



it's a whole new game!

Ticking Relay in backbox

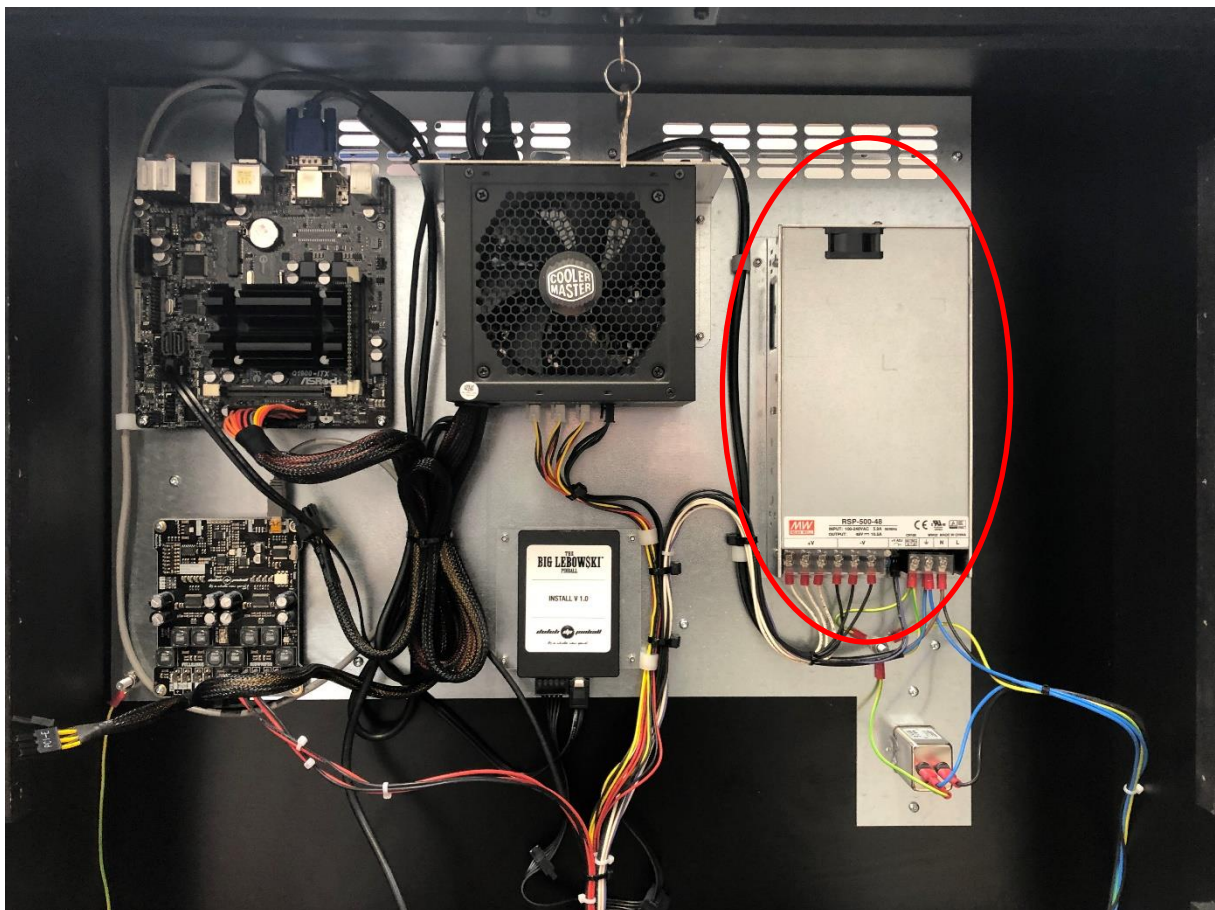
Caution:

If you are not comfortable working on pinball hardware and/or high voltage electronics, please get professional support for this. In general: use your common sense. Don't experiment. Don't be a nihilist. Only skilled and trained people are allowed to open this system. The manufacturer accepts no responsibility for injuries caused by unauthorized operation. Keep long hair, fingers, jewelry, etc. away from turning parts of the system.

Issue

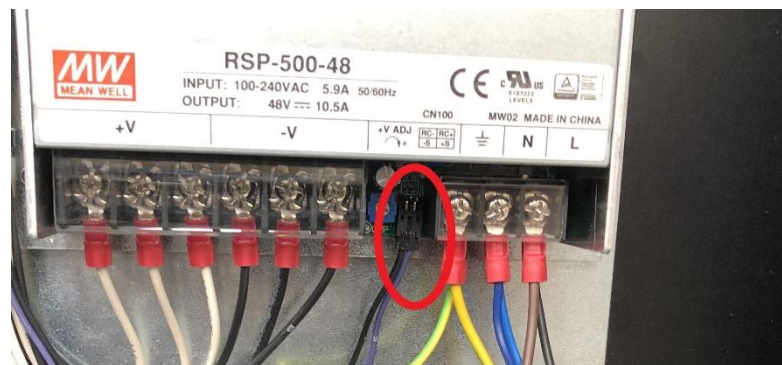
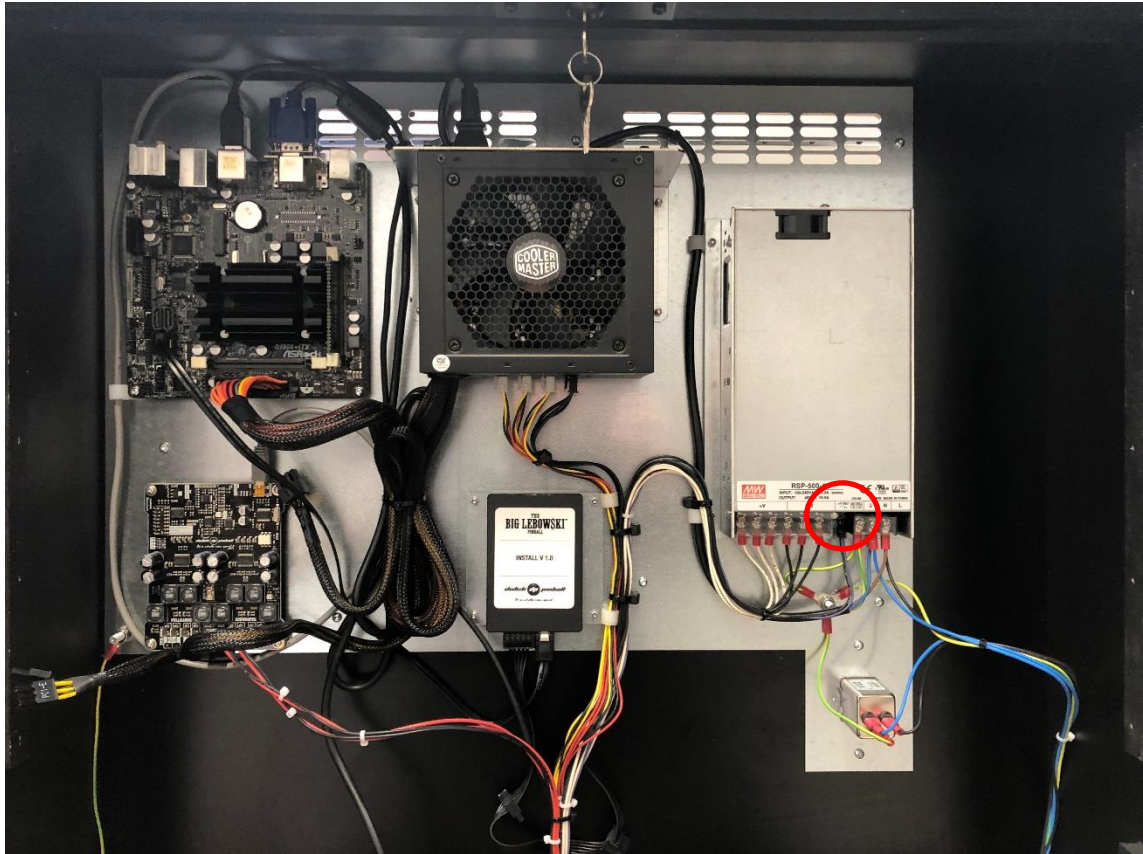
In a batch of TBLS's it was noted that there is ticking/clicking sound coming from the backbox. Prior to reading this Support document, please check first if this ticking sound does come from the backbox and in fact from the Power Supply (PS) which you find on the right side. If yes, what you are hearing is a security relay switching off-on the 48V (and 12V) power to the playfield and this document is applicable to you.

At the moment of writing this manual its unfortunately still not exactly clear what is causing it. So far in one case replacing PROC helped (owner also had done the measurements at the end of this document and they showed an error) and one not. In this latter case it **appears** to be intermittent and that fiddling with the wires made a difference. Also till the moment of writing this support doc all reported issues have come from US, none from Europe.



Questions-Remarks

1. Does this ticking sound disappear when you remove this small black connector?



If not, the power supply itself is likely broken. If yes, it's the controlling circuit

Till cause is found the removing of this connector can be used as a 'hack'. Eg remove it so the game becomes playable. **However, please do note that now safety is off eg if you open the coindoor 12 and 48 VDC will still be present on the playfield!! So, be extra careful!!**

2. Open the coindoor after booting and during attract mode. If you go into the test menu and play a little with the menu with + - buttons and exit, close coindoor, has ticking sound disappeared? There is a user who has it disappear after using coindoor buttons
3. Is the clicking sound only there during attract mode and you can start-play a game or is the whole game unplayable?
4. The connector in the backbox has already been reseated in step 1 but there is of course also another side of that cable which is below the playfield. To check this as follows:

Make sure the game is **TURNED OFF!**

Step 1 – Raise the main playfield

- Carefully remove the lockdown bar and playfield glass.
- Remove all five balls from the Ball Trough!
- Lift the playfield a bit and pull the playfield a bit towards you as soon as the playfield support brackets are high enough to do so and rest the playfield onto the front of the cabinet on the playfield support brackets:



- Now we need to raise the playfield to vertical position. Lift it up at the servicebars, pull it towards you till you hear two clicks (this means the locking mechanism is in place and the playfield can't drop in the cabinet). Now set it vertical. Let it carefully touch the top part of the backbox, this to avoid damage. You can put something in between like a cloth to reduce the chance of damage even further. To make sure it doesn't drop on your head while working on it, it is recommended to secure it with a strap. Also, we recommend putting something over the bowling alley to avoid screws falling into it.

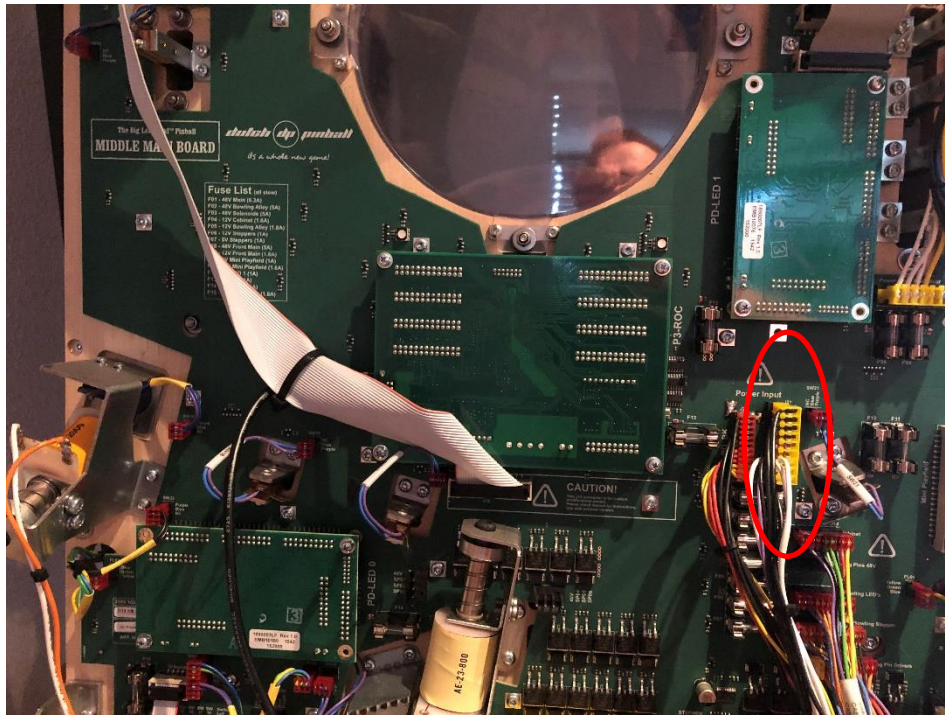


Step 2 – Remove any built-up electrical charge in your body

- Touch a siderail
- Note: we assume your TBL is still connected to a grounded wall-socket !
If not, touch another spot which you know is grounded



Step 3 – Locate the connector (it's the yellow one in the picture)



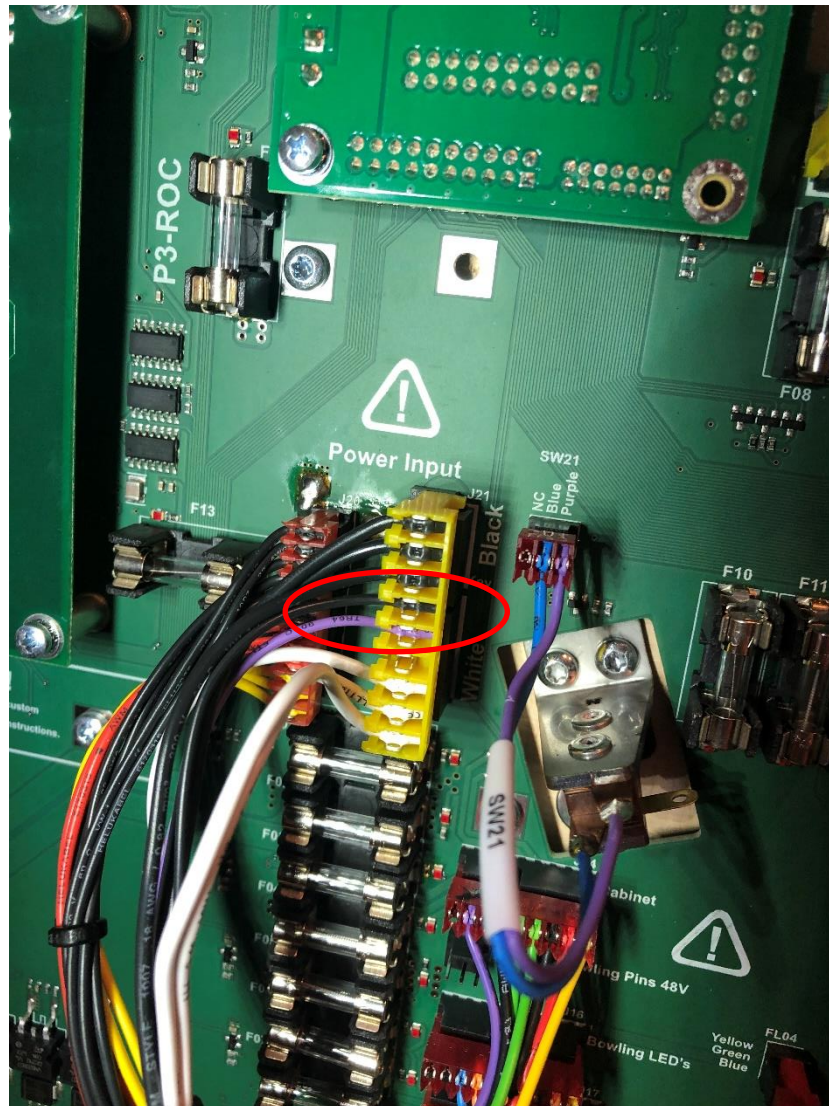
Step 4 – Remove and reseal the connector

Step 5 – Place playfield horizontal again

- Turn on your TBL and check if sound has disappeared
- If OK insert the playfield glass and enjoy your TBL!

Step 6 – Check connector and wiggle wires

- If not raise playfield again but now with TBL turned on (so be extra careful)
- Check if the wires are as in enclosed picture (so black above purple). Wiggle with the wires to see if clicking noise disappears yes-no



5. If all of the above hasn't worked time for some electronically checking. This is for the a little more tech savvy.

To activate the coils / stepper motor drivers on the big board (Middle Main Board, or MMB), there's a security circuit on the MMB which checks the coin door switch. When the door is open 48V will deactivate and vice versa.

There are also two outputs on the P3-ROC that are a logic 1 and a logic 0 if the software is running correctly. If this is not the case, the security circuit will also disable coils and steppers.

To test this the game must be on and running the software (attract mode on the display, or light show running). See in above instructions how to raise playfield vertically.

Step 1 – Use a multimeter and put it in 'Volt DC' mode:



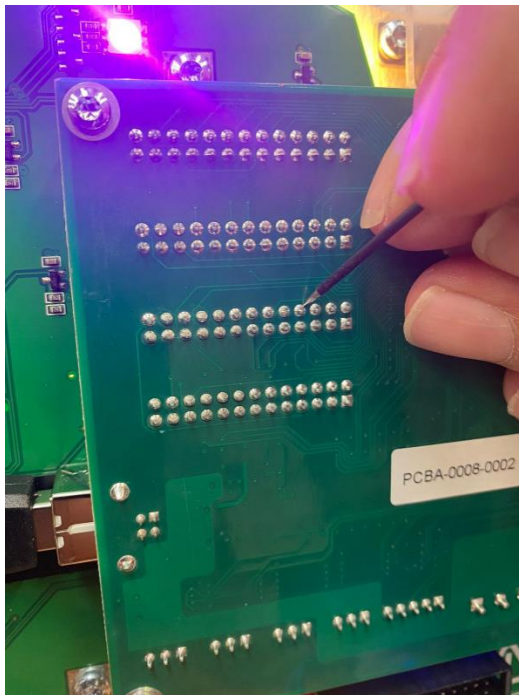
Step 2 –If possible hook the COM on a metal part that is grounded like this:



Please make sure not to make a short circuit !

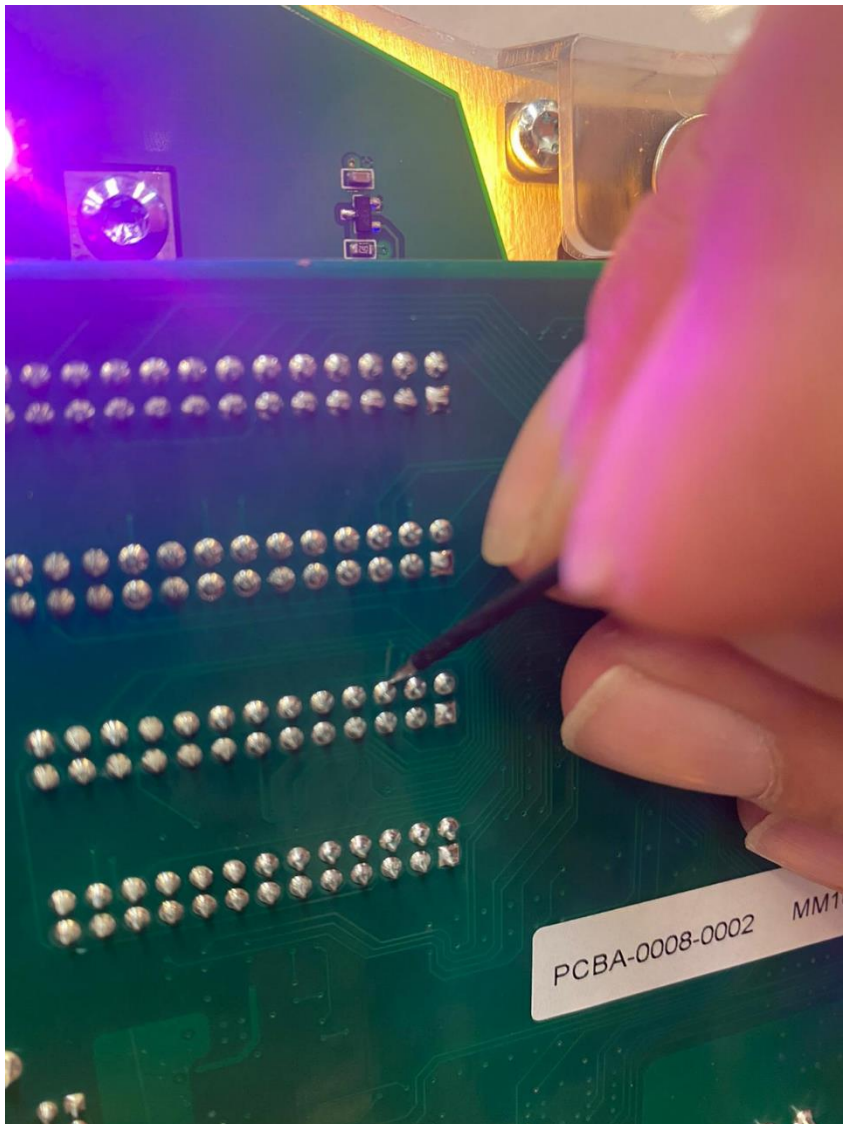
Step 3 –Measurement 1

On this pin on the P3-ROC the multimeter should measure 3.3V (logic 1):



Step 4 –Measurement 2

On this pin on the P3-ROC the multimeter should measure 0.0V (logic 0):



Please report these findings to DP.

If these findings are not OK likely PROC is broken. Please consult with DP. There is a separate instruction available how to swap the PROC.