YAMAHA

ARIUS

YDP-163
YDP-143

MIDI Reference

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EN

MIDI Functions

When this instrument and a computer are connected with a USB cable, MIDI communication can be performed. The explanations here cover the settings necessary for performing MIDI communication between both devices.

NOTE
For instructions on how to connect this instrument to the computer, refer to the "Computer-related Operations" downloadable from the Yamaha Manual Library.

MIDI Transmit/Receive Channel Selection

In order to perform MIDI communication between this instrument and a computer, it is necessary to match the corresponding MIDI transmit and receive channels. By setting the MIDI transmit channels on this instrument, the setting of the keyboard or pedal performance or the program change can be transmitted over the channel number corresponding to a specified channel on the computer. By properly setting the MIDI receive channels on this instrument, only data of the specified channel will be played back in the MIDI data received from the computer.

Setting the Transmit Channel
While holding down [DEMO/SONG] and [PIANO/VOICE], press the C1 – E2 keys.
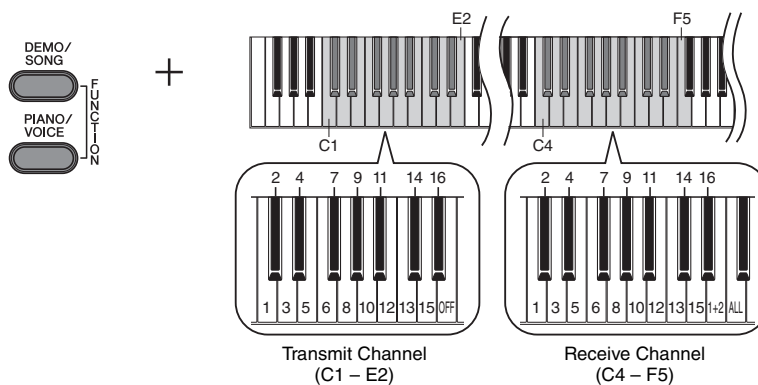
Default setting
MIDI transmission channel = 1

Setting the Receive Channel
While holding down [DEMO/SONG] and [PIANO/VOICE], press the C4 – F5 keys.

Default setting
MIDI receive channel = ALL

MIDI transmission channels in Dual
Voice 1 data is transmitted on the channel set up here.
Voice 2 data is transmitted on the next greater channel number relative to the specified channel.

MIDI receive channel = ALL:
This allows simultaneous reception of different parts on all 16 MIDI channels. When SMF Song data is played back on a computer with the Voice of this instrument, this setting is selected. However, when a Voice not available on the instrument is specified, the playback sound may not be suitable.

MIDI receive channel = 1+2:
This allows simultaneous reception on channels 1 and 2 only. When SMF Song data is played back on a computer, this setting is selected for playing back only data of channels 1-2 on this instrument.

NOTE
Panel settings (Voices, etc.) of this instrument will not be affected by MIDI messages received from a computer.

NOTE
Data for the demo song and piano preset songs cannot be transmitted via MIDI.

Transmit Channel (C1 – E2)

Receive Channel (C4 – F5)

Local Control ON/OFF

"Local Control" refers to the fact that, normally, the keyboard of the instrument controls its internal tone generator, allowing the internal voices to be played directly from the keyboard. This situation is "Local Control On," since the internal tone generator is controlled locally by its own keyboard. Local Control can be turned off as desired, so that the keyboard of the instrument does not play the internal voices.

While holding down [DEMO/SONG] and [PIANO/VOICE], press the C6 key. Pressing the C6 key repeatedly toggles between Local Control On and Off.

Default setting
ON
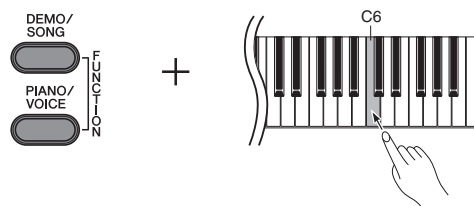
Program Change ON/OFF

The information related to Voice changes is called "program change" in MIDI. Sending and receiving program change messages can be enabled or disabled as desired on this instrument. For example, if the relevant transmit and receive parameters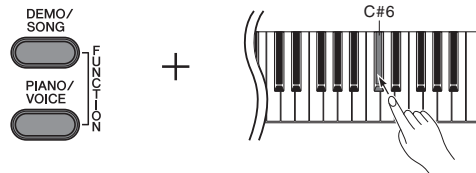 are set to ON, Voice change information in this instrument can be transmitted to or received from a computer. (However, the Voice as played from the keyboard is maintained and does not change.)

While holding down [DEMO/SONG] and [PIANO/VOICE], press the C#6 key. Pressing the C#6 key repeatedly toggles between Local Control On and Off.

NOTE
For information on program change numbers for each of the Voices of the instrument, refer to page 4.

Default setting
ON

Control Change ON/OFF

Information related to non-note expressive changes, such as the use of a sustain pedal, is called "control change" in MIDI. Sending and receiving control change messages can be enabled or disabled as desired on this instrument. For example, if the relevant transmit and receive parameters are set to ON, pedal performance information on this instrument can be transmitted to or received from a computer. (However, the performance of pedals and other controls as played from the instrument is maintained and does not change.)

While holding down [DEMO/SONG] and [PIANO/VOICE], press the D6 key. Pressing the D6 key repeatedly toggles between Local Control On and Off.
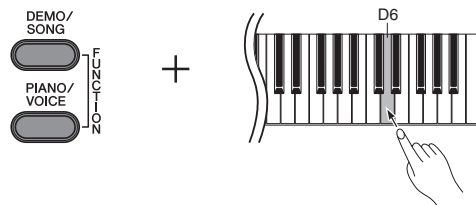
NOTE
For information on control changes that can be used with the instrument, refer to page 4.

Default setting
ON

MIDI Data Format

MIDI Channel Message

○: Can be transmitted and recognized.
△: Cannot be transmitted by the panel operations, but can be transmitted by song playback data.
×: Cannot be transmitted or received.

MIDI Events	Status byte		1st Data byte			2nd Data byte			Transmitted	Recognized
	Status		Data	(HEX)	Parameter	Data	(HEX)	Parameter		
Key Off	8nH	(n: channel no.)	kk		Key no. (0 - 127)	vv		Velocity (0 - 127)	○	○
Key On	9nH		kk		Key no. (0 - 127)	vv		Key On: vv = 1 - 127 Key Off: vv = 0	○	○
Control Change	BnH		0	(00H)	Bank Select MSB	0 - 127	(...7FH)		○	○
			32	(20H)	Bank Select LSB	0 - 127	(...7FH)		○	○
			1	(01H)	Modulation	0 - 127	(...7FH)		△	○
			6	(06H)	Data Entry MSB	0 - 127	(...7FH)		○	○
			38	(26H)	Data Entry LSB	0 - 127	(...7FH)			
			7	(07H)	Main Volume	0 - 127	(...7FH)		○	○
			10	(0AH)	Panpot	0 - 127	(...7FH)		○	○
			11	(0BH)	Expression	0 - 127	(...7FH)		△	○
			16	(10H)	General Purpose Controller 1	0 - 127	(...7FH)		△	○
			64	(40H)	Damper (Sustain)	0 - 127	(...7FH)		○	○
			66	(42H)	Sostenuto	0 - 127	(...7FH)		○	○
			67	(43H)	Soft Pedal	0 - 127	(...7FH)		○	○
			71	(47H)	Harmonic Content	0 - 127	(...7FH)		△	○
			72	(48H)	Release Time	0 - 127	(...7FH)		△	○
			73	(49H)	Attack Time	0 - 127	(...7FH)		△	○
			74	(4AH)	Brightness	0 - 127	(...7FH)		△	○
			84	(54H)	Portamento Control	0 - 127	(...7FH)		△	○
			91	(5BH)	Effect1 Depth (Reverb Send Level)	0 - 127	(...7FH)		○	○
			93	(5DH)	Effect3 Depth (Chorus Send Level)	0 - 127	(...7FH)		○	○
			96	(60H)	Increment	0 - 127	(...7FH)		△	○
			97	(61H)	Decrement	0 - 127	(...7FH)			
			100	(64H)	RPN LSB	0 - 127	(...7FH)		○	○
			101	(65H)	RPN MSB	0 - 127	(...7FH)			
Mode Message	BnH		120	(78H)	All Sound Off	0			△	○
			121	(79H)	Reset All Controller	0			△	○
			122	(7AH)	Local Control	0: OFF 7F: ON			×	○
			123	(7BH)	All Note Off	0			△	○
			124	(7CH)	OMNI OFF	0			×	○
			125	(7DH)	OMNI ON	0			×	○
			126	(7EH)	MONO	0 - 16	(...10H)		×	○
			127	(7FH)	POLY	0			×	○
Program Change	CnH		pp		0 - 127	–		–	○	○
Channel After Touch	DnH		vv			–			×	×
Polyphonic After Touch	AnH		kk			vv			△	×
Pitch Bend Change	EnH		cc		LSB	dd		MSB	△	○
Realtime Message	F8H	MIDI Clock	–			–			○	×
	FAH	Start	–			–			○	○
	FBH	Continue	–			–			×	×
	FCH	Stop	–			–			○	○
	FEH	Active Sens	–			–			○	○
	FFH	System Reset	–			–			×	×

Preset Voice List

Voice Name	MSB (0-127)	LSB (0-127)	Program Change # (1-128)
GrandPiano 1	108	0	1
GrandPiano 2	108	3	1
GrandPiano 3	108	3	2
E.Piano 1	108	0	6
E.Piano 2	108	0	5
Harpsichord	108	0	7
Vibraphone	108	0	12
Pipe Organ	108	1	20
Jazz Organ	108	0	17
Strings	108	0	49

Parameters controlled by RPN (Registered Parameter Numbers)

RPN		Data Entry		Parameter	Data Range	Transmitted	Recognized
MSB	LSB	MSB	LSB				
00H	01H	mmH	llH	Fine Tune	mm ll: 00H 00H -100[cent] ... mm ll: 40H 00H 0[cent] ... mm ll: 7FH 7FH 100[cent]	○	○
00H	02H	mmH	–	Coarse Tune	mm: 28H-40H-58H (-24...0...+24[semitones])	△	○
7FH	7FH	–	–	Null	–	△	○

MIDI Parameter Change Table

MIDI PARAMETER CHANGE TABLE (XG SYSTEM)

Address (H)			Size (H)	Data (H)	Parameter	Transmitted	Recognized	Description	Default value (H)
00	00	00	4	0000 - 07FF	MASTER TUNE	△	○	-102.4 - +102.3[cent]	00 04 00 00
		01						1st bit3 - 0 ➜ bit15 - 12	
		02						2nd bit3 - 0 ➜ bit11 - 8	
		03						3rd bit3 - 0 ➜ bit7 - 4	
								4th bit3 - 0 ➜ bit3 - 0	
		04	1	00 - 7F	MASTER VOLUME	×	○	0 - 127	7F
		05	1	00 - 7F	(MASTER ATTENUATOR)	×	×		
		06	1	28 - 58	TRANSPOSE	×	×	-12 - +12[semitones] (MIDI value = 34H – 4CH)	40
		7D		n	DRUM SETUP RESET	×	×	n = Drum setup number	
		7E		00	XG SYSTEM ON	△	○	00 = XG system ON	
		7F		00	ALL PARAMETER RESET	×	○	00 = ON	

TOTAL SIZE   7

MIDI PARAMETER CHANGE TABLE (EFFECT 1)

Address (H)			Size (H)	Data (H)	Parameter	Transmitted	Recognized	Description	Default
02	01	00	2	00 - 7F 00 - 7F	REVERB TYPE MSB REVERB TYPE LSB	○	○	Refer to Effect MIDI Map (page 7) 00: basic type	01 (= HALL1) 00
02	01	20	2	00 - 7F 00 - 7F	CHORUS TYPE MSB CHORUS TYPE LSB	○	○		41 (= CHORUS1) 00
		22	1	00 - 7F	CHORUS PARAMETER 1	○	○		
		24	1	00 - 7F	CHORUS PARAMETER 3	○	○		

MIDI PARAMETER CHANGE TABLE (EFFECT 2)

Address (H)			Size (H)	Data (H)	Parameter	Transmitted	Recognized	Description	Default
03	n	00	2	00-7F 00-7F	INSERTION EFFECT TYPE MSB INSERTION EFFECT TYPE LSB	○	○		05(=DELAY L,C,R)(*9) 00
		0B	1	00-7F	INSERTION EFFECT PARAMETER 10	○	○		
		0C	1	00-7F	INSERTION EFFECT PART NUMBER	○	○		
		10	1	00-7F	AC1 INSERTION CONTROL DEPTH	○	○		

MIDI PARAMETER CHANGE TABLE (MULTI PART)

Address (H)			Size (H)	Data (H)	Parameter	Transmitted	Recognized	Description	Default value (H)
8	nn	07	1	00 - 05	PART MODE	○	○		
00	00	0C	1	00 - 7F	VELOCITY SENSE DEPTH	○	○	0 - 127	
		0D	1	00 - 7F	VELOCITY SENSE OFFSET	○	○	0 - 127	
		41	1	00 - 7F	SCALE TUNING C	△	○		
		42	1	00 - 7F	SCALE TUNING C#	△	○		
		43	1	00 - 7F	SCALE TUNING D	△	○		
		44	1	00 - 7F	SCALE TUNING D#	△	○		
		45	1	00 - 7F	SCALE TUNING E	△	○		
		46	1	00 - 7F	SCALE TUNING F	△	○		
		47	1	00 - 7F	SCALE TUNING F#	△	○		
		48	1	00 - 7F	SCALE TUNING G	△	○		
		49	1	00 - 7F	SCALE TUNING G#	△	○		
		4A	1	00 - 7F	SCALE TUNING A	△	○		
		4B	1	00 - 7F	SCALE TUNING A#	△	○		
		4C	1	00 - 7F	SCALE TUNING B	△	○		
		59	1	00 - 5F	AC1 CONTROLLER NUMBER	○	○	0…95	

System Exclusive Messages

MIDI EVENT		Data Format	Transmitted	Recognized

Universal System Exclusive	MIDI Master Volume	`F0H  7FH  7FH  04H  01H  ll   mm  F7H`
		
		or
		ll mm Volume (mm = MSB, ll = LSB)
		
		`F0H  7FH  XN  04H  01H  ll   mm  F7H`
		
		XN When N is received N = 0 - F, whichever is received.
		           X = Ignored.
		ll mm Volume (mm = MSB, ll = LSB)
			×	○

	GM System On	`F0H  7EH  7FH  09H  01H  F7H`
		
		or
		
		`F0H  7EH  XN  09H  01H  F7H`
		
		0xxxnnnn XN When N is received N = 0 - F, whichever is received.
		                X = Ignored.
			×	○

XG	XG Parameter Change	`F0H  43H  1nH  4CH  hh   mm   ll   dd   …  F7H` hh mm ll Address dd Data	○	○
	XG Bulk Dump	`F0H  43H  0nH  4CH   aa   bb   hh   mm   ll   dd   …   dd   cc  F7H` 0n Device Number n = 0 (send), 0 - f (receive) aa bb Byte Count (aa << 7) + bb hh mm ll Address dd Data cc Check SUM	×	○
Others	Master Tune	`F0H  43H  1n  27H  30H  00H  00H   mm   ll   cc  F7H` 1n Channel (0 - f (receive)) mm ll cc (mm << 4) + ll (1step/1cent), cc = Ignored	×	○

Effect MIDI Map (Reverb)

	MSB	LSB
RECITAL HALL	01H	18H
CONCERT HALL	01H	04H
CHAMBER	02H	18H
CLUB	03H	18H
OFF	00H	00H

Function	Transmitted	Recognized	Remarks
Basic Channel Changed	1 - 16 O	1 - 16 O	
Mode Default Messages Altered	3 × *************	3 × ×	
Note Number : True voice	0 - 127 *************	0 - 127 0 - 127	
Velocity Note ON Note OFF	O 9nH,v=1-127 O 8nH,v=1-127	O 9nH,v=1-127 O 9nH,v=0 or 8nH	
After Key's Touch Ch's	× ×	× ×	
Pitch Bend	× *	O -2 - 2 semitones	
Control 0,32 Change 1 7 10 11 6,38 64,66,67 71-74 84 91,93 96-97 100-101	O × * O O × * O O × * × * O × * O	O O O O O O O O O O O O	Bank Select Modulation Main Volume Panpot Expression Data Entry Pedal Portamento Control Effect Depth RPN Inc,Dec RPN LSB,MSB
Prog Change : True #	O 0 - 127 *************	O 0 - 127 0,1,4,5,6,11,16,19,48	
System Exclusive	O	O	
Common : Song Pos. : Song Sel. : Tune	× × ×	× × ×	
System : Clock Real Time : Commands	O O	× O	
: All Sound Off Aux : Reset All Cntrls : Local ON/OFF Mes- : All Notes OFF sages: Active Sense : Reset	× * × * × × * O ×	O (120,126,127) O (121) O (122) O (123-125) O ×	

Notes:

        * These Control Change messages cannot be transmitted by panel
          operations, but can be transmitted by song playback data.

Mode 1 : OMNI ON , POLY   Mode 2 : OMNI ON ,MONO   O : Yes
Mode 3 : OMNI OFF, POLY   Mode 4 : OMNI OFF,MONO   × : No