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	Dascription
FOH	Exclusive Status
41H	Menufacturer ID (Roland)
DEV	Device ID
MDL	Model ID
CMD	Command ID
[800Y]	Main deta
F7H	End of exclusive

•MIDI status: F0H, F7H

An Exclosive message must be flanked by a pair of status codes, starting with a Manofacturer 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 it they handle similar dua.

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:

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

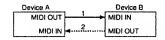
Address mapping is a technique for transferring messages conforming to the data format given in Section 1. It assigns a series of memory-resident records—waveform and tone data, switch status, and parameters, for example to specific locations in a machine-dependent address space, thereby allowing access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

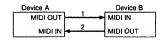


Connection at point 2 is essential for "Request data" procedures. (See Section 3.)

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 communication.

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	Commend ID
ı	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	Dascription					
FOH	Exclusive Status					
41H	Manufacturer ID (Roland)					
DEV	Device ID					
MDL	Model ID					
11H	Command ID					
aeH	Address MSB					
t	ı					
t	ı					
	LSB					
ssH	Size MSB					
t	í					
1	1					
	LSB					
sum)	Check sum					
F7H	End of exclusiva					

- 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.

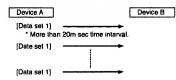
Byte	Description					
FOH	Exclusive Status					
41H	Menufacturer ID (Roland)					
DEV	Device ID					
MDL	Modal ID					
12H	Commend ID					
eeH	Address MSB					
ı	1					
1	1					
	LSB					
ddH	Date MSB					
1	1					
	1					
	LSB					
sum	Check sum					
F7H	End of exclusive					

- 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 prucess 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

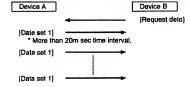
Transfer of a DT1 message is all that takes place.



*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.



[MULTI TIMBRAL SYNTHESIZER MODULE] Model JV-1080 **MIDI** Implementation

(How to read the tables) This shows the results which you can get by setting each parameter. Parameters to be set | SYSTEM PARAMETER | System Control Source 1/2 | Receive Control Change | Volume Control Source CC11:EXPRESSION1-LON VOLSEXP | PATCH COMMON PARAMETER | EFX Control Source 1/2 | EFX Control Depth 1/2 | Fatch Control Source 1/2/3 EXPRESSION Other than 0 SYS-CTRL1/2 Other than 0 Ivalues of the parameters EXPRESSION isys-CTRL1/2 PATCH TONE PARAMETER
| Volume Control Switch
| Ctrl 1/2/3 Dest.1/2/3/4
| Ctrl 1/2/3 Depth/2/3/4 ON ON |-- | Other than OFF | Other than OFF |-- | Other than 0 | Other than 0 |-- | -: Need not be set

Date: JULY, 9, 1994

Version; 1.00

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

1. RECEIVE DATA

■ Channel Voice Message

Nate off

Status	260010	F187 E 41		
anH	kkH	VVH		
9nH	kkĦ	90H		
n = MIDI	channel numb	er: OH - FP (0 - 15) 0 = ch.1	15 = ch.16
kk = Not	e number	: OCH - 7FH (0 -	127)	
		. Only True (O .	177 1	

^{*} In the parformance mode, receives this message when the MIDI Receive Switch of each part parameter is ON.

Status	Second	Third	
9nH n = MIDI ch	kkH annel numbe	: OH - FH (0 - 15) 0 - ct.1 15	= ch.16
kk = Note n	umber	: 00H - 7FH (0 - 127) : 01H - 7FH (- 127)	

^{*} In the performance mode, receives this message when the MiDI Receive Switch of each part parameter is ON.

Polyphonic key pressure

Status	Second	Third	
AnH	kkH	VVH	
n = MIDI ch kk = Note : vv - Pressu	umber	er: OH - FH (0 - 15) 0 - ch.1 : OOH - 7FH (0 - 127) : OOH - 7FH (0 - 127)	15 ≥ ch.16

	Tone parameters controled in re		Effect parameternited in		
Farameters to be set	Settingl	! Setting?	! Setting!	1 Setting2	
SYSTEM PARAMETER System Control Source 1/2 Receive Aftertouch Aftertouch Source	ON CH&POLY or POLY-AFTER	AFTERTOUCH ON CHAPOLY OF FOLY-AFTER	ION ICH&POLY or IPOLY-AFTER	APTERTOUCH ION CHAPOLY OI POLY-AFTER	
PATCH COMMON PARAMETER EFX Control Source 1/2 EFX Control Depth 1/2 Patch Control Source 1/2/3	AFTERTOUCH	SYS-CTRL1/2	AFTERTOUCH Other than 0	SYS-CTRL 1:2 Other than 0	
PATCH TONE PARAMETER Ctrl 1/2/3 Dest.1/2/3/4 Ctrl 1/2/3 Depth1/2/3/4	Other than OFF	 Other than OFF		1	

^{*}Rhythm part (part 10) receives this message when the envelope mode of a rhythm tone parameter is SUSTAIN

1	Tone parameters controled	can be	Effect paramete	ffect parameters can be controled in real-time			
 Parameters to be set	Setting:	Setting2	Setting1	Setting2	Setting3	Setting4	
SYSTEM PARAMETER System Control Source 1/2 Receive Afterrouch Aftertouch Source	! ! !ON !CH&FOLY or !POLY-AFTER	ICH& POLY or	 CN CH&POLY OF FOLY-AFTER		LAFIERTOUCH LON CH&POLY or LPOLY-AFTER	I I AFTERTOUCH I ON I CH&POLY OF I POLY-AFTER	
PERFORMANCE COMMON PARAMETER EFX Source EFX Control Source 1,2 EFX Control Depth 1/2	 	1	11 - 15	 PERFORM AFTERTOUCH Other than 0	1 - 16	 PEPFORM SYS-CTHL1/2 Other than 0	
PERFORMANCE PART PARAMETER MIDI Receive Switch	ION	ON	ION	I	ION	ION	
PATCH COMMON PARAMETER EFX Control Source 1/2 EFX Control Depth 1/2 Fatch Control Source 1/2/3	 AFTERTOUCH	j	 AFTERTOUCH Other than 0		: SYS-CTRL1/2 Other than 0	 	
PATCH TONE PARAMETER Ctrl 1/2/3 Dest.1/2/3/4 Ctrl 1/2/3 Depth1/2/3/4	 Other than OFF Other than 0		 			 	

--: Need not be set

Control Changa

O Bank select (MSB/LSB)

Status Second Third

BnH 00H mmH
BnH 20H 11H

n = MIPI channel number : 0H - FH (0 - 15) 0 = ch.1 15 = ch.16 mm = Upper bytes of bank number: 50H - 54H (80 - 84) 11 = Lower bytes of bank number: 00H - 07H (0 - 7)

1. Patch Mode

 - Parameters to be set	lupon receiving		parameters can be controled in
SYSTEM PARAMETER System Control Source 1/2 Receive Bank Sclect	 OM	 CC0:BANK-SEL ON	
FATCH COMMON PARAMETER 5 EFX Control Source 1/2 6 EFX Control Depth 1/2 7 Patch Control Source 1/2/3	 	 SYS-CTPL1/2	
FATCH TONE PARAMETER Ctrl 1/2/3 Dest.1/2/3/4 Ctrl 1/2/3 Depth1/2/3/4		 Other than OFF Other than 0	
* Rank select and corresponding me	rdia ara ar fallours:		:Need not be se

* Bank selact and corresponding media are as follows:

Bank S MSB			1	Program Ch	ange	-	Media (Patch Number)
80 81 81 81 81 82 83 84	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0 0 1 2 3 0 0		0 -	127 127 127 127 127	*****	Preset A
84 84 84 84 84	1	2 3 4 5 6 7	11111	0 - 0 -	127 127 127 127 127 127	1 1	Expansion B

Bank MSI		LSB		Program Change	Ī	Media	(Rhythm Set Number)
80	1	0	i	0 - 1	1	User	(#1 ~ #2)
81	- i	0	i	0 - 1	i	Preset A	(#1 - #2)
81	- i	1	i	0 - 1	į.	Preset B	(#1 - #2)
8.1	1	2	i	0 - 1	1	Preset C	(#1 - #2)
81	- 1	3	1	0 - 1	1	Preset D(General MIDI	(nstrument)(#1 - #2)
82	- 1	0	Ĺ	0 - 1	1	Data Card	(#1 - #2)
83	- 1	0	Ť.	0 - 127	1	PCM Card	(#1 - #128)
84	- 1	0	1	0 - 127		Expansion A	(#1 - #128)
84	- 1	1	1	0 - 127		Expansion A	(#129-#256)
84	- 1	2	1	0 - 127	1	Expansion B	(#1 #128)
84	- 1	3	1	0 - 127	4	Expansion P	(#129-#256)
84	ŧ	4	1	0 - 127	1	Expansion C	(#1 - #12R)
84	Ę	5	-1	0 - 127	1	Expansion C	(#129-#256)
84	- 1	- 6	1	0 - 127	i	Expansion D	(#1 - #128)
84	- 1	7	1	0 - 127	4	Expansion D	(#129-#256)

1	lupon receiving	ican be	Effect parameters can be controled in real-time			
Parameters to be set	the next iprogram change		Settingl	Setting2		
SYSTEM PARAMETER System Control Source 1/2 Receive Bank Select	 ON			ICC0:BANK SELECTI		
PERFORMANCE COMMON PARAMETER EFX Source EFX Control Source 1/2 EFX Control Depth 1/2	 	 		PERFORM ISYS-CTRL1/2 Other than 0		
PERFORMANCE PART PARAMETER MIDI Receive Switch	ION	ION	ION	ION		
PATCH COMMON PARAMETER EFX Control Source 1/2 EFX Control Depth 1/2 Patch Control Source 1/2/3	 	SYS CTRL1/2	IDIO CINDITA	 		
PATCH TONE PARAMETER Ctrl 1/2/3 Dest.1/2/3/4 Ctrl 1/2/3 Depth1/2/3/4	 	Other than OFF Other than O		-		

* Bank select and corresponding media are as shown below.

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

Modulation

Status Second Third
BnH 01H vvH

n = MIDI channel number: 0H - FH (0 - 15) - 0 = ch.1 - 15 = ch.26 vv = Modulation depth - 0H - 7FH (0 - 127)

1. Patch Mode

1		Tone parameters can be controled in real-time		ers can be
 Parameters to be set	Setting1	Setting2	Settingl	Setting2
ISYSTEM PARAMETER System Control Source 1/2 Receive Modulation	OII 	CC1:MODULATION	10N	CC1:MODULATION
PATCH COMMON PAPAMETER EFX Control Source 1/2 EFX Control Depth 1/2 Patch Control Source 1/2/3	 MODULATION	 SYS-CTRL1/2	1 IMODULATION FOCHER than C	ISYS-CTRL1/2 Other than 0
PATCH TONE PARAMETER	 Other than OFF Other than O	 Ocher than OFF Ocher than 0	 	
+		· ; ·	+	··: Need not be set

		Effect parameters can be controled in real-time			
Settingl	Setting2	Settingl	Setting2	Setting3	Setting4
1011			 ON	 CC1:MODULATION ON	 CC1:MODULATION ON
		1 - 16	PERFORM MODULUATION Other than 0	11 - 16	 PERFORM SYS-CTRL1/2 Other than 6
IOM	ION	ion	ION	1024 	-ok
 MODULATION	: SYS-CTRL1/2	(IMODULATION Other than 0	 	ISYS-CTRL1:2 Other than U	 -
		 	1	 	
	icontroled in re Setting! Indicate the setting in re ion in in incident in in	ON ION ION ION ION ION ION ION	Setting1 Setting2 Setting1	Setting1 Setting2 Setting1 Setting2	Setting1 Setting2 Setting3 Setting3 Setting3

Breath

O Breath

Status Second Third
BnH 02H vvH

n = MIDI channel number: 0H - FH (0 - 15) 0 - 2h.1 15 + ch.16 vv = Breath : 90H - 7FH (0 - 127)

1. Patch Mode

1	Tone parameters controled in re		lEffect parameters can be controled in real-time		
Parameters to be set	Setting1	Setting2	Setting1	Setting2	
SYSTEH PARAMETER System Control Source 1/2 Receive Control Change	 ON	I CC & I DIVERTITI		I ICC2:BREATH ION	
PATCH COMMON PARAMETER EFX Control Source 1/2 EFX Control Depth 1/2 Fatch Control Source 1/2/3	 BREATH		Other than 0	ISYS-CTRL1/2 IOTher than D	
PATCH TONE PARAMETER Ctrl 1/2/3 Dest.1/2/3/4 Ctrl 1/2/3 Depth1/2/3/4	 	 Other than OFF Other than 0	 	 	

2. Performance Mode

			Need	not	bo	cat
-	-	:	Need	nou	De	set

z. renormance mode			+			
	Tone parameters can be		ifffect parameters can be controlled in real-time			
Parameters to be set	Settingl	Setting2	Settingl	Setting2	Setting3	Setting4
SYSTEM PARAMETER System Control Source 1/2 Receive Control Change	 OM	 CC2:BREATH ON	 ON	 ON	CC2:BREATH	I ICC2:BREATH ION
PERFORMANCE COMMON PARAMETER EFX Source EFX Control Source 1/2 EFX Control Depth 1/2	 	 	 1 - 16 	 PERFORM BREATH Other than 0	 1 - 16 	PERFORM SYS-CTRL1/2 Other than 0
PERFORMANCE PART PARAMETER MIDI Receive Switch	ION	ION	ION	ION	ION	ION
PATCH COMMON PARAMETER EFX Control Source 1/2 EFX Control Depth 1/2 Patch Control Source 1/2/3	 BREATH	 SYS-CTRL1/2	BREATH Other than 0	 	 SYS-CTRL1/2 Other than 0	
PATCH TONE PARAMETER Ctrl 1/2/3 Dest.1/2/3/4 Ctrl 1/2/3 Depth1/2/3/4		 Other than OFF Other than 0	 	 		

--: Need not be set

O Foot type

Status Second Third BnH 04H vvH

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

1. Patch Mode

7					+
	Tone parameters controled in re		Effect parameters can be controled in real-time		
Parameters to be set	Setting1	Setting2	Settingl	Setting2	i
SYSTEM PARAMETER System Control Source 1/2 Receive Control Change	ION	 CC4:FOOT-TYPE ON	 ON	 CC4:FOOT-TYPE ON	111
PATCH COMMON PARAMETER EFX Control Source 1/2 EFX Control Depth 1/2 Patch Control Source 1/2/3	 FOOT	 SYS-CTRL1/2	FOOT Other than 0	 SYS CTRL1/2 Other than 0	1
PATCH TONE PARAMETER Ctrl 1/2/3 Dest.1/2/3/4 Ctrl 1/2/3 Depth1/2/3/4		 Other than OFF Other than 0 .		 	1111

--:Need not be set

2.	Performa	nce Mo	ode

+						
1	(Tone parameters can be (controled in real-time		Effect parameters can be controlled in real-time			
Parameters to be set	Settingl	Setting2	Settingl	Setting2	Setting3	Setting4
SYSTEM FARAMETER System Control Source 1/2 Receive Control Change	 ON	 CC4:FOOT-TYPE ON	on	 ON	CC4:FOOT-TYPE	CC4:FOOT-TYPE
PERFORMANCE COMMON PARAMETER FEX Source EFX Control Source 1/2 EFX Control Depth 1/2	 	 	 1 - 16 	 PERFORM FOOT Other than f	11 - 16	PERFORM SYS-CTPL1/2 Other than 0
PERFORMANCE PART PARAMETER MIDI Receive Switch	ION	ion	I ON	ION	I	ION
PATCH COMMON PARAMETER EFX Control Source 1/2 EFX Control Depth 1/2 Patch Control Source 1/2/3	 FOOT	 SYS-CTRL1.2	 FOCT Other than 0	 	 SYS-CTRLJ/2 Other than 0 	
FATCH TONE PARAMETER	 Other than OFF Other than 0	Other than OFF Other than O	 	 	 	

--:Need not be set

O Portamento time

Status Second Third

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

1. Patch Mode

 	Portamento time lof patch common lparameter will lbe changed	can be controled in	lparameters can the controlled in
SYSTEM PARAMETER System Control Source 1/2 Receive Control Change	i i ion	CC5:PORT-TIME	 CC5:PORT-TIME ON
PATCH COMMON PARAMETER EFX Control Source 1/2 EFX Control Depth 1/2 Patch Control Source 1/2/3	 	 SYS-CTRL1/2	 SYS-CTRL1/2 Other than 0
PATCH TONE PARAMETER	1	 Other than OFF Other than 0	
2 Defenses Med		+	:Need not be

2. Performance Mode		- '	:Need not be s	set	
	of patch common parameter of the part on the receiving channel will be	can be controled in real-time 	 		
Parameters to be set	(changed	 +	Settingi	£ Setting2	
SYSTEM PARAMETER System Control Source 1/2 Receive Control Change			 CC5:PORT-TIME ON	 CC5:PORT-TIME ON	
PERFORMANCE COMMON PARAMETER EFX Source EFX Control Source 1/2 EFX Control Depth 1/2	 	i	 1 - 16 	 PERFORM SYS-CTRL1/2 Other than 0	
PERFORMANCE PART PARAMETER MIDI Receive Switch	ON	ION .	ION	ION	
PATCH COMMON PARAMETER EFX Control Source 1/2 EFX Control Depth 1/2 Patch Control Source 1/2/3	 		 SYS-CTRL1/2 Other than 0 	 	
PATCH TONE PARAMETER Ctrl 1/2/3 Dest.1/2/3/4 Ctrl 1/2/3 Depth1/2/3/4		 Other than OFF 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. Petch Mode

1. Petch Mode						
! !	Level of tone will he changed			Effect parameters can be controled in real-time		
 Parameters to be set	1	Setting1	. Setting2	Setting1	Setting2	
System PARAMETER System Control Source 1/2 Receive Volume	 ON	1 1 1 ON	CC7: VOLUME	I ~~ I ON	I ICC7:VOLUME ION	
PATCH COMMON PARAMETER EFX Control Source 1/2 EFX Control Depth 1/2 Patch Control Source 1/2/3	1	I VOLUME	 SYS-CTRL /2		 SYS-CTRL1/2 Other than 0 	
PATCH TONE PARAMETER Volume Control Switch Ctrl 1/2/2 Dest.1/2/3/4 Ctrl 1/2/3 Depth1/2/3/4	 ON 		 Other than OFF Other than O	 	 	
			+	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	•	

--: Need not be set

* · · · - • • •	Tone level of	(Tone parameters	can be	Effect paramete	vs can be contro	oled in real-time	
	part on the receiving channel will be	controled in real-time					•
Parameters to be set	changed	Settingl	Setting2	Setting1	Setting2	Setting3	Setting4
SYSTEM PARAMETER System Control Source 1/2 Receive Volume	1011	I I ION	I ICC7:VOLUME ION	I I I ON		I ICC7:VOLUME ION	 CC7:VOLUME ON
PERFORMANCE COMMON PARAMETER EFX Source EFX Control Source 1/2 EFX Control Depth 1/2	 	 	 	~ ~	 PERFORM VOLUME Other than 0	 1 - 16 	 PERFORM SYS-CTRL1/2 Other than 0
PERFORMANCE PART FARAMETER MIDI Receive Switch Receive Volume	I I ON I ON	I ION ION	ION		ION ION	I ON	I ION ION
PATCH COMMON PARAMETER EFX Control Source 1/2 EFX Control Depth 1/2 Patch Control Source 1/2/3	 	VOLUME	 SYS-CTRL1/2	 VOLUME Other than 0	 	 SYS-CTRL1/2 Other than 0 	
FATCH TONE FARAMETER Volume Control Switch Ctrl 1/2/3 Dest.1/2/3/4 Ctrl 1/2/3 Depth1/2/3/4	 ON 	Other than OFF	 Other than OFF Other than 0	 	 	 	

--: Need not be set

O Pan

Status Second Third EnH OAH VVM

	Directional			EFX parameters can be controled in real-time		
Parameters to be set	rightmost) Settingl	Setting3	Setting1	Setting2	
SYSTEM PARAMETER System Control Source 1/2 Receive Control Change	L NON	 ON	 CC10:PANPOT ON	(ON 	 CC10:PANPOT ON	
PATCH COMMON PARAMETER EFX Control Source 1/2 EFX Control Depth 1/2 Patch Control Source 1/2/3	! ! !	 PAN	 SYS-CTRL1/2	PAN Other than 0	 SYS-CTRL1/2 Other than 0	
PATCH TONE PARAMETER Pan Control Switch Cirl 1/2/3 Dest.1/2/3/4 Ctrl 1/2/3 Depth1/2/3/4	CONT, KEY-ON	 Other than OFF Other than 0	 Other than OFF Other than U	 	 	

	IDirectional Hocalization of thome of the Ipart on Ireceiving Ichannel can be Icontroled in House Hous			Effect paramet 	ers can be contr	oled in real-tin	ne
Parameters to be set	rightmost	Setting1	Setting2	Setting1	Setting2	Setting3	Setting4
SYSTEM PARAMETER System Control Source 1/2 Receive Control Change	 ON	ION	 CC10:PANPOT ON	ION 	ON	 CC10; PANPOT ON	 CC10:PANPOT ON
PERFORMANCE COMMON PARAMETER EFX Source EFW Control Source 1/2 EFX Control Depth 1/2		1 1	 	 1 - 16 	 PEPFORM PAN Other than 0	† 1 - 16 !	 PERFORM SYS-CTRL1/2 Other than 0
PERFORMANCE PART PARAMETER MIDI Receive Switch	ON	ION	1011	ton	I ION	ION	ION
PATCH COMMON PARAMETER EFX Control Source 1/2 EFX Control Depth 1/2 Patch Control Source 1/1/3	 	 	 SYS-CTRL1/3	 PAN Other than 0 	 	 SYS-CTRL1/2 Other than 0	} \$
PATCH TONE PARAMETER Pan Control Switch Ctrl 1/2/3 Dest.1/2/3/4 Ctrl 1/2/3 Depth1/2/3/4			Other than OFF	 	 	 	

O Expression

Sratus 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

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

--: Need not be set

2. Performence Mode

	lof the part on Ithe receiving	Tone parameters controled in re		Effect parameters can be controled in real-time				
Parameters to be set	ichannel will ibe changed	Settingl	Setting2	! Settingl	Setting2	Setting3	Setting4	
SYSTEM PARAMETER System Control Source 1/2 Receive Control Change Volume Control Source	I I ION IVOL&EXP		 CC11:EXPRESSION ON		 ON 	ICC11: EXPRESSION ION	 CC11:EXPRESSION ON 	
PERFORMANCE COMMON PARAMETER EFX Source EFX Control Source 1/2 EFX Control Depth 1/2	 	 	 	1	 PERFORM EXPRESSION Other than 0	j	PERFORM SYS-CTRL1/2 Other than 0	
PERFORMANCE PART PARAMETER MIDI Receive Switch	ION	ION	ION	O11	ION	ION	1011	
PATCH COMMON PARAMETER EFX Control Source 1/3 EFX Control Depth 1/2 Fatch Control Source 1/2/3	 	! ! ! !EXPRESSION	SYS-CTRL1/2	 EXPRESSION Other than 0	 	 SYS-CTRL1/2 Other than 0	 	
PATCH TONE PARAMETER Volume Control Switch Ctrl 1/2/3 Dest.1/2/3/4 Ctrl 1/2/3 Depth1/2/3/4	 ON 		Other than OFF	 	 	 	 	

--: Need not be set

O 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 CN, note is kept on 	lcontroled in	(parameters can (be controlled in	LFO Pate is changed to HOLD-1 ON interval	Tone delay time lis changed to the HCLD-1 ON interval	ION, Effect	ICN, Effect	When HOLD-1 is ICN, Tone Icontroller is Theld	PN. Tone
System parameter	1	I	· +	!	1		!	!	!
System Control Source 1/2	j	ICC64:HOLD 1	10064:HOLD-1	I	1		1	1	1
Receive Hold-1	ION	ION		CI	1CN	las	ian	(CN	ION
TAP Control Source	1	I	}	IHOLD-1	HOLD-1		1	I terret m. 1	1
Hold Control Source	{ 	1	1	1	1	HOLD-1	1	IHOLD-1	(HOLD-1
Peak Control Source	1		1-	f	!	!	IHOLD-1	. 41	(MCT7)-1
ATCH COMMON PARAMETER	1	1	1	1	i	i	i	1	1
EFX Control Source 1/2	i	i	ISVS CIPL1/2	1	;	1	1	1	1
EFX Control Depth 1/2	1	1	10ther than 0	1	1	1		1	ļ
Patch Control Source 1/2/3	1	ISVS-CTRL1/2	1	ļ	1	1	I	}~~)
EFX Control Hold/Peak	i	1	1	i	ł	HEED.	PEAF	1	1
Control 1/2/3 Hold/Peak	i	i	i	Î.	1	!	1	HOLD	IFEAK
PATCH TONE PARAMETER	4	1	·+)	1	1		1	1
Hold-1 Control Switch	ion	i	1	1	i	1-	i	1	1
	1	Other than OFF	i	i	i	1	Ť-	1	1
Chall 1/2/2 Door 1/2/2/4					•				
	•		1	1		1		1	t
Ctrl 1/2/3 Dest.1/2/3/4 Ctrl 1/2/3 Depthl 2/3/4 LEOL/2 External Sync	i		!	I ITAP	1	1	1	1	I

-- :Need not be set

Z. Fellottilance Would						±	+	-4	-+	-4
		ican be icontroled in ireal-time	Effect parameter controlled in real	al-time	ichanged to the HOLD-1 ON	lis changed to the HOLD-1 ON	ION, Effect.	ION, Effect	1011, Tane	When HOUD-1 is I ION. Tone I Icontroller is I Iheld at its I Ipaak level I
ISYSTEM PARAMETER	+	+	1	1	+	i	1	+	- +	1 1
Fastin Heevining 1 System Control Source 1/2 1 Receive Hold-1 1 TAP Control Source 1 Hold Control Source Peak Control Source		ION 		10064:HOLD-1 10N 		IHOLD-1	 ON HTLD-1 	 CN HELD-1	 EN HID-1 	
PERFURENCE COMON PARAMETER EFX Source EFX correct EFX Corticol EFX CORTICOL				 	 	 	 	 	 	
IFFRECHANCE PART PARAMETER	ION I	ION	ION	lat I	1CD)	ION	1001	i ICRI	ICN	I I
FAILH COMEN FARMETER EPX Control Source 1/2 EPX Control Source 1/2 EPX Control Source 1/2/3 EPX Control Hold/Peak Control 1/2/3 Hold/Peak			 SYS-CIRLI/2 ICther than 0 	 	 - 			 PEAK 		
PRICH TIME FRANKEIER Hold-1 Control Switch Ctrl 1/2/3 Dest. 1/2/3/4 Ctrl 1/2/3 Depth/2/3/4 LFOL/2 External Sync Tone Delay Mode		 Other than OFF Other than 0 		 		 TAP-SYNC	 	 	 	

--:Need not be set

O Portamento

Status Second Third
BnH 41H vvH

1. Patch Mode

1. I BIGH WOOD			
 - - - - - 	Iswitch of Patch	Tone parameters can be controled in real-time	Effect parameters can be controled in real-time
SYSTEM PARAMETER System Control Source 1/2 Receive Control Change	I I I ON		CC65: PORTAMENTO
PATCH COMMON PARAMETER EFX Control Source 1/2 EFX Control Depth 1/2 Patch Control Source 1/2/3	 	i	ISYS-CTRL1/2 Other than 0
PATCH TONE PARAMETER		 Other than OFF Other than O	
0 D to North		*	: Need not be set

Parameters to be set	Iswitch of Patch	Ican be Icontroled in Ireal-time	RIEffect parameters can be controled in real-time			
SYSTEM PARAMETER System Control Source 1/2 Receive Control Change		 CC65: PORTAMENTO ON		 CC65:PORTAMENTO FON		
PERFORMANCE COMMON PARAMETER EFX Source EFX Control Source 1/2 EFX Control Depth 1/2	 	 	i	PERFORM SYS-CTRL172 Other than 0		
PERFORMANCE PART FARAMETER MIDI Receive Switch	ION	ION	ON	ON		
PATCH COMMON PARAMETER EFX Control Source 1/2 EFX Control Depth 1/2 Patch Control Source 1/2/3	 	1	1 2 2 2 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	 		
PATCH TONE PARAMETER Ctrl 1/2/3 Dest.1/2/3/4 Ctrl 1/2/3 Depth/:1/3,4		 Other than OFF Other than 0	1 1	 		

Sostenuto

Status Second Third
BnH 42H vvH

r = 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 = 001

_				
1.	Pate	ch N	Aod:	3
-				=-

 	When SOSTENJIO lis ON, MIDI-on inote is held on	can be	(parameters can (be controlled in	Ichanged to the 1908/ENUIO ON	is changed to lthe SOSTENUTO	(controller is		lis CN, Tone controller is held	When SOSTENUIO lis CN, Tone lountroller is theld at its [peak level]
SYSTEM FARAMETER System Control Source 1/2 Reserve Control Charge TAF Control Source Hold Control Source Peak Cantrol Source	 CI 	 CC66:908TEMPC CH 	lat	lai	OUNTAINE	i ion ion ion ion ion ion ion ion ion io	ON	I ION I I I I I I I I I I I I I I I I I	 CN SOSTENUTO
PATCH COMMON FARAMETER EFX Control Source 1/3 EFX Control Depth 1/2 Patch Control Source 1/2/3 EFX Control Hold/Peak Control 1/2/3 Hold/Peak	 		 SYS-CWRL1/2 Other than 0 		 - 	I IHOLD	PEAK		 PEAK
PATCH TUBE PARAMETER CLrl 1/2/3 Dest.1/2/3/4 Ctrl 1/2/3 Depth1/2/3/4 LF01/2 External Sync Tone Delay Mode		 Other than OFF Other than 0 		I I ITAP I	 TAP-SYNU		 		

:Need not be set

	Tis CN, MIDI-on Inste of the	cuntroled in real-time 	Effect paramete controled in re -	wal-time	Ichanged to the ISOSTENUTO ON	lis changed to		lis ON, Effect locantroller is	lis ON, Tone	When SCRIENUTC is CN, Tone controller is held at its ipeak level
Parameters to be set	lousturer as here	1	Settinul) Setting2	Ī	1	1	İ	į	1
SYSTEM PAPAMETER System Control Source 1/2 Receive Control Change TAP Control Source Hold Control Source Reak Control Source	io:	 	10N 1 1	ION 		i ion isosteinio i	 CI SOSTEMIO 	I	 SOSTEMITO 	
PERFORMALIE COMEN PARAMETER EEX Source EEX Control Source 1/2 EEX Control Depth 1/2	! ! !	j	1	ISYS-CIRL1/2	 	 	 	 	 	
PERFORMANCE PART HARAMETER MIDI Receive Switch	I ICN	i RN	i IUN	ION I	ICIN	1CDN	ION I	I Jan	i ION	
PATCH COMEN PARAMETER EEX Control Source 1/2 EEX Control Source 1/2 EEX Control Source 1/2/3 EEX Control Source 1/2/3 EEX Control Hold/Peak Control 1/2/3 Hold/Peak	f	I ISYS-CIRCLO I	 SYS-CORULY2 Other than 0 	: ! !	 we- we-		 HID 		 	
PARCH TONE PARAMETER Ctrl 1/2/3 Dest.1/2/3'4 Ctrl 1/2/3 Dest.1/2/3'4 Ctrl 1/2/3 Dest.1/2/3/4 LFD1/2 External Sync Tone Delay Mode	1	1	ļ	 	 TAP	 		: 		

--:Need not be set

O 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 = 62 = 0FF 64 = 127 = 0H

1. Patch Mode

Parameters to be set	Tone parameters can be controled in real-time	Iparameters can the controlled in		(Tone Delay Time lis changed to the SOFT PEDAL (ON interval	is ON, Effect	LiWhen SOFT PEDAL lis ON, Effect !controller is !neld at its !peak level	is ON, Tone controllet is is held	LIWhen SOFT PEDA lis ON, Tone !controller is !held at its !peak level
SYSTEM PARAMETER System Control Source 1/2 Roceive Control Change TAP Control Source Hold Control Source Peak Control Source	 CC67:90FT CN 	 CC67;SOPT OH 	ION ISOFT	ION ISOPT	I ICM I ISCFT	i ion :- isopt	ON SOFT	 ON SOFT
PATCH COMMON PAPAMETER EFX Control Source 1/2 EFX Control Depth 1/2 Parch Control Source 1/2/3 EFX Control Holo/Peak Control 1/2/3 Hold/Peak	GAS CARTIS	ISYS CTRL1/2 FOrner than H	1	 - - -		 	HOLD	
PATCH TONE PARAMETER Ctrl 1-2/3 Dest.1:2/3/4 Ctrl 1-2/3 Dest.1:2/3/4 LFOI 2 External Sync Tone Delay Mode	Other than OFF		TAP	FAR SYNC	• • • • • • • • • • • • • • • • • • •	1 		

L	-4	·		+	4	+	4	+	+
	Tone parameters can be controled in real-time	Effect paramete Econtroled in re		I changed to the ISOFT PEDAL ON	lis changed to the SOFT PEDAL	controller is	lis CN, Effect	lis CN, Tone controller is held	When SOFT PETW lis CN, Tone tcontroller is held at its peak level
Parameters to be set	Ē	[Setting]	Setting2	ŧ	i	į	1	i	i
SYSTEM PARAMETER System Control Source 1/2 Receive Control Change TAP Control Source Hold Control Source Peak Control Source	ICIN		 10067;SOPT 100 1 1	ION ISOFT	ION ISOFT	 ON SOPT 	 ON SOFT	ISOFT	 CN
PERFORMANCE COMMON PARAMETER ETX Source ETX Control Source 1/2 ETX Control Depth 1/2	 			 	 	 	 	 	
PERFORMANCE PART PARAMETER MIDI Receive Switch	ION	ION I	ION	I ION	I ION	ION	ICM	1CB1	ION
PATCH COMMON PARAMETER EFX Control Source 1/2 EFX Control Depth 1/2 Patch Control Source 1/2/3 EFX Control Hold/Peak Control 1/2/3 Hold/Peak	 SYS-CTPL1/2 		 	 	 	 HXLD 	 PEAK -		
PARCH TONE PARAMETER (Ctrl 1/2/3 Dept.1/2/3/4 (Ctrl 1/2/3 Dept.1/2/3/4 (LFO!/2 External Sync Tone Delay Mode	Other than OFF Other than O	 		 TAP 	 TAP-SYNC	 		 	

--:Need not be set

O Hold 2

Status Second Third
BnH 45H vvH

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

1. Patch Mode

Parameters to be set	(controled in	lparameters can the controled in	changed to the	is changed to		ION, Effect	ION, Tone controller is	When HOLD-2 i ION, Tone controller is held at its peak level
SYSTEM PARAMETER System Control Source 1/2 Receive Control Change TAP Control Source Hold Control Source Peak Control Source	ON 		1 SON HOLD-2 	 HOTD-5 	i i i CN i i HOLD-2	 ON +-	 ON HOLD-2 	 ON HOLD-2
ATICH COMMON PARAMETER EFX Control Source 1/2 EFX Control Depth 1/2 Patch Control Source 1/2/3 EFX Control Hold/Peak Control 1/2/3 Hold/Peak		 SYS-CTRL1/2 Other than 0 	 	 	 HOLD 	 PEAK 	 HOLD	 PEAK
ATCH TONE PARAMETER Ctrl 1/2/3 Dest.1/2/3/4 Ctrl 1/2/3 Depthl/2/3/4 LF01/2 External Sync Tone Delay Mode	Other than OFF	 	 TAP 	 TAP-SYNC		 	 	

. Performance Mode									:Need not b
 	Thre parameters ican be icontroled in ireal-time	be controled in real-time troled in		ichanged to the lis che HCCLD-2 CN Ithe HC	Tone Delay time When HOLD-2 lis changed to QN, Effect lthe HOLD-2 QN controller linterval	ON, Effect	Effect CN, Effect roller is controller is	ION, Tone	(When HOLD-2 is (ON, Tone (controller is (held at its
Parameters to be set	1	Settingl	Setting2		1		lpeak level	1	tpeak level
System parameter	1		1	1	İ	Ī	1	i	1
System Control Source 1/2	ICC69:HDLD-2	ICC69:HOLD-2	10069:HOLD-2	1	I	-	1	1	l
Receive Control Change	IGN	ICI3	ICB3	ICI1	ICIA .	ION	ICIN	ION	ion
TAP Control Source	1	I	1	(HOLD-2	HOLD-2	1 -	ł	I	1
Hold Control Source	1		1	1	ţ	HIDLD-2	1	IHOLD-2	1
Peak Control Source	!	1	1	/	 	1	IHOLD-2	1-	IHOLD-2
PERFORMANCE COMMON PARAMETER	!	1	1	1	i	i	i	I	İ
EFX Source	\$	11 - 16	I PERFORM	1	}	i	1	1	
EFX Control Source 1/2	1	1~~	ISYS-CIRLL/2		i	ļ	1	1	1
EFX Control Depth 1/2	1	1	iOther than 0		1		 :+		
PERFORMANCE PART PARAMETER	i	!	1	Ī	1	i	ŧ	1	1
MIDI Receive Switch	ION	ICI1	ION	1176	ICIN	ICI	ION	(CN	ION
PATCH COMMON PARAMETER	1	1	i	1	i	i	1	1	i
EFX Control Source 1/2	1	ISYS-CIPL1/2	1	1	1 -	ţ	!	1	!
EFX Control Depth 1/2	1	Other than 0	1	1	1	1	1	1	ş
Patch Control Source 1/2/3	ISYS-CTRL1/2	i		1	1	1	1		}
EFX Cont.rol Hold/Peak	1	1	1		1	(HOLD)	I PEAK	I	I
Control 1/2/3 Hold/Peak	1	i	!		1			IHOLD	IPEAK
PATCH TONE PARAMETER	1	1	1	1	i	i	i	1	1
Ctrl 1/2/3 Pest.1/2/3/4	(Other than OFF	1	1		1	l	-	{	1
Ctrl 1/2/3 Depth1/2/3/4	tOther then 0	{		1	1	1	\$	}	
LPO1/2 External Sync	t	1	1	ITAP	1	1	1 -	1	1
Tone helay Mode	ļ	1	!	1	ITAP-FYIC	t	-	1	

--:Need not be set

O Portamento Control

Status Second Third
BnH 54H kkH

n = MIDI channel number: θH - FH (θ - 15) θ = ch.1 $_{1}$ 15= ch.16 kk = Note Number $_{1}$ 00H - 7FH (θ - 127 |

1. Patch Mode

l t i l Parameters to be set	iglides to the ipitch of the	(controled in	parameters can be controled in
ISYSTEM PARAMETER System Control Source 1/2 Receive Control Change	ION	I ICC84:	CC84:
PATCH COMMON PARAMETER EFX Control Source 1/2 EFX Control Depth 1/2 Patch Control Source 1/2/3		SYS-CTRLI/2	
		Other then OFF	
2 Parlamana Mada	+	+	: Need not be se

CCII 1/2/3 Depchi/2/3/4	1	TOTTIEL LEADE O		1
2. Performance Mode	+	*	:Need not be	set
	IThis applies to the part on the treceiving ch. IThe on-note Iglides to the Ipitch of the Inote turned on	can be controled in real-time	controled in re	eal-time
Parameters to be set	inext		Setting:	Setting2
			10084: 108	I ICC84; ION
PERFORMANCE COMMON PARAMETER EFX Source EFX Control Source 1/2 EFX Control Depth 1/2	•	:	11 - 16 11 - 16	 PERFORM SYS-CTRUI/2 Other than 0
PERFORMANCE PART PARAMETER MIDI Receive Switch	ION	ON	ION	ON
PATCH COMMON PARAMETER EFX Control Source 1/2 EFX Control Depth 1/2 Patch Control Source 1/2/3	 	i	 SYS-CTRL /2 Other than 0 	
PATCH TONE PARAMETER Ctrl 1/2/3 Dest.1/2/3/4 Ctrl 1/2/3 Depth1/2/3/4		Other than OFF	! !	

O General Purpose Effect 1 (Reverb)

Status Second Third
BnH 5BH VVH

n = M1DI channel number: 0H $_{\odot}$ PH (0 - 15) 0 = ch.1 15 = ch.16 vv = Control value $_{\odot}$: 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		parameters can be controled in
SYSTEM PARAMETER System Control Source 1/2 Receive Control Change	CC91:REVERB	ICC91:REVERB
PATCH COMMON PARAMETER EFX Control Source 1/2 EFX Control Depth 1/2 Patch Control Source 1/2/3	 SYS-CTRLI/2	ISYS CTRL1/2 Other than 0
PATCH TONE PARAMETER Ctrl 1/2/3 Dest.1/2/3/4 Ctrl 1/2/3 Depth1/2/3/4	Other than OFF	

--:Need not be set

llevel of the lpart on the	llevel of the		Effect parameters can be controled in real-time 			
		Setting1	Setting2			
I ION	 CC91:REVERB ON	CC91: REVERB	ICC91:REVERB			
 	 	 1 - 16 	 PERFORM SYS-CTFL1/2 Other than 0			
ION	ION	ON	ION			
 	SYS-CTRL1/2	 SYS-CTRL1/2 Other than 0	 			
	 Other than OFF Other than 0		 			
	ilevel of the part on the part on the receiving ch. will be change	level of the				

O General Purpose Effect 3 (Chorus)

Status Second Third

1. Patch Mode

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

Parameters to be set		(parameters can the controled in
SYSTEM PARAMETER) System Control Source 1/2 Receive Control Change	 CC93:CHURUS ON	CC93 : CHORUS
PATCH COMMON PARAMETER EFX Control Source 1/2 EFX Control Depth 1/2 Fatch Control Source 1/2/3	 SYS-CTRL1/2	ISYS-CTRL1/2 Other than 0
PATCH TONE PARAMETER Ctrl 1/2/3 Dest.1/2/3/4 Ctrl 1/2/3 Depth1/2/3/4	Other than OFF	
2. Performance Mode		:Need not be s

	llevel of the spart on the	ican be Icontroled in	SIEffect parameters can be Icontroled in real-time			
Parameters to be set	Preceiving ch.		Setting1	Setting2		
SYSTEM PARAMETEP System Control Source 1/2 Receive Control Change	ION	CC93: CHORUS	! :CC93:CHORUS LON	ICC93:CHORUS		
PERFORMANCE COMMON PARAMETER EFX Source EFX Control Source 1/2 EFX Control Depth 1/2		 	11 - 16	PERFORM SYS-CTRLI/2 Other than 0		
FERFORMANCE PART PARAMETER MIDI Receive Switch	014	ION	ION	ION		
PATCH COMMON PARAMETER EFX Control Source 1/2 EFX Control Depth 1/2 Patch Control Source 1/2/3		 SYS-CTEL1/2	isys-CTRL1/2 lother than 0	 		
PATCH TONE PARAMETER Ctrl 1/2/3 Dest.1/2/3/4 Ctrl 1/2/3 Depth1/2/3/4	4**	Other than OFF		1		

O RPN LSB

Status Second Third
HnH 64H 11H

n = MID1 channel number: 0H - FH (C -15) 0 - ch.1 -15 - ch.16 ll = Lower byte of the parameter number specified by RFN.

O RPN MSB

Status Second Third
BnH 65H mmH

n = M1DI channel number: 0H - FH (0 - 15) 0 = ch.1 15 = ch.16 mm = Upper byte of the parameter number specified by RPH.

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

1. Patch Mode

4	+4
)	The parameter
1	(No. specified
1	Tby RPN will be I
Parameters to be set	changed
4	+
SYSTEM PARAMETER	1 1
Receive Control Change	ION 1

2. Performance Mode

 	Parameter No., specified by RPN, of the part on the receiving Ichannel will be changed
SYSTEM PARAMETER Receive Control Change	ION
PERFORMANCE PART FARAMETER MIDI Receive Switch	ION

O Data Entry LSB

Status Second Third
BnH 26H 11H

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

1. Patch Mode

 	lfor the Iparameter	controled in real-time	<pre>!parameters can ! !be controled in!</pre>
SYSTEM PARAMETER System Control Source 1/2 Receive Control Change	I I ON	 CC38: ON	1003b: 1
PATCH COMMON PARAMETER EFX Control Source 1/2 EFX Control Depth 1/2 Patch Control Source 1/2/3		 SYS-CTRL1/2	
PATCH TONE PARAMETER Ctil 1/2/3 Dest.1/2/3/4 Ctrl 1/2/3 Depth1/2/3/4		 Other than OFF Other than 0	
			:Need not be set

Performance Mode		·		
	Tof the part on The receving Tchannel will be	can be controled in real-time 	Effect paramet lcontroled in i	eal-time
Parameters to be set	changed	 	: Settingi	Setting2
SYSTEM PARAMETER System Control Source 1/2 Receive Control Change		1 ICC38: ION	10038:	CC38:
PERFORMANCE COMMON PARAMETER EFX Source EFX Control Source 1/2 EFX Control Depth 1/2		 	12 - 16	 PERFORM SYS-CTRL1/2 Other than 0
PERFORMANCE PART PARAMETER MIDI Receive Switch	1 ION	I ION	100	ION
PATCH COMMON PARAMETER EFX Control Source 1/2 EFX Control Depth 1/2 Patch Control Source 1/2/3	1 1 1	 SYS-CTRL1/2	 SYS-CTRL1/2 Other than 0 	
PATCH TONE PARAMETER Ctrl 1/2/3 Dest.1/2/3/4 Ctrl 1/2/3 Depth1/2/3/4		 Other than OFF Other than O	1	

```
O Data Entry MSB
                                          Second
                                                                                    Third
                                          0611
                                                                                    nun II
 \alpha = MIDI channel number: 9H FH i 0 = 15 ; 0 = ch.1 = 15 = ch.15 mm . Value for the parameter specified by RPN
 1. Patch Mode
                                                                                                                IMSS of the data Tone parameters Effect
(for the can be parameter
(parameter controled in the cont
(specified by real-time treal ti
(RPN LSB/MSP)
(will be changed
                                                                                                                                                                                                                               !parameters can :
the controled in:
!real time
   |Parameters to be set
  |SYSTEM PARAMETER
| System Control Source 1/2
| Receive Control Change
                                                                                                                                                                           CCE: DATA: ENTRY | CCE: DATA ENTRY
                                                                                                                  LON
  PATCH COMMON PARAMETER
| BFX Control Source 1/2
| BFX Control Depth 1/2
| Patch Control Source 1/2/3
                                                                                                                                                                                                                                 |SYS-CTRL1/2
|Other than 0
                                                                                                                                                                           SYS-CTRL1/2
                                                                                                                                                                                                                                   | PATCH TONE PARAMETER | Ctil 1/2/3 Dest.1/2/3.4 | Ctrl 1/2/3 Depth1/2/3/4
 2. Performance Mode
                                                                                                                 Settingl | Setting2
    Farameters to be set
  | SYSTEM PARAMETER
| System Control Source 1/2
| Receive Control Change
                                                                                                                                                                          ON
    PERFORMANCE COMMON PARAMETER
                                                                                                                                                                                                                                                                                         FERFORM
|SYS-CTRL1:2
|Other than 0
  FERY Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX Course | EFX 
                                                                                                                 ION
                                                                                                                                                                           ON
                                                                                                                                                                                                                                 ION
                                                                                                                                                                                                                                                                                          ON
       MIDI Receive Switch
 | PATCH COMMON PARAMETER | EFX Control Source 1/2 | EFX Control Depth 1/2 | Patch Control Source 1/2/3
                                                                                                                                                                                                                                  .
|SYS-CTRL1:2
   PATCH TONE PARAMETEP
| Ctrl 1/2/3 Dest.1/2/3.4
| Ctrl 1/2/3 Pepth1/2/3/4
                                                                                                                                                                        Other than OFF
                                                                                                                                                                                                                                                                                         --: 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 RPMs: Firsh Bend Sensitivity (RFN*0), Fine Tuning (RFN*1).
Coarse Tuning (RFN*2) and RPN Reset (RFN*10)33).
To effect RFN, first designate the parameter to be controlled using RFN MSB and RFN LSB, and then specify the value of designated parameter in the data entry.
                                                               BnH 64H 11H
( RPN LSB )
                                                                                                                                     BoH 06H xxH BoH 36H yyH ( Data Entry LSB )
n = MIDI channel number: OB \rightarrow FH ( O \rightarrow IS ) O \Rightarrow ch.1 = IS = ch.16
                                                        Data Entry
       FPN
                                                                                                                                   Funtion
MSP LSB
                                                        MSB LSB
                                                        хх уу
                                                                                                                                 Pitch bend sensitivity

mm: 004 - 004 0 - 12 in unit of semitones)

11: ignored

Up to 1 octave in unit of semitones.

* Common to ENDER-RANGE UP and REGMER-RANGE DOWN

* Shythm part (part 10) ignores this function.
 SOR OOR
                                                        mmH ---
                                                                                                                                  Fine luming

mm, Il: 20H, 00H - 40H, 00H - 45H, 00H

(-8192 * 50 * 8192 * 0 - 48192 * 50 * 8192 cent )

* In parch mode, sets master tune.

* In performance mode, sets fine tune of a part.

* When received on the control channel, sets the master tune.
 THE HOLE
                                                        mmH 114
                                                                                                                                  Coarse Tuning

mm : 104 - 40H - 70H ( -48 - 0 - +48 in unit of semitones)

11 : Ignored

* Ignored in patch mode

* In performance mode, sets coatse tune of a part.
 00F 02F
```

* 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.)

RPM: Meser Cancels the settings made by PRM(s). Internal settings remain unchanged. mm, 11 : Ignored

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

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

2. Performance Mode

* Changes performance when received on the control channel.

!	Patch of the
; ;	!channel w.iI be! !changed.(The ! 'patch number is! !the program !
Parameters to be set SYSTEM PARAMETER Receive Program Change	
PERFORMANCE PART PARAMETER MIDI Receive Switch Program Change	ON I

--:Need not be set

Channel Pressure

Status Second DnH vvH

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

1. Patch Mode

	Tone parameter: controled in re		Effect parameters can be controled in real-time		
Parameters to be set	Settingl	Setting2	7 Setting1	: Setting2	
SYSTEM PARAMETER System Control Source 1/2 Receive Aftertouch Aftertouch Source	 ON CH-AFTER OF CH&POLY	AFTERTOUCH ON CH-AFTER OF JCHAPOLY	 ON CH-AFTER or CH4POLY	AFTERTOUCH ON CH-AFTER or ICH&POLY	
PATCH COMMON PARAMETER EFX Control Source 1/2 EFX Control Depth 1/2 Patch Control Source 1/2/3	 AFTERTOUCH	1		ISYS-CTRL1/2 Other than 0	
FATCH TONE PARAMETER Ctrl 1/2/3 Dest.1/2/3/4 Ctrl 1/2/3 Depth1/2/3/4	 Other than OFF Other than 0	Other than OFF	1 1	 	

2. Perforamance Mode

+	-	-	-	-	-	-	-	-	٠	•	٠	-	-	-	-	٠	
			M	'n	c.	a		17	-	r		h	a		c	,a t	

	Tone parameters controled in re		Effect parameters can be controlled in real-time					
Parameters to be set	l Setringl	Setting2	. Settingl	Setring2	Setting3	Setting4		
SYSTEM PARAMETER System Control Source 1:1 Receive Affectouch Aftertouch Source	ION ICH-AFTER OF ICH&POLY		ion CH-AFTER or ICHAFOLY	I ION ICH-AFTER or ICH&POLY	 AFTERTOUCH ON CH-AFTER OI CH&POLY	 AFTERTOUCH ON CH-AFTER OF CHAPOLY		
PERFORMANCE COMMON PARAMETER EFX Source EFX control Source 1/2 EFX Control Depth 1/2	; ;	1	1 - 16	PERFORM AFTERTOUCH Other than 0	1 · 16	 FERFORM SYS-CTEL1/2 Other than (
PERFORMANCE PART PARAMETER MIDI Receive Switch	I FON	1 ON	-on	ION	i (ON	ION		
PATCH COMMON PARAMETER EFX Control Source 1/2 EFX Control Depth 1/2 Patch Control Source 1/2/3	 AFTERTOUCH	(SYS-CTEL1)2	AFTERTOUCH Other than 0	 	ISYS-CTPL1:2 Other than 0	 		
PATCH TONE PARAMETER Ctrl 1/2/3 Dest.1/2/3/4 Ctrl 1/2/3 Depth1/2/3/4		Other than OFF	1	 	1 1	 		

--:Need not be set

Pitch Bend Change

Status Second Third
EnH 11H mmH

n = MIDI channel number : OH - FH (0 - 15) 0 = ch.1 15b= ch.16 mm, 11 = Pitch bend change: OOH, OOH - 40H, OOH - 7FH, 7FH (-8192 · 0 - +8192)

1 Patch Mode

1. Patch Mode						
1	Changes pitch of note	Tone parameters	can be eal-time	Effect parameters can be controled in real-time		
 Parameters to be set		Settingl	Setting2	Settingl	Setting2	
SYSTEM PARAMETER System Control Source 1/2 Receive Bender	I I I ON	I I I ON	IBENDER ION	I ION		
PATCH COMMON PARAMETER EFX Control Source 1/2 EFX Control Depth 1/2 Patch Control Source 1/2/3	 	 BENOER	 SYS-CTRL1/2	BENDER Other than 0		
PATCH TONE PARAMETER Bender Control Switch Bend Range Upper/Lower Pan Control Switch Ctrl 1/2/3 Dest.1/2/3/4 Ctrl 1/2/3 Depth/2/3/4	ON Other than 0	 Other than OFF	 Other than OFF Other than 0			
+	+		. +		Need not be set	

--: Need not be set

	Changes note pitch of the part on the	Tone parameters controled in re		Effect parameters can be controled in real-time			
arameters to be set	receiving channel	Setting1	Setting2	Settingl	Setting2	Setting3	Setting4
YSTEM PARAMETER System Control Source 1/2 Receive Bender	I I ION		I BENDER ION	 ON	I I ON	I IBENOER ION	I BENOER I ON
ERFORMANCE COMMON PARAMETER EFX Source EFX Control Source 1/2 EFX Control Depth 1/2	 	 	 	1	PERFORM BENDER Other than 0	 1 - 16 	PERFORM SYS-CTRL1/2 Other than
ERFORMANCE PART PARAMETER MIDI Receive Switch	ION	ON	ON	i ion	ION	ION	ION
PATCH COMMON PARAMETER EFX Control Source 1/2 EFX Control Depth 1/2 Patch Control Source 1/2/3	 	 BENDER	 SYS-CTRL1/2	 BENDER Other than 0	 	 SYS-CTRL1/2 Other than 0 	
ATCH TONE PARAMETER Bender Control Switch Bend Range Upper/Lower Ctrl 1/2/3 Dest.1/2/3/4 Ctrl 1/2/3 Depth1/2/3/4	ION IOther than 0	 Other than OFF Other than 0	 Other than OFF Other than 0	 	 		

■ Channel Mode Message

All Sounds Off

Status Second Third BnH 78H 00H

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

However, the state of channel messages does not change.

Reset All Controllers

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

^{*} Turns off all MIDI-on notes on the MIDI channel.

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

All Notes Off

Status Second Third
BnH 7BH 00H

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

* Turns off ell 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 00M

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

* Serves as All Notes Off.

OMNI ON

Status Second Third
BnN 7DH 00H

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

* Serves es All Notes Off and not OMNI ON.

MONO

Status Second Third
BnH 7EH mmH

 $n \pm \text{MIDI}$ channel number: OH - FH (0 - 15) 0 = ch.1 15 = ch.16 mm = Number of MONDs $_{\circ}$: OOH - OFH (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
DnH 7FH 00H

n = MIDI channel number: OH - 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

* 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 Resat All Controller message, and stops measuring message intervals.

Timing Clock

Status F8H

1. Pelch Mode

1. F BIGH WOOD				
 - Parameters to be set	Changes LFO Rate 		Changes delay Itime of effect	Changes the
SYSTEM PARAMETER Clock Source	IMIDI	MIDI	MIDI	MIDI
PATCH COMMON PARAMETER EFX Type	 	 		16.STEP-FLANGER
PATCH TONE PARAMETER LFD1/2 External Sync Tone Delay Mode	icLock	 CLOCK-SYNC	 	

--: Need not be set

	Changes LFO Rate	Changes Tone delay time	Changes delay t	ime of effect	Changes step rate of effect (Flanger)		
Parameters to be set			Setring1	Setting2	Setting1	Setting2	
SYSTEM PARAMETER Clock Source	MIDI	MIDI	MIDI	MIDI	IMIDI	 MIDI	
PERFORMANCE COMMON PARAMETER EFX Type	 			 19.TKIPLE-TAP- DELAY OF 20.QUADRUPLE-		 16.STEP-FLANGER 	
EFX Source	1		1 - 16	TAP-DELAY PERFORM	11 - 16	! !PERFORM	
PATCH COMMON PARAMETER EFX Type		 	19.TRIPLE-TAP- DELAY OF 20.QUADRUPLE- TAP-DELAY	 	116.STEP-FLANGER	1 	
PATCH TONE PARAMETER LF01/2 External Sync Tone Delay Mode	Crock	 CLOCK-SYNC		 	1	 	

■ System Exclusive Message

2. TRANSMIT DATA

■ System Exclusive Message

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
FOH	Exclusive status
41H	Manufacture ID (Roland)
Dev	Device ID (Dev=UNIT#-1)
6AH	Model ID (JV-1080)
11H	Command ID (RO1)
aaH	Address MSB
bbit	Address
ccH	Address
ddir	Address LSB
ssH	Size MSB
EEH	Size
uuH	Size
VVH	Size LSB
sum	Check sum
F7H	EOX (End of exclusive)

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

^{*} 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.

Deta set 1 DT1 (12H)

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

8yte	Description
FOH	Exclusive status
41H	Manufacturer ID (Roland)
Dev	Device ID (Dev=UNIT#-1)
6AH	Model ID (JV-1080)
12H	Command ID (DT1)
aaH	Address MSB
Hdd	Address
ccH	Address
ddH	Address LSB
eeH	Dete
:	:
££H	Date
sum	Check sum
F711	mov (mad as avaluation)

2.GS (MODEL ID = 42H)

Byte	Description
FOH	Exclusive status
41H	Manufacturer ID (Roland)
Dev	Device ID (Dev=UNIT#-1)
6AH	Model ID (GS)
12H	Command ID (DT1)
aaH	Address MS8
ppH	Address
ccH	Address LSB
eeH	Data
:	:
E EH	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 addreas map (MODEL ID = 6AH)

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

Address	MS8	LSB		
Binary 7-bit hex		Obbb bbbb 88	Occe cccc	Oddd dddd DD
Size	MSB	LSB		
Binary 7-bit hex		Ottt titt	០ជនក ពពរាព ភព	0vvv vvvv 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 addrass 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 OAH and OBH and sent in thet order.

/ Example of exclusive data /

DELAY, send the following data to the JV-1080.

FOH 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 1-21, 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, dste (or size) end the checksum are summed. If the address is "ae bb ccH" and the data (or the size) is "dd ee ffH"

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

In case of this example,

FOH 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

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

9.F7M is the mark of the end of exclusive.

1 JV-1080

< MODEL ID = 6AH >

Stert address	Description	
1 00 00 00 00	System	•1-1
01 00 00 00 02 00 00 00 02 01 00 00	Temporary performance Performence mode temporary petch(part 1) Performance mode temporary patch(part 2)	*1-2
1	Performance mode temporary patch(part 9) Temporary rhythm setup	*1-4
	Performance mode temporary patch(part 11) Performance mode temporary patch(part 16)	*1~3
10 00 00 00 1 10 00 00 00 1 10 01 00 00	User performance USER:01	*1-3 1-2 1-2
10 1F 00 00	User performance USER:32 User performance USER:32 User rhythm setup USER:1	i i *1-4 i
1 10 41 00 00	User rhythm setup USER:2 User patch USER:001 User patch USER:002	*1-3
1 :	User patch USER:128	
20 00 00 00	Data card performance CARD:01 Data card performance CARO:02	•1-2
1 20 41 00 00	Data card rhythm set CARD:1 Data card rhythm set CARD:2	*1-4
1 21 00 00 00 1 21 01 00 00	Data card patch CARD:001 Data card patch CARD:002	*1-3
21 7F 00 00	Date card patch CARD:128	ŀ

Offset address		1	0escription				1
į	10 00	i	System common Part 1 scale tune	* 1 * 1			
	11 00 1F 00	i	Part 2 scale tune Part 16 scale tune				1
i			Patch mode scale tune	• 1	1	2	i

*1-1-i System common

-1-1-1 Sy	stem common		
Offset address		Description	
00 00	0000 00aa		0 - 2 (PERFORMANCE, PATCH, GM)
00 01	Oaaa aaaa !	Performance number (USER:01 - USE	
00 02	0000 00aa	Patch mode patch group	0 - 2 (USER, POM, EXP)
00 03	l Daga agga		
I# 00 04	1 0000 aaaa 1 0000 bbbb	Patch mode patch group ID Patch mode patch number	0 - 254 (001 - 255)
00 06		Master tune	0 - 126 (427.4 - 452.6)
00 07	0000 000a	Scale tune switch	0 ~ 1 (OFF,ON)
80 00	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 - I (OFF.ON)
1 00 08	i 0000 000a i	Patch remain	0 - 1 (OFF.ON)
i 00 0c	0000 000a	Clock source	0 - 1 (INT, MIDI)
00 00	0000 Daaa	Tap control source (OFF.HOLD-)	

00 0E	0000 Oaaa	Hold control source	0 - 4 1,SOSTENUTO,SOFT,HOLD-2)
00 OF	0000 0aaa	Peak control source	
		Volume control source	0 - 1
00 11	0000 00aa	Aftertouch source (CH-A	(VOLUME, VOLGEXP) 0 ~ 2
00 12	Оала алла	System control source l	0 - 97
00 13	Oaaa 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
00 18	0000 000a	Receive volume	(OFF,ON) 0 - 1
00 19	0000 000a	Receive hold-1	(OFF,ON) 0 - 1
1		 Receive bender	(OFF,ON) 0 - 1
00 1B	0000 000a	 Receive aftertouch	(OFF, ON) 0 - 1
00 1C	000a aaaa	 Control channel	(OFF, ON) 0 - 16
00 10	0000 aaaa	 Patch receive channel	(1 - 16.OFF) 0 - 15
1		 Rhythm edit Source	(1 - 16) 0 - 1
1		l e	(PANEL, PANELAMIDI)
00 1F	0000 000a	Preview sound mode	0 - 1
1			0 - 127
00 21	Oaaa aaaa	Preview velocity set 1	(C-1 - G9) 0 - 127
00 22	l Daaa aaaa)	(OFF,1 - 127) 0 - 127
00 23	l Oaaa aaaa	Preview velocity set 2	(C-1 - G9) 0 - 127
1	1	Preview key set 3	(OFF,1 - 127) 0 - 127
		Preview velocity set 3	
		1	(OFF,1 - 127) 0 - 127
		i	(C-1 - G9)
1 00 27	udaa aaaa L	Preview velocity set 4	(OFF, 1 - 127)
Total size	00 00 00 2		

1-1-2	Scale	tune
1.1.5	COLLE	Carre

address		Descript	ion	
00 00	Oaaa aaaa l	Scale tune f	or C	0 - 127 (-64 - +63)
60 61	Osaa aaaa l	Scale tune f	or C#	
00 02	Osaa aaaa	Scale tune f	or D	0 - 127
00 03	Oasa sama	Scale tune f	or D#	0 - 127 (-64 - +63)
00 04	Oaaa aaaa	Scale tune f	or E	0 - 127 (-64 - +63)
00 05	Oaaa aaaa l	Scale Lune f	or F	0 - 127
00 06	(laaa aaaa !	Scale tune f	or F#	0 - 127 (-64 - +63)
00 07	l Oasa sasa i	Scale tune f	or G	0 - 127 (-64 - +63)
80 00		Scale tune f		(-64 - +63)
00 09	1	Scale tune f		0 - 127 (-64 - +63)
00 DA	I	Scale tune f		0 - 127 (-64 - +63)
00 OB	Gasa aasa 	Scale tune f		0 - 127 (-64 + +63)

, Example using RQ1 / To get the all data of the system common, send the following message to the . 17 -1080. FOH 41H 10H 6AH 11H 00H 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. FOR 41H 10H 6AH 12H 00H 00H 00H 1CH 00H 64H F7H

*!-2 Performance

1 0	ffset	ī		
į.	address	į	Description	
1			Performance common	*1-2-1
1			Performance part 1 Performance part 2	*1-2-2
į	:	1	Performance part 16	

*1-2-1 Performance common

1-2-1 Performance common						
Offse						
a	ddre	85		Description		
	00	00 1	Oaaa aaaa	Performance name 1	32 - 127	
	00	01	Oaaa aaaa	Performance name 2		
	00	02 (Oaaa aaaa	Performance name 3	32 - 127	
	00	03 1	Oaaa aaaa	Performance name 4 Performance name 5	32 - 127 32 - 127 32 - 127	
l	00	04	Оваа вава	Performance name 5	36 - 161	
	00	05 1	Oaaa aaaa	Performance name 6	32 - 127 32 - 127	
	00	00 1	Osas assa	Performance name 6 Performance name 7 Performance name 8	32 - 127	
	00	DR I	Oaaa aaaa	Performance name 9	32 - 127	
	00	09	Oaaa aaaa	Performance name 10	32 - 127 32 - 127	
	00	OA I	Оааа аааа	Performance name 11	32 - 127	
	00	0B I	Oaaa aaaa	Performance name 9 Performance name 10 Performance name 11 Performance name 12	32 - 127	
		4	-	EFX: Source	0 - 15 (PERFORM, 1 - 9, 11 - 16)	
	00	G	00aa aaaa	EFX: Type	0 - 39	
i	00	OE I	Оааа аааа	EFX:Type EFX:Parameter 1	32 - 127 I	
t	00	OF I	Oaaa aaaa	EFX:Parameter 2 EFX:Parameter 3 EFX:Parameter 4	0 - 127 0 - 127 0 - 127 0 - 127	
	00	10	Оваа авав	EFX:Parameter 3	0 - 127	
	00	11	Daaa aaaa	EFX:Parameter 4 EFX:Parameter 5	0 - 127	
	00	13	Dana aaaa	FFX:Parameter 6	0 - 127	
	00	14	Oaza aaaa	EFX:Parameter 6 EFX:Parameter 7	0 - 127 0 - 127	
	00	15 I	Ossa assa	EFX:Parameter 8	0 - 127	
	00	16	Oaaa aaaa	EFX:Parameter 9 EFX:Parameter 10	0 - 127 0 - 127	
	00	17	Oaaa aaaa	EFX:Parameter 10		
	00	10 i	Daaa aaaa Daaa aaaa	EFX:Parameter 11	0 - 127	
	00	1A I	0000 0088	EFX:Parameter 12 EFX:Output assign	0 - 127 0 - 2	
					(MIX.OUTPUT1.OUTPUT2)	
	00	18	Oaaa aaaa	EFX:Output level EFX:Chorus send level	0 - 127 0 - 127	
)	00	1C	Oaaa aaaa	EFX:Chorus send level	0 - 127	
)	00			EFX:Reverb send level	0 - 127 0 - 10	
	00	18	0000 aaaa	EFX:Control source l	2, MODULATION, BREATH, FOOT, I	
6 6		- 1		VOLUME, PAN, EXPRI	SSION, BENDER, AFTERTOUCH)	
	00	1F	Oaaa aaaa	EFX:Control depth 1	0 - 126	
i		- 1		1	(-63 - +63)	
I	00	20	0000 aaaa	EFX:Control source 2	0 - 10	
I		- 1	1	(OFF, SYS-CTRL1, SYS-CTRL	MODULATION, BREATH, FOOT,	
!				VOLUME, PAN, EXPR	ESSION, BENDER, AFTERTOUCH)!	
!	υu	21	Oaaa aaaa	EFX:Control depth 2	0 - 126 (-63 - +63)	
ì	nn	22	Daga agan	Chorus:Level	0 - 127	
ì	00	23	Osaa sasa	Chorus:Rate	0 - 127	
ĺ	00	24	Daga aaaa	Chorus:Depth	0 - 127 0 - 127	
I	00	25	Oada aaaa	Chorus:Pre delay Chorus:Feedback	0 - 127	
!	00	26	Oaaa aaaa	Chorus: Feedback	0 - 127 0 - 2	
ŀ	UU	21	0000 uuaa	Chorus:Output əssign	(MIX, REVERB, MIX+REV)	
1	00	28	0000 0aaa	Reverb:type	0 - 7	
i				(RO	DM1,ROOM2,STAGE1,STAGE2,	
i				I HA	LL1, HALL2, DELAY, PAN-DLY)	
	00		Oaaa aaaa	Reverb:Level	0 - 127 0 - 127 0 - 127 0 - 17	
	00	ZA	Oaaa aaaa	Reverb: Time	0 - 12/	
1	υu	28	000a aaaa	1 Reverb: HF damp 1 (200.250.315.400.500	,630,800,1000,1250,1600.	
i				2000, 2500, 3150, 400	0,5000,6300,8000,BYPASS) (
i	00	2C		Reverb:Feedback	0 - 127	
					20 250	
I #	00	SD	0000 aaaa	Default tempo	20 - 250	
l Ł	00	25	1 0000 0000	 Key range switch	0 - 1	
i	00		1 0000 0000	l ney range switten	(OFF,ON)	
				+		
!	00	30	Oaaa aaaa	Part 1 voice reserve	0 - 64	
	00	31	Oaaa aaaa	Fart 2 voice reserve	0 - 64	
1	00	32	SSSS SSSU	Part 2 voice reserve Part 3 voice reserve Part 4 voice reserve Part 5 voice reserve	0 ~ 64 0 - 64	
ì	00	34	Oaaa aaaa	Part 5 voice reserve	0 - 64	
i	00	35	Daga aaaa	Part 6 voice reserve	0 - 64	
I	00	36	Oaaa aaaa	Part 7 voice reserve	0 - 64	
!	00	37	Oaaa aaaa	Part 8 voice reserve	0 - 64	
!	00	38	Uaaa aaaa	Part 10 unice reserve	0 - 64 I	
!	00	32	i Usaa aasa	Part 1 voice reserve	0 - 64	
i	00	3B	Oaaa aaaa	Part 12 voice reserve	0 - 64	
İ	00	3C	Daaa aaaa	Part 13 voice reserve	0 - 64	
ŧ	00	3D	Osas asas	Part 14 voice reserve	0 - 64	
1	00	3E	l Oaaa aaaa	Part 15 voice reserve	0 - 64 I	
1	00	3F	Uaaa aaaa	Part 5 voice reserve Part 7 voice reserve Part 7 voice reserve Part 8 voice reserve Part 8 voice reserve Part 10 voice reserve Part 10 voice reserve Part 11 voice reserve Part 12 voice reserve Part 12 voice reserve Part 14 voice reserve Part 14 voice reserve Part 15 voice reserve Part 16 voice reserve	U - 54	
Total			00 00 00 4			
, . OCUI		-	, 50 00 00 4	- 		
	mh -	ner	£	ome data returned in re	appropriet to this request	

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. FOR 41H 10H 6AH 11H 10H 00H 00H 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. FOH 41H 10H 6AH 12H 10H 07H 00H 28H 05H 3CH F7H

*1-2-2 Perf	ormance 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)
i	i i		0 - 2 (USEP, PCM, EXP)
1# 00 04	i 0000 aaaa l	Patch number	0 - 127 0 - 254
	0000 bbbb 0aaa aaaa	Part level	(001 - 255) 0 - 127
00 07	Oaaa aasa		0 - 127 i (L64 - 63R) i
00 0a	Оала езаа		0 - 96 1
00 09	Oasa sasa i	Pitch fine tune	0 - 100 I (-50 - +50) I
A0 0A	0000 Daga	Output assign (MIX,EFX,OUTPUT1,OU	0 - 4
ί 00 00	Oaaa aaaa l	Output level	0 - 127
00 0C	Oaaa aaaa	Chorus send level	0 - 127
		Reverb send level	
00 0E	0000 000a	Receive program change	0 - 1
1			(OFF,ON)
. 00 OF	0000 000a	Receive volume	0 - 1 (OFF,ON)
00 10	0000 000a	Receive hold-1	0 - 1
00 11	l Ocasa asaa i	Key range lower	(OFF,ON) 0 - 127
i	1		(C-1 - G9)
00 12	i Oaaa aaaa i I	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. FOH 41H 10H 6AH 12H 01H 00H 10H 00H 00H 6FH F7H

*1-3 Patch

Offset addre	 88	Description	
	00 i 00 i	Patch common Patch tone 1 Patch tone 2 Patch tone 3 Patch tone 4	*1-3-1 *1-3-2 (;

*1-3-1 Patch common

Offset address		Description	1
00 00 1	Oaaa aaaa Oaaa aaaa	Patch name 1 Patch name 2 Patch name 3 Patch name 3 Patch name 4 Patch name 5 Patch name 6 Patch name 7 Patch name 7 Patch name 8 Patch name 9 Patch name 10 Patch name 11 Patch name 12	32 - 127 32 - 127
1 00 02 1	Uaaa aaaa	Patch name 3	32 - 127
00 03 1	Daaa aaaa	Patch name 4	32 ~ 127
1 00 04 1	Onna anda	Patch name 5	32 - 127
1 00 05 1	Vaaa aaaa	Patch name 6	32 - 127
1 00 00 1	Oada dada	Paten name /	32 - 127
1 00 07 1	Oada dada	Patch name 6	32 - 127
1 00 00 1	Onna nada	Batch name 10	32 - 127
1 00 03 1	Onna agna	Datch name 10	37 - 127
1 AV UU 1	Odda dada	Dates name 12	32 - 127
i	Odga dada	EFX: Parameter 1 EFX: Parameter 1 EFX: Parameter 2 EFX: Parameter 3 EFX: Parameter 3 EFX: Parameter 4 EFX: Parameter 5 EFX: Parameter 6 EFX: Parameter 7 EFX: Parameter 7 EFX: Parameter 9 EFX: Parameter 10 EFX: Parameter 11 EFX: Parameter 11 EFX: Parameter 12 EFX: Parameter 12	30 - 127
I 00 0C I	00aa aaaa	EFX:Type	0 - 39
I 00 0D I	Oaaa aaaa	EFX:Parameter 1	0 - 127 f
1 00 OE 1	Oaaa aaaa	EFX:Parameter 2	0 - 127
00 OF I	Oaaa aaaa	EFX:Parameter 3	0 - 127
00 10	Oaaa aaaa	EFX: Parameter 4	0 - 127
00 11 1	Oaaa aaaa	EFX:Parameter 5	0 - 127 I
00 12	Oaaa aaaa	EFX:Parameter 6	0 - 12"
00 13 1	Оааа аааа	EFX:Parameter ?	0 127
00 14 1	Оваа вааа	EFX:Parameter 8	0 - 127
00 15 1	Qaaa aaaa	EFX:Parameter 9	0 - 127
00 16 1	Qaaa aaaa	EFX:Parameter 10	0 - 127
00 17	Daaa aaaa	EFX:Parameter 11	0 127
00 18 1	Uaaa aaaa	EFX:Parameter 12	0 - 127
00 19 1	0000 00aa		
		EFX:Output level	(RIX.OUTPUTT.OUTPUTZ)
1 00 LA I	uaaa aaaa	EFX:Output level	0 - 127
		EFX:Reverb send level EFX:Control source 1	
, 00 ID I			L2, MODULATION, BREATH, FOOT, I
1		(Uri,515-CIRLI,515-CIR	RESSION, DENDER, AFTERTOUCH)
4 00 15 1	Dans 2022	EFX:Control depth 1	
1 00 15 1	Udda dana	Erniconeror depen i	(-63 - +63)
00 122 1	0000 2222	EFX:Control source 2	
1 00 17 1			L2, MODULATION, BREATH, FOOT,
		LIOCURE DALL EVIDE	CONTRACTOR CONTRACTOR
00.20	0222 2222	FEV-Control denth 2	n - 176
1 00 2.0 1	onan anda	EFX:Control depth 2 Chorus:Level Chorus:Rate Chorus:Bepth Chorus:Pre delay Chorus:Feedback	(-63 - +63)
00 21 1	Qaaa aaaa	Chorus:Level	0 - 127
00 22 1	Оваа вааа	Chorus:Rate	0 - 127
00 23 1	Daaa aaaa	Chorus:Depth	0 - 127
00 24 1	Оава аваа	Chorus:Pre delay	0 + 127
00 25 1	Caaa aaaa	Chorus: Feedback	0 - 127
00 26 1	0000 00aa	Chorus:Output assign	0 - 2

	00 27	0000 Caaa	Reverb:type	(HIX, REVERB, MIX+REV)
		1	(RC	OOM1,ROOM2,STAGE1,STAGE2, ALL1,HALL2,DELAY,PAN-DLY)
			Reverb:Level	0 - 127
	00 29			0 - 127
	00 2A	000a aaaa		0 - 17 0,630,800,1000,1250,1600,
			2000, 2500, 3150, 400	00,5000,6300,8000,BYPASS) I
	00 28	1 Овав завв		0 - 127
#	00 2C		Default tempo	20 - 250
	00 2E	1 0000 bbbb	Patch level	0 - 127
	00 2F		Patch pan	0 - 127
	00 30	0aaa aaaa	Analog teel depth	(L64 - 63R) 0 - 127
	00 31	1 0000 aaaa	Bender range up	0 ~ 12 i
	00 32	00aa aaaa	Bender range down	0 - 48 (048)
	00 33	0000 000a	Key assign mode	0 - 1
	00 34	0000 000a	Coin logato	(POLY, SOLO) 0 - 1
		4		(OFF,ON)
	00 35	0000 000a	Portamento switch	0 - 1 (OFF, ON)
	00 36	0000 000a	Portamento mode	0 - 1
	00 37	. 0000 000a	Portamento type	(NORMAL, LEGATO) 0 - 1
		:		(RATE, TIME)
	00 38	. 0000 000a	Portamento start	0 - 1 (PITCH.NOTE)
	00 39			0 - 127
	00 3A	7 0000 aaaa	Patch control source 2 (OFF, SYS-CTRL1, SYS-CTRL	2, MODULATION, BREATH, FOOT.
		i.	VOLUME, PAN, EXPRE	ESSION, BENDER, AFTERTOUCH,
	00.38	0000 aaaa		OCITY, KEYFOLLOW, PLAYMATE) 0 - 15
	30 30	1	{OFF, SYS-CTRL1, SYS-CTRI	.2, MODULATION, BREATH, FOOT,
		i .		ESSION, BENDER, AFTERTOUCH, CCITY, KEYFOLLOW, PLAYMATE;
	00 3C	1 0000 00aa	EFX centrol hold/peak	0 - 2
	00 3D	. 0000 00aa	Control 1 hold/peak	(OFF, HOLD, PEAK) 1 0 - 2 1
	00 3E	1	Control 2 hold/peak	(OFF, HOLD, PEAK) i 0 ~ 2 i
		1		(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 i
	00 41	0000 Daaa	Octave shift	(OFF, ON) 0 - 6
		1		(-3 - +3)
	00 42	1 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
	00 45	0000 00aa	Booster level 162	0 - 3
	00 46	0000 aaaa	 Structure type 3&4	(0,+6,+12,+18) 0 - 9
	00 47	1	Booster level 354	(1 - 10) 0 - 3
	20 41	1		(0,+6,+12,+18)
Total	size	1 00 00 00 48	3	}
-				

(H1X, REVERB, M1X+REV)

/ Example using RQ1 /
To get the value of the portamento time of the patch temporary, send the following message to the CV-1080. FOR 41H 10H 5AH 11H 03H 60H 00H 39H 00H 00H 00H 01H 43H F7H

/ Example using DTL /
To set the structure 162 of the patch USER:48 to "TYPE 3", send the following message to the JV-1080. FOH 41R 10H 6AH 12H 11H 2FH 00H 44H 02H 7AH F7H

*1-3-2 Patch tone

066	set			
1 011	address		Description	
i	00 00	0000 000a 1	Tone switch	
1	00.01	0 0 00 00aa	latera era como era	(OFF, ON) 0 - 2
;	00 01	0000 00aat		(ENT, PCM, EXP)
i	00 02	Oaaa aaaa	Wave group ID	0 - 127
1#			Wave number	0 - 254
1		dadd 0000		(1 ~ 255)
!	00 05	0000 00aa		0 - 3
!	00.00	0000 000a 1		(-6,0,+6,+12) 0 - 1
1	00 06	0000 000a 1	PAM SWICCE	(OFF,ON)
i	00 07	0000 00aa i	FMM color	0 - 3
i				(1 - 4)
i	00 08	0000 aaaa 1	FXM depth	0 - 15
1			_ ,,,	(1 - 16)
1	00 09	0000 Gaaa 1	Tone delay mode	0 - 6 RVAL.CLOCK-SYNC.TAP SYNC.
1				OFF NORMAL, KEY-OFF DECAY)
;	00 0A	Oaaa aaaa	Tone delay time	
}				
1	00 0B	Oaaa aaaa	Velocity cross fade depth	0 - 127
1	00 00	Onna nuna I	Velocity range lower Velocity range upper	1 - 127
	00 05	Oaaa aaaa	Key range lower	0 - 127
i		l comp dance		(C-1 - G9)
1	00 OF	Oaaa aaaa	Key range upper	0 - 127
1		1		(C-1 - G9)
1	00 10	0000 000a	Redamper control switch	
1	00.11	0000 033a	Volume control switch	(OFF, OU) () ~ 1

							0 14
00 12	0000 000a	Hold-1 control switch	(OFF,ON) 0 - 1	00 45	0000 aaaa		0 - 14 0,-50,-40,-30,-20,-10,0,
00 13	0000 000a	Bender control switch	(OFF,ON) ! 0 - 1 !	00 46		P-ENV time 1	20,+30,+40,+50,+70,+100) 0 - 127
00 14	0000 00aa	Pan control switch	(OFF,ON) 0 - 2	00 47	Oaaa aaaa Oaaa aaaa	P-ENV time 2 P-ENV time 3	0 - 127 0 - 127
00 15 1	000a aaaa		(OFF,CONTINUOUS,KEY-ON) 0 - 18	00 49 00 4A	Oaaa aaaa	P-ENV time 4 P-ENV level 1	0 - 127 0 - 126
00 15 1	UUUd dadd	(OFF, PCH, CUT, F	ES, LEV, PAN, MIX, CHO, REV,	1	İ		(-63 - +63)
00 16	Oaaa aaaa	PL1,PL2,FL1,FL2,A Controller 1 depth 1	L1,AL2,pL1,pL2,L1R,L2R) 0 - 126	5 00 4B	Oaaa aaaa	P-BW level 2	0 - 126 (-63 - +63)
00 17 I	000a aaaa	Controller 1 destination 2	(-63 - +63) 0 - 18	00 4C	Oaaa aaaa 	P-ENV level 3	0 - 126 (-63 - +63)
		(OFF, PCH, CUT, F	RES, LEV, PAN, MIX, CHO, REV,	00 4D	Oaaa aaaa	P-ENV level 4	0 - 126 (-63 - +63)
00 18	Оааа аааа	Controller 1 depth 2	0 - 126	00 4E	Oaaa aaaa	Pitch LFO 1 depth	0 - 126
00 19 1	000a aaaa	Controller 1 destination 3	(-63 - +63) 0 - 18	00 4F	l Oaaa aaaa	Pitch LFO 2 depth	(-63 - +63) 0 - 126
i			RES, LEV, PAN, MIX, CHO, REV, 11, AL2, pL1, pL2, L1R, L2R)		 		(-63 - +63)
00 1A	Оала алаа	Controller 1 depth 3	0 - 126 (-63 - +63)	00 50	0000 0aaa	Filter type	0 - 4 (OFF, LPF, BPF, HPF, PKG)
00 1B	000а аааа	Controller 1 destination 4	0 - 18	00 51	Oaaa aaaa	Cutoff frequency	0 - 127 0 - 15
1		PL1, PL2, FL1, FL2, A	RES, LEV, PAN, MIX, CHO, REV, IL1, AL2, pL1, pL2, L1R, L2R)	00 52 	0000 aaaa 		0,-30,-10,0,+10,+20,+30,
00 1C i	Оваа аваа	Controller 1 depth 4	0 - 126 (-63 - +63)	00 53	l Oana aana	Resonance	+70,+100,+120,+150,+200) 0 - 127
00 1D	000а аааа		0 - 10 RES, LEV, PAN, MIX, CHO, REV,	00 54	Oaaa aaaa	Resonance velocity sensitiv	ity 0 - 125 (-50 - +200)
00 1E	0	PL1, PL2, FL1, FL2, A	L1,AL2,pL1,pL2,L1R,L2R) 0 - 126	00 55	Daaa aaaa	F-ENV depth	0 - 126 (-63 - +63)
i	Онна нана	•	(-63 - +63)	00 56	0000 Oaaa	F-ENV velocity curve	0 - 6
00 1F	000a aaaa	Controller 2 destination 2 (OFF, PCH, CUT, F	ES, LEV, PAN, MIX, CHO, REV,	00 57	Oaaa aaaa	F-ENV velocity sensitivity	(1 - 7) 0 - 125
00 20 I	Оака аааа	PL1,PL2,FL1,FL2,A Controller 2 depth 2	L1,AL2,pL1,pL2,L1R,L2R) 0 - 126	00 58	1 1 0000 aaaa	 F-ENV velocity time 1 sensi	(-50 - +200) tivity 0 - 14
00 21	000a aaaa	Controller 2 destination 3	(-63 - +63) 0 - 18			(-100,-7	0,-50,-40,-30,-20,-10,0, 20,+30,+40,+50,+70,+100)
00 21	uuua anaa	(OFF, PCH, CUT, F	ES, LEV, PAN, MIX, CHO, REV,	00 59	0000 aaaa	F-ENV velocity time 4 sensi	tivity 0 - 14 0,-50,-40,-30,-20,-10,0,
00 22	Оала алаа	Controller 2 depth 3	L1,AL2,pL1,pL2,L1R,L2R) 0 - 126			+10,+	20,+30,+40,+50,+70,+100)
00 23 1	000a aaaa	Controller 2 destination 4	(-63 - +63) 0 - 18	00 5A	0000 aaaa 	F-ENV time keyfollow (-100,-7	0 - 14 0,-50,-40,-30,-20,-10,0,
		(OFF, PCH, CUT, F	WES, LEV, PAN, MIX, CHO, REV, LL, AL2, pL1, pL2, L1R, L2R)	00.58	! Oana aana	+10,+ F-ENV time 1	20,+30,+46,+50,+70,+100) 0 - 127
00 24	Оааа аааа	Controller 2 depth 4	0 - 126	00 5C	Оава вааа	F-ENV time 2	0 - 127
00 25 1	000a aaaa	Controller 3 destination 1	(-63 - +63) 0 - 18	00 5D	Oaaa aaaa Oaaa aaaa	F-ENV time 3 F-ENV time 4	0 - 127 0 - 127
!		(OFF, PCH, CUT, F	ES, LEV, PAN, MIX, CHO, REV,	00 5F	Caaa aaaa	F-ENV level 1 F-ENV level 2	0 - 127 0 - 127
00 26	Овав ваав	Controller 3 depth 1	L1,AL2,pL1,pL2,L1R,L2R) 0 - 126	00 61	Dana aana	F-ENV level 3	0 - 127
00 27	000a aaaa	 Controller 3 destination 2	(-63 - +63)	00 62	Dada dada Dada dada	F-ENV level 4 Filter LFO 1 depth	0 - 127 0 - 126
00 27	uuua aaaa	(OFF, PCH, CUT, F	ES, LEV, PAN, MIX, CHO, REV,	: 1	1	l "	(-63 - +63)
00 28 1	Оала алаа	PL1,FL2,FL1,FL2,F Controller 3 depth 2	L1,AL2,pL1,pL2,L1R,L2R) 0 - 126	00 64 	Oaaa aaaa 	Filter LFO 2 depth	0 - 126 (-63 - +63)
00 29 1	000a aaaa	Controller 3 destination 3	(-63 - +63)	00 65	1 0aaa aaaa	Tone level	0 - 127
1	VIOLET CHELLE	(OFF, PCH, CUT, F	ES, LEV, PAN, MIX, CHO, REV,	00 66	0000 00aa	Bias direction	0 - 3 (LOWER, UPPER, L&U, ALL)
AS 00	Оваа вала		L1,AL2,pL1,pL2,L1R,L2R) 0 - 126	00 67	Oaaa aaaa	8ias point	0 - 127
00 2B I	000a aaaa	Controller 3 destination 4	(-63 - +63) 0 - 18	00 68	1 1 0000 aaaa	 Bias level	(C-1 - G9) 0 - 14
I		(OFF, PCH, CUT, F	RES.LEV.PAN.MIX.CHO.REV.		 		0,-50,-40,-30,-20,-10,0, 20,+30,+40,+50,+70,+100)
00 2C	Оааа аааа	Controller 3 depth 4	0 - 126	00 69	0000 Oadd	A-BW velocity curve	0 - 6
		 	(-63 - +63)	00 6A	l Oaaa aaaa	A-ENV velocity sensitivity	0 - 125
00 2D I	0000 0aaa		0 - 7 SAW, SQR, TRP, S&H, RND, CHS)	00 68	i i 0000 aaaa	 A-ENV velocity time 1 sensi	
00 2E I	0000 000a		0 - 1 (OFF, ON)		[(-100, -7 +10. +	0,-50,-40,-30,-20,-10.0, 20,+30,+40,+50,+70,+100)
00 2F	Qaaa aaaa		0 - 127	00 6C	0000 aaaa	! A-ENV velocity time 4 sensi	tivity 0 - 14
00 30 1	0000 Oaaa		0 - 4 (-100, -50, 0, +50, +100)		, I	1 +10,+	0, -50, -40, -30, -20, -10, 0, 20, +30, +40, +50, +70, +100)
00 31 I 00 32 I	0aaa aaaa 0000 00aa	LFO 1 delay time LFO 1 fade mode	0 - 127	00 6D	1 0000 aaaa 1	A-ENV time keyfollow (-100,-7	0 - 14 0,-50,-40,-30,-20,-10,0,
1		(ON-IN	(,ON-OUT, OFF-IN, OFF-OUT)	00.55		+10,+	20,+30,+40,+50,+70,+100) 0 - 127
00 33 I 00 34 I	0aaa aaaa 0000 00aa	LFO 1 fade time LFO 1 external sync	0 - 127 0 - 2	I I 00 6F	l Daaa aaaa I Daaa aaaa		0 - 127
i			(OFF, CLOCK, TAP)	00 70	l Daaa aaaa	A-ENV time 3	0 - 127
00 35 1	0000 0===	LED 2 waveform	0 - 7	1 00 71		A-ENV time 4	0 - 127
00 35 1	0000 0aaa	(TRI,SIN,S	0 - 7 SAW, SOR, THP, S&H, RND, CHS)	00 71	Oaaa aaaa Oaaa aaaa	A-ENV level 1	0 - 127
00 35 I 00 36 I	0000 0aaa 0000 000a	(TR1,SIN,S			Onaa aaaa Oaaa aaaa Oaaa aaaa	A-ENV level 1 A-ENV level 2	0 - 127 0 - 127 0 - 127
00 36 1 00 37 1	0000 000a 0aaa aaaa	(TR1,SIN,S LFU 2 key trigger LFO 2 rate	AW, SOF, TRP, S&H, RND, CHS) 0 - 1 (OFF, ON) 0 - 127	00 72 00 73	Onaa aaaa Oaaa aaaa Oaaa aaaa	A-ENV level 1 A-ENV level 2	0 - 127 0 - 127 0 - 127 0 - 127
00 36 1 00 37 1 00 38 1	0000 000a 0aaa aaaa 0000 0aaa	(TR1,SIN,S LFO 2 key trigger 	AW, SQR, TRP, S&H, RND, CHS) 0 - 1 (OFF, CNN) 0 - 127 0 - 4 (-100, -50, 0, +50, +100)	00 72 00 73 00 74	Onna anna Onna anna Onna anna Onna anna	A-ENV level 1 A-FNV level 2 A-ENV level 3	0 - 127 0 - 127 0 - 127 0 - 127 0 - 126 (-63 - +63) 0 - 126
00 36 1 00 37 1	0000 000a 0aaa aaaa 0000 0aaa	(TR1,SIN,S LFO 2 key trigger LFO 2 rate LFO 2 level offset LFO 2 delay time LFO 2 fade mode	AMW, SQR, TRP, S&H, RND, CHS) 0 - 1 (OPF, CN) 0 - 127 0 - 4 (-100, -50, 0, +50, +100) 0 - 127 0 - 127	00 72 00 73 00 74 00 75	Onna mana Onna mana Onna mana Onna mana Onna mana Onna mana	A-ENV level 1 A-ENV level 2 A-ENV level 3 Amplitude LEO 1 depth	0 - 127 0 - 127 0 - 127 0 - 126 (-63 - +63) 0 - 126 (-63 - +63) 0 - 127
00 36 1 00 37 1 00 38 1 00 39 1	0000 000a 0aaa aaaa 0000 0aaa	(TR1,SIN,S LFO 2 key trigger LFO 2 rate LFO 2 level offset LFO 2 delay time LFO 2 fade mode	AMW, SQR, TRP, S&H, RND, CHS) 0 - 1 (OFF, CN) 0 - 127 0 - 4 (-100, -50, 0, +50, +100) 0 - 127 0 - 3 , CN-OUT, OFF-IN, OFF-OUT)	00 72 00 73 1 00 74 1 00 75 1 1 00 76	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	A-FNV level 1 A-FNV level 2 A-FNV level 2 A-FNV level 3 Amplitude LFO 1 depth Amplitude LFO 2 depth Tone pan	0 - 127 0 - 127 0 - 127 0 - 126 (-63 - +63) 0 - 126 (-63 - +63) 0 - 127 (L64 - 63R) 0 - 14
00 36 1 00 37 1 00 38 1 00 39 1 00 3A 1	0000 000a 0aaa aaaa 0000 0aaa 0aaa aaaa 0000 00aa	(TR1,SIN,S LFO 2 key trigger LFO 2 rate LFO 2 delay time LFO 2 delay time LFO 2 fade mode LFO 2 fade time	XAM, SGF, TRP, S&H, RND, CHS) 0 - 1 (OFF, UN) 0 - 127 0 - 10, (-100, -50, 0, +50, +100) 0 - 127 0 - 3 (-NC-CUT, OFF-IN, OFF-CUT) 0 - 127 0 - 127	00 72 00 73 1 00 73 1 00 75 1 00 76	Onaa aaaa Oaaa aaaa Oaaa aaaa Oaaa aaaa Oaaa aaaa Oaaa aaaa	A-BAV level 1 A-BAV level 2 A-BAV level 2 Amplitude LFO depth Amplitude LFO depth Those pan Pan keyfollow	0 - 127 0 - 127 0 - 127 0 - 126 (-63 - +63) 0 - 126 (-63 - +63) 0 - 127 (L64 - 63R) 0 - 14 0 - 50, 40, -30, -20, -10, 0,
00 36 (00 37 (00 38 (00 39 (00 38 (00 38 (00 38 (00 3C (0000 000a 0aaa aaaa 0000 0aaa 0aaa aaaa 0000 00aa 0aaa aaaa 0000 00aa	CRI,SIN,S LFO 2 rate LFO 2 rate LFO 2 level offset LFO 2 delay time LFO 2 fade mode LFO 2 fade time LFO 2 fade time LFO 2 cates time LFO 2 cates time LFO 2 cates time LFO 2 cates time LFO 2 cates time LFO 2 cates time LFO 2 cates time LFO 2 cates time LFO 2 cates time LFO 2 cates time	XAM, SGF, TRP, S&H, RND, CHS) 0 - 1 (OFF, UN) 0 - 42 (-100, -50, 0, +50, +100) 0 - 127 0 - 3 0 - 3 (NS-CUT, OFF-IN, OFF-CUT) 0 - 127 0 - 127 0 - 127 (OFF, CLOCK, TAP)	00 72 00 73 1 00 74 1 00 75 1 00 76 1 00 77 1 00 78	Onaa aaaa Oaaa aaaa Oaaa aaaa Oaaa aaaa Oaaa aaaa Oaaa aaaa Oaaa aaaa Oaaa aaaa	A-BAV level 1	0 - 127 0 - 127 0 - 127 0 - 126 (-63 - +63) 0 - 126 (-63 - +63) 0 - 127 (L64 - 63R) 0 - 14 0, -50, -40, -30, -20, -10, 0, -20, -10, 0, -30, -40, +50, +70, +100) 0 - 63
00 36 (00 37 (00 38 (00 39 (00 38 (00 38 (00 38 (00 38 (00 38 (00 30 (00 30 (00 30 (00 30 (0000 000a 0aaa aaaa 0000 0aaa 0aaa aaaa 0000 00aa 0aaa aaaa 0000 00aa	LFO 2 rate LFO 2 rate LFO 2 level offset LFO 2 delay time LFO 2 fade node LFO 2 fade time LFO 2 fade time LFO 2 external sync	XAM, SGF, TRP, S&H, RND, CHS) 0 - 1 (OFF, UN) 0 - 127 0 - 4 (-100, -50, 0, +50, +100) 0 - 127 0 - 3 0 - 3 (NS-CUT, OFF-IN, OFF-CUT) 0 - 127 0 - 2 (OFF, CLOCK, TAP) 0 - 96 (-48 - +48)	00 72 1 00 73 1 1 00 74 1 00 76 1 1 00 76 1 1 1 1 1 1 1 1 1	Onaa aaaa Onaa aaaa Onaa aaaa Onaa aaaa Onaa aaaa Onaa aaaa Onaa aaaa Onaa aaaa Onaa aaaa Onaa aaaa Onaa aaaa Onaa aaaa Onaa aaaa	A-FBW level 1 A-FBW level 2 A-FBW level 3 Amplitude LFO 1 depth Amplitude LFO 2 depth Tone pan Pan keyfollow (-100,-7 Random pan depth Alternate pan depth	0 - 127 0 - 127 0 - 127 0 - 126 (-63 - +63) 0 - 126 (-63 - +63) 0 - 127 (1.64 - 63R) 0 - 14 0 - 50, -40, -30, -20, -10, 0, -20, -10, 0, -30, -40, +50, +70, +100) 0 - 63 1 - 127 (1.63 - 63R)
00 36 (00 37 (00 38 (00 39 (00 38 (00 38 (00 38 (00 3C (0000 000a 0aaa aaaa 0000 0aaa 0aaa aaaa 0000 00aa 0aaa aaaa 0000 00aa	CRI,SIN,S LFO 2 rate LFO 2 rate LFO 2 level offset LFO 2 delay time LFO 2 fade mode LFO 2 fade time LFO 2 fade time LFO 2 cates time LFO 2 cates time LFO 2 cates time LFO 2 cates time LFO 2 cates time LFO 2 cates time LFO 2 cates time LFO 2 cates time LFO 2 cates time LFO 2 cates time	XAM, SQF, TRP, S&H, RND, CHS) 0 - 1 (OFF, CN) 0 - 127 0 - 4 (-100, -50, 0, +50, +100) 0 - 127 0 - 3 0 - 127 0 - 127 0 - 127 0 - 127 0 - 127 0 - 2 (OFF, CLOCK, TAP) 0 - 96 (-48 - +48) 0 - 100		Onaa aaaa Oaaa aaaa Oaaa aaaa Oaaa aaaa Oaaa aaaa Oaaa aaaa Oaaa aaaa Oaaa aaaa	A-BAV level 1	0 - 127 0 - 127 0 - 127 0 - 126 (-63 - +63) 0 - 126 (-63 - +63) 0 - 127 (1.64 - 63R) 0 - 14 0, -50, -40, -30, -20, -10, 0, 20, -30, +40, +50, +70, +100) 0 - 63 1 - 127
00 36 (00 37 (00 38 (00 39 (00 38 (00 38 (00 38 (00 38 (00 38 (00 30 (00 30 (00 30 (00 30 (0000 000a 0aaa aaaa 0000 0aaa 0aaa aaaa 0000 00aa 0aaa aaaa 0000 00aa	(TR1,SIN,S) LFO 2 rate LFO 2 rate LFO 2 level offset LFO 2 delay time LFO 2 fade mode LFO 2 fade time LFO 2 fade time LFO 2 external sync Coarse tune Fine tune Random pitch depth	XAM, SQF, TRP, S&H, RND, CHS) 0 - 1 (OFF, CN) 0 - 127 0 - 4 (-100, -50, 0, +50, +100) 0 - 127 0 - 3 0 - 3 (OFF, CIUCK, TAP) 0 - 96 (-48 - +48; 0 - 100 (-50 - +50) 0 - 30		Onaa aaaa Onaa aaaa Onaa aaaa Onaa aaaa Onaa aaaa Onaa aaaa Onaa aaaa Onaa aaaa Onaa aaaa Onaa aaaa Onaa aaaa Onaa aaaa Onaa aaaa Onaa aaaa	A-FBW level 1 A-FBW level 2 A-FBW level 3 Amplitude LFO 1 depth Amplitude LFO 2 depth Tone pan Pan keyfollow (-100,-7 Random pan depth Alternate pan depth	0 - 127 0 - 127 0 - 127 0 - 126 (-63 - +63) 0 - 126 (-63 - +63) 0 - 127 (L64 - 63R) 0 - 14 0 - 50, -40, -30, -20, -10, 0, -20, -10, 0, -20, -10, -40, +50, +70, +100) 0 - 63 1 - 127 (L63 - 63R) 0 - 126 (L63 - 63R) 0 - 126
00 36 1 00 37 1 00 38 1 00 38 1 00 3A 1 00 3A 1 00 3C 1	0000 000a 0aaa aaaa 0000 0aaa 0aaa aaaa 0000 00aa 0aaa aaaa 0000 00aa	IFO 2 rate LFO 2 rate LFO 2 level offset LFO 2 delay time LFO 2 fade mode LFO 2 fade time LFO 2 fade time LFO 2 external sync Coarse tune Fine tune Random pitch depth (0,1,2,3,4,5,60,70,80,	XAM, SCF, TRP, S6H, RND, CHS) 0 - 1 (OFF, CN) 0 - 127 0 - 4 (-100, -50, 0, +50, +100) 0 - 127 0 - 3 0 - 3 (OFF, CLUCK, TAP) 0 - 127 0	OD 72 OD 73 OD 74 OD 74 OD 75 OD 76 OD 77 OD 78 OD 7	Onaa aaaa Oaaa aaaa	A-BAV level 1 A-BAV level 2 A-BAV level 2 A-BAV level 2 Amplitude LFO 1 depth Amplitude LFO 2 depth Those pan Pan keyfollow (-100,-7 +10,+ Alternate pan depth Alternate pan depth Fan LFO 1 depth	0 - 127 0 - 127 0 - 127 0 - 126 (-63 - +63) 0 - 126 (-63 - +63) 0 - 127 (L64 - 63R) 0 - 14 0 - 50, -40, -30, -20, -10, 0, -20, -10, 0, -20, -10, -40, +50, +70, +100) 0 - 63 1 - 127 (L63 - 63R) 0 - 126 (L63 - 63R) 0 - 126 (L63 - 63R) 0 - 126 (L63 - 63R)
00 36 i 00 37 i 00 38 i 00 3C i 00 3D i 00 3E i 00 3F	0000 000a 0aaa aaaa 0000 0aaa 0aaa aaaa 0000 00aa 0aaa aaaa 0000 00aa 0aaa aaaa 0000 00aa	LFO 2 rate LFO 2 rate LFO 2 level offset LFO 2 delay time LFO 2 fade mode LFO 2 fade mode LFO 2 fade time LFO 2 caternal sync Coarse tune Fine tune Random pitch depth (0,1,2,3,4,5,60,70,70,70,70,70,70,70,70,70,70,70,70,70	XAM, SGF, TRP, S&H, RND, CHS) 0 - 1 (OFF, CN) 0 - 127 0 - 4 (-120, -50, 0, +50, +100) 0 - 127 0 - 3 I, CN-COTT, OFF-IN, OFF-COTT) 0 - 127 0 - 127 0 - 127 0 - 26 (OFF, CLOCK, TAP) 0 - 100 (-50 - +50) 0 - 30	OD 72 OD 73 OD 74 OD 74 OD 75 OD 76 OD 77 OD 78 OD 7	Onaa aaaa Onaa aaaa	A-RAV level 1 A-RAV level 2 A-RAV level 2 A-RAV level 3 Amplitude LFO 1 depth Amplitude LFO 2 depth There pan Pan keyfollow (-100,-7 +10,+ Alternate pan depth Pan LFO 1 depth Pan LFO 2 depth Output assign	0 - 127 0 - 127 0 - 127 0 - 126 (-63 - +63) 0 - 126 (-63 - +63) 0 - 127 (1.64 - 63R) 0 - 127 0 - 50, -40, -30, -20, -10, 0, -20, -10, 0, -20, -10, 0, -40, +50, +70, +100) 0 - 63 1 - 127 (1.63 - 63R) 0 - 126 (1.63 - 63R) 0 - 126 (1.63 - 63R) 0 - 30
00 36 1 00 37 1 00 38 1 00 38 1 00 3A 1 00 3A 1 00 3C 1	0000 000a 0aaa aaaa 0000 0aaa 0aaa aaaa 0000 00aa 0aaa aaaa 0000 00aa	LFO 2 rate LFO 2 rate LFO 2 level offset LFO 2 delay time LFO 2 fade mode LFO 2 fade mode LFO 2 fade time LFO 2 caternal sync Coarse tune Fine tune Random pitch depth (0,1,2,3,4,5,60,70,60,70,60,70,60,70,60,70,60,70,60,70,60,70,50,70,70,50,70,70,50,70,70,50,70,70,50,70,70,50,70,70,50,70,70,70,50,70,70,70,70,70,70,70,70,70,70,70,70,70	XAM, SGF, TRP, S&H, RND, CHS) 0 - 1 (OFF, CN) 0 - 127 0 - 4 (-120, -50, 0, +50, +100) 0 - 127 0 - 3 X, CN-COT, OFF-IN, OFF-COT) 0 - 127 0 - 127 0 - 2 (OFF, CLOCK, TAP) 0 - 90 0 - 90 (-50 - 50) 0 - 30 0 - 3	00 72 00 73 00 74 00 75 00 76 00	Onca agas Onca agas Onca agas Onca agas Onca agas Onca agas Onca agas Onca agas Onca agas Onca agas Onca agas Onca agas Onca agas Onca agas Onca agas Onca agas	A-RNV level 1 A-RNV level 2 A-RNV level 2 A-RNV level 2 A-RNV level 3 Amplitude LFO 1 depth Amplitude LFO 2 depth There pan Pan keyfollow (-100,-7 +10,- Random pan depth Alternate pan depth Pan LFO 1 depth Pan LFO 2 depth Output assign (utput level	0 - 127 0 - 127 0 - 127 0 - 126 (-63 - 463) 0 - 126 (-63 - 463) 0 - 127 (1.64 - 63R) 0 - 147 0 - 147 (1.64 - 63R) 0 - 127 (1.64 - 63R) 0 - 127 (1.63 - 63R) 0 - 126 (1.63 - 63R) 0 - 126 (1.63 - 63R) 0 - 126 (1.63 - 63R) 0 - 0 - 33 0 - 126 (1.63 - 63R) 0 - 0 - 33 0 - 0 - 30 0 - 0 - 127
00 36 i 00 37 i 00 38 i 00 3C i 00 3D i 00 3E i 00 3F	0000 000a 0aaa aaaa 0000 0aaa 0aaa aaaa 0000 00aa 0aaa aaaa 0000 00aa 0aaa aaaa 0000 00aa	LFO 2 rate LFO 2 rate LFO 2 level offset LFO 2 delay time LFO 2 fade mode LFO 2 fade mode LFO 2 fade time LFO 2 caternal sync Coarse tune Fine tune Random pitch depth (0,1,2,3,4,5,60,70,60,70,60,70,60,70,60,70,60,70,60,70,60,70,50,70,70,50,70,70,50,70,70,50,70,70,50,70,70,50,70,70,50,70,70,70,50,70,70,70,70,70,70,70,70,70,70,70,70,70	XAM, SGF, TRP, S&H, RND, CHS) 0 - 1 (OFF, CN) 0 - 127 0 - 4 (-120, -50, 0, +50, +100) 0 - 127 0 - 3 X,CN-GUT, OFF-IN, OFF-CUT) 0 - 127 0 - 127 0 - 2 (OFF, CLUCK, TAP) 0 - 100 (-48 - +48) 0 - 100 (-50 - +50) 0 - 30 0 - 30, 400, 500, 90, 100, 200, 300, 400, 500, 90, 100, 200, 300, 400, 500, 00, 100, 1000, 1100, 1200) 0 - 15 0, -30, -10, 0, +10, +20, +30, +70, +100, +120, +200) 0 - 24	00 72 00 73 00 74 00 75 00 76 00 76 00 76 00 77 00 78 00 78 00 78 00 78 00 78 00 78 00 76 00 7	Onaa aaaa Onaa aaaa Onaa aaaa Onaa aaaa Onaa aaaa Onaa aaaa Onaa aaaa Onaa aaaa Onaa aaaa Onaa aaaa Onaa aaaa Onaa aaaa Onaa aaaa Onaa aaaa Onaa aaaa Onaa aaaa Onaa aaaa Onaa aaaa Onaa aaaa aa	A-RNV level 1 A-RNV level 2 A-RNV level 2 A-RNV level 2 A-RNV level 3 Amplitude LFO 1 depth Amplitude LFO 2 depth There pan Pan keyfollow (-100,-7 +10,- Random pan depth Alternate pan depth Pan LFO 1 depth Pan LFO 2 depth Output assign (utput level	0 - 127 0 - 127 0 - 127 0 - 127 0 - 126 (-63 - +63) 0 - 126 (-65 - +63) 0 - 127 (164 - 63R) 0 - 127 (164 - 63R) 0 - 14 0, -50, -40, -30, -20, -10, 0, 20, -10, -40, +50, +70, +100) 0 - 63 1 - 127 (163 - 63R) 0 - 126 (163 - 63R) 0 - 126 (163 - 63R)
00 36 1 00 38 1 00 38 1 00 38 1 00 38 1 00 38 1 00 37	0000 000a 0aaa aaaa 0000 0aaa 0aaa aaaa 0000 00aa 0aaa aaaa 0000 00aa 0aaa aaaa 0000 aaaa 0000 aaaa	LFO 2 rate LFO 2 rate LFO 2 level offset LFO 2 delay time LFO 2 fade mode LFO 2 fade time LFO 2 fade time LFO 2 external sync Coarse time Fine time	XAM, SGF, TRP, S&H, RND, CHS) 0 - 1 (OFF, UN) 0 - 127 0 - 100	00 72 00 73 00 74 00 75 00 76 00 76 00 76 00 77 00 78 00 78 00 78 00 78 00 78 00 78 00 76 00 7	Onaa aaaa Onaa aaaa aa	A-ENV level 1 A-ENV level 2 A-ENV level 2 A-ENV level 3 Amplitude LFO 1 depth Amplitude LFO 2 depth Tone pan Pan keyfollow (-100,-7 +10.* Random pan depth Alternate pan depth Pan LFO 1 depth Pan LFO 1 depth Cutput assign (cutput level Cotrous send level Reverb send level	0 - 127 0 - 127 0 - 127 0 - 126 (-63 - +63) 0 - 126 (-63 - +63) 0 - 127 (L64 - 63R) 0 - 14 0, -50, -40, -30, -20, -10, 0, -20, -10, 0, -20, -10, -40, +50, +70, +100) 0 - 63 1 - 127 (L63 - 63R) 0 - 126 (L63 - 63R) 0 - 127 0 - 127
00 36 1 00 38 1 00 38 1 00 38 1 00 38 1 00 38 1 00 38 1 00 37	0000 000a 0aaa aaaa 0000 0aaa 0aaa aaaa 0000 00aa 0aaa aaaa 0000 00aa 0aaa aaaa 0000 aaaaa 0000 aaaaa	CRI,SIN,S LFO 2 rate LFO 2 rate LFO 2 level offset LFO 2 delay time LFO 2 fade mode LFO 2 fade time LFO 2 fade time LFO 2 fade time LFO 2 external sync Coarse tune Fine tune Random pitch depth (0,1,2,3,4,5,6,70,80,60,700,0) Pitch keytollow (-100,-70,-56,40,+50,4) P-ENV depth P-ENV velocity sensitivity	XAM, SGF, TRP, S&H, RND, CHS) 0 - 1 (OFF, UN) 0 - 127 0 - 128 0 - 125 0 - 125 0 - 125 0 - 125 0 - 125 0 - 125	00 72 00 74 00 75 00 76 00 77 00 78 00 78 00 78 00 78 00 78 00 76 00 7	Onaa aaaa Oaaa aaaa Oaaa aaaa Oaaa aaaa Oaaa aaaa Oaaa aaaa Oaaa aaaa Ooo OO OO OO OO OO OO OO OO OO OO OO OO	A-ENV level 1 A-ENV level 2 A-ENV level 2 A-ENV level 3 Amplitude LFO 1 depth Amplitude LFO 2 depth Tone pan Pan keyfollow (-100,-7 +10,* Random pan depth Alternate pan depth Pan LFO 1 depth Pan LFO 1 depth Cutput assign (cutput level Corons send level Reverb send level	0 - 127 0 - 127 0 - 127 0 - 127 0 - 126 (-63 - +63) 0 - 126 (-63 - +63) 0 - 127 (164 - 63R) 0 - 14 0 - 50, +40, -30, -20, -10, 0, -20, -10, 0, -20, -10, -40, -50, +70, +100) 1 - 127 (163 - 63R) 0 - 126 (163 - 63R) 0 - 126 (163 - 63R) 0 - 126 0 - 3 MIX, EFK, (XITHIT1, (XITHIT2) 0 - 127 0 - 127 0 - 127
00 36 1 00 38 1 00 38 1 00 38 1 00 38 1 00 38 1 00 37	0000 000a 0aaa aaaa 0000 0aaa 0aaa aaaa 0000 00aa 0aaa aaaa 0000 00aa 0aaa aaaa 0000 aaaa 0000 aaaa	CRI,SIN,S LFO 2 rate LFO 2 rate LFO 2 level offset LFO 2 delay time LFO 2 fade mode LFO 2 fade time LFO 2 fade time LFO 2 caternal sync Coarse tune Fine tune (0,1,2,3,4,5,6,70,6) Pitch keytollow	XAM, SGF, TRP, S&H, RND, CHS) 0 - 1 (OFF, UN) 0 - 127 0 - 4 (-100, -50, 0, +50, +100) 0 - 127 0 - 3 0 - 3 (-100, -50, 0, +50, +100) 0 - 127 0 - 127 0 - 127 0 - 127 0 - 96 (-48 - +48) 0 - 100 (-50 - +50) 0 - 30 6, 7, 8, 9, 10, 20, 30, 40, 50, 90, 100, 200, 300, 400, 500, 800, 900, 100, 100, 1200, 100, 1200, 100, 1200, 100, 1	O 72 O 72 O 73 O 74 O 75 O 76 O 77 O 78 O 79 O 79 O 70 O 77 O 78 O 79 O 77 O 78 O 79 O 70 O	Onaa aaaa	A-ENV level 1 A-ENV level 2 A-ENV level 2 A-ENV level 3 Amplitude LFO 1 depth Amplitude LFO 2 depth Tone pan Pan keyfollow (-100,-7 +10.* Random pan depth Alternate pan depth Pan LFO 1 depth Pan LFO 1 depth Cutput assign (cutput level Cotrous send level Reverb send level	0 - 127 0 - 127 0 - 127 0 - 127 0 - 126 (-63 - +63) 0 - 126 (-63 - +63) 0 - 127 (164 - 63R) 0 - 14 0 - 50, +40, +50, +70, +100} 0 - 63 1 - 127 (163 - 63R) 0 - 126 (163 - 63R) 0 - 126 (163 - 63R) 0 - 126 (163 - 63R) 0 - 127 0 - 127 0 - 127 0 - 127 0 - 127 0 - 127
00 36 1 00 38 1 00 38 1 00 38 1 00 38 1 00 38 1 00 38 1 00 37	0000 000a 0aaa aaaa 0000 00aa 0aaa aaaa 0000 00aa 0aaa aaaa 0000 00aa 0aaa aaaa 0000 aaaaa 0000 aaaaa	CRI,SIN,S LFO 2 rate LFO 2 rate LFO 2 level offset LFO 2 delay time LFO 2 fade mode LFO 2 fade time LFO 2 fade time LFO 2 fade time LFO 2 caternal sync Coarse tune Fine tune	XAM, SCF, TRP, S&H, RND, CHS) 0 - 1 (OFF, (Xi) 0 - 127 0 - 4 (-100, -50, 0, +50, +100) 0 - 127 0 - 3 0 - 3 (-100, -50, 0, +50, +100) 0 - 127 0 - 3 0 - 3 (OFF, CLULK, TAP) 0 - 96 (-48 - +48) 0 - 100 (-50 - +50) 0 - 30 6, 7, 8, 9, 10, 20, 30, 40, 50, 90, 100, 200, 300, 400, 500, 800, 900, 1000, 1100, 1200) 0 - 15 0, -30, -10, 0, +10, +20, +30, -70, +100, +120, +120 0 - 125 (-50 - +200) 1 - 15 (-50 - +200) 1 - 15 (-50 - +200) 1 - 15 (-50 - 40, -30, -20, -10, 0, 10, 30, -30, -40, -50, -40, -30, -20, -10, 0, 10, 30, -40, -50, -40, -30, -20, -10, 0, 10, 30, -40, -50, -40, -30, -20, -10, 0, 10, 30, -40, -50, -70, -100)	00 72 00 76 00 76 00 77 00 78 00 78 00 78 00 78 00 78 00 78 00 78 00 78 00 78 00 76 00 76 00 77 00 78 00 76 00 76 00 76 00 76 00 76 00 76 00 77 00 76 00 76 00 76 00 76 00 76 00 76 00 76 00 77 00 76 00 7	Onaa aaaa Oaaa	A-BNV level 1 A-BNV level 2 A-BNV level 2 A-BNV level 2 Amplitude LFO 1 depth Amplitude LFO 2 depth Those pan Pan keyfollow (-100,-7 +10,* Random pan depth Alternate pan depth Pan LFO 1 depth Pan LFO 2 depth Output assign Output level Chrous send level Reverb send level the wave number surpasses	0 - 127 0 - 127 0 - 127 0 - 127 0 - 126 (-63 - +63) 0 - 126 (-63 - +63) 0 - 126 (-63 - +63) 0 - 127 (1.64 - 63R) 0 - 14 0 - 50, -40, -30, -20, -10, 0, -20, -10, 0, -30, -40, -50, +70, +100) 0 - 63 1 - 127 (1.63 - 63R) 0 - 126 (1.63 - 63R) 0 - 126 (1.63 - 63R) 0 - 127

/ 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 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.
FDH 41H 10H 6AH 12H 03H 00H 14H 51H 64H 34H F7H

1-4 Rhythm setup

Offse	et address	1				Des	scr	iption	
	23 00	i	Rhythm Rhythm Rhythm	note	for				*1-4-1 *1-4-2
i	62 00	1	: Rhythm	note	for	key#	98	(E7)	

*1-4-1 Rhythm common

Offse	et addre	253	1				I	Descr	iption	1			: : :
	00	00	i	Oaaa	aaaa	1	Rhythm	name	1			127	i
	0.0	01	1	0aaa	aaaa	- 1	Rhythm	name	2	32		127	
	0.0	02	ŀ	Oaaa	aaaa	1	Rhythm	name	3	32		127	
	0.0	03	1	Oaaa	aaaa	1	Rhythm	name	4	32		127	
	00	04	ì	0aaa	aaaa	ŧ	Rhythm	name	5	3.2			
	0.0	05	i	Oaaa	aaaa	- 1	Rhythm	name	6	32		127	
	00	06	i	0aaa	aaaa	- 1	Rhythm	name	7	32	-	127	
	0.0	07	i	Daga	aaaa	- Ĺ	Rhythm	name	8	32	-	127	
	00	08	1	0aaa	aaaa	- 1	Rhythm	name	9	32	-		
	00	09	1	0aaa	aaaa	- 1	Rhythm	name	10	32	-	127	
	00	0A	i	0aaa	aaaa	- i	Rhythm	name	11	32	-	127	
	00	0B	1	Oaaa	aaaa	i.	Rhythm	name	12	32	-	127	
			-+										
Total	size	3	1	00 00	00 0	0C							

*1-4-2 Rhythm note

Offset		Description	
00 00	0000 000a l	Tone switch	0 - 1
i			(OFF,ON)
00 01	0000 00aa i	Wave group	0 - 2 (INT, PCM, EXP)
! 00 02	l Dasa sasa i	Wave group ID	0 - 127
		Wave number	0 - 254
!	0000 bbbb 1		(1 - 255) 0 - 3
00 05	1 0000 00aa l	wave gain	(-6,0,+6,+12)
00 06	0000 aaaa 1	Bender range	0 - 12
00 07	000a aaaa	Mute group	0 - 31
1 00 08	0000 000a	Envelope mode	(OFF, 1 - 31) 0 - 1
1 0000	0000 0000	Mivelope mode	(NO-SUSTAIN, SUSTAIN)
00 09	0000 000a i	Volume control switch	0 - 1
)	tield I seekwal maiteds	(OFF, ON) 0 - 1
A0 00	0000 00 0 a	Hold-1 control switch	(OFF,ON)
00 0B	0000 00aa	Pan control switch	0 - 2
1			(OFF, CONTINUOUS, KEY-ON)
00 0C	Daaa aaaa	Source key	0 - 127
1	1		(C-1 - G9)
00 0D	l Dada adaa i	Fine tune	0 - 100 (-50 - +50)
1 00 DE	1 000a aaaa	Random pitch depth	0 - 30
1 00 02	1	(0,1,2,3,4,5	5,6,7,8,9,10,20,30,40,50.
İ	1	60,70,80	3,90,100,200,300,400,500.
1 22 05	1 000	P-ENV depth	0,800,900,1000,1100,1200) 0 - 24
1 00 OF	UUUa aaaa	P-ZNV depth	(-12 - +12)
00 10	Oaaa aaaa	P-ENV velocity sensitivity	0 - 125
		i n mer)i ui ui	(-50 - +200)
00 11	0000 aaaa	P-ENV velocity time sensit:	70,-50,-40,-30,-20,-10,0.
i	i	+10,-	20,+30,+40,+50,+70,+100
		P-ENV time 1	0 - 127 0 - 127
		P-ENV time 2 P-ENV time 3	0 - 127
		P-ENV time 4	0 - 127
		P-ENV level 1	0 - 126
00 17	1 0000 0000	l P-ENV level 2	(-63 - +63) 0 - 126
1 00 17	i under dende	I true leagt 5	(-63 - +63)
00 1R	Daaa aaaa	P-ENV level 3	0 - 126
1 00 12	1 0	 P-ENV level 4	(-63 - +63) 0 - 126
1 00 19	vaaa aaaa	L-CMA TEAGT 4	(-63 - +63)
i	+		
I 00 1A	1 0000 Oaaa	Filter type	0 - 4 (OFF,LPF,BPF,HPF,PKG)
1 00 1R	i Oaaa aaaa	Cutoff frequency	0 - 127
	1 Daaa aaaa	Resonance	0 - 127
00 10	Оала гала	Resonance velocity sensiti	vity 0 - 125
00 1E	 	 F-ENV depth	(-50 - +200) 0 - 126
, GOLE	1	!	(-63 - +63)
00 lF	i Oaaa aaaa	F-FMV velocity sensitivity	
00.20	1 0000 2222	 F-BWV velocity time sensit	(-50 - +200)
00 20	i uuuu aaaa	r-env versity time sensit (-100	70,-50,-40,-30,-20,-10,0.
i	i	1 +10,	+20,+30,+40,+50,+70,+100)
	Oaaa aaaa	F-ENV time 1	0 - 127
00 22	Uaaa aaaa	F-ENV time 2 F-ENV time 3	0 - 127 0 - 127
		F-ENV time 4	0 - 127
			0 - 127

00 27 0aaa a	aaa F-ENV level 2 aaa F-ENV level 3 aaa F-ENV level 4	0 - 127 0 - 127 0 - 127
00 2A 0aaa a	uaaa Tone level uaaa A-ENV velocity sensi uaaa A-ENV velocity time	(-50 - +200)
00 2D 0aaa a 00 2E 0aaa a 00 2F 0aaa a 00 3D 0aaa a 00 31 0aaa a 00 32 0aaa a 00 33 0aaa a	A-ENV time 1 A-ENV time 2 A-ENV time 2 A-ENV time 3 A-ENV time 4 A-ENV time 4 A-ENV time 4 A-ENV time 1 A-ENV time 1 A-ENV time 3 A-ENV time 4 A-ENV time 4 A-ENV time 4 A-ENV time 4 A-ENV time 4 A-ENV time 4 A-ENV time 4 A-ENV time 5 A-ENV time 5 A-ENV time 6 A-ENV	+10, -20, +30, +40, +50, +70, +100) +10, -20, +30, +40, +50, +70, +100) 0 - 127 0 - 127 0 - 127 0 - 127 0 - 127 0 - 127 0 - 127 0 - 127 10 - 63 1 127
00 36 0000 0	OOaa Output assign 	(L63 - 63R) 0 - 3 (MIX,EFX,CUTFUT1,CUTFUT2) 0 - 127 0 - 127
00 39 Oaaa a	00 3A	0 - 127

Protal size -- 1 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	Block		Sui	block	Reference
00 00 00 00	+				
	System common				.+
	ICesla huno		Dart 1	+	1 1-1-2 1
	Scale tune			+	
	:		l : +	 -	
			Part 16	i	
	:		+	₽ *	
			Parch	İ	
01 00 00 00	:	· · ·	+	+ +	,+
01 00 00 00	Temporary performance		Common	l	1 1-2-1
	performance	٠	+ 	+	. +
		: .	Part 1	1 +	1 1-2-2
			; ;	† 	.+
	:		Part 16		
	:		+	·	
02 00 00 00	+		4	++	.+
	Performance mode temporary patch		+	+. +	+
	,	• • •	:	. ++.	1 1-3-7
	:	: .	Part 9	. +	. +
	•	: .	+	+ . :	
	•	:		. 1 Tone 4	
02 09 00 00		:		.++	4
02 03 00 00	Temporary rhythm setup	1	l Common	I	1 1-4-1
	rhythm setup	l 1	+	+	.,+
	:		Notes 35	1	1 1-4-2
		: . : .	+	+	+
	:		+	+	
			Note# 98	1	
02 0A 00 00				+	
	Performance mode temporary patch	l I	Part II	+. +	1 1-3-1
	+	*		+ . Tone 1	
		: .	Part. 16		
	:	:		+ . 1 : 1	
	:	:		. Tone 4	
		:		. +	
03 00 00 00	Patch mode	1	Common	T	1 1-3-1
	temporary patch	1	+	+	+
	;	· .	•		
	1	: .	· · · · · · · · · · · · · · · · · · ·	+	
	:		·	+	
	:	: .	Tone 4	!	

10 00 00 00	User		USER:01	4	Common I	1-2-1
	performance				+	
	:		+	٠. ١	Part 1 (1-2-2 !
	•		USER:32		: 1	
	:	:			Part 16	
	:	:			+	
10 40 00 00	Lileon		1 HCFP.	!	Common 1	1 1-4-1 1
	User rhythm setup	i	,			
	<u>.</u>		USER:2		Note# 35 i	11-4-2 1
	:					
	:	:		: :	; ; 	
	1	:			Note# 98	
11 00 00 00	; 4	: 		۰ ا	+	++
	User patch		USER:001		Common I	1-3-1
	, baccu		I : I			
	:		USER:129		Tone 1	1 1-3-2 1
	;		,	1)	: 1	
	:	:			Tone 4	
	:	:			1	
20 00 00 00	Data card	† !	CARD:01	۲. <i>,</i> ,,, ا	Common i	1 1-2-1
20 00 00 00	Data card performance	1	CARD:01	i •.	Common I	1 1-2-1
20 00 00 00	Data card performance	! ! +	CARD:01		Common	1 1 2-2
20 00 00 00	Data card performance	! ! !	CARD: 01	 - 	Common	1 1 2-2 1
20 00 00 00	Data card performance	! ! !	CARD:01		Part 1	1 1 2-2 1
20 00 00 00	Data card performance	! ! !	CARD: 01		Part 1	1 1 2-2 1
	Data card performance		(CARD: 0)		Part 1	1 2-2 1
	Data card performance		(CARD: 0)		Part 1	! 1 2-2 ! 1 2-2
	Data card performance		CARD: 0]		Part 1 :	1 1 2-2 1
	Data card performance		CARD: 01		Part 1 : Part 16 : Common	(1-2-1 1 2-2 1 1 2-2 1 1 2-2 1 1 2-2 1 1 2-2 1 1 1 2-2 1 1 1 2-2 1 1 1 2-2 1 1 1 2-2 1 1 1 2-2 1 1 2-2 1 1 2-2 1 1 2-2 1 1 2-2 1 1 2-2 1 1 2-2 1 1 2-2 1 1 2-2 1 2-2
	Data card performance		CARD: 01		Part 1 : Part 16 : Common Note# 35	(1-2-1 1 2-2 1 1 2-2 1 1 2-2 1 1 2-2 1 1 2-2 1 1 1 2-2 1 1 1 2-2 1 1 1 2-2 1 1 1 2-2 1 1 1 2-2 1 1 2-2 1 1 2-2 1 1 2-2 1 1 2-2 1 1 2-2 1 1 2-2 1 1 2-2 1 1 2-2 1 2-2
	Data card performance	 	CARD: 01		Part 1 : Part 16 : Part 16 : Common Note# 35 : Note# 98	(1-2-1 1 2-2 1 1 2-2 1 1 2-2 1 1 4-2
20 40 00 00	Data card performance	+	CARD: 0) : CARD: 32 CARD: 1 CARD: 1		Part 1 : Part 16 : Common Note# 35	(1-2-1 1 2-2 1 1 2-2 1 1 2-2 1 1 4-2
20 40 00 00	Data card performance		CARD:01		Part 1 : Part 16 : Common : Part 15 : Part 15 : Part 15 : Part 16 : Part 16 : Part 17	(1-2-1 1 1 2-2 1 1 2-3 1 1 4-1 1 1 4-2
20 40 00 00	Data card performance	+	CARD: 01 : CARD: 32 CARD: 1 CARD: 2		Part 1 : : Part 16 : : : : : : : : : : : : : : : : : :	(1-2-1 1 1 2-2 1 1 2-3 1 1 4-1 1 1 4-2
20 40 00 00	Data card performance		CARD: 01 ; CARD: 32 CARD: 1 CARD: 2 CARD: 001		Part 1 : : : : : : : : : : : : : : : : : :	1 2-2 1 2-2 1 4-1 1 4-2 1 1-2
20 40 00 00	Data card performance		CARD: 01 ; CARD: 32 CARD: 1 CARD: 2 CARD: 901		Part 1 : Part 16 : Part 16 : Common Note# 35 : Note# 98 :	1 2-2 1 2-2 1 4-1 1 4-2 1 1-2
20 40 00 00	Data card performance		CARD: 01 ; CARD: 32 CARD: 1 CARD: 2 CARD: 001 ; CARD: 128		Part 1 : Part 16 : Part 16 : Common : Note# 35 : Note# 98 : Tone 1 :	1-2-1 1-2-2 1-4-1 1-4-2 1-3-2
20 40 00 00	Data card performance		CARD: 01 ; CARD: 32 CARD: 1 CARD: 2 CARD: 001 ; CARD: 128		Part 1 : : : : : : : : : : : : : : : : : :	1 2-2 1 2-2 1 2-2 1-4-1 1 4-2 1-3-1

2 GS

< MODEL ID = 42H >

31	Start address			1		Description					
				+							
	40	10	0.0	1	Scale Tune	Part10	2-1				
	40	11	0.0	1	:	Part1					
	40	12	00	į	:	Part2					
	40	13	0.0	ŧ	:	Part3					
	40	14	0.0	1	1	Part4					
	40	15	00	1	:	Part5					
	40	16	0.0	1	:	Part 6					
	40	17	0.0	1	:	Part7					
	40	3 B	00	1	:	Pait8					
	40	19	0.0	1	:	Part 9					
	40	1A	0.0	1	:	Part11					
	40	18	0.0	1	:	Part 12					
	40	1C	0.0	1	:	Pait13					
	4.0	10	0.0	- i	2	Part14					
	4.0	1E	0.0	- i		Part 15					
		15		í	- :	Pait16					

Offset address	1	 Description								
40	1	Oaaa aaaa I	Scale	Tune C	(00 - 127) $(-64 - +63)$					
41	1	; 1	:	C#						
4.2	1	: !	:	D						
43	i	: 1		D#						
4.4	í	: 1	:	Ε						
45	1	: 1	:	F						
46	1	: 1	:	F#						
47	1	: 1	:	G						
48	1	: 1		G#						
49	1	: 1		A						
4A	ł	: !		A#						
4B	1	: 1		P						
	- +									

/ Example using DTI / To set the scale tune (C-B) of the performance par: 1 Atabia, send the data as follows: FOH 41H 10H 42H 12H 40H 11H 49H 3AH 6DH 3EH 34H 0DH 3EH 6EH 3CH 6FH 40H 36H 0FH 76H F7H

●Table A-1::Decimal to Hexadecimal

The MIDI messages are expressed in hoxadocimal configured in $\tilde{\tau}$ bits. This table is usefull when you read or write MIDI messages.

(D)=decimal
(H)=hexadecimal

Ĭ	(D)	i	(H)	11	1D)	;	(11)	11	(P)	į	(11)	11	(5)	i	(H)	1
ï	0	ï	00н	11	3.2	ı	20H	11	64	1	4011	11	96	ī	60H	ì
į	1	1	01H	1.1	3.3	1	2111	11	65	1	4111	11	97	1	61!	1
i	÷	1	02H	11	34	1	22H	Ħ	66	1	42H	11	9 B	i	62H	1
i	3	i	0311	11	3.5	i	2.311	11	67	\$	43H	11	99	i	63H	1
i	4	i	04H	11	36	i.	24H	11	68	ì	44H	11	100	1	64H	1
1	5	1	OBH	11	37	1	25H	11	6.9	ŧ	4511	1.1	101	1	65H	1
1	- 6.	i	DEH	11	3.9	1	2611	11	70	į	46H	1	102	1	66H	1
1	7	1	07H	1.1	39	1	2711	1.1	7.1	ì	47H	1	103	1	67H	1
F	£	1	H80	11	40	1	2811	1.5	72	ŧ	48H	1:	104	1	68H	ŀ
1	Q	1	09H	1 1	41	i	298	1.1	73	3	4911	13	105	1	69H	1
ŧ	10	1	OAH	11	42	1	2AH	1 1	74	ł	4AH	1.1	106	i	6AH	1
f	11	ł	OBH	11	43	1	2 BH	2.1	75	1	4BH	i !	107	1	6BH	1
1	12	ì	0CH	1.0	44		2CH	1	76	1	4CH	1.1	108	ı	6CH	1
1	13	1	ODH	11	45	}	2 DH	11	7.7	1	4 DH	1.1	109	Ī	6DH	1
- 1	14	Į	OPH	1:	46	1	CEH	- 1	7 B	3	4EH	1.1	110	ŧ	6EH	1
E	15	í	OFH	1 :	47	1	2FH	- ‡	79	1	4 F 11	1.1	111	-1	6FH	1
ı	16	-1	10H	11	48	1	30H	1.1	80	-1	50H	1.1	112	1	70H	1
1	17	-1	11H	1.1	49	1	31H	1	81	1	5111	1.1	113	1	71H	1
	18	-	12H	١,	50	1	32H	17	82	1	52H	11	314	1	72H	1
1	19	1	13H	1.1	51	i	33H	1 ,	83	1	531!	1 1	115	i	73H	1
1	20	1	14H	11	52	1	34H	: :	84	1	54H	1 ;	116	į	74H	}
1	21	i	15H	11	53	ŀ	35H	11	85	1	55H	11	117)	75H	ì
- 1	22	1	16H	11	54	1	36H	11	86	1	56H	1.1	116	1	76H	1
Ė	23	1	17H	H	55	i	37H	11	87	1	57H	11	119	1	77H	1
1	24	i	181	11	56	1	38H	11	88	1	58H	1.5	120	1	78H	1
1	25	1	19H		57	1	39H	11	89	ì	59H	1.1	121	2	79H	1
i	26	1	1AH	11	58	ì	3AH	11	90	}	5AH	1.1	122	1	7AH	f
- 1	27	1	188	1.1	€9	ì	3BH	11	91	1	5BH	1.1	123	1	7BH	f
1	28	1	1CH	11	60	1	3CH	11	92	-1	5CH	1.7	124	!	7CH	t
	2.9	j.	1DH	11	51	1	3DH	11	93	-1	5 DH	11	125	-1	7DH	-
t	30	1	LEH	1.1	62	i	3 EH	1.7	94		5EH	11	126	- 1	7EH	1
1	31	1	1FH	11	€3	1	3FH	11	95	1	5FH	11	127	1	7FH	1
												-+-		- 4		~ +

*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 $_2$ -54, 40H \pm C, 7FH z +63. In decimal notation

tior.

It 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 add 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 MID1 data are described the A3C/1 code in the table below.

(C)=Character (H)=hexadecimal

+ í	(C)		(H)	11	(0)		(H)	1	(C)	4 -	(H)	1
÷												
i	51	i	20H	11		i		()		ŧ		i
i	Ā	i	41H	ii	a	i	61H	πi	1	ī	31H	i
ì	В	i	42H	H	ь	į	62H	1	Ž	į	32H	i
į	c	Ė	43H	11	E	1	63H	1	3	i.	33H	1
i	Ď	1	44H	ii.	ā	1	64H	11	4	į	34H	-1
i	E	ł	45H	11	e	1	65H	- 1	- 5	1	35H	1
i	F	i	46H	11	£	1	66H	11	5	1	36H	1
i	Ġ	1	47H	11	9	1	67H	1	7	ŧ	37H	:
i	14	1	48H	1.5	ħ	i	€ BH	: 1	8	1	38H	1
3	7	1	49H	3.1	1	1	e 9H	1.1	- 9	ł	39H	1
ļ	.7	i.	4AH	+ 1	3	į	6AH	11	(1	1	30H)
1	P	1	488	11	k	1	6BH	+ 1	•	ł	2BH	1
1	L	1	4CH	1.1	1	1	6CH	1.1	-	1	2DH	1
ı	М	1	4 DH	11	30	÷	6 DH	11	•	1	2AH	!
1	11	1	4EH	1.4	n	ŧ	SEB	1.1	1	ŧ	2FH	:
i	O	1	4FH	11	0	1	6FH	11	pt	1	23H	-1
١	P	:	50H	11	10	1	7.0H	1.1		1	21H	1
١	Q	1	51H	11		1	71H	+ 1		f	2CH	1
ī	R	1	52H	11	ı.	1	7.7H	11		1	TEH	1
ì	S	1	53H	1	S	1	73H	1.4		4		+
١	Ţ	1	SAH	11	t	1	74H	1				
i	U	ì	55H	1.1	11	1	75H	1				
٠	Ų	ŧ	56H	11	7	1	76H	i				
ŧ	1/7	ŧ	57H	1.1	w	1	77H	1				
i	X	ŧ	583	1:	×	ì	78H	1				
í	Y	1	59H	11	У	ı	79H	1				
;	2	1	5AH	1.0	- 7-	1	7AH	1				

Note: "SF" is space.

MIDI Implementation Chart

Date: July. 18, 1994

Version: 1.00

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

Mode 1: OMNI ON, POLY Mode 2: OMNI ON, MONO

Mode 3 : OMNI OFF, POLY Mode 4 : OMNI OFF, MONO

O:Yes X:No