Roland Exclusive messages

1. Data Format for Exclusive Messages

Roland's MIDI implementation uses the following data format for all Exclusive messages (type IV):

Byte	Description
F0H	Exclusive Status
41H	Manufacturer ID (Roland)
DEV	Device ID
MDL	Model ID
CMD	Command ID
[BODY]	Main data
F7H	End of exclusive

•MIDI status: F0H, F7H

An Exclusive message must be flanked by a pair of status codes, starting with a Manufacturer ID immediately after F0H (MIDI version 1.0).

•Manufacturer ID: 41H

The Manufacturer ID identifies the manufacturer of a MIDI instrument that sends an Exclusive message. Value 41H represents Roland's Manufacturer ID.

•Device ID: DEV

The Device ID contains a unique value that identifies individual devices in the implementation of several MIDI instruments. It is usually set to 00H–0FH, a value smaller by one than that of a basic channel, but value 00H–1FH may be used for a device with several basic channels.

•Model ID: MDL

The Model ID contains a value that identifies one model from another. Different models, however, may share an identical Model ID if they handle similar data.

The Model ID format may contain 00H in one or more places to provide an extended data field. The following are examples of valid Model IDs, each representing a unique model:

01H
02H
03H
00H, 01H
00H, 02H
00H, 00H, 01H

•Command ID: CMD

The Command ID indicates the function of an Exclusive message. The Command ID format may contain 00H in one or more places to provide an extended data field. The following are examples of valid Command IDs, each representing a unique function:

01H
02H
03H
00H, 01H
00H, 02H
00H, 00H, 01H

•Main data: BODY

This field contains a message to be exchanged across an interface. The exact data size and content will vary with the Model ID and Command ID.

2. Address-mapped Data Transfer

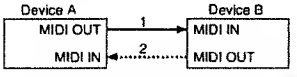
Address mapping is a technique for transferring messages conforming to the data format given in Section 1. It assigns a series of memory-resident records—waveform and tone data, switch status, and parameters, for example, to specific locations in a machine-dependent address space, thereby allowing access to data residing at the address a message specifies.

Address-mapped data transfer is therefore independent of models and data categories. This technique allows use of two different transfer procedures: one-way transfer and handshake transfer.

•One-way transfer procedure (See Section 3 for details.)

This procedure is suited to the transfer of a small amount of data. It sends out an Exclusive message completely independent of the receiving device's status.

Connection Diagram

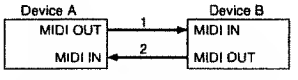


Connection at point 2 is essential for "Request data" procedures. (See Section 3.)

•Handshake-transfer procedure (This device does not use this procedure)

This procedure initiates a predetermined transfer sequence (handshaking) across the interface before data transfer takes place. Handshaking ensures that reliability and transfer speed are high enough to handle a large amount of data.

Connection Diagram



Connection at points 1 and 2 is essential.

Notes on the above procedures

* **There are separate Command IDs for different transfer procedures.**
* **Devices A and B cannot exchange data unless they use the same transfer procedure, share identical Device ID and Model ID, and are ready for communicatinn.**

3. One-way Transfer Procedure

This procedure sends out data until it has all been sent and is used when the messages are so short that answerbacks need not be checked.

For longer messages, however, the receiving device must acquire each message in time with the transfer sequence, which inserts 20 milliseconds intervals.

Types of Messages

Message	Command ID
Request data 1	RQ1 (11H)
Date set 1	DT1 (12H)

•Request data #1: RQ1 (11H)

This message is sent out when there is a need to acquire data from a device at the other end of the interface. It contains data for the address and size that specify designation and length, respectively, of data required.

On receiving an RQ1 message, the remote device checks its memory for the data address and size that satisfy the request.

If it finds them and is ready for communication, the device will transmit a "Data set 1 (DT1)" message, which contains the requested data. Otherwise, the device won't send out anything.

Byte	Description
F0H	Exclusive Status
41H	Manufacturer ID (Roland)
DEV	Device ID
MDL	Model ID
11H	Command ID
aaH	Address MSB
:	:
:	:
	LSB
ssH	Size MSB
:	:
:	:
	LSB
sum	Check sum
F7H	End of exclusive

* **The size of the requested data does not indicate the number of bytes that will make up a DT1 message, but represents the address fields where the requested data resides.**

* **Some models are subject to limitations in data format used for a single transaction. Requested data, for example, may have a limit in length or must be divided into predetermined address fields before it is exchanged across the interface.**

* **The same number of bytes comprises address and size data, which, however, vary with the Model ID.**

* **The error-checking process uses a checksum that provides a bit pattern where the last 7 bits are zero when values for an address, size, and that checksum are summed.**

•Data set 1: DT1 (12H)

This message corresponds to the actual data transfer process.
Because every byte in the data is assigned a unique address, a DT1 message can convey the starting address of one or more bits of data as well as a series of data formatted in an address-dependent order.

The MIDI standards inhibit non real-time messages from interrupting an Exclusive one. This fact is inconvenient for devices that support a "soft-thru" function. To maintain compatibility with such devices, Roland has limited the DT1 to 256 bytes so that an excessively long message is sent out in separate 'segments'.

Byte	Description
F0H	Exclusive Status
41H	Menufacturer ID (Roland)
DEV	Device ID
MDL	Modal ID
12H	Commend ID
eeH	Address MSB
I	I
I	I
	LSB
ddH	Date MSB
I	I
I	I
	LSB
sum	Check sum
F7H	End of exclusive

* **A DT1 message is capable of providing only the valid data among those specified by an RQ1 message.**

* **Some models are subject to limitations in data format used for a single transaction. Requested data, for example, may have a limit in length or must be divided into predetermined address fields before it is exchanged across the interface.**

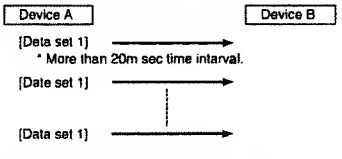
* **The number of bytes comprising address data varies from one Model ID to another.**

* **The error-checking process uses a checksum that provides a bit pattern where the last 7 bits are zero when values for an address, size, and that checksum are summed.**

•Example of Message Transactions

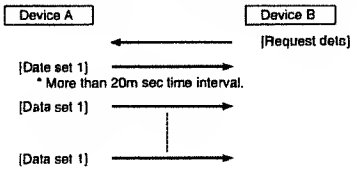
•Device A sending data to Device B

Transfer of a DT1 message is all that takes place.



•Device B requesting data from Device A

Device B sends an RQ1 message to Device A.
Checking the message, Device A sends a DT1 message back to Device B.



(How to read the tables)

This shows the results which you can get by setting each parameter.

Parameters to be set	Level of tone will be changed	Tone parameters can be controled in real-time		Effect parameters can be controled in real-time		
		Setting1	Setting2	Setting1	Setting2	
SYSTEM PARAMETER						
System Control Source 1/2	--	--	CC11:EXPRESSION	--	CC11:EXPRESSION	-+
Receive Control Change	ON	ON	ON	ON	ON	+
Volume Control Source	VOL&EXP	--	--	--	--	+
PATCH COMMON PARAMETER						+
EFX Control Source 1/2	--	--		EXPRESSION	SYS-CTRL1/2	+
EFX Control Depth 1/2	--	--		Other than 0	Other than 0	+ Values of the parameters
Patch Control Source 1/2/3	--	EXPRESSION	SYS-CTRL1/2		--	+
PATCH TONE PARAMETER						+
Volume Control Switch	ON	--		--	--	+
Ctrl 1/2/3 Dest.1/2/3/4	--	Other than OFF	Other than OFF	--	--	+
Ctrl 1/2/3 Depth1/2/3/4	--	Other than 0	Other than 0	--	--	-+

--:Need not be set

This shows there are two different ways of setting to get the same result.

1. RECEIVE DATA

■ Channel Voice Message

● Note off

Status	Second	Third
8nH	kkH	vvH
9nH	kkH	00H

n = MIDI channel number: 0H - FH (0 - 15) 0 = ch.1 15 = ch.16
kk = Note number : 00H - 7FH (0 - 127)
vv = Velocity : 00H - 7FH (0 - 127)

** In the performance mode, receives this message when the MIDI Receive Switch of each part parameter is ON.*
** Rhythm part (part 10) receives this message when the envelope mode of a rhythm tone parameter is SUSTAIN.*

● Note on

Status	Second	Third
9nH	kkH	vvH

n = MIDI channel number: 0H - FH (0 - 15) 0 = ch.1 15 = ch.16
kk = Note number : 00H - 7FH (0 - 127)
vv = Velocity : 01H - 7FH (1 - 127)

** In the performance mode, receives this messege when the MIDI Receive Switch of each part parameter is ON.*

● Polyphonic key pressure

Status	Second	Third
AnH	kkH	vvH

n = MIDI channel number: 0H - FH (0 - 15) 0 = ch.1 15 = ch.16
kk = Note number : 00H - 7FH (0 - 127)
vv = Pressure value : 00H - 7FH (0 - 127)

1. Patch Mode

Parameters to be set	Tone parameters can be controled in real-time		Effect parameters can be controled in real-time	
	Setting1	Setting2	Setting1	Setting2
SYSTEM PARAMETER				
System Control Source 1/2	--	AFTERTOUCH	--	AFTERTOUCH
Receive Aftertouch	ON	ON	ON	ON
Aftertouch Source	CH&POLY or POLY-AFTER	CH&POLY or POLY-AFTER	CH&POLY or POLY-AFTER	CH&POLY or POLY-AFTER
PATCH COMMON PARAMETER				
EFX Control Source 1/2	--	--	AFTERTOUCH	SYS-CTRL 1/2
EFX Control Depth 1/2	--	--	Other than 0	Other than 0
Patch Control Source 1/2/3	AFTERTOUCH	SYS-CTRL1/2	--	--
PATCH TONE PARAMETER				
Ctrl 1/2/3 Dest.1/2/3/4	Other than OFF	Other than OFF	--	--
Ctrl 1/2/3 Depth1/2/3/4	--	--	--	--

--:Need not be set

2. Performance Mode

Parameters to be set	Tone parameters can be controled		Effect parameters can be controled in real-time			
	Setting1	Setting2	Setting1	Setting2	Setting3	Setting4
SYSTEM PARAMETER						
System Control Source 1/2	--	AFTERTOUCH	--	--	AFTERTOUCH	AFTERTOUCH
Receive Aftertouch	ON	ON	ON	ON	ON	ON
Aftertouch Source	CH&POLY or POLY-AFTER	CH&POLY or POLY-AFTER	CH&POLY or POLY-AFTER	CH&POLY or POLY-AFTER	CH&POLY or POLY-AFTER	CH&POLY or POLY-AFTER
PERFORMANCE COMMON PARAMETER						
EFX Source	--	--	1 - 16	PERFORM	1 - 16	PERFORM
EFX Control Source 1/2	--	--	--	AFTERTOUCH	--	SYS-CTRL1/2
EFX Control Depth 1/2	--	--	--	Other than 0	--	Other than 0
PERFORMANCE PART PARAMETER						
MIDI Receive Switch	ON	ON	ON	ON	ON	ON
PATCH COMMON PARAMETER						
EFX Control Source 1/2	--	--	AFTERTOUCH	--	SYS-CTRL1/2	--
EFX Control Depth 1/2	--	--	Other than 0	--	Other than 0	--
Patch Control Source 1/2/3	AFTERTOUCH	SYS-CTRL1/2	--	--	--	--
PATCH TONE PARAMETER						
Ctrl 1/2/3 Dest.1/2/3/4	Other than OFF	Other than OFF	--	--	--	--
Ctrl 1/2/3 Depth1/2/3/4	Other than 0	Other than 0	--	--	--	--

--:Need not be set

● Control Changa

○ Bank select (MSB/LSB)

Status	Second	Third
BnH	00H	mmH
BnH	20H	llH

n = MIDI channel number : 0H - FH (0 - 15) 0 = ch.1 15 = ch.16
mm = Upper bytes of bank number: 50H - 54H (80 - 84)
ll = Lower bytes of bank number: 00H - 07H (0 - 7)

1. Patch Mode

Parameters to be set	Changes Banks upon receiving program change	Tone parameters can be controled in real-time	Effect parameters can be controled in real-time
SYSTEM PARAMETER			
System Control Source 1/2	--	CC0:BANK-SEL	CC0:BANK-SEL
Receive Bank Select	ON	ON	ON
PATCH COMMON PARAMETER			
EFX Control Source 1/2	--	--	SYS-CTRL1/2
EFX Control Depth 1/2	--	--	Other than 0
Patch Control Source 1/2/3	--	SYS-CTRL1/2	
PATCH TONE PARAMETER			
Ctrl 1/2/3 Dest.1/2/3/4	--	Other than OFF	--
Ctrl 1/2/3 Depth1/2/3/4	--	Other than 0	--

--:Need not be set

** Bank select and corresponding media are as follows:*

Bank Select MSB	Bank Select LSB	Program Change	Media	(Patch Number)
80	0	0 - 127	User	(#1 - #128)
81	0	0 - 127	Preset A	(#1 - #128)
81	1	0 - 127	Preset B	(#1 - #128)
81	2	0 - 127	Preset C	(#1 - #128)
81	3	0 - 127	Preset D(General MIDI Instrument)	(#1 - #128)
82	0	0 - 127	Data Card	(#1 - #128)
83	0	0 - 127	PCM Card	(#1 - #128)
84	0	0 - 127	Expansion A	(#1 - #128)
84	1	0 - 127	Expansion A	(#129-#256)
84	2	0 - 127	Expansion B	(#1 - #128)
84	3	0 - 127	Expansion B	(#129-#256)
84	4	0 - 127	Expansion C	(#1 - #128)
84	5	0 - 127	Expansion C	(#129-#256)
84	6	0 - 127	Expansion D	(#1 - #128)
84	7	0 - 127	Expansion D	(#129-#256)

Bank Select MSB	Bank Select LSB	Program Change	Media	(Rhythm Set Number)
80	0	0 - 1	User	(#1 - #2)
81	0	0 - 1	Preset A	(#1 - #2)
81	1	0 - 1	Preset B	(#1 - #2)
81	2	0 - 1	Preset C	(#1 - #2)
81	3	0 - 1	Preset D(General MIDI Instrument)	(#1 - #2)
82	0	0 - 1	Data Card	(#1 - #2)
83	0	0 - 127	PCM Card	(#1 - #128)
84	0	0 - 127	Expansion A	(#1 - #128)
84	1	0 - 127	Expansion A	(#129-#256)
84	2	0 - 127	Expansion B	(#1 - #128)
84	3	0 - 127	Expansion B	(#129-#256)
84	4	0 - 127	Expansion C	(#1 - #128)
84	5	0 - 127	Expansion C	(#129-#256)
84	6	0 - 127	Expansion D	(#1 - #128)
84	7	0 - 127	Expansion D	(#129-#256)

2. Performance Mode

Parameters to be set	Changes Banks upon receiving the next program change	Tone parameters can be controled in real-time	Effect parameters can be controled in real-time	
			Setting1	Setting2
SYSTEM PARAMETER				
System Control Source 1/2	--	CC0:BANK SELECT	CC0:BANK SELECT	CC0:BANK SELECT
Receive Bank Select	ON	ON	ON	ON
PERFORMANCE COMMON PARAMETER				
EFX Source	--	--	1 - 16	PERFORM
EFX Control Source 1/2	--	--	--	SYS-CTRL1/2
EFX Control Depth 1/2	--	--	--	Other than 0
PERFORMANCE PART PARAMETER				
MIDI Receive Switch	ON	ON	ON	ON
PATCH COMMON PARAMETER				
EFX Control Source 1/2	--	--	SYS-CTRL1/2	--
EFX Control Depth 1/2	--	--	Other than 0	--
Patch Control Source 1/2/3	--	SYS CTRL1/2	--	--
PATCH TONE PARAMETER				
Ctrl 1/2/3 Dest.1/2/3/4	--	Other than OFF		--
Ctrl 1/2/3 Depth1/2/3/4	--	Other than 0	--	

--:Need not be set

** Bank select and corresponding media are as shown below.*

Bank Select MSB	LSB	Program Change	Media	(Performance Number)
80	0	0 - 31	User	(#1 - #32)
81	0	0 - 31	Preset A	(#1 - #32)
81	1	0 - 31	Preset B	(#1 - #32)
82	0	0 - 31	Data Card	(#1 - #32)

○ Modulation

Status	Second	Third
BnH	01H	vvH

n = MIDI channel number: 0H - FH (0 - 15) 0 = ch.1 15 = ch.16
vv = Modulation depth : 00H - 7FH (0 - 127)

1. Patch Mode

Parameters to be set	Tone parameters can be controled in real-time		Effect parameters can be controled in real-time	
	Setting1	Setting2	Setting1	Setting2
SYSTEM PARAMETER				
System Control Source 1/2	--	CC1:MODULATION	--	CC1:MODULATION
Receive Modulation	ON	ON	ON	ON
PATCH COMMON PARAMETER				
EFX Control Source 1/2	--	--	MODULATION	SYS-CTRL1/2
EFX Control Depth 1/2	--	--	Other than 0	Other than 0
Patch Control Source 1/2/3	MODULATION	SYS-CTRL1/2	--	--
PATCH TONE PARAMETER				
Ctrl 1/2/3 Dest.1/2/3/4	Other than OFF	Other than OFF	--	--
Ctrl 1/2/3 Depth1/2/3/4	Other than 0	Other than 0	--	--

--:Need not be set

2. Performance Mode

Parameters to be set	Tone parameters can be controled in real-time		Effect parameters can be controled in real-time			
	Setting1	Setting2	Setting1	Setting2	Setting3	Setting4
SYSTEM PARAMETER						
System Control Source 1/2	--	CC1:MODULATION	--	--	CC1:MODULATION	CC1:MODULATION
Receive Modulation	ON	ON	ON	ON	ON	ON
PERFORMANCE COMMON PARAMETER						
EFX Source	--	--	1 - 16	PERFORM	1 - 16	PERFORM
EFX Control Source 1/2	--	--	--	MODULUATION	--	SYS-CTRL1/2
EFX Control Depth 1/2	--	--	--	Other than 0	--	Other than 0
PERFORMANCE PART PARAMETER						
MIDI Receive Switch	ON	ON	ON	ON	ON	ON
PATCH COMMON PARAMETER						
EFX Control Source 1/2	--	--	MODULATION	--	SYS-CTRL1/2	--
EFX Control Depth 1/2	--	--	Other than 0	--	Other than 0	--
Patch Control Source 1/2/3	MODULATION	SYS-CTRL1/2	--	--	--	--
PATCH TONE PARAMETER						
Ctrl 1/2/3 Dest.1/2/3/4	Other than OFF	Other than OFF	--	--	--	--
Ctrl 1/2/3 Depth1/2/3/4	Other than 0	Other than 0	--	--	--	--

--:Need not be set

● Breath

○ Breath

Status	Second	Third
BnH	02H	vvH

n = MIDI channel number: 0H - FH (0 - 15) 0 = ch.1 15 = ch.16
vv = Breath : 00H - 7FH (0 - 127)

1. Patch Mode

Parameters to be set	Tone parameters can be controled in real-time		Effect parameters can be controled in real-time	
	Setting1	Setting2	Setting1	Setting2
SYSTEM PARAMETER				
System Control Source 1/2	--	CC2:BREATH	--	CC2:BREATH
Receive Control Change	ON	ON	ON	ON
PATCH COMMON PARAMETER				
EFX Control Source 1/2	--	--	BREATH	SYS-CTRL1/2
EFX Control Depth 1/2	--	--	Other than 0	Other than 0
Patch Control Source 1/2/3	BREATH	SYS-CTRL1/2	--	--
PATCH TONE PARAMETER				
Ctrl 1/2/3 Dest.1/2/3/4	Other than OFF	Other than OFF	--	--
Ctrl 1/2/3 Depth1/2/3/4	Other than 0	Other than 0	--	--

--:Need not be set

2. Performance Mode

Parameters to be set	Tone parameters can be controled in real-time		Effect parameters can be controled in real-time			
	Setting1	Setting2	Setting1	Setting2	Setting3	Setting4
SYSTEM PARAMETER						
System Control Source 1/2	--	CC2:BREATH	--	--	CC2:BREATH	CC2:BREATH
Receive Control Change	ON	ON	ON	ON	ON	ON
PERFORMANCE COMMON PARAMETER						
EFX Source	--	--	1 - 16	PERFORM	1 - 16	PERFORM
EFX Control Source 1/2	--	--	--	BREATH	--	SYS-CTRL1/2
EFX Control Depth 1/2	--	--	--	Other than 0	--	Other than 0
PERFORMANCE PART PARAMETER						
MIDI Receive Switch	ON	ON	ON	ON	ON	ON
PATCH COMMON PARAMETER						
EFX Control Source 1/2	--	--	BREATH	--	SYS-CTRL1/2	--
EFX Control Depth 1/2	--	--	Other than 0	--	Other than 0	--
Patch Control Source 1/2/3	BREATH	SYS-CTRL1/2	--	--	--	--
PATCH TONE PARAMETER						
Ctrl 1/2/3 Dest.1/2/3/4	Other than OFF	Other than OFF	--	--	--	--
Ctrl 1/2/3 Depth1/2/3/4	Other than 0	Other than 0	--	--	--	--

--:Need not be set

○ Foot type

Status	Second	Third
BnH	04H	vvH

n = MIDI channel number: 0H - FH (0 - 15) 0 = ch.1 15 = ch.16
vv = Foot control : 00H - 7FH (0 127)

1. Patch Mode

Parameters to be set	Tone parameters can be controled in real-time		Effect parameters can be controled in real-time	
	Setting1	Setting2	Setting1	Setting2
SYSTEM PARAMETER				
System Control Source 1/2	--	CC4:FOOT-TYPE	--	CC4:FOOT-TYPE
Receive Control Change	ON	ON	ON	ON
PATCH COMMON PARAMETER				
EFX Control Source 1/2	--		FOOT	SYS CTRL1/2
EFX Control Depth 1/2	--	--	Other than 0	Other than 0
Patch Control Source 1/2/3	FOOT	SYS-CTRL1/2	--	--
PATCH TONE PARAMETER				
Ctrl 1/2/3 Dest.1/2/3/4	Other than OFF	Other than OFF	--	--
Ctrl 1/2/3 Depth1/2/3/4	Other than 0	Other than 0	--	--

--:Need not be set

2. Performance Mode

Parameters to be set	Tone parameters can be controled in real-time		Effect parameters can be controled in real-time			
	Setting1	Setting2	Setting1	Setting2	Setting3	Setting4
SYSTEM PARAMETER						
System Control Source 1/2	--	CC4:FOOT-TYPE	--	--	CC4:FOOT-TYPE	CC4:FOOT-TYPE
Receive Control Change	ON	ON	ON	ON	ON	ON
PERFORMANCE COMMON PARAMETER						
EFX Source	--	--	1 - 16	PERFORM	1 - 16	PERFORM
EFX Control Source 1/2	--	--	--	FOOT	--	SYS-CTRL1/2
EFX Control Depth 1/2	--	--	--	Other than 0	--	Other than 0
PERFORMANCE PART PARAMETER						
MIDI Receive Switch	ON	ON	ON	ON	ON	ON
PATCH COMMON PARAMETER						
EFX Control Source 1/2	--	--	FOOT	--	SYS-CTRL1/2	--
EFX Control Depth 1/2	--	--	Other than 0	--	Other than 0	--
Patch Control Source 1/2/3	FOOT	SYS-CTRL1/2	--	--	--	--
PATCH TONE PARAMETER						
Ctrl 1/2/3 Dest.1/2/3/4	Other than OFF	Other than OFF	--	--	--	--
Ctrl 1/2/3 Depth1/2/3/4	Other than 0	Other than 0	--	--	--	--

--:Need not be set

❍ Portamento time

Status	Second	Third
BnH	05H	vvH

n = MIDI channel number: 0H - FH (0 - 15) 0 = ch.1 15 = ch.16
vv = Portamento time : 00H - 7FH (0 - 127)

1. Patch Mode

Parameters to be set	Portamento time of patch common parameter will be changed	Tone parameters can be controled in real-time	Effect parameters can be controled in real-time
SYSTEM PARAMETER			
System Control Source 1/2	--	CC5:PORT-TIME	CC5:PORT-TIME
Receive Control Change	ON	ON	ON
PATCH COMMON PARAMETER			
EFX Control Source 1/2	--	--	SYS-CTRL1/2
EFX Control Depth 1/2	--	--	Other than 0
Patch Control Source 1/2/3	--	SYS-CTRL1/2	--
PATCH TONE PARAMETER			
Ctrl 1/2/3 Dest.1/2/3/4	--	Other than OFF	--
Ctrl 1/2/3 Depth1/2/3/4	--	Other than 0	--

--:Need not be set

2. Performance Mode

Parameters to be set	Portamento time of patch common parameter of the part on the receiving channel will be changed	Tone parameters can be controled in real-time	Effect parameters can be controled in real-time	
			Setting1	Setting2
SYSTEM PARAMETER				
System Control Source 1/2	--	CC5:PORT-TIME	CC5:PORT-TIME	CC5:PORT-TIME
Receive Control Change	ON	ON	ON	ON
PERFORMANCE COMMON PARAMETER				
EFX Source	--	--	1 - 16	PERFORM
EFX Control Source 1/2	--	--	--	SYS-CTRL1/2
EFX Control Depth 1/2	--	--	--	Other than 0
PERFORMANCE PART PARAMETER				
MIDI Receive Switch	ON	ON	ON	ON
PATCH COMMON PARAMETER				
EFX Control Source 1/2	--	--	SYS-CTRL1/2	--
EFX Control Depth 1/2	--	--	Other than 0	--
Patch Control Source 1/2/3	--	SYS-CTRL1/2	--	--
PATCH TONE PARAMETER				
Ctrl 1/2/3 Dest.1/2/3/4	--	Other than OFF	--	--
Ctrl 1/2/3 Depth1/2/3/4	--	Other than 0	--	--

--:Need not be set

❍ Volume

Status	Second	Third
BnH	07H	vvH

n = MIDI channel number: 0H - 7FH (0 - 15) 0 = ch.1 15 = ch.16
vv = Volume : 00H - 7FH (0 - 127)

1. Patch Mode

Parameters to be set	Level of tone will be changed	Tone parameters can be controled in real-time		Effect parameters can be controled in real-time	
		Setting1	Setting2	Setting1	Setting2
SYSTEM PARAMETER					
System Control Source 1/2	--	--	CC7:VOLUME	--	CC7:VOLUME
Receive Volume	ON	ON	ON	ON	ON
PATCH COMMON PARAMETER					
EFX Control Source 1/2	--	--	--	VOLUME	SYS-CTRL1/2
EFX Control Depth 1/2	--	--	--	Other than 0	Other than 0
Patch Control Source 1/2/3	--	VOLUME	SYS-CTRL1/2	--	--
PATCH TONE PARAMETER					
Volume Control Switch	ON	--	--	--	--
Ctrl 1/2/3 Dest.1/2/3/4	--	Other than OFF	Other than OFF	--	--
Ctrl 1/2/3 Depth1/2/3/4	--	Other than 0	Other than 0	--	--

--:Need not be set

2. Performance Mode

Parameters to be set	Tone level of part on the receiving channel will be changed	Tone parameters can be controled in real-time		Effect parameters can be controled in real-time			
		Setting1	Setting2	Setting1	Setting2	Setting3	Setting4
SYSTEM PARAMETER							
System Control Source 1/2	--	--	CC7:VOLUME	--	--	CC7:VOLUME	CC7:VOLUME
Receive Volume	ON	ON	ON	ON	ON	ON	ON
PERFORMANCE COMMON PARAMETER							
EFX Source	--	--	--	1 - 16	PERFORM	1 - 16	PERFORM
EFX Control Source 1/2	--	--	--	--	VOLUME	--	SYS-CTRL1/2
EFX Control Depth 1/2	--	--	--	--	Other than 0	--	Other than 0
PERFORMANCE PART PARAMETER							
MIDI Receive Switch	ON	ON	ON	ON	ON	ON	ON
Receive Volume	ON	ON	ON	ON	ON	ON	ON
PATCH COMMON PARAMETER							
EFX Control Source 1/2	--	--	--	VOLUME	--	SYS-CTRL1/2	--
EFX Control Depth 1/2	--	--	--	Other than 0	--	Other than 0	--
Patch Control Source 1/2/3	--	VOLUME	SYS-CTRL1/2	--	--	--	--
PATCH TONE PARAMETER							
Volume Control Switch	ON	--	--	--	--	--	--
Ctrl 1/2/3 Dest.1/2/3/4	--	Other than OFF	Other than OFF	--	--	--	--
Ctrl 1/2/3 Depth1/2/3/4	--	Other than 0	Other than 0	--	--	--	--

--:Need not be set

❍ Pan

Status	Second	Third
BnH	0AH	vvH

n = MIDI channel number: 0H - FH (0 - 15) 0 = ch.1 15 = ch.16
vv = Pan : 00H - 7FH (0 - 127)

1. Patch Mode

Parameters to be set	Directional localization of tone can be controled in 128 steps with 0 the leftmost, 64 at the center, 127 the rightmost	Tone parameters can be controled in real-time		EFX parameters can be controled in real-time	
		Setting1	Setting2	Setting1	Setting2
SYSTEM PARAMETER					
System Control Source 1/2	--	--	CC10:PANPOT	--	CC10:PANPOT
Receive Control Change	ON	ON	ON	ON	ON
PATCH COMMON PARAMETER					
EFX Control Source 1/2	--	--	--	PAN	SYS-CTRL1/2
EFX Control Depth 1/2	--	--	--	Other than 0	Other than 0
Patch Control Source 1/2/3	--	PAN	SYS-CTRL1/2	--	--
PATCH TONE PARAMETER					
Pan Control Switch	CONT, KEY-ON	--	--	--	--
Ctrl 1/2/3 Dest.1/2/3/4	--	Other than OFF	Other than OFF	--	--
Ctrl 1/2/3 Depth1/2/3/4	--	Other than 0	Other than 0	--	--

--:Need not be set

2. Performance Mode

Parameters to be set	Directional localization of tone of the part on receiving channel can be controled in 128 steps with 0 the leftmost, 64 at the center, 127 the rightmost	Tone parameters can be controled in real-time		Effect parameters can be controled in real-time			
		Setting1	Setting2	Setting1	Setting2	Setting3	Setting4
SYSTEM PARAMETER							
System Control Source 1/2	--	--	CC10:PANPOT	--	--	CC10:PANPOT	CC10:PANPOT
Receive Control Change	ON	ON	ON	ON	ON	ON	ON
PERFORMANCE COMMON PARAMETER							
EFX Source	--	--	--	1 - 16	PERFORM	1 - 16	PERFORM
EFX Control Source 1/2	--	--	--	--	PAN	--	SYS-CTRL1/2
EFX Control Depth 1/2	--	--	--	--	Other than 0	--	Other than 0
PERFORMANCE PART PARAMETER							
MIDI Receive Switch	ON	ON	ON	ON	ON	ON	ON
PATCH COMMON PARAMETER							
EFX Control Source 1/2	--	--	--	PAN	--	SYS-CTRL1/2	--
EFX Control Depth 1/2	--	--	--	Other than 0	--	Other than 0	--
Patch Control Source 1/2/3	--	PAN	SYS-CTRL1/2	--	--	--	--
PATCH TONE PARAMETER							
Pan Control Switch	KEY-ON, CONT	--	--	--	--	--	--
Ctrl 1/2/3 Dest.1/2/3/4	--	Other than OFF	Other than OFF	--	--	--	--
Ctrl 1/2/3 Depth1/2/3/4	--	Other than 0	Other than 0	--	--	--	--

--:Need not be set

○ Expression

Status	Second	Third
BnH	0BH	vvH

n = MIDI channel number: 0H - FH (0 - 15) 0 = ch.1 15 = ch.16
vv = Expression : 00H - 7FH (1 - 127)

1. Patch Mode

Parameters to be set	Level of tone will be changed	Tone parameters can be controled in real-time		Effect parameters can be controled in real-time	
		Setting1	Setting2	Setting1	Setting2
SYSTEM PARAMETER					
System Control Source 1/2	--	--	CC11:EXPRESSION		CC11:EXPRESSION
Receive Control Change	ON	ON	ON	ON	ON
Volume Control Source	VOL&EXP	--	--	--	--
PATCH COMMON PARAMETER					
EFX Control Source 1/2	--	--	--	EXPRESSION	SYS CTRL1/2
EFX Control Depth 1/2	--	--	--	Other than 0	Other than 0
Patch Control Source 1/2/3	--	EXPRESSION	SYS-CTRL1/2	--	--
PATCH TONE PARAMETER					
Volume Control Switch	ON	--	--	--	--
Ctrl 1/2/3 Dest.1/2/3/4	--	Other than OFF	Other than OFF	--	--
Ctrl 1/2/3 Depth1/2/3/4	--	Other than 0	Other than 0	--	--

--:Need not be set

2. Performance Mode

Parameters to be set	Level of tone of the part on the receiving channel will be changed	Tone parameters can be controled in real-time		Effect parameters can be controled in real-time			
		Setting1	Setting2	Setting1	Setting2	Setting3	Setting4
SYSTEM PARAMETER							
System Control Source 1/2	--	--	CC11:EXPRESSION	--	--	CC11:EXPRESSION	CC11:EXPRESSION
Receive Control Change	ON	ON	ON	ON	ON	ON	ON
Volume Control Source	VOL&EXP	--	--	--	--	--	--
PERFORMANCE COMMON PARAMETER							
EFX Source	--	--	--	1 - 16	PERFORM	1 - 16	PERFORM
EFX Control Source 1/2	--	--	--	--	EXPRESSION	--	SYS-CTRL1/2
EFX Control Depth 1/2	--	--	--	--	Other than 0	--	Other than 0
PERFORMANCE PART PARAMETER							
MIDI Receive Switch	ON	ON	ON	ON	ON	ON	ON
PATCH COMMON PARAMETER							
EFX Control Source 1/2	--	--	--	EXPRESSION	--	SYS-CTRL1/2	--
EFX Control Depth 1/2	--	--	--	Other than 0	--	Other than 0	--
Patch Control Source 1/2/3	--	EXPRESSION	SYS-CTRL1/2	--	--	--	--
PATCH TONE PARAMETER							
Volume Control Switch	ON	--	--	--	--	--	--
Ctrl 1/2/3 Dest.1/2/3/4	--	Other than OFF	Other than OFF	--	--	--	--
Ctrl 1/2/3 Depth1/2/3/4	--	Other than 0	Other than 0	--	--	--	--

--:Need not be set

○ Hold 1

Status	Second	Third
BnH	40H	vvH

n = MIDI channel number: 0H - FH (0 - 15) 0 = ch.1 15 = ch.16
vv = Control value : 00H 7FH (0 - 127) 0 - 63 = OFF 64 - 127 = ON

1. Patch Mode

Parameters to be set.	When HOLD-1 is ON, note is kept on	Tone parameters can be controled in real-time	Effect parameters can be controlled in real-time	LFO Rate is changed to HOLD-1 ON interval	Tone delay time is changed to the HOLD-1 ON interval	When HOLD-1 is ON, Effect controller is held	When HOLD-1 is ON, Effect controller is held at its peak level	When HOLD-1 is ON, Tone controller is held	When HOLD-1 is ON, Tone controller is held at its peak level
SYSTEM PARAMETER									
System Control Source 1/2	--	CC64:HOLD-1	CC64:HOLD-1	--	--	--	--	--	--
Receive Hold-1	ON	ON	ON	ON	ON	ON	ON	ON	ON
TAP Control Source	--	--	--	HOLD-1	HOLD-1	--	--	--	--
Hold Control Source	--	--	--	--	--	HOLD-1	--	HOLD-1	--
Peak Control Source	--	--	--	--	--	--	HOLD-1	--	HOLD-1
PATCH COMMON PARAMETER									
EFX Control Source 1/2	--	--	SYS CTRL1/2	--	--	--	--	--	--
EFX Control Depth 1/2	--	--	Other than 0	--	--	--	--	--	--
Patch Control Source 1/2/3	--	SYS-CTRL1/2	--	--	--	--	--	--	--
EFX Control Hold/Peak	--	--	--	--	--	HOLD	PEAK	--	--
Control 1/2/3 Hold/Peak	--	--	--	--	--	--	--	HOLD	PEAK
PATCH TONE PARAMETER									
Hold-1 Control Switch	ON	--	--	--	--	--	--	--	--
Ctrl 1/2/3 Dest.1/2/3/4	--	Other than OFF	--	--	--	--	--	--	--
Ctrl 1/2/3 Depth1/2/3/4	--	Other than 0	--	--	--	--	--	--	--
LFO1/2 External Sync	--	--	--	TAP	--	--	--	--	--
Tone Delay Mode	--	--	--	--	TAP-SYNC	--	--	--	--

--:Need not be set

2. Performance Mode

Parameters to be set	When HOLD-1 is ON, note of the part on the receiving channel is held	Tone parameters can be controled in real-time	Effect parameters can be controled in real-time		LFO Rate is changed to the HOLD-1 ON interval	Tone Delay time is changed to the HOLD-1 ON interval	When HOLD-1 is ON, Effect controller is held	When HOLD-1 is ON, Effect controller is held at its peak level	When HOLD-1 is ON, Tone controller is held	When HOLD-1 is ON, Tone controller is held at its peak level
			Setting1	Setting2						
SYSTEM PARAMETER										
System Control Source 1/2	--	CC64:HOLD-1	CC64:HOLD-1	CC64:HOLD-1	--	--	--	--	--	--
Receive Hold-1	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
TAP Control Source	--	--	--	--	HOLD-1	HOLD-1	--	--	--	--
Hold Control Source	--	--	--	--	--	--	HOLD-1	--	HOLD-1	--
Peak Control Source	--	--	--	--	--	--	--	HOLD-1	--	HOLD-1
PERFORMANCE COMMON PARAMETER										
EFX Source	--	--	1 - 16	PERFORM	--	--	--	--	--	--
EFX Control Source 1/2	--	--	--	SYS-CTRL1/2	--	--	--	--	--	--
EFX Control Depth 1/2	--	--	--	Other than 0	--	--	--	--	--	--
PERFORMANCE PART PARAMETER										
MIDI Receive Switch	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
PATCH COMMON PARAMETER										
EFX Control Source 1/2	--	--	SYS-CTRL1/2	--	--	--	--	--	--	--
EFX Control Depth 1/2	--	--	Other than 0	--	--	--	--	--	--	--
Patch Control Source 1/2/3	--	SYS-CTRL1/2	--	--	--	--	--	--	--	--
EFX Control Hold/Peak	--	--	--	--	--	--	HOLD	PEAK	--	--
Control 1/2/3 Hold/Peak	--	--	--	--	--	--	--	--	HOLD	PEAK
PATCH TONE PARAMETER										
Hold-1 Control Switch	ON	--	--	--	--	--	--	--	--	--
Ctrl 1/2/3 Dest.1/2/3/4	--	Other than OFF	--	--	--	--	--	--	--	--
Ctrl 1/2/3 Depth1/2/3/4	--	Other than 0	--	--	--	--	--	--	--	--
LFO1/2 External Sync	--	--	--	--	TAP	--	--	--	--	--
Tone Delay Mode	--	--	--	--	--	TAP-SYNC	--	--	--	--

--:Need not be set

○ Portamento

Status	Second	Third
BnH	41H	vvH

n = MIDI channel number: 0H - FH (0 - 15) 0 = ch.1 15 = ch.16
vv = Control value : 00H - 7FH (0 - 127) 0 - 63 = OFF 64 - 127 = ON

1. Patch Mode

Parameters to be set	Portamento switch of Patch Common parameter is changed its setting	Tone parameters can be controled in real-time	Effect parameters can be controled in real-time
SYSTEM PARAMETER			
System Control Source 1/2	--	CC65:PORTAMENTO	CC65:PORTAMENTO
Receive Control Change	ON	ON	ON
PATCH COMMON PARAMETER			
EFX Control Source 1/2	--	--	SYS-CTRL1/2
EFX Control Depth 1/2	--	--	Other than 0
Patch Control Source 1/2/3	--	SYS-CTRL1/2	--
PATCH TONE PARAMETER			
Ctrl 1/2/3 Dest.1/2/3/4	--	Other than OFF	--
Ctrl 1/2/3 Depth1/2/3/4	--	Other than 0	--

--:Need not be set

2. Performance Mode

Parameters to be set	Portamento switch of Patch Common parameter of the part on the receiving channel is changed its setting	Tone parameters can be controled in real-time	Effect parameters can be controled in real-time			
			Setting1		Setting2	
SYSTEM PARAMETER						
System Control Source 1/2	--	CC65:PORTAMENTO	CC65:PORTAMENTO		CC65:PORTAMENTO	
Receive Control Change	ON	ON	ON		ON	
PERFORMANCE COMMON PARAMETER						
EFX Source	--	--	1 - 16		PERFORM	
EFX Control Source 1/2	--	--	--		SYS-CTRL1/2	
EFX Control Depth 1/2	--	--	--		Other than 0	
PERFORMANCE PART PARAMETER						
MIDI Receive Switch	ON	ON	ON		ON	
PATCH COMMON PARAMETER						
EFX Control Source 1/2	--	--	SYS-CTRL1/2		--	
EFX Control Depth 1/2	--	--	Other than 0		--	
Patch Control Source 1/2/3	--	SYS-CTRL1/2	--		--	
PATCH TONE PARAMETER						
Ctrl 1/2/3 Dest.1/2/3/4	--	Other than OFF	--		--	
Ctrl 1/2/3 Depth1/2/3/4	--	Other than 0	--		--	

--:Need not be set

○ Sostenuto

Status	Second	Third
BnH	42H	vvH

n = MIDI channel number: 0H - FH (0 - 15) 0 = ch.1 15 = ch.16
vv = Control value : 00H - 7FH (0 - 127) 0 - 63 = OFF 64 - 127 = ON

1. Patch Mode

Parameters to be set	When SOSTENUTO is ON, MIDI-on note is held on	Tone parameters can be controled in real-time	Effect parameters can be controled in real time	LFO Rate is changed to the SOSTENUTO interval	Tone delay time is changed to the SOSTENUTO ON interval	When SOSTENUTO is ON, Effect controller is held	When SOSTENUTO is ON, Effect controller is held at its peak level	When SOSTENUTO is ON, Tone controller is held	When SOSTENUTO is ON, Tone controller is held at its peak level
SYSTEM PARAMETER									
System Control Source 1/2	---	CC66:SOSTENUTO	CC66:SOSTENUTO			---	---	---	---
Receive Control Change	ON	ON	ON	ON	ON	ON	ON	ON	ON
TAP Control Source	---	---	---	SOSTENUTO	SOSTENUTO	---	---	---	---
Hold Control Source	---	---	---			SOSTENUTO	---	SOSTENUTO	---
Peak Control Source	---	---	---	---	---	---	SOSTENUTO	---	SOSTENUTO
PATCH COMMON PARAMETER									
EFX Control Source 1/2	---	---	SYS-CTRL1/2	---		---	---	---	---
EFX Control Depth 1/2	---	---	Other than 0	---	---		---	---	---
Patch Control Source 1/2/3	---	SYS-CTRL1/2	---	---	---	---		---	---
EFX Control Hold/Peak	---	---	---	---		HOLD	PEAK	---	---
Control 1/2/3 Hold/Peak	---	---	---	---	---	---	---	HOLD	PEAK
PATCH TONE PARAMETER									
Ctrl 1/2/3 Dest.1/2/3/4	---	Other than OFF	---	---	---	---	---	---	---
Ctrl 1/2/3 Depth1/2/3/4	---	Other than 0	---	---	---	---	---	---	---
LFO1/2 External Sync	---	---	---	TAP		---	---	---	---
Tone Delay Mode	---	---	---	---	TAP-SYNC		---	---	---

---:Need not be set

2. Performance Mode

Parameters to be set	When SOSTENUTO is ON, MIDI-on note of the part on the receiving channel is held	Tone parameters can be controled in real-time	Effect parameters can be controled in real-time: Setting1	Effect parameters can be controled in real-time: Setting2	LFO Rate is changed to the SOSTENUTO ON interval	Tone Delay time is changed to the SOSTENUTO ON interval	When SOSTENUTO is ON, Effect controller is held	When SOSTENUTO is ON, Effect controller is held at its peak level	When SOSTENUTO is ON, Tone controller is held	When SOSTENUTO is ON, Tone controller is held at its peak level
SYSTEM PARAMETER										
System Control Source 1/2	---	CC66:SOSTENUTO	CC66:SOSTENUTO	CC66:SOSTENUTO	---	---	---	---	---	---
Receive Control Change	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
TAP Control Source	---	---	---	---	SOSTENUTO	SOSTENUTO	---	---	---	---
Hold Control Source	---	---	---	---	---	---	SOSTENUTO	---	SOSTENUTO	---
Peak Control Source	---	---	---	---	---	---	---	SOSTENUTO	---	SOSTENUTO
PERFORMANCE COMMON PARAMETER										
EFX Source	---	---	1 - 16	PERFORM	---	---	---	---	---	---
EFX Control Source 1/2	---	---	---	SYS-CTRL1/2	---	---	---	---	---	---
EFX Control Depth 1/2	---	---	---	Othe than 0	---	---	---	---	---	---
PERFORMANCE PART PARAMETER										
MIDI Receive Switch	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
PATCH COMMON PARAMETER										
EFX Control Source 1/2	---	---	SYS-CTRL1/2		---	---	---	---	---	---
EFX Control Depth 1/2	---	---	Other than 0	---	---	---	---	---	---	---
Patch Control Source 1/2/3	---	SYS-CTRL1/2	---	---	---	---	---	---	---	---
EFX Control Hold/Peak	---	---	---	---	---	---	HOLD	PEAK	---	---
Control 1/2/3 Hold/Peak	---	---	---	---	---	---	---		HOLD	PEAK
PATCH TONE PARAMETER										
Ctrl 1/2/3 Dest.1/2/3/4	---	Other than OFF	---	---	---	---	---	---	---	---
Ctrl 1/2/3 Depth1/2/3/4	---	Other than 0	---	---	---	---	---	---	---	---
LFO1/2 External Sync	---	---	---	---	TAP	---	---	---	---	---
Tone Delay Mode	---	---	---	---	---	TAP-SYNC	---	---	---	---

---:Need not be set

○ Soft Pedal

Status	Second	Third
BnH	43H	vvH

n = MIDI channel number: 0H - FH (0 - 15) 0 = ch.1 15 = ch.16
vv = Control Value : 00H - 7FH (0 - 127) 0 - 63 = OFF 64 - 127 = ON

1. Patch Mode

Parameters to be set	Tone parameters can be controled in real-time	Effect parameters can be controled in real-time	LFO Rate is changed to the SOFT PEDAL ON interval	Tone Delay Time is changed to the SOFT PEDAL ON interval	When SOFT PEDAL is ON, Effect controller is held	When SOFT PEDAL is ON, Effect controller is held at its peak level	When SOFT PEDAL is ON, Tone controller is held	When SOFT PEDAL is ON, Tone controller is held at its peak level
SYSTEM PARAMETER								
System Control Source 1/2	CC67:SOFT	CC67:SOFT	---	---	---	---	---	---
Receive Control Change	ON	ON	ON	ON	ON	ON	ON	ON
TAP Control Source	---	---	SOFT	SOFT	---	---	---	---
Hold Control Source	---	---	---	---	SOFT	---	SOFT	---
Peak Control Source	---	---	---	---	---	SOFT	---	SOFT
PATCH COMMON PARAMETER								
EFX Control Source 1/2		SYS-CTRL1/2				---		---
EFX Control Depth 1/2	---	Other than 0	---	---	---	---	---	---
Patch Control Source 1/2/3	SYS-CTRL1/2		---	---	---	---	---	
EFX Control Hold/Peak	---		---	---	HOLD	PEAK	---	
Control 1/2/3 Hold/Peak		---		---	---		HOLD	PEAK
PATCH TONE PARAMETER								
Ctrl 1/2/3 Dest.1/2/3/4	Other than OFF		---	---	---	---	---	---
Ctrl 1/2/3 Depth1/2/3/4	Other than 0		---	---	---	---	---	---
LFO1/2 External Sync			TAP				---	---
Tone Delay Mode				TAP SYNC		---	---	---

---:Need not be set

2. Performance Mode

Parameters to be set	Tone parameters can be controled in real-time	Effect parameters can be controled in real-time: Setting1	Effect parameters can be controled in real-time: Setting2	LFO Rate is changed to the SOFT PEDAL ON interval	Tone Delay time is changed to the SOFT PEDAL ON interval	When SOFT PEDAL is ON, Effect controller is held	When SOFT PEDAL is ON, Effect controller is held at its peak level	When SOFT PEDAL is ON, Tone controller is held	When SOFT PEDAL is ON, Tone controller is held at its peak level
SYSTEM PARAMETER									
System Control Source 1/2	CC67:SOFT	CC67:SOFT	CC67:SOFT	--	--	--	--	--	--
Receive Control Change	ON	ON	ON	ON	ON	ON	ON	ON	ON
TAP Control Source	--	--	--	SOFT	SOFT	--	--	--	--
Hold Control Source	--	--	--	--	--	SOFT	--	SOFT	--
Peak Control Source	--	--	--	--	--	--	SOFT		SOFT
PERFORMANCE COMMON PARAMETER									
EFX Source	--	1 - 16	PERFORM	--	--	--	--	--	--
EFX Control Source 1/2	--	--	SYS-CTRL1/2	--	--	--	--	--	--
EFX Control Depth 1/2	--	--	Other than 0	--	--	--	--	--	--
PERFORMANCE PART PARAMETER									
MIDI Receive Switch	ON	ON	ON	ON	ON	ON	ON	ON	ON
PATCH COMMON PARAMETER									
EFX Control Source 1/2	--	SYS-CTRL1/2	--	--	--	--	--	--	--
EFX Control Depth 1/2	--	Other than 0	--	--	--	--	--	--	--
Patch Control Source 1/2/3	SYS-CTRL1/2	--	--	--	--	--	--	--	--
EFX Control Hold/Peak	--	--	--	--	--	HOLD	PEAK	--	--
Control 1/2/3 Hold/Peak	--	--	--	--	--			HOLD	PEAK
PATCH TONE PARAMETER									
Ctrl 1/2/3 Dest.1/2/3/4	Other than OFF	--	--	--	--	--	--	--	--
Ctrl 1/2/3 Depth1/2/3/4	Other than 0	--	--	--	--	--	--	--	--
LFO1/2 External Sync	--	--	--	TAP	--	--	--	--	--
Tone Delay Mode	--	--	--	--	TAP-SYNC	--	--	--	--

--:Need not be set

○ Hold 2

Status	Second	Third
BnH	45H	vvH

n = MIDI channel number : 0H - FH (0 - 15) 0 = ch.1 15 = ch.16
vv = Control Value : 00H - 7FH (0 - 127) 0 - 63 = OFF 64 - 127 = ON

1. Patch Mode

Parameters to be set	Tone parameters can be controled in real-time	Effect parameters can be controled in real-time	LFO Rate is changed to the HOLD-2 ON interval	Tone delay time is changed to the HOLD-2 ON interval	When HOLD-2 is ON, Effect controller is held	When HOLD-2 is ON, Effect controller is held at its peak level	When HOLD-2 is ON, Tone controller is held	When HOLD-2 is ON, Tone controller is held at its peak level
SYSTEM PARAMETER								
System Control Source 1/2	CC69:HOLD-2	CC69:HOLD-2	--	--	--	--	--	--
Receive Control Change	ON	ON	ON	ON	ON	ON	ON	ON
TAP Control Source	--	--	HOLD-2	HOLD-2	--	--	--	--
Hold Control Source	--	--	--	--	HOLD-2	--	HOLD-2	--
Peak Control Source	--	--	--	--		HOLD-2	--	HOLD-2
PATCH COMMON PARAMETER								
EFX Control Source 1/2	--	SYS-CTRL1/2	--	--	--	--	--	--
EFX Control Depth 1/2	--	Other than 0	--	--	--	--	--	--
Patch Control Source 1/2/3	SYS-CTRL1/2	--	--	--	--	--	--	--
EFX Control Hold/Peak	--	--	--	--	HOLD	PEAK	--	--
Control 1/2/3 Hold/Peak	--	--	--		--	--	HOLD	PEAK
PATCH TONE PARAMETER								
Ctrl 1/2/3 Dest.1/2/3/4	Other than OFF	--	--	--	--	--	--	--
Ctrl 1/2/3 Depth1/2/3/4	Other than 0	--	--	--	--	--	--	--
LFO1/2 External Sync	--	--	TAP	--	--	--	--	--
Tone Delay Mode	--	--	--	TAP-SYNC	--	--	--	--

--:Need not be set

2. Performance Mode

Parameters to be set	Tone parameters can be controled in real-time	Effect parameters can be controled in real-time: Setting1	Effect parameters can be controled in real-time: Setting2	LFO Rate is changed to the HOLD-2 ON interval	Tone Delay time is changed to the HOLD-2 ON interval	When HOLD-2 is ON, Effect controller is held	When HOLD-2 is ON, Effect controller is held at its peak level	When HOLD-2 is ON, Tone controller is held	When HOLD-2 is ON, Tone controller is held at its peak level
SYSTEM PARAMETER									
System Control Source 1/2	CC69:HOLD-2	CC69:HOLD-2	CC69:HOLD-2	--	--	--	--	--	--
Receive Control Change	ON	ON	ON	ON	ON	ON	ON	ON	ON
TAP Control Source	--	--	--	HOLD-2	HOLD-2		--	--	--
Hold Control Source	--	--	--	--	--	HOLD-2		HOLD-2	--
Peak Control Source	--	--	--	--	--	--	HOLD-2		HOLD-2
PERFORMANCE COMMON PARAMETER									
EFX Source	--	1 - 16	PERFORM	--	--	--	--	--	--
EFX Control Source 1/2	--	--	SYS-CTRL1/2	--	--	--	--	--	--
EFX Control Depth 1/2	--	--	Other than 0	--	--	--	--	--	--
PERFORMANCE PART PARAMETER									
MIDI Receive Switch	ON	ON	ON	ON	ON	ON	ON	ON	ON
PATCH COMMON PARAMETER									
EFX Control Source 1/2	--	SYS-CTRL1/2	--	--	--	--	--	--	--
EFX Control Depth 1/2	--	Other than 0	--	--	--	--	--	--	--
Patch Control Source 1/2/3	SYS-CTRL1/2	--	--	--	--	--	--	--	--
EFX Control Hold/Peak	--	--	--	--	--	HOLD	PEAK	--	--
Control 1/2/3 Hold/Peak	--	--	--	--	--			HOLD	PEAK
PATCH TONE PARAMETER									
Ctrl 1/2/3 Dest.1/2/3/4	Other than OFF	--	--	--	--	--	--	--	--
Ctrl 1/2/3 Depth1/2/3/4	Other than 0	--	--	--	--	--	--	--	--
LFO1/2 External Sync	--	--	--	TAP	--	--	--	--	--
Tone Delay Mode	--	--	--	--	TAP-SYNC	--	--	--	--

--:Need not be set

○ Portamento Control

Status	Second	Third
BnH	54H	kkH

n = MIDI channel number: 0H - FH (0 - 15) 0 = ch.1 15= ch.16
kk = Note Number : 00H - 7FH (0 - 127)

1. Patch Mode

Parameters to be set	The on-note glides to the pitch of the note turned on next	Tone parameters can be controled in real-time	Effect parameters can be controled in real-time
SYSTEM PARAMETER			
System Control Source 1/2	--	CC84:	CC84:
Receive Control Change	ON	ON	ON
PATCH COMMON PARAMETER			
EFX Control Source 1/2	--	--	SYS-CTRL1/2
EFX Control Depth 1/2	--	--	Other than 0
Patch Control Source 1/2/3	--	SYS-CTRL1/2	--
PATCH TONE PARAMETER			
Ctrl 1/2/3 Dest.1/2/3/4	--	Other then OFF	--
Ctrl 1/2/3 Depth1/2/3/4	--	Other than 0	--

--:Need not be set

2. Performance Mode

Parameters to be set	This applies to the part on the receiving ch. The on-note glides to the pitch of the note turned on next	Tone parameters can be controled in real-time	Effect parameters can be controled in real-time	
			Setting1	Setting2
SYSTEM PARAMETER				
System Control Source 1/2	--	CC84:	CC84:	CC84:
Receive Control Change	ON	ON	ON	ON
PERFORMANCE COMMON PARAMETER				
EFX Source	--	--	1 - 16	PERFORM
EFX Control Source 1/2	--	--	--	SYS-CTRL1/2
EFX Control Depth 1/2	--	--	--	Other than 0
PERFORMANCE PART PARAMETER				
MIDI Receive Switch	ON	ON	ON	ON
PATCH COMMON PARAMETER				
EFX Control Source 1/2	--	--	SYS-CTRL1/2	--
EFX Control Depth 1/2	--	--	Other than 0	--
Patch Control Source 1/2/3	--	SYS-CTRL1/2	--	--
PATCH TONE PARAMETER				
Ctrl 1/2/3 Dest.1/2/3/4	--	Other than OFF	--	--
Ctrl 1/2/3 Depth1/2/3/4	--	Other than 0	--	--

--:Need not be set

○ General Purpose Effect 1 (Reverb)

Status	Second	Third
BnH	5BH	vvH

n = MIDI channel number: 0H - FH (0 - 15) 0 = ch.1 15 = ch.16
vv = Control value : 00H - 7FH (0 - 127)

1. Patch Mode

** This message, when received in patch mode, will not affect the reverb send level.*

Parameters to be set	Tone parameters can be controled in real-time	Effect parameters can be controled in real-time
SYSTEM PARAMETER		
System Control Source 1/2	CC91:REVERB	CC91:REVERB
Receive Control Change	ON	ON
PATCH COMMON PARAMETER		
EFX Control Source 1/2	--	SYS-CTRL1/2
EFX Control Depth 1/2	--	Other than 0
Patch Control Source 1/2/3	SYS-CTRL1/2	--
PATCH TONE PARAMETER		
Ctrl 1/2/3 Dest.1/2/3/4	Other than OFF	--
Ctrl 1/2/3 Depth1/2/3/4	Other than 0	--

--:Need not be set

2. Performance Mode

Parameters to be set	Reverb send level of the part on the receiving ch. will be changed	Tone parameters can be controled in real-time	Effect parameters can be controled in real-time	
			Setting1	Setting2
SYSTEM PARAMETER				
System Control Source 1/2	--	CC91:REVERB	CC91:REVERB	CC91:REVERB
Receive Control Change	ON	ON	ON	ON
PERFORMANCE COMMON PARAMETER				
EFX Source	--	--	1 - 16	PERFORM
EFX Control Source 1/2	--	--	--	SYS-CTRL1/2
EFX Control Depth 1/2	--	--	--	Other than 0
PERFORMANCE PART PARAMETER				
MIDI Receive Switch	ON	ON	ON	ON
PATCH COMMON PARAMETER				
EFX Control Source 1/2	--	--	SYS-CTRL1/2	--
EFX Control Depth 1/2	--	--	Other than 0	--
Patch Control Source 1/2/3	--	SYS-CTRL1/2	--	--
PATCH TONE PARAMETER				
Ctrl 1/2/3 Dest.1/2/3/4	--	Other than OFF	--	--
Ctrl 1/2/3 Depth1/2/3/4	--	Other than 0	--	--

--:Need not be set

○ General Purpose Effect 3 (Chorus)

Status	Second	Third
BnH	5DH	vvH

n = MIDI channelnumber: 0H FH (0 - 15) 0 = ch.1 15 = ch.16
vv = Control value : 00H 7FH (0 - 127)

1. Patch Mode

**** This message, when received in Patch mode, will not effect the chorus send level.***

Parameters to be set	Tone parameters can be controled in real-time	Effect parameters can be controled in real-time
SYSTEM PARAMETER		
System Control Source 1/2	CC93:CHORUS	CC93:CHORUS
Receive Control Change	ON	ON
PATCH COMMON PARAMETER		
EFX Control Source 1/2	--	SYS-CTRL1/2
EFX Control Depth 1/2	--	Other than 0
Patch Control Source 1/2/3	SYS-CTRL1/2	--
PATCH TONE PARAMETER		
Ctrl 1/2/3 Dest.1/2/3/4	Other than OFF	--
Ctrl 1/2/3 Depth1/2/3/4	Other than 0	--

--:Need not be set

2. Performance Mode

Parameters to be set	Chorus send level of the part on the receiving ch. will be changed	Tone parameters can be controled in real-time	Effect parameters can be controled in real-time	
			Setting1	Setting2
SYSTEM PARAMETER				
System Control Source 1/2	--	CC93:CHORUS	CC93:CHORUS	CC93:CHORUS
Receive Control Change	ON	ON	ON	ON
PERFORMANCE COMMON PARAMETER				
EFX Source	--	--	1 - 16	PERFORM
EFX Control Source 1/2	--	--	--	SYS-CTRL1/2
EFX Control Depth 1/2	--	--	--	Other than 0
PERFORMANCE PART PARAMETER				
MIDI Receive Switch	ON	ON	ON	ON
PATCH COMMON PARAMETER				
EFX Control Source 1/2	--	--	SYS-CTRL1/2	--
EFX Control Depth 1/2	--	--	Other than 0	--
Patch Control Source 1/2/3	--	SYS-CTRL1/2	--	--
PATCH TONE PARAMETER				
Ctrl 1/2/3 Dest.1/2/3/4	--	Other than OFF	--	--
Ctrl 1/2/3 Depth1/2/3/4	--	Other than 0	--	--

--:Need not be set

○ RPN LSB

Status	Second	Third
BnH	64H	llH

n = MIDI channel number: 0H - FH (0 - 15) 0 = ch.1 15 = ch.16
ll = Lower byte of the parameter number specified by RPN.

○ RPN MSB

Status	Second	Third
BnH	65H	mmH

n = MIDI channel number: 0H - FH (0 - 15) 0 = ch.1 15 = ch.16
mm = Upper byte of the parameter number specified by RPN.

The following is commonly applied to both RPN MSB and LSB.

1. Patch Mode

Parameters to be set	The parameter No. specified by RPN will be changed
SYSTEM PARAMETER	
Receive Control Change	ON

2. Performance Mode

Parameters to be set	Parameter No., specified by RPN, of the part on the receiving channel will be changed
SYSTEM PARAMETER	
Receive Control Change	ON
PERFORMANCE PART PARAMETER	
MIDI Receive Switch	ON

○ Data Entry LSB

Status	Second	Third
BnH	26H	llH

n = MIDI channel number: 0H - FH (0 - 15) 0 = ch.1 15 = ch.16
ll = Value for the parameter specified by RPN

1. Patch Mode

Parameters to be set	LSB of the data for the parameter specified by RPN LSB/MSB will be changed	Tone parameters can be controled in real-time	Effect parameters can be controled in real-time
SYSTEM PARAMETER			
System Control Source 1/2	--	CC38:	CC38:
Receive Control Change	ON	ON	ON
PATCH COMMON PARAMETER			
EFX Control Source 1/2	--	--	SYS-CTRL1/2
EFX Control Depth 1/2	--	--	Other than 0
Patch Control Source 1/2/3	--	SYS-CTRL1/2	--
PATCH TONE PARAMETER			
Ctrl 1/2/3 Dest.1/2/3/4	--	Other than OFF	--
Ctrl 1/2/3 Depth1/2/3/4	--	Other than 0	--

--:Need not be set

2. Performance Mode

Parameters to be set	LSB of the data for parameter, sepecified by PRN LSB/MSB, of the part on the receving channel will be changed	Tone parameters can be controled in real-time	Effect parameters can be controled in real-time	
			Setting1	Setting2
SYSTEM PARAMETER				
System Control Source 1/2	--	CC38:	CC38:	CC38:
Receive Control Change	ON	ON	ON	ON
PERFORMANCE COMMON PARAMETER				
EFX Source	--	--	1 - 16	PERFORM
EFX Control Source 1/2	--	--	--	SYS-CTRL1/2
EFX Control Depth 1/2	--	--	--	Other than 0
PERFORMANCE PART PARAMETER				
MIDI Receive Switch	ON	ON	ON	ON
PATCH COMMON PARAMETER				
EFX Control Source 1/2	--	--	SYS-CTRL1/2	--
EFX Control Depth 1/2	--	--	Other than 0	--
Patch Control Source 1/2/3	--	SYS-CTRL1/2	--	--
PATCH TONE PARAMETER				
Ctrl 1/2/3 Dest.1/2/3/4	--	Other than OFF	--	--
Ctrl 1/2/3 Depth1/2/3/4	--	Other than 0	--	--

--:Need not be set

❍ Data Entry MSB

Status	Second	Third
BnH	06H	mm H

n = MIDI channel number: 0H - FH (0 - 15) 0 = ch.1 15 = ch.16
mm : Value for the parameter specified by RPN

1. Patch Mode

Parameters to be set	MSB of the data for the parameter specified by RPN LSB/MSB will be changed	Tone parameters can be controled in real time	Effect parameters can be controled in real time
SYSTEM PARAMETER			
System Control Source 1/2	--	CC6:DATA ENTRY	CC6:DATA ENTRY
Receive Control Change	ON	ON	ON
PATCH COMMON PARAMETER			
EFX Control Source 1/2	--	--	SYS-CTRL1/2
EFX Control Depth 1/2	--	--	Other than 0
Patch Control Source 1/2/3	--	SYS-CTRL1/2	--
PATCH TONE PARAMETER			
Ctrl 1/2/3 Dest.1/2/3/4	--	Other than OFF	--
Ctrl 1/2/3 Depth1/2/3/4	--	Other than 0	--

--:Need not be set

2. Performance Mode

Parameters to be set	MSB of the data for parameter, specified by PRN LSB/MSB, of the part on the receving channel will be changed	Tone parameters can be controled in real-time	Effect parameters can be controled in real-time			
			Setting1		Setting2	
SYSTEM PARAMETER						
System Control Source 1/2	--	CC6:DATA-ENTRY	CC6:DATA-ENTRY		CC6:DATA-ENTRY	
Receive Control Change	ON	ON	ON		ON	
PERFORMANCE COMMON PARAMETER						
EFX Source	--	--	1 - 16		PERFORM	
EFX Control Source 1/2	--	--	--		SYS-CTRL1/2	
EFX Control Depth 1/2	--	--	--		Other than 0	
PERFORMANCE PART PARAMETER						
MIDI Receive Switch	ON	ON	ON		ON	
PATCH COMMON PARAMETER						
EFX Control Source 1/2	--	--	SYS-CTRL1/2		--	
EFX Control Depth 1/2	--	--	Other than 0		--	
Patch Control Source 1/2/3	--	SYS-CTRL1/2	--		--	
PATCH TONE PARAMETER						
Ctrl 1/2/3 Dest.1/2/3/4	--	Other than OFF	--		--	
Ctrl 1/2/3 Depth1/2/3/4	--	Other than 0	--		--	

--:Need not be set

** Description of RPN **
RPNs (Registered Parameter Numbers) are functions defined by MIDI standard.
Each PRN may be used to change parameters of equipment to vary characteristics of tone, performance, etc.
The JV-1080 can recognize the four RPNs: Pitch Bend Sensitivity (RPN#0), Fine Tuning (RPN#1), Coarse Tuning (RPN#2) and RPN Reset (RPN#16383).
To effect RPN, first designate the parameter to be controlled using RPN MSB and RPN LSB, and then specify the value of designated parameter in the data entry.

BnH 65H mmH BnH 64H llH BnH 06H xxH BnH 26H yyH
(RPN MSB) (RPN LSB) (Data Entry MSB) (Data Entry LSB)

n = MIDI channel number: 0H - FH (0 - 15) 0 = ch.1 15 = ch.16

RPN MSB	RPN LSB	Data Entry MSB	Data Entry LSB	Funtion
00H	00H	mmH	---	Pitch bend sensitivity mm : 00H - 0CH (0 - 12 in unit of semitones) ll : Ignored Up to 1 octave in unit of semitones. * Common to BENDER-RANGE UP and BENDER-RANGE DOWN * Rhythm part (part 10) ignores this function.
00H	01H	mmH	llH	Fine Tuning mm, ll : 20H, 00H - 40H, 00H - 60H, 00H (-8192 * 50 / 8192 - 0 - +8192 * 50 / 8192 cent) * In patch mode, sets master tune. * In performance mode, sets fine tune of a part. * When received on the control channel, sets the master tune.
00H	02H	mmH	---	Coarse Tuning mm : 04 - 40H - 7CH (-48 - 0 - +48 in unit of semitones) ll : Ignored * Ignored in patch mode * In performance mode, sets coarse tune of a part.
7FH	7FH	---	---	RPN Reset Cancels the settings made by PRN(s). Internal settings remain unchanged. mm, ll : Ignored

** RPN is received either MSB first or LSB first.*
** Data entry data must be sent MSB first to correctly received.*
(LSB is cleared to 0 when MSB is received.)

● **Program Change**

Status	Second
Cnlt	ppH

n = MIDI channel number: 0H - FH (0 - 15) 0 = ch.1 15 = ch.16
pp = Program number : 00H - 7FH (0 - 127)

1. Patch Mode

	Changes patches (patch number is the program number plus 1)
Parameters to be set	
SYSTEM PARAMETER	
Receive Program Change	ON

:Need not be set

2. Performance Mode

** Changes performance when received on the control channel.*

	Patch of the part on the receiving channel will be changed. (The patch number is the program number plus 1)
Parameters to be set	
SYSTEM PARAMETER	
Receive Program Change	ON
PERFORMANCE PART PARAMETER	
MIDI Receive Switch	ON
Receive Program Change	ON

--:Need not be set

● **Channel Pressure**

Status	Second
DnH	vvH

n = MIDI channel number: 0H - FH (0 - 15) 0 = ch.1 15 = ch.16
vv = Pressure value : 00H - 7FH (0 - 127)

1. Patch Mode

	Tone parameters can be controled in real time		Effect parameters can be controled in real-time	
Parameters to be set	Setting1	Setting2	Setting1	Setting2
SYSTEM PARAMETER				
System Control Source 1/2	--	AFTERTOUCH	--	AFTERTOUCH
Receive Aftertouch	ON	ON	ON	ON
Aftertouch Source	CH-AFTER or CH&POLY	CH-AFTER or CH&POLY	CH-AFTER or CH&POLY	CH-AFTER or CH&POLY
PATCH COMMON PARAMETER				
EFX Control Source 1/2	--	--	AFTERTOUCH	SYS-CTRL1/2
EFX Control Depth 1/2	--	--	Other than 0	Other than 0
Patch Control Source 1/2/3	AFTERTOUCH	SYS-CTRL1/2	--	--
PATCH TONE PARAMETER				
Ctrl 1/2/3 Dest.1/2/3/4	Other than OFF	Other than OFF	--	--
Ctrl 1/2/3 Depth1/2/3/4	Other than 0	Other than 0	--	--

--:Need not be set

2. Perforamance Mode

	Tone parameters can be controled in real-time		Effect parameters can be controled in real-time			
Parameters to be set	Setting1	Setting2	Setting1	Setting2	Setting3	Setting4
SYSTEM PARAMETER						
System Control Source 1/2	--	AFTERTOUCH	--	--	AFTERTOUCH	AFTERTOUCH
Receive Aftertouch	ON	ON	ON	ON	ON	ON
Aftertouch Source	CH-AFTER or CH&POLY	CH-AFTER or CH&POLY	CH-AFTER or CH&POLY	CH-AFTER or CH&POLY	CH-AFTER or CH&POLY	CH-AFTER or CH&POLY
PERFORMANCE COMMON PARAMETER						
EFX Source	--	--	1 - 16	PERFORM	1 - 16	PERFORM
EFX Control Source 1/2	--	--	--	AFTERTOUCH	--	SYS-CTRL1/2
EFX Control Depth 1/2	--	--	--	Other than 0	--	Other than 0
PERFORMANCE PART PARAMETER						
MIDI Receive Switch	ON	ON	ON	ON	ON	ON
PATCH COMMON PARAMETER						
EFX Control Source 1/2	--	--	AFTERTOUCH	--	SYS-CTRL1/2	--
EFX Control Depth 1/2	--	--	Other than 0	--	Other than 0	--
Patch Control Source 1/2/3	AFTERTOUCH	SYS-CTRL1/2	--	--	--	--
PATCH TONE PARAMETER						
Ctrl 1/2/3 Dest.1/2/3/4	Other than OFF	Other than OFF	--	--	--	--
Ctrl 1/2/3 Depth1/2/3/4	Other than 0	Other than 0	--	--	--	--

--:Need not be set

● Pitch Bend Change

Status	Second	Third
EnH	llH	mmH

n = MIDI channel number : 0H - FH (0 - 15) 0 = ch.1 15= ch.16
mm, ll = Pitch bend change: 00H, 00H - 40H, 00H - 7FH, 7FH
(-8192 - 0 - +8192)

1. Patch Mode

Parameters to be set	Changes pitch of note	Tone parameters can be controled in real-time		Effect parameters can be controled in real-time	
		Setting1	Setting2	Setting1	Setting2
SYSTEM PARAMETER					
System Control Source 1/2	--	--	BENDER	--	BENDER
Receive Bender	ON	ON	ON	ON	ON
PATCH COMMON PARAMETER					
EFX Control Source 1/2	--	--	--	BENDER	SYS-CTRL1/2
EFX Control Depth 1/2	--	--	--	Other than 0	Other than 0
Patch Control Source 1/2/3	--	BENDER	SYS-CTRL1/2	--	
PATCH TONE PARAMETER					
Bender Control Switch	ON	--	--	--	--
Bend Range Upper/Lower	Other than 0	--	--	--	--
Pan Control Switch	--	--	--	--	--
Ctrl 1/2/3 Dest.1/2/3/4	--	Other than OFF	Other than OFF	--	--
Ctrl 1/2/3 Depth1/2/3/4	--	Other than 0	Other than 0	--	--

--:Need not be set

2. Performance Mode

Parameters to be set	Changes note pitch of the part on the receiving channel	Tone parameters can be controled in real-time		Effect parameters can be controled in real-time			
		Setting1	Setting2	Setting1	Setting2	Setting3	Setting4
SYSTEM PARAMETER							
System Control Source 1/2	--	--	BENDER	--	--	BENDER	BENDER
Receive Bender	ON	ON	ON	ON	ON	ON	ON
PERFORMANCE COMMON PARAMETER							
EFX Source	--	--	--	1 - 16	PERFORM	1 - 16	PERFORM
EFX Control Source 1/2	--	--	--	--	BENDER	--	SYS-CTRL1/2
EFX Control Depth 1/2	--	--	--	--	Other than 0	--	Other than
PERFORMANCE PART PARAMETER							
MIDI Receive Switch	ON	ON	ON	ON	ON	ON	ON
PATCH COMMON PARAMETER							
EFX Control Source 1/2	--	--	--	BENDER	--	SYS-CTRL1/2	--
EFX Control Depth 1/2	--	--	--	Other than 0	--	Other than 0	--
Patch Control Source 1/2/3	--	BENDER	SYS-CTRL1/2	--	--	--	--
PATCH TONE PARAMETER							
Bender Control Switch	ON	--	--	--	--	--	--
Bend Range Upper/Lower	Other than 0	--	--	--	--	--	--
Ctrl 1/2/3 Dest.1/2/3/4	--	Other than OFF	Other than OFF	--	--	--	--
Ctrl 1/2/3 Depth1/2/3/4	--	Other than 0	Other than 0	--	--	--	--

--:Need not be set

■ Channel Mode Message

● All Sounds Off

Status	Second	Third
BnH	78H	00H

n = MIDI channel number: 0H - FH (0 - 15) 0 = ch.1 15 = ch.16

** Turns off all MIDI-on notes on the MIDI channel.*
However, the state of channel messages does not change.

● Reset All Controllers

Status	Second	Third
BnH	79H	00H

n = MIDI channel number: 0H - FH (0 - 15) 0 = ch.1 15 = ch.16

** Upon receiving this message, the JV-1080 changes settings of the controller as follows:*

Controller	Settings
Modulation	0 (min)
Breath	0 (min)
Foot	0 (min)
Volume	127 (max)
Pan	64 (center)
Expression	0 (min) (volume is set at max.)
Hold 1	0 (off)
Sostenuto	0 (off)
Soft Pedal	0 (off)
Hold 2	0 (off)
Channel Pressure	0 (min)
Polyhonic Pressure	0 (min)
Pitch Bend Change	±0 (center)
RPN	Undefined: does not affect the internal data
General purpose system controller 1	0 (min)
General purpose system controller 2	0 (min)

● All Notes Off

Status	Second	Third
BnH	7BH	00H

n = MIDI channel number: 0H - FH (0 - 15) 0 = ch.1 15 = ch.16

** Turns off all MIDI-on notes on the MIDI channel.*
However, sound continues when Hold 1 and/or SOSTENUTO is ON.

● OMNI OFF

Status	Second	Third
BnH	7CH	00H

n = MIDI channel number: 0H - FH (0 - 15) 0 = ch.1 15 = ch.16

** Serves as All Notes Off.*

● OMNI ON

Status	Second	Third
BnH	7DH	00H

n = MIDI channel number: 0H - FH (0 - 15) 0 = ch.1 15 = ch.16

** Serves as All Notes Off and not OMNI ON.*

● MONO

Status	Second	Third
BnH	7EH	mmH

n = MIDI channel number: 0H - FH (0 - 15) 0 = ch.1 15 = ch.16
mm = Number of MONDs : 00H - 0FH (0 - 15)

** The key assign mode of the patch common parameter is changed to SOLO.*
** Serves as All Notes Off and Part to Mode 4 (m=1).*

● POLY

Status	Second	Third
BnH	7FH	00H

n = MIDI channel number: 0H - FH (0 - 15) 0 = ch.1 15 = ch.16

** The key assign mode of the patch common parameter is changed to POLY.*
** Serves as All Notes Off and Part to Mode 3.*

■ System Real Time Messages

● Active Sensing

Status
FEH

** When JV-1080 receives Active Sensing, it measures time intervals between incoming messages. If the subsequent message will not come within 400 ms after the previous one, JV-1080 turns off all MIDI-on notes, operates as if it receives Reset All Controller message, and stops measuring message intervals.*

● Timing Clock

Status
F8H

1. Patch Mode

Parameters to be set	Changes LFO Rate	Changes tone delay time	Changes delay time of effect	Changes the step rate of effect (Flanger)
SYSTEM PARAMETER Clock Source	 MIDI	 MIDI	 MIDI	 MIDI
PATCH COMMON PARAMETER EFX Type	 --	 --	 19.TRIPLE-TAP-DELAY or 20.QUADRUPLE-TAP-DELAY	 16.STEP-FLANGER
PATCH TONE PARAMETER LFO1/2 External Sync Tone Delay Mode	 CLOCK --	 -- CLOCK-SYNC	 -- --	 -- --

--:Need not be set

2. Performance Mode

Parameters to be set	Changes LFO Rate	Changes Tone delay time	Changes delay time of effect		Changes step rate of effect (Flanger)	
			Setting1	Setting2	Setting1	Setting2
SYSTEM PARAMETER						
Clock Source	MIDI	MIDI	MIDI	MIDI	MIDI	MIDI
PERFORMANCE COMMON PARAMETER						
EFX Type	--	--	--	19.TRIPLE-TAP-DELAY or 20.QUADRUPLE-TAP-DELAY	--	16.STEP-FLANGER
EFX Source	--	--	1 - 16	PERFORM	1 - 16	PERFORM
PATCH COMMON PARAMETER						
EFX Type	--	--	19.TRIPLE-TAP-DELAY or 20.QUADRUPLE-TAP-DELAY	--	16.STEP-FLANGER	--
PATCH TONE PARAMETER						
LFO1/2 External Sync	CLOCK	--	--	--	--	--
Tone Delay Mode	--	CLOCK-SYNC	--	--	--	--

--:Need not be set

■ System Exclusive Message

Status	Data Byte
F0H	iiH ddH .....eeH
F7H	

F0H : System Exclusive
ii - Manufacturer ID: 41H (65)
dd...ee = Data : 00H - 7FH (0 - 127)
F7H : EOX (End Of Exclusive)

** The JV-1080 recognized this message when the receive switch in system perameter is set to ON.*
For detail, please refer to section 3: Roland exclusive message.

2. TRANSMIT DATA

■ System Exclusive Message

Status	Data Byte
F0H	iiH ddH .....eeH
F7H	

F0H : System Exclusive
ii = Manufacturer ID: 41H (65)
dd...ee = Data : 00H - 7FH (0 - 127)
F7H : EOX (End Of Exclusive)

For detail, please refer to section 3: Roland exclusive message.

3. EXclusive communications

The JV-1080 can send and receive patch parameter, etc using the system exclusive message.
The model ID code of the JV-1080 is 6AH. The device ID code is to be determined by unit number setteing of MIDI function.
The JV-1080 ignores GS exclusive messages other than scale tune parameter. The model ID of the GS is 42H.

■ One way communication

● Request data 1 RQ1 (11H)

Byte	Description
F0H	Exclusive status
41H	Manufacture ID (Roland)
Dev	Device ID (Dev=UNIT#-1)
6AH	Model ID (JV-1080)
11H	Command ID (RQ1)
aaH	Address MSB
bbH	Address
ccH	Address
ddH	Address LSB
ssH	Size MSB
ttH	Size
uuH	Size
vvH	Size LSB
sum	Check sum
F7H	EOX (End of exclusive)

**Receive only: the JV-1080 does not send thie message.*

● Deta set 1 DT1 (12H)

1.JV-1080 (MODEL ID = 6AH)

Byte	Description
F0H	Exclusive status
41H	Manufacturer ID (Roland)
Dev	Device ID (Dev=UNIT#-1)
6AH	Model ID (JV-1080)
12H	Command ID (DT1)
aaH	Address MSB
bbH	Address
ccH	Address
ddH	Address LSB
eeH	Data
:	:
ffH	Data
sum	Check sum
F7H	EOX (End of exclusive)

2.GS (MODEL ID = 42H)

Byte	Description
F0H	Exclusive status
41H	Manufacturer ID (Roland)
Dev	Device ID (Dev=UNIT#-1)
6AH	Model ID (GS)
12H	Command ID (DT1)
aaH	Address MSB
bbH	Address
ccH	Address LSB
eeH	Data
:	:
ffH	Data
sum	Check sum
F7H	EOX (End of exclusive)

**When the device ID is 7FH, JV-1080 can receive the GS exclusive message even if the unit number is anything.*

4.Parameter address map (MODEL ID = 6AH)

Address and size are configured in 7 bits, and expressed in hexadecimal.

Address	MSB		LSB	
Binary	0aaa aaaa	0bbb bbbb	0ccc cccc	0ddd dddd
7-bit hex	AA	BB	CC	DD

Size	MSB		LSB	
Binary	0sss ssss	0ttt tttt	0uuu uuuu	0vvv vvvv
7-bit hex	SS	TT	UU	VV

■ Parameter base address

All deta sent in exclusive message are given particular addrasses to identify parameters. These address are the sum of the base address and offset address. Some parameters are defined using multiple offsets. The address included in the message of a data set or a data request must be within the value shown in the table below.

Note: A pair of two address preceded by the symbol # represents a divided-by-two data.e.g.the data ABH (hex) is devided into 0AH and 0BH and sent in thet order.

/ Example of exclusive data /

To set the reverb type of the temporary performance common to "DELAY", send the following data to the JV-1080.

```
F0H 41H 10H 6AH 12H 01H 00H 00H 28H 06H 51H F7H
--- --  --- --- --- --------------- --- --- -----
1    2   3   4   5         6         7   8    9
```

Comments:
1. Exclusive status.
2. Manufacturer ID: Roland=41H
3. Device ID: the unit number of the system common parameter minus 1. In this example, the unit number is 17: 17 - 1 = 16 which is expressed as 10H in hexadecimal notation.
4. Model ID of the JV-1080 is 6AH.
5. Command ID: data set 1=12H.
6. Addresses: by refering to Table 1, the start address of the temporary performance=01H 00H 00H 00H; from Table 1-2, offset address of performance common=00H 00H; from Table 1 2-1, offset address of reverb type=0CH 28H. These address are added together:

```
      01H 00H 00H 00H
            00H 00H
+)          00H 28H
-----------------
   01H 00H 00H 28H = target address
```

7. The number of "DELAY" is 6: 06H in hexadecimal.
8. Check sum
   The error checking process uses a checksum and provides a pattern where the last significant 7 bits are zero when values for an address, data (or size) and the checksum are summed. If the address is "aa bb ccH" and the data (or the size) is "dd ee ffH"

```
aa+bb+cc+dd+ee+ff=sum
sum+128-quotient***remainder
128-remainder=checksum
```

In case of this example,

```
F0H 41H 10H 6AH 12H 01H 00H 00H 28H 06H ??H F7H
                    --------------- --- ---
                       address      data checksum
```

Using the above formura, checksum is below.

```
01H+00H+00H+28H+06H=1+0+0+40+6+=47(sum)
47(sum)+128=0(quotient)***47(remainder)
checksum=128-47(remainder)=81=51H
```

IF you calcurate using only hexadecimal,

```
aa+bb+cc+dd+ee+ff=sum(xxH)
sum(xxH)+80H=quotient***remainder
80H-remainder=checksum
```

Checksum is below,

```
01H+00H+00H+28H+06H=2FH(sum)
2FH+80H=00H(quotient)***2FH(remainder)
checksum=80H-2FH(remainder)=51H
```

9.F7H is the mark of the end of exclusive.

1 JV-1080

< MODEL ID = 6AH >

Start address	Description	
00 00 00 00	System	*1-1
01 00 00 00	Temporary performance	*1-2
02 00 00 00	Performance mode temporary patch(part 1)	*1-3
02 01 00 00	Performance mode temporary patch(part 2)	
:		
02 08 00 00	Performance mode temporary patch(part 9)	
02 09 00 00	Temporary rhythm setup	*1-4
02 0A 00 00	Performance mode temporary patch(part 11)	*1-3
:		
02 0F 00 00	Performance mode temporary patch(part 16)	
03 00 00 00	Patch mode temporary patch	*1-3
10 00 00 00	User performance USER:01	*1-2
10 01 00 00	User performance USER:02	
:		
10 1F 00 00	User performance USER:32	
10 40 00 00	User rhythm setup USER:1	*1-4
10 41 00 00	User rhythm setup USER:2	
11 00 00 00	User patch USER:001	*1-3
11 01 00 00	User patch USER:002	
:		
11 7F 00 00	User patch USER:128	
20 00 00 00	Data card performance CARD:01	*1-2
20 01 00 00	Data card performance CARD:02	
:		
20 1F 00 00	Data card performance CARD:32	
20 40 00 00	Data card rhythm set CARD:1	*1-4
20 41 00 00	Data card rhythm set CARD:2	
21 00 00 00	Data card patch CARD:001	*1-3
21 01 00 00	Data card patch CARD:002	
:		
21 7F 00 00	Data card patch CARD:128	

*1-1 System

Offset address	Description	
00 00	System common	*1-1-1
10 00	Part 1 scale tune	*1 1-2
11 00	Part 2 scale tune	
:		
1F 00	Part 16 scale tune	
20 00	Patch mode scale tune	*1 1 2

*1-1-1 System common

Offset address		Description	
00 00	0000 00aa	Panel mode	0 - 2 (PERFORMANCE,PATCH,GM)
00 01	0aaa aaaa	Performance number	0 - 127 (USER:01 - USER:32,CARD:01 - CARD:32, PR-A:01 - PR-A:32,PR-B:01 - PR-B:32)
00 02	0000 00aa	Patch mode patch group	0 - 2 (USER,PCM,EXP)
00 03	0aaa aaaa	Patch mode patch group ID	0 - 127
# 00 04	0000 aaaa	Patch mode patch number	0 - 254
	0000 bbbb		(001 - 255)
00 06	0aaa aaaa	Master tune	0 - 126 (427.4 - 452.6)
00 07	0000 000a	Scale tune switch	0 - 1 (OFF,ON)
00 08	0000 000a	EFX switch	0 - 1 (OFF,ON)
00 09	0000 000a	Chorus switch	0 - 1 (OFF,ON)
00 0A	0000 000a	Reverb switch	0 - 1 (OFF,ON)
00 0B	0000 000a	Patch remain	0 - 1 (OFF,ON)
00 0C	0000 000a	Clock source	0 - 1 (INT,MIDI)
00 0D	0000 0aaa	Tap control source	0 - 4 (OFF,HOLD-1,SUSTENUTO,SOFT,HOLD-2)

00 0E	0000 0aaa	Hold control source	0 - 4	
			(OFF,HOLD-1,SOSTENUTO,SOFT,HOLD-2)	
00 0F	0000 0aaa	Peak control source	0 - 4	
			(OFF,HOLD-1,SOSTENUTO,SOFT,HOLD-2)	
00 10	0000 000a	Volume control source	0 - 1	
			(VOLUME,VOL&EXP)	
00 11	0000 00aa	Aftertouch source	0 - 2	
			(CH-AFTER,POLY-AFTER,CH&POLY)	
00 12	0aaa aaaa	System control source 1	0 - 97	
			(CC00 - CC95,BENDER,AFTERTOUCH)	
00 13	0aaa aaaa	System control source 2	0 - 97	
			(CC00 - CC95,BENDER,AFTERTOUCH)	
00 14	0000 000a	Receive program change	0 - 1	
			(OFF,ON)	
00 15	0000 000a	Receive bank select	0 - 1	
			(OFF,ON)	
00 16	0000 000a	Receive control change	0 - 1	
			(OFF,ON)	
00 17	0000 000a	Receive modulation	0 - 1	
			(OFF,ON)	
00 18	0000 000a	Receive volume	0 - 1	
			(OFF,ON)	
00 19	0000 000a	Receive hold-1	0 - 1	
			(OFF,ON)	
00 1A	0000 000a	Receive bender	0 - 1	
			(OFF,ON)	
00 1B	0000 000a	Receive aftertouch	0 - 1	
			(OFF,ON)	
00 1C	000a aaaa	Control channel	0 - 16	
			(1 - 16,OFF)	
00 1D	0000 aaaa	Patch receive channel	0 - 15	
			(1 - 16)	
00 1E	0000 000a	Rhythm edit Source	0 - 1	
			(PANEL,PANEL&MIDI)	
00 1F	0000 000a	Preview sound mode	0 - 1	
			(SINGLE,CHORD)	
00 20	0aaa aaaa	Preview key set	0 - 127	
			(C-1 - G9)	
00 21	0aaa aaaa	Preview velocity set 1	0 - 127	
			(OFF,1 - 127)	
00 22	0aaa aaaa	Preview key set 2	0 - 127	
			(C-1 - G9)	
00 23	0aaa aaaa	Preview velocity set 2	0 - 127	
			(OFF,1 - 127)	
00 24	0aaa aaaa	Preview key set 3	0 - 127	
			(C-1 - G9)	
00 25	0aaa aaaa	Preview velocity set 3	0 - 127	
			(OFF,1 - 127)	
00 26	0aaa aaaa	Preview key set 4	0 - 127	
			(C-1 - G9)	
00 27	0aaa aaaa	Preview velocity set 4	0 - 127	
			(OFF,1 - 127)	
Total size	00 00 00 28			

*1-1-2 Scale tune

Offset address		Description	
00 00	0aaa aaaa	Scale tune for C	0 - 127 (-64 - +63)
00 01	0aaa aaaa	Scale tune for C#	0 - 127 (-64 - +63)
00 02	0aaa aaaa	Scale tune for D	0 - 127 (-64 - +63)
00 03	0aaa aaaa	Scale tune for D#	0 - 127 (-64 - +63)
00 04	0aaa aaaa	Scale tune for E	0 - 127 (-64 - +63)
00 05	0aaa aaaa	Scale tune for F	0 - 127 (-64 - +63)
00 06	0aaa aaaa	Scale tune for F#	0 - 127 (-64 - +63)
00 07	0aaa aaaa	Scale tune for G	0 - 127 (-64 - +63)
00 08	0aaa aaaa	Scale tune for G#	0 - 127 (-64 - +63)
00 09	0aaa aaaa	Scale tune for A	0 - 127 (-64 - +63)
00 0A	0aaa aaaa	Scale tune for A#	0 - 127 (-64 - +63)
00 0B	0aaa aaaa	Scale tune for B	0 - 127 (-64 - +63)
Total size	00 00 00 0C		

/ Example using RQ1 /
To get the all data of the system common, send the following message to the JV-1080.
F0H 41H 10H 6AH 11H 00H 00H 00H 00H 00H 00H 28H 58H F7H

/ Example using DT1 /
To set the Control Channel of the system common to 1, send the following message to the JV-1080.
F0H 41H 10H 6AH 12H 00H 00H 00H 1CH 00H 64H F7H

*1-2 Performance

Offset address	Description	
00 00	Performance common	*1-2-1
10 00	Performance part 1	
11 00	Performance part 2	*1-2-2
:		
1F 00	Performance part 16	

*1-2-1 Performance common

Offset address		Description	
00 00	0aaa aaaa	Performance name 1	32 - 127
00 01	0aaa aaaa	Performance name 2	32 - 127
00 02	0aaa aaaa	Performance name 3	32 - 127
00 03	0aaa aaaa	Performance name 4	32 - 127
00 04	0aaa aaaa	Performance name 5	32 - 127
00 05	0aaa aaaa	Performance name 6	32 - 127
00 06	0aaa aaaa	Performance name 7	32 - 127
00 07	0aaa aaaa	Performance name 8	32 - 127
00 08	0aaa aaaa	Performance name 9	32 - 127
00 09	0aaa aaaa	Performance name 10	32 - 127
00 0A	0aaa aaaa	Performance name 11	32 - 127
00 0B	0aaa aaaa	Performance name 12	32 - 127
00 0C	00aa aaaa	EFX:Source	0 - 15 (PERFORM,1 - 9,11 - 16)
00 0D	00aa aaaa	EFX:Type	0 - 39
00 0E	0aaa aaaa	EFX:Parameter 1	32 - 127
00 0F	0aaa aaaa	EFX:Parameter 2	0 - 127
00 10	0aaa aaaa	EFX:Parameter 3	0 - 127
00 11	0aaa aaaa	EFX:Parameter 4	0 - 127
00 12	0aaa aaaa	EFX:Parameter 5	0 - 127
00 13	0aaa aaaa	EFX:Parameter 6	0 - 127
00 14	0aaa aaaa	EFX:Parameter 7	0 - 127
00 15	0aaa aaaa	EFX:Parameter 8	0 - 127
00 16	0aaa aaaa	EFX:Parameter 9	0 - 127
00 17	0aaa aaaa	EFX:Parameter 10	0 - 127
00 18	0aaa aaaa	EFX:Parameter 11	0 - 127
00 19	0aaa aaaa	EFX:Parameter 12	0 - 127
00 1A	0000 00aa	EFX:Output assign	0 - 2 (MIX,OUTPUT1,OUTPUT2)
00 1B	0aaa aaaa	EFX:Output level	0 - 127
00 1C	0aaa aaaa	EFX:Chorus send level	0 - 127
00 1D	0aaa aaaa	EFX:Reverb send level	0 - 127
00 1E	0000 aaaa	EFX:Control source 1	0 - 10 (OFF,SYS-CTRL1,SYS-CTRL2,MODULATION,BREATH,FOOT,VOLUME,PAN,EXPRESSION,BENDER,AFTERTOUCH)
00 1F	0aaa aaaa	EFX:Control depth 1	0 - 126 (-63 - +63)
00 20	0000 aaaa	EFX:Control source 2	0 - 10 (OFF,SYS-CTRL1,SYS-CTRL2,MODULATION,BREATH,FOOT,VOLUME,PAN,EXPRESSION,BENDER,AFTERTOUCH)
00 21	0aaa aaaa	EFX:Control depth 2	0 - 126 (-63 - +63)
00 22	0aaa aaaa	Chorus:Level	0 - 127
00 23	0aaa aaaa	Chorus:Rate	0 - 127
00 24	0aaa aaaa	Chorus:Depth	0 - 127
00 25	0aaa aaaa	Chorus:Pre delay	0 - 127
00 26	0aaa aaaa	Chorus:Feedback	0 - 127
00 27	0000 00aa	Chorus:Output assign	0 - 2 (MIX,REVERB,MIX+REV)
00 28	0000 0aaa	Reverb:type	0 - 7 (ROOM1,ROOM2,STAGE1,STAGE2,HALL1,HALL2,DELAY,PAN-DLY)
00 29	0aaa aaaa	Reverb:Level	0 - 127
00 2A	0aaa aaaa	Reverb:Time	0 - 127
00 2B	000a aaaa	Reverb:HF damp	0 - 17 (200,250,315,400,500,630,800,1000,1250,1600,2000,2500,3150,4000,5000,6300,8000,BYPASS)
00 2C	0aaa aaaa	Reverb:Feedback	0 - 127
# 00 2D	0000 aaaa 0000 bbbb	Default tempo	20 - 250
00 2F	0000 000a	Key range switch	0 - 1 (OFF,ON)
00 30	0aaa aaaa	Part 1 voice reserve	0 - 64
00 31	0aaa aaaa	Part 2 voice reserve	0 - 64
00 32	0aaa aaaa	Part 3 voice reserve	0 - 64
00 33	0aaa aaaa	Part 4 voice reserve	0 - 64
00 34	0aaa aaaa	Part 5 voice reserve	0 - 64
00 35	0aaa aaaa	Part 6 voice reserve	0 - 64
00 36	0aaa aaaa	Part 7 voice reserve	0 - 64
00 37	0aaa aaaa	Part 8 voice reserve	0 - 64
00 38	0aaa aaaa	Part 9 voice reserve	0 - 64
00 39	0aaa aaaa	Part 10 voice reserve	0 - 64
00 3A	0aaa aaaa	Part 11 voice reserve	0 - 64
00 3B	0aaa aaaa	Part 12 voice reserve	0 - 64
00 3C	0aaa aaaa	Part 13 voice reserve	0 - 64
00 3D	0aaa aaaa	Part 14 voice reserve	0 - 64
00 3E	0aaa aaaa	Part 15 voice reserve	0 - 64
00 3F	0aaa aaaa	Part 16 voice reserve	0 - 64
Total size	00 00 00 40		

Note: The performance name data returned in response to this request are expressed in ASCII characters of hexadecimal.

Note: The sum of voice receives must be less than or equal 64.

/ Example usin RQ1 /
To get the performance name data of performance USER:01, send the following message to the JV-1080.
F0H 41H 10H 6AH 11H 10H 00H 00H 00H 00H 00H 0CH 64H F7H

/ Example using DT1 /
To set the reverb type of performance USER:08 to "HALL2", send the following message to the JV-1080.
F0H 41H 10H 6AH 12H 10H 07H 00H 28H 05H 3CH F7H

*1-2-2 Performance part

Offset address		Description	
00 00	0000 000a	MIDI receive switch	0 - 1 (OFF,ON)
00 01	0000 aaaa	MIDI channel	0 - 15 (1 - 16)
00 02	0000 00aa	Patch group	0 - 2 (USER,PCM,EXP)
00 03	0aaa aaaa	Patch group ID	0 - 127
# 00 04	0000 aaaa 0000 bbbb	Patch number	0 - 254 (001 - 255)
00 06	0aaa aaaa	Part level	0 - 127
00 07	0aaa aaaa	Part pan	0 - 127 (L64 - 63R)
00 08	0aaa aaaa	Pitch coarse tune	0 - 96 (-48 - +48)
00 09	0aaa aaaa	Pitch fine tune	0 - 100 (-50 - +50)
00 0A	0000 0aaa	Output assign	0 - 4 (MIX,EFX,OUTPUT1,OUTPUT2,PATCH)
00 0B	0aaa aaaa	Output level	0 - 127
00 0C	0aaa aaaa	Chorus send level	0 - 127
00 0D	0aaa aaaa	Reverb send level	0 - 127
00 0E	0000 000a	Receive program change	0 - 1 (OFF,ON)
00 0F	0000 000a	Receive volume	0 - 1 (OFF,ON)
00 10	0000 000a	Receive hold-1	0 - 1 (OFF,ON)
00 11	0aaa aaaa	Key range lower	0 - 127 (C-1 - G9)
00 12	0aaa aaaa	Key range upper	0 - 127 (C-1 - G9)
Total size	00 00 00 13		

/ Example using RQ1 /
To get the all data of the performance USER:03 parameters of part 3, send the following message to the JV-1080.
F0H 41H 10H 6AH 11H 10H 02H 12H 00H 00H 00H 00H 13H 49H F7H

/ Example using DT1 /
To mute (MIDI receive switch = off) the part 1 of the temporary performance, send the following message to the JV-1080.
F0H 41H 10H 6AH 12H 01H 00H 10H 00H 00H 6FH F7H

*1-3 Patch

Offset address	Description	
00 00	Patch common	*1-3-1
10 00	Patch tone 1	*1-3-2
12 00	Patch tone 2	
14 00	Patch tone 3	
16 00	Patch tone 4	

*1-3-1 Patch common

Offset address		Description	
00 00	0aaa aaaa	Patch name 1	32 - 127
00 01	0aaa aaaa	Patch name 2	32 - 127
00 02	0aaa aaaa	Patch name 3	32 - 127
00 03	0aaa aaaa	Patch name 4	32 - 127
00 04	0aaa aaaa	Patch name 5	32 - 127
00 05	0aaa aaaa	Patch name 6	32 - 127
00 06	0aaa aaaa	Patch name 7	32 - 127
00 07	0aaa aaaa	Patch name 8	32 - 127
00 08	0aaa aaaa	Patch name 9	32 - 127
00 09	0aaa aaaa	Patch name 10	32 - 127
00 0A	0aaa aaaa	Patch name 11	32 - 127
00 0B	0aaa aaaa	Patch name 12	32 - 127
00 0C	00aa aaaa	EFX:Type	0 - 39
00 0D	0aaa aaaa	EFX:Parameter 1	0 - 127
00 0E	0aaa aaaa	EFX:Parameter 2	0 - 127
00 0F	0aaa aaaa	EFX:Parameter 3	0 - 127
00 10	0aaa aaaa	EFX:Parameter 4	0 - 127
00 11	0aaa aaaa	EFX:Parameter 5	0 - 127
00 12	0aaa aaaa	EFX:Parameter 6	0 - 127
00 13	0aaa aaaa	EFX:Parameter 7	0 - 127
00 14	0aaa aaaa	EFX:Parameter 8	0 - 127
00 15	0aaa aaaa	EFX:Parameter 9	0 - 127
00 16	0aaa aaaa	EFX:Parameter 10	0 - 127
00 17	0aaa aaaa	EFX:Parameter 11	0 - 127
00 18	0aaa aaaa	EFX:Parameter 12	0 - 127
00 19	0000 00aa	EFX:Output assign	0 - 2 (MIX,OUTPUT1,OUTPUT2)
00 1A	0aaa aaaa	EFX:Output level	0 - 127
00 1B	0aaa aaaa	EFX:Chorus send level	0 - 127
00 1C	0aaa aaaa	EFX:Reverb send level	0 - 127
00 1D	0000 aaaa	EFX:Control source 1	0 - 10 (OFF,SYS-CTRL1,SYS-CTRL2,MODULATION,BREATH,FOOT,VOLUME,PAN,EXPRESSION,BENDER,AFTERTOUCH)
00 1E	0aaa aaaa	EFX:Control depth 1	0 - 126 (-63 - +63)
00 1F	0000 aaaa	EFX:Control source 2	0 - 10 (OFF,SYS-CTRL1,SYS-CTRL2,MODULATION,BREATH,FOOT,VOLUME,PAN,EXPRESSION,BENDER,AFTERTOUCH)
00 20	0aaa aaaa	EFX:Control depth 2	0 - 126 (-63 - +63)
00 21	0aaa aaaa	Chorus:Level	0 - 127
00 22	0aaa aaaa	Chorus:Rate	0 - 127
00 23	0aaa aaaa	Chorus:Depth	0 - 127
00 24	0aaa aaaa	Chorus:Pre delay	0 - 127
00 25	0aaa aaaa	Chorus:Feedback	0 - 127
00 26	0000 00aa	Chorus:Output assign	0 - 2 (MIX,REVERB,MIX+REV)
00 27	0000 0aaa	Reverb:type	0 - 7 (ROOM1,ROOM2,STAGE1,STAGE2,HALL1,HALL2,DELAY,PAN-DLY)
00 28	0aaa aaaa	Reverb:Level	0 - 127
00 29	0aaa aaaa	Reverb:Time	0 - 127
00 2A	000a aaaa	Reverb:HF damp	0 - 17 (200,250,315,400,500,630,800,1000,1250,1600,2000,2500,3150,4000,5000,6300,8000,BYPASS)
00 2B	0aaa aaaa	Reverb:Feedback	0 - 127
# 00 2C	0000 aaaa 0000 bbbb	Default tempo	20 - 250
00 2E	0aaa aaaa	Patch level	0 - 127
00 2F	0aaa aaaa	Patch pan	0 - 127 (L64 - 63R)
00 30	0aaa aaaa	Analog feel depth	0 - 127
00 31	0000 aaaa	Bender range up	0 - 12
00 32	00aa aaaa	Bender range down	0 - 48 (0 - -48)
00 33	0000 000a	Key assign mode	0 - 1 (POLY,SOLO)
00 34	0000 000a	Solo legato	0 - 1 (OFF,ON)
00 35	0000 000a	Portamento switch	0 - 1 (OFF,ON)
00 36	0000 000a	Portamento mode	0 - 1 (NORMAL,LEGATO)
00 37	0000 000a	Portamento type	0 - 1 (RATE,TIME)
00 38	0000 000a	Portamento start	0 - 1 (PITCH,NOTE)
00 39	0aaa aaaa	Portamento time	0 - 127
00 3A	0000 aaaa	Patch control source 2	0 - 15 (OFF,SYS-CTRL1,SYS-CTRL2,MODULATION,BREATH,FOOT,VOLUME,PAN,EXPRESSION,BENDER,AFTERTOUCH,LFO1,LFO2,VELOCITY,KEYFOLLOW,PLAYMATE)
00 3B	0000 aaaa	Patch control source 3	0 - 15 (OFF,SYS-CTRL1,SYS-CTRL2,MODULATION,BREATH,FOOT,VOLUME,PAN,EXPRESSION,BENDER,AFTERTOUCH,LFO1,LFO2,VELOCITY,KEYFOLLOW,PLAYMATE)
00 3C	0000 00aa	EFX control hold/peak	0 - 2 (OFF,HOLD,PEAK)
00 3D	0000 00aa	Control 1 hold/peak	0 - 2 (OFF,HOLD,PEAK)
00 3E	0000 00aa	Control 2 hold/peak	0 - 2 (OFF,HOLD,PEAK)
00 3F	0000 00aa	Control 3 hold/peak	0 - 2 (OFF,HOLD,PEAK)
00 40	0000 000a	Velocity range switch	0 - 1 (OFF,ON)
00 41	0000 0aaa	Octave shift	0 - 6 (-3 - +3)
00 42	0000 00aa	Stretch tune depth	0 - 3 (OFF,1 - 3)
00 43	0000 000a	Voice priority	0 - 1 (LAST,LOUDEST)
00 44	0000 aaaa	Structure type 1&2	0 - 9 (1 - 10)
00 45	0000 00aa	Booster level 1&2	0 - 3 (0,+6,+12,+18)
00 46	0000 aaaa	Structure type 3&4	0 - 9 (1 - 10)
00 47	0000 00aa	Booster level 3&4	0 - 3 (0,+6,+12,+18)
Total size	00 00 00 48		

/ Example using RQ1 /
To get the value of the portamento time of the patch temporary, send the following message to the JV-1080.
F0H 41H 10H 6AH 11H 03H 00H 00H 39H 00H 00H 00H 01H 43H F7H

/ Example using DT1 /
To set the structure 1&2 of the patch USER:48 to "TYPE 3", send the following message to the JV-1080.
F0H 41H 10H 6AH 12H 11H 2FH 00H 44H 02H 7AH F7H

*1-3-2 Patch tone

Offset address		Description	
00 00	0000 000a	Tone switch	0 - 1 (OFF,ON)
00 01	0000 00aa	Wave group	0 - 2 (INT,PCM,EXP)
00 02	0aaa aaaa	Wave group ID	0 - 127
# 00 03	0000 aaaa 0000 bbbb	Wave number	0 - 354 (1 - 255)
00 05	0000 00aa	Wave gain	0 - 3 (-6,0,+6,+12)
00 06	0000 000a	FXM switch	0 - 1 (OFF,ON)
00 07	0000 00aa	FXM color	0 - 3 (1 - 4)
00 08	0000 aaaa	FXM depth	0 - 15 (1 - 16)
00 09	0000 0aaa	Tone delay mode	0 - 6 (NORMAL,HOLD,KEY-INTERVAL,CLOCK-SYNC,TAP-SYNC,KEY-OFF-NORMAL,KEY-OFF-DECAY)
00 0A	0aaa aaaa	Tone delay time	0 - 127
00 0B	0aaa aaaa	Velocity cross fade depth	0 - 127
00 0C	0aaa aaaa	Velocity range lower	1 - 127
00 0D	0aaa aaaa	Velocity range upper	1 - 127
00 0E	0aaa aaaa	Key range lower	0 - 127 (C-1 - G9)
00 0F	0aaa aaaa	Key range upper	0 - 127 (C-1 - G9)
00 10	0000 000a	Redamper control switch	0 - 1 (OFF,ON)
00 11	0000 000a	Volume control switch	0 - 1

			(OFF,ON)
00 12	0000 000a	Hold-1 control switch	0 - 1 (OFF,ON)
00 13	0000 000a	Bender control switch	0 - 1 (OFF,ON)
00 14	0000 00aa	Pan control switch	0 - 2 (OFF,CONTINUOUS,KEY-ON)
00 15	000a aaaa	Controller 1 destination 1	0 - 18 (OFF,PCH,CUT,RES,LEV,PAN,MIX,CHO,REV, PL1,PL2,FL1,FL2,AL1,AL2,pL1,pL2,L1R,L2R)
00 16	0aaa aaaa	Controller 1 depth 1	0 - 126 (-63 - +63)
00 17	000a aaaa	Controller 1 destination 2	0 - 18 (OFF,PCH,CUT,RES,LEV,PAN,MIX,CHO,REV, PL1,PL2,FL1,FL2,AL1,AL2,pL1,pL2,L1R,L2R)
00 18	0aaa aaaa	Controller 1 depth 2	0 - 126 (-63 - +63)
00 19	000a aaaa	Controller 1 destination 3	0 - 18 (OFF,PCH,CUT,RES,LEV,PAN,MIX,CHO,REV, PL1,PL2,FL1,FL2,AL1,AL2,pL1,pL2,L1R,L2R)
00 1A	0aaa aaaa	Controller 1 depth 3	0 - 126 (-63 - +63)
00 1B	000a aaaa	Controller 1 destination 4	0 - 18 (OFF,PCH,CUT,RES,LEV,PAN,MIX,CHO,REV, PL1,PL2,FL1,FL2,AL1,AL2,pL1,pL2,L1R,L2R)
00 1C	0aaa aaaa	Controller 1 depth 4	0 - 126 (-63 - +63)
00 1D	000a aaaa	Controller 2 destination 1	0 - 18 (OFF,PCH,CUT,RES,LEV,PAN,MIX,CHO,REV, PL1,PL2,FL1,FL2,AL1,AL2,pL1,pL2,L1R,L2R)
00 1E	0aaa aaaa	Controller 2 depth 1	0 - 126 (-63 - +63)
00 1F	000a aaaa	Controller 2 destination 2	0 - 18 (OFF,PCH,CUT,RES,LEV,PAN,MIX,CHO,REV, PL1,PL2,FL1,FL2,AL1,AL2,pL1,pL2,L1R,L2R)
00 20	0aaa aaaa	Controller 2 depth 2	0 - 126 (-63 - +63)
00 21	000a aaaa	Controller 2 destination 3	0 - 18 (OFF,PCH,CUT,RES,LEV,PAN,MIX,CHO,REV, PL1,PL2,FL1,FL2,AL1,AL2,pL1,pL2,L1R,L2R)
00 22	0aaa aaaa	Controller 2 depth 3	0 - 126 (-63 - +63)
00 23	000a aaaa	Controller 2 destination 4	0 - 18 (OFF,PCH,CUT,RES,LEV,PAN,MIX,CHO,REV, PL1,PL2,FL1,FL2,AL1,AL2,pL1,pL2,L1R,L2R)
00 24	0aaa aaaa	Controller 2 depth 4	0 - 126 (-63 - +63)
00 25	000a aaaa	Controller 3 destination 1	0 - 18 (OFF,PCH,CUT,RES,LEV,PAN,MIX,CHO,REV, PL1,PL2,FL1,FL2,AL1,AL2,pL1,pL2,L1R,L2R)
00 26	0aaa aaaa	Controller 3 depth 1	0 - 126 (-63 - +63)
00 27	000a aaaa	Controller 3 destination 2	0 - 18 (OFF,PCH,CUT,RES,LEV,PAN,MIX,CHO,REV, PL1,PL2,FL1,FL2,AL1,AL2,pL1,pL2,L1R,L2R)
00 28	0aaa aaaa	Controller 3 depth 2	0 - 126 (-63 - +63)
00 29	000a aaaa	Controller 3 destination 3	0 - 18 (OFF,PCH,CUT,RES,LEV,PAN,MIX,CHO,REV, PL1,PL2,FL1,FL2,AL1,AL2,pL1,pL2,L1R,L2R)
00 2A	0aaa aaaa	Controller 3 depth 3	0 - 126 (-63 - +63)
00 2B	000a aaaa	Controller 3 destination 4	0 - 18 (OFF,PCH,CUT,RES,LEV,PAN,MIX,CHO,REV, PL1,PL2,FL1,FL2,AL1,AL2,pL1,pL2,L1R,L2R)
00 2C	0aaa aaaa	Controller 3 depth 4	0 - 126 (-63 - +63)
00 2D	0000 0aaa	LFO 1 waveform	0 - 7 (TRI,SIN,SAW,SQR,TRP,S&H,RND,CHS)
00 2E	0000 000a	LFO 1 key trigger	0 - 1 (OFF,ON)
00 2F	0aaa aaaa	LFO 1 rate	0 - 127
00 30	0000 0aaa	LFO 1 level offset	0 - 4 (-100,-50,0,+50,+100)
00 31	0aaa aaaa	LFO 1 delay time	0 - 127
00 32	0000 00aa	LFO 1 fade mode	0 - 3 (ON-IN,ON-OUT,OFF-IN,OFF-OUT)
00 33	0aaa aaaa	LFO 1 fade time	0 - 127
00 34	0000 00aa	LFO 1 external sync	0 - 2 (OFF,CLOCK,TAP)
00 35	0000 0aaa	LFO 2 waveform	0 - 7 (TRI,SIN,SAW,SQR,TRP,S&H,RND,CHS)
00 36	0000 000a	LFO 2 key trigger	0 - 1 (OFF,ON)
00 37	0aaa aaaa	LFO 2 rate	0 - 127
00 38	0000 0aaa	LFO 2 level offset	0 - 4 (-100,-50,0,+50,+100)
00 39	0aaa aaaa	LFO 2 delay time	0 - 127
00 3A	0000 00aa	LFO 2 fade mode	0 - 3 (ON-IN,ON-OUT,OFF-IN,OFF-OUT)
00 3B	0aaa aaaa	LFO 2 fade time	0 - 127
00 3C	0000 00aa	LFO 2 external sync	0 - 2 (OFF,CLOCK,TAP)
00 3D	0aaa aaaa	Coarse tune	0 - 96 (-48 - +48)
00 3E	0aaa aaaa	Fine tune	0 - 100 (-50 - +50)
00 3F	000a aaaa	Random pitch depth	0 - 30 (0,1,2,3,4,5,6,7,8,9,10,20,30,40,50, 60,70,80,90,100,200,300,400,500, 600,700,800,900,1000,1100,1200)
00 40	0000 aaaa	Pitch keytollow	0 - 15 (-100,-70,-50,-30,-10,0,+10,+20,+30, +40,+50,+70,+100,+120,+150,+200)
00 41	000a aaaa	P-ENV depth	0 - 24 (-12 - +12)
00 42	0aaa aaaa	P-ENV velocity sensitivity	0 - 125 (-50 - +200)
00 43	0000 aaaa	P-ENV velocity time 1 sensitivity	0 - 14 (-100,-70,-50,-40,-30,-20,-10,0, +10,+20,+30,+40,+50,+70,+100)
00 44	0000 aaaa	P-ENV velocity time 4 sensitivity	0 - 14 (-100,-70,-50,-40,-30,-20,-10,0, +10,+20,+30,+40,+50,+70,+100)
00 45	0000 aaaa	P-ENV time keyfollow	0 - 14 (-100,-70,-50,-40,-30,-20,-10,0, +10,+20,+30,+40,+50,+70,+100)
00 46	0aaa aaaa	P-ENV time 1	0 - 127
00 47	0aaa aaaa	P-ENV time 2	0 - 127
00 48	0aaa aaaa	P-ENV time 3	0 - 127
00 49	0aaa aaaa	P-ENV time 4	0 - 127
00 4A	0aaa aaaa	P-ENV level 1	0 - 126 (-63 - +63)
00 4B	0aaa aaaa	P-ENV level 2	0 - 126 (-63 - +63)
00 4C	0aaa aaaa	P-ENV level 3	0 - 126 (-63 - +63)
00 4D	0aaa aaaa	P-ENV level 4	0 - 126 (-63 - +63)
00 4E	0aaa aaaa	Pitch LFO 1 depth	0 - 126 (-63 - +63)
00 4F	0aaa aaaa	Pitch LFO 2 depth	0 - 126 (-63 - +63)
00 50	0000 0aaa	Filter type	0 - 4 (OFF,LPF,BPF,HPF,PKG)
00 51	0aaa aaaa	Cutoff frequency	0 - 127
00 52	0000 aaaa	Cutoff keyfollow	0 - 15 (-100,-70,-50,-30,-10,0,+10,+20,+30, +40,+50,+70,+100,+120,+150,+200)
00 53	0aaa aaaa	Resonance	0 - 127
00 54	0aaa aaaa	Resonance velocity sensitivity	0 - 125 (-50 - +200)
00 55	0aaa aaaa	F-ENV depth	0 - 126 (-63 - +63)
00 56	0000 0aaa	F-ENV velocity curve	0 - 6 (1 - 7)
00 57	0aaa aaaa	F-ENV velocity sensitivity	0 - 125 (-50 - +200)
00 58	0000 aaaa	F-ENV velocity time 1 sensitivity	0 - 14 (-100,-70,-50,-40,-30,-20,-10,0, +10,+20,+30,+40,+50,+70,+100)
00 59	0000 aaaa	F-ENV velocity time 4 sensitivity	0 - 14 (-100,-70,-50,-40,-30,-20,-10,0, +10,+20,+30,+40,+50,+70,+100)
00 5A	0000 aaaa	F-ENV time keyfollow	0 - 14 (-100,-70,-50,-40,-30,-20,-10,0, +10,+20,+30,+40,+50,+70,+100)
00 5B	0aaa aaaa	F-ENV time 1	0 - 127
00 5C	0aaa aaaa	F-ENV time 2	0 - 127
00 5D	0aaa aaaa	F-ENV time 3	0 - 127
00 5E	0aaa aaaa	F-ENV time 4	0 - 127
00 5F	0aaa aaaa	F-ENV level 1	0 - 127
00 60	0aaa aaaa	F-ENV level 2	0 - 127
00 61	0aaa aaaa	F-ENV level 3	0 - 127
00 62	0aaa aaaa	F-ENV level 4	0 - 127
00 63	0aaa aaaa	Filter LFO 1 depth	0 - 126 (-63 - +63)
00 64	0aaa aaaa	Filter LFO 2 depth	0 - 126 (-63 - +63)
00 65	0aaa aaaa	Tone level	0 - 127
00 66	0000 00aa	Bias direction	0 - 3 (LOWER,UPPER,L&U,ALL)
00 67	0aaa aaaa	Bias point	0 - 127 (C-1 - G9)
00 68	0000 aaaa	Bias level	0 - 14 (-100,-70,-50,-40,-30,-20,-10,0, +10,+20,+30,+40,+50,+70,+100)
00 69	0000 0aaa	A-ENV velocity curve	0 - 6 (1 - 7)
00 6A	0aaa aaaa	A-ENV velocity sensitivity	0 - 125 (-50 - +200)
00 6B	0000 aaaa	A-ENV velocity time 1 sensitivity	0 - 14 (-100,-70,-50,-40,-30,-20,-10,0, +10,+20,+30,+40,+50,+70,+100)
00 6C	0000 aaaa	A-ENV velocity time 4 sensitivity	0 - 14 (-100,-70,-50,-40,-30,-20,-10,0, +10,+20,+30,+40,+50,+70,+100)
00 6D	0000 aaaa	A-ENV time keyfollow	0 - 14 (-100,-70,-50,-40,-30,-20,-10,0, +10,+20,+30,+40,+50,+70,+100)
00 6E	0aaa aaaa	A-ENV time 1	0 - 127
00 6F	0aaa aaaa	A-ENV time 2	0 - 127
00 70	0aaa aaaa	A-ENV time 3	0 - 127
00 71	0aaa aaaa	A-ENV time 4	0 - 127
00 72	0aaa aaaa	A-ENV level 1	0 - 127
00 73	0aaa aaaa	A-ENV level 2	0 - 127
00 74	0aaa aaaa	A-ENV level 3	0 - 127
00 75	0aaa aaaa	Amplitude LFO 1 depth	0 - 126 (-63 - +63)
00 76	0aaa aaaa	Amplitude LFO 2 depth	0 - 126 (-63 - +63)
00 77	0aaa aaaa	Tone pan	0 - 127 (L64 - 63R)
00 78	0000 aaaa	Pan keyfollow	0 - 14 (-100,-70,-50,-40,-30,-20,-10,0, +10,+20,+10,+40,+50,+70,+100)
00 79	00aa aaaa	Random pan depth	0 - 63
00 7A	0aaa aaaa	Alternate pan depth	1 - 127 (L63 - 63R)
00 7B	0aaa aaaa	Pan LFO 1 depth	0 - 126 (L63 - 63R)
00 7C	0aaa aaaa	Pan LFO 2 depth	0 - 126 (L63 - 63R)
00 7D	0000 00aa	Output assign	0 - 3 (MIX,EFX,OUTPUT1,OUTPUT2)
00 7E	0aaa aaaa	Output level	0 - 127
00 7F	0aaa aaaa	Chorus send level	0 - 127
01 00	0aaa aaaa	Reverb send level	0 - 127
Total size	00 00 01 01		

Note: If the value of the wave number surpasses the number of waves contained in the corresponding wave group, this message will be ignored.

Note: If the value of the velocity range lower is greater than that of the velocity range upper, this message will be ignored.

/ Example of RQ1 /
To get the tone 2 data of the patch USER:02, send the following message to the JV-1080.
F0H 41H 10H 6AH 11H 11H 01H 12H 00H 00H 00H 01H 01H 5AH F7H

/ Exapmle of DT1 /
To set the cutoff frequency of the temporary patch tone 3 to 100, send the following message to the JV-1080.
F0H 41H 10H 6AH 12H 03H 00H 14H 51H 64H 34H F7H

*1-4 Rhythm setup

Offset address	Description	
00 00	Rhythm common	*1-4-1
23 00	Rhythm note for key# 35 (B1)	*1-4-2
24 00	Rhythm note for key# 36 (C2)	
: :	:	
62 00	Rhythm note for key# 98 (E7)	

*1-4-1 Rhythm common

Offset address		Description	
00 00	0aaa aaaa	Rhythm name 1	32 - 127
00 01	0aaa aaaa	Rhythm name 2	32 - 127
00 02	0aaa aaaa	Rhythm name 3	32 - 127
00 03	0aaa aaaa	Rhythm name 4	32 - 127
00 04	0aaa aaaa	Rhythm name 5	32 - 127
00 05	0aaa aaaa	Rhythm name 6	32 - 127
00 06	0aaa aaaa	Rhythm name 7	32 - 127
00 07	0aaa aaaa	Rhythm name 8	32 - 127
00 08	0aaa aaaa	Rhythm name 9	32 - 127
00 09	0aaa aaaa	Rhythm name 10	32 - 127
00 0A	0aaa aaaa	Rhythm name 11	32 - 127
00 0B	0aaa aaaa	Rhythm name 12	32 - 127
Total size	00 00 00 0C		

*1-4-2 Rhythm note

Offset address		Description	
00 00	0000 000a	Tone switch	0 - 1 (OFF,ON)
00 01	0000 00aa	Wave group	0 - 2 (INT,PCM,EXP)
00 02	0aaa aaaa	Wave group ID	0 - 127
# 00 03	0000 aaaa 0000 bbbb	Wave number	0 - 254 (1 - 255)
00 05	0000 00aa	Wave gain	0 - 3 (-6,0,+6,+12)
00 06	0000 aaaa	Bender range	0 - 12
00 07	000a aaaa	Mute group	0 - 31 (OFF,1 - 31)
00 08	0000 000a	Envelope mode	0 - 1 (NO-SUSTAIN,SUSTAIN)
00 09	0000 000a	Volume control switch	0 - 1 (OFF,ON)
00 0A	0000 000a	Hold-1 control switch	0 - 1 (OFF,ON)
00 0B	0000 00aa	Pan control switch	0 - 2 (OFF,CONTINUOUS,KEY-ON)
00 0C	0aaa aaaa	Source key	0 - 127 (C-1 - G9)
00 0D	0aaa aaaa	Fine tune	0 - 100 (-50 - +50)
00 0E	000a aaaa	Random pitch depth	0 - 30 (0,1,2,3,4,5,6,7,8,9,10,20,30,40,50,60,70,80,90,100,200,300,400,500,600,700,800,900,1000,1100,1200)
00 0F	000a aaaa	P-ENV depth	0 - 24 (-12 - +12)
00 10	0aaa aaaa	P-ENV velocity sensitivity	0 - 125 (-50 - +200)
00 11	0000 aaaa	P-ENV velocity time sensitivity	0 - 14 (-100,-70,-50,-40,-30,-20,-10,0,+10,+20,+30,+40,+50,+70,+100)
00 12	0aaa aaaa	P-ENV time 1	0 - 127
00 13	0aaa aaaa	P-ENV time 2	0 - 127
00 14	0aaa aaaa	P-ENV time 3	0 - 127
00 15	0aaa aaaa	P-ENV time 4	0 - 127
00 16	0aaa aaaa	P-ENV level 1	0 - 126 (-63 - +63)
00 17	0aaa aaaa	P-ENV level 2	0 - 126 (-63 - +63)
00 18	0aaa aaaa	P-ENV level 3	0 - 126 (-63 - +63)
00 19	0aaa aaaa	P-ENV level 4	0 - 126 (-63 - +63)
00 1A	0000 0aaa	Filter type	0 - 4 (OFF,LPF,BPF,HPF,PKG)
00 1B	0aaa aaaa	Cutoff frequency	0 - 127
00 1C	0aaa aaaa	Resonance	0 - 127
00 1D	0aaa aaaa	Resonance velocity sensitivity	0 - 125 (-50 - +200)
00 1E	0aaa aaaa	F-ENV depth	0 - 126 (-63 - +63)
00 1F	0aaa aaaa	F-ENV velocity sensitivity	0 - 125 (-50 - +200)
00 20	0000 aaaa	F-ENV velocity time sensitivity	0 - 14 (-100,-70,-50,-40,-30,-20,-10,0,+10,+20,+30,+40,+50,+70,+100)
00 21	0aaa aaaa	F-ENV time 1	0 - 127
00 22	0aaa aaaa	F-ENV time 2	0 - 127
00 23	0aaa aaaa	F-ENV time 3	0 - 127
00 24	0aaa aaaa	F-ENV time 4	0 - 127
00 25	0aaa aaaa	F-ENV level 1	0 - 127
00 26	0aaa aaaa	F-ENV level 2	0 - 127
00 27	0aaa aaaa	F-ENV level 3	0 - 127
00 28	0aaa aaaa	F-ENV level 4	0 - 127
00 29	0aaa aaaa	Tone level	0 - 127
00 2A	0aaa aaaa	A-ENV velocity sensitivity	0 - 125 (-50 - +200)
00 2B	0000 aaaa	A-ENV velocity time sensitivity	0 - 14 (-100,-70,-50,-40,-30,-20,-10,0,+10,+20,+30,+40,+50,+70,+100)
00 2C	0aaa aaaa	A-ENV time 1	0 - 127
00 2D	0aaa aaaa	A-ENV time 2	0 - 127
00 2E	0aaa aaaa	A-ENV time 3	0 - 127
00 2F	0aaa aaaa	A-ENV time 4	0 - 127
00 30	0aaa aaaa	A-ENV level 1	0 - 127
00 31	0aaa aaaa	A-ENV level 2	0 - 127
00 32	0aaa aaaa	A-ENV level 3	0 - 127
00 33	0aaa aaaa	Tone pan	0 - 127 (L64 - 63R)
00 34	00aa aaaa	Random pan depth	0 - 63
00 35	0aaa aaaa	Alternate pan depth	1 - 127 (L63 - 63R)
00 36	0000 00aa	Output assign	0 - 3 (MIX,EFX,OUTPUT1,OUTPUT2)
00 37	0aaa aaaa	Output level	0 - 127
00 38	0aaa aaaa	Chorus send level	0 - 127
00 39	0aaa aaaa	Reverb send level	0 - 127
Total size	00 00 00 3A		

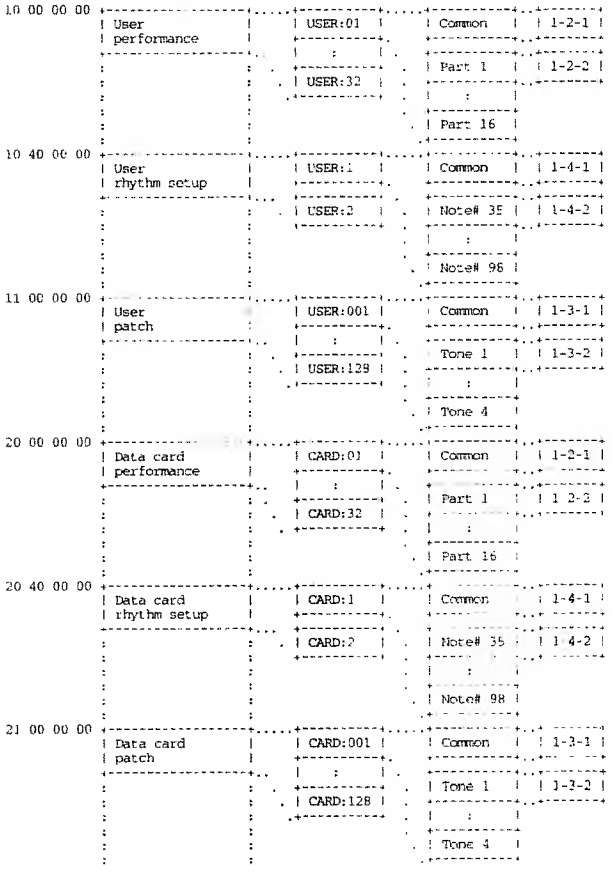
Note: If the value of the wave number surpasses the number of waves contained in the corresponding wave group, this message will be ignored.

/ Example using RQ1 /
To get the C2 note data of the temporary rhythm setup, send the following message to the JV-1080.
F0H 41H 10H 6AH 11H 02H 09H 24H 00H 00H 00H 00H 3AH 17H F7H

/ Example using DT1 /
To turn off (Tone switch = off) the key note D2 of the rhythm setup (part 10) of the temporary selected performance, send the following message to the JV-1080.
F0H 41H 10H 6AH 12H 02H 09H 26H 00H 00H 4FH F7H

Address Map

Address	Block	Sub block	Reference
00 00 00 00	System common		1-1-1
	Scale tune	Part 1	1-1-2
		Part 16	
		Patch	
01 00 00 00	Temporary performance	Common	1-2-1
		Part 1	1-2-2
		Part 16	
02 00 00 00	Performance mode temporary patch	Part 1	1-3-1
		Common	1-3-1
		Part 9	1-3-2
		Tone 1	1-3-2
		Tone 4	
02 09 00 00	Temporary rhythm setup	Common	1-4-1
		Note# 35	1-4-2
		Note# 98	
02 0A 00 00	Performance mode temporary patch	Part 11	1-3-1
		Common	1-3-1
		Part 16	1-3-2
		Tone 1	1-3-2
		Tone 4	
03 00 00 00	Patch mode temporary patch	Common	1-3-1
		Tone 1	1-3-2
		Tone 4	



2 GS

< MODEL ID = 42H >

Start address	Description	
40 10 00	Scale Tune	Part10 2-1
40 11 00	:	Part1
40 12 00	:	Part2
40 13 00	:	Part3
40 14 00	:	Part4
40 15 00	:	Part5
40 16 00	:	Part6
40 17 00	:	Part7
40 18 00	:	Part8
40 19 00	:	Part9
40 1A 00	:	Part11
40 1B 00	:	Part12
40 1C 00	:	Part13
40 1D 00	:	Part14
40 1E 00	:	Part15
40 1F 00	:	Part16

2-1 Scale Tune

Offset address	Description		
40	0aaa aaaa	Scale Tune C	00 - 7F (-64 - +63)
41	:	:	C#
42	:	:	D
43	:	:	D#
44	:	:	E
45	:	:	F
46	:	:	F#
47	:	:	G
48	:	:	G#
49	:	:	A
4A	:	:	A#
4B	:	:	B
Total Size	00 00 00 0C		

/ Example using DT1 /
To set the scale tune (C-B) of the performance par: 1 Arabia, send the data as follows:
F0H 41H 10H 42H 12H 40H 11H 40H 3AH 6DH 3EH 34H 0DH 28H 68H 3CH 6FH 40H 36H 0FH 76H F7H

●Table A-1::Decimal to Hexadecimal

The MIDI messages are expressed in hexadecimal configured in 7 bits. This table is usefull when you read or write MIDI messages.

(D)=decimal
(H)=hexadecimal

(D)	(H)	(D)	(H)	(D)	(H)	(D)	(H)
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

*The decimal value of MIDI channel, bank select, program change, etc is the decimal number in the table plus 1.
*In the hexadecimal notation in configured 7 bits, the maximum data of 1 byte is 128. If the data is more than 128, used plural bytes.
*The signed value is 00H = -64, 40H ±0, 7FH = +63. In decimal notation.
the value is decimal number in the table minus 64. The signed value of dual bytes is 00 00H = -8192, 40 00H = ±0, 7F 7FH = +8191. For example, converted aaH bbH (hex) to decimal to the following: aa bbH - 40 00 H = aa x 128 + bb - 64 x 128.

●TABLE A-2: ASCII code

Patch Name and Performance Name of MIDI data are described the ASCII code in the table below.

(C)=Character
(H)=hexadecimal

(C)	(H)	(C)	(H)	(C)	(H)
SP	20H				
A	41H	a	61H	1	31H
B	42H	b	62H	2	32H
C	43H	c	63H	3	33H
D	44H	d	64H	4	34H
E	45H	e	65H	5	35H
F	46H	f	66H	6	36H
G	47H	g	67H	7	37H
H	48H	h	68H	8	38H
I	49H	i	69H	9	39H
J	4AH	j	6AH	0	30H
K	4BH	k	6BH	+	2BH
L	4CH	l	6CH	-	2DH
M	4DH	m	6DH	*	2AH
N	4EH	n	6EH	/	2FH
O	4FH	o	6FH	#	23H
P	50H	p	70H	!	21H
Q	51H	q	71H	,	2CH
R	52H	r	72H	.	2EH
S	53H	s	73H		
T	54H	t	74H		
U	55H	u	75H		
V	56H	v	76H		
W	57H	w	77H		
X	58H	x	78H		
Y	59H	y	79H		
Z	5AH	z	7AH		

Note: "SP" is space.

MULTI TIMBRAL SYNTHESIZER MODULE
Model JV-1080

MIDI Implementation Chart

Date : July. 18, 1994
Version : 1.00

Function...		Transmitted	Recognized	Remarks
Basic	Default	X	1 - 16, OFF	
Channel	Changed	X	1 - 16, OFF	Memorized
Mode	Default	X	Mode 3	
	Messages	X	Mode 3, 4 (M=1)	
	Altered	**********		
Note Number :		X	0 – 127	
	True Voice	**********	0 – 127	
Velocity	Note ON	X	O	
	Note OFF	X	O	
After Touch	Key's	X	O * 1	
	Ch's	X	O * 1	
Pitch Bend		X	O * 1	Resolution : 9 bits
Control Change	0 – 95	X	O * 2	
	0, 32	X	O * 1	Bank select
	1	X	O * 1	Modulation
	2	X	O * 1	Breath
	4	X	O * 1	Foot type
	5	X	O * 1	Portamento time
	6, 38	X	O * 1	Data entry
	7	X	O * 1	Volume
	8	X	O * 1	Balance
	10	X	O * 1	Panpot
	11	X	O * 1	Expression
	64	X	O * 1	Hold 1
	65	X	O * 1	Portamento
	66	X	O * 1	Sostenuto
	67	X	O * 1	Soft pedal
	69	X	O * 1	Hold 2
	84	X	O * 1	Portamento control
	91	X	O * 1	General purpose effects 1 (Reverb)
	93	X	O * 1	General purpose effects 3 (Chorus)
	100, 101	X	O * 1	RPN LSB, MSB
Prog Change		X	O * 1	
	: True #	**********	0 – 127	Program Number 1 — 128
System Exclusive		O	O * 1	
System Common	: Song Pos	X	X	
	: Song Sel	X	X	
	: Tune	X	X	
System Real Time	: Clock	X	O * 1	
	: Commands	X	X	
Aux Message	: All Sound OFF	X	O	
	: Reset All Controllers	X	O	
	: Local ON/OFF	X	X	
	: All Notes OFF	X	O (123 – 127)	
	: Active Sense	X	O	
	: Reset	X	X	
Notes		* 1 Can be set to O or X manually and memorized. * 2 Can be changed manually and memorized.		

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