

Modification for the 40m the Rooster to convert it for 60m

This page is only for modifying a 40m version Rooster for 60m, Other Band Rooster cannot be modified this way.

The Rooster 40m PCB Board can also be used for 60m with the following simple mod

You need to remove some of the standard 40m Band parts and replace them with the parts from the 60m Mod pack

Remove the following parts with care!

L3 & L4 :- Both 1uH Inductors

Y1, Y2, & Y3 Crystals :- All 40m 7.030MHz

C29 : Read **Note A** below BEFORE removing

C26 Trimmer capacitor (Red) if this is fitted on your 40m Rooster then it will need to be removed

Now fit the **60m Mod Pack**, it comprises of the following parts

3 x 60m (5.262MHz) Crystals

2 x 1.8uH Inductors (Brown, Grey, Gold, Silver) these are Bigger than the standard Inductors in the 40m Pack.

1x 22pf capacitor (Marked 220)

1 x 130pf Capacitor (Marked 131)



1 x 22pf capacitor (Note A)

First job is to swapout the capacitor C29 (C28 on some board versions), the standard capacitor is 100pf on the 40m version, if you leave that the Rooster will give well over 3 watts of RF on 60m. sounds great but the efficiency of the Rooster is lower on this band and the current draw will be higher than I recommend (you will draw over 600mA @13.8v). I have supplied a 22pf capacitor (marked 220) in the mod pack that will lower the power down to just over 2 watts at 13.8v (and lower current drain too). Now, you're a big boy (or girl) so let me be blunt, If you leave the standard 100pf capacitor in place you will most likely blow the PA transistor. Its not worth it ! the difference in communications distance is not really going to change as it's about 2dB power increase, my Rooster gives out about 2.3 watts with the 22pf capacitor fitted and about 1 watt more with the 100pf fitted. I still see about see 2 watts if I run the Rooster from a 12v battery pack.



1 x 130pf capacitor

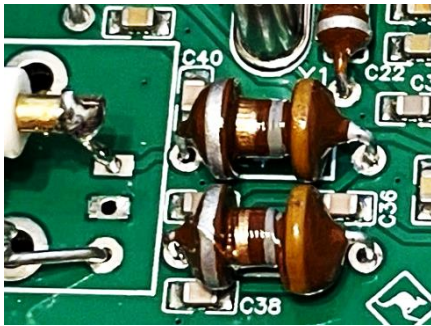
Now the additional 130pf bandpass capacitor, currently you have a 3.3uH inductor and a 150pf capacitor fitted as an additional bandpass filter, this works out in the center of the 40m band. We need the filter to drop down to the 60m band. Adding an extra 130pf capacitor drops us into the 60m band.

This capacitor is fitted on the bottom of the board across the solder points of the 3.3uH (as shown above).

It is important to fit this so that the body of the capacitor is flat against the board as there is little clearance between the board and case, with just a little care it can be fitted without shorting to the case so after fitting slide the board back into the case while inspecting the placement as you slide it in.

Once your sure that the capacitors leads are not touching the case remove the board again and move onto the next stage.

Next the inductors



Replace L3 and L4 (the 1uH inductors) with the two 1.8uH inductors. Try to be sure that the bodies of these inductors are not touching each other after you fit them. These inductors are larger than the ones used in the 40m version.

3 x 60m (5.262MHz) Crystals

Finally replace the 40m crystals with the 60m crystals.

You may have two low profile crystals and one full height crystal. If so fit the full height crystal next to the position for the trimmer, tis is the mixer /oscillator crystal. the other two Low profile crystals can be used for the front end filter Y1 & Y2.

If you have all low profile crystals then use any in any position.

That's the mod finished.

Your new 60m Rooster should now be operating on 5.262Mhz and producing around 2 watts @13.8v