

Logitech X-530 5.1 Speaker patching/repair

The Logitech X-530 is a 5.1 speaker system was sold by Logitech around the year 2005. This system had a great price/performance ratio – but it came with one annoying design flaw. Here is what I experienced with it:

- ➔ Turning the volume to minimum you were able to listen to foreign shortwave radio stations
- ➔ Switching nearby lights on/off creates a loud “popping” sound on the speakers
- ➔ I use powerLAN in my house, therefore I heard static in the lower quarter of the speakers volume range (on the potentiometer knob) – this got louder the more I downloaded or used bandwidth

Other users experienced an additional static noise when turning the speakers louder, and so on. This affected users worldwide. Logitech first denied a flaw in their product, but had to ultimately admit it and was granting refunds.

[Sources: 1. <https://forums.logitech.com/t5/Speakers/Popping-and-Humming-sound-Shielding-issues-Logitech-Audio/td-p/21946>

2. <http://jdc.koitsu.org/logitech/> (search for X-530 on the page)]

This instructable should guide you through the patching of the speaker to (at least in my case) eliminate all disturbing and unwanted noises from the speaker system.

Thanks to following sources for guiding me to the solution of this problem:

<https://forums.logitech.com/t5/Speakers/x-530-buzz/m-p/880286/highlight/false#M29885>

http://pinoutsguide.com/Home/logitech_x530_front_pinout.shtml#

You will need:

- The satellite speaker with the volume control knob on it
- a phillips PH1 screwdriver
- a flat screwdriver
- a short wire
- soldering iron
- optional: soldering flux and soldering agent, multimeter

Difficulty level: Beginner

Time needed: 1 ½ h (including testing, dis-&reassembling)

Disassembling



The satellite speaker, which has to be patched (out-of-the-box the front right one).



Remove the net cover carefully with the flat screwdriver. Start by prying it apart at the edges marked by the red arrows. Continue at the position of the green arrow. Advance until it comes off. Afterwards the plastic cover on the right side of the picture will come off on its own.



Remove the screws with the phillips screwdriver on the red arrow positions. With the help of any screwdriver you can now open the speaker.

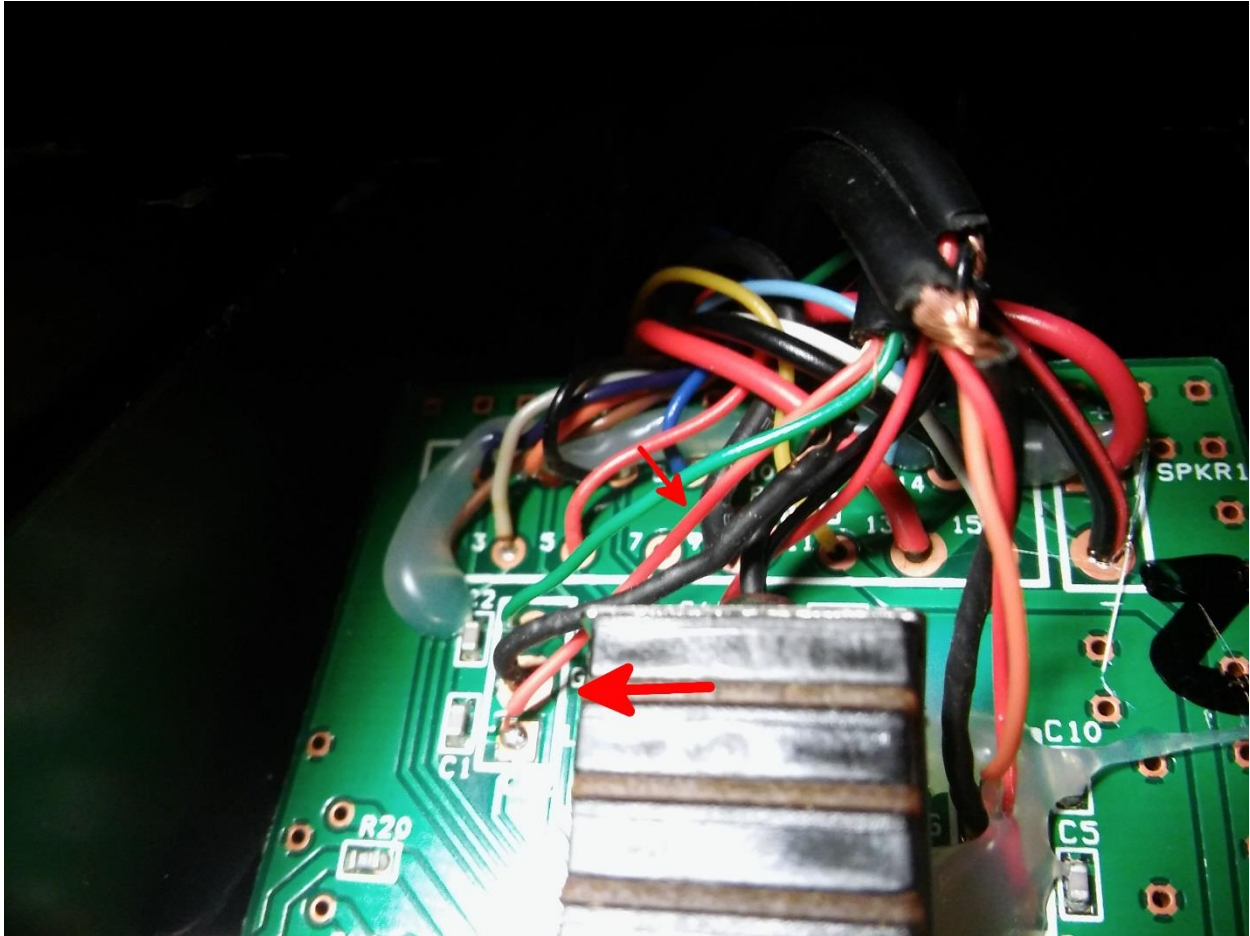


The speaker inside. Note that the circuit board is placed at a slight downward angle inside the speaker. The circuit board is not glued onto the housing but is held in position by notches on the black and white part of the housing (shown in one of the last pictures).

Patching

The patch includes connecting the ground/shield from the 15-pin HD D-sub interface to the ground/shield of the 3.5 audio jacks. The ground/shield from the D-sub interface is located on pin 10 (green cable) and pin 9 (thick black protected copper wire). It doesn't matter which one you use, because they're electrically connected. I recommend soldering onto the pin 9 pad, because it's easier to reach and solder. The ground pins of the audio jacks are also connected electrically to each other.

All we need to do is to solder a wire between these in order to connect the two ground/shielding domains. For reference see the pictures below.

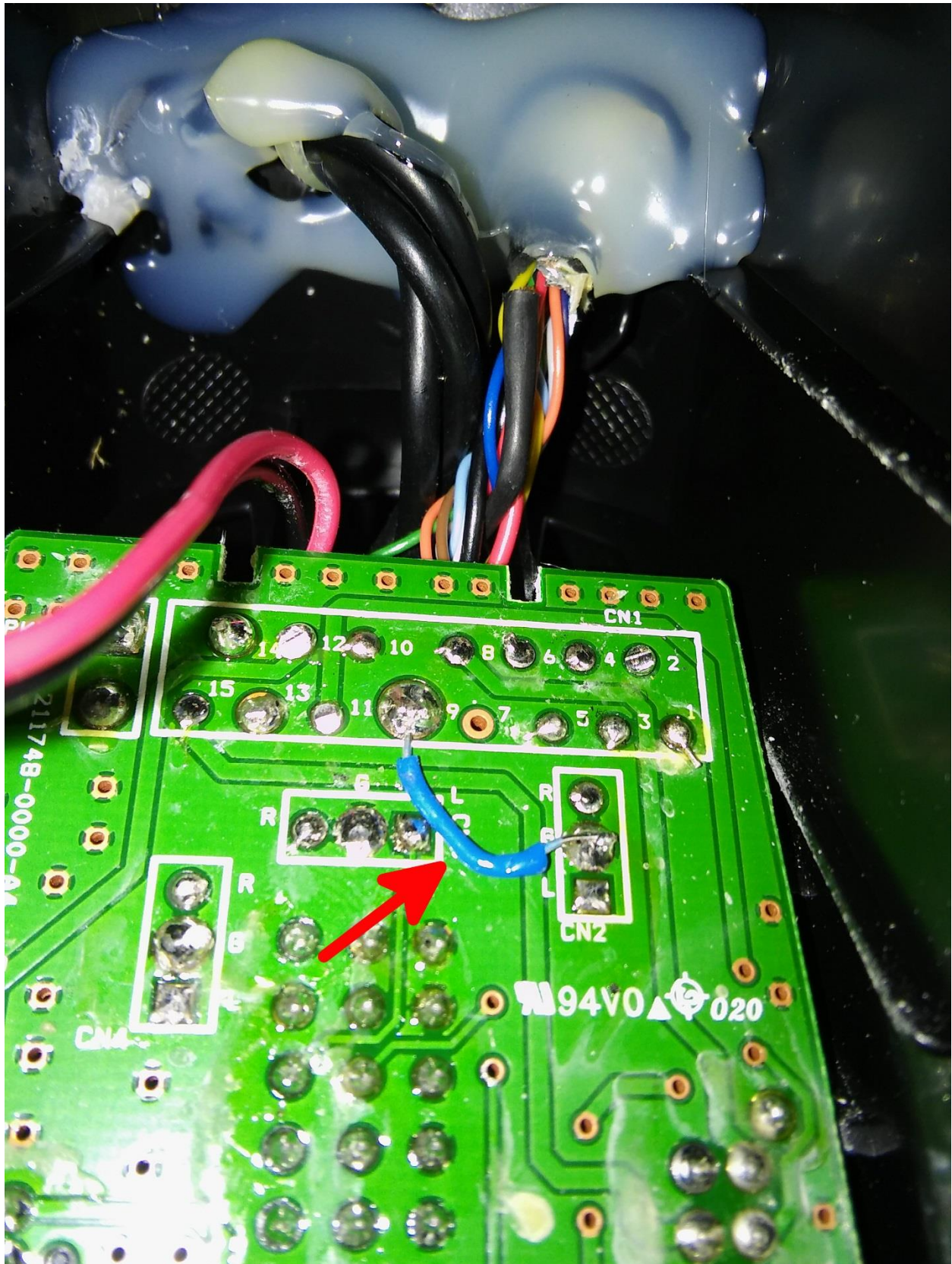


Top arrow: pin number 9 of the 15-pin HD D-sub interface

Bottom arrow: one of the audio interfaces with left (red) and right (green) and ground (black)



Solder pin 9 to any "G" marked pin of one of the channel.

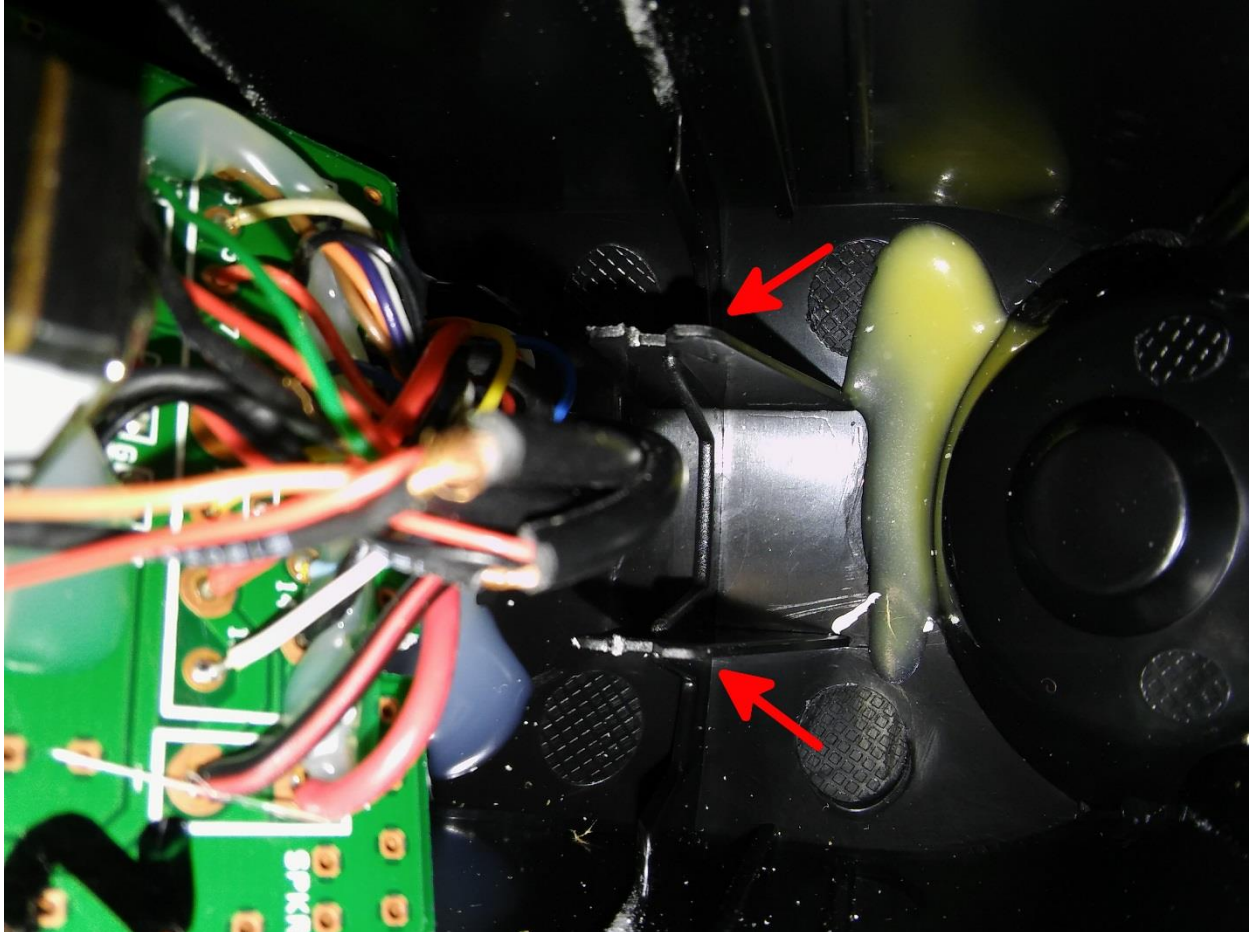


The patch applied. (I admit the soldering's not pretty)

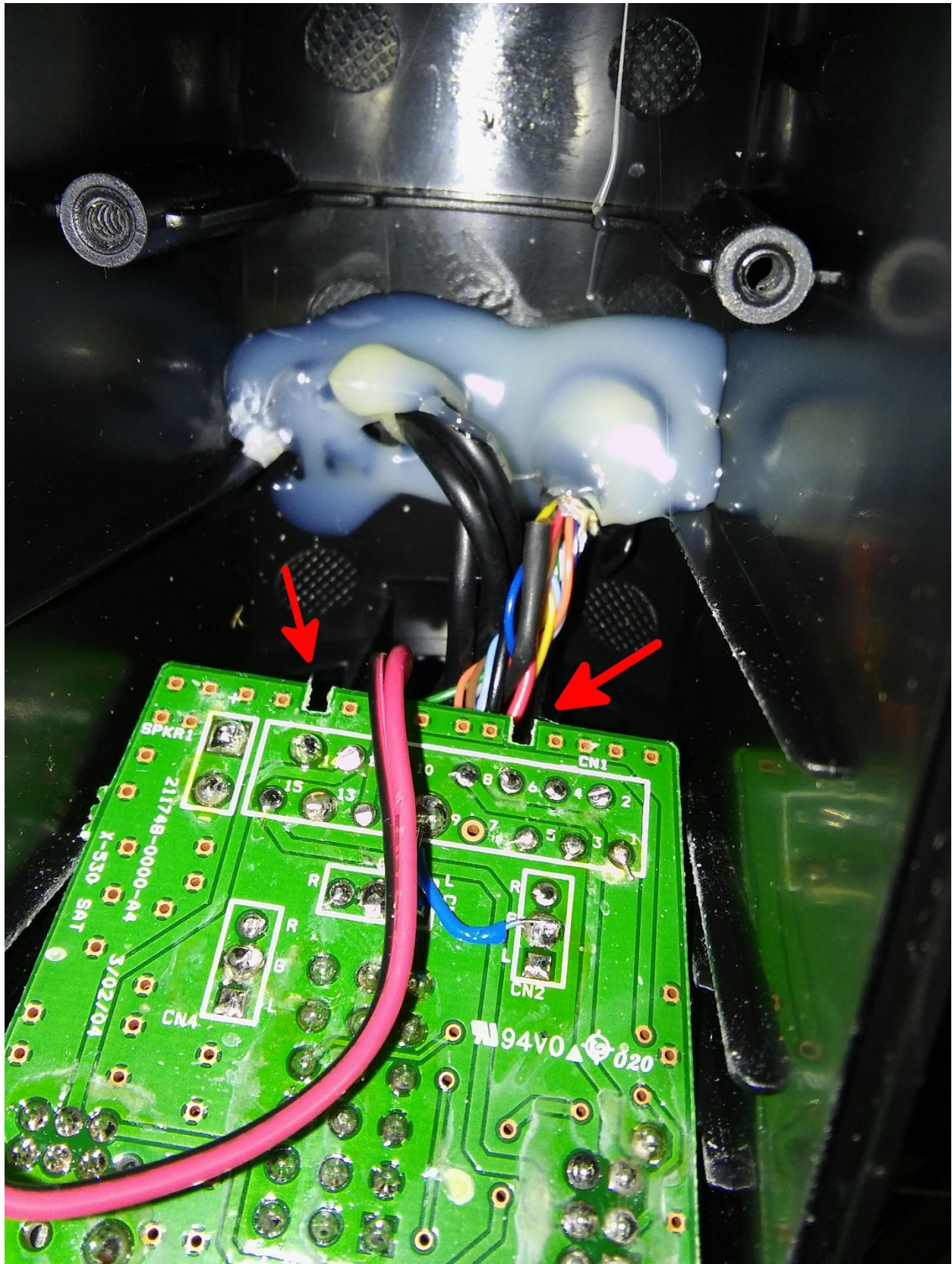
Reassemble

One word of wisdom here: Test the speaker before completely putting it back together. Optionally you can also check your work by a continuity test on the connectors with a multimeter.

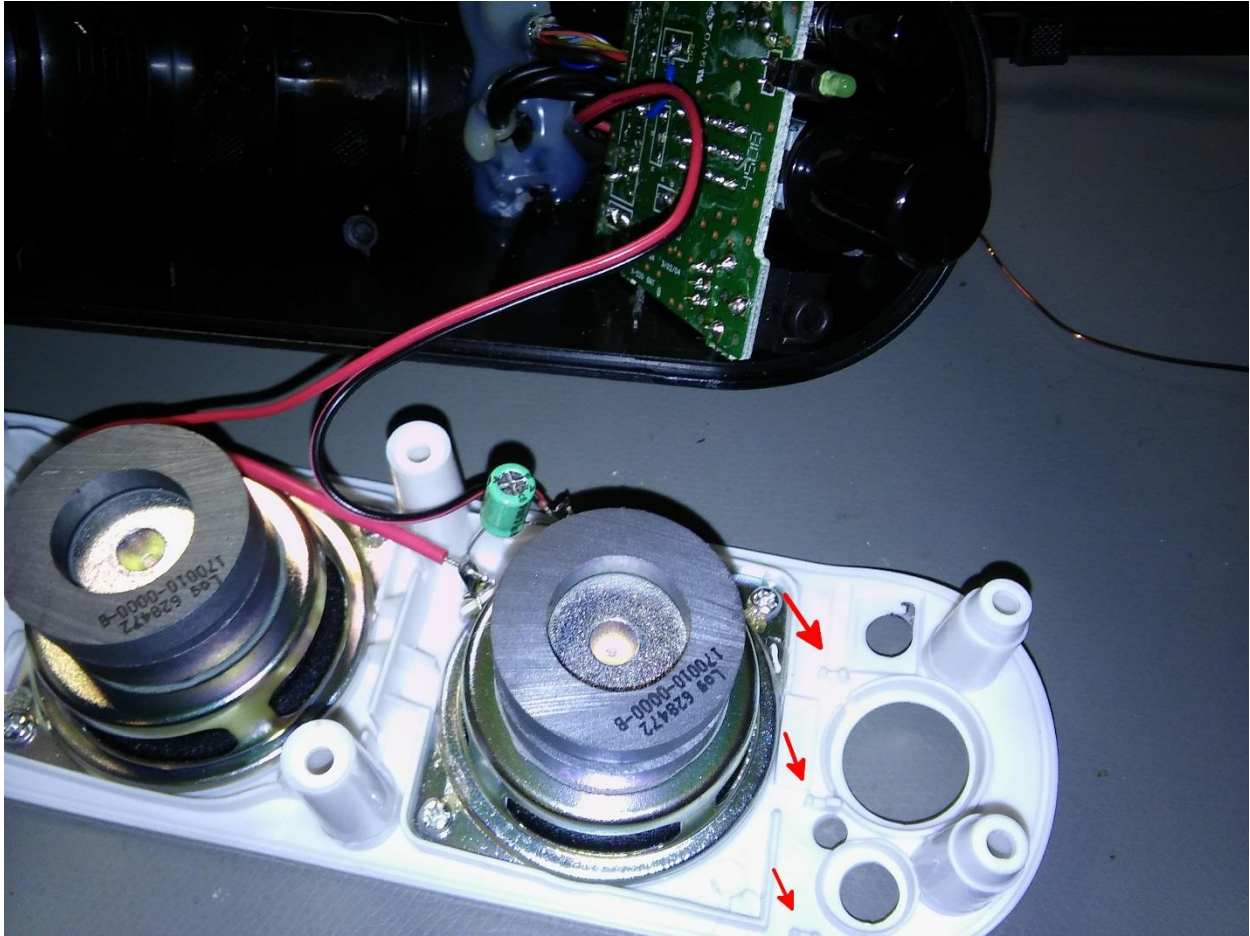
Carefully reassemble the speaker. Note that the circuit board has to be inserted in the notches in the back and in the front.



Notches on the back part. These must fit onto....



...the notches on the circuit board.



Notches on the front speaker cover. The board has to fit onto these on closing it.

The last steps after closing it are:

Put the screws back in.

Put the small plastic cover on the lower part.

Put the bigger net cover on the upper part.

Last step

Have fun with you speakers again.

OR: leave a constructive comment below if you wish to improve this instructable of if you want something to be added to it.