



Installation instructions for the PAM8302A

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I. General

Occasionally there was the problem with the original sensor board that interference got into the OpenVario via the speaker and the amplifier that is built into the sensor board. The interference always occurred when the radio was being used. Pressing the send button did not trigger the error, it also had to be spoken. The result was completely nonsensical climb rates that varied from 99m/s to -99m/s. It also happened that the sensor board was no longer sending any values to XCSoar, so the I2C bus obviously crashed. To solve the problem, it is recommended to remove the original amplifier on the sensor board and replace it with a PAM8302A. The Adafruit 2130 developer board can be used for this. In addition, a shielded chinch cable should be used to connect the OpenVario to the speaker.

Another source of interference are sensors that are connected to the I2C bus via the RJ11 connector. If they are connected with an unshielded cable, the same errors described above will occur.

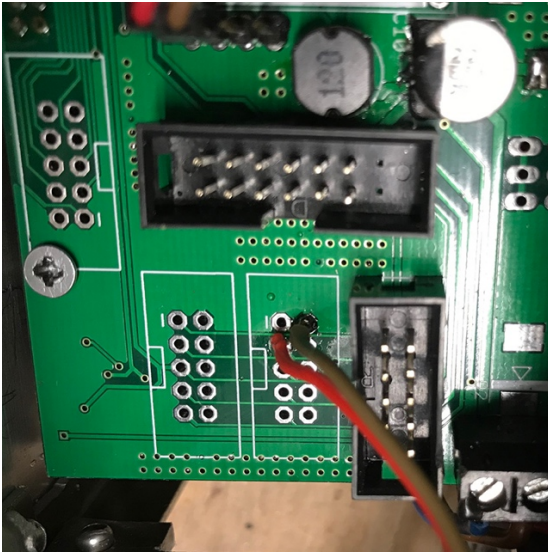
II. Installation of the Adafruit 2130 developer board

1. Removes the SD card from the card slot. I had problems with the image after soldering!
2. Remove the sensor board and remove the amplifier with a hot air soldering iron. Make sure that no solder bridges form between the contacts!

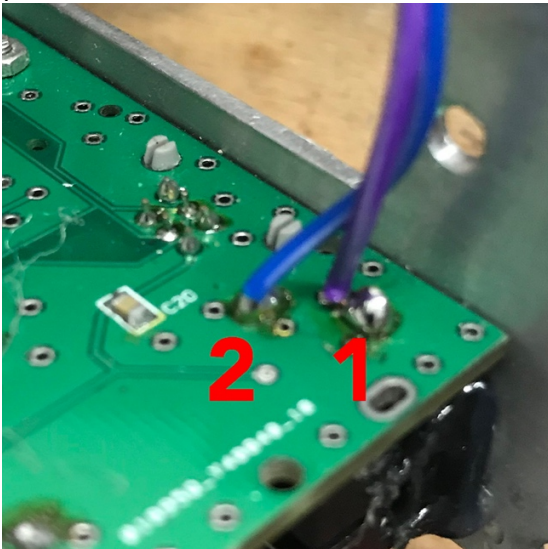


3. Solder the included pin header and screw contacts to the Adafruit 2130 developer board.
4. Place the Adafruit 2130 developer board somewhere in the case where there is space. I used the detachable Dual Lock Velcro tape from 3M for this.
5. Put a long enough jumper cable on the pin header at the connections GND, Vin, A + and A-.

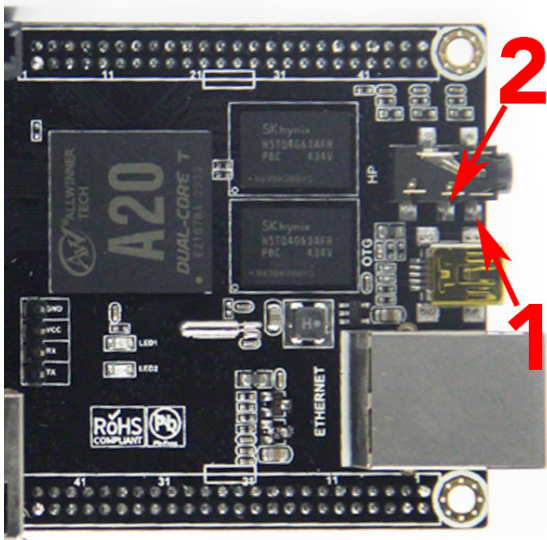
- Solder the cables for Vin and GND on the adapter board to the positions marked in the photo. Here in the picture the brown cable is connected to GND and the red one to Vin.



- Tighten two cables to the screw connections and lead them to the cinch socket on the sensor board. Solder them as shown in the picture. The connection marked with a minus is soldered to position 1 and the connection marked with a plus is soldered to position 2.



8. Solder the cable for A + to position 1 marked in the picture and the cable for A- to position 2 marked in the picture.



9. Now you can test your new amplifier. If there is no sound from the speaker, you have probably forgotten to remove the SD card from the card slot. Install a new image on the SD card and restore your data backup. Then you should hear a sound again as usual.