

EMPEG Fuse Replacement

Problem Symptoms:

- Garbled display (see picture below).
- Player shutdowns immediately after completing the normal boot process.



One day, right after I started my car, my player developed these symptoms. After inquiring about this on the EMPEG Discussion Forum, Mark Lord and Tony Fabris helped me identify the problem. In my case, the problem was that one of the three fuses on the mainboard had blown. The exact cause of this is currently unknown, but this seems to be a rare occurrence. I had this particular player installed for 6 months or so before this happened. No warning signs... and the player had never been opened. After replacing the fuse, everything seems just fine and I am hoping it won't happen again (but I bought surplus fuses just in case).

If you have similar problem symptoms and want to check this fuse, you'll need to open the player and test the suspect fuse for continuity.

WARNING: Removing the top cover will void your player warranty. If your player is still under warranty, your best bet is to have this fixed by EMPEG/RioCar. In my case, my warranty had expired, so I decided to replace the fuse myself. You may want to consider having it replaced professionally if you are not confident about the procedure or have never replaced surface mount components before. If you screw up, your player is at risk. And of course, I accept no liability if you try this and things don't go as planned.

Checking for a Blown Fuse.

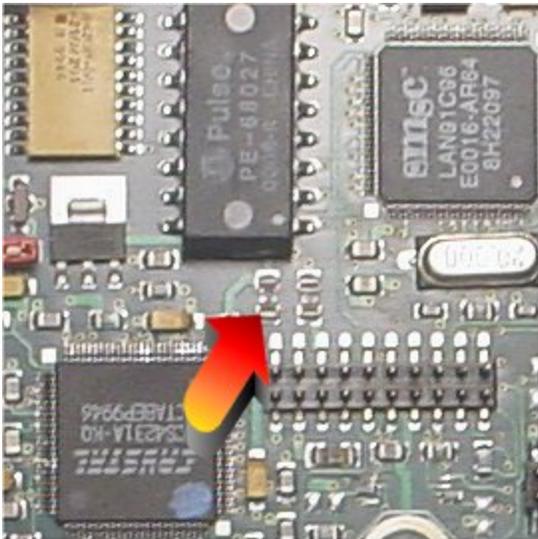


You will need to remove the face (four Allen head screws), pop the knobs and buttons off, slide off the lens, and then remove the player cover.



Next, remove the drive tray assembly (two screws on either side of the player).

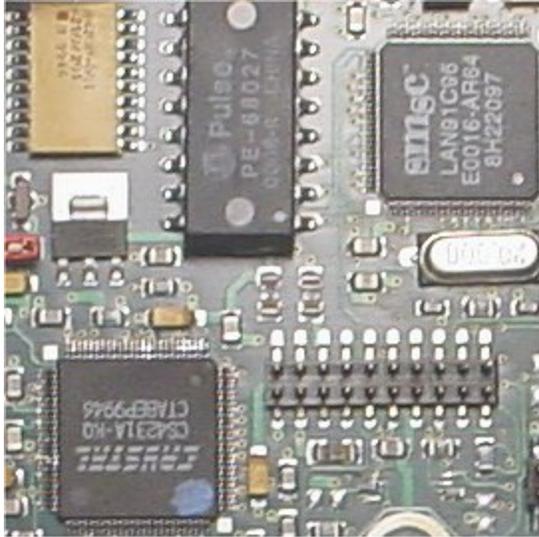
If you are attempting this, I am assuming you have probably taken a player apart before, so I kind of breezed through the player disassembly. However, if you want to see a detailed description of these steps, check [this drive upgrade procedure on RioCar.org](#) which covers the above steps in excellent detail (including a video clip that shows how to remove the top cover).



The red arrow in these two photos show the fuse that is most likely to have blown.... and yes, that is a fuse :).

Check for continuity across the fuse with a digital multimeter. Of course, no continuity means this fuse is blown.

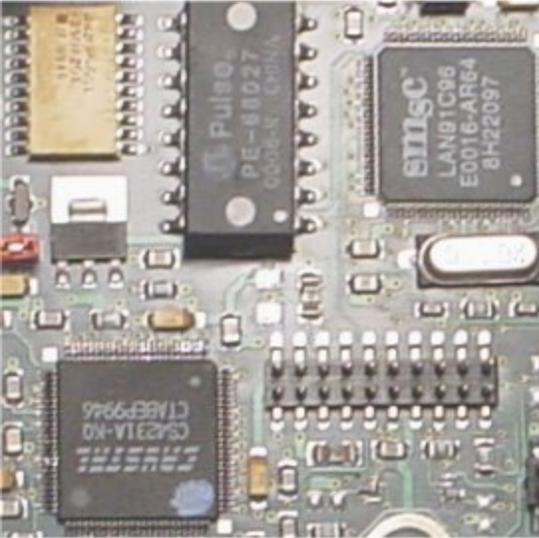
So you need to replace the fuse?



Of course, you will need to get a replacement fuse. Per the responses on the EMPEG Discussion Forum, the correct fuse is a 1 Amp fast-acting 1206 surface mount fuse. I ordered a [WK4661CT-ND](#) fuse from [Digi-Key](#). This fuse has the specifications above in the correct form factor. However, it turned out to be a different color than the original.

I suggest to start by removing the display board connector (just below the fuse) to make a little more working room.

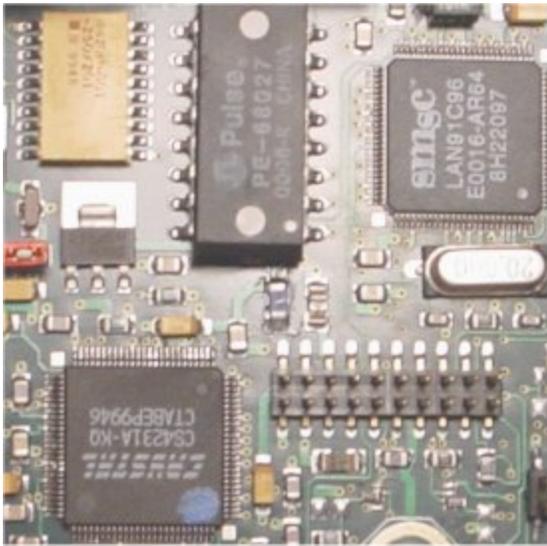
I used desoldering braid to remove the old solder from the two board/fuse junctions.



With the excess solder removed, it was a little easier to heat up the fuse and remove it from the board.

Be very careful not to overheat anything... too much heat can destroy the printed traces on the circuit board (and the fuse, if it weren't already bad).

Next, put the new fuse in place. I used needle nose pliers to get the fuse in the general vicinity and then used a small screwdriver to nudge it into the final location.



And finally, solder the fuse to the board. Light pressure from a screw driver can be helpful to hold the fuse in place during soldering.

Try to keep the solder time down to a couple seconds maximum. If you don't get it the first time, just stop and let everything cool down, and then try again.

And that should be it. Reconnect the display board, and reinstall the drives. Check for proper player operation before putting everything else back together.