

Wiring Classic MIDI Works Console Toe-Studs to the Classic MIDI Works Pedal Board (MKSC-4A encoder)

The Classic MIDI Works Console Table comes with 16 brass toe-studs mounted 8 each on a slanted left and right bolster. Since they are simply a momentary switch, you need a MIDI encoder to connect to a computer program. If you have, or are going to purchase the MIDI Works Pedal Board, it comes with the MKSC-4A encoder board. It has 64 inputs and since the pedals only use 32, the unused inputs will serve very well for the 16 toe studs.

MIDI Works has designed a harness system to connect the toe studs to the MKSC-4A. I highly recommended to purchase the harness if you have their pedal board. It includes three junction boards. One, the larger one is mounted on the back of the Pedal Board near the MKSC-4A. The mini junction boards mount on back of the toe stud bolsters, one on each side. The pilot holes are already drilled, so mounting is simple.

There are 3 harnesses furnished. One rather short one that connects the MKSC-4A to the junction board mounted near it. There are two other harnesses that go from the main junction board to the mini junction boards on the toe stud bolsters. The toe studs are mounted and wired so that they plug into the mini junction boards.

The following is a step by step instruction and documentation as I wired the toe studs to the MKSC-4A.

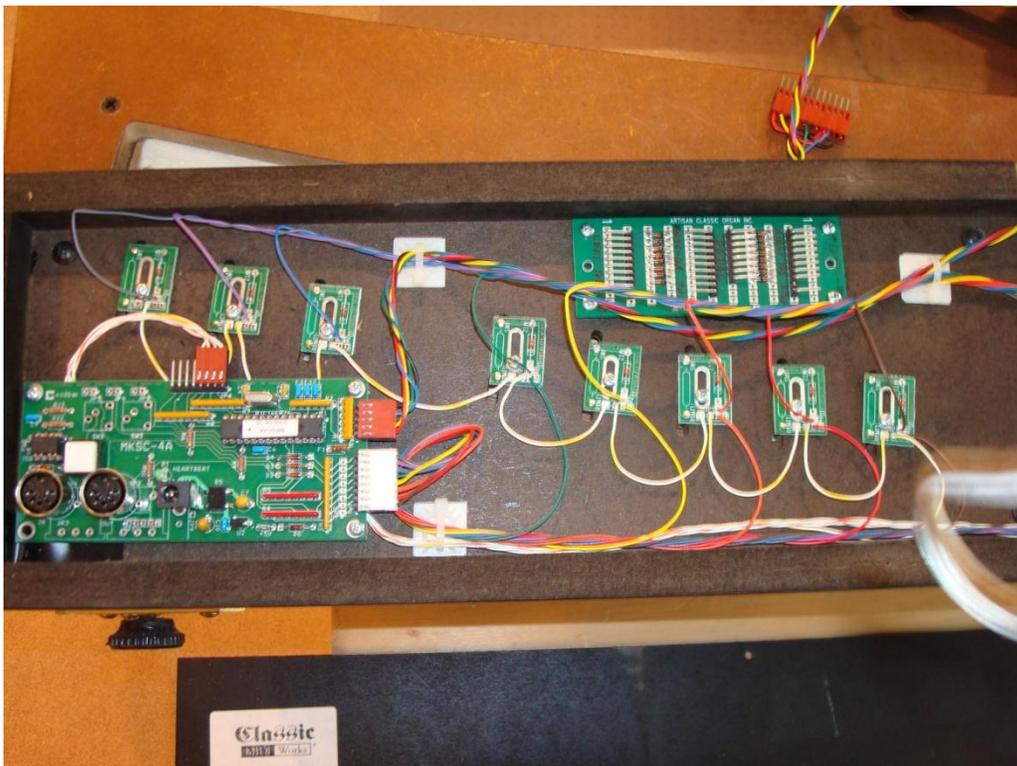
Step 1 - Stand the pedal board on end so that the electronics end is up and remove the shoes if applicable. The connector at the top middle is the connector for the shoes.



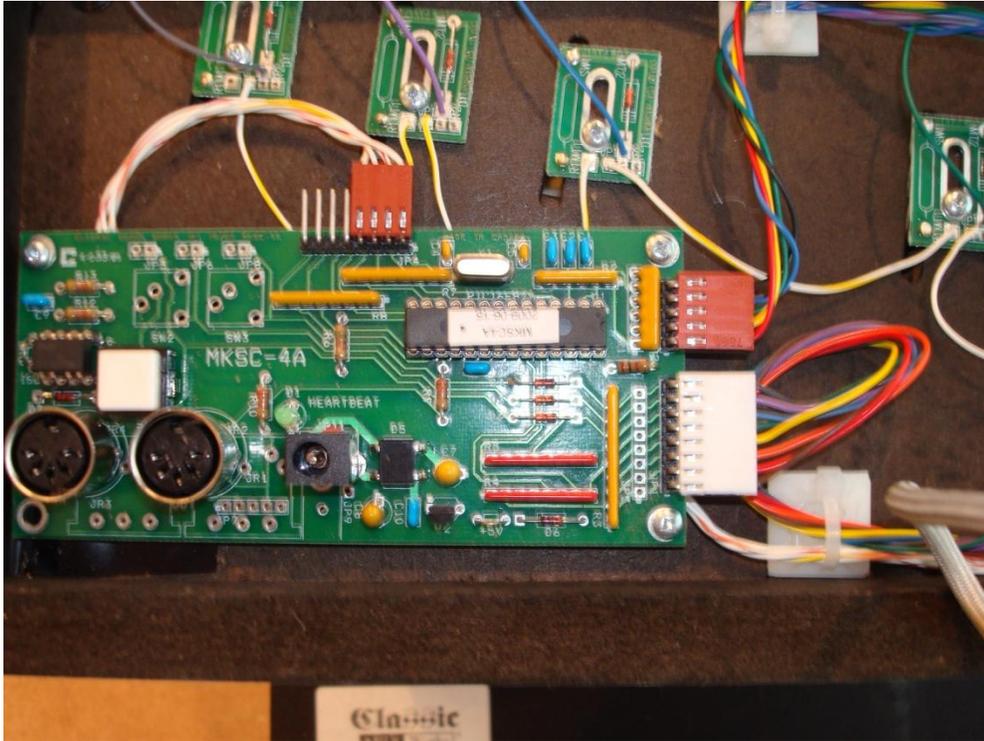
Step 2 - Remove 8 screws holding on the back panel cover and set it aside.



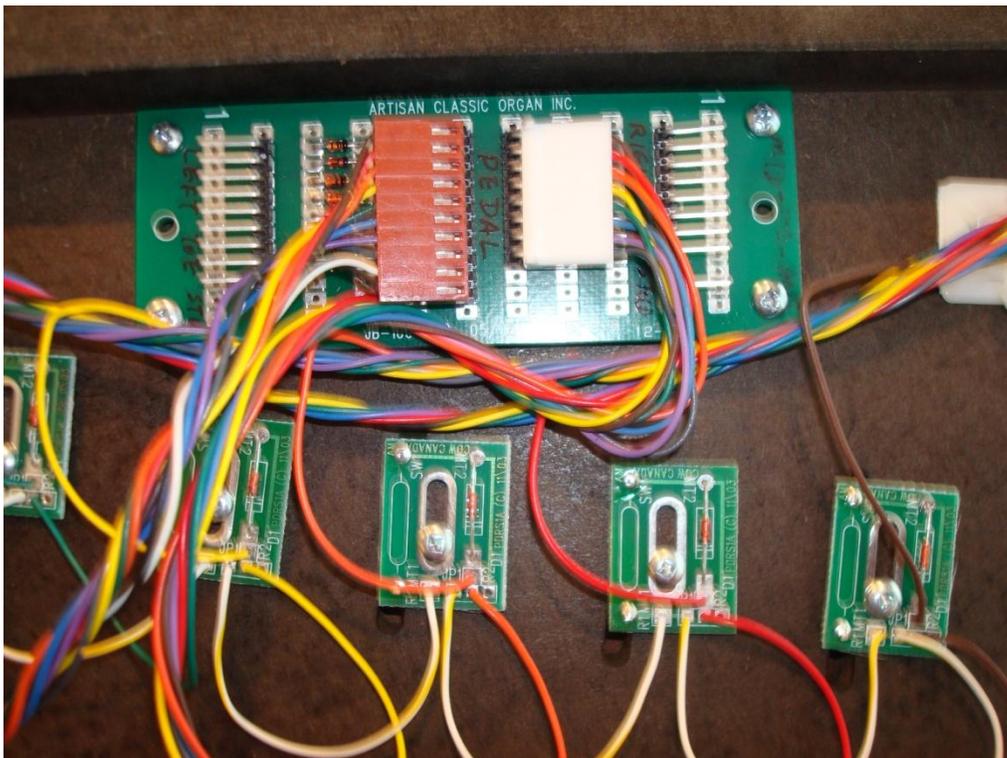
Step 3 - Mount the main junction circuit board near the MKSC-4A. Drill 1/16 inch pilot holes and use 1/8 inch nylon spacers with 1/2 inch #6 wood screws.



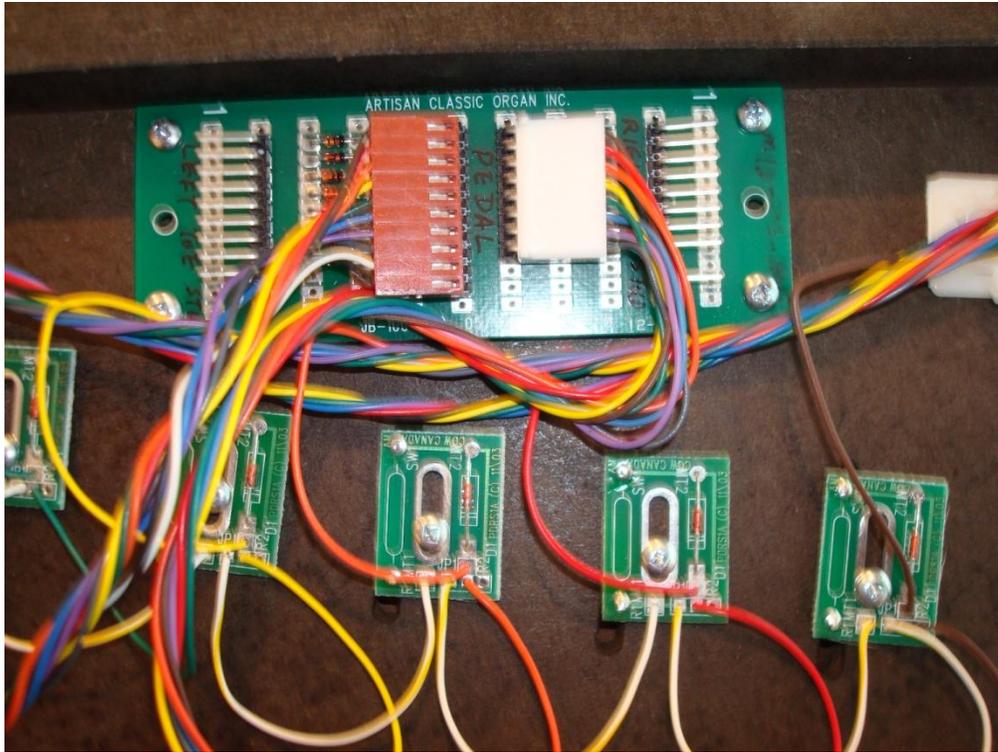
Step 4 - Remove the connector from JP-1 of the MKSC-4A circuit board. It is the white 8-pin connector at the right bottom corner of the circuit board.



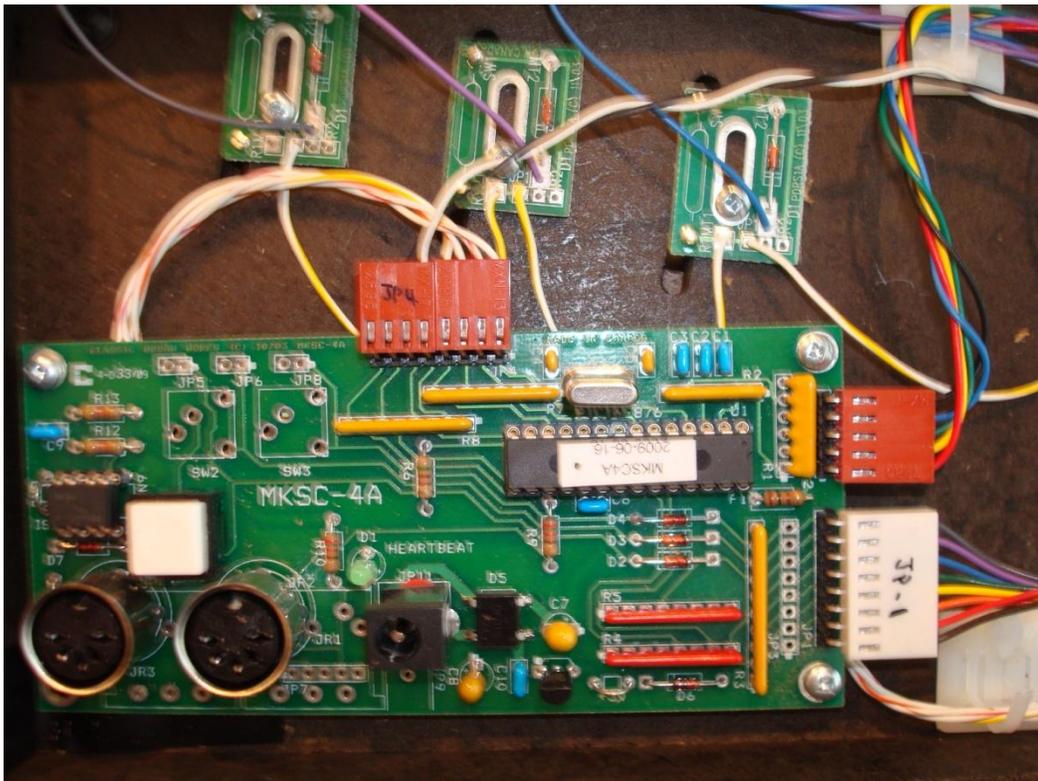
Step 5 - Plug the removed connector into the junction board at the Pedal connector (8 pin). Be sure the wiring orientation is correct (brown wire at top).



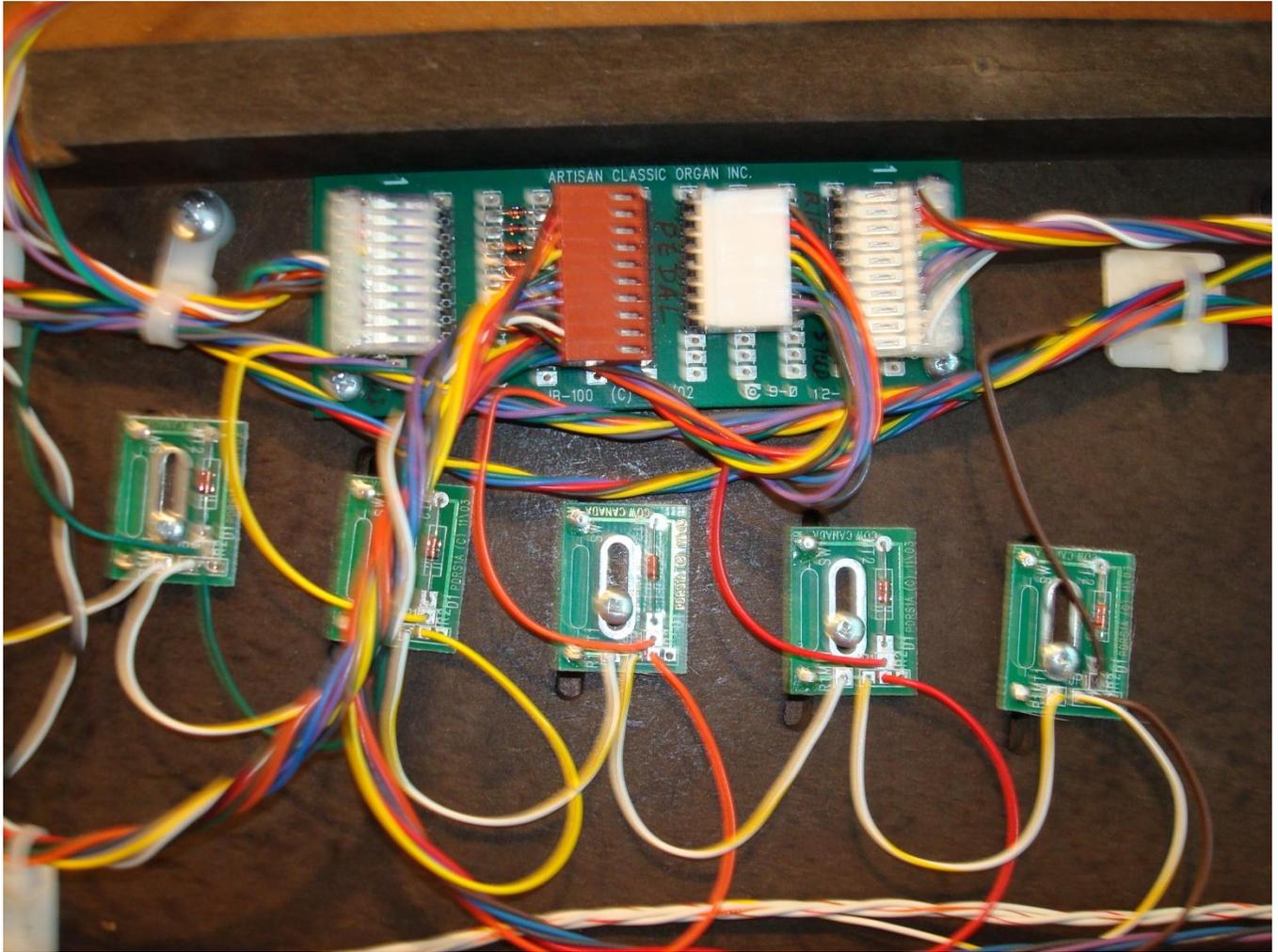
Step 6 - Plug in the short wiring harness 10 pin connector into the junction circuit board at the pins marked MKSC-4A. Be sure the wiring orientation is correct (white wire at bottom).



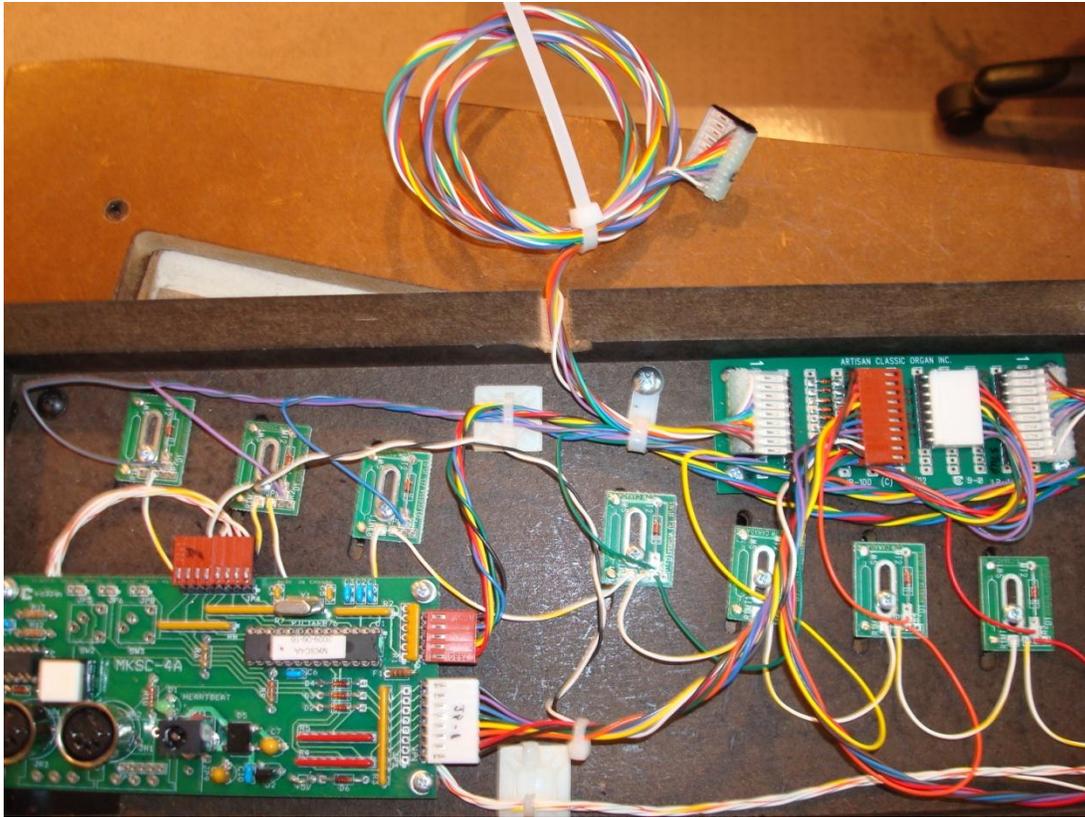
Step 7 - Plug the 8-pin connector on the other end of the short wiring harness into JP1 of the MKSC-4A circuit board (brown wire at bottom). Then plug the 2 wire extension connector into JP4 of the MKSC-4A. Be sure the two wires are next to the existing 4-wire connector.



Step 8 - One remaining wiring harness has a 9-pin connector on both ends. The other has a 10-pin connector on one end. Take the one with two 9-pin connectors and connect it to the 9 pins on the left side of the junction circuit board. **NOTE:** for proper orientation, the wires will be pointed down. Connect the other with the 10-pin connector to the 10 pins on the right side of the junction board. **NOTE:** On all four of the connectors on this circuit board, the brown wire aligns at the top.



Step 9 - Drill access slots for the wiring harness' going to the toe studs. (One near each end.) (Note anchored wire wrap uses as strain relief.)



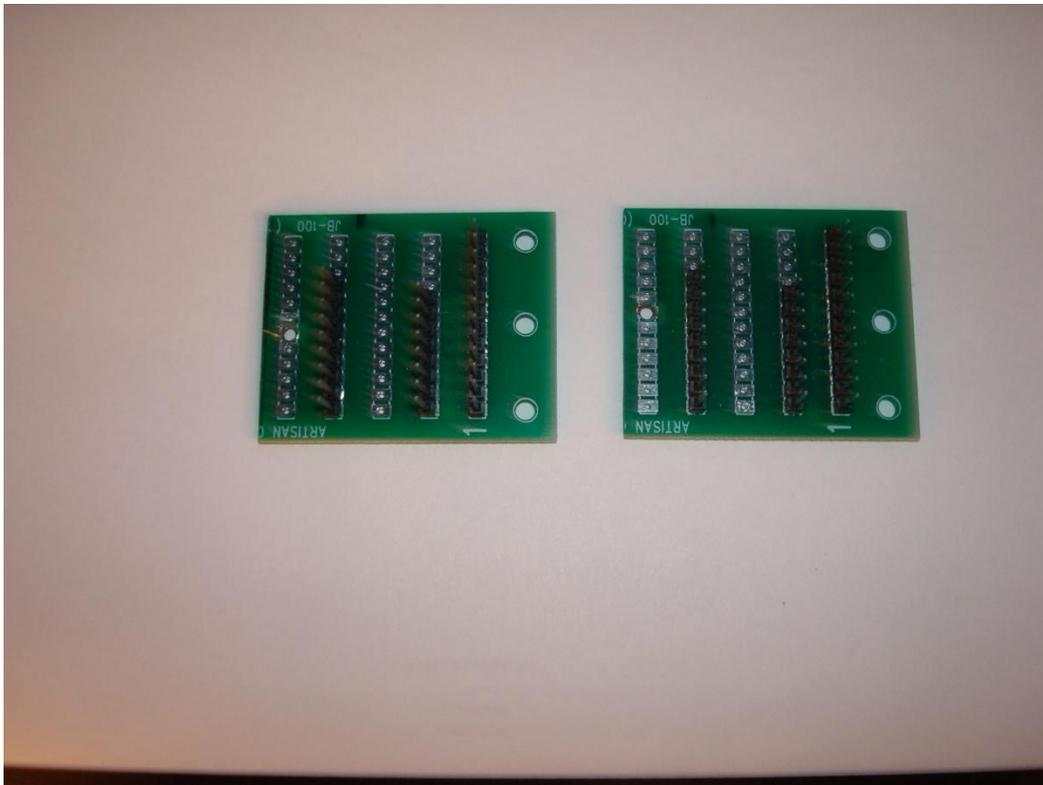
Step 10 - Temporarily replace the back panel with a couple of screws pending testing.



Picture of the mounted toe studs in their bolsters.



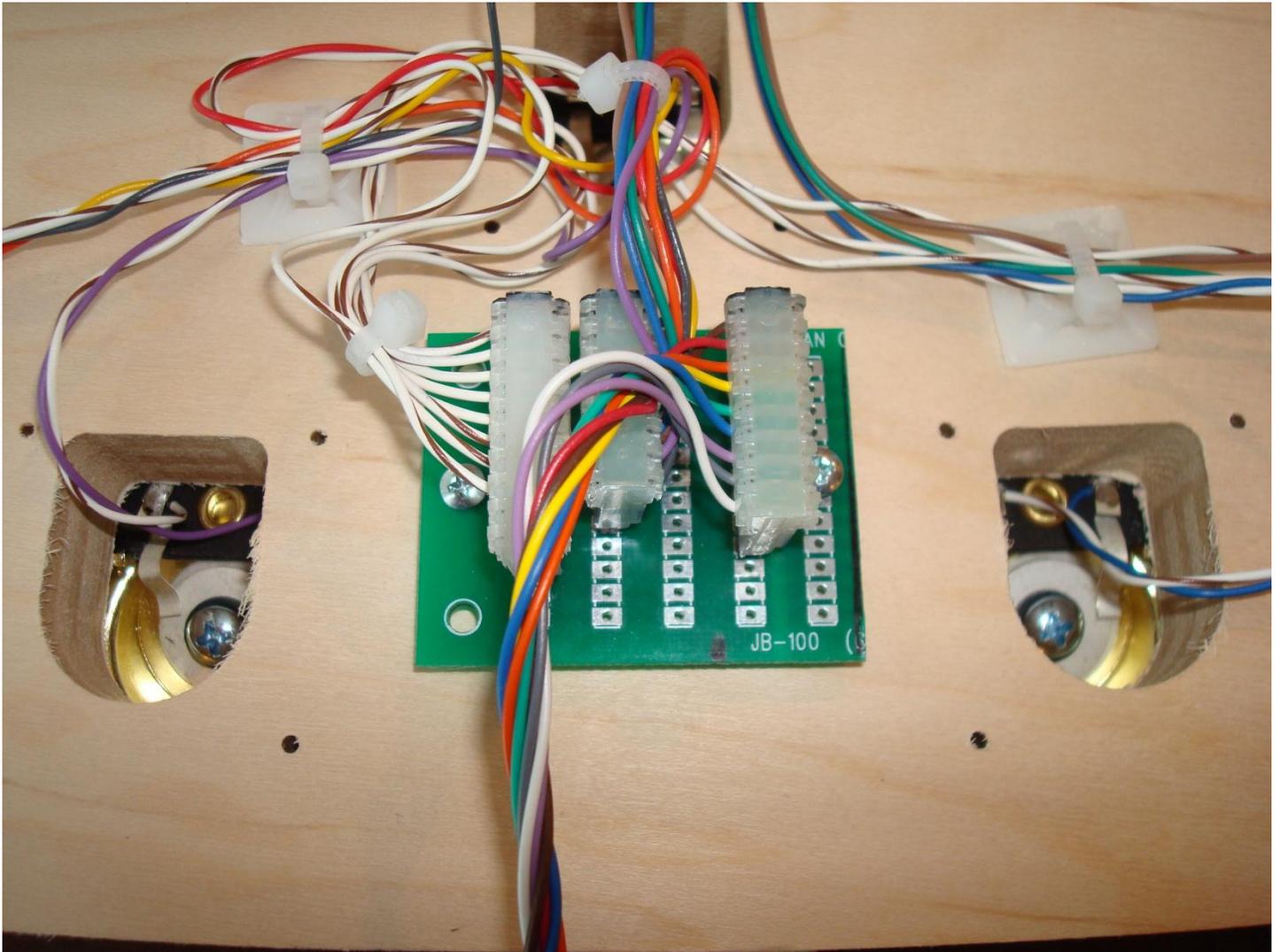
Picture of the mini circuit boards.



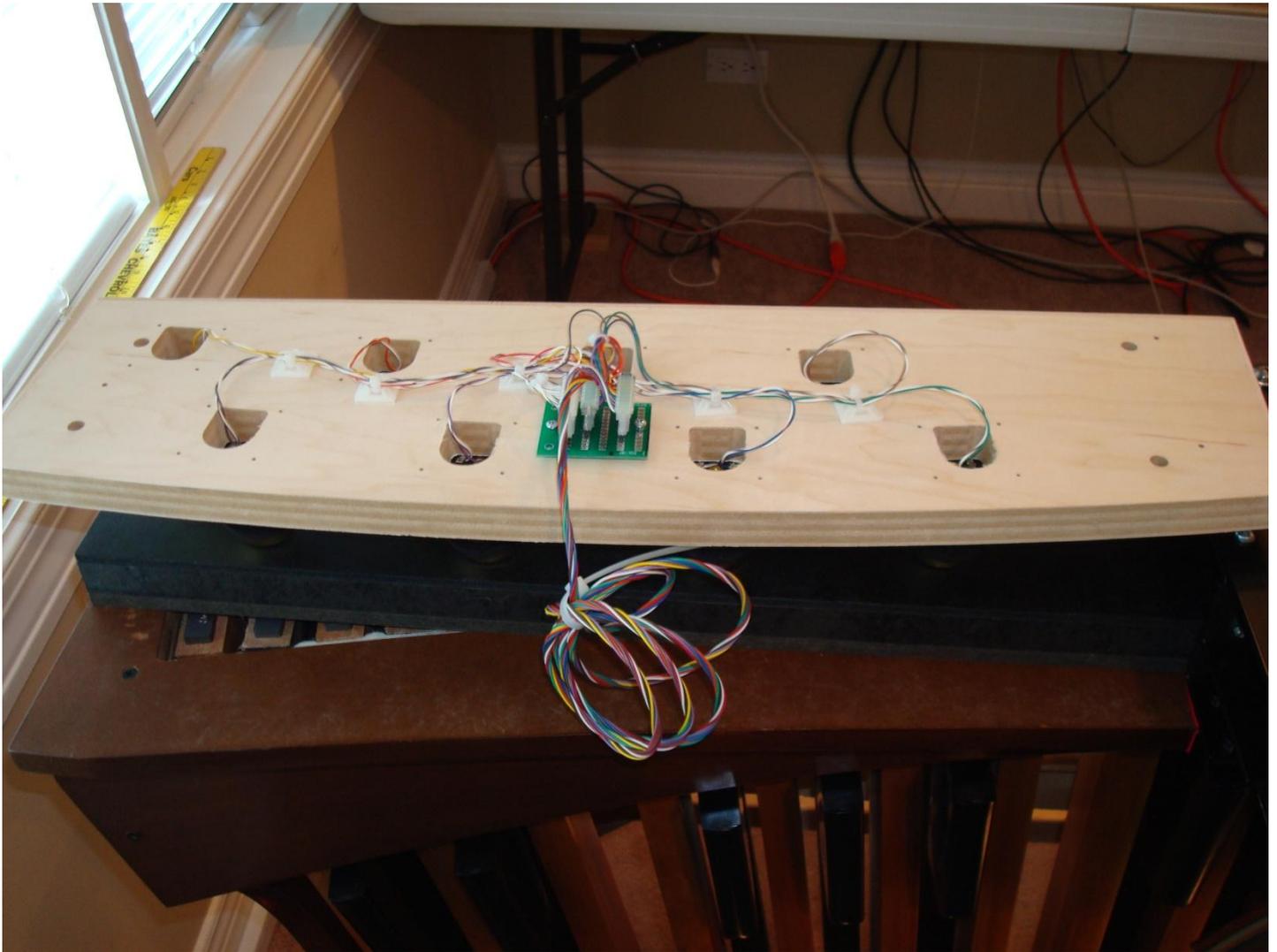
Step 11 - The toe studs are already mounted on the bolsters with the wires soldered and terminated with plugs ready to attach to the mini junction boards. Mount the mini circuit boards in the predrilled holes on the back of the bolsters. Use 1/8 inch nylon spacers with 1/2 inch #6 wood screws.

Notice that there is a 12-pin connector, an 8-pin connector, and a 9-pin connector. Mounting orientation on the bolster is not critical as long as the plugs are plugged in correctly oriented. The 12-pin connector is for the common from the toe studs. All the wires on the connector are the same color and the back of the 12-pins on the circuit board are soldered together as the common.

The 8-pin connector is for the input from the toe studs and connects so that the flat side (non-wire side) of the two toe stud connectors face each other. The 9-pin connector connects the harness from the MKSC-4A.
NOTE: Be sure the white wire is connected to the 9th pin.



Back of left bolster ready for testing.



Step 12 - Testing. Load a program that can read MIDI output. I use MIDI Medic downloaded from the Classic MIDI Works web site. Connect the MIDI cable and power up the pedal board. Press each toe stud, one by one, and check that you get a Key ON and a Key OFF message for each one. On mine I got ON/OFF messages for notes 68 through 83.