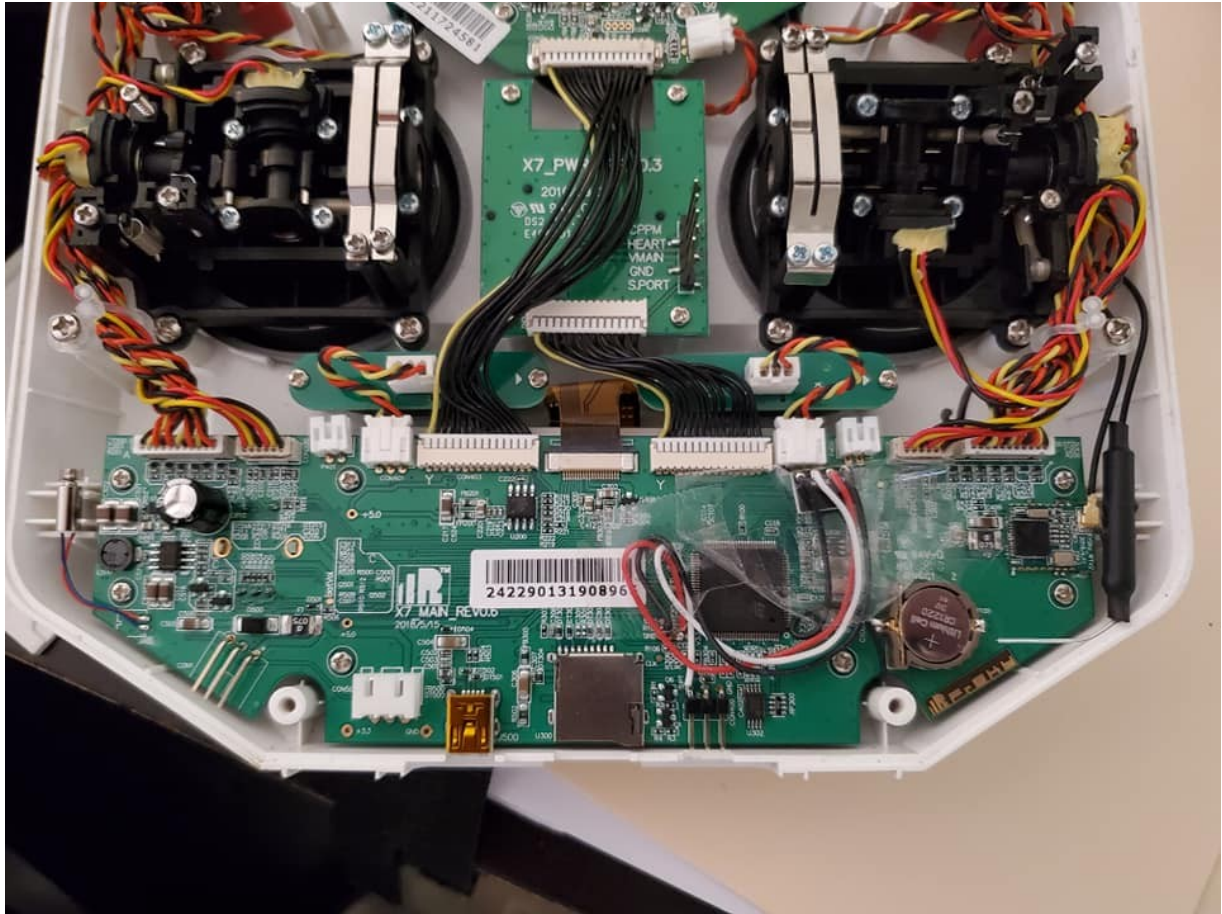


## How to Convert QX7 to a QX7S by Robert Criteser

Today I converted my qx7 to a qx7s mainboard. Had to remove the charging plug and put an antenna on the bluetooth module. I bound my hm-10 to the new qx7s board. I'm getting crsf at 6-10hz consistently after running it for a bit. So nice to not have to use the crossfire bluetooth.



I ordered a [qx7s main board from aloft hobbies](#). Once it arrived it had a black plug on left side for charging battery in the remote. I didn't want to cut a hole in my case, so I gently slid the black part of the plug off the prongs.

The haptic motor is on opposite side of the main board for qx7. There is already a haptic motor holder molded to both sides. I just popped it in.

Bluetooth came with no antenna. You may want to order the x10s,x12s bluetooth antenna as well. I had a 2.4ghz dipole in my parts box. I believe its an ipex connector. It popped right on. Then to my surprise it fit in the original haptic feedback motor slot. I tucked the slack under gimbal harness and the tip of active element down the inside bottom.

After that I assembled tge controller and updated to 2.3.1. Updated my bootloader and went into global long press menu. Went to switch calibration/settings page. Set bluetooth to telemetry.

Connected my hm10 to my pc via ftdi. I selected my comport of the ftdi. Then opened serial monitor. Set drop down box to no line ending and baud to 9600.

Then I typed AT, got ok back.

AT+BAUD4 got back ok set:4 or something similar.

Then I typed AT+IMME1.

Then Then I typed AT+RESET.

Then AT+START.

Then AT+CON(mac address just as it shows in taranis bluetooth setting):  
AT+CONXXXXXXXXXXXXXXXXXX.

Lost connection to bluetooth at commands. This told me it connected.

Turned off taranis.

Closed serial monitor, unplugged ftdi from usb.

Plugged it back in selected comport and opened serial monitor.

Changed baudrate to 115200 and left no line ending in drop downs.

Typed AT and got OK.

Then I typed AT+IMME0. This set it back to auto connect with previous entered mac address from taranis.

Then I typed AT+RESET hit enter and powered on taranis.

Near instantly strange characters started to fill the serial monitor. This told me telemetry is streaming.

Took the hm10 unplugged from the ftdi and put it in my tracker in place of the hc05.

Powered everything down and back on.

Opened tracker menu and selected telemetry protocol crossfire with 115200 baudrate.

Then hit save. Instantly got 10hz lock.

Tracker ripped around to point at the plane. Went walking with the plane and the tracker followed me smoothly and fast. No delay. My offset seems to go 45° off. I think its because im on original version of crossfire implementation firmware. When I change the offset it points right at me and is smooth as butter. It doesnt wiggle back and forth as it did previously at a 2hz update rate. Really enjoying this. If I didnt mention it before.

I hit enter after everyone of the AT commands. I know its confusing on how to use it for some.

Pic of black plug still on. You have to cut a hole for it to fit or remove the plugs plastic piece. They sell a 2s wall charging kit if someone wants to cut the hole and use internal charging.