Tauntek CS70M MIDI Interface Installation   R Grieb 12/18/22

To install the MIDI PCB, you will need to lift the front panel of the CS70M. Each end of the front panel is attached to an end piece which is fastened to the bottom panel by two large machine screws. To complete the installation you will need to tilt up the keybed. To do this, you will need to either leave the end pieces attached to the front panel, and unfasten them from the bottom, or remove them altogether.   Here is a photo showing the front panel lifted, with the left end piece still attached to it. It is being held up by a block of wood placed on the left keybed hinge.

The MIDI PCB connects to the CPU board which is mounted component-side-down under the DIF board, and inside a metal frame.   To access the CPU board, you can raise the front edge of the metal frame (after removing the two screws that fasten it, and sliding the frame forward maybe ½" to 1").   Once it has been slid forward, the metal frame can be tilted up and oriented more or less vertically, without disconnecting any cables.

Once you have access to the component side of the CPU board, carefully remove the three socketed EPROM chips and the Z80 (780C) microprocessor. Insert the Z80 CPU directly into the empty 40-pin socket on the MIDI PCB, with the notch on the chip oriented to match the indication on the board. Try to avoid touching the pins of the Z80. Place the three EPROMs onto a sheet of metal or aluminum foil, or some anti-static foam to protect them from static electricity damage.

The larger ribbon cable plugs into the empty Z80 CPU socket, and the smaller cable plugs into the EPROM socket closest to the Z80 socket. Make sure all of the pins are aligned with the socket before pushing the DIP plug into the socket, or you will bend the pins.   This is how the cables should look:
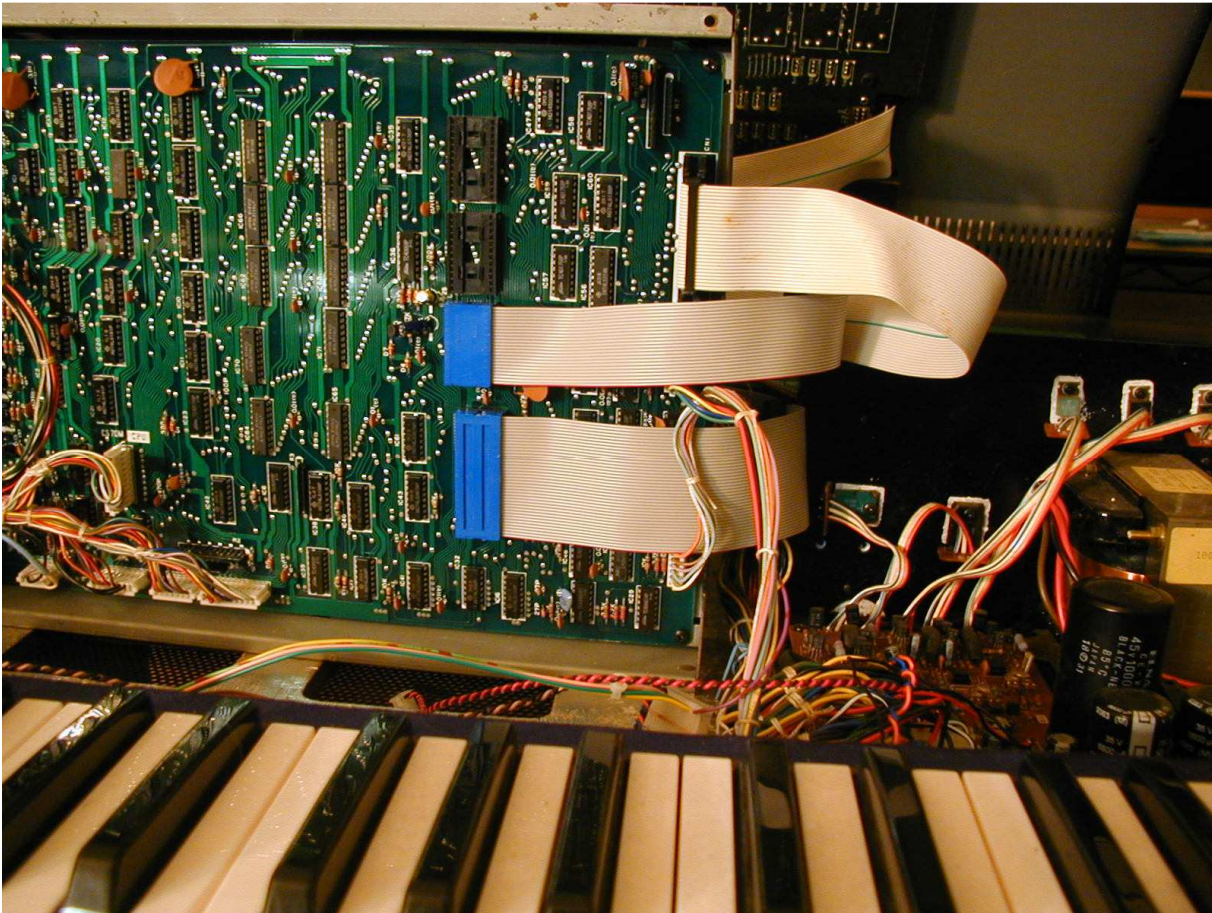

Note that the larger ribbon cable is routed under some other CS70M cables. Route both cables so that they can feed up to the top of the metal frame.

Once the cables are connected to the empty IC sockets and pushed firmly into place, slide the bottom of the metal frame back and tilt the top forward. Gradually lower the front edge of the metal frame back into place as you slide the entire frame back towards the rear of the synth.   Be careful not to pinch any wires under the metal frame. Once the frame is all the way down and resting on the bottom panel of the synth, align the two screw holes on the front lip with the holes in the bottom panel, and put the screws back in place.

The MIDI PCB will be placed on the top of the metal frame that holds the DIF and CPU boards, fastened with board supports with adhesive pads. The ribbon cables from the CPU board will need to slant a little towards the front of the synth to clear the other cables. I suggest mounting the MIDI PCB so that its front edge is 3 3/8" from the front edge of the top metal plate on the metal frame. It should be slid over to the right so that the edges of the adhesive pads are up against the black tape on the edge of the top metal plate. **Note that you will probably want to solder the battery wires to the PCB before fastening it in place.** Here is how the board will look:
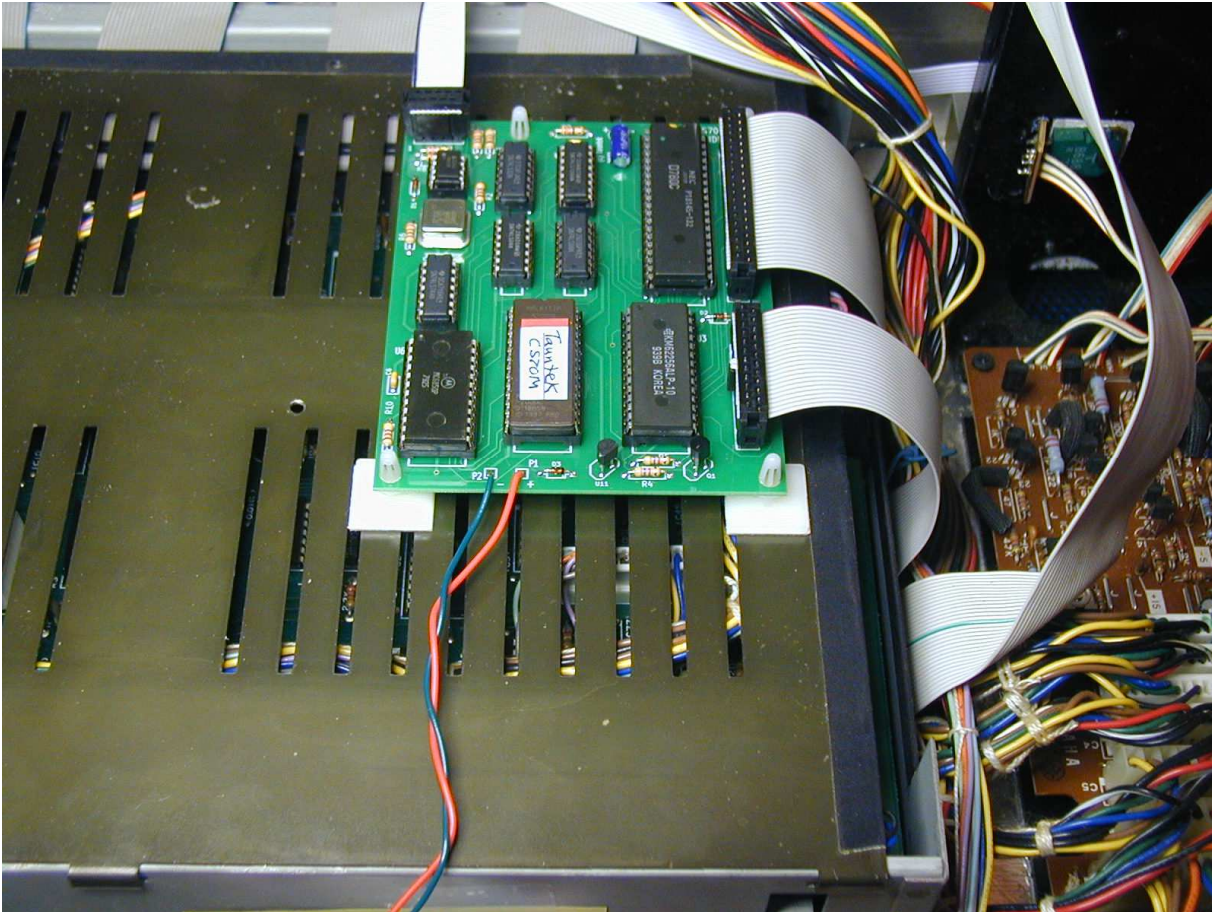
The batteries in the CS70M can be re-purposed to provide battery back-up for the larger SRAM on the MIDI PCB, which now holds all of the patches and the sequencer data. There is a connector under the keybed that can be used to connect to the battery voltage. The front of the keybed is held in place by two large bolts, fed up from the bottom of the synth, one at each end. After these bolts have been removed, the front of the keybed can be raised so that the keybed is vertical. (The back is hinged) You may need to prop it up to hold it in place.   With the keybed lifted up, you will be able to see the battery compartment terminal block. Here is what it looks like: **(Note: Some CS70M's use a completely different connector from what is shown here)**
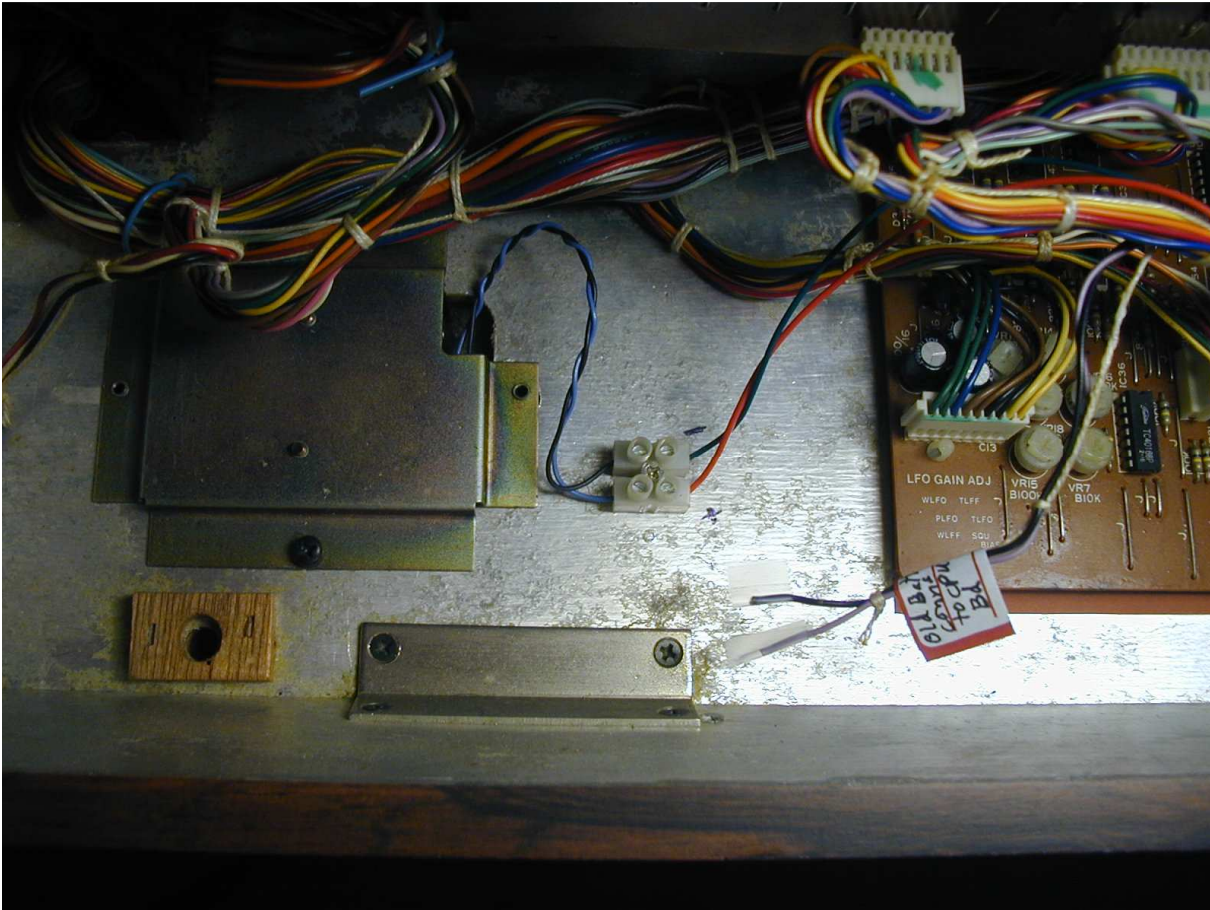
Note that the positions of the positive and negative terminals in the terminal block may be different from what is shown here.   You should measure this for yourself and label it to be sure.   On either side, the wires are held in place by pressure from four small screws. If these screws are loosened, the old wire can be pulled out, and a new one inserted. Remove the original wires from the right side of the connector, cut off the exposed bare wire and add tape to the ends to make sure they cannot connect to anything accidentally. You may want to fasten these wires to something to make sure they don't get pinched under the keybed.   I added a label that says "Old battery connections to CPU board".

It's best to solder the new battery wires to the MIDI PCB first, then connect them at the terminal block, to prevent shorting the batteries to ground with your soldering iron.   (This would only happen if the synth is grounded in some way, either through its power cord, or a connected audio cable) First strip and solder the green wire to the P2 (-) eyelet. Twist the strands of the wire together to make sure they all go into the hole at P2. Now connect the red wire to the P1 (+) eyelet and solder it. Twist the two wires together loosely, and feed them under the keybed and over to the terminal block near the battery compartment. Leave the wires a little longer than needed, so that the metal frame can still be lifted if necessary. Now strip ¼" of insulation from each wire, twist the conductors together, and bend the un-insulated part back on itself, so that you have a U-shaped double wire to stick into the terminal block.   Look closely at the terminal block to see where the opening is for the wire.   You may want to loosen the screw as you watch the clamp move to see where the wire should be inserted. Connect both wires, with the proper polarity, to the terminal block and

tighten the screws to hold them in place. With the screws tightened, the wires should be held firmly by the terminal block.

The smallest ribbon cable is used to connect the MIDI jacks to the PCB. Below is a diagram that shows the connections. Pin 1 of the HDR3 MIDI jacks connector is indicated on the board.