

For Soniqcast Aireo SQ-1000 WLAN MP3 Player: Modification to increase the transmit range – Do It Yourself



WARNING: Opening and modifying your Aireo voids warranty and may be illegal. There are strict regulations for FM transmitters. Performing the shown modification is SOLELY at YOUR OWN RISK. You take the FULL RESPONSIBILITY for what you are doing. We show you, what can be done in theory, but WE TAKE NO RESPONSIBILITY WHATSOEVER for any damages to the player or consequences of this modification.

Needed tools and materials:

Soldering iron with fine tip and some solder
Some magnet wire or (coated or insulated) simple flexible telephone wire
Small philips-head screwdriver
Tweezers or small needle-nosed pliers

Have fun studying this documentation and don't forget, that you may void your player's warranty when you open it up and modify it. Also be advised that this is NOT a tutorial to instigate illegal actions. It is a study we performed to see what is theoretically possible.



Remove the four screws as shown with the screwdriver



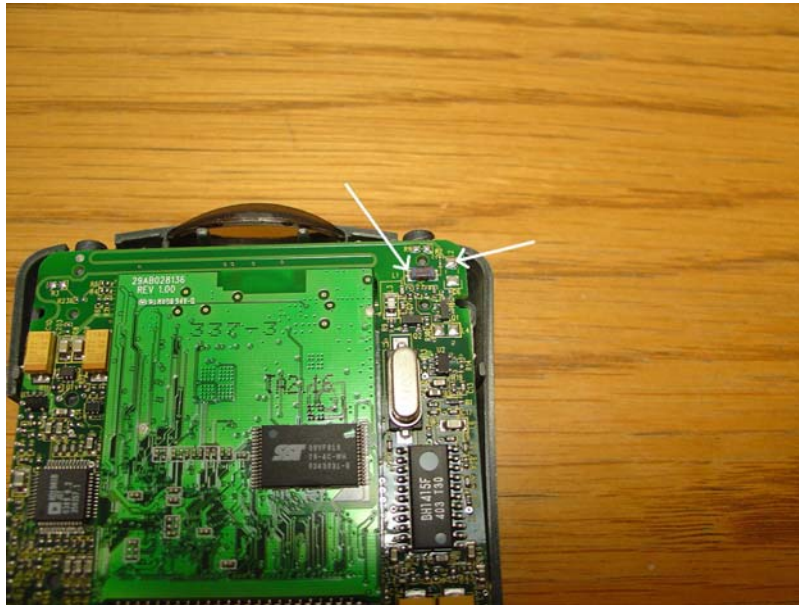
Carefully flip the back of the player open. Pay attention to the wires! There is a wire to the Wi-Fi antenna and two wires to the battery.



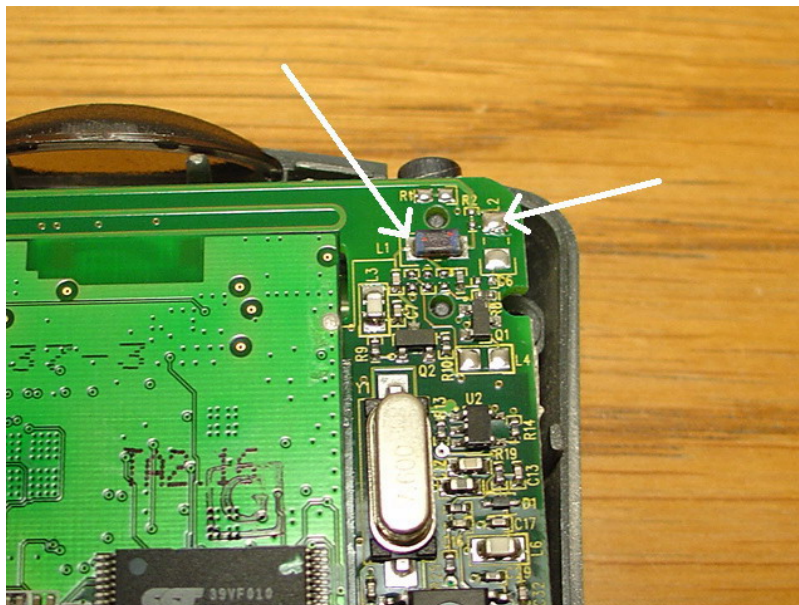
Take the main board out of the front part of the housing by carefully pulling it off the maked white connector.



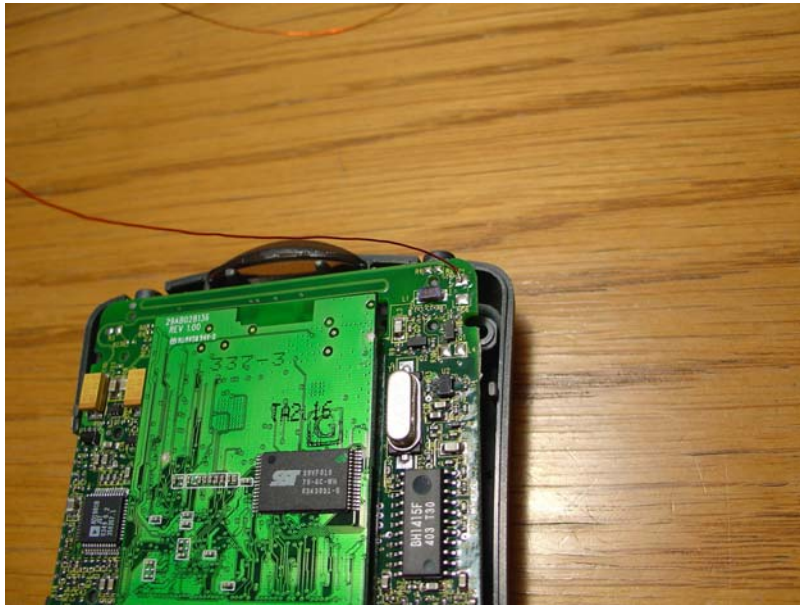
Flip the main board over and place it in the back part of the housing, so the front is facing up, as shown.



Locate the marked soldering spots. They are labeled „L1“ and „L2“.



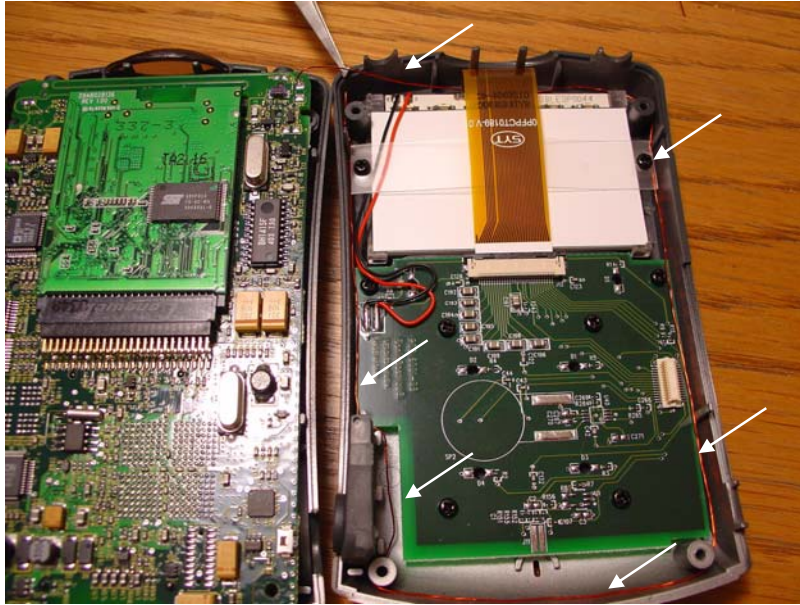
Zoom of the above picture. It is important where our wire will be soldered to, since L2 will give some boost in range whereas L1 will give you the maximum possible range. But beware to not overlay, see last picture!



One way to improve the transmit range is to solder the wire to L2 (or L1) and place it inside the player's housing.



Place both halves of the housing side by side.



Carefully run the wire using a pair of tweezers or needle-nosed pliers around the housing as shown. The longer the wire is, the better.



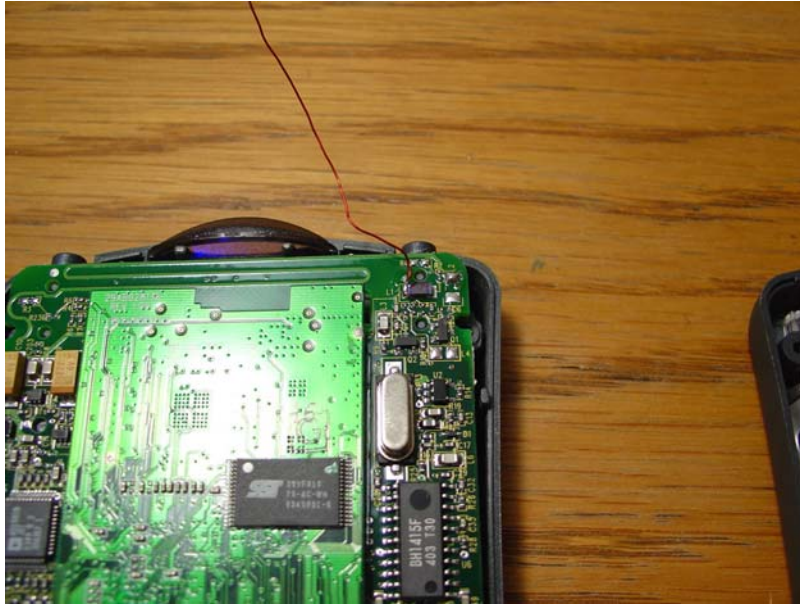
Place the main board back into place and make sure the white connector is put back in place. After that you must press the marked RESET button once to reboot the player. Otherwise the LCD will stay blank. Close the housing and screw the four screws back in.



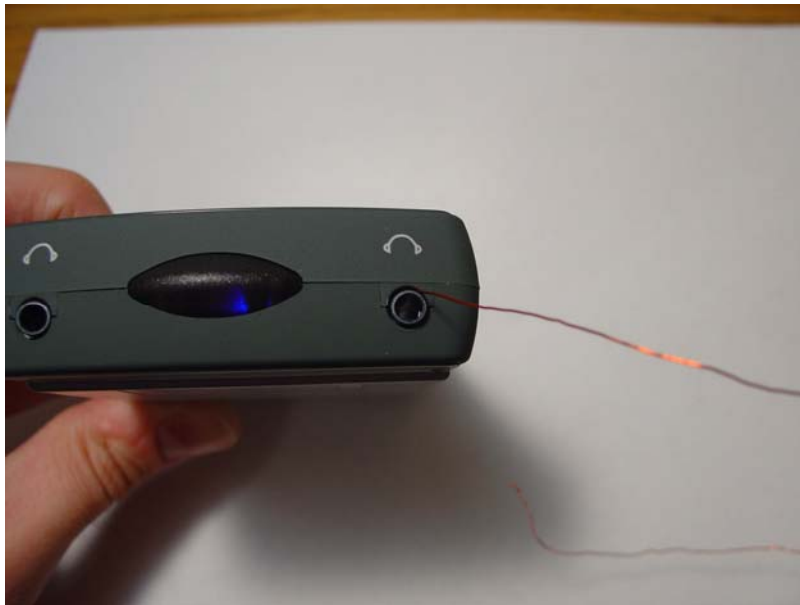
DONE. Your new antenna is invisibly hidden inside the housing and will boost the transmit range from about 3-4 feet to about 50 feet.

That should be enough for most cases, if you just need a little bit of an extra „kick“ out of your transmitter, eliminating some annoying interference noise while driving with the Aireo on the passenger seat or in the glove box.

Coming up is the modification for „power users“ who can take the responsibility of having a little radio station in their pocket! In some cases it is possible to interfere with „real“ radio stations over distances of 150 feet! Be aware that this could have consequences, if you, for example, annoy your neighbors or someone driving in front or behind you on the highway with your little „pirate station“.



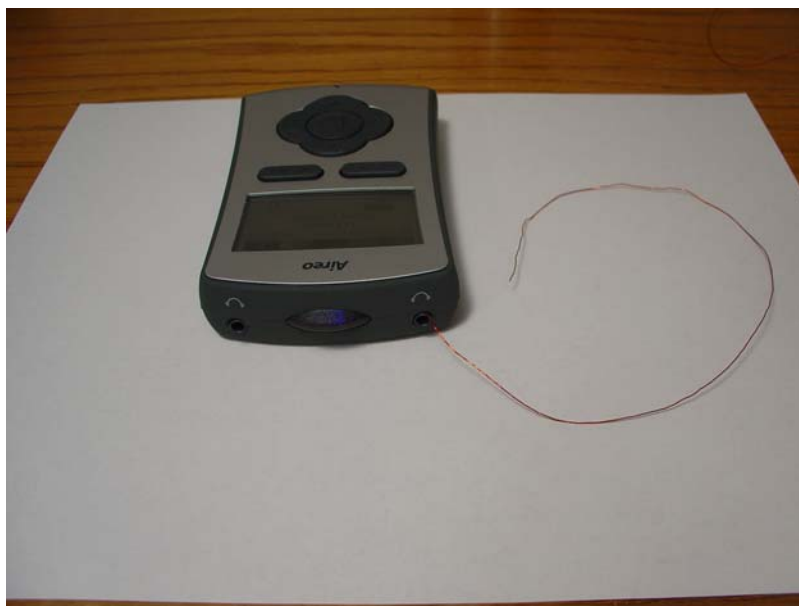
For maximum POWER, solder the wire to L1 and run it to the left headphone socket.



Run the wire between socket and housing, so the rest of the wire is OUTSIDE the Aireo's housing.



Now the Aireo has an external antenna for transmission. This allows an incredible transmission range boost. The longer the wire, the stronger the radiation. The optimal length is 1 Meter (~3 ft.) which acts as a quarter wavelength antenna with best efficiency. 1 ft. Usually is more than enough to receive your Aireo's signal throughout a whole house.



BE AWARE that our tests on an open field showed, that an external antenna of 1 Meter length enables the Aireo to „blast away“ a regular radio station, even though it was 150 ft. away from the car! Using a „free“ frequency yields some serious transmit range so please take care not to be caught for operating a pirate radio station.