

INSTRUCTIONS FOR MIDI INTERFACE

ROLAND SH-09

USING THE MIDI INTERFACE - - -

When you turn on the synthesiser for the first time, you will be in omni-on mode for receive (all channels). When you select a receive channel or other set-up, this will be stored in non volatile memory to be recalled when you next turn on the synth - all settings listed on the next page are stored.

If you want to put the machine back to the factory default settings at any time, switch the synth on whilst holding the red push button pressed - hold for a couple of seconds then release. See next page for factory default settings.

SWITCH

When the switch is in the up position (normal) - MIDI will be disabled and all controllers will be reset to their default values so that the synth behaves completely normally & with no MIDI control. When the switch is in the down position (MIDI) - MIDI is enabled and the primary source of control is from the incoming MIDI signal.

RED PUSH BUTTON

Two modes are available by pushing the red push button. Before you press the red button however, make sure that no notes are pressed on the synth otherwise the results may be unpredictable. The keyboard notes required for set-up & transpose modes should be sent via MIDI from an external keyboard. (DX7/D50 etc. etc.)

1) SET-UP MODE - Setting MIDI channels and assignments.
Give the red push button a short press (half a second) - then release. Follow this with a note or sequence of notes (on the remote keyboard) as detailed on page 2. After selecting a channel you will be automatically returned to playing mode but after making assignments you will need to press the ENTER key (Top C) to return to playing mode. This is to enable you to make the multiple key presses required when re-assigning sources to destinations.
(N.B. set-ups are stored in non volatile memory).

2) TRANSPOSE MODE -

Press and hold the red push button for four seconds - then release. Middle C will sound on the synth and continue to sound until you press a key (on the remote keyboard). The note that you press will become the new middle C for MIDI IN. You can set any value up to two octaves up or down. Settings outside this range will be ignored. Note that transpose mode cannot be entered from set-up mode.

ASSIGNING MIDI CONTROL SOURCES TO DESTINATIONS - - -

The available MIDI control sources are:-

Aftertouch / Controller X / Controller Y / Velocity / MIDI volume

The available destinations are:-

Modulation / Pitchbend / Filter cutoff (vcf) / Volume (vca)

The options and defaults for each source can be seen on the next page.

Sources can control one or more (or no) destinations, but a destination can only be controlled by one source at a time. Thus if velocity is currently controlling VCF and then you switch aftertouch to VCF, velocity will then control nothing until re-assigned.

C	Receive channel	1	[Bottom C on DX-7] MIDI note 36 (24h)
Db	"	"	2
D	"	"	3
Eb	"	"	4
E	"	"	5
F	"	"	6
Gb	"	"	7
G	"	"	8
Ab	"	"	9
A	"	"	10
Bb	"	"	11
B	"	"	12
C	"	"	13
Db	"	"	14
D	"	"	15
Eb	"	"	16
E	Omni-on mode	(default)	
F	Not used	--	
Gb	Not used	--	
G	Not used	--	
Ab	Not used	--	
A	Not used	--	
Bb	Not used	--	
B	Not used	--	
C	Not used	--	[Middle C] MIDI note 60 (3Ch)
Db	Not used	--	
D	Not used	--	
Eb	Not used	--	
E	Not used	--	
F	Not used	--	
Gb	Not used	--	
G	Not used	--	
Ab	Not used	--	
A	Not used	--	
Bb	Not used	--	
B	Not used	--	
C	Not used	--	
Db	Not used	--	
D	Not used	--	
Eb	Not used	--	
E	Not used	--	
F	p.bend & mod wheel	off	
Gb	p.bend	ON (default)	
G	mod wheel	ON (default)	
Ab	controller Y	- ignored (see page 3 re controller Y)	
A	"	- vcf	
Bb	"	- *** (default) (***) not used with this synth)	
B	controller X	- ignored (see page 3 re controller X)	
C	"	- vcf (default)	
Db	"	- ***	
D	aftertouch	- ignored	
Eb	"	- modulation (default)	
E	"	- p.bend (up only)	
F	"	- vcf	
Gb	"	- ***	
G	velocity	- ignored (default)	
Ab	"	- vcf	
A	"	- vca	
Bb	MIDI volume	- ignored	
B	"	- vca (default)	
C	ENTER key	- Press and release. [Top C] MIDI note no. 96	

Selecting a receive channel will automatically put the MIDI into omni off mode. That is, it will receive on the selected channel only.

NOTES

- 1) Controllers X and Y can each be any MIDI controller.
After pressing the red push button to enter SET-UP mode, operate the required MIDI controller before pressing the key(s) that will assign it.
If you do not operate any controller before pressing the key(s) then controller X will default to MIDI controller 16 (10 hexadecimal) - that is General purpose controller 1
or controller Y will default to MIDI controller 17 (11 hexadecimal) - that is General purpose controller 2
- 2) Controller X/Y will take priority over other control messages, so if controller X/Y is the mod wheel, mod wheel messages will be "hijacked" to operate whatever controller X/Y is currently assigned to, instead of operating modulation.
- 3) Receive channel and omni-on setting will return you directly to playing mode, all other keys will let you stay in SET-UP mode until you press the ENTER key (Top C)
- 4) The ENTER key (Top C) also resets all controllers to their default values - off in most cases - on for volume - centre for pitch bender etc.
- 5) After pressing the red push button twice to enter set-up mode, the first assignment that you make for any given source (after-touch for example) will cancel all other destinations currently assigned to that source - if you want to make multiple assignments, you will have to do this in the same set-up session, in other words, before you press top C.
- For example - irrespective of what aftertouch was previously assigned to, pressing F (and release) will assign it to VCF only.
- to make aftertouch also bend pitch, you will also have to press E (and release) before pressing the top C which will ENTER the information and store it in n.v. memory.
OTHER SET-UPS WILL REMAIN UNALTERED UNLESS SPECIFICALLY CHANGED
- 6) Control change commands recognised - (numbers in decimal)

121 reset all controllers	01 modulation wheel
123 all notes off	07 main volume
124 omni mode off (always poly)	64 sustain pedal
125 omni mode on (always poly)	94 select transpose mode
126 (mono mode) = all notes off	95 select set-up mode
127 (poly mode) = all notes off	
nnn Controller X (user defined where nnn = any controller)	
nnn Controller Y (user defined where nnn = any controller)	
- 7) Other commands recognised - (numbers in hexadecimal)

8nH notes off	9nH notes on & velocity
BnH control change (see above)	
DnH channel pressure (aftertouch)	EnH pitch-bend change
	FEH active sensing

MIDI CONTROL OF RED PUSH BUTTON

The red push button can be "pressed" via MIDI as MIDI switch number 95 (5Fh) for regular program mode or 94 (5Eh) for transpose mode. The selection of the push button is enough, it doesn't matter if it is being turned on or off.

In hexadecimal BX - 5F - 00 = program mode

In hexadecimal BX - 5E - 00 = transpose mode

Where X is the current MIDI channel. (n.b. for MIDI channel 1 - X=0)
[n.b. whilst in program/transpose modes the MIDI is in omni on mode]

MIDI CONNECTORS - -

MIDI IN should be connected to a MIDI OUT or a MIDI THRU
similarly MIDI OUT should be connected only to a MIDI IN
and a MIDI THRU should also be connected only to a MIDI IN.

MIDI OUT is the signal from the synthesiser (or drum machine etc.) that is to be sent to another instrument. MIDI IN is a received signal that contains MIDI information from another synth, and MIDI THRU is an exact copy of information arriving at the MIDI IN socket. This allows several instruments to be connected together.

If you want to wire your own MIDI cables the following information may be useful.

- 1) Although a 5 pin connector is used, only two connections plus an earth connection are required.
- 2) If you look at the din plug from the wiring side you will see that the pins are numbered. From left to right (or clockwise) these are 1 - 4 - 2 - 5 - 3.
- 3) The pins numbered 1 & 3 are not used.
- 4) The screen (earth) is connected to pin 2 (centre pin)
- 5) Pin 4 of one plug should be connected to pin 4 of the other
- 6) Pin 5 of one plug should be connected to pin 5 of the other
- 7) You should now have a working MIDI lead
- 8) It is preferable to label one end of the cable MIDI IN & the other end MIDI OUT, to avoid confusion.

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