Smartieparts 9xAdd-On Board Installation

First here is what you get in the package:

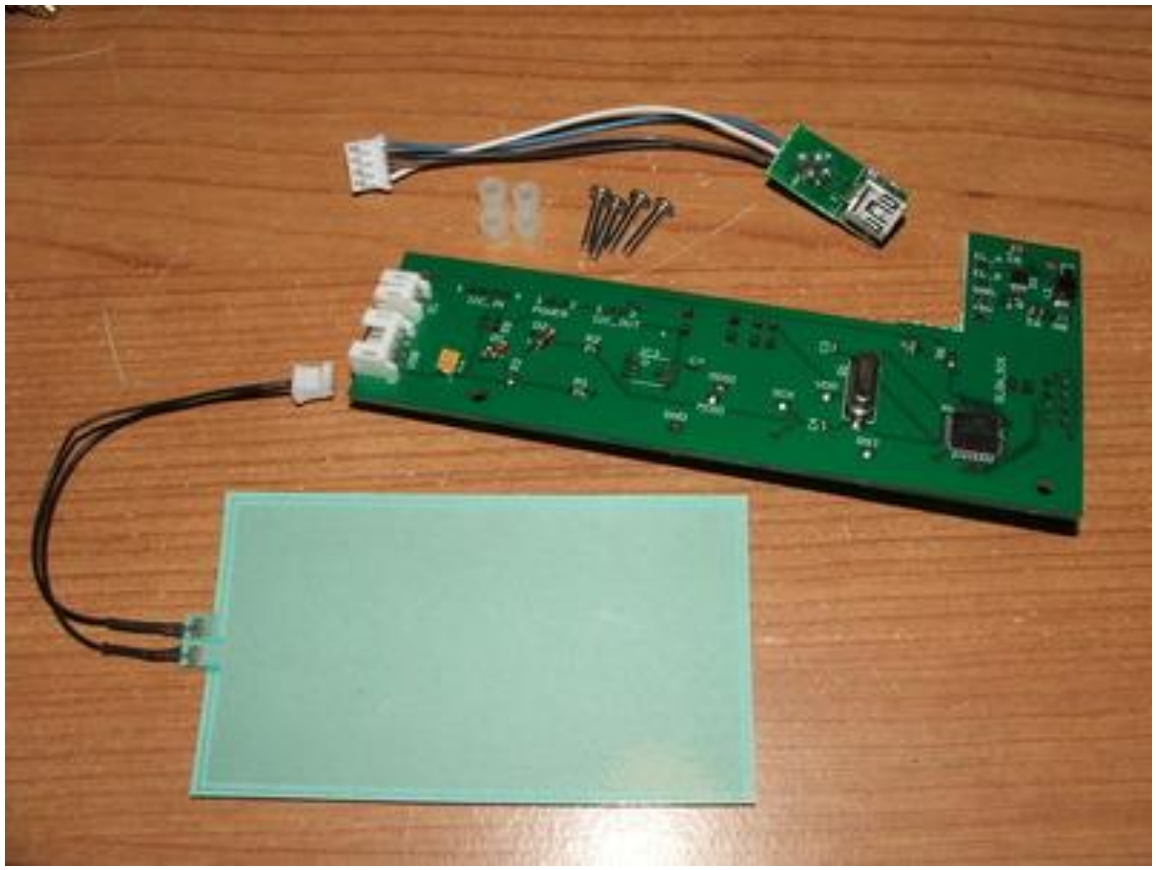
From top to bottom:

The usb connector board

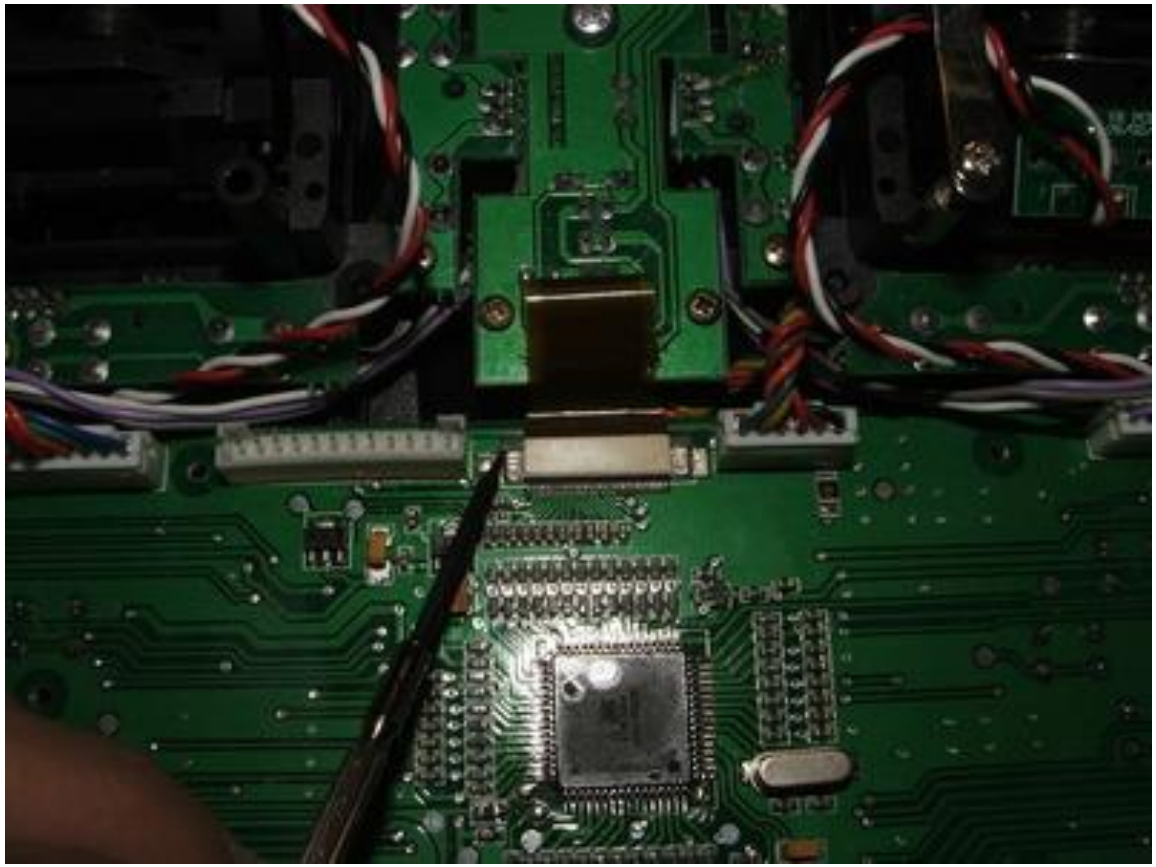
4 longer screws and 4 spacers

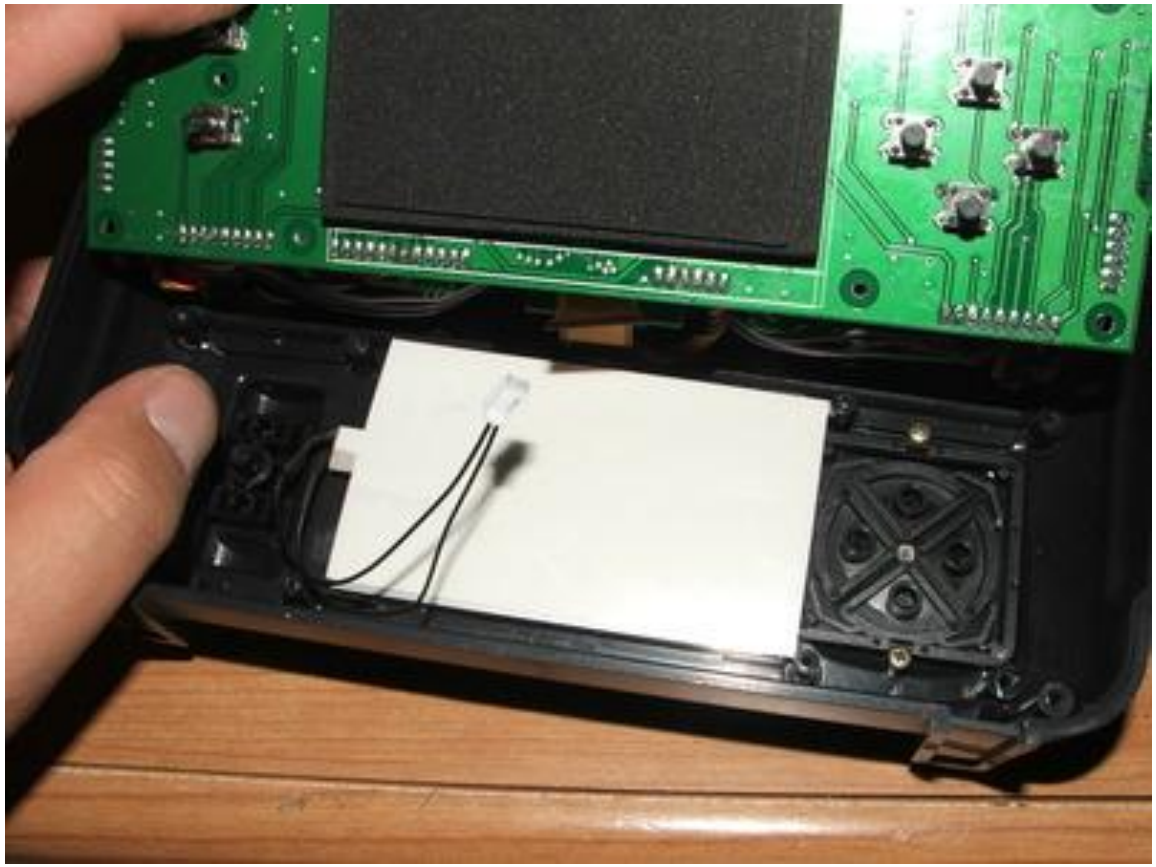
The programmer board

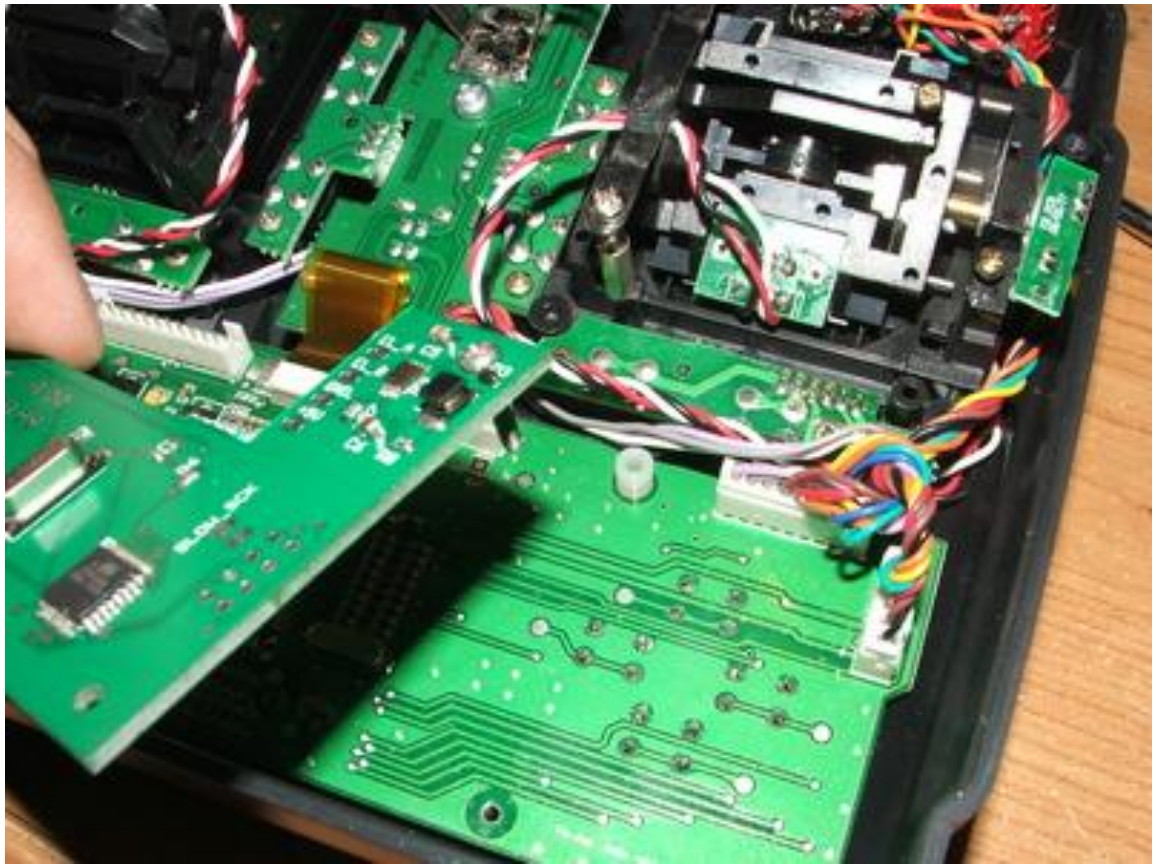
and the EL back light

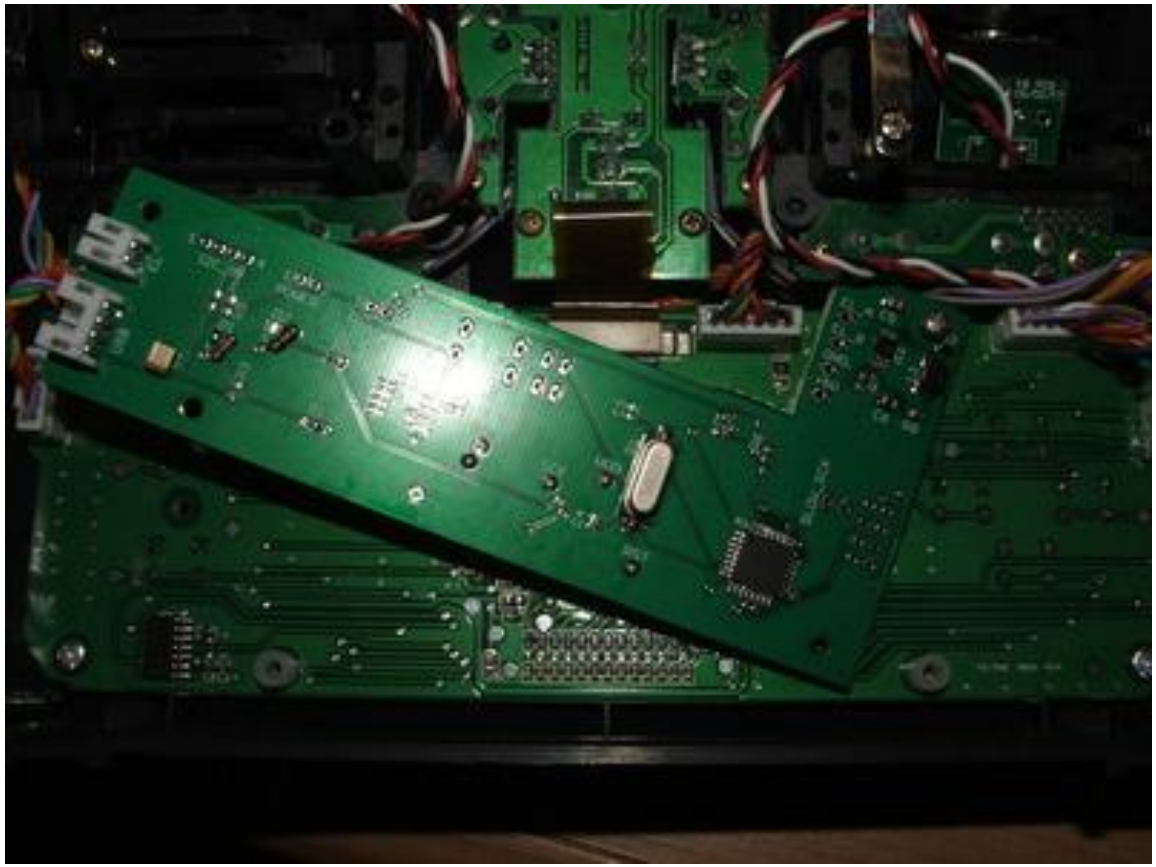


Start by removing the back cover of your radio. There are 6 screws holding it on. You should probably remove the battery also just in case. As separate the 2 halves there is one set of wires connecting them. Carefully disconnect the connector holding them on the main processor board, it should just pull straight up. Set the back half out of the way there is nothing to be done with it.

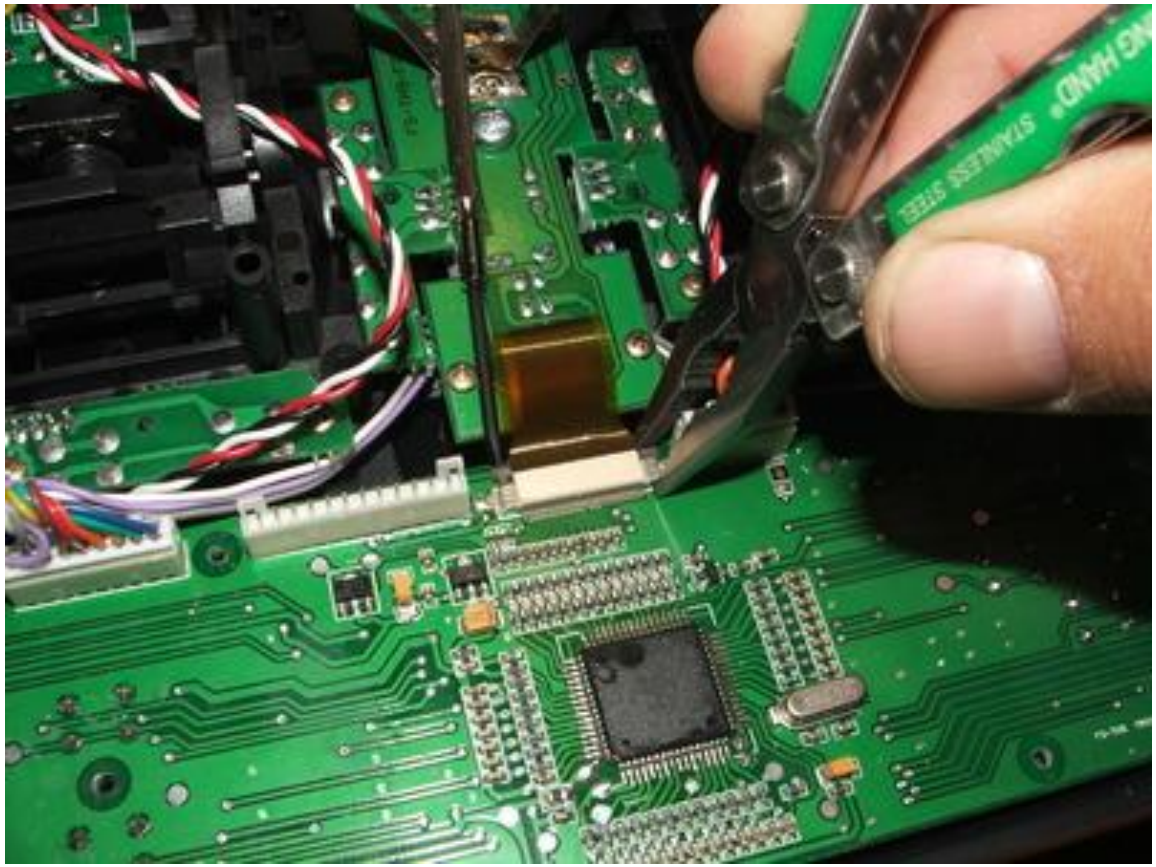
Next is to install the back light. For this you will need to remove the 9 screws holding it in. They are located at the 4 corners and a little further in from that, the last one is in the middle left of the board. All of these should be very easy to spot. Once you have the screws out disconnect the ribbon cable to the LCD. This is the brownish color one in the center of the board near the top. Using a small flat screw driver push the brown part of the connector towards the top of the radio. It doesn't move very far and if you push it too far it will break. You will have to push both the right and left sides. Once you have pushed the brown part of the connector up the ribbon cable should pull out very easily. With the main board now loose you should be able to flip over on top of the sticks. This will expose the back of the LCD.	
Another good thing to do at this point is swap the '+' and '-' keys. The keys are remover by taking out the 2 screws holding them in. to swap the '+' and '-' you will need to cut them free from the up and down keys. Use an Exacto knife. Reinstall the up and down keys which are still attached to their holder for now.	

Installation of the back light is now easy. It just goes over the LCD. Place it white side down. Or if you have the blue one the side that goes down is green. Make sure the wires go to the left like in the picture. I routed my wires close to the post between the buttons on that side. Just make sure they don't get pinched by the buttons when you flip the main board back down. Now put the plus and minus button back in. The '+' button goes closest to the LCD. Flip the main board back down like it was originally. You will need to wiggle the board to get the button to seat properly again. Once you think you have it hold the main board in place with one hand lift the radio a little and try pressing the buttons with your other hand. They should all click like they used to. If they don't they are not seated correctly. Also check the back light wires if either the menu or exit buttons isn't working. Once all of the buttons are working reinstall the 4 silver corner screws in the main board.	

The easiest way to install the programmer board is to start in the corner shown in the picture to the right. Place a spacer over the hole and one of the new long screws through the hole in the programmer board. Get that one started only a couple of threads in.	

Next line up spacers for the 2 bottom holes. Hold the programmer board up and swing it into position. Then get the next 2 screws started just like the first one.	

For the last one put the spacer on the main board to the left of the programmer board and slide it under the programmer board using a small screw driver. When it lines up with the hole put the last long screw into it. Now wiggle the entire programmer board a little. You should feel the springiness of the pins. Try to tighten the board down by tightening the screws a little at a time keeping the board pretty level. Last put one of the original screws back in the last remaining hole.	

Now reconnect the ribbon cable for the LCD. Slip the cable back into its connector. The silvery contacts should just disappear into the white part. Then using a small screwdriver and a pair of pliers or tweezers as shown push the brown part of the connector back in. This won't take much pressure, so be careful not to break it.	

Now on to the installation of the usb connector board. This installs in the battery compartment in one of the slot as shown in the picture. You can use either of the 2 slots. Slid the connector through the hole from the battery side. The usb board may need to be trimmed slightly to fit into the slot. It can be a very tight fit. After that is installed plug the connector for the back light into the programmer board then reconnect the original connector that connects the 2 halves of the transmitter together. And finally the usb board connector goes into the programmer board. Make sure there are no wires getting pinched and put the 2 halves of the transmitter back together. Put the battery back in and test the transmitter before putting the case screws back in, just in case you missed something. To test the back light you will need the er9x firmware installed. Go to the first general setup menu and scroll down until you find “light switch” Set this to whatever switch you want to use. If you turn on the back light and nothing happens: separate the 2 case halves so you can peek inside. If you see light inside then the back light was installed upside down. Go back and fix it. Otherwise if there is still no light double check your connections. Now you may put the screws back in the radio. Test you new programmer through eepe. The	

programmer type is usbasp, also set the port to usb.	
A note about the usb connector in the battery compartment. If you use the 8 AA cell holder than came with the radio don't worry it will fit. You will need to modify a usb cable to clear the side of the battery holder. I used a knife on mine and it was very simple. Check out the picture to see what I did.