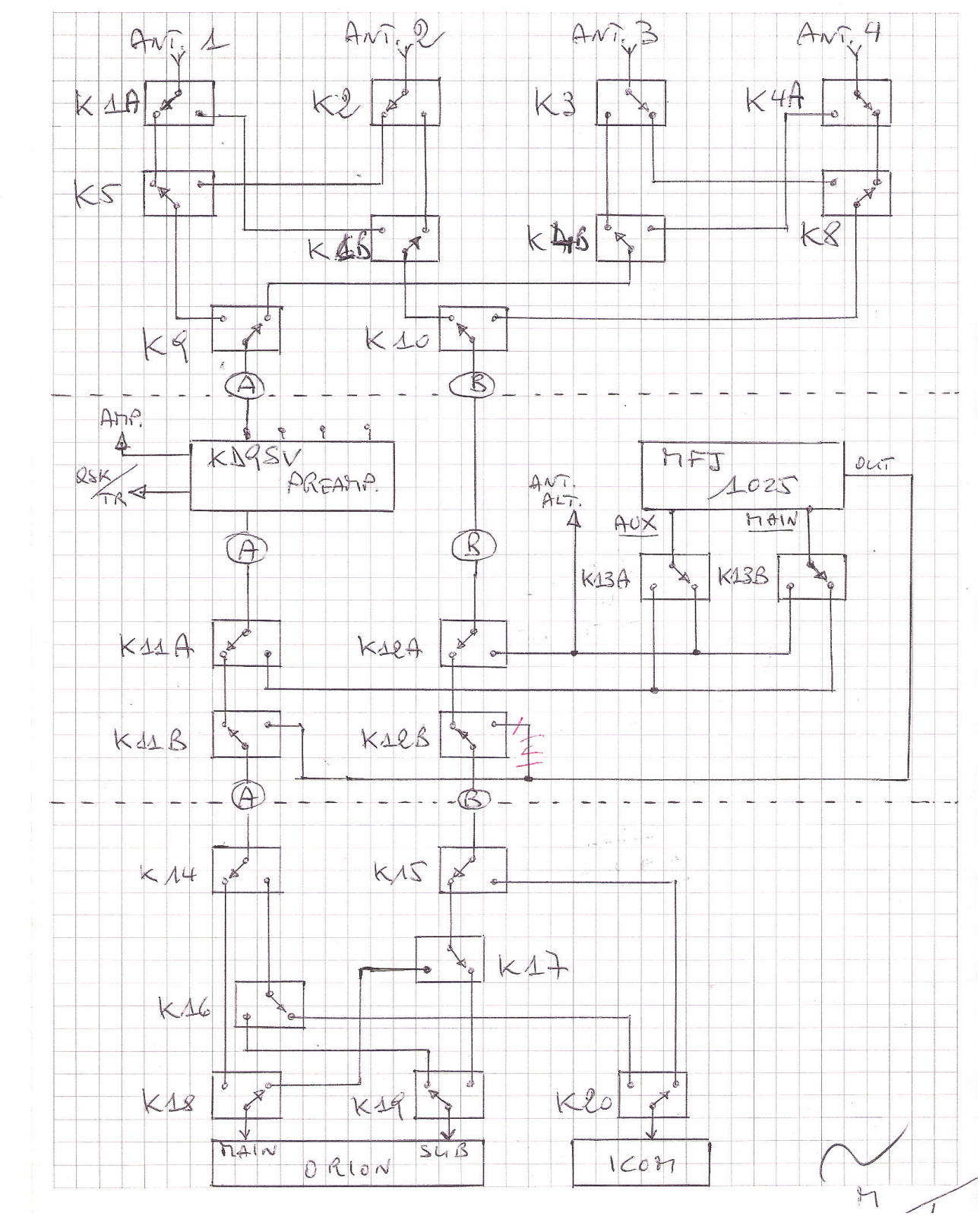
RX antennas at IV3PRK: the Ant-Rx Combiner

By Pierluigi "Luis" Mansutti IV3PRK

All my receiving antennas are routed through four buried RG213 coax lines which enter in the shack through the floor. I need to quickly select them and connect or disconnect to one receiver or the other for A/B tests, so I designed and built a combiner box using 19 small relays. This is the block diagram:

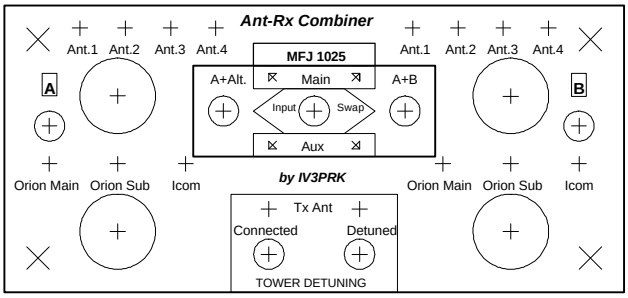


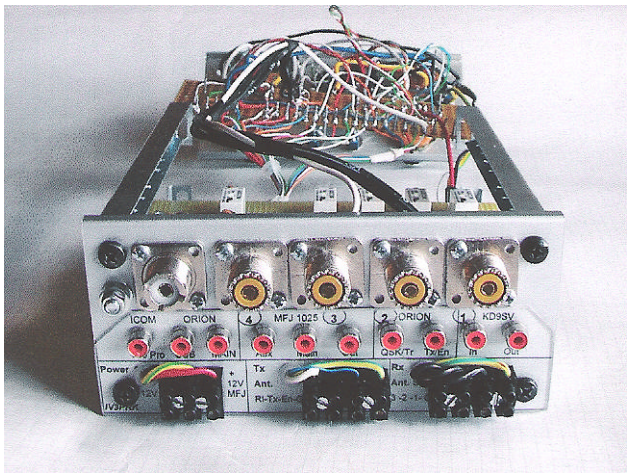
The four Rx Ant. inputs are addressed into two inner lines “A” and “B” which pass through two separate KD9SV preamplifiers (and Front End Savers) and can be switched to each of the three receivers. The MFJ 1025 can also be inserted and the inputs easily swapped from the front panel from one line to another, or to a 5th dedicated noise antenna, to try the best phasing opportunity between several antennas without the need to plug or unplug any coax connector.

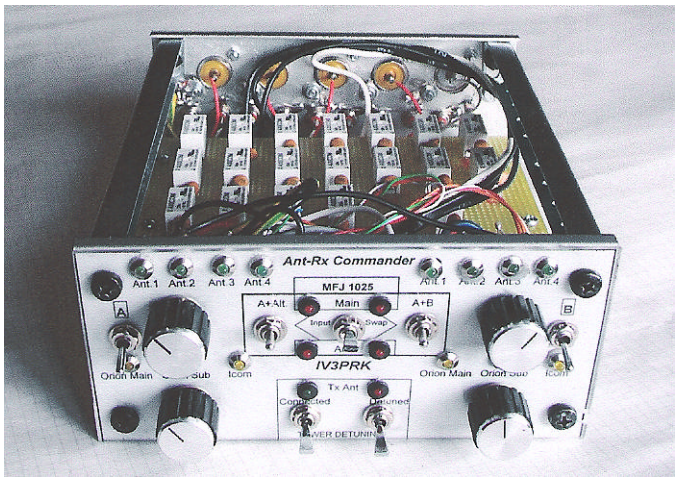
The Main and Sub inputs of Ten-Tec Orion are used to take advantage of the diversity receiving capability of this rig, while the Icom is a spare one, or for A/B tests.

I bought everything from Mouser, including the cheap Axicom signal relays.

The front and back panels have been designed with Power Point and printed on a transparent paper put under a Lexan sheet.







The Ant-Rx Combiner selects also which antenna group is going to be switched in the Rx.Ant.Switching Box for the desired direction. So only one flip is needed to change antennas or directions.