

From Open Source Project ADX to Kit ADX-S

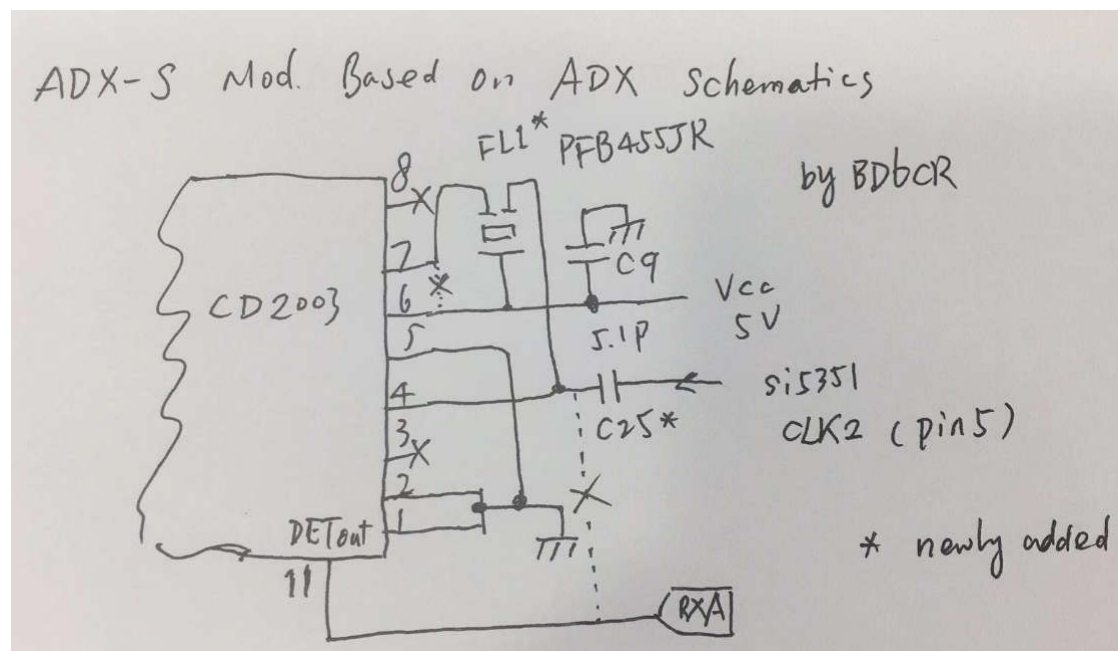
BD6CR @ CRKits.COM

Original Design: WB2CBA

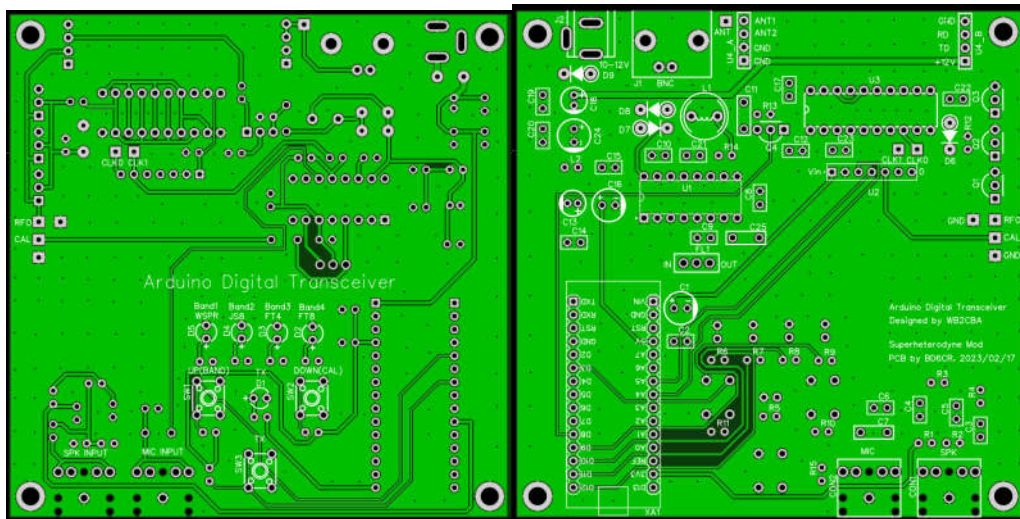
Modification and Kitting: BD6CR

I knew Barb, WB2CBA from his uSDX design a few years ago and I introduced both DL2MAN and his designs in my blog. So, when I came across ADX – Arduino Digital Xcvr a few months ago, I immediately ordered both ADX (through hole) and ADX UNO (surface mount) PCB samples. I started building ADX UNO and put into a dental floss case and made a few contacts on park bench. However, the soldering is too much for my eyesight. So, I turned back to ADX because I don't need to solder any SMD parts, since both the M328P and SI5351 are module based. I could build the project in 3 hours and it worked the first time. However, I felt unsatisfied with the strong BCI since the CD2003 radio receiver chip was connected as a direct conversion receiver. JE1RAV mentioned in his QP-7C modification project that he tried JA9TTT's idea to build a superhet SSB receiver with TA2003 or CD2003, so I tried and it worked very well. I have decided to name the new circuit as ADX-S, where S stands for Superhet. I share the great news with Barb and he encouraged me to carry the flag to make it a kit, since my design D4D was his first digital radio and he loved it.

You can refer to Barb's page on ADX <https://github.com/WB2CBA/ADX>. My hardware modification can be outlined in this schematic. I have added FL1, PFB455JR ceramic filter by Murata and C25, a coupling capacitor from CLK2 of SI5351 module. The RX audio comes from pin 11 instead of pin 4.



I modified by cutting two traces on the ADX PCB and it looked ugly, so I redrew the PCB.



The top and bottom panels are redesigned to look better and easier to build.



Photo: Mr. Han, BH3RQW

I was a student of Computer Science, but never worked as a programmer. It was great fun to modify the code to look concise and work efficiently. The freedom is on your side, you change the code and even the way you operate the radio. For example, I changed the way to switch band because it is not easy to press both buttons at the exactly same time. You can do it as well since the code is open source.

About 3 dozens of local hams built the kit and provided feedback to me. Overall they were happy. I made a few changes to the details and I hope you will build with more confidence.

It is easy to tell the difference between ADX-S and ADX in terms of RX performance because you

