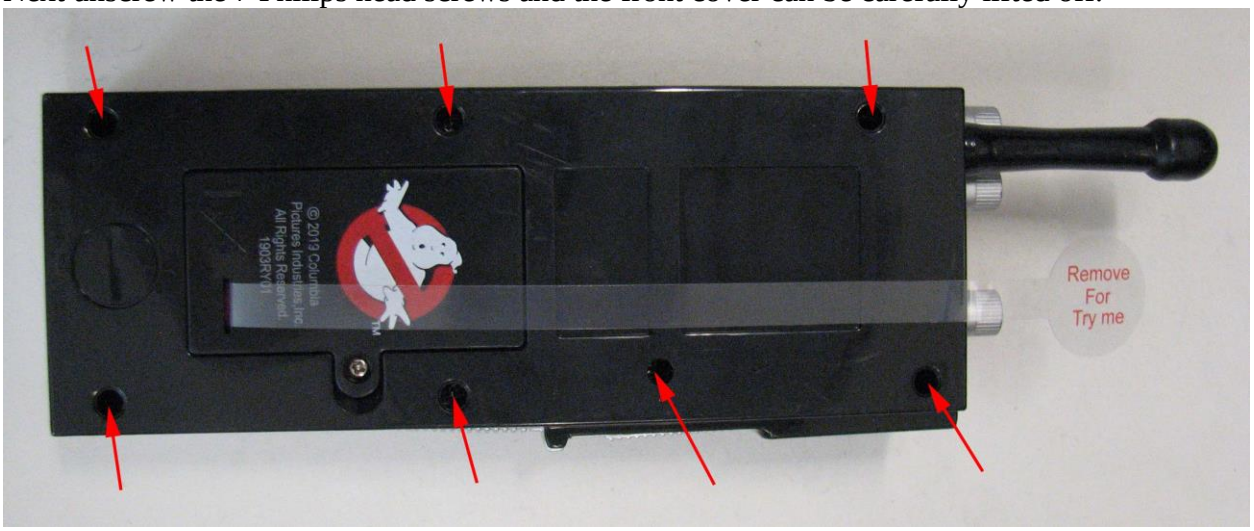
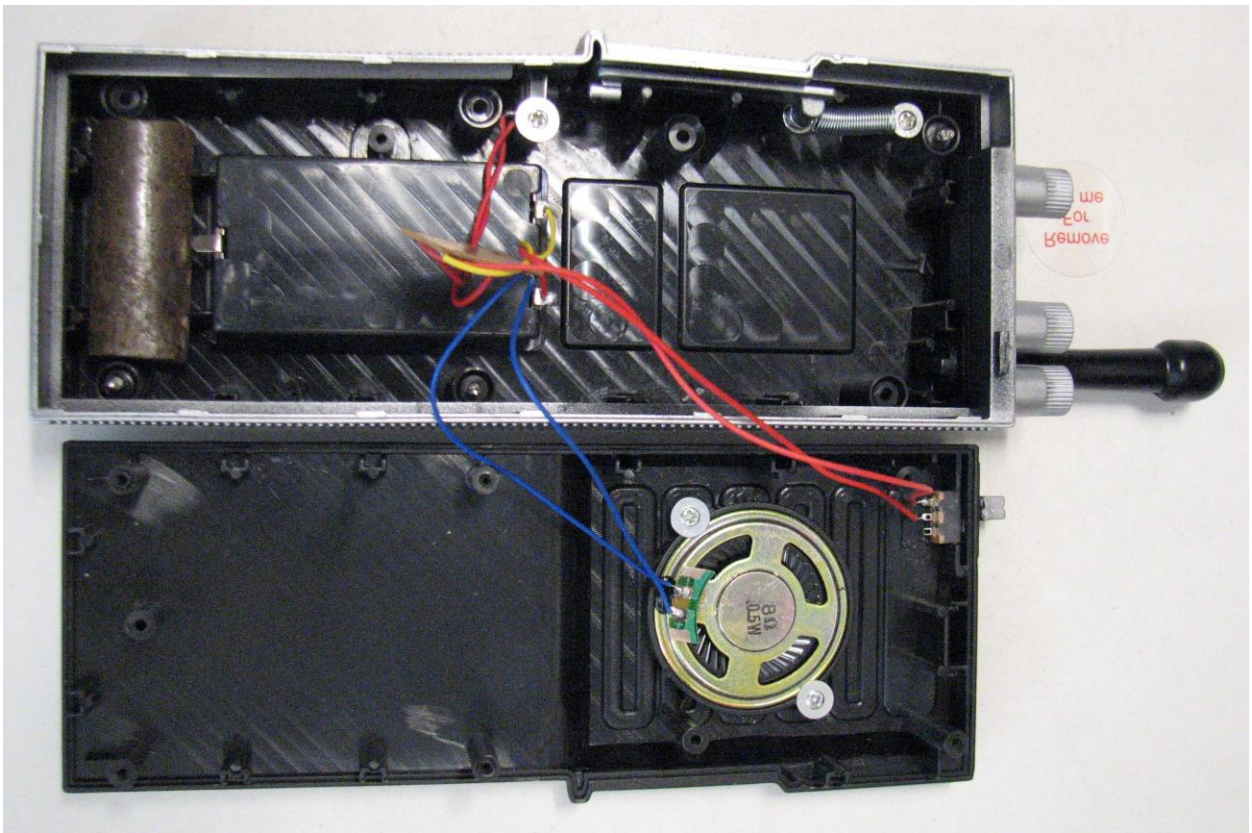
SpiritRadio Disassembly and Sound Module Installation Guide

Make sure the power switch is turned off and/or remove the batteries or leave the plastic "Remove For Try me" in place to make sure there is no battery power available while working on this modification.

Next unscrew the 7 Philips head screws and the front cover can be carefully lifted off.

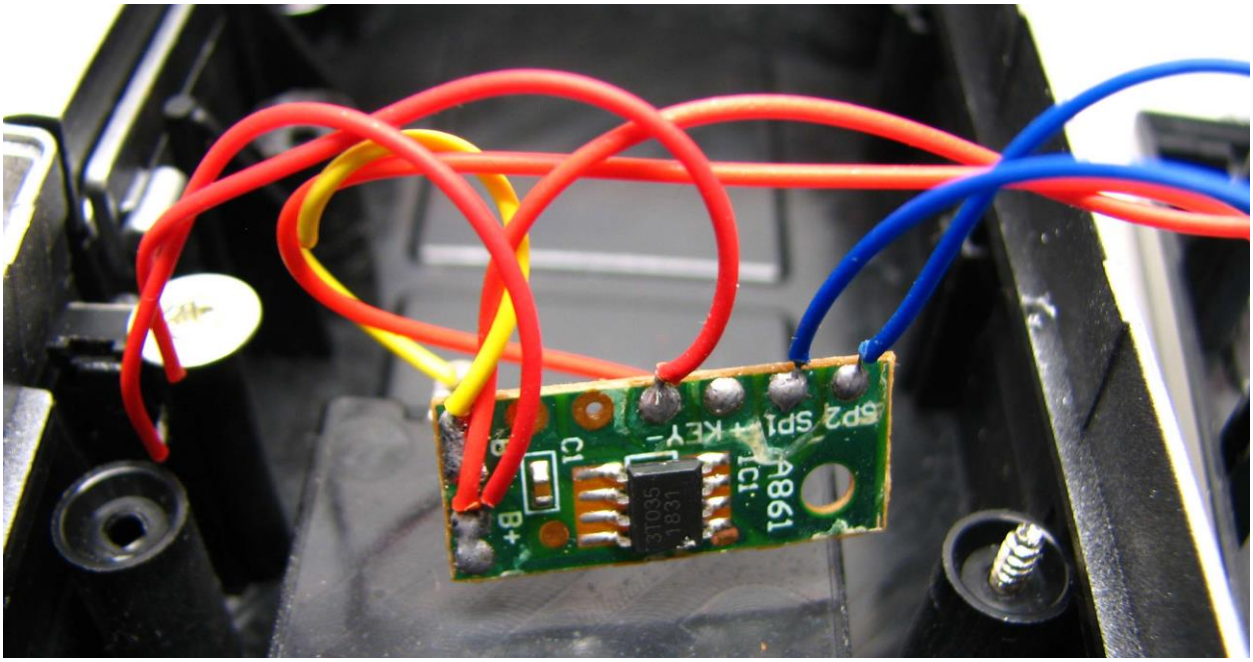


The talk switch is sandwiched between the two silver colored parts and they can be kept together while performing this install. No need to remove the sliding switch or the top knobs. Keep those pieces together so there is less re-assembly work!



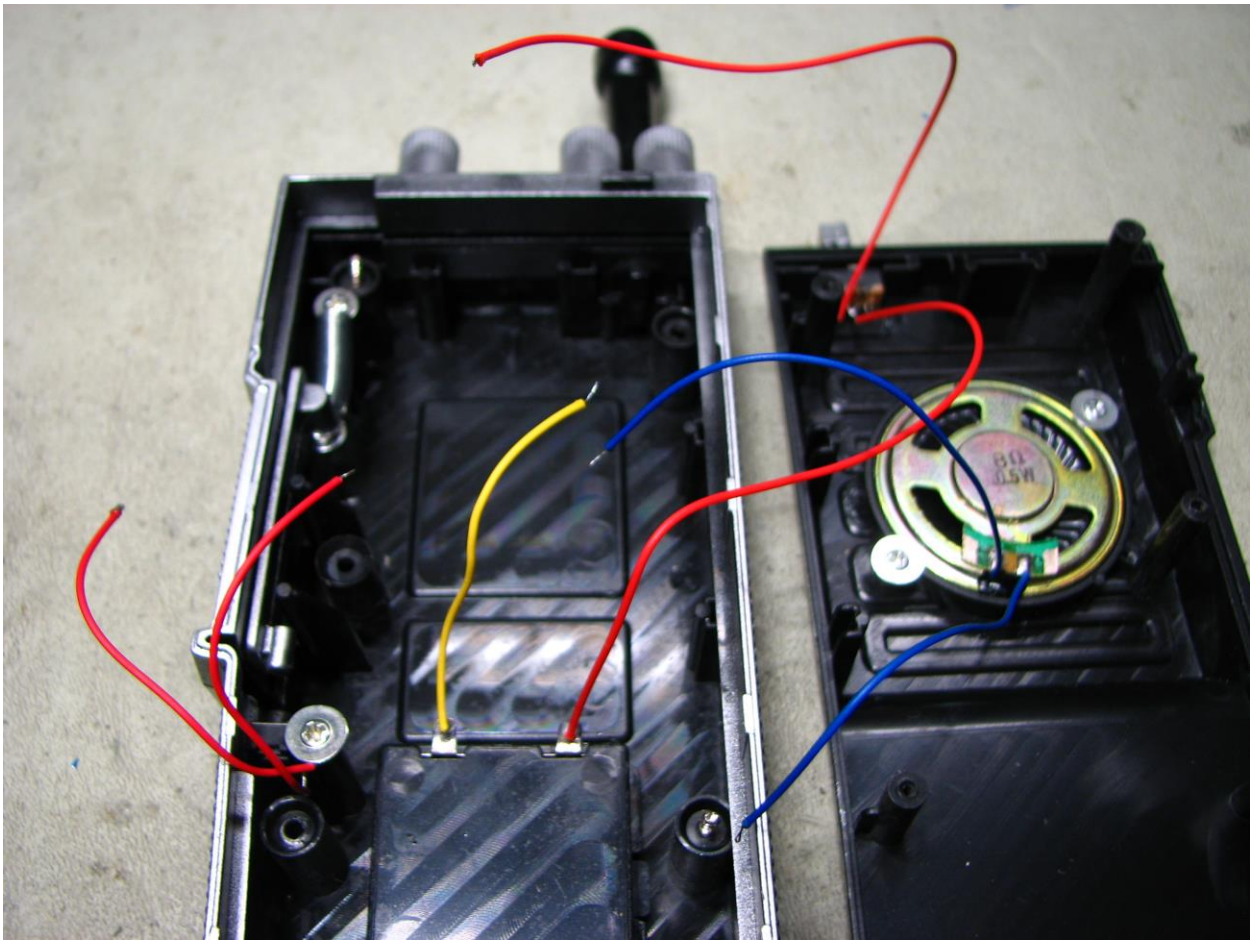
The top cover can be lifted, rotated and set next to the bottom housing pieces as shown above. Take care not to stress the fragile wires that are connecting several parts in both sections of the radio.

You now need to free the wires from the small circuit board that is included in the original Spirit Radio:



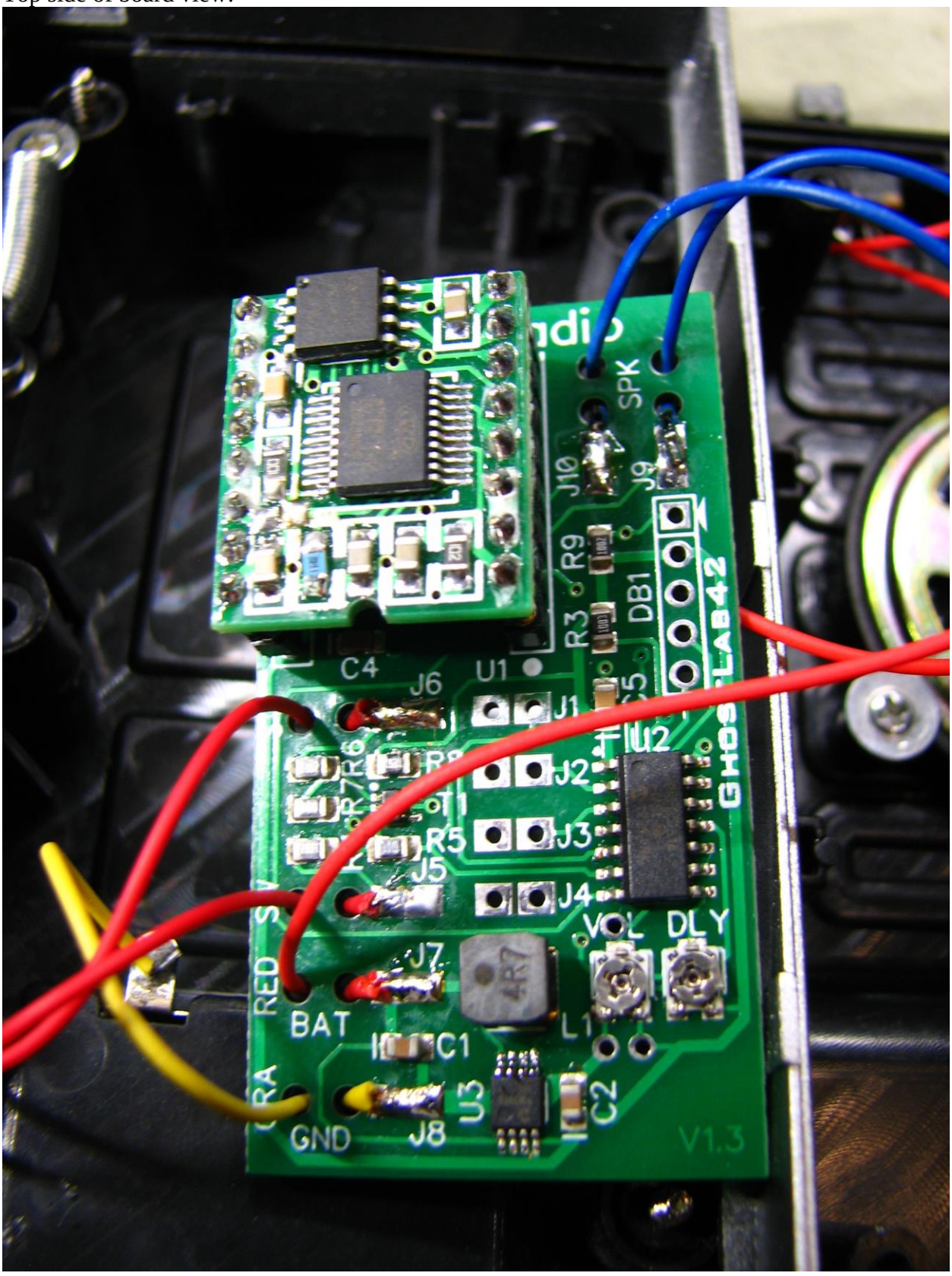
Just heat each pad with the soldering iron and release the wire that is soldered in place. Take care not to have the hot iron touch the other wires as it can melt their insulation. If needed, you can add some solder to get the wire to release from the circuit board pad.

When finished, you should have six wires that are now free to attach to the new board:

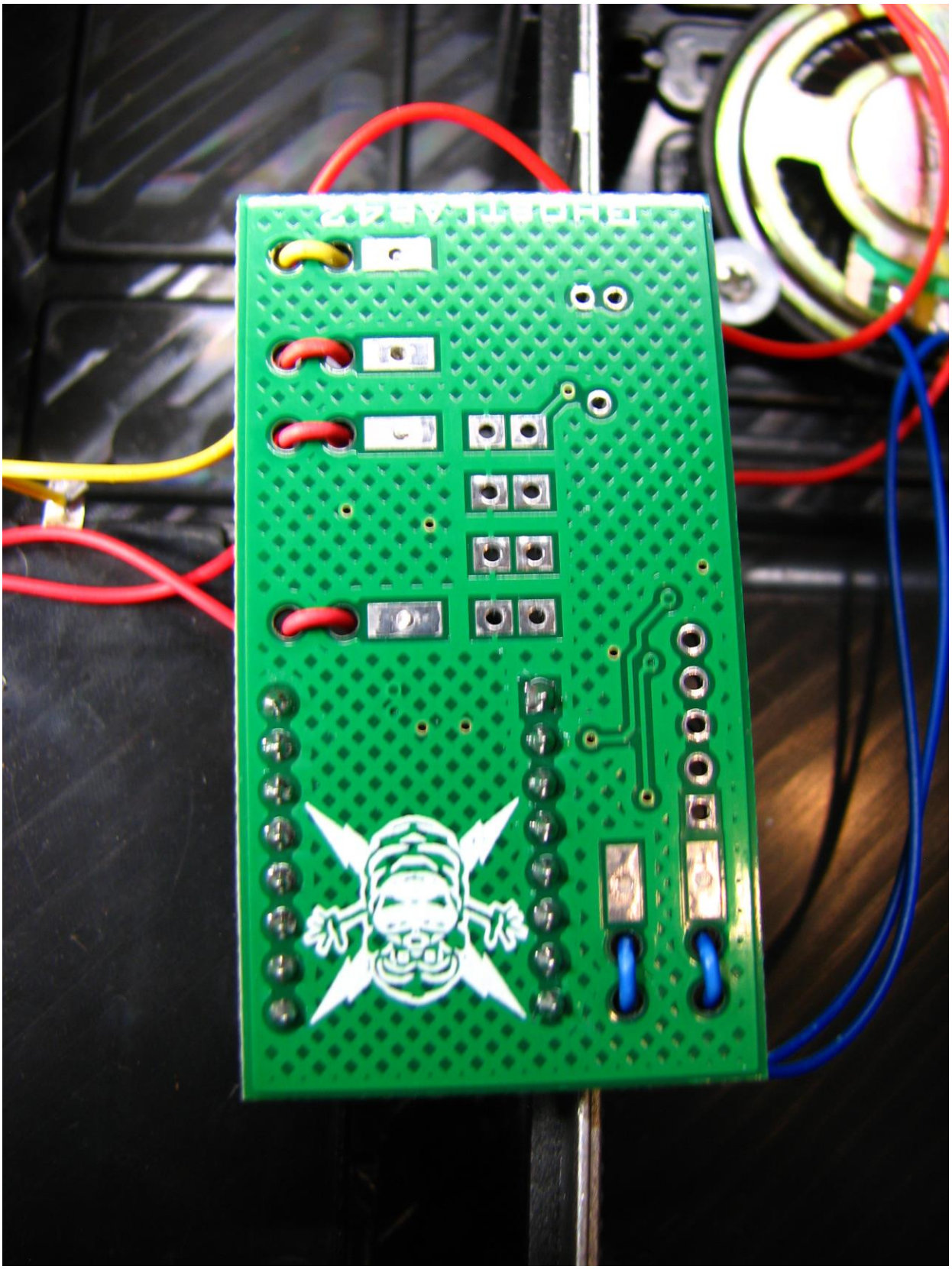


The wires can be soldered directly to the pads like the original circuit board, but this is more fragile than if the wires are properly strain relieved. To strain relief these wires, thread the wire through the holes starting on the top side and then back up through the second hole that is closest to the pad. The holes do have somewhat sharp edges, so they may scratch the wire sleeves. The holes are not connected to any circuitry so even if there is a small break in the insulation it should not cause any issues. Just be gentle when threading the wires through the holes and then removing the slack.

Top side of board view:

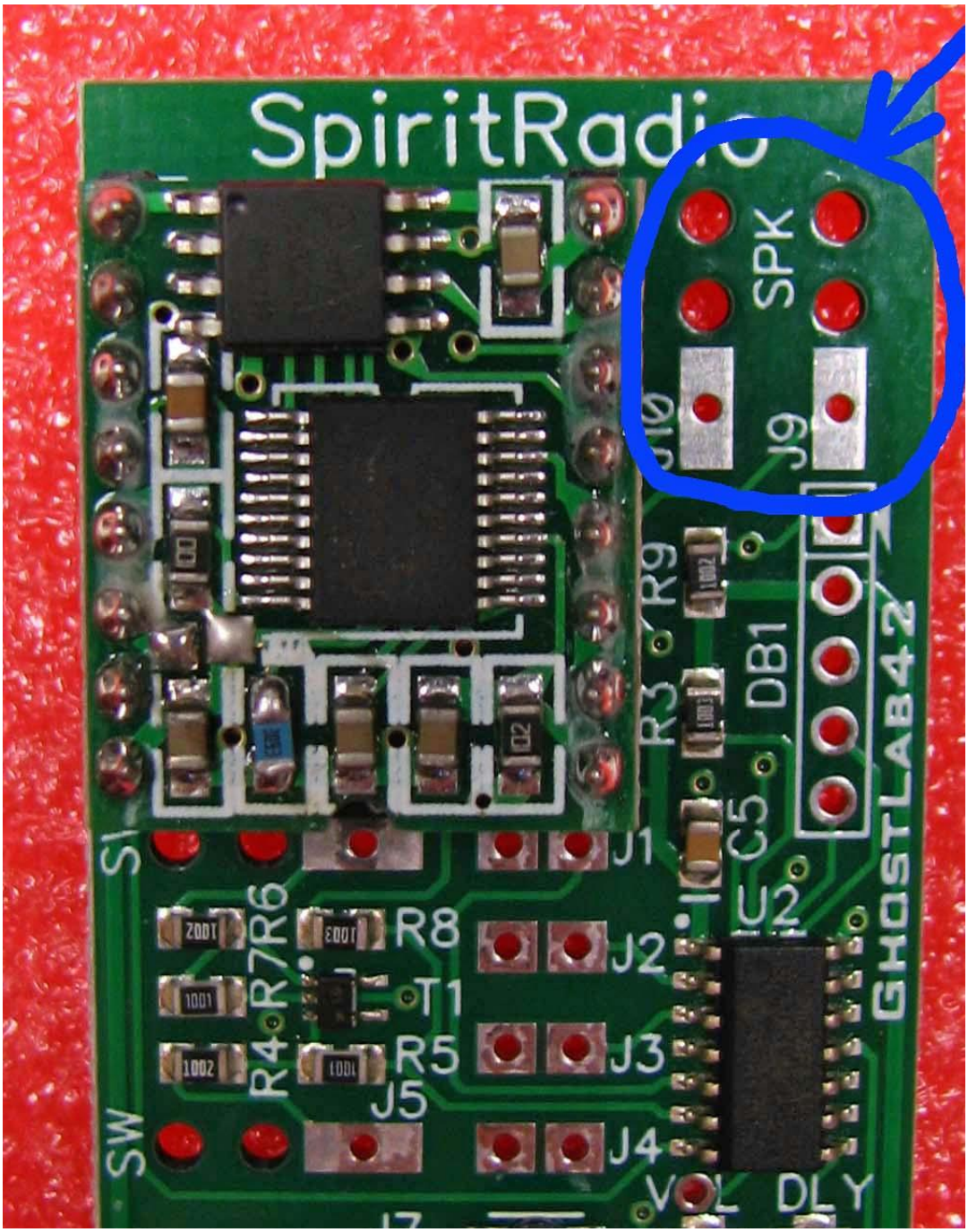


Bottom-side of board view:

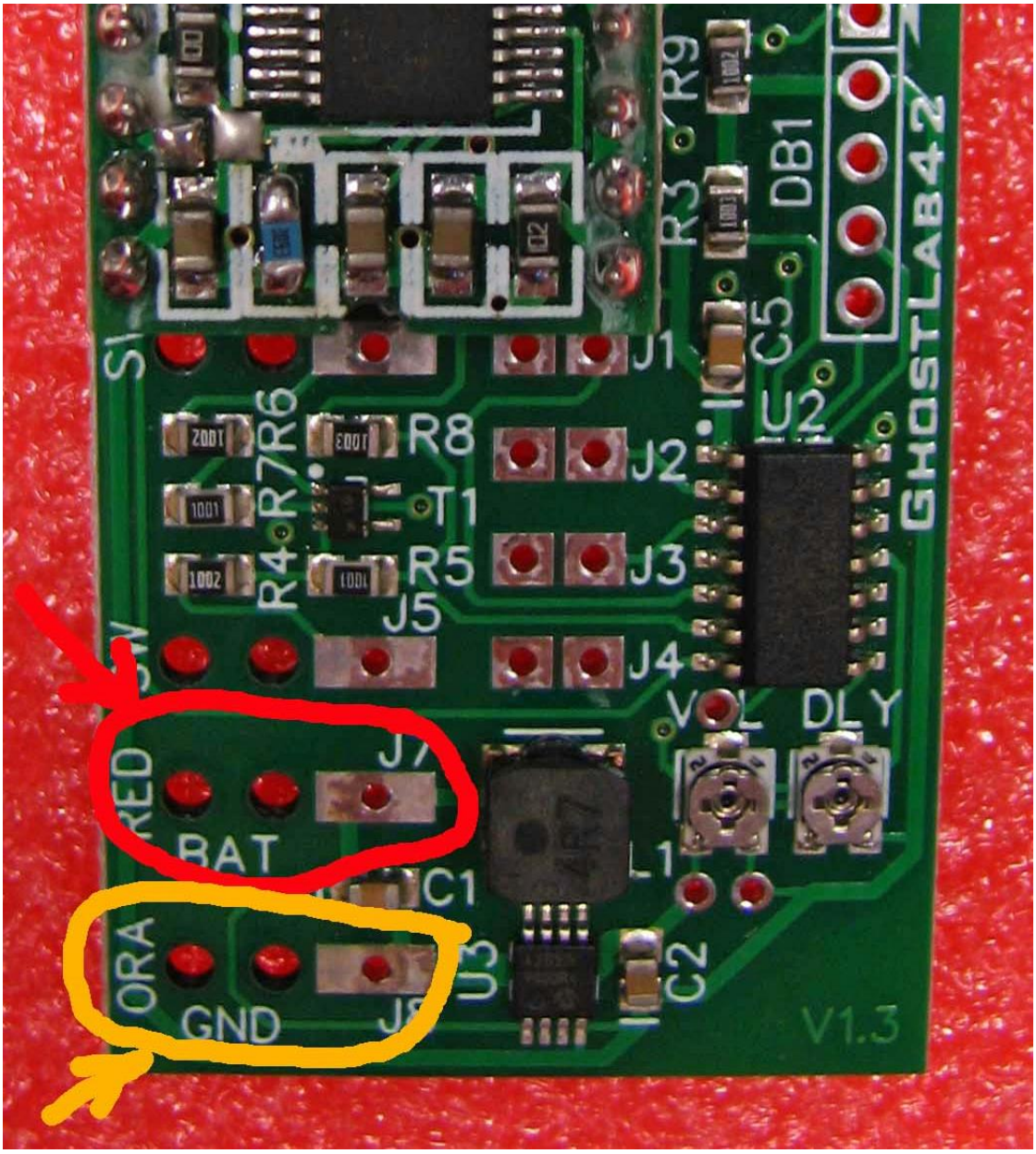


Install the wires in this order:

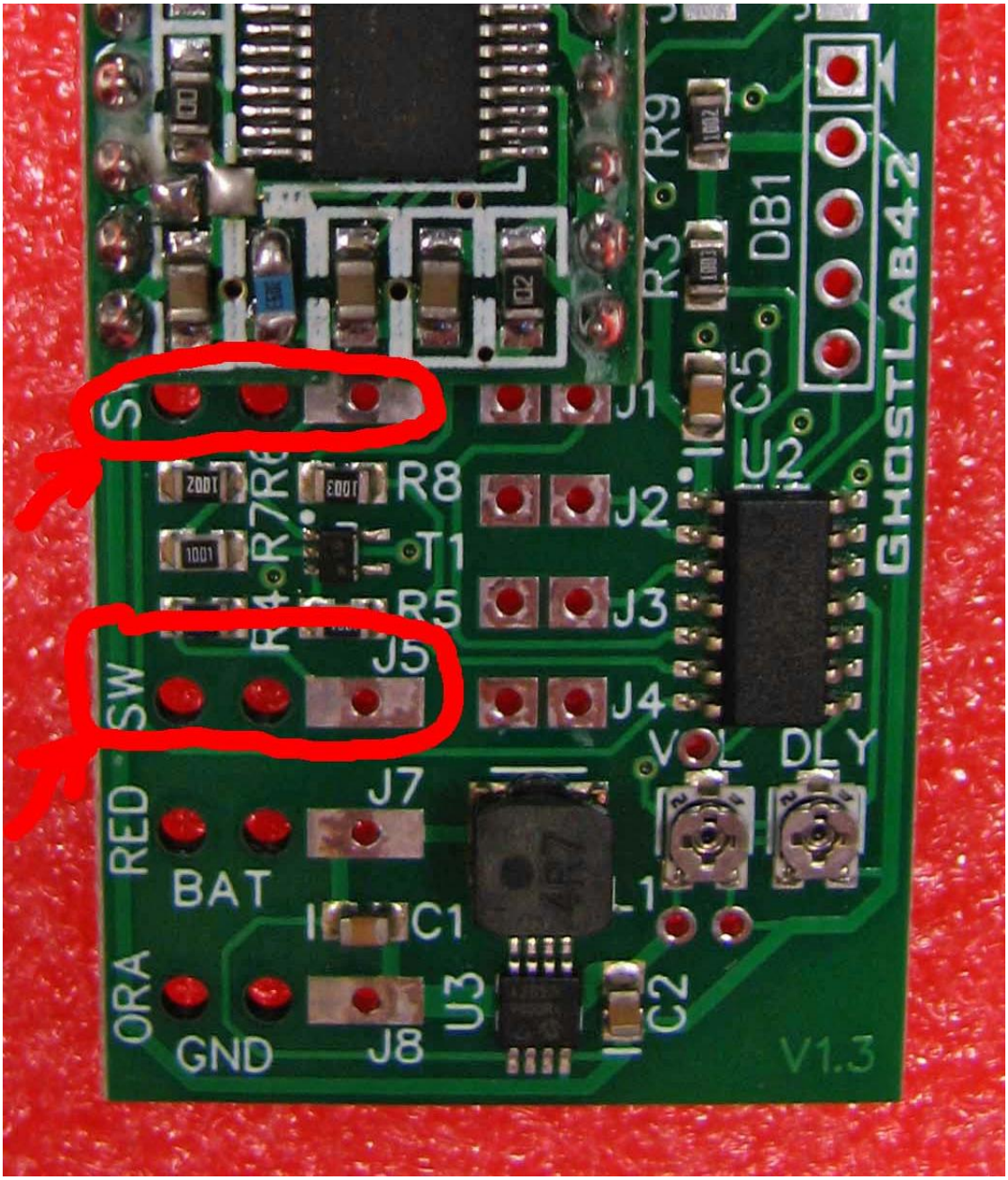
1) *Speaker*. Blue wires from the speaker. The "SPK" pads, J9 and J10, are located on the upper right-hand corner of the sound board. Order does not matter, either blue speaker wire can go to either pad.



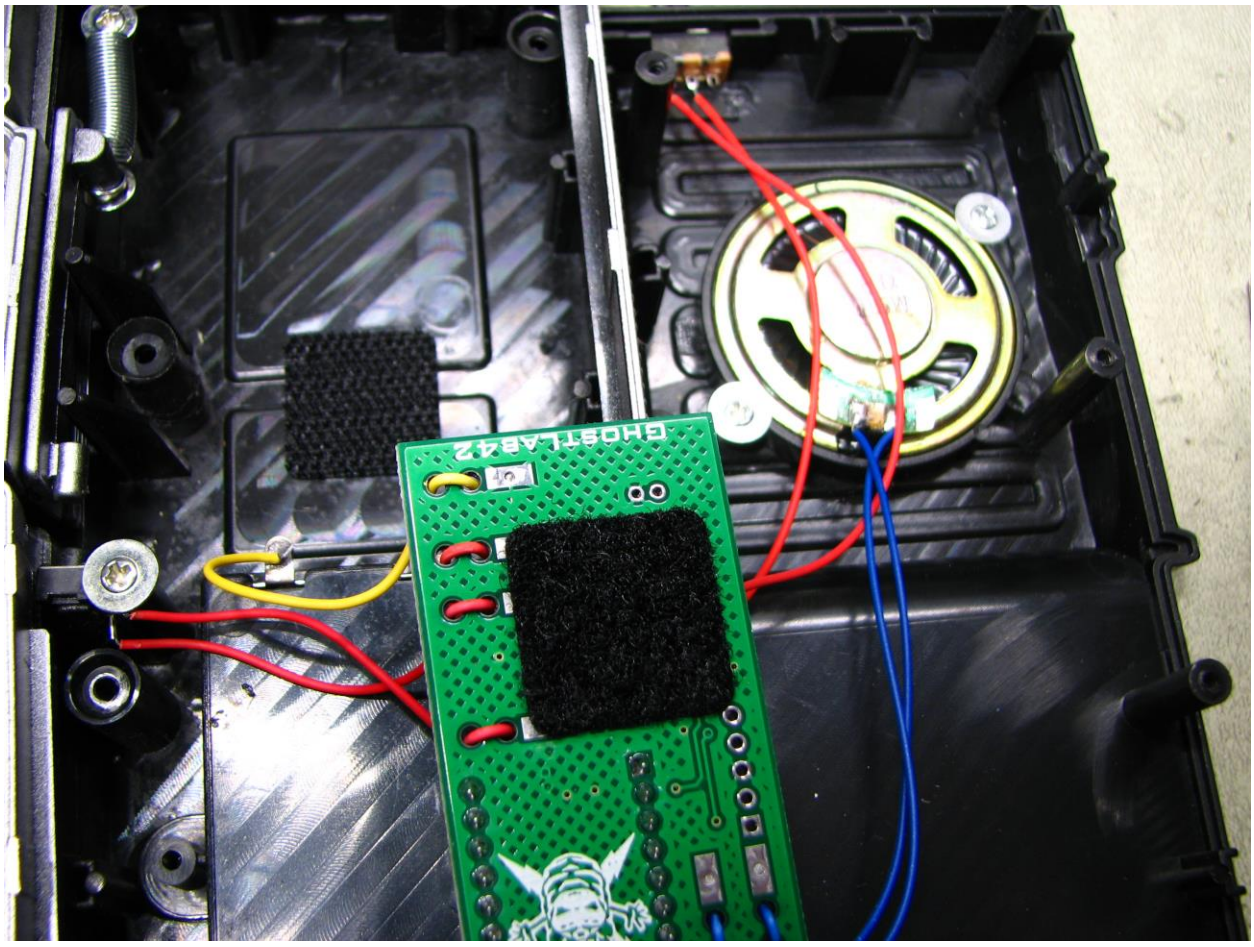
2) *Battery power*. ORDER MATTERS!
The Red wire should come from the switch that is at the top of the front panel above the speaker. This should be connected to the "RED" BAT pad, J7.
The Orange (or Yellow) wire should come directly from the left side of the battery compartment and connect to the "ORA" GND pad, J8, in the lower left hand side of the board.



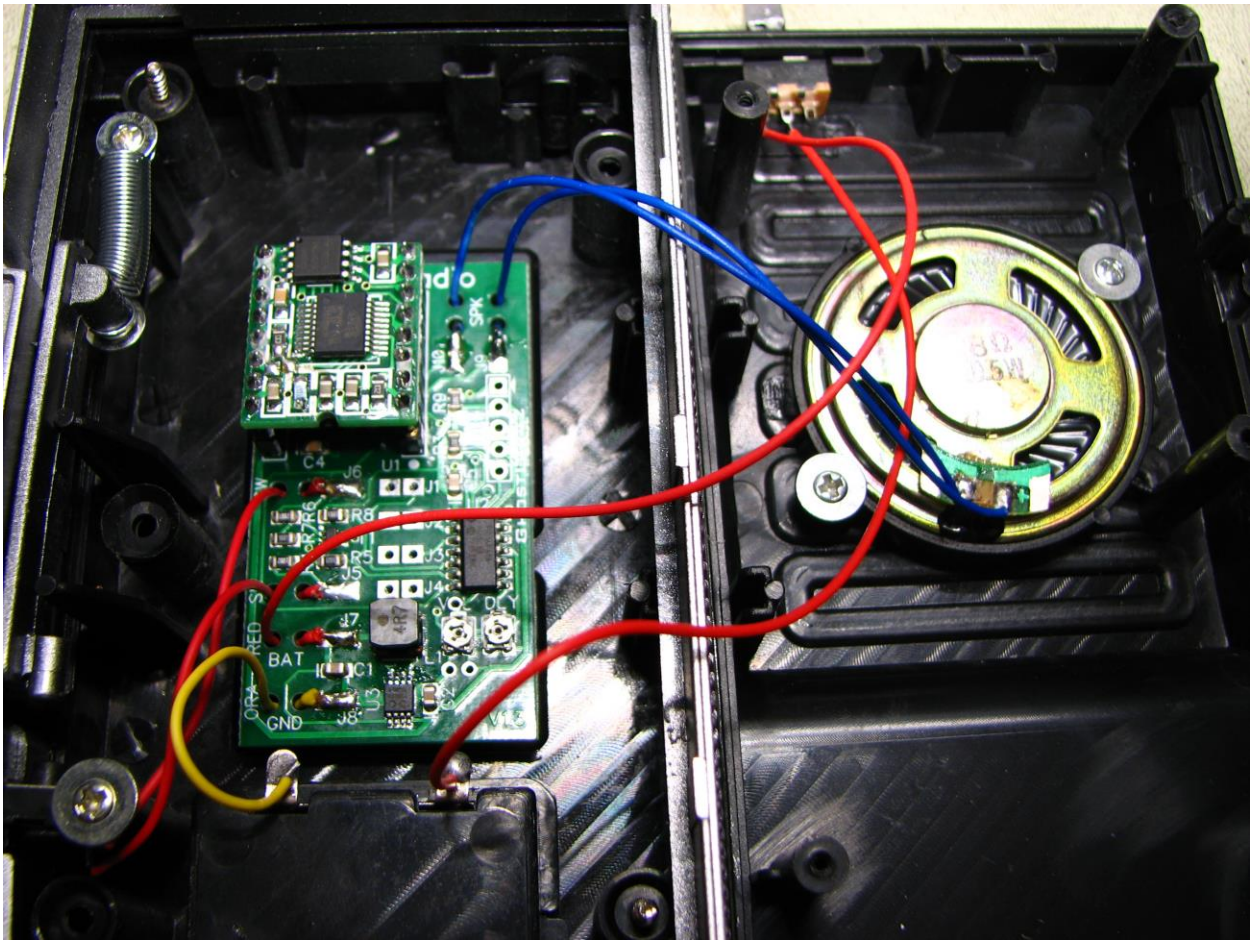
3) Talk Switch. There are two red wires coming from the talk switch pushbutton. These wires are short so may be the most constrained when attaching to the board so we left them for last. Order does not matter, either of the wires can be attached to either “SW” pad, J5 and J6.



For mounting the board, a pair of Velcro adhesive backed squares are included. Place the soft sided on the circuit board and the hard sided one on the inside of the radio just above the battery pack. Because the switch wires are so short, make sure the board is located fairly low inside the case.



Here is the final look of the board when mounted:



Now you can put the batteries back in, or pull the plastic tab and then turn the front switch on. Each time you slide the talk switch all of the way down you will be rewarded with a sound file being played.

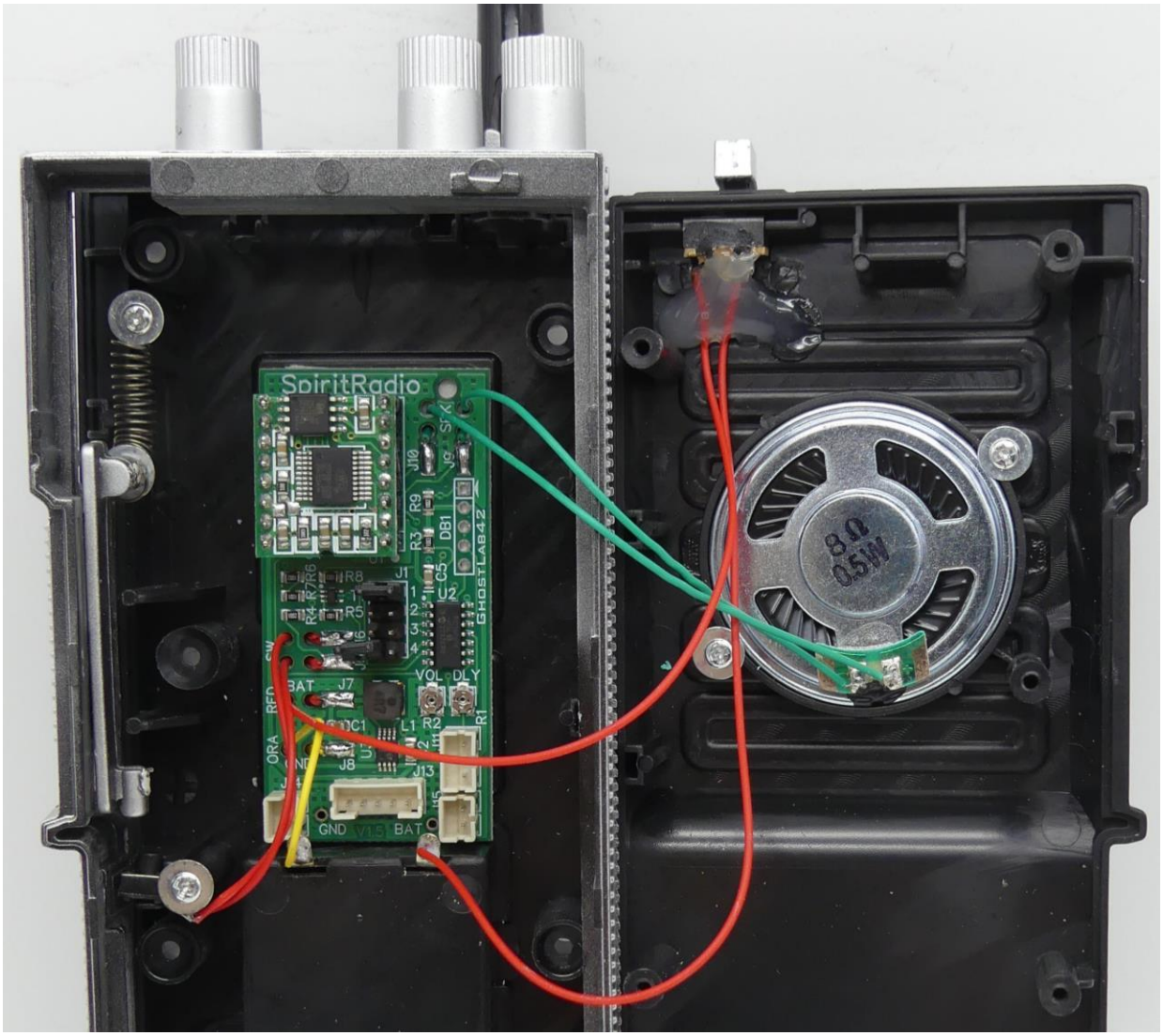
You can gently adjust the volume and delay settings if desired.

Testing is also recommended.

1) Turn the power switch off
2) Use some of your own wire (not included) and jumper between the two pads for J2 and also the two pads for J3.
3) Turn the power back on
4) The board should announce it is in test mode and you can verify that the jumpers J1-J4 can be activated as well as the talk switch, (input #5)
5) When finished, just make sure J2 and J3 are no longer shorted and then turn the power off and back on. Normal operation will resume.

If you decide you want a random selection of quotes and/or want to limit the quotes to only a specific movie, jumper between the two pads to make the selection. A large amount of solder will bridge between the two pads without the need for any wires. The holes are also spaced at 0.1" apart, so if you want to add posts (not included) and be able to change the settings without soldering, you could add those.

The new version of the sound board adds jumpers on the board so you can easily change the sound board settings – no soldering is required even though you do need to open up the Walkie Talkie case.



Quote Selection Jumpers

J1-1: Random selection
J1-2: GB1 Movie Quotes only
J1-3: GB2 Movie Quotes only
J1-4: TVG and Movie Radio chatter only

The top jumper position (J1) is used to select the order the quotes will be played:

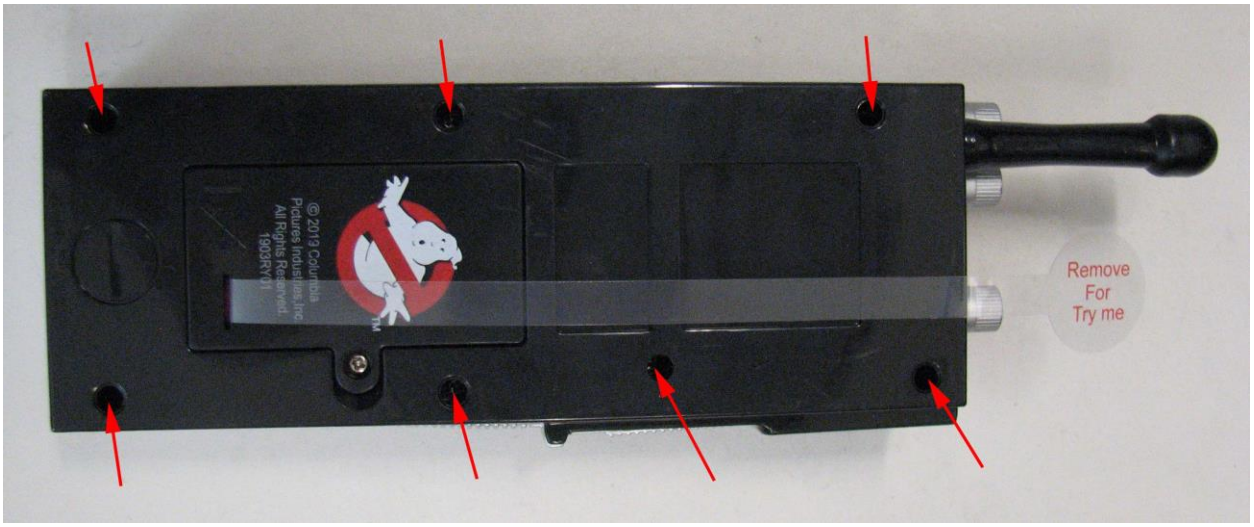
Open: Sequential quote selection
Close: Random quote selection

The bottom three jumper positions (J2-J4) select which groups of sounds will be played when the timer has elapsed, or the talk button is pressed for a short amount of time. At most only one of the bottom 3 positions should be shorted:

All three open (J2-J4): All available quotes from both movies and the game.
J2 jumper position shorted: Only GB 1 Movie quotes will be played
J3 jumper position shorted: Only GB 2 Movie quotes will be played
J4 jumper position shorted: Only GB Game and movie Radio Chatter will be played

Reassemble
Now place the front cover back on the and make sure no wires are trapped between parts when the screws are put in and tightened. Squeezing a wire between two parts may damage the wire.

Install the 7 screws that were removed before:



Turn the radio back on and make sure it is working.

Lastly, apply the Motorola Logo sticker on the front of the radio:



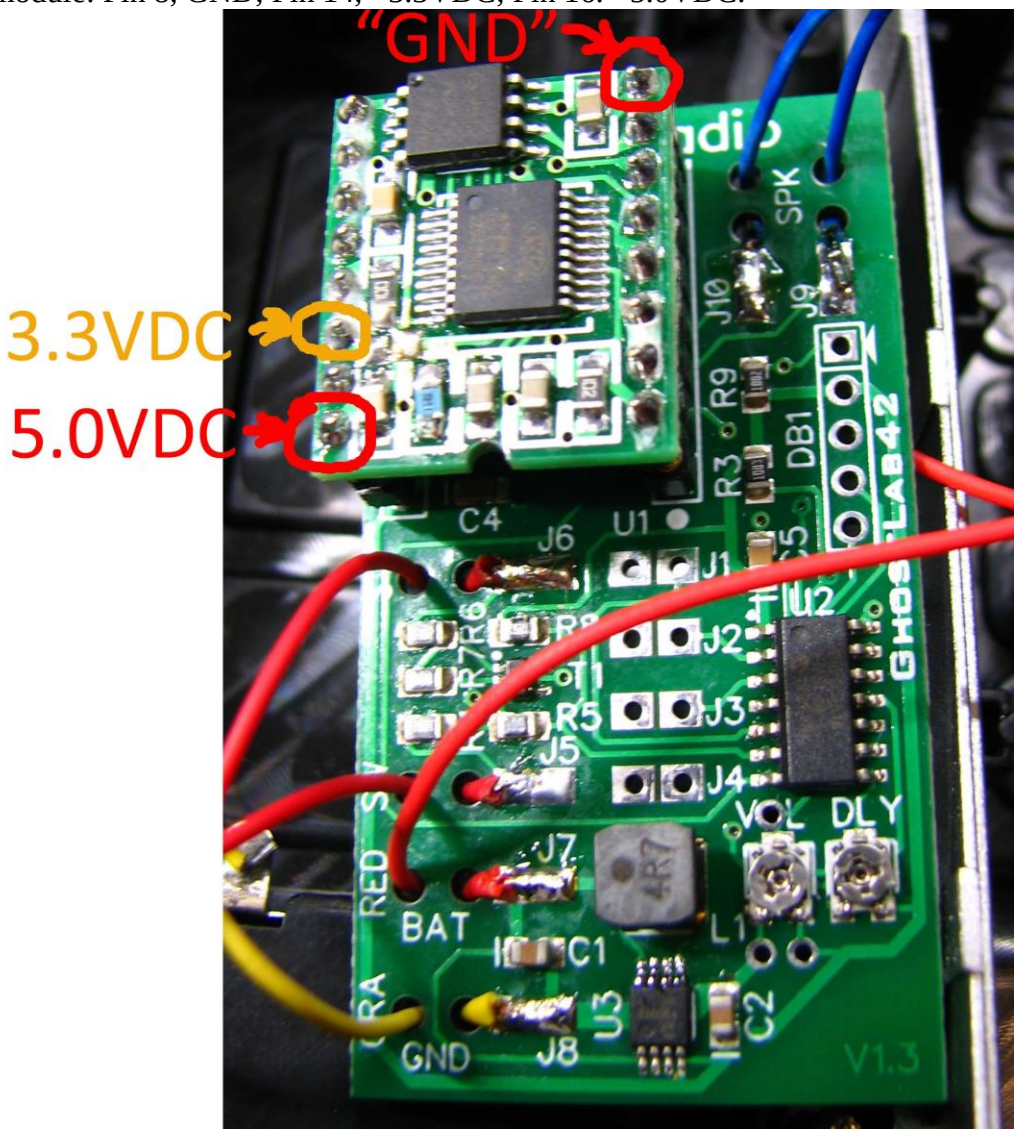
Troubleshooting:

Use the test mode to see if anything is working. Put the jumpers across the middle two jumper positions, J2 and J3, apply power and see if everything is working.

Turn the volume clockwise to the max and then turn on the power. There should be sound coming out of the speaker if the board is getting power and the speaker is attached.

Verify the battery is connected and is working. If you have a voltmeter or DVM, measure the DC voltage of the battery terminals inside the pack (Red and Orange/Yellow wires) see if it is greater than 1.8VDC. Also check between J7 and J8 for this same voltage.

With power on, verify that the voltage regulators are providing about 5.0VDC and 3.3VDC to the sound module, measure DC Volts between the points shown on the sound module: Pin 8, GND; Pin 14, +3.3VDC; Pin 16. +5.0VDC.



You can also try re-seating the 16-pin sound module. Gently lift up and the push the module back in place. Make sure no pins are bent and all are in the socket.

Still no sound? Turn off the power and measure the resistance between the speaker connections at J9 and J10. This should measure about 8 ohms.