

KN-Q7A 20m Version Single Band SSB Transceiver Kit : One-Page Quick Guide Rev. B

Thank you for purchasing our kit. We are available for consultation by email at bd6cr@crkits.com and at the Yahoo group http://groups.yahoo.com/group/CHINA_QRP. You are also welcome to write review at <http://www.eham.net/reviews/detail/10541>.

This quick guide is not a full manual; it only highlights the key points you need to take care during the building of this kit. A step-by-step manual with lots of photos will be available for downloading at <http://crkits.com/knq7amanual.pdf>.

Notes for parts inventory: All the resistors, trimmers, potentiometers, and 0.1 μ F (104) ceramic capacitors are in one plastic bag inside the components bag. A complete part list will be available for downloading at <http://crkits.com/knq7a20mpartlist.pdf>.

Notes for PCB v2.1a:

- Important! Since the kit leverages 40m PCB, the application note details the necessary changes at <http://crkits.com/knq7a20mmod.pdf>.
- C3357 is the only surface mount component. It comes with RE or RF marking on the body.
- Crystals are marked in two groups Xa and Xb. The Xa marking is for IF filters and BFO crystals, whereas the Xb marking is for VXO crystals.
- The IFT marked as DIY7-7* needs to be reworked first to remove the built-in tubular capacitor.
- Use linear tape potentiometer marked B10K for IF GAIN control and logarithmic potentiometer marked A10K for TUNE control. It helps tuning linearity.
- LPF coils marked as 1 μ H are wound with 11 turns on the red T37-2 toroids for 20 meter.
- Transformers T1, T2, and T3 are wound with 5 turns bifilar on the black FT37-43 toroids, connecting two ends of different windings in the middle.
- The 7808, D882, and IRF530 semiconductors should be installed on the chassis bottom to help the heat dissipation. The 7808 may be installed directly with an M3x10 screw and M3 nut, the D882 needs to add an insulator pad between the component and the chassis bottom, and the IRF530 needs to add both an insulator pad and a small white insulator washer.
- If you have purchased the optional speaker microphone, you will need to solder a wire from SPK pad to the center pin (pin 8) of the microphone connector.

Notes for assembly: You will need to drill 7x M3 holes in the chassis bottom by yourself. A drilling template will be available at <http://crkits.com/knq7atemplate.pdf>, and you will need to print on the A4 size paper in 100% scale. Use M3x10 screws and M3 nuts to install the chassis feet and 7808, D882, and IRF530 semiconductors. Use the flat head M3x6 screws and M3 nuts to install the panel-mount SL-16 (M or SO-239 equivalent) antenna connector. Eight black screws are used for the front and rear panels.

Alignment: The tuning range can be adjusted by turning the core of the IFT marked DIY7-7*; turning it deeper means lower and wider frequency range. Turn the RF ATT trimmer to fully counter-clockwise, then peak the RX IFT's with on-air signals. Adjust trimmer capacitor marked VC to proper audio spectrum of about 350~2200Hz. If you suffer from broadcast interference, adjust RF ATT clockwise on board. Preset SET BIAS trimmer fully counter clockwise first and adjust the TX bias current by slowly turning the SET BIAS trimmer clockwise until the current increases 60mA (likely from 0.48A to 0.54A, while you just press PTT and don't speak to microphone). Finally peak the TX IFT's for maximum power.