

H8 Speed Board – Modification to Front Panel to Maintain 2 millisecond Clock

Front Panel:

1. Carefully remove the front cover and then the four screws holding the front panel circuit board.
2. Disconnect the TOP and BOTTOM connectors from the H8 bus and any connectors to the CPU or other boards. Label these, if needed, for reconnection.
3. Read this **ALL THE WAY THROUGH** at least once as a dry-run before making any changes!!!
4. Verify continuity between TOP connector, pin 22 to O2 connection beside pin 13 of U109 of the front panel.
5. Remove the wire from pin 22 of the TOP connector by depressing the metal retaining tang while pulling on the wire and reinsert it into the open position for pin 24.
6. Unsolder and remove the wire from connection O2.
7. Bend the leads of a 2-pin, right angle header to facilitate connecting to the ground trace and pin 13 of U109.
8. Solder the 2-pin header to ground and pin 13 of U109.
9. Solder the wire that was removed from O2 to the ground trace.

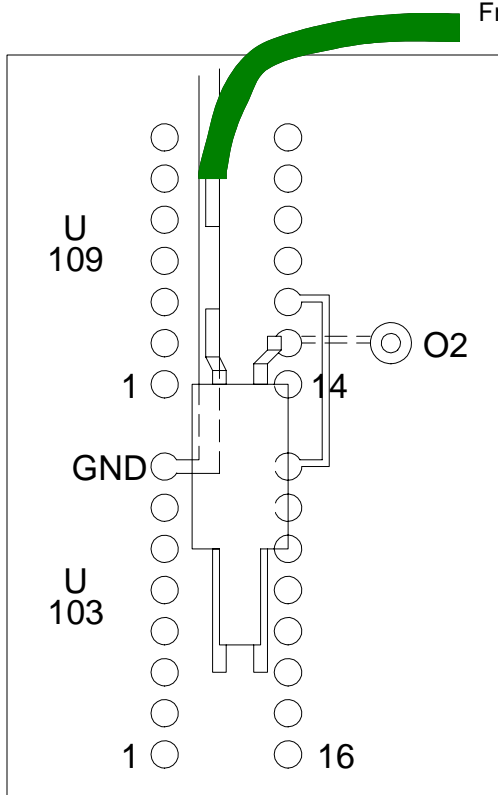
H8 Speed Board:

1. Locate the unused connection D3-R and D2-R on the H8 Speed Board.
2. The square marked hole is ground for D3-R and the trace continues down to provide ground for D2-R. On the back side of the speed card, cut the trace going to D3-R connection beside the square marked hole.
3. On the component side, insert a straight 2-pin header into the two top holes labeled D3-R and solder the ground connection.
4. On the foil side, solder a short length of small wire-wrap wire (or equivalent) to the second pin.
5. Connect the other end of the wire to pin 6 of U8.
6. Fabricate a coaxial cable to connect as shown between the front panel and the H8 Speed Card with the shield connecting to the ground pin on each end and the center conductor to the other pin.

Reassembly:

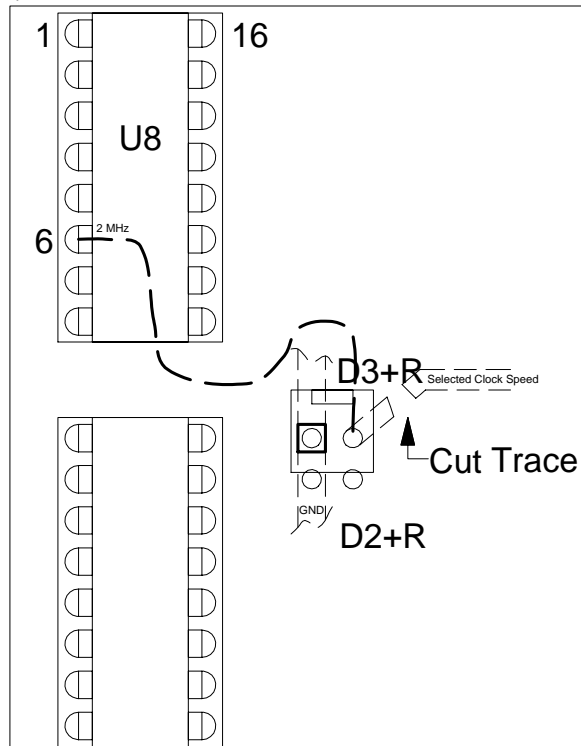
1. Connect any wires connecting the front panel to the CPU board or any other boards (as labeled).
2. Connect the BOTTOM and TOP 24 pin connectors to the H8 bus.
3. Connect a coaxial cable to the 2-pin header installed on the foil side of front panel.
4. Carefully position the front panel circuit board into place and install the four screws.
5. On the H8 speed board, connect the 3-pin plug going to the CPU and the other end of the coaxial cable to the new 2-pin header at D3-R.
6. Reinstall the H8 Speed Card.
7. When initial testing is completed, reinstall the Front Cover over the front panel board.

H8 Front Panel - 2 msec Clock Modification (Foil side of Front Panel)

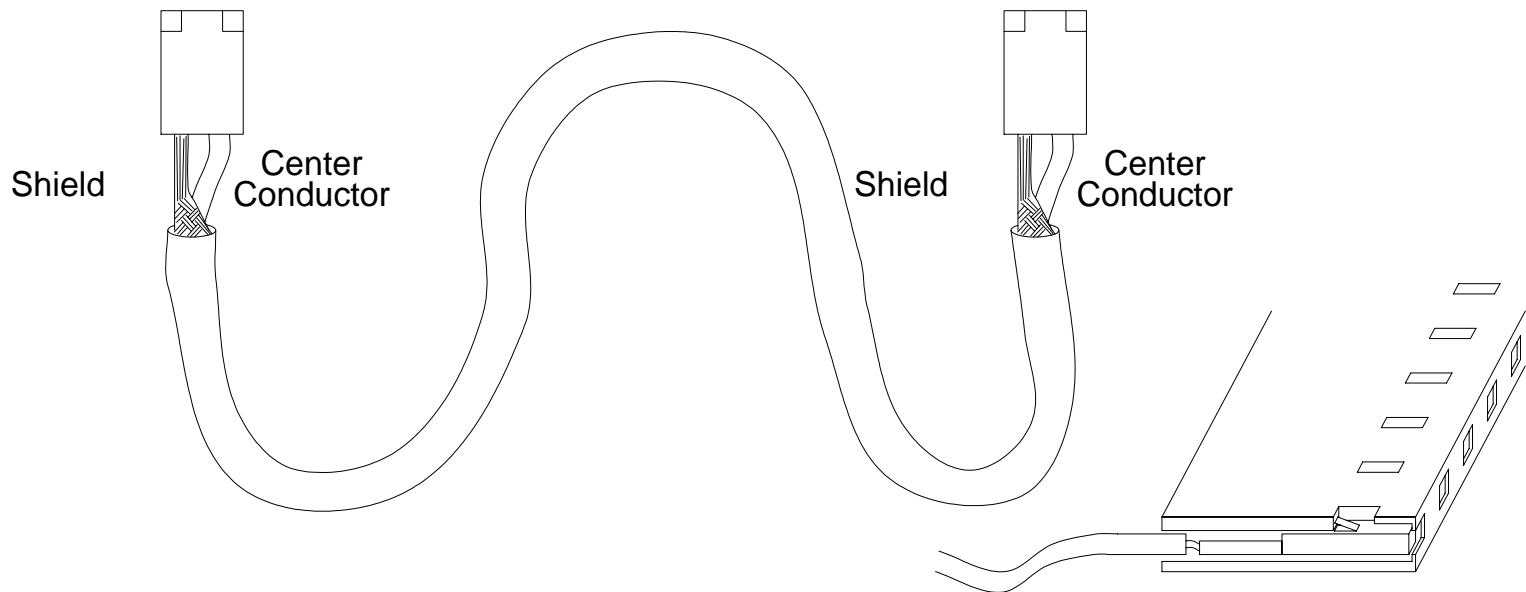


From TOP connector, pin 24
(previously pin 22 to O2)

H8 Speed Board - 2 msec Clock Modification (Component Side view)

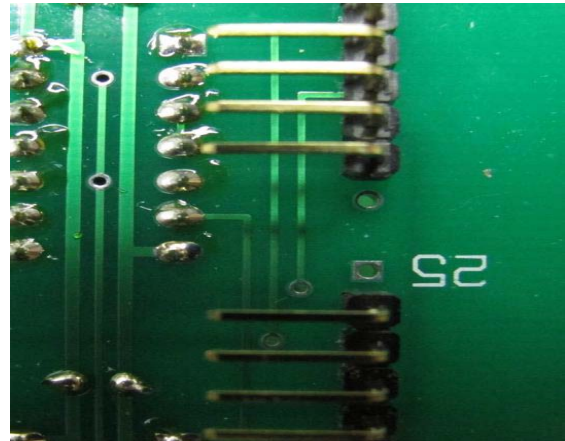


Dashed lines are hidden conductors and traces.

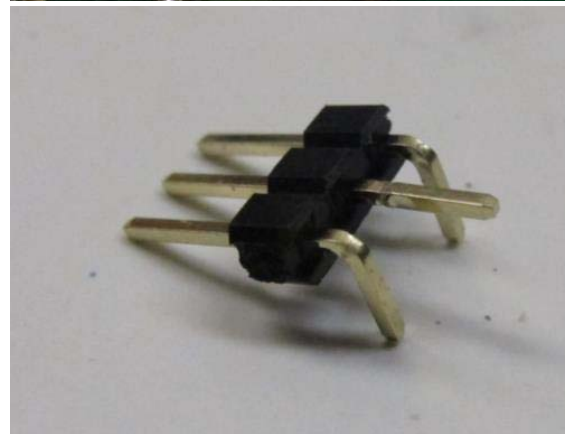


Addendum to H8 Speed Board Front Panel Mod. (Les' Board)

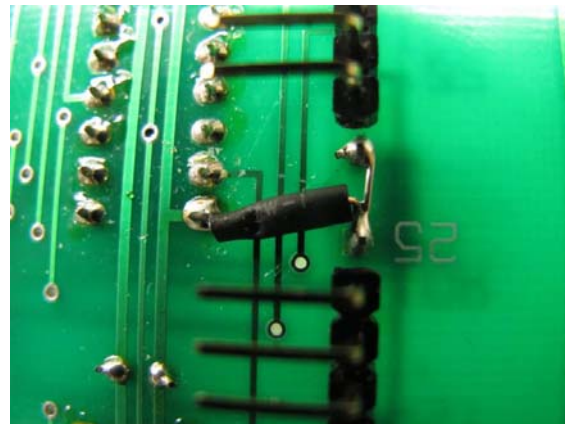
These instructions show a way to apply the front panel mod to maintain a 2 ms clock when using the CPU speed board if you are using the modern front panel design from Les Bird. We will be taking advantage of the fact that connector pins 24 and 25 are not populated on the card as seen at right. You can make the adaptation as follows:



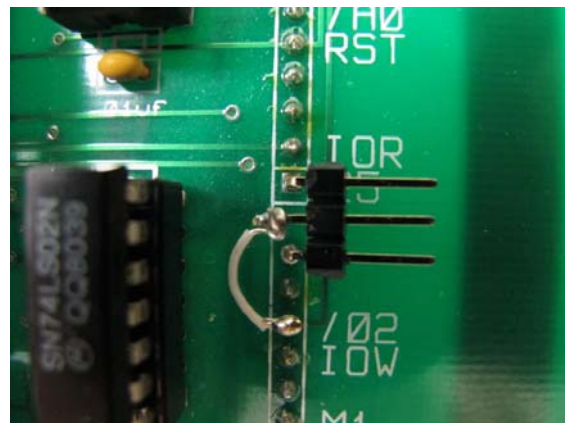
Take a three pin right angle connector and bend out the center prong, as shown above. Insert the connector on the front (component side) of the panel with the prongs pointing to the right toward the edge of the card.



Now working on the back, solder the two prongs to the solder pads for pins 24 and 25, and connect a short wire between both pins and going over to the ground connection on the adjacent IC, as shown below:

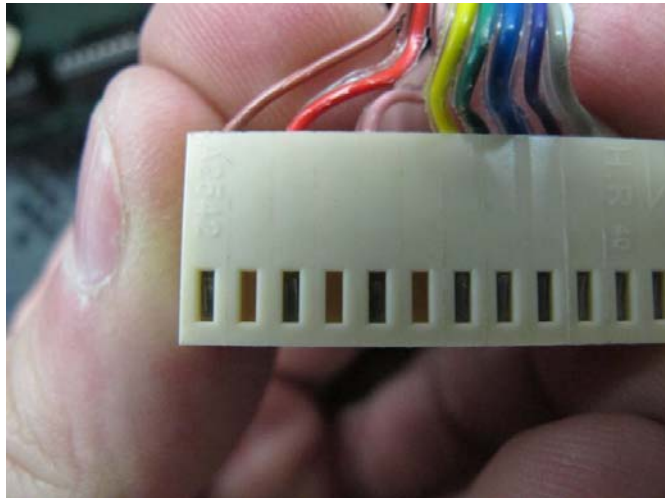


Now working on the front side of the panel, run a wire from the center prong (the one you bent out) over to the $\emptyset 2$ connection on Pin 22.



Addendum to H8 Speed Board Front Panel Mod. (Les' Board)

Be sure to move the connector wire that had been in Pin 22 to another unused location. I moved it up one to Pin 23:



After completing the mods to the speed board itself you can then install the shielded cable. Be sure that the ground side is connected to either the top or bottom of the three pins, not the center. Be careful when attaching the plug as the center prong may have a tendency to slide out – you may have to apply some backing force while inserting the plug:

