

Rose MIDI Implementation (v17)

Rose supports the following MIDI functionality:

- TRS MIDI input
- USB MIDI input/output
- Continuous control (CC) messages received for real-time control.
- Program Change
- System Exclusive (SYSEX) dump of presets and entire system state.

MIDI Implementation Chart

Mode 1: Omni On, Poly

Mode 2: Omni On, Mono

O=Yes

Mode 3: Omni Off, Poly

Mode 4: Omni Off, Mono

X=No

TABLE I: MIDI Implementation Chart

	Function	Transmitted	Recognized	Remarks
Basic Channel	Default Changed	X X	1 1-16	Channel defaults to 1 and may be set to any channel using a key-combo.
Mode	Default Messages Altered	X X X	1 X X	
Note Number	True Voice	X	X	
After Touch	Keys Channels	X X	X X	
Pitch Bender		X	X	
Control Change	0 : 99	X	O	See Table II -- CC mapping
Program Change	preset#	X	O	1-25
System Exclusive		O	O	ID, Buik Dump / Recv.
System Common	Song Pos Song Select Tune	X X X	X X X	
System Real-time	Clock Commands	X X	O X	
Aux Messages	Local on/off All notes off Active sense Reset	X X X X	X X X X	

Messages

The following messages are supported.

TABLE II: Supported Messages

Status		Data Bytes	Description
Hex	Binary (D7--D0)		
BnH	1011nnnn	0cccccc 0vvvvvvv	Control Change cccccc: control # vvvvvvv: control value
CnH	1100nnnn	0ppppppp	Program Change ppppppp: program number
F0H	11110000	*****	System Exclusive
F8H	11111000	N/A	Midi Clock

1. nnnn: Channel number

Control Number Mapping

Controller numbers are hard-coded (except MIDI expression pedal) to the following functions.

TABLE III: Controller Mapping

Control Number	Function	Type
14	Phase/Reverse	Switch (0=Off, 127=On)
15	Multiplier	Switch (0=Off, 127=On)
16	Multiplier Factor	Value (0-3)
17	LFO Shape	Value (0-4)
18	LFO Hold	Switch (0=Off, 127=On)
19	LFO Reset	Switch (0=Off, 127=On)
20	Coarse Delay [2]	Continuous (0-127)
21	Fine Delay	Continuous (0-127)
22	Mix	Continuous (0-127)
23	Filter	Continuous (0-127)
24	Feedback	Continuous (0-127)

25	Rate	Continuous (0-127)
26	Depth	Continuous (0-127)
27	Alt A/B	Switch (0=Alt-A, 127=Alt-B)
28	Active	Switch (0=Bypass, 127=Active)
29	Infinite Repeat	Switch (0=Off, 127=On)
30	Bypass Type	Value (0=Buffer, 1=Buffer+Kill-Dry, 2=Relay, 3=Relay+Kill-Dry, 4=Input-Kill, 5=Input-Kill+Kill-Dry)
31	Expression Jack Config	Value (0=Aux, 1=Expr, 2=Mod, 3=MIDI)
80	Tap Mode	Value (0=Tap Tempo, 1=Tap LFO)
81	Tap (Tempo/LFO)	Value (0)
82	Tap Divisions	Value (0=QTR, 1=8th, 2=dot8th, 3=triplet)
85	Direct LFO Modulation	Value (0-127)
<1-31> [1]	Expression Pedal	Value (0-127)

Notes: [1] MIDI expression pedal assignable to any CC, 1-31. Assigning to CC=0 disables MIDI Expression.

[2] See table III for coarse delay ranges.

Coarse Delay Ranges

The coarse delay control is segmented into 10 ranges on Rose, as displayed on the preset LED ladder. MIDI CC values corresponding to these ranges are listed in the table, below.

TABLE IV: Coarse Delay Ranges

Course Delay (CC #20) Values	Delay Range
0 - 12	0 = Comb Mode
13 - 25	1 = Shortest Delays
26 - 38	2
39 - 51	3
52 - 63	4
64 - 76	5 = Medium Delays
77 - 89	6
90 - 102	7

103 - 114	8
115 - 127	9 = Longest Delays

System Exclusive (SysEx) Messages

Standard Non-Real Time

0xF0, 0x7E, <channel number>, <sub-ID1>, <sub-ID2>, ..., 0xF7

<channel number>: Must be 0x7F. (Setting a specific SysEx channel is not supported.)

<sub-ID1>: 0x06 (Request type)

<sub-ID2>: 0x01 (Request), 0x02 (Reply)

General Information Request

Request:

0xF0, 0x7E, <channel>, 0x06, 0x01, 0xF7

Reply:

0xF0, 0x7E, <channel>, 0x06, 0x02, mm, ff, ff, dd, dd, ss, ss, ss, ss, <text>, 0xF7

0xF0, 0x7E, <channel>, 0x06, 0x02	Header
mm	Manufacturer ID (Eventide = 0x1C)
ff, ff	Device Family Code
dd, dd	Device Family Member Code
ss,ss,ss,ss	Software Revision
<text>	XML format string
0xF7	End Sysex

Note: <channel> must be 0x7F (Setting a specific SysEx channel is not supported.)

Eventide Proprietary Messages

All proprietary messages have the following format.

0xF0, 0x1C, 0x70, <id>, <message_code>, <data...>, 0xF7

<id>: Device ID. Must be zero (all units).

Does not support setting a specific SysEx ID.)

<message_code>: Message Command Code. See below.

<message_data...>: Format and length depends on message code.

Message Codes

Note: DUMP messages are received from the Rose in response to a WANT request and may be sent to the Rose at time to load a preset or entire state.

TABLE IV: SysEx Proprietary Message Codes

Message	Code	Data	Response	Description
SYSEXC_OK	0x00	None	None	Last Command OK
SYSEXC_ERROR	0x0D	Ascii Text	None	Last Command ERROR
SYSEXC_ALL_WANT	0x50	State Data	SYSEXC_ALL_DUMP	Requests state of entire unit.
SYSEXC_ALL_DUMP	0x51	State Data	SYSEXC_OK / SYSEXC_ERROR	Sends entire state of the unit. (See state data, below.)
SYSEXC_PRESET_WANT	0x48	State Data	SYSEXC_PRESET_DUMP	Requests the specified preset.
SYSEXC_PRESET_DUMP	0x49	State Data.	SYSEXC_OK / SYSEXC_ERROR	Sends specified preset data. (See state data, below.)
SYSEXC_VALUE_PUT	0x2D	Key Value	SYSEXC_VALUE_DUMP	Sends a new value for a parameter.
SYSEXC_VALUE_DUMP	0x2E	Value	None	Contains a parameter value.

Message Data

<message_data...> format is message-specific, as follows.

State Data (ALL_WANT, ALL_DUMP, PRESET_WANT, PRESET_DUMP):

“Want” and “dump” messages have the same <message_data> format. Unused fields are set to zero.

<preset>, <format>, <state_data...>

<preset>: Preset number or (0 = Entire state of unit) or (0x7F = Currently loaded preset)..

<format>: Format of state data. Unit will reject state data that does not match its current format.

This is set to zero for “want” messages.

<state_data...>: Binary data in 4-bit, nibble format, least significant nibble first.

(MIDI data requires MSbit=0). There is no <state_data> for “want” messages.

Key/Value Parameters (VALUE_PUT, VALUE_DUMP):

Value put/dump messages use ascii hex values, as follows:

<key>: XXXX -- 16-bit parameter key value. Example: "01A2"

<value>: XX -- 8-bit parameter value. Example: "1B"

Parameter Keys

Currently, no parameter keys are defined.

Examples

0xF0, 0x7E, 0x7F, 0x06, 0x01, 0xF7
-- General Information Request
-- Responds with General Information Response packet.

0xF0, 0x1C, 0x70, 0x0, 0x50, 0x0, 0x0, 0xF7
-- ALL_WANT, responds with ALL_DUMP
-- Requests entire state.

0xF0, 0x1C, 0x70, 0x0, 0x51, 0x0, 0x2, <state_data...>, 0xF7
-- ALL_DUMP, responds with OK.
-- Sends entire state to unit. Format == 2

0xF0, 0x1C, 0x70, 0x0, 0x48, 0x1, 0x2, 0xF7
-- PRESET_WANT, responds with PRESET_DUMP
-- Requests preset #1, format==2.

0xF0, 0x1C, 0x70, 0x0, 0x49, 0x1, 0x2, 0xF7
-- PRESET_DUMP, responds with OK
-- Sends preset to preset #1. Format==2