H	69	45H	101	65H
6	06H	38	26H	70	46H	102	66H
7	07H	39	27H	71	47H	103	67H
8	08H	40	28H	72	48H	104	68H
9	09H	41	29H	73	49H	105	69H
10	0AH	42	2AH	74	4AH	106	6AH
11	0BH	43	2BH	75	4BH	107	6BH
12	0CH	44	2CH	76	4CH	108	6CH
13	0DH	45	2DH	77	4DH	109	6DH
14	0EH	46	2EH	78	4EH	110	6EH
15	0FH	47	2FH	79	4FH	111	6FH
16	10H	48	30H	80	50H	112	70H

17	11H	49	31H	81	51H	113	71H
18	12H	50	32H	82	52H	114	72H
19	13H	51	33H	83	53H	115	73H
20	14H	52	34H	84	54H	116	74H
21	15H	53	35H	85	55H	117	75H
22	16H	54	36H	86	56H	118	76H
23	17H	55	37H	87	57H	119	77H
24	18H	56	38H	88	58H	120	78H
25	19H	57	39H	89	59H	121	79H
26	1AH	58	3AH	90	5AH	122	7AH
27	1BH	59	3BH	91	5BH	123	7BH
28	1CH	60	3CH	92	5CH	124	7CH
29	1DH	61	3DH	93	5DH	125	7DH
30	1EH	62	3EH	94	5EH	126	7EH
31	1FH	63	3FH	95	5FH	127	7FH

12.2 Binary Notation

'When a MIDI implementation data value is expressed in binary; the letter "B" (for Binary) is affixed at the end of the value. The table below shows the binary equivalents for the decimal values 0 through 127, which are often used for settings.

Decimal	Hexadecimal	Binary
0	00H	00000000B
1	01H	00000001B
2	02H	00000010B
3	03H	00000011B
4	04H	00000100B
5	05H	00000101B
6	06H	00000110B
7	07H	00000111B
8	08H	00001000B
9	09H	00001001B
10	0AH	00001010B
11	0BH	00001011B
12	0CH	00001100B
13	0DH	00001101B
14	0EH	00001110B
15	0FH	00001111B
16	10H	00010000B
:	:	
125	7DH	01111101B
126	7EH	01111110B
127	7FH	01111111B

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Documents / Resources

CASIO PX-765 MIDI Implementation [pdf] User Guide
PX-765 MIDI Implementation, PX-765, MIDI Implementation, Implementation

References

- **User Manual**