Kanga US

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Thanks for purchasing the R2Pro kit! I maintain a web site at the URL above with current info on the R2Pro in the KK7B section of the site. If you have problems, or have any suggested improvements or modifications that you would like to share with other R2Pro builders, let me know and I will get them on the web site.

A few notes before you start building.
First – read the enclosed article on the R2Pro.
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There are a lot of good tips in the article on how to successfully construct your R2Pro and make it perform as it should. You cannot throw this together and expect to get peak performance. Careful attention must be paid to grounding and shielding! Use feed thru capacitors to get the power into the shielded compartments. Take your time and get it right the first time you build.

Also – if you have a copy of the ARRL book “Experimental Methods in RF Design”, read the chapters on DC Receivers and Phasing rigs. They were written after the article enclosed with the kit, and there is a lot of good new info in there also!

LNA – the L/C values included in the kit are different than those shown in the article. You can use either – both will work on the intended frequencies.

Downconverter – Shielding is critical here – read the article!!

The NE5532 outputs are DC coupled. A socket is included making IC replacement easier if you should happen to short the output of the IC to ground while testing…..

I had problems with the NE5532 oscillating at about 500 KHz in this circuit both with and without a socket on the PC board. A 10p chip capacitor between the output and the inverting input of the stage cured the problem. Two 10p chip capacitors are included in the kit in case you have the same problem

Audio Signal Processor (ASP) – R302 is actually 2 resistors in series (1.50K and 20 ohms) to get the proper value for R302. Use nylon stand-offs to mount this board. *Note that the two 1 uF poly caps in some of the kits are now a bigger size*, and no longer easily fit in the space on the PC Board. They can be mounted in the specified positions on the PC board, but take care when fitting those two caps and the components around them! I have also included eight 10 or 12 pf surface mount caps to be placed across the following resistors in the feedback paths of the op amps: R303,306,309, 313, 316, 319,330, and 333. They can be tack soldered between pins 1 and 2, and also pins 6 and 7 on the NE5532's. That should take care of any HF oscillations that may occur in those stages

Audio Filters – The narrow SSB and narrow CW filters are optional and are not included with the base kit. The wide SSB Filter (actually an attenuator) is included with the Audio Amplifier Parts and is not actually mounted on any PC board. It can be "ugly constructed" at the input of the Audio Amplifier.

Audio Amplifier – The single ground wire connects directly to the power supply negative lead and also to the negative speaker (headphone) lead. The +12v line connects directly to the 10,000 uf electrolytic capacitor at the +12v point on the PC board. The negative lead of the capacitor connects to the single point ground on the Audio Amplifier PC board. Grounding of the volume control is important too-the grounded end of the 500 ohm pot should come directly back to the audio output PC board ground, rather than through a chassis connection or some other path.

Finally – have fun building, and remember that there is no AGC in the R2Pro and there is a lot of gain in the overall circuit. If you have been straining to hear a weak signal and tune across the kilowatt next door – it is going to hurt!

73 – Bill – N8ET

ONE MORE NOTE!!
There are differences between the schematics in the article and the schematics in the layout/parts list/schematic package. The article was the first step in the evolution of the R2Pro, and there have been upgrades/changes made to the circuits. ***The schematics in the layout/parts list/schematic documentation package are the correct ones.***