# KENTON

# User instructions for Kenton MIDI retrofit kit for
# *Roland SH-1000*

*These instructions are only for Roland SH-1000 retrofit kits produced after 29th July 2022*
*Firmware MSRK5207 or later*

## Using the MIDI Interface

When you turn on the synthesiser for the first time, you will be in omni-off mode channel 1 for receive - See the following pages for other factory default settings. When you select a receive channel, this will be stored in memory and will be remembered for when you subsequently turn on the synth - all parameters listed on the next page are stored.

If you want to put the synth 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.

## Red Push Button

Two modes are available by pushing the red push button during normal playing mode. Before you press the red button however, make sure that no keys are pressed on the remote MIDI keyboard otherwise the results may be unpredictable. The key presses can be entered only from the remote MIDI keyboard and may be sent on any MIDI channel.

### 1) Setup Mode
For setting MIDI channels and assignments. Give the red push button a short press (half a second) - then release. Follow this with a key press or sequence of key presses as detailed on page 3. After making a MIDI channel assignment, you will be immediately returned to playing mode but after making other 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. all set-ups are stored in non-volatile memory).

### 2) Transpose Mode
Press and hold the red push button for about four seconds - then release. A note will sound on the SH-1000 and continue to sound until you press a key on the remote keyboard. Pressing middle C itself (on the remote keyboard) gives zero transpose, pressing the G above middle C will transpose up by 7 semitones, or the F below middle C will transpose down by 7 semitones. 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. The transpose setting will not be stored.

## Assigning MIDI Controllers

1) To assign MIDI controllers for the destinations available on page 3:
   a) press the red push button to enter set-up mode (short press and release)
   b) either send the controller you want to assign by moving the knob or slider on your remote keyboard or press a key on your remote keyboard to select Aftertouch, Velocity, Pitchbend or Off as a source
   c) Next press a key on your remote keyboard to select the destination you want to be controlled with it.
   d) Then either hit Top C to enter/exit and store, or go back to b) to make another assignment.

2) Note that Aftertouch, Velocity and Pitchbend can only be used as controller sources for any of Aux 1 to 4. Any other controllers can only be set to CC numbers or OFF

3) Note that "Off" merely stops that particular Aux (or other destination) from responding to any further MIDI messages. It will stay at the level you last set (until next turned on) and will not be reset to default or any other value.

4) If you have used Control Change (CC) messages to set certain parameters, you can store these values in non-volatile memory. By entering and then immediately exiting setup mode, data values for the parameters listed below are updated in non-volatile memory. To do this, give the red push button a short press, then press top C to exit (without pressing any other keys).

Parameters that have updateable and storable values are as follows:

| | |
|---|---|
| Aux 1 controller - LP filter cutoff | [default CC16] |
| Synth internal LFO | [default CC  1] |
| MIDI LFO to Aux1 controller | [default CC17] |
| MIDI LFO to CV controller | [default CC15] |
| MIDI LFO Speed | [default CC14] |
| MIDI LFO waveshape | [default CC13] |
| MIDI LFO - MIDI Sync | [default CC12] |
| Portamento on-off controller | [default CC65] |
| Portamento rate controller | [default CC  5] |

For example, if you send a MIDI CC to control a parameter such as MIDI LFO speed (CC14 by default), the new data value (the new speed) set using that MIDI CC can be stored as the new power-on value (speed in this case) by entering and then immediately exiting setup mode. Note that it is the **data value** that is being stored by this means, not the CC number itself.

5) Receive channel 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).

6) The ENTER key (Top C) also resets all the controllers (e.g., pitch wheel, modulation wheel etc) – OFF in most cases, but ON for volume, and centre for pitch bender.

7) If you want to put the MIDI retrofit back to its factory default settings at any time, switch the SH-1000 on whilst holding the red push button pressed – hold for a couple of seconds then release.

8) During set-up mode, the retrofit will receive on ALL MIDI channels.

## Internal LFO

The internal MIDI syncable LFO can be controlled as follows:

MIDI LFO to CV controller [default CC15]
MIDI LFO Speed [default CC14]
MIDI LFO waveshape [default CC13]
MIDI LFO – MIDI Sync [default CC12]

The default controller numbers can be changed as shown on page 3.

**Table - Function of keys during set-up mode**

| Note | Function | | |
|------|----------|---|---|
| C | Receive channel | 1 (default) | [ Bottom C - MIDI note #36 ] |
| 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 | " " | sets the MIDI channel this note was received on | |
| F | Not Used | | |
| Gb | " " | | |
| G | Aftertouch as controller source for any of Aux 1-4 | \ | |
| Ab | Velocity as controller source for any of Aux 1-4 | \ Sources | |
| A | Pitchbend as controller source for any of Aux 1-4 | / Sources can also be any CC #0-119 | |
| Bb | OFF as controller source for any of Aux 1-4 | / | |
| B | Not Used | | |
| C | Aux 1 controller - LP filter cutoff | [default cc16] \ | [ Middle C - MIDI note #60 ] |
| Db | Aux 2 controller - Not Used | \ | |
| D | Aux 3 controller     " " | \ | |
| Eb | Aux 4 controller     " " | \ | |
| E | Synth internal LFO | [default cc  1] \ | |
| F | MIDI LFO to Aux1 controller | [default cc17] \ Destinations | |
| Gb | MIDI LFO to CV controller | [default cc15] / | |
| G | MIDI LFO Speed | [default cc14] / | |
| Ab | MIDI LFO waveshape | [default cc13] / | |
| A | MIDI LFO – MIDI Sync | [default cc12] / | |
| Bb | Portamento on-off controller | [default cc65] / | |
| B | Portamento rate controller | [default cc  5] / | |
| C | Not Used | | |
| Db | " " | | |
| D | " " | | |
| Eb | " " | | |
| E | " " | | |
| F | " " | | |
| Gb | " " | | |
| G | " " | | |
| Ab | " " | | |
| A | " " | | |
| Bb | " " | | |
| B | " " | | |
| C | " " | | |
| Db | " " | | |
| D | " " | | |
| Eb | " " | | |
| E | " " | | |
| F | " " | | |
| Gb | " " | | |
| G | Single trigger mode | | |
| Ab | Multi trigger mode | [default] | |
| A | Pitchbend range 2 semitones (a tone) | [default] | |
| Bb | Pitchbend range 7 semitones (a fifth) | | |
| B | Pitchbend range 12 semitones (one octave) | | |
| C | **ENTER** key Press & release to store & return to play mode | | [ Top C - MIDI note #96 ] |

## General Information About MIDI Connections

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

MIDI OUT (if fitted) 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.

## Warranty

All Kenton MIDI Kits come with a 12 month (from purchase date) back to base warranty, (i.e., customer must arrange and pay for carriage to and from Kenton Electronics). Note that kits should be fitted as soon as possible after purchase, as the retrofit kits are in a continuous state of development.

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