

CS-15V/80V

Supplementary Manual

CRKITS.COM

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The precedent KN-Q7A kit was initially introduced as a 40m band only SSB transceiver. Recently 15m/80m band is supported on CS-xxV too. Since the full manual and PCB markings are only good for 40m/20m, this supplementary manual will guide you through the building of the 15m/80m kits.

If you haven't read the full manuals yet, you are encouraged to download and review it now, BEFORE you actually start the soldering. The CS-xxV manuals locates at

<https://groups.io/g/crkits/files/CS-xxV%20Documents>

And the KN-Q7A full manual locates at

<https://groups.io/g/crkits/files/KN-Q7A%20Documents>

CS-15V Supplement

Step 1~5

- Same as 40m kit with IF crystal 8.4672 MHz. Note that IF filter is changed in CS-40V kit.

Step 6: Mixer and VXO Local Oscillator

- Change 2x Xb to 15m VXO crystals.
- Turn the DIY7-7* core down carefully until you get the wide enough coverage. Avoid using brutal force when you feel a stop position.
- Per CS-xxV quick guide, replace the 10k resistor near TUNE potentiometer by a 3.3k resistor to improve tuning linearity.

Step 7: RX Front End

- Change 2x DIY7-7/14 to 2x DIY7-21 shielded coils and use 2x 15p here.

Step 8: TX Amplifiers and Low-Pass Filters (LPF)

- Change 2x DIY7-7/14 to 2x DIY7-21 shielded coils and use 2x 15p here. You can pre-turn the core down to the lowest possible position. Avoid using brutal force when you feel a stop position.
- Change 4x 470p/270pF to 4x 150pF capacitors.
- Change 15T/11T to 8 turns winding on T37-2 (red) toroids.
- Change T1/T2/T3 from 5 turns bi-filar to 8 turns bi-filar winding on FT37-43 (black) toroids.
- Per CS-xxV quick guide, add a capacitor 47pF in parallel with a toroidal coil.

The rest of the building and alignment should be the same as the 40m kit.

CS-80V supplement

Step 1~5

- Same as 40m kit with IF crystal 8.4672 MHz. Note that IF filter is changed in CS-40V kit.

Step 6: Mixer and VXO Local Oscillator

- Change 2x Xb to 80m/75m VXO crystal.
- Change 1x DIY7-7* to DIY7-3.8 and remove built-in tubular capacitor. Turn the core up until it is stopped by the shielding case to ensure VXO can oscillate first.
- Per CS-xxV quick guide, replace the 10k resistor near TUNE potentiometer by a 3.3k resistor to improve tuning linearity.

Step 7: RX Front End

- Change 2x DIY7-7/14 to 2x DIY7-3.8 shielded coils.

Step 8: TX Amplifiers and Low-Pass Filters (LPF)

- Change 2x DIY7-7/14 to 2x DIY7-3.8 shielded coils.
- Change 4x 470p/270pF to 4x 820pF capacitors.
- Change 15T/11T to 22 turns winding on T37-2 (red) toroids.
- Change T1/T2/T3 from 5 turns bi-filar to 8 turns bi-filar winding on FT37-43 (black) toroids.
- Per CS-xxV quick guide, add a capacitor 220pF in parallel with a toroidal coil.

The rest of the building and alignment should be the same as the 40m kit. When you adjust the frequency range by turning the core down, you might stop the oscillation of the VXO. Make sure you leave some buffer as long as the frequency coverage is enough.