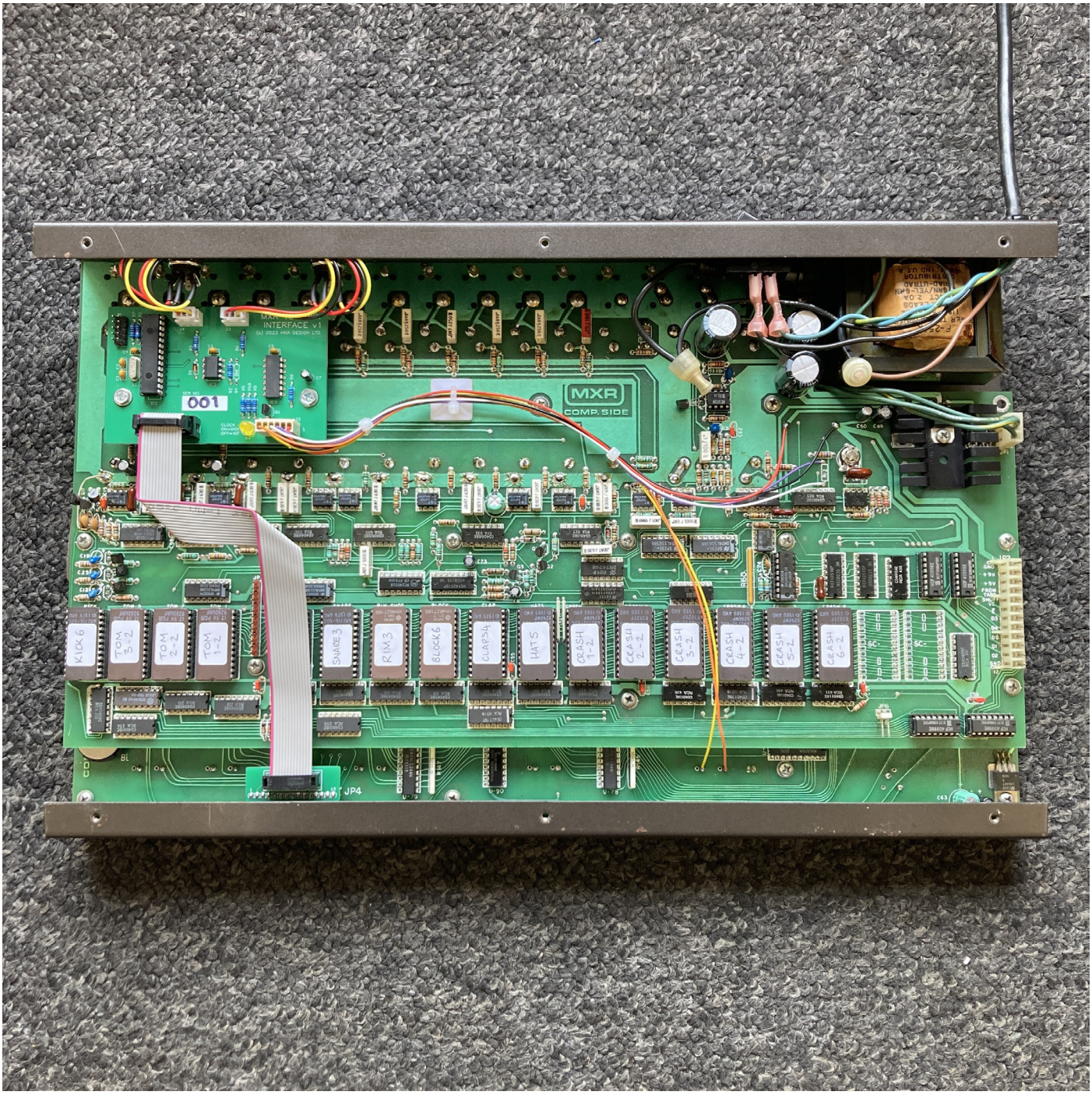


MXR 185 Drum Computer MIDI Interface

Installation & User Instructions

HKA Design
www.hkadesign.org.uk
July 2023

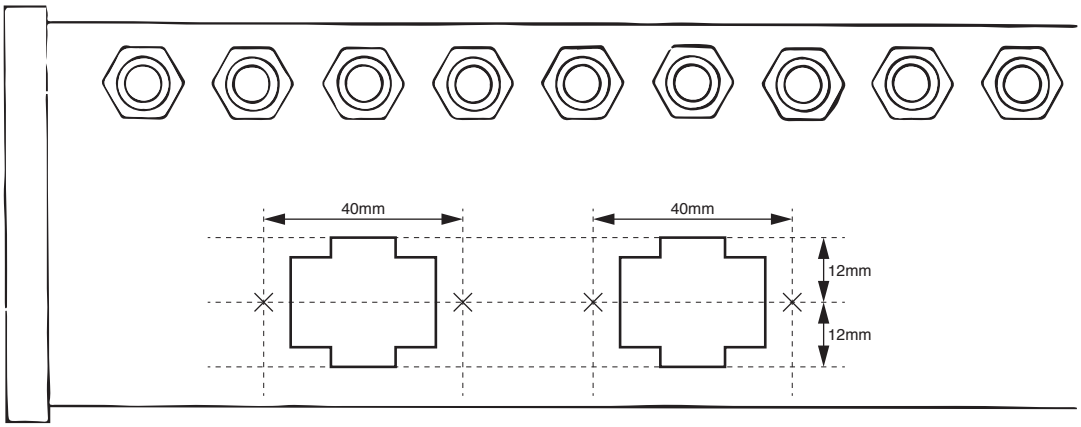
Installation

1. Turn off the power and **unplug the drum machine**.

2. Remove the wooden side panels from the drum machine (2x screws on each). Place the machine face-down on a soft surface, trying to avoid putting any excessive pressure on the sliders, and remove the bottom cover (6x screws).

3. Unplug the cables going from the circuit boards to the two 15-way connectors on the back panel. Remove these connectors - an adjustable wrench works well for squeezing in the retaining plastic tabs.

4. Mark, drill and deburr the 4x 3mm holes for mounting the included DIN socket panels, as shown below:



The holes need to be vertically and horizontally centred on the cutouts, so that the DIN sockets will be aligned in the centre when they are fitted on the included mounting panels - see photo below.

Be very careful of swarf when drilling these holes - if it gets onto the circuit board it can cause shorts. Ideally this would be done having removed the circuit boards from the case, but it can be done with them in place, providing precautions are taken. Put gaffer tape around the area where the drill bit will emerge to catch any flying swarf, and drill the holes with the machine the correct way up so that swarf doesn't fall down into it. **Inspect the boards thoroughly afterwards!**

5. Attach the mounting panels to the inside of the case using the M3 x 12mm screws, nuts and shakeproof washers. Fit the MIDI sockets to the panels using the M3 x 6mm screws, nuts and shakeproof washers.

Installation continued

6. Remove the 2x screws from the top-left corner of the voice board, and fit the included standoffs in their place. Mount the MIDI board on top of these using the screws you just removed.

7. Plug the leads from the MIDI sockets into the MIDI board. It's recommended that you have the socket installed in the 'TRIGGER INPUTS' location be MIDI IN, and the socket installed in the 'EXTERNAL VOICE' location be MIDI THRU.

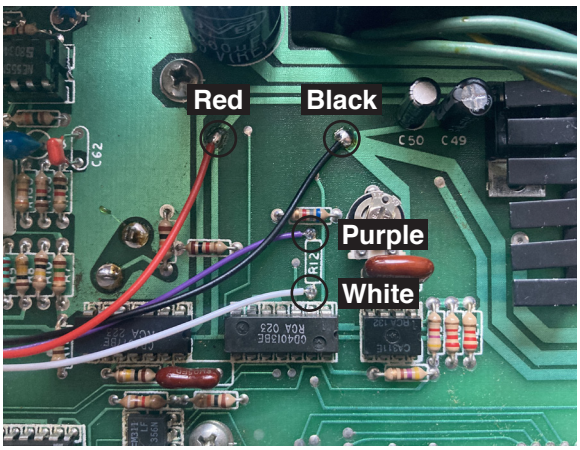
8. Plug the included 14-way ribbon cable into the J1 socket on the MIDI board, and the other end onto the J4 header on the lower CPU board at the front edge of the machine, making sure that the pins are correctly aligned. Fold the cable so that it will lie flat and not get squashed when the bottom cover is put back on (see overview photo on title page).

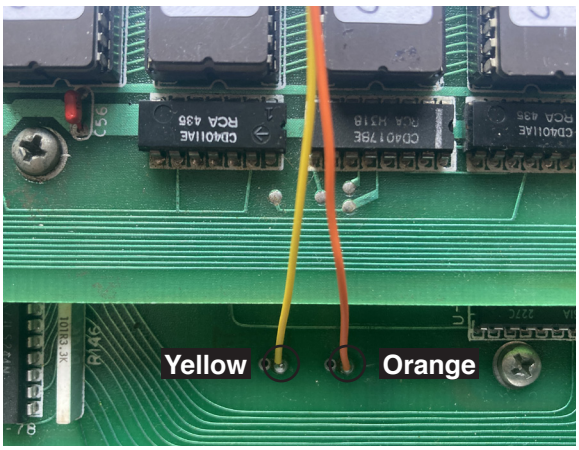
9. Plug the included 6-way cable into the J2 header on the MIDI board. These wires are to be soldered to various locations on the upper voice and lower CPU boards:

   Solder the red and black wires to traces on the board near the heatsink in the top right corner of the upper voice board. You may need to use a sharp knife or fibreglass pencil to expose the copper to solder to. **Make absolutely sure you've soldered these wires to the correct traces!**

   Remove resistor R12 (10K), located nearby, from the board - you can either desolder it or just clip it out. Solder the purple and white wires to the upper and lower pads respectively.

   Locate the run/stop button on the lower CPU board. Solder the yellow wire to the left-hand pin and the orange wire to the right-hand pin.





MIDI board J2 header pinout:

Pin	Wire	Function	Location
1	Red	+5V	PCB trace near heatsink
2	Black	Ground	PCB trace near heatsink
3	Purple	Switched clock out	R12, top pad
4	White	Internal clock in	R12, bottom pad
5	Yellow	Run/stop (transistor collector)	Run/stop button, LH pin
6	Orange	Run/stop (transistor emitter)	Run/stop button, RH pin

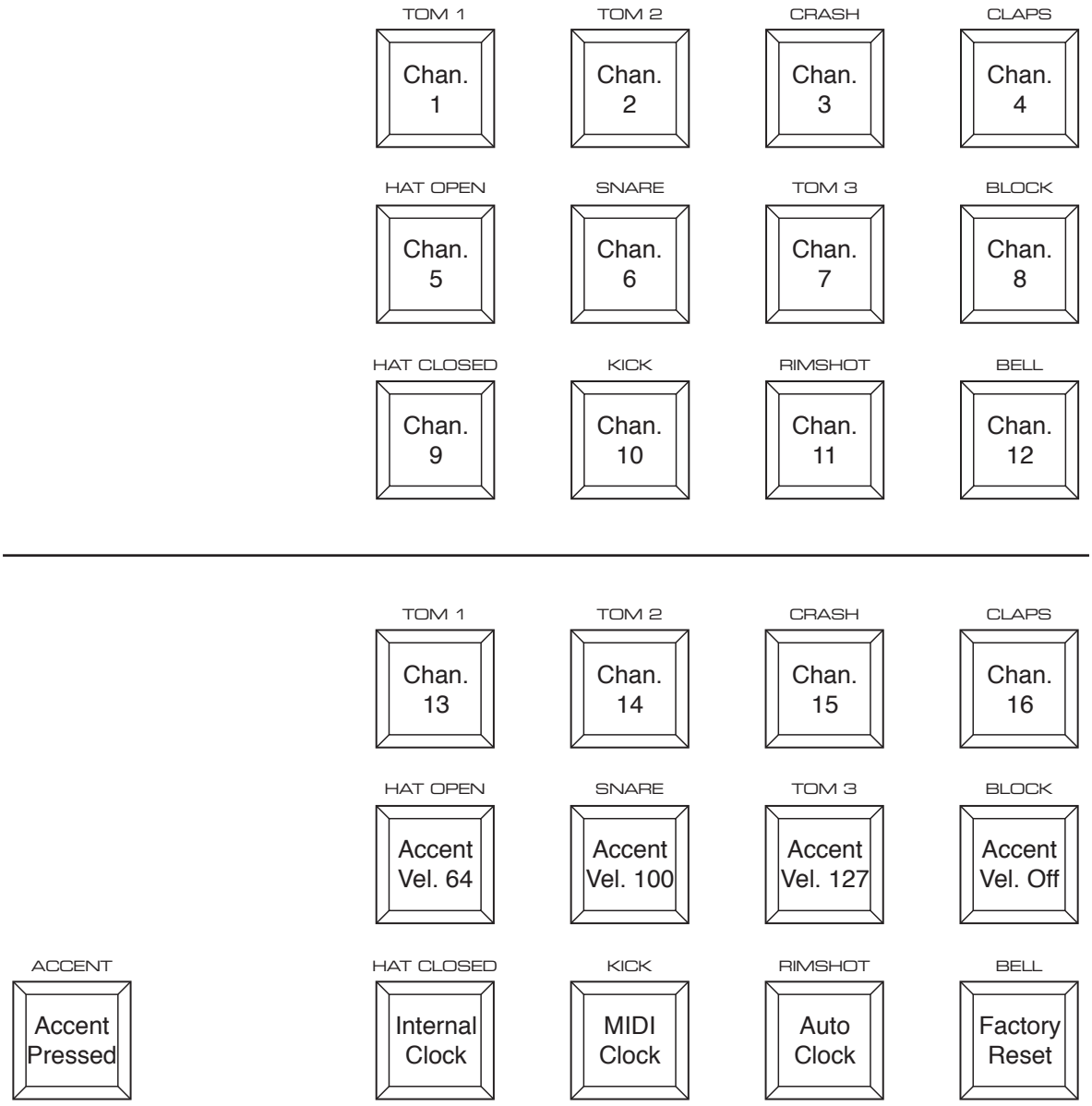
10. Use the included cable ties and cable tie base to secure this wiring in place.

11. Check all of your work once more and replace the bottom cover. Reattach the side panels.

12. Test the machine and the new MIDI functions. The first time you power on the machine having installed the MIDI interface, do so while holding down the BELL and ACCENT buttons to reset the MIDI board to its default settings.

MIDI settings

The MIDI receive channel, accent velocity and clock source are all set by holding down one of the drum trigger buttons while powering on the machine, in combination with the accent button. These settings are stored in non-volatile memory and recalled the next time the machine is powered on.



MIDI Channel
Sets the MIDI channel on which the drum machine will respond to Note On messages. (default = 1)

Accent Velocity
Sets the MIDI velocity at which notes will play accented. Can also be turned off, in which case notes played over MIDI will always play un-accented. (default = 64)

Clock Source
Sets the clock source for the drum machine's sequencer. When set to internal clock, MIDI clock messages are ignored. When set to MIDI clock, the internal clock is disabled. When set to auto, the machine will switch between internal and MIDI clock when MIDI Stop and Start messages are received. (default = auto)

Factory Reset
Loads the default settings as listed above.

MIDI note mapping