

Guide for some do-it-yourself correction and replacement for the DGT Electronic Chess Board

Version November 2012

Preparation: Accessing the Printed Circuit Board (PCB):

Disconnect the board cable. Place the board upside down, and remove the sticker(s) on the lid (the rectangular cut-out about 6 x 25 cm. in size), and unscrew the two screws of the lid. Take off the lid, and you will find a stack of isolation material and the green rectangular Printed Circuit Board (PCB).

A. Correction of the sensitivity:

It is quite easy to set the sensitivity to a good level. You have to open the backside lid, after disconnecting the board cable and look at the green Printed Circuit Board (PCB) that you find inside.

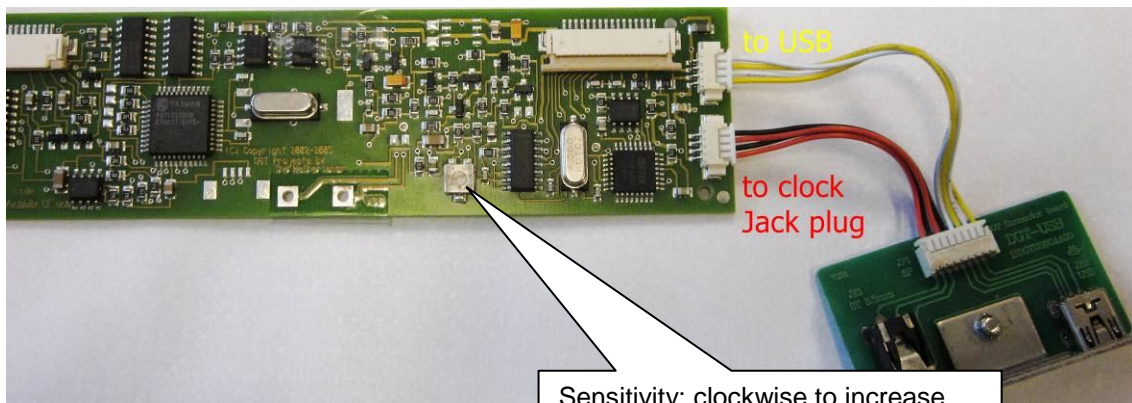


Figure 1 USB connected print board

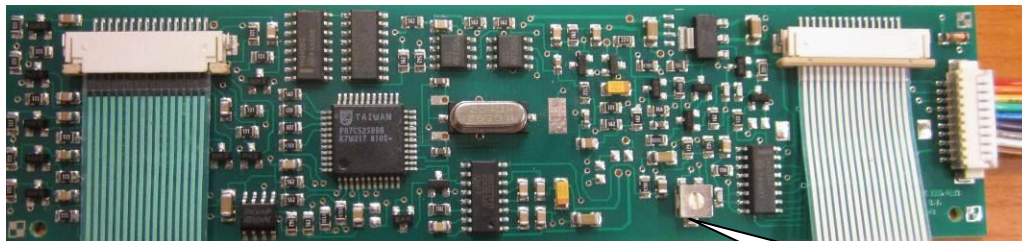


Figure 2 Serial connected print board

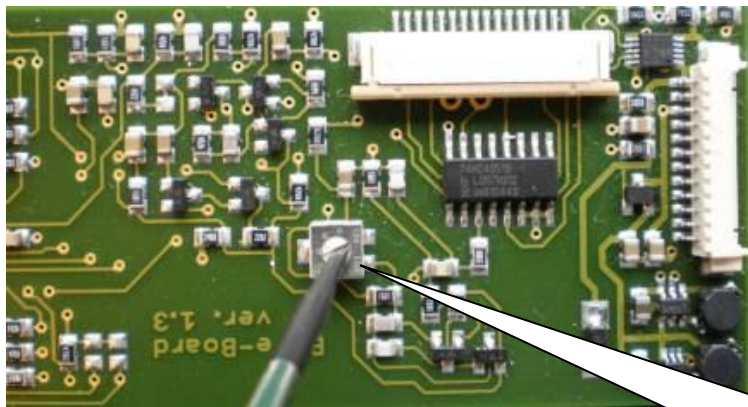


Figure 3 Bluetooth connected print board

Place your chess pieces in a position like in Figure 4. All pieces are on white squares, only one pawn per color is placed on a black square. The pawns that surround the empty white square should be placed close to the corner in the direction of the empty square. If the amplification is too high this empty white square is likely to show a “ghost” pawn.

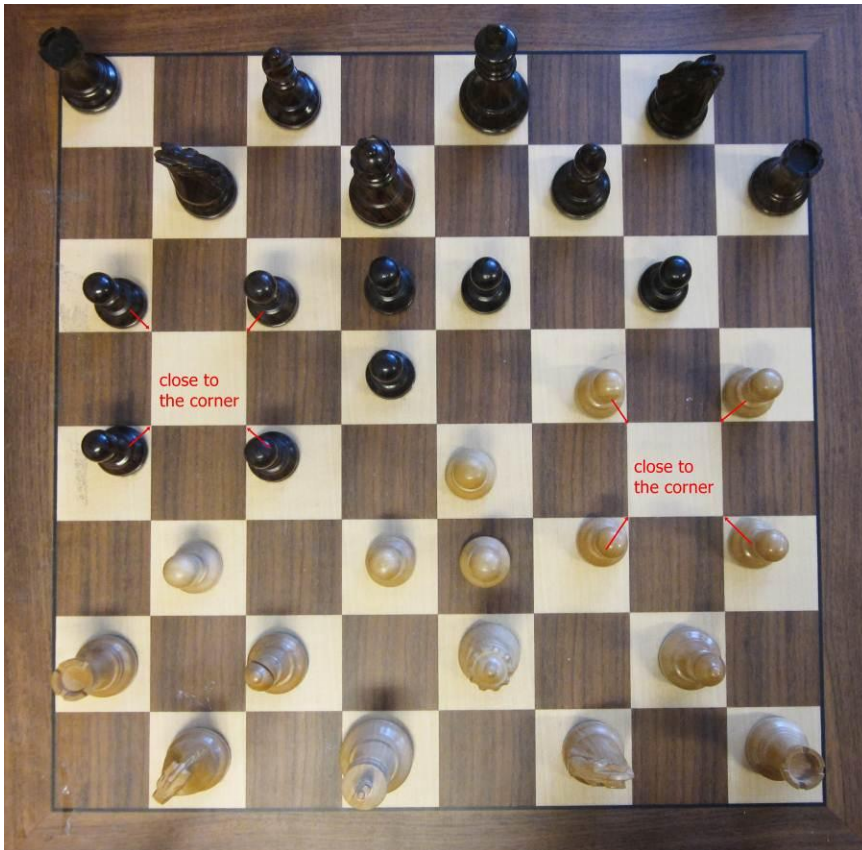


Figure 4 Testposition on the board

To be sure you can take a second test position with all pieces except one on all black squares, like in the screenshot on the right of Figure 5.

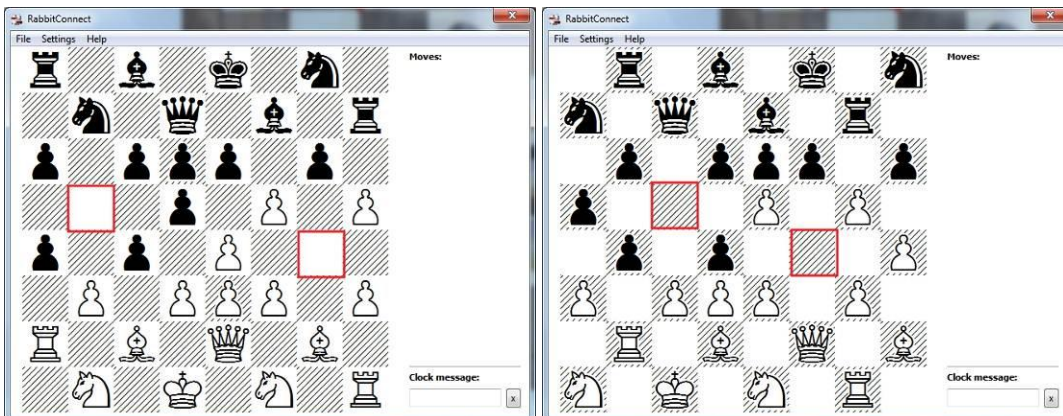


Figure 5 Correct output of the test positions

To increase the sensitivity: look at the component side of the PCB for a square part, size 5 mm x 5 mm, with a screw-slotted centre circle. With a small screwdriver, you may turn it clockwise (Bluetooth: Counterclockwise!) about 30 degrees (as on a clock, one hour distance for the short hand)

B. Checking, disconnecting or connecting the foil contacts

Please refer to the below drawings for disconnecting or connecting the foil contacts. As a first check, you must check if the contact strips of the sensing membrane are well attached to the PCB. The strips must glide into the corresponding connectors, some 4 mm deep. Check that the strip is fit perpendicular to the connector, and the pressing lids at the ends are well closed (see drawing C).



Figure 6 Foil to be inserted



Figure 7 foil inserted

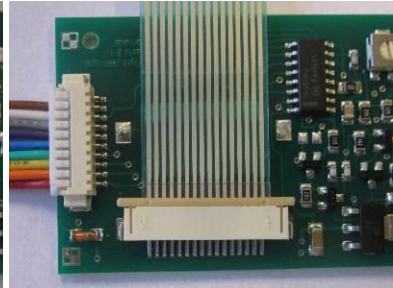


Figure 8 Lid closed correctly

Watch the above pictures carefully. You see a thin line on the foil that should be about 1 mm outside the connector when the lid is open. When the lid is closed this distance is about 2.5 mm. The contacts of the other connector are on the other side.



Figure 9 The other connector has contacts on the top side



Figure 10 shows a not correct closed lid and a foil that is not straight inserted in the connector. These configurations may result in one or more failing files or ranks

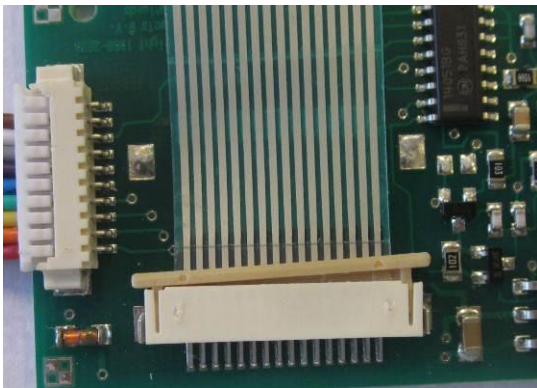


Figure 10 Incorrect connection of the foil in the connector

C. Taking out the Printed Circuit Board (PCB) for shipment:

From the PCB: Disconnect the connector with the colored wires, by gently pulling at the wires. (USB version: also disconnect the second 3-wire connector)

Disconnect the contact strips of the membrane, by sliding the small grips left and right of the contact strips away from the connector body. Now the contact strips come loose, and you can take out the PCB.

If it must be shipped, pack it in foam or an other protective bag.

Replacing the “Hirose” USB side connector

1. Open the lid on the bottom side of the board,
2. Disconnect the two coloured cables from the short edge of the printed circuit board (pcb)
3. Loosen the screws on both ends of the metal connector plate.
4. Remove the connector plate carefully.
5. Pay extra attention to the wires on the jack plug for the clock connection
6. Loosen the 2 small screws on the side connector about 5 turns, it is not necessary to remove the black plastic item entirely.
7. Remove the old USB connector
8. Insert the new connector in such a way that the green pcb is on the longer side without the round edges.



9. Put the wires back in the board and pull the wires of the USB connector to the electronics compartment with a bent paperclip if it doesn't appear automatically. Be careful not to damage the antenna foil with the paperclip.
10. Reconnect the coloured wires as in the drawing in part D or look at the picture above.
11. Be very careful with the wires on the round jack plug.
12. Mount the side connector screws.
13. Check if the connection foil to board is OK.
14. Put the larger foam under the pcb and the smaller on top.
15. Close the lid of the board.
16. Test your board with the DGT board Tester or Rabbit Remote
See instructions above for a good test set-up.